

INNOVATING
SAFETY
since 1978

Ihr Kontakt in Tschechien:
KIT Invest Trading spol.s r.o.
Žitavská 56/50, 46001 Liberec
Tel.: +420 485 101 451, fax: +420 482 710 075
E-Mail: info@kit-invest.cz

Cilindri ad azoto
Gas Springs
Gasdruckfedern
Ressorts à Gaz
Cilindros de Gas
Cilindros de Nitrogênio

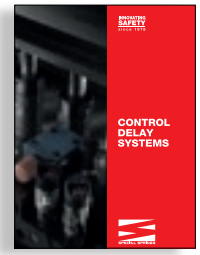
2024

SPECIAL SPRINGS

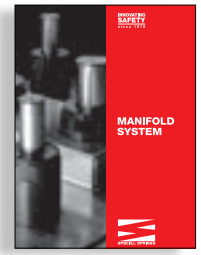
OUR CATALOGS



GAS SPRINGS



CONTROL
DELAY
SYSTEMS



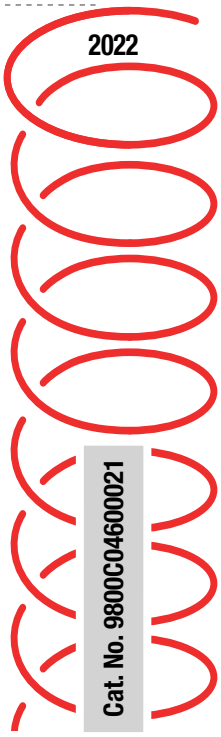
MANIFOLD
SYSTEM

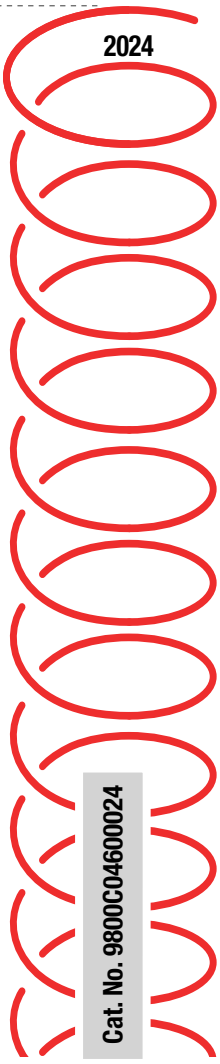
ASK FOR OR DOWNLOAD THE CATALOGS AND BROCHURES FROM OUR WEB SITE
WWW.SPECIALSPRINGS.COM

WHAT'S NEW?

Changes and additions to previous catalogs

Product reference	Change description	Page
Safety	Upgrade section	6 - 8 - 9
M 200 - 150 / 160 / 175 / 200	New stroke	50
Easy manifold ML Maintenance kit	Upgrade section	253
Secondary Wiper	Upgrade section	260 - 261
FlexFlow	New Model	275 - 276
36M08B / 36M09B / 36M10C / 36M11C	New revision	282
Section Control Panel	Upgrade section	292 ÷ 304
CP06B / CP09B / CP20B / CP21B	New revision	298-299
39DMCPVA - 5M	New model	318
39SP01B	New revision	321
39SPB02A	New model	321
CMCA - CMCTA	New Revison	323
39FT00250B / ...00500B / ...7500B / ...20000	Upgrade Force Tester	330 - 331
Selection Tab	Upgrade section	28 ÷ 29
M300	New revision	51
RV 350 ÷ 20000	New revision	60 ÷ 71
RS 350 ÷ 9500	New revision	76 ÷ 85
RF 750 ÷ 2400	New revision	88 ÷ 92
RG 750 ÷ 6600	New revision	96 ÷ 101
RT 350 ÷ 9500	New revision	104 ÷ 113
S 500 ÷ 3000	New revision	115
SC 150 ÷ 10000	New revision	122 ÷ 132
SC 200	New model	123
H 300 ÷ 18500	New revision	136 ÷ 146
H 700 - 200	New stroke	139
H 20000	New model	147
HT 500 ÷ HT 1000	New revision	150 ÷155
LS 1500 ÷ LS 9500	New revision	164 ÷ 165
39FML...	New revision	170 ÷ 180
Installation guideline	Upgrade section	205
FSG25	New fixing	245
Easy manifold E - ED - EV version	Upgrade section	250
36HY50003...V1 / ...50005...V1 / ...50006...V1	New connection	268
TSMM8...-1 / TSMM8...-2	New connection	280
36M22A	New connection	282
36HY400...V1	New connection	284
36TSM9/1603...V1 / ...1605...V1 / ...1606...V1	New connection	288
39PA050030B	New accessory	316
47TB15	New accessory	324
39RHP15	New accessory	325
39NCU42B	New accessory	326
39NCU43A	New accessory	327
39FT00250B / ...00500B / ...7500B / ...20000	New revision	330 ÷ 331





INDEX

4	PROTECTION SAFETY	
12	OPERATING INSTRUCTIONS USER INFORMATION	
24	BENEFITS	
26	HOW TO READ THE CATALOG	
28	SELECTION TAB	
30	NE NG	**Gas Ejectors** VDI, BMW, FCA, Ford, GM, VW
38	M	**Mini Cylinders** VDI, BMW, FCA, Ford, MB, PSA, VW
52	MS	**Mini Cylinders + SKUDO**
56	RV	**Min. height, max. force** ISO, VDI, BMW, FCA, Ford, Mazda, MB, Nissan, PSA, Renault, VW
72	RS	**Min. height, max. force + SKUDO**
86	RF	**Min. height, max. force** FCA
94	RG	**Min. height, max. force** Nissan, Renault
102	RT	**Min. height, max. force** Mazda, Nissan, PSA, Renault, Toyota
114	S	**ISO forces, low profile** MB, Renault, Suzuki
120	SC SCF	**ISO 11901 Standard** ISO, VDI, BMW, FCA, Ford, Mazda, MB, Nissan, VW, PSA, Renault, Suzuki
134	H HF	**ISO, high force** ISO, VDI, BMW, FCA, VW
148	HT	**For high temperature, ISO standard, high force**
156	LS	**Zero force on contact**
166	ML	**Max. force, rod seal**
182	MP	**Max. force, rod seal**
190	MQ	**Max. force, rod seal**
194	KE	**Max. force, piston seal**
205		**Installation guideline Flange mounts**
247		**Easy manifold**
260	SW	**Secondary rod wiper**
262		**Linked system**
316		**Accessories**
332		**EYE, CONTROL DELAY SYSTEMS, NITRO STRIP, NITROGEN PUNCHING UNIT**

PROTECTION

SW

Raschiatore secondario
Secondary rod wiper
Zweitabstreifer
Racleur de tige secondaire
Rascador de vástago secundario
Anillo raspador secundário



More info: p. 260

SKUDO

Protezione Attiva da Contaminanti
Active Protection from Contaminants
Aktiver Schutz vor Verunreinigungen
Protection Active contre les Contaminants
Protección Activa contra Contaminantes
Capa Protetora Contra Resíduos



Standard on: KE - RS - MS
Upon request for other models

Benefits

IT
- Eccellente protezione da contaminanti liquidi e solidi.
- Poliuretano ad alte prestazioni per massima resistenza chimica ai lubrificanti.
- Aumentata durata di vita di guide e tenute dinamiche.
- Minima perdita di corsa nominale.
- Facile inserimento.
- Nessuna limitazione al libero posizionamento del cilindro.

DE
- Ausgezeichneter Schutz gegen feste und flüssige Verunreinigungen.
- Maximale chemische Beständigkeit gegen Schmierstoffe durch das Hochleistungs-Polyurethan.
- Längere Lebensdauer für Führungselemente und dynamische Dichtungen.
- Minimaler Verlust des Nennhubes.
-Einfaches Einsetzen.
- Keine Einschränkungen für die Positionierung der Gasdruckfeder.

ES
- Protección óptima contra los contaminantes líquidos y sólidos.
- Máxima resistencia química a lubricantes gracias al poliuretano de alto rendimiento.
- Mayor vida útil para elementos de guía y juntas dinámicas.
- Pérdida mínima de carrera nominal.
- Fácil de colocar.
- Ninguna limitación para el posicionamiento del cilindro.

EN
- Excellent protection from liquid and solid contaminants.
- Maximum chemical resistance to lubricants thanks to high-performance polyurethane.
- Longer lifetime for guiding elements and dynamic seals.
- Minimal loss of nominal stroke.
- Easy to insert.
- No restrictions when positioning the gas spring.

FR
- Excellente protection contre contaminants liquides et solides.
- Résistance chimique maximale aux lubrifiants grâce au polyuréthane de haute performance.
- Plus longue durée de vie pour les élément de guidage et les joints dynamiques.
- Perte minimale de la course nominale.
- Facile à insérer.
- Pas de limitations dans le positionnement du ressort-gaz.

PT
- Excelente protecção contra contaminantes líquidos e sólidos.
- Máxima resistência química aos lubrificantes graças ao poliuretano de alto desempenho.
- Aumento do tempo de vida útil dos elementos de guia e vedações.
- Perda mínima de curso nominal.
- Fácil de inserir.
- Não há restrições ao posicionar o cilindro.

Benefits

IT
- Elimina qualsiasi danno da contaminanti ai componenti di guida e tenuta.
- Aumenta significativamente la vita del cilindro ad azoto in presenza di contaminanti liquidi e solidi.
- Non aumenta l'altezza del cilindro ad azoto.
- È una protezione non soggetta ad usura alcuna.

DE
- Schützt vor Schäden an Führungs- und Dichtungselementen, die durch Verunreinigungen entstehen können.
- Die Lebensdauer der Gasdruckfeder bei Vorhandensein von flüssigen und festen Verunreinigungen nimmt wesentlich zu.
- Verändert die Gesamthöhe der Gasdruckfeder nicht.
- Ist ein Schutz, der nicht verschleißt.

ES
- Elimina daños de contaminantes a los componentes que garantizan la estanqueidad y guiado.
- Aumenta significativamente la vida del cilindro en presencia de contaminantes líquidos y sólidos.
- No aumenta la altura del cilindro.
- Es una protección que no sufre desgaste.

EN
- Eliminates damages to guiding and sealing components caused by contaminants.
- Significantly increases the life of gas springs used in severe working environments.
- Does not alter the height of the gas spring.
- Does not wear out.

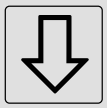
FR
- Élimine tout endommagement du joint et des éléments de guidage du fait de contaminants.
- Augmente de manière signifi cative la vie du ressort en présence de contaminants liquides et solides.
- Ne change pas la hauteur du ressort à gaz.
- Est une protection qui n'est pas soumise à aucune usure.

PT
- Elimina danos causados por resíduos nos aneis de vedação e guiamento.
- Aumenta significativamente a vida dos cilindros usados em ambientes de trabalho com resíduos.
- Não altera a altura do cilindro.
- É uma proteção que não desgasta.

SAFETY



VDI 3003



OSAS

Sicurezza Attiva Oltre Corsa
Over Stroke Active Safety
Aktive Überhubsicherung
Sécurité Active pour Surcourse
Seguridad Activa de Fin de Carrera
Segurança para Sobre Curso



VDI 3003



USAS

Sicurezza Attiva Ritorno Incontrollato
Uncontrolled Speed Active Safety
Aktiver Schutz bei unkontrolliertem Rückhub
Sécurité Active pour Retour Incontrôlé
Seguridad Activa de Retorno Incontrolado
Segurança para Retorno Descontrolado



VDI 3003



OPAS

Sicurezza Attiva Oltre Pressione
Over Pressure Active Safety
Aktive Überdruck-Sicherheitsvorrichtung
Sécurité Active Surpression
Seguridad Activa por Sobrepresión
Segurança Sobre Pressão

How it works

IT
- Scarica in modo controllato e completo la pressione interna del cilindro ad azoto quando ha subito un oltre corsa.

EN
- Exhausts pressure in a controlled and complete manner, when the gas spring has been overstroked.

DE
- Ermöglicht das kontrollierte und komplette Entladen des Innendrucks der Gasdruckfeder bei Überhub.

FR
- Décharge la pression du ressort en mode contrôlé et complet dans le cas d'une sourcourse.

ES
- Descarga la presión de manera controlada y completa en caso de que el cilindro sobrepase su carrera máxima.

PT
- Esvazia a pressão do cilindro de forma controlada e completa quando ele sofre sobre-curso.

IT
- Scarica in modo controllato e completo la pressione del cilindro ad azoto quando soggetto a ritorni incontrollati.

EN
- Exhausts pressure in a controlled and complete manner when the gas spring has been stressed by uncontrolled returns.

DE
- ermöglicht das kontrollierte und komplette Entladen des Innendrucks der Gasdruckfeder bei unkontrolliertem Rückhub.

FR
- Décharge la pression du ressort en mode contrôlé et complet dans de cas des retours non contrôlés.

ES
- Descarga la presión de manera controlada y completa en caso de que el cilindro sufra un retorno incontrolado.

PT
- Quando o cilindro sofrer retornos descontrolados, o mesmo se esvazia de uma maneira controlada e completa.

IT
- Scarica in modo controllato e completo la pressione del cilindro ad azoto quando viene superato il valore massimo consentito.

EN
- Exhausts the pressure in a controlled and complete manner when it exceeds the maximum allowed value.

DE
- kontrollierte und vollständige Entladung des Innendrucks des Zylinders bei Überschreiten des maximal zulässigen Werts.

FR
- Décharge la pression du ressort en mode contrôlé et complet lorsque la valeur maximale admissible est dépassée.

ES
- Descarga la presión de manera controlada y completa cuando se supera el valor máximo permitido.

PT
- Esvazia a pressão do cilindro de forma controlada e completa quando ele excede o valor máximo permitido.

Benefits

IT
- Riduce il rischio di danni e pericoli dovuti alla proiezione di parti in pressione.
- Si attiva automaticamente senza intervento dell'operatore.
- Non aumenta il prezzo del cilindro.

EN
- Reduces the risk of tool damage or injury due to ejection of parts under pressure.
- Self activates automatically regardless of users' intervention.
- Does not increase the price of gas springs.

DE
- Reduziert das Risiko von Schäden und Gefahren durch wegschleudernde, unter Druck stehende Teile.
- Aktiviert sich automatisch ohne Zutun des Nutzers.
- Erhöht die Kosten der Gasdruckfeder nicht.

FR
- Réduit le risque d'endommagement de l'outil ou le risque de blessure en cas d'éjection de pièces ou composants mis sous pression.
- S'auto-active sans intervention de l'opérateur.
- N'augmente pas le prix du ressort.

ES
- Reduce el riesgo de daños y peligros consecuencia de la proyección de partes bajo presión.
- Se activa automáticamente sin intervención del usuario.
- No aumenta el precio del cilindro.

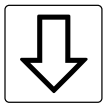
PT
- Reduz o risco de danos para a ferramenta e ferimentos para o operador por estilhaços.
- Ativa-se automaticamente independentemente de intervenção dos usuários.
- Não aumenta o preço dos cilindros.

SAFETY



Over
Stroke
Active
Safety

VDI 3003



+



Over
Stroke
Marker

Standard on: RV - RF - RS
RG - RT - SC
S - H - HF - HT
LS - M300

IT OSAS è un dispositivo di sicurezza costituito da un elemento posizionato alla base del corpo caratterizzato da una zona a deformazione controllata.

EN OSAS is a safety feature placed at the base of the body. It is made of a component with a controlled deformation area.

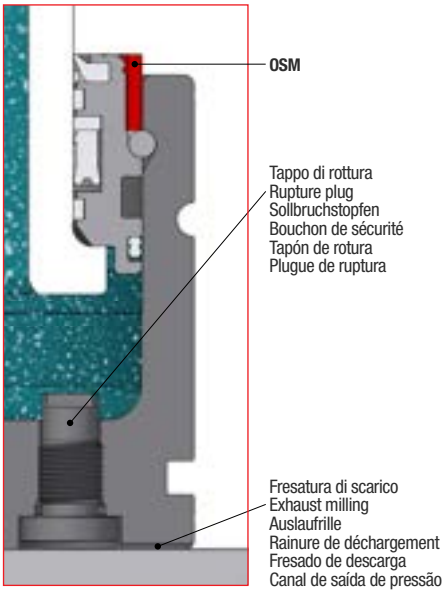
DE OSAS ist eine Sicherheitsvorrichtung, die aus einem am Boden angebrachten Element mit kontrolliert deformierbarem Bereich besteht.

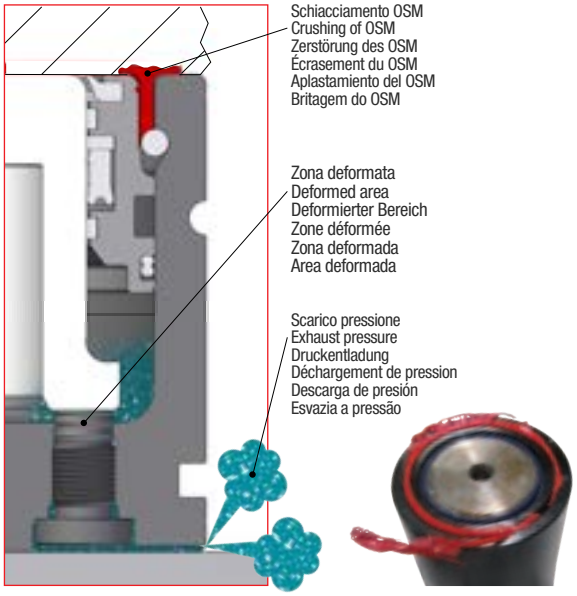
FR OSAS est un dispositif de sécurité placé à la base du corps. Il est constitué d'un composant avec une zone de déformation contrôlée.

ES OSAS es un dispositivo de seguridad constituido por un elemento posicionado en la base del cuerpo y caracterizado por una zona con deformación controlada.

PT OSAS é um dispositivo de segurança localizado na base do corpo do cilindro. É um componente com uma area de deformação controlada.







IT Il Marcatore Oltre Corsa OSM:
- permette di vedere immediatamente che il cilindro ad azoto è stato utilizzato oltre la corsa nominale massima.
- permette di intervenire tempestivamente sullo stampo eliminando la causa di oltre corsa.
- non limita il libero posizionamento del cilindro ad azoto.
- aumenta la sicurezza di utilizzo dei cilindri ad azoto Special Springs.

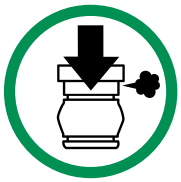
EN The Over Stroke Marker OSM:
- enables the user to see immediately that the gas spring has been used over its maximum nominal stroke.
- allows the user to act promptly on the die to remove the cause of the over stroke.
- doesn't restrict the free positioning of the gas spring.
- improves user safety for Special Springs' gas springs.

DE Der Überhubmarker OSM:
- ermöglicht es sofort zu sehen, dass die Gasdruckfeder über den maximalen Nennhub verwendet wurde.
- ermöglicht Ihnen, schnellstens die Ursache des Überhubs im Werkzeug zu eliminieren.
- schränkt die freie Positionierung der Gasdruckfeder nicht ein.
- verbessert die Anwendersicherheit für die Gasdruckfedern von Special Springs

FR Le Marqueur Surcourse OSM:
- vous permet de voir immédiatement que le ressort à gaz a été utilisé au-delà de la course nominale maximale.
- vous permet d'agir rapidement sur le moule afin d'éliminer la cause de la surcourse.
- ne limite pas un positionnement libre du ressort à gaz.
- améliore la sécurité des utilisateurs des ressorts à gaz Special Springs.

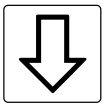
ES El Marcador de Sobrecarrera OSM:
- permite ver inmediatamente que el cilindro ha sido utilizado por encima de la carrera nominal máxima.
- permite actuar con rapidez en el troquel para eliminar la causa de la sobrecarrera.
- no limita el posicionamiento libre del cilindro.
- aumenta la seguridad del usuario de los cilindros de nitrógeno Special Springs.

PT O Marcador do Sobre Curso OSM:
- permite verificar imediatamente que o curso de trabalho esta excedendo o curso nominal máximo do cilindro.
- permite ação rápida na ferramenta para solucionar o problema.
- não limita o posicionamento livre do cilindro.
- aumenta a segurança do utilizador dos cilindros Special Springs.



Over **S**troke **A**ctive **S**afety

VDI 3003



Standard on: ML - MP - MQ

IT OSAS è la combinazione di una zona deformabile del corpo e delle gole di scarico presenti sulla superficie interna del corpo.

EN OSAS is the combination of a deformable body skirt and of the exhaust grooves on the internal body surface.

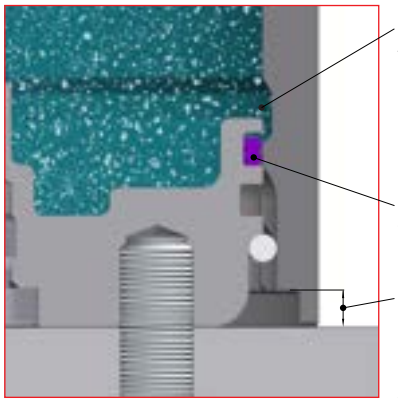
DE OSAS ist die Kombination einer deformierbaren Zone des Körpers und der Auslaufrillen an der Innenoberfläche des Körpers.

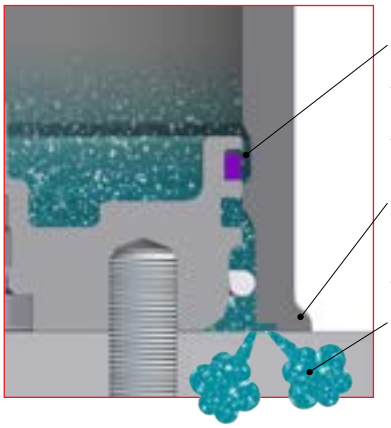
FR OSAS est la combinaison d'une zone déformable du corps et des rainures de déchargement sur la surface interne du corps.

ES OSAS es la combinación de una zona deformable del cuerpo y de las ranuras de descarga en la superficie interna del cuerpo.

PT OSAS é a combinação de uma área do corpo deformável e das ranhuras de saida de pressão na superfície interna do corpo.







Standard on: KE

IT OSAS è realizzata con delle gole di scarico presenti sulla superficie interna del corpo.

EN OSAS consists in the presence of exhaust grooves on the internal body surface.

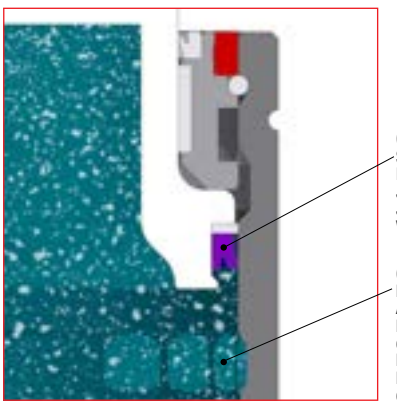
DE OSAS besteht aus Auslaufrillen an der Innenoberfläche des Körpers.

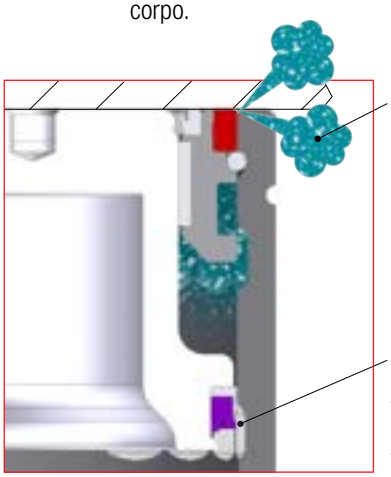
FR OSAS est constitué par des rainures de déchargement sur la surface interne du corps.

ES OSAS consiste en ranuras de descarga en la superficie interna del cuerpo.

PT OSAS é ativado com ranhuras de saida de pressão na superfície interna do corpo.







SAFETY

Uncontrolled
Speed
Active
Safety

VDI 3003

Standard on: RV - RF - RS RG - RT - SC S - H - HF - HT LS - M300

IT USAS è la combinazione di una zona deformabile della boccola e delle gole di scarico presenti sulla superficie interna del corpo.

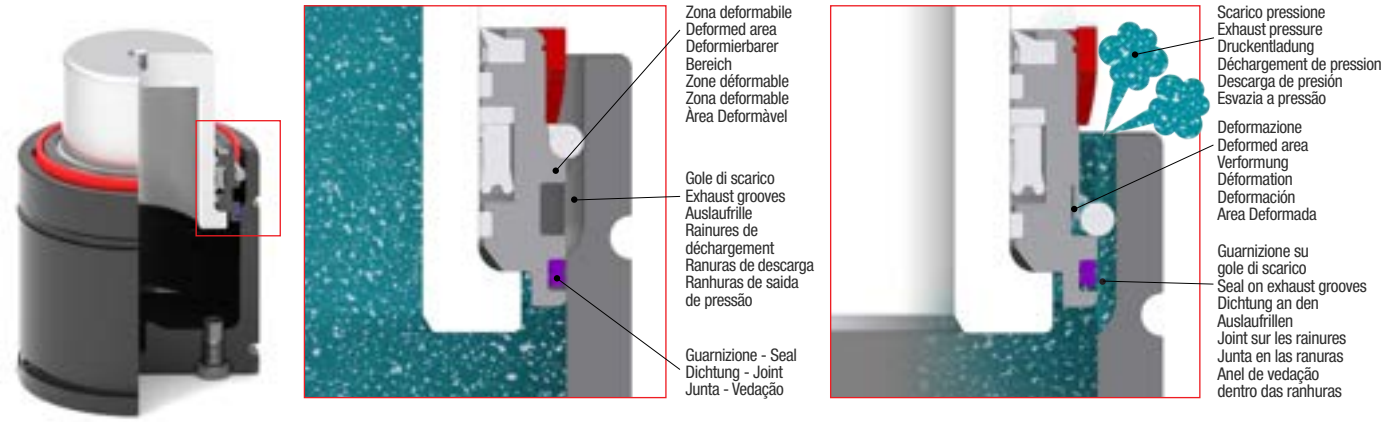
EN USAS is the combination of a deformable area of the bushing and the exhaust grooves on the internal body surface.

DE USAS besteht aus der Kombination eines verformbaren Bereichs der Buchse und den Auslaufrillen an der Innenoberfläche des Körpers.

FR USAS est la combinaison d'une zone déformable de la douille et des rainures de déchargement sur la surface interne du corps.

ES USAS es la combinación de una zona deformable del casquillo y de las ranuras de descarga en la superficie interna del cuerpo.

PT USAS é a combinação de uma parte deformável da bucha e as ranhuras de saida de pressão na superfície interna do corpo.



Standard on: ML - MP - MQ

IT USAS è la combinazione di una zona deformabile del fondello e delle gole di scarico presenti sulla superficie interna del corpo.

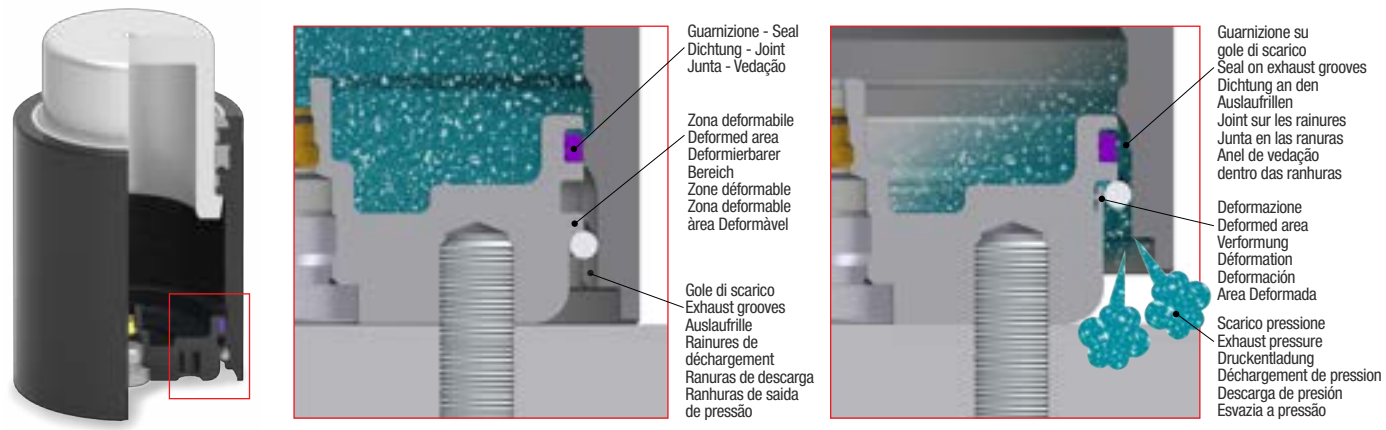
EN USAS is the combination of a deformable area of the bottom base and the exhaust grooves on the internal body surface.

DE USAS ist die Kombination eines deformierbaren Bereichs am Boden und den Auslaufrillen an der Innenoberfläche des Körpers.

FR USAS est la combinaison d'une zone déformable de la plaque inférieure et des rainures de déchargement sur la surface interne du corps.

ES USAS es la combinación de una zona deformable de la placa inferior y de las ranuras de descarga en la superficie interna del cuerpo.

PT USAS é a combinação de uma area deformável da placa base e das ranhuras de saida de pressão na superfície interna do corpo.



Standard on: KE

IT USAS è la combinazione di una zona deformabile della boccola e delle gole di scarico presenti sulla superficie interna del corpo.

EN USAS is the combination of a deformable area of the bushing and the exhaust grooves on the internal body surface.

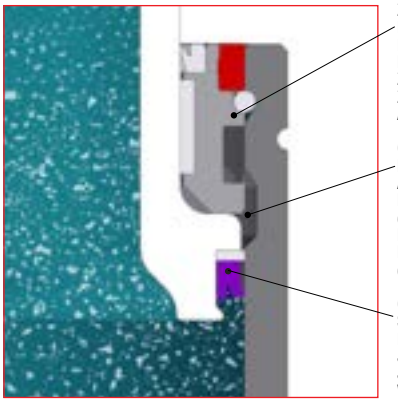
DE USAS besteht aus der Kombination eines verformbaren Bereichs der Buchse und den Auslaufrillen an der Innenoberfläche des Körpers.

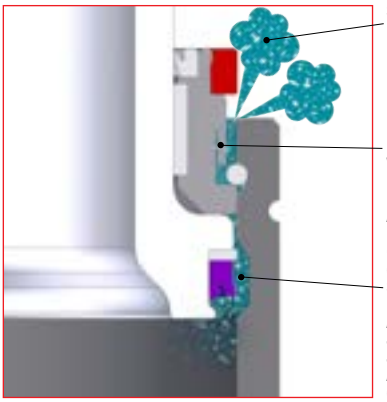
FR USAS est la combinaison d'une zone déformable de la douille et des rainures de déchargement sur la surface interne du corps.

ES USAS es la combinación de una zona deformable del casquillo y de las ranuras de descarga en la superficie interna del cuerpo.

PT USAS é a combinação de uma parte deformável da bucha e as ranhuras de saida de pressão na superfície interna do corpo.







OPAS Over Pressure Active Safety | **VDI 3003**

Standard on: M - MS - RV - RS RF - RG - RT - S SC - H - HF - HT LS - ML - MP - KE

IT OPAS è la combinazione di un tappo di rottura (o di un setto di rottura calibrato) con una fresatura di scarico sulla base di appoggio del cilindro ad azoto.

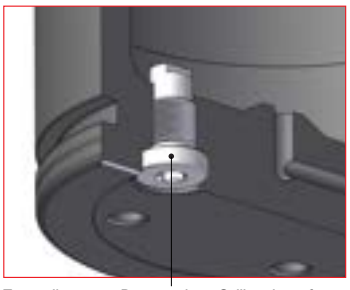
EN OPAS is the combination of a rupture plug (or a calibrated rupture septum) with an exhaust milling on the bottom contact surface of the gas spring.

DE OPAS ist die Kombination aus einem kalibrierten Sollbruchstopfen (oder Sollbruchstelle) mit einer Auslaufrille an der unteren Auflagefläche der Gasdruckfeder.

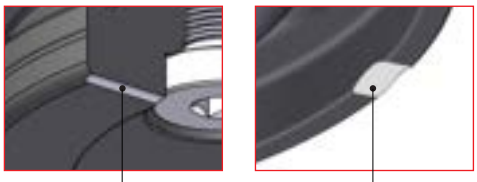
FR OPAS est la combinaison d'un bouchon de sécurité (ou d'une zone fusible) avec un fraisage de déchargement sur la surface inférieure du ressort gaz.

ES OPAS es la combinación de un tapón de rotura (o de un septo de rotura) con un fresado de descarga posicionados en la base de apoyo del cilindro.

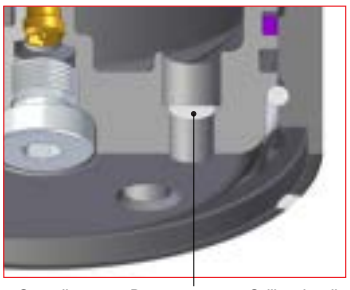
PT OPAS é a combinação de um plugue de ruptura (ou um septo de ruptura) com um canal usinado na parte inferior do cilindro.



Tappo di rottura - Rupture plug - Sollbruchstopfen
Bouchon de sécurité - Tapón de rotura - Plugue de ruptura



Fresatura di scarico - Exhaust milling - Auslaufrille
Fraisage de déchargement - Fresado de descarga - Canal de saída de pressão



Setto di rottura - Rupture septum - Sollbruchstelle
Zone fusible - Septo de rotura - Septo de ruptura

Se si sono attivate le sicurezze, verificare e scaricare eventuali residui di pressione, eliminare le cause del danno e sostituire sempre il cilindro ad azoto danneggiato.
If the safety features are activated, verify and exhaust the possible pressure leftovers, remove the causes of the damage and replace always the damaged gas spring.
Wenn die Sicherungen aktiviert werden, prüfen und entladen Sie eventuellen Restdruck, beseitigen Sie die Ursachen des Schadens und ersetzen Sie immer die beschädigte Gasdruckfeder.
Quand les sécurités sont activées, vérifier et décharger les eventuels résidus de préssion, éliminer les causes de l'endommagement et toujours remplacer les ressorts gaz endommagées.
Si se activan los dispositivos de seguridad, verificar y descargar toda la presión residual, eliminar las causas de los daños y reemplazar siempre el cilindro dañado.
Se os dispositivos de segurança são ativados, verificar e descarregar qualquer pressão residual, eliminar as causas dos danos e substituir sempre o cilindro danificado.

SAFETY

1381

CE

PED 2014/68/EU

IT

- La progettazione e la produzione dei cilindri ad azoto Special Springs sono realizzate nel pieno rispetto delle normative vigenti per i recipienti in pressione come stabilito dalla direttiva PED 2014/68/EU e EN 13445:2015.

EN

- The design and manufacturing of Special Springs gas springs are in full compliance with the European regulations for high pressure vessels, in accordance with directive PED 2014/68/EU and EN 13445:2015.

DE

- Die Konstruktion und Herstellung der Special Springs Gasdruckfedern erfolgt in Übereinstimmung mit den geltenden Normen für Druckbehälter, wie in der PED Richtlinie 2014/68/EU und EN 13445:2015 festgelegt.

FR

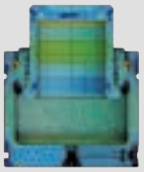
- La conception et la fabrication des ressorts à gaz Special Springs sont en totale conformité avec les législations Européennes en matière de composants caractérisés haute pression et notamment avec la directive PED 2014/68/EU et EN 13445:2015.

ES

- La proyectación y producción de los cilindros de nitrógeno Special Springs se realizan con pleno respeto de las normativas vigentes para elementos de presión como establece la directiva PED 2014/68/EU y EN 13445:2015).

PT

- O projeto e fabricação de cilindros de Nitrogênio Special Springs estão em total conformidade com as regras Europeias para Cilindros de alta pressão, em conformidade com a directiva PED 2014/68/EU e EN 13445:2015.



FEM - CAE

IT

- Tutti i prodotti Special Springs sono sviluppati e validati con l'utilizzo dei più avanzati sistemi di analisi FEM (finite element method) e CAE (computer aided engineering).

EN

- All Special Springs products are developed and validated via the use of the most advanced FEM (finite element method) and CAE (computer aided engineering) analysis systems.

DE

- Alle Produkte von Special Springs werden durch die Verwendung der fortschrittlichsten Analysesysteme FEM (finite element method) und CAE (computer aided engineering) entwickelt und validiert.

FR

- Tous les produits Special Springs sont développés et certifiés selon les méthodes FEM (finite element method) et CAE (Computer aided engineering).

ES

- Todos los productos Special Springs son desarrollados y validados con la utilización de los más avanzados sistemas de análisis FEM (finite element method) y CAE (computer aided engineering).

PT

- Todos os produtos Special Springs são desenvolvidos e validados através da utilização das Técnicas mais avançadas FEM (método de elementos fi nitos) e sistemas de análise do CAE (Engenharia assistida por computador).

> 2.000.000

STRUCTURE OF THE GAS SPRING

IT

- Tutti i componenti strutturali dei cilindri ad azoto Special Springs sono progettati e costruiti per sopportare minimo 2.000.000 di cicli completi alla massima pressione, temperatura e per ogni tipo di fissaggio.

EN

- All structural components of Special Springs gas springs are designed and built to withstand a minimum of 2,000,000 complete cycles at maximum pressure, temperature and for all types of fixings.

DE

- Alle Strukturkomponenten der Special Springs Gasdruckfedern sind so konzipiert und hergestellt, um mindestens 2.000.000 komplette Zyklen bei maximalem Druck und Temperatur und für jede Befestigungsart zu erreichen.

FR

- Tous les composants structuraux des ressorts gaz Special Springs sont conçus et construits pour supporter un minimum de 2 million des cycles complètes à la pression et température maximale pour chaque type de fixation.

ES

- Todos los componentes estructurales de los cilindros de gas Special Springs están diseñados y fabricados para soportar un mínimo de 2.000.000 de golpes completos a la máxima presión, temperatura y para cualquier tipo de fijación.

PT

- Todos os componentes estruturais dos cilindros Special Springs, são projetados e construídos para suportar no mínimo 2.000.000 ciclos com máxima pressão, temperatura e para todos os tipos de dispositivos de fi xação.

Benefits

IT

- Maggiore garanzia di prodotti e componenti sicuri per il cliente.

EN

- Greater assurance of safe products and components for customers.

DE

- verbesserte Sicherheit für den Kunden durch sichere Produkte und Komponenten.

FR

- Plus grande assurance de produits et composants sûrs pour les clients.

ES

- Mayor garantía de productos y componentes seguros para los clientes.

PT

- Maior garantia de produtos e componentes seguros para os clientes.



KNOWLEDGE

IT

- La conoscenza è un elemento fondamentale per azioni quotidiane di successo, più conosciamo meglio facciamo. Questo concetto è da sempre presente nella filosofia del lavoro di Special Springs. Da molti anni Special Springs è impegnata per aumentare la conoscenza dei prodotti e delle loro caratteristiche unitamente alle migliori tecniche di utilizzo attraverso formazioni teoriche e pratiche.

EN

- Knowledge is an essential element for successful daily actions;the more we know, the better we perform. This concept has always been one of Special Springs' core values. For many years the company has committed to increase knowledge of products along with their characteristics and their best utilisations techniques, through theoretical and practical training.

DE

Fachkenntnis ist ein grundlegendes Element für tägliche, erfolgreiche Tätigkeiteng, je mehr wir wis- sen, desto besser können wir handeln. Dieses Konzept ist schon immer die Arbeitsphilosophie von Special Springs. Seit vielen Jahren ist Special Springs bestrebt, die Fachkenntnisse rund um die Produkte und ihre technischen Eigenschaften zusammen mit den neuesten Anwendungstechniken zu perfektionieren und durch theoretische und praktische Schulungen zu vertiefen.

FR

- La connaissance est un élément fondamental pour les actions quotidiennes de succès, mieux on connaît, mieux on fait. Ce concept a été toujours présent dans la philosophie de travail de Special Springs. Depuis plusieurs années Special Springs s'est engagé à augmenter la connaissance des produits et de ses caractéristiques mais aussi aux meilleures techniques d'usage à travers formations théoriques et pratiques.

ES

- El conocimiento es un elemento fundamental para acciones cotidianas que lleven al éxito, cuanto más se conoce mejor se hace. Este concepto ha estado siempre en la fi losofía de trabajo de Special Springs. Special Springs se dedica desde hace muchos años a aumentar su conocimiento sobre los productos y sus características, así como a mejorar las técnicas de uso a través de formaciones teóricas y prácticas.

PT

- O conhecimento é um elemento essencial para o sucesso das ações diárias; Quanto mais soubermos, melhor nós executamos. Este conceito sempre foi um dos valores da Special Springs. Por muitos anos a empresa se comprometeu a aumentar os conhecimentos dos produtos juntamente com suas características e suas melhores técnicas de utilizações através de formação teórica e prática.



TECHNICAL SUPPORT

IT

- Special Springs, da sempre impegnata per migliorare il supporto tecnico agli utilizzatori, fornisce con ogni cilindro o suo componente un completo foglio di istruzioni multilingua.

EN

- Special Springs has always been committed to provide technical support for users; we provide a thorough multilingual instruction sheet with each gas spring or component.

DE

- Special Springs ist schon immer bestrebt, den technischen Support der Anwender zu verbessern, für jede Gasdruckfeder und deren Komponenten ist eine mehrsprachige Betriebsanleitung verfügbar.

FR

- Special Springs s'est engagée depuis longtemps pour améliorer le support technique aux utilisateurs, elle fournit avec chaque ressort ou composant un papier d'instruction multilingue complet.

ES

- Es prioridad desde siempre para Special Springs la mejora del soporte técnico al usuario, para lo que entrega un manual completo en varios idiomas con con cada cilindro o componente.

PT

- A Special Springs é empenhada em fornecer suporte técnico para usuários; Nós fornecemos uma folha de instruções multilingue completa com cada cilindro ou componente.

Benefits

IT

- Maggiore conoscenza degli utilizzatori sui reali vantaggi offerti dai cilindri ad azoto Special Springs.
- Maggiore conoscenza degli utilizzatori sui più corretti metodi di utilizzo con vantaggi economici e di sicurezza.
- Maggiore sensibilità e coscienza sull'importanza delle sicurezze attive sui cilindri ad azoto.

EN

- Increased knowledge of users, in regards to the real benefits given by Special Springs gas springs.
- Increased knowledge of users on how to appropriately use the products, hence benefit from cost and production efficiency.
- Increased knowledge of users on the importance of our gas springs safety features.

DE

- größeres Wissen der Anwender über die effektiven Vorteile der Special Springs Gasdruckfedern.
- größeres Wissen der Anwender über die am besten geeigneten Anwendungsverfahren mit wirtschaftlichen und sicherheitsrelevanten Vorteilen.
- besseres Verständnis bzw. Bewusstsein der Wichtigkeit der aktiven Sicherheitselemente an Gasdruckfedern.

FR

- Majeure connaissance des utilisateurs sur les avantages réels offert par les ressorts à gaz Special Springs.
- Majeure connaissance des utilisateurs sur les méthodes de usage plus corrects avec avantages économiques et de sécurité.
- Majeure sensibilité et conscience sur l'importance des sécurités actives dans les ressorts à gaz.

ES

- Mayor conocimiento por parte del usuario de las ventajas ofrecidas por los cilindros Special Springs.
- Mayor conocimiento por parte del usuario de los métodos correctos para aumentar la seguridad de uso.
- Mayor sensibilidad y conciencia de la importancia de la seguridad activa en los cilindros de nitrógeno.

PT

- Aumento do conhecimento dos usuários, no que diz respeito aos benefícios reais dados pelo Cilindro de Nitrogênio Special Springs.
- Aumento do conhecimento dos usuários sobre como usar adequadamente os produtos, portanto, aumentando a efi ciência de custo e produção.
- Aumento do conhecimento dos usuários sobre a importância de nossas características de segurança do cilindros de Nitrogênio.

OPERATING INSTRUCTIONS



IT Caricare soltanto con GAS AZOTO (N2).

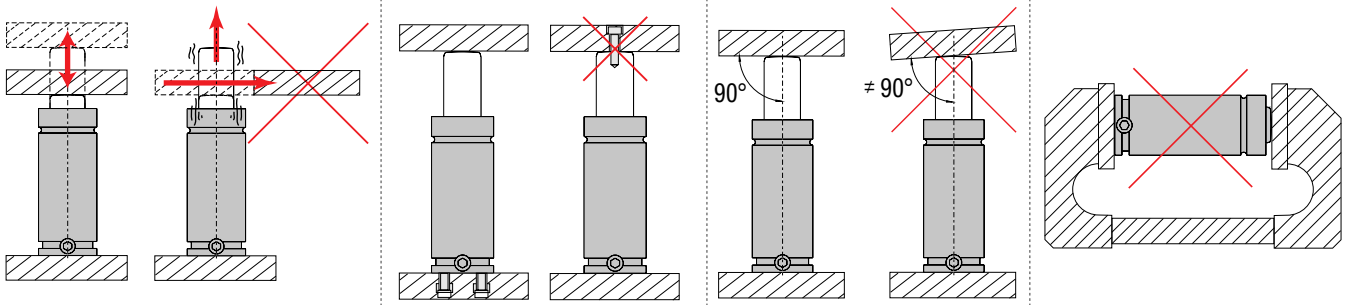
EN Charge only with NITROGEN GAS (N2).

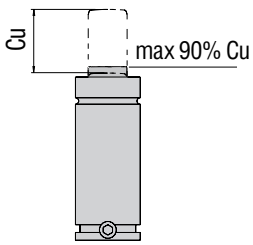
DE Gasdruckfedern dürfen nur mit STICKSTOFF GAS (N2) gefüllt werden.

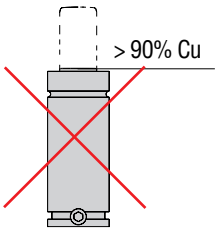
FR Charge seulement avec du GAZ AZOTE (N2).

ES Cargar únicamente con GAS NITRÓGENO (N2).

PT Carregar somente com GÁS de NITROGÊNIO (N2).







IT Tutti i cilindri Special Springs sono dotati di riserva corsa da 1 a 3 mm (escluso M90/TBM-TBI-TEM). Quindi il valore nominale Cu è completamente utilizzabile. Si raccomanda comunque di prevedere una riserva corsa addizionale pari al 10% della corsa nominale o 5mm per corse superiori a 50mm per prevenire eventuali extra-corse che potrebbero verificarsi, e causare danni irreparabili ai cilindri e gravi rischi per la sicurezza.

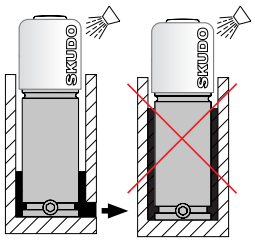
EN All Special Springs gas springs are designed with a stroke reserve from 1 to 3 mm (except M90/TBM-TBI-TEM). Thus, the nominal value Cu is fully applicable. However, it is recommended to keep a stroke reserve of 10% of the nominal stroke or 5 mm for strokes longer than 50 mm, in order to avoid the risk of any over stroke possibly causing damages to things and/or injury to people.

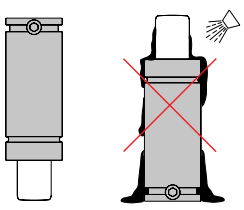
DE Alle Gasdruckfedern von Special Springs verfügen über eine Hubreserve von 1 bis 3 mm (Ausnahme M90/TBM-TBITEM). Daher kann der Nennwert Cu 100% verwendet werden. EEs wird jedoch empfohlen, eine zusätzliche Hubreserve von 10% des Nennhubs bzw. 5 mm bei Hüben über 50 mm einzuhalten, um die Gefahr eines Überhubs zu vermeiden, die mögliche irreparable Beschädigungen- und/oder Personenschäden verursachen können.

FR Tous les ressorts gaz Special Springs sont conçus avec une réserve de course de 1 à 3 mm (sauf M90/TBM-TBI-TEM). Ainsi, la valeur nominale Cu est pleinement applicable. Cependant, il est recommandé de conserver une réserve de course de 10% de la course nominale ou de 5 mm pour les courses supérieures à 50 mm, afin d'éviter le risque d'une éventuelle course supplémentaire qui pourrait causer des dommages matériels et/ou corporels.

ES Todos los cilindros de gas SPECIAL SPRINGS están dotados de una reserva de carrera de 1 a 3 mm (excepto M90 / TBM-TBI-TEM). Por lo tanto el valor nominal Cu es completamente utilizable. De todos modos, se recomienda proporcionar una reserva de carrera adicional igual al 10% de la carrera nominal o 5 mm para carreras superiores a 50 mm para evitar cualquier sobre carrera que pudiera causar daños a cosas y/o lesiones a personas.

PT Todos os cilindros da Special Springs são projetados com uma reserva de curso de 1 a 3mm (exceto os modelos M90/TBM-TBI-TEM). O que permite a utilização de 100% do curso nominal do cilindro. No entanto, recomenda-se manter uma reserva de 10% do curso nominal ou 5mm para cilindros com curso superior a 50mm, para evitar o risco de sobre curso, que possa causar danos aos cilindros ou até pessoas.





IT In presenza di contaminanti liquidi o solidi utilizzare cilindri con SKUDO. In mancanza di cilindri con SKUDO, un miglioramento significativo si ottiene installando i cilindri capovolti.

EN In presence of liquid or solid contaminants, use gas springs with SKUDO. In absence of gas springs with SKUDO protection, a significant improvement could be obtained by mounting the gas springs in upside-down position.

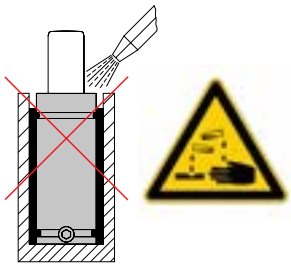
DE Verwenden Sie in Bereichen, in denen die Gasdruckfeder dem Einwirken von Flüssigkeiten oder Schmutzpartikeln ausgesetzt ist, Gasdruckfedern mit SKUDO. Wenn SKUDO nicht eingesetzt werden kann, empfehlen wir, die Gasdruckfeder mit nach unten stehendem Kolben zu montieren, um das Eindringen der Flüssigkeit oder der Schmutzpartikel in die Gasdruckfeder zu vermeiden.

FR En presence de contaminants liquides ou solides, utiliser les ressorts avec SKUDO. En absence de ressorts avec SKUDO, une amélioration importante peut s'obtenir en montant les cylinders renversés.

ES En presencia de contaminantes líquidos o sólidos, se recomienda el uso de cilindros con SKUDO. A falta de cilindros con SKUDO, una notable mejora se obtiene montando los cilindros boca abajo.

PT Procurar sempre utilizar cilindros com Skudo quando o mesmo for trabalhar em contato com elementos contaminantes líquidos ou sólidos. Quando não for possível a utilização dos cilindros com o Skudo, tentar fixar os cilindros de cabeça para baixo.

OPERATING INSTRUCTIONS



IT Evitare il contatto di fluidi aggressivi (soda e cloruri) con i cilindri. Se utilizzati per la pulizia dello stampo, si raccomanda di rimuovere dai cilindri ogni residuo.

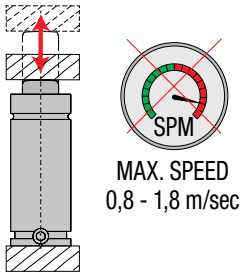
EN Avoid any contact of gas springs with aggressive fluids (soda or chlorites). If they are used for cleaning the tools, we recommend to carefully remove any residue from gas springs.

DE Werden aggressive Flüssigkeiten (Soda oder Chloride) zur Reinigung des Bauteils verwendet, dürfen diese nicht mit den Gasdruckfedern in Kontakt kommen bzw. jeglicher Rückstand davon muss von den Gasdruckfedern entfernt werden.

FR Eviter le contact des liquides agressifs (soda ou chlorites) avec les cylindres. S'ils sont utilisés pour le nettoyage des moules, il est recommandé d'enlever tous résidus sur les cylindres.

ES Evite el contacto de fluidos agresivos (soda o cloruro) con los cilindros. Si se utilizan para la limpieza de herramientas, recomendamos eliminar cualquier residuo de los cilindros.

PT Evitar qualquer contato dos cilindros com fluidos agressivos (soda ou cloretos). Se forem usados para limpar ferramentas, recomendamos remover todos os resíduos dos cilindros.



IT Non confondere la velocità massima con il numero massimo di cicli al minuto, come raccomandato per ogni modello.

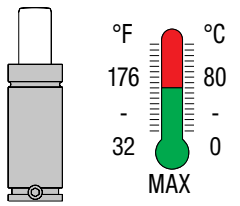
EN Do not confuse the maximum speed with the maximum number of strokes per minute, as recommended for each model.

DE Die maximale Geschwindigkeit darf nicht mit der maximalen Hubzahl pro Minute verwechselt werden, wie dies für jedes Modell empfohlen wird.

FR Ne confondez pas la vitesse maximale avec le nombre maximal de coups par minute, comme recommandé pour chaque modèle.

ES No debe confundirse la velocidad máxima con el número máximo de golpes por minuto, tal como se recomienda para cada modelo.

PT Não confunda a velocidade máxima com o número máximo de golpes por minuto, conforme o recomendado para cada modelo.



IT Temperatura di funzionamento.

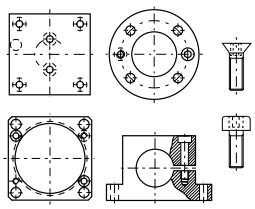
EN Operating temperature.

DE Arbeitstemperatur.

FR Température de fonctionnement.

ES Temperatura de funcionamiento.

PT Temperatura de operação.



IT Si raccomanda di installare sempre i cilindri con gli appositi elementi di fissaggio.

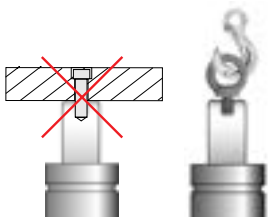
EN It is always recommended to install the gas springs with the suitable fixing elements.

DE Es wird immer empfohlen, die Gasdruckfedern mit den geeigneten Befestigungselementen zu fixieren.

FR Il est toujours recommandé de fixer les cylindres avec les éléments de fixation appropriés.

ES Se recomienda fijar siempre los cilindros con los elementos de fijación apropiados.

PT É aconselhável fixar sempre os cilindros com os elementos de fixação adequados.



IT Utilizzare il foro filettato sullo stelo solo per la movimentazione dei cilindri.

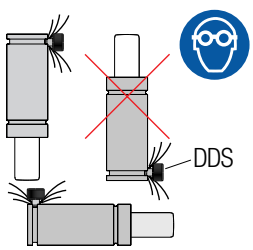
EN Use the threaded hole on the rod only for gas springs' handling.

DE Die Gewindebohrung an der Kolbenstange ist ausschließlich für die Bewegung der Gasdruckfedern zu verwenden.

FR Utiliser le trou fileté sur la tige uniquement pour la manipulation des cylindres.

ES Utilizar el orificio roscado en el vástago solo para la manipulación de los cilindros.

PT Utilizar o furo roscado na haste só para el manuseio dos cilindros.



IT Durante lo scaricamento con l'uso del dispositivo DDS, orientare il flusso del gas in direzione opposta all'operatore.

EN When discharging by using a DDS device, direct the gas flow away from operator.

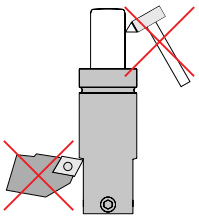
DE Während der Entladung mit Hilfe der DDS-Vorrichtung, richten Sie den Gasfluss in die dem Bediener entgegengesetzte Richtung.

FR Pendant le déchargement à l'aide du dispositif DDS, orientez le flux du gaz dans la direction opposée à l'opérateur.

ES Durante la descarga mediante el dispositivo DDS, orientar el flujo del gas en dirección contraria al operador.

PT Durante a descarga com a utilização do dispositivo DDS, orientar o fluxo de gás na direcção oposta à do operador.

OPERATING INSTRUCTIONS



IT Evitare qualsiasi lavorazione meccanica o impatto su corpo e stelo.

EN Avoid any mechanical tooling or impact on the body and the rod.

DE Vermeiden Sie mechanische Bearbeitungen jeder Art oder sonstige Einwirkungen auf Körper und Kolbenstange.

FR Éviter toute opération mécanique ou impact sur le corps et la tige.

ES Evitar cualquier clase de elaboración mecánica o impacto contra cuerpo y vástago del cilindro.

PT Evitar qualquer trabalho mecânico ou impacto sobre o corpo e haste.



IT Se un cilindro ha la struttura danneggiata, prima di qualsiasi manipolazione,scaricare completamente la pressione.

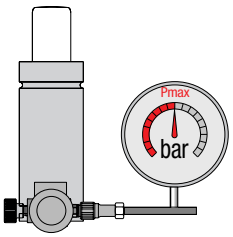
EN If a gas spring has structural damage, fully exhaust all pressure before any form of handling.

DE Weist die Gasdruckfeder Beschädigungen auf, muss vor dem Eingriff der Druck vollständig abgelassen werden.

FR Si la structure d'un cylindre est endommagée, décharger complètement la pression, avant d'effectuer toute opération.

ES Si un cilindro presenta desperfectos en su estructura, descargar completamente la presión antes de proceder a revisarlo.

PT Se um cilindro tiver a estrutura danificada, antes de qualquer manipulação, descarregar completamente a pressão.



IT Durante il caricamento non eccedere la pressione massima raccomandata per ogni modello.

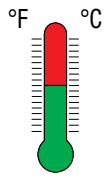
EN When charging do NOT exceed the maximum recommended pressure for each model.

DE Überschreiten Sie während der Ladung den für jedes Modell angegebenen Druckwert nicht.

FR Durant le chargement, il est conseillé de ne pas dépasser la pression maximum recommandée pour chaque modèle.

ES Durante la carga, no superar nunca la presión máxima aconsejada para cada modelo.

PT Durante a carga, não exceder a pressão máxima recomendada para cada modelo.



± 1 °C = ?

approx. ± 0,33 % P

$\Delta P = P0 \times 0.33\% \times \Delta T$

IT Ogni variazione della temperatura rispetto al valore nominale di calcolo di 20°C determina una variazione della pressione del gas (P).

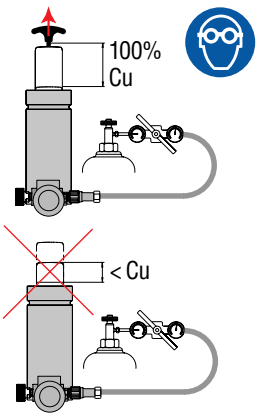
EN Any variation in temperature, respect to the nominal calculation value of 20°C, causes a change in gas pressure (P).

DE Jede Temperatur, die vom berechneten Nennwert (20°C) abweicht, bewirkt eine Änderung des Gasdrucks (P).

FR Chaque modification de la température, par rapport à la valeur nominale de calcul de 20°C, détermine une modification de la pression du gaz (P).

ES Toda variación de temperatura con respecto al valor nominal de cálculo de 20°C, determina una variación de la presión del gas (P).

PT Qualquer variação da temperatura, no que respeita ao valor nominal de cálculo de 20°C, determina uma variação da pressão do gás (P).



IT Durante il caricamento assicurarsi che lo stelo sia estratto al 100%. Per cilindri privi di foro filettato sullo stelo, caricare inizialmente con 5 bar (75 psi) per estrarre completamente lo stelo, quindi procedere fino alla pressione desiderata.

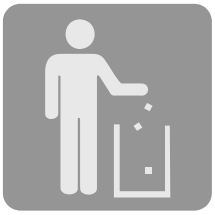
EN Ensure that the rod is 100% extracted when charging. For gas springs without a threaded hole on the rod, initially charge to 5 bar (75 psi) to extract the rod completely, then charge to the required pressure.

DE Stellen Sie vor der Befüllung der Gasdruckfeder sicher, dass die Kolbenstange ganz ausgefahren ist. Befüllen Sie Gasdruckfedern ohne Gewinde am Ende der Kolbenstange anfangs nur mit 5 bar (75 psi), um die Kolbenstange vollständig in die ausgefahrene Position zu drücken. Steigern Sie anschließend den Befülldrück auf den gewünschten Wert.

FR Durant le chargement, s'assurer que la tige soit complètement sortie. Les cylindres sans trou fileté sur la tige doivent être chargés initialement avec 5 bars (75 psi) pour extraire complètement la tige; procéder ensuite jusqu'à la pression désirée.

ES Durante la carga, asegurarse de que el vástago esté extraído al 100%. En cilindros con vástago sin orificio roscado, comenzar con una carga de 5 bar (75 psi) al fin de extraer completamente el vástago. Sólo entonces proseguir cargando hasta alcanzar la presión deseada.

PT Durante a carga, assegure-se de que o haste esteja totalmente extraido. Para cilindros sem orifício roscado no haste, carregar inicialmente com 5 bar (75 psi) para extrair completamente haste, depois, proceder até à pressão desejada.



IT Prima di gettare i cilindri ad azoto scaricare completamente la pressione.

EN Before disposing a gas spring ensure that all residual pressure is fully exhausted.

DE Vor der Entsorgung muss jede Gasdruckfeder vollständig vom Druck entleert werden.

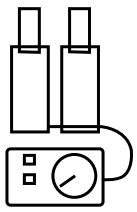
FR Décharger complètement la pression, avant de jeter tout cylindre à gaz.

ES Nunca tirar un cilindro de gas sin antes haber descargado por completo la presión.

PT Antes de deitar fora qualquer cilindro a gás, descarregar completamente a pressão.

USER INFORMATION

LINKABLE



IT Tutti i cilindri collegabili a sistema e specificatamente codificati sono forniti senza valvola unidirezionale, senza pressione e con il solo tappo di chiusura del foro di collegamento (escluso M90, M200, RV170, RV320). Nel caso si desideri trasformare dei cilindri autonomi in cilindri collegabili a sistema è sufficiente ordinare i raccordi e i tubi necessari e seguire le istruzioni specifiche per ogni serie pubblicate nel sito www.specialsprings.com.

EN All gas springs which can be connected to the system and are specifically coded are supplied without the one-way valve, without pressure and with only the closure plug of the connection hole (excluding M90, M200, RV170, RV320). If you wish to convert independent gas springs into system-connectable gas springs, order the necessary hoses and connections, and follow the specific instructions for every series published on site www.specialsprings.com.

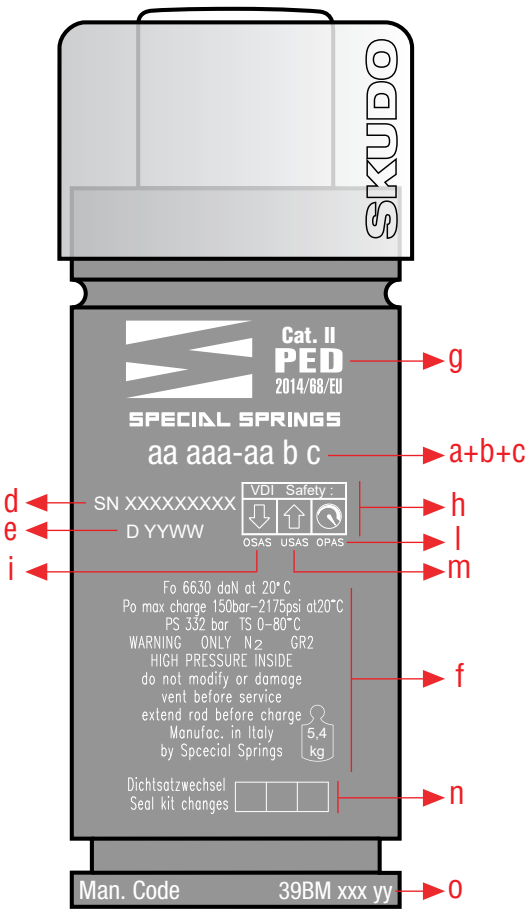
DE Alle Gasdruckfedern, die in ein Verbundsystem integrierbar sind und mit entsprechenden Zusatzangaben bestellt werden, werden ohne Rückschlagventil, unbefüllt und nur mit der in der Anschlussöffnung montierten Verschlussschraube geliefert (Ausnahmen: M90, M200, RV170, RV320). Sollen eigenständig arbeitende Gasdruckfedern für die Nutzung in einem Verbundsystem umgebaut werden, genügt es, die erforderlichen Anschlüsse und Leitungen zu bestellen, sowie die für die jeweilige Serie auf der Internetseite www.specialsprings.com veröffentlichten Hinweise zu beachten.

FR Tous les cylindres qui peuvent être raccordés au système et qui possèdent un code d'identification spécifique sont fournis sans valve unidirectionnelle ni pression. Seul le bouchon de fermeture de l'orifice de raccordement est fourni (sauf M90, M200, RV170, RV320). Au cas où l'on souhaiterait transformer des cylindres autonomes en cylindres à système raccordables, il suffira de commander les raccords et les tubes nécessaires puis de suivre les instructions spécifiques de chaque série, publiées sur le site www.specialsprings.com.

ES Todos los cilindros que se pueden conectar entre sí, que tienen códigos específicos, se suministran sin válvula unidireccional y sin presión, solo con el tapón de cierre del orificio de conexión (menos M90, M200, RV170, RV320). Si se desea transformar cilindros autónomos en cilindros conectables, basta con pedir los elementos de conexión y mangueras necesarios y seguir las instrucciones específicas para cada serie publicadas en la web www.specialsprings.com

PT Todos os cilindros que podem ser ligados ao sistema e especificamente codificados são fornecidos sem válvula unidireccional, sem pressão e somente com a tampa de fechamento do furo de ligação (Não incluída M90, M200, RV170, RV320). Caso queira-se transformar cilindros autónomos em Cilindros interligados, basta encomendar as conexões e tubos necessários e seguir as instruções específicas para cada série, publicadas no site www.specialsprings.com.

LASER MARKING



IT
a) Codice modello
b) Indice revisione
c) Versione collegabile a sistema
d) Lotto di produzione
e) Data di produzione
f) Info generali
g) Categoria PED
h) Pittogrammi sicurezza
i) Sicurezza attiva oltre corsa
l) Sicurezza attiva oltre pressione
m)Sicurezza attiva ritorno incontrollato
n) Numero cambi guarnizione
o) Kit manutenzione

EN
a) Model code
b) Revision indicator
c) Hosed-system version
d) Batch number
e) Production date
f) General info
g) PED Category
h) Safety pictograms
i) Over stroke active safety
l) Over pressure active safety
m)Uncontrolled speed active safety
n) Number of seal replacements
o) Maintenance kit

DE
a) Modellcode
b) Revisionsindex
c) Version kann an ein System angeschlossen werden
d) Produktionsserie
e) Herstellungsdatum
f) Allgemeine Informationen
g) PED Kategorie
h) Sicherheitspiktogramme
i) Aktive Überhubsicherung
l) Aktive Überdrucksicherheitsvorrichtung
m)Aktiver Schutz bei unkontrolliertem Rückhub
n) Anzahl der Dichtungswechsel
o) Wartungsset

FR
a) Référence modèle
b) N de révision
c) Version pouvant être reliée à un système
d) Lot de production
e) Date de fabrication
f) Information générales
g) Catégorie PED
h) Pictogrammes de sécurité
i) Securité active outre-course
l) Securité active outre-pression
m)Securité Active pour Rétour Incontrôlé
n) Nombre de remplacements du joints
o) Set manutention

ES
a) Código de modelo
b) Indicador de revisión
c) Versión conectable a sistema
d) Lote de producción
e) Fecha de fabricación
f) Información general
g) Categoría PED
h) Pictogramas de seguridad
i) Seguridad activa de fin de carrera
l) Seguridad activa de sobre presión
m)Seguridad Activa de Retorno Incontrolado
n) Número de substituciones de la junta
o) Set mantenimiento

PT
a) Código do modelo
b) Índice de revisão
c) Versão que pode ser ligada em sistema
d) Lote de produção
e) Data de produção
f) Informações gerais
g) Classe de risco PED
h) Pictogramas de segurança
i) Segurança ativa mecânica
l) Segurança ativa sobrepressão
m)Segurança para Retorno da Haste
n) Número das substituições da vedação
o) Manutenção de conjunto

USER INFORMATION

IT Nel catalogo per tutti i modelli sono indicate sia la forza finale isotermica che politropica.

La forza finale isotermica con 100% Cu è il valore della forza calcolato in condizioni statiche.

La forza finale politropica con 100% Cu è un valore più realistico da considerare quando il cilindro ad azoto è in funzione. Proprio per questo, va calcolata caso per caso, perché soggetta a variazioni della temperatura del gas dipendenti da corsa nominale, corsa di lavoro, velocità della pressa, no. dei cicli al minuto, volume del gas, temperatura dell'ambiente e di lavoro etc.

Special Springs, a titolo informativo, indica anche i valori approssimati di forza politropica calcolati a regime termico, 100% Cu, 30 SPM, velocità pressa costante e temperatura ambiente 20°C. Per maggiori informazioni contattare Special Springs.

EN Both the isothermal and polytropic end forces are indicated in the catalog for all models.

The isothermal end force at 100% Cu is a value calculated in static conditions.

The polytropic end force, at 100% Cu is a more realistic value consider when the gas spring is working. The polytropic force changes case-by-case, since it is subject to variations in the gas temperature depending on the nominal stroke, working stroke, press speed, number of cycles per minute (SPM), volume of gas, room temperature etc.

For user information, Special Springs, indicates the approximated values of polytropic force calculated at thermal regime, 100% Cu, ca 30 SPM costant press speed and room temperaturet at around 20°C. For further details please contact Special Springs.

F_{1i}
isothermal
end force

DE In unserem Katalog ist für alle Gasdruckfedern sowohl die isotherme als auch die polytrope Endkraft angegeben.

Die isotherme Endkraft bei 100% Cu ist ein Wert, der unter beinahe statischen Bedingungen ermittelt worden ist.

Die polytrope Endkraft bei 100% Cu ist ein realistischerer Wert, wenn die Gasdruckfeder in Betrieb ist. Aus diesem Grund ändert sich die polytrope Kraft von Fall zu Fall, da sie Schwankungen der Gastemperatur in Abhängigkeit von Nennhub, Arbeitshub, Pressengeschwindigkeit, Hubzahl pro Minute (SPM), Gasmenge, Raumtemperatur etc. unterliegt.

Special Springs gibt jedoch zur Information auch den annähernde Wert der polytropen Kraft an, der bei stabiler Betriebstemperatur, 100% Cu, ca. 30 Hübe pro Minute, konstanter Pressengeschwindigkeit und ca. 20° C Raumtemperatur ermittelt worden ist. Für weitere Informationen wenden Sie sich bitte direkt an Special Springs.

F_{1p}
Polytropic
end force

FR Pour tous les modèles, on indique sur le catalogue, soit la force finale isothermique, que celle polytrophique.

La force finale isotherme, avec 100% Cu, est une valeur calculée sur des conditions statiques.

La force finale polytropique, avec 100% Cu, est une valeur plus réaliste à considérer lorsque le ressort à gaz fonctionne. La force polytropique change au cas par cas, car elle est soumise aux variations de la température du gaz en fonction de la course nominale, de la course de travail, de la vitesse de la presse, du nombre de cycles par minute, du volume de gaz, de la température ambiante, etc.

Special Springs, cependant, à des buts d'information, indique aussi les valeurs approximés de la force polytrophique calculés au régime thermique, 100% Cu, environ. 30 SPM, presse à vitesse constante et température ambiante 20 °C. Pour tous renseignements complémentaires, contactez Special Springs.

ES Para todos los modelos se indican en el catálogo tanto la fuerza final isotérmica como la politrópica.

La fuerza final isotérmica con 100% de Cu es el valor de fuerza calculado en condiciones estáticas.

La fuerza final politrópica con 100% de Cu es un valor más realista que se debe considerar cuando el cilindro está en funcionamiento. Por esta razón esta fuerza se calcula para cada caso particular ya que está sujeta a variaciones de la temperatura del gas que dependen de la carrera nominal, carrera de trabajo, velocidad de la prensa, número de ciclos por minuto, volumen de gas, temperatura ambiente y de trabajo, etc

Special Springs sin embargo, a título informativo, indica los valores aproximados de fuerza politrópica calculados a régimen térmico, 100% Cu, 30 ciclos/minuto, velocidad constante de prensa y temperatura ambiente de 20 °C. Para más información póngase en contacto con Special Springs.

PT Para todos os modelos, é indicada no catálogo tanto a força final isotérmica, que a politrópica.

A Força Final Isotérmica considerando 100% do curso, é um valor calculado teórico.

A Força Final Politrópica considerando 100% do curso, é um valor mais realista para serconsiderado em condições de trabalho. A Força Politrópica ira mudar caso a caso, pois esta sujeita a variações de temperatura do gas dependendo do curso nominal, curso de trabalho, velocidade da prensa, muneros de golpes por minuto, volume do gas, temperaturatura ambiente, etc...

Special Springs, no entanto, para fins de informação, indica os valores aproximados da força politrópica calculados a regime térmico 100% Cu, ca. 30 SPM, velocidade constante de prensas e temperatura ambiente a. 20 °C. Para mais informações contacte Special Springs.

$$F_0 = P \cdot S$$

IT Per calcolare la forza iniziale (Fo) di un cilindro ad azoto è sufficiente moltiplicare la pressione di caricamento massima (P) per l'area di tenuta, stelo o pistone, della guarnizione (S).

EN To calculate the initial force (Fo) of each gas spring, multiply the maximum charging pressure (P) to the area of sealing (S), rod or piston, of the gasket seal.

DE Zur Berechnung der Anfangskraft (Fo) einer Gasdruckfeder, muss der angegebene maximale Befülldruck (P) mit der von der Dichtung (S) abgedichteten Fläche an Kolbenstange oder Kolben multipliziert werden.

FR Pour calculer la force initiale (Fo) d'un cylindre à gaz, il suffit de multiplier la pression maximum de chargement (P) pour la surface de retenue, tige ou piston, du joint (S).

ES Para calcular la fuerza inicial (Fo) de un cilindro de gas, se multiplica la presión máxima de carga (P) por la superficie de estanqueidad, vástago o pistón, de los retenes (S).

PT Para calcular a força inicial (Fo) de um cilindro a gás, basta multiplicar a pressão de carga máxima (P) pela área de estanquidade do haste/pistão, da guarnição.

Isothermal force

Metric units

$$F_{x_i} = P \cdot S \cdot \left(\frac{1}{1 - \frac{S}{V_0} \cdot \frac{Cx}{10}} \right)^n$$

Imperial units

$$F_{x_i} = P \cdot S \cdot \left(\frac{1}{1 - \frac{S}{V_0} \cdot Cx} \right)^n$$

Tab. 1

P	n
≤100 bar	1,09
150 bar	1,19
200 bar	1,31

IT Per calcolare la forza intermedia isoterma (Fx_i) ad una determinata corsa di lavoro (Cx) applicare la formula sostituendo i relativi valori numerici. L'esponente (n) varia in funzione della pressione di caricamento (P) come indicato nella Tab.1. Per valori intermedi di pressione è possibile calcolare il valore di (n) proporzionalmente.

EN To calculate the intermediate isothermal force (Fx_i) to a specific working stroke (Cx), use the formula by replacing the relative numeric values. The exponent (n) varies in function of the charging pressure (P) as indicated in Tab.1. For intermediate pressure values, it is possible to calculate the (n) value proportionally.

DE Zur Berechnung der isothermischen Zwischenkraft (Fx_i) bei einem bestimmten Arbeitshub (Cx) verwenden Sie die nebenstehende Formel und setzen Sie entsprechend die im Katalog angegebenen Werte ein. Der Exponent (n) ist abhängig von dem Befülldrück (P). Mit Hilfe der Angaben in der Tab.1 können Zwischenwerte des Druckes proportional berechnet werden.

FR Pour calculer la force intermédiaire isothermique (Fx_i) d'un ressort à gaz à une course de travail saisi (Cx), vous devez utiliser cette formule en substituant les chiffres relatives aux valeurs numériques. L'Exposant (n) varie en fonction de la pression de chargement (P), comme montré dans le Tab.1. Pour les valeurs intermédiaires de pression, il est possible de calculer la valeur (n) de façon proportionnelle.

ES Para calcular la fuerza isoterma intermedia (Fx i) para una carrera de trabajo determinada (Cx) aplicar la formula sustituyendo los valores numéricos correspondientes. El exponente (n) varía en función de la presión de carga (P) tal y como se muestra en Tab.1. Para valores intermedios de presión, es posible calcular el valor de (n) de manera proporcional.

PT Para calcular a força isotérmica intermediária (Fx_i) para um determinado curso de trabalho (Cx) aplicar a fórmula através da substituição dos valores numéricos relevantes. O expoente (n) varia in função da pressão de carga (P), como mostrado na Tab.1.Para os valores intermédios de pressão, é possível calcular o valor de (n) proporcionalmente.

Polytropic force

Metric units

$$F_{x_p} = P \cdot S \cdot \left(\frac{1}{1 - \frac{S}{V_0} \cdot \frac{Cx}{10}} \right)^{1,58}$$

Imperial units

$$F_{x_p} = P \cdot S \cdot \left(\frac{1}{1 - \frac{S}{V_0} \cdot Cx} \right)^{1,58}$$

IT Per calcolare un valore approssimato di forza intermedia politropica (Fx_p) ad una determinata corsa di lavoro (Cx) applicare la formula sostituendo i relativi valori numerici. L'esponente (n) per la forza politropica può essere assunto pari a 1,58 per la maggior parte delle normali applicazioni.

EN To calculate the approximated value of polytropic intermediate force (Fx_p) to a specific working stroke (Cx), use the formula by replacing the relative numeric values. The exponent (n) for the polytropic force shall be assumed to be equal to 1,58 for the majority of normal applications.

DE Zur Berechnung der ungefähren polytropischen Zwischenkraft (Fx_p) bei einem bestimmten Arbeitshub (Cx) verwenden Sie die nebenstehende Formel und setzen Sie entsprechend die im Katalog angegebenen Werte ein. Der Exponent (n) beträgt im Normalfall 1,58.

FR Pour calculer la valeur de force polytrophique intermédiaire (Fx_p) d'un ressort à gaz à une course de travail saisie (Cx), vous devez utiliser cette formule en substituant les chiffres relatives aux valeurs numériques. L'Exposant (n) peut être assumé comme 1,58 pour la majorité d'utilisations courantes.

ES Para calcular un valor aproximado de la fuerza intermedia politrópica (Fx p) para una carrera de trabajo determinada (Cx), aplicar la formula sustituyendo los valores numéricos correspondientes. Se puede asumir un valor de 1,58 para el exponente (n) de la fuerza politrópica para la mayoría de las aplicaciones normales.

PT Para calcular um valor aproximado da força intermediária politrópica (Fx_p) para um determinado curso de trabalho (Cx), aplicar a fórmula através da substituição dos valores numéricos relevantes. O expoente (n) para a força politrópica pode ser assumido como sendo igual a 1,58 para a maioria das aplicações normais.

USER INFORMATION

$$P_n = \frac{F_n}{S}$$

IT Per determinare la pressione di caricamento necessaria per ottenere una forza (Fn) diversa dalla nominale (Fo) è sufficiente dividere la forza richiesta (Fn) per l'area di tenuta, stelo o pistone, della guarnizione.

EN To determine the pressure level required to achieve a force (Fn) different from the nominal one (Fo), divide the required force (Fn) by the area of sealing, rod or piston, of the gasket seal.

DE Zur Berechnung des benötigten Befülldruckes (Pn) für eine spezifische Anfangskraft (Fn), die von der im Katalog angegebenen Anfangskraft abweicht, muss die gewünschte Anfangskraft (Fn) durch die von der Dichtung abgedichteten Fläche an der Kolbenstange oder Kolben dividiert werden.

FR Pour calculer la pression de chargement nécessaire pour obtenir une force (Fn) différente de la force nominale (Fo) il suffit de diviser la force requise (Fn) par la surface d'étanchéité (tige ou piston) du joint.

ES Para calcular la presión de carga necesaria para obtener una fuerza (Fn) distinta de la nominal (Fo), se divide la fuerza requerida (Fn) entre el área de estanqueidad, vástago o pistón, de los retenes.

PT Para determinar a pressão de carga necessária para obter uma força (Fn) diferente da nominal (Fo), basta dividir a força necessária (Fn) pela área de estanquidade do embolo/pistão, da guarnição.

Max Speed

IT Non superare la velocità massima dello stelo indicata. Velocità superiori possono ridurre la durata dei cilindri.

EN Do not exceed the maximum rod speed indicated. Exceeding speeds can reduce the gas spring's life.

DE Die angegebene max. Geschwindigkeit der Kolbenstange darf nicht überschritten werden. Höhere Geschwindigkeiten können die Lebensdauer der Gasdruckfedern reduzieren.

FR Ne pas excéder la vitesse maximale de la tige indiquée pour chaque modèle. Les vitesses supérieures peuvent réduire la durée des vérins.

ES No exceder la velocidad máxima del vástago indicada para cada modelo. Velocidades más altas pueden reducir la vida útil del cilindro.

PT Não exceda a velocidade máxima da haste indicada para cada modelo. Velocidades mais elevadas podem reduzir a vida útil do cilindro.

SPM Strokes per Minute

IT Per ogni modello è indicato il campo di frequenza massima di utilizzo raccomandata al 100% Cu. Il valore inferiore è riferito alla corsa più lunga, quello superiore alla corsa più breve. Frequenze superiori possono ridurre la durata dei cilindri.

EN The maximum frequency range of use recommended to 100 % Cu is indicated for every model. The lower value is referred to the longest stroke, the higher value refers to the shortest stroke. Higher frequencies can reduce the gas spring duration.

DE Für jeden Typ ist eine empfohlene max. Hubzahl (SPM) unter Berücksichtigung des max. Hubes (Cu) angegeben. Der kleine Wert bezieht sich auf den größten auswählbaren Hub, während der größere Wert sich auf den kleinsten auswählbaren Hub bezieht. Höhere Hubzahlen reduzieren die Lebensdauer der Gasdruckfedern.

FR Pour chaque modèle, on indique le champ de fréquence maximale d'usage recommandé au 100% de Cu. La valeur inferieure se réfère a la course plus longue, tandis quel la valeur inférieure à la course plus courte. Fréquences supérieures peuvent réduire la durées des vérins.

ES Para cada modelo se indica el rango de frecuencia máxima de uso recomendada al 100% Cu. El valor inferior indicado es válido para carrera más larga, mientras que el valor superior se es válido para la carrera más corta. Frecuencias superiores pueden reducir la vida útil de los cilindros.

PT Para cada modelo se indica o intervalo de frequência máxima do uso recomendada al 100% Cu. O valor mais baixo é relatado para o curso mais longo, o mais elevado para o curso mais corto. frequências mais elevadas podem reduzir a duração dos cilindros.

USER INFORMATION

IT TUTTI i cilindri ad azoto SPECIAL SPRINGS soddisfano i requisiti previsti dalla Direttiva Europea sulle attrezzature a pressione 2014/68/EU, che si applica nell'Unione Europea dal 19 Luglio 2016.
Questa Direttiva regolamenta e definisce come attrezzature a pressione i recipienti, le tubazioni e gli accessori sottoposti a una pressione massima ammissibile PS superiore a 0,5 bar.
Più specificatamente, la Direttiva 2014/68/EU prevede la classificazione in categorie e l'obbligo di marcatura CE con il numero identificativo del produttore per le attrezzature il cui risultato della pressione P (bar) x il volume del fluido Vo (dm3) sia pari o superiore a 50. La marcatura CE è obbligatoria per le Categorie II e III, ma facoltativa per la Categoria I.
Per tutti i cilindri ad azoto il cui prodotto P x Vo è inferiore a 50 si applica l'Articolo 4.3 della Direttiva e non sono marcati CE.

EN ALL Special Springs gas springs fulfill the requirements of the European directive concerning pressure equipment (2014/68/EU), applied in the European Union from 19th July 2016.
This directive sets out the standards for pressure equipment and defines them as vessels, piping and accessories subject to a maximum allowable pressure PS greater than 0,5 bar.
In particular, according to the directive 2014/68/EU, pressure equipments are classified by category and they shall bear the CE marking with the identification number of the manufacturer when the result of pressure P(bar) X fluid volume Vo(dm³) is 50 or more. The CE marking is mandatory for Categories II and III, but discretionary for Category I.
All gas springs which result of P x Vo is less than 50 are subject to Article 4.3 of the same directive and they do not bear the CE marking.

DE Alle Stickstoff-Gasdruckfedern von Special Springs erfüllen die Anforderungen der ab dem 19. Juli 2016 in der Europäischen Union anzuwendenden Richtlinie 2014/68/EU über die Druckgeräte. Diese Richtlinie legt die Anforderungen an die Druckgeräte fest und definiert diese als Behälter, Rohrleitungen und Ausrüstungsteile mit einem max. zulässigen inneren Überdruck (PS) von mehr als 0,5 bar.
Im Einzelnen werden Druckgeräte gemäß der Richtlinie 2014/68/EU in Kategorien eingestuft und müssen mit der CE-Kennzeichnung und der Identifikationsnummer des Herstellers beschriftet werden, wenn der errechnete Wert des Produktes von Druck (P) multipliziert mit dem Befüllungsvolumen Vo (dm3) größer als 50 ist. Die CE-Kennzeichnung ist für die Kategorien II und III zwingend, jedoch nicht für die Kategorie I. Die Gasdruckfedern, bei denen der errechnete Wert des Produktes von Druck (P) multipliziert mit dem Befüllungsvolumen Vo (dm3) kleiner als 50 ist, tragen gemäß dem Artikel 4.3 der genannten Richtlinie keine CE-Kennzeichnung.

CE

PED
2014/68/EU

FR TOUS les cylindres-ressorts à l'azote de SPECIAL SPRINGS satisfont aux prescriptions de la Directive Européenne sur les équipements sous pression 2014/68/EU, qui s'applique dans l'Union Européenne depuis le 19 juillet 2016.
Cette Directive fixe les exigences envers les équipements sous pression et les définit comme les récipients, les tuyauteries et les accessoires soumis à une pression maximale admissible PS supérieure à 0,5 bar.
Plus spécifiquement, la Directive 2014/68/EU prévoit la classification en catégories et l'obligation du marquage CE avec le numéro d'identification du fabricant pour les équipements dont le résultat de la pression P (bar) X le volume du fluide Vo (dm³) est de 50 ou plus. Le marquage CE est obligatoire pour les catégories II et III, mais facultatif pour la catégorie I.
Tous les cylindres-ressorts à l'azote dont le produit de P X Vo est moins de 50 sont réglementés par l'article 4.3 de la même directive et ne portent pas le marquage CE.

ES TODOS los cilindros de nitrógeno SPECIAL SPRINGS cumplen con los requerimientos de la Directiva Europea sobre equipos a presión 2014/68/EU, que se aplica en toda la Unión Europea a partir del 19 de julio de 2016.
Esta Directiva regula y define como equipos a presión los recipientes, mangueras y accesorios sometidos a una presión máxima admisible PS superior a 0,5 bar.
Más concretamente, la directiva 2014/68/EU prevé la clasificación en categorías y la obligación de marcado CE con el número identificativo del fabricante para los equipos cuyo resultado de la presión P (bar) x el volumen del fluido Vo (dm3) sea igual o superior a 50. El marcado CE es obligatorio para las categorías II y III, pero facultativa para la categoría I.
Todos los cilindros de nitrógeno cuyo resultado P x Vo es inferior a 50 están sujetos al artículo 4.3 de la directiva y no llevan el marcado CE.

PT TODOS os cilindros de nitrogénio Special Springs satisfazem os requisitos da Diretiva Europeia para equipamentos sob pressão 2014/68/EU, que se aplica na União Europeia a partir de 19 de julho de 2016.
Esa Diretiva regulamenta os equipamentos sob pressão e os define como os recipientes, os tubagens e os acessórios sujeitos a uma pressão máxima admissível PS superior a 0,5 bar.
Em particular, a directiva 2014/68/EU prevê a classificação em categorias e a obrigação da marcação CE com o número de identificação do fabricante para os equipamentos cujo o resultado de pressão P (bar) X volume fluido Vo(dm³) é igual ou superior a 50. A marcação CE è obrigatória para as categorias II e III, mas discricionária para a categoria I.
Todos os cilindros de nitrogénio, através da qual resultam P x Vo é inferior a 50 estão sujeitos ao artigo 4.3 da mesma directiva e não ostentam a marcação CE.

USER INFORMATION

LIFE WARRANTY



IT SPECIAL SPRINGS garantisce che i cilindri ad azoto prodotti e venduti da SPECIAL SPRINGS sono privi di difetti di fabbricazione. La presente Garanzia è valida per un periodo di (2) due anni dalla data di acquisto, o per ***200.000 metri lineari*** di corsa*, o per ***2.000.000 di cicli***, a seconda di quale condizione si verifichi per prima. (***100,000 metri lineari** per la Serie HT)

La Garanzia si applica solo ai cilindri ad azoto installati, utilizzati e riparati secondo le prescrizioni SPECIAL SPRINGS.

In caso di presunto difetto, tutte le informazioni utili – comprese la data di acquisto e le condizioni di utilizzo dei cilindri – dovranno essere notificate a SPECIAL SPRINGS.

Prima di utilizzare i cilindri ad azoto SPECIAL SPRINGS, si raccomanda di fare sempre riferimento alle informazioni sulla sicurezza e sul rispetto delle normative come indicato nel Foglio Istruzioni, nella documentazione tecnica e/o nel sito web www.specialsprings.com.

Per "GARANZIA" si intende la riparazione o la sostituzione gratuita del prodotto riconosciuto da SPECIAL SPRINGS come difettoso nella fabbricazione o nel materiale.

SPECIAL SPRINGS non risponde di eventuali danni causati da negligenza, uso improprio e mancato rispetto delle avvertenze e indicazioni contenute nelle prescrizioni SPECIAL SPRINGS.

Si noti infine che condizioni di lavoro critiche o cause esterne possono ridurre significativamente la durata dei cilindri ad azoto.

Termini legali di garanzia su www.specialsprings.com

EN SPECIAL SPRINGS guarantees that the gas springs manufactured and sold by SPECIAL SPRINGS are free from manufacturing defects. This Warranty is valid for the period of (2) two years from the date of purchase, or for ***200,000 linear meters*** of stroke*, or for ***2,000,000 strokes***, whichever occurs first. (***100,000 linear meters** for the HT Series)

The Warranty is applicable only to gas springs installed, used, and repaired according to SPECIAL SPRINGS guidelines.

In case of alleged defect, all useful information - including the date of purchase and the working conditions of gas springs - shall be notified to SPECIAL SPRINGS.

Before using SPECIAL SPRINGS gas springs, always refer to the information on the safety and the compliance with regulations as indicated in the Instruction Sheet, the technical documentation and/or on the website www.specialsprings.com.

By "WARRANTY" it is meant the repair or free replacement of the product, which is recognized by SPECIAL SPRINGS as defective in manufacture or materials.

SPECIAL SPRINGS is not liable for any damage caused by negligence, misuse and noncompliance with the warning and indications contained in SPECIAL SPRINGS guidelines.

Furthermore, heavy working conditions or external causes may reduce the lifetime of gas springs significantly.

Warranty legal terms on www.specialsprings.com

DE SPECIAL SPRINGS garantiert, dass die von SPECIAL SPRINGS hergestellten und verkauften Gasdruckfedern frei von Herstellungsfehlern sind. Diese Garantie gilt für einen Zeitraum von (2) zwei Jahren ab Kaufdatum oder für ***200.000 m*** Gesamthub* oder für ***2.000.000 Hübe***, je nachdem, was zuerst eintritt. (***100.000 m** Gesamthub für die Baureihe HT)

Die Garantie gilt nur für Gasdruckfedern, die gemäß Special Springs Richtlinien installiert, verwendet und repariert wurden.

Im Falle eines behaupteten Defekts müssen alle nützlichen Informationen - einschließlich des Kaufdatums und der Arbeitsbedingungen der Gasdruckfedern - Special Springs mitgeteilt werden.

Vor der Verwendung von SPECIAL SPRINGS-Gasdruckfedern beachten Sie immer die Informationen zur Sicherheit und Einhaltung der Vorschriften, die in der Gebrauchsanweisung, in der technischen Dokumentation und/oder auf der Website www.specialsprings.com angegeben sind.

Unter „GARANTIE" versteht sich die Reparatur oder der kostenlose Ersatz eines Produkts, bei dem von SPECIAL SPRINGS Herstellungs- oder Materialfehler anerkannt werden.

SPECIAL SPRINGS haftet nicht für Schäden, die durch Fahrlässigkeit, Missbrauch und Nichtbeachtung von Warnungen und Hinweisen, die in den SPECIAL SPRINGS- Richtlinien angegeben sind, entstanden sind.

Schwere Arbeitsbedingungen oder äußere Ursachen können die Lebensdauer von Gasdruckfedern erheblich verkürzen.

Garantiebedingungen siehe www.specialsprings.com

USER INFORMATION

LIFE WARRANTY



FR SPECIAL SPRINGS garantit que les ressorts à gaz fabriqués et vendus par SPECIAL SPRINGS sont exempts de défauts de fabrication. Cette garantie est valable pour une période de (2) deux ans à compter de la date d'achat, ou pour ***200.000 mètres linéaires*** de course*, ou pour ***2.000.000 de courses***, selon la première éventualité. (****100 000 mètres linéaires*** pour la série HT).

La garantie ne s'applique qu'aux ressorts à gaz installés, utilisés et réparés conformément aux directives de SPECIAL SPRINGS.

En cas de défaut présumé, toutes les informations utiles - y compris la date d'achat et les conditions de travail des ressorts à gaz - doivent être communiquées à SPECIAL SPRINGS.

Avant d'utiliser les ressorts à gaz SPECIAL SPRINGS, il faut toujours se référer aux informations relatives à la sécurité et au respect des réglementations indiquées dans la fiche d'instructions, la documentation technique et/ou sur le site www.specialsprings.com.

Par "GARANTIE" on entend la réparation ou le remplacement gratuit du produit, reconnu par SPECIAL SPRINGS comme présentant un défaut de fabrication ou de matériaux.

SPECIAL SPRINGS n'est pas responsable des dommages causés par la négligence, la mauvaise utilisation et le non-respect des avertissements et indications contenus dans les directives de SPECIAL SPRINGS.

En outre, des conditions de travail difficiles ou des causes externes peuvent réduire considérablement la durée de vie des ressorts à gaz.

Conditions légales de garantie sur www.specialsprings.com

ES SPECIAL SPRINGS garantiza que los cilindros de gas producidos y vendidos por SPECIAL SPRINGS están libres de defectos de fabricación. Esta Garantía es válida por un período de (2) dos años a partir de la fecha de compra, o para ***200.000 metros lineales*** de carrera*, o para ***2.000.000 de golpes***, lo que ocurra primero. (****100,000 metros lineales*** por la Series HT)

La Garantía se aplica solo a los cilindros de gas instalados, usados y reparados de acuerdo con las pautas de SPECIAL SPRINGS.

En caso de un supuesto defecto, toda las informaciones útiles – incluidas la fecha de compra y las condiciones de uso de los cilindros – deberán ser comunicadas a SPECIAL SPRINGS.

Antes de usar los cilindros de gas SPECIAL SPRINGS, consultar siempre las informaciones de seguridad y de cumplimiento normativo indicadas en la Hoja de Instrucciones, en la documentación técnica y/o en el sitio web www.specialsprings.com.

Por "GARANTÍA" se entiende la reparación o el reemplazo gratuito del producto, que SPECIAL SPRINGS reconoce como defectuoso en la fabricación o en el material.

SPECIAL SPRINGS no se hace responsable de los daños causados por negligencia, uso indebido e incumplimiento de las advertencias e indicaciones contenidas en las pautas de SPECIAL SPRINGS.

Además, condiciones de trabajo críticas o causas externas pueden reducir significativamente la vida útil de los cilindros de gas.

Términos legales de la garantía en www.specialsprings.com

PT A SPECIAL SPRINGS garante que os cilindros de nitrogenio fabricados e vendidos pela SPECIAL SPRINGS estão livres de defeitos de fabricação. Esta garantia é valida por um periodo de 2 anos a contar da data da compra, ou ***200.000 metros lineares*** de curso utilizado, ou por ***2.000.000 de golpes***, o que ocorrer primeiro. (***100.000 metros lineares*** para cilindros da Linha HT).

A garantia é valida somente para cilindros instalados, utilizados ou reparados de acordo com as recomendações da SPECIAL SPRINGS.

Em caso de possivel defeito, todas as informações necessarias - incluindo a data da compra e as condições de trabalho, deverão ser informadas a SPECIAL SPRINGS.

Antes de iniciar a utilização dos cilindros de nitrognio da SPECIAL SPRINGS, é recomendado que verifique todas as informações sobre segurança e normas de utilização contidas no folheto de instrução, na documentação tecnica e ou no site www.specialsprings.com.

A "GARANTIA" significa a troca de reparos ou a substituição do produto, em casos reconhecidos pela SPECIAL SPRINGS como um defeito de fabricação ou de matéria prima.

A SPECIAL SPRINGS não se responsabiliza por qualquer defeito causado defeito causado por negligencia, mal uso do produto ou o não obediencia com os cuidados e indicações de uso contidas no manual de utilização da SPECIAL SPRINGS.

Alem disso, condições extremas ou causas externas podem reduzir a vida util dos cilindros de nitrogenio consideravelmente.

Termos legais de garantia, podem ser encontrados no site www.specialsprings.com

USER INFORMATION

IT Qualora, dopo un lungo funzionamento o per applicazioni particolarmente gravose, si verificassero delle perdite di pressione, significa che le tenute hanno iniziato ad usurarsi o sono state danneggiate. E' quindi possibile, con l' uso di appositi utensili e kits ed il supporto di specifici video e dettagliate istruzioni, ripristinare le condizioni originarie di tenuta e guida. La manutenzione deve essere eseguita solamente da personale qualificato. Eventuali errori possono essere causa di gravi rischi per la sicurezza o limitare la durata dei cilindri. Prima di eseguire qualsiasi intervento scaricare completamente la pressione e assicurare che lo stelo sia completamente compresso nel corpo.

EN If pressure losses occur after extended use or particularly heavy applications, this indicates that the sealing gaskets are worn or damaged. Using special tools and kits, and with the support of videos and detailed instructions, it is possible to restore the original seal and guide conditions. Maintenance must only be conducted by qualified personnel. Errors would cause serious injury or reduce the working life of the gas springs. Before carrying out any work on the system,fully exhaust all pressure and ensure that the rod is fully retracted into the body.

DE Wird nach langer Betriebstätigkeit oder besonders beanspruchender Verwendung ein Druckverlust festgestellt, bedeutet dies, dass die Dichtungen allmählich abgenutzt sind oder beschädigt wurden. Es ist mit Hilfe von zweckmäßigem Werkzeug oder Sets sowie spezifischen Videos und detaillierten Anweisungen möglich, die Ausgangsbedingungen von Dichtung und Führung wiederherzustellen. Die Wartung sollte nur von qualifiziertem Personal vorgenommen werden. Etwaige Fehler können schwerwiegende Sicherheitsrisiken hervorrufen oder die Lebensdauer der Zylinder einschränken. Entladen Sie den Druck und stellen Sie sicher, dass die Kolbenstange komplett in den Zylinderkörper eingeführt ist, bevor Sie Eingriffe vornehmen.

FR Si des pertes de pression se produisent après un long fonctionnement ou avec des applications particulièrement lourdes, cela signifie que les joints de rétenue ont commencé à s'user ou qu'ils sont endommagés. L'utilisation d'outils et de kits appropriés, ainsi que le support de vidéos spécifiques et d'instructions détaillées permettront de rétablir les conditions d'origine de rétenue et de guidage. La maintenance doit être effectuée uniquement par du personnel qualifié. Les éventuelles erreurs peuvent engendrer de graves risques pour la sécurité ou limiter la durée de vie des cylindres. Avant d'effectuer toute opération, décharger complètement la pression et s'assurer que la tige soit complètement comprimée dans le corps.

ES Si después de un largo funcionamiento o en caso de aplicaciones especialmente difíciles se produjesen pérdidas de presión, podría deberse a que los retenes han comenzado a desgastarse o han sufrido algún desperfecto. En esos casos es perfectamente posible restablecer las condiciones originales de los retenes o del guiado mediante kits de mantenimiento adecuados y videos con instrucciones específicas. El mantenimiento debe ser efectuado única y exclusivamente por personal cualificado. Cualquier error podría causar graves riesgos de seguridad o limitar la vida útil de los cilindros. Antes de cualquier reparación, descargar completamente la presión y asegurarse de que el vástago quede completamente comprimido dentro del cuerpo.

PT Depois de muito tempo de utilização dos cilindros, ou trabalhando em condições severas, os cilindros podem apresentar perda de pressão, isto significa que os elementos vedantes começaram a se desgastar ou estão danificados. Neste caso é possível fazer a troca dos elementos vedantes, mas só deve ser feito com a utilização dos instrumentos e ferramentas corretas, auxilio de vídeos de treinamento e manual de instrução. A manutenção só deve ser feita por pessoal qualificado. A manutenção incorreta dos cilindros pode causar graves riscos de operação e limitar a vida útil dos cilindros. Antes de executar qualquer intervenção nos cilindros, assegurar que os cilindros estão completamente descarregados.

Download step-by-step guide instructions at: http://www.specialsprings.com

---

PED 2014/68/EU

CE

IT Come previsto dalle linee guida della direttiva PED 2014/68/EU l'azienda che provvede alla manutenzione dei cilindri marchiati CE dal fabbricante (P x Vo =/> 50) si assume la completa responsabilità di far riesaminare gli stessi da un ente di certificazione accreditato. Diversamente tali manutenzioni potranno essere effettuate esclusivamente da Special Springs.

EN As prescribed by the guidelines of PED 2014/68/EU, the company taking care of the maintenance for gas springs laser marked CE by the producer (P x Vo =/> 50), must get them checked by a certified body. Otherwise, the maintenance can be carried out exclusively by Special Springs.

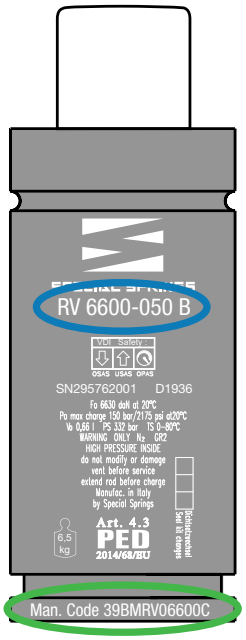
DE Wie in der Richtlinie PED 2014/68/EU vorgeschrieben übernimmt die Firma, die die Instandhaltung von Gasdruckfedern durchführt, die vom Hersteller mit CE-Kennzeichnung versehen worden sind (P x Vo =/> 50), die volle Verantwortung dafür, diese von einer zugelassenen Zertifizierungsanstalt nachprüfen zu lassen. Andernfalls können diese Instandhaltungsarbeiten ausschließlich von Special Springs durchgeführt werden.

FR Selon le mode prévu par les indications de la directive PED 2014/68/EU, l'entreprise qui s'occupe de l'entretien des cilindres marqués CE par le producteur (P x Vo =/> 50), assume la responsabilité de les faire réexaminer par un institut de certificatión qualifié. Autrement, les entretiens peuvent être effectuées exclusivement par Special Springs.

ES Tal y como prevén las directrices de la directiva PED 2014/68/EU, la empresa que realiza mantenimiento de cilindros marcados CE por el fabricante (P x Vo =/> 50) asume la completa responsabilidad de que sean posteriormente verificados por un ente certificado. De otro modo tales tareas de mantenimiento sólo podrán ser llevadas a cabo por Special Springs.

PT De acordo com as directrizes PED 2014/68/EU a fabrica que fornece a manutenção dos cilindros com a marca CE do fabricante (P x Vo =/> 50) assume a responsabilidade de reexaminar os mesmos por uma entidade de certificação creditada. De outra forma tais manutenções poderão ser efectuadas exclusivamente pela Special Springs.

How to Order



Maintenance kits

IT Se il codice Man. Code non è riportato sul cilindro ad azoto: 39BM + Codice cilindro completo.

EN If Man. Code is not indicated on the gas spring, order: 39BM + complete Part Number.

DE Wenn Man. Code auf der Gasdruckfeder nicht vorhanden, bestellen Sie 39BM + vollständige Artikelnummer.

FR Si le Man. Code n'est pas indiqué en le cylindre, ordonnez 39BM + Numéro d'Article complet.

ES Si el Man. Code no está indicado en el cilindro, pedir 39BM + Código completo del Producto.

PT Se a referencia Man Code não estiver escrita no cilindro, favor solicitar 39BM + Código do Produto completo.

EXAMPLE: 39BMRV6600-050 B

IT Se presente nel cilindro ad azoto, riportare il codice Man. Code in fase di ordinazione.

EN If Man. Code is indicated on the gas spring, specify it on the order.

DE Wenn Man. Code auf der Gasdruckfeder vorhanden, bitte in der Bestellung angeben.

FR Si le Man. Code est indiqué en le cylindre, précisez-le dans l'ordre.

ES Si el Man. Code está indicado en el cilindro, especificarlo en el pedido.

PT Se indicado no cilindro, indique o Man. Code na ordem.

EXAMPLE: 39BMRV06600C



IT Kit include: Boccola assemblata, Valvola unidirezionale, lubrificante e grasso, Istruzioni di montaggio.

EN Kit contains: Assembled bushing, one way valve, lubricant and grease, Instructions sheet.

DE Das Set beinhaltet: montierte Buchse, Rückschlagventil, Schmieröl und Schmierfett, Montageanleitung.

FR Le kit comprend: Douille assemblée, Soupape unidirectionnelle, lubrifiant, graisse et les instructions pour le montage.

ES El Kit contiene: casquillo ensamblado, Válvula unidireccional, lubricante y grasa, Instrucciones de montaje.

PT O kit contém: Bucha montada, válvula unidirecional, lubrificante, graxa e instruções de montagem.



IT Special Springs rende sempre disponibili i manuali d'uso dei propri prodotti (in forma cartacea o scaricabili da web tramite QR-Code). Consegnare sempre i manuali insieme alle attrezzature che contengono prodotti Special Springs.

EN Special Springs always provides user manuals for its products (in printed form or downloadable from the web via QR-Code). It is important to always deliver the manuals together with the equipment containing Special Springs products.

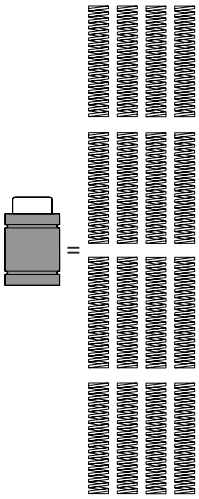
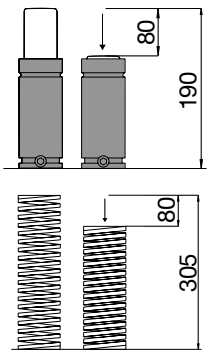
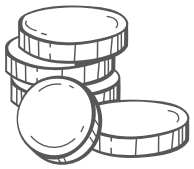
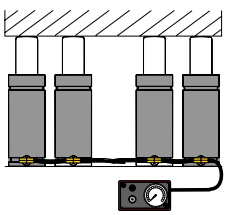
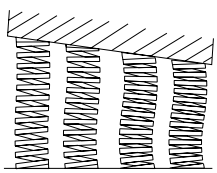
DE Special Spings stellt immer für die eigenen Produkte die Bedienungsanleitungen - in der gedruckten Version oder durch Internet Seite mittels QR-Codes herunterzuladen -zur Verfügung. Wichtig: die Bedienungsanleitungen sind immer der Geräte beizulegen, welche mit Special Springs Produkte ausgerüstet sind.

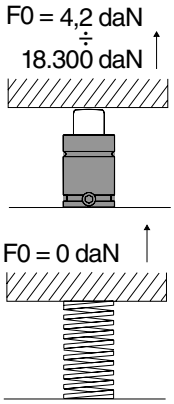
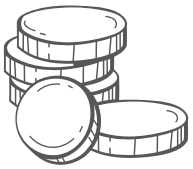
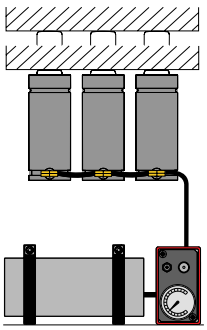
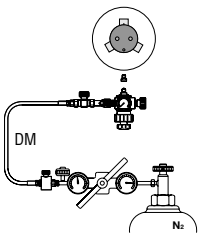
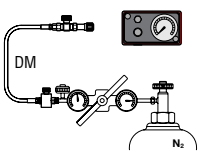
FR Special Springs fournit toujours des manuels d'utilisation pour ses produits (sous forme imprimée ou téléchargeable sur le Web via QR-Code). Il est important de toujours livrer les manuels avec l'équipement contenant les produits Special Springs.

ES Special Springs siempre proporciona manuales de usuario para sus productos (en forma impresa o descargables desde la web a través de QR-Code). Es importante entregar siempre los manuales junto con los equipos que contengan productos Special Springs.

PT A Special Springs fornece sempre manuais de usuário dos seus produtos (em formato impresso ou por download na web via QR-Code). É importante entregar sempre os manuais junto com os equipamentos que contenham produtos Special Springs.

BENEFITS VS

	BENEFITS	RESULT
Less Space 	Notevole riduzione della superficie, dello spazio in altezza e del volume occupato. Eliminazione dispositivi di precarico e guidaggio. Considerable reduction of the required surface, height and volume. No need for retaining and pre-load devices. Deutliche Reduzierung des Platzbedarfs. Vorrichtungen zum Vorspannen und Führen werden nicht benötigt. Réduction importante de la surface, de la hauteur et du volume occupés. Élimination de dispositifs de pré-charge et guidage. Notable reducción de la superficie, de la altura y del volumen ocupados. Eliminación de dispositivos de precarga y guía. Redução notável da superfície, da altura e do volume ocupados. Eliminação de dispositivos de pré-carga e guidamento.	
Lower Height 	Notevole riduzione degli ingombri in altezza a parità di forza e corsa. Costruzione dello stampo più compatta. Considerable height reduction for the same working deflection and force. Compact tool construction. Wesentliche Reduzierung des Höhenbedarfs bei gleichem Hub und gleicher Kraft. Kompaktere Werkzeugkonstruktion. Réduction importante des encombrements en hauteur avec une course et une force équivalente. Construction plus compacte du moule. Notable reducción de la altura con igual fuerza y carrera. Construcción más compacta del utillaje. Redução notável em altura com igual força e curso. Costrução mais compacta da Ferramenta.	**Save Money** 
Controlled Force  	Forza bilanciata e posizionata dove richiesto. Visualizzazione continua della pressione e costante qualità dei pezzi stampati. Maggiore durata degli utensili. The force is balanced and positioned where required. Pressure is always visible and quality of molded parts is constant. Longer life for tools. Die Kraft ist stets ausgeglichen und positionierbar an den erforderlichen Stellen. Ständige Anzeige des Betriebsdrucks und konstante Qualität der zu fertigenden Teile. Längere Lebensdauer der Werkzeuge. La force est équilibrée et positionnée là où elle est exigée. Visualisation continue de la pression et qualité constante des pièces moulées. Durée de vie majeure des outils. Fuerza equilibrada y dirigida donde se precisa. Visualización continua de la presión y calidad constante de las piezas fabricadas. Mayor duración del utillaje. Força equilibrada e aplicável onde é necessária. Visualização contínua da pressão e constante qualidade das peças estampadas. Maior duração das ferramentas.	

	BENEFITS	RESULT
Large initial Force 	Nessun precarico e maggiore facilità di applicazione. No pre-loading needed. Easier and quicker fitting. Einfacher Einbau und keine Vorspannung nicht benötigt wird. Elimination de la pré-charge et application plus facile. Eliminación de la precarga y mayor facilidad de aplicación. Eliminação da pré-carga e maior facilidade de aplicação.	**Save Money** 
Almost Steady Force 	Migliore controllo e riduzione dell'incremento della forza. Migliore qualità dei pezzi stampati e minori scarti di produzione. Better control and reduction of force increase. Better quality of molded parts and lower rejection rate in production. Bessere Kontrolle und Reduzierung der Krafterhöhung. Bessere Qualität der fertigen Werkstücke und weniger Ausschuss bei der Produktion. Meilleur contrôle et réduction de l'augmentation de la force. Une meilleure qualité des pièces moulées et une quantité inférieure de pièces rejetées en production. Mejor control y reducción del incremento de la fuerza. Mejor calidad de las piezas fabricadas y disminución de piezas rechazadas en producción. Melhor controlo e redução do incremento da força. Melhor qualidade das peças estampadas e menos peças rejeitadas na produção.	
Adjustable Force  	Forze regolabili e flessibilità d'uso. Adjustable forces and flexible use. Einstellbare Kräfte und flexibler Einsatz. Forces réglables et flexibilité d'utilisation. Fuerzas regulables y flexibilidad de utilización. Forças reguláveis e flexibilidade de utilização.	

HOW TO READ THE CATALOG

SPECIAL SPRINGS

1 2 2

SC 150

075.90.55 (FCA)	B2 4006 (BMW)	B8 3180 220 000 001(MB)	E24.54.815.G (PSA)
EM24.54.700 (Renault)			

SPECIAL SPRINGS

4 SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

5

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera eculé

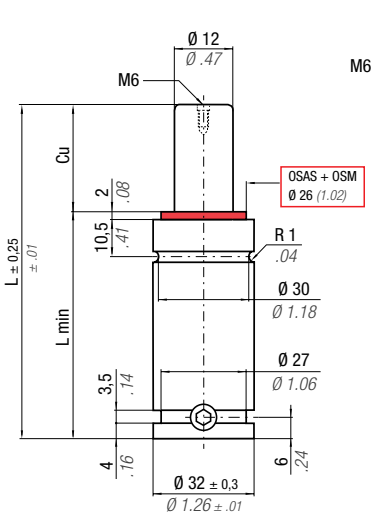
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

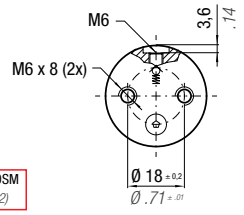
O novo código irá ser fornecido apenas quando o antigo esgotar stock

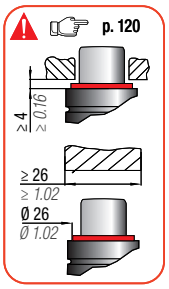
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu







7 8 9 10 11 12

6

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	1,13 cm² / 0.175 in²	~ 80 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC00150E

14 15 16 17

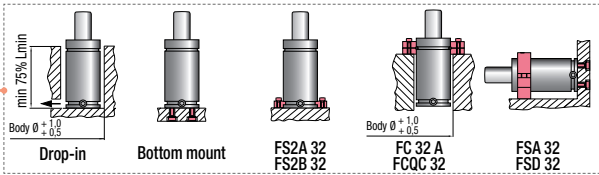
13

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
SC 150 - 010 - D	◆SC 150 - 010 - E	10	0.39	70	2.76	60	2.36			192	431	209	469	11,6	0.71	0,28	0.62	✓
SC 150 - 013 - D	◆SC 150 - 013 - E	12,7	0.51	75,4	2.97	62,7	2.47			195	438	213	479	13,1	0.80	0,29	0.64	✓
SC 150 - 016 - D	SC 150 - 016 - E	16	0.63	82	3.23	66	2.60	170 ± 5%	382	198	445	218	490	14,8	0.90	0,30	0.66	✓
SC 150 - 025 - D	SC 150 - 025 - E	25	0.98	100	3.94	75	2.95			203	457	226	508	20,0	1.22	0,33	0.73	✓
SC 150 - 038 - D	SC 150 - 038 - E	38	1.50	126	4.96	88	3.46			208	467	233	523	27,3	1.67	0,36	0.79	✓
SC 150 - 050 - D	SC 150 - 050 - E	50	1.97	150	5.91	100	3.94	150 bar	2175 psi	211	473	237	532	34,1	2.08	0,40	0.88	✓
SC 150 - 063 - D	SC 150 - 063 - E	63,5	2.48	177	6.97	113,5	4.47			212	478	239	538	41,7	2.54	0,44	0.97	✓
SC 150 - 080 - D	SC 150 - 080 - E	80	3.15	210	8.27	130	5.12	+ 20 °C	+68 °F	214	481	242	544	50,9	3.11	0,49	1.08	✓
SC 150 - 100 - D	SC 150 - 100 - E	100	3.94	250	9.84	150	5.91			216	485	245	550	61,6	3.76	0,55	1.21	✓
SC 150 - 125 - D	SC 150 - 125 - E	125	4.92	300	11.81	175	6.89			218	490	247	556	74,7	4.56	0,64	1.41	✓

18

◆ Disposable

19



HOW TO ORDER p. 121

INSTALLATION GUIDELINE p. 205

20

HOW TO READ THE CATALOG

1
Modello di cilindro ad azoto
Gas spring model
Gasdruckfeder Modell
Modèle de Ressorts à Gaz
Modelo de cilindro de Gas
Modelo de cilindro de nitrogênio

2
Modifica rispetto al catalogo precedente > see page 2
Modification respect to the former catalog >see page 2
Modification à l'égard du catalogue précédent > voir page 2
Veränderungen gegenüber den alte Katalog > Siehe Seite 2
Cambios en comparación con el catálogo anterior > ver página 2
Alterações em comparação com o catálogo anterior > ver página 2

3
Standard internazionali / costruttori auto (ISO, VDI, ecc.)
International / Automotive Standards (ISO, VDI, ecc.)
Internationale / Automobil-Standards (ISO, VDI, ecc.)
Standards internationaux / automobiles (ISO, VDI, ecc.)
Estándares internacionales / automóvil (ISO, VDI, ecc.)
Padrões internacionais / automóvel (ISO, VDI, ecc.)

4
Raschiatore secondario applicabile
Secondary Wiper can be mounted
Sekundärabstreifer montierbar
Joint racleur secondaire peut être monté
Posibilidad de montar rascador secundario.
Raspador secundário montável

5
Dispositivi di sicurezza presenti nel modello
Safety devices provided on the model
Sicherheitsvorrichtungen am Modell
Dispositifs de sécurités présents sur le modèle
Dispositivos de seguridad disponibles en el modelo
Dispositivos de segurança disponíveis no modelo

6
Gas di caricamento
Pressure medium
Druckgas
Gaz de chargement
Gas de carga
Gás de carga

7
Temperatura di esercizio
Working temperature
Betriebstemperatur
Température de fonctionnement
Temperatura de funcionamiento
Temperatura de funcionamento

8
$\Delta P / \Delta T$

9
Pressione max di caricamento
Max charging pressure
Maximaler Ladedruck
Pression de chargement maximum
Presión máx de carga
Pressão máxima de carga

10
Pressione min. di caricamento
Min charging pressure
Minimaler Ladedruck
Pression de chargement minimum
Presión mín de carga
Pressão mínima de carga

11
Area di tenuta stelo/pistone
Rod/piston seal area
Dichtungsbereich Kolbenstange/Kolben
Zone d'étanchéité tige/piston
Área de estanqueidad vástago/pistón
Área de estanquidade do embolo/pistão

12
Cicli / minuto
Strokes / minute
Hübe/Minute
Cycles / minute
Ciclos / minuto
Pancadas / minuto

13
Codice
Code
Bestell-Nummer
Référence
Código
Codigo

14
Forza iniziale a 20°C
Initial force at 20°C
Anfangskraft bei 20°C
Force initiale à 20°C
Fuerza inicial a 20°C
Força inicial a 20°C

15
Forza finale isotermica
Isothermal end force
Isothermische Endkraft
Force finale isothermique
Fuerza final isotérmica
Força final isotérmica

16
Forza finale politropica
Polytropic end force
Polytropische Endkraft
force finale politrophique
fuerza finale politrópica
força finale politrópica

17
Volume iniziale
Initial gas volume
Anfangswert Gasvolumen
Volume de gaz initial
Volumen de gas inicial
Volume de gás inicial

18
Classificazione PED
PED classification
PED Einstufung
Classification PED
Clasificación PED
Classificação PED

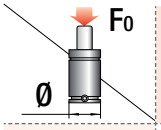
19
Fissaggi
Flange mounts
Befestigungen
Brides de fixation
Bridas de fijación
Fixação com flange

20
Indice di revisione pagina
Page review index
Index der Seitenüberprüfung
Index de revue de page
Índice de revisión de página
Índice de revisão de página

Tutte le dimensioni senza tolleranza si intendono nominali.
All dimensions are nominal unless tolerance is stated.
Alle Maßangaben ohne Toleranzen sind Nennmaße.

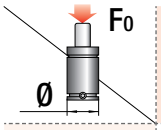
Sauf specifications de tolerances, toutes les dimensions sont des valeurs nominales.
Todas las dimensiones son nominales excepto cuando se indica la tolerancia.
Todas as medidas são nominalis excepto quando la tolerancia é mencionada.

SELECTION TAB

	42 50	70 90	150 200	260 320	360 480	490 680	740 780	900 1000	1046 1410	1530 2000
12	M 50									
15		M 70								
M 16 x 1,5	NG 16 x 1,5 NE 16 x 1,5									
M 16 x 2	NE 16 x 2									
19		M 90 MS 90	MP 150 RV 170 RS 170							
M 24 x 1,5		M 90 TBM M 90 TEM	NG 24 x 1,5 NE 24 X 1,5							
1"- 8 UNC		M 90 TBI								
25			M 200 MS 200	MP 300 ML 300 RV 320 RS 320	KE 400					
32			SC 150 SC 200	M 300 H 300	RV 350 RS 350 RT 350	ML 500 MP 500 MQ 700	KE 750			
38				SC 250	H 500 HT 500 T2 RV 500 RS 500 RT 500	HT 500 T1		ML 1000 MP 1000	KE 1000	
M 38 x 1,5				SCF 250	HF 500					
45					S 500 SC 500	H 700	HT 700 T1 HT 700 T2 RV 750 RS 750 RF 750 RT 750 RG 750			
50							SC 750 S 750	H 1000 HT 1000 T1 HT 1000 T2 RV 1000 RS 1000 RF 1000 RT 1000 RG 1000	RV 1200 RS 1200 RF 1200 RT 1200	KE 1800 ML 1800 MP 2000
63										RV 1500 RS 1500 RF 1500 RT 1500 RG 1500 H 1500
75										S 1500 SC 1500 LS 1500

New model

SELECTION TAB

	2035 2385	2830 3000	3180	4240	4418 4980	6630	7540 7700	9540	10600 12720	18400 19910
63		KE 3000 MP 3000	ML 3000							
75	H 2400 LS 2400 RV 2400 RS 2400 RF 2400 RT 2400 RG 2400				KE 4700 ML 4700					
95		LS 3000 S 3000 SC 3000		H 4200 LS 4200 RV 4200 RS 4200 RT 4200 RG 4200			KE 7500 ML 7500			
120					LS 5000 SC 5000	H 6600 LS 6600 RV 6600 RS 6600 RT 6600 RG 6600			KE 12000 ML 12000	
150							SC 7500 LS 7500	H 9500 LS 9500 RV 9500 RS 9500 RT 9500	RV 12000	KE 18500
195									SC 10000	RV 20000 H 18500 New model H 20000

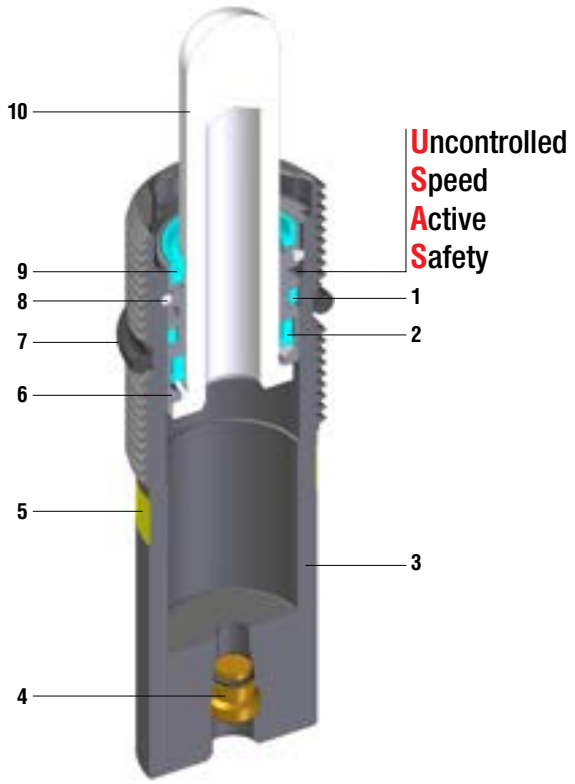
New model

NE SERIES

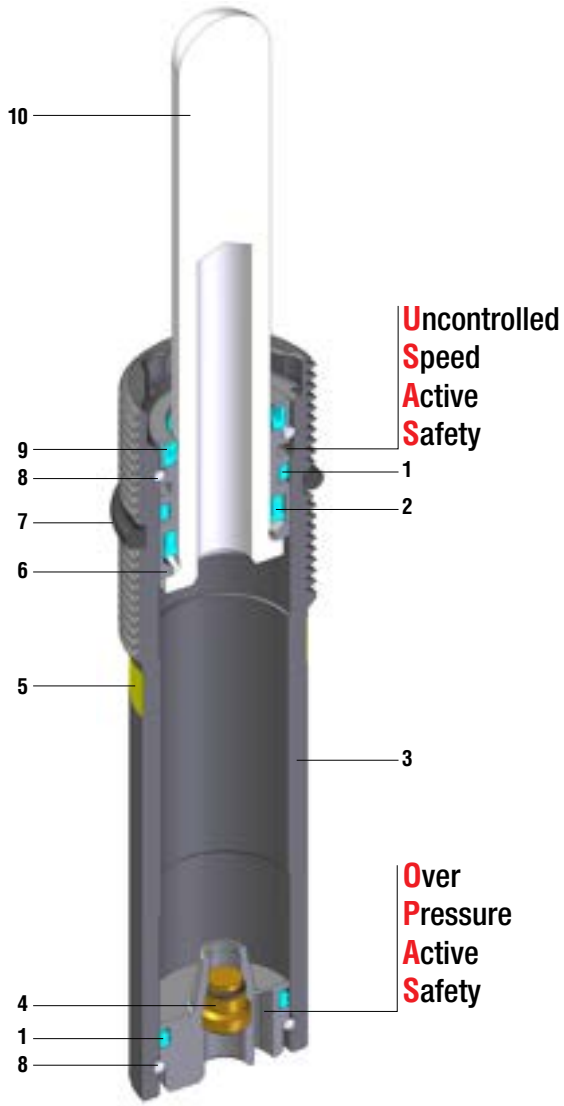
VDI	BMW	Ford
VW		

NG SERIES

VDI	GM	FCA



Cu 10 ÷ 50



Cu 60 ÷ 125

Espulsori a gas - Gas ejectors - Federnde Druckstücke
Èjecteurs de gaz - Eyectores de gas - Ejectores a gás

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Dual ring seal	**6**	Bush
2	Rod seal	**7**	Locking ring
3	Body	**8**	Retaining ring
4	Valve	**9**	Rod wiper
5	Force color code	**10**	Rod (nitrited superfinished)

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO
	mm	*inch*	mm	*inch*	daN	*lb*				
NE 16 x 1,5	M 16 x 1,5	*M 16 x 1.5*	10 - 125	*0.39 - 4.92*	3 - 42	*7 - 95*	-	✓	-	-
NE 16 x 2	M 16 x 2	*M 16 x 2*	10 - 125	*0.39 - 4.92*	3 - 42	*7 - 95*	-	✓	-	-
NG 16 x 1,5	M 16 x 1,5	*M 16 x 1.5*	10 - 100	*0.39 - 3.94*	3 - 42	*7 - 95*	-	✓	-	-
NE 24 x 1,5	M 24 x 1,5	*M 24 x 1.5*	10 - 50	*0.39 - 1.97*	11 - 170	*25 - 382*	-	✓	-	-
NE 24 x 1,5	M 24 x 1,5	*M 24 x 1.5*	60 - 125	*2.36 - 4.92*	11 - 170	*25 - 382*	-	✓	✓	-
NG 24 x 1,5	M 24 x 1,5	*M 24 x 1.5*	10 - 50	*0.39 - 1.97*	11 - 170	*25 - 382*	-	✓	-	-
NG 24 x 1,5	M 24 x 1,5	*M 24 x 1.5*	60 - 100	*2.36 - 3.94*	11 - 170	*25 - 382*	-	✓	✓	-

HOW TO ORDER

Series ..... Revision code

Model **NE16x1.5-050-B-YW**

Stroke ..... Force color code

Available versions



NE 16x1.5-050-B-YW

Standard code

Self contained

NE 16 x 1.5

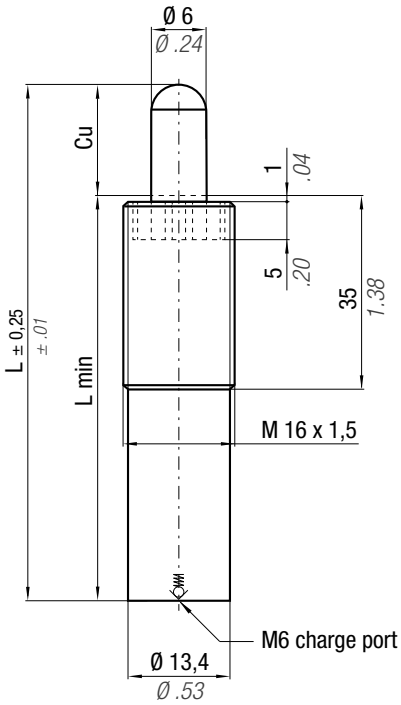
VDI 3004	W-DX35-60M (Ford)	39D 549 (VW)	

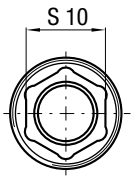
ACTIVE SAFETY

USAS

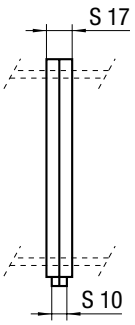
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu





cod. 39CM01A
(optional)

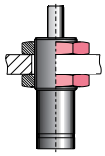


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	10 bar / 145 psi	0,28 cm² / 0.043 in²	~ 50 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE	Cu		L		L min				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	~Kg	~lb	
NE 16 x 1,5-010-B-...	10	0.39	65	2.56	55	2.17	0,05	0.11	✓
NE 16 x 1,5-020-B-...	20	0.79	85	3.35	65	2.56	0,06	0.13	✓
NE 16 x 1,5-030-B-...	30	1.18	105	4.13	75	2.95	0,07	0.15	✓
NE 16 x 1,5-040-B-...	40	1.57	125	4.92	85	3.35	0,07	0.15	✓
NE 16 x 1,5-050-B-...	50	1.97	145	5.71	95	3.74	0,08	0.18	✓
NE 16 x 1,5-060-B-...	60	2.36	165	6.50	105	4.13	0,08	0.18	✓
NE 16 x 1,5-070-B-...	70	2.76	185	7.28	115	4.53	0,09	0.20	✓
NE 16 x 1,5-080-B-...	80	3.15	205	8.07	125	4.92	0,10	0.22	✓
NE 16 x 1,5-100-B-...	100	3.94	245	9.65	145	5.71	0,11	0.24	✓
NE 16 x 1,5-125-B-...	125	4.92	295	11.61	170	6.69	0,12	0.26	✓

Force color code	P		F0 Initial force ± 5% +20°C +68°F		$F1_i$ End force*	$F1_p$ End force**
	bar	psi	daN	lb		
PR	12	174	4	9	1,57 x F0	2,03 x F0
GR	20	290	6	14	1,57 x F0	2,03 x F0
BU	40	580	11	25	1,57 x F0	2,03 x F0
RD	75	1088	21	47	1,57 x F0	2,03 x F0
YW	150	2175	42	95	1,57 x F0	2,03 x F0
BK	10-150	145-2175	3-42	7-95	1,57 x F0	2,03 x F0

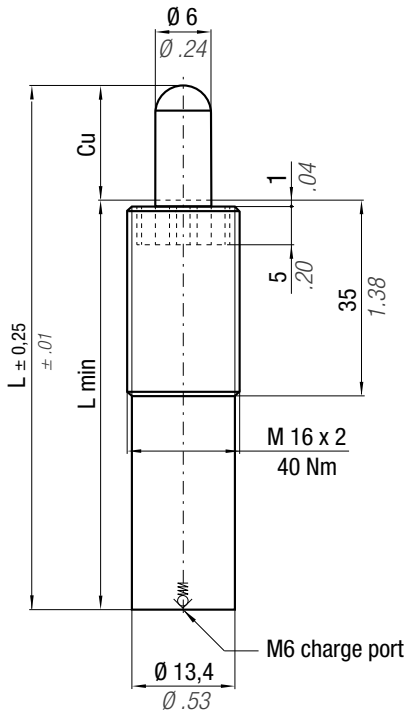
P = nominal charging pressure

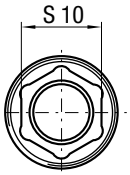


DM 16

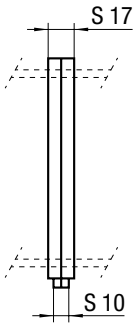
HOW TO ORDER
p. 31

INSTALLATION GUIDELINE
p. 205





cod. 39CM01A
(optional)



*** $F1_i$ =**
Isothermal end force at 100% Cu p. 16

**** $F1_p$ =**
Polytrophic end force at 100% Cu

ACTIVE SAFETY

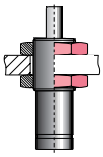
USAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	10 bar / 145 psi	0,28 cm² / 0.043 in²	~ 50 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	~Kg	~lb	PED 2014/68/EU
NE 16 x 2-010-B-...	10	0.39	65	2.56	55	2.17	0,05	0.11	✓
NE 16 x 2-020-B-...	20	0.79	85	3.35	65	2.56	0,06	0.13	✓
NE 16 x 2-030-B-...	30	1.18	105	4.13	75	2.95	0,07	0.15	✓
NE 16 x 2-040-B-...	40	1.57	125	4.92	85	3.35	0,07	0.15	✓
NE 16 x 2-050-B-...	50	1.97	145	5.71	95	3.74	0,08	0.18	✓
NE 16 x 2-060-B-...	60	2.36	165	6.50	105	4.13	0,08	0.18	✓
NE 16 x 2-070-B-...	70	2.76	185	7.28	115	4.53	0,09	0.20	✓
NE 16 x 2-080-B-...	80	3.15	205	8.07	125	4.92	0,10	0.22	✓
NE 16 x 2-100-B-...	100	3.94	245	9.65	145	5.71	0,11	0.24	✓
NE 16 x 2-125-B-...	125	4.92	295	11.61	170	6.69	0,12	0.26	✓

Force color code	P bar	P psi	F0 Initial force ± 5% +20°C daN	F0 +68°F lb	$F1_i$ End force*	$F1_p$ End force**
PR	12	174	4	9	1,57 x F0	2,03 x F0
GR	20	290	6	14	1,57 x F0	2,03 x F0
BU	40	580	11	25	1,57 x F0	2,03 x F0
RD	75	1088	21	47	1,57 x F0	2,03 x F0
YW	150	2175	42	95	1,57 x F0	2,03 x F0
BK	10-150	145-2175	3-42	7-95	1,57 x F0	2,03 x F0

P = nominal charging pressure



39DM16X2A

HOW TO ORDER
p. 31

INSTALLATION GUIDELINE
p. 205

NE 24 x 1.5

VDI 3004	W-DX35-60M (Ford)	39D 549 (VW)	

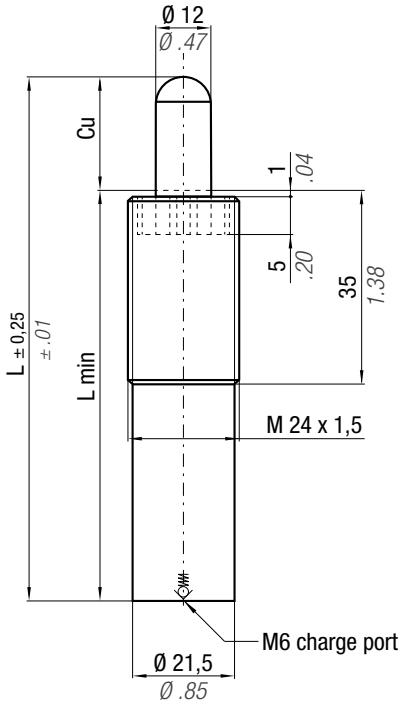
ACTIVE SAFETY

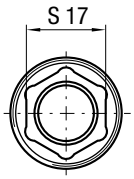
USAS

OPAS

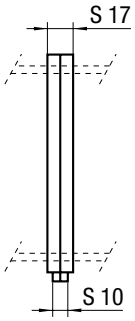
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu





cod. 39CM01A (optional)

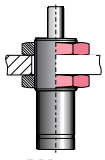


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	10 bar / 145 psi	1,13 cm² / 0.175 in²	~ 50 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE	Cu		L		L min				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	~Kg	~lb	
NE 24 x 1,5-010-B-...	10	0.39	65	2.56	55	2.17	0,16	0.35	✓
NE 24 x 1,5-020-B-...	20	0.79	85	3.35	65	2.56	0,18	0.40	✓
NE 24 x 1,5-030-B-...	30	1.18	105	4.13	75	2.95	0,20	0.44	✓
NE 24 x 1,5-040-B-...	40	1.57	125	4.92	85	3.35	0,23	0.51	✓
NE 24 x 1,5-050-B-...	50	1.97	145	5.71	95	3.74	0,25	0.55	✓
NE 24 x 1,5-060-B-...	60	2.36	165	6.50	105	4.13	0,27	0.59	✓
NE 24 x 1,5-070-B-...	70	2.76	185	7.28	115	4.53	0,29	0.64	✓
NE 24 x 1,5-080-B-...	80	3.15	205	8.07	125	4.92	0,30	0.66	✓
NE 24 x 1,5-100-B-...	100	3.94	245	9.65	145	5.71	0,33	0.73	✓
NE 24 x 1,5-125-B-...	125	4.92	295	11.61	170	6.69	0,35	0.77	✓

Force color code	P		F0 Initial force ± 5%		$F1_i$ End force*	$F1_p$ End force**
	bar	psi	+20°C daN	+68°F lb		
GR	20	290	23	52	1,86 x F0	2,54 x F0
BU	40	580	45	101	1,86 x F0	2,54 x F0
RD	75	1088	85	191	1,86 x F0	2,54 x F0
YW	150	2175	170	382	1,86 x F0	2,54 x F0
BK	10-150	145-2175	11-170	25-382	1,86 x F0	2,54 x F0

P = nominal charging pressure



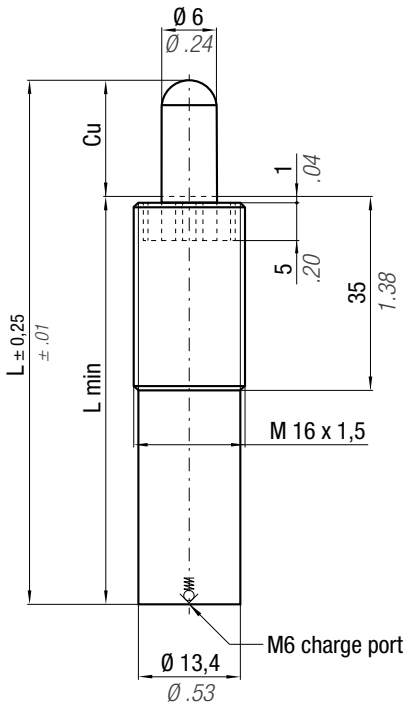
DM 24

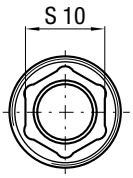
HOW TO ORDER p. 31

INSTALLATION GUIDELINE p. 205

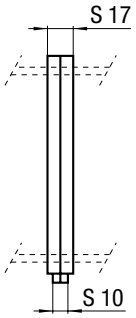
VDI 3004	B2 4036 (BMW)	075.90.40 (FCA)	W-DX35-60M (Ford)
90.25.97 (GM)	90.25.28 (GM)	39D 549 (VW)	

NG 16 x 1.5





cod. 39CM01A
(optional)



*** $F1_i$ =**
Isothermal end force at 100% Cu p. 16

**** $F1_p$ =**
Polytrophic end force at 100% Cu

ACTIVE SAFETY

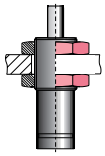
USAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	10 bar / 145 psi	0,28 cm² / 0.043 in²	~ 50 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	~Kg	~lb	PED 2014/68/EU
NG 16 x 1,5-010-A-...	10	0.39	80	3.15	70	2.76	0,05	0.11	✓
NG 16 x 1,5-020-A-...	20	0.79	100	3.94	80	3.15	0,06	0.13	✓
NG 16 x 1,5-030-A-...	30	1.18	120	4.72	90	3.54	0,07	0.15	✓
NG 16 x 1,5-040-A-...	40	1.57	140	5.51	100	3.94	0,07	0.15	✓
NG 16 x 1,5-050-A-...	50	1.97	160	6.30	110	4.33	0,08	0.18	✓
NG 16 x 1,5-060-A-...	60	2.36	180	7.09	120	4.72	0,08	0.18	✓
NG 16 x 1,5-070-A-...	70	2.76	200	7.87	130	5.12	0,09	0.20	✓
NG 16 x 1,5-080-A-...	80	3.15	220	8.66	140	5.51	0,10	0.22	✓
NG 16 x 1,5-100-A-...	100	3.94	260	10.24	160	6.30	0,11	0.24	✓

Force color code	P bar	P psi	F0 Initial force ± 5% +20°C daN	F0 +68°F lb	$F1_i$ End force*	$F1_p$ End force**
GR	20	290	6	13	1,41 x F0	1,72 x F0
BU	40	580	11	25	1,41 x F0	1,72 x F0
RD	75	1088	21	47	1,41 x F0	1,72 x F0
YW	150	2175	42	94	1,41 x F0	1,72 x F0
BK	10-150	145-2175	3-42	7-95	1,41 x F0	1,72 x F0

P = nominal charging pressure



DM 16

HOW TO ORDER
p. 31

INSTALLATION GUIDELINE
p. 205

NG 24 x 1.5

VDI 3004	075.90.40 (FCA)	W-DX35-60M (Ford)	90.25.95 (GM)
90.25.96 (GM)	39D 549 (VW)		

SPECIAL SPRINGS

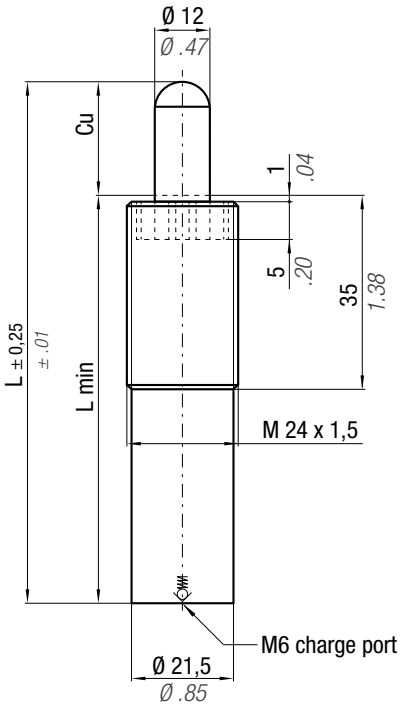
ACTIVE SAFETY

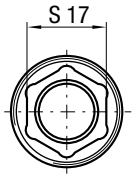
USAS

OPAS

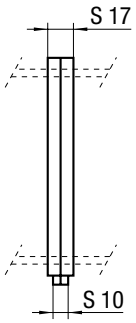
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu





cod. 39CM01A
(optional)

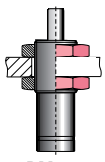


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	10 bar / 145 psi	1,13 cm² / 0.175 in²	~ 50 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE	Cu		L		L min				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	~Kg	~lb	
NG 24 x 1,5-010-A-...	10	0.39	80	3.15	70	2.76	0,15	0.33	✓
NG 24 x 1,5-020-A-...	20	0.79	100	3.94	80	3.15	0,17	0.37	✓
NG 24 x 1,5-030-A-...	30	1.18	120	4.72	90	3.54	0,19	0.42	✓
NG 24 x 1,5-040-A-...	40	1.57	140	5.51	100	3.94	0,22	0.49	✓
NG 24 x 1,5-050-A-...	50	1.97	160	6.30	110	4.33	0,24	0.53	✓
NG 24 x 1,5-060-A-...	60	2.36	180	7.09	120	4.72	0,26	0.57	✓
NG 24 x 1,5-070-A-...	70	2.76	200	7.87	130	5.12	0,28	0.62	✓
NG 24 x 1,5-080-A-...	80	3.15	220	8.66	140	5.51	0,29	0.64	✓
NG 24 x 1,5-100-A-...	100	3.94	260	10.24	160	6.30	0,31	0.68	✓

Force color code	P		F0 Initial force ± 5% +20°C +68°F		$F1_i$ End force*	$F1_p$ End force**
	bar	psi	daN	lb		
GR	20	290	23	52	1,57 x F0	2,01 x F0
BU	40	580	45	101	1,57 x F0	2,01 x F0
BR	60	870	67	151	1,57 x F0	2,01 x F0
RD	75	1088	85	191	1,57 x F0	2,01 x F0
YW	150	2175	170	382	1,57 x F0	2,01 x F0
BK	10-150	145-2175	11-170	25-382	1,57 x F0	2,01 x F0

P = nominal charging pressure



DM 24

HOW TO ORDER

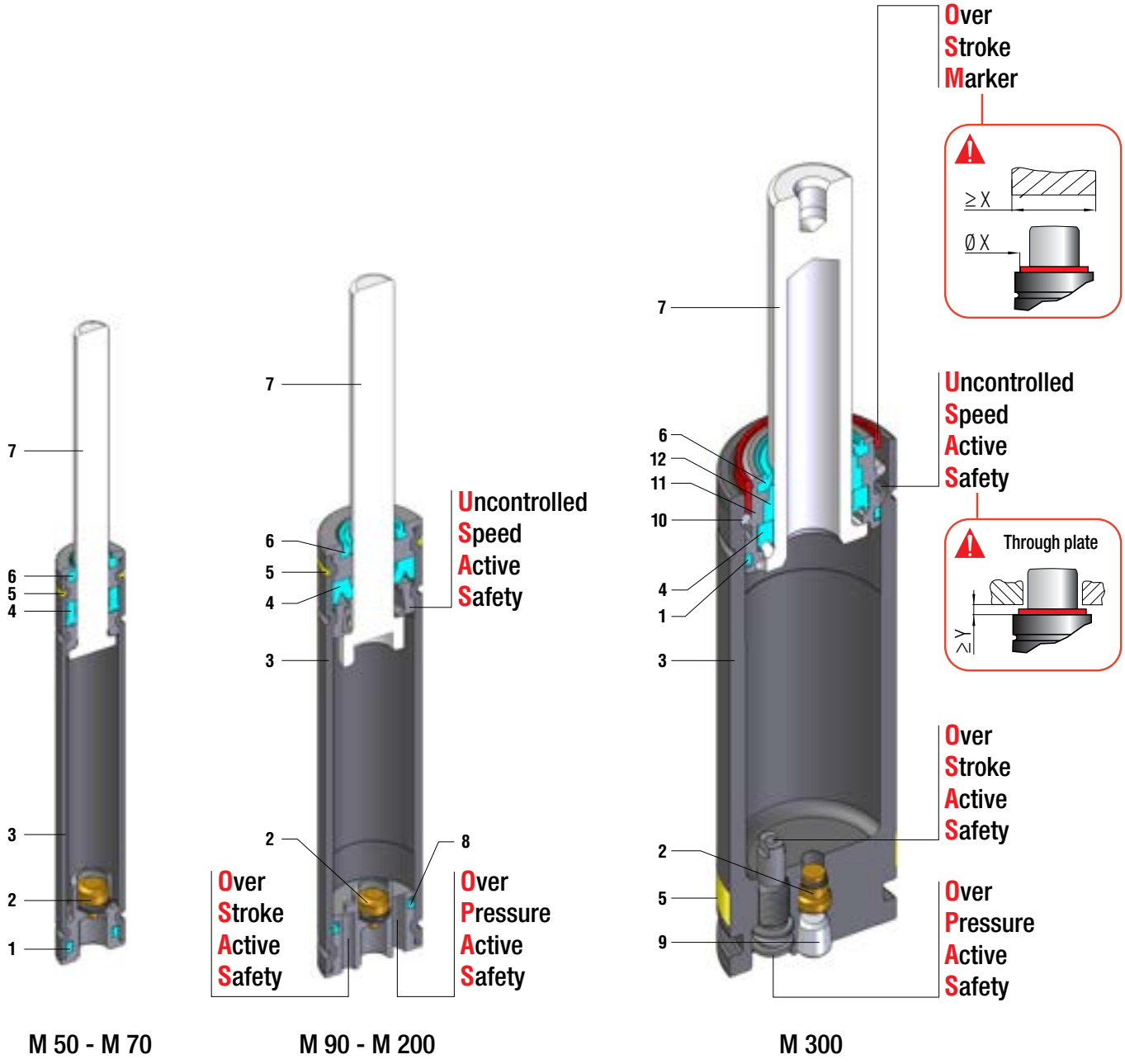
p. 31

INSTALLATION GUIDELINE

p. 205

THIS PAGE IS INTENTIONALLY LEFT BLANK

VDI	BMW	FCA
Ford	MB	Nissan
PSA	VW	



Mini cilindri - Mini cylinders - Mini Gasdruckfedern
Mini-ressorts - Mini cilindros - Mini-cilindros

SEALING	ROD SEAL	
DESIGN	RETAINING GROOVE DESIGN	BUSH-BODY DESIGN (M 300 only)

1	Dual ring seal	**5**	Force color code	**9**	Stopper
2	Valve	**6**	Rod wiper	**10**	Retaining ring
3	Body	**7**	Rod (Nitrited Superfinished)	**11**	Bush
4	Rod seal	**8**	O-ring	**12**	Guide ring

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	*inch*	mm	*inch*	daN	*lb*					
M 50	12	*0.47*	7 - 125	*0.28 - 4.92*	6 - 50	*13 - 112*	-	-	-	-	✓
M 50 TBI	5/8" 11 UNC		7 - 125	*0.28 - 4.92*	6 - 50	*13 - 112*	-	-	-	-	-
M 50 TBM1	M 16 X 1,5		7 - 125	*0.28 - 4.92*	6 - 50	*13 - 112*	-	-	-	-	-
M 50 TBM2	M 16 X 2		7 - 125	*0.28 - 4.92*	6 - 50	*13 - 112*	-	-	-	-	-
M 50 TEM	M 16 X 2		7 - 125	*0.28 - 4.92*	6 - 50	*13 - 112*	-	-	-	-	-
M 70	15	*0.59*	7 - 125	*0.28 - 4.92*	8 - 70	*18 - 157*	-	-	-	-	✓
M 90	19	*0.75*	7 - 125	*0.28 - 4.92*	5 - 90	*11 - 202*	✓	✓	✓	-	✓
M 90 TBM	M 24 X 1,5		7 - 125	*0.28 - 4.92*	5 - 90	*11 - 202*	✓	✓	✓	-	-
M 90 TEM	M 24 X 1,5		7 - 125	*0.28 - 4.92*	5 - 90	*11 - 202*	✓	✓	✓	-	-
M 90 TBI	1" 8 UNC		7 - 125	*0.28 - 4.92*	5 - 90	*11 - 202*	✓	✓	✓	-	-
M 200	25	*0.98*	7 - 200	*0.28 - 7.87*	17 - 200	*38 - 450*	✓	✓	✓	-	✓
M 300	32	*1.26*	7 - 125	*0.28 - 4.92*	80 - 320	*180 - 719*	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — Revision code

Model — **M200-025-B-YW-W** — Version

Stroke — Force color code

Available versions



M 200-025-B-YW

Standard code

Self contained



M 200-025-B-YW-W

Add "-W" to standard code

Self contained

+

Secondary wiper

M 50

SW

ACTIVE SAFETY

* $F1_i$ = Isothermal end force at 100% Cu p. 16

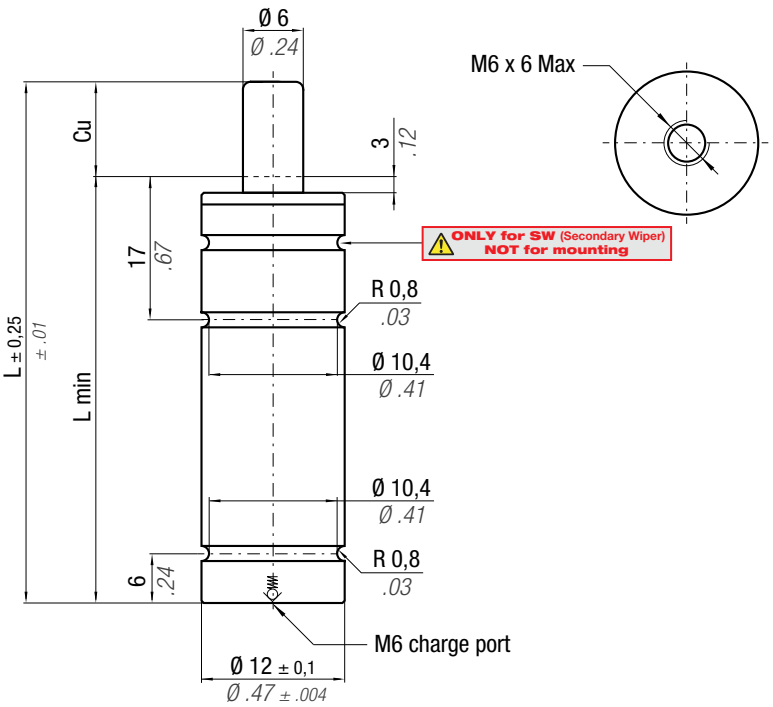
** $F1_p$ = Polytrophic end force at 100% Cu



Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

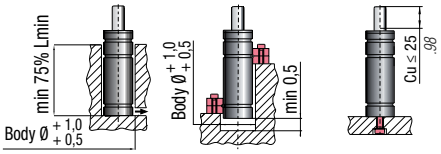
Micro 32°

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
GR	45	653	13	29
BU	90	1305	25	56
RD	135	1958	38	85
YW	180	2610	50	112
BK	20-180	290-2610	6-50	13-112



N2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	0,28 cm² / 0.043 in²	~ 100 - 150 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

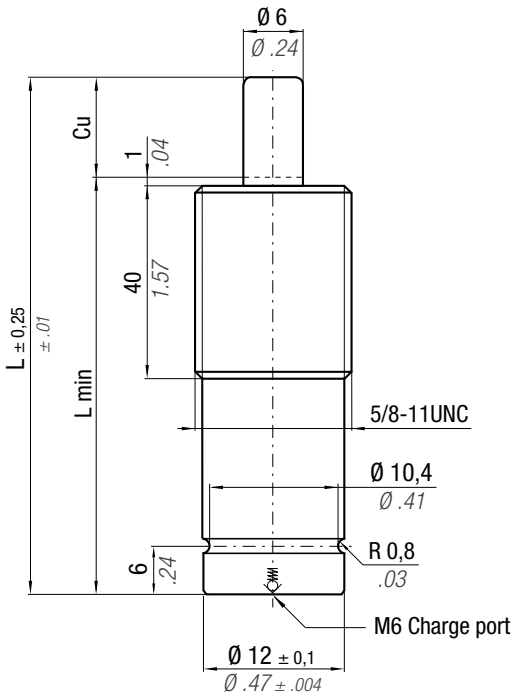
CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M50 - 007 - A - …	7	0.28	56	2.20	49	1.93	1,24 x F0		1,41 x F0		1,2	0.07	0,03	0.07	✓
M50 - 010 - A - …	10	0.39	62	2.441	52	2.05	1,30 x F0		1,50 x F0		1,4	0.09	0,03	0.07	✓
M50 - 013 - A - …	12,7	0.50	67,4	2.65	54,7	2.15	1,35 x F0		1,57 x F0		1,6	0.10	0,03	0.07	✓
M50 - 015 - A - …	15	0.59	72	2.83	57	2.24	1,38 x F0		1,62 x F0		1,8	0.11	0,03	0.07	✓
M50 - 019 - A - …	19	0.75	80	3.15	61	2.40	1,42 x F0		1,69 x F0		2,1	0.13	0,03	0.07	✓
M50 - 025 - A - …	25	0.98	92	3.62	67	2.64	1,47 x F0		1,77 x F0		2,5	0.15	0,03	0.07	✓
M50 - 038 - A - …	38	1.50	118	4.65	80	3.15	1,53 x F0		1,88 x F0		3,5	0.21	0,04	0.09	✓
M50 - 050 - A - …	50	1.97	142	5.59	92	3.62	1,57 x F0		1,95 x F0		4,4	0.27	0,05	0.11	✓
M50 - 063 - A - …	63,5	2.50	172	6.77	108,5	4.27	1,57 x F0		1,93 x F0		5,6	0.34	0,06	0.13	✓
M50 - 075 - A - …	75	2.95	195	7.68	120	4.72	1,59 x F0		1,97 x F0		6,5	0.40	0,06	0.13	✓
M50 - 080 - A - …	80	3.15	205	8.07	125	4.92	1,59 x F0		1,98 x F0		6,9	0.42	0,07	0.15	✓
M50 - 100 - A - …	100	3.94	245	9.65	145	5.71	1,62 x F0		2,02 x F0		8,4	0.51	0,08	0.18	✓
M50 - 125 - A - …	125	4.92	295	11.61	170	6.69	1,64 x F0		2,06 x F0		10,2	0.62	0,09	0.20	✓

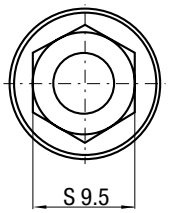


Drop-In FC 12 Bottom mount

HOW TO ORDER p. 39

INSTALLATION GUIDELINE p. 205





*** $F1_i$ =**
Isothermal end force at 100% Cu
p. 16

**** $F1_p$ =**
Polytrophic end force at 100% Cu



Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

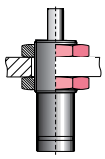
Micro 32°

ACTIVE SAFETY

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
GR	45	653	13	29
BU	90	1305	25	56
RD	135	1958	38	85
YW	180	2610	50	112
BK	20-180	290-2610	6-50	13-112

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	0,28 cm² / 0.043 in²	~ 100 - 150 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M50 - 007 - A - ... - TBI	7	0.28	56	2.20	49	1.93	1,24 x F0		1,41 x F0		1,2	0.07	0,03	0.07	✓
M50 - 010 - A - ... - TBI	10	0.39	62	2.441	52	2.05	1,30 x F0		1,50 x F0		1,4	0.09	0,03	0.07	✓
M50 - 013 - A - ... - TBI	12,7	0.50	67,4	2.65	54,7	2.15	1,35 x F0		1,57 x F0		1,6	0.10	0,03	0.07	✓
M50 - 015 - A - ... - TBI	15	0.59	72	2.83	57	2.24	1,38 x F0		1,62 x F0		1,8	0.11	0,03	0.07	✓
M50 - 019 - A - ... - TBI	19	0.75	80	3.15	61	2.40	1,42 x F0		1,69 x F0		2,1	0.13	0,03	0.07	✓
M50 - 025 - A - ... - TBI	25	0.98	92	3.62	67	2.64	1,47 x F0		1,77 x F0		2,5	0.15	0,03	0.07	✓
M50 - 038 - A - ... - TBI	38	1.50	118	4.65	80	3.15	1,53 x F0		1,88 x F0		3,5	0.21	0,04	0.09	✓
M50 - 050 - A - ... - TBI	50	1.97	142	5.59	92	3.62	1,57 x F0		1,95 x F0		4,4	0.27	0,05	0.11	✓
M50 - 063 - A - ... - TBI	63,5	2.50	172	6.77	108,5	4.27	1,57 x F0		1,93 x F0		5,6	0.34	0,06	0.13	✓
M50 - 075 - A - ... - TBI	75	2.95	195	7.68	120	4.72	1,59 x F0		1,97 x F0		6,5	0.40	0,06	0.13	✓
M50 - 080 - A - ... - TBI	80	3.15	205	8.07	125	4.92	1,59 x F0		1,98 x F0		6,9	0.42	0,07	0.15	✓
M50 - 100 - A - ... - TBI	100	3.94	245	9.65	145	5.71	1,62 x F0		2,02 x F0		8,4	0.51	0,08	0.18	✓
M50 - 125 - A - ... - TBI	125	4.92	295	11.61	170	6.69	1,64 x F0		2,06 x F0		10,2	0.62	0,09	0.20	✓



39DI5/8-11A

HOW TO ORDER
p. 39

INSTALLATION GUIDELINE
p. 205

M 50 TBM1
threaded

ACTIVE SAFETY

* $F1_i$ = Isothermal end force at 100% Cu p. 16

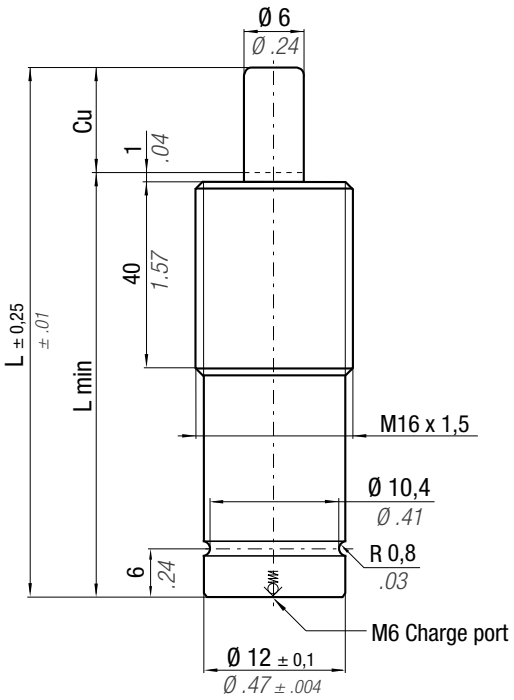
** $F1_p$ = Polytrophic end force at 100% Cu

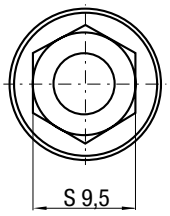


Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

Micro 32°

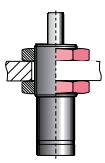
Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
GR	45	653	13	29
BU	90	1305	25	56
RD	135	1958	38	85
YW	180	2610	50	112
BK	20-180	290-2610	6-50	13-112





N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 20 bar / 290 psi	S 0,28 cm² / 0.043 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

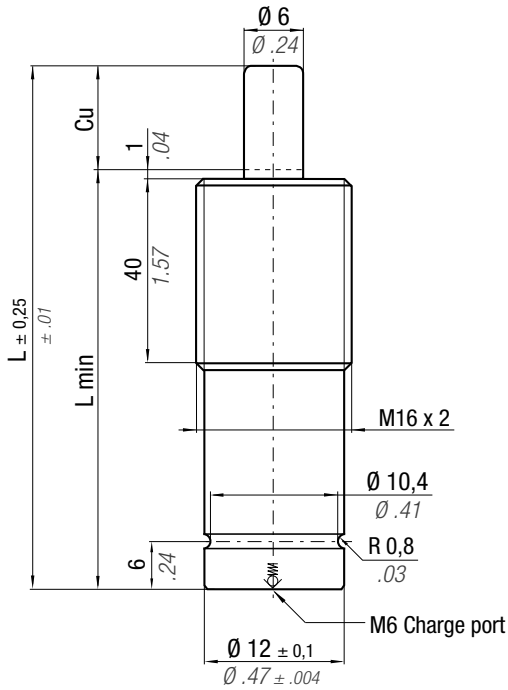
CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M50 - 007 - A - ... - TBM1	7	0.28	56	2.20	49	1.93	1,24 x F0		1,41 x F0		1,2	0.07	0,03	0.07	✓
M50 - 010 - A - ... - TBM1	10	0.39	62	2.441	52	2.05	1,30 x F0		1,50 x F0		1,4	0.09	0,03	0.07	✓
M50 - 013 - A - ... - TBM1	12,7	0.50	67,4	2.65	54,7	2.15	1,35 x F0		1,57 x F0		1,6	0.10	0,03	0.07	✓
M50 - 015 - A - ... - TBM1	15	0.59	72	2.83	57	2.24	1,38 x F0		1,62 x F0		1,8	0.11	0,03	0.07	✓
M50 - 019 - A - ... - TBM1	19	0.75	80	3.15	61	2.40	1,42 x F0		1,69 x F0		2,1	0.13	0,03	0.07	✓
M50 - 025 - A - ... - TBM1	25	0.98	92	3.62	67	2.64	1,47 x F0		1,77 x F0		2,5	0.15	0,03	0.07	✓
M50 - 038 - A - ... - TBM1	38	1.50	118	4.65	80	3.15	1,53 x F0		1,88 x F0		3,5	0.21	0,04	0.09	✓
M50 - 050 - A - ... - TBM1	50	1.97	142	5.59	92	3.62	1,57 x F0		1,95 x F0		4,4	0.27	0,05	0.11	✓
M50 - 063 - A - ... - TBM1	63,5	2.50	172	6.77	108,5	4.27	1,57 x F0		1,93 x F0		5,6	0.34	0,06	0.13	✓
M50 - 075 - A - ... - TBM1	75	2.95	195	7.68	120	4.72	1,59 x F0		1,97 x F0		6,5	0.40	0,06	0.13	✓
M50 - 080 - A - ... - TBM1	80	3.15	205	8.07	125	4.92	1,59 x F0		1,98 x F0		6,9	0.42	0,07	0.15	✓
M50 - 100 - A - ... - TBM1	100	3.94	245	9.65	145	5.71	1,62 x F0		2,02 x F0		8,4	0.51	0,08	0.18	✓
M50 - 125 - A - ... - TBM1	125	4.92	295	11.61	170	6.69	1,64 x F0		2,06 x F0		10,2	0.62	0,09	0.20	✓

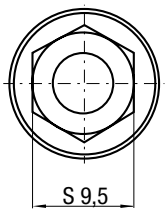


DM 16

HOW TO ORDER
p. 39

INSTALLATION GUIDELINE
p. 205





* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

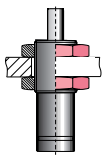
Micro 32°

ACTIVE SAFETY

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
GR	45	653	13	29
BU	90	1305	25	56
RD	135	1958	38	85
YW	180	2610	50	112
BK	20-180	290-2610	6-50	13-112

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	0,28 cm² / 0.043 in²	~ 100 - 150 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M50 - 007 - A - ... - TBM2	7	0.28	56	2.20	49	1.93	1,24 x F0		1,41 x F0		1,2	0.07	0,03	0.07	✓
M50 - 010 - A - ... - TBM2	10	0.39	62	2.441	52	2.05	1,30 x F0		1,50 x F0		1,4	0.09	0,03	0.07	✓
M50 - 013 - A - ... - TBM2	12,7	0.50	67,4	2.65	54,7	2.15	1,35 x F0		1,57 x F0		1,6	0.10	0,03	0.07	✓
M50 - 015 - A - ... - TBM2	15	0.59	72	2.83	57	2.24	1,38 x F0		1,62 x F0		1,8	0.11	0,03	0.07	✓
M50 - 019 - A - ... - TBM2	19	0.75	80	3.15	61	2.40	1,42 x F0		1,69 x F0		2,1	0.13	0,03	0.07	✓
M50 - 025 - A - ... - TBM2	25	0.98	92	3.62	67	2.64	1,47 x F0		1,77 x F0		2,5	0.15	0,03	0.07	✓
M50 - 038 - A - ... - TBM2	38	1.50	118	4.65	80	3.15	1,53 x F0		1,88 x F0		3,5	0.21	0,04	0.09	✓
M50 - 050 - A - ... - TBM2	50	1.97	142	5.59	92	3.62	1,57 x F0		1,95 x F0		4,4	0.27	0,05	0.11	✓
M50 - 063 - A - ... - TBM2	63,5	2.50	172	6.77	108,5	4.27	1,57 x F0		1,93 x F0		5,6	0.34	0,06	0.13	✓
M50 - 075 - A - ... - TBM2	75	2.95	195	7.68	120	4.72	1,59 x F0		1,97 x F0		6,5	0.40	0,06	0.13	✓
M50 - 080 - A - ... - TBM2	80	3.15	205	8.07	125	4.92	1,59 x F0		1,98 x F0		6,9	0.42	0,07	0.15	✓
M50 - 100 - A - ... - TBM2	100	3.94	245	9.65	145	5.71	1,62 x F0		2,02 x F0		8,4	0.51	0,08	0.18	✓
M50 - 125 - A - ... - TBM2	125	4.92	295	11.61	170	6.69	1,64 x F0		2,06 x F0		10,2	0.62	0,09	0.20	✓



39DM16X2A

HOW TO ORDER
p. 39

INSTALLATION GUIDELINE
p. 205

SPECIAL SPRINGS

ACTIVE SAFETY

* $F1_i$ = Isothermal end force at 100% Cu p. 16

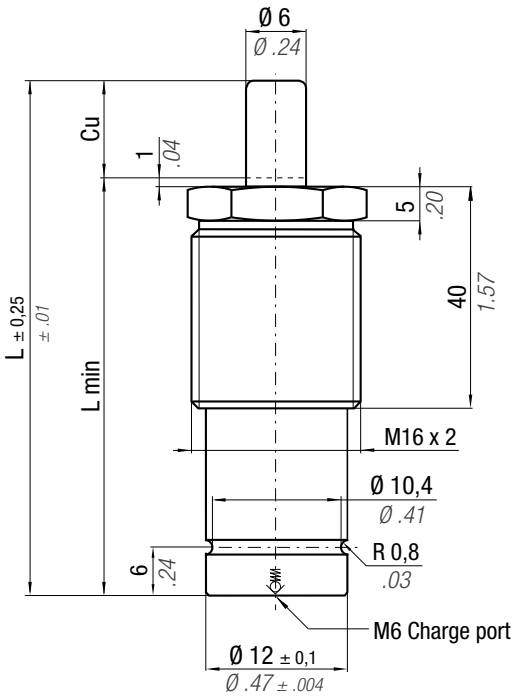
** $F1_p$ = Polytrophic end force at 100% Cu

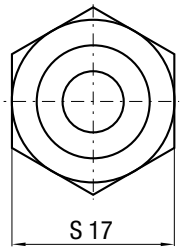


Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

Micro 32°

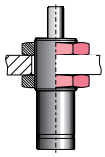
Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
GR	45	653	13	29
BU	90	1305	25	56
RD	135	1958	38	85
YW	180	2610	50	112
BK	20-180	290-2610	6-50	13-112





N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar 2610 psi	P min 20 bar 290 psi	S 0,28 cm² 0.043 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit Disposable

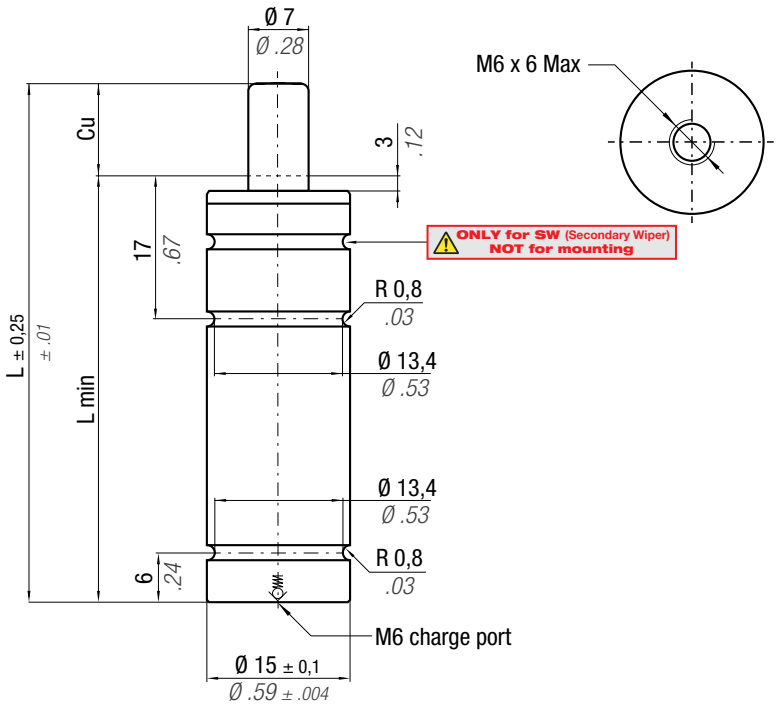
CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M50 - 007 - A - ... - TEM	7	0.28	56	2.20	49	1.93	1,24 x F0		1,41 x F0		1,2	0.07	0,03	0.07	✓
M50 - 010 - A - ... - TEM	10	0.39	62	2.441	52	2.05	1,30 x F0		1,50 x F0		1,4	0.09	0,03	0.07	✓
M50 - 013 - A - ... - TEM	12,7	0.50	67,4	2.65	54,7	2.15	1,35 x F0		1,57 x F0		1,6	0.10	0,03	0.07	✓
M50 - 015 - A - ... - TEM	15	0.59	72	2.83	57	2.24	1,38 x F0		1,62 x F0		1,8	0.11	0,03	0.07	✓
M50 - 019 - A - ... - TEM	19	0.75	80	3.15	61	2.40	1,42 x F0		1,69 x F0		2,1	0.13	0,03	0.07	✓
M50 - 025 - A - ... - TEM	25	0.98	92	3.62	67	2.64	1,47 x F0		1,77 x F0		2,5	0.15	0,03	0.07	✓
M50 - 038 - A - ... - TEM	38	1.50	118	4.65	80	3.15	1,53 x F0		1,88 x F0		3,5	0.21	0,04	0.09	✓
M50 - 050 - A - ... - TEM	50	1.97	142	5.59	92	3.62	1,57 x F0		1,95 x F0		4,4	0.27	0,05	0.11	✓
M50 - 063 - A - ... - TEM	63,5	2.50	172	6.77	108,5	4.27	1,57 x F0		1,93 x F0		5,6	0.34	0,06	0.13	✓
M50 - 075 - A - ... - TEM	75	2.95	195	7.68	120	4.72	1,59 x F0		1,97 x F0		6,5	0.40	0,06	0.13	✓
M50 - 080 - A - ... - TEM	80	3.15	205	8.07	125	4.92	1,59 x F0		1,98 x F0		6,9	0.42	0,07	0.15	✓
M50 - 100 - A - ... - TEM	100	3.94	245	9.65	145	5.71	1,62 x F0		2,02 x F0		8,4	0.51	0,08	0.18	✓
M50 - 125 - A - ... - TEM	125	4.92	295	11.61	170	6.69	1,64 x F0		2,06 x F0		10,2	0.62	0,09	0.20	✓



39DM16X2A

HOW TO ORDER
p. 39

INSTALLATION GUIDELINE
p. 205



*** $F1_i$ =**
Isothermal end force at 100% Cu p. 16

**** $F1_p$ =**
Polytrophic end force at 100% Cu



Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

Micro 32°

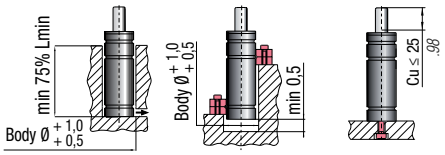
Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
GR	45	653	18	40
BU	90	1305	35	79
RD	135	1958	50	112
YW	180	2610	70	157
BK	20-180	290-2610	8-70	18-157

SW

ACTIVE SAFETY

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 20 bar / 290 psi	S 0,38 cm² / 0.059 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M70 - 007 - A - …	7	0.28	56	2.20	49	1.93	1,19 x F0		1,33 x F0		1,9	0.12	0,04	0.09	✓
M70 - 010 - A - …	10	0.39	62	2.44	52	2.05	1,24 x F0		1,41 x F0		2,2	0.13	0,05	0.11	✓
M70 - 013 - A - …	12,7	0.50	67,4	2.65	54,7	2.15	1,27 x F0		1,46 x F0		2,6	0.16	0,05	0.11	✓
M70 - 015 - A - …	15	0.59	72	2.83	57	2.24	1,30 x F0		1,51 x F0		2,8	0.17	0,05	0.11	✓
M70 - 019 - A - …	19	0.75	80	3.15	61	2.40	1,34 x F0		1,57 x F0		3,2	0.20	0,05	0.11	✓
M70 - 025 - A - …	25	0.98	92	3.62	67	2.64	1,38 x F0		1,64 x F0		3,9	0.24	0,06	0.13	✓
M70 - 038 - A - …	38	1.50	118	4.65	80	3.15	1,44 x F0		1,73 x F0		5,3	0.32	0,07	0.15	✓
M70 - 050 - A - …	50	1.97	142	5.59	92	3.62	1,48 x F0		1,79 x F0		6,6	0.40	0,08	0.18	✓
M70 - 063 - A - …	63,5	2.50	172	6.77	108,5	4.27	1,47 x F0		1,79 x F0		8,5	0.52	0,09	0.20	✓
M70 - 075 - A - …	75	2.95	195	7.68	120	4.72	1,49 x F0		1,82 x F0		9,7	0.59	0,10	0.22	✓
M70 - 080- A - …	80	3.15	205	8.071	125	4.92	1,50 x F0		1,83 x F0		10,3	0.63	0,10	0.22	✓
M70 - 100 - A - …	100	3.94	245	9.65	145	5.71	1,52 x F0		1,87 x F0		12,5	0.76	0,12	0.26	✓
M70 - 125 - A - …	125	4.92	295	11.61	170	6.69	1,54 x F0		1,90 x F0		15,2	0.93	0,14	0.31	✓



Drop-In FC 15 Bottom mount

HOW TO ORDER p. 39

INSTALLATION GUIDELINE p. 205

M 90

ISO 11901 - 1	VDI 3003 - Blatt 2	B2 4007 (BMW)	B8 3180 220 000 002(MB)
075.90.50 (FCA)	39D 878 (VW)		

SPECIAL SPRINGS

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

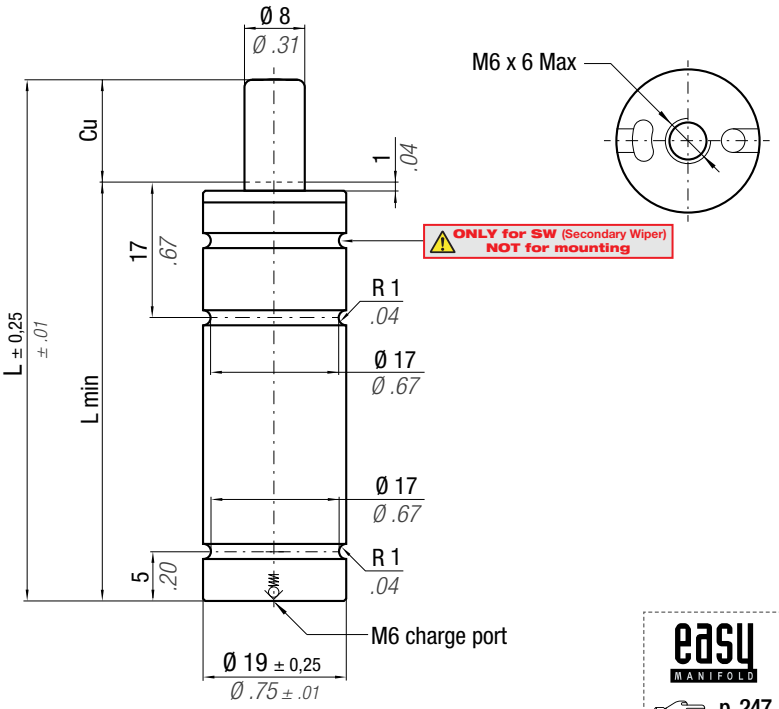
**** $F1_p$ =** Polytrophic end force at 100% Cu



Collegabile con tubi - Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes - Conectable con mangueras
Acompláveis com tubos

Micro 32°

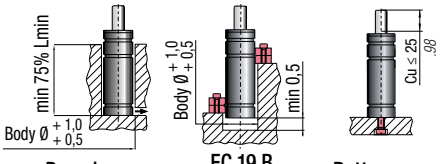
Force color code	P bar	P psi	Fo Initial force ± 5% at +20°C +68°F daN	Fo lb
OR	10	145	5	11
PR	20	290	10	22
GR	60	870	30	67
BU	100	1450	50	112
RD	140	2030	70	157
YW	180	2610	90	202
BK	10-180	145-2610	5-90	11-202



easy MANIFOLD p. 247

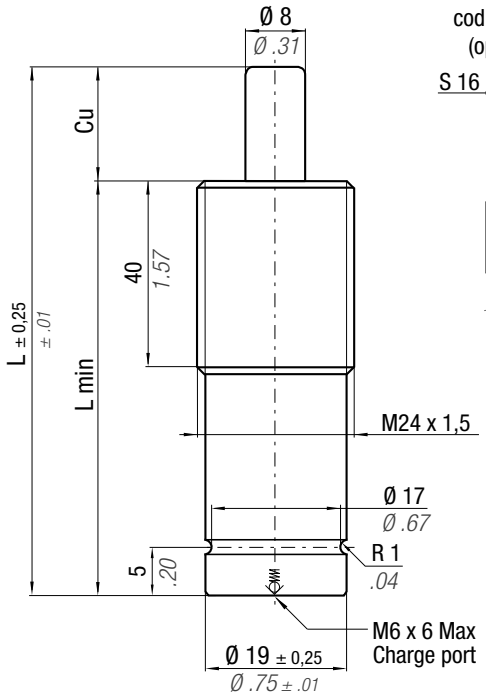
N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 10 bar / 145 psi	S 0,50 cm² / 0.078 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

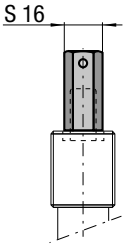
CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
M90 - 007 - A - …	M90 - 007 - B - …	7	0.28	56	2.20	49	1.93	1,21 x F0		1,39 x F0		2,3	0.14	0,07	0.15	✓
M90 - 010 - A - …	M90 - 010 - B - …	10	0.39	62	2.44	52	2.05	1,25 x F0		1,44 x F0		2,9	0.18	0,07	0.15	✓
M90 - 013 - A - …	M90 - 013 - B - …	12,7	0.50	67,4	2.65	54,7	2.15	1,27 x F0		1,48 x F0		3,4	0.21	0,08	0.18	✓
M90 - 015 - A - …	M90 - 015 - B - …	15	0.59	72	2.83	57	2.24	1,28 x F0		1,50 x F0		3,9	0.24	0,08	0.18	✓
M90 - 025 - A - …	M90 - 025 - B - …	25	0.98	92	3.62	67	2.64	1,32 x F0		1,57 x F0		5,8	0.35	0,09	0.20	✓
M90 - 038 - A - …	M90 - 038 - B - …	38,1	1.50	118,2	4.65	80,1	3.15	1,35 x F0		1,60 x F0		8,4	0.51	0,11	0.24	✓
M90 - 050 - A - …	M90 - 050 - B - …	50	1.97	142	5.59	92	3.62	1,36 x F0		1,62 x F0		10,8	0.66	0,12	0.26	✓
M90 - 063 - A - …	M90 - 063 - B - …	63,5	2.50	172	6.77	108,5	4.27	1,36 x F0		1,62 x F0		13,7	0.84	0,14	0.31	✓
M90 - 080 - A - …	M90 - 080 - B - …	80	3.15	205	8.07	125	4.92	1,37 x F0		1,64 x F0		17	1.04	0,15	0.33	✓
M90 - 100 - A - …	M90 - 100 - B - …	100	3.94	245	9.65	145	5.71	1,37 x F0		1,65 x F0		20,9	1.28	0,17	0.37	✓
M90 - 125 - A - …	M90 - 125 - B - …	125	4.92	295	11.61	170	6.69	1,38 x F0		1,66 x F0		25,8	1.57	0,20	0.44	✓

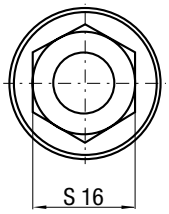


HOW TO ORDER p. 39

INSTALLATION GUIDELINE p. 205







Senza riserva corsa
Without reserve of stroke
Ohne Hubreserve
Sans course de réserve
Sin margen de Carrera
Sem reserva de curso

NON superare 90% Cu
DO NOT exceed 90% Cu
NICHT überschreiten die 90% Cu
NE PAS dépasser 90% Cu
NO superar el 90% Cu
NÃO se excedam os 90% Cu

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =**
Isothermal end force at 100% Cu

p. 16

**** $F1_p$ =**
Polytrophic end force at 100% Cu



Collegabile con tubi - Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes - Conectable con mangueras
Acompláveis com tubos

Micro 32°

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
OR	10	145	5	11
PR	20	290	10	22
GR	60	870	30	67
BU	100	1450	50	112
RD	140	2030	70	157
YW	180	2610	90	202
BK	10-180	145-2610	5-90	11-202

ACTIVE SAFETY



OSAS



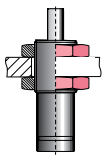
USAS



OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 10 bar / 145 psi	S 0,50 cm² / 0.078 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M90-007-A-...-TBM	M90-007-B-...-TBM	7	0.28	56	2.20	49	1.93	1,21 x F0		1,39 x F0		2,3	0.14	0,07	0.15	✓
M90-010-A-...-TBM	M90-010-B-...-TBM	10	0.39	62	2.44	52	2.05	1,25 x F0		1,44 x F0		2,9	0.18	0,07	0.15	✓
M90-013-A-...-TBM	M90-013-B-...-TBM	12,7	0.50	67,4	2.65	54,7	2.15	1,27 x F0		1,48 x F0		3,4	0.21	0,08	0.18	✓
M90-015-A-...-TBM	M90-015-B-...-TBM	15	0.59	72	2.83	57	2.24	1,28 x F0		1,50 x F0		3,9	0.24	0,08	0.18	✓
M90-025-A-...-TBM	M90-025-B-...-TBM	25	0.98	92	3.62	67	2.64	1,32 x F0		1,57 x F0		5,8	0.35	0,09	0.20	✓
M90-038-A-...-TBM	M90-038-B-...-TBM	38,1	1.50	118,2	4.65	80,1	3.15	1,35 x F0		1,60 x F0		8,4	0.51	0,11	0.24	✓
M90-050-A-...-TBM	M90-050-B-...-TBM	50	1.97	142	5.59	92	3.62	1,36 x F0		1,62 x F0		10,8	0.66	0,12	0.26	✓
M90-063-A-...-TBM	M90-063-B-...-TBM	63,5	2.50	172	6.77	108,5	4.27	1,36 x F0		1,62 x F0		13,7	0.84	0,14	0.31	✓
M90-080-A-...-TBM	M90-080-B-...-TBM	80	3.15	205	8.07	125	4.92	1,37 x F0		1,64 x F0		17	1.04	0,15	0.33	✓
M90-100-A-...-TBM	M90-100-B-...-TBM	100	3.94	245	9.65	145	5.71	1,37 x F0		1,65 x F0		20,9	1.28	0,17	0.37	✓
M90-125-A-...-TBM	M90-125-B-...-TBM	125	4.92	295	11.61	170	6.69	1,38 x F0		1,66 x F0		25,8	1.57	0,20	0.44	✓



DM 24

HOW TO ORDER

p. 39

INSTALLATION GUIDELINE

p. 205

W-DX35-80-191 (Ford)			

SPECIAL SPRINGS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

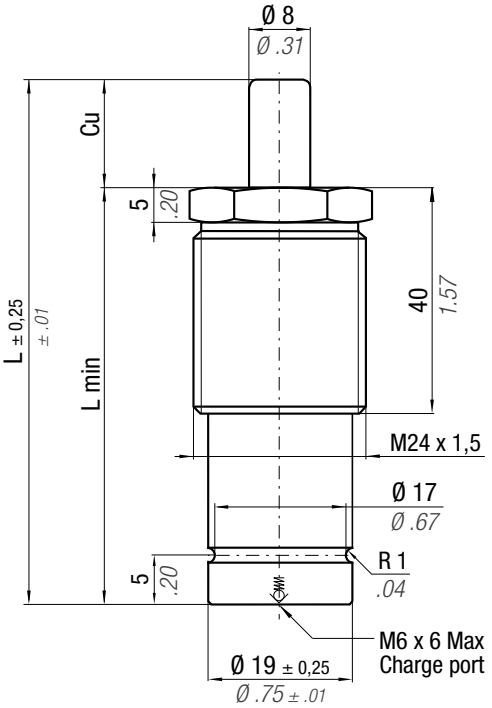
**** $F1_p$ =** Polytrophic end force at 100% Cu

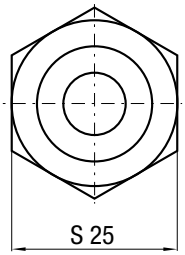


Collegabile con tubi - Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes - Conectable con mangueras
Acompláveis com tubos

Micro 32°

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
OR	10	145	5	11
PR	20	290	10	22
GR	60	870	30	67
BU	100	1450	50	112
RD	140	2030	70	157
YW	180	2610	90	202
BK	10-180	145-2610	5-90	11-202



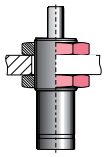


Senza riserva corsa
Without reserve of stroke
Ohne Hubreserve
Sans course de réserve
Sin margen de Carrera
Sem reserva de curso

NON superare 90% Cu
DO NOT exceed 90% Cu
NICHT überschreiten die 90% Cu
NE PAS dépasser 90% Cu
NO superar el 90% Cu
NÃO se excedam os 90% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 10 bar / 145 psi	S 0,50 cm² / 0.078 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M90-007-A-...-TEM	M90-007-B-...-TEM	7	0.28	56	2.20	49	1.93	1,21 x F0		1,39 x F0		2,3	0.14	0,07	0.15	✓
M90-010-A-...-TEM	M90-010-B-...-TEM	10	0.39	62	2.44	52	2.05	1,25 x F0		1,44 x F0		2,9	0.18	0,07	0.15	✓
M90-013-A-...-TEM	M90-013-B-...-TEM	12,7	0.50	67,4	2.65	54,7	2.15	1,27 x F0		1,48 x F0		3,4	0.21	0,08	0.18	✓
M90-015-A-...-TEM	M90-015-B-...-TEM	15	0.59	72	2.83	57	2.24	1,28 x F0		1,50 x F0		3,9	0.24	0,08	0.18	✓
M90-025-A-...-TEM	M90-025-B-...-TEM	25	0.98	92	3.62	67	2.64	1,32 x F0		1,57 x F0		5,8	0.35	0,09	0.20	✓
M90-038-A-...-TEM	M90-038-B-...-TEM	38,1	1.50	118,2	4.65	80,1	3.15	1,35 x F0		1,60 x F0		8,4	0.51	0,11	0.24	✓
M90-050-A-...-TEM	M90-050-B-...-TEM	50	1.97	142	5.59	92	3.62	1,36 x F0		1,62 x F0		10,8	0.66	0,12	0.26	✓
M90-063-A-...-TEM	M90-063-B-...-TEM	63,5	2.50	172	6.77	108,5	4.27	1,36 x F0		1,62 x F0		13,7	0.84	0,14	0.31	✓
M90-080-A-...-TEM	M90-080-B-...-TEM	80	3.15	205	8.07	125	4.92	1,37 x F0		1,64 x F0		17	1.04	0,15	0.33	✓
M90-100-A-...-TEM	M90-100-B-...-TEM	100	3.94	245	9.65	145	5.71	1,37 x F0		1,65 x F0		20,9	1.28	0,17	0.37	✓
M90-125-A-...-TEM	M90-125-B-...-TEM	125	4.92	295	11.61	170	6.69	1,38 x F0		1,66 x F0		25,8	1.57	0,20	0.44	✓



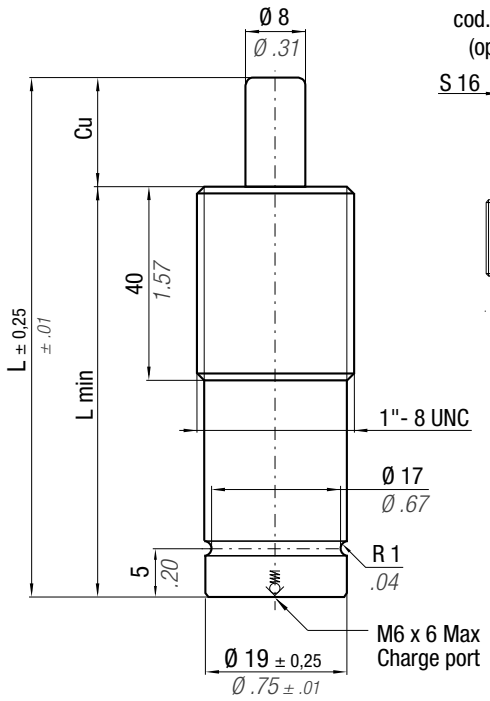
DM 24

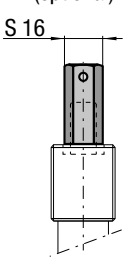
HOW TO ORDER

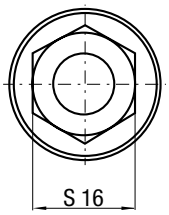
p. 39

INSTALLATION GUIDELINE

p. 205







Senza riserva corsa
Without reserve of stroke
Ohne Hubreserve
Sans course de réserve
Sin margen de Carrera
Sem reserva de curso

NON superare 90% Cu
DO NOT exceed 90% Cu
NICHT überschreiten die 90% Cu
NE PAS dépasser 90% Cu
NO superar el 90% Cu
NÃO se excedam os 90% Cu

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =**
Isothermal end force at 100% Cu

p. 16

**** $F1_p$ =**
Polytrophic end force at 100% Cu



Collegabile con tubi - Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes - Conectable con mangueras
Acompláveis com tubos

Micro 32°

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
OR	10	145	5	11
PR	20	290	10	22
GR	60	870	30	67
BU	100	1450	50	112
RD	140	2030	70	157
YW	180	2610	90	202
BK	10-180	145-2610	5-90	11-202

ACTIVE SAFETY



OSAS



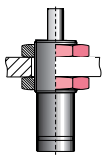
USAS



OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 10 bar / 145 psi	S 0,50 cm² / 0.078 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M90-007-A-...-TBI	M90-007-B-...-TBI	7	0.28	56	2.20	49	1.93	1,21 x F0		1,39 x F0		2,3	0.14	0,07	0.15	✓
M90-010-A-...-TBI	M90-010-B-...-TBI	10	0.39	62	2.44	52	2.05	1,25 x F0		1,44 x F0		2,9	0.18	0,07	0.15	✓
M90-013-A-...-TBI	M90-013-B-...-TBI	12,7	0.50	67,4	2.65	54,7	2.15	1,27 x F0		1,48 x F0		3,4	0.21	0,08	0.18	✓
M90-015-A-...-TBI	M90-015-B-...-TBI	15	0.59	72	2.83	57	2.24	1,28 x F0		1,50 x F0		3,9	0.24	0,08	0.18	✓
M90-025-A-...-TBI	M90-025-B-...-TBI	25	0.98	92	3.62	67	2.64	1,32 x F0		1,57 x F0		5,8	0.35	0,09	0.20	✓
M90-038-A-...-TBI	M90-038-B-...-TBI	38,1	1.50	118,2	4.65	80,1	3.15	1,35 x F0		1,60 x F0		8,4	0.51	0,11	0.24	✓
M90-050-A-...-TBI	M90-050-B-...-TBI	50	1.97	142	5.59	92	3.62	1,36 x F0		1,62 x F0		10,8	0.66	0,12	0.26	✓
M90-063-A-...-TBI	M90-063-B-...-TBI	63,5	2.50	172	6.77	108,5	4.27	1,36 x F0		1,62 x F0		13,7	0.84	0,14	0.31	✓
M90-080-A-...-TBI	M90-080-B-...-TBI	80	3.15	205	8.07	125	4.92	1,37 x F0		1,64 x F0		17	1.04	0,15	0.33	✓
M90-100-A-...-TBI	M90-100-B-...-TBI	100	3.94	245	9.65	145	5.71	1,37 x F0		1,65 x F0		20,9	1.28	0,17	0.37	✓
M90-125-A-...-TBI	M90-125-B-...-TBI	125	4.92	295	11.61	170	6.69	1,38 x F0		1,66 x F0		25,8	1.57	0,20	0.44	✓



DI 1"- 8

HOW TO ORDER

p. 39

INSTALLATION GUIDELINE

p. 205

M 200

ISO 11901 - 1	VDI 3003 - Blatt 2	B2 4007 (BMW)	075.90.50 (FCA)
B8 3180 220 000 002(MB)	K32D2-2400-50 (Nissan)	E24.54.815.G (PSA)	39D 878 (VW)

SPECIAL SPRINGS

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

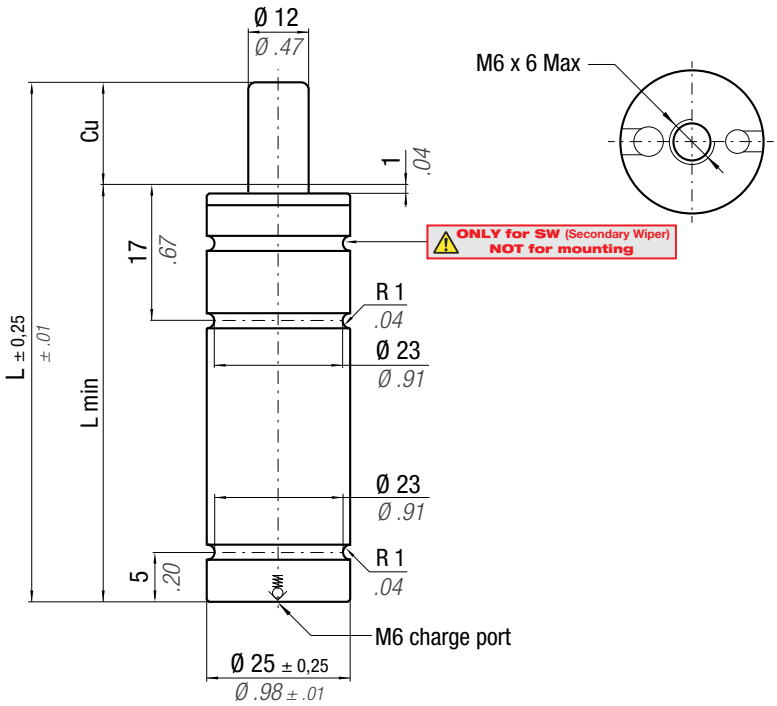
**** $F1_p$ =** Polytrophic end force at 100% Cu



Collegabile con tubi - Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes - Conectable con mangueras
Acompláveis com tubos

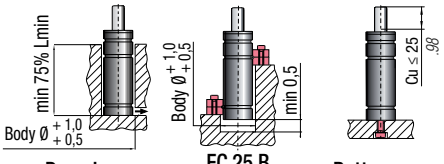
Micro 32°

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
OR	15	218	17	38
PR	25	363	28	63
GR	45	653	50	112
BU	90	1305	100	225
RD	135	1958	150	337
YW	180	2610	200	450
BK	10-180	145-2610	11-200	25-450



N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 10 bar / 145 psi	S 1,13 cm² / 0.175 in²	SPM ~ 50 - 80 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
M200 - 007 - A -...	M200 - 007 - B - ...	7	0.28	56	2.20	49	1.93	1,30 x F0		1,50 x F0		4	0.24	0,12	0.26	✓
M200 - 010 - A -...	M200 - 010 - B - ...	10	0.39	62	2.44	52	2.05	1,34 x F0		1,57 x F0		5,2	0.32	0,13	0.29	✓
M200 - 013 - A -...	M200 - 013 - B - ...	12,7	0.50	67,4	2.65	54,7	2.15	1,37 x F0		1,62 x F0		6,2	0.38	0,13	0.29	✓
M200 - 015 - A -...	M200 - 015 - B - ...	15	0.59	72	2.83	57	2.24	1,38 x F0		1,64 x F0		7	0.43	0,14	0.31	✓
M200 - 016 - A -...	M200 - 016 - B - ...	16	0.63	74	2.91	58	2.28	1,39 x F0		1,65 x F0		7,4	0.45	0,14	0.31	✓
M200 - 025 - A -...	M200 - 025 - B - ...	25	0.98	92	3.62	67	2.64	1,43 x F0		1,72 x F0		10,8	0.66	0,16	0.35	✓
M200 - 038 - A -...	M200 - 038 - B - ...	38,1	1.50	118,2	4.65	80,1	3.15	1,46 x F0		1,77 x F0		15,7	0.96	0,19	0.42	✓
M200 - 050 - A -...	M200 - 050 - B - ...	50	1.97	142	5.59	92	3.62	1,47 x F0		1,79 x F0		20,2	1.23	0,20	0.44	✓
M200 - 063 - A -...	M200 - 063 - B - ...	63,5	2.50	172	6.77	108,5	4.27	1,48 x F0		1,81 x F0		25,2	1.54	0,23	0.51	✓
M200 - 080 - A -...	M200 - 080 - B - ...	80	3.15	205	8.07	125	4.92	1,49 x F0		1,83 x F0		31,2	1.90	0,26	0.57	✓
M200 - 100 - A -...	M200 - 100 - B - ...	100	3.94	245	9.65	145	5.71	1,50 x F0		1,83 x F0		38,7	2.36	0,30	0.66	✓
M200 - 125 - A -...	M200 - 125 - B - ...	125	4.92	295	11.61	170	6.69	1,50 x F0		1,84 x F0		48,1	2.94	0,34	0.75	✓
-	M200 - 150 - B - ...	150	5.91	353	13.90	203	7.99	1,57 x F0		1,81 x F0		59	2.32	0,42	0.93	✓
-	M200 - 160 - B - ...	160	6.30	373	14.69	213	8.39	1,57 x F0		1,81 x F0		62,8	2.47	0,45	0.99	✓
-	M200 - 175 - B - ...	175	6.89	403	15.87	228	8.98	1,57 x F0		1,82 x F0		68,4	2.69	0,47	1.04	✓
-	M200 - 200 - B - ...	200	7.87	453	17.83	253	9.96	1,58 x F0		1,83 x F0		77,8	3.06	0,52	1.15	✓



Drop-In

FC 25 B
FCC 25 A

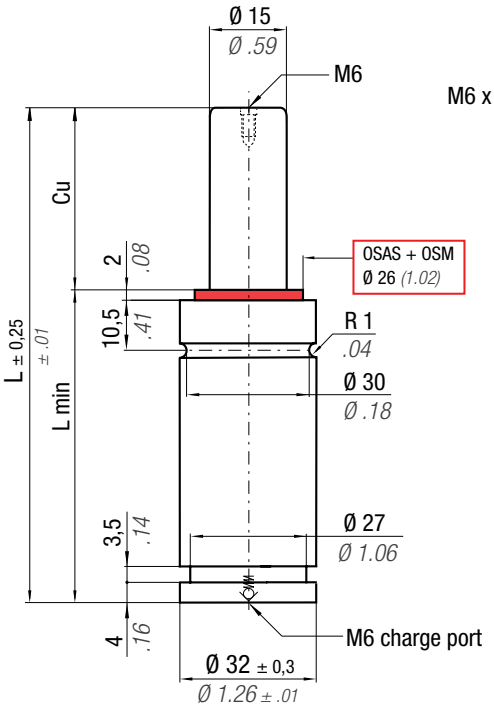
Bottom mount

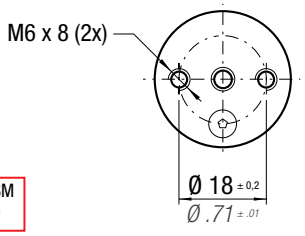
HOW TO ORDER

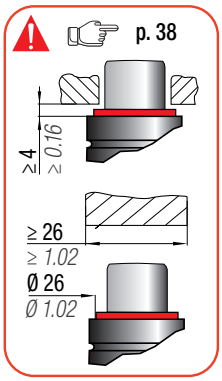
p. 39

INSTALLATION GUIDELINE

p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

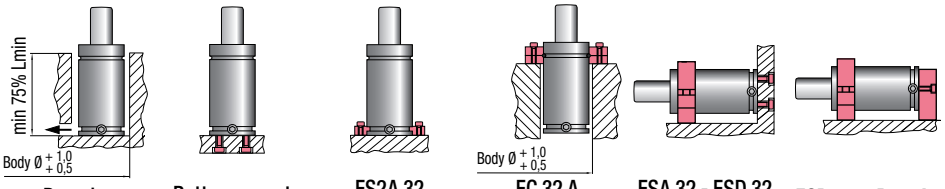
Micro 32°

Force color code	P bar	P psi	F0 daN (Initial force ± 5% at +20°C +68°F)	F0 lb
GR	45	653	80	180
BU	90	1305	160	360
RD	135	1958	240	540
YW	180	2610	320	719
BK	10-180	145-2610	18-320	40-719

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	10 bar / 145 psi	1,77 cm² / 0.274 in²	~ 50 - 80 (at 20°C)	1,8 m/s / 70.8 in/s	39BMMCI32A

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
M300 - 007 - A - ...	◆M300 - 007 - B - ...	7	0.28	56	2.20	49	1.93	1,20 x F0		1,35 x F0		8,3	0.51	0,21	0.01	✓
M300 - 010 - A - ...	◆M300 - 010 - B - ...	10	0.39	62	2.44	52	2.05	1,24 x F0		1,41 x F0		10,1	0.62	0,22	0.01	✓
M300 - 013 - A - ...	M300 - 013 - B - ...	12,7	0.50	67,4	2.65	54,7	2.15	1,27 x F0		1,46 x F0		11,7	0.71	0,23	0.01	✓
M300 - 015 - A - ...	M300 - 015 - B - ...	15	0.59	72	2.83	57	2.24	1,29 x F0		1,49 x F0		13,1	0.80	0,24	0.01	✓
M300 - 025 - A - ...	M300 - 025 - B - ...	25	0.98	92	3.62	67	2.64	1,35 x F0		1,58 x F0		19,1	1.17	0,26	0.01	✓
M300 - 038 - A - ...	M300 - 038 - B - ...	38	1.50	118	4.65	80	3.15	1,38 x F0		1,64 x F0		26,9	1.64	0,30	0.01	✓
M300 - 050 - A - ...	M300 - 050 - B - ...	50	1.97	142	5.59	92	3.62	1,40 x F0		1,67 x F0		34,1	2.08	0,34	0.01	✓
M300 - 063 - A - ...	M300 - 063 - B - ...	63,5	2.50	172	6.77	108,5	4.27	1,40 x F0		1,66 x F0		43,8	2.67	0,39	0.02	✓
M300 - 080 - A - ...	M300 - 080 - B - ...	80	3.15	205	8.07	125	4.92	1,41 x F0		1,69 x F0		53,7	3.28	0,44	0.02	✓
M300 - 100 - A - ...	M300 - 100 - B - ...	100	3.94	245	9.65	145	5.71	1,43 x F0		1,71 x F0		65,8	4.02	0,50	0.02	✓
M300 - 125 - A - ...	M300 - 125 - B - ...	125	4.92	295	11.61	170	6.69	1,44 x F0		1,73 x F0		80,8	4.93	0,57	0.02	✓

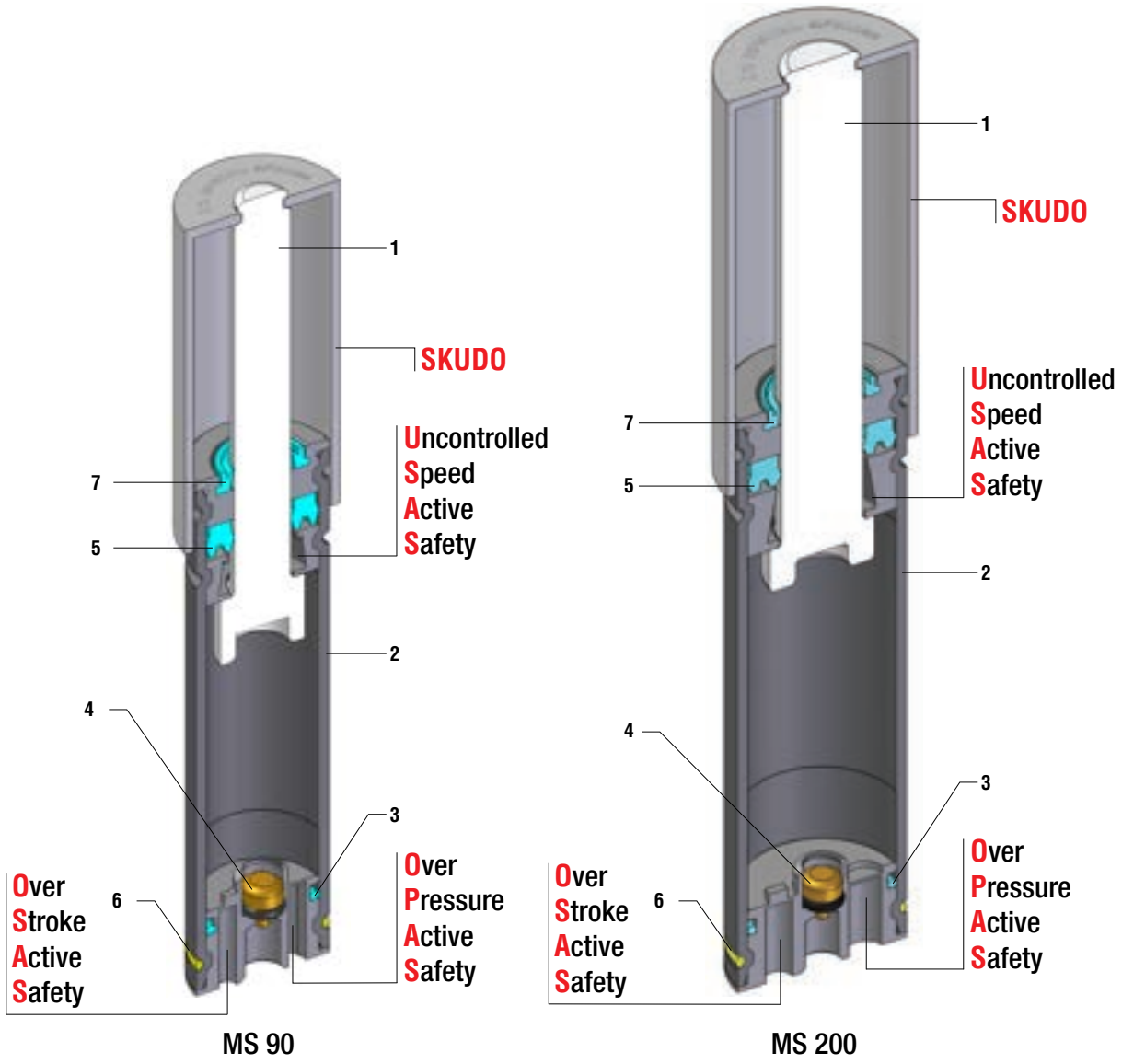
◆ Disposable



Drop-in | Bottom mount | FS2A 32 FS2B 32 | FC 32 A FCQC 32 | FSA 32 - FSD 32 FSB 32 | FSB 32 + R 32 A

HOW TO ORDER p. 39

INSTALLATION GUIDELINE p. 205



Mini cilindri - Mini cylinders - Mini Gasdruckfedern
Mini-ressorts - Mini cilindros - Mini-cilindros

SEALING	ROD SEAL
DESIGN	RETAINING GROOVE DESIGN

1	Rod (nitrited superfinished)	**5**	Rod seal
2	Body	**6**	Force color code
3	O-ring	**7**	Rod wiper
4	Valve		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO
	mm	inch	mm	inch	daN	lb				
MS 90	19	0.75	7 - 122	0.28 - 4.80	5 - 90	11 - 202	✓	✓	✓	✓
MS 200	25	0.98	7 - 122	0.28 - 4.80	17 - 200	38 - 450	✓	✓	✓	✓

HOW TO ORDER

Series — MS — Model — 90 — Stroke — 022 — B — Revision code — YW — Force color code

MS 90-022-B-YW

Available versions



MS 90-022-B-YW

Standard code

Self contained

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OPAS

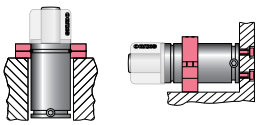
SKUDO

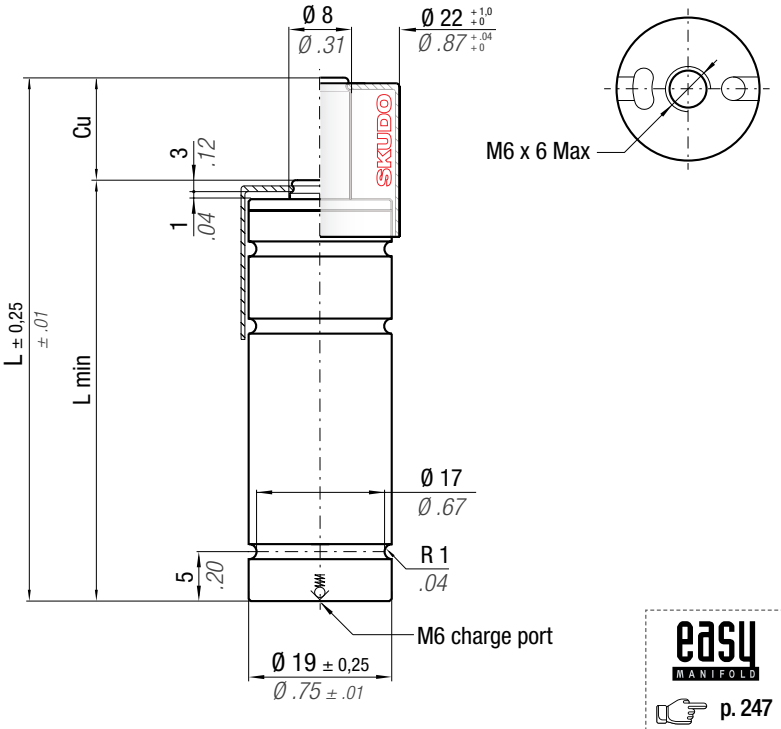
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

Force color code	P bar	P psi	Fo Initial force ± 5% at +20°C +68°F daN	Fo lb
OR	10	145	5	11
PR	20	290	10	22
GR	60	870	30	67
BU	100	1450	50	112
RD	140	2030	70	157
YW	180	2610	90	202
BK	10-180	145-2610	5-90	11-202

NOT FOR





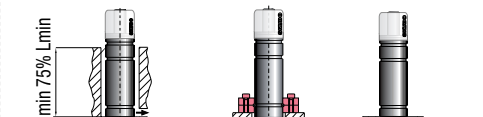
easy MANIFOLD p. 247

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 10 bar / 145 psi	S 0,50 cm² / 0.078 in²	SPM ~ 100 - 150 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
MS90 - 007 - A -...	MS90 - 007 - B - ...	7	0.28	62	2.44	55	2.17	1.19 x F0		1.35 x F0		2,6	0.16	0,07	0.15	✓
MS90 - 010 - A -...	MS90 - 010 - B - ...	9,7	0.38	67,4	2.65	57,7	2.27	1.22 x F0		1.40 x F0		3,1	0.19	0,08	0.18	✓
MS90 - 012 - A -...	MS90 - 012 - B - ...	12	0.47	72	2.83	60	2.36	1.24 x F0		1.44 x F0		3,5	0.21	0,08	0.18	✓
MS90 - 022 - A -...	MS90 - 022 - B - ...	22	0.87	92	3.62	70	2.76	1.30 x F0		1.52 x F0		5,5	0.34	0,09	0.20	✓
MS90 - 035 - A -...	MS90 - 035 - B - ...	35,1	1.38	118,2	4.65	83,1	3.27	1.33 x F0		1.57 x F0		8,1	0.49	0,11	0.24	✓
MS90 - 047 - A -...	MS90 - 047 - B - ...	47	1.85	142	5.59	95	3.74	1.34 x F0		1.60 x F0		10,4	0.63	0,12	0.26	✓
MS90 - 060 - A -...	MS90 - 060 - B - ...	60,5	2.38	172	6.77	111,5	4.39	1.35 x F0		1.61 x F0		13,4	0.82	0,14	0.31	✓
MS90 - 077 - A -...	MS90 - 077 - B - ...	77	3.03	205	8.07	128	5.04	1.36 x F0		1.62 x F0		16,6	1.01	0,15	0.33	✓
MS90 - 097 - A -...	MS90 - 097 - B - ...	97	3.82	245	9.65	148	5.83	1.37 x F0		1.64 x F0		20,6	1.26	0,17	0.37	✓
MS90 - 122 - A -...	MS90 - 122 - B - ...	122	4.80	295	11.61	173	6.81	1.37 x F0		1.65 x F0		25,5	1.56	0,20	0.44	✓

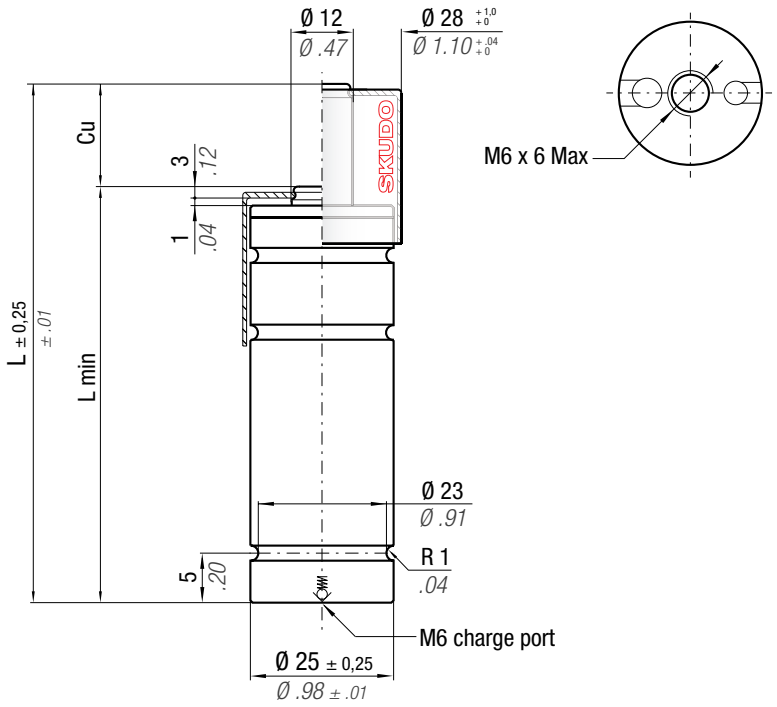
WARNING REMOVE SKUDO

Upside down mounting



HOW TO ORDER p. 53

INSTALLATION GUIDELINE p. 205



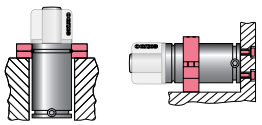
Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

Force color code	P bar	P psi	F0 daN	F0 lb
OR	15	218	17	38
PR	25	363	28	63
GR	45	653	50	112
BU	90	1305	100	225
RD	135	1958	150	337
YW	180	2610	200	450
BK	10-180	145-2610	11-200	25-450

NOT FOR



ACTIVE SAFETY

OSAS

USAS

OPAS

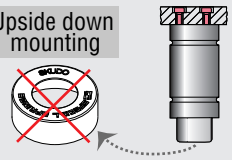
SKUDO

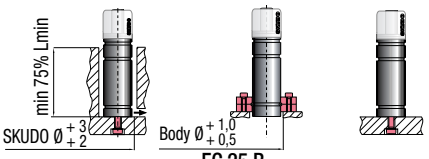
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	10 bar / 145 psi	1,13 cm² / 0.175 in²	~ 50 - 80 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
MS200 - 007 - A -...	MS200 - 007 - B -...	7	0.28	62	2.44	55	2.17	1.25 x F0		1.43 x F0		4,6	0.28	0,13	0.29	✓
MS200 - 010 - A -...	MS200 - 010 - B -...	9,7	0.38	67,4	2.65	57,7	2.27	1.30 x F0		1.50 x F0		5,6	0.34	0,13	0.29	✓
MS200 - 012 - A -...	MS200 - 012 - B -...	12	0.47	72	2.83	60	2.36	1.32 x F0		1.54 x F0		6,5	0.40	0,14	0.31	✓
MS200 - 022 - A -...	MS200 - 022 - B -...	22	0.87	92	3.62	70	2.76	1.39 x F0		1.65 x F0		10,2	0.62	0,16	0.35	✓
MS200 - 035 - A -...	MS200 - 035 - B -...	35,1	1.38	118,2	4.65	83,1	3.27	1.43 x F0		1.72 x F0		15,1	0.92	0,19	0.42	✓
MS200 - 047 - A -...	MS200 - 047 - B -...	47	1.85	142	5.59	95	3.74	1.45 x F0		1.75 x F0		19,6	1.20	0,20	0.44	✓
MS200 - 060 - A -...	MS200 - 060 - B -...	60,5	2.38	172	6.77	111,5	4.39	1.46 x F0		1.78 x F0		24,7	1.51	0,23	0.51	✓
MS200 - 077 - A -...	MS200 - 077 - B -...	77	3.03	205	8.07	128	5.04	1.47 x F0		1.80 x F0		30,8	1.88	0,26	0.57	✓
MS200 - 097 - A -...	MS200 - 097 - B -...	97	3.82	245	9.65	148	5.83	1.48 x F0		1.81 x F0		38,3	2.34	0,30	0.66	✓
MS200 - 122 - A -...	MS200 - 122 - B -...	122	4.80	295	11.61	173	6.81	1.49 x F0		1.82 x F0		47,7	2.91	0,34	0.75	✓

WARNING
REMOVE SKUDO

Upside down mounting





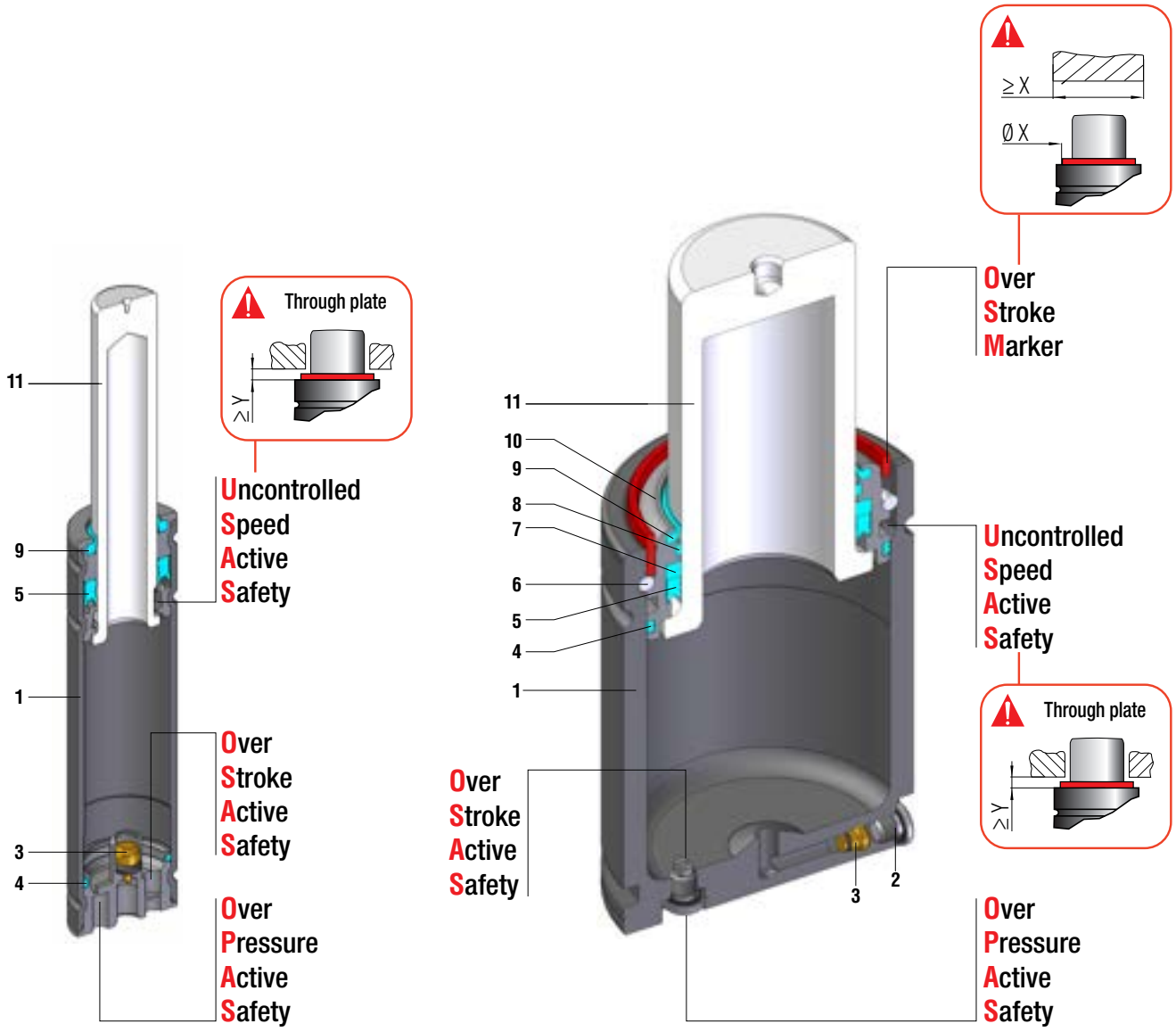
Drop-In

FC 25 B
FCC 25 A

Bottom mount

HOW TO ORDER
p. 53

INSTALLATION GUIDELINE
p. 205



Minima altezza, massima forza - Minimum height, maximum force - Minimale Höhe, maximale Kraft
Hauteur minimale, force maximale - Mínima altura, máxima fuerza - Altura mínima, força máxima

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal	**9**	Rod wiper
2	Plug	**6**	Retaining ring	**10**	Bush
3	Valve	**7**	Back-up ring	**11**	Rod (nitrited superfinished)
4	Dual ring seal	**8**	Guide ring		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
RV 170	19	0.75	7 - 125	0.28 - 4.92	170	382	✓	✓	✓	-	✓
RV 320	25	0.98	7 - 125	0.28 - 4.92	320	719	✓	✓	✓	-	✓
RV 350	32	1.26	10 - 125	0.39 - 4.92	360	809	✓	✓	✓	-	✓
RV 500	38	1.50	10 - 125	0.39 - 4.92	470	1057	✓	✓	✓	-	✓
RV 750	45	1.77	10 - 125	0.39 - 4.92	740	1664	✓	✓	✓	-	✓
RV 1000	50	1.97	10 - 125	0.39 - 4.92	920	2068	✓	✓	✓	-	✓
RV 1200	50	1.97	10 - 125	0.39 - 4.92	1060	2383	✓	✓	✓	-	✓
RV 1500	63	2.48	10 - 125	0.39 - 4.92	1530	3440	✓	✓	✓	-	✓
RV 2400	75	2.95	10 - 125	0.39 - 4.92	2385	5362	✓	✓	✓	-	✓
RV 4200	95	3.74	16 - 125	0.63 - 4.92	4240	9532	✓	✓	✓	-	✓
RV 6600	120	4.72	16 - 125	0.63 - 4.92	6630	14905	✓	✓	✓	-	✓
RV 9500	150	5.91	19 - 125	0.75 - 4.92	9540	21447	✓	✓	✓	-	✓
RV 12000	150	5.91	19 - 125	0.75 - 4.92	11780	26470	✓	✓	✓	-	✓
RV 20000	195	7.68	19 - 125	0.75 - 4.92	19910	44738	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series: RV
Model: 1000
Stroke: 063
Revision code: B
Version: E-W

RV1000-063-B-E-W

Available versions



RV 1000-063-B
Standard code
Self contained



RV 1000-063-B-W
Add "-W" to standard code
Self contained
+
Secondary wiper



RV 1000-063-B-N
Add "-N" to standard code
Linkable



RV 1000-063-B-N-W
Add "-N-W" to standard code
Linkable
+
Secondary wiper



RV 1000-063-B-E
Add "-E" to standard code
Easy Manifold



RV 1000-063-B-E-W
Add "-E-W" to standard code
Easy Manifold
+
Secondary wiper

RV 170

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	075.90.60 (FCA)
B8 3180 220 000 004(MB)	39D 997 (VW)		

SPECIAL SPRINGS

SW

ACTIVE SAFETY

OSAS

USAS

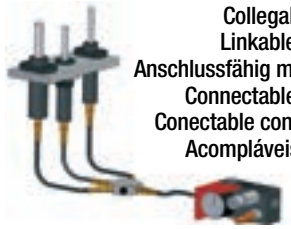
OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

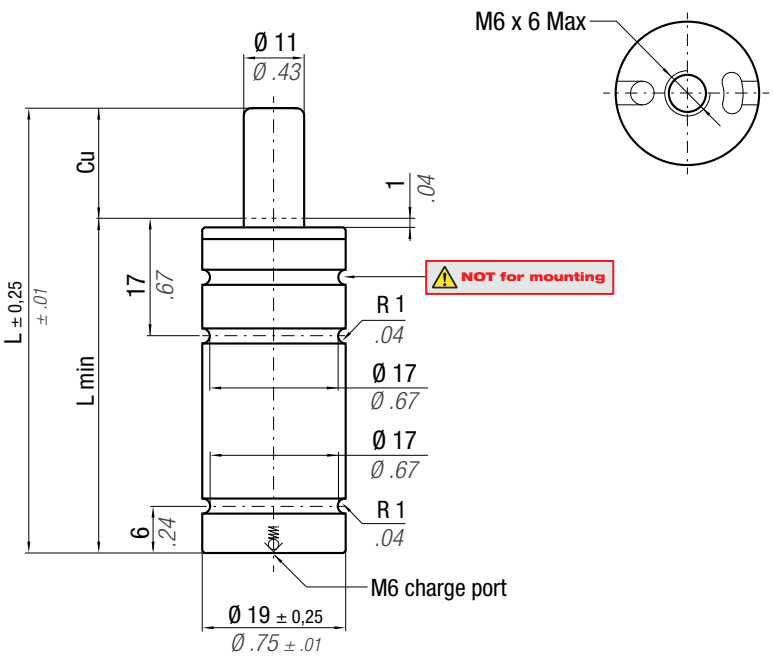
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



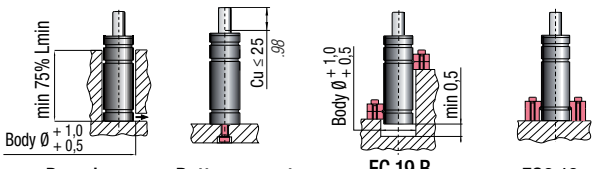
Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

Micro 32°



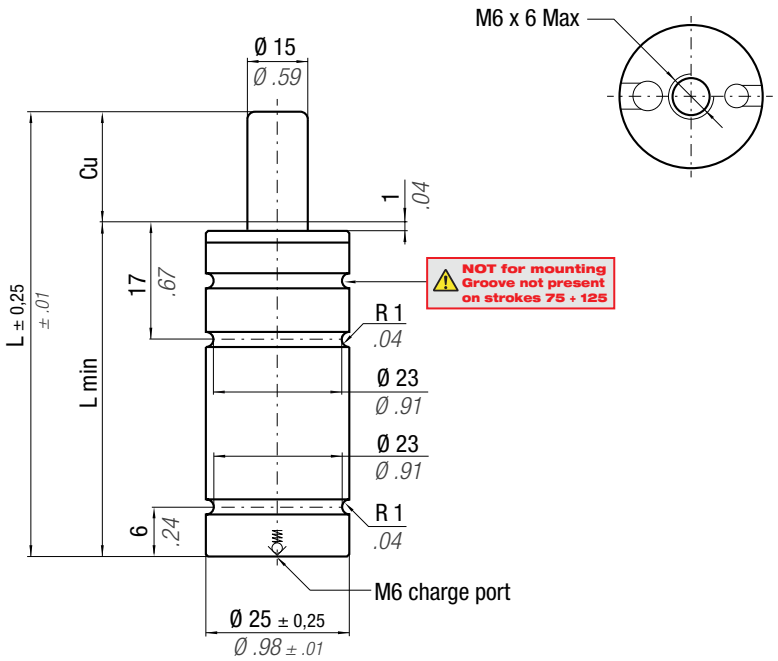
N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 20 bar / 290 psi	S 0,95 cm² / 0.147 in²	SPM ~ 40 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RV 170 - 007 - B	RV 170 - 007 - C	7	0.28	44	1.73	37	1.46			274	616	320	719	2,1	0.13	0,06	0.13	✓
RV 170 - 010 - B	RV 170 - 010 - C	10	0.39	50	1.97	40	1.57			285	641	337	758	2,9	0.18	0,06	0.13	✓
RV 170 - 013 - B	RV 170 - 013 - C	13	0.51	56	2.20	43	1.69			292	656	348	782	3,6	0.22	0,07	0.15	✓
RV 170 - 015 - B	RV 170 - 015 - C	15	0.59	60	2.36	45	1.77			296	665	353	794	4,1	0.25	0,07	0.15	✓
RV 170 - 019 - B	RV 170 - 019 - C	19	0.75	68	2.68	49	1.93	170	382	301	677	361	812	5,0	0.31	0,07	0.16	✓
RV 170 - 025 - B	RV 170 - 025 - C	25	0.98	80	3.15	55	2.17	± 5%		306	688	369	830	6,4	0.39	0,08	0.17	✓
RV 170 - 032 - B	RV 170 - 032 - C	32	1.26	94	3.7	62	2.44			310	697	374	841	8,1	0.49	0,09	0.19	✓
RV 170 - 038 - B	RV 170 - 038 - C	38	1.5	106	4.17	68	2.68	180 bar	2610psi	312	701	378	850	9,5	0.58	0,09	0.20	✓
RV 170 - 050 - B	RV 170 - 050 - C	50	1.97	130	5.12	80	3.15			315	708	382	859	12,4	0.76	0,11	0.23	✓
RV 170 - 063 - B	RV 170 - 063 - C	63	2.48	156	6.14	93	3.66	+ 20 °C	+68 °F	317	713	385	866	15,5	0.95	0,12	0.26	✓
RV 170 - 075 - B	RV 170 - 075 - C	75	2.95	185	7.28	110	4.33			318	715	387	870	18,3	1.12	0,14	0.30	✓
RV 170 - 080 - B	RV 170 - 080 - C	80	3.15	195	7.68	115	4.53			319	717	388	872	19,5	1.19	0,14	0.31	✓
RV 170 - 100 - B	RV 170 - 100 - C	100	3.94	235	9.25	135	5.31			320	719	390	877	24,3	1.48	0,16	0.36	✓
RV 170 - 125 - B	RV 170 - 125 - C	125	4.92	285	11.22	160	6.3			321	722	391	879	30,2	1.84	0,19	0.42	✓



HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



Collegabile con tubi
Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes
Conectable con mangueras
Acompláveis com tubos

Micro 32°

SW

ACTIVE SAFETY

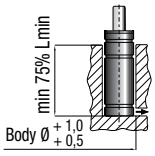
OSAS

USAS

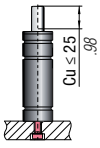
OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 180 bar / 2610 psi	P min 20 bar / 290 psi	S 1,77 cm² / 0.27 in²	SPM ~ 40 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit Disposable

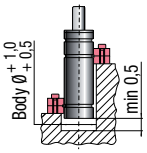
CODE PHASING OUT from 01/2020	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RV 320 - 007 - B	RV 320 - 007 - C	7	0.28	44	1.73	37	1.46			471	1059	540	1214	4,6	0.28	0,10	0.22	✓
RV 320 - 010 - B	RV 320 - 010 - C	10	0.39	50	1.97	40	1.57			495	1112	574	1291	6,0	0.37	0,10	0.23	✓
RV 320 - 013 - B	RV 320 - 013 - C	13	0.51	56	2.20	43	1.69			511	1148	598	1344	7,3	0.45	0,11	0.24	✓
RV 320 - 015 - B	RV 320 - 015 - C	15	0.59	60	2.36	45	1.77			519	1167	610	1371	8,2	0.50	0,11	0.24	✓
RV 320 - 019 - B	RV 320 - 019 - C	19	0.75	68	2.68	49	1.93	320	719	531	1195	628	1412	10,1	0.62	0,12	0.26	✓
RV 320 - 025 - B	RV 320 - 025 - C	25	0.98	80	3.15	55	2.17	± 5%		544	1223	647	1454	12,8	0.78	0,13	0.28	✓
RV 320 - 032 - B	RV 320 - 032 - C	32	1.26	94	3.70	62	2.44			553	1244	661	1486	15,9	0.97	0,14	0.31	✓
RV 320 - 038 - B	RV 320 - 038 - C	38	1.50	106	4.17	68	2.68	180 bar	2610psi	559	1257	669	1505	18,6	1.14	0,15	0.33	✓
RV 320 - 050 - B	RV 320 - 050 - C	50	1.97	130	5.12	80	3.15			567	1274	681	1531	24,1	1.47	0,17	0.37	✓
RV 320 - 063 - B	RV 320 - 063 - C	63	2.48	156	6.14	93	3.66	+ 20 °C	+68 °F	572	1286	689	1549	29,9	1.82	0,19	0.42	✓
RV 320 - 075 - B	RV 320 - 075 - C	75	2.95	185	7.28	110	4.33			570	1282	686	1543	35,8	2.18	0,22	0.48	✓
RV 320 - 080 - B	RV 320 - 080 - C	80	3.15	195	7.68	115	4.53			572	1285	688	1548	38,1	2.33	0,23	0.50	✓
RV 320 - 100 - B	RV 320 - 100 - C	100	3.94	235	9.25	135	5.31			576	1295	695	1562	47,1	2.87	0,26	0.57	✓
RV 320 - 125 - B	RV 320 - 125 - C	125	4.92	285	11.22	160	6.30			580	1303	700	1574	58,4	3.56	0,30	0.66	✓



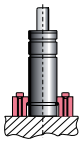
Drop-in



Bottom mount



FC 25 B
FCC 25 A



FS3 25

HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205

RV 350

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	075.90.60 (FCA)
W-DX35-6204 (Ford)	B8 3180 220 000 004(MB)	39D 997 (VW)	

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

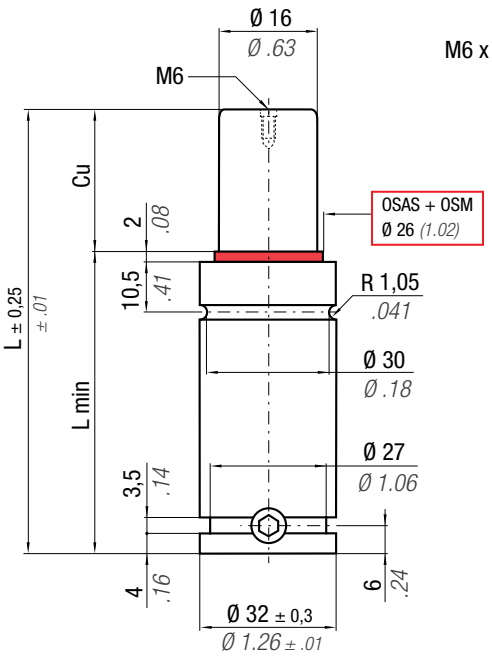
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

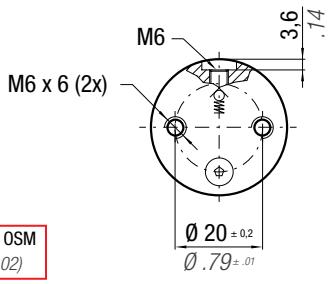
O novo código irá ser fornecido apenas quando o antigo esgotar stock

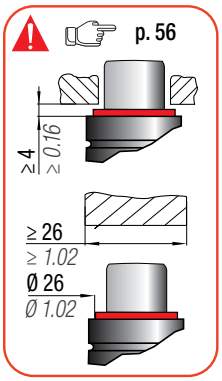
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



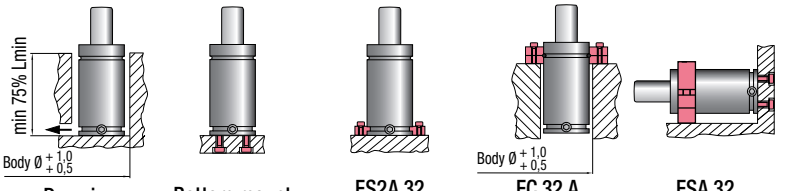




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	2,01 cm² / 0.312 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00350C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RV 350 - 010 - A	◆ RV 350 - 010 - B	10	0.39	50	1.97	40	1.57	360 ± 5%	809	531	1194	607	1366	7,7	0.47	0,17	0.36	✓
RV 350 - 013 - A	RV 350 - 013 - B	13	0.51	56	2.20	43	1.69			544	1224	627	1409	9,5	0.58	0,18	0.39	✓
RV 350 - 016 - A	RV 350 - 016 - B	16	0.63	62	2.44	46	1.81			554	1245	641	1440	11,2	0.68	0,19	0.41	✓
RV 350 - 019 - A	RV 350 - 019 - B	19	0.75	68	2.68	49	1.93			561	1261	651	1463	13,0	0.79	0,19	0.43	✓
RV 350 - 025 - A	RV 350 - 025 - B	25	0.98	80	3.15	55	2.17			571	1283	665	1496	16,6	1.01	0,21	0.47	✓
RV 350 - 032 - A	RV 350 - 032 - B	32	1.26	94	3.70	62	2.44			578	1300	676	1520	20,7	1.26	0,24	0.52	✓
RV 350 - 038 - A	RV 350 - 038 - B	38	1.50	106	4.17	68	2.68	180 bar 2610psi		583	1310	683	1535	24,3	1.48	0,26	0.56	✓
RV 350 - 050 - A	RV 350 - 050 - B	50	1.97	130	5.12	80	3.15			589	1323	691	1554	31,4	1.92	0,30	0.65	✓
RV 350 - 063 - A	RV 350 - 063 - B	63	2.48	156	6.14	93	3.66			593	1333	697	1568	39,1	2.39	0,34	0.74	✓
RV 350 - 075 - A	RV 350 - 075 - B	75	2.95	180	7.09	105	4.13	+ 20 °C	+68 °F	595	1338	701	1576	46,3	2.83	0,38	0.83	✓
RV 350 - 080 - A	RV 350 - 080 - B	80	3.15	190	7.48	110	4.33			596	1340	702	1579	49,2	3.00	0,39	0.86	✓
RV 350 - 100 - A	RV 350 - 100 - B	100	3.94	230	9.06	130	5.12			599	1346	706	1588	61,1	3.73	0,46	1.01	✓
RV 350 - 125 - A	RV 350 - 125 - B	125	4.92	280	11.02	155	6.10			606	1363	717	1613	74,9	4.57	0,54	1.18	✓

◆ Disposable



HOW TO ORDER

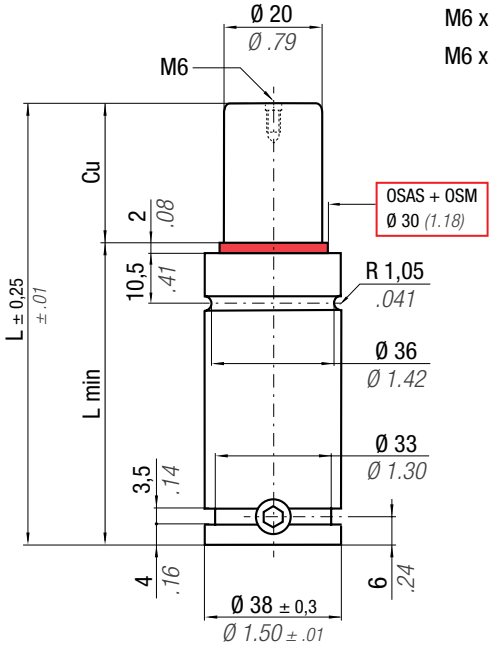
p. 57

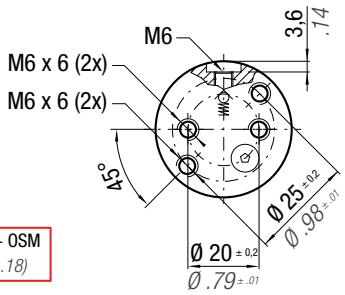
INSTALLATION GUIDELINE

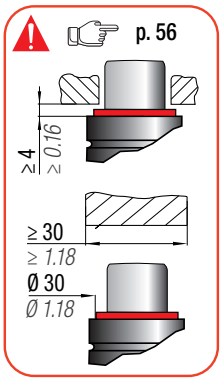
p. 205

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	075.90.60 (FCA)
W-DX35-6204 (Ford)	B8 3180 220 000 004(MB)	K 32 H (Nissan)	E24.54.815.G (PSA)
EM24.54.700 (Renault)	39D 997 (VW)		

RV 500







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguoguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

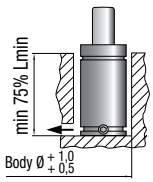
N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 3,14 cm² 0.487 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV00500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RV 500 - 010 - A	◆ RV 500 - 010 - B	10	0.39	50	1.97	40	1.57	470 ± 5%	1057	696	1565	828	1862	11,2	0.68	0,27	0.60	✓
RV 500 - 013 - A	RV 500 - 013 - B	13	0.51	56	2.20	43	1.69			716	1609	859	1931	13,8	0.84	0,25	0.55	✓
RV 500 - 016 - A	RV 500 - 016 - B	16	0.63	62	2.44	46	1.81			730	1641	882	1982	16,3	0.99	0,26	0.57	✓
RV 500 - 019 - A	RV 500 - 019 - B	19	0.75	68	2.68	49	1.93			740	1664	899	2020	18,9	1.15	0,28	0.62	✓
RV 500 - 025 - A	RV 500 - 025 - B	25	0.98	80	3.15	55	2.17			755	1698	922	2074	24,0	1.46	0,31	0.68	✓
RV 500 - 032 - A	RV 500 - 032 - B	32	1.26	94	3.70	62	2.44			766	1723	941	2115	30,0	1.83	0,34	0.75	✓
RV 500 - 038 - A	RV 500 - 038 - B	38	1.50	106	4.17	68	2.68			773	1738	952	2140	35,1	2.14	0,37	0.82	✓
RV 500 - 050 - A	RV 500 - 050 - B	50	1.97	130	5.12	80	3.15			782	1759	967	2173	45,3	2.76	0,43	0.95	✓
RV 500 - 063 - A	RV 500 - 063 - B	63	2.48	156	6.14	93	3.66			789	1773	977	2196	56,4	3.44	0,49	1.08	✓
RV 500 - 075 - A	RV 500 - 075 - B	75	2.95	180	7.09	105	4.13			792	1782	984	2211	66,6	4.06	0,54	1.19	✓
RV 500 - 080 - A	RV 500 - 080 - B	80	3.15	190	7.48	110	4.33			794	1785	986	2216	70,8	4.32	0,57	1.26	✓
RV 500 - 100 - A	RV 500 - 100 - B	100	3.94	230	9.06	130	5.12			798	1794	992	2231	87,9	5.36	0,66	1.46	✓
RV 500 - 125 - A	RV 500 - 125 - B	125	4.92	280	11.02	155	6.10			801	1801	998	2243	109,2	6.66	0,78	1.72	✓

150 bar 2175psi

+ 20 °C +68 °F

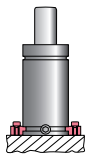
◆ Disposable



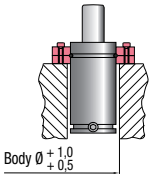
Drop-in



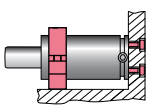
Bottom mount



FS2A 38 - FT 38
FS2B 38 - FTP 38



FC 38 A
FCQC 38



FSA 38
FSD 38

HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205

RV 750

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	W-DX35-6204 (Ford)
B8 3180 220 000 004(MB)	E24.54.815.G (PSA)	39D 997 (VW)	

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

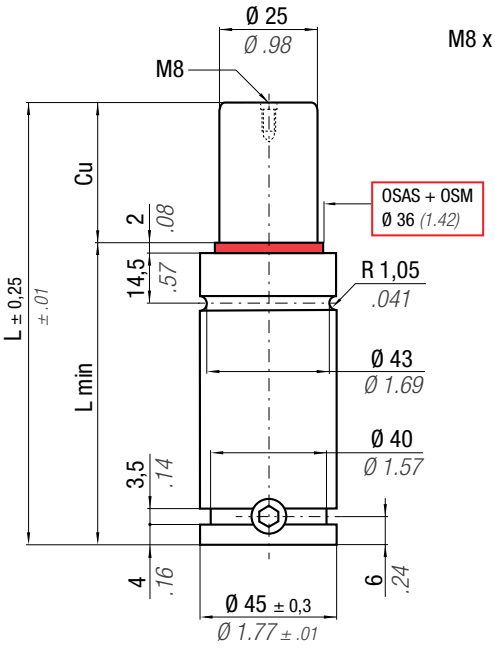
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

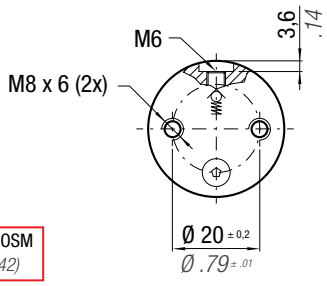
O novo código irá ser fornecido apenas quando o antigo esgotar stock

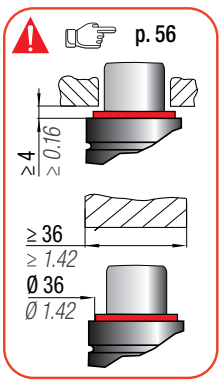
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



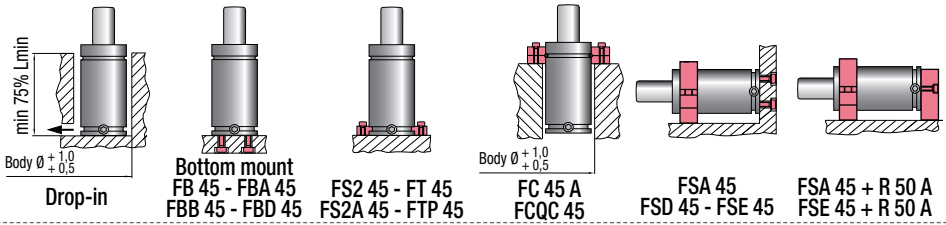




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00750C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RV 750 - 010 - A	◆ RV 750 - 010 - B	10	0.39	52	2.05	42	1.65	740 ± 5%	1664	1118	2514	1343	3018	16,6	1.01	0,36	0.79	✓
RV 750 - 013 - A	RV 750 - 013 - B	13	0.51	58	2.28	45	1.77			1152	2590	1396	3139	20,4	1.24	0,38	0.84	✓
RV 750 - 016 - A	RV 750 - 016 - B	16	0.63	64	2.52	48	1.89			1176	2644	1435	3227	24,1	1.47	0,40	0.88	✓
RV 750 - 019 - A	RV 750 - 019 - B	19	0.75	70	2.76	51	2.01			1194	2685	1465	3293	27,9	1.70	0,42	0.93	✓
RV 750 - 025 - A	RV 750 - 025 - B	25	0.98	82	3.23	57	2.24			1220	2743	1507	3388	35,5	2.17	0,45	0.99	✓
RV 750 - 032 - A	RV 750 - 032 - B	32	1.26	96	3.78	64	2.52			1240	2787	1539	3460	44,3	2.70	0,50	1.10	✓
RV 750 - 038 - A	RV 750 - 038 - B	38	1.50	108	4.25	70	2.76	150 bar 2175psi		1251	2813	1558	3503	51,9	3.17	0,54	1.19	✓
RV 750 - 050 - A	RV 750 - 050 - B	50	1.97	132	5.20	82	3.23			1267	2848	1584	3562	67,0	4.09	0,61	1.34	✓
RV 750 - 063 - A	RV 750 - 063 - B	63	2.48	158	6.22	95	3.74			1278	2873	1602	3602	83,4	5.09	0,70	1.54	✓
RV 750 - 075 - A	RV 750 - 075 - B	75	2.95	182	7.17	107	4.21	+ 20 °C	+68 °F	1285	2888	1614	3628	98,5	6.01	0,78	1.72	✓
RV 750 - 080 - A	RV 750 - 080 - B	80	3.15	192	7.56	112	4.41			1287	2893	1618	3637	104,8	6.40	0,81	1.79	✓
RV 750 - 100 - A	RV 750 - 100 - B	100	3.94	232	9.13	132	5.20			1294	2909	1629	3663	130,1	7.94	0,94	2.07	✓
RV 750 - 125 - A	RV 750 - 125 - B	125	4.92	282	11.10	157	6.18			1300	2922	1639	3685	161,6	9.86	1,10	2.43	✓

◆ Disposable



Drop-in

Bottom mount
FB 45 - FBA 45
FBB 45 - FBD 45

FS2 45 - FT 45
FS2A 45 - FTP 45

FC 45 A
FCQC 45

FSA 45
FSD 45 - FSE 45

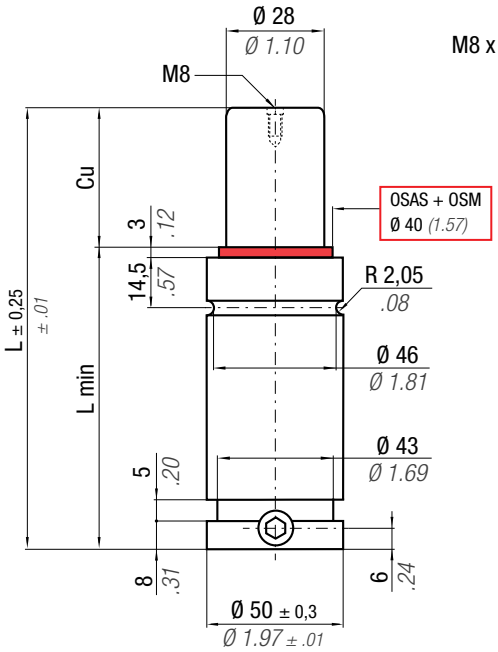
FSA 45 + R 50 A
FSE 45 + R 50 A

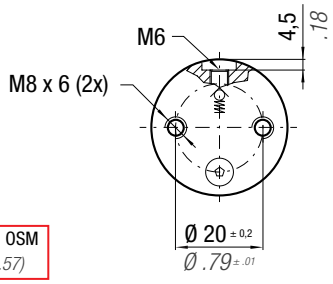
HOW TO ORDER p. 57

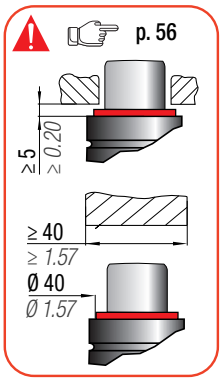
INSTALLATION GUIDELINE p. 205

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	W-DX35-6204 (Ford)
B8 3180 220 000 004(MB)	E24.54.815.G (PSA)	39D 997 (VW)	

RV 1000







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguoguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

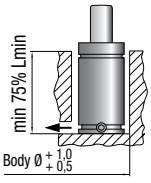
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 6,15 cm^2 0.953 in^2	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm^3	V0 in^3	~Kg	~lb	PED 2014/68/EU
RV 1000 - 010 - A	◆ RV 1000 - 010 - B	10	0.39	58	2.28	48	1.89	920 ± 5%	2068	1321	2969	1554	3494	23,7	1.45	0,49	1.08	✓
RV 1000 - 013 - A	◆ RV 1000 - 013 - B	13	0.51	64	2.52	51	2.01			1370	3079	1631	3667	28,4	1.73	0,51	1.12	✓
RV 1000 - 016 - A	RV 1000 - 016 - B	16	0.63	70	2.76	54	2.13			1407	3163	1690	3800	33,1	2.02	0,54	1.19	✓
RV 1000 - 019 - A	RV 1000 - 019 - B	19	0.75	76	2.99	57	2.24			1436	3229	1737	3906	37,7	2.30	0,56	1.23	✓
RV 1000 - 025 - A	RV 1000 - 025 - B	25	0.98	88	3.46	63	2.48			1479	3326	1807	4062	47,1	2.87	0,61	1.34	✓
RV 1000 - 032 - A	RV 1000 - 032 - B	32	1.26	102	4.02	70	2.76			1514	3403	1863	4187	58,0	3.54	0,67	1.48	✓
RV 1000 - 038 - A	RV 1000 - 038 - B	38	1.50	114	4.49	76	2.99	150 bar	2175 psi	1535	3451	1897	4266	67,4	4.11	0,72	1.59	✓
RV 1000 - 050 - A	RV 1000 - 050 - B	50	1.97	138	5.43	88	3.46			1564	3517	1946	4375	86,1	5.25	0,81	1.79	✓
RV 1000 - 063 - A	RV 1000 - 063 - B	63	2.48	164	6.46	101	3.98			1585	3564	1981	4453	106,3	6.49	0,92	2.03	✓
RV 1000 - 075 - A	RV 1000 - 075 - B	75	2.95	188	7.40	113	4.45	+ 20 °C	+68 °F	1599	3594	2003	4503	125,0	7.63	1,01	2.23	✓
RV 1000 - 080 - A	RV 1000 - 080 - B	80	3.15	198	7.80	118	4.65			1603	3605	2011	4520	132,8	8.10	1,05	2.31	✓
RV 1000 - 100 - A	RV 1000 - 100 - B	100	3.94	238	9.37	138	5.43			1618	3636	2034	4573	164,0	10.01	1,21	2.67	✓
RV 1000 - 125 - A	RV 1000 - 125 - B	125	4.92	288	11.34	163	6.42			1629	3663	2054	4617	202,9	12.38	1,41	3.11	✓

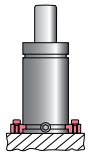
◆ Disposable



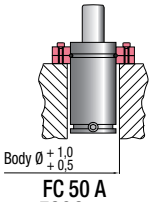
Drop-in



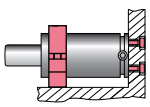
Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



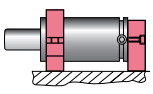
FS2 50 - FT 50
FS2A 50 - FTP 50



FC 50 A
FCQC 50



FSA 50
FSD 50 - FSE 50



FSD 50 + R 50 A
FSE 50 + R 50 A

HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205

RV 1200

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

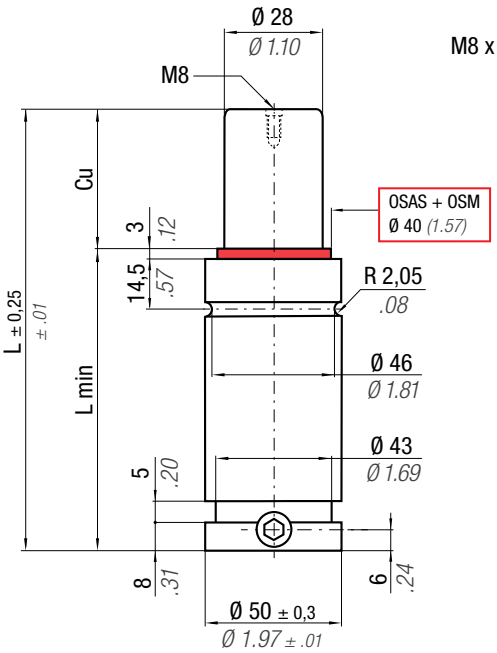
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

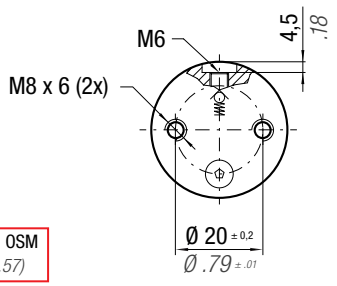
O novo código irá ser fornecido apenas quando o antigo esgotar stock

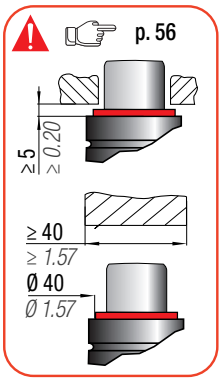
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



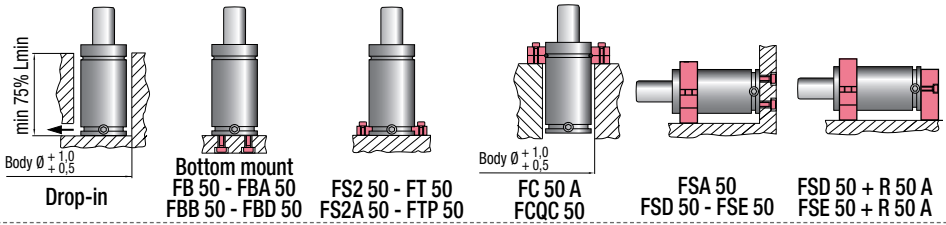




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	170 bar / 2465 psi	20 bar / 290 psi	6,15 cm² / 0.953 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RV 1200 - 010 - A	◆ RV 1200 - 010 - B	10	0.39	58	2.28	48	1.89	1046 ± 5%	2352	1519	3414	1752	3939	23,7	1.45	0,49	1.08	✓
RV 1200 - 013 - A	◆ RV 1200 - 013 - B	13	0.51	64	2.52	51	2.01			1577	3546	1839	4135	28,4	1.73	0,51	1.12	✓
RV 1200 - 016 - A	RV 1200 - 016 - B	16	0.63	70	2.76	54	2.13			1622	3646	1906	4284	33,1	2.02	0,54	1.19	✓
RV 1200 - 019 - A	RV 1200 - 019 - B	19	0.75	76	2.99	57	2.24			1657	3725	1959	4403	37,7	2.30	0,56	1.23	✓
RV 1200 - 025 - A	RV 1200 - 025 - B	25	0.98	88	3.46	63	2.48			1709	3841	2037	4579	47,1	2.87	0,61	1.34	✓
RV 1200 - 032 - A	RV 1200 - 032 - B	32	1.26	102	4.02	70	2.76			1750	3934	2100	4721	58,0	3.54	0,67	1.48	✓
RV 1200 - 038 - A	RV 1200 - 038 - B	38	1.50	114	4.49	76	2.99	170 bar	2465 psi	1776	3992	2139	4809	67,4	4.11	0,72	1.59	✓
RV 1200 - 050 - A	RV 1200 - 050 - B	50	1.97	138	5.43	88	3.46			1811	4072	2194	4932	86,1	5.25	0,81	1.79	✓
RV 1200 - 063 - A	RV 1200 - 063 - B	63	2.48	164	6.46	101	3.98			1836	4128	2233	5020	106,3	6.49	0,92	2.03	✓
RV 1200 - 075 - A	RV 1200 - 075 - B	75	2.95	188	7.40	113	4.45	+ 20 °C	+68 °F	1853	4165	2258	5077	125,0	7.63	1,01	2.23	✓
RV 1200 - 080 - A	RV 1200 - 080 - B	80	3.15	198	7.80	118	4.65			1858	4177	2267	5096	132,8	8.10	1,05	2.31	✓
RV 1200 - 100 - A	RV 1200 - 100 - B	100	3.94	238	9.37	138	5.43			1875	4215	2293	5156	164,0	10.01	1,21	2.67	✓
RV 1200 - 125 - A	RV 1200 - 125 - B	125	4.92	288	11.34	163	6.42			1889	4247	2315	5205	202,9	12.38	1,41	3.11	✓

◆ Disposable



Drop-in

Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50

FS2 50 - FT 50
FS2A 50 - FTP 50

Body Ø + 1,0 + 0,5
FC 50 A
FCQC 50

FSA 50
FSD 50 - FSE 50

FSD 50 + R 50 A
FSE 50 + R 50 A

HOW TO ORDER

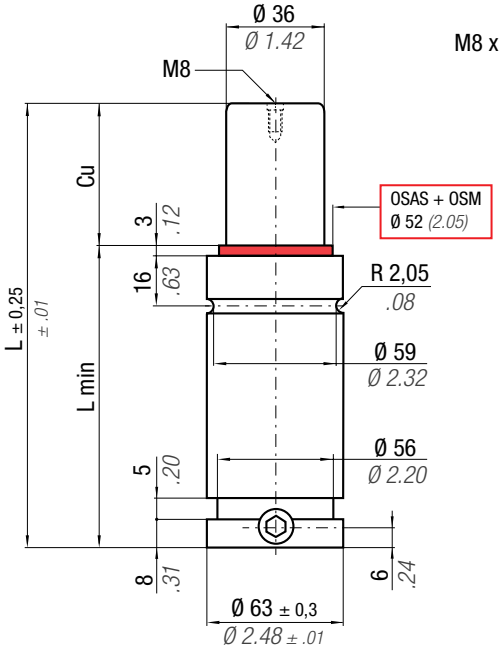
p. 57

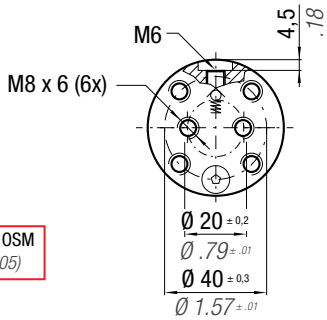
INSTALLATION GUIDELINE

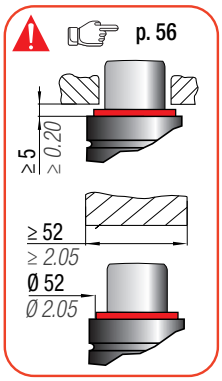
p. 205

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	W-DX35-6204 (Ford)
B8 3180 220 000 004(MB)	39D 997 (VW)		

RV 1500







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguoguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

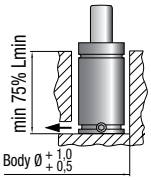
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 10,18 cm² / 1.578 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMRV01500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RV 1500 - 010 - B	◆ RV 1500 - 010 - C	10	0.39	64	2.52	54	2.13	1530 ± 5%	3440	2089	4697	2424	5448	44	2.69	0,88	1.94	✓
RV 1500 - 013 - B	◆ RV 1500 - 013 - C	13	0.51	70	2.76	57	2.24			2168	4874	2546	5723	52	3.17	0,91	2.01	✓
RV 1500 - 016 - B	RV 1500 - 016 - C	16	0.63	76	2.99	60	2.36			2230	5012	2642	5939	60	3.66	0,96	2.12	✓
RV 1500 - 019 - B	RV 1500 - 019 - C	19	0.75	82	3.23	63	2.48			2279	5123	2720	6114	68	4.15	0,99	2.18	✓
RV 1500 - 025 - B	RV 1500 - 025 - C	25	0.98	94	3.70	69	2.72			2353	5290	2838	6380	84	5.13	1,06	2.34	✓
RV 1500 - 032 - B	RV 1500 - 032 - C	32	1.26	108	4.25	76	2.99			2414	5426	2935	6599	102	6.22	1,14	2.51	✓
RV 1500 - 038 - B	RV 1500 - 038 - C	38	1.50	120	4.72	82	3.23	150 bar	2175 psi	2452	5512	2997	6738	118	7.20	1,21	2.67	✓
RV 1500 - 050 - B	RV 1500 - 050 - C	50	1.97	144	5.67	94	3.70			2506	5633	3085	6935	149	9.09	1,36	3.00	✓
RV 1500 - 063 - B	RV 1500 - 063 - C	63	2.48	170	6.69	107	4.21			2544	5720	3148	7078	184	11.23	1,52	3.35	✓
RV 1500 - 075 - B	RV 1500 - 075 - C	75	2.95	194	7.64	119	4.69	+ 20 °C	+68 °F	2570	5777	3190	7172	215	13.12	1,66	3.66	✓
RV 1500 - 080 - B	RV 1500 - 080 - C	80	3.15	204	8.03	124	4.88			2578	5797	3204	7204	229	13.97	1,72	3.79	✓
RV 1500 - 100 - B	RV 1500 - 100 - C	100	3.94	244	9.61	144	5.67			2605	5857	3249	7303	281	17.15	1,95	4.30	✓
RV 1500 - 125 - B	RV 1500 - 125 - C	125	4.92	294	11.57	169	6.65			2628	5907	3286	7387	347	21.18	2,24	4.94	✓

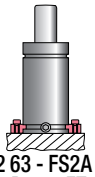
◆ Disposable



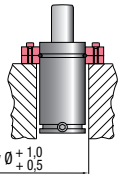
Drop-in



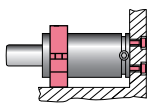
Bottom mount - FB 50 - FB 63
FB 75 - FBA 50 - FBA 75 - FBB 50
FBB 63 - FBB 75 - FBD 50 - FBD 75



FS2 63 - FS2A 63
FS2B 63 - FT 63
FTP 63



FC 63 A- FCQ 63 A
FCQC 63



FSC 63
FSD 63

HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205

RV 2400

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	W-DX35-6204 (Ford)
B8 3180 220 000 004(MB)	E24.54.815.G (PSA)	39D 997 (VW)	

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

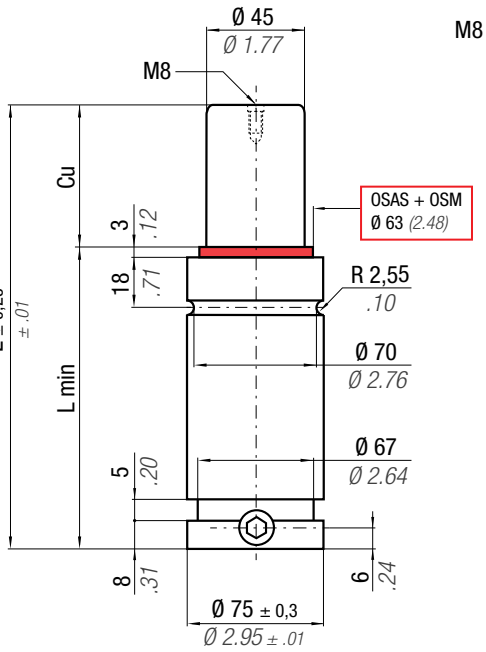
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

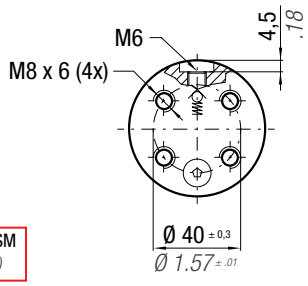
O novo código irá ser fornecido apenas quando o antigo esgotar stock

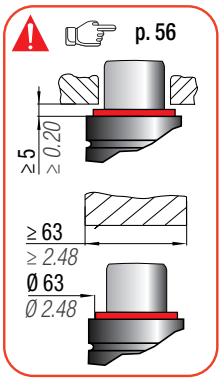
easy MANIFOLD p. 247

$F1_i$ = Isothermal end force at 100% Cu p. 16

$F1_p$ = Polytrophic end force at 100% Cu



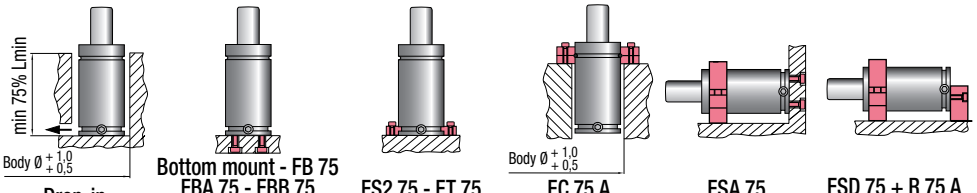




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	15,90 cm² / 2.465 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV02400D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RV 2400 - 010 - A	◆ RV 2400 - 010 - B	10	0.39	65	2.56	55	2.17	2385 ± 5%	5362	3279	7372	3810	8564	68	4.15	1,25	2.76	✓
RV 2400 - 013 - A	◆ RV 2400 - 013 - B	13	0.51	71	2.80	58	2.28			3409	7663	4010	9015	80	4.88	1,30	2.87	✓
RV 2400 - 016 - A	◆ RV 2400 - 016 - B	16	0.63	77	3.03	61	2.40			3510	7891	4170	9374	92	5.61	1,35	2.98	✓
RV 2400 - 019 - A	◆ RV 2400 - 019 - B	19	0.75	83	3.27	64	2.52			3592	8075	4299	9665	104	6.35	1,40	3.09	✓
RV 2400 - 025 - A	RV 2400 - 025 - B	25	0.98	95	3.74	70	2.76			3716	8354	4498	10111	128	7.81	1,50	3.31	✓
RV 2400 - 032 - A	RV 2400 - 032 - B	32	1.26	109	4.29	77	3.03			3818	8583	4662	10481	156	9.52	1,61	3.55	✓
RV 2400 - 038 - A	RV 2400 - 038 - B	38	1.50	121	4.76	83	3.27			3883	8728	4767	10717	180	10.98	1,70	3.75	✓
RV 2400 - 050 - A	RV 2400 - 050 - B	50	1.97	145	5.71	95	3.74	150 bar 2175 psi		3974	8935	4917	11054	228	13.91	1,89	4.17	✓
RV 2400 - 063 - A	RV 2400 - 063 - B	63	2.48	171	6.73	108	4.25			4041	9083	5026	11299	280	17.09	2,10	4.63	✓
RV 2400 - 075 - A	RV 2400 - 075 - B	75	2.95	195	7.68	120	4.72	+ 20 °C	+68 °F	4084	9181	5098	11461	328	20.02	2,29	5.05	✓
RV 2400 - 080 - A	RV 2400 - 080 - B	80	3.15	205	8.07	125	4.92			4099	9215	5123	11517	348	21.24	2,37	5.22	✓
RV 2400 - 100 - A	RV 2400 - 100 - B	100	3.94	245	9.65	145	5.71			4145	9318	5199	11688	428	26.12	2,68	5.91	✓
RV 2400 - 125 - A	RV 2400 - 125 - B	125	4.92	295	11.61	170	6.69			4183	9405	5264	11833	528	32.22	3,07	6.77	✓

◆ Disposable

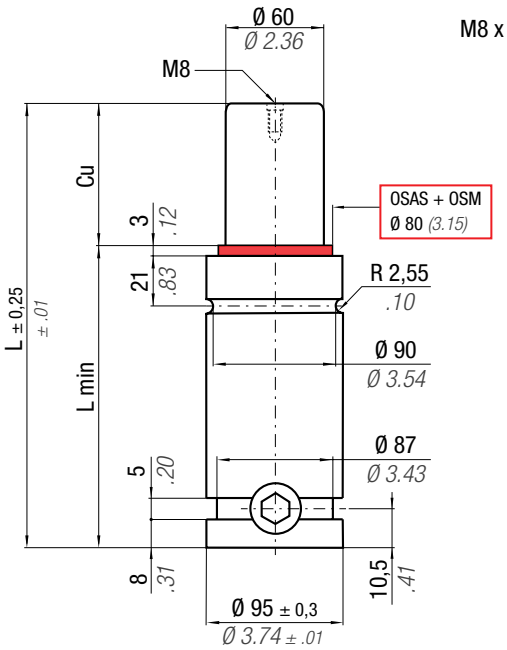


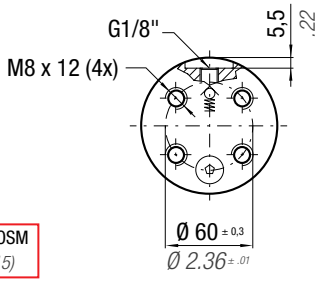
HOW TO ORDER p. 57

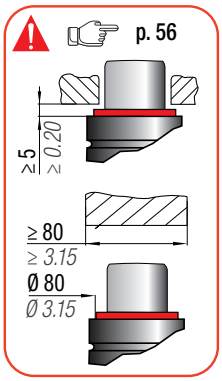
INSTALLATION GUIDELINE p. 205

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	075.90.60 (FCA)
W-DX35-6204 (Ford)	PG 24D (Mazda)	B8 3180 220 000 004(MB)	E24.54.815.G (PSA)
39D 997 (VW)			

RV 4200







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguoguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

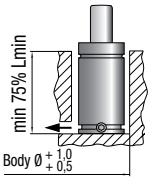
USAS

OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 28,27 cm² / 4.382 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMRV04200C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RV 4200 - 016 - A	◆ RV 4200 - 016 - B	16	0.63	90	3.54	74	2.91	4240 ± 5%	9532	6103	13720	7197	16179	172	10.50	2,76	6.08	✓
RV 4200 - 019 - A	◆ RV 4200 - 019 - B	19	0.75	96	3.78	77	3.03			6269	14093	7458	16767	192	11.72	2,84	6.26	✓
RV 4200 - 025 - A	RV 4200 - 025 - B	25	0.98	108	4.25	83	3.27			6531	14682	7874	17702	232	14.16	2,99	6.59	✓
RV 4200 - 032 - A	RV 4200 - 032 - B	32	1.26	122	4.80	90	3.54			6755	15186	8236	18515	279	17.03	3,16	6.97	✓
RV 4200 - 038 - A	RV 4200 - 038 - B	38	1.50	134	5.28	96	3.78			6902	15517	8475	19052	320	19.53	3,31	7.30	✓
RV 4200 - 050 - A	RV 4200 - 050 - B	50	1.97	158	6.22	108	4.25	150 bar	2175 psi	7117	16001	8827	19844	401	24.47	3,61	7.96	✓
RV 4200 - 063 - A	RV 4200 - 063 - B	63	2.48	184	7.24	121	4.76			7278	16361	9092	20440	488	29.78	3,94	8.69	✓
RV 4200 - 075 - A	RV 4200 - 075 - B	75	2.95	208	8.19	133	5.24			7386	16604	9272	20843	569	34.72	4,24	9.35	✓
RV 4200 - 080 - A	RV 4200 - 080 - B	80	3.15	218	8.58	138	5.43	+ 20 °C	+68 °F	7423	16687	9333	20982	603	36.80	4,36	9.61	✓
RV 4200 - 100 - A	RV 4200 - 100 - B	100	3.94	258	10.16	158	6.22			7539	16949	9529	21421	738	45.04	4,86	10.71	✓
RV 4200 - 125 - A	RV 4200 - 125 - B	125	4.92	308	12.13	183	7.20			7639	17173	9696	21798	906	55.29	5,48	12.08	✓

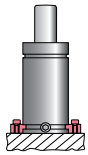
◆ Disposable



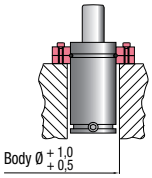
Drop-in



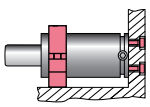
Bottom mount
FB 95 - FBA 95
FBB 95



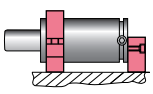
FS2 95 - FT 95
FS2A 95 - FTP 95



FC 95 A
FCQC 95



FSA 95
FSD 95 - FSE 95



FSD 95 + R 95 A
FSE 95 + R 95 A

HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205

RV 6600

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	075.90.60 (FCA)
W-DX35-6204 (Ford)	B8 3180 220 000 004(MB)	39D 997 (VW)	

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

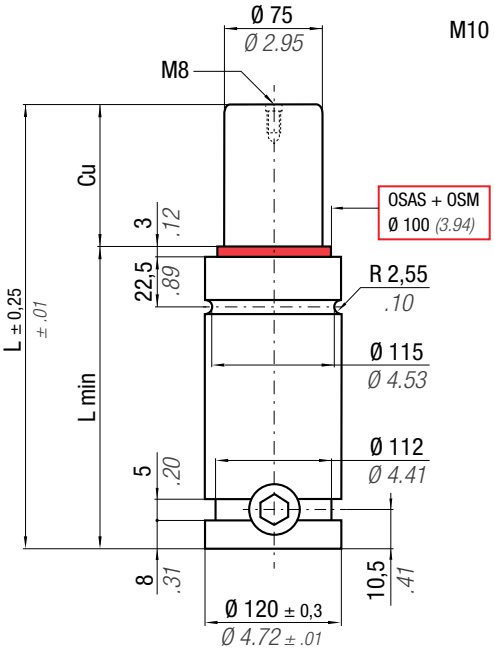
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

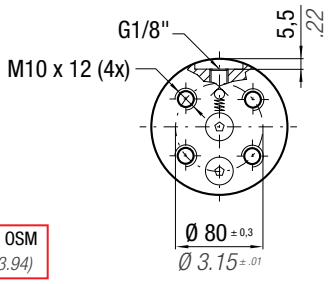
O novo código irá ser fornecido apenas quando o antigo esgotar stock

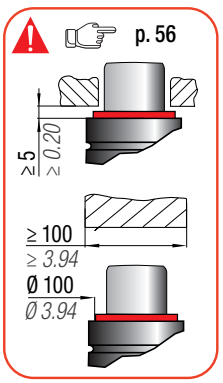
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



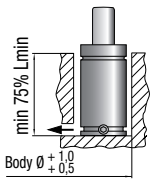




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	44,18 cm² / 6.848 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV06600C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RV 6600 - 016 - A	◆ RV 6600 - 016 - B	16	0.63	100	3.94	84	3.31	6630 ± 5%	14904	9141	20550	10631	23900	298	18.19	5,12	11.29	✓
RV 6600 - 019 - A	◆ RV 6600 - 019 - B	19	0.75	106	4.17	87	3.43			9393	21115	11022	24777	330	20.14	5,23	11.53	✓
RV 6600 - 025 - A	RV 6600 - 025 - B	25	0.98	118	4.65	93	3.66			9799	22028	11658	26209	394	24.04	5,47	12.06	✓
RV 6600 - 032 - A	RV 6600 - 032 - B	32	1.26	132	5.20	100	3.94			10157	22834	12228	27490	469	28.62	5,75	12.68	✓
RV 6600 - 038 - A	RV 6600 - 038 - B	38	1.50	144	5.67	106	4.17			10397	23374	12614	28357	533	32.53	5,99	13.21	✓
RV 6600 - 050 - A	RV 6600 - 050 - B	50	1.97	168	6.61	118	4.65			10757	24183	13196	29666	661	40.34	6,47	14.26	✓
RV 6600 - 063 - A	RV 6600 - 063 - B	63	2.48	194	7.64	131	5.16	150 bar	2175 psi	11031	24799	13645	30675	799	48.76	6,99	15.41	✓
RV 6600 - 075 - A	RV 6600 - 075 - B	75	2.95	218	8.58	143	5.63			11219	25221	13954	31369	927	56.57	7,47	16.47	✓
RV 6600 - 080 - A	RV 6600 - 080 - B	80	3.15	228	8.98	148	5.83	+ 20 °C	+68 °F	11284	25367	14061	31611	980	59.80	7,67	16.91	✓
RV 6600 - 100 - A	RV 6600 - 100 - B	100	3.94	268	10.55	168	6.61			11490	25832	14404	32381	1193	72.80	8,46	18.65	✓
RV 6600 - 125 - A	RV 6600 - 125 - B	125	4.92	318	12.52	193	7.60			11669	26234	14703	33053	1459	89.03	9,46	20.86	✓

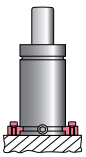
◆ Disposable



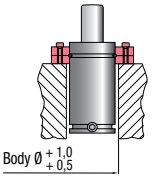
Drop-in



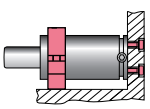
Bottom mount
FB 120 - FBA 120
FBB 120



FS2 120-FT 120
FS2A 120-FTP 120



FC 120 A
FCQC 120



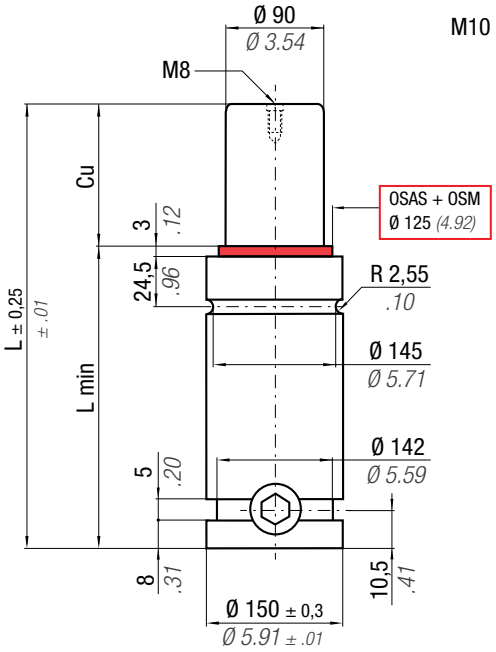
FSA 120
FSD 120

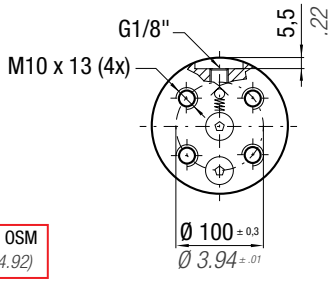
HOW TO ORDER p. 57

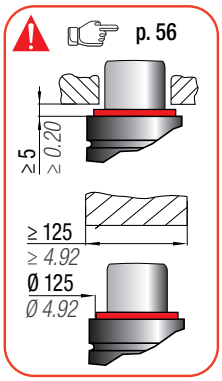
INSTALLATION GUIDELINE p. 205

ISO 11901 - 3	VDI 3003 - Blatt 3	B2 4005 (BMW)	075.90.60 (FCA)
W-DX35-6204 (Ford)	PG 24D (Mazda)	B8 3180 220 000 004(MB)	39D 997 (VW)

RV 9500







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguoguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

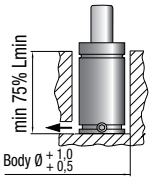
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 63,62 cm² / 9.864 in²	SPM ~ 20 - 80 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMRV09500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RV 9500 - 019 - A	◆ RV 9500 - 019 - B	19	0.75	116	4.57	97	3.82			13135	29528	15265	34318	513	31.31	9,56	21.08	✓
RV 9500 - 025 - A	RV 9500 - 025 - B	25	0.98	128	5.04	103	4.06			13676	30744	16105	36206	609	37.16	9,93	21.89	✓
RV 9500 - 032 - A	RV 9500 - 032 - B	32	1.26	142	5.59	110	4.33	9540	21446	14156	31825	16862	37906	722	44.06	10,37	22.86	✓
RV 9500 - 038 - A	RV 9500 - 038 - B	38	1.50	154	6.06	116	4.57	± 5%		14480	32553	17376	39062	818	49.92	10,74	23.68	✓
RV 9500 - 050 - A	RV 9500 - 050 - B	50	1.97	178	7.01	128	5.04			14967	33648	18156	40815	1010	61.63	11,49	25.33	✓
RV 9500 - 063 - A	RV 9500 - 063 - B	63	2.48	204	8.03	141	5.55	150 bar		15341	34487	18759	42173	1218	74.33	12,30	27.12	✓
RV 9500 - 075 - A	RV 9500 - 075 - B	75	2.95	228	8.98	153	6.02	2175 psi		15597	35063	19177	43111	1411	86.10	13,05	28.77	✓
RV 9500 - 080 - A	RV 9500 - 080 - B	80	3.15	238	9.37	158	6.22	+ 20 °C	+68 °F	15686	35264	19322	43439	1491	90.99	13,37	29.48	✓
RV 9500 - 100 - A	RV 9500 - 100 - B	100	3.94	278	10.94	178	7.01			15970	35901	19788	44485	1811	110.51	14,61	32.21	✓
RV 9500 - 125 - A	RV 9500 - 125 - B	125	4.92	328	12.91	203	7.99			16216	36455	20194	45398	2212	134.98	16,18	35.67	✓

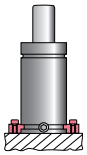
◆ Disposable



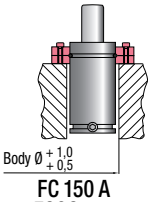
Drop-in



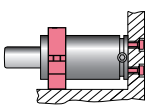
Bottom mount
FB 150 - FBA 150
FBB 150 - FBD 150



FS2 150-FT 150
FS2A 150-FTP 150



FC 150 A
FCQC 150



FSA 150
FSD 150

HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205

RV 12000

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

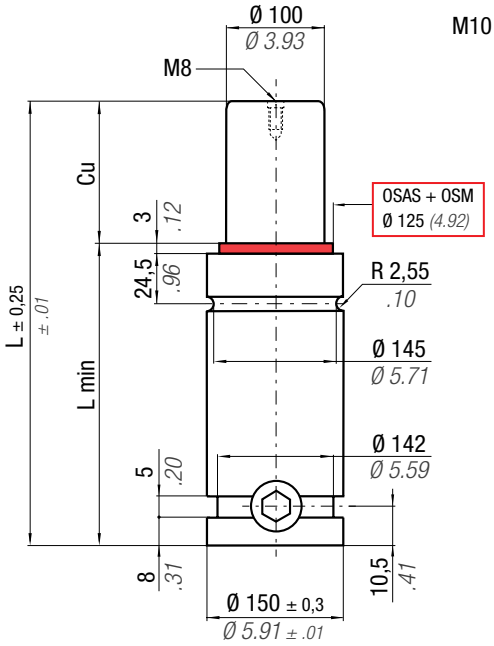
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

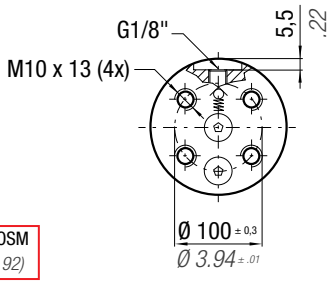
O novo código irá ser fornecido apenas quando o antigo esgotar stock

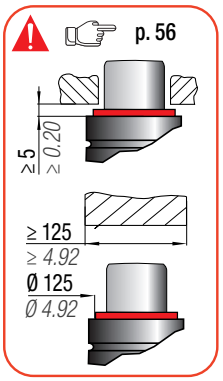
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



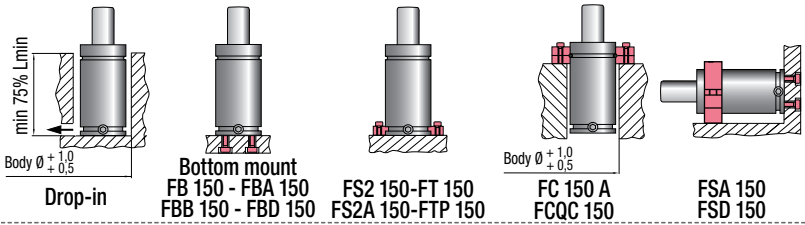




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	78,54 cm² / 12.173 in²	~ 20 - 80 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV12000A

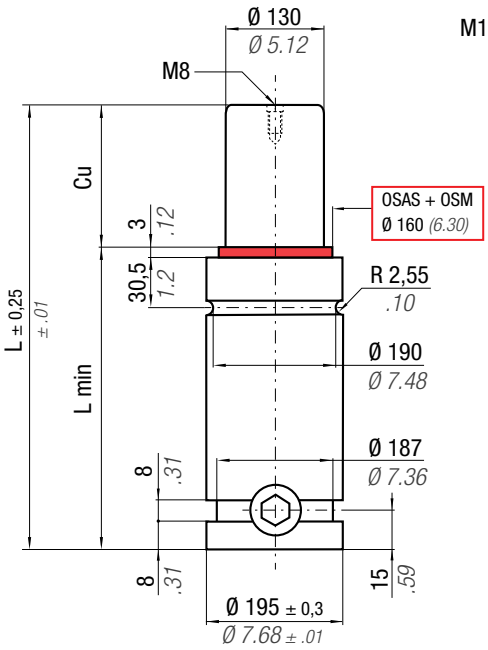
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RV 12000 - 019 - A	◆RV 12000 - 019 - B	19	0.75	116	4.57	97	3.82			16936	38075	19966	44886	568	34.66	9,34	20.59	✓
RV 12000 - 025 - A	RV 12000 - 025 - B	25	0.98	128	5.04	103	4.06			17789	39991	21311	47910	671	40.95	9,73	21.45	✓
RV 12000 - 032 - A	RV 12000 - 032 - B	32	1.26	142	5.59	110	4.33	11780	26470	18565	41737	22555	50706	791	48.27	10,18	22.44	✓
RV 12000 - 038 - A	RV 12000 - 038 - B	38	1.50	154	6.06	116	4.57	± 5%		19098	42935	23419	52648	894	54.56	10,57	23.30	✓
RV 12000 - 050 - A	RV 12000 - 050 - B	50	1.97	178	7.01	128	5.04			19916	44772	24759	55659	1101	67.19	11,35	25.02	✓
RV 12000 - 063 - A	RV 12000 - 063 - B	63	2.48	204	8.03	141	5.55	150 bar		20555	46210	25820	58045	1324	80.80	12,20	26.90	✓
RV 12000 - 075 - A	RV 12000 - 075 - B	75	2.95	228	8.98	153	6.02	2175 psi		21001	47212	26566	59723	1531	93.43	12,97	28.59	✓
RV 12000 - 080 - A	RV 12000 - 080 - B	80	3.15	238	9.37	158	6.22	+ 20 °C	+68 °F	21157	47563	26829	60314	1617	98.68	13,30	29.32	✓
RV 12000 - 100 - A	RV 12000 - 100 - B	100	3.94	278	10.94	178	7.01			21659	48692	27677	62221	1961	119.67	14,60	32.19	✓
RV 12000 - 125 - A	RV 12000 - 125 - B	125	4.92	328	12.91	203	7.99			22101	49685	28430	63912	2391	145.91	16,22	35.76	✓

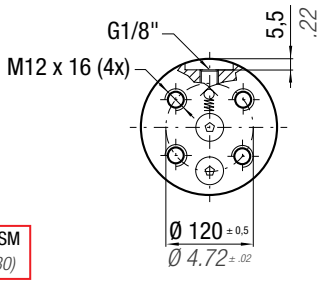
◆ Disposable

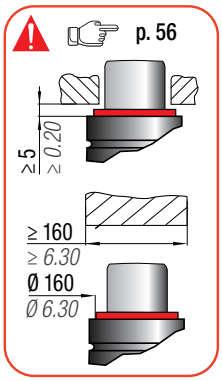


HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguoguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

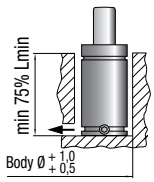
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	132,73 cm² / 20.573 in²	~ 20 - 80 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV20000A

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RV 20000 - 019 - A	◆RV 20000 - 019 - B	19	0.75	148	5.83	129	5.08			27636	62128	32207	72404	1047	63.89	21,58	47.58	✓
RV 20000 - 025 - A	◆RV 20000 - 025 - B	25	0.98	160	6.30	135	5.32			29099	65417	34490	77537	1215	74.14	22,29	49.14	✓
RV 20000 - 032 - A	RV 20000 - 032 - B	32	1.26	174	6.85	142	5.59	19910	44738	30485	68532	36688	82478	1411	86.10	23,12	50.97	✓
RV 20000 - 038 - A	RV 20000 - 038 - B	38	1.50	186	7.32	148	5.83	± 5%		31467	70740	38266	86025	1580	96.42	23,84	52.56	✓
RV 20000 - 050 - A	RV 20000 - 050 - B	50	1.97	210	8.27	160	6.30			33024	74242	40801	91724	1916	116.92	25,26	55.69	✓
RV 20000 - 063 - A	RV 20000 - 063 - B	63	2.48	236	9.29	173	6.81	150 bar	2175 psi	34290	77086	42889	96418	2280	139.13	26,80	59.08	✓
RV 20000 - 075 - A	RV 20000 - 075 - B	75	2.95	260	10.24	185	7.28			35196	79124	44401	99818	2617	159.70	28,22	62.21	✓
RV 20000 - 080 - A	RV 20000 - 080 - B	80	3.15	270	10.63	190	7.48	+ 20 °C	+68 °F	35519	79850	44943	101035	2757	168.24	28,81	63.52	✓
RV 20000 - 100 - A	RV 20000 - 100 - B	100	3.94	310	12.21	210	8.27			36574	82222	46724	105039	3317	202.42	31,19	68.76	✓
RV 20000 - 125 - A	RV 20000 - 125 - B	125	4.92	360	14.17	235	9.25			37526	84361	48345	108683	4018	245.19	34,16	75.31	✓

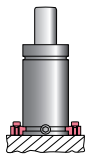
◆ Disposable



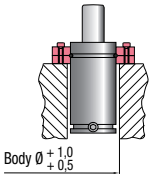
Drop-in



Bottom mount
FB 195 - FBA 195
FBB 195



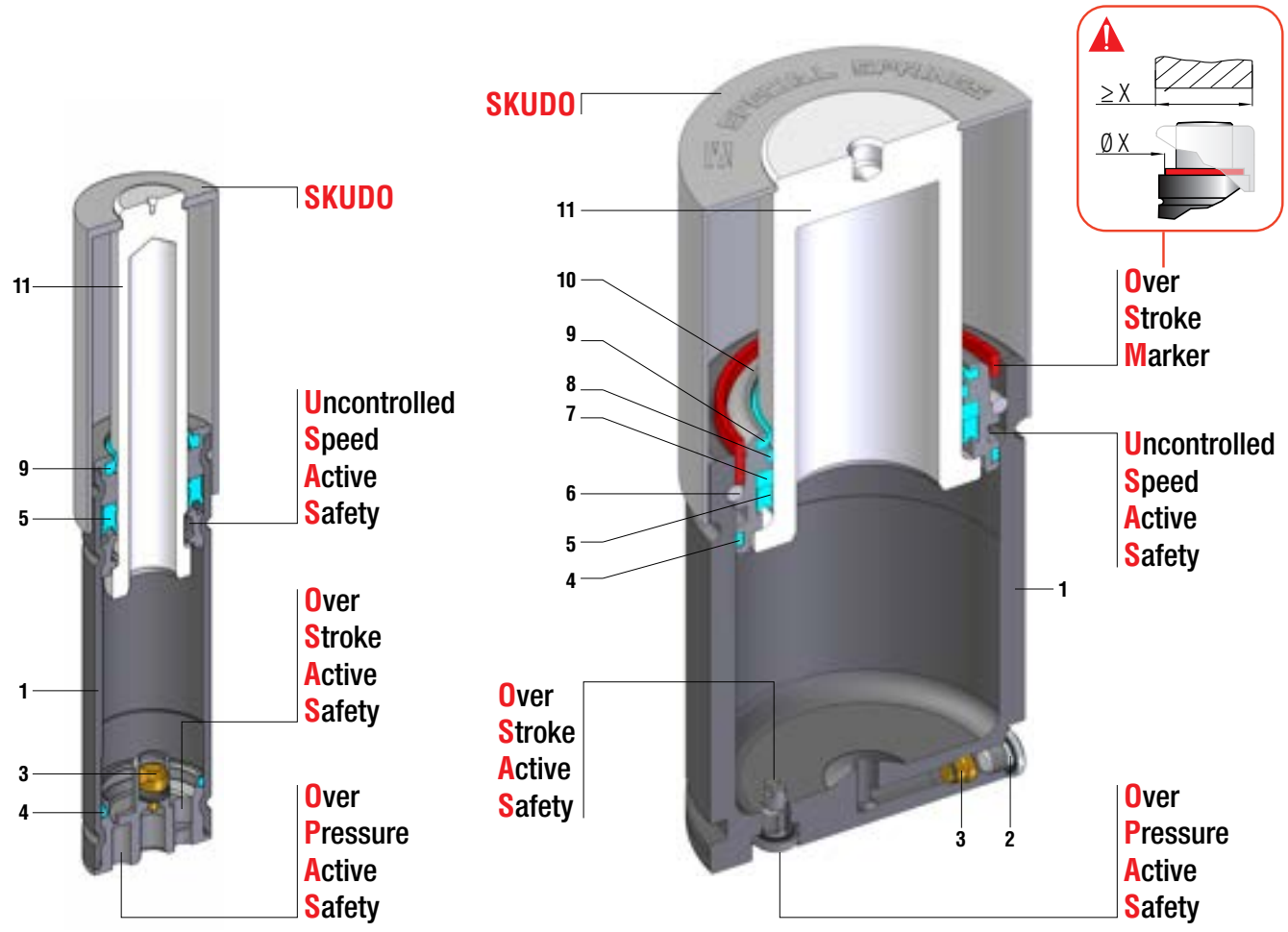
FS2 195-FT 195
FS2A 195



FC 195 A
FCQC 195

HOW TO ORDER p. 57

INSTALLATION GUIDELINE p. 205



RS 170 - RS 320

RS 350 ÷ RS 9500

Minima altezza, massima forza + SKUDO - Minimum height, maximum force + SKUDO - Minimale Höhe, maximale Kraft + SKUDO
Hauteur minimale, force maximale + SKUDO - Mínima altura, máxima fuerza + SKUDO - Altura mínima, força máxima + SKUDO

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal	**9**	Rod wiper
2	Plug	**6**	Retaining ring	**10**	Bush
3	Valve	**7**	Back-up ring	**11**	Rod (nitrited superfinished)
4	Dual ring seal	**8**	Guide ring		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO
	mm	inch	mm	inch	daN	lb				
RS 170	19	0.75	7 - 122	0.28 - 4.80	170	382	✓	✓	✓	✓
RS 320	25	0.98	7 - 122	0.28 - 4.80	320	719	✓	✓	✓	✓
RS 350	32	1.26	7 - 122	0.28 - 4.80	360	809	✓	✓	✓	✓
RS 500	38	1.50	7 - 122	0.28 - 4.80	470	1057	✓	✓	✓	✓
RS 750	45	1.77	7 - 122	0.28 - 4.80	740	1664	✓	✓	✓	✓
RS 1000	50	1.97	10 - 122	0.39 - 4.80	920	2068	✓	✓	✓	✓
RS 1200	50	1.97	10 - 122	0.39 - 4.80	1060	2383	✓	✓	✓	✓
RS 1500	63	2.48	10 - 122	0.39 - 4.80	1530	3440	✓	✓	✓	✓
RS 2400	75	2.95	13 - 122	0.51 - 4.80	2385	5362	✓	✓	✓	✓
RS 4200	95	3.74	13 - 122	0.51 - 4.80	4240	9532	✓	✓	✓	✓
RS 6600	120	4.72	13 - 122	0.51 - 4.80	6630	14905	✓	✓	✓	✓
RS 9500	150	5.91	16 - 122	0.63 - 4.80	9540	21447	✓	✓	✓	✓

HOW TO ORDER

Series — RS — Revision code

Model — 1000-063-B-E

Stroke — Version

Available versions



RS 1000-063-B

Standard code

Self contained



RS 2400-063-B-N

Add "-N" to standard code

Linkable



RS 2400-063-B-E

Add "-E" to standard code

Easy Manifold

Il nuovo codice sarà fornito solo ad esaurimento del vecchio - The new code will be supplied only when the old will be out of stock - Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist - Le nouveau code sera fourni uniquement lorsque le vieux stock sera écoulé - El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo - O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

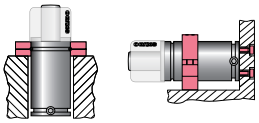
SKUDO

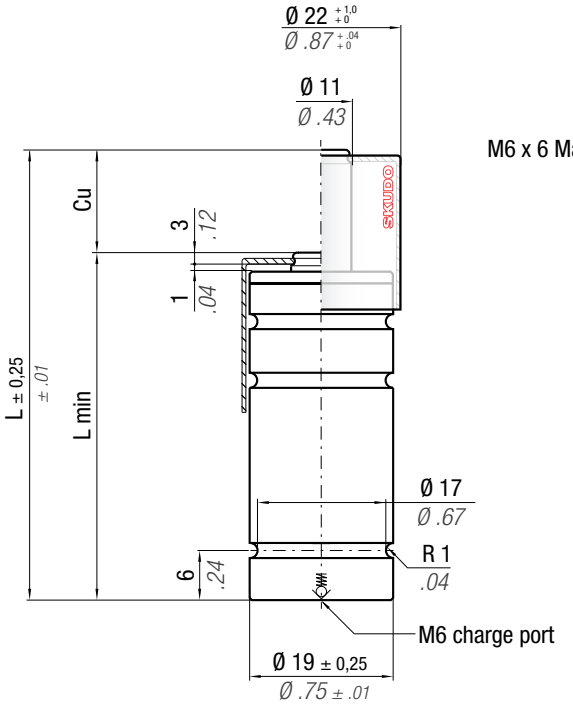
easy MANIFOLD p. 247

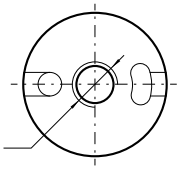
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

NOT FOR





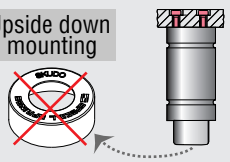


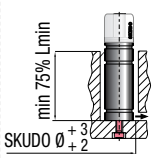
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	0,95 cm² / 0.147 in²	~ 40 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RS 170 - 007 - B	RS 170 - 007 - C	7	0.28	50	1.97	43	1.69			239	537	270	607	2,9	0.17	0,06	0.13	✓
RS 170 - 010 - B	RS 170 - 010 - C	10	0.39	56	2.20	46	1.81			253	568	290	652	3,6	0.22	0,07	0.14	✓
RS 170 - 012 - B	RS 170 - 012 - C	12	0.47	60	2.36	48	1.89			260	584	300	674	4,0	0.25	0,07	0.15	✓
RS 170 - 016 - B	RS 170 - 016 - C	16	0.63	68	2.68	52	2.05			270	607	315	709	5,0	0.30	0,07	0.16	✓
RS 170 - 022 - B	RS 170 - 022 - C	22	0.87	80	3.15	58	2.28	171 ± 5%	384	281	632	331	744	6,4	0.39	0,08	0.17	✓
RS 170 - 029 - B	RS 170 - 029 - C	29	1.14	94	3.70	65	2.56			289	650	343	771	8,1	0.49	0,09	0.19	✓
RS 170 - 035 - B	RS 170 - 035 - C	35	1.38	106	4.17	71	2.80	180 bar		294	662	350	788	9,5	0.58	0,09	0.21	✓
RS 170 - 047 - B	RS 170 - 047 - C	47	1.85	130	5.12	83	3.27	2610psi		301	677	360	810	12,4	0.76	0,11	0.24	✓
RS 170 - 060 - B	RS 170 - 060 - C	60	2.36	156	6.14	96	3.78			306	687	367	826	15,5	0.94	0,12	0.27	✓
RS 170 - 072 - B	RS 170 - 072 - C	72	2.83	185	7.28	113	4.45	+ 20 °C	+68 °F	306	688	368	827	18,5	1.13	0,14	0.31	✓
RS 170 - 077 - B	RS 170 - 077 - C	77	3.03	195	7.68	118	4.65			307	690	370	831	19,7	1.20	0,15	0.32	✓
RS 170 - 097 - B	RS 170 - 097 - C	97	3.82	235	9.25	138	5.43			311	698	375	843	24,5	1.49	0,17	0.37	✓
RS 170 - 122 - B	RS 170 - 122 - C	122	4.80	285	11.22	163	6.42			313	704	379	852	30,4	1.86	0,19	0.43	✓

WARNING REMOVE SKUDO

Upside down mounting

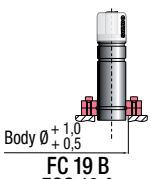




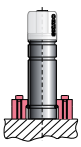
Drop-in



Bottom mount



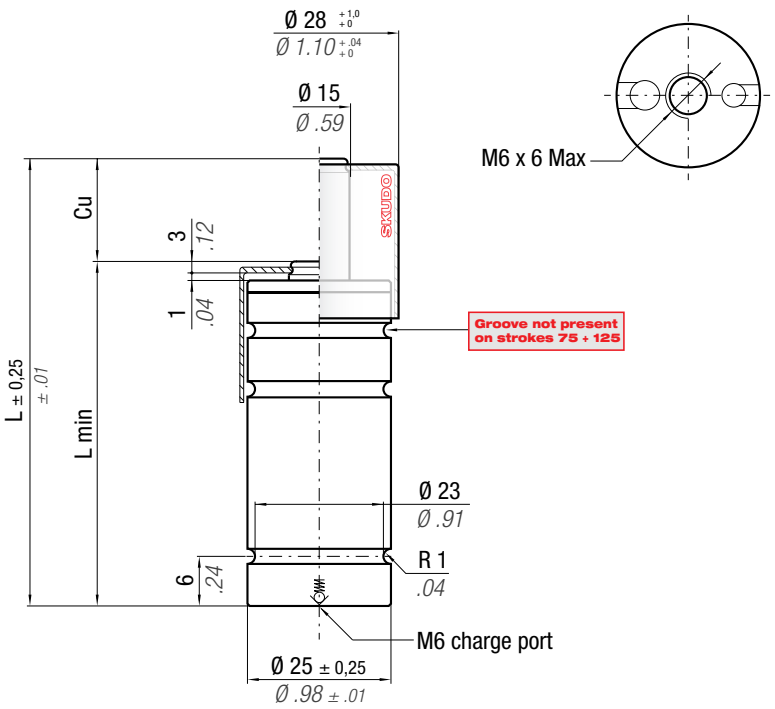
FC 19 B
FCC 19 A



FS3 19

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

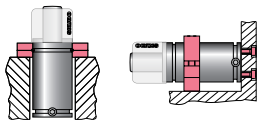
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

NOT FOR



ACTIVE SAFETY

OSAS

USAS

OPAS

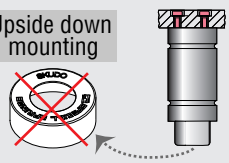
SKUDO

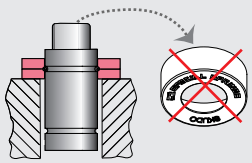
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	1,77 cm² / 0.27 in²	~ 40 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

CODE PHASING OUT from 01/2020	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RS 320 - 007 - B	RS 320 - 007 - C	7	0.28	50	1.97	43	1.69			438	985	494	1110	5,5	0.34	0,10	0.23	✓
RS 320 - 010 - B	RS 320 - 010 - C	10	0.39	56	2.20	46	1.81			463	1041	529	1188	6,9	0.42	0,11	0.24	✓
RS 320 - 012 - B	RS 320 - 012 - C	12	0.47	60	2.36	48	1.89			475	1069	547	1229	7,8	0.47	0,11	0.25	✓
RS 320 - 016 - B	RS 320 - 016 - C	16	0.63	68	2.68	52	2.05			495	1112	574	1291	9,6	0.58	0,12	0.26	✓
RS 320 - 022 - B	RS 320 - 022 - C	22	0.87	80	3.15	58	2.28	320 ± 5%	719	514	1155	603	1355	12,3	0.75	0,13	0.29	✓
RS 320 - 029 - B	RS 320 - 029 - C	29	1.14	94	3.70	65	2.56			529	1189	625	1404	15,5	0.94	0,14	0.31	✓
RS 320 - 035 - B	RS 320 - 035 - C	35	1.38	106	4.17	71	2.80	180 bar	2610psi	538	1209	638	1434	18,2	1.11	0,15	0.33	✓
RS 320 - 047 - B	RS 320 - 047 - C	47	1.85	130	5.12	83	3.27			550	1237	656	1475	23,6	1.44	0,17	0.38	✓
RS 320 - 060 - B	RS 320 - 060 - C	60	2.36	156	6.14	96	3.78			559	1256	669	1503	29,5	1.80	0,19	0.43	✓
RS 320 - 072 - B	RS 320 - 072 - C	72	2.83	185	7.28	113	4.45	+ 20 °C	+68 °F	557	1252	667	1498	35,5	2.17	0,22	0.48	✓
RS 320 - 077 - B	RS 320 - 077 - C	77	3.03	195	7.68	118	4.65			559	1257	670	1506	37,7	2.30	0,23	0.50	✓
RS 320 - 097 - B	RS 320 - 097 - C	97	3.82	235	9.25	138	5.43			566	1272	680	1528	46,8	2.85	0,26	0.57	✓
RS 320 - 122 - B	RS 320 - 122 - C	122	4.80	285	11.22	163	6.42			571	1284	688	1546	58,1	3.54	0,30	0.66	✓

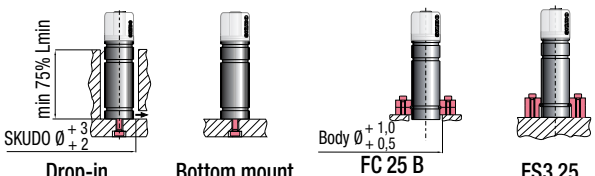
WARNING REMOVE SKUDO

Upside down mounting





FC / FCC fixings



HOW TO ORDER

p. 73

INSTALLATION GUIDELINE

p. 205

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

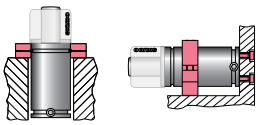
O novo código irá ser fornecido apenas quando o antigo esgotar stock

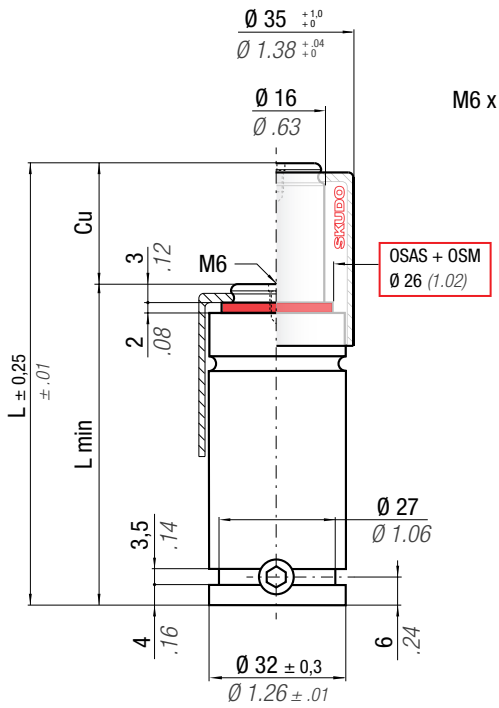
easy MANIFOLD p. 247

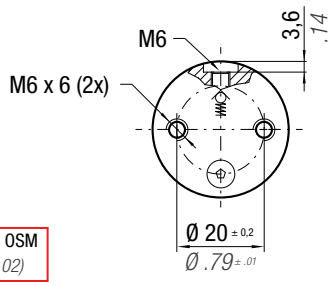
* $F1_i$ = Isothermal end force at 100% Cu p. 16

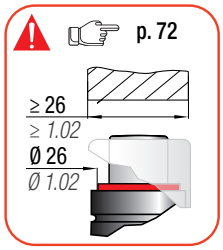
** $F1_p$ = Polytrophic end force at 100% Cu

NOT FOR









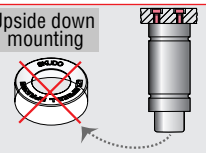
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	2,01 cm² / 0.312 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00350C

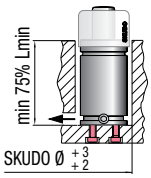
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RS 350 - 007 - A	◆ RS 350 - 007 - B	7	0.28	50	1.97	43	1.69	360 ± 5%	809	484	1088	541	1216	6,9	0.42	0,16	0.36	✓
RS 350 - 010 - A	◆ RS 350 - 010 - B	10	0.39	56	2.20	46	1.81			506	1137	572	1285	8,6	0.52	0,17	0.38	✓
RS 350 - 013 - A	RS 350 - 013 - B	13	0.51	62	2.44	49	1.93			521	1172	594	1334	10,4	0.63	0,18	0.40	✓
RS 350 - 016 - A	RS 350 - 016 - B	16	0.63	68	2.68	52	2.05			533	1198	610	1371	12,2	0.74	0,19	0.42	✓
RS 350 - 022 - A	RS 350 - 022 - B	22	0.87	80	3.15	58	2.28			549	1233	633	1423	15,8	0.96	0,21	0.46	✓
RS 350 - 029 - A	RS 350 - 029 - B	29	1.14	94	3.70	65	2.56			560	1260	650	1461	19,9	1.21	0,23	0.51	✓
RS 350 - 035 - A	RS 350 - 035 - B	35	1.38	106	4.17	71	2.80	180 bar 2610 psi		567	1276	660	1484	23,5	1.43	0,25	0.55	✓
RS 350 - 047 - A	RS 350 - 047 - B	47	1.85	130	5.12	83	3.27			577	1297	674	1515	30,6	1.87	0,29	0.63	✓
RS 350 - 060 - A	RS 350 - 060 - B	60	2.36	156	6.14	96	3.78			583	1311	683	1536	38,3	2.34	0,33	0.72	✓
RS 350 - 072 - A	RS 350 - 072 - B	72	2.83	180	7.09	108	4.25	+ 20 °C +68 °F		587	1320	689	1550	45,4	2.77	0,36	0.80	✓
RS 350 - 077 - A	RS 350 - 077 - B	77	3.03	190	7.48	113	4.45			589	1323	691	1554	48,4	2.95	0,38	0.83	✓
RS 350 - 097 - A	RS 350 - 097 - B	97	3.82	230	9.06	133	5.24			593	1332	697	1567	60,3	3.68	0,44	0.96	✓
RS 350 - 122 - A	RS 350 - 122 - B	122	4.80	280	11.02	158	6.22			602	1354	712	1600	73,9	4.51	0,51	1.13	✓

◆ Disposable

WARNING REMOVE SKUDO

Upside down mounting

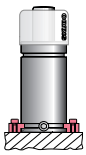




Drop-in



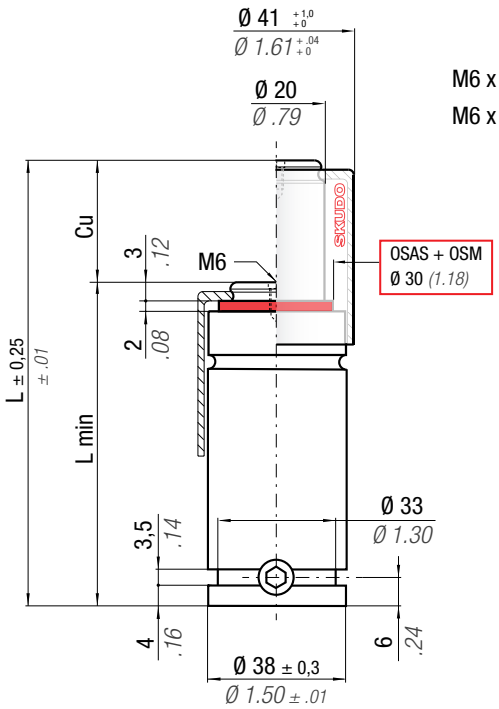
Bottom mount

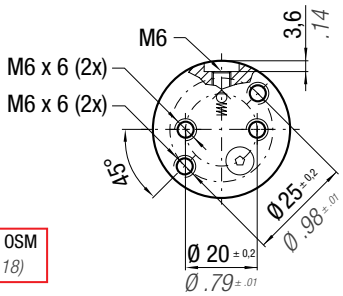


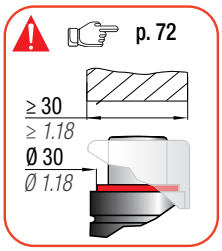
FS2A 32
FS2B 32

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

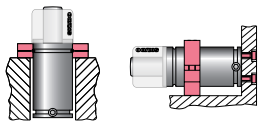
O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

NOT FOR



ACTIVE SAFETY







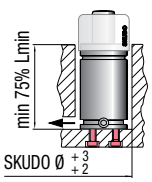


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	3,14 cm² / 0.487 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RS 500 - 007 - A	◆ RS 500 - 007 - B	7	0.28	50	1.97	43	1.69			611	1375	697	1567	11,2	0.68	0,24	0.53	✓
RS 500 - 010 - A	◆ RS 500 - 010 - B	10	0.39	56	2.20	46	1.81			642	1443	743	1671	13,7	0.84	0,25	0.55	✓
RS 500 - 013 - A	RS 500 - 013 - B	13	0.51	62	2.44	49	1.93			664	1493	778	1749	16,3	0.99	0,26	0.57	✓
RS 500 - 016 - A	RS 500 - 016 - B	16	0.63	68	2.68	52	2.05			682	1532	805	1810	18,9	1.15	0,28	0.62	✓
RS 500 - 022 - A	RS 500 - 022 - B	22	0.87	80	3.15	58	2.28	470 ± 5%	1057	707	1588	845	1899	24,0	1.46	0,31	0.68	✓
RS 500 - 029 - A	RS 500 - 029 - B	29	1.14	94	3.70	65	2.56			726	1632	876	1968	29,9	1.82	0,34	0.75	✓
RS 500 - 035 - A	RS 500 - 035 - B	35	1.38	106	4.17	71	2.80	150 bar		738	1659	895	2011	35,0	2.14	0,37	0.82	✓
RS 500 - 047 - A	RS 500 - 047 - B	47	1.85	130	5.12	83	3.27	2175psi		754	1695	921	2070	45,2	2.76	0,42	0.93	✓
RS 500 - 060 - A	RS 500 - 060 - B	60	2.36	156	6.14	96	3.78			765	1721	939	2111	56,3	3.44	0,48	1.06	✓
RS 500 - 072 - A	RS 500 - 072 - B	72	2.83	180	7.09	108	4.25	+ 20 °C	+68 °F	773	1737	951	2138	66,5	4.06	0,54	1.19	✓
RS 500 - 077 - A	RS 500 - 077 - B	77	3.03	190	7.48	113	4.45			775	1742	955	2147	70,8	4.32	0,56	1.23	✓
RS 500 - 097 - A	RS 500 - 097 - B	97	3.82	230	9.06	133	5.24			783	1759	967	2174	87,8	5.36	0,66	1.46	✓
RS 500 - 122 - A	RS 500 - 122 - B	122	4.80	280	11.02	158	6.22			789	1773	977	2197	109,1	6.66	0,77	1.70	✓

◆ Disposable





Drop-in



Bottom mount



FS2A 38 - FT 38
FS2B 38 - FTP 38

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205

RS 750

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

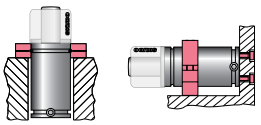
O novo código irá ser fornecido apenas quando o antigo esgotar stock

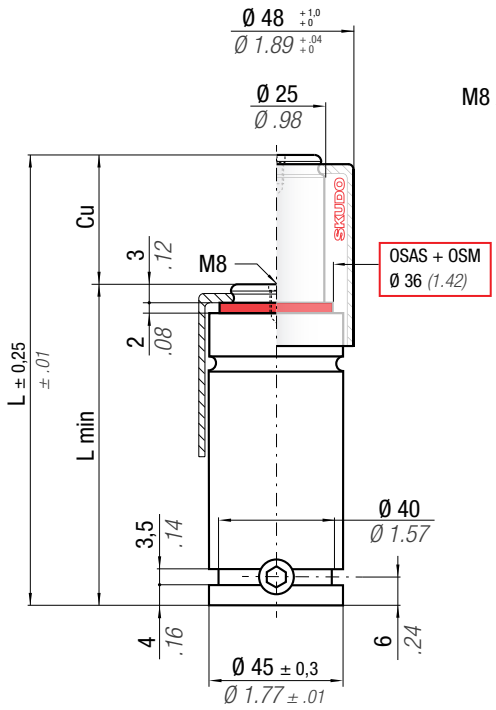
easy MANIFOLD p. 247

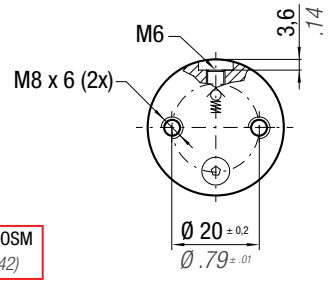
* $F1_i$ = Isothermal end force at 100% Cu p. 16

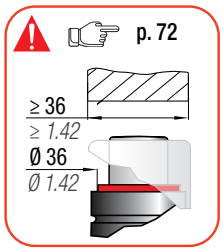
** $F1_p$ = Polytrophic end force at 100% Cu

NOT FOR







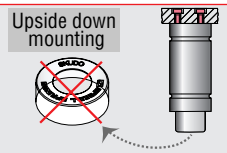


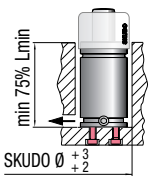
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00750C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RS 750 - 007 - A	◆ RS 750 - 007 - B	7	0.28	52	2.05	45	1.77	740 ± 5%	1664	972	2185	1114	2504	16,5	1.01	0,36	0.79	✓
RS 750 - 010 - A	◆ RS 750 - 010 - B	10	0.39	58	2.28	48	1.89	150 bar 2175psi		1024	2301	1193	2683	20,3	1.24	0,38	0.84	✓
RS 750 - 013 - A	RS 750 - 013 - B	13	0.51	64	2.52	51	2.01	+ 20 °C +68 °F		1062	2388	1253	2818	24,1	1.47	0,39	0.86	✓
RS 750 - 016 - A	RS 750 - 016 - B	16	0.63	70	2.76	54	2.13			1092	2454	1300	2923	27,9	1.70	0,41	0.90	✓
RS 750 - 022 - A	RS 750 - 022 - B	22	0.87	82	3.23	60	2.36			1135	2551	1369	3077	35,4	2.16	0,45	0.99	✓
RS 750 - 029 - A	RS 750 - 029 - B	29	1.14	96	3.78	67	2.64			1168	2627	1423	3198	44,3	2.70	0,50	1.10	✓
RS 750 - 035 - A	RS 750 - 035 - B	35	1.38	108	4.25	73	2.87			1189	2673	1456	3273	51,8	3.16	0,54	1.19	✓
RS 750 - 047 - A	RS 750 - 047 - B	47	1.85	132	5.20	85	3.35			1217	2736	1502	3377	67,0	4.09	0,61	1.34	✓
RS 750 - 060 - A	RS 750 - 060 - B	60	2.36	158	6.22	98	3.86			1237	2781	1535	3450	83,4	5.09	0,70	1.54	✓
RS 750 - 072 - A	RS 750 - 072 - B	72	2.83	182	7.17	110	4.33			1250	2809	1556	3497	98,5	6.01	0,77	1.70	✓
RS 750 - 077 - A	RS 750 - 077 - B	77	3.03	192	7.56	115	4.53			1254	2819	1563	3513	104,8	6.40	0,81	1.79	✓
RS 750 - 097 - A	RS 750 - 097 - B	97	3.82	232	9.13	135	5.31			1267	2848	1584	3561	130,0	7.93	0,93	2.05	✓
RS 750 - 122 - A	RS 750 - 122 - B	122	4.80	282	11.10	160	6.30			1278	2872	1602	3602	161,5	9.86	1,10	2.43	✓

◆ Disposable

WARNING REMOVE SKUDO





Drop-in



Bottom mount
FB 45 - FBA 45
FBB 45 - FBD 45



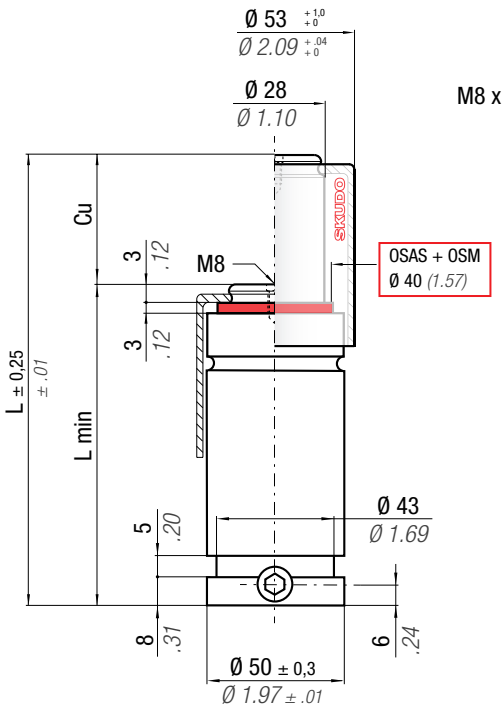
FS2 45 - FT 45
FS2A 45 - FTP 45

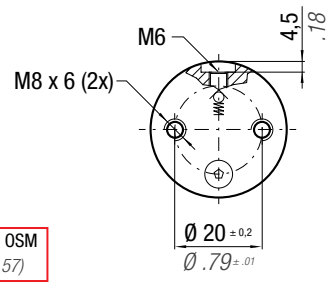
HOW TO ORDER

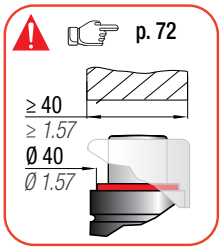
p. 73

INSTALLATION GUIDELINE

p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

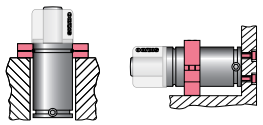
O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

NOT FOR



ACTIVE SAFETY







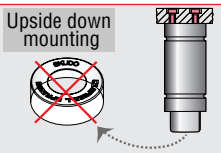


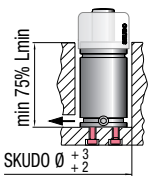
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	6,15 cm² / 0.953 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RS 1000 - 010 - A	◆ RS 1000 - 010 - B	10	0.39	64	2.52	54	2.13	920 ± 5%	2068	1236	2779	1424	3200	28,4	1.73	0,51	1.12	✓
RS 1000 - 013 - A	◆ RS 1000 - 013 - B	13	0.51	70	2.76	57	2.24			1285	2889	1499	3370	33,0	2.01	0,54	1.19	✓
RS 1000 - 016 - A	RS 1000 - 016 - B	16	0.63	76	2.99	60	2.36			1325	2978	1560	3508	37,7	2.30	0,56	1.23	✓
RS 1000 - 022 - A	RS 1000 - 022 - B	22	0.87	88	3.46	66	2.60			1384	3110	1653	3717	47,0	2.87	0,61	1.34	✓
RS 1000 - 029 - A	RS 1000 - 029 - B	29	1.14	102	4.02	73	2.87			1432	3219	1730	3889	58,0	3.54	0,67	1.48	✓
RS 1000 - 035 - A	RS 1000 - 035 - B	35	1.38	114	4.49	79	3.11			1462	3287	1779	3999	67,3	4.11	0,71	1.57	✓
RS 1000 - 047 - A	RS 1000 - 047 - B	47	1.85	138	5.43	91	3.58	150 bar 2175 psi		1505	3383	1848	4156	86,0	5.25	0,81	1.79	✓
RS 1000 - 060 - A	RS 1000 - 060 - B	60	2.36	164	6.46	104	4.09			1536	3452	1899	4269	106,3	6.49	0,91	2.01	✓
RS 1000 - 072 - A	RS 1000 - 072 - B	72	2.83	188	7.40	116	4.57	+ 20 °C	+68 °F	1556	3498	1932	4343	125,0	7.63	1,05	2.31	✓
RS 1000 - 077 - A	RS 1000 - 077 - B	77	3.03	198	7.80	121	4.76			1563	3513	1943	4368	132,8	8.10	1,09	2.40	✓
RS 1000 - 097 - A	RS 1000 - 097 - B	97	3.82	238	9.37	141	5.55			1584	3560	1978	4447	163,9	10.00	1,21	2.67	✓
RS 1000 - 122 - A	RS 1000 - 122 - B	122	4.80	288	11.34	166	6.54			1601	3600	2008	4513	202,9	12.38	1,41	3.11	✓

◆ Disposable

WARNING REMOVE SKUDO





Drop-in



Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



FS2 50 - FT 50
FS2A 50 - FTP 50

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

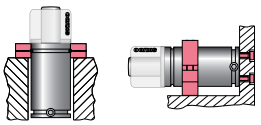
O novo código irá ser fornecido apenas quando o antigo esgotar stock

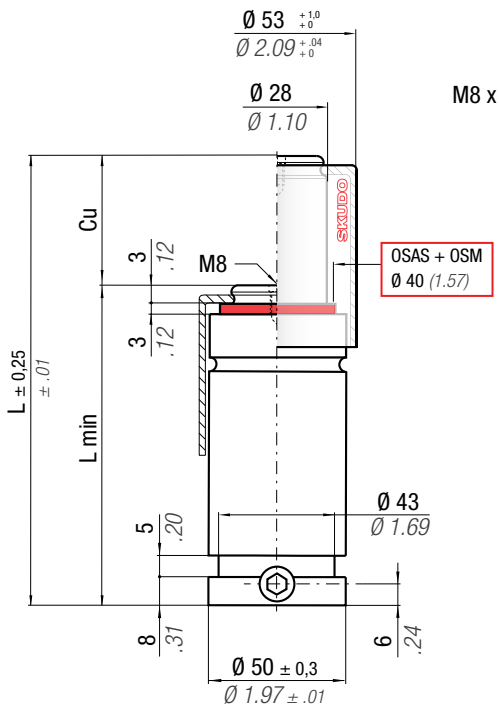
easy MANIFOLD p. 247

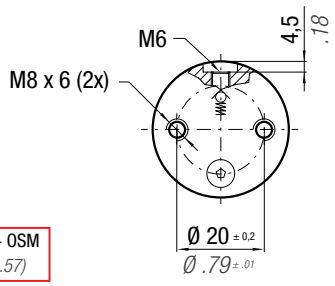
* $F1_i$ = Isothermal end force at 100% Cu p. 16

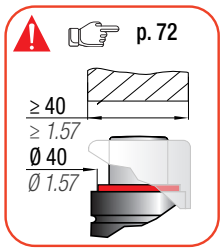
** $F1_p$ = Polytrophic end force at 100% Cu

NOT FOR







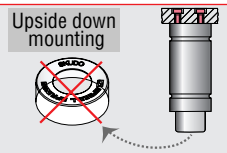


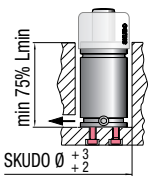
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	170 bar / 2465 psi	20 bar / 290 psi	6,15 cm² / 0.953 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RS 1200 - 010 - A	◆ RS 1200 - 010 - B	10	0.39	64	2.52	54	2.13	1046 ± 5%	2352	1418	3187	1605	3608	28,4	1.73	0,51	1.12	✓
RS 1200 - 013 - A	◆ RS 1200 - 013 - B	13	0.51	70	2.76	57	2.24			1476	3318	1690	3799	33,0	2.01	0,54	1.19	✓
RS 1200 - 016 - A	RS 1200 - 016 - B	16	0.63	76	2.99	60	2.36			1523	3424	1759	3954	37,7	2.30	0,56	1.23	✓
RS 1200 - 022 - A	RS 1200 - 022 - B	22	0.87	88	3.46	66	2.60			1594	3583	1864	4190	47,0	2.87	0,61	1.34	✓
RS 1200 - 029 - A	RS 1200 - 029 - B	29	1.14	102	4.02	73	2.87			1652	3713	1950	4385	58,0	3.54	0,67	1.48	✓
RS 1200 - 035 - A	RS 1200 - 035 - B	35	1.38	114	4.49	79	3.11			1688	3795	2006	4509	67,3	4.11	0,71	1.57	✓
RS 1200 - 047 - A	RS 1200 - 047 - B	47	1.85	138	5.43	91	3.58	170 bar	2465 psi	1740	3911	2084	4685	86,0	5.25	0,81	1.79	✓
RS 1200 - 060 - A	RS 1200 - 060 - B	60	2.36	164	6.46	104	4.09			1776	3994	2141	4812	106,3	6.49	0,91	2.01	✓
RS 1200 - 072 - A	RS 1200 - 072 - B	72	2.83	188	7.40	116	4.57	+ 20 °C	+68 °F	1801	4048	2178	4896	125,0	7.63	1,05	2.31	✓
RS 1200 - 077 - A	RS 1200 - 077 - B	77	3.03	198	7.80	121	4.76			1809	4067	2191	4925	132,8	8.10	1,09	2.40	✓
RS 1200 - 097 - A	RS 1200 - 097 - B	97	3.82	238	9.37	141	5.55			1834	4124	2230	5014	163,9	10.00	1,21	2.67	✓
RS 1200 - 122 - A	RS 1200 - 122 - B	122	4.80	288	11.34	166	6.54			1856	4172	2263	5088	202,9	12.38	1,41	3.11	✓

◆ Disposable

WARNING REMOVE SKUDO

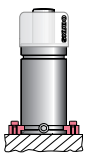




Drop-in



Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



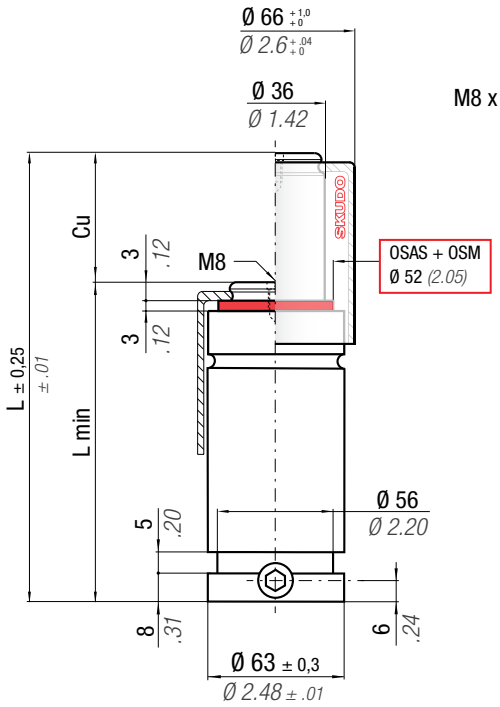
FS2 50 - FT 50
FS2A 50 - FTP 50

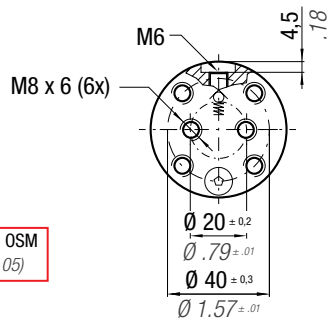
HOW TO ORDER

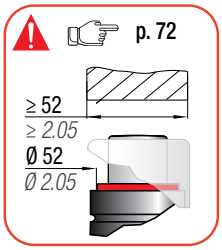
p. 73

INSTALLATION GUIDELINE

p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

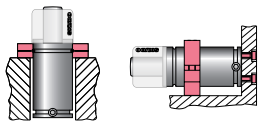
O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

NOT FOR



ACTIVE SAFETY







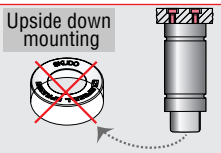


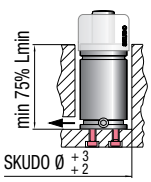
N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 10,18 cm² / 1.578 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMRV01500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RS 1500 - 010 - B	◆ RS 1500 - 010 - C	10	0.39	70	2.76	60	2.36			1981	4453	2258	5076	52	3.17	0,92	2.03	✓
RS 1500 - 013 - B	◆ RS 1500 - 013 - C	13	0.51	76	2.99	63	2.48			2057	4625	2374	5337	60	3.66	0,96	2.12	✓
RS 1500 - 016 - B	RS 1500 - 016 - C	16	0.63	82	3.23	66	2.60			2119	4764	2470	5552	68	4.15	0,99	2.18	✓
RS 1500 - 022 - B	RS 1500 - 022 - C	22	0.87	94	3.70	72	2.83	1530	3440	2214	4978	2618	5885	83	5.06	1,06	2.34	✓
RS 1500 - 029 - B	RS 1500 - 029 - C	29	1.14	108	4.25	79	3.11	± 5%		2294	5156	2743	6166	102	6.22	1,14	2.51	✓
RS 1500 - 035 - B	RS 1500 - 035 - C	35	1.38	120	4.72	85	3.35			2344	5270	2824	6348	118	7.20	1,21	2.67	✓
RS 1500 - 047 - B	RS 1500 - 047 - C	47	1.85	144	5.67	97	3.82	150 bar	2175 psi	2417	5433	2940	6610	149	9.09	1,35	2.98	✓
RS 1500 - 060 - B	RS 1500 - 060 - C	60	2.36	170	6.69	110	4.33			2470	5552	3026	6803	184	11.23	1,51	3.33	✓
RS 1500 - 072 - B	RS 1500 - 072 - C	72	2.83	194	7.64	122	4.80	+ 20 °C	+68 °F	2505	5631	3083	6931	215	13.12	1,65	3.64	✓
RS 1500 - 077 - B	RS 1500 - 077 - C	77	3.03	204	8.03	127	5.00			2517	5657	3103	6975	229	13.97	1,71	3.77	✓
RS 1500 - 097 - B	RS 1500 - 097 - C	97	3.82	244	9.61	147	5.79			2554	5741	3164	7112	281	17.15	1,94	4.28	✓
RS 1500 - 122 - B	RS 1500 - 122 - C	122	4.80	294	11.57	172	6.77			2585	5811	3215	7228	347	21.18	2,23	4.92	✓

◆ Disposable

WARNING REMOVE SKUDO





Drop-in



Bottom mount - FB 50 - FB 63
FB 75 - FBA 50 - FBA 75 - FBB 50
FBB 63 - FBB 75 - FBD 50 - FBD 75



FS2 63 - FS2A 63
FS2B 63 - FT 63
FTP 63

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

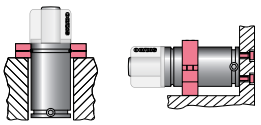
O novo código irá ser fornecido apenas quando o antigo esgotar stock

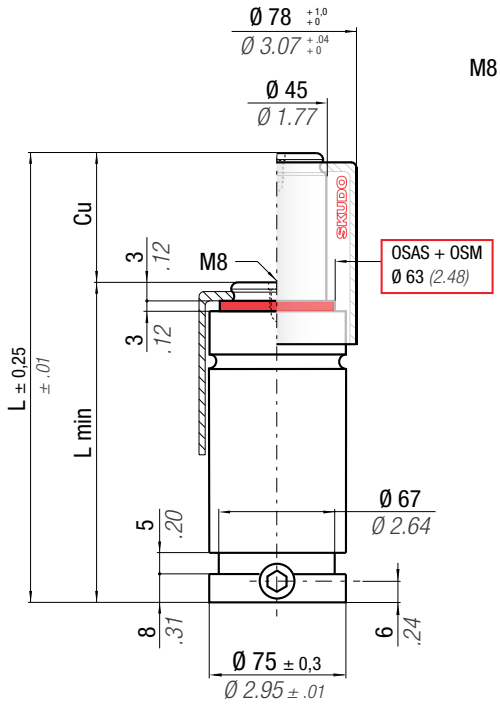
easy MANIFOLD p. 247

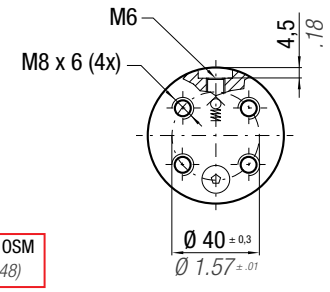
* $F1_i$ = Isothermal end force at 100% Cu p. 16

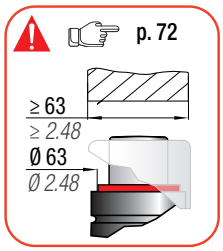
** $F1_p$ = Polytrophic end force at 100% Cu

NOT FOR









N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	15,90 cm² / 2.465 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV02400D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RS 2400 - 013 - A	◆RS 2400 - 013 - B	13	0.51	77	3.03	64	2.52	2385 ± 5%	5362	3232	7267	3737	8402	92	5.61	1,36	3,00	✓
RS 2400 - 016 - A	◆RS 2400 - 016 - B	16	0.63	83	3.27	67	2.64			3334	7495	3894	8755	104	6.35	1,40	3,09	✓
RS 2400 - 022 - A	RS 2400 - 022 - B	22	0.87	95	3.74	73	2.87			3491	7847	4139	9305	128	7.81	1,50	3,31	✓
RS 2400 - 029 - A	RS 2400 - 029 - B	29	1.14	109	4.29	80	3.15			3622	8142	4347	9772	156	9.52	1,61	3,55	✓
RS 2400 - 035 - A	RS 2400 - 035 - B	35	1.38	121	4.76	86	3.39			3706	8332	4482	10076	180	10.98	1,70	3,75	✓
RS 2400 - 047 - A	RS 2400 - 047 - B	47	1.85	145	5.71	98	3.86			3828	8606	4678	10517	228	13.91	1,89	4,17	✓
RS 2400 - 060 - A	RS 2400 - 060 - B	60	2.36	171	6.73	111	4.37			3917	8806	4823	10843	280	17.09	2,09	4,61	✓
RS 2400 - 072 - A	RS 2400 - 072 - B	72	2.83	195	7.68	123	4.84			3976	8939	4920	11061	328	20.02	2,28	5,03	✓
RS 2400 - 077 - A	RS 2400 - 077 - B	77	3.03	205	8.07	128	5.04			3996	8984	4953	11136	348	21.24	2,36	5,20	✓
RS 2400 - 097 - A	RS 2400 - 097 - B	97	3.82	245	9.65	148	5.83			4059	9126	5057	11369	428	26.12	2,67	5,89	✓
RS 2400 - 122 - A	RS 2400 - 122 - B	122	4.80	295	11.61	173	6.81			4113	9246	5146	11568	528	32.22	3,07	6,77	✓

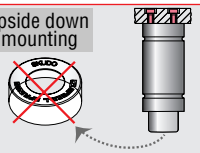
◆ Disposable

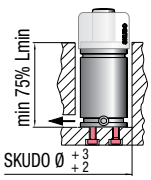
RS 2400 - 013 - A	◆RS 2400 - 013 - B	13	0.51	77	3.03	64	2.52	2385 ± 5%	5362	3232	7267	3737	8402	92	5.61	1,36	3,00	✓
RS 2400 - 016 - A	◆RS 2400 - 016 - B	16	0.63	83	3.27	67	2.64			3334	7495	3894	8755	104	6.35	1,40	3,09	✓
RS 2400 - 022 - A	RS 2400 - 022 - B	22	0.87	95	3.74	73	2.87			3491	7847	4139	9305	128	7.81	1,50	3,31	✓
RS 2400 - 029 - A	RS 2400 - 029 - B	29	1.14	109	4.29	80	3.15			3622	8142	4347	9772	156	9.52	1,61	3,55	✓
RS 2400 - 035 - A	RS 2400 - 035 - B	35	1.38	121	4.76	86	3.39			3706	8332	4482	10076	180	10.98	1,70	3,75	✓
RS 2400 - 047 - A	RS 2400 - 047 - B	47	1.85	145	5.71	98	3.86			3828	8606	4678	10517	228	13.91	1,89	4,17	✓
RS 2400 - 060 - A	RS 2400 - 060 - B	60	2.36	171	6.73	111	4.37			3917	8806	4823	10843	280	17.09	2,09	4,61	✓
RS 2400 - 072 - A	RS 2400 - 072 - B	72	2.83	195	7.68	123	4.84			3976	8939	4920	11061	328	20.02	2,28	5,03	✓
RS 2400 - 077 - A	RS 2400 - 077 - B	77	3.03	205	8.07	128	5.04			3996	8984	4953	11136	348	21.24	2,36	5,20	✓
RS 2400 - 097 - A	RS 2400 - 097 - B	97	3.82	245	9.65	148	5.83			4059	9126	5057	11369	428	26.12	2,67	5,89	✓
RS 2400 - 122 - A	RS 2400 - 122 - B	122	4.80	295	11.61	173	6.81			4113	9246	5146	11568	528	32.22	3,07	6,77	✓

◆ Disposable

WARNING REMOVE SKUDO

Upside down mounting





Drop-in



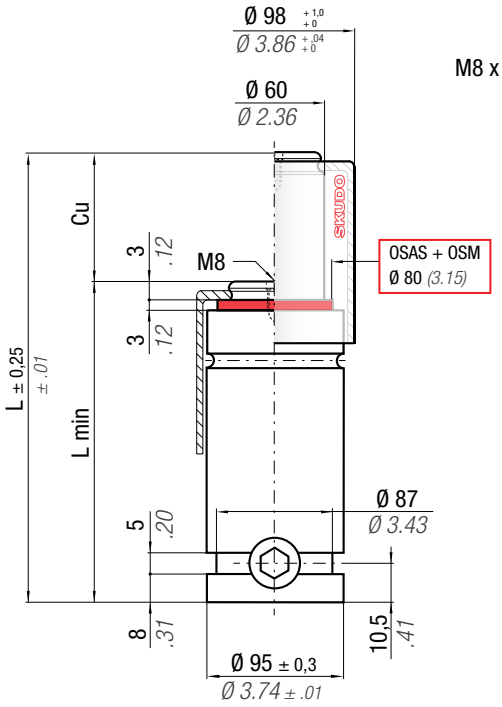
Bottom mount - FB 75
FBA 75 - FBB 75
FBC 75 - FBD 75

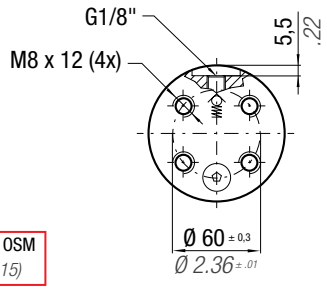


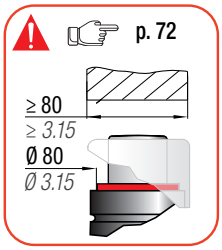
FS2 75 - FT 75
FS2A 75 - FTP 75

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

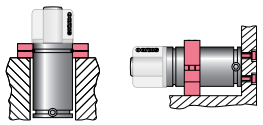
O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

NOT FOR



ACTIVE SAFETY

OSAS

USAS

OPAS

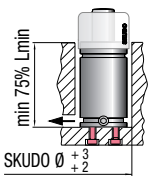
SKUDO

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 28,27 cm² 4.382 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV04200C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RS 4200 - 013 - A	◆ RS 4200 - 013 - B	13	0.51	90	3.54	77	3.03	4240 ± 5%	9532	5651	12703	6498	14607	172	10.50	2,76	6.08	✓
RS 4200 - 016 - A	◆ RS 4200 - 016 - B	16	0.63	96	3.78	80	3.15			5842	13133	6791	15267	192	11.72	2,83	6.24	✓
RS 4200 - 022 - A	RS 4200 - 022 - B	22	0.87	108	4.25	86	3.39			6147	13819	7266	16334	232	14.16	2,98	6.57	✓
RS 4200 - 029 - A	RS 4200 - 029 - B	29	1.14	122	4.80	93	3.66			6413	14417	7687	17280	279	17.03	3,16	6.97	✓
RS 4200 - 035 - A	RS 4200 - 035 - B	35	1.38	134	5.28	99	3.90			6590	14815	7969	17915	320	19.53	3,30	7.28	✓
RS 4200 - 047 - A	RS 4200 - 047 - B	47	1.85	158	6.22	111	4.37	150 bar	2175 psi	6852	15403	8392	18866	401	24.47	3,60	7.94	✓
RS 4200 - 060 - A	RS 4200 - 060 - B	60	2.36	184	7.24	124	4.88			7049	15848	8715	19593	488	29.78	3,93	8.66	✓
RS 4200 - 072 - A	RS 4200 - 072 - B	72	2.83	208	8.19	136	5.35			7184	16149	8936	20089	569	34.72	4,20	9.26	✓
RS 4200 - 077 - A	RS 4200 - 077 - B	77	3.03	218	8.58	141	5.55	+ 20 °C	+68 °F	7230	16254	9013	20262	603	36.80	4,35	9.59	✓
RS 4200 - 097 - A	RS 4200 - 097 - B	97	3.82	258	10.16	161	6.34			7377	16583	9256	20809	737	44.97	4,85	10.69	✓
RS 4200 - 122 - A	RS 4200 - 122 - B	122	4.80	308	12.13	186	7.32			7503	16867	9467	21283	906	55.29	5,47	12.06	✓

◆ Disposable





Drop-in



Bottom mount
FB 95 - FBA 95
FBB 95



FS2 95 - FT 95
FS2A 95 - FTP 95

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

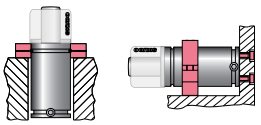
O novo código irá ser fornecido apenas quando o antigo esgotar stock

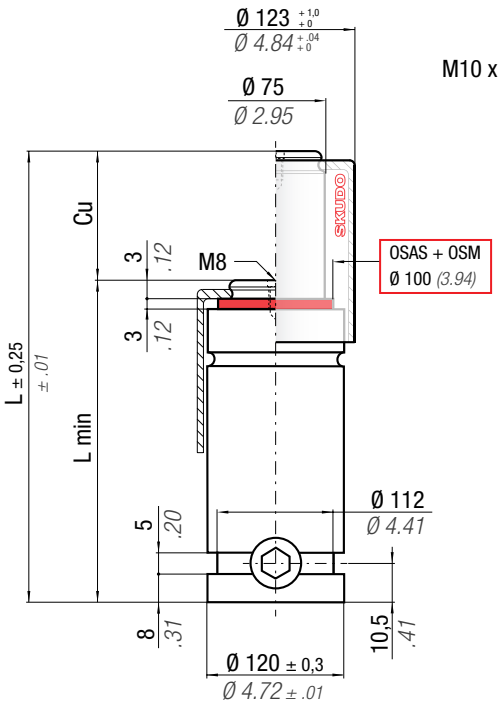
easy MANIFOLD p. 247

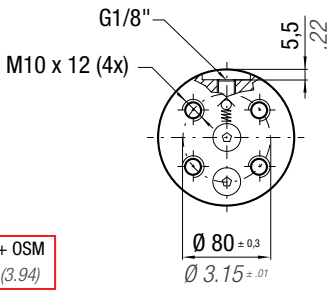
* $F1_i$ = Isothermal end force at 100% Cu p. 16

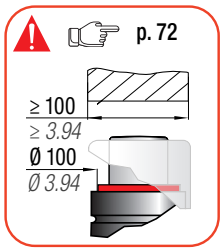
** $F1_p$ = Polytrophic end force at 100% Cu

NOT FOR







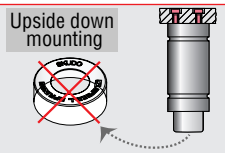


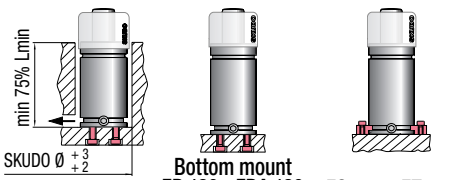
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	44,18 cm² / 6.848 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV06600C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RS 6600 - 013 - A	◆RS 6600 - 013 - B	13	0.51	100	3.94	87	3.43	6630 ± 5%	14904	8547	19215	9724	21861	298	18.19	5,06	11.16	✓
RS 6600 - 016 - A	◆RS 6600 - 016 - B	16	0.63	106	4.17	90	3.54			8826	19843	10148	22814	330	20.14	5,17	11.40	✓
RS 6600 - 022 - A	RS 6600 - 022 - B	22	0.87	118	4.65	96	3.78			9282	20867	10850	24391	394	24.04	5,42	11.95	✓
RS 6600 - 029 - A	RS 6600 - 029 - B	29	1.14	132	5.20	103	4.06			9690	21784	11488	25825	469	28.62	5,69	12.54	✓
RS 6600 - 035 - A	RS 6600 - 035 - B	35	1.38	144	5.67	109	4.29			9967	22406	11925	26808	533	32.53	5,93	13.07	✓
RS 6600 - 047 - A	RS 6600 - 047 - B	47	1.85	168	6.61	121	4.76			10385	23346	12593	28311	660	40.28	6,40	14.11	✓
RS 6600 - 060 - A	RS 6600 - 060 - B	60	2.36	194	7.64	134	5.28	150 bar	2175 psi	10707	24071	13115	29485	799	48.76	6,90	15.21	✓
RS 6600 - 072 - A	RS 6600 - 072 - B	72	2.83	218	8.58	146	5.75			10930	24571	13479	30301	927	56.57	7,40	16.31	✓
RS 6600 - 077 - A	RS 6600 - 077 - B	77	3.03	228	8.98	151	5.94	+ 20 °C	+68 °F	11007	24746	13606	30587	980	59.80	7,60	16.76	✓
RS 6600 - 097 - A	RS 6600 - 097 - B	97	3.82	268	10.55	171	6.73			11255	25302	14013	31503	1193	72.80	8,40	18.52	✓
RS 6600 - 122 - A	RS 6600 - 122 - B	122	4.80	318	12.52	196	7.72			11471	25787	14371	32307	1459	89.03	9,40	20.72	✓

◆ Disposable

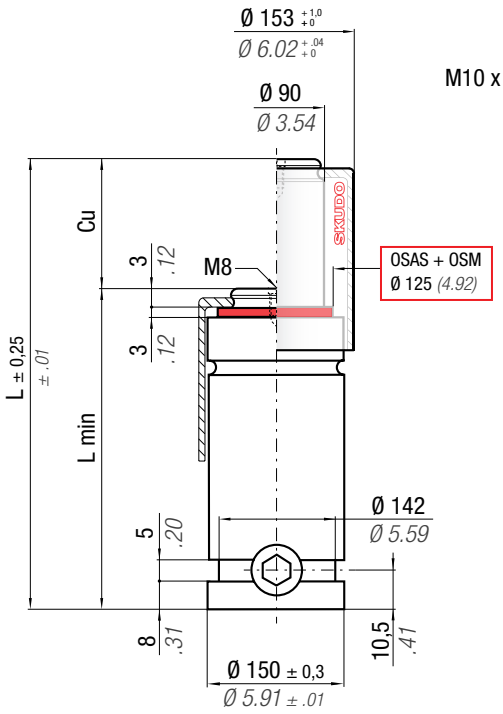
WARNING REMOVE SKUDO

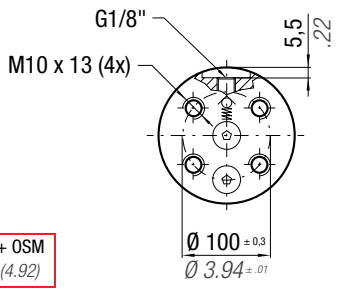


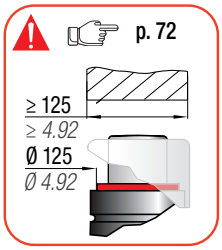


HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

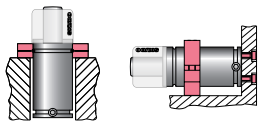
O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

NOT FOR



ACTIVE SAFETY







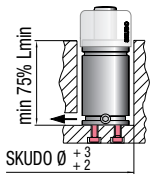


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	63,62 cm² / 9.864 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV09500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RS 9500 - 016 - A	◆ RS 9500 - 016 - B	16	0.63	116	4.57	100	3.94			12414	27908	14164	31841	513	31.31	9,51	20.97	✓
RS 9500 - 022 - A	◆ RS 9500 - 022 - B	22	0.87	128	5.04	106	4.17			13018	29265	15085	33913	609	37.16	9,90	21.83	✓
RS 9500 - 029 - A	RS 9500 - 029 - B	29	1.14	142	5.59	113	4.45	9540	21446	13561	30487	15927	35805	721	44.00	10,30	22.71	✓
RS 9500 - 035 - A	RS 9500 - 035 - B	35	1.38	154	6.06	119	4.69	± 5%		13930	31317	16505	37105	818	49.92	10,70	23.59	✓
RS 9500 - 047 - A	RS 9500 - 047 - B	47	1.85	178	7.01	131	5.16			14491	32578	17393	39102	1010	61.63	11,40	25.13	✓
RS 9500 - 060 - A	RS 9500 - 060 - B	60	2.36	204	8.03	144	5.67	150 bar		14926	33555	18090	40667	1218	74.33	12,20	26.90	✓
RS 9500 - 072 - A	RS 9500 - 072 - B	72	2.83	228	8.98	156	6.14	2175 psi		15227	34231	18575	41758	1410	86.04	13,00	28.66	✓
RS 9500 - 077 - A	RS 9500 - 077 - B	77	3.03	238	9.37	161	6.34	+ 20 °C	+68 °F	15332	34467	18745	42140	1491	90.99	13,30	29.32	✓
RS 9500 - 097 - A	RS 9500 - 097 - B	97	3.82	278	10.94	181	7.13			15667	35221	19292	43370	1811	110.51	14,60	32.19	✓
RS 9500 - 122 - A	RS 9500 - 122 - B	122	4.80	328	12.91	206	8.11			15961	35887	19773	44451	2212	134.98	16,10	35.49	✓

◆ Disposable

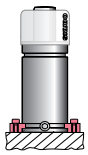




Drop-in



Bottom mount
FB 150 - FBA 150
FBB 150 - FBD 150

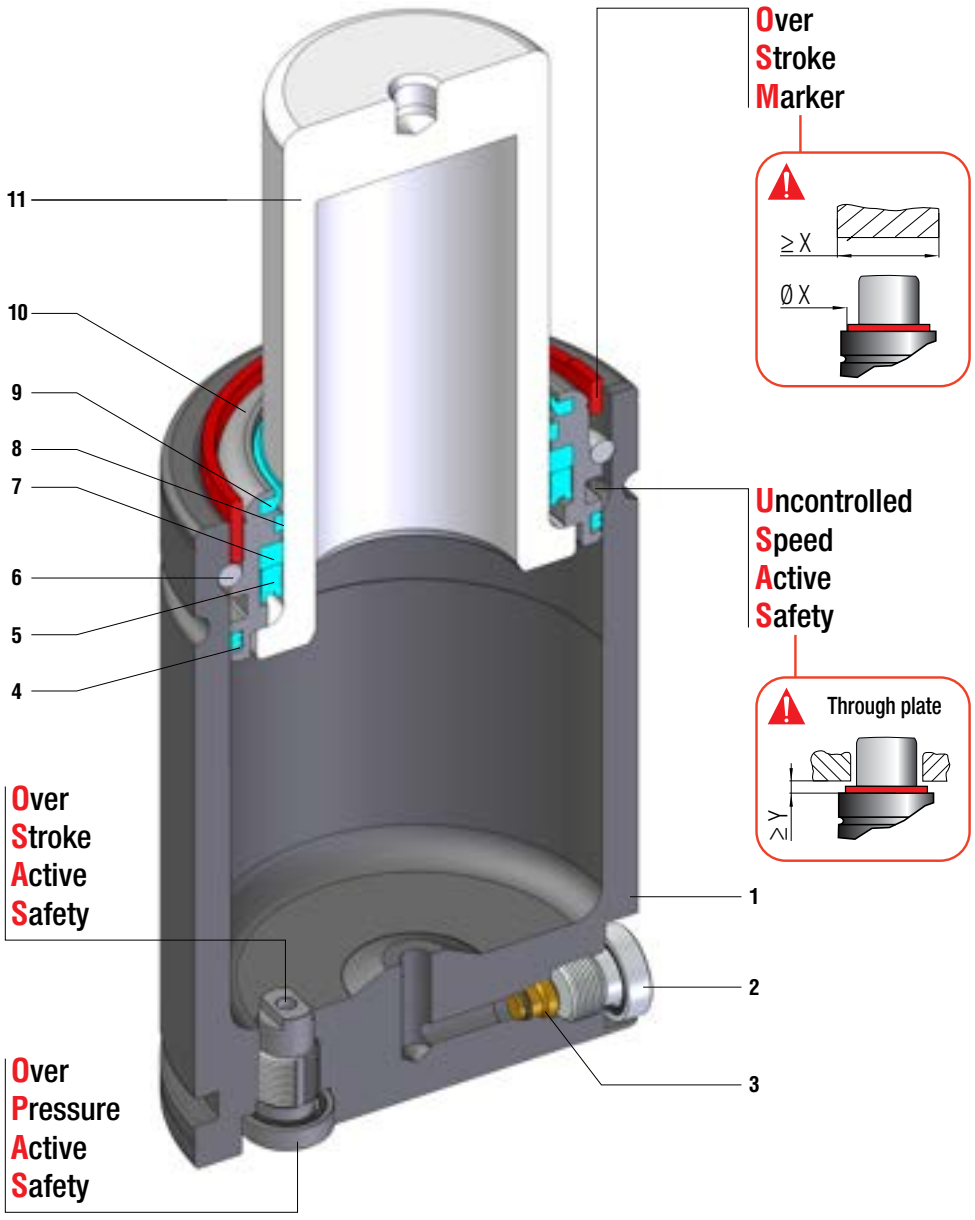


FS2 150-FT 150
FS2A 150-FTP 150

HOW TO ORDER p. 73

INSTALLATION GUIDELINE p. 205

FCA		



Minima altezza, massima forza, collegabili G1/8 - Minimum height, maximum force, hose cylinders with G1/8 charging port
Minimale Höhe, maximale Kraft, Gdf. mit G1/8 Öffnung verbindbar - Hauteur minimale, force maximale, cylindres raccordés avec trou G1/8 gaz
Mínima altura, máxima fuerza, cilindros conectados con agujero G1/8 gas - Altura mínima, força máxima, cilindros conectados com furo G1/8 gás

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal	**9**	Rod wiper
2	Plug	**6**	Retaining ring	**10**	Bush
3	Valve	**7**	Back-up ring	**11**	Rod (nitrited superfinished)
4	Dual ring seal	**8**	Guide ring		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
RF 750	45	1.77	10 - 125	0.39 - 4.92	740	1664	✓	✓	✓	-	✓
RF 1000	50	1.97	13 - 125	0.51 - 4.92	920	2068	✓	✓	✓	-	✓
RF 1200	50	1.97	13 - 125	0.51 - 4.92	1060	2383	✓	✓	✓	-	✓
RF 1500	63	2.48	13 - 125	0.51 - 4.92	1530	3440	✓	✓	✓	-	✓
RF 2400	75	2.95	16 - 125	0.63 - 4.92	2385	5362	✓	✓	✓	-	✓
	95	3.74									
	120	4.72									
	150	5.91									
	150	5.91									
	195	7.68									

✓ Built-in as standard ✓ Optional upon request

☞ RV series

HOW TO ORDER

Series — Revision code

Model

RF 2400-050-B-E-W

Stroke — Version

Available versions



RF 2400-050-B

Standard code

Self contained



RF 2400-050-B-W

Add "-W" to standard code

Self contained + Secondary wiper



RF 2400-050-B-N

Add "-N" to standard code

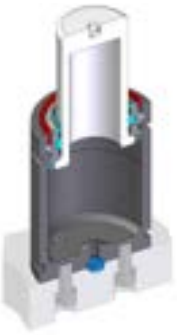
Linkable



RF 2400-050-B-N-W

Add "-N-W" to standard code

Linkable + Secondary wiper



RF 2400-050-B-E

Add "-E" to standard code

Easy Manifold



RF 2400-050-B-E-W

Add "-E-W" to standard code

Easy Manifold + Secondary wiper

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

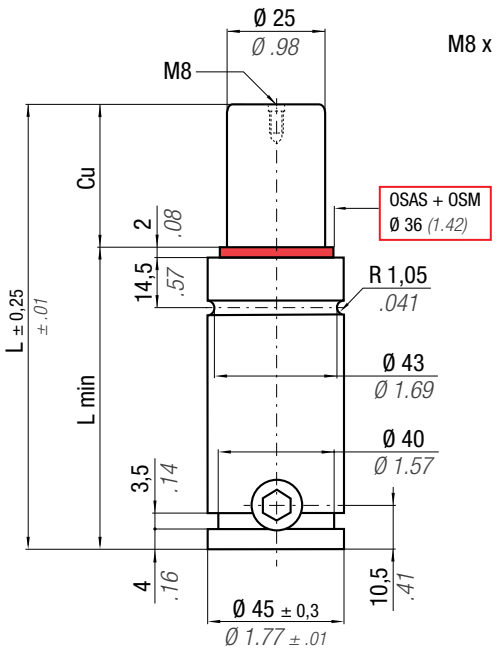
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

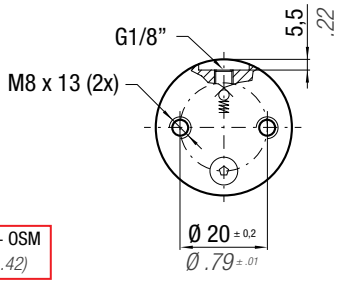
O novo código irá ser fornecido apenas quando o antigo esgotar stock

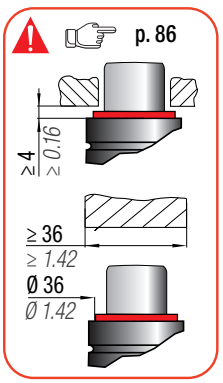
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



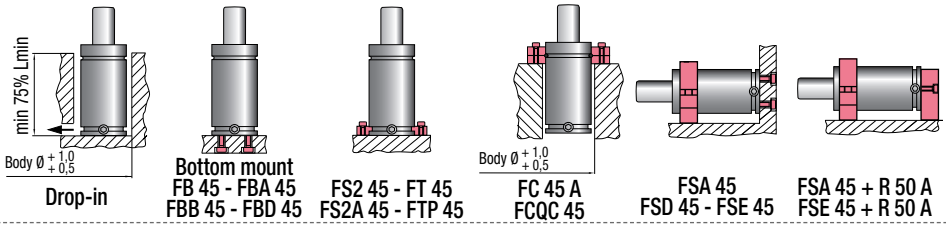




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00750C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RF 750 - 010 - A	◆ RF 750 - 010 - B	10	0.39	62	2.44	52	2.05	740 ± 5%	1664	1118	2514	1343	3018	16,6	1.01	0,47	1.04	✓
RF 750 - 013 - A	RF 750 - 013 - B	13	0.51	68	2.68	55	2.17			1152	2590	1396	3139	20,4	1.24	0,48	1.06	✓
RF 750 - 016 - A	RF 750 - 016 - B	16	0.63	74	2.91	58	2.28			1176	2644	1435	3227	24,1	1.47	0,50	1.10	✓
RF 750 - 019 - A	RF 750 - 019 - B	19	0.75	80	3.15	61	2.40			1194	2685	1465	3293	27,9	1.70	0,52	1.15	✓
RF 750 - 025 - A	RF 750 - 025 - B	25	0.98	92	3.62	67	2.64			1220	2743	1507	3388	35,5	2.17	0,56	1.23	✓
RF 750 - 032 - A	RF 750 - 032 - B	32	1.26	106	4.17	74	2.91			1240	2787	1539	3460	44,3	2.70	0,61	1.34	✓
RF 750 - 038 - A	RF 750 - 038 - B	38	1.50	118	4.65	80	3.15	150 bar 2175psi		1251	2813	1558	3503	51,9	3.17	0,65	1.43	✓
RF 750 - 050 - A	RF 750 - 050 - B	50	1.97	142	5.59	92	3.62			1267	2848	1584	3562	67,0	4.09	0,72	1.59	✓
RF 750 - 063 - A	RF 750 - 063 - B	63	2.48	168	6.61	105	4.13			1278	2873	1602	3602	83,4	5.09	0,81	1.79	✓
RF 750 - 075 - A	RF 750 - 075 - B	75	2.95	192	7.56	117	4.61	+ 20 °C	+68 °F	1285	2888	1614	3628	98,5	6.01	0,88	1.94	✓
RF 750 - 080 - A	RF 750 - 080 - B	80	3.15	202	7.95	122	4.80			1287	2893	1618	3637	104,8	6.40	0,92	2.03	✓
RF 750 - 100 - A	RF 750 - 100 - B	100	3.94	242	9.53	142	5.59			1294	2909	1629	3663	130,1	7.94	1,04	2.29	✓
RF 750 - 125 - A	RF 750 - 125 - B	125	4.92	292	11.50	167	6.57			1300	2922	1639	3685	161,6	9.86	1,21	2.67	✓

◆ Disposable



Drop-in

Bottom mount
FB 45 - FBA 45
FBB 45 - FBD 45

FS2 45 - FT 45
FS2A 45 - FTP 45

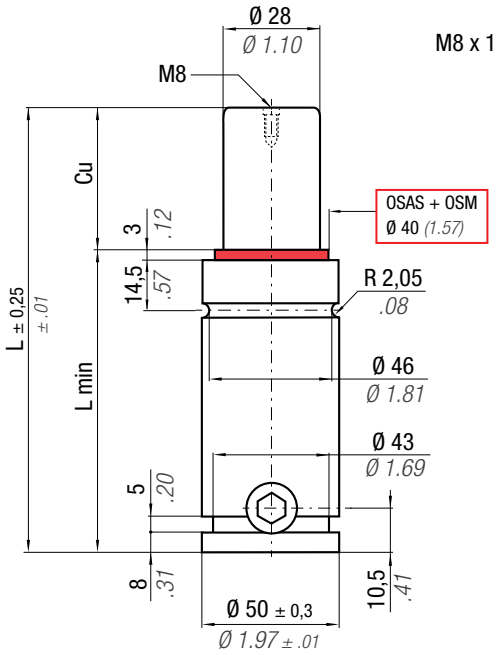
Body Ø + 1,0 + 0,5
FC 45 A
FCQC 45

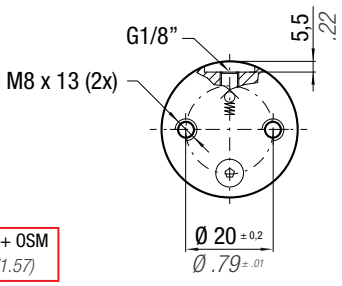
FSA 45
FSD 45 - FSE 45

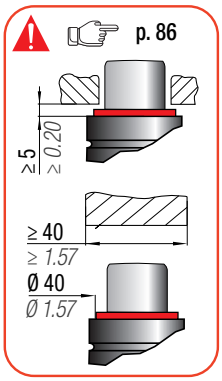
FSA 45 + R 50 A
FSE 45 + R 50 A

HOW TO ORDER p. 87

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

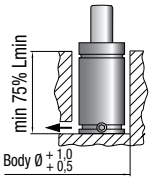
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 6,15 cm² 0.953 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RF 1000 - 013 - A	◆ RF 1000 - 013 - B	13	0.51	74	2.91	61	2.40			1370	3079	1631	3667	28,4	1.73	0,65	1.43	✓
RF 1000 - 016 - A	RF 1000 - 016 - B	16	0.63	80	3.15	64	2.52			1407	3163	1690	3800	33,1	2.02	0,68	1.50	✓
RF 1000 - 019 - A	RF 1000 - 019 - B	19	0.75	86	3.39	67	2.64			1436	3229	1737	3906	37,7	2.30	0,70	1.54	✓
RF 1000 - 025 - A	RF 1000 - 025 - B	25	0.98	98	3.86	73	2.87	920	2068	1479	3326	1807	4062	47,1	2.87	0,75	1.65	✓
RF 1000 - 032 - A	RF 1000 - 032 - B	32	1.26	112	4.41	80	3.15	± 5%		1514	3403	1863	4187	58,0	3.54	0,81	1.79	✓
RF 1000 - 038 - A	RF 1000 - 038 - B	38	1.50	124	4.88	86	3.39			1535	3451	1897	4266	67,4	4.11	0,85	1.87	✓
RF 1000 - 050 - A	RF 1000 - 050 - B	50	1.97	148	5.83	98	3.86	150 bar		1564	3517	1946	4375	86,1	5.25	0,95	2.09	✓
RF 1000 - 063 - A	RF 1000 - 063 - B	63	2.48	174	6.85	111	4.37	2175 psi		1585	3564	1981	4453	106,3	6.49	1,05	2.31	✓
RF 1000 - 075 - A	RF 1000 - 075 - B	75	2.95	198	7.80	123	4.84	+ 20 °C	+68 °F	1599	3594	2003	4503	125,0	7.63	1,15	2.54	✓
RF 1000 - 080 - A	RF 1000 - 080 - B	80	3.15	208	8.19	128	5.04			1603	3605	2011	4520	132,8	8.10	1,19	2.62	✓
RF 1000 - 100 - A	RF 1000 - 100 - B	100	3.94	248	9.76	148	5.83			1618	3636	2034	4573	164,0	10.01	1,35	2.98	✓
RF 1000 - 125 - A	RF 1000 - 125 - B	125	4.92	298	11.73	173	6.81			1629	3663	2054	4617	202,9	12.38	1,55	3.42	✓

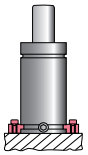
◆ Disposable



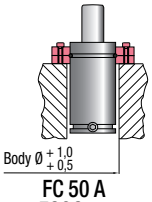
Drop-in



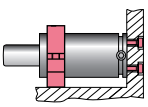
Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



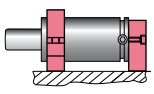
FS2 50 - FT 50
FS2A 50 - FTP 50



FC 50 A
FCQC 50



FSA 50
FSD 50 - FSE 50



FSD 50 + R 50 A
FSE 50 + R 50 A

HOW TO ORDER p. 87

INSTALLATION GUIDELINE p. 205

RF 1200
linkable G1/8”

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

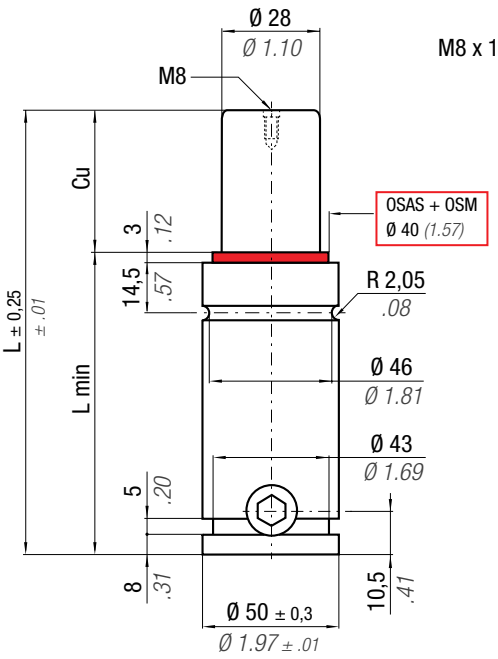
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

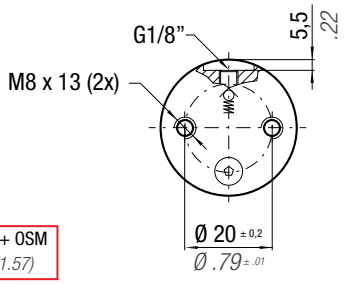
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

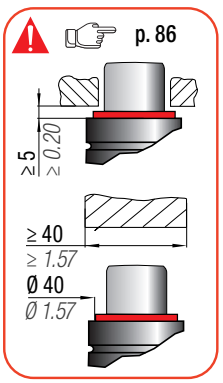
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



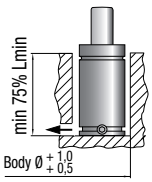




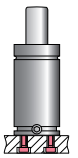
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	170 bar / 2465 psi	20 bar / 290 psi	6,15 cm² / 0.953 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RF 1200 - 013 - A	◆ RF 1200 - 013 - B	13	0.51	74	2.91	61	2.40	1046 ± 5%	2352	1577	3546	1839	4135	28,4	1.73	0,65	1.43	✓
RF 1200 - 016 - A	RF 1200 - 016 - B	16	0.63	80	3.15	64	2.52	170 bar 2465 psi		1622	3646	1906	4284	33,1	2.02	0,68	1.50	✓
RF 1200 - 019 - A	RF 1200 - 019 - B	19	0.75	86	3.39	67	2.64			1657	3725	1959	4403	37,7	2.30	0,70	1.54	✓
RF 1200 - 025 - A	RF 1200 - 025 - B	25	0.98	98	3.86	73	2.87			1709	3841	2037	4579	47,1	2.87	0,75	1.65	✓
RF 1200 - 032 - A	RF 1200 - 032 - B	32	1.26	112	4.41	80	3.15			1750	3934	2100	4721	58,0	3.54	0,81	1.79	✓
RF 1200 - 038 - A	RF 1200 - 038 - B	38	1.50	124	4.88	86	3.39			1776	3992	2139	4809	67,4	4.11	0,85	1.87	✓
RF 1200 - 050 - A	RF 1200 - 050 - B	50	1.97	148	5.83	98	3.86			1811	4072	2194	4932	86,1	5.25	0,95	2.09	✓
RF 1200 - 063 - A	RF 1200 - 063 - B	63	2.48	174	6.85	111	4.37			1836	4128	2233	5020	106,3	6.49	1,05	2.31	✓
RF 1200 - 075 - A	RF 1200 - 075 - B	75	2.95	198	7.80	123	4.84	+ 20 °C +68 °F		1853	4165	2258	5077	125,0	7.63	1,15	2.54	✓
RF 1200 - 080 - A	RF 1200 - 080 - B	80	3.15	208	8.19	128	5.04			1858	4177	2267	5096	132,8	8.10	1,19	2.62	✓
RF 1200 - 100 - A	RF 1200 - 100 - B	100	3.94	248	9.76	148	5.83			1875	4215	2293	5156	164,0	10.01	1,35	2.98	✓
RF 1200 - 125 - A	RF 1200 - 125 - B	125	4.92	298	11.73	173	6.81			1889	4247	2315	5205	202,9	12.38	1,55	3.42	✓

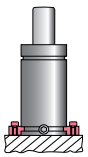
◆ Disposable



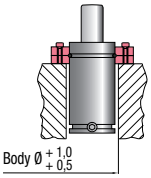
Drop-in



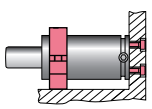
Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



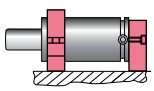
FS2 50 - FT 50
FS2A 50 - FTP 50



FC 50 A
FCQC 50



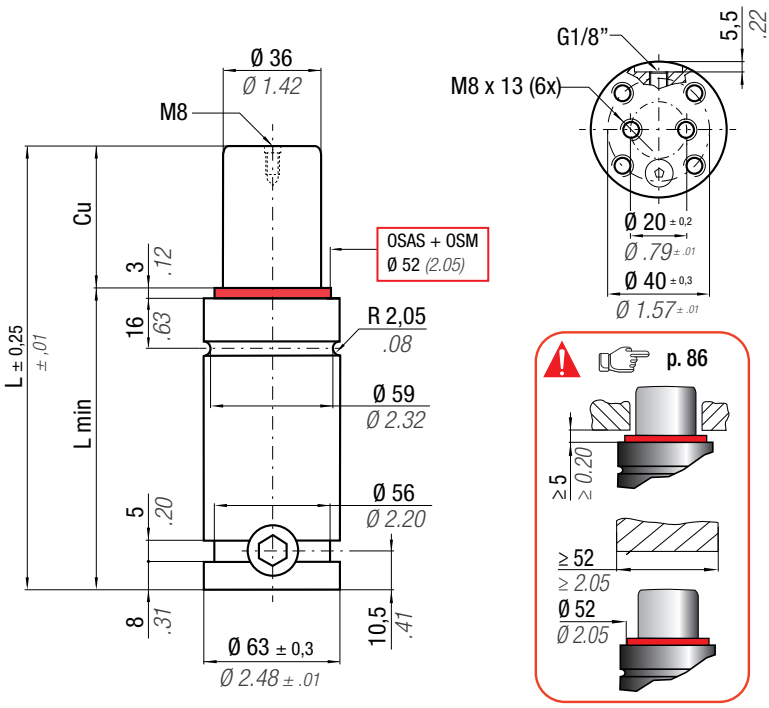
FSA 50
FSD 50 - FSE 50



FSD 50 + R 50 A
FSE 50 + R 50 A

HOW TO ORDER p. 87

INSTALLATION GUIDELINE p. 205



OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

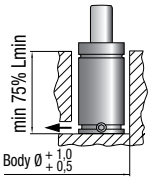
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 10,18 cm² 1.578 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV01500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RF 1500 - 013 - B	◆RF 1500 - 013 - C	13	0.51	80	3.15	67	2.64	1530	3440	2168	4874	2546	5723	52	3.17	1,15	2.54	✓
RF 1500 - 016 - B	RF 1500 - 016 - C	16	0.63	86	3.39	70	2.76	± 5%		2230	5012	2642	5939	60	3.66	1,18	2.60	✓
RF 1500 - 019 - B	RF 1500 - 019 - C	19	0.75	92	3.62	73	2.87			2279	5123	2720	6114	68	4.15	1,22	2.69	✓
RF 1500 - 025 - B	RF 1500 - 025 - C	25	0.98	104	4.09	79	3.11			2353	5290	2838	6380	84	5.13	1,29	2.84	✓
RF 1500 - 032 - B	RF 1500 - 032 - C	32	1.26	118	4.65	86	3.39			2414	5426	2935	6599	102	6.22	1,37	3.02	✓
RF 1500 - 038 - B	RF 1500 - 038 - C	38	1.50	130	5.12	92	3.62			2452	5512	2997	6738	118	7.20	1,44	3.17	✓
RF 1500 - 050 - B	RF 1500 - 050 - C	50	1.97	154	6.06	104	4.09	150 bar 2175 psi		2506	5633	3085	6935	149	9.09	1,58	3.48	✓
RF 1500 - 063 - B	RF 1500 - 063 - C	63	2.48	180	7.09	117	4.61			2544	5720	3148	7078	184	11.23	1,74	3.84	✓
RF 1500 - 075 - B	RF 1500 - 075 - C	75	2.95	204	8.03	129	5.08	+ 20 °C	+68 °F	2570	5777	3190	7172	215	13.12	1,88	4.14	✓
RF 1500 - 080 - B	RF 1500 - 080 - C	80	3.15	214	8.43	134	5.28			2578	5797	3204	7204	229	13.97	1,94	4.28	✓
RF 1500 - 100 - B	RF 1500 - 100 - C	100	3.94	254	10.00	154	6.06			2605	5857	3249	7303	281	17.15	2,18	4.81	✓
RF 1500 - 125 - B	RF 1500 - 125 - C	125	4.92	304	11.97	179	7.05			2628	5907	3286	7387	347	21.18	2,47	5.45	✓

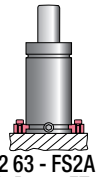
◆ Disposable



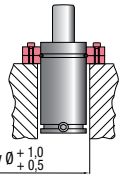
Drop-in



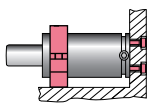
Bottom mount - FB 50 - FB 63
FB 75 - FBA 50 - FBA 75 - FBB 50
FBB 63 - FBB 75 - FBD 50 - FBD 75



FS2 63 - FS2A 63
FS2B 63 - FT 63
FTP 63



FC 63 A- FCQ 63 A
FCQC 63



FSC 63
FSD 63

HOW TO ORDER p. 87

INSTALLATION GUIDELINE p. 205

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

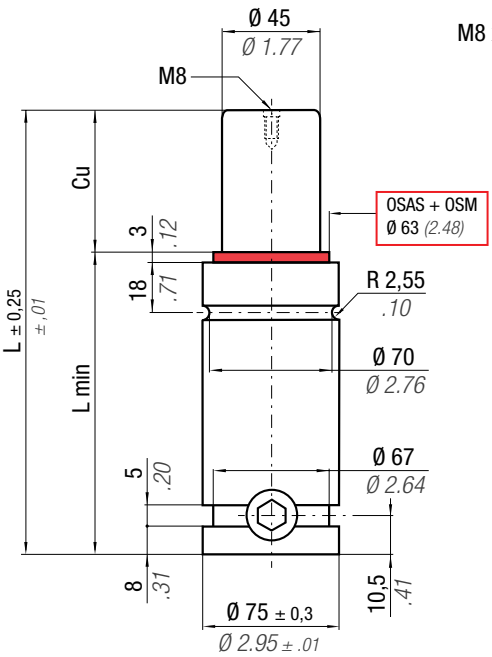
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

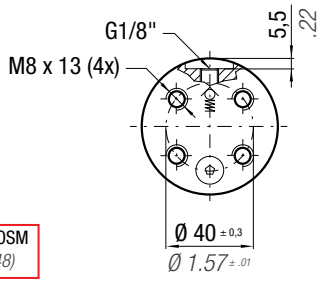
O novo código irá ser fornecido apenas quando o antigo esgotar stock

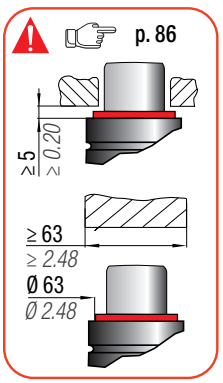
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



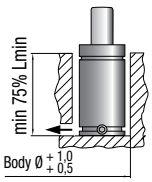




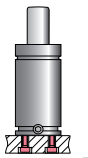
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	15,90 cm² / 2.465 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV02400D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RF 2400 - 016 - A	◆ RF 2400 - 016 - B	16	0.63	87	3.43	71	2.80	2385 ± 5%	5362	3510	7891	4170	9374	92	5.61	1,68	3.70	✓
RF 2400 - 019 - A	◆ RF 2400 - 019 - B	19	0.75	93	3.66	74	2.91			3592	8075	4299	9665	104	6.35	1,73	3.81	✓
RF 2400 - 025 - A	RF 2400 - 025 - B	25	0.98	105	4.13	80	3.15			3716	8354	4498	10111	128	7.81	1,82	4.01	✓
RF 2400 - 032 - A	RF 2400 - 032 - B	32	1.26	119	4.69	87	3.43			3818	8583	4662	10481	156	9.52	1,93	4.25	✓
RF 2400 - 038 - A	RF 2400 - 038 - B	38	1.50	131	5.16	93	3.66			3883	8728	4767	10717	180	10.98	2,03	4.48	✓
RF 2400 - 050 - A	RF 2400 - 050 - B	50	1.97	155	6.10	105	4.13	150 bar 2175 psi		3974	8935	4917	11054	228	13.91	2,21	4.87	✓
RF 2400 - 063 - A	RF 2400 - 063 - B	63	2.48	181	7.13	118	4.65			4041	9083	5026	11299	280	17.09	2,42	5.34	✓
RF 2400 - 075 - A	RF 2400 - 075 - B	75	2.95	205	8.07	130	5.12			4084	9181	5098	11461	328	20.02	2,61	5.75	✓
RF 2400 - 080 - A	RF 2400 - 080 - B	80	3.15	215	8.46	135	5.31	+ 20 °C	+68 °F	4099	9215	5123	11517	348	21.24	2,69	5.93	✓
RF 2400 - 100 - A	RF 2400 - 100 - B	100	3.94	255	10.04	155	6.10			4145	9318	5199	11688	428	26.12	3,00	6.61	✓
RF 2400 - 125 - A	RF 2400 - 125 - B	125	4.92	305	12.01	180	7.09			4183	9405	5264	11833	528	32.22	3,40	7.50	✓

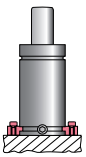
◆ Disposable



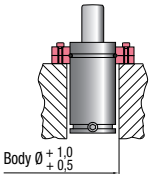
Drop-in



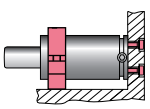
Bottom mount - FB 75
FBA 75 - FBB 75
FBC 75 - FBD 75



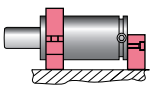
FS2 75 - FT 75
FS2A 75 - FTP 75



FC 75 A
FCQC 75



FSA 75
FSD 75 - FSE 75



FSD 75 + R 75 A
FSE 75 + R 75 A

HOW TO ORDER

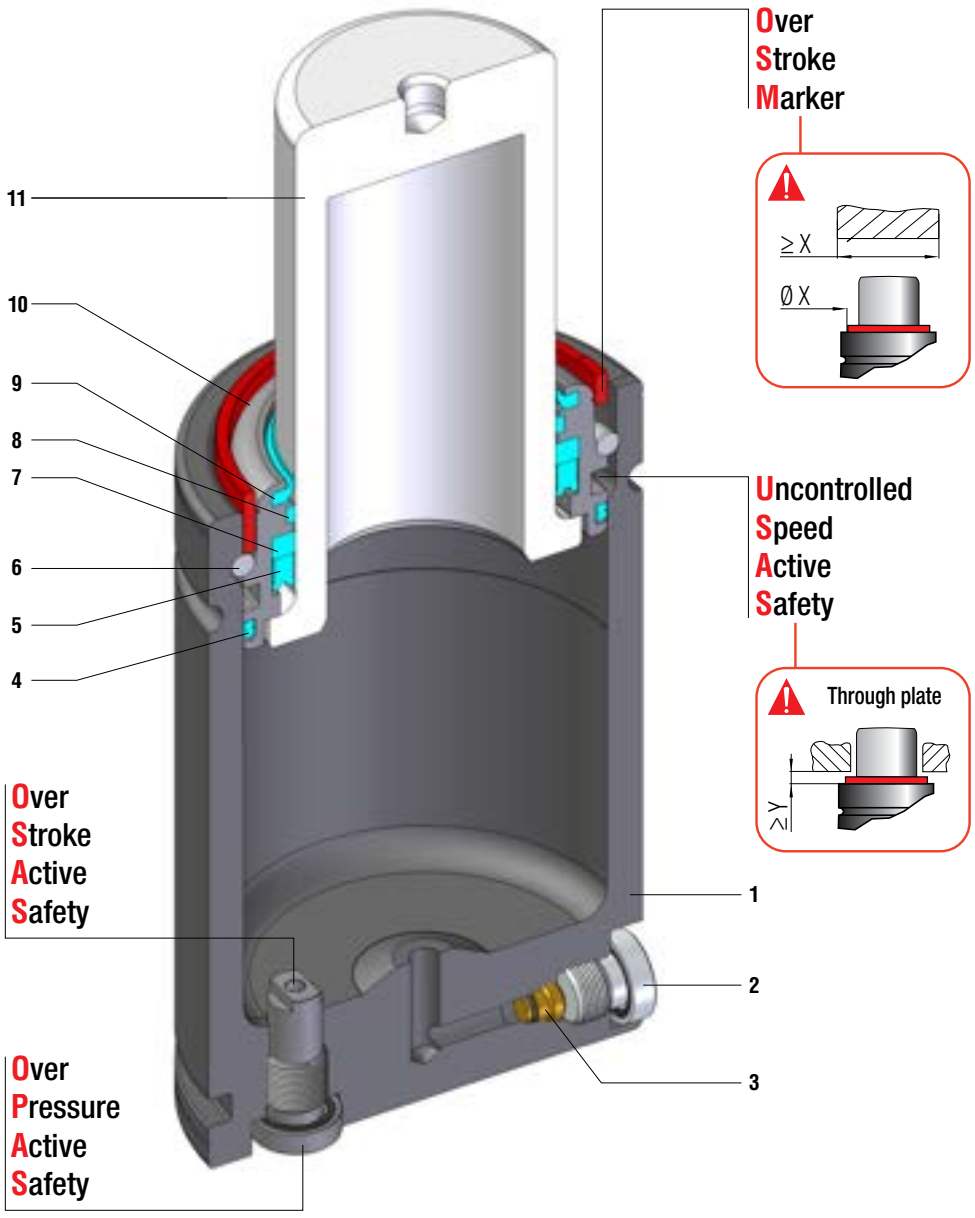
p. 87

INSTALLATION GUIDELINE

p. 205

THIS PAGE IS INTENTIONALLY LEFT BLANK

Nissan	Renault	



Minima altezza, massima forza, collegabili G1/8 - Minimum height, maximum force, hose cylinders with G1/8 charging port - Minimale Höhe, maximale Kraft, Gdf. mit G1/8 Öffnung verbindbar - Hauteur minimale, force maximale, cylindres raccordés avec trou G1/8 gaz - Mínima altura, máxima fuerza, cilindros conectados con agujero G1/8 gas - Altura mínima, força máxima, cilindros conectados com furo G1/8 gás

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal	**9**	Rod wiper
2	Plug	**6**	Retaining ring	**10**	Bush
3	Valve	**7**	Back-up ring	**11**	Rod (nitrited superfinished)
4	Dual ring seal	**8**	Guide ring		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
RG 750	45	1.77	10 - 125	0.39 - 4.92	740	1664	✓	✓	✓	-	✓
RG 1000	50	1.97	10 - 125	0.39 - 4.92	920	2068	✓	✓	✓	-	✓
RG 1500	63	2.48	10 - 125	0.39 - 4.92	1530	3440	✓	✓	✓	-	✓
RG 2400	75	2.95	10 - 125	0.39 - 4.92	2385	5362	✓	✓	✓	-	✓
RG 4200	95	3.74	16 - 125	0.63 - 4.92	4240	9532	✓	✓	✓	-	✓
RG 6600	120	4.72	16 - 125	0.63 - 4.92	6630	14905	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — Model — Stroke — Revision code — Version

RG 2400-050-B-E-W

Available versions



RG 2400-050-B

Standard code

Self contained



RG 2400-050-B-W

Add "-W" to standard code

Self contained + Secondary wiper



RG 2400-050-B-N

Add "-N" to standard code

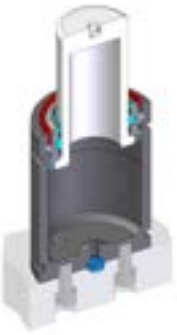
Linkable



RG 2400-050-B-N-W

Add "-N-W" to standard code

Linkable + Secondary wiper



RG 2400-050-B-E

Add "-E" to standard code

Easy Manifold



RG 2400-050-B-E-W

Add "-E-W" to standard code

Easy Manifold + Secondary wiper

RG 750

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

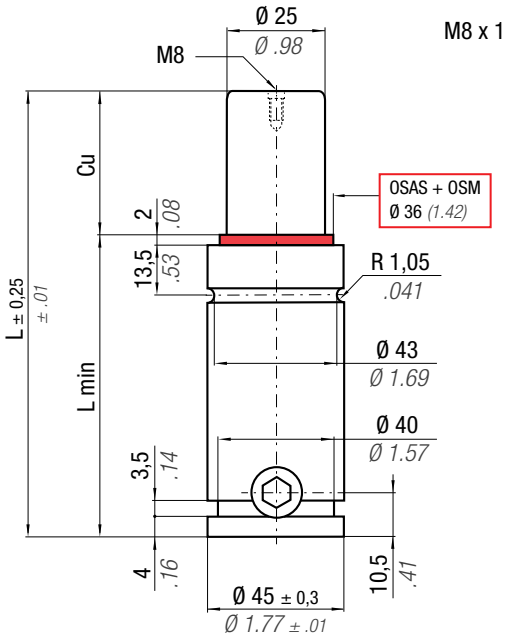
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

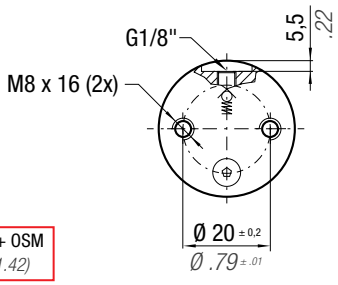
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

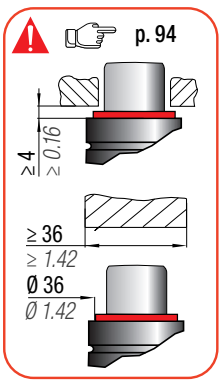
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



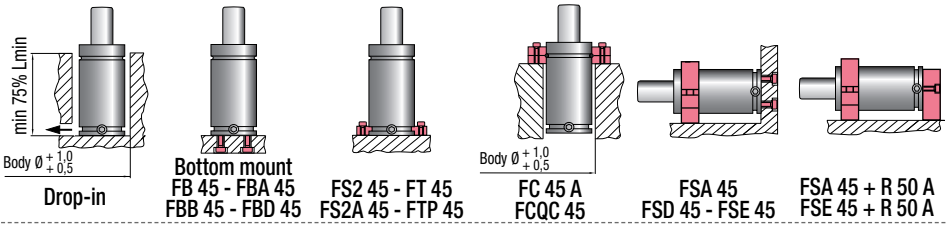




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00750C

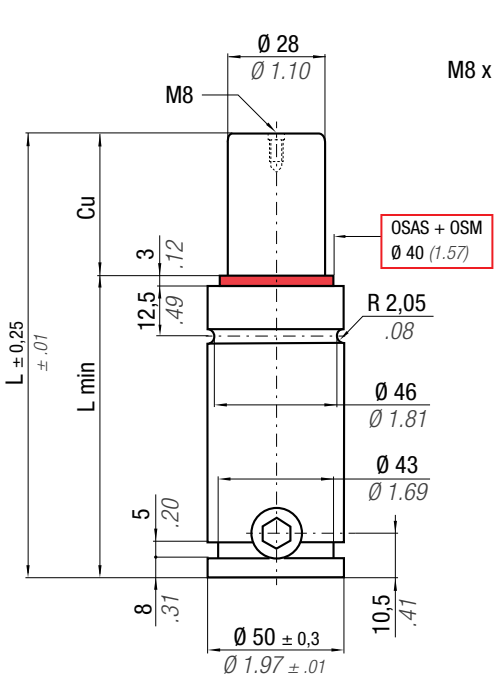
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RG 750 - 010 - A	◆ RG 750 - 010 - B	10	0.39	67	2.64	57	2.24	740 ± 5%	1664	1026	2307	1198	2693	20,2	1.23	0,50	1.10	✓
RG 750 - 013 - A	◆ RG 750 - 013 - B	13	0.51	73	2.87	60	2.36			1065	2394	1258	2828	23,9	1.46	0,52	1.15	✓
RG 750 - 016 - A	RG 750 - 016 - B	16	0.63	79	3.11	63	2.48			1095	2461	1305	2933	27,7	1.69	0,54	1.19	✓
RG 750 - 019 - A	RG 750 - 019 - B	19	0.75	85	3.35	66	2.60			1118	2514	1342	3017	31,5	1.92	0,56	1.23	✓
RG 750 - 025 - A	RG 750 - 025 - B	25	0.98	97	3.82	72	2.83			1153	2593	1398	3143	39,1	2.39	0,60	1.32	✓
RG 750 - 032 - A	RG 750 - 032 - B	32	1.26	111	4.37	79	3.11			1182	2656	1444	3246	47,9	2.92	0,64	1.41	✓
RG 750 - 038 - A	RG 750 - 038 - B	38	1.50	123	4.84	85	3.35	150 bar 2175psi		1199	2696	1473	3311	55,5	3.39	0,68	1.50	✓
RG 750 - 050 - A	RG 750 - 050 - B	50	1.97	147	5.79	97	3.82			1224	2752	1514	3403	70,6	4.31	0,76	1.68	✓
RG 750 - 063 - A	RG 750 - 063 - B	63	2.48	173	6.81	110	4.33			1242	2792	1543	3468	87,0	5.31	0,84	1.85	✓
RG 750 - 075 - A	RG 750 - 075 - B	75	2.95	197	7.76	122	4.80	+ 20 °C	+68 °F	1253	2818	1562	3511	102,1	6.23	0,92	2.03	✓
RG 750 - 080 - A	RG 750 - 080 - B	80	3.15	207	8.15	127	5.00			1257	2827	1568	3526	108,4	6.61	0,95	2.09	✓
RG 750 - 100 - A	RG 750 - 100 - B	100	3.94	247	9.72	147	5.79			1269	2854	1588	3571	133,7	8.16	1,08	2.38	✓
RG 750 - 125 - A	RG 750 - 125 - B	125	4.92	297	11.69	172	6.77			1280	2877	1605	3609	165,2	10.08	1,24	2.73	✓

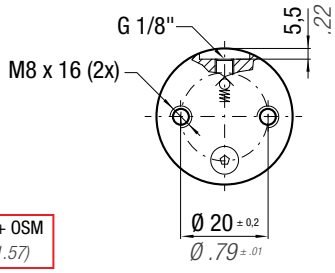
◆ Disposable

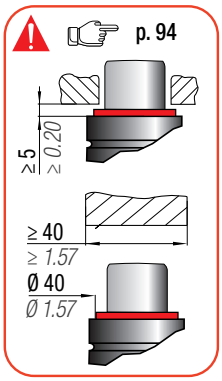


HOW TO ORDER p. 95

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

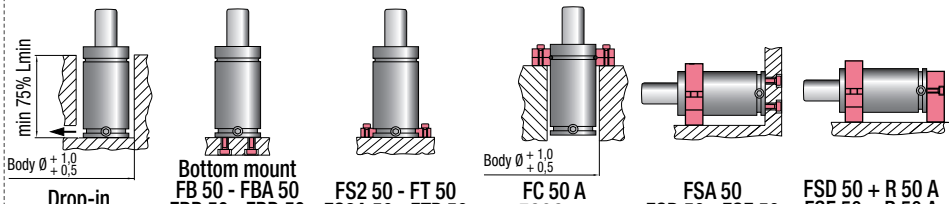
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	6,15 cm² / 0.953 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RG 1000 - 010 - A	◆ RG 1000 - 010 - B	10	0.39	72	2.83	62	2.44	920 ± 5%	2068	1281	2881	1493	3357	25,6	1.56	0,67	1.48	✓
RG 1000 - 013 - A	◆ RG 1000 - 013 - B	13	0.51	78	3.07	65	2.56			1331	2992	1570	3531	30,3	1.85	0,70	1.54	✓
RG 1000 - 016 - A	RG 1000 - 016 - B	16	0.63	84	3.31	68	2.68			1370	3079	1631	3667	35,0	2.14	0,72	1.59	✓
RG 1000 - 019 - A	RG 1000 - 019 - B	19	0.75	90	3.54	71	2.80			1401	3149	1680	3778	39,6	2.42	0,75	1.65	✓
RG 1000 - 025 - A	RG 1000 - 025 - B	25	0.98	102	4.02	77	3.03			1447	3253	1755	3945	49,0	2.99	0,79	1.74	✓
RG 1000 - 032 - A	RG 1000 - 032 - B	32	1.26	116	4.57	84	3.31			1485	3339	1816	4083	59,9	3.66	0,85	1.87	✓
RG 1000 - 038 - A	RG 1000 - 038 - B	38	1.50	128	5.04	90	3.54	150 bar	2175 psi	1509	3392	1855	4170	69,2	4.22	0,90	1.98	✓
RG 1000 - 050 - A	RG 1000 - 050 - B	50	1.97	152	5.98	102	4.02			1543	3468	1910	4294	87,9	5.36	0,99	2.18	✓
RG 1000 - 063 - A	RG 1000 - 063 - B	63	2.48	178	7.01	115	4.53			1567	3522	1950	4384	108,2	6.60	1,10	2.43	✓
RG 1000 - 075 - A	RG 1000 - 075 - B	75	2.95	202	7.95	127	5.00	+ 20 °C	+68 °F	1583	3558	1976	4442	126,9	7.74	1,19	2.62	✓
RG 1000 - 080 - A	RG 1000 - 080 - B	80	3.15	212	8.35	132	5.20			1588	3570	1985	4462	134,7	8.22	1,23	2.71	✓
RG 1000 - 100 - A	RG 1000 - 100 - B	100	3.94	252	9.92	152	5.98			1605	3607	2013	4524	165,8	10.12	1,39	3.06	✓
RG 1000 - 125 - A	RG 1000 - 125 - B	125	4.92	302	11.89	177	6.97			1618	3638	2036	4577	204,8	12.50	1,60	3.53	✓

◆ Disposable



Drop-in

Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50

FS2 50 - FT 50
FS2A 50 - FTP 50

Body Ø +1,0 +0,5
FC 50 A
FCQC 50

FSA 50
FSD 50 - FSE 50

FSD 50 + R 50 A
FSE 50 + R 50 A

HOW TO ORDER p. 95

INSTALLATION GUIDELINE p. 205

RG 1500

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

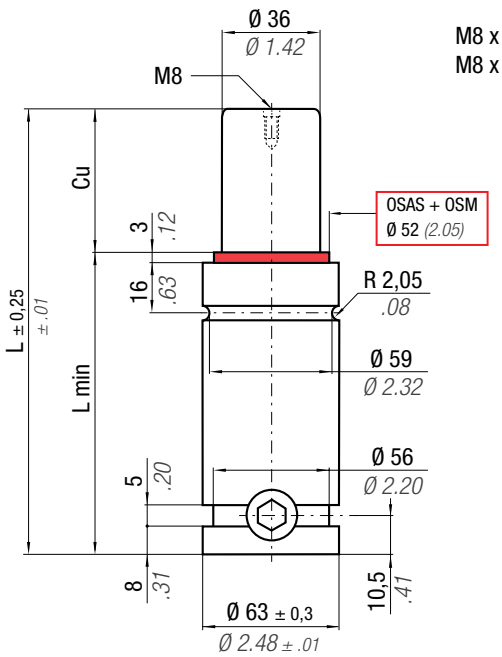
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

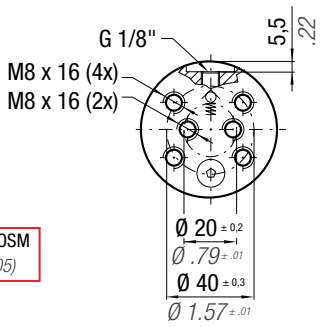
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

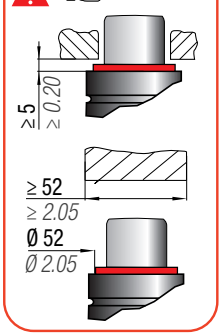
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu





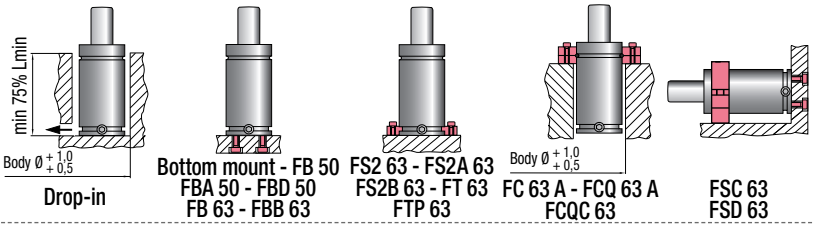
p. 94



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	10,18 cm² / 1.578 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV01500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RG 1500 - 010 - A	◆ RG 1500 - 010 - B	10	0.39	72	2.83	62	2.44	1530 ± 5%	3440	2078	4671	2406	5409	45	2.72	1,04	2.29	✓
RG 1500 - 013 - A	◆ RG 1500 - 013 - B	13	0.51	78	3.07	65	2.56			2157	4848	2528	5683	53	3.20	1,08	2.38	✓
RG 1500 - 016 - A	◆ RG 1500 - 016 - B	16	0.63	84	3.31	68	2.68			2218	4987	2624	5900	61	3.69	1,11	2.45	✓
RG 1500 - 019 - A	RG 1500 - 019 - B	19	0.75	90	3.54	71	2.80			2268	5099	2703	6076	68	4.17	1,15	2.54	✓
RG 1500 - 025 - A	RG 1500 - 025 - B	25	0.98	102	4.02	77	3.03			2343	5267	2822	6344	84	5.14	1,22	2.69	✓
RG 1500 - 032 - A	RG 1500 - 032 - B	32	1.26	116	4.57	84	3.31			2405	5406	2921	6566	103	6.27	1,30	2.87	✓
RG 1500 - 038 - A	RG 1500 - 038 - B	38	1.50	128	5.04	90	3.54	150 bar	2175 psi	2444	5493	2984	6708	119	7.23	1,37	3.02	✓
RG 1500 - 050 - A	RG 1500 - 050 - B	50	1.97	152	5.98	102	4.02			2499	5617	3073	6909	150	9.17	1,51	3.33	✓
RG 1500 - 063 - A	RG 1500 - 063 - B	63	2.48	178	7.01	115	4.53			2538	5707	3139	7056	185	11.26	1,67	3.68	✓
RG 1500 - 075 - A	RG 1500 - 075 - B	75	2.95	202	7.95	127	5.00	+ 20 °C	+68 °F	2565	5765	3182	7152	216	13.19	1,81	3.99	✓
RG 1500 - 080 - A	RG 1500 - 080 - B	80	3.15	212	8.35	132	5.20			2573	5785	3196	7185	229	13.99	1,87	4.12	✓
RG 1500 - 100 - A	RG 1500 - 100 - B	100	3.94	252	9.92	152	5.98			2601	5847	3242	7287	282	17.21	2,11	4.65	✓
RG 1500 - 125 - A	RG 1500 - 125 - B	125	4.92	302	11.89	177	6.97			2624	5899	3280	7373	348	21.24	2,40	5.29	✓

◆ Disposable



Drop-in

Bottom mount - FB 50 FBA 50 - FBD 50 FB 63 - FBB 63

FS2 63 - FS2A 63 FS2B 63 - FT 63 FTP 63

Body Ø + 1,0 + 0,5

FC 63 A - FCQ 63 A FCQC 63

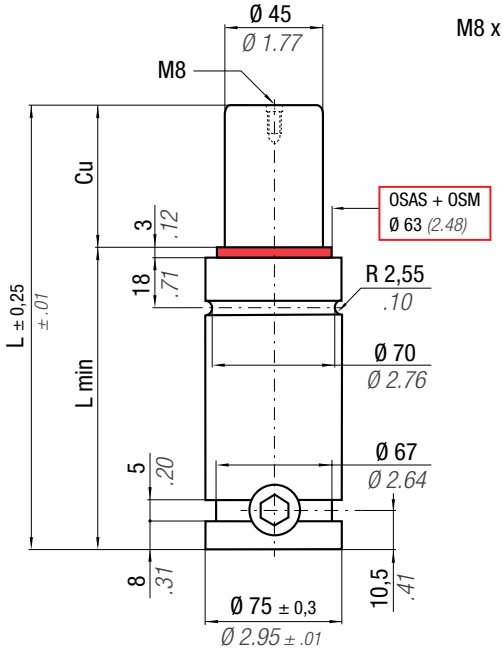
FSC 63 FSD 63

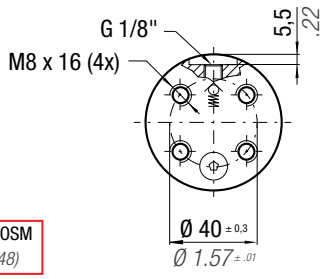
HOW TO ORDER p. 95

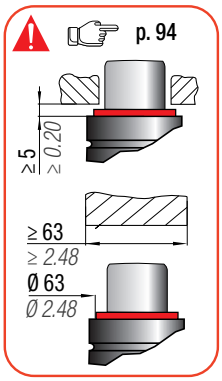
INSTALLATION GUIDELINE p. 205

K32D2-2400-50 (Nissan)	EM24.54.700 (Renault)		

RG 2400







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

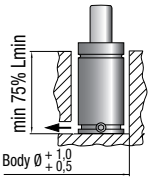
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 15,90 cm² 2.465 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV02400D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RG 2400 - 010 - A	◆RG 2400 - 010 - B	10	0.39	79	3.11	69	2.72	2385 ± 5%	5362	3148	7078	3609	8113	77	4.67	1,65	3.64	✓
RG 2400 - 013 - A	◆RG 2400 - 013 - B	13	0.51	85	3.35	72	2.83			3274	7361	3802	8547	89	5.40	1,70	3.75	✓
RG 2400 - 016 - A	◆RG 2400 - 016 - B	16	0.63	91	3.58	75	2.95			3376	7590	3960	8903	101	6.13	1,75	3.86	✓
RG 2400 - 019 - A	◆RG 2400 - 019 - B	19	0.75	97	3.82	78	3.07			3461	7781	4092	9200	113	6.87	1,79	3.95	✓
RG 2400 - 025 - A	RG 2400 - 025 - B	25	0.98	109	4.29	84	3.31			3593	8077	4301	9668	137	8.34	1,89	4.17	✓
RG 2400 - 032 - A	RG 2400 - 032 - B	32	1.26	123	4.84	91	3.58			3705	8329	4479	10070	165	10.04	1,99	4.39	✓
RG 2400 - 038 - A	RG 2400 - 038 - B	38	1.50	135	5.31	97	3.82	150 bar	2175 psi	3778	8492	4597	10333	189	11.51	2,09	4.61	✓
RG 2400 - 050 - A	RG 2400 - 050 - B	50	1.97	159	6.26	109	4.29			3883	8730	4768	10719	237	14.44	2,28	5.03	✓
RG 2400 - 063 - A	RG 2400 - 063 - B	63	2.48	185	7.28	122	4.80			3961	8905	4896	11006	289	17.62	2,49	5.49	✓
RG 2400 - 075 - A	RG 2400 - 075 - B	75	2.95	209	8.23	134	5.28	+ 20 °C	+68 °F	4014	9023	4982	11199	337	20.55	2,68	5.91	✓
RG 2400 - 080 - A	RG 2400 - 080 - B	80	3.15	219	8.62	139	5.47			4031	9063	5011	11266	357	21.78	2,75	6.06	✓
RG 2400 - 100 - A	RG 2400 - 100 - B	100	3.94	259	10.20	159	6.26			4088	9189	5104	11474	437	26.67	3,07	6.77	✓
RG 2400 - 125 - A	RG 2400 - 125 - B	125	4.92	309	12.17	184	7.24			4134	9293	5180	11646	537	32.79	3,46	7.63	✓

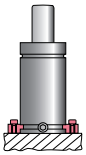
◆ Disposable



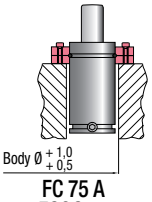
Drop-in



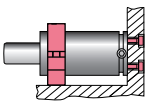
Bottom mount - FB 75
FBA 75 - FBB 75
FBC 75 - FBD 75



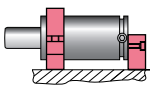
FS2 75 - FT 75
FS2A 75 - FTP 75



FC 75 A
FCQC 75



FSA 75
FSD 75 - FSE 75



FSD 75 + R 75 A
FSE 75 + R 75 A

HOW TO ORDER p. 95

INSTALLATION GUIDELINE p. 205

RG 4200

K32D2-2400-50 (Nissan)	EM24.54.700 (Renault)		

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

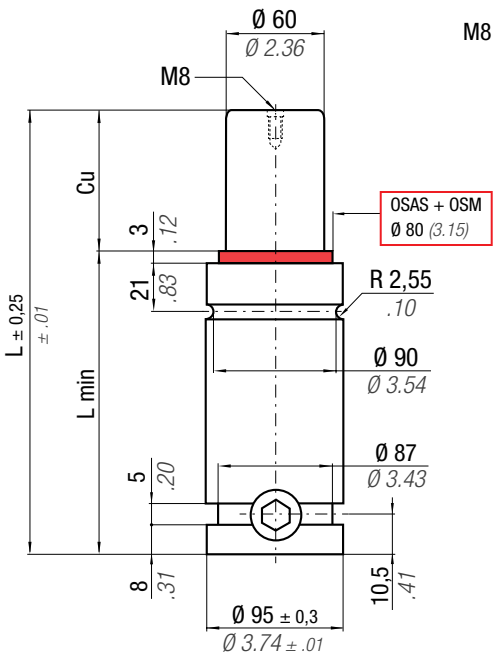
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

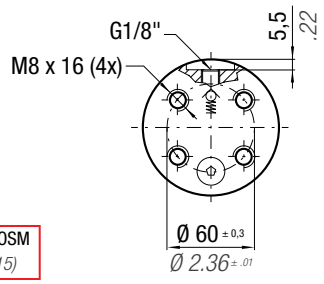
O novo código irá ser fornecido apenas quando o antigo esgotar stock

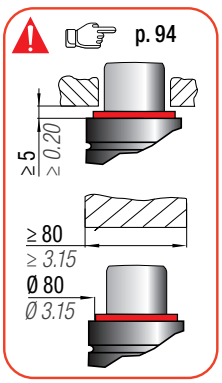
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



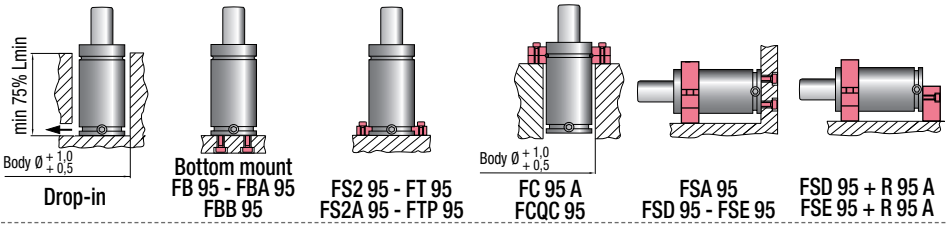




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	28,27 cm² / 4.382 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV04200C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RG 4200 - 016 - A	◆RG 4200 - 016 - B	16	0.63	94	3.70	78	3.07	4240 ± 5%	9532	6103	13720	7197	16179	172	10.48	2,98	6.57	✓
RG 4200 - 019 - A	◆RG 4200 - 019 - B	19	0.75	100	3.94	81	3.19			6269	14093	7458	16767	192	11.71	3,05	6.72	✓
RG 4200 - 025 - A	RG 4200 - 025 - B	25	0.98	112	4.41	87	3.43			6531	14682	7874	17702	232	14.18	3,20	7.05	✓
RG 4200 - 032 - A	RG 4200 - 032 - B	32	1.26	126	4.96	94	3.70			6755	15186	8236	18515	280	17.06	3,38	7.45	✓
RG 4200 - 038 - A	RG 4200 - 038 - B	38	1.50	138	5.43	100	3.94			6902	15517	8475	19052	320	19.52	3,52	7.76	✓
RG 4200 - 050 - A	RG 4200 - 050 - B	50	1.97	162	6.38	112	4.41	150 bar 2175 psi		7117	16001	8827	19844	401	24.45	3,82	8.42	✓
RG 4200 - 063 - A	RG 4200 - 063 - B	63	2.48	188	7.40	125	4.92			7278	16361	9092	20440	488	29.80	4,15	9.15	✓
RG 4200 - 075 - A	RG 4200 - 075 - B	75	2.95	212	8.35	137	5.39			7386	16604	9272	20843	569	34.73	4,45	9.81	✓
RG 4200 - 080 - A	RG 4200 - 080 - B	80	3.15	222	8.74	142	5.59	+ 20 °C +68 °F		7423	16687	9333	20982	603	36.79	4,57	10.08	✓
RG 4200 - 100 - A	RG 4200 - 100 - B	100	3.94	262	10.31	162	6.38			7539	16949	9529	21421	738	45.01	5,07	11.18	✓
RG 4200 - 125 - A	RG 4200 - 125 - B	125	4.92	312	12.28	187	7.36			7639	17173	9696	21798	906	55.29	5,69	12.54	✓

◆ Disposable

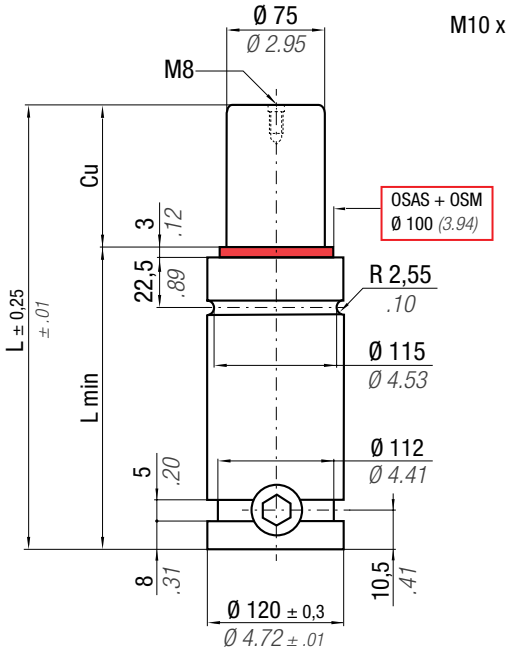


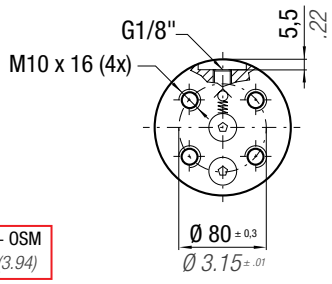
HOW TO ORDER

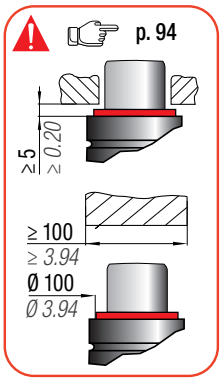
p. 95

INSTALLATION GUIDELINE

p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

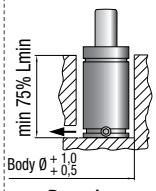
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 44,18 cm² 6.848 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV06600C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RG 6600 - 016 - A	◆ RG 6600 - 016 - B	16	0.63	104	4.09	88	3.46	6630 ± 5%	14904	9056	20359	10500	23606	306	18.69	5,40	11.90	✓
RG 6600 - 019 - A	◆ RG 6600 - 019 - B	19	0.75	110	4.33	91	3.58			9306	20920	10887	24474	338	20.64	5,52	12.17	✓
RG 6600 - 025 - A	RG 6600 - 025 - B	25	0.98	122	4.80	97	3.82			9712	21832	11521	25901	402	24.54	5,76	12.70	✓
RG 6600 - 032 - A	RG 6600 - 032 - B	32	1.26	136	5.35	104	4.09			10073	22644	12093	27187	477	29.08	6,04	13.32	✓
RG 6600 - 038 - A	RG 6600 - 038 - B	38	1.50	148	5.83	110	4.33			10316	23192	12483	28063	541	32.98	6,28	13.85	✓
RG 6600 - 050 - A	RG 6600 - 050 - B	50	1.97	172	6.77	122	4.80	150 bar 2175 psi		10683	24016	13075	29394	668	40.78	6,76	14.90	✓
RG 6600 - 063 - A	RG 6600 - 063 - B	63	2.48	198	7.80	135	5.31			10964	24648	13534	30427	807	49.23	7,28	16.05	✓
RG 6600 - 075 - A	RG 6600 - 075 - B	75	2.95	222	8.74	147	5.79			11157	25083	13852	31141	935	57.03	7,75	17.09	✓
RG 6600 - 080 - A	RG 6600 - 080 - B	80	3.15	232	9.13	152	5.98	+ 20 °C +68 °F		11225	25234	13963	31390	988	60.28	7,95	17.53	✓
RG 6600 - 100 - A	RG 6600 - 100 - B	100	3.94	272	10.71	172	6.77			11439	25715	14318	32188	1201	73.28	8,75	19.29	✓
RG 6600 - 125 - A	RG 6600 - 125 - B	125	4.92	322	12.68	197	7.76			11625	26133	14628	32885	1467	89.53	9,75	21.50	✓

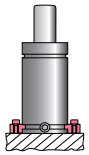
◆ Disposable



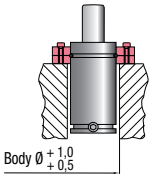
Drop-in



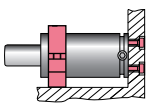
Bottom mount
FB 120 - FBA 120
FBB 120



FS2 120-FT 120
FS2A 120-FTP 120



FC 120 A
FCQC 120

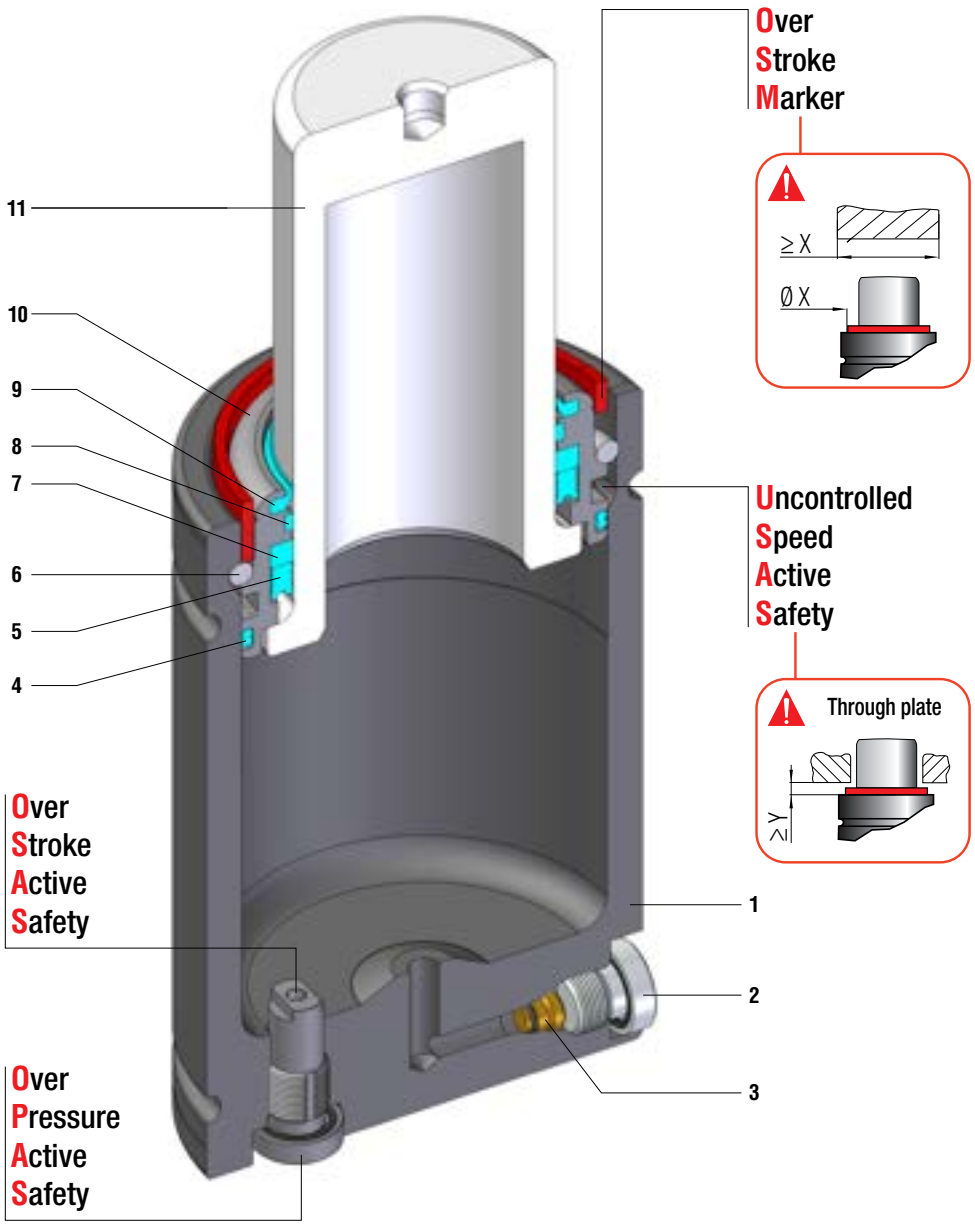


FSA 120
FSD 120

HOW TO ORDER p. 95

INSTALLATION GUIDELINE p. 205

Mazda	Nissan	PSA
Renault	Toyota	



Minima altezza, massima forza, collegabili G1/8 - Minimum height, maximum force, hose cylinders with G1/8 charging port
Minimale Höhe, maximale Kraft, Gdf. mit G1/8 Öffnung verbindbar - Hauteur minimale, force maximale, cylindres raccordés avec trou G1/8 gaz
Mínima altura, máxima fuerza, cilindros conectados con agujero G1/8 gas - Altura mínima, força máxima, cilindros conectados com furo G1/8 gás

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal	**9**	Rod wiper
2	Plug	**6**	Retaining ring	**10**	Bush
3	Valve	**7**	Back-up ring	**11**	Rod (nitrited superfinished)
4	Dual ring seal	**8**	Guide ring		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
RT 350	32	1.26	10 - 125	0.39 - 4.92	360	809	✓	✓	✓	-	✓
RT 500	38	1.50	10 - 125	0.39 - 4.92	470	1057	✓	✓	✓	-	✓
RT 750	45	1.77	10 - 125	0.39 - 4.92	740	1664	✓	✓	✓	-	✓
RT 1000	50	1.97	10 - 125	0.39 - 4.92	920	2068	✓	✓	✓	-	✓
RT 1200	50	1.97	10 - 125	0.39 - 4.92	1060	2383	✓	✓	✓	-	✓
RT 1500	63	2.48	10 - 125	0.39 - 4.92	1530	3440	✓	✓	✓	-	✓
RT 2400	75	2.95	10 - 125	0.39 - 4.92	2385	5362	✓	✓	✓	-	✓
RT 4200	95	3.74	16 - 125	0.63 - 4.92	4240	9532	✓	✓	✓	-	✓
RT 6600	120	4.72	16 - 125	0.63 - 4.92	6630	14905	✓	✓	✓	-	✓
RT 9500	150	5.91	19 - 125	0.75 - 4.92	9540	21447	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — RT
Model — 2400
Stroke — 050
Version — B-E-W
Revision code

RT2400-050-B-E-W

Available versions



RT 2400-050-B
Standard code
Self contained



RT 2400-050-B-W
Add "-W" to standard code
Self contained
+
Secondary wiper



RT 2400-050-B-N
Add "-N" to standard code
Linkable



RT 2400-050-B-N-W
Add "-N-W" to standard code
Linkable
+
Secondary wiper



RT 2400-050-B-E
Add "-E" to standard code
Easy Manifold



RT 2400-050-B-E-W
Add "-E-W" to standard code
Easy Manifold
+
Secondary wiper

PG24D (Mazda)		

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

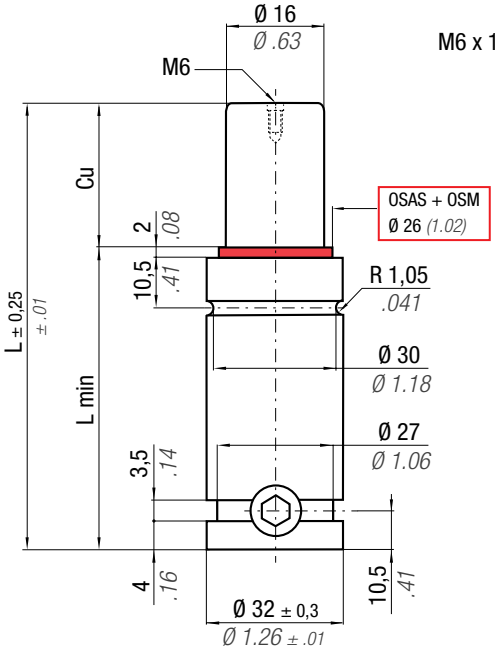
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

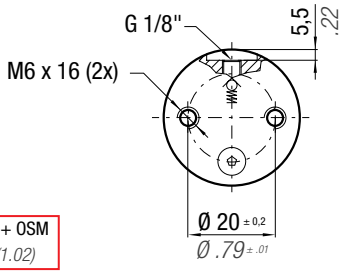
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

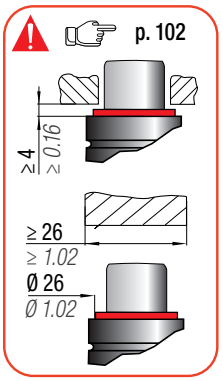
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



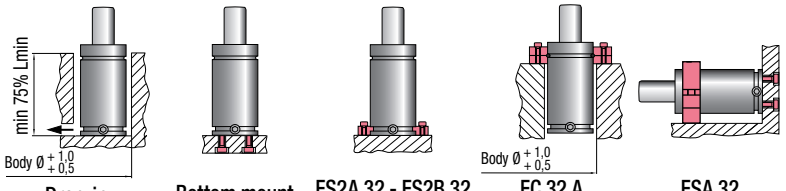




N2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	2,01 cm² / 0.312 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00350C

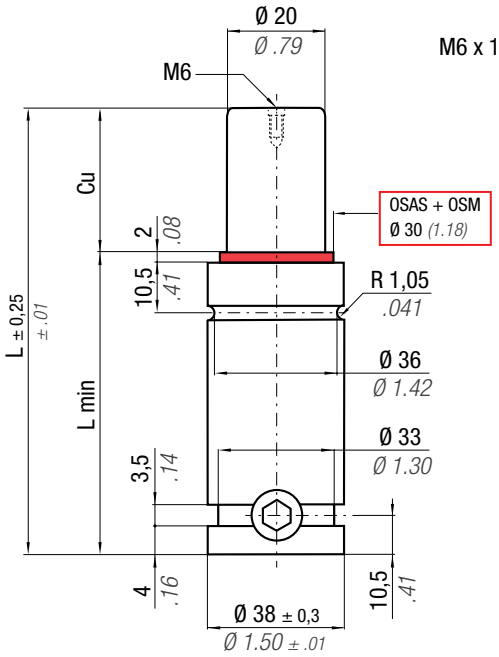
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RT 350 - 010 - A	◆ RT 350 - 010 - B	10	0.39	60	2.36	50	1.97	360 ± 5%	809	531	1194	607	1366	7,7	0.47	0,22	0.48	✓
RT 350 - 013 - A	◆ RT 350 - 013 - B	13	0.51	66	2.60	53	2.09	180 bar 2610psi		544	1224	627	1409	9,5	0.58	0,23	0.50	✓
RT 350 - 016 - A	RT 350 - 016 - B	16	0.63	72	2.83	56	2.20	+ 20 °C	+68 °F	554	1245	641	1440	11,2	0.68	0,24	0.52	✓
RT 350 - 019 - A	RT 350 - 019 - B	19	0.75	78	3.07	59	2.32			561	1261	651	1463	13,0	0.79	0,25	0.54	✓
RT 350 - 025 - A	RT 350 - 025 - B	25	0.98	90	3.54	65	2.56			571	1283	665	1496	16,6	1.01	0,27	0.60	✓
RT 350 - 032 - A	RT 350 - 032 - B	32	1.26	104	4.09	72	2.83			578	1300	676	1520	20,7	1.26	0,29	0.64	✓
RT 350 - 038 - A	RT 350 - 038 - B	38	1.50	116	4.57	78	3.07			583	1310	683	1535	24,3	1.48	0,31	0.68	✓
RT 350 - 050 - A	RT 350 - 050 - B	50	1.97	140	5.51	90	3.54			589	1323	691	1554	31,4	1.92	0,35	0.77	✓
RT 350 - 063 - A	RT 350 - 063 - B	63	2.48	166	6.54	103	4.06			593	1333	697	1568	39,1	2.39	0,39	0.86	✓
RT 350 - 075 - A	RT 350 - 075 - B	75	2.95	190	7.48	115	4.53			595	1338	701	1576	46,3	2.83	0,43	0.95	✓
RT 350 - 080 - A	RT 350 - 080 - B	80	3.15	200	7.87	120	4.72			596	1340	702	1579	49,2	3.00	0,45	0.99	✓
RT 350 - 100 - A	RT 350 - 100 - B	100	3.94	240	9.45	140	5.51			599	1346	706	1588	61,1	3.73	0,51	1.12	✓
RT 350 - 125 - A	RT 350 - 125 - B	125	4.92	290	11.42	165	6.50			606	1363	717	1613	74,9	4.57	0,59	1.30	✓

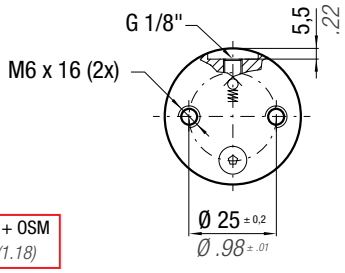
◆ Disposable

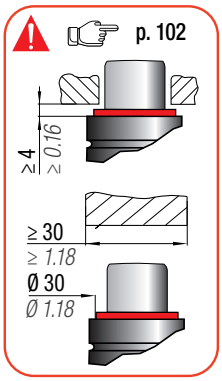


HOW TO ORDER p. 103

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

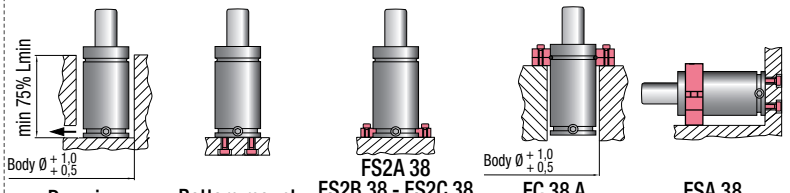
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 3,14 cm² 0.487 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV00500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RT 500 - 010 - A	◆ RT 500 - 010 - B	10	0.39	60	2.36	50	1.97	470 ± 5%	1057	696	1565	828	1862	11,2	0.68	0,32	0.71	✓
RT 500 - 013 - A	◆ RT 500 - 013 - B	13	0.51	66	2.60	53	2.09			716	1609	859	1931	13,8	0.84	0,34	0.75	✓
RT 500 - 016 - A	RT 500 - 016 - B	16	0.63	72	2.83	56	2.20			730	1641	882	1982	16,3	0.99	0,36	0.79	✓
RT 500 - 019 - A	RT 500 - 019 - B	19	0.75	78	3.07	59	2.32			740	1664	899	2020	18,9	1.15	0,37	0.82	✓
RT 500 - 025 - A	RT 500 - 025 - B	25	0.98	90	3.54	65	2.56			755	1698	922	2074	24,0	1.46	0,40	0.88	✓
RT 500 - 032 - A	RT 500 - 032 - B	32	1.26	104	4.09	72	2.83			766	1723	941	2115	30,0	1.83	0,43	0.95	✓
RT 500 - 038 - A	RT 500 - 038 - B	38	1.50	116	4.57	78	3.07	150 bar	2175psi	773	1738	952	2140	35,1	2.14	0,46	1.01	✓
RT 500 - 050 - A	RT 500 - 050 - B	50	1.97	140	5.51	90	3.54			782	1759	967	2173	45,3	2.76	0,52	1.15	✓
RT 500 - 063 - A	RT 500 - 063 - B	63	2.48	166	6.54	103	4.06			789	1773	977	2196	56,4	3.44	0,58	1.28	✓
RT 500 - 075 - A	RT 500 - 075 - B	75	2.95	190	7.48	115	4.53	+ 20 °C	+68 °F	792	1782	984	2211	66,6	4.06	0,63	1.39	✓
RT 500 - 080 - A	RT 500 - 080 - B	80	3.15	200	7.87	120	4.72			794	1785	986	2216	70,8	4.32	0,66	1.46	✓
RT 500 - 100 - A	RT 500 - 100 - B	100	3.94	240	9.45	140	5.51			798	1794	992	2231	87,9	5.36	0,75	1.65	✓
RT 500 - 125 - A	RT 500 - 125 - B	125	4.92	290	11.42	165	6.50			801	1801	998	2243	109,2	6.66	0,87	1.92	✓

◆ Disposable



Drop-in

Bottom mount

FS2A 38
FS2B 38 - FS2C 38
FT 38 - FTP 38

Body Ø +1,0 +0,5

FC 38 A
FCQC 38

FSA 38
FSD 38

HOW TO ORDER p. 103

INSTALLATION GUIDELINE p. 205

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

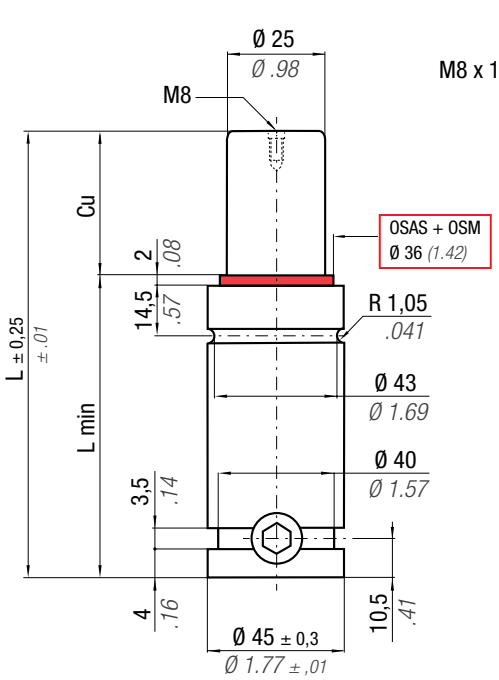
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

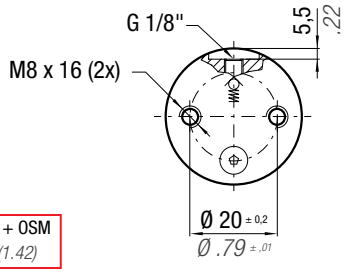
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

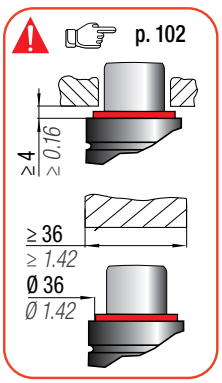
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



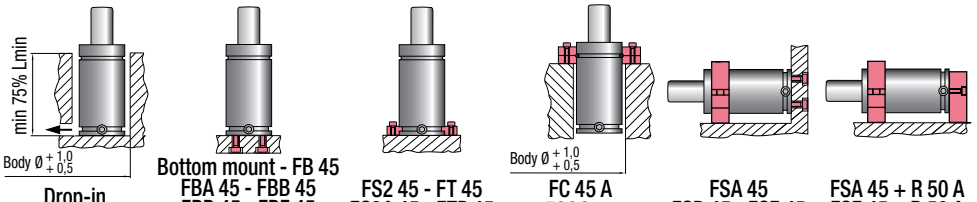




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV00750C

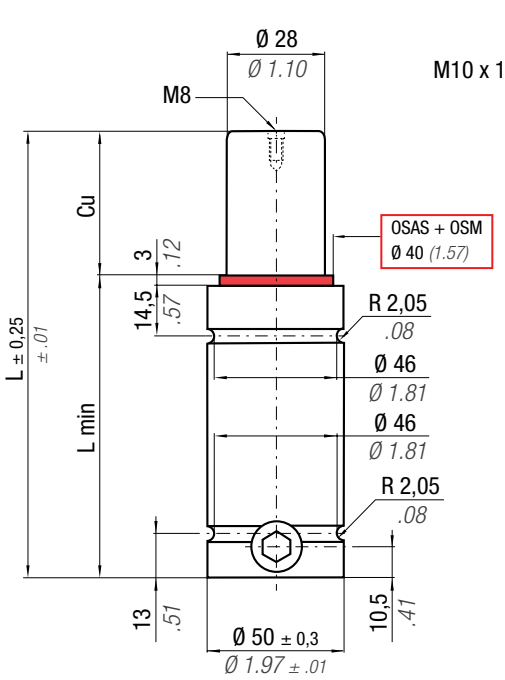
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RT 750 - 010 - A	◆ RT 750 - 010 - B	10	0.39	67	2.64	57	2.24	740 ± 5%	1664	1026	2307	1198	2693	20,2	1.23	0,50	1.10	✓
RT 750 - 013 - A	◆ RT 750 - 013 - B	13	0.51	73	2.87	60	2.36			1065	2394	1258	2828	23,9	1.46	0,52	1.15	✓
RT 750 - 016 - A	RT 750 - 016 - B	16	0.63	79	3.11	63	2.48			1095	2461	1305	2933	27,7	1.69	0,54	1.19	✓
RT 750 - 019 - A	RT 750 - 019 - B	19	0.75	85	3.35	66	2.60			1118	2514	1342	3017	31,5	1.92	0,56	1.23	✓
RT 750 - 025 - A	RT 750 - 025 - B	25	0.98	97	3.82	72	2.83			1153	2593	1398	3143	39,1	2.39	0,60	1.32	✓
RT 750 - 032 - A	RT 750 - 032 - B	32	1.26	111	4.37	79	3.11			1182	2656	1444	3246	47,9	2.92	0,64	1.41	✓
RT 750 - 038 - A	RT 750 - 038 - B	38	1.50	123	4.84	85	3.35	150 bar	2175psi	1199	2696	1473	3311	55,5	3.39	0,68	1.50	✓
RT 750 - 050 - A	RT 750 - 050 - B	50	1.97	147	5.79	97	3.82			1224	2752	1514	3403	70,6	4.31	0,76	1.68	✓
RT 750 - 063 - A	RT 750 - 063 - B	63	2.48	173	6.81	110	4.33			1242	2792	1543	3468	87,0	5.31	0,84	1.85	✓
RT 750 - 075 - A	RT 750 - 075 - B	75	2.95	197	7.76	122	4.80	+ 20 °C	+68 °F	1253	2818	1562	3511	102,1	6.23	0,92	2.03	✓
RT 750 - 080 - A	RT 750 - 080 - B	80	3.15	207	8.15	127	5.00			1257	2827	1568	3526	108,4	6.61	0,95	2.09	✓
RT 750 - 100 - A	RT 750 - 100 - B	100	3.94	247	9.72	147	5.79			1269	2854	1588	3571	133,7	8.16	1,08	2.38	✓
RT 750 - 125 - A	RT 750 - 125 - B	125	4.92	297	11.69	172	6.77			1280	2877	1605	3609	165,2	10.08	1,24	2.73	✓

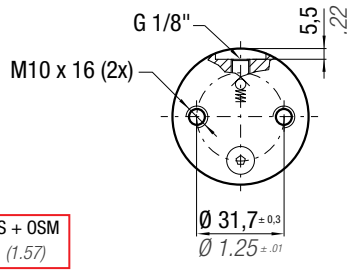
◆ Disposable

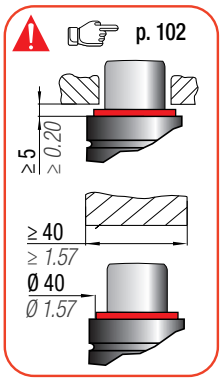


HOW TO ORDER p. 101

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

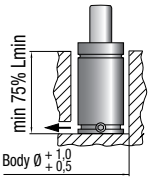
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 6,15 cm² 0.953 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RT 1000 - 010 - A	◆ RT 1000 - 010 - B	10	0.39	72	2.83	62	2.44			1282	2883	1495	3329	25,5	1,56	0,68	1.50	✓
RT 1000 - 013 - A	◆ RT 1000 - 013 - B	13	0.51	78	3.07	65	2.56			1332	2995	1572	3500	30,2	1,84	0,70	1.54	✓
RT 1000 - 016 - A	RT 1000 - 016 - B	16	0.63	84	3.31	68	2.68			1371	3082	1633	3635	34,9	2,13	0,73	1.61	✓
RT 1000 - 019 - A	RT 1000 - 019 - B	19	0.75	90	3.54	71	2.80			1402	3151	1682	3745	39,6	2,42	0,75	1.65	✓
RT 1000 - 025 - A	RT 1000 - 025 - B	25	0.98	102	4.02	77	3.03	920 ± 5%	2068	1448	3255	1756	3909	48,9	2,98	0,80	1.76	✓
RT 1000 - 032 - A	RT 1000 - 032 - B	32	1.26	116	4.57	84	3.31			1486	3340	1817	4047	59,8	3,65	0,86	1.90	✓
RT 1000 - 038 - A	RT 1000 - 038 - B	38	1.50	128	5.04	90	3.54	150 bar	2175 psi	1510	3394	1856	4132	69,2	4,22	0,90	1.98	✓
RT 1000 - 050 - A	RT 1000 - 050 - B	50	1.97	152	5.98	102	4.02			1543	3469	1911	4256	87,9	5,36	1,00	2.20	✓
RT 1000 - 063 - A	RT 1000 - 063 - B	63	2.48	178	7.01	115	4.53			1567	3523	1951	4346	108,1	6,60	1,10	2.43	✓
RT 1000 - 075 - A	RT 1000 - 075 - B	75	2.95	202	7.95	127	5.00	+ 20 °C	+68 °F	1583	3559	1977	4404	126,8	7,74	1,20	2.65	✓
RT 1000 - 080 - A	RT 1000 - 080 - B	80	3.15	212	8.35	132	5.20			1588	3571	1986	4424	134,6	8,21	1,24	2.73	✓
RT 1000 - 100 - A	RT 1000 - 100 - B	100	3.94	252	9.92	152	5.98			1605	3608	2013	4485	165,8	10,12	1,40	3.09	✓
RT 1000 - 125 - A	RT 1000 - 125 - B	125	4.92	302	11.89	177	6.97			1619	3639	2036	4537	204,7	12,49	1,60	3.53	✓

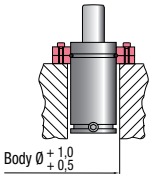
◆ Disposable



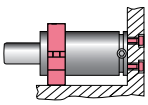
Drop-in



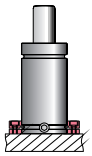
Bottom mount FBF 50



FC 50 A FCQC 50



FSA 50 FSD 50 - FSE 50



FS1 50

HOW TO ORDER p. 101

INSTALLATION GUIDELINE p. 205

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

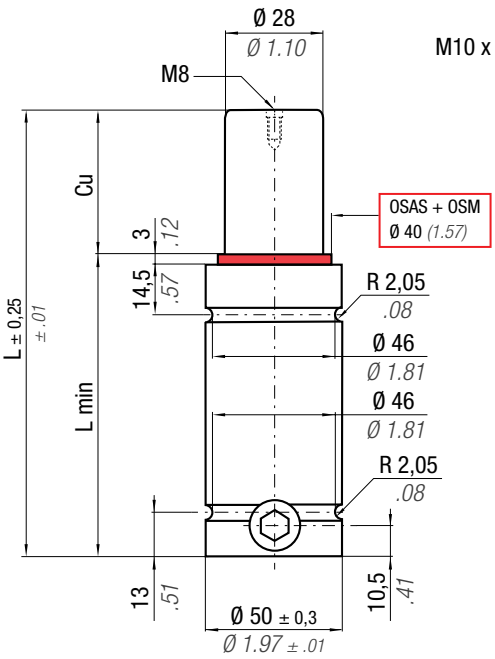
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

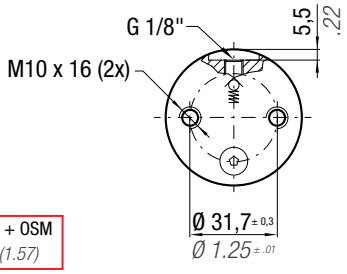
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

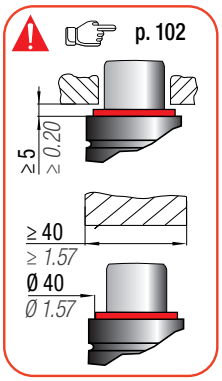
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



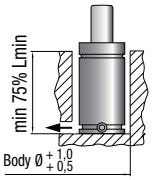




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	170 bar / 2465 psi	20 bar / 290 psi	6,15 cm² / 0.953 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV01000C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RT 1200 - 010 - A	◆ RT 1200 - 010 - B	10	0.39	72	2.83	62	2.44	1046 ± 5%	2352	1473	3311	1685	3754	25,5	1,56	0,68	1.50	✓
RT 1200 - 013 - A	◆ RT 1200 - 013 - B	13	0.51	78	3.07	65	2.56			1532	3444	1772	3946	30,2	1,84	0,70	1.54	✓
RT 1200 - 016 - A	RT 1200 - 016 - B	16	0.63	84	3.31	68	2.68			1578	3548	1841	4098	34,9	2,13	0,73	1.61	✓
RT 1200 - 019 - A	RT 1200 - 019 - B	19	0.75	90	3.54	71	2.80			1615	3632	1896	4221	39,6	2,42	0,75	1.65	✓
RT 1200 - 025 - A	RT 1200 - 025 - B	25	0.98	102	4.02	77	3.03			1671	3757	1980	4408	48,9	2,98	0,80	1.76	✓
RT 1200 - 032 - A	RT 1200 - 032 - B	32	1.26	116	4.57	84	3.31			1717	3859	2049	4562	59,8	3,65	0,86	1.90	✓
RT 1200 - 038 - A	RT 1200 - 038 - B	38	1.50	128	5.04	90	3.54	170 bar 2465 psi		1745	3923	2093	4660	69,2	4,22	0,90	1.98	✓
RT 1200 - 050 - A	RT 1200 - 050 - B	50	1.97	152	5.98	102	4.02			1786	4014	2155	4798	87,9	5,36	1,00	2.20	✓
RT 1200 - 063 - A	RT 1200 - 063 - B	63	2.48	178	7.01	115	4.53			1814	4079	2199	4899	108,1	6,60	1,10	2.43	✓
RT 1200 - 075 - A	RT 1200 - 075 - B	75	2.95	202	7.95	127	5.00	+ 20 °C +68 °F		1833	4122	2229	4965	126,8	7,74	1,20	2.65	✓
RT 1200 - 080 - A	RT 1200 - 080 - B	80	3.15	212	8.35	132	5.20			1840	4136	2239	4987	134,6	8,21	1,24	2.73	✓
RT 1200 - 100 - A	RT 1200 - 100 - B	100	3.94	252	9.92	152	5.98			1860	4181	2270	5057	165,8	10,12	1,40	3.09	✓
RT 1200 - 125 - A	RT 1200 - 125 - B	125	4.92	302	11.89	177	6.97			1877	4219	2296	5115	204,7	12,49	1,60	3.53	✓

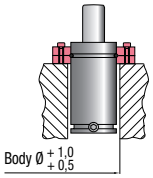
◆ Disposable



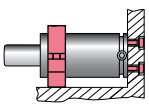
Drop-in



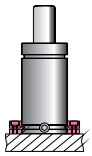
Bottom mount FBF 50



FC 50 A FCQC 50



FSA 50 FSD 50 - FSE 50



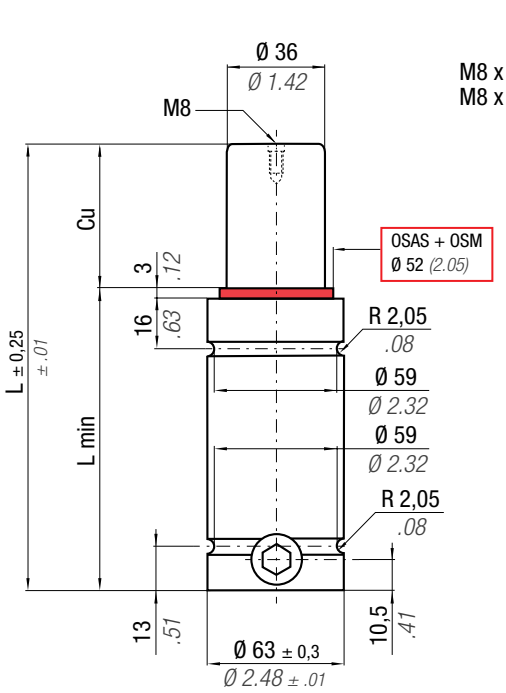
FS1 50

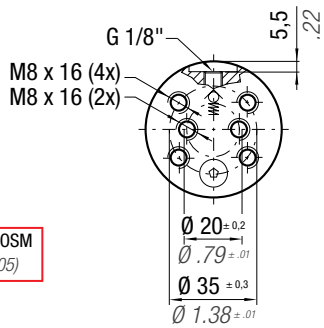
HOW TO ORDER

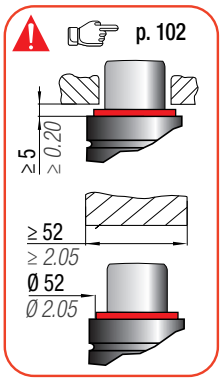
p. 103

INSTALLATION GUIDELINE

p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

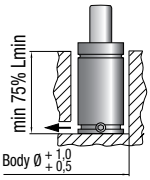
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 10,18 cm² 1.578 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMRV01500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RT 1500 - 010 - A	◆RT 1500 - 010 - B	10	0.39	72	2.83	62	2.44			2078	4671	2406	5409	45	2.72	1,05	2.31	✓
RT 1500 - 013 - A	◆RT 1500 - 013 - B	13	0.51	78	3.07	65	2.56			2157	4848	2528	5683	53	3.20	1,09	2.40	✓
RT 1500 - 016 - A	◆RT 1500 - 016 - B	16	0.63	84	3.31	68	2.68			2218	4987	2624	5900	61	3.69	1,13	2.49	✓
RT 1500 - 019 - A	RT 1500 - 019 - B	19	0.75	90	3.54	71	2.80	1530 ± 5%	3440	2267	5097	2701	6073	68	4.17	1,16	2.56	✓
RT 1500 - 025 - A	RT 1500 - 025 - B	25	0.98	102	4.02	77	3.03			2343	5267	2822	6344	84	5.14	1,23	2.71	✓
RT 1500 - 032 - A	RT 1500 - 032 - B	32	1.26	116	4.57	84	3.31			2405	5406	2921	6566	103	6.27	1,31	2.89	✓
RT 1500 - 038 - A	RT 1500 - 038 - B	38	1.50	128	5.04	90	3.54	150 bar	2175 psi	2444	5493	2984	6708	119	7.23	1,38	3.04	✓
RT 1500 - 050 - A	RT 1500 - 050 - B	50	1.97	152	5.98	102	4.02			2499	5617	3073	6909	150	9.17	1,53	3.37	✓
RT 1500 - 063 - A	RT 1500 - 063 - B	63	2.48	178	7.01	115	4.53			2538	5707	3139	7056	185	11.26	1,69	3.73	✓
RT 1500 - 075 - A	RT 1500 - 075 - B	75	2.95	202	7.95	127	5.00	+ 20 °C	+68 °F	2565	5765	3182	7152	216	13.19	1,83	4.03	✓
RT 1500 - 080 - A	RT 1500 - 080 - B	80	3.15	212	8.35	132	5.20			2573	5785	3196	7185	229	13.99	1,89	4.17	✓
RT 1500 - 100 - A	RT 1500 - 100 - B	100	3.94	252	9.92	152	5.98			2601	5847	3242	7287	282	17.21	2,12	4.67	✓
RT 1500 - 125 - A	RT 1500 - 125 - B	125	4.92	302	11.89	177	6.97			2624	5899	3280	7373	348	21.24	2,41	5.31	✓

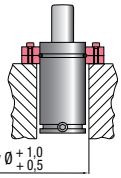
◆ Disposable



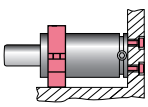
Drop-in



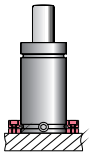
Bottom mount - FB 50
FBA 50 - FBD 50
FB 63 - FBB 63



FC 63 A- FCQ 63 A
FCQC 63



FSC 63
FSD 63



FS1 63

HOW TO ORDER p. 103

INSTALLATION GUIDELINE p. 205

RT 2400

K 32 R (Nissan)	E24.54.815.G (PSA)	EM24.54.700 (Renault)
SMS DNH 3203n Rev.3 (TOYOTA)		

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

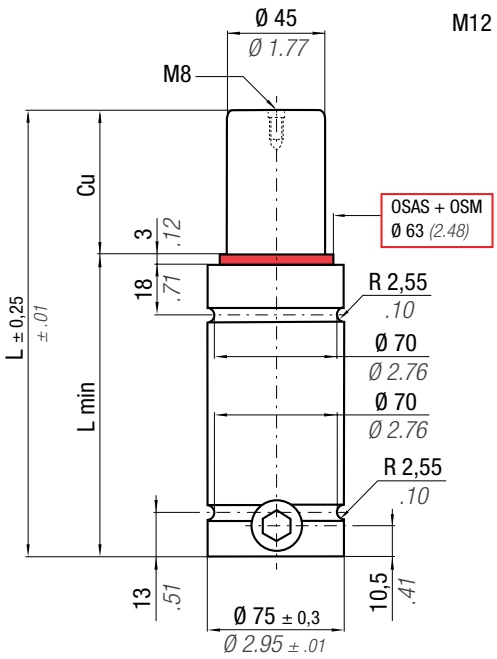
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

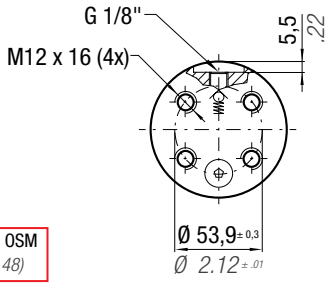
O novo código irá ser fornecido apenas quando o antigo esgotar stock

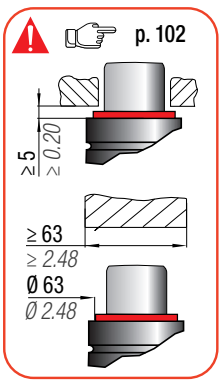
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



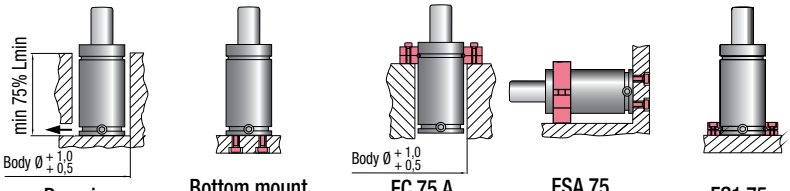




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	15,90 cm² / 2.465 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV02400D

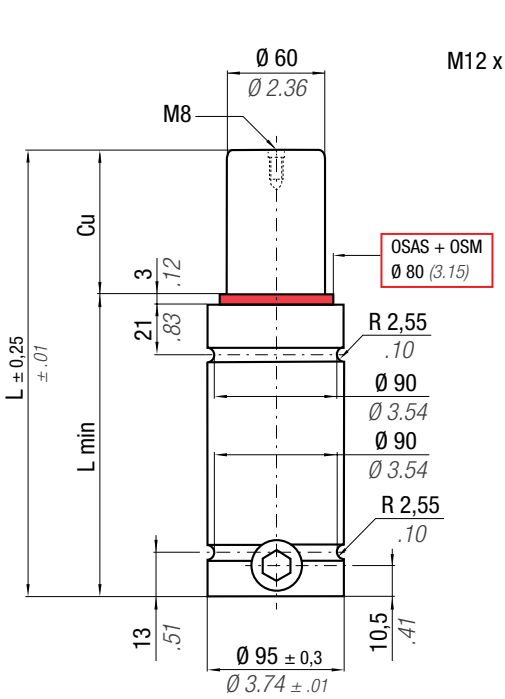
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RT 2400 - 010 - A	◆ RT 2400 - 010 - B	10	0.39	79	3.11	69	2.72	2385 ± 5%	5362	3146	7073	3606	8106	77	4.67	1,44	3.17	✓
RT 2400 - 013 - A	◆ RT 2400 - 013 - B	13	0.51	85	3.35	72	2.83			3272	7356	3799	8539	89	5.41	1,64	3.62	✓
RT 2400 - 016 - A	◆ RT 2400 - 016 - B	16	0.63	91	3.58	75	2.95			3374	7586	3957	8895	101	6.15	1,74	3.84	✓
RT 2400 - 019 - A	◆ RT 2400 - 019 - B	19	0.75	97	3.82	78	3.07			3459	7776	4089	9193	113	6.88	1,78	3.92	✓
RT 2400 - 025 - A	RT 2400 - 025 - B	25	0.98	109	4.29	84	3.31			3591	8073	4297	9661	137	8.34	1,88	4.14	✓
RT 2400 - 032 - A	RT 2400 - 032 - B	32	1.26	123	4.84	91	3.58			3703	8325	4476	10063	165	10.06	1,99	4.39	✓
RT 2400 - 038 - A	RT 2400 - 038 - B	38	1.50	135	5.31	97	3.82			3776	8488	4594	10327	189	11.52	2,08	4.59	✓
RT 2400 - 050 - A	RT 2400 - 050 - B	50	1.97	159	6.26	109	4.29	150 bar 2175 psi		3882	8726	4766	10713	237	14.46	2,27	5.00	✓
RT 2400 - 063 - A	RT 2400 - 063 - B	63	2.48	185	7.28	122	4.80			3960	8902	4894	11001	289	17.63	2,48	5.47	✓
RT 2400 - 075 - A	RT 2400 - 075 - B	75	2.95	209	8.23	134	5.28	+ 20 °C	+68 °F	4012	9020	4980	11195	337	20.57	2,67	5.89	✓
RT 2400 - 080 - A	RT 2400 - 080 - B	80	3.15	219	8.62	139	5.47			4030	9060	5009	11261	357	21.79	2,74	6.04	✓
RT 2400 - 100 - A	RT 2400 - 100 - B	100	3.94	259	10.20	159	6.26			4087	9187	5102	11471	437	26.67	3,06	6.75	✓
RT 2400 - 125 - A	RT 2400 - 125 - B	125	4.92	309	12.17	184	7.24			4134	9295	5182	11649	537	32.79	3,45	7.61	✓

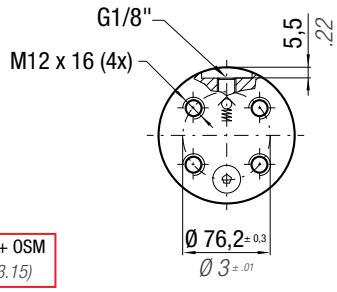
◆ Disposable

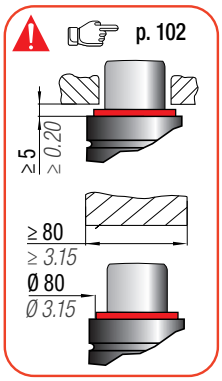


HOW TO ORDER p. 103

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

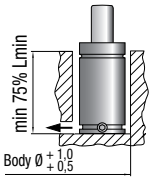
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

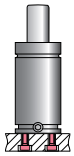
N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 28,27 cm² / 4.382 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMRV04200C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RT 4200 - 016 - A	◆ RT 4200 - 016 - B	16	0.63	94	3.70	78	3.07	4240 ± 5%	9532	6103	13720	7197	16179	172	10.48	2,97	6.55	✓
RT 4200 - 019 - A	◆ RT 4200 - 019 - B	19	0.75	100	3.94	81	3.19			6269	14093	7458	16767	192	11.71	3,05	6.72	✓
RT 4200 - 025 - A	RT 4200 - 025 - B	25	0.98	112	4.41	87	3.43			6531	14682	7874	17702	232	14.18	3,20	7.05	✓
RT 4200 - 032 - A	RT 4200 - 032 - B	32	1.26	126	4.96	94	3.70			6755	15186	8236	18515	280	17.06	3,37	7.43	✓
RT 4200 - 038 - A	RT 4200 - 038 - B	38	1.50	138	5.43	100	3.94			6902	15517	8475	19052	320	19.52	3,52	7.76	✓
RT 4200 - 050 - A	RT 4200 - 050 - B	50	1.97	162	6.38	112	4.41	150 bar	2175 psi	7117	16001	8827	19844	401	24.45	3,82	8.42	✓
RT 4200 - 063 - A	RT 4200 - 063 - B	63	2.48	188	7.40	125	4.92			7278	16361	9092	20440	488	29.80	4,14	9.13	✓
RT 4200 - 075 - A	RT 4200 - 075 - B	75	2.95	212	8.35	137	5.39			7386	16604	9272	20843	569	34.73	4,44	9.79	✓
RT 4200 - 080 - A	RT 4200 - 080 - B	80	3.15	222	8.74	142	5.59	+ 20 °C	+68 °F	7423	16687	9333	20982	603	36.79	4,57	10.08	✓
RT 4200 - 100 - A	RT 4200 - 100 - B	100	3.94	262	10.31	162	6.38			7539	16949	9529	21421	738	45.01	5,07	11.18	✓
RT 4200 - 125 - A	RT 4200 - 125 - B	125	4.92	312	12.28	187	7.36			7639	17173	9696	21798	906	55.29	5,69	12.54	✓

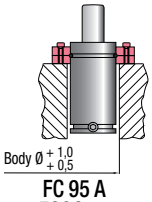
◆ Disposable



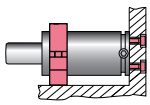
Drop-in



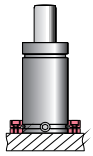
Bottom mount



FC 95 A
FCQC 95



FSA 95
FSD 95 - FSE 95



FS1 95

HOW TO ORDER p. 103

INSTALLATION GUIDELINE p. 205

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

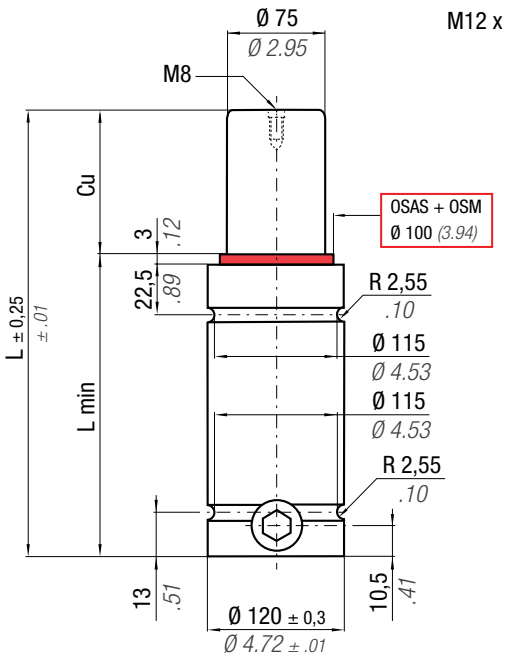
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

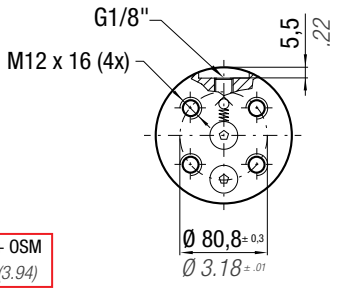
O novo código irá ser fornecido apenas quando o antigo esgotar stock

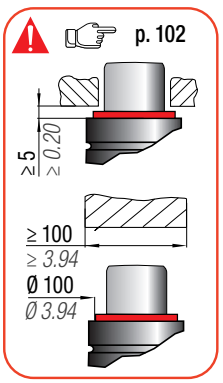
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



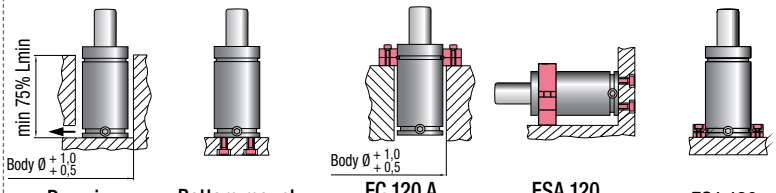




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	44,18 cm² / 6.848 in²	~ 20 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMRV06600C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
RT 6600 - 016 - A	◆ RT 6600 - 016 - B	16	0.63	104	4.09	88	3.46	6630 ± 5%	14904	9056	20359	10500	23606	306	18.69	5,41	11.93	✓
RT 6600 - 019 - A	◆ RT 6600 - 019 - B	19	0.75	110	4.33	91	3.58			9306	20920	10887	24474	338	20.64	5,53	12.19	✓
RT 6600 - 025 - A	RT 6600 - 025 - B	25	0.98	122	4.80	97	3.82			9712	21832	11521	25901	402	24.54	5,77	12.72	✓
RT 6600 - 032 - A	RT 6600 - 032 - B	32	1.26	136	5.35	104	4.09			10073	22644	12093	27187	477	29.08	6,05	13.34	✓
RT 6600 - 038 - A	RT 6600 - 038 - B	38	1.50	148	5.83	110	4.33			10316	23192	12483	28063	541	32.98	6,25	13.78	✓
RT 6600 - 050 - A	RT 6600 - 050 - B	50	1.97	172	6.77	122	4.80			10683	24016	13075	29394	668	40.78	6,77	14.93	✓
RT 6600 - 063 - A	RT 6600 - 063 - B	63	2.48	198	7.80	135	5.31	150 bar	2175 psi	10964	24648	13534	30427	807	49.23	7,25	15.98	✓
RT 6600 - 075 - A	RT 6600 - 075 - B	75	2.95	222	8.74	147	5.79			11157	25083	13852	31141	935	57.03	7,77	17.13	✓
RT 6600 - 080 - A	RT 6600 - 080 - B	80	3.15	232	9.13	152	5.98	+ 20 °C	+68 °F	11225	25234	13963	31390	988	60.28	7,97	17.57	✓
RT 6600 - 100 - A	RT 6600 - 100 - B	100	3.94	272	10.71	172	6.77			11439	25715	14318	32188	1201	73.28	8,76	19.31	✓
RT 6600 - 125 - A	RT 6600 - 125 - B	125	4.92	322	12.68	197	7.76			11625	26133	14628	32885	1467	89.53	9,76	21.52	✓

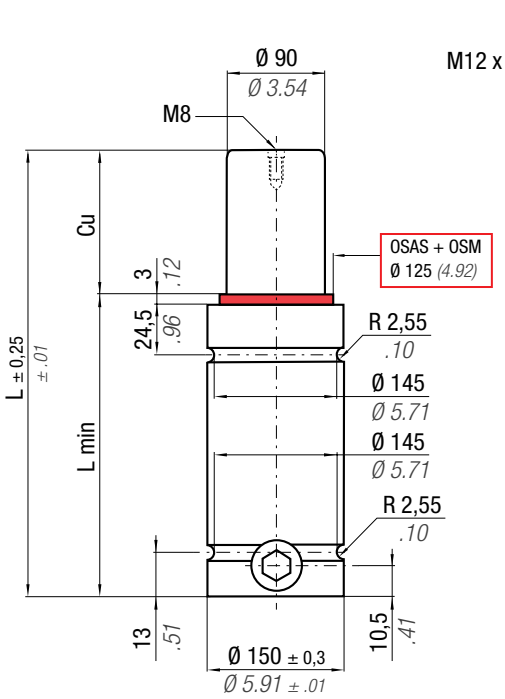
◆ Disposable

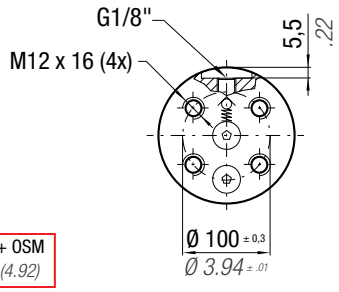


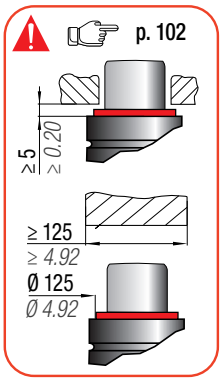
Drop-in | Bottom mount | FC 120 A FCQC 120 | FSA 120 FSD 120 | FS1 120

HOW TO ORDER p. 103

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

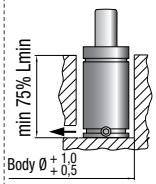
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 63,62 cm² / 9.864 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMRV09500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
RT 9500 - 019 - A	◆ RT 9500 - 019 - B	19	0.75	116	4.57	97	3.82			13135	29529	15266	34320	513	31.32	9,58	21.12	✓
RT 9500 - 025 - A	RT 9500 - 025 - B	25	0.98	128	5.04	103	4.06			13676	30745	16106	36208	609	37.19	9,95	21.94	✓
RT 9500 - 032 - A	RT 9500 - 032 - B	32	1.26	142	5.59	110	4.33	9540	21446	14157	31826	16862	37908	722	44.03	10,39	22.91	✓
RT 9500 - 038 - A	RT 9500 - 038 - B	38	1.50	154	6.06	116	4.57	± 5%		14481	32554	17376	39063	818	49.90	10,76	23.72	✓
RT 9500 - 050 - A	RT 9500 - 050 - B	50	1.97	178	7.01	128	5.04			14968	33649	18156	40817	1010	61.63	11,51	25.38	✓
RT 9500 - 063 - A	RT 9500 - 063 - B	63	2.48	204	8.03	141	5.55	150 bar	2175 psi	15341	34488	18760	42174	1218	74.35	12,32	27.16	✓
RT 9500 - 075 - A	RT 9500 - 075 - B	75	2.95	228	8.98	153	6.02			15597	35064	19177	43113	1411	86.07	13,07	28.81	✓
RT 9500 - 080 - A	RT 9500 - 080 - B	80	3.15	238	9.37	158	6.22	+ 20 °C	+68 °F	15686	35264	19323	43440	1491	90.97	13,38	29.50	✓
RT 9500 - 100 - A	RT 9500 - 100 - B	100	3.94	278	10.94	178	7.01			15970	35902	19788	44486	1811	110.52	14,63	32.25	✓
RT 9500 - 125 - A	RT 9500 - 125 - B	125	4.92	328	12.91	203	7.99			16216	36456	20195	45399	2212	134.97	16,19	35.69	✓

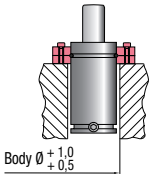
◆ Disposable



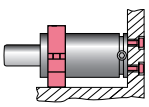
Drop-in



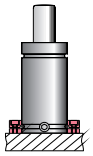
Bottom mount



FC 150 A
FCQC 150



FSA 150
FSD 150

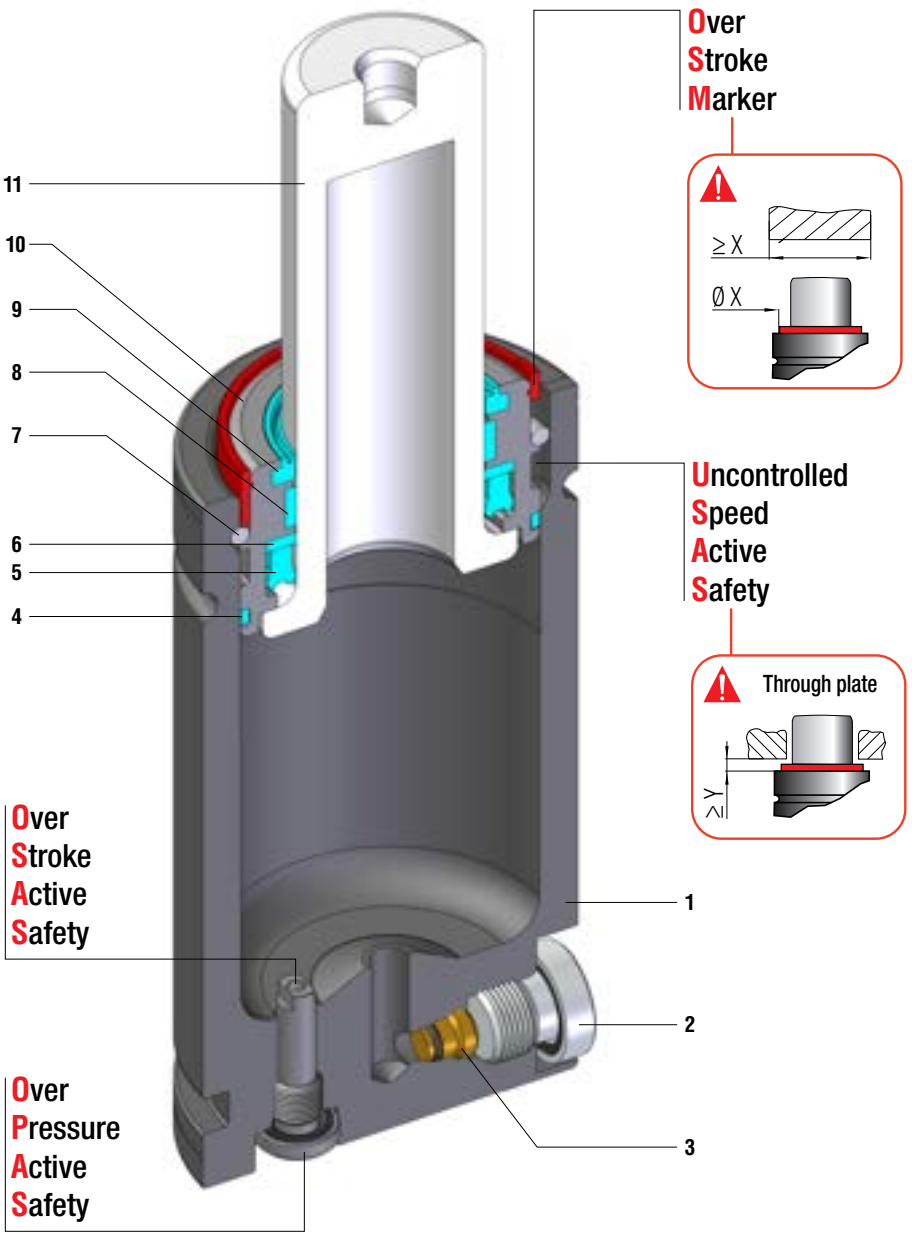


FS1 150

HOW TO ORDER p. 103

INSTALLATION GUIDELINE p. 205

MB	Renault	Suzuki



Forze ISO, altezza ridotta - ISO forces, reduced height - ISO Kräfte, Reduzierte Höhe
Forces ISO, Hauteur réduite - Fuerzas ISO, altura reducida - Forças ISO, altura reduzida

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal	**9**	Rod wiper
2	Plug	**6**	Back-up ring	**10**	Bush
3	Valve	**7**	Retaining ring	**11**	Rod (nitrited superfinished)
4	Dual ring seal	**8**	Guide ring		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
S 500	45	1.77	6 - 125	0.24 - 4.92	470	1057	✓	✓	✓	-	✓
S 750	50	1.97	6 - 125	0.24 - 4.92	740	1664	✓	✓	✓	-	✓
S 1500	75	2.95	25 - 100	0.98 - 3.94	1530	3440	✓	✓	✓	-	✓
S 3000	95	3.74	25 - 100	0.98 - 3.94	2945	6621	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — Revision code

Model

S 750-050-B-E-W

Stroke — Version

Available versions



S 750-050-C

Standard code

Self contained



S 750-050-C-W

Add "-W" to standard code

Self contained + Secondary wiper



S 750-050-C-N

Add "-N" to standard code

Linkable



S 750-050-C-N-W

Add "-N-W" to standard code

Linkable + Secondary wiper



S 750-050-B-E

Add "-E" to standard code

Easy Manifold



S 750-050-B-E-W

Add "-E-W" to standard code

Easy Manifold + Secondary wiper

EM24.54.700 (Renault)	SES-K 5404e (Suzuki)		

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

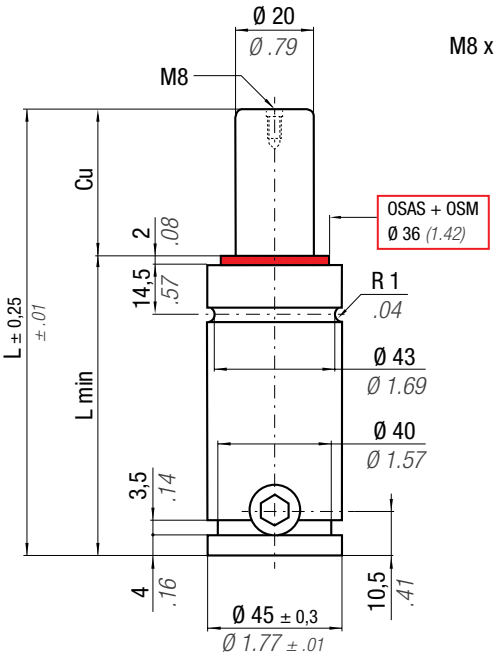
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

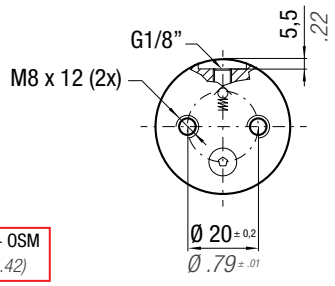
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

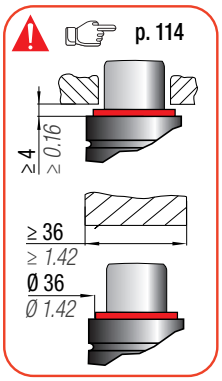
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



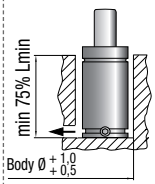




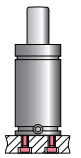
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	3,14 cm² / 0.487 in²	~ 40 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMS00500B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
S 500 - 006 - A	◆ S 500 - 006 - B	6	0.24	62	2.44	56	2.20			597	1343	676	1520	10,4	0.63	0,54	1.19	✓
S 500 - 013 - A	◆ S 500 - 013 - B	13	0.51	76	2.99	63	2.48			651	1464	758	1704	17,2	1.05	0,58	1.28	✓
S 500 - 019 - A	S 500 - 019 - B	19	0.75	88	3.46	69	2.72	470	1057	675	1517	794	1785	22,9	1.40	0,62	1.37	✓
S 500 - 025 - A	S 500 - 025 - B	25	0.98	100	3.94	75	2.95	± 5%		689	1550	817	1837	28,7	1.75	0,67	1.48	✓
S 500 - 038 - A	S 500 - 038 - B	38	1.50	126	4.96	88	3.46			708	1592	847	1904	41,2	2.51	0,77	1.70	✓
S 500 - 050 - A	S 500 - 050 - B	50	1.97	150	5.91	100	3.94	150 bar	2175 psi	718	1613	862	1938	52,8	3.22	0,85	1.87	✓
S 500 - 063 - A	S 500 - 063 - B	63	2.48	176	6.93	113	4.45			724	1629	873	1963	65,3	3.98	0,90	1.98	✓
S 500 - 080 - A	S 500 - 080 - B	80	3.15	210	8.27	130	5.12	+ 20 °C	+68 °F	730	1642	882	1983	81,6	4.98	1,01	2.23	✓
S 500 - 100 - A	S 500 - 100 - B	100	3.94	250	9.84	150	5.91			735	1652	889	2000	100,9	6.16	1,16	2.56	✓
S 500 - 125 - A	S 500 - 125 - B	125	4.92	300	11.81	175	6.89			738	1660	895	2013	124,9	7.62	1,35	2.98	✓

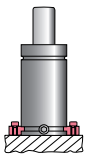
◆ Disposable



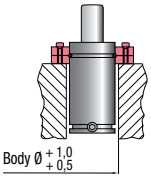
Drop-in



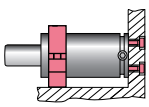
Bottom mount
FB 45 - FBA 45
FBB 45 - FBD 45



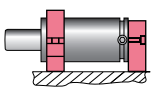
FS2 45 - FT 45
FS2A 45 - FTP 45



FC 45 A
FCQC 45



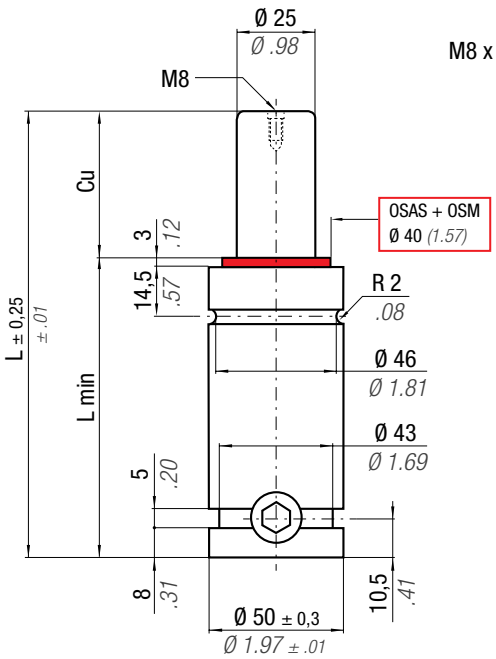
FSA 45
FSD 45

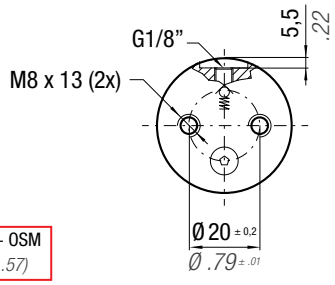


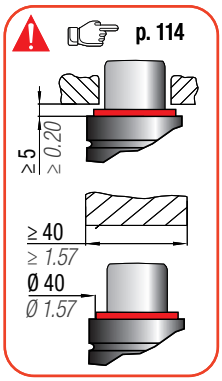
FSA 45 + R 50 A
FSE 45 + R 50 A

HOW TO ORDER p. 115

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

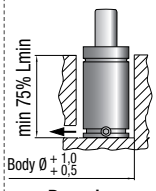
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

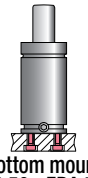
N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 4,91 cm² / 0.761 in²	SPM ~ 30 - 80 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMS00750B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
S 750 - 006 - B	◆ S 750 - 006 - C	6	0.24	62	2.44	56	2.20			906	2038	1016	2283	18,4	1.12	0,60	1.32	✓
S 750 - 013 - B	◆ S 750 - 013 - C	13	0.51	76	2.99	63	2.48			994	2234	1147	2579	28,7	1.75	0,66	1.46	✓
S 750 - 019 - B	S 750 - 019 - C	19	0.75	88	3.46	69	2.72	740	1664	1035	2326	1211	2722	37,5	2.29	0,71	1.57	✓
S 750 - 025 - B	S 750 - 025 - C	25	0.98	100	3.94	75	2.95	± 5%		1062	2387	1253	2818	46,3	2.83	0,75	1.65	✓
S 750 - 038 - B	S 750 - 038 - C	38	1.50	126	4.96	88	3.46			1098	2468	1309	2944	65,5	4.00	0,85	1.87	✓
S 750 - 050 - B	S 750 - 050 - C	50	1.97	150	5.91	100	3.94	150 bar	2175 psi	1117	2511	1340	3012	83,1	5.07	0,95	2.09	✓
S 750 - 063 - B	S 750 - 063 - C	63	2.48	176	6.93	113	4.45			1130	2541	1362	3061	102,2	6.24	1,05	2.31	✓
S 750 - 080 - B	S 750 - 080 - C	80	3.15	210	8.27	130	5.12	+ 20 °C	+68 °F	1142	2568	1381	3104	127,2	7.76	1,18	2.60	✓
S 750 - 100 - B	S 750 - 100 - C	100	3.94	250	9.84	150	5.91			1152	2589	1396	3138	156,7	9.56	1,33	2.93	✓
S 750 - 125 - B	S 750 - 125 - C	125	4.92	300	11.81	175	6.89			1159	2607	1408	3166	193,4	11.80	1,52	3.35	✓

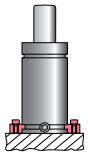
◆ Disposable



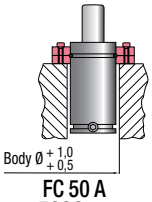
Drop-in



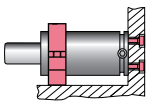
Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



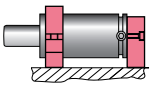
FS2 50 - FT 50
FS2A 50 - FTP 50



FC 50 A
FCQC 50



FSA 50
FSD 50 - FSE 50



FSD 50 + R 50 A
FSE 50 + R 50 A

HOW TO ORDER p. 115

INSTALLATION GUIDELINE p. 205

EM24.54.700 (Renault)			

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

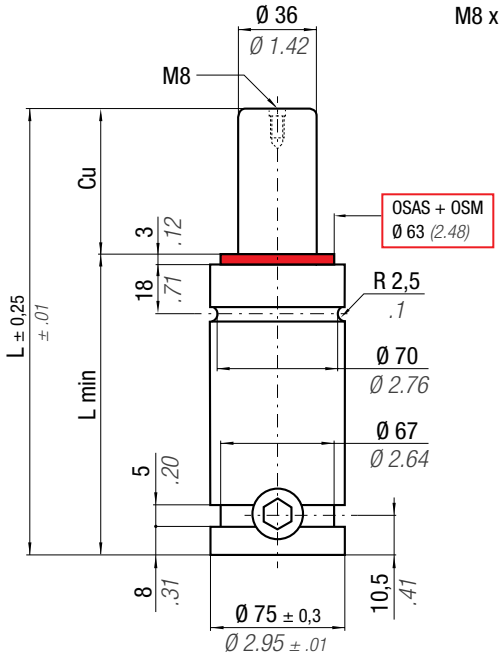
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

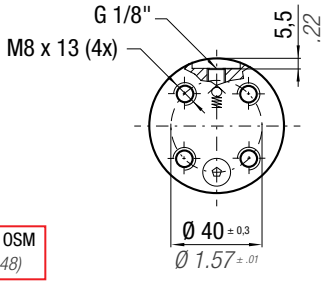
O novo código irá ser fornecido apenas quando o antigo esgotar stock

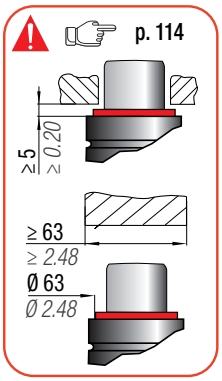
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

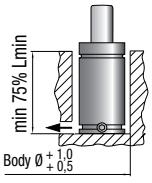






N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	10,18 cm² / 1.578 in²	~ 20 - 80 (at 20°C)	1,8 m/s / 70.8 in/s	39BMS01500B

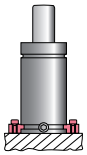
CODE PHASING OUT from 04/2021	NEW	Cu		L		L min		Fo Initial force		$F1_i$ * End force		$F1_p$ ** End force		Vo		~Kg	~lb	PED 2014/68/EU
		mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³			
S 1500 - 025 - A	S 1500 - 025 - B	25	0.98	110	4.33	85	3.35	1530	3440	2238	5031	2655	5969	93	5.65	2,25	4.96	✓
S 1500 - 038 - A	S 1500 - 038 - B	38	1.50	136	5.35	98	3.86	± 5%		2319	5214	2784	6258	131	7.97	2,53	5.58	✓
S 1500 - 050 - A	S 1500 - 050 - B	50	1.97	160	6.30	110	4.33	150 bar		2363	5312	2854	6416	166	10.11	2,78	6.13	✓
S 1500 - 063 - A	S 1500 - 063 - B	63	2.48	186	7.32	123	4.84	2175 psi		2395	5383	2905	6530	204	12.43	3,06	6.75	✓
S 1500 - 080 - A	S 1500 - 080 - B	80	3.15	220	8.66	140	5.51			2422	5445	2949	6630	253	15.46	3,42	7.54	✓
S 1500 - 100 - A	S 1500 - 100 - B	100	3.94	260	10.24	160	6.30	+ 20 °C	+68 °F	2444	5494	2984	6708	312	19.03	3,84	8.47	✓



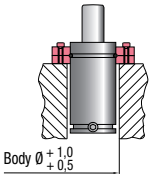
Drop-in



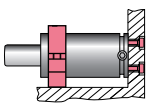
Bottom mount
FB 75 - FBA 75
FBB 75 - FBC 75



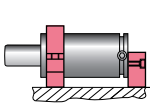
FS2 75 - FT 75
FS2A 75 - FTP 75



FC 75 A
FCQC 75



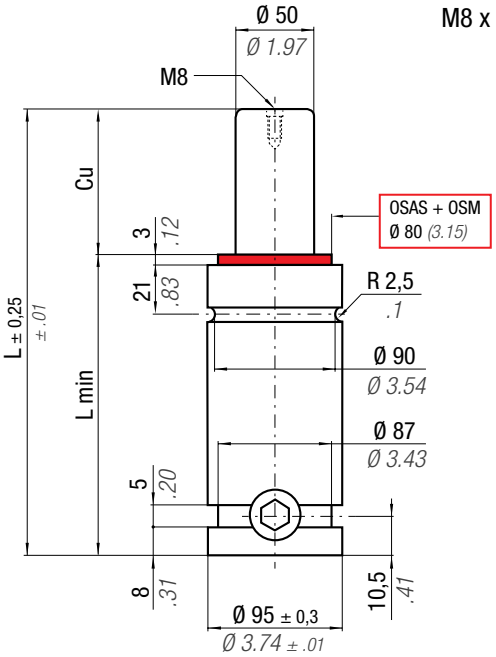
FSA 75
FSD 75 - FSE 75

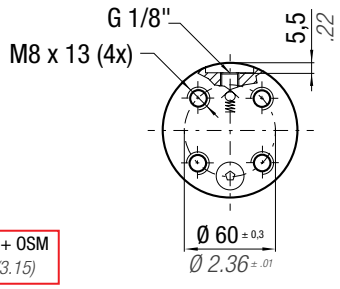


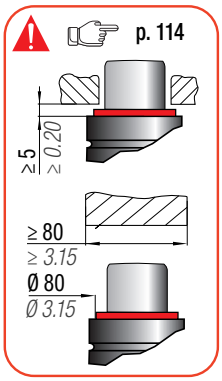
FSD 75 + R 75 A
FSE 75 + R 75 A

HOW TO ORDER p. 115

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

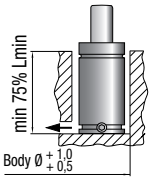
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 19,63 cm² / 3.043 in²	SPM ~ 15 - 60 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMS03000B

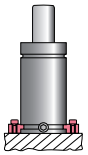
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
S 3000 - 025 - A	S 3000 - 025 - B	25	0.98	120	4.72	95	3.74	2945	6621	4562	10256	5511	12390	160	9.73	4,13	9.11	✓
S 3000 - 038 - A	S 3000 - 038 - B	38	1.50	146	5.75	108	4.25	± 5%		4779	10744	5862	13178	223	13.63	4,61	10.16	✓
S 3000 - 050 - A	S 3000 - 050 - B	50	1.97	170	6.69	120	4.72			4900	11016	6060	13623	282	17.21	5,04	11.11	✓
S 3000 - 063 - A	S 3000 - 063 - B	63	2.48	196	7.72	133	5.24	150 bar 2175 psi		4988	11214	6205	13949	346	21.10	5,51	12.15	✓
S 3000 - 080 - A	S 3000 - 080 - B	80	3.15	230	9.06	150	5.91			5066	11389	6334	14239	429	26.19	6,13	13.51	✓
S 3000 - 100 - A	S 3000 - 100 - B	100	3.94	270	10.63	170	6.69	+ 20 °C +68 °F		5128	11528	6437	14470	527	32.17	6,86	15.12	✓



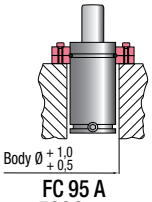
Drop-in



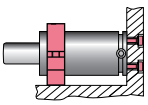
Bottom mount
FB 95 - FBA 95
FBB 95



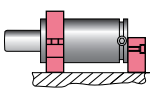
FS2 95 - FT 95
FS2A 95 - FTP 95



FC 95 A
FCQC 95



FSA 95
FSD 95 - FSE 95

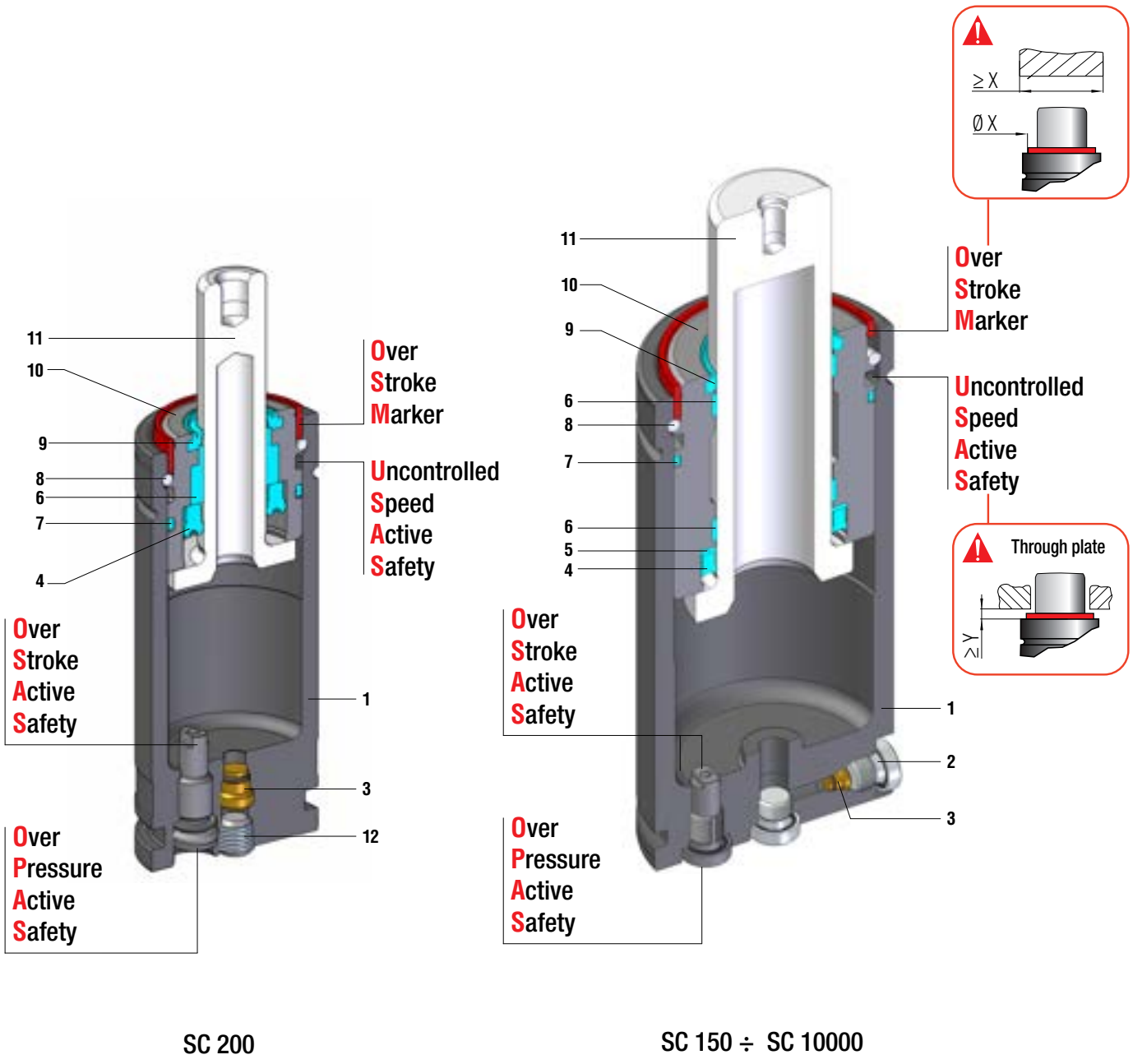


FSD 95 + R 95 A
FSE 95 + R 95 A

HOW TO ORDER p. 115

INSTALLATION GUIDELINE p. 205

ISO	VDI	BMW
FCA	Ford	Mazda
MB	Nissan	PSA
Renault	Suzuki	VW



SC 200

SC 150 ÷ SC 10000

ISO 11901 standard - ISO 11901 standard - ISO 11901 standard
Conforme ISO 11901 - ISO 11901 standard - Norma ISO 11901

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Back-up ring	**9**	Rod wiper
2	Plug	**6**	Guide ring	**10**	Bush
3	Valve	**7**	Dual ring seal	**11**	Rod (nitrited superfinished)
4	Rod seal	**8**	Retaining ring	**12**	Stopper

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
SC 150	32	1.26	10 - 125	0.39 - 4.92	170	382	✓	✓	✓	-	✓
SC 200	32	1.26	10 - 125	0.39 - 4.92	170	382	✓	✓	✓	-	✓
SC 250	38	1.50	10 - 125	0.39 - 4.92	260	585	✓	✓	✓	-	✓
SCF 250	M 38 X 1,5		10 - 125	0.39 - 4.92	260	585	✓	✓	✓	-	✓
SC 500	45	1.77	10 - 200	0.39 - 6.30	470	1057	✓	✓	✓	-	✓
SC 750	50	1.97	13 - 300	0.51 - 11.81	740	1664	✓	✓	✓	-	✓
SC 1500	75	2.95	13 - 300	0.51 - 11.81	1530	3440	✓	✓	✓	-	✓
SC 3000	95	3.74	13 - 300	0.51- 11.81	2945	6621	✓	✓	✓	-	✓
SC 5000	120	4.72	25 - 300	0.98 - 11.81	4980	11195	✓	✓	✓	-	✓
SC 7500	150	5.91	25 - 300	0.98 - 11.81	7540	16950	✓	✓	✓	-	✓
SC 10000	195	7.68	25 - 300	0.98 - 11.81	10600	23830	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — Model — Stroke — Revision code — Version

SC 1500-050-E-E-W

Available versions



SC 1500-050-E

Standard code

Self contained



SC 1500-050-E-W

Add "-W" to standard code

Self contained + Secondary wiper



SC 1500-050-E-N

Add "-N" to standard code

Linkable



SC 1500-050-E-N-W

Add "-N-W" to standard code

Linkable + Secondary wiper



SC 1500-050-E-E

Add "-E" to standard code

Easy Manifold



SC 1500-050-E-E-W

Add "-E-W" to standard code

Easy Manifold + Secondary wiper

075.90.55 (FCA)	B2 4006 (BMW)	B8 3180 220 000 001(MB)	E24.54.815.G (PSA)
EM24.54.700 (Renault)			

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

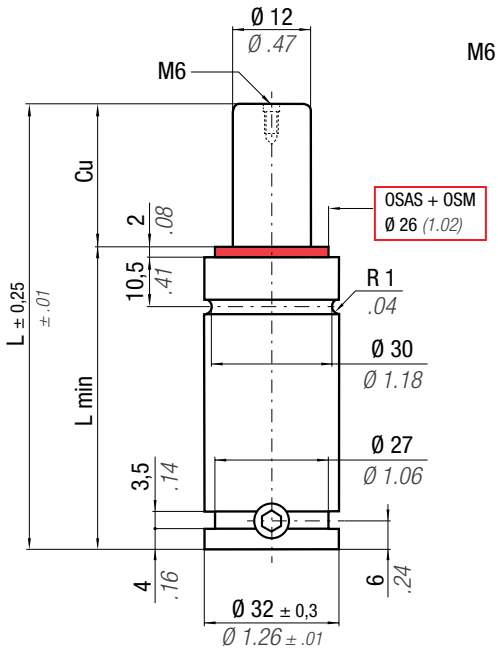
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

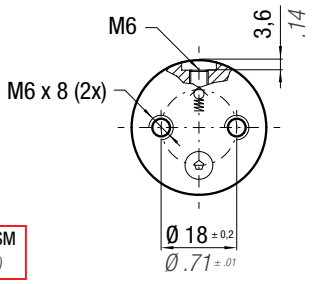
O novo código irá ser fornecido apenas quando o antigo esgotar stock

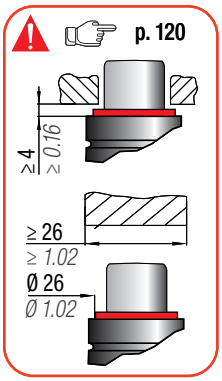
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



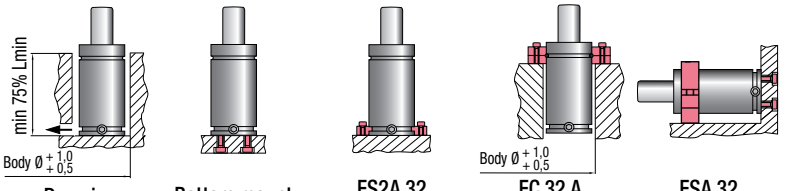




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	1,13 cm² / 0.175 in²	~ 80 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC00150E

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
SC 150 - 010 - D	◆ SC 150 - 010 - E	10	0.39	70	2.76	60	2.36			192	431	209	469	11,6	0.71	0,28	0.62	✓
SC 150 - 013 - D	◆ SC 150 - 013 - E	12,7	0.51	75,4	2.97	62,7	2.47			195	438	213	479	13,1	0.80	0,29	0.64	✓
SC 150 - 016 - D	SC 150 - 016 - E	16	0.63	82	3.23	66	2.60	170	382	198	445	218	490	14,8	0.90	0,30	0.66	✓
SC 150 - 025 - D	SC 150 - 025 - E	25	0.98	100	3.94	75	2.95	± 5%		203	457	226	508	20,0	1.22	0,33	0.73	✓
SC 150 - 038 - D	SC 150 - 038 - E	38	1.50	126	4.96	88	3.46			208	467	233	523	27,3	1.67	0,36	0.79	✓
SC 150 - 050 - D	SC 150 - 050 - E	50	1.97	150	5.91	100	3.94	150 bar	2175 psi	211	473	237	532	34,1	2.08	0,40	0.88	✓
SC 150 - 063 - D	SC 150 - 063 - E	63,5	2.48	177	6.97	113,5	4.47			212	478	239	538	41,7	2.54	0,44	0.97	✓
SC 150 - 080 - D	SC 150 - 080 - E	80	3.15	210	8.27	130	5.12	+ 20 °C	+68 °F	214	481	242	544	50,9	3.11	0,49	1.08	✓
SC 150 - 100 - D	SC 150 - 100 - E	100	3.94	250	9.84	150	5.91			216	485	245	550	61,6	3.76	0,55	1.21	✓
SC 150 - 125 - D	SC 150 - 125 - E	125	4.92	300	11.81	175	6.89			218	490	247	556	74,7	4.56	0,64	1.41	✓

◆ Disposable

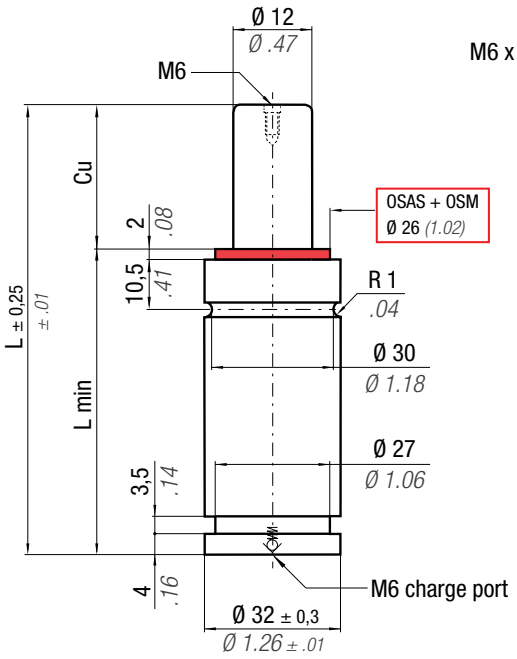


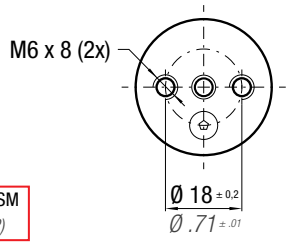
HOW TO ORDER p. 121

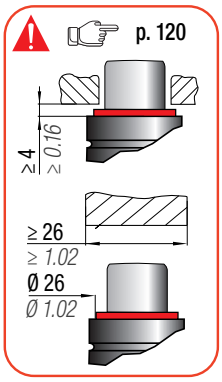
INSTALLATION GUIDELINE p. 205

ISO 11901 - 1	VDI 3003	90.25.00 (GM)	39D 878 (VW)
B8 3180 220 000 001(MB)	B2 4006 (BMW)	E24.54.815.G (PSA)	EM24.54.700 (Renault)
075.90.55 (FCA)			

SC 200







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



Collegabile con tubi - Linkable with hoses
Anschlussfähig mit Leitungen
Connectable avec tubes - Conectable con mangueras
Acompláveis com tubos

Micro 32°

HOW TO ORDER

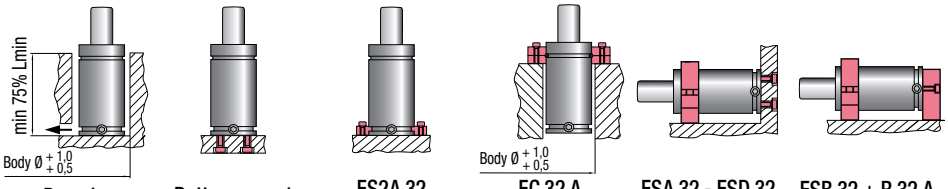
SC 200 - 050 - A - YW — Force color code

Force color code	P bar	P psi	F0 Initial force ± 5% at +20°C +68°F daN	F0 lb
GR	45	653	50	112
BU	90	1305	100	225
RD	135	1958	150	337
YW	180	2610	200	450
BK	20-180	290-2610	22-200	49-450

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	180 bar / 2610 psi	20 bar / 290 psi	1,13 cm² / 0.175 in²	~ 80 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC00150E

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	$F1_i$ * End force daN	$F1_i$ * End force lb	$F1_p$ ** End force daN	$F1_p$ ** End force lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
◆ SC 200 - 010 - A ...	10	0.39	70	2.76	60	2.36	1,15 x F0		1,28 x F0		9,6	0.59	0,26	0.56	✓
◆ SC 200 - 013 - A ...	12,7	0.51	75,4	2.97	62,7	2.47	1,17 x F0		1,30 x F0		11,1	0.68	0,26	0.58	✓
SC 200 - 016 - A ...	16	0.63	82	3.23	66	2.60	1,19 x F0		1,33 x F0		13,0	0.79	0,27	0.60	✓
SC 200 - 025 - A ...	25	0.98	100	3.94	75	2.95	1,22 x F0		1,37 x F0		18,0	1.10	0,30	0.65	✓
SC 200 - 038 - A ...	38	1.50	126	4.96	88	3.46	1,24 x F0		1,40 x F0		25,3	1.54	0,33	0.73	✓
SC 200 - 050 - A ...	50	1.97	150	5.91	100	3.94	1,25 x F0		1,42 x F0		32,0	1.95	0,37	0.81	✓
SC 200 - 063 - A ...	63,5	2.48	177	6.97	113,5	4.47	1,26 x F0		1,43 x F0		39,6	2.42	0,41	0.89	✓
SC 200 - 080 - A ...	80	3.15	210	8.27	130	5.12	1,26 x F0		1,44 x F0		48,9	2.98	0,45	0.99	✓
SC 200 - 100 - A ...	100	3.94	250	9.84	150	5.91	1,27 x F0		1,46 x F0		59,6	3.64	0,51	1.13	✓
SC 200 - 125 - A ...	125	4.92	300	11.81	175	6.89	1,28 x F0		1,47 x F0		72,7	4.44	0,59	1.30	✓

◆ Disposable



HOW TO ORDER

p. 121

INSTALLATION GUIDELINE

p. 205

SC 250

ISO 11901 - 1	VDI 3003	B2 4006 (BMW)	075.90.55 (FCA)
B8 3180 220 000 001(MB)	K 32 S (Nissan)	E24.54.815.G (PSA)	EM24.54.700 (Renault)
SES-K 5404e (Suzuki)	39D 878 (VW)		

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

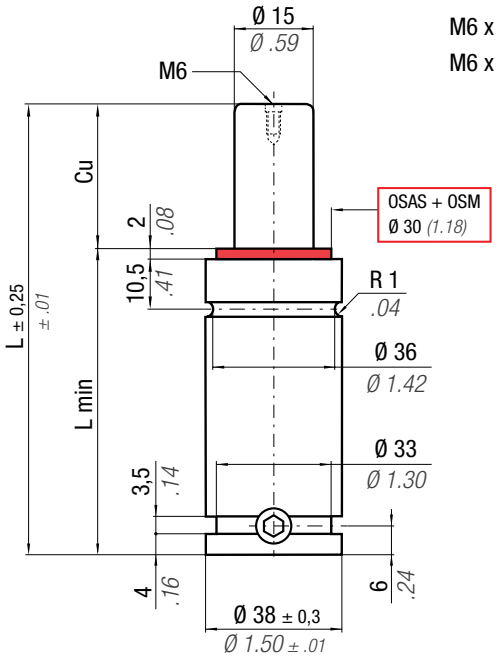
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

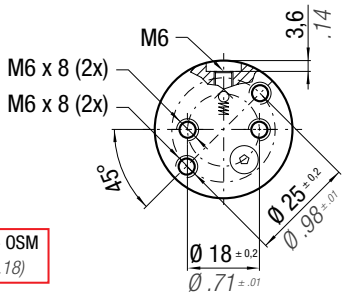
O novo código irá ser fornecido apenas quando o antigo esgotar stock

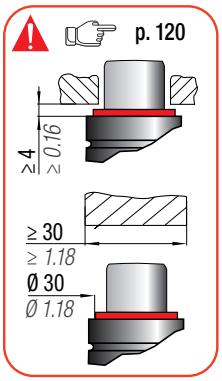
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



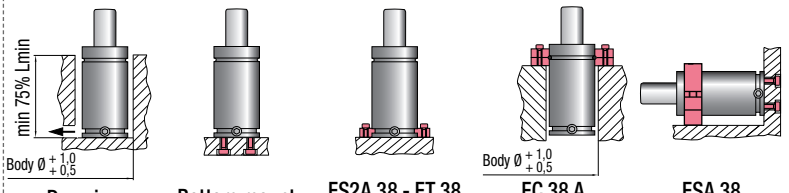




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	1,77 cm² / 0.274 in²	~ 80 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC00250E

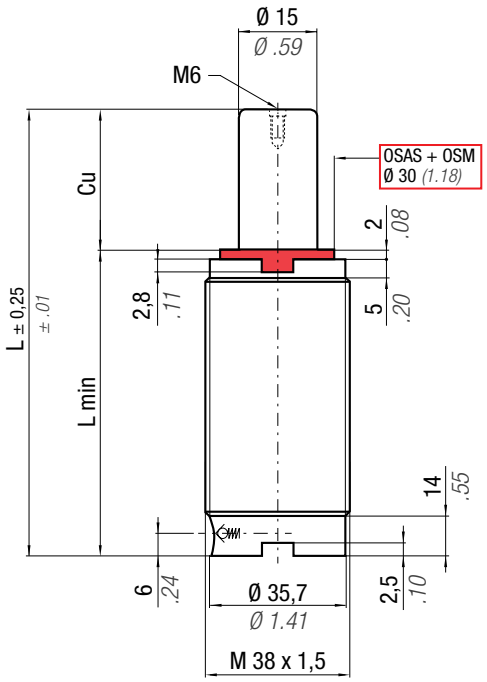
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
SC 250 - 010 - D	◆ SC 250 - 010 - E	10	0.39	70	2.76	60	2.36	260 ± 5%	585	305	685	334	750	16,0	0.98	0,40	0.88	✓
SC 250 - 013 - D	◆ SC 250 - 013 - E	12,7	0.50	75,4	2.97	62,7	2.47	150 bar 2175 psi		310	698	342	769	18,1	1.10	0,41	0.90	✓
SC 250 - 016 - D	SC 250 - 016 - E	16	0.63	82	3.23	66	2.60	+ 20 °C +68 °F		316	711	350	788	20,6	1.26	0,43	0.95	✓
SC 250 - 019 - D	SC 250 - 019 - E	19	0.75	88	3.46	69	2.72			320	720	357	802	22,9	1.40	0,45	0.99	✓
SC 250 - 025 - D	SC 250 - 025 - E	25	0.98	100	3.94	75	2.95			327	734	366	823	27,4	1.67	0,48	1.06	✓
SC 250 - 038 - D	SC 250 - 038 - E	38	1.50	126	4.96	88	3.46			336	755	380	853	37,3	2.28	0,54	1.19	✓
SC 250 - 050 - D	SC 250 - 050 - E	50	1.97	150	5.91	100	3.94			341	766	387	870	46,5	2.84	0,60	1.32	✓
SC 250 - 063 - D	SC 250 - 063 - E	63,5	2.50	177	6.97	113,5	4.47			345	775	393	884	56,7	3.46	0,66	1.46	✓
SC 250 - 080 - D	SC 250 - 080 - E	80	3.15	210	8.27	130	5.12			348	782	398	894	69,3	4.23	0,74	1.63	✓
SC 250 - 100 - D	SC 250 - 100 - E	100	3.94	250	9.84	150	5.91			351	789	403	905	84,2	5.14	0,81	1.79	✓
SC 250 - 125 - D	SC 250 - 125 - E	125	4.92	300	11.81	175	6.89			355	798	409	919	101,6	6.20	0,98	2.16	✓

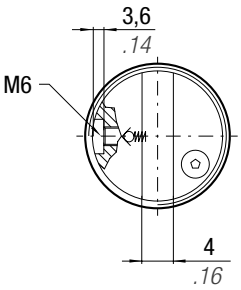
◆ Disposable

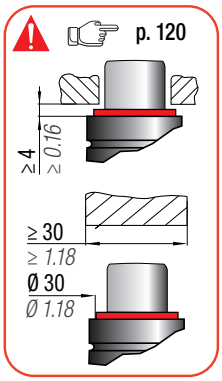


HOW TO ORDER p. 121

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

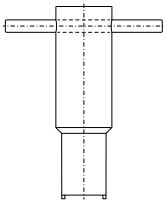
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

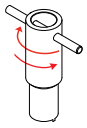
N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 1,77 cm² / 0.274 in²	SPM ~ 80 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMSC00250E

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
SCF 250 - 010 - D	◆ SCF 250 - 010 - E	10	0.39	70	2.76	60	2.36	260 ± 5%	585	305	685	334	750	16,0	0.98	0,37	0.81	✓
SCF 250 - 013 - D	◆ SCF 250 - 013 - E	12,7	0.50	75,4	2.97	62,7	2.47			310	698	342	769	18,1	1.10	0,38	0.84	✓
SCF 250 - 016 - D	SCF 250 - 016 - E	16	0.63	82	3.23	66	2.60			316	711	350	788	20,6	1.26	0,39	0.86	✓
SCF 250 - 019 - D	SCF 250 - 019 - E	19	0.75	88	3.46	69	2.72			320	720	357	802	22,9	1.40	0,42	0.92	✓
SCF 250 - 025 - D	SCF 250 - 025 - E	25	0.98	100	3.94	75	2.95			327	734	366	823	27,4	1.67	0,44	0.97	✓
SCF 250 - 038 - D	SCF 250 - 038 - E	38	1.50	126	4.96	88	3.46	150 bar	2175 psi	336	755	380	853	37,3	2.28	0,50	1.10	✓
SCF 250 - 050 - D	SCF 250 - 050 - E	50	1.97	150	5.91	100	3.94			341	766	387	870	46,5	2.84	0,55	1.21	✓
SCF 250 - 063 - D	SCF 250 - 063 - E	63,5	2.50	177	6.97	113,5	4.47			345	775	393	884	56,7	3.46	0,63	1.39	✓
SCF 250 - 080 - D	SCF 250 - 080 - E	80	3.15	210	8.27	130	5.12	+ 20 °C	+68 °F	348	782	398	894	69,3	4.23	0,70	1.54	✓
SCF 250 - 100 - D	SCF 250 - 100 - E	100	3.94	250	9.84	150	5.91			351	789	403	905	84,2	5.14	0,75	1.65	✓
SCF 250 - 125 - D	SCF 250 - 125 - E	125	4.92	300	11.81	175	6.89			355	798	409	919	101,6	6.20	0,93	2.05	✓

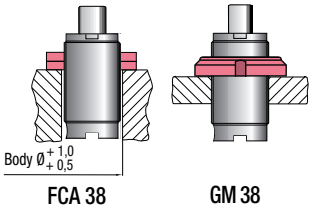
◆ Disposable



code: 58UT037A



p. 322



FCA 38 GM 38

HOW TO ORDER p. 121

INSTALLATION GUIDELINE p. 205

SC 500

ISO 11901 - 1	VDI 3003	B2 4006 (BMW)	075.90.55 (FCA)
PG23D (Mazda)	B8 3180 220 000 001(MB)	K 32 S (Nissan)	E24.54.815.G (PSA)
EM24.54.700 (Renault)	SES-K 5404e (Suzuki)	39D 878 (VW)	

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

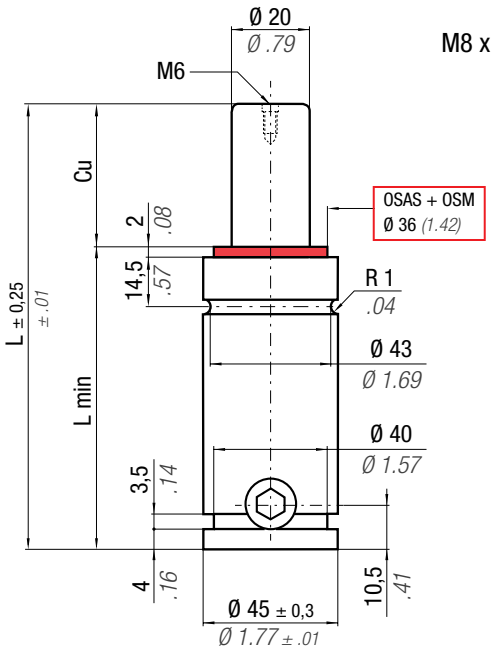
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

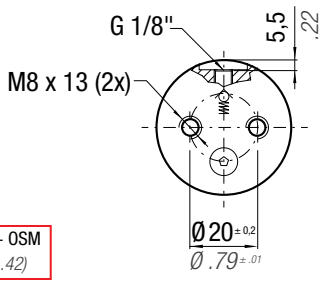
O novo código irá ser fornecido apenas quando o antigo esgotar stock

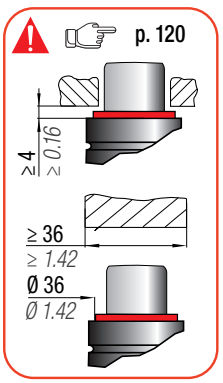
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



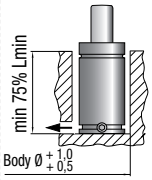




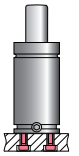
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	3,14 cm² / 0.487 in²	~ 40 - 80 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC00500D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
SC 500 - 010 - D	◆ SC 500 - 010 - E	10	0.39	105	4.13	95	3.74			614	1381	701	1576	15,8	0.96	0,90	1.98	✓
SC 500 - 013 - D	◆ SC 500 - 013 - E	12,7	0.50	110,4	4.35	97,7	3.85			631	1418	727	1634	18,4	1.12	1,00	2.20	✓
SC 500 - 025 - D	SC 500 - 025 - E	25	0.98	135	5.31	110	4.33			675	1516	794	1785	30,2	1.84	1,09	2.40	✓
SC 500 - 038 - D	SC 500 - 038 - E	38	1.50	161	6.34	123	4.84	470	1057	696	1565	828	1862	42,7	2.61	1,20	2.65	✓
SC 500 - 050 - D	SC 500 - 050 - E	50	1.97	185	7.28	135	5.31	± 5% 150 bar 2175 psi		708	1591	847	1903	54,2	3.31	1,29	2.84	✓
SC 500 - 063 - D	SC 500 - 063 - E	63,5	2.50	212	8.35	148,5	5.85			716	1611	860	1934	67,2	4.10	1,38	3.04	✓
SC 500 - 080 - D	SC 500 - 080 - E	80	3.15	245	9.65	165	6.50			723	1626	871	1959	83,1	5.07	1,50	3.31	✓
SC 500 - 100 - D	SC 500 - 100 - E	100	3.94	285	11.22	185	7.28	+ 20 °C	+68 °F	729	1639	880	1979	102,3	6.24	1,64	3.62	✓
SC 500 - 125 - D	SC 500 - 125 - E	125	4.92	335	13.19	210	8.27			734	1649	888	1996	126,4	7.71	1,85	4.08	✓
SC 500 - 160 - D	SC 500 - 160 - E	160	6.30	405	15.94	245	9.65			738	1659	895	2011	160,1	9.77	2,10	4.63	✓
SC 500 - 200 - D	SC 500 - 200 - E	200	7.87	485	19.09	285	11.22			741	1666	900	2023	198,6	12.12	2,36	5.20	✓

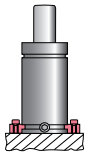
◆ Disposable



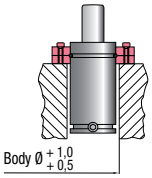
Drop-in



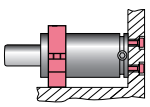
Bottom mount
FB 45 - FBA 45
FBB 45 - FBD 45



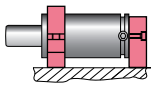
FS2 45 - FT 45
FS2A 45 - FTP 45



FC 45 A
FCQC 45



FSA 45
FSD 45 - FSE 45



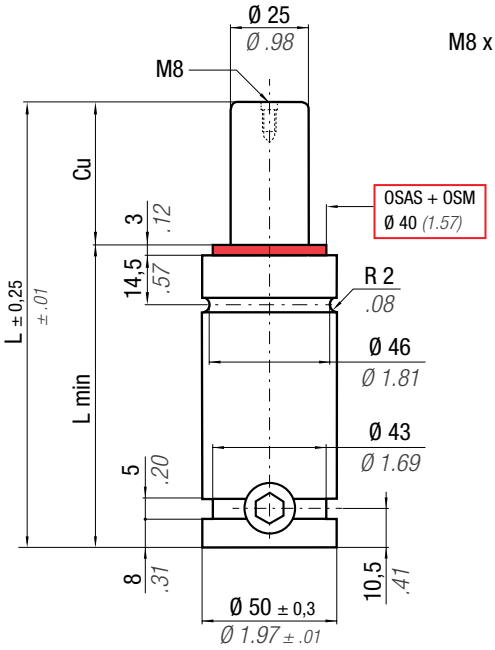
FSA 45 + R 50 A
FSE 45 + R 50 A

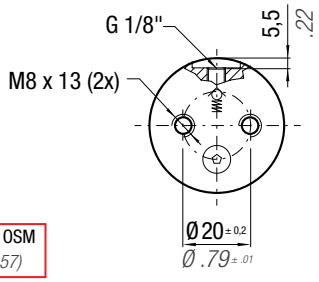
HOW TO ORDER p. 121

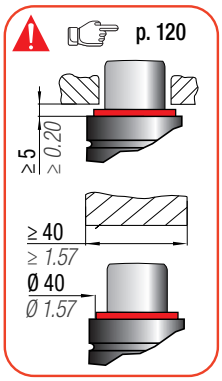
INSTALLATION GUIDELINE p. 205

ISO 11901 - 1	VDI 3003	B2 4006 (BMW)	075.90.55 (FCA)
W-DX35-6203 (Ford)	PG23D (Mazda)	B8 3180 220 000 001(MB)	K 32 S (Nissan)
E24.54.815.G (PSA)	EM24.54.700 (Renault)	SES-K 5404e (Suzuki)	39D 878 (VW)

SC 750







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

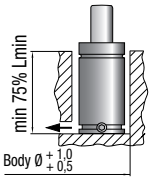
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar 2175 psi	P min 20 bar 290 psi	S 4,91 cm² 0.761 in²	SPM ~ 15 - 50 (at 20°C)	Max Speed 1,8 m/s 70.8 in/s	Maintenance kit 39BMSC00750D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
SC 750 - 013 - D	◆ SC 750 - 013 - E	12,7	0.50	120,4	4.74	107,7	4.24			922	2073	1039	2335	36	2.21	1,24	2.73	✓
SC 750 - 025 - D	SC 750 - 025 - E	25	0.98	145	5.71	120	4.72			1002	2252	1160	2607	54	3.28	1,34	2.95	✓
SC 750 - 038 - D	SC 750 - 038 - E	38	1.50	171	6.73	133	5.24			1049	2359	1233	2772	73	4.42	1,45	3.20	✓
SC 750 - 050 - D	SC 750 - 050 - E	50	1.97	195	7.68	145	5.71			1077	2422	1277	2871	90	5.47	1,54	3.40	✓
SC 750 - 063 - D	SC 750 - 063 - E	63,5	2.50	222	8.74	158,5	6.24			1099	2471	1312	2949	109	6.65	1,65	3.64	✓
SC 750 - 075 - D	SC 750 - 075 - E	75	2.95	245	9.65	170	6.69			1113	2502	1334	2998	126	7.66	1,75	3.86	✓
SC 750 - 080 - D	SC 750 - 080 - E	80	3.15	255	10.04	175	6.89			1118	2513	1342	3016	133	8.10	1,79	3.95	✓
SC 750 - 088 - D	SC 750 - 088 - E	87,5	3.44	270	10.63	182,5	7.19	740	1664	1128	2535	1357	3052	144	8.76	1,85	4.08	✓
SC 750 - 100 - D	SC 750 - 100 - E	100	3.94	295	11.61	195	7.68	± 5%		1134	2549	1367	3073	161	9.85	1,96	4.32	✓
SC 750 - 113 - D	SC 750 - 113 - E	113	4.45	320	12.60	207	8.15			1144	2571	1383	3109	179	10.94	2,06	4.54	✓
SC 750 - 125 - D	SC 750 - 125 - E	125	4.92	345	13.58	220	8.66	150 bar		1147	2579	1389	3122	197	12.03	2,16	4.76	✓
SC 750 - 138 - D	SC 750 - 138 - E	138	5.43	370	14.57	232	9.13	2175 psi		1158	2604	1407	3162	214	13.05	2,27	5.00	✓
SC 750 - 150 - D	SC 750 - 150 - E	150	5.91	395	15.55	245	9.65	+ 20 °C	+68 °F	1168	2626	1423	3198	229	13.97	2,39	5.27	✓
SC 750 - 160 - D	SC 750 - 160 - E	160	6.30	415	16.34	255	10.04			1177	2646	1437	3230	241	14.71	2,49	5.49	✓
SC 750 - 175 - D	SC 750 - 175 - E	175	6.89	445	17.52	270	10.63			1189	2673	1456	3273	259	15.82	2,64	5.82	✓
SC 750 - 200 - D	SC 750 - 200 - E	200	7.87	495	19.49	295	11.61			1206	2711	1483	3335	289	17.65	2,89	6.37	✓
SC 750 - 225 - D	SC 750 - 225 - E	225	8.86	545	21.46	320	12.60			1220	2742	1506	3386	320	19.50	3,13	6.90	✓
SC 750 - 250 - D	SC 750 - 250 - E	250	9.84	595	23.43	345	13.58			1232	2769	1526	3430	350	21.34	3,32	7.32	✓
SC 750 - 275 - D	SC 750 - 275 - E	275	10.83	645	25.39	370	14.57			1242	2791	1542	3467	380	23.18	3,63	8.00	✓
SC 750 - 300 - D	SC 750 - 300 - E	300	11.81	695	27.36	395	15.55			1250	2811	1557	3500	410	25.02	3,88	8.55	✓

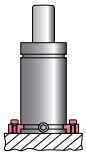
◆ Disposable



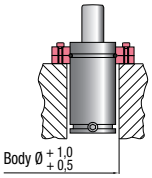
Drop-in



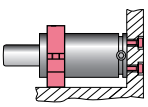
Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



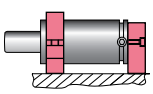
FS2 50 - FT 50
FS2A 50 - FTP 50



FC 50 A
FCQC 50



FSA 50
FSD 50 - FSE 50



FSD 50 + R 50 A
FSE 50 + R 50 A

HOW TO ORDER p. 121

INSTALLATION GUIDELINE p. 205

SC 1500

ISO 11901 - 1	VDI 3003	B2 4006 (BMW)	075.90.55 (FCA)
W-DX35-6203 (Ford)	PG23D (Mazda)	B8 3180 220 000 001(MB)	K 32 S (Nissan)
E24.54.815.G (PSA)	EM24.54.700 (Renault)	SES-K 5404e (Suzuki)	39D 878 (VW)

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

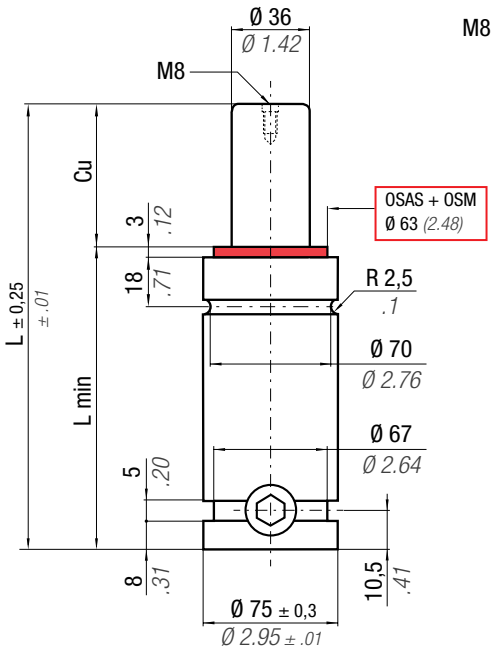
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

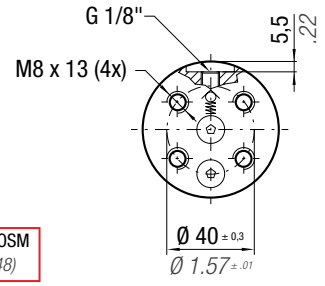
O novo código irá ser fornecido apenas quando o antigo esgotar stock

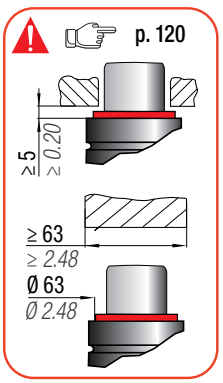
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



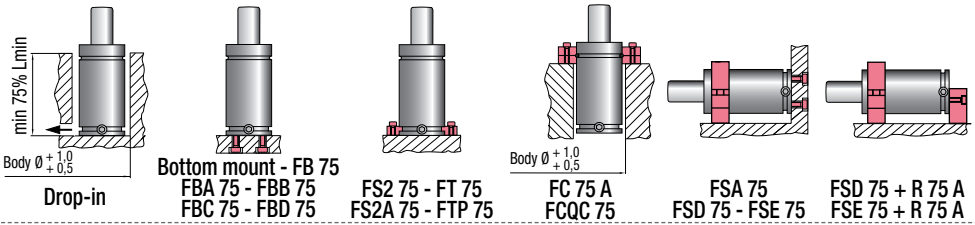




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	10,18 cm² / 1.578 in²	~ 15 - 50 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC01500D Cu 25 ÷ 80 39BMSC01500DH Cu 88 ÷ 300

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
SC 1500 - 013 - D	◆ SC 1500 - 013 - E	13	0.51	135	5.31	122	4.80	1530 ± 5%	3440	1831	4116	2034	4573	93	5.70	3,26	7.19	✓
SC 1500 - 025 - D	SC 1500 - 025 - E	25	0.98	160	6.30	135	5.31			1949	4382	2210	4969	137	8.37	3,47	7.65	✓
SC 1500 - 038 - D	SC 1500 - 038 - E	38	1.50	186	7.32	148	5.83			2026	4555	2327	5231	183	11.16	3,67	8.09	✓
SC 1500 - 050 - D	SC 1500 - 050 - E	50	1.97	210	8.27	160	6.30			2072	4658	2397	5388	225	13.72	3,85	8.49	✓
SC 1500 - 063 - D	SC 1500 - 063 - E	63,5	2.50	237	9.33	173,5	6.83			2108	4739	2452	5513	272	16.62	4,05	8.93	✓
SC 1500 - 075 - D	SC 1500 - 075 - E	75	2.95	260	10.24	185	7.28			2130	4789	2487	5591	313	19.08	4,23	9.33	✓
SC 1500 - 080 - D	SC 1500 - 080 - E	80	3.15	270	10.63	190	7.48			2139	4808	2500	5620	330	20.15	4,30	9.48	✓
SC 1500 - 088 - D	SC 1500 - 088 - E	87,5	3.44	285	11.22	197,5	7.78			2157	4849	2528	5683	356	21.69	4,42	9.74	✓
SC 1500 - 100 - D	SC 1500 - 100 - E	100	3.94	310	12.20	210	8.27			2165	4866	2540	5711	400	24.43	4,60	10.14	✓
SC 1500 - 113 - D	SC 1500 - 113 - E	113	4.45	335	13.19	222	8.74			2181	4903	2566	5768	444	27.11	4,78	10.54	✓
SC 1500 - 125 - D	SC 1500 - 125 - E	125	4.92	360	14.17	235	9.25			2187	4917	2575	5789	488	29.79	4,97	10.96	✓
SC 1500 - 138 - D	SC 1500 - 138 - E	137,5	5.41	385	15.16	247,5	9.74			2199	4943	2594	5831	532	32.47	5,16	11.38	✓
SC 1500 - 150 - D	SC 1500 - 150 - E	150	5.91	410	16.14	260	10.24			2203	4952	2600	5844	576	35.15	5,35	11.79	✓
SC 1500 - 160 - D	SC 1500 - 160 - E	160	6.30	430	16.93	270	10.63			2208	4963	2608	5862	611	37.29	5,50	12.13	✓
SC 1500 - 175 - D	SC 1500 - 175 - E	175	6.89	460	18.11	285	11.22			2215	4978	2618	5886	664	40.51	5,73	12.63	✓
SC 1500 - 200 - D	SC 1500 - 200 - E	200	7.87	510	20.08	310	12.20			2228	5008	2639	5933	748	45.66	6,13	13.51	✓
SC 1500 - 225 - D	SC 1500 - 225 - E	225	8.86	560	22.05	335	13.19			2250	5058	2674	6011	824	50.27	6,60	14.55	✓
SC 1500 - 250 - D	SC 1500 - 250 - E	250	9.84	610	24.02	360	14.17			2268	5099	2703	6077	899	54.88	7,08	15.61	✓
SC 1500 - 275 - D	SC 1500 - 275 - E	275	10.83	660	22.05	385	15.16			2284	5135	2728	6133	975	59.48	7,55	16.64	✓
SC 1500 - 300 - D	SC 1500 - 300 - E	300	11.81	710	27.95	410	16.14			2298	5166	2750	6182	1050	64.09	8,02	17.68	✓

◆ Disposable



Drop-in

Bottom mount - FB 75
FBA 75 - FBB 75
FBC 75 - FBD 75

FS2 75 - FT 75
FS2A 75 - FTP 75

Body Ø +1,0 +0,5

FC 75 A
FCQC 75

FSA 75
FSD 75 - FSE 75

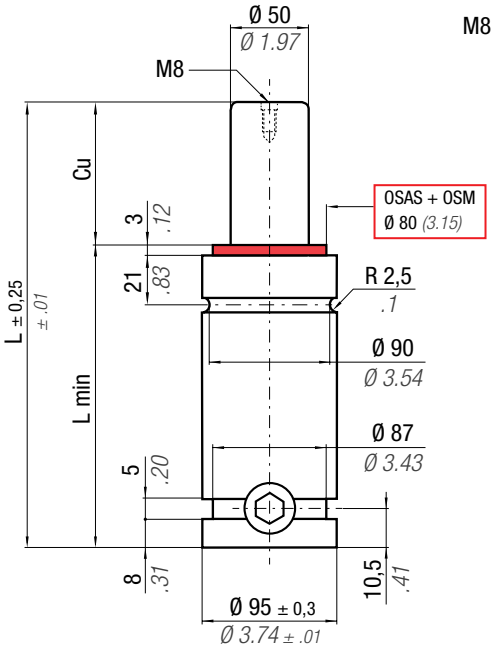
FSD 75 + R 75 A
FSE 75 + R 75 A

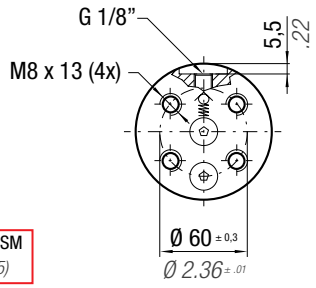
HOW TO ORDER p. 121

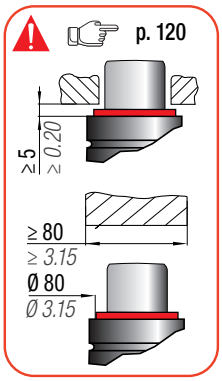
INSTALLATION GUIDELINE p. 205

ISO 11901 - 1	VDI 3003	B2 4006 (BMW)	075.90.55 (FCA)
W-DX35-6203 (Ford)	PG23D (Mazda)	B8 3180 220 000 001(MB)	K 32 S (Nissan)
E24.54.815.G (PSA)	EM24.54.700 (Renault)	SES-K 5404e (Suzuki)	39D 878 (VW)

SC 3000







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

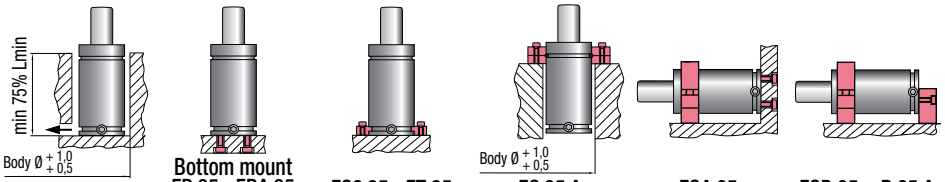
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 19,63 cm² / 3.043 in²	SPM ~ 15 - 50 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMSC03000E

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
SC 3000 - 013 - D	◆ SC 3000 - 013 - E	13	0.51	145	5.71	132	5.20			3532	7940	3923	8820	180	11.00	5,57	12.28	✓
SC 3000 - 025 - D	SC 3000 - 025 - E	25	0.98	170	6.69	145	5.71			3802	8547	4327	9726	254	15.51	5,90	13.01	✓
SC 3000 - 038 - D	SC 3000 - 038 - E	38	1.50	196	7.72	158	6.22			3988	8964	4609	10362	332	20.25	6,21	13.69	✓
SC 3000 - 050 - D	SC 3000 - 050 - E	50	1.97	220	8.66	170	6.69			4103	9225	4788	10764	404	24.64	6,50	14.33	✓
SC 3000 - 063 - D	SC 3000 - 063 - E	63,5	2.50	247	9.72	183,5	7.22			4197	9435	4934	11091	484	29.55	6,83	15.06	✓
SC 3000 - 075 - D	SC 3000 - 075 - E	75	2.95	270	10.63	195	7.68			4257	9571	5028	11303	553	33.75	7,10	15.65	✓
SC 3000 - 080 - D	SC 3000 - 080 - E	80	3.15	280	11.02	200	7.87			4279	9620	5062	11381	583	35.58	7,22	15.92	✓
SC 3000 - 088 - D	SC 3000 - 088 - E	87,5	3.44	295	11.61	207,5	8.17			4320	9712	5126	11525	628	38.31	7,41	16.34	✓
SC 3000 - 100 - D	SC 3000 - 100 - E	100	3.94	320	12.60	220	8.66	2945 ± 5%	6621	4350	9780	5175	11633	703	42.87	7,67	16.91	✓
SC 3000 - 113 - D	SC 3000 - 113 - E	113	4.45	345	13.58	232	9.13			4394	9878	5243	11787	777	47.43	7,97	17.57	✓
SC 3000 - 125 - D	SC 3000 - 125 - E	125	4.92	370	14.57	245	9.65	150 bar	2175 psi	4412	9917	5271	11850	853	52.02	8,27	18.23	✓
SC 3000 - 138 - D	SC 3000 - 138 - E	138	5.43	395	15.55	257	10.12			4444	9990	5322	11965	927	56.59	8,57	18.89	✓
SC 3000 - 150 - D	SC 3000 - 150 - E	150	5.91	420	16.54	270	10.63	+ 20 °C	+68 °F	4457	10019	5343	12011	1002	61.15	8,87	19.56	✓
SC 3000 - 160 - D	SC 3000 - 160 - E	160	6.30	440	17.32	280	11.02			4471	10052	5366	12064	1062	64.79	9,11	20.08	✓
SC 3000 - 175 - D	SC 3000 - 175 - E	175	6.89	470	18.50	295	11.61			4491	10095	5397	12133	1151	70.26	9,47	20.88	✓
SC 3000 - 200 - D	SC 3000 - 200 - E	200	7.87	520	20.47	320	12.60			4517	10155	5439	12228	1301	79.38	10,08	22.22	✓
SC 3000 - 225 - D	SC 3000 - 225 - E	225	8.86	570	22.44	345	13.58			4538	10202	5473	12304	1450	88.50	10,68	23.55	✓
SC 3000 - 250 - D	SC 3000 - 250 - E	250	9.84	620	24.41	370	14.57			4556	10241	5501	12367	1600	97.62	11,28	24.87	✓
SC 3000 - 275 - D	SC 3000 - 275 - E	275	10.83	670	26.38	395	15.55			4570	10274	5524	12419	1749	106.74	11,88	26.19	✓
SC 3000 - 300 - D	SC 3000 - 300 - E	300	11.81	720	28.35	420	16.54			4582	10302	5544	12463	1899	115.85	12,49	27.54	✓

◆ Disposable



Drop-in | Bottom mount FB 95 - FBA 95 FBB 95 | FS2 95 - FT 95 FS2A 95 - FTP 95 | FC 95 A FCQC 95 | FSA 95 FSD 95 - FSE 95 | FSD 95 + R 95 A FSE 95 + R 95 A

HOW TO ORDER p. 121

INSTALLATION GUIDELINE p. 205

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

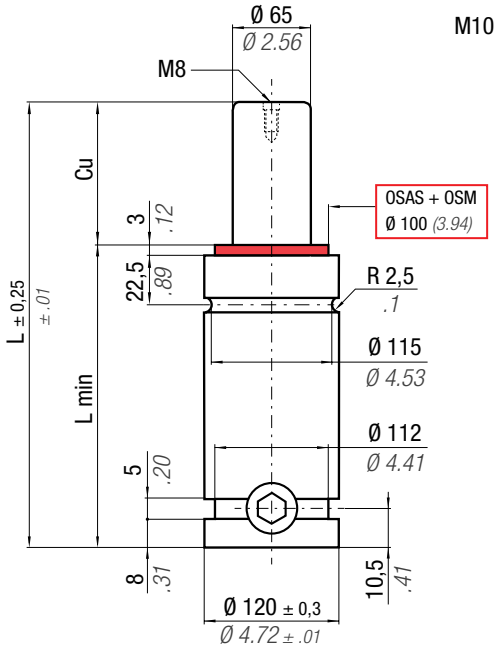
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

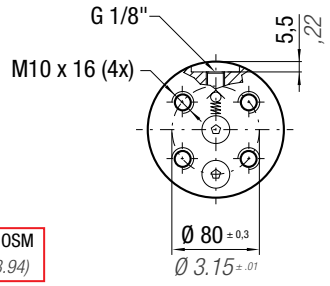
O novo código irá ser fornecido apenas quando o antigo esgotar stock

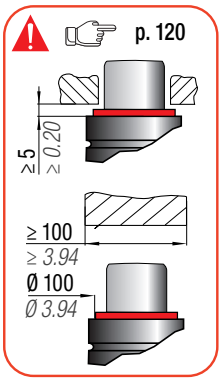
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu





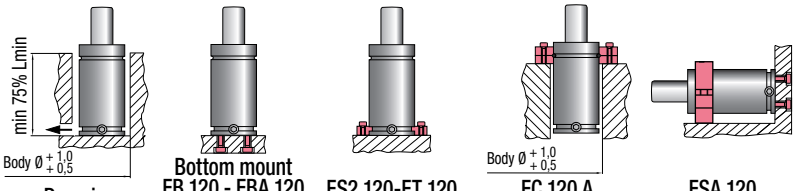


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	33,18 cm² / 5.143 in²	~ 15 - 50 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC05000E

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
SC 5000 - 025 - D	SC 5000 - 025 - E	25	0.98	190	7.48	165	6.50	4980 ± 5%	11195	6344	14261	7189	16161	450	27.46	10,94	24.12	✓
SC 5000 - 038 - D	SC 5000 - 038 - E	38	1.50	216	8.50	178	7.01			6688	15036	7712	17338	574	35.00	11,46	25.26	✓
SC 5000 - 050 - D	SC 5000 - 050 - E	50	1.97	240	9.45	190	7.48			6914	15543	8059	18118	688	41.96	11,94	26.32	✓
SC 5000 - 063 - D	SC 5000 - 063 - E	63,5	2.50	267	10.51	203,5	8.01			7102	15966	8352	18776	816	49.80	12,56	27.69	✓
SC 5000 - 075 - D	SC 5000 - 075 - E	75	2.95	290	11.42	215	8.46			7226	16245	8547	19213	925	56.47	12,94	28.53	✓
SC 5000 - 080 - D	SC 5000 - 080 - E	80	3.15	300	11.81	220	8.66			7273	16349	8619	19377	973	59.37	13,15	28.99	✓
SC 5000 - 088 - D	SC 5000 - 088 - E	87,5	3.44	315	12.40	227,5	8.96			7354	16533	8748	19666	1044	63.72	13,39	29.52	✓
SC 5000 - 100 - D	SC 5000 - 100 - E	100	3.94	340	13.39	240	9.45			7424	16689	8858	19913	1163	70.97	13,89	30.62	✓
SC 5000 - 113 - D	SC 5000 - 113 - E	113	4.45	365	14.37	252	9.92			7514	16891	9001	20234	1282	78.22	14,40	31.75	✓
SC 5000 - 125 - D	SC 5000 - 125 - E	125	4.92	390	15.35	265	10.43			7560	16994	9074	20398	1401	85.48	14,90	32.85	✓
SC 5000 - 138 - D	SC 5000 - 138 - E	138	5.43	415	16.34	277	10.91			7627	17146	9181	20640	1520	92.73	15,40	33.95	✓
SC 5000 - 150 - D	SC 5000 - 150 - E	150	5.91	440	17.32	290	11.42			7659	17218	9232	20755	1638	99.98	15,90	35.05	✓
SC 5000 - 160 - D	SC 5000 - 160 - E	160	6.30	460	18.11	300	11.81			7691	17291	9284	20872	1733	105.78	16,30	35.94	✓
SC 5000 - 175 - D	SC 5000 - 175 - E	175	6.89	490	19.29	315	12.40			7750	17424	9379	21085	1869	114.04	16,90	37.26	✓
SC 5000 - 200 - D	SC 5000 - 200 - E	200	7.87	540	21.26	340	13.39			7809	17555	9473	21296	2107	128.55	17,91	39.48	✓
SC 5000 - 225 - D	SC 5000 - 225 - E	225	8.86	590	23.23	365	14.37			7856	17660	9549	21466	2344	143.05	18,91	41.69	✓
SC 5000 - 250 - D	SC 5000 - 250 - E	250	9.84	640	25.20	390	15.35			7894	17747	9611	21607	2582	157.56	19,91	43.89	✓
SC 5000 - 275 - D	SC 5000 - 275 - E	275	10.83	690	27.17	415	16.34			7927	17820	9664	21725	2820	172.06	20,92	46.12	✓
SC 5000 - 300 - D	SC 5000 - 300 - E	300	11.81	740	29.13	440	17.32			7954	17882	9708	21825	3057	186.56	21,92	48.33	✓

150 bar / 2175 psi

+ 20 °C +68 °F



Drop-in

Bottom mount
FB 120 - FBA 120
FBB 120

FS2 120-FT 120
FS2A 120-FTP 120

Body Ø + 1,0 + 0,5

FC 120 A
FCQC 120

FSA 120
FSD 120

HOW TO ORDER

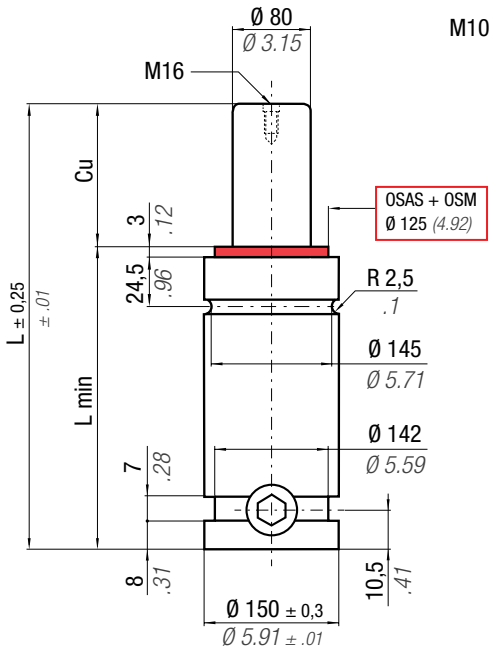
p. 121

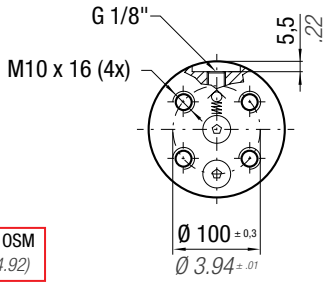
INSTALLATION GUIDELINE

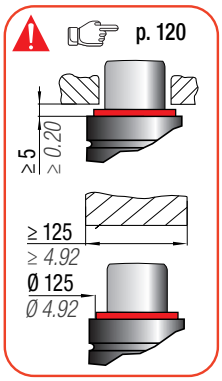
p. 205

ISO 11901 - 1	VDI 3003	B2 4006 (BMW)	075.90.55 (FCA)
W-DX35-6203 (Ford)	PG23D (Mazda)	B8 3180 220 000 001(MB)	E24.54.815.G (PSA)
EM24.54.700 (Renault)	39D 878 (VW)		

SC 7500







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

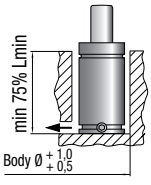
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 50,27 cm² / 7.792 in²	SPM ~ 15 - 50 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMSC07500D Cu 25 ÷ 80 / 39BMSC07500DH Cu 88 ÷ 300

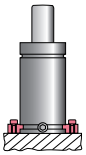
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
SC 7500 - 025 - D	SC 7500 - 025 - E	25	0.98	205	8.07	180	7.09			9357	21035	10511	23630	757	46.22	18,71	41.25	✓
SC 7500 - 038 - D	SC 7500 - 038 - E	38	1.50	231	9.09	193	7.60			9845	22132	11246	25282	951	58.05	19,50	42.99	✓
SC 7500 - 050 - D	SC 7500 - 050 - E	50	1.97	255	10.04	205	8.07			10171	22866	11743	26400	1130	68.96	20,24	44.62	✓
SC 7500 - 063 - D	SC 7500 - 063 - E	63,5	2.50	282	11.10	218,5	8.60			10448	23488	12170	27359	1331	81.23	21,06	46.43	✓
SC 7500 - 075 - D	SC 7500 - 075 - E	75	2.95	305	12.10	230	9.06			10633	23904	12456	28003	1503	91.69	21,76	47.97	✓
SC 7500 - 080 - D	SC 7500 - 080 - E	80	3.15	315	12.40	235	9.25			10702	24060	12564	28246	1577	96.24	22,07	48.66	✓
SC 7500 - 088 - D	SC 7500 - 088 - E	87,5	3.44	330	12.99	242,5	9.55			10822	24329	12751	28666	1689	103.06	22,45	49.49	✓
SC 7500 - 100 - D	SC 7500 - 100 - E	100	3.94	355	13.98	255	10.04	7540 ± 5%	16950	10930	24572	12921	29047	1875	114.43	23,23	51.21	✓
SC 7500 - 113 - D	SC 7500 - 113 - E	113	4.45	380	14.96	267	10.51			11076	24900	13150	29562	2057	125.52	23,98	52.87	✓
SC 7500 - 125 - D	SC 7500 - 125 - E	125	4.92	405	15.94	280	11.02	150 bar	2175 psi	11138	25039	13248	29782	2248	137.17	24,76	54.59	✓
SC 7500 - 138 - D	SC 7500 - 138 - E	138	5.43	430	16.93	292	11.50			11249	25289	13424	30177	2430	148.26	25,51	56.24	✓
SC 7500 - 150 - D	SC 7500 - 150 - E	150	5.91	455	17.91	305	12.10	+ 20 °C	+68 °F	11291	25382	13490	30326	2620	159.91	26,28	57.94	✓
SC 7500 - 160 - D	SC 7500 - 160 - E	160	6.30	475	18.70	315	12.40			11341	25496	13570	30506	2769	169.00	26,90	59.30	✓
SC 7500 - 175 - D	SC 7500 - 175 - E	175	6.89	505	19.88	330	12.99			11408	25646	13676	30745	2993	182.64	27,81	61.31	✓
SC 7500 - 200 - D	SC 7500 - 200 - E	200	7.87	555	21.85	355	13.98			11501	25856	13824	31079	3366	205.38	29,34	64.68	✓
SC 7500 - 225 - D	SC 7500 - 225 - E	225	8.86	605	23.82	380	14.96			11577	26025	13945	31350	3738	228.12	30,87	68.06	✓
SC 7500 - 250 - D	SC 7500 - 250 - E	250	9.84	655	25.79	405	15.94			11639	26166	14045	31574	4111	250.85	32,39	71.41	✓
SC 7500 - 275 - D	SC 7500 - 275 - E	275	10.83	705	27.76	430	16.93			11692	26284	14129	31764	4483	273.59	33,92	74.78	✓
SC 7500 - 300 - D	SC 7500 - 300 - E	300	11.81	755	29.72	455	17.91			11736	26385	14201	31926	4856	296.33	35,45	78.15	✓



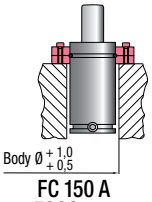
Drop-in



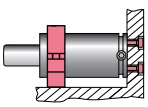
Bottom mount
FB 150 - FBA 150
FBB 150 - FBD 150



FS2 150-FT 150
FS2A 150-FTP 150



FC 150 A
FCQC 150



FSA 150
FSD 150

HOW TO ORDER p. 121

INSTALLATION GUIDELINE p. 205

SC 10000

ISO 11901 - 1	VDI 3003	075.90.55 (FCA)	B8 3180 220 000 001(MB)
EM24.54.700 (Renault)	39D 878 (VW)		

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

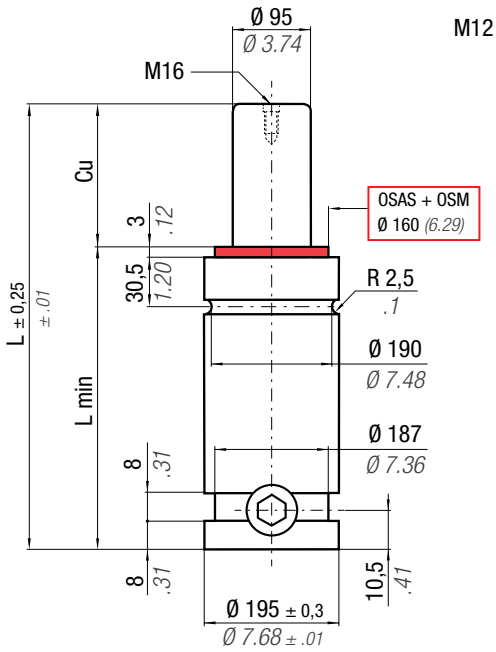
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

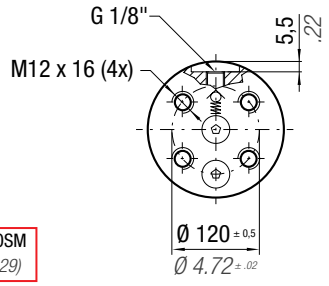
O novo código irá ser fornecido apenas quando o antigo esgotar stock

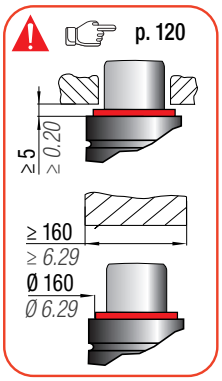
easy MANIFOLD p. 247

$F1_i$ = Isothermal end force at 100% Cu p. 16

$F1_p$ = Polytrophic end force at 100% Cu



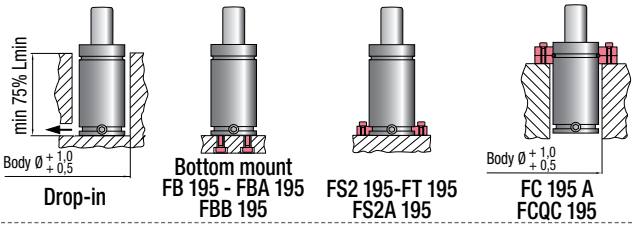




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	70,88 cm² / 10.986 in²	~ 15 - 50 (at 20°C)	1,8 m/s / 70.8 in/s	39BMSC10000D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
SC 10000 - 025 - D	◆SC 10000 - 025 - E	25	0.98	210	8.27	185	7.28	10600 ± 5%	23830	12918	29040	14411	32398	1174	71.65	33,73	74.36	✓
SC 10000 - 038 - D	SC 10000 - 038 - E	38	1.50	236	9.29	198	7.80			13498	30345	15277	34345	1482	90.45	35,08	77.34	✓
SC 10000 - 050 - D	SC 10000 - 050 - E	50	1.97	260	10.24	210	8.27			13879	31200	15852	35636	1767	107.81	36,32	80.07	✓
SC 10000 - 063 - D	SC 10000 - 063 - E	63,5	2.50	287	11.30	223,5	8.80			14197	31916	16336	36726	2087	127.34	37,72	83.16	✓
SC 10000 - 080 - D	SC 10000 - 080 - E	80	3.15	320	12.60	240	9.45			14486	32565	16779	37720	2478	151.20	39,44	86.95	✓
SC 10000 - 100 - D	SC 10000 - 100 - E	100	3.94	360	14.17	260	10.24			14742	33140	17174	38608	2952	180.14	41,51	91.51	✓
SC 10000 - 125 - D	SC 10000 - 125 - E	125	4.92	410	16.14	285	11.22			14972	33659	17531	39412	3545	216.30	44,11	97.25	✓
SC 10000 - 160 - D	SC 10000 - 160 - E	160	6.30	480	18.90	320	12.60			15196	34163	17881	40197	4374	266.92	47,74	105.25	✓
SC 10000 - 200 - D	SC 10000 - 200 - E	200	7.87	560	22.05	360	14.17			15415	34654	18222	40966	5288	322.68	52,17	115.02	✓
SC 10000 - 250 - D	SC 10000 - 250 - E	250	9.84	660	25.98	410	16.14			15774	35462	18789	42240	6281	383.26	58,87	129.79	✓
SC 10000 - 300 - D	SC 10000 - 300 - E	300	11.81	760	29.92	460	18.11			16046	36072	19219	43207	7273	443.84	65,57	144.56	✓

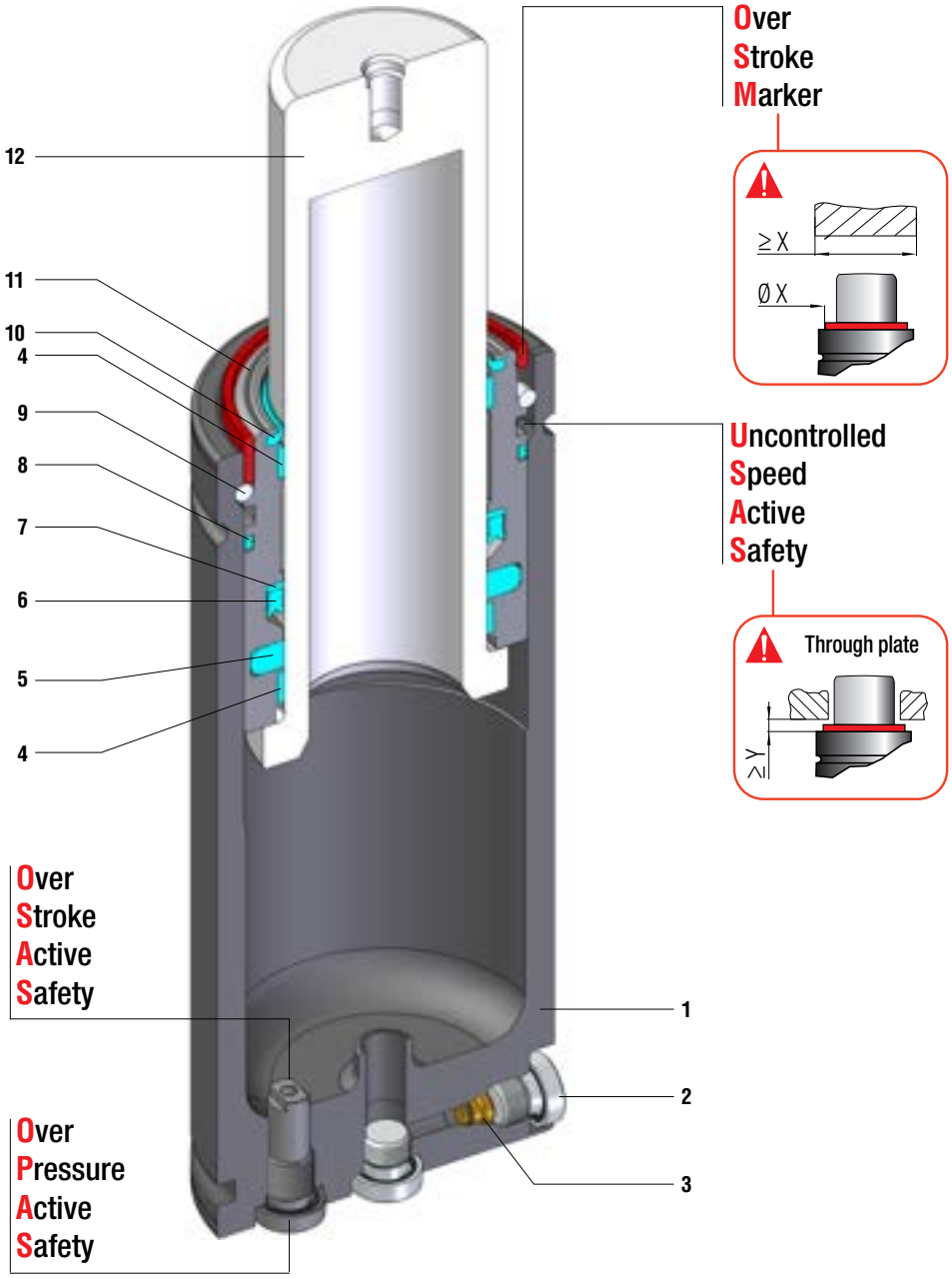
◆ Disposable



HOW TO ORDER p. 121

INSTALLATION GUIDELINE p. 205

THIS PAGE IS INTENTIONALLY LEFT BLANK



ISO standard, forza potenziata - ISO standard, high force - ISO Standard, erhöhte Kraft
Standard ISO, force majorée - ISO standard, fuerza potenciada - Norma ISO, força permitida

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal	**9**	Retaining ring
2	Plug	**6**	Rod seal	**10**	Rod wiper
3	Valve	**7**	Back-up ring	**11**	Bush
4	Guide ring	**8**	Dual ring seal	**12**	Rod (nitrited superfinished)

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
H 300	32	1.26	10 - 125	0.39 - 4.92	300	674	✓	✓	✓	-	✓
H 500	38	1.50	10 - 125	0.39 - 4.92	470	1057	✓	✓	✓	-	✓
HF 500	M 38 X 1,5		10 - 125	0.39 - 4.92	470	1057	✓	✓	✓	-	✓
H 700	45	1.77	10 - 200	0.51 - 7.87	680	1529	✓	✓	✓	-	✓
H 1000	50	1.97	13 - 300	0.51 - 11.81	920	2383	✓	✓	✓	-	✓
H 1500	63	2.48	13 - 300	0.51 - 11.81	1530	3440	✓	✓	✓	-	✓
H 2400	75	2.95	25 - 300	0.98 - 11.81	2385	5362	✓	✓	✓	-	✓
H 4200	95	3.74	25 - 300	0.98 - 11.81	4240	9532	✓	✓	✓	-	✓
H 6600	120	4.72	25 - 300	0.98 - 11.81	6630	14905	✓	✓	✓	-	✓
H 9500	150	5.91	25 - 300	0.98 - 11.81	9540	21446	✓	✓	✓	-	✓
H 18500	195	7.68	25 - 300	0.98 - 11.81	18400	41365	✓	✓	✓	-	✓
H 20000	195	7.68	25 - 300	0.98 - 11.81	19910	44756	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — Model — Stroke — Revision code — Version

H1000-050-E-E-W

Available versions



H 1000-050-E

Standard code

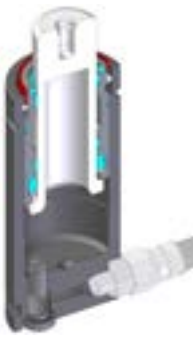
Self contained



H 1000-050-E-W

Add "-W" to standard code

Self contained + Secondary wiper



H 1000-050-E-N

Add "-N" to standard code

Linkable



H 1000-050-E-N-W

Add "-N-W" to standard code

Linkable + Secondary wiper



H 1000-050-E-E

Add "-E" to standard code

Easy Manifold



H 1000-050-E-E-W

Add "-E-W" to standard code

Easy Manifold + Secondary wiper

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

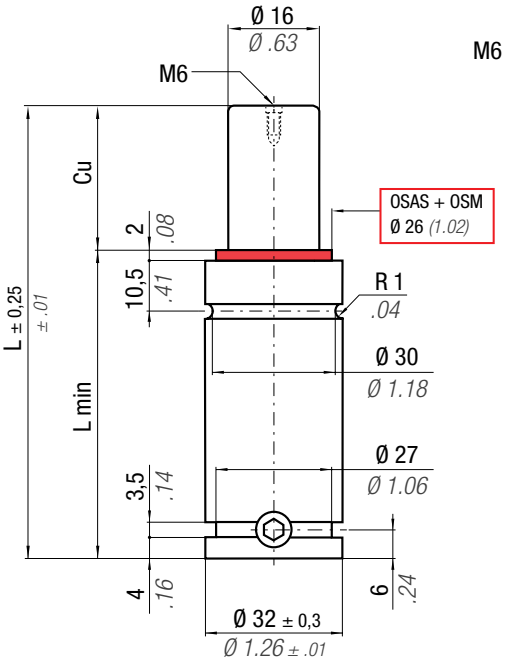
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

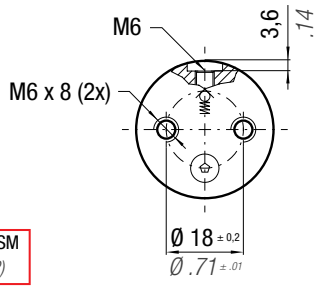
O novo código irá ser fornecido apenas quando o antigo esgotar stock

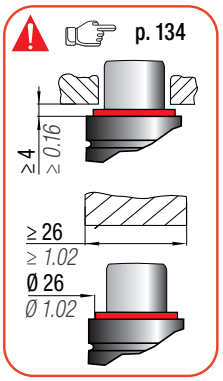
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



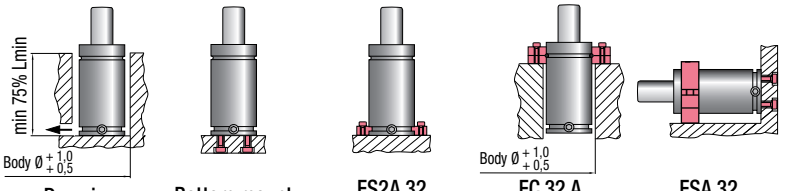




N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 2,01 cm² / 0.312 in²	SPM ~ 30 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH00300B

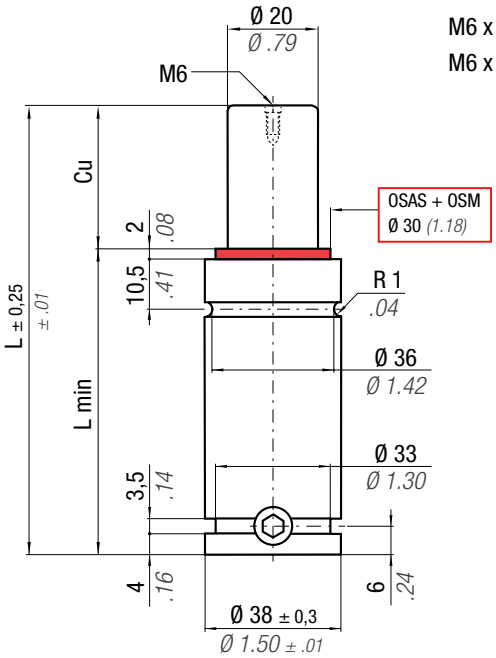
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
H 300 - 010 - C	◆ H 300 - 010 - D	10	0.39	70	2.76	60	2.36	300 ± 5%	674	372	837	418	939	12,4	0.76	0,22	0.49	✓
H 300 - 013 - C	H 300 - 013 - D	13	0.51	75,7	2.98	62,7	2.47			386	867	437	983	14,0	0.85	0,23	0.51	✓
H 300 - 016 - C	H 300 - 016 - D	16	0.63	82	3.23	66	2.60			394	887	451	1013	16,0	0.98	0,24	0.53	✓
H 300 - 025 - C	H 300 - 025 - D	25	0.98	100	3.94	75	2.95			416	934	483	1086	21,3	1.30	0,26	0.57	✓
H 300 - 038 - C	H 300 - 038 - D	38	1.50	126	4.96	88	3.46			434	976	512	1150	29,0	1.77	0,31	0.68	✓
H 300 - 050 - C	H 300 - 050 - D	50	1.97	150	5.91	100	3.94	150 bar 2175 psi		445	999	528	1188	36,1	2.20	0,35	0.77	✓
H 300 - 063 - C	H 300 - 063 - D	63	2.48	176,5	6.95	113,5	4.47			451	1014	539	1212	44,1	2.69	0,39	0.86	✓
H 300 - 080 - C	H 300 - 080 - D	80	3.15	210	8.27	130	5.12	+ 20 °C	+68 °F	460	1033	552	1242	53,9	3.29	0,44	0.97	✓
H 300 - 100 - C	H 300 - 100 - D	100	3.94	250	9.84	150	5.91			465	1046	562	1262	65,8	4.02	0,51	1.12	✓
H 300 - 125 - C	H 300 - 125 - D	125	4.92	300	11.81	175	6.89			476	1070	579	1301	78,9	4.81	0,59	1.30	✓

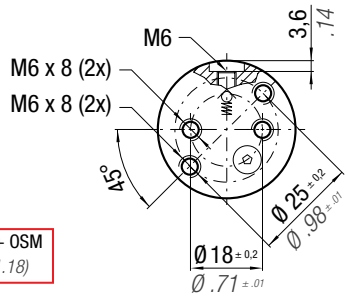
◆ Disposable

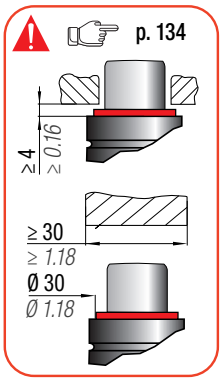


HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

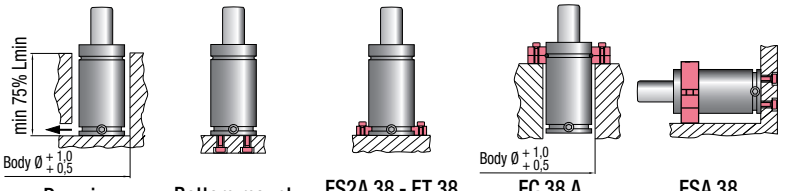
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 3,14 cm² / 0.487 in²	SPM ~ 30 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH00500B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
H 500 - 010 - C	◆ H 500 - 010 - D	10	0.39	70	2.76	60	2.36	470 ± 5%	1057	595	1338	673	1512	17,6	1.07	0,32	0.71	✓
H 500 - 013 - C	H 500 - 013 - D	13	0.51	75,7	2.98	62,7	2.47			617	1386	705	1585	20,2	1.23	0,33	0.73	✓
H 500 - 016 - C	H 500 - 016 - D	16	0.63	82	3.23	66	2.60			634	1426	732	1646	22,7	1.39	0,34	0.75	✓
H 500 - 019 - C	H 500 - 019 - D	19	0.75	88	3.46	69	2.72			649	1459	755	1697	25,3	1.54	0,36	0.79	✓
H 500 - 025 - C	H 500 - 025 - D	25	0.98	100	3.94	75	2.95			673	1512	791	1778	30,4	1.86	0,39	0.86	✓
H 500 - 038 - C	H 500 - 038 - D	38	1.50	126	4.96	88	3.46	150 bar	2175 psi	706	1587	843	1896	41,5	2.53	0,45	0.99	✓
H 500 - 050 - C	H 500 - 050 - D	50	1.97	150	5.91	100	3.94			725	1630	874	1965	51,7	3.15	0,50	1.10	✓
H 500 - 063 - C	H 500 - 063 - D	63	2.48	176,5	6.95	113,5	4.47	+ 20 °C	+68 °F	737	1658	894	2010	63,1	3.85	0,57	1.26	✓
H 500 - 080 - C	H 500 - 080 - D	80	3.15	210	8.27	130	5.12			753	1692	919	2065	77,2	4.71	0,64	1.41	✓
H 500 - 100 - C	H 500 - 100 - D	100	3.94	250	9.84	150	5.91			763	1716	936	2104	94,3	5.75	0,74	1.63	✓
H 500 - 125 - C	H 500 - 125 - D	125	4.92	300	11.81	175	6.89			772	1737	951	2137	115,5	7.05	0,86	1.90	✓

◆ Disposable



Drop-in | Bottom mount | FS2A 38 - FT 38 FS2B 38 - FTP 38 | FC 38 A FCQC 38 | FSA 38 FSD 38

HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

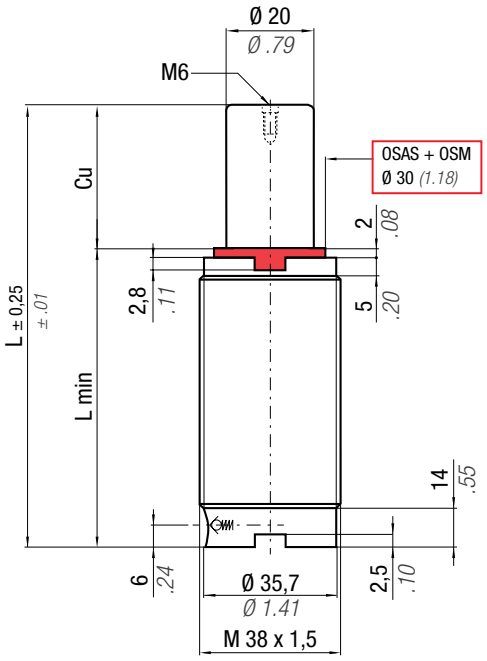
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

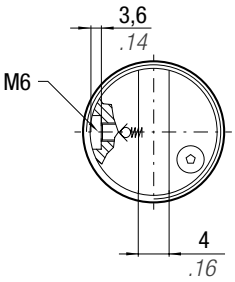
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

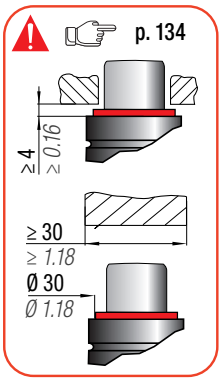
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



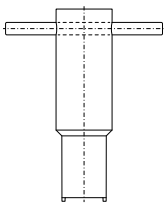




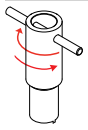
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	3,14 cm² / 0.487 in²	~ 30 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMH00500B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
HF 500 - 010 - C	◆ HF 500 - 010 - D	10	0.39	70	2.76	60	2.36	470 ± 5%	1057	595	1338	673	1512	17,6	1.07	0,31	0.68	✓
HF 500 - 013 - C	HF 500 - 013 - D	13	0.51	75,7	2.98	62,7	2.47			617	1386	705	1585	20,2	1.23	0,32	0.71	✓
HF 500 - 016 - C	HF 500 - 016 - D	16	0.63	82	3.23	66	2.60			634	1426	732	1646	22,7	1.39	0,34	0.75	✓
HF 500 - 019 - C	HF 500 - 019 - D	19	0.75	88	3.46	69	2.72			649	1459	755	1697	25,3	1.54	0,35	0.77	✓
HF 500 - 025 - C	HF 500 - 025 - D	25	0.98	100	3.94	75	2.95			673	1512	791	1778	30,4	1.86	0,38	0.84	✓
HF 500 - 038 - C	HF 500 - 038 - D	38	1.50	126	4.96	88	3.46			706	1587	843	1896	41,5	2.53	0,44	0.97	✓
HF 500 - 050 - C	HF 500 - 050 - D	50	1.97	150	5.91	100	3.94	150 bar 2175 psi		725	1630	874	1965	51,7	3.15	0,50	1.10	✓
HF 500 - 063 - C	HF 500 - 063 - D	63	2.48	176,5	6.95	113,5	4.47			737	1658	894	2010	63,1	3.85	0,56	1.23	✓
HF 500 - 080 - C	HF 500 - 080 - D	80	3.15	210	8.27	130	5.12	+ 20 °C	+68 °F	753	1692	919	2065	77,2	4.71	0,64	1.41	✓
HF 500 - 100 - C	HF 500 - 100 - D	100	3.94	250	9.84	150	5.91			763	1716	936	2104	94,3	5.75	0,73	1.61	✓
HF 500 - 125 - C	HF 500 - 125 - D	125	4.92	300	11.81	175	6.89			772	1737	951	2137	115,5	7.05	0,85	1.87	✓

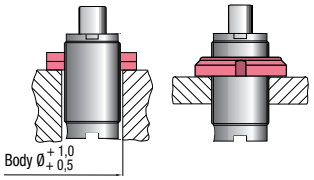
◆ Disposable



code: 58UT037A



p. 322



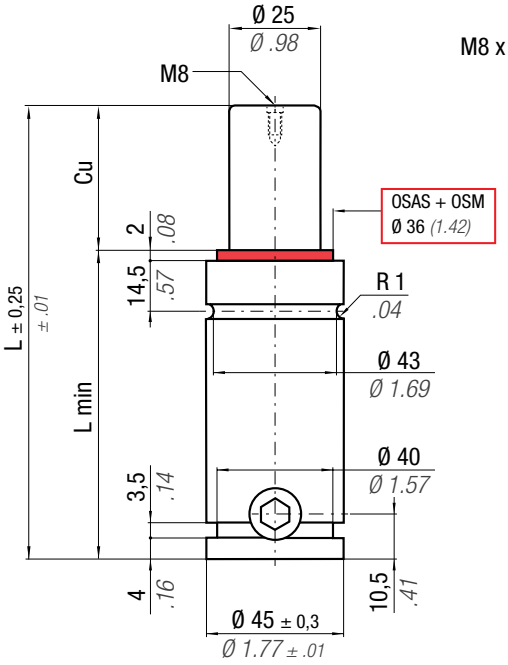
FCA 38 GM 38

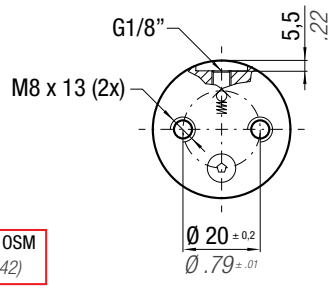
HOW TO ORDER

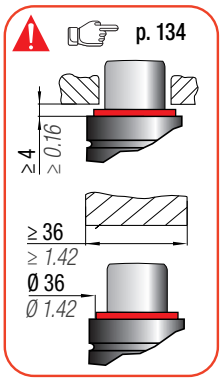
p. 135

INSTALLATION GUIDELINE

p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

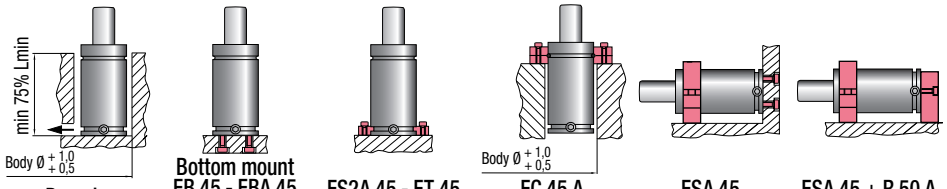
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 4,91 cm² / 0.761 in²	SPM ~ 20 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH00700D

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
H 700 - 010 - D	◆ H 700 - 010 - E	10	0.39	105	4.13	95	3.74	740 ± 5%	1664	967	2173	1106	2487	24,0	1.46	0,90	1.98	✓
H 700 - 013 - D	H 700 - 013 - E	13	0.50	110,7	4.35	97,7	3.85			1010	2271	1173	2636	27,4	1.67	0,91	2.01	✓
H 700 - 025 - D	H 700 - 025 - E	25	0.98	135	5.31	110	4.33			1108	2490	1325	2980	42,2	2.58	1,00	2.20	✓
H 700 - 038 - D	H 700 - 038 - E	38	1.50	161	6.34	123	4.84			1168	2625	1422	3196	58,1	3.55	1,09	2.40	✓
H 700 - 050 - D	H 700 - 050 - E	50	1.97	185	7.28	135	5.31			1202	2703	1478	3323	72,7	4.44	1,17	2.58	✓
H 700 - 063 - D	H 700 - 063 - E	63	2.48	211,5	8.33	148,5	5.85	150 bar	2175 psi	1224	2752	1514	3403	89,0	5.43	1,26	2.78	✓
H 700 - 080 - D	H 700 - 080 - E	80	3.15	245	9.65	165	6.50			1252	2814	1559	3505	109,2	6.66	1,37	3.02	✓
H 700 - 100 - D	H 700 - 100 - E	100	3.94	285	11.22	185	7.28	+ 20 °C	+68 °F	1271	2856	1590	3575	133,5	8.15	1,51	3.33	✓
H 700 - 125 - D	H 700 - 125 - E	125	4.92	335	13.19	210	8.27			1287	2892	1617	3635	163,9	10.00	1,67	3.68	✓
H 700 - 160 - D	H 700 - 160 - E	160	6.30	405	15.94	245	9.65			1301	2926	1642	3691	206,5	12.60	1,91	4.21	✓
H 700 - 200 - D	H 700 - 200 - E	200	7.87	485	19.09	285	11.22			1313	2951	1660	3733	255,2	15.57	2,20	4.85	✓

◆ Disposable



Drop-in

Bottom mount
FB 45 - FBA 45
FBB 45 - FBD 45

FS2A 45 - FT 45
FS2 45 - FTP 45

Body Ø + 1,0 + 0,5
FC 45 A
FCQC 45

FSA 45
FSD 45 - FSE 45

FSA 45 + R 50 A
FSE 45 + R 50 A

HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205

H 1000

ISO 11901 - 4	VDI 3003 Blatt 4	B2 4008 (BMW)	075.90.65 (FCA)
39D 838 (VW)			

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

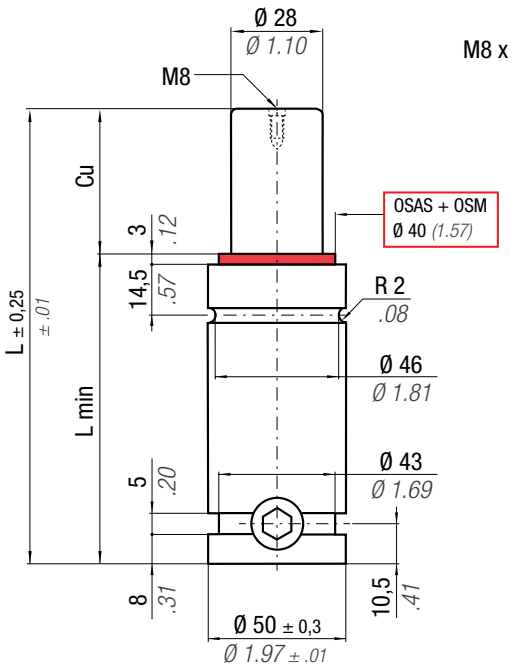
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

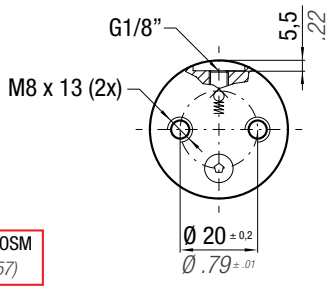
O novo código irá ser fornecido apenas quando o antigo esgotar stock

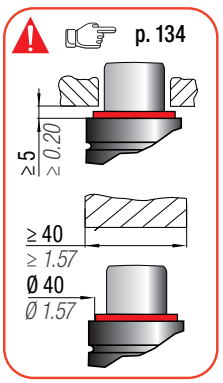
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



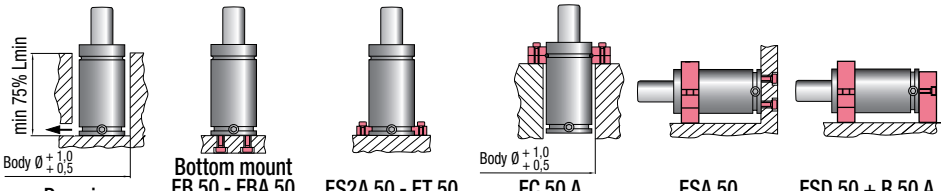




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	6,15 cm² / 0.953 in²	~ 15 - 100 (at 20°C)	1,8 m/s / 70.8 in/s	39BMH01000D

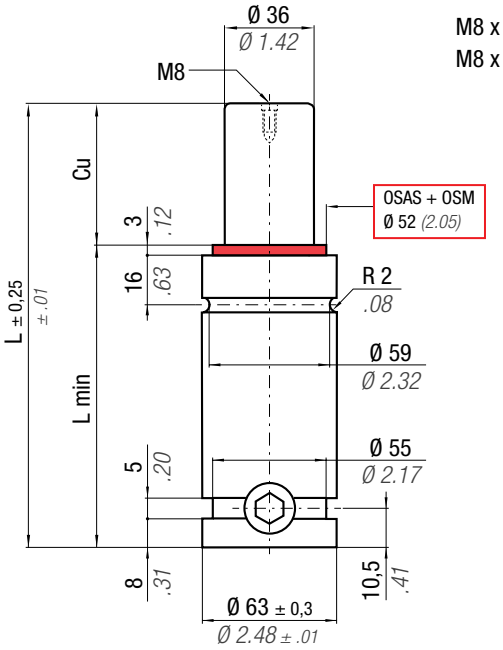
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
H 1000 - 013 - D	◆ H 1000 - 013 - E	13	0.50	120,7	4.74	107,7	4.24			1201	2701	1371	3082	40	2.47	1,21	2,67	✓
H 1000 - 025 - D	H 1000 - 025 - E	25	0.98	145	5.71	120	4.72			1324	2976	1559	3505	59	3.60	1,32	2,91	✓
H 1000 - 038 - D	H 1000 - 038 - E	38	1.50	171	6.73	133	5.24			1405	3159	1687	3793	79	4.81	1,43	3,15	✓
H 1000 - 050 - D	H 1000 - 050 - E	50	1.97	195	7.68	145	5.71			1455	3271	1767	3973	97	5.92	1,53	3,37	✓
H 1000 - 063 - D	H 1000 - 063 - E	63	2.48	221	8.74	158	6.22			1493	3357	1830	4113	117	7.13	1,64	3,62	✓
H 1000 - 075 - D	H 1000 - 075 - E	75	2.95	245	9.65	170	6.69	920 ± 5%	2068	1520	3417	1873	4210	135	8.24	1,74	3,84	✓
H 1000 - 080 - D	H 1000 - 080 - E	80	3.15	255	10.04	175	6.89			1529	3438	1888	4244	143	8.70	1,78	3,92	✓
H 1000 - 100 - D	H 1000 - 100 - E	100	3.94	295	11.61	195	7.68	150 bar	2175 psi	1559	3504	1937	4354	173	10.56	1,96	4.32	✓
H 1000 - 125 - D	H 1000 - 125 - E	125	4.92	345	13.58	220	8.66			1585	3562	1979	4450	211	12.88	2,17	4.78	✓
H 1000 - 150 - D	H 1000 - 150 - E	150	5.91	395	15.55	245	9.65			1603	3604	2010	4519	249	15.20	2,38	5.25	✓
H 1000 - 160 - D	H 1000 - 160 - E	160	6.30	415	16.34	255	10.04	+ 20 °C	+68 °F	1609	3617	2020	4541	264	16.13	2,46	5.42	✓
H 1000 - 175 - D	H 1000 - 175 - E	175	6.89	445	17.52	270	10.63			1617	3635	2033	4570	287	17.52	2,59	5.71	✓
H 1000 - 200 - D	H 1000 - 200 - E	200	7.87	495	19.49	295	11.61			1627	3659	2051	4610	325	19.84	2,79	6.15	✓
H 1000 - 250 - D	H 1000 - 250 - E	250	9.84	595	23.43	345	13.58			1643	3694	2077	4669	401	24.48	3,21	7.08	✓
H 1000 - 300 - D	H 1000 - 300 - E	300	11.81	695	27.36	395	15.55			1654	3718	2095	4710	477	29.13	3,63	8.00	✓

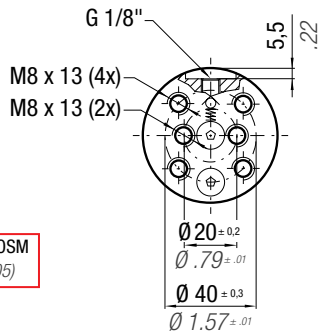
◆ Disposable

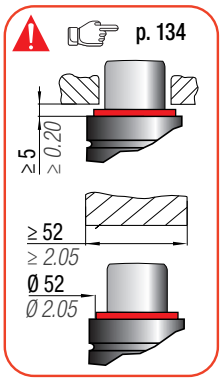


HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

easy MANIFOLD p. 247

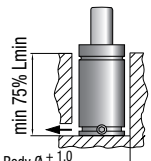
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 10,17 cm² / 1.576 in²	SPM ~ 15 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH01500C Cu 25 ÷ 80 / 39BMH01500CH Cu 100 ÷ 300

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
H 1500 - 013 - C	◆ H 1500 - 013 - D	13	0,51	120,7	4.75	107,7	4.24	1530 ± 5%	3440	1982	4456	2260	5081	67	4.10	1,98	4.37	✓
H 1500 - 025 - C	H 1500 - 025 - D	25	0,98	145	5.71	120	4.72	150 bar	2175 psi	2177	4895	2560	5755	99	6.02	2,13	4.70	✓
H 1500 - 038 - C	H 1500 - 038 - D	38	1,50	171	6.73	133	5.24	+ 20 °C	+68 °F	2306	5183	2762	6210	132	8.06	2,29	5.05	✓
H 1500 - 050 - C	H 1500 - 050 - D	50	1,97	195	7.68	145	5.71			2383	5358	2887	6490	163	9.95	2,44	5.38	✓
H 1500 - 063 - C	H 1500 - 063 - D	63	2,48	221	8.70	158	6.22			2443	5493	2983	6707	197	11.99	2,60	5.73	✓
H 1500 - 075 - C	H 1500 - 075 - D	75	2,95	245	9.65	170	6.69			2484	5585	3050	6857	227	13.88	2,75	6.06	✓
H 1500 - 080 - C	H 1500 - 080 - D	80	3,15	255	10.04	175	6.89			2499	5617	3074	6910	240	14.66	2,81	6.19	✓
H 1500 - 100 - C	H 1500 - 100 - D	100	3,94	295	11.61	195	7.68			2544	5720	3148	7078	292	17.80	3,03	6.68	✓
H 1500 - 125 - C	H 1500 - 125 - D	125	4,92	345	13.58	220	8.66			2584	5809	3214	7224	356	21.73	3,34	7.36	✓
H 1500 - 150 - C	H 1500 - 150 - D	150	5,91	395	15.55	245	9.65			2612	5873	3260	7329	420	25.65	3,64	8.02	✓
H 1500 - 160 - C	H 1500 - 160 - D	160	6,30	415	16.34	255	10.04			2621	5893	3275	7363	446	27.22	3,77	8.31	✓
H 1500 - 175 - C	H 1500 - 175 - D	175	6,89	445	17.52	270	10.63			2633	5920	3295	7408	485	29.58	3,95	8.71	✓
H 1500 - 200 - C	H 1500 - 200 - D	200	7,87	495	19.49	295	11.61			2650	5957	3322	7469	549	33.51	4,26	9.39	✓
H 1500 - 250 - C	H 1500 - 250 - D	250	9,84	595	23.43	345	13.58			2722	6119	3443	7740	661	40.36	4,99	11.00	✓
H 1500 - 300 - C	H 1500 - 300 - D	300	11,81	695	27.36	395	15.55			2804	6303	3582	8052	764	46.59	5,81	12.81	✓

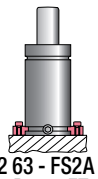
◆ Disposable



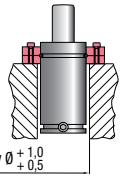
Drop-in



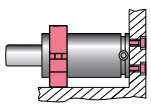
Bottom mount - FB 50 - FBA 50 FBD 50 - FB 63 - FBB 63 - FB 75 FBA 75 - FBB 75 - FBC 75 - FBD 75



FS2 63 - FS2A 63 FS2B 63 - FT 63 FTP 63



FC 63 A- FCQ 63 A FCQC 63



FSC 63 FSD 63

HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205

H 2400

ISO 11901 - 4	VDI 3003 Blatt 4	B2 4008 (BMW)	075.90.65 (FCA)
39D 838 (VW)			

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

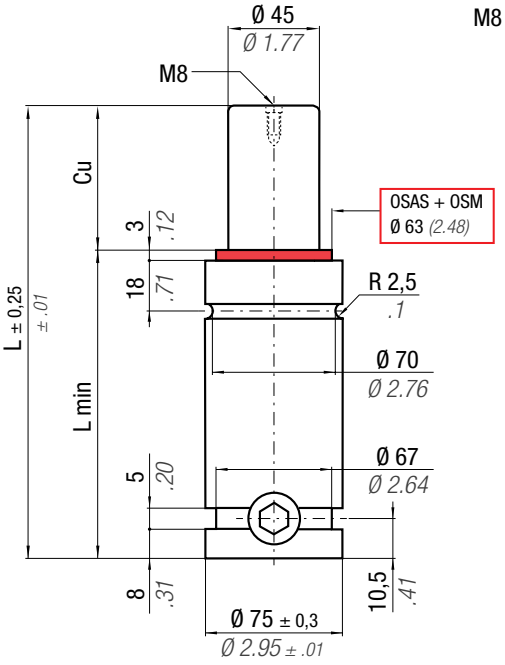
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

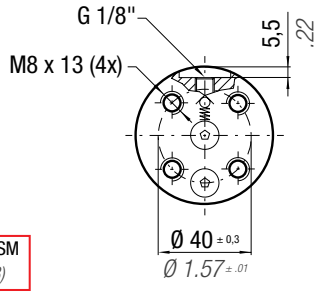
O novo código irá ser fornecido apenas quando o antigo esgotar stock

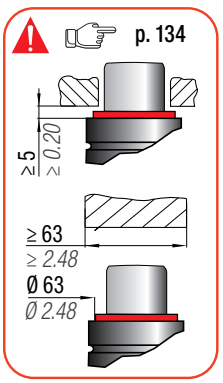
easy MANIFOLD p. 247

$F1_i$ = Isothermal end force at 100% Cu p. 16

$F1_p$ = Polytrophic end force at 100% Cu

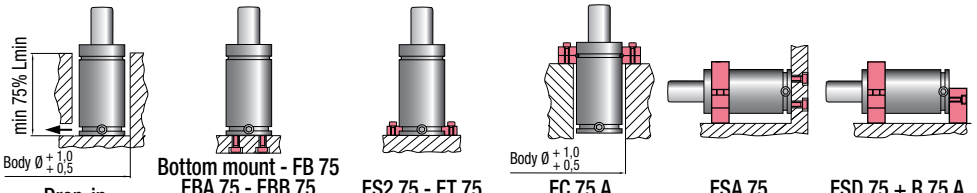






N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 15,90 cm² / 2.465 in²	SPM ~ 15 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH02400D Cu 25 ÷ 80 39BMH02400DH Cu 100 ÷ 300

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
H 2400 - 025 - D	H 2400 - 025 - E	25	0.98	160	6.30	135	5.31	2385 ± 5%	5362	3282	7378	3814	8574	169	10.32	3,34	7.36	✓
H 2400 - 038 - D	H 2400 - 038 - E	38	1.50	186	7.32	148	5.83	150 bar 2175 psi		3495	7857	4146	9321	220	13.44	3,55	7.83	✓
H 2400 - 050 - D	H 2400 - 050 - E	50	1.97	210	8.27	160	6.30	+ 20 °C +68 °F		3632	8165	4363	9807	267	16.31	3,75	8.27	✓
H 2400 - 063 - D	H 2400 - 063 - E	63	2.48	236	9.31	173	6.81			3741	8410	4537	10200	318	19.42	3,96	8.73	✓
H 2400 - 075 - D	H 2400 - 075 - E	75	2.95	260	10.24	185	7.28			3818	8583	4662	10480	366	22.30	4,15	9.15	✓
H 2400 - 080 - D	H 2400 - 080 - E	80	3.15	270	10.63	190	7.48			3845	8644	4706	10579	385	23.50	4,23	9.33	✓
H 2400 - 100 - D	H 2400 - 100 - E	100	3.94	310	12.20	210	8.27			3933	8842	4850	10902	464	28.29	4,51	9.94	✓
H 2400 - 125 - D	H 2400 - 125 - E	125	4.92	360	14.17	235	9.25			4012	9019	4979	11192	562	34.28	4,91	10.82	✓
H 2400 - 150 - D	H 2400 - 150 - E	150	5.91	410	16.14	260	10.24			4068	9146	5072	11402	660	40.28	5,32	11.73	✓
H 2400 - 160 - D	H 2400 - 160 - E	160	6.30	430	16.93	270	10.63			4087	9187	5103	11471	699	42.68	5,49	12.10	✓
H 2400 - 175 - D	H 2400 - 175 - E	175	6.89	460	18.11	285	11.22			4111	9243	5144	11563	758	46.27	5,73	12.63	✓
H 2400 - 200 - D	H 2400 - 200 - E	200	7.87	510	20.08	310	12.20			4145	9319	5200	11690	856	52.26	6,14	13.54	✓
H 2400 - 250 - D	H 2400 - 250 - E	250	9.84	610	24.02	360	14.17			4195	9431	5283	11876	1053	64.25	6,95	15.32	✓
H 2400 - 275 - D	H 2400 - 275 - E	275	10.83	660	25.98	385	15.16			4214	9473	5314	11947	1151	70.24	7,36	16.23	✓
H 2400 - 300 - D	H 2400 - 300 - E	300	11.81	710	27.95	410	16.14			4230	9509	5341	12007	1249	76.22	7,77	17.13	✓

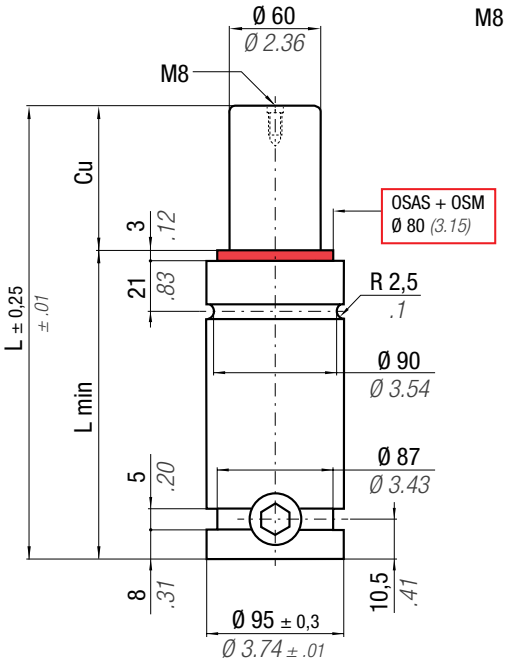


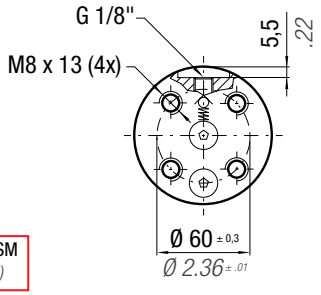
HOW TO ORDER p. 135

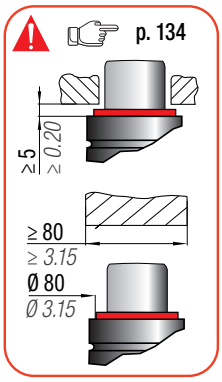
INSTALLATION GUIDELINE p. 205

ISO 11901 - 4	VDI 3003 Blatt 4	B2 4008 (BMW)	075.90.65 (FCA)
39D 838 (VW)			

H 4200







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

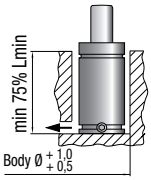
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 28,27 cm² / 4.382 in²	SPM ~ 15 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH04200D Cu 25 ÷ 80 / 39BMH04200DH Cu 100 ÷ 300

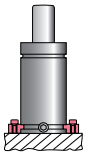
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
H 4200 - 025 - D	H 4200 - 025 - E	25	0.98	170	6.69	145	5.71			5877	13212	6846	15389	295	17.99	5,76	12.70	✓
H 4200 - 038 - D	H 4200 - 038 - E	38	1.50	196	7.72	158	6.22			6312	14190	7526	16919	378	23.09	6,12	13.49	✓
H 4200 - 050 - D	H 4200 - 050 - E	50	1.97	220	8.66	170	6.69			6601	14840	7987	17955	455	27.79	6,45	14.22	✓
H 4200 - 063 - D	H 4200 - 063 - E	63	2.48	246	9.70	183	7.20			6838	15371	8369	18815	539	32.88	6,80	14.99	✓
H 4200 - 075 - D	H 4200 - 075 - E	75	2.95	270	10.63	195	7.68	4240	9532	7008	15755	8648	19441	616	37.58	7,13	15.72	✓
H 4200 - 080 - D	H 4200 - 080 - E	80	3.15	280	11.02	200	7.87	± 5%		7069	15892	8748	19666	648	39.54	7,27	16.03	✓
H 4200 - 100 - D	H 4200 - 100 - E	100	3.94	320	12.60	220	8.66			7269	16342	9078	20408	777	47.38	7,76	17.11	✓
H 4200 - 125 - D	H 4200 - 125 - E	125	4.92	370	14.57	245	9.65	150 bar	2175 psi	7447	16742	9374	21074	938	57.22	8,45	18.63	✓
H 4200 - 150 - D	H 4200 - 150 - E	150	5.91	420	16.54	270	10.63			7581	17043	9599	21578	1098	67.02	9,13	20.13	✓
H 4200 - 160 - D	H 4200 - 160 - E	160	6.30	440	17.32	280	11.02	+ 20 °C	+68 °F	7656	17211	9724	21861	1156	70.56	9,40	20.72	✓
H 4200 - 175 - D	H 4200 - 175 - E	175	6.89	470	18.50	295	11.61			7712	17338	9820	22077	1253	76.44	9,82	21.65	✓
H 4200 - 200 - D	H 4200 - 200 - E	200	7.87	520	20.47	320	12.60			7791	17515	9953	22376	1413	86.24	10,50	23.15	✓
H 4200 - 250 - D	H 4200 - 250 - E	250	9.84	620	24.41	370	14.57			7908	17777	10151	22821	1734	105.83	11,87	26.17	✓
H 4200 - 300 - D	H 4200 - 300 - E	300	11.81	720	28.35	420	16.54			8123	18260	10519	23648	2016	123.02	13,24	29.19	✓



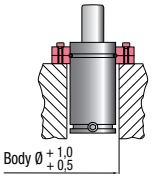
Drop-in



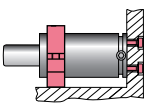
Bottom mount
FB 95 - FBA 95
FBB 95



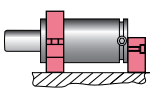
FS2 95 - FT 95
FS2A 95 - FTP 95



FC 95 A
FCQC 95



FSA 95
FSD 95 - FSE 95



FSD 95 + R 95 A
FSE 95 + R 95 A

HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205

H 6600

ISO 11901 - 4	VDI 3003 Blatt 4	B2 4008 (BMW)	075.90.65 (FCA)
39D 838 (VW)			

SPECIAL SPRINGS

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

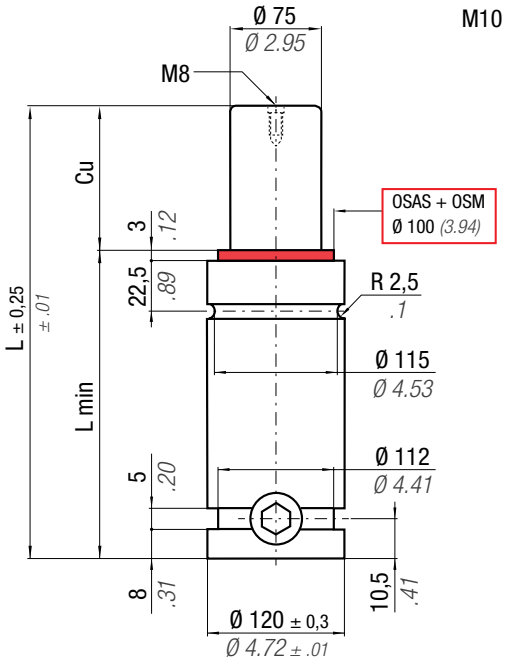
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

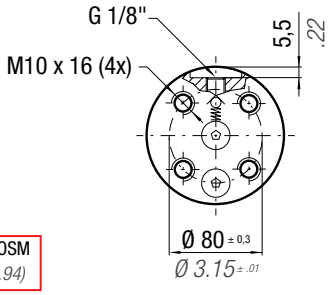
O novo código irá ser fornecido apenas quando o antigo esgotar stock

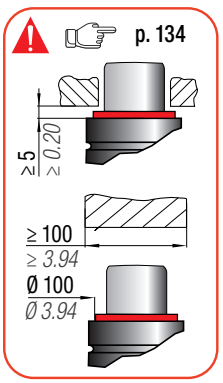
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

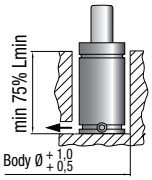






N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 44,18 cm² / 6.848 in²	SPM ~ 15 - 100 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH06600DH

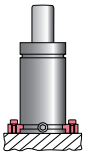
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
H 6600 - 025 - D	H 6600 - 025 - E	25	0.98	190	7.48	165	6.50			8646	19437	9874	22198	551	33.65	10,35	22.82	✓
H 6600 - 038 - D	H 6600 - 038 - E	38	1.50	216	8.50	178	7.01			9243	20779	10789	24255	688	42.00	10,89	24.01	✓
H 6600 - 050 - D	H 6600 - 050 - E	50	1.97	240	9.45	190	7.48			9656	21708	11434	25704	815	49.70	11,37	25.07	✓
H 6600 - 063 - D	H 6600 - 063 - E	63	2.48	266	10.47	203	7.99			10004	22490	11984	26941	951	58.05	11,93	26.30	✓
H 6600 - 075 - D	H 6600 - 075 - E	75	2.95	290	11.42	215	8.46	6630 ± 5%	14904	10261	23067	12394	27863	1078	65.76	12,39	27.32	✓
H 6600 - 080 - D	H 6600 - 080 - E	80	3.15	300	11.81	220	8.66			10354	23276	12543	28199	1130	68.98	12,60	27.78	✓
H 6600 - 100 - D	H 6600 - 100 - E	100	3.94	340	13.39	240	9.45	150 bar	2175 psi	10663	23972	13044	29324	1341	81.82	13,30	29.32	✓
H 6600 - 125 - D	H 6600 - 125 - E	125	4.92	390	15.35	265	10.43			10950	24617	13512	30377	1604	97.88	14,33	31.59	✓
H 6600 - 150 - D	H 6600 - 150 - E	150	5.91	440	17.32	290	11.42			11166	25101	13866	31171	1867	113.93	15,35	33.84	✓
H 6600 - 160 - D	H 6600 - 160 - E	160	6.30	460	18.11	300	11.81	+ 20 °C	+68 °F	11237	25262	13984	31437	1972	120.36	15,75	34.72	✓
H 6600 - 175 - D	H 6600 - 175 - E	175	6.89	490	19.29	315	12.40			11333	25477	14142	31793	2130	129.99	16,36	36.07	✓
H 6600 - 200 - D	H 6600 - 200 - E	200	7.87	540	21.26	340	13.39			11466	25777	14364	32291	2393	146.05	17,38	38.32	✓
H 6600 - 250 - D	H 6600 - 250 - E	250	9.84	640	25.20	390	15.35			11667	26228	14698	33042	2920	178.16	19,42	42.81	✓
H 6600 - 300 - D	H 6600 - 300 - E	300	11.81	740	29.13	440	17.32			11846	26630	14998	33718	3432	209.42	21,57	47.55	✓



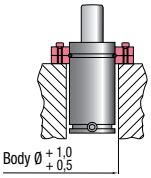
Drop-in



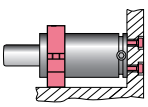
Bottom mount
FB 120 - FBA 120
FBB 120



FS2 120-FT 120
FS2A 120-FTP 120



FC 120 A
FCQC 120



FSA 120
FSD 120

HOW TO ORDER

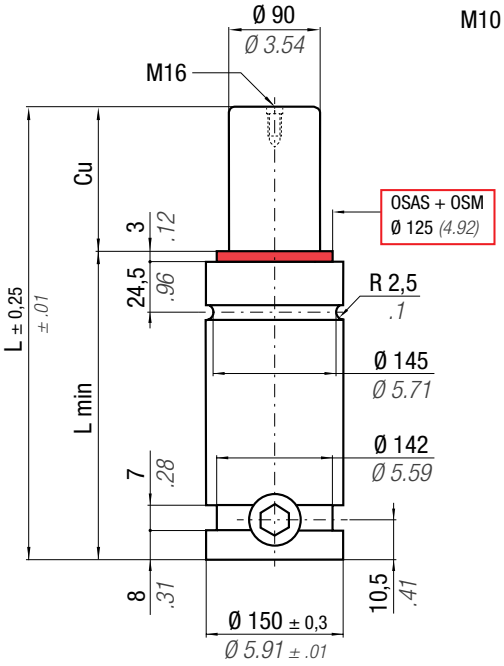
p. 135

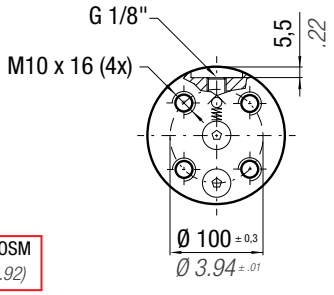
INSTALLATION GUIDELINE

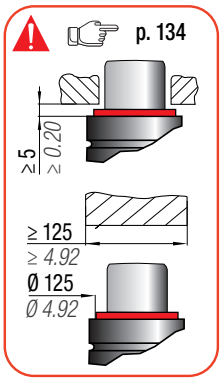
p. 205

ISO 11901 - 4	VDI 3003 Blatt 4	B2 4008 (BMW)	075.90.65 (FCA)
39D 838 (VW)			

H 9500







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

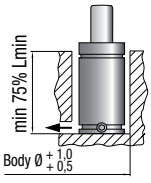
easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 63,62 cm² / 9.861 in²	SPM ~ 15 - 80 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMH09500C

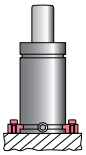
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
H 9500 - 025 - C	H 9500 - 025 - D	25	0.98	205	8.07	180	7.09	9540 ± 5%	21446	12146	27306	13759	30931	867	52.89	18,00	39.68	✓
H 9500 - 038 - C	H 9500 - 038 - D	38	1.50	231	9.09	193	7.60			12927	29061	14945	33598	1074	65.53	18,82	41.49	✓
H 9500 - 050 - C	H 9500 - 050 - D	50	1.97	255	10.04	205	8.07			13470	30282	15785	35485	1265	77.18	19,58	43.17	✓
H 9500 - 063 - C	H 9500 - 063 - D	63	2.48	281	11.06	218	8.58			13930	31315	16504	37103	1472	89.82	20,41	45.00	✓
H 9500 - 075 - C	H 9500 - 075 - D	75	2.95	305	12.01	230	9.06			14270	32081	17042	38311	1663	101.48	21,17	46.67	✓
H 9500 - 080 - C	H 9500 - 080 - D	80	3.15	315	12.40	235	9.25			14394	32358	17238	38752	1743	106.34	21,49	47.38	✓
H 9500 - 100 - C	H 9500 - 100 - D	100	3.94	355	13.98	255	10.04			14806	33285	17896	40232	2061	125.78	22,76	50.18	✓
H 9500 - 125 - C	H 9500 - 125 - D	125	4.92	405	15.94	280	11.02	150 bar	2175 psi	15189	34147	18515	41622	2459	150.07	24,35	53.68	✓
H 9500 - 150 - C	H 9500 - 150 - D	150	5.91	455	17.91	305	12.01			15478	34795	18983	42674	2857	174.36	25,94	57.19	✓
H 9500 - 160 - C	H 9500 - 160 - D	160	6.30	475	18.70	315	12.40	+ 20 °C	+68 °F	15574	35012	19139	43027	3017	184.08	26,58	58.60	✓
H 9500 - 175 - C	H 9500 - 175 - D	175	6.89	505	19.88	330	12.99			15702	35300	19349	43498	3255	198.66	27,53	60.69	✓
H 9500 - 200 - C	H 9500 - 200 - D	200	7.87	555	21.85	355	13.98			15882	35704	19644	44161	3654	222.96	29,12	64.20	✓
H 9500 - 250 - C	H 9500 - 250 - D	250	9.84	655	25.79	405	15.94			16152	36311	20088	45161	4450	271.54	32,30	71.21	✓
H 9500 - 300 - C	H 9500 - 300 - D	300	11.81	755	29.72	455	17.91			16345	36746	20408	45879	5246	320.13	35,47	78.20	✓



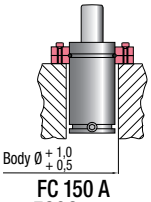
Drop-in



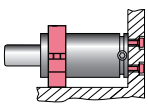
Bottom mount
FB 150 - FBA 150
FBB 150 - FBD 150



FS2 150-FT 150
FS2A 150-FTP 150



FC 150 A
FCQC 150



FSA 150
FSD 150

HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205

H 18500

SW

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

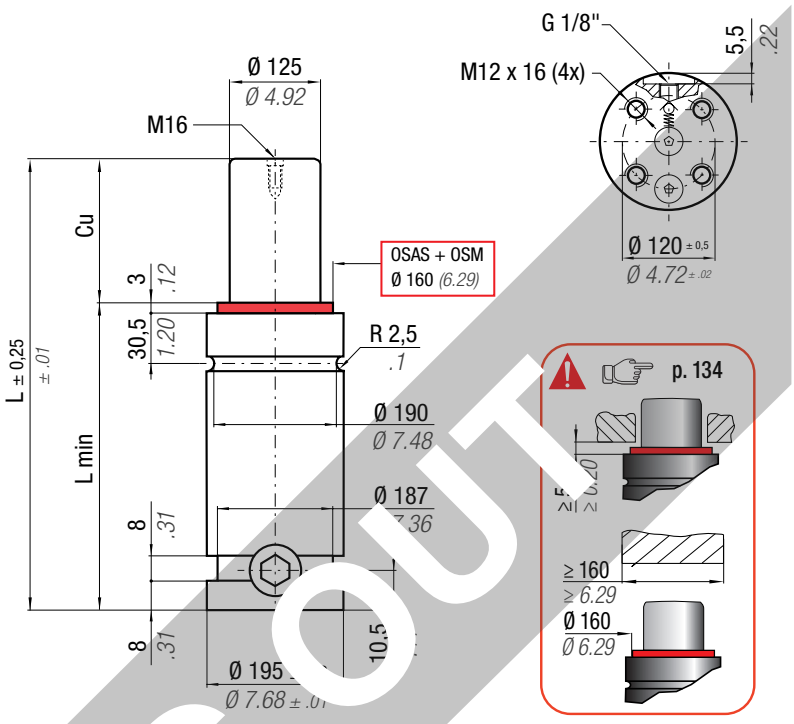
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

* $F1_i$ = Isothermal end force at 100% Cu p. 16

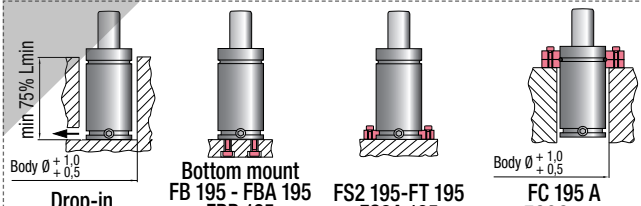
** $F1_p$ = Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar	122 / 19,019 in²	~ 10 - 70 (at 20°C)	1,8 m/s / 70.8 in/s	39BMH18500C

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	min mm	min inch	Fo initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
H 18500 - 025 - C	◆H 18500 - 025 - D	25	0.98	21	8.2		7.20			23870	53662	27205	61158	1564	95.44	31,06	68.48	✓
H 18500 - 038 - C	H 18500 - 038 - D	38	1.50	236	9.29	19	7.80			25611	57576	29871	67152	1924	117.42	32,53	71.72	✓
H 18500 - 050 - C	H 18500 - 050 - D	50		2	10.		8.27			26853	60367	31808	71508	2257	137.72	33,89	74.71	✓
H 18500 - 063 - C	H 18500 - 063 - D	63	2.	28	11.	223	8.80			27923	62774	33503	75318	2617	159.70	35,36	77.96	✓
H 18500 - 075 - C	H 18500 - 075 - D		2.9			235	9.25	18400 ± 5%	41363	28728	64584	34791	78214	2950	179.99	36,70	80.91	✓
H 18500 - 080 - C	H 18500 - 080 - D	8	3.15	0	12.60	240	9.45			29023	65245	35265	79280	3088	188.44	37,28	82.19	✓
H 18500 - 100 - C	H 18500 - 1 D			360	14.17	260	10.24	150 bar 2175 psi		30016	67478	36876	82901	3642	222.26	39,54	87.17	✓
H 18500 - 125 - C	H 1850 125 -	125	4.92	410	16.14	285	11.22			30954	69587	38414	86359	4335	264.54	42,37	93.41	✓
H 18500 - 150 - C	H - 0 - D		5.91	460	18.11	310	12.20	+ 20 °C	+68 °F	31668	71192	39595	89014	5028	306.81	45,19	99.63	✓
H 18500 - 160 - C	H 0 - D	160	6.30	480	18.90	320	12.60			31908	71732	39994	89911	5305	323.72	46,33	102.14	✓
H 18500 - 175 - C	H 18 175 - D	175	6.89	510	20.08	335	13.19			32229	72454	40530	91116	5721	349.09	48,00	108.00	✓
H 18500 - 200 - C	H 18500 - D	200	7.87	560	22.05	360	14.17			32683	73473	41289	92821	6413	391.36	50,85	112.11	✓
H 18500 - 250 - C	H 18500 - 250 - D	250	9.84	660	25.98	410	16.14			33369	75016	42444	95418	7799	475.91	56,51	124.58	✓
H 18500 - 300 - C	H 18500 - 300 - D	300	11.81	760	29.92	460	18.11			33864	76130	43283	97303	9184	560.45	62,16	137.04	✓

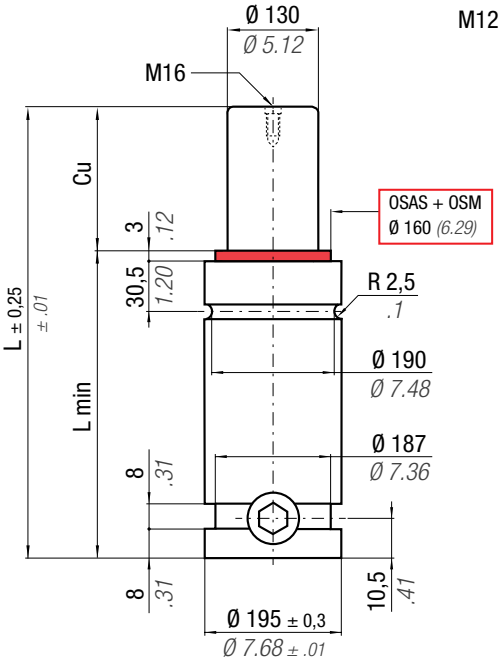
◆ Disposable

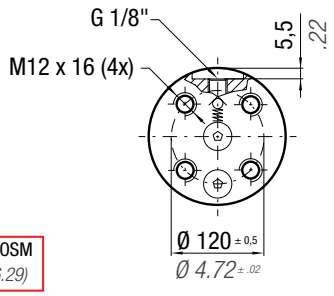


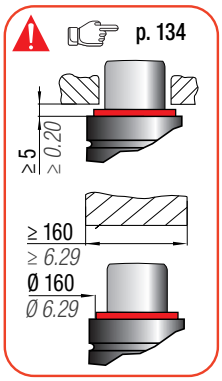
HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205

PHASING OUT







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

SW

easy MANIFOLD p. 247

ACTIVE SAFETY

OSAS

USAS

OPAS

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

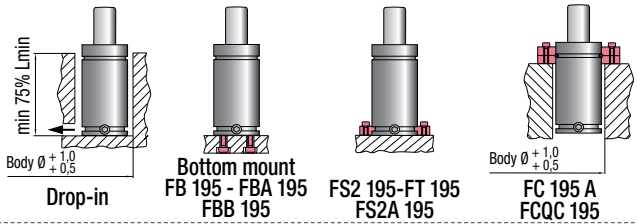
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	132,67 cm² / 20.563 in²	~ 10 - 70 (at 20°C)	1,8 m/s / 70.8 in/s	39BMH20000A

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
◆ H 20000 - 025 - A	25	0.98	210	8.27	185	7.28	19910 ± 5%	44759	26054	58572	29783	66955	1640	100.10	30,74	67.76	✓
H 20000 - 038 - A	38	1.50	236	9.29	198	7.80			28074	63113	32887	73933	2011	122.72	32,26	71.13	✓
H 20000 - 050 - A	50	1.97	260	10.24	210	8.27			29533	66392	35174	79075	2353	143.60	33,64	74.16	✓
H 20000 - 063 - A	63	2.50	286	11.30	223	8.80			30803	69248	37197	83623	2724	166.22	35,13	77.44	✓
H 20000 - 075 - A	75	2.95	310	12.20	235	9.25			31765	71411	38748	87110	3066	187.10	36,50	80.48	✓
H 20000 - 080 - A	80	3.15	320	12.60	240	9.45			32119	72207	39323	88401	3209	195.80	37,08	81.74	✓
H 20000 - 100 - A	100	3.94	360	14.17	260	10.24			33319	74904	41285	92812	3779	230.60	39,37	86.79	✓
H 20000 - 125 - A	125	4.92	410	16.14	285	11.22			34462	77474	43176	97063	4492	274.11	42,23	93.11	✓
H 20000 - 150 - A	150	5.91	460	18.11	310	12.20			35338	79443	44639	100353	5205	317.60	45,10	99.43	✓
H 20000 - 160 - A	160	6.30	480	18.90	320	12.60			35634	80108	45136	101469	5490	335.01	46,25	101.95	✓
H 20000 - 175 - A	175	6.89	510	20.56	335	13.19			36031	81001	45805	102973	5918	361.11	47,97	105.74	✓
H 20000 - 200 - A	200	7.87	560	22.05	360	14.17			36593	82263	46755	105109	6630	404.61	50,83	112.06	✓
H 20000 - 250 - A	250	9.84	660	25.98	410	16.14			37447	84185	48211	108382	8056	491.61	56,56	124.70	✓
H 20000 - 300 - A	300	11.81	760	29.92	460	18.11			38067	85578	49273	110770	9482	578.61	62,29	137.33	✓

150 bar / 2175 psi

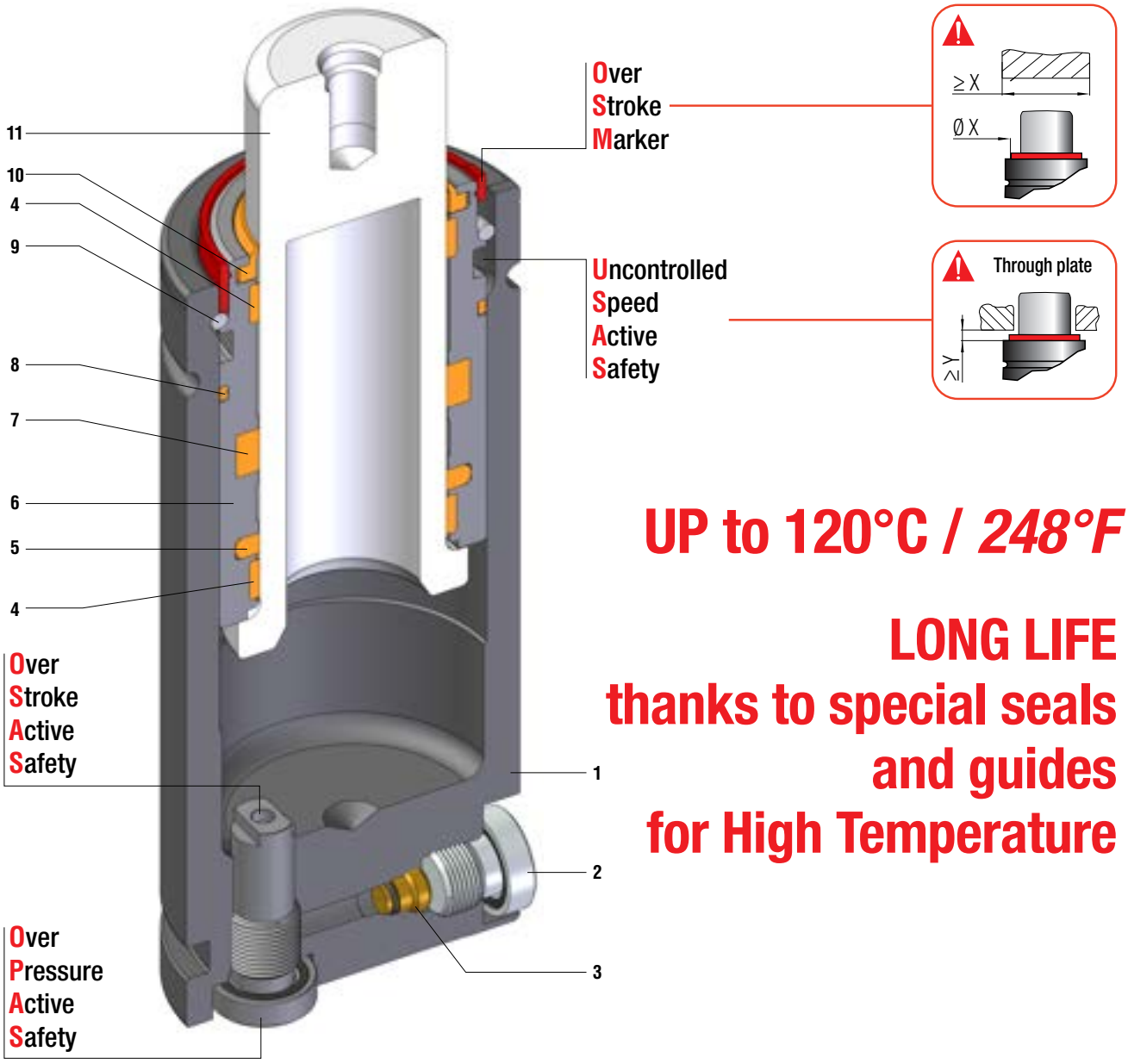
+ 20 °C +68 °F

◆ Disposable



HOW TO ORDER p. 135

INSTALLATION GUIDELINE p. 205



UP to 120°C / *248°F*

LONG LIFE thanks to special seals and guides for High Temperature

Per alta temperatura, ISO standard, forza potenziata - For high temperature, ISO standard, high force
Für Hochtemperatur, ISO Standard, erhöhte Kraft - Pour haute température, standard ISO, force majorée
Para alta temperatura, ISO standard, fuerza potenciada - De alta temperatura, norma ISO, força permitida

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Rod seal*	**9**	Retaining ring
2	Plug	**6**	Bush	**10**	Rod wiper*
3	Valve	**7**	Rod seal*	**11**	Rod (nitrited superfinished)
4	Guide ring*	**8**	Dual ring seal*		

*special design and materials for high temperature.

RANGE CHART

Model	Body Ø mm	Body Ø inch	Stroke Cu mm	Stroke Cu inch	Initial force F0 daN	Initial force F0 lb	HIGH TEMPERATURE 100°C	HIGH TEMPERATURE 120°C	OSAS	USAS	OPAS	SKUDO	SW
HT 500 T1	38	1.50	10 - 125	0.39 - 4.92	495	1113	✓	-	✓	✓	✓	-	✓
HT 700 T1	45	1.77	10 - 200	0.39 - 7.87	775	1742	✓	-	✓	✓	✓	-	✓
HT 1000 T1	50	1.97	13 - 300	0.51 - 11.81	970	2181	✓	-	✓	✓	✓	-	✓
HT 500 T2	38	1.50	10 - 125	0.39 - 4.92	480	1079	-	✓	✓	✓	✓	-	✓
HT 700 T2	45	1.77	10 - 200	0.39 - 7.87	750	1686	-	✓	✓	✓	✓	-	✓
HT 1000 T2	50	1.97	13 - 300	0.51 - 11.81	940	2113	-	✓	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

T1

Temperatura di esercizio
Working temperature
Betriebstemperatur
Température de fonctionnement
Temperatura de funcionamiento
Temperatura de funcionamento

80 ÷ 100°C
176 ÷ 212°F

P max

125 bar
1813 psi

T2

Temperatura di esercizio
Working temperature
Betriebstemperatur
Température de fonctionnement
Temperatura de funcionamiento
Temperatura de funcionamento

100 ÷ 120°C
212 ÷ 248°F

P max

115 bar
1668 psi

HOW TO ORDER

Series — HT
Model — 1000
Stroke — 010
Working temperature — B-T1
Version — E-W
Revision code

HT1000-010-B-T1-E-W

Available versions



HT 1000-010-B-T1/T2
Standard code
Self contained



HT 1000-010-B-T1/T2-W
Add "-W" to standard code
Self contained
+
Secondary wiper



HT 1000-010-B-T1/T2-N
Add "-N" to standard code
Linkable



HT 1000-010-B-T1/T2-N-W
Add "-N-W" to standard code
Linkable
Secondary wiper



HT 1000-010-B-T1/T2-E
Add "-E" to standard code
Easy Manifold



HT 1000-010-B-T1/T2-E-W
Add "-E-W" to standard code
Easy Manifold
+
Secondary wiper

HT 500 T1
80 ÷ 100°C / *176 ÷ 212°F*

SW

HIGH TEMP.

ACTIVE SAFETY

OSAS

USAS

OPAS

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

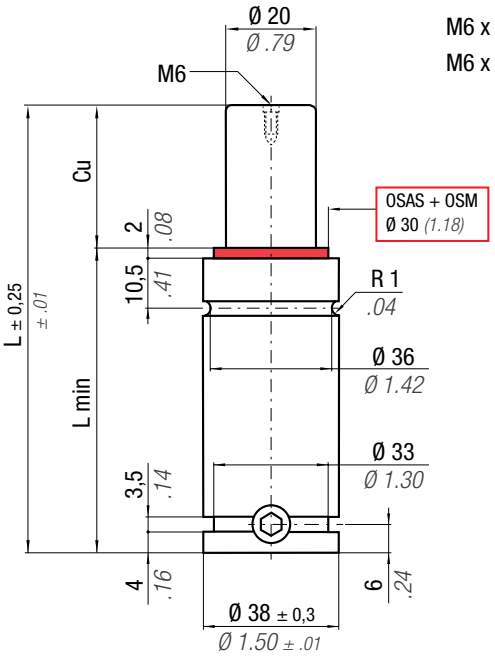
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

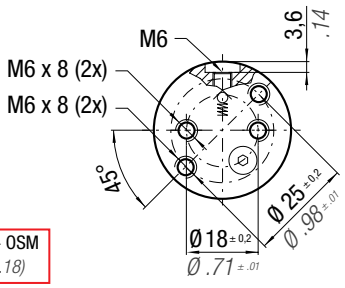
O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

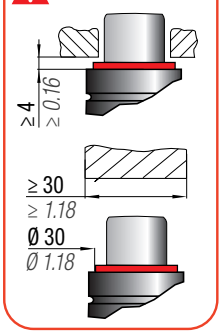
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu





p. 148

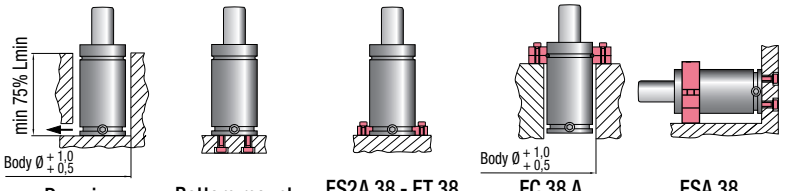


N_2	80 - 100 °C / *176 - 212 °F*	ΔP ± 0,33 %/°C	P max 125 bar / *1813 psi*	P min 20 bar / *290 psi*	S 3,14 cm² / *0.478in²*	SPM ~ 5 - 20	Max Speed 1 m/s / *39.4 in/s*	Maintenance kit 39BMMMGS00038B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu *inch*	L mm	L *inch*	L min mm	L min *inch*	Fo Initial force daN	Fo *lb*	$F1_i$ * End force daN	$F1_i$ * *lb*	$F1_p$ ** End force daN	$F1_p$ ** *lb*	Vo cm³	Vo *in³*	~Kg	~*lb*	PED 2014/68/EU
HT 500 - 010 - A - T1	◆HT 500 - 010 - B - T1	10	*0.39*	70	*2.76*	60	*2.36*			655	*1473*	758	*1705*	14,5	*0.88*	0,31	*0.68*	✓
HT 500 - 013 - A - T1	HT 500 - 013 - B - T1	13	*0.51*	75,7	*2.98*	62,7	*2.47*			681	*1530*	800	*1798*	16,9	*1.03*	0,32	*0.71*	✓
HT 500 - 016 - A - T1	HT 500 - 016 - B - T1	16	*0.63*	82	*3.23*	66	*2.60*	390	*877*	695	*1563*	823	*1851*	19,7	*1.20*	0,34	*0.75*	✓
HT 500 - 019 - A - T1	HT 500 - 019 - B - T1	19	*0.75*	88	*3.46*	69	*2.72*	+ 20°C	*+ 68°F*	692	*1556*	818	*1840*	23,6	*1.44*	0,35	*0.77*	✓
HT 500 - 025 - A - T1	HT 500 - 025 - B - T1	25	*0.98*	100	*3.94*	75	*2.95*			731	*1643*	882	*1983*	27,3	*1.67*	0,38	*0.84*	✓
HT 500 - 038 - A - T1	HT 500 - 038 - B - T1	38	*1.50*	126	*4.96*	88	*3.46*			759	*1707*	930	*2091*	38,4	*2.34*	0,44	*0.97*	✓
HT 500 - 050 - A - T1	HT 500 - 050 - B - T1	50	*1.97*	150	*5.91*	100	*3.94*	495	*1113*	775	*1742*	957	*2151*	48,6	*2.97*	0,50	*1.10*	✓
HT 500 - 063 - A - T1	HT 500 - 063 - B - T1	63	*2.48*	176,5	*6.95*	113,5	*4.47*	+ 100°C	*+ 212°F*	783	*1761*	972	*2184*	60,0	*3.66*	0,56	*1.23*	✓
HT 500 - 080 - A - T1	HT 500 - 080 - B - T1	80	*3.15*	210	*8.27*	130	*5.12*			796	*1789*	993	*2232*	74,1	*4.52*	0,64	*1.41*	✓
HT 500 - 100 - A - T1	HT 500 - 100 - B - T1	100	*3.94*	250	*9.84*	150	*5.91*			804	*1806*	1006	*2262*	91,2	*5.57*	0,73	*1.61*	✓
HT 500 - 125 - A - T1	HT 500 - 125 - B - T1	125	*4.92*	300	*11.81*	175	*6.89*			811	*1823*	1019	*2291*	112,3	*6.85*	0,85	*1.87*	✓

◆ Disposable

End force at 100°C / *212°F*

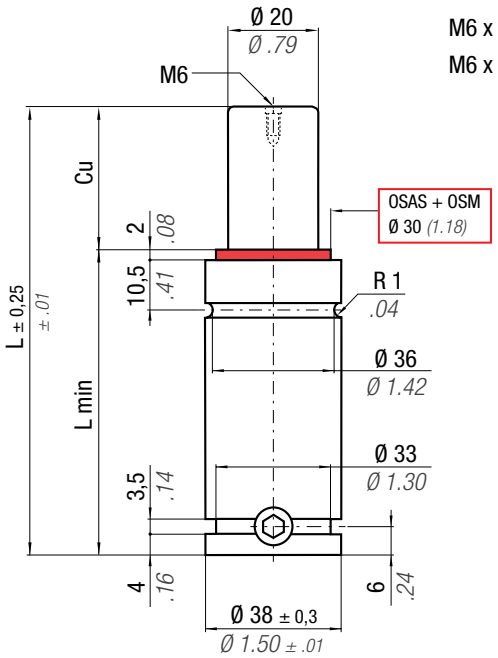


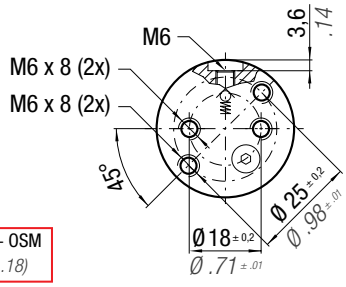
HOW TO ORDER p. 149

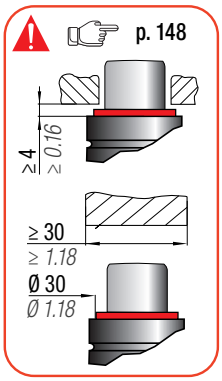
INSTALLATION GUIDELINE p. 205

HT 500 T2

100 ÷ 120°C / *212 ÷ 248°F*







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

HIGH TEMP.

ACTIVE SAFETY

OSAS

USAS

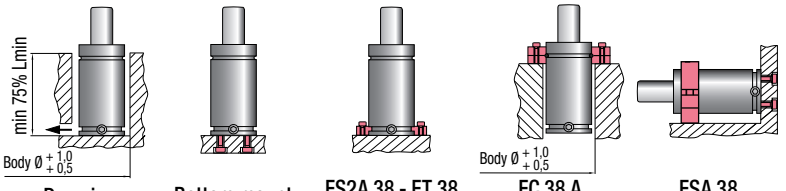
OPAS

N_2	100 - 120 °C *212 - 248 °F*	ΔP ± 0,33 %/°C	P max 115 bar *1668 psi*	P min 20 bar *290 psi*	S 3,14 cm² *0.487 in²*	SPM ~ 5 - 20	Max Speed 1 m/s *39.4 in/s*	Maintenance kit 39BMMMGS00038B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
HT 500 - 010 - A - T2	◆HT 500 - 010 - B - T2	10	0.39	70	2.76	60	2.36			631	1419	737	1656	14,5	0.88	0,31	0.68	✓
HT 500 - 013 - A - T2	HT 500 - 013 - B - T2	13	0.51	75,7	2.98	62,7	2.47			655	1473	777	1746	16,9	1.03	0,32	0.71	✓
HT 500 - 016 - A - T2	HT 500 - 016 - B - T2	16	0.63	82	3.23	66	2.60	360	809	669	1504	800	1798	19,7	1.20	0,34	0.75	✓
HT 500 - 019 - A - T2	HT 500 - 019 - B - T2	19	0.75	88	3.46	69	2.72	+ 20°C	+ 68°F	666	1498	795	1787	23,6	1.44	0,35	0.77	✓
HT 500 - 025 - A - T2	HT 500 - 025 - B - T2	25	0.98	100	3.94	75	2.95			703	1579	857	1926	27,3	1.67	0,38	0.84	✓
HT 500 - 038 - A - T2	HT 500 - 038 - B - T2	38	1.50	126	4.96	88	3.46			729	1640	903	2031	38,4	2.34	0,44	0.97	✓
HT 500 - 050 - A - T2	HT 500 - 050 - B - T2	50	1.97	150	5.91	100	3.94	480	1079	744	1673	929	2089	48,6	2.97	0,50	1.10	✓
HT 500 - 063 - A - T2	HT 500 - 063 - B - T2	63	2.48	176,5	6.95	113,5	4.47	+ 120°C	+ 248°F	752	1691	944	2121	60,0	3.66	0,56	1.23	✓
HT 500 - 080 - A - T2	HT 500 - 080 - B - T2	80	3.15	210	8.27	130	5.12			764	1718	964	2168	74,1	4.52	0,64	1.41	✓
HT 500 - 100 - A - T2	HT 500 - 100 - B - T2	100	3.94	250	9.84	150	5.91			771	1734	977	2198	91,2	5.57	0,73	1.61	✓
HT 500 - 125 - A - T2	HT 500 - 125 - B - T2	125	4.92	300	11.81	175	6.89			778	1749	990	2225	112,3	6.85	0,85	1.87	✓

◆ Disposable

End force at 120°C / *248°F*



HOW TO ORDER p. 149

INSTALLATION GUIDELINE p. 205

HT 700 T1
80 ÷ 100°C / *176 ÷ 212°F*

SW

HIGH TEMP.

ACTIVE SAFETY

OSAS

USAS

OPAS

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

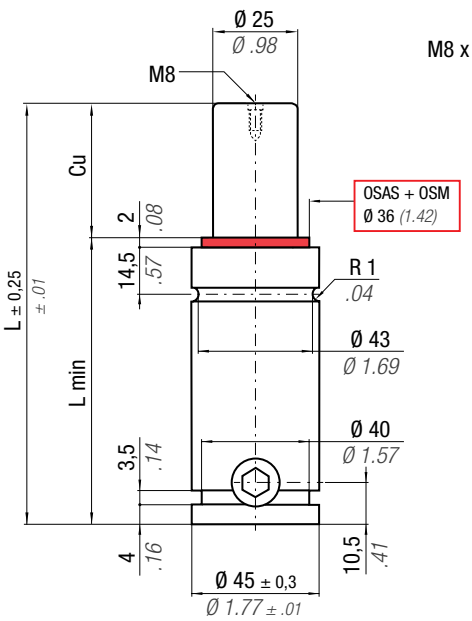
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

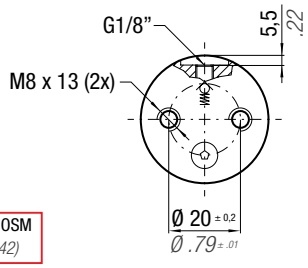
O novo código irá ser fornecido apenas quando o antigo esgotar stock

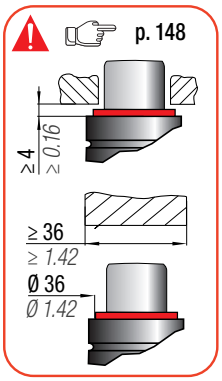
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu





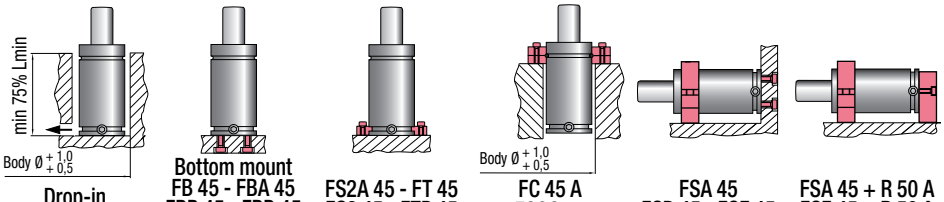


N_2	80 - 100 °C / 176 - 212 °F	ΔP ± 0,33 %/°C	P max 125 bar / 1813 psi	P min 20 bar / 290 psi	S 4,91 cm² / 0.761 in²	SPM ~ 5 - 20	Max Speed 1 m/s / 39.4 in/s	Maintenance kit 39BMMMGS00045B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
HT 700 - 010 - A - T1	◆HT 700 - 010 - B - T1	10	0.39	105	4.13	95	3.74			1007	2263	1158	2603	24,0	1.46	0,90	1.98	✓
HT 700 - 013 - A - T1	HT 700 - 013 - B - T1	13	0.50	110,7	4.35	97,7	3.85			1050	2360	1227	2759	27,4	1.67	0,91	2.01	✓
HT 700 - 025 - A - T1	HT 700 - 025 - B - T1	25	0.98	135	5.31	110	4.33	615	1383	1147	2578	1387	3119	42,2	2.58	1,00	2.20	✓
HT 700 - 038 - A - T1	HT 700 - 038 - B - T1	38	1.50	161	6.34	123	4.84	+ 20°C	+ 68°F	1206	2712	1488	3345	58,1	3.55	1,09	2.40	✓
HT 700 - 050 - A - T1	HT 700 - 050 - B - T1	50	1.97	185	7.28	135	5.31			1241	2789	1547	3478	72,7	4.44	1,17	2.58	✓
HT 700 - 063 - A - T1	HT 700 - 063 - B - T1	63	2.48	211,5	8.33	148,5	5.85			1262	2837	1584	3561	89,0	5.43	1,26	2.78	✓
HT 700 - 080 - A - T1	HT 700 - 080 - B - T1	80	3.15	245	9.65	165	6.50	775	1742	1289	2899	1632	3668	109,2	6.66	1,37	3.02	✓
HT 700 - 100 - A - T1	HT 700 - 100 - B - T1	100	3.94	285	11.22	185	7.28	+ 100°C	+ 212°F	1308	2940	1664	3742	133,5	8.15	1,51	3.33	✓
HT 700 - 125 - A - T1	HT 700 - 125 - B - T1	125	4.92	335	13.19	210	8.27			1324	2976	1692	3804	163,9	10.00	1,67	3.68	✓
HT 700 - 160 - A - T1	HT 700 - 160 - B - T1	160	6.30	405	15.94	245	9.65			1338	3009	1718	3863	206,5	12.60	1,91	4.21	✓
HT 700 - 200 - A - T1	HT 700 - 200 - B - T1	200	7.87	485	19.09	285	11.22			1349	3034	1738	3907	255,2	15.57	2,20	4.85	✓

◆ Disposable

End force at 100°C / *212°F*

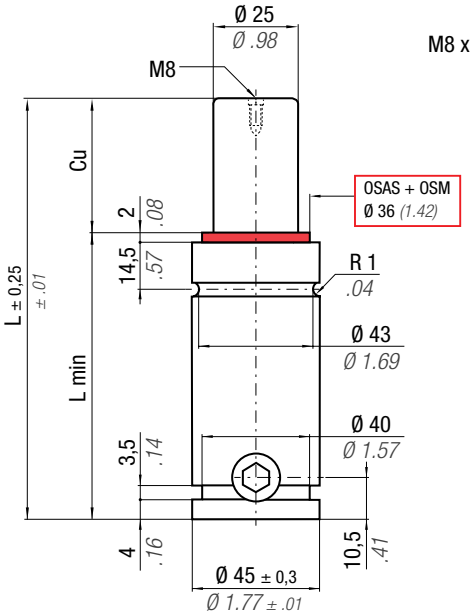


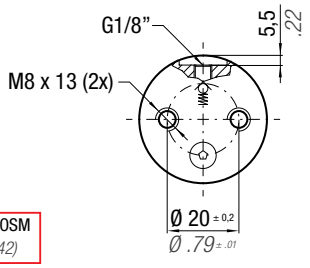
HOW TO ORDER p. 149

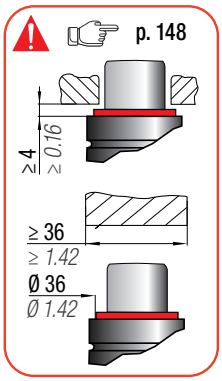
INSTALLATION GUIDELINE p. 205

HT 700 T2

100 ÷ 120°C / *212 ÷ 248°F*







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

HIGH TEMP.

ACTIVE SAFETY

OSAS

USAS

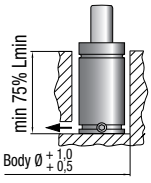
OPAS

N_2	100 - 120 °C / *212 - 248 °F*	ΔP ± 0,33 %/°C	P max 115 bar / *1668 psi*	P min 20 bar / *290 psi*	S 4,91 cm² / *0.761 in²*	SPM ~ 5 - 20	Max Speed 1 m/s / *39.4 in/s*	Maintenance kit 39BMMMGS00045B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
HT 700 - 010 - A - T2	◆HT 700 - 010 - B - T2	10	0.39	105	4.13	95	3.74			970	2181	1125	2528	24,0	1.46	0,90	1.98	✓
HT 700 - 013 - A - T2	HT 700 - 013 - B - T2	13	0.50	110,7	4.35	97,7	3.85			1011	2273	1192	2680	27,4	1.67	0,91	2.01	✓
HT 700 - 025 - A - T2	HT 700 - 025 - B - T2	25	0.98	135	5.31	110	4.33	565	1270	1103	2479	1347	3029	42,2	2.58	1,00	2.20	✓
HT 700 - 038 - A - T2	HT 700 - 038 - B - T2	38	1.50	161	6.34	123	4.84	+ 20°C	+ 68°F	1159	2605	1445	3249	58,1	3.55	1,09	2.40	✓
HT 700 - 050 - A - T2	HT 700 - 050 - B - T2	50	1.97	185	7.28	135	5.31			1191	2678	1503	3378	72,7	4.44	1,17	2.58	✓
HT 700 - 063 - A - T2	HT 700 - 063 - B - T2	63	2.48	211,5	8.33	148,5	5.85			1211	2723	1539	3459	89,0	5.43	1,26	2.78	✓
HT 700 - 080 - A - T2	HT 700 - 080 - B - T2	80	3.15	245	9.65	165	6.50	750	1686	1237	2781	1585	3563	109,2	6.66	1,37	3.02	✓
HT 700 - 100 - A - T2	HT 700 - 100 - B - T2	100	3.94	285	11.22	185	7.28	+ 120°C	+ 248°F	1255	2820	1616	3634	133,5	8.15	1,51	3.33	✓
HT 700 - 125 - A - T2	HT 700 - 125 - B - T2	125	4.92	335	13.19	210	8.27			1270	2854	1644	3695	163,9	10.00	1,67	3.68	✓
HT 700 - 160 - A - T2	HT 700 - 160 - B - T2	160	6.30	405	15.94	245	9.65			1283	2885	1669	3752	206,5	12.60	1,91	4.21	✓
HT 700 - 200 - A - T2	HT 700 - 200 - B - T2	200	7.87	485	19.09	285	11.22			1294	2908	1688	3794	255,2	15.57	2,20	4.85	✓

◆ Disposable

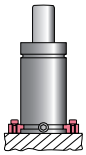
End force at 120°C / *248°F*



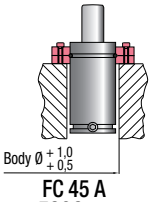
Drop-in



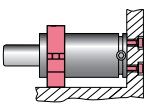
Bottom mount
FB 45 - FBA 45
FBB 45 - FBD 45



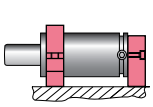
FS2A 45 - FT 45
FS2 45 - FTP 45



FC 45 A
FCQC 45



FSA 45
FSD 45 - FSE 45



FSA 45 + R 50 A
FSE 45 + R 50 A

HOW TO ORDER p. 149

INSTALLATION GUIDELINE p. 205

HT 1000 T1
80 ÷ 100°C / *176 ÷ 212°F*

SW

HIGH TEMP.

ACTIVE SAFETY

OSAS

USAS

OPAS

OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

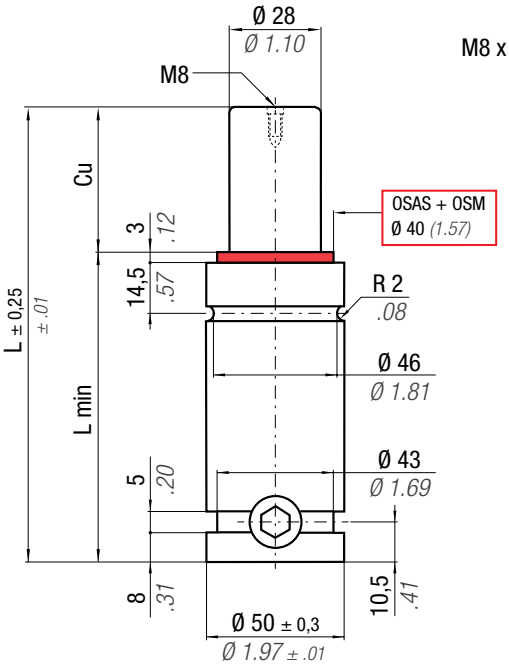
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

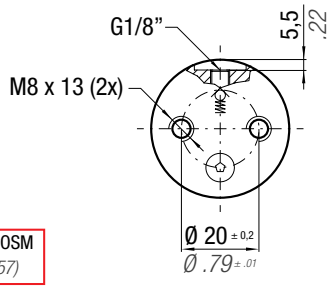
O novo código irá ser fornecido apenas quando o antigo esgotar stock

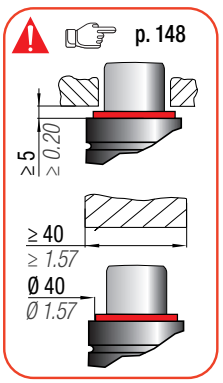
easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu





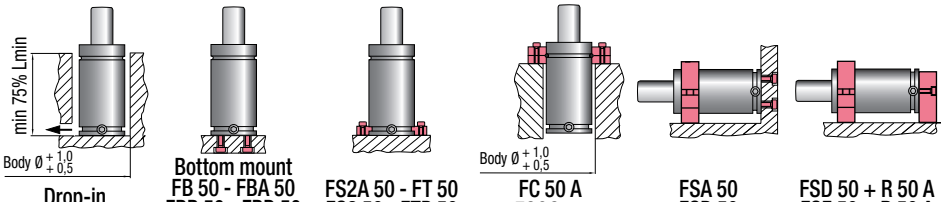


N_2	80 - 100 °C / *176 - 212 °F*	ΔP ± 0,33 %/°C	P max 125 bar / *1813 psi*	P min 20 bar / *290 psi*	S 6,15 cm² / *0.953 in²*	SPM ~ 5 - 20	Max Speed 1 m/s / *39.4 in/s*	Maintenance kit 39BMHT01000A

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu *inch*	L mm	L *inch*	L min mm	L min *inch*	Fo Initial force daN	Fo *lb*	$F1_i$ * End force daN	$F1_i$ * *lb*	$F1_p$ ** End force daN	$F1_p$ ** *lb*	Vo cm³	Vo *in³*	~Kg	~*lb*	PED 2014/68/EU
HT 1000-013-A-T1	◆HT 1000-013-B-T1	13	0.50	120,7	4.74	107,7	4.24			1252	2814	1435	3225	40	2.47	1,21	2.67	✓
HT 1000-025-A-T1	HT 1000-025-B-T1	25	0.98	145	5.71	120	4.72			1373	3088	1632	3668	59	3.60	1,32	2.91	✓
HT 1000-038-A-T1	HT 1000-038-B-T1	38	1.50	171	6.73	133	5.24			1454	3269	1766	3970	79	4.81	1,43	3.15	✓
HT 1000-050-A-T1	HT 1000-050-B-T1	50	1.97	195	7.68	145	5.71			1503	3380	1850	4158	97	5.92	1,53	3.37	✓
HT 1000-063-A-T1	HT 1000-063-B-T1	63	2.48	221	8.74	158	6.22	770	1731	1542	3465	1915	4305	117	7.13	1,64	3.62	✓
HT 1000-075-A-T1	HT 1000-075-B-T1	75	2.95	245	9.65	170	6.69	+ 20°C	+ 68°F	1568	3525	1960	4407	135	8.24	1,74	3.84	✓
HT 1000-080-A-T1	HT 1000-080-B-T1	80	3.15	255	10.04	175	6.89			1577	3545	1976	4442	143	8.70	1,78	3.92	✓
HT 1000-100-A-T1	HT 1000-100-B-T1	100	3.94	295	11.61	195	7.68			1606	3611	2027	4557	173	10.56	1,96	4.32	✓
HT 1000-125-A-T1	HT 1000-125-B-T1	125	4.92	345	13.58	220	8.66	970	2181	1632	3668	2072	4657	211	12.88	2,17	4.78	✓
HT 1000-150-A-T1	HT 1000-150-B-T1	150	5.91	395	15.55	245	9.65	+ 100°C	+ 212°F	1650	3709	2104	4729	249	15.20	2,38	5.25	✓
HT 1000-160-A-T1	HT 1000-160-B-T1	160	6.30	415	16.34	255	10.04			1656	3722	2114	4753	264	16.13	2,46	5.42	✓
HT 1000-175-A-T1	HT 1000-175-B-T1	175	6.89	445	17.52	270	10.63			1663	3739	2128	4783	287	17.52	2,59	5.71	✓
HT 1000-200-A-T1	HT 1000-200-B-T1	200	7.87	495	19.49	295	11.61			1674	3763	2146	4825	325	19.84	2,79	6.15	✓
HT 1000-250-A-T1	HT 1000-250-B-T1	250	9.84	595	23.43	345	13.58			1689	3797	2174	4887	401	24.48	3,21	7.08	✓
HT 1000-300-A-T1	HT 1000-300-B-T1	300	11.81	695	27.36	395	15.55			1700	3821	2193	4929	477	29.13	3,63	8.00	✓

◆ Disposable

End force at 100°C / *212°F*



Drop-in

Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50

FS2A 50 - FT 50
FS2 50 - FTP 50

Body Ø +1,0 +0,5
FC 50 A
FCQC 50

FSA 50
FSD 50

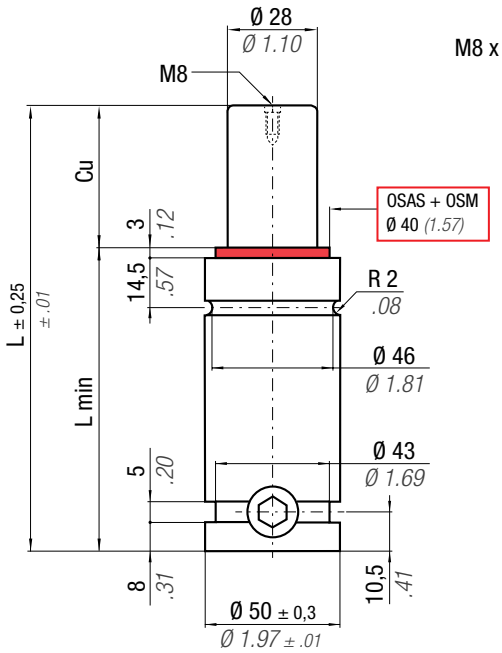
FSD 50 + R 50 A
FSE 50 + R 50 A

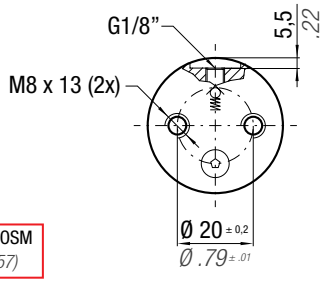
HOW TO ORDER p. 149

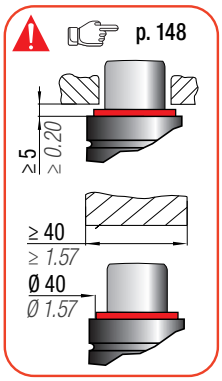
INSTALLATION GUIDELINE p. 205

HT 1000 T2

100 ÷ 120°C / *212 ÷ 248°F*







OSAS + OSM = OVER STROKE ACTIVE SAFETY + OVER STROKE MARKER

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

HIGH TEMP.

ACTIVE SAFETY

OSAS

USAS

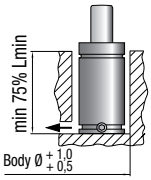
OPAS

N_2	100 - 120 °C *212 - 248 °F*	ΔP ± 0,33 %/°C	P max 115 bar *1668 psi*	P min 20 bar *290 psi*	S 6,15 cm^2 *0.953 in^2*	SPM ~ 5 - 20	Max Speed 1 m/s *39.4 in/s*	Maintenance kit 39BMHT01000A

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm^3	V0 in^3	~Kg	~lb	PED 2014/68/EU
HT 1000-013-A-T2	◆HT 1000-013-B-T2	13	0.50	120,7	4.74	107,7	4.24			1206	2712	1393	3133	40	2.47	1,21	2.67	✓
HT 1000-025-A-T2	HT 1000-025-B-T2	25	0.98	145	5.71	120	4.72			1322	2971	1585	3563	59	3.60	1,32	2.91	✓
HT 1000-038-A-T2	HT 1000-038-B-T2	38	1.50	171	6.73	133	5.24			1398	3142	1715	3856	79	4.81	1,43	3.15	✓
HT 1000-050-A-T2	HT 1000-050-B-T2	50	1.97	195	7.68	145	5.71			1444	3247	1797	4039	97	5.92	1,53	3.37	✓
HT 1000-063-A-T2	HT 1000-063-B-T2	63	2.48	221	8.74	158	6.22	705	1585	1480	3328	1860	4181	117	7.13	1,64	3.62	✓
HT 1000-075-A-T2	HT 1000-075-B-T2	75	2.95	245	9.65	170	6.69	+ 20°C	+ 68°F	1505	3383	1904	4280	135	8.24	1,74	3.84	✓
HT 1000-080-A-T2	HT 1000-080-B-T2	80	3.15	255	10.04	175	6.89			1514	3403	1919	4315	143	8.70	1,78	3.92	✓
HT 1000-100-A-T2	HT 1000-100-B-T2	100	3.94	295	11.61	195	7.68			1541	3465	1969	4426	173	10.56	1,96	4.32	✓
HT 1000-125-A-T2	HT 1000-125-B-T2	125	4.92	345	13.58	220	8.66	940	2113	1565	3519	2012	4524	211	12.88	2,17	4.78	✓
HT 1000-150-A-T2	HT 1000-150-B-T2	150	5.91	395	15.55	245	9.65	+ 120°C	+ 248°F	1582	3557	2043	4593	249	15.20	2,38	5.25	✓
HT 1000-160-A-T2	HT 1000-160-B-T2	160	6.30	415	16.34	255	10.04			1588	3570	2053	4616	264	16.13	2,46	5.42	✓
HT 1000-175-A-T2	HT 1000-175-B-T2	175	6.89	445	17.52	270	10.63			1595	3586	2067	4646	287	17.52	2,59	5.71	✓
HT 1000-200-A-T2	HT 1000-200-B-T2	200	7.87	495	19.49	295	11.61			1605	3608	2085	4687	325	19.84	2,79	6.15	✓
HT 1000-250-A-T2	HT 1000-250-B-T2	250	9.84	595	23.43	345	13.58			1619	3641	2111	4746	401	24.48	3,21	7.08	✓
HT 1000-300-A-T2	HT 1000-300-B-T2	300	11.81	695	27.36	395	15.55			1629	3663	2130	4788	477	29.13	3,63	8.00	✓

◆ Disposable

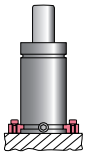
End force at 120°C / *248°F*



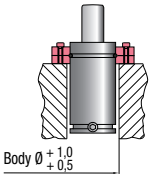
Drop-in



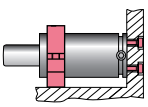
Bottom mount
FB 50 - FBA 50
FBB 50 - FBD 50



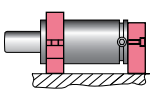
FS2A 50 - FT 50
FS2 50 - FTP 50



FC 50 A
FCQC 50



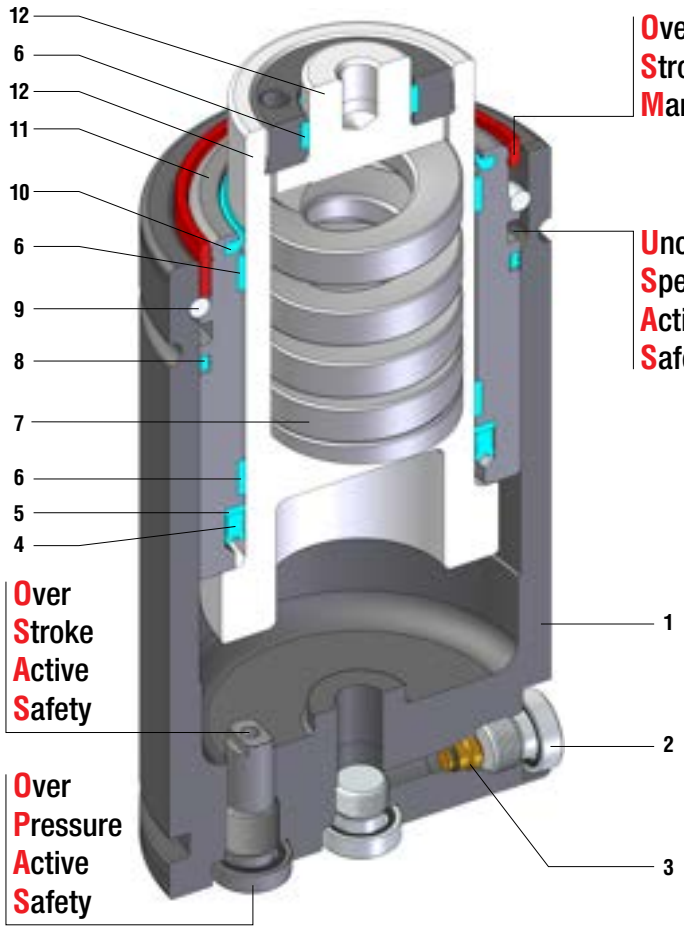
FSA 50
FSD 50

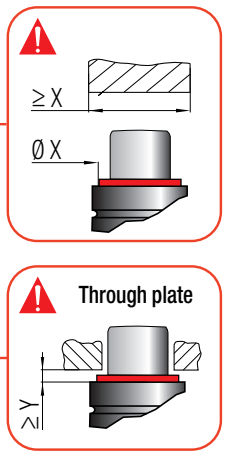


FSD 50 + R 50 A
FSE 50 + R 50 A

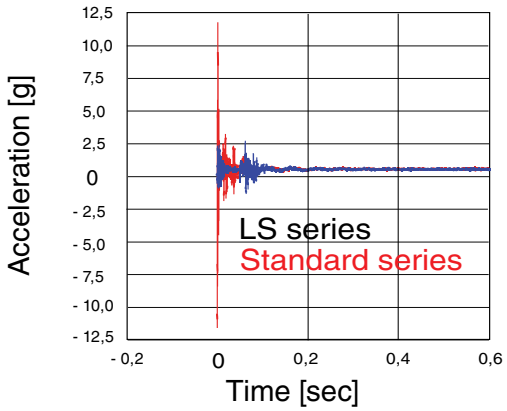
HOW TO ORDER p. 149

INSTALLATION GUIDELINE p. 205

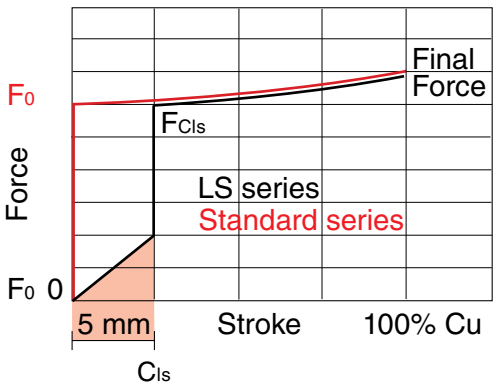




INITIAL IMPACT VIBRATIONS



FORCE CURVE



- 55 % noise

- 50 % vibrations

Forza iniziale nulla - Zero force on contact - Ausgangsleistung null
Force initiale nulle - Fuerza inicial cero - Força inicial nula

SEALING	ROD SEAL
DESIGN	BUSH - BODY DESIGN

1	Body	**5**	Back-up ring	**9**	Retaining ring
2	Plug	**6**	Guide ring	**10**	Rod wiper
3	Valve	**7**	Spring	**11**	Bush
4	Rod seal	**8**	Dual ring seal	**12**	Rod (nitrited superfinished)

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
LS 1500	75	2.95	25 - 300	0.98 - 11.81	1590	3574	✓	✓	✓	-	-
LS 2400	75	2.95	25 - 300	0.98 - 11.81	2385	5362	✓	✓	✓	-	-
LS 3000	95	3.74	25 - 300	0.98 - 11.81	2830	6362	✓	✓	✓	-	-
LS 4200	95	3.74	25 - 300	0.98 - 11.81	4240	9532	✓	✓	✓	-	-
LS 5000	120	4.72	25 - 300	0.98 - 11.81	4418	9932	✓	✓	✓	-	-
LS 6600	120	4.72	25 - 300	0.98 - 11.81	6630	14905	✓	✓	✓	-	-
LS 7500	150	5.91	25 - 300	0.98 - 11.81	7630	17152	✓	✓	✓	-	-
LS 9500	150	5.91	25 - 300	0.98 - 11.81	9540	21446	✓	✓	✓	-	-

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — LS — Model — 7500 — Stroke — 050 — C — Revision code — N — Version

LS 7500-050-C-N

Available versions



LS 7500-050-C

Standard code



Self contained



LS 7500-050-C-N

Add "-N" to standard code



Linkable

LS 1500

- 50% VIBRATIONS
- 55% NOISE

SPECIAL SPRINGS

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

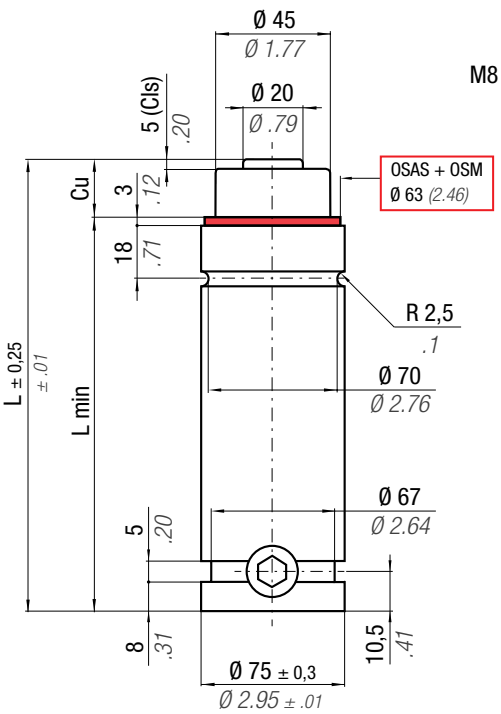
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

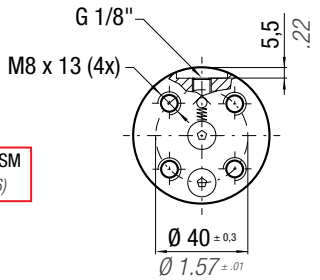
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

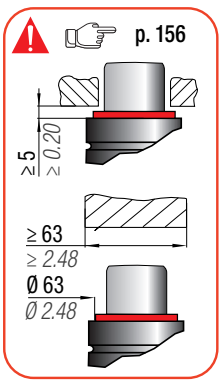
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



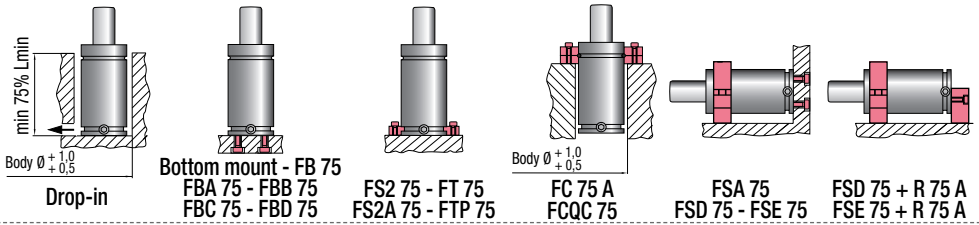




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	100 bar / 1450 psi	20 bar / 290 psi	15,90 cm² / 2.465 in²	~ 15 - 60 (at 20°C)	1,8 m/s / 70.8 in/s	39BMLS01500B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 1500 - 025 - A	◆LS 1500 - 025 - B	25	0.98	160	6.30	135	5.31					2322	5220	2890	6497	108	6.61	3,55	7.83	✓
LS 1500 - 038 - A	LS 1500 - 038 - B	38	1.50	186	7.32	148	5.83					2457	5525	3137	7052	160	9.73	3,77	8.31	✓
LS 1500 - 050 - A	LS 1500 - 050 - B	50	1.97	210	8.27	160	6.30	0	0	1590	3574	2528	5683	3270	7351	207	12.61	3,96	8.73	✓
LS 1500 - 063 - A	LS 1500 - 063 - B	63,5	2.50	237	9.33	173,5	6.83	± 5%		± 5%		2579	5798	3366	7567	260	15.84	4,18	9.22	✓
LS 1500 - 080 - A	LS 1500 - 080 - B	80	3.15	270	10.63	190	7.48					2621	5892	3445	7745	324	19.80	4,45	9.81	✓
LS 1500 - 100 - A	LS 1500 - 100 - B	100	3.94	310	12.20	210	8.27	100 bar	1450 psi	100 bar	1450 psi	2654	5966	3509	7889	403	24.59	4,80	10.58	✓
LS 1500 - 125 - A	LS 1500 - 125 - B	125	4.92	360	14.17	235	9.25					2682	6029	3561	8005	501	30.58	5,20	11.46	✓
LS 1500 - 160 - A	LS 1500 - 160 - B	160	6.30	430	16.93	270	10.63	+ 20 °C	+68 °F	+ 20 °C	+68 °F	2706	6083	3608	8111	639	38.98	5,77	12.72	✓
LS 1500 - 200 - A	LS 1500 - 200 - B	200	7.87	510	20.08	310	12.20					2725	6126	3644	8192	796	48.56	6,42	14.15	✓
LS 1500 - 250 - A	LS 1500 - 250 - B	250	9.84	610	24.02	360	14.17					2739	6158	3673	8257	992	60.54	7,24	15.96	✓
LS 1500 - 300 - A	LS 1500 - 300 - B	300	11.81	710	27.95	410	16.14					2749	6180	3692	8300	1188	72.52	8,05	17.75	✓

◆ Disposable



Drop-in

Bottom mount - FB 75
FBA 75 - FBB 75
FBC 75 - FBD 75

FS2 75 - FT 75
FS2A 75 - FTP 75

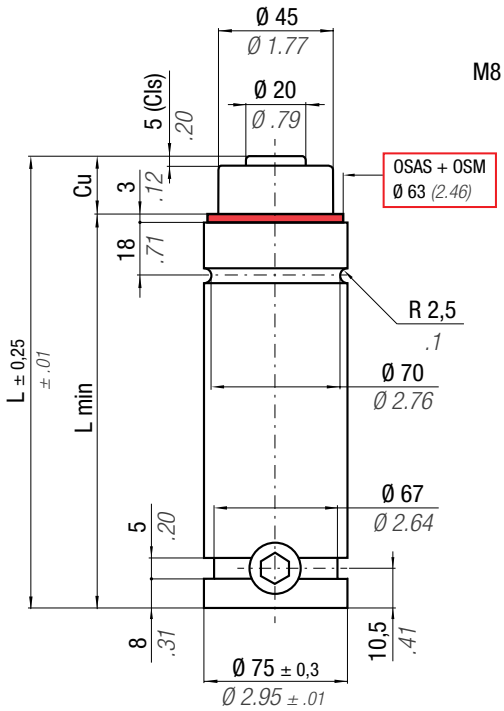
FC 75 A
FCQC 75

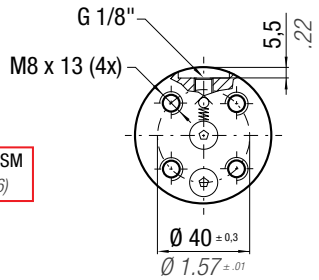
FSA 75
FSD 75 - FSE 75

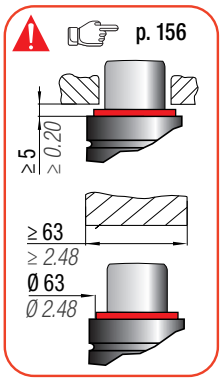
FSD 75 + R 75 A
FSE 75 + R 75 A

HOW TO ORDER p. 157

INSTALLATION GUIDELINE p. 205







Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

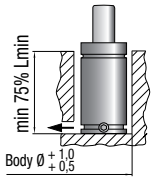
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 150 bar / 2175 psi	P min 20 bar / 290 psi	S 15,90 cm² / 2.465 in²	SPM ~ 15 - 60 (at 20°C)	Max Speed 1,8 m/s / 70.8 in/s	Maintenance kit 39BMLS01500B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 2400 - 025 - A	◆LS 2400 - 025 - B	25	0.98	160	6.30	135	5.31					3607	8109	4323	9718	108	6.61	3,55	7.83	✓
LS 2400 - 038 - A	LS 2400 - 038 - B	38	1.50	186	7.32	148	5.83					3836	8624	4692	10548	160	9.73	3,77	8.31	✓
LS 2400 - 050 - A	LS 2400 - 050 - B	50	1.97	210	8.27	160	6.30	0	0	2385	5362	3958	8898	4890	10993	207	12.61	3,96	8.73	✓
LS 2400 - 063 - A	LS 2400 - 063 - B	63,5	2.50	237	9.33	173,5	6.83	± 5%		± 5%		4045	9094	5034	11317	260	15.84	4,18	9.22	✓
LS 2400 - 080 - A	LS 2400 - 080 - B	80	3.15	270	10.63	190	7.48					4116	9253	5152	11582	324	19.80	4,45	9.81	✓
LS 2400 - 100 - A	LS 2400 - 100 - B	100	3.94	310	12.20	210	8.27	150 bar	2175 psi	150 bar	2175 psi	4173	9381	5247	11796	403	24.59	4,80	10.58	✓
LS 2400 - 125 - A	LS 2400 - 125 - B	125	4.92	360	14.17	235	9.25					4221	9489	5326	11973	501	30.58	5,20	11.46	✓
LS 2400 - 160 - A	LS 2400 - 160 - B	160	6.30	430	16.93	270	10.63	+ 20 °C	+68 °F	+ 20 °C	+68 °F	4263	9584	5396	12131	639	38.98	5,77	12.72	✓
LS 2400 - 200 - A	LS 2400 - 200 - B	200	7.87	510	20.08	310	12.20					4294	9653	5449	12250	796	48.56	6,42	14.15	✓
LS 2400 - 250 - A	LS 2400 - 250 - B	250	9.84	610	24.02	360	14.17					4319	9709	5492	12347	992	60.54	7,24	15.96	✓
LS 2400 - 300 - A	LS 2400 - 300 - B	300	11.81	710	27.95	410	16.14					4336	9748	5521	12412	1188	72.52	8,05	17.75	✓

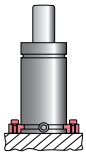
◆ Disposable



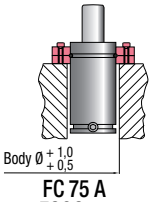
Drop-in



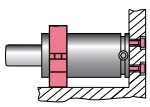
Bottom mount - FB 75
FBA 75 - FBB 75
FBC 75 - FBD 75



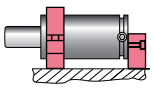
FS2 75 - FT 75
FS2A 75 - FTP 75



FC 75 A
FCQC 75



FSA 75
FSD 75 - FSE 75



FSD 75 + R 75 A
FSE 75 + R 75 A

HOW TO ORDER p. 157

INSTALLATION GUIDELINE p. 205

LS 3000 - 50% VIBRATIONS - 55% NOISE

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

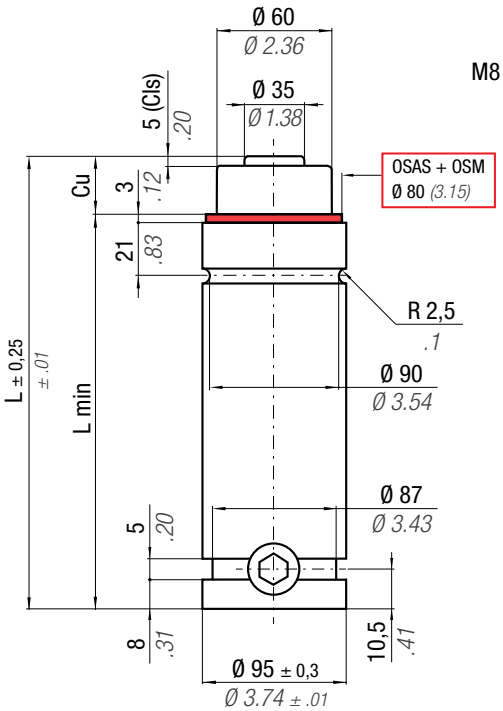
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

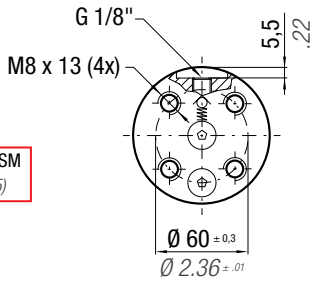
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

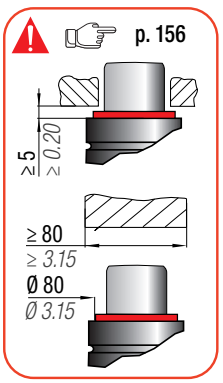
O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



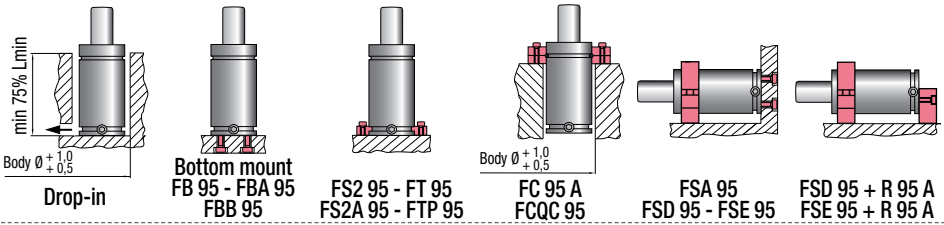




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	100 bar / 1450 psi	20 bar / 290 psi	28,27 cm² / 4.382 in²	~ 15 - 60 (at 20°C)	1,8 m/s / 70.8 in/s	39BMLS03000B

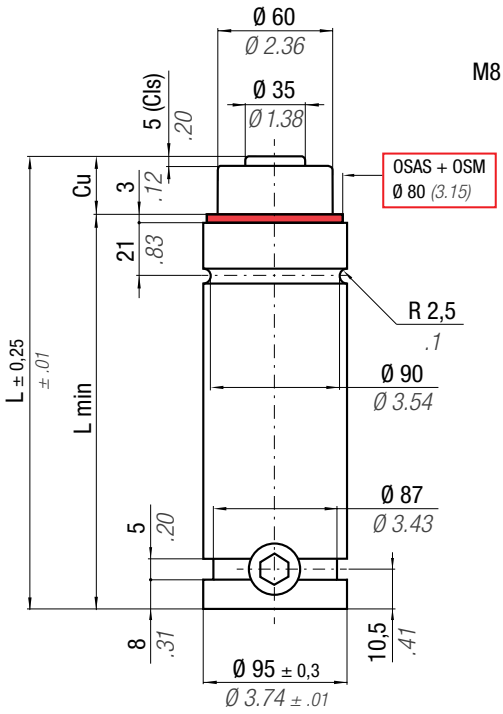
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 3000 - 025 - A	◆LS 3000 - 025 - B	25	0.98	170	6.69	145	5.71					4066	9141	5027	11301	200	12.17	6,02	13.27	✓
LS 3000 - 038 - A	LS 3000 - 038 - B	38	1.50	196	7.72	158	6.22					4373	9831	5586	12558	283	17.27	6,37	14.04	✓
LS 3000 - 050 - A	LS 3000 - 050 - B	50	1.97	220	8.66	170	6.69	0	0	2830	6362	4548	10224	5912	13292	360	21.97	6,70	14.77	✓
LS 3000 - 063 - A	LS 3000 - 063 - B	63,5	2.50	247	9.72	183,5	7.22	± 5%		± 5%		4681	10522	6164	13858	447	27.26	7,07	15.59	✓
LS 3000 - 080 - A	LS 3000 - 080 - B	80	3.15	280	11.02	200	7.87					4792	10772	6378	14338	553	33.73	7,52	16.58	✓
LS 3000 - 100 - A	LS 3000 - 100 - B	100	3.94	320	12.60	220	8.66	100 bar	1450 psi	100 bar	1450 psi	4884	10979	6556	14739	681	41.57	8,07	17.79	✓
LS 3000 - 125 - A	LS 3000 - 125 - B	125	4.92	370	14.57	245	9.65					4959	11149	6704	15071	842	51.40	8,77	19.33	✓
LS 3000 - 160 - A	LS 3000 - 160 - B	160	6.30	440	17.32	280	11.02	+ 20 °C	+68 °F	+ 20 °C	+68 °F	5032	11312	6846	15391	1067	65.12	9,73	21.45	✓
LS 3000 - 200 - A	LS 3000 - 200 - B	200	7.87	520	20.47	320	12.60					5086	11433	6953	15630	1324	80.80	10,83	23.88	✓
LS 3000 - 250 - A	LS 3000 - 250 - B	250	9.84	620	24.41	370	14.57					5130	11533	7041	15829	1645	100.39	12,20	26.90	✓
LS 3000 - 300 - A	LS 3000 - 300 - B	300	11.81	720	28.35	420	16.54					5161	11602	7102	15965	1966	119.98	13,57	29.92	✓

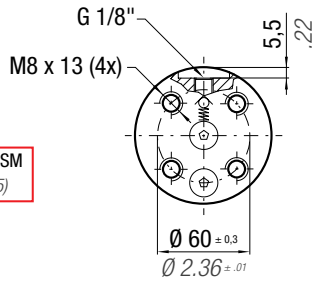
◆ Disposable

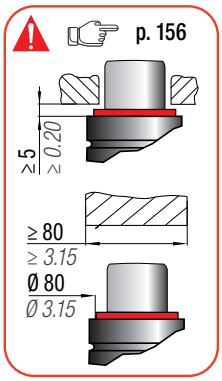


HOW TO ORDER p. 157

INSTALLATION GUIDELINE p. 205







Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

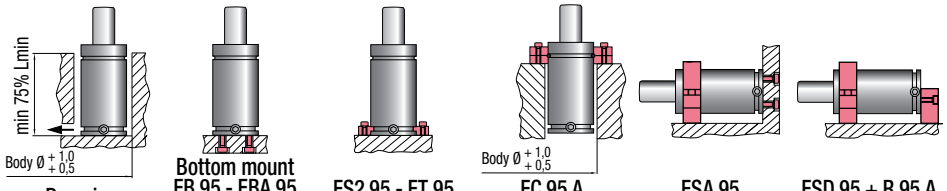
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	28,27 cm² / 4.382 in²	~ 15 - 60 (at 20°C)	1,8 m/s / 70.8 in/s	39BMLS03000B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 4200 - 025 - A	◆LS 4200 - 025 - B	25	0.98	170	6.69	145	5.71					6306	14176	7517	16898	200	12.17	6,02	13.27	✓
LS 4200 - 038 - A	LS 4200 - 038 - B	38	1.50	196	7.72	158	6.22					6827	15348	8352	18777	283	17.27	6,37	14.04	✓
LS 4200 - 050 - A	LS 4200 - 050 - B	50	1.97	220	8.66	170	6.69	0	0	4240	9532	7126	16019	8840	19874	360	21.97	6,70	14.77	✓
LS 4200 - 063 - A	LS 4200 - 063 - B	63,5	2.50	247	9.72	183,5	7.22	± 5%		± 5%		7353	16530	9217	20721	447	27.26	7,07	15.59	✓
LS 4200 - 080 - A	LS 4200 - 080 - B	80	3.15	280	11.02	200	7.87					7544	16960	9536	21439	553	33.73	7,52	16.58	✓
LS 4200 - 100 - A	LS 4200 - 100 - B	100	3.94	320	12.60	220	8.66	150 bar	2175 psi	150 bar	2175 psi	7703	17316	9803	22039	681	41.57	8,07	17.79	✓
LS 4200 - 125 - A	LS 4200 - 125 - B	125	4.92	370	14.57	245	9.65					7833	17608	10024	22534	842	51.40	8,77	19.33	✓
LS 4200 - 160 - A	LS 4200 - 160 - B	160	6.30	440	17.32	280	11.02	+ 20 °C	+68 °F	+ 20 °C	+68 °F	7957	17889	10236	23013	1067	65.12	9,73	21.45	✓
LS 4200 - 200 - A	LS 4200 - 200 - B	200	7.87	520	20.47	320	12.60					8051	18099	10396	23371	1324	80.80	10,83	23.88	✓
LS 4200 - 250 - A	LS 4200 - 250 - B	250	9.84	620	24.41	370	14.57					8128	18272	10528	23668	1645	100.39	12,20	26.90	✓
LS 4200 - 300 - A	LS 4200 - 300 - B	300	11.81	720	28.35	420	16.54					8180	18390	10619	23872	1966	119.98	13,57	29.92	✓

◆ Disposable



Drop-in

Bottom mount
FB 95 - FBA 95
FBB 95

FS2 95 - FT 95
FS2A 95 - FTP 95

Body Ø + 1,0 + 0,5
FC 95 A
FCQC 95

FSA 95
FSD 95 - FSE 95

FSD 95 + R 95 A
FSE 95 + R 95 A

HOW TO ORDER
p. 157

INSTALLATION GUIDELINE
p. 205

LS 5000 - 50% VIBRATIONS - 55% NOISE

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

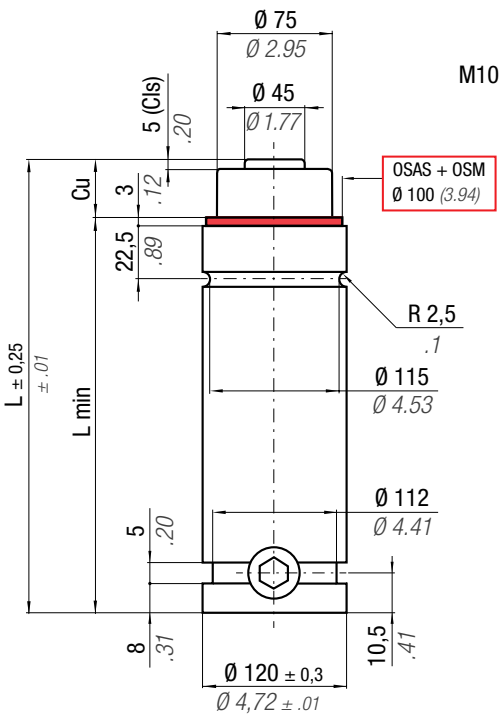
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

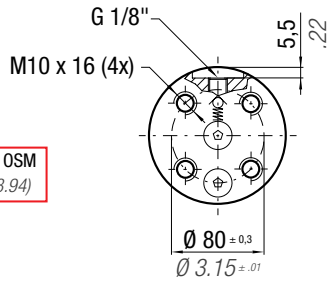
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

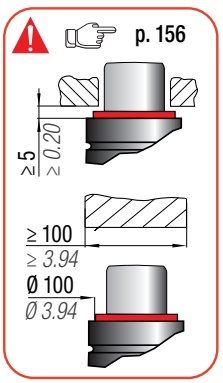
O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



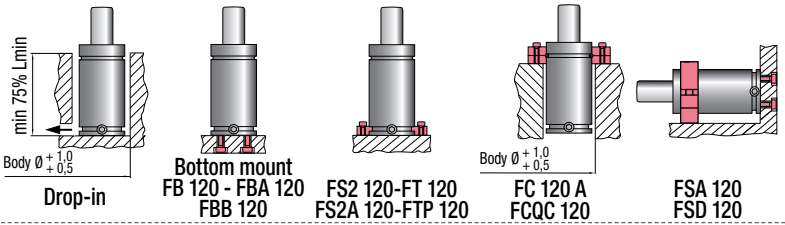




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	100 bar / 1450 psi	20 bar / 290 psi	44,18 cm² / 6.848 in²	~ 15 - 60 (at 20°C)	1,8 m/s / 70.8 in/s	39BMLS05000B

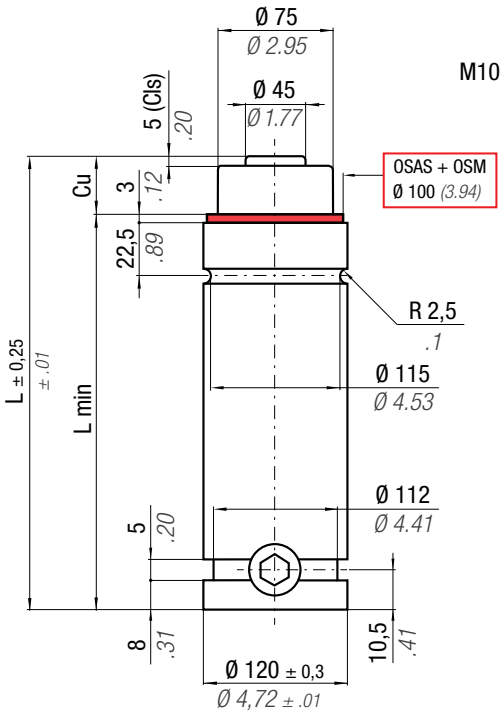
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 5000 - 025 - A	◆LS 5000 - 025 - B	25	0.98	190	7.48	165	6.50					6021	13536	7267	16336	357	21.80	10,60	23.37	✓
LS 5000 - 038 - A	LS 5000 - 038 - B	38	1.50	216	8.50	178	7.01					6537	14695	8185	18401	483	29.47	12,00	26.46	✓
LS 5000 - 050 - A	LS 5000 - 050 - B	50	1.97	240	9.45	190	7.48	0	0	4418	9932	6858	15417	8775	19727	599	36.54	13,20	29.10	✓
LS 5000 - 063 - A	LS 5000 - 063 - B	63,5	2.50	267	10.51	203,5	8.01	± 5%		± 5%		7118	16002	9261	20819	729	44.50	13,60	29.98	✓
LS 5000 - 080 - A	LS 5000 - 080 - B	80	3.15	300	11.81	220	8.66					7346	16515	9695	21796	889	54.23	14,10	31.09	✓
LS 5000 - 100 - A	LS 5000 - 100 - B	100	3.94	340	13.39	240	9.45	100 bar	1450 psi	100 bar	1450 psi	7544	16959	10075	22650	1082	66.02	15,40	33.95	✓
LS 5000 - 125 - A	LS 5000 - 125 - B	125	4.92	390	15.35	265	10.43					7718	17350	10413	23410	1323	80.76	16,90	37.26	✓
LS 5000 - 160 - A	LS 5000 - 160 - B	160	6.30	460	18.11	300	11.81	+ 20 °C	+68 °F	+ 20 °C	+68 °F	7883	17722	10738	24140	1662	101.40	18,70	41.23	✓
LS 5000 - 200 - A	LS 5000 - 200 - B	200	7.87	540	21.26	340	13.39					8009	18006	10989	24704	2048	124.98	21,70	47.84	✓
LS 5000 - 250 - A	LS 5000 - 250 - B	250	9.84	640	25.20	390	15.35					8116	18246	11202	25182	2531	154.46	24,80	54.67	✓
LS 5000 - 300 - A	LS 5000 - 300 - B	300	11.81	740	29.13	440	17.32					8190	18412	11350	25516	3014	183.93	28,00	61.73	✓

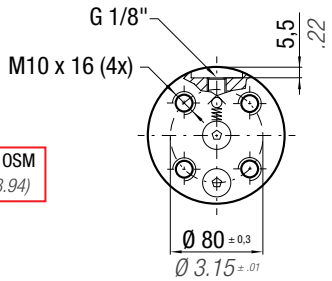
◆ Disposable

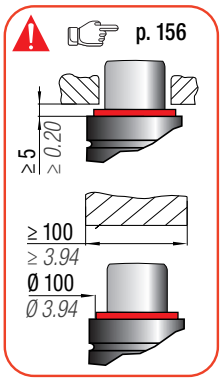


HOW TO ORDER p. 157

INSTALLATION GUIDELINE p. 205







Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

ACTIVE SAFETY

OSAS

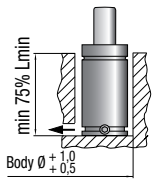
USAS

OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	44,18 cm² / 6.848 in²	~ 15 - 60 (at 20°C)	1,8 m/s / 70.8 in/s	39BMLS05000B

CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 6600 - 025 - A	◆LS 6600 - 025 - B	25	0.98	190	7.48	165	6.50					9292	20890	10865	24426	357	21.80	10,60	23.37	✓
LS 6600 - 038 - A	LS 6600 - 038 - B	38	1.50	216	8.50	178	7.01					10164	22849	12238	27513	483	29.47	12,00	26.46	✓
LS 6600 - 050 - A	LS 6600 - 050 - B	50	1.97	240	9.45	190	7.48	0	0	6630	14905	10710	24078	13121	29496	599	36.54	13,20	29.10	✓
LS 6600 - 063 - A	LS 6600 - 063 - B	63,5	2.50	267	10.51	203,5	8.01	± 5%		± 5%		11154	25076	13847	31130	729	44.50	13,60	29.98	✓
LS 6600 - 080 - A	LS 6600 - 080 - B	80	3.15	300	11.81	220	8.66					11546	25956	14497	32590	889	54.23	14,10	31.09	✓
LS 6600 - 100 - A	LS 6600 - 100 - B	100	3.94	340	13.39	240	9.45	150 bar	2175 psi	150 bar	2175 psi	11885	26719	15065	33867	1082	66.02	15,40	33.95	✓
LS 6600 - 125 - A	LS 6600 - 125 - B	125	4.92	390	15.35	265	10.43					12185	27392	15571	35004	1323	80.76	16,90	37.26	✓
LS 6600 - 160 - A	LS 6600 - 160 - B	160	6.30	460	18.11	300	11.81	+ 20 °C	+68 °F	+ 20 °C	+68 °F	12470	28033	16056	36096	1662	101.40	18,70	41.23	✓
LS 6600 - 200 - A	LS 6600 - 200 - B	200	7.87	540	21.26	340	13.39					12688	28524	16431	36938	2048	124.98	21,70	47.84	✓
LS 6600 - 250 - A	LS 6600 - 250 - B	250	9.84	640	25.20	390	15.35					12873	28939	16749	37653	2531	154.46	24,80	54.67	✓
LS 6600 - 300 - A	LS 6600 - 300 - B	300	11.81	740	29.13	440	17.32					13001	29228	16971	38153	3014	183.93	28,00	61.73	✓

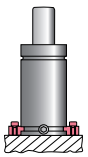
◆ Disposable



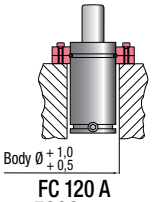
Drop-in



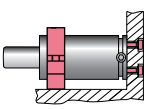
Bottom mount
FB 120 - FBA 120
FBB 120



FS2 120-FT 120
FS2A 120-FTP 120



FC 120 A
FCQC 120



FSA 120
FSD 120

HOW TO ORDER p. 157

INSTALLATION GUIDELINE p. 205

LS 7500 - 50% VIBRATIONS - 55% NOISE

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

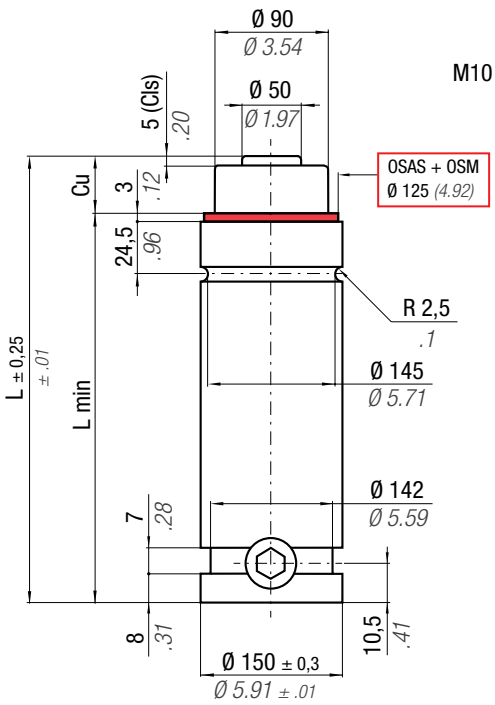
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

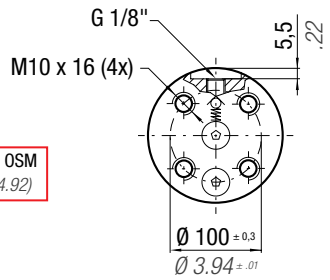
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

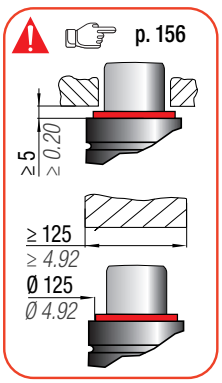
O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



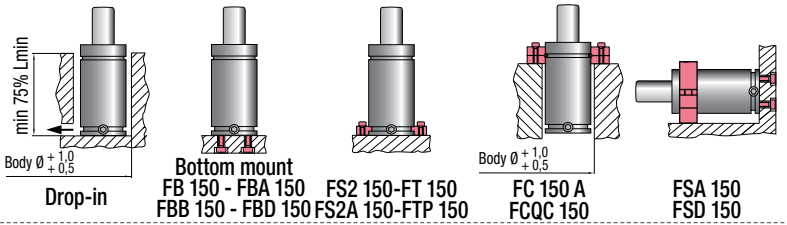




N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	120 bar / 1740 psi	20 bar / 290 psi	63,61 cm² / 9.860 in²	~ 15 - 60 (at 20°C)	1,8 m/s / 70.8 in/s	39BMLS07500A

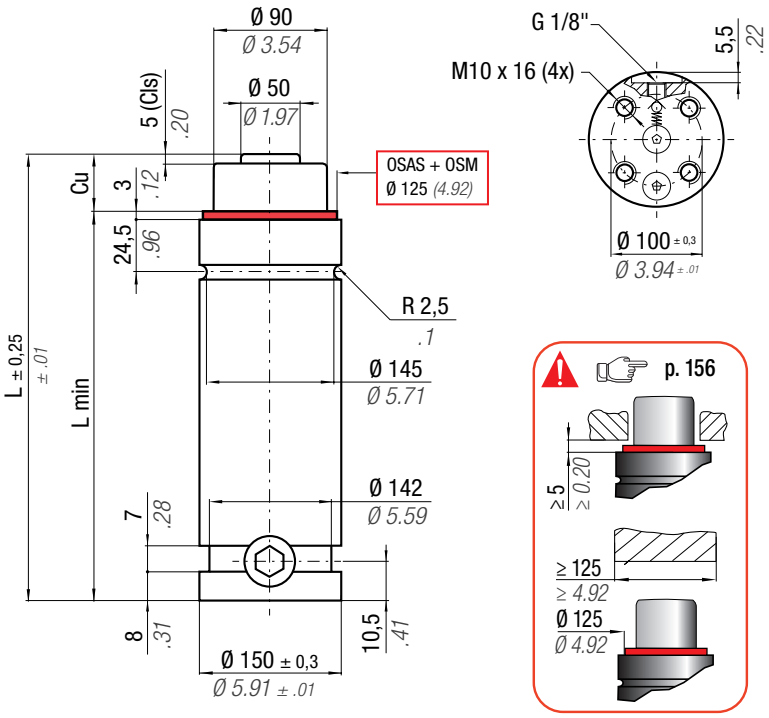
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 7500 - 025 - B	◆LS 7500 - 025 - C	25	0.98	205	8.07	180	7.09					9817	22070	11303	25411	638	38.91	19,95	43.98	✓
LS 7500 - 038 - B	LS 7500 - 038 - C	38	1.50	231	9.09	193	7.60					10576	23776	12544	28200	838	51.13	21,15	46.63	✓
LS 7500 - 050 - B	LS 7500 - 050 - C	50	1.97	255	10.04	205	8.07	0	0	7630	17152	11065	24875	13362	30039	1023	62.40	21,95	48.39	✓
LS 7500 - 063 - B	LS 7500 - 063 - C	63,5	2.50	282	11.10	218,5	8.60	± 5%		± 5%		11469	25784	14050	31585	1230	75.08	22,75	50.16	✓
LS 7500 - 080 - B	LS 7500 - 080 - C	80	3.15	315	12.40	235	9.25					11832	26600	14675	32991	1484	90.58	24,55	54.12	✓
LS 7500 - 100 - B	LS 7500 - 100 - C	100	3.94	355	13.98	255	10.04	120 bar	1740 psi	120 bar	1740 psi	12151	27316	15230	34239	1792	109.37	26,25	57.87	✓
LS 7500 - 125 - B	LS 7500 - 125 - C	125	4.92	405	15.94	280	11.02					12435	27956	15732	35366	2177	132.85	28,15	62.06	✓
LS 7500 - 160 - B	LS 7500 - 160 - C	160	6.30	475	18.70	315	12.40	+ 20 °C	+68 °F	+ 20 °C	+68 °F	12710	28572	16219	36461	2716	165.73	31,55	69.56	✓
LS 7500 - 200 - B	LS 7500 - 200 - C	200	7.87	555	21.85	355	13.98					12922	29050	16599	37316	3332	203.31	35,15	77.49	✓
LS 7500 - 250 - B	LS 7500 - 250 - C	250	9.84	655	25.79	405	15.94					13103	29457	16925	38049	4101	250.28	38,65	85.21	✓
LS 7500 - 300 - B	LS 7500 - 300 - C	300	11.81	755	29.72	455	17.91					13229	29741	17154	38564	4871	297.26	42,55	93.81	✓

◆ Disposable



HOW TO ORDER p. 157

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

ACTIVE SAFETY

OSAS

USAS

OPAS

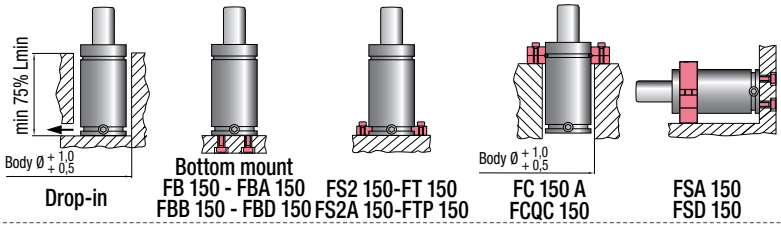
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	63,61 cm² / 9.860 in²	~ 15 - 60 (at 20°C)	1,8 m/s / 70.8 in/s	39BMLS07500A

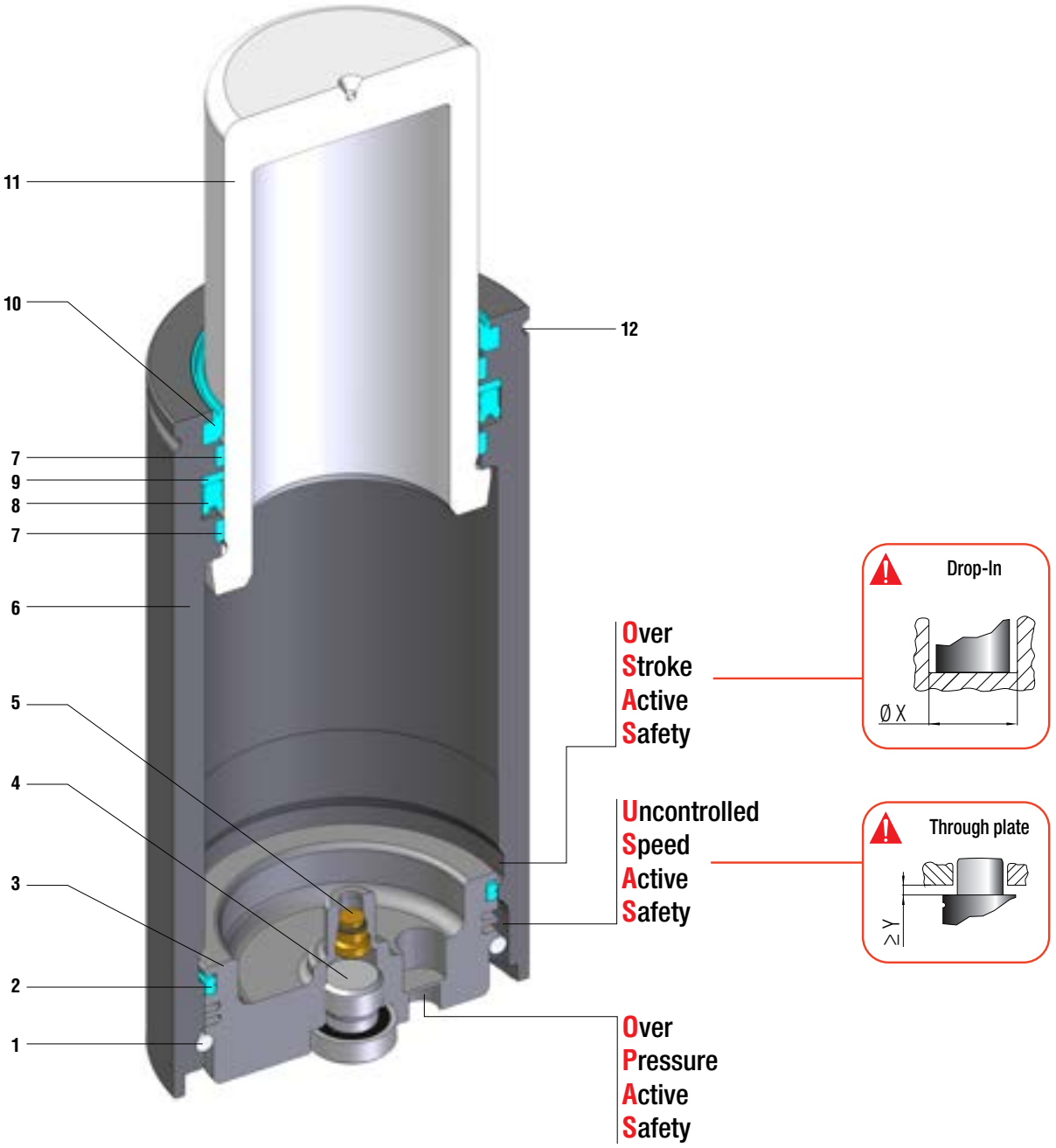
CODE PHASING OUT from 04/2021	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	F Cls daN	F Cls lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
LS 9500 - 025 - B	◆LS 9500-025 - C	25	0.98	205	8.07	180	7.09					12436	27958	14197	31916	638	38.91	19,95	43.98	✓
LS 9500 - 038 - B	LS 9500-038 - C	38	1.50	231	9.09	193	7.60					13451	30239	15755	35419	838	51.13	21,15	46.63	✓
LS 9500 - 050 - B	LS 9500-050 - C	50	1.97	255	10.04	205	8.07	0	0	9540	21446	14107	31713	16783	37729	1023	62.40	21,95	48.39	✓
LS 9500 - 063 - B	LS 9500-063 - C	63,5	2.50	282	11.10	218,5	8.60	± 5%		± 5%		14650	32935	17647	39671	1230	75.08	22,75	50.16	✓
LS 9500 - 080 - B	LS 9500-080 - C	80	3.15	315	12.40	235	9.25					15138	34032	18432	41436	1484	90.58	24,55	54.12	✓
LS 9500 - 100 - B	LS 9500-100 - C	100	3.94	355	13.98	255	10.04	150 bar	2175 psi	150 bar	2175 psi	15568	34998	19129	43005	1792	109.37	26,25	57.87	✓
LS 9500 - 125 - B	LS 9500-125 - C	125	4.92	405	15.94	280	11.02					15952	35862	19759	44420	2177	132.85	28,15	62.06	✓
LS 9500 - 160 - B	LS 9500-160 - C	160	6.30	475	18.70	315	12.40	+ 20 °C	+68 °F	+ 20 °C	+68 °F	16323	36695	20371	45796	2716	165.73	31,55	69.56	✓
LS 9500 - 200 - B	LS 9500-200 - C	200	7.87	555	21.85	355	13.98					16610	37341	20848	46869	3332	203.31	35,15	77.49	✓
LS 9500 - 250 - B	LS 9500-250 - C	250	9.84	655	25.79	405	15.94					16855	37892	21258	47789	4101	250.28	38,65	85.21	✓
LS 9500 - 300 - B	LS 9500-300 - C	300	11.81	755	29.72	455	17.91					17027	38278	21545	48436	4871	297.26	42,55	93.81	✓

◆ Disposable



HOW TO ORDER p. 157

INSTALLATION GUIDELINE p. 205



Massima forza, tenuta stelo - Maximum force, rod seal - Maximale Kraft, Kolbenstange dichtung
Forces maximale, joint de tige - Máxima fuerza, estanqueidad vástago - Força máxima, estanquidade na haste

SEALING	ROD SEAL
DESIGN	BOTTOM BASE - BODY DESIGN

1	Retaining ring	**5**	Valve	**9**	Back-up ring
2	Dual ring seal	**6**	Body	**10**	Rod wiper
3	Bottom base	**7**	Guide ring	**11**	Rod (nitrited superfinished)
4	Plug	**8**	Rod seal	**12**	Groove for secondary wiper

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
ML 300	25	0.98	10 - 80	0.39 - 3.15	310	697	✓	✓	-	-	✓
ML 500	32	1.26	10 - 80	0.39 - 3.15	510	1147	✓	✓	-	-	✓
ML 1000	38	1.50	10 - 80	0.39 - 3.15	980	2203	✓	✓	✓	-	✓
ML 1000 N	38	1.50	10 - 80	0.39 - 3.15	980	2203	✓	✓	✓	-	✓
ML 1800	50	1.97	15 - 80	0.59 - 3.15	1925	4327	✓	✓	✓	-	✓
ML 1800 N	50	1.97	15 - 80	0.59 - 3.15	1925	4327	✓	✓	✓	-	✓
ML 3000	63	2.48	15 - 80	0.59 - 3.15	3180	7149	✓	✓	✓	-	✓
ML 3000 N	63	2.48	15 - 80	0.59 - 3.15	3180	7149	✓	✓	✓	-	✓
ML 4700	75	2.95	15 - 80	0.59 - 3.15	4925	11701	✓	✓	✓	-	✓
ML 4700 N	75	2.95	15 - 80	0.59 - 3.15	4925	11701	✓	✓	✓	-	✓
ML 7500	95	3.74	15 - 80	0.59 - 3.15	7700	17310	✓	✓	✓	-	✓
ML 7500 N	95	3.74	15 - 80	0.59 - 3.15	7700	17310	✓	✓	✓	-	✓
ML 12000	120	4.72	15 - 80	0.59 - 3.15	12720	28595	✓	✓	✓	-	✓
ML 12000 N	120	4.72	15 - 80	0.59 - 3.15	12720	28595	✓	✓	✓	-	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — Revision code

Model — **ML 1800-050-D-E-W**

Stroke — Version

Available versions



ML 1800-050-D

Standard code

Self contained



ML 1800-050-D-W

Add "-W" to standard code

Self contained + Secondary wiper



ML 1800-050-D-N

Add "-N" to standard code

Linkable



ML 1800-050-D-N-W

Add "-N-W" to standard code

Linkable + Secondary wiper



ML 1800-050-D-E

Add "-E" to standard code

Easy Manifold



ML 1800-050-D-E-W

Add "-E-W" to standard code

Easy Manifold + Secondary wiper

SW

ACTIVE SAFETY

OSAS

USAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

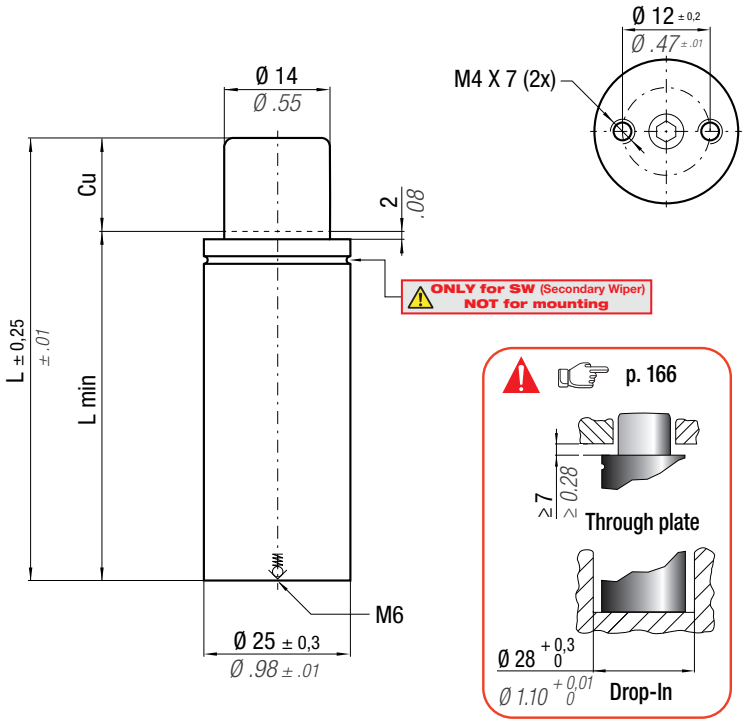
Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

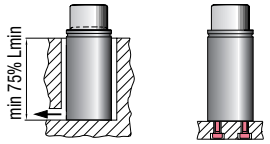
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 200 bar / 2900 psi	P min 20 bar / 290 psi	S 1,54 cm² / 0.239 in²	SPM ~ 40 - 80 (at 20°C)	Max Speed 1,6 m/s / 62.9 in/s	Maintenance kit Disposable

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML 300 - 010 - C	ML 300 - 010 - D	10	0.39	75	2.95	65	2.56	310 ± 5%	697	430	967	484	1087	6,8	0.41	0,17	0.37	✓
ML 300 - 015 - C	ML 300 - 015 - D	15	0.59	85	3.35	70	2.76			467	1050	534	1201	8,5	0.52	0,18	0.40	✓
ML 300 - 025 - C	ML 300 - 025 - D	25	0.98	105	4.13	80	3.15			518	1164	605	1360	11,8	0.72	0,21	0.46	✓
ML 300 - 038 - C	ML 300 - 038 - D	38	1.50	130	5.12	92	3.62			566	1272	674	1514	15,7	0.96	0,24	0.53	✓
ML 300 - 050 - C	ML 300 - 050 - D	50	1.97	155	6.10	105	4.13			583	1311	698	1570	20,0	1.22	0,27	0.60	✓
ML 300 - 063 - C	ML 300 - 063 - D	63	2.48	185	7.28	122	4.80			580	1303	693	1558	25,3	1.54	0,31	0.68	✓
ML 300 - 080 - C	ML 300 - 080 - D	80	3.15	220	8.66	140	5.51	200 bar / 2900 psi		595	1337	715	1608	31,2	1.90	0,35	0.77	✓
								+20 °C	+68 °F									

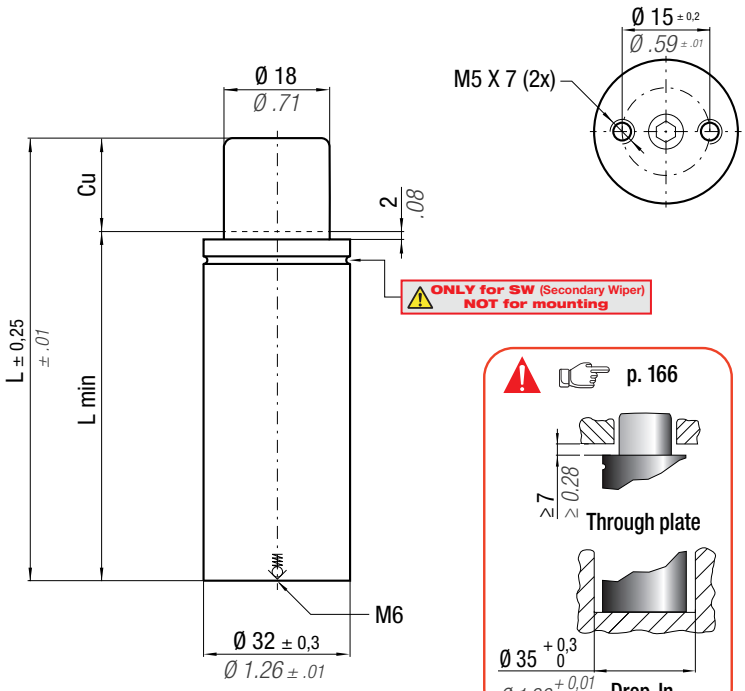


Drop-In

Bottom mount

HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

SW

ACTIVE SAFETY

OSAS

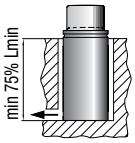
USAS

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

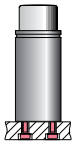
**** $F1_p$ =** Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP ± 0,33 %/°C	P max 200 bar / 2900 psi	P min 20 bar / 290 psi	S 2,54 cm² / 0.394 in²	SPM ~ 40 - 80 (at 20°C)	Max Speed 1,6 m/s / 62.9 in/s	Maintenance kit Disposable

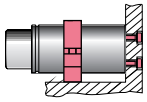
CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
ML 500 - 010 - C	ML 500 - 010 - D	10	0.39	75	2.95	65	2.56	510 ± 5%	1147	718	1614	809	1819	11,0	0.67	0,28	0.62	✓
ML 500 - 015 - C	ML 500 - 015 - D	15	0.59	85	3.35	70	2.76			775	1742	887	1994	13,9	0.85	0,30	0.66	✓
ML 500 - 025 - C	ML 500 - 025 - D	25	0.98	105	4.13	80	3.15			849	1908	990	2226	19,7	1.20	0,34	0.75	✓
ML 500 - 038 - C	ML 500 - 038 - D	38	1.50	130	5.12	92	3.62	200 bar	2900 psi	917	2061	1087	2443	26,7	1.63	0,39	0.86	✓
ML 500 - 050 - C	ML 500 - 050 - D	50	1.97	155	6.10	105	4.13			937	2107	1116	2510	34,1	2.08	0,43	0.95	✓
ML 500 - 063 - C	ML 500 - 063 - D	63	2.48	190	7.48	127	5.00			892	2006	1052	2364	46,0	2.81	0,51	1.12	✓
ML 500 - 080 - C	ML 500 - 080 - D	80	3.15	225	8.86	145	5.71	+20 °C	+68 °F	916	2059	1086	2441	56,3	3.44	0,57	1.26	✓



Drop-In



Bottom mount



FSA 32 - FSD 32
FSF 32

HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 1000

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

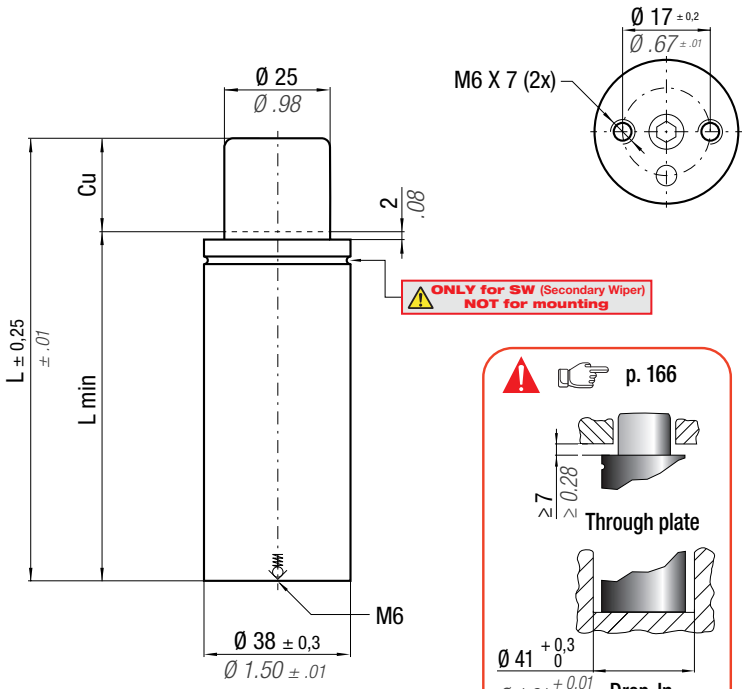
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

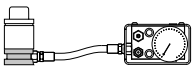
**** $F1_p$ =** Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML01000C

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML 1000 - 010 - C	ML 1000 - 010 - D	10	0.39	75	2.95	65	2.56	980 ± 5%	2203	1377	3096	1550	3485	21,6	1.32	0,37	0.82	✓
ML 1000 - 015 - C	ML 1000 - 015 - D	15	0.59	85	3.35	70	2.76			1509	3392	1731	3892	26,3	1.60	0,39	0.86	✓
ML 1000 - 025 - C	ML 1000 - 025 - D	25	0.98	105	4.13	80	3.15			1700	3822	1999	4494	35,8	2.18	0,45	0.99	✓
ML 1000 - 038 - C	ML 1000 - 038 - D	38	1.50	135	5.31	97	3.82	200 bar 2900 psi		1782	4007	2116	4757	51,0	3.11	0,53	1.17	✓
ML 1000 - 050 - C	ML 1000 - 050 - D	50	1.97	160	6.30	110	4.33			1871	4206	2244	5045	63,1	3.85	0,60	1.32	✓
ML 1000 - 063 - C	ML 1000 - 063 - D	63	2.48	205	8.07	142	5.59			1721	3868	2028	4560	88,8	5.42	0,73	1.61	✓
ML 1000 - 080 - C	ML 1000 - 080 - D	80	3.15	240	9.45	160	6.30	+20 °C	+68 °F	1805	4058	2149	4830	105,6	6.44	0,82	1.81	✓

KIT FOR LINKING

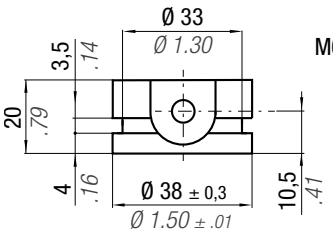


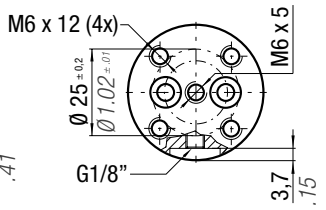
code: 39FML01000D

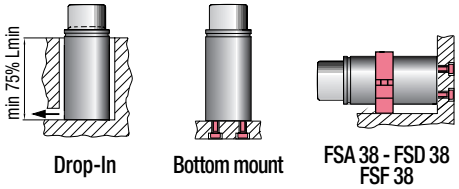


Sostituire ogni 1.000.000 di cicli. Replace every 1 million cycles. Nach 1 Mio. Hübe austauschen. Remplacez à chaque million de cycles. Reemplazar cada 1 millón de ciclos. Substituir a cada 1 milhão de ciclos.

Bottom base dimension



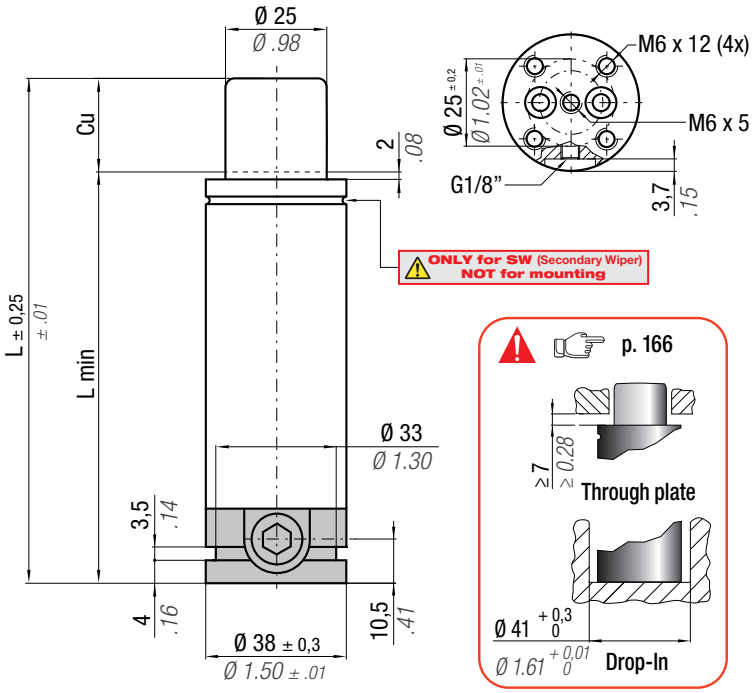




HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 1000 N
linkable G1/8”



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

* $F1_i$ = Isothermal end force at 100% Cu p. 16

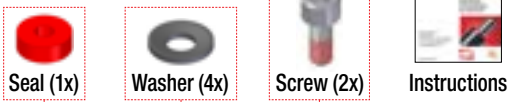
** $F1_p$ = Polytrophic end force at 100% Cu

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML01000C

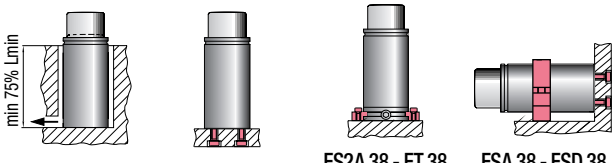
CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML1000-010-C-N	ML1000-010-D-N	10	0.39	95	3.74	85	3.35	980 ± 5%	2203	1377	3096	1550	3485	21,6	1.32	0,52	1.15	✓
ML1000-015-C-N	ML1000-015-D-N	15	0.59	105	4.13	90	3.54			1509	3392	1731	3892	26,3	1.60	0,55	1.21	✓
ML1000-025-C-N	ML1000-025-D-N	25	0.98	125	4.92	100	3.94			1700	3822	1999	4494	35,8	2.18	0,60	1.32	✓
ML1000-038-C-N	ML1000-038-D-N	38	1.50	155	6.10	117	4.61	200 bar	2900 psi	1782	4007	2116	4757	51,0	3.11	0,68	1.50	✓
ML1000-050-C-N	ML1000-050-D-N	50	1.97	180	7.09	130	5.12			1871	4206	2244	5045	63,1	3.85	0,75	1.65	✓
ML1000-063-C-N	ML1000-063-D-N	63	2.48	225	8.86	162	6.38			1721	3868	2028	4560	88,8	5.42	0,88	1.94	✓
ML1000-080-C-N	ML1000-080-D-N	80	3.15	260	10.24	180	7.09	+20 °C	+68 °F	1805	4058	2149	4830	105,6	6.44	0,98	2.16	✓

SERVICE BOX

code: 39SKML01000A



Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.



HOW TO ORDER
p. 167

INSTALLATION GUIDELINE
p. 205

ML 1800

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

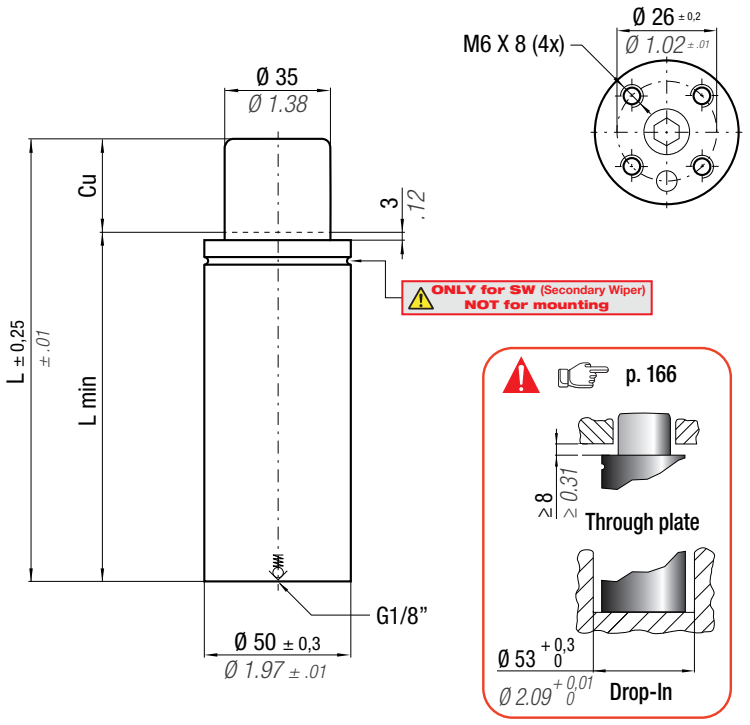
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

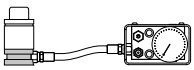
**** $F1_p$ =** Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	9,62 cm² / 1.491 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML01800C

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML 1800 - 015 - C	ML 1800 - 015 - D	15	0.59	95	3.74	80	3.15	1925 ± 5%	4327	2828	6358	3215	7227	57	3.46	0,76	1.68	✓
ML 1800 - 025 - C	ML 1800 - 025 - D	25	0.98	115	4.53	90	3.54			3198	7189	3728	8381	75	4.56	0,85	1.87	✓
ML 1800 - 038 - C	ML 1800 - 038 - D	38	1.50	150	5.91	112	4.41			3274	7359	3835	8621	110	6.69	1,01	2.23	✓
ML 1800 - 050 - C	ML 1800 - 050 - D	50	1.97	175	6.89	125	4.92	200 bar 2900 psi		3471	7802	4115	9252	133	8.10	1,12	2.47	✓
ML 1800 - 063 - C	ML 1800 - 063 - D	63	2.48	205	8.07	142	5.59			3568	8021	4254	9564	161	9.84	1,26	2.78	✓
ML 1800 - 080 - C	ML 1800 - 080 - D	80	3.15	245	9.65	165	6.50	+20 °C +68 °F		3642	8188	4362	9805	200	12.18	1,44	3.17	✓

KIT FOR LINKING



code: 39FML01800C


Seal (1x)


Washer (4x)


Screw (2x)

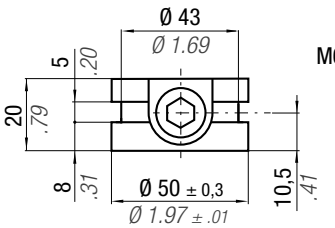

Bottom base (1x)

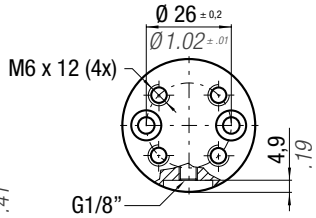

Valve (1x)

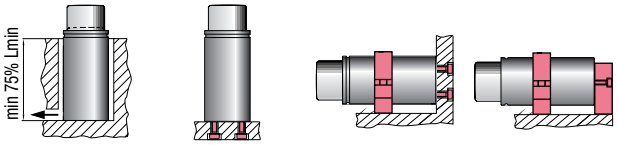

Instructions

Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.

Bottom base dimension



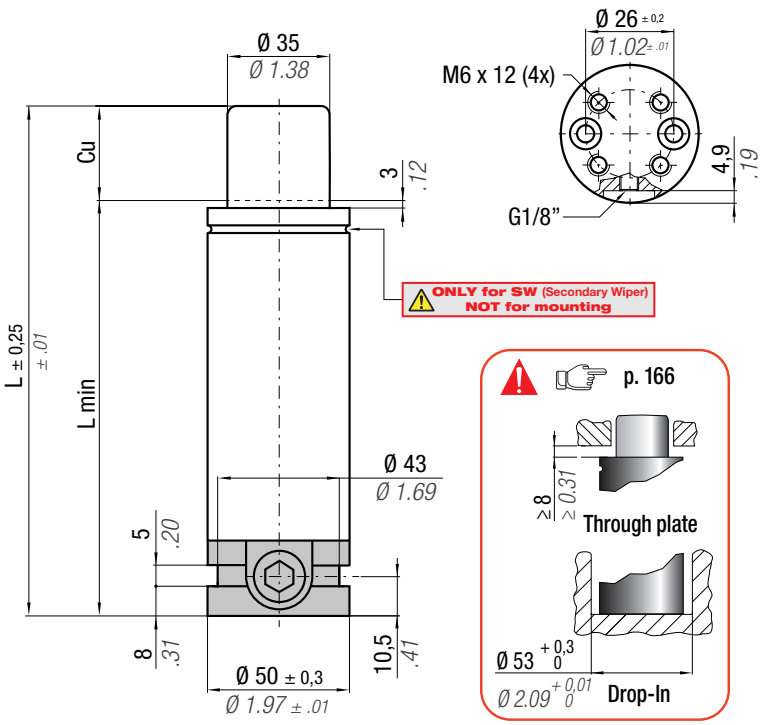




HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 1800 N
linkable G1/8”



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	9,62 cm² / 1.491 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML01800C

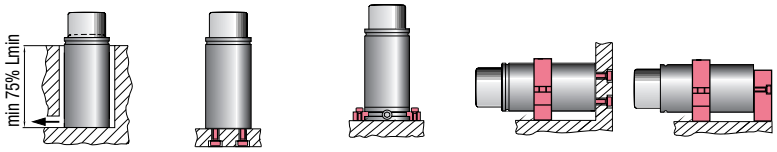
CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML1800-015-C-N	ML1800-015-D-N	15	0.59	115	4.53	100	3.94	1925 ± 5%	4327	2828	6358	3215	7227	57	3.46	1,03	2.27	✓
ML1800-025-C-N	ML1800-025-D-N	25	0.98	135	5.31	110	4.33			3198	7189	3728	8381	75	4.56	1,12	2.47	✓
ML1800-038-C-N	ML1800-038-D-N	38	1.50	170	6.69	132	5.20			3274	7359	3835	8621	110	6.69	1,28	2.82	✓
ML1800-050-C-N	ML1800-050-D-N	50	1.97	195	7.68	145	5.71	200 bar 2900 psi		3471	7802	4115	9252	133	8.10	1,39	3.06	✓
ML1800-063-C-N	ML1800-063-D-N	63	2.48	225	8.86	162	6.38			3568	8021	4254	9564	161	9.84	1,53	3.37	✓
ML1800-080-C-N	ML1800-080-D-N	80	3.15	265	10.43	185	7.28	+20 °C +68 °F		3642	8188	4362	9805	200	12.18	1,71	3.77	✓

SERVICE BOX

code: 39SKML01800A



Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.



HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 3000

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

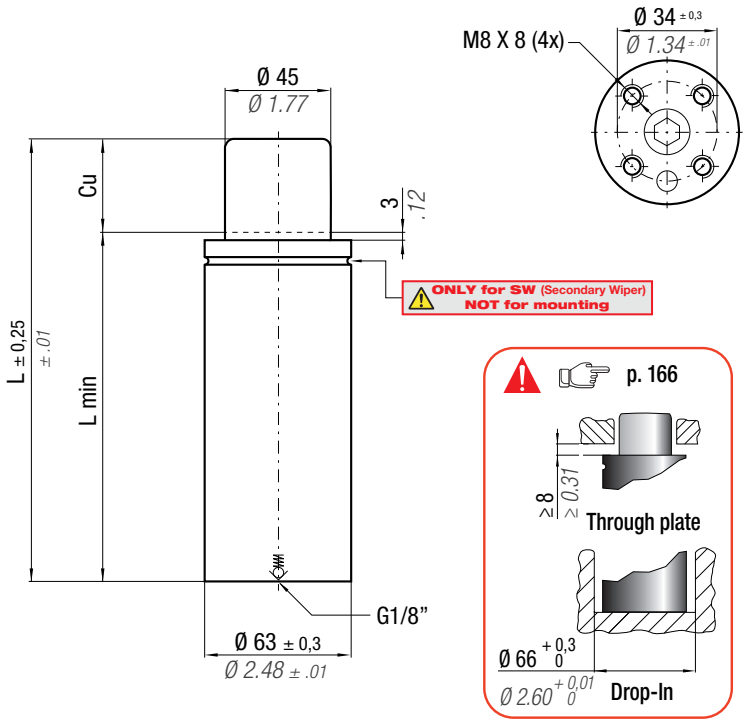
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

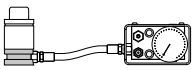
**** $F1_p$ =** Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	15,90 cm² / 2.464 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML03000C

CODE PHASING OUT from 05/2019	NEW	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
		mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
ML 3000 - 015 - C	ML 3000 - 015 - D	15	0.59	100	3.94	85	3.35	3180 ± 5%	7149	4461	10029	5023	11291	105	6.40	1,25	2.76	✓
ML 3000 - 025 - C	ML 3000 - 025 - D	25	0.98	120	4.72	95	3.74			5013	11270	5781	12997	136	8.27	1,38	3.04	✓
ML 3000 - 038 - C	ML 3000 - 038 - D	38	1.50	150	5.91	112	4.41			5362	12054	6269	14094	184	11.22	1,57	3.46	✓
ML 3000 - 050 - C	ML 3000 - 050 - D	50	1.97	180	7.09	130	5.12	200 bar 2900 psi		5491	12344	6452	14505	233	14.24	1,78	3.92	✓
ML 3000 - 063 - C	ML 3000 - 063 - D	63	2.48	210	8.27	147	5.79			5658	12720	6690	15039	282	17.19	1,98	4.37	✓
ML 3000 - 080 - C	ML 3000 - 080 - D	80	3.15	250	9.84	170	6.69	+20 °C +68 °F		5793	13023	6882	15472	347	21.14	2,24	4.94	✓

KIT FOR LINKING

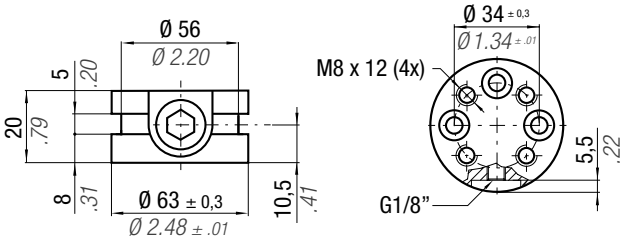


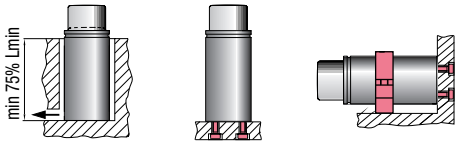
code: 39FML03000B



Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.

Bottom base dimension

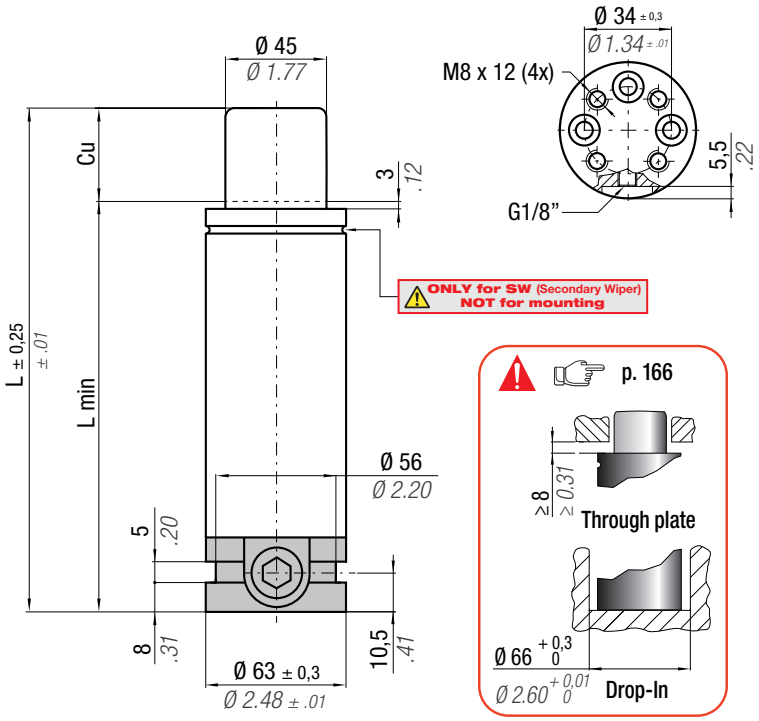




HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 3000 N
linkable G1/8”



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	15,90 cm² / 2.464 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML03000C

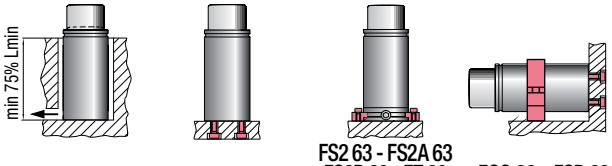
CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML3000-015-C-N	ML3000-015-D-N	15	0.59	120	4.72	105	4.13	3180 ± 5%	7149	4461	10029	5023	11291	105	6.40	1,67	3.68	✓
ML3000-025-C-N	ML3000-025-D-N	25	0.98	140	5.51	115	4.53			5013	11270	5781	12997	136	8.27	1,80	3.97	✓
ML3000-038-C-N	ML3000-038-D-N	38	1.50	170	6.69	132	5.20			5362	12054	6269	14094	184	11.22	2,00	4.41	✓
ML3000-050-C-N	ML3000-050-D-N	50	1.97	200	7.87	150	5.91	200 bar 2900 psi		5491	12344	6452	14505	233	14.24	2,20	4.85	✓
ML3000-063-C-N	ML3000-063-D-N	63	2.48	230	9.06	167	6.57			5658	12720	6690	15039	282	17.19	2,40	5.29	✓
ML3000-080-C-N	ML3000-080-D-N	80	3.15	270	10.63	190	7.48	+20 °C +68 °F		5793	13023	6882	15472	347	21.14	2,66	5.86	✓

SERVICE BOX

code: 39SKML03000A



Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.



Drop-In | Bottom mount | FS2 63 - FS2A 63 FS2B 63 - FT 63 FTP 63 | FSC 63 - FSD 63

HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 4700

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

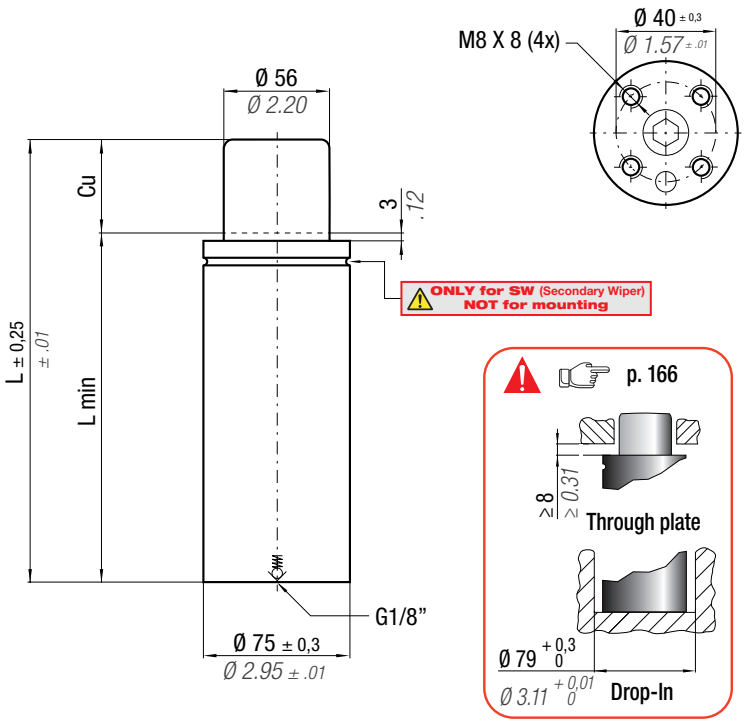
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

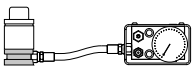
**** $F1_p$ =** Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	24,63 cm² / 3.817 in²	~ 30 - 70 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML04700C

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML 4700 - 015 - C	ML 4700 - 015 - D	15	0.59	100	3.94	85	3.35	4925 ± 5%	11071	6982	15697	7878	17711	158	9.64	1,72	3.79	✓
ML 4700 - 025 - C	ML 4700 - 025 - D	25	0.98	120	4.72	95	3.74			7883	17721	9119	20500	204	12.46	1,90	4.19	✓
ML 4700 - 038 - C	ML 4700 - 038 - D	38	1.50	150	5.91	112	4.41			8462	19023	9933	22330	277	16.88	2,17	4.78	✓
ML 4700 - 050 - C	ML 4700 - 050 - D	50	1.97	180	7.09	130	5.12	200 bar 2900 psi		8683	19520	10247	23035	351	21.39	2,44	5.38	✓
ML 4700 - 063 - C	ML 4700 - 063 - D	63	2.48	210	8.27	147	5.79			8963	20150	10647	23936	423	25.82	2,72	6.00	✓
ML 4700 - 080 - C	ML 4700 - 080 - D	80	3.15	250	9.84	170	6.69	+20 °C +68 °F		9191	20663	10975	24673	520	31.74	3,08	6.79	✓

KIT FOR LINKING



code: 39FML04700B


Seal (1x)


Washer (6x)


Screw (3x)

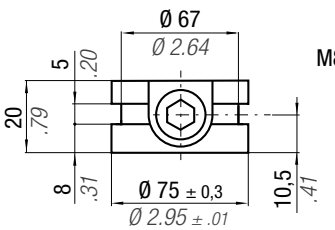

Bottom base (1x)

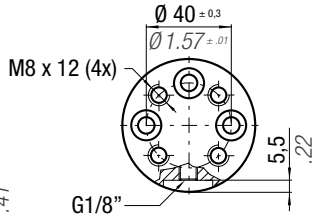

Valve (1x)

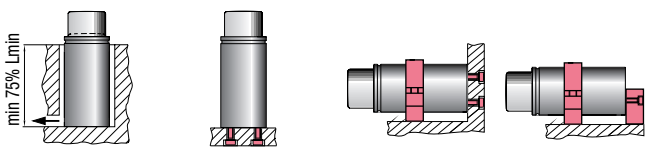

Instructions

Sostituire ogni 1.000.000 di cicli. Replace every 1 million cycles. Nach 1 Mio. Hübe austauschen. Remplacez à chaque million de cycles. Reemplazar cada 1 millón de ciclos. Substituir a cada 1 milhão de ciclos.

Bottom base dimension



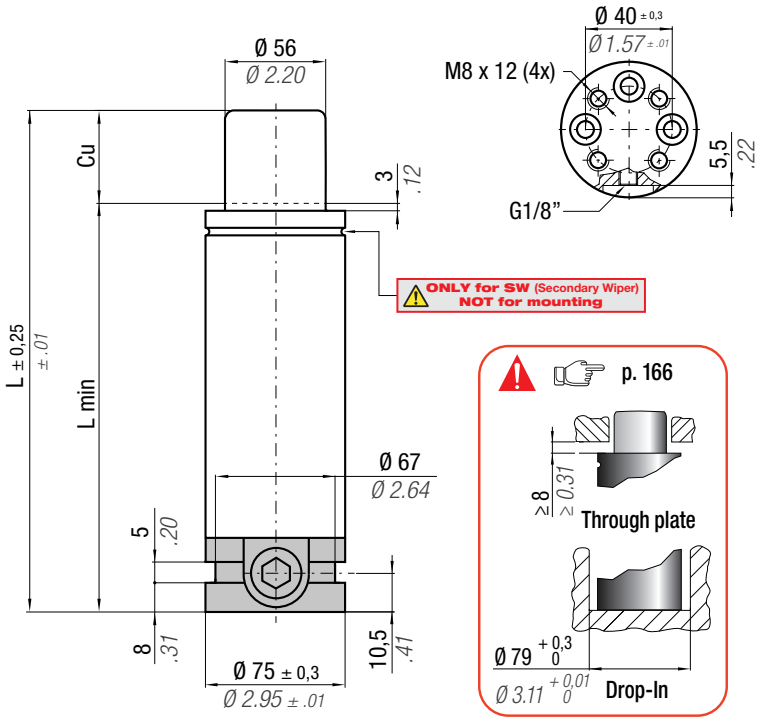




HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 4700 N
linkable G1/8”



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	24,63 cm² / 3.817 in²	~ 30 - 70 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML04700C

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML4700-015-C-N	ML4700-015-D-N	15	0.59	120	4.72	105	4.13	4925 ± 5%	11071	6982	15697	7878	17711	158	9.64	2,34	5.16	✓
ML4700-025-C-N	ML4700-025-D-N	25	0.98	140	5.51	115	4.53			7883	17721	9119	20500	204	12.46	2,51	5.53	✓
ML4700-038-C-N	ML4700-038-D-N	38	1.50	170	6.69	132	5.20			8462	19023	9933	22330	277	16.88	2,75	6.06	✓
ML4700-050-C-N	ML4700-050-D-N	50	1.97	200	7.87	150	5.91	200 bar 2900 psi		8683	19520	10247	23035	351	21.39	3,06	6.75	✓
ML4700-063-C-N	ML4700-063-D-N	63	2.48	230	9.06	167	6.57			8963	20150	10647	23936	423	25.82	3,33	7.34	✓
ML4700-080-C-N	ML4700-080-D-N	80	3.15	270	10.63	190	7.48	+20 °C +68 °F		9191	20663	10975	24673	520	31.74	3,70	8.16	✓

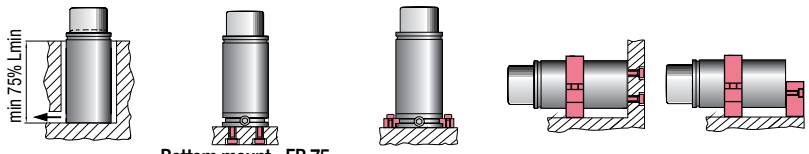
SERVICE BOX

code: 39SKML04700A



Seal (1x) | Washer (6x) | Screw (3x) | Instructions

Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.



Drop-In | Bottom mount - FB 75 FBA 75 - FBB 75 FBC 75 - FBD 75 | FS2 75 - FT 75 FS2A 75 - FTP 75 | FSA 75 - FSD 75 FSE 75 | FSD 75 + R 75 A FSE 75 + R 75 A

HOW TO ORDER

p. 167

INSTALLATION GUIDELINE

p. 205

ML 7500

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

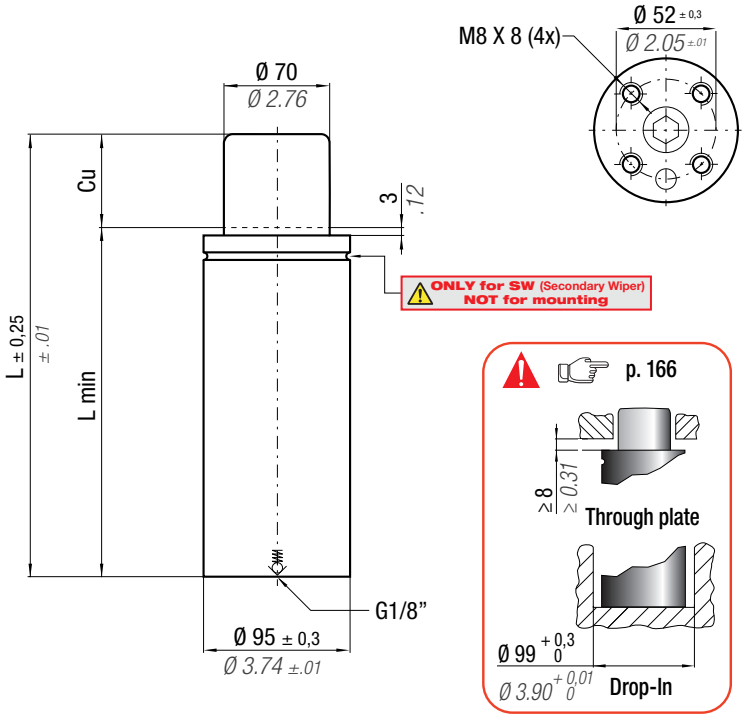
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

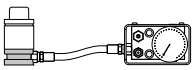
**** $F1_p$ =** Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	38,48 cm² / 5.964 in²	~ 20 - 60 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML07500C

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML 7500 - 015 - C	ML 7500 - 015 - D	15	0.59	115	4.53	100	3.94	7700 ± 5%	17310	10242	23024	11406	25641	295	17.98	3,30	7.28	✓
ML 7500 - 025 - C	ML 7500 - 025 - D	25	0.98	135	5.31	110	4.33			11442	25722	13037	29308	368	22.48	3,58	7.89	✓
ML 7500 - 038 - C	ML 7500 - 038 - D	38	1.50	165	6.50	127	5,00	200 bar 2900 psi		12326	27709	14261	32060	484	29.56	4,01	8.84	✓
ML 7500 - 050 - C	ML 7500 - 050 - D	50	1.97	190	7.48	140	5.51			13083	29411	15324	34449	578	35.27	4,36	9.61	✓
ML 7500 - 063 - C	ML 7500 - 063 - D	63	2.48	220	8.66	157	6.18			13519	30391	15942	35838	694	42.34	4,75	10.47	✓
ML 7500 - 080 - C	ML 7500 - 080 - D	80	3.15	260	10.24	180	7.09	+20 °C	+68 °F	13883	31210	16462	37007	849	51.82	5,36	11.82	✓

KIT FOR LINKING

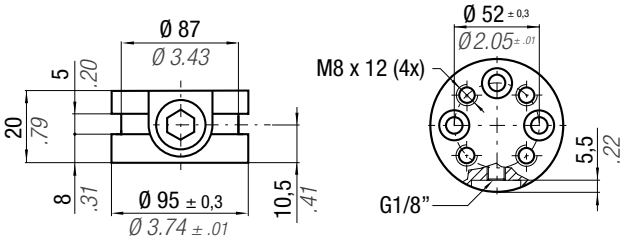


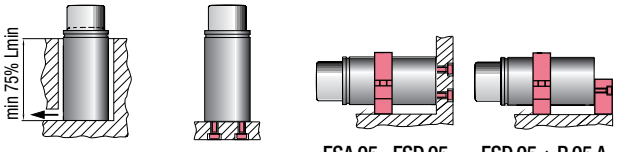
code: 39FML07500B



Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.

Bottom base dimension

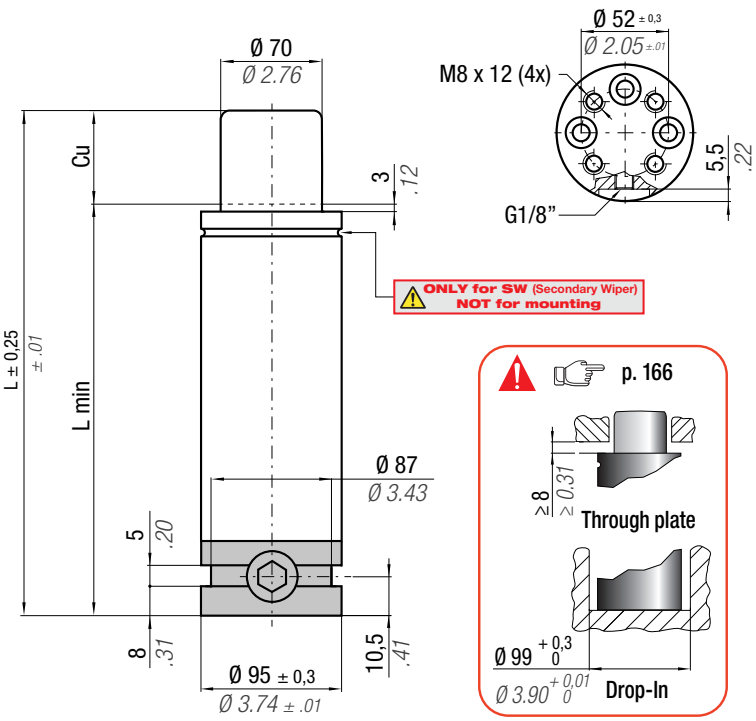




HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 7500 N
linkable G1/8”



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	38,48 cm² / 5.964 in²	~ 20 - 60 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML07500C

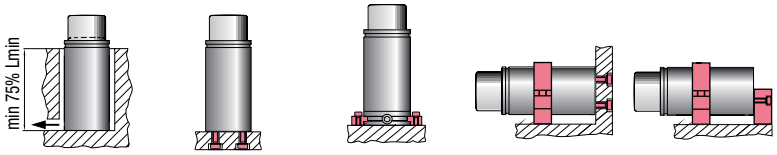
CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML7500-015-C-N	ML7500-015-D-N	15	0.59	135	5.31	120	4.72	7700 ± 5%	17310	10242	23024	11406	25641	295	17.98	4,32	9.52	✓
ML7500-025-C-N	ML7500-025-D-N	25	0.98	155	6.10	130	5.12			11442	25722	13037	29308	368	22.48	4,60	10.14	✓
ML7500-038-C-N	ML7500-038-D-N	38	1.50	185	7.28	147	5.79	200 bar 2900 psi		12326	27709	14261	32060	484	29.56	5,03	11.09	✓
ML7500-050-C-N	ML7500-050-D-N	50	1.97	210	8.27	160	6.30			13083	29411	15324	34449	578	35.27	5,38	11.86	✓
ML7500-063-C-N	ML7500-063-D-N	63	2.48	240	9.45	177	6.97			13519	30391	15942	35838	694	42.34	5,81	12.81	✓
ML7500-080-C-N	ML7500-080-D-N	80	3.15	280	11.02	200	7.87	+20 °C	+68 °F	13883	31210	16462	37007	849	51.82	6,39	14.09	✓

SERVICE BOX

code: 39SKML04700A



Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.



HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 12000

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

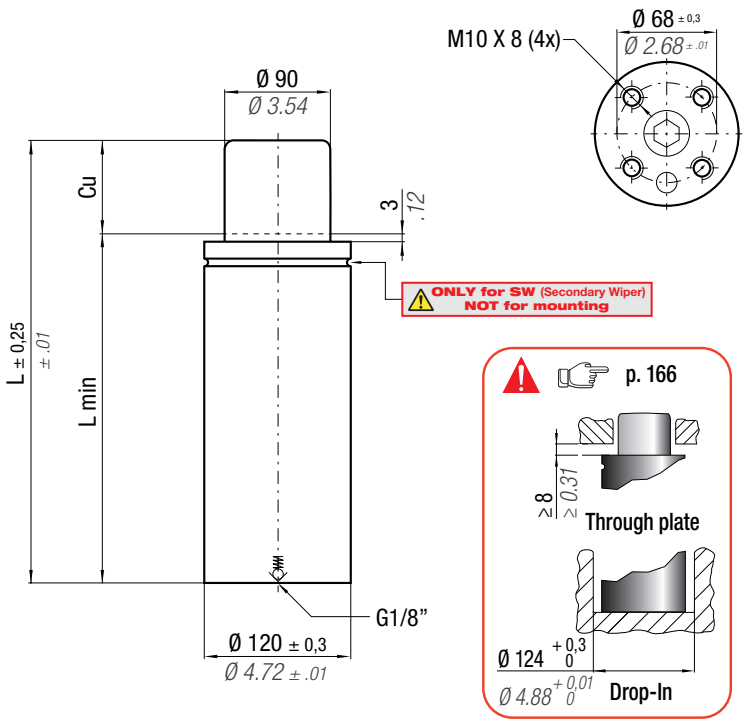
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

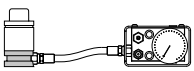
**** $F1_p$ =** Polytrophic end force at 100% Cu



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	200 bar / 2900 psi	20 bar / 290 psi	63,62 cm² / 9.861 in²	~ 20 - 50 (at 20°C)	1,6 m/s / 62.9 in/s	39BMML12000C

CODE PHASING OUT from 05/2019	NEW	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
ML 12000 - 015 - C	ML 12000 - 015 - D	15	0.59	115	4.53	100	3.94	12720	28595	17910	40264	20179	45364	415	25.35	5,82	12.83	✓
ML 12000 - 025 - C	ML 12000 - 025 - D	25	0.98	135	5.31	110	4.33	± 5%		20260	45546	23413	52635	532	32.47	6,29	13.87	✓
ML 12000 - 038 - C	ML 12000 - 038 - D	38	1.50	165	6.50	127	5.00			21844	49107	25639	57638	715	43.64	7,01	15.45	✓
ML 12000 - 050 - C	ML 12000 - 050 - D	50	1.97	195	7.68	145	5.71	200 bar 2900 psi		22489	50558	26555	59699	902	55.05	7,74	17.06	✓
ML 12000 - 063 - C	ML 12000 - 063 - D	63	2.48	225	8.86	162	6.38			23275	52324	27678	62222	1085	66.22	8,46	18.65	✓
ML 12000 - 080 - C	ML 12000 - 080 - D	80	3.15	265	10.43	185	7.28	+20 °C	+68 °F	23928	53791	28617	64333	1331	81.19	9,43	20.79	✓

KIT FOR LINKING



code: 39FML12000B


Seal (1x)


Washer (8x)


Screw (4x)

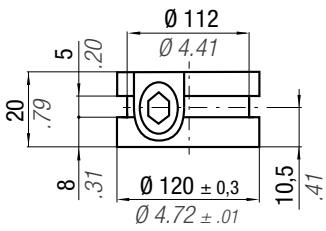

Bottom base (1x)

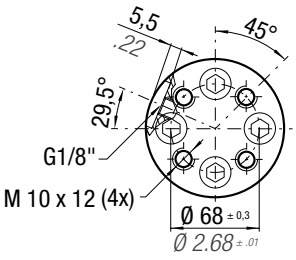

Valve (1x)

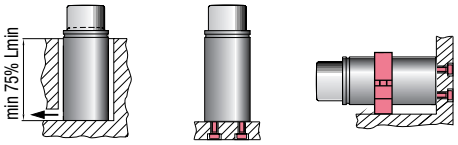

Instructions

Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.

Bottom base dimension







Drop-In

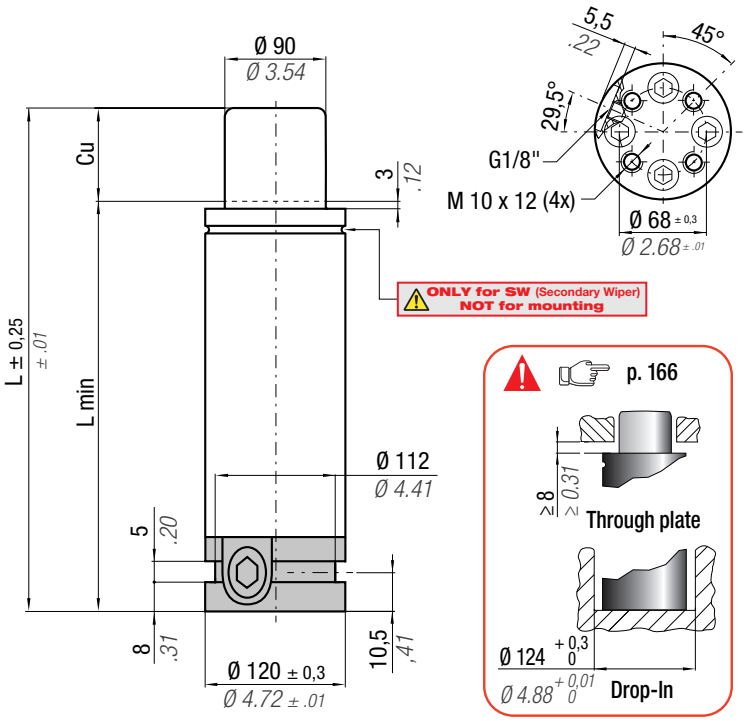
Bottom mount

FSA 120 - FSD 120

HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205

ML 12000 N
linkable G1/8”



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

N_2	0 - 80 °C *32 - 176 °F*	ΔP ± 0,33 %/°C	P max 200 bar *2900 psi*	P min 20 bar *290 psi*	S 63,62 cm² *9.861 in²*	SPM ~ 20 - 50 (at 20°C)	Max Speed 1,6 m/s *62.9 in/s*	Maintenance kit 39BMML12000C

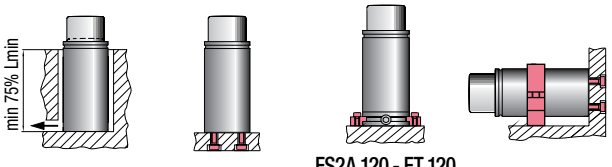
CODE PHASING OUT from 05/2019	NEW	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
		mm	*inch*	mm	*inch*	mm	*inch*	daN	*lb*	daN	*lb*	daN	*lb*	cm³	*in³*	~Kg	*~lb*	
ML12000-015-C-N	ML12000-015-D-N	15	*0.59*	135	*5.31*	120	*4.72*	12720	*28595*	17910	*40264*	20179	*45364*	415	*25.35*	7,45	*16.42*	✓
ML12000-025-C-N	ML12000-025-D-N	25	*0.98*	155	*6.10*	130	*5.12*	± 5%		20260	*45546*	23413	*52635*	532	*32.47*	7,92	*17.46*	✓
ML12000-038-C-N	ML12000-038-D-N	38	*1.50*	185	*7.28*	147	*5.79*			21844	*49107*	25639	*57638*	715	*43.64*	8,64	*19.05*	✓
ML12000-050-C-N	ML12000-050-D-N	50	*1.97*	215	*8.46*	165	*6.50*	200 bar *2900 psi*		22489	*50558*	26555	*59699*	902	*55.05*	9,37	*20.66*	✓
ML12000-063-C-N	ML12000-063-D-N	63	*2.48*	245	*9.65*	182	*7.17*			23275	*52324*	27678	*62222*	1085	*66.22*	10,09	*22.24*	✓
ML12000-080-C-N	ML12000-080-D-N	80	*3.15*	285	*11.22*	205	*8.07*	+20 °C	*+68 °F*	23928	*53791*	28617	*64333*	1331	*81.19*	11,06	*24.38*	✓

SERVICE BOX

code: 39SKML12000A



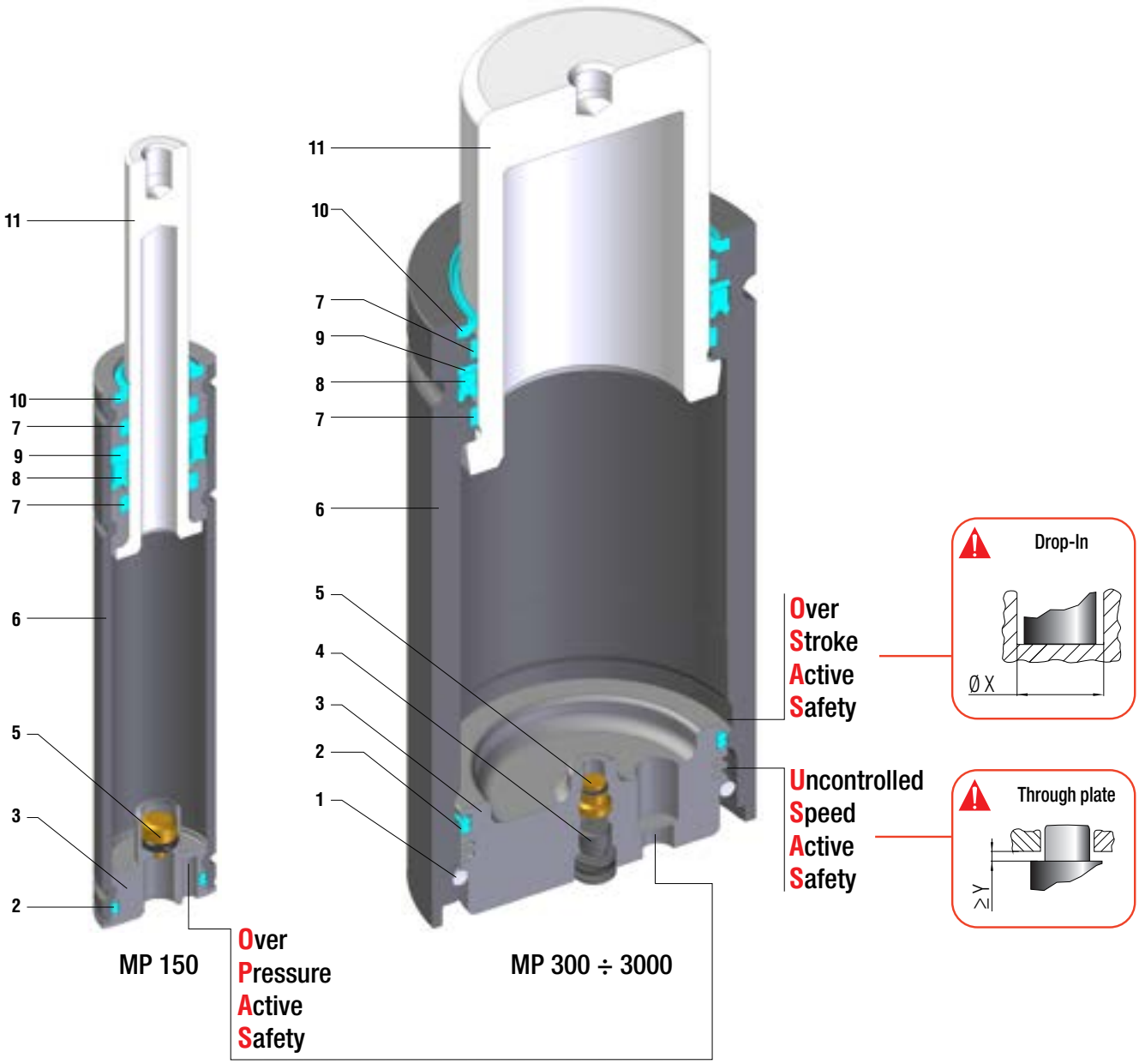
Sostituire ogni 1.000.000 di cicli. Remplacez à chaque million de cycles.
Replace every 1 million cycles. Reemplazar cada 1 millón de ciclos.
Nach 1 Mio. Hübe austauschen. Substituir a cada 1 milhão de ciclos.



Drop-In | Bottom mount | FS2A 120 - FT 120 FS2 120 - FTP 120 | FSA 120 - FSD 120

HOW TO ORDER p. 167

INSTALLATION GUIDELINE p. 205



Massima forza, tenuta stelo - Maximum force, rod seal - Maximale Kraft, Kolbenstange dichtung
Forces maximale, joint de tige - Máxima fuerza, estanqueidad vástago - Força máxima, estanquidade na haste

SEALING	ROD SEAL
DESIGN	BOTTOM BASE - BODY DESIGN

1	Retaining ring	**5**	Valve	**9**	Back-up ring
2	Dual ring seal	**6**	Body	**10**	Rod wiper
3	Bottom base	**7**	Guide ring	**11**	Rod (nitrited superfinished)
4	Plug	**8**	Rod seal		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
MP 150	19	0.75	10 - 80	0.39 - 3.15	150	337	-	-	✓	-	-
MP 300	25	0.98	10 - 80	0.39 - 3.15	300	674	✓	✓	-	-	-
MP 500	32	1.26	10 - 80	0.39 - 3.15	500	1124	✓	✓	-	-	✓
MP 1000	38	1.50	10 - 80	0.39 - 3.15	1000	2248	✓	✓	✓	-	✓
MP 2000	50	1.97	10 - 80	0.39 - 3.15	2000	4496	✓	✓	✓	-	-
MP 3000	63	2.48	10 - 80	0.39 - 3.15	3000	6744	✓	✓	✓	-	-

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — Revision code

Model — **MP 1000-050-A-W**

Stroke — Version

Available versions



MP 1000-050-A

Standard code

Self contained



MP 1000-050-A-W

Add "-W" to standard code

Self contained

+

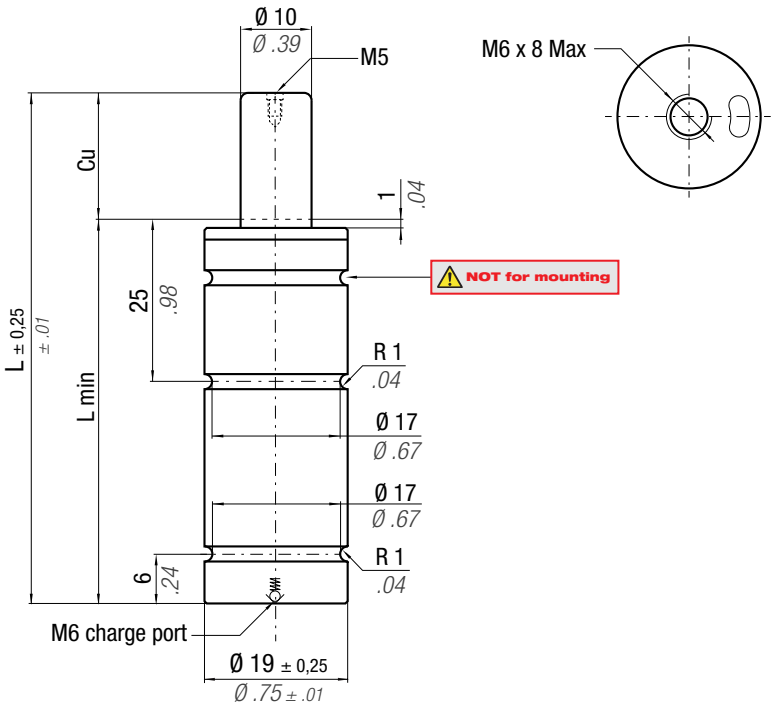
Secondary wiper

ACTIVE SAFETY

OPAS

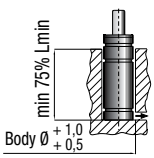
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu

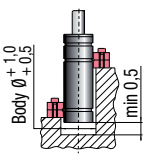


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	191 bar / 2770 psi	20 bar / 290 psi	0,79 cm² / 0.122 in²	~ 40 - 80 (at 20°C)	1,8 m/s / 70.8 in/s	Disposable

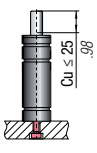
CODE	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
MP 150 - 010 - A	10	0.39	75	2.95	65	2.56			185	416	201	452	5,2	0.32	0,09	0.20	✓
MP 150 - 015 - A	15	0.59	85	3.35	70	2.76			195	438	214	481	6,4	0.39	0,09	0.20	✓
MP 150 - 020 - A	20	0.79	95	3.74	75	2.95			203	456	225	506	7,5	0.46	0,10	0.22	✓
MP 150 - 025 - A	25	0.98	105	4.13	80	3.15	150 ± 5%	337	209	470	234	526	8,6	0.52	0,11	0.24	✓
MP 150 - 032 - A	32	1.26	120	4.72	88	3.46			214	481	241	542	10,4	0.63	0,11	0.24	✓
MP 150 - 038 - A	38	1.50	135	5.31	97	3.82	191 bar	2770 psi	214	481	241	542	12,4	0.76	0,12	0.26	✓
MP 150 - 045 - A	45	1.77	150	5.91	105	4.13			217	488	245	551	14,1	0.86	0,13	0.29	✓
MP 150 - 050 - A	50	1.97	160	6.30	110	4.33			220	495	249	560	15,3	0.93	0,14	0.31	✓
MP 150 - 056 - A	56	2.20	175	6.89	119	4.69	+ 20 °C	+68 °F	219	492	248	558	17,2	1.05	0,14	0.31	✓
MP 150 - 063 - A	63	2.48	190	7.48	127	5,00			221	497	251	564	19,0	1.16	0,15	0.33	✓
MP 150 - 080 - A	80	3.15	220	8.66	140	5.51			231	519	264	593	22,0	1.34	0,17	0.37	✓



Drop-in



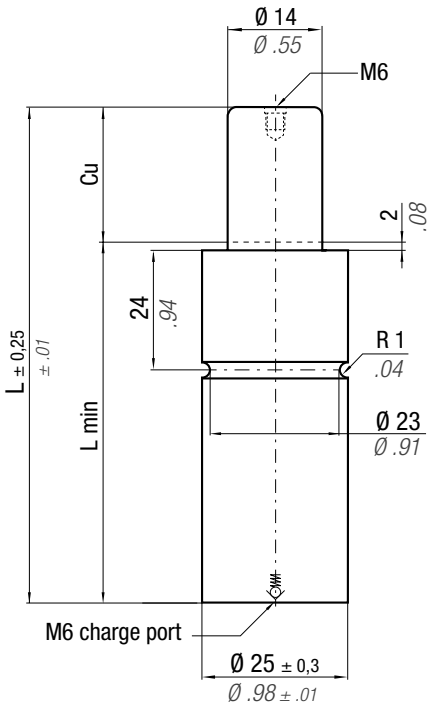
FC 19 B
FCC 19 A - FCD 19

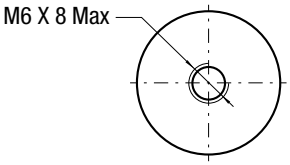


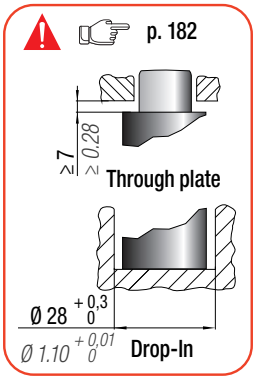
Bottom mount
FBE 19

HOW TO ORDER p. 183

INSTALLATION GUIDELINE p. 205







*** $F1_i$ =**
Isothermal end force at 100% Cu p. 16

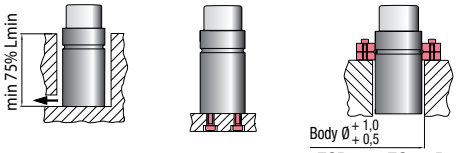
**** $F1_p$ =**
Polytrophic end force at 100% Cu

ACTIVE SAFETY



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	195 bar / 2828 psi	20 bar / 290 psi	1,54 cm² / 0.239 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	Disposable

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 daN	F0 lb	$F1_i$ * daN	$F1_i$ * lb	$F1_p$ ** daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
MP 300 - 010 - A	10	0.39	75	2.95	65	2.56	300 ± 5%	674	430	966	481	1082	6,4	0,39	0,17	0.37	✓
MP 300 - 015 - A	15	0.59	85	3.35	70	2.76			466	1047	531	1193	8,2	0.50	0,18	0.40	✓
MP 300 - 020 - A	20	0.79	95	3.74	75	2.95			492	1107	568	1277	9,8	0.60	0,20	0.44	✓
MP 300 - 025 - A	25	0.98	105	4.13	80	3.15			513	1153	597	1342	11,5	0.70	0,21	0.46	✓
MP 300 - 032 - A	32	1.26	120	4.72	88	3.46			527	1185	617	1387	14,1	0.86	0,23	0.51	✓
MP 300 - 038 - A	38	1.50	135	5.31	97	3.82	191 bar	2770 psi	522	1173	610	1371	17,0	1.04	0,25	0.55	✓
MP 300 - 045 - A	45	1.77	150	5.91	105	4.13			531	1194	623	1400	19,6	1.20	0,27	0.60	✓
MP 300 - 050 - A	50	1.97	160	6.30	110	4.33			540	1214	636	1429	21,3	1.30	0,28	0.62	✓
MP 300 - 056 - A	56	2.20	175	6.89	119	4.69	+ 20 °C	+68 °F	535	1202	628	1412	24,1	1.47	0,30	0.66	✓
MP 300 - 063 - A	63	2.48	190	7.48	127	5,00			540	1215	636	1430	26,7	1.63	0,32	0.71	✓
MP 300 - 080 - A	80	3.15	225	8.86	145	5.71			556	1250	658	1480	32,7	1.99	0,36	0.79	✓



HOW TO ORDER
p. 183

INSTALLATION GUIDELINE
p. 205

MP 500

SW

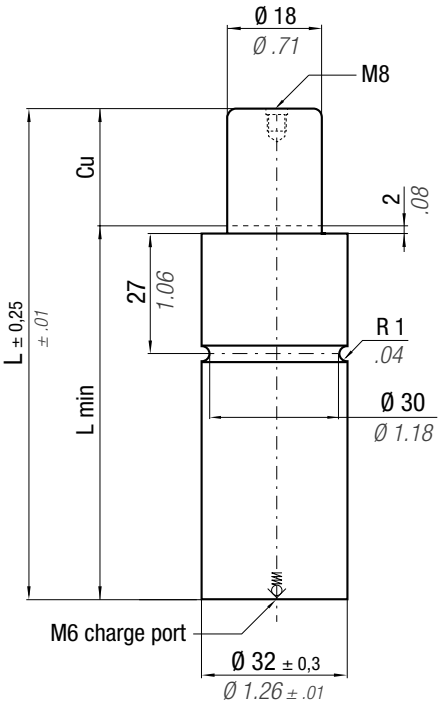
ACTIVE SAFETY

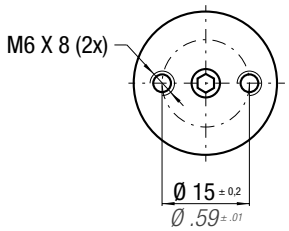
OSAS

USAS

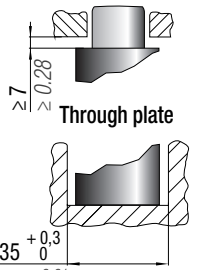
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu



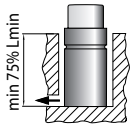


p. 182



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	197 bar / 2857 psi	20 bar / 290 psi	2,54 cm² / 0.394 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	Disposable

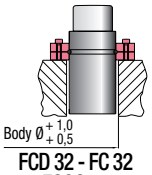
CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
MP 500 - 010 - A	10	0.39	75	2.95	65	2.56	500 ± 5%	1124	714	1605	798	798	10,7	0.65	0,29	0.64	✓
MP 500 - 015 - A	15	0.59	85	3.35	70	2.76			770	1731	873	873	13,6	0.83	0,31	0.68	✓
MP 500 - 020 - A	20	0.79	95	3.74	75	2.95			809	1819	928	928	16,5	1.01	0,33	0.73	✓
MP 500 - 025 - A	25	0.98	105	4.13	80	3.15			839	1886	970	970	19,5	1.19	0,34	0.75	✓
MP 500 - 032 - A	32	1.26	120	4.72	88	3.46			859	1931	997	997	24,1	1.47	0,37	0.82	✓
MP 500 - 038 - A	38	1.50	135	5.31	97	3.82	197 bar	2857 psi	849	1909	984	984	29,1	1.78	0,40	0.88	✓
MP 500 - 045 - A	45	1.77	150	5.91	105	4.13			862	1938	1002	1002	33,6	2.05	0,43	0.95	✓
MP 500 - 050 - A	50	1.97	160	6.30	110	4.33			875	1967	1020	1020	36,6	2.23	0,45	0.99	✓
MP 500 - 056 - A	56	2.20	175	6.89	119	4.69	+ 20 °C	+68 °F	866	1947	1008	1008	41,6	2.54	0,48	1.06	✓
MP 500 - 063 - A	63	2.48	195	7.68	132	5.20			844	1897	977	977	48,6	2.96	0,52	1.15	✓
MP 500 - 080 - A	80	3.15	230	9.06	150	5.91			869	1954	1012	1012	59,1	3.61	0,59	1.30	✓



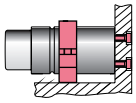
Drop-In



Bottom mount FBE 32



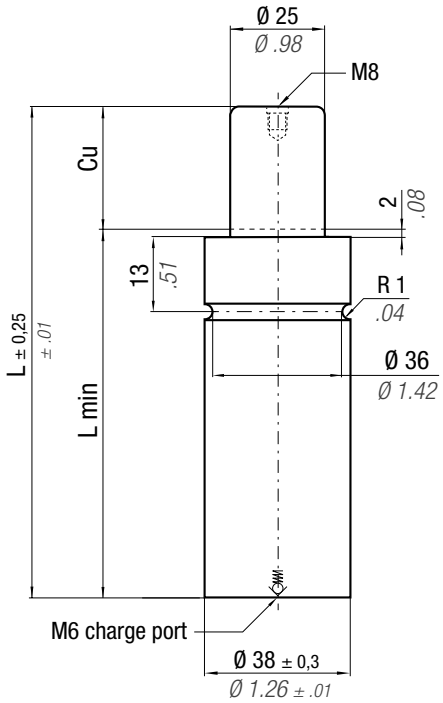
FCD 32 - FC 32 FCQC 32

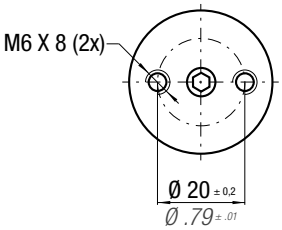


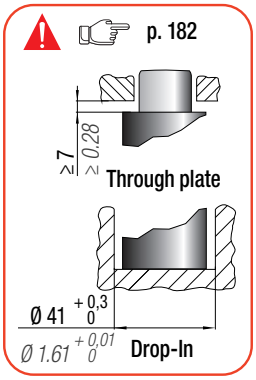
FSA 32 - FSD 32

HOW TO ORDER p. 183

INSTALLATION GUIDELINE p. 205







*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

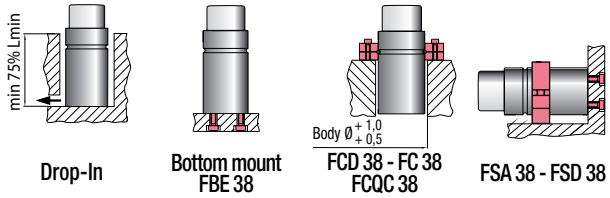
OSAS

USAS

OPAS

N_2	0 - 80 °C 32 - 176 °F	ΔP ± 0,33 %/°C	P max 205 bar 2973 psi	P min 20 bar 290 psi	S 4,91 cm² 0.761 in²	SPM ~ 40 - 80 (at 20°C)	Max Speed 1,6 m/s 62.9 in/s	Maintenance kit 39BMMP01000A

CODE	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
MP 1000 - 010 - A	10	0.39	75	2.95	65	2.56	1000 2248 ± 5% 205 bar 2973 psi + 20 °C +68 °F		1418	3188	1591	3577	21,5	1.31	0,37	0.82	✓
MP 1000 - 015 - A	15	0.59	85	3.35	70	2.76			1547	3478	1765	3968	26,5	1.62	0,39	0.86	✓
MP 1000 - 020 - A	20	0.79	95	3.74	75	2.95			1647	3703	1902	4276	31,6	1.93	0,41	0.90	✓
MP 1000 - 025 - A	25	0.98	105	4.13	80	3.15			1727	3882	2012	4523	36,6	2.23	0,44	0.97	✓
MP 1000 - 032 - A	32	1.26	120	4.72	88	3.46			1792	4029	2103	4728	44,4	2.71	0,48	1.06	✓
MP 1000 - 038 - A	38	1.50	135	5.31	97	3.82			1792	4029	2103	4728	52,7	3.21	0,51	1.12	✓
MP 1000 - 045 - A	45	1.77	150	5.91	105	4.13			1833	4121	2161	4858	60,6	3.70	0,55	1.21	✓
MP 1000 - 050 - A	50	1.97	160	6.3	110	4.33			1870	4204	2213	4975	65,6	4.00	0,58	1.28	✓
MP 1000 - 056 - A	56	2.20	175	6.89	119	4.69			1861	4184	2200	4946	73,9	4.51	0,62	1.37	✓
MP 1000 - 063 - A	63	2.48	205	8.07	142	5.59			1716	3858	1998	4492	93,1	5.68	0,70	1.54	✓
MP 1000 - 080 - A	80	3.15	240	9.45	160	6.30			1792	4029	2104	4730	111	6.77	0,79	1.74	✓



Drop-In | Bottom mount FBE 38 | FCD 38 - FC 38 FCQC 38 | FSA 38 - FSD 38

HOW TO ORDER p. 183

INSTALLATION GUIDELINE p. 205

ACTIVE SAFETY

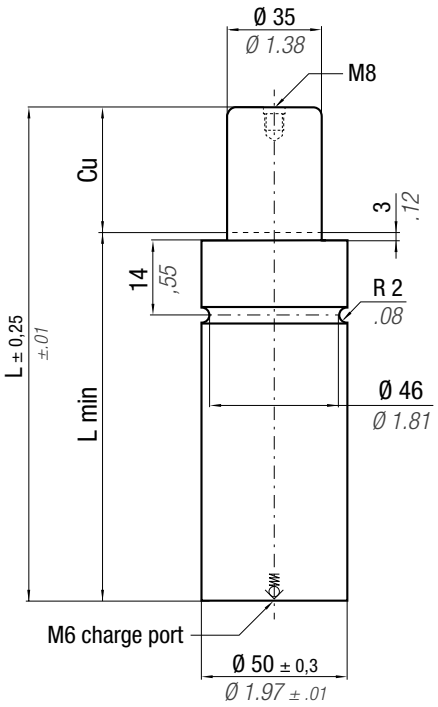
OSAS

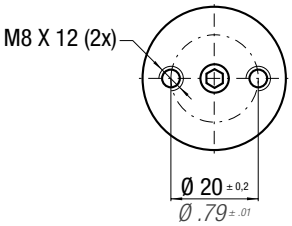
USAS

OPAS

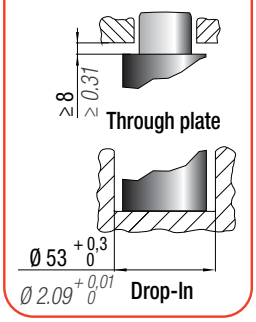
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



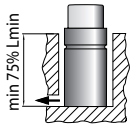


p. 182



N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	209 bar / 3031 psi	20 bar / 290 psi	9,62 cm² / 1.491 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMMP02000A

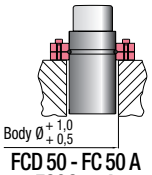
CODE	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
MP 2000 - 010 - A	10	0.39	90	3.54	80	3.15	2000 ± 5%	4496	2634	5921	2902	6524	52,4	3.20	0,76	1.68	✓
MP 2000 - 015 - A	15	0.59	115	4.53	100	3.94			2617	5883	2880	6474	80,4	4.90	0,89	1.96	✓
MP 2000 - 020 - A	20	0.79	125	4.92	105	4.13			2775	6238	3088	6942	89,6	5.47	0,93	2.05	✓
MP 2000 - 025 - A	25	0.98	135	5.31	110	4.33			2916	6555	3276	7365	98,7	6.02	0,98	2.16	✓
MP 2000 - 032 - A	32	1.26	150	5.91	118	4.65			3074	6911	3487	7839	112,8	6.88	1,04	2.29	✓
MP 2000 - 038 - A	38	1.50	165	6.50	127	5,00	209 bar		3153	7088	3593	8077	127,5	7.78	1,11	2.45	✓
MP 2000 - 045 - A	45	1.77	180	7.09	135	5.31	3031 psi		3269	7349	3751	8433	141,6	8.64	1,18	2.60	✓
MP 2000 - 050 - A	50	1.97	190	7.48	140	5.51			3355	7542	3868	8696	150,7	9.19	1,22	2.69	✓
MP 2000 - 056 - A	56	2.20	205	8.07	149	5.87	+ 20 °C	+68 °F	3398	7639	3926	8826	165,5	10.10	1,29	2.84	✓
MP 2000 - 063 - A	63	2.48	220	8.66	157	6.18			3480	7823	4039	9080	179,5	10.95	1,36	3.00	✓
MP 2000 - 080 - A	80	3.15	255	10.04	175	6.89			3668	8246	4299	9665	211,9	12.93	1,51	3.33	✓



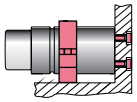
Drop-In



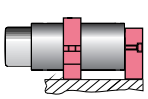
Bottom mount FBE 50



FCD 50 - FC 50 A FCQC 50 A



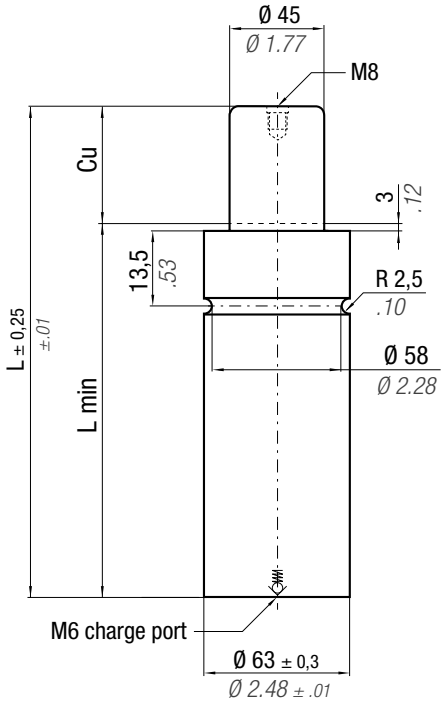
FSA 50 - FSD 50 FSE 50

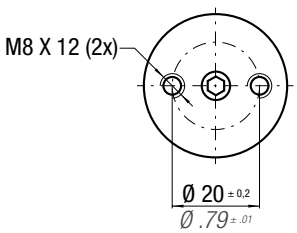


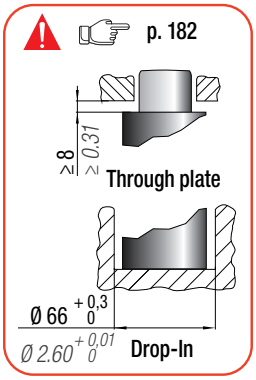
FSD 50 + R 50 A FSE 50 + R 50 A

HOW TO ORDER p. 183

INSTALLATION GUIDELINE p. 205







*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

ACTIVE SAFETY

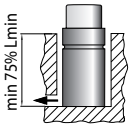
OSAS

USAS

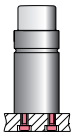
OPAS

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	189 bar / 1741 psi	20 bar / 290 psi	15,90 cm² / 2.465 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	39BMMP03000A

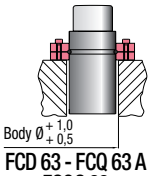
CODE	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
MP 3000 - 010 - A	10	0.39	95	3.74	85	3.35	3000 ± 5%	6744	3792	8525	4150	9330	96,0	5.86	1,25	2.76	✓
MP 3000 - 015 - A	15	0.59	115	4.53	100	3.94			3877	8716	4263	9584	132,7	8.09	1,40	3.09	✓
MP 3000 - 020 - A	20	0.79	125	4.92	105	4.13			4099	9215	4567	10267	148,1	9.03	1,46	3.22	✓
MP 3000 - 025 - A	25	0.98	135	5.31	110	4.33			4298	9662	4840	10881	163,6	9.98	1,52	3.35	✓
MP 3000 - 032 - A	32	1.26	150	5.91	118	4.65	189 bar 2741 psi		4516	10152	5145	11566	187,3	11.43	1,62	3.57	✓
MP 3000 - 038 - A	38	1.50	165	6.50	127	5,00			4622	10391	5294	11901	212,2	12.94	1,72	3.79	✓
MP 3000 - 045 - A	45	1.77	180	7.09	135	5.31			4781	10748	5519	12407	235,9	14.39	1,82	4.01	✓
MP 3000 - 050 - A	50	1.97	190	7.48	140	5.51	+ 20 °C	+68 °F	4898	11011	5686	12783	251,3	15.33	1,89	4.17	✓
MP 3000 - 063 - A	63	2.48	220	8.66	157	6.18			5065	11387	5926	13322	299,9	18.29	2,08	4.59	✓
MP 3000 - 080 - A	80	3.15	255	10.04	175	6.89			5319	11958	6292	14145	354,5	21.62	2,31	5.09	✓



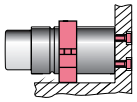
Drop-In



Bottom mount FBE 63



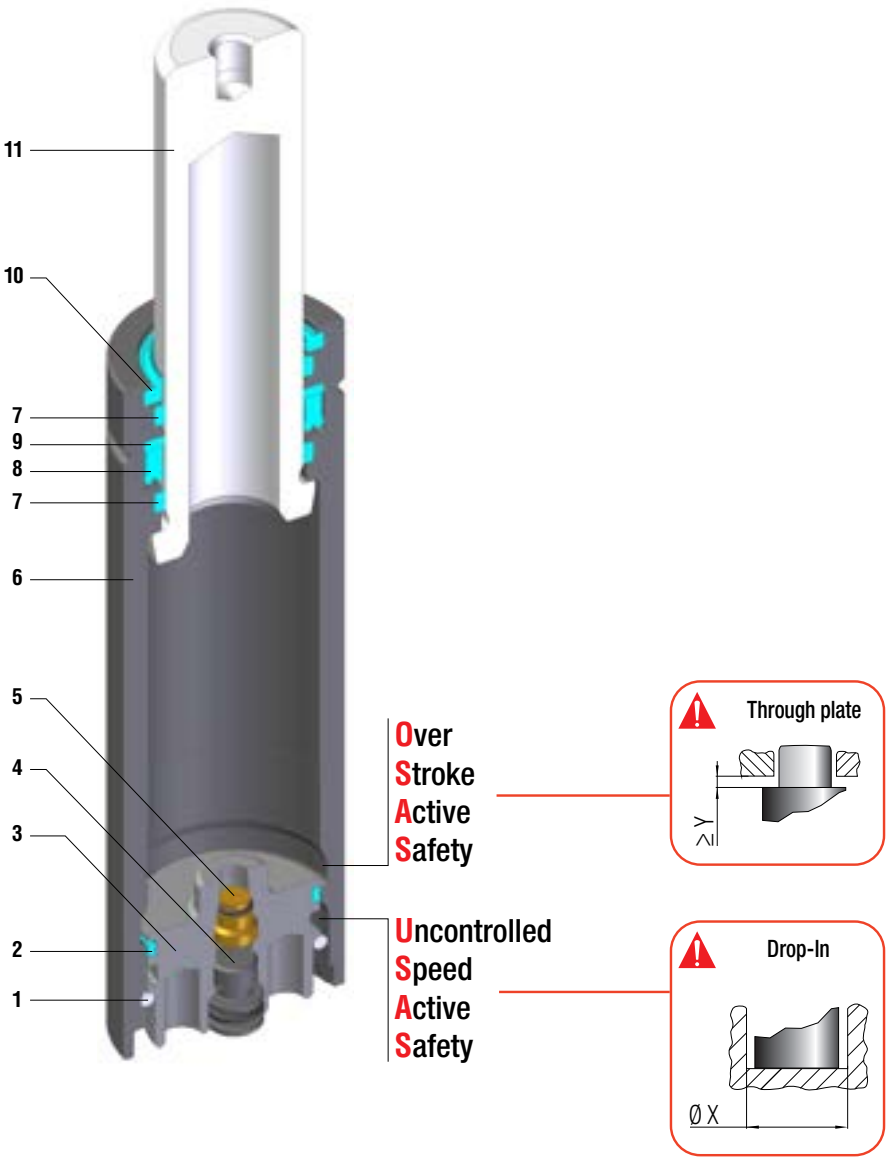
FCD 63 - FCQ 63 A FCQC 63



FSD 63 - FSC 63

HOW TO ORDER p. 183

INSTALLATION GUIDELINE p. 205



Ø 32 — Massima forza, tenuta stelo - Maximum force, rod seal - Maximale Kraft, Kolbenstange dichtung
Forces maximale, joint de tige - Máxima fuerza, estanqueidad vástago - Força máxima, estanquidade na haste

SEALING	ROD SEAL
DESIGN	BOTTOM BASE - BODY DESIGN

1	Retaining ring	**5**	Valve	**9**	Back-up ring
2	Dual ring seal	**6**	Body	**10**	Rod wiper
3	Bottom base	**7**	Guide ring	**11**	Rod (nitrited superfinished)
4	Plug	**8**	Rod seal		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	*inch*	mm	*inch*	daN	*lb*					
MQ 700	32	*1.26*	10 - 80	*0.39 - 3.15*	660	*1484*	✓	✓	-	-	-

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — MQ 700-050-A — Stroke

Model — Revision code

Available version



MQ 700-050-A

Standard code

Self contained

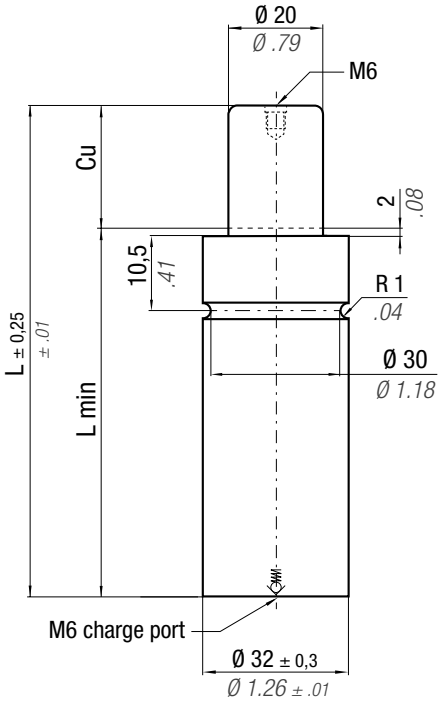
ACTIVE SAFETY

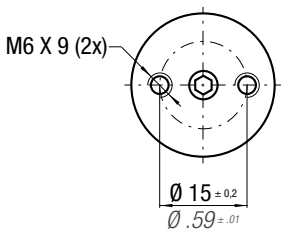
OSAS

USAS

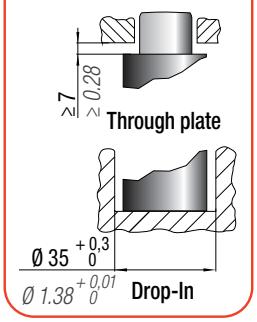
* $F1_i$ = Isothermal end force at 100% Cu p. 16

** $F1_p$ = Polytrophic end force at 100% Cu



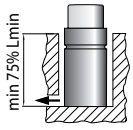


p. 190

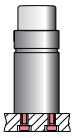


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	210 bar / 3045 psi	20 bar / 290 psi	3,14 cm² / 0.487 in²	~ 40 - 80 (at 20°C)	1,6 m/s / 62.9 in/s	Disposable

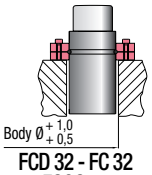
CODE	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
MQ 700 - 010 - A	10	0.39	75	2.95	65	2.56			1020	2293	1158	2603	11,3	0.69	0,29	0.64	✓
MQ 700 - 015 - A	15	0.59	85	3.35	70	2.76			1120	2517	1293	2907	14,4	0.88	0,31	0.68	✓
MQ 700 - 020 - A	20	0.79	95	3.74	75	2.95			1193	2683	1395	3135	17,5	1.07	0,33	0.73	✓
MQ 700 - 025 - A	25	0.98	105	4.13	80	3.15	660 ± 5%	1484	1250	2810	1473	3312	20,6	1.26	0,35	0.77	✓
MQ 700 - 032 - A	32	1.26	120	4.72	88	3.46			1288	2896	1527	3432	25,5	1.56	0,38	0.84	✓
MQ 700 - 038 - A	38	1.50	135	5.31	97	3.82	210 bar		1272	2861	1505	3383	30,7	1.87	0,41	0.90	✓
MQ 700 - 045 - A	45	1.77	150	5.91	105	4.13	3045 psi		1297	2916	1539	3461	35,6	2.17	0,44	0.97	✓
MQ 700 - 050 - A	50	1.97	160	6.30	110	4.33			1322	2972	1575	3540	38,7	2.36	0,46	1.01	✓
MQ 700 - 056 - A	56	2.20	175	6.89	119	4.69	+ 20 °C	+68 °F	1307	2937	1553	3490	43,9	2.68	0,49	1.08	✓
MQ 700 - 063 - A	63	2.48	195	7.68	132	5.20			1266	2846	1496	3363	51,2	3.12	0,53	1.17	✓
MQ 700 - 080 - A	80	3.15	230	9.06	150	5.91			1314	2954	1563	3515	62,3	3.80	0,60	1.32	✓



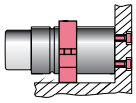
Drop-In



Bottom mount FBE 32



FCD 32 - FC 32 FCQC 32

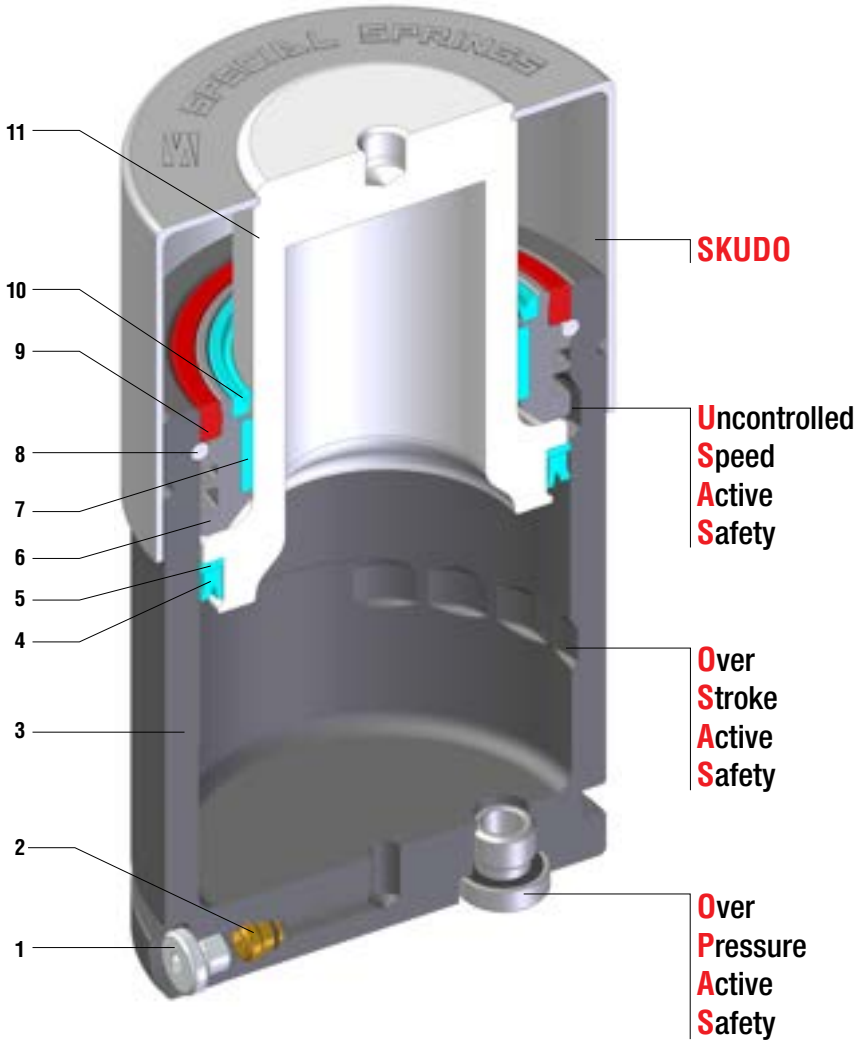


FSA 32 - FSD 32

HOW TO ORDER p. 191

INSTALLATION GUIDELINE p. 205

THIS PAGE IS INTENTIONALLY LEFT BLANK



Massima forza, tenuta pistone + SKUDO - Maximum force, piston seal + SKUDO - Maximale Kraft, Kolbendichtung + SKUDO - Force maximale, piston étanche + SKUDO - Máxima fuerza, estanqueidad pistón + SKUDO - Força máxima, estanquidade no pistão + SKUDO

SEALING	PISTON SEAL
DESIGN	PISTON - BODY DESIGN

1	Plug	**5**	Back-up ring	**9**	Outer seal
2	Valve	**6**	Bush	**10**	Rod wiper
3	Body	**7**	Guide ring	**11**	Rod (nitrited superfinished)
4	Piston seal	**8**	Retaining ring		

RANGE CHART

Model	Body Ø		Stroke Cu		Initial force F0		OSAS	USAS	OPAS	SKUDO	SW
	mm	inch	mm	inch	daN	lb					
KE 400	25	0.98	6 - 50	0.39 - 1.97	425	955	-	-	-	✓	✓
KE 750	32	1.26	6 - 50	0.39 - 1.97	740	1664	✓	✓	✓	✓	✓
KE 1000	38	1.50	6 - 50	0.24 - 1.97	1060	2383	✓	✓	✓	✓	✓
KE 1800	50	1.97	6 - 65	0.24 - 1.97	1885	4238	✓	✓	✓	✓	✓
KE 3000	63	2.48	10 - 65	0.39 - 1.97	2945	6620	✓	✓	✓	✓	✓
KE 4700	75	2.95	10 - 65	0.39 - 1.97	4675	10510	✓	✓	✓	✓	✓
KE 7500	95	3.74	10 - 65	0.39 - 1.97	7540	16950	✓	✓	✓	✓	✓
KE 12000	120	4.72	10 - 65	0.39 - 1.97	11780	26481	✓	✓	✓	✓	✓
KE 18500	150	5.91	10 - 65	0.39 - 1.97	18410	41386	✓	✓	✓	✓	✓

✓ Built-in as standard ✓ Optional upon request

HOW TO ORDER

Series — KE 4700-050-B-ED-W — Revision code

Model — 4700

Stroke — 050

Version — B-ED-W

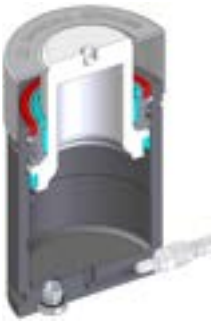
Available versions



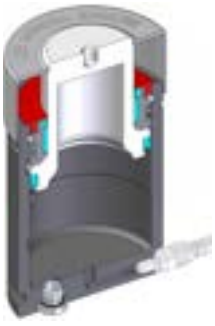
KE 4700-050-B
Standard code
Self contained



KE 4700-050-B-W
Add "-W" to standard code
Self contained
+
Secondary wiper



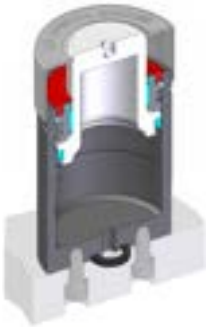
KE 4700-050-B-N
Add "-N" to standard code
Linkable



KE 4700-050-B-N-W
Add "-N-W" to standard code
Linkable
+
Secondary wiper



KE 4700-050-B-ED
Add "-ED" to standard code
Easy Manifold



KE 4700-050-B-ED-W
Add "-ED-W" to standard code
Easy Manifold
+
Secondary wiper

KE 400

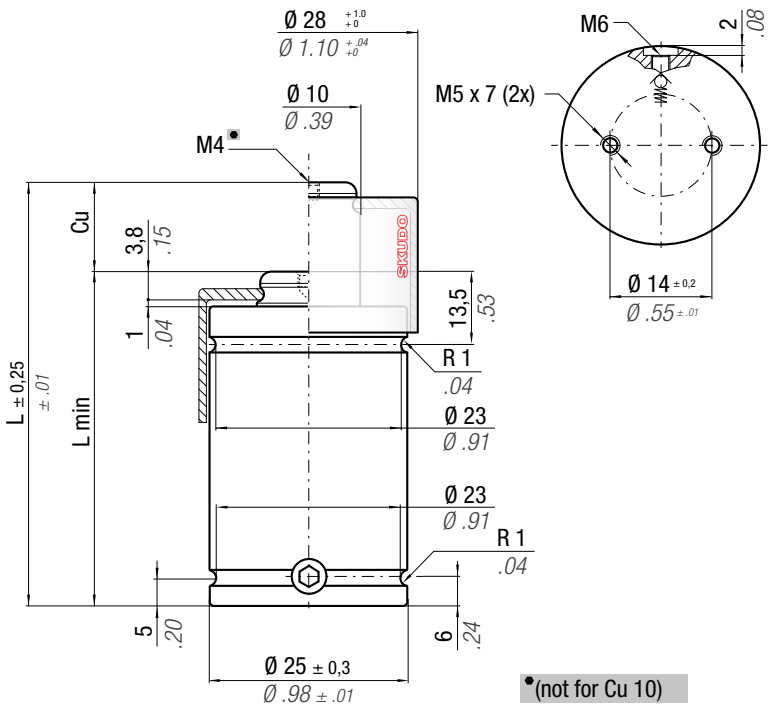
SW

ACTIVE SAFETY

SKUDO

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

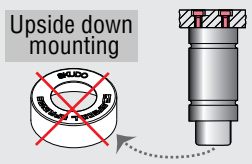
**** $F1_p$ =** Polytrophic end force at 100% Cu

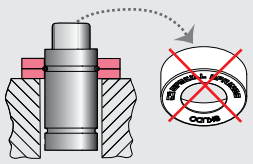


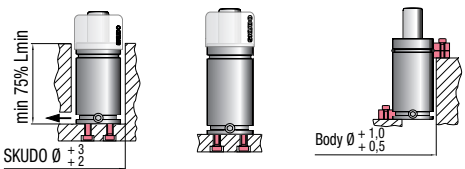
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	2,84 cm² / 0.440 in²	~ 50 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	Disposable

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo daN	Fo lb	$F1_i$ * daN	$F1_i$ * lb	$F1_p$ ** daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
KE 400 - 006 - A	6	0.24	56	2.2	50	1.97	425 ± 5%	955	792	1780	1016	2285	4,2	0.26	0,13	0.29	✓
KE 400 - 010 - A	10	0.39	70	2.76	60	2.36			881	1980	1170	2631	6,2	0.38	0,16	0.35	✓
KE 400 - 016 - A	16	0.63	91	3.58	75	2.95			888	1997	1183	2660	9,8	0.60	0,18	0.40	✓
KE 400 - 025 - A	25	0.98	120	4.72	95	3.74	150 bar 2175psi		878	1974	1166	2621	15,5	0.95	0,23	0.51	✓
KE 400 - 032 - A	32	1.26	140	5.51	108	4.25			911	2047	1223	2750	19,2	1.17	0,24	0.53	✓
KE 400 - 040 - A	40	1.57	165	6.50	125	4.92			910	2045	1222	2746	24,0	1.46	0,28	0.62	✓
KE 400 - 050 - A	50	1.97	195	7.68	145	5.71	+ 20 °C +68 °F		921	2070	1241	2791	29,7	1.81	0,31	0.68	✓

WARNING
REMOVE SKUDO

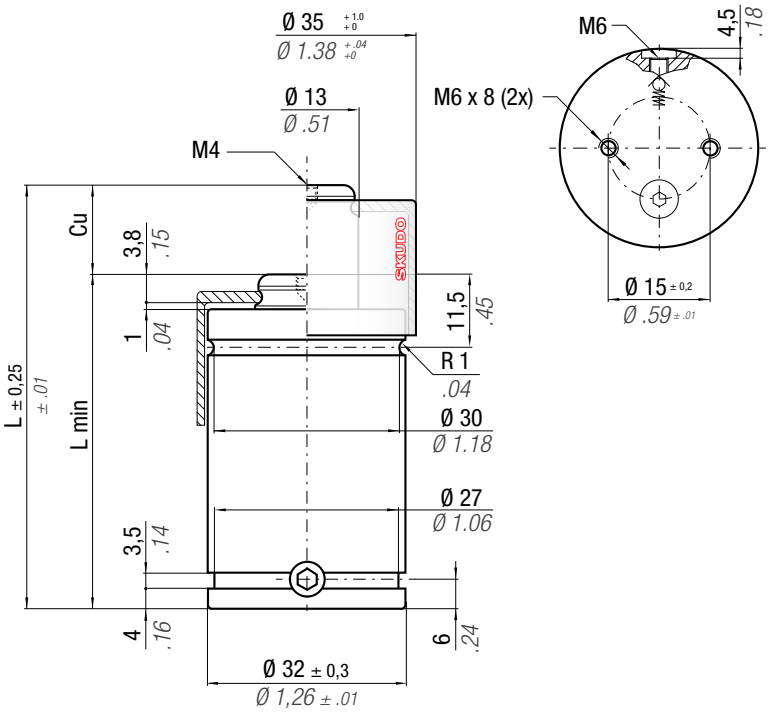






HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

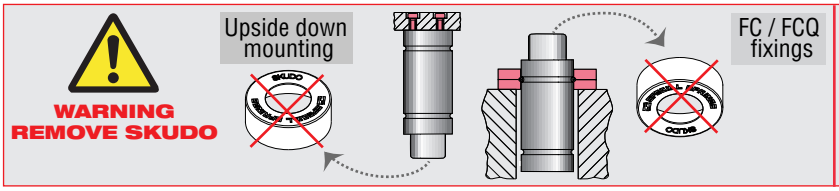
USAS

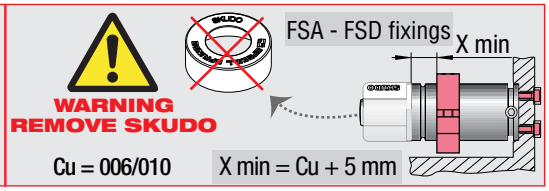
OPAS

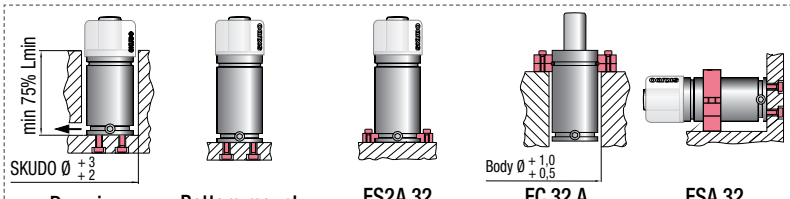
SKUDO

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	4,91 cm² / 0.761 in²	~ 50 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE00750B

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo Initial force daN	Fo lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
KE 750 - 006 - B	6	0.24	63	2.48	57	2.24	740 ± 5%	1664	1214	2729	1497	3365	8,6	0.52	0,23	0.51	✓
KE 750 - 010 - B	10	0.39	75	2.95	65	2.56			1316	2958	1666	3745	12,7	0.78	0,25	0.55	✓
KE 750 - 016 - B	16	0.63	93	3.66	77	3.03			1395	3136	1800	4047	18,9	1.15	0,29	0.64	✓
KE 750 - 025 - B	25	0.98	120	4.72	95	3.74	150 bar	2175psi	1453	3267	1901	4273	28,2	1.72	0,33	0.73	✓
KE 750 - 032 - B	32	1.26	140	5.51	108	4.25			1499	3370	1980	4452	34,9	2.13	0,37	0.82	✓
KE 750 - 040 - B	40	1.57	165	6.50	125	4.92			1498	3369	1980	4450	43,7	2.67	0,42	0.92	✓
KE 750 - 050 - B	50	1.97	195	7.68	145	5.71	+ 20 °C	+68 °F	1515	3405	2008	4515	54,0	3.30	0,47	1.04	✓







HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

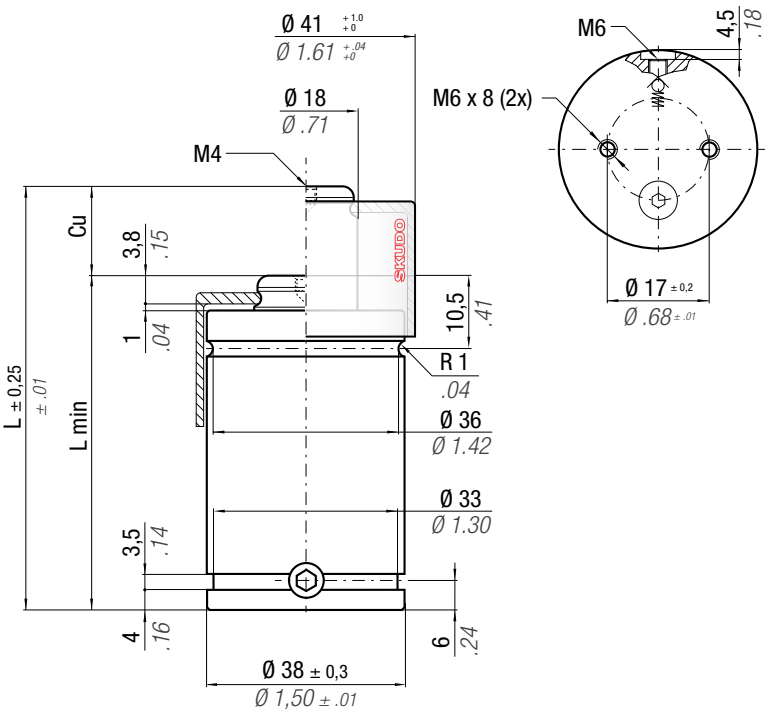
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

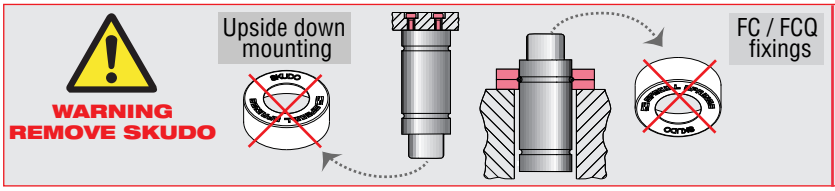
**** $F1_p$ =** Polytrophic end force at 100% Cu

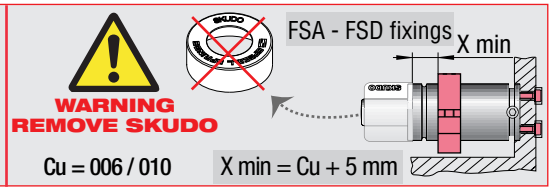


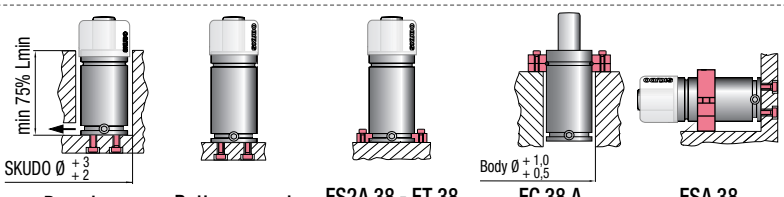
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	7,07 cm² / 1.096 in²	~ 50 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE01000B

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
◆ KE 1000 - 006 - B	6	0.24	61	2.40	55	2.17	1060 ± 5%	2383	1936	4351	2468	5547	10,7	0.65	0,33	0.72	✓
KE 1000 - 010 - B	10	0.39	78	3.07	68	2.68			1851	4160	2325	5226	18,9	1.15	0,38	0.84	✓
KE 1000 - 016 - B	16	0.63	100	3.94	84	3.31			1824	4100	2280	5126	30,9	1.89	0,44	0.97	✓
KE 1000 - 025 - B	25	0.98	135	5.31	110	4.33	150 bar	2175psi	1775	3990	2199	4944	50,3	3.07	0,53	1.17	✓
KE 1000 - 032 - B	32	1.26	167	6.57	135	5.31			1704	3832	2084	4686	68,8	4.20	0,63	1.39	✓
KE 1000 - 040 - B	40	1.57	195	7.68	155	6.10			1730	3890	2126	4780	83,8	5.11	0,70	1.54	✓
KE 1000 - 050 - B	50	1.97	230	9.06	180	7.09	+ 20 °C	+68 °F	1753	3940	2163	4862	102,6	6.26	0,79	1.74	✓

◆ Disposable

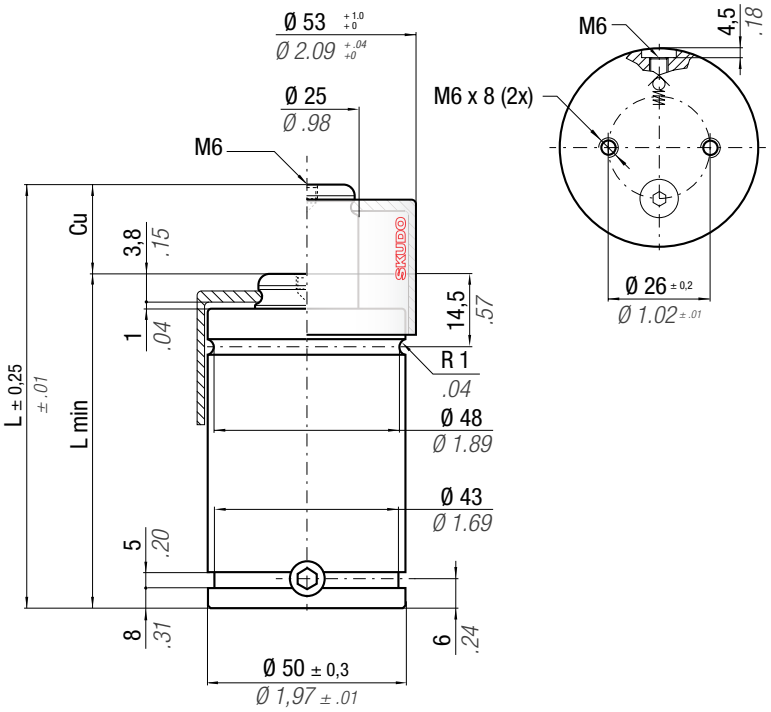






HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

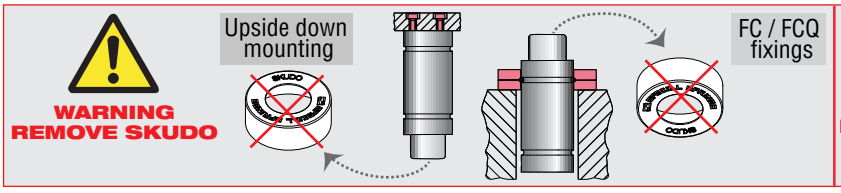
USAS

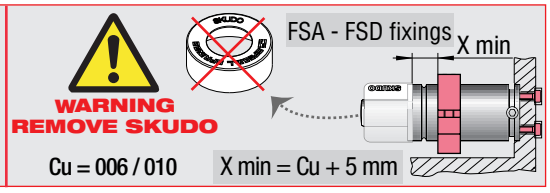
OPAS

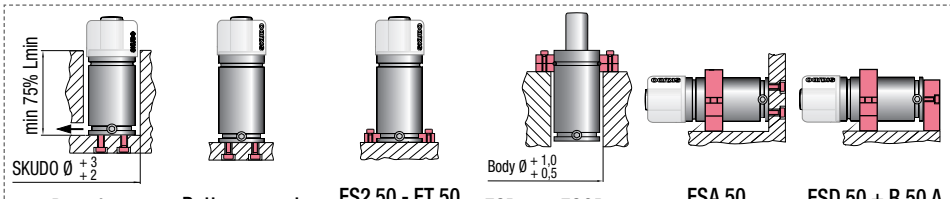
SKUDO

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	12,57 cm² / 1.948 in²	~ 50 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE01800B

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
KE 1800 - 006 - B	6	0.24	66	2.60	60	2.36	1885 ± 5%	4238	3026	6804	3699	8316	23,0	1.40	0,63	1.39	✓
KE 1800 - 010 - B	10	0.39	80	3.15	70	2.76			3112	6996	3839	8629	36,6	2.23	0,69	1.52	✓
KE 1800 - 016 - B	16	0.63	106	4.17	90	3.54			2973	6683	3612	8121	63,2	3.86	0,81	1.79	✓
KE 1800 - 025 - B	25	0.98	135	5.31	110	4.33	150 bar 2175psi		3128	7032	3865	8689	90,6	5.53	0,94	2.07	✓
KE 1800 - 032 - B	32	1.26	162	6.38	130	5.12			3102	6974	3823	8594	117,6	7.18	1,06	2.34	✓
KE 1800 - 040 - B	40	1.57	190	7.48	150	5.91			3132	7041	3872	8704	144,7	8.83	1,19	2.62	✓
KE 1800 - 050 - B	50	1.97	220	8.66	170	6.69	+ 20 °C +68 °F		3233	7267	4038	9077	172,4	10.52	1,31	2.89	✓
KE 1800 - 065 - B	65	2.56	271	10.67	206	8.11			3259	7327	4082	9177	221,5	13.52	1,53	3.37	✓







HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205

SPECIAL SPRINGS

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

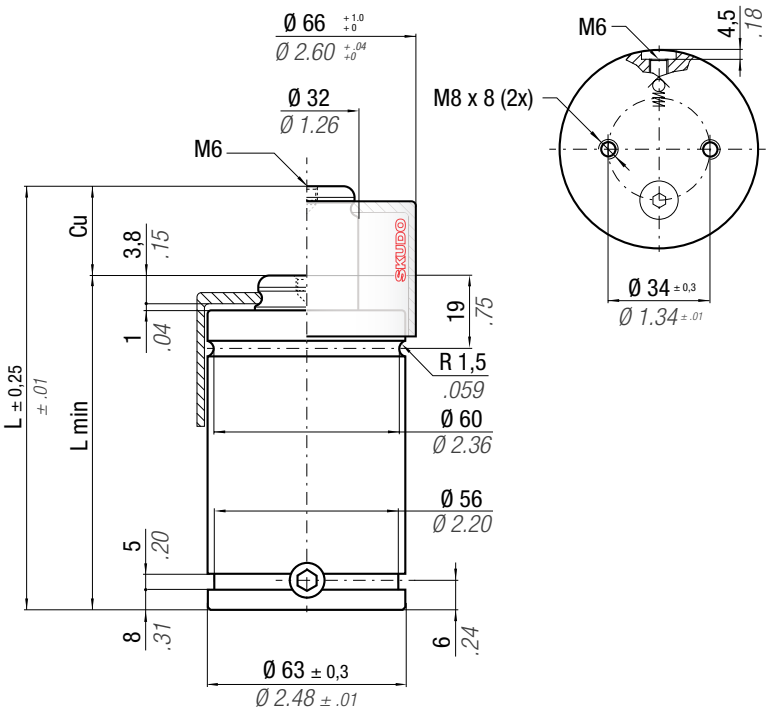
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

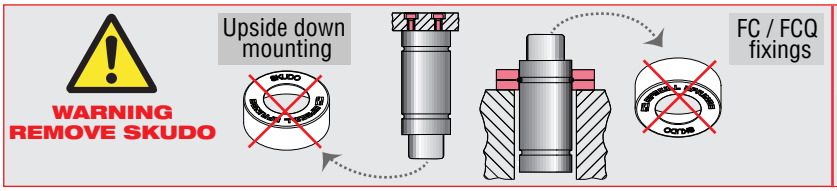


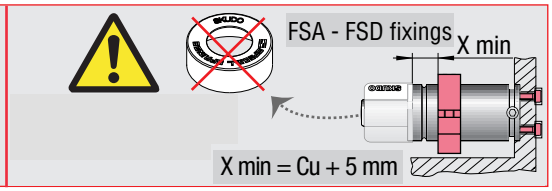
N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	19,63 cm² / 3.043 in²	~ 80 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE03000B

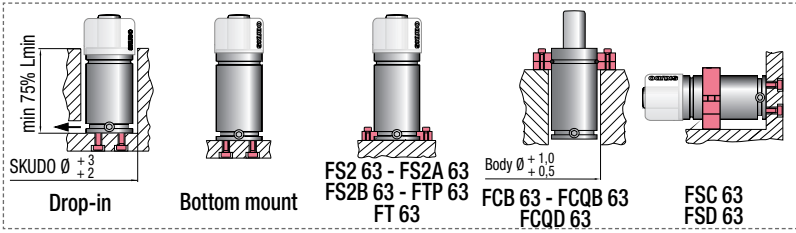
CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ * lb	$F1_p$ ** End force daN	$F1_p$ ** lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
KE 3000 - 010 - B	10	0.39	85	3.35	75	2.95	2945 ± 5%	6620	5028	11304	6271	14099	54	3.31	1,23	2.71	✓
KE 3000 - 016 - B	16	0.63	103	4.06	87	3.43			5317	11953	6754	15184	80	4.90	1,36	3.00	✓
KE 3000 - 025 - B	25	0.98	130	5.12	105	4.13			5532	12436	7119	16004	119	7.29	1,55	3.42	✓
KE 3000 - 032 - B	32	1.26	150	5.91	118	4.65			5691	12794	7392	16618	148	9.02	1,69	3.73	✓
KE 3000 - 040 - B	40	1.57	175	6.89	135	5.31			5698	12810	7404	16645	185	11.26	1,86	4.10	✓
KE 3000 - 050 - B	50	1.97	205	8.07	155	6.10			5758	12945	7508	16878	228	13.91	2,07	4.56	✓
KE 3000 - 065 - B	65	2.56	256	10.08	191	7.52			5616	12626	7263	16328	305	18.61	2,44	5.38	✓

150 bar 2175psi

+ 20 °C +68 °F

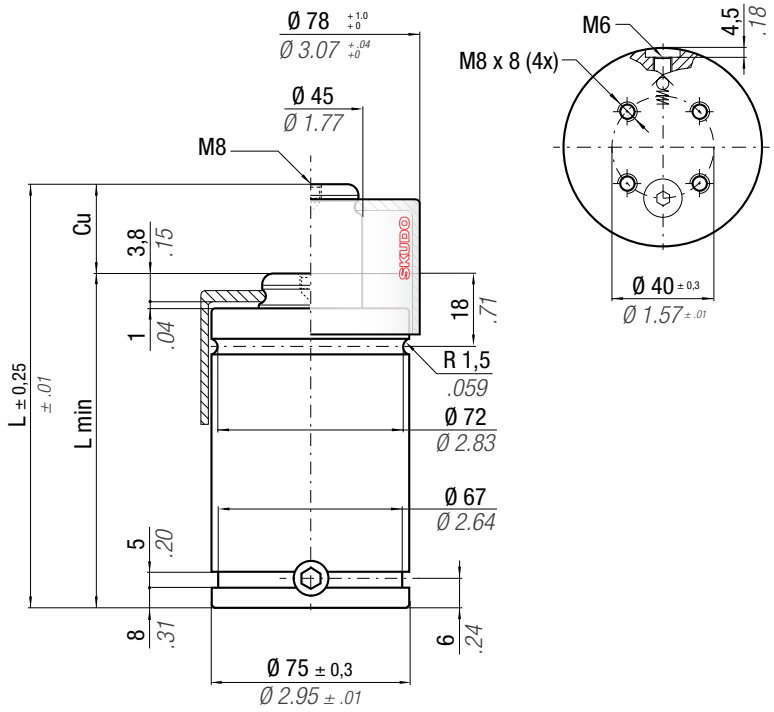






HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

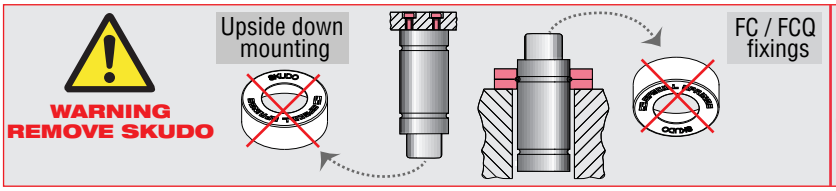
USAS

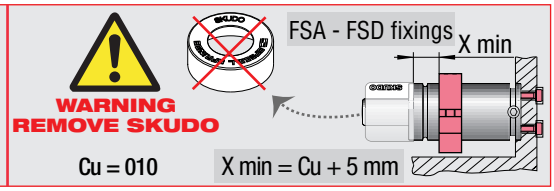
OPAS

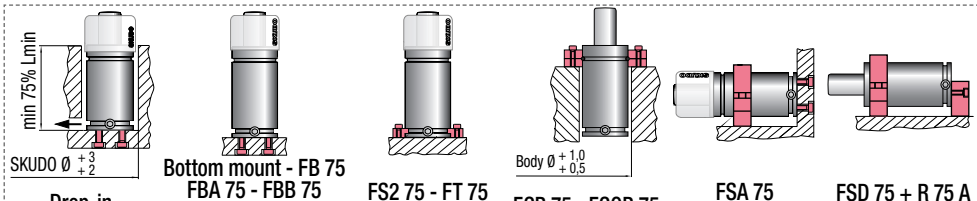
SKUDO

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	31,17 cm² / 4.831 in²	~ 80 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE04700B

CODE	Cu		L		L min		F0 Initial force		$F1_i$ * End force		$F1_p$ ** End force		V0				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
KE 4700 - 010 - B	10	0.39	80	3.15	70	2.76	4675 ± 5%	10510	8001	17986	9986	22449	86	5.24	1,62	3.57	✓
KE 4700 - 016 - B	16	0.63	106	4.17	90	3.54			7460	16771	9100	20458	154	9.37	1,85	4.08	✓
KE 4700 - 025 - B	25	0.98	135	5.31	110	4.33			7775	17478	9613	21611	224	13.68	2,10	4.63	✓
KE 4700 - 032 - B	32	1.26	167	6.57	135	5.31	150 bar 2175psi		7444	16734	9074	20398	308	18.82	2,39	5.27	✓
KE 4700 - 040 - B	40	1.57	200	7.87	160	6.30			7358	16541	8935	20086	394	24.02	2,68	5.91	✓
KE 4700 - 050 - B	50	1.97	240	9.45	190	7.48			7323	16464	8879	19962	496	30.28	3,03	6.68	✓
KE 4700 - 065 - B	65	2.56	273	10.75	208	8.19	+ 20 °C +68 °F		7924	17813	9858	22162	566	34.53	3,30	7.28	✓







HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205

KE 7500

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

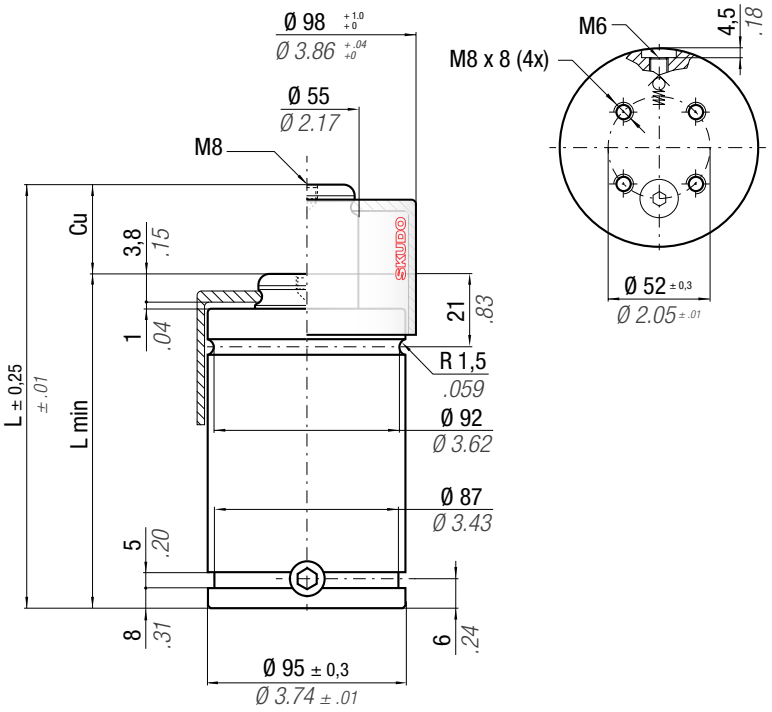
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

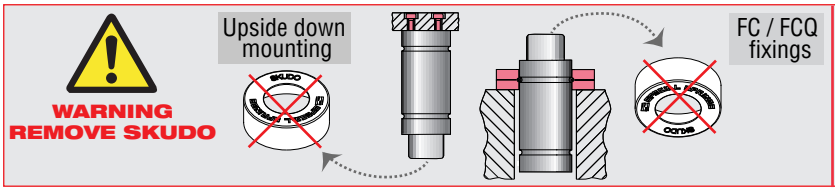
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

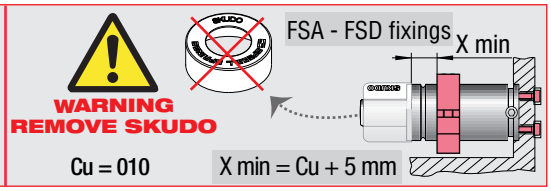
**** $F1_p$ =** Polytrophic end force at 100% Cu

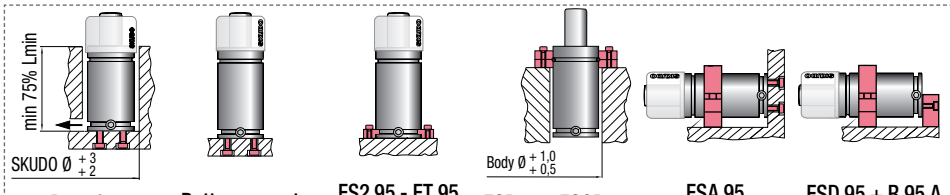


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	50,27 cm² / 7.791 in²	~ 80 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE07500B

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	Fo daN	Fo lb	$F1_i$ * daN	$F1_i$ * lb	$F1_p$ ** daN	$F1_p$ ** lb	Vo cm³	Vo in³	~Kg	~lb	PED 2014/68/EU
KE 7500 - 010 - B	10	0.39	90	3.54	80	3.15	7540 ± 5%	16950	11818	26568	14332	32220	160	9.75	2,89	6.37	✓
KE 7500 - 016 - B	16	0.63	116	4.57	100	3.94			11514	25885	13845	31125	269	16.40	3,26	7.19	✓
KE 7500 - 025 - B	25	0.98	145	5.71	120	4.72			12127	27263	14833	33345	382	23.29	3,64	8.02	✓
KE 7500 - 032 - B	32	1.26	182	7.17	150	5.91	150 bar	2175psi	11462	25767	13762	30938	542	33.08	4,18	9.22	✓
KE 7500 - 040 - B	40	1.57	210	8.27	170	6.69			11676	26249	14104	31708	654	39.90	4,56	10.05	✓
KE 7500 - 050 - B	50	1.97	255	10.04	205	8.07			11486	25822	13801	31025	844	51.47	5,19	11.44	✓
KE 7500 - 065 - B	65	2.56	279	10.98	214	8.43	+ 20 °C	+68 °F	12805	28786	15943	35840	910	55.51	5,46	12.40	✓

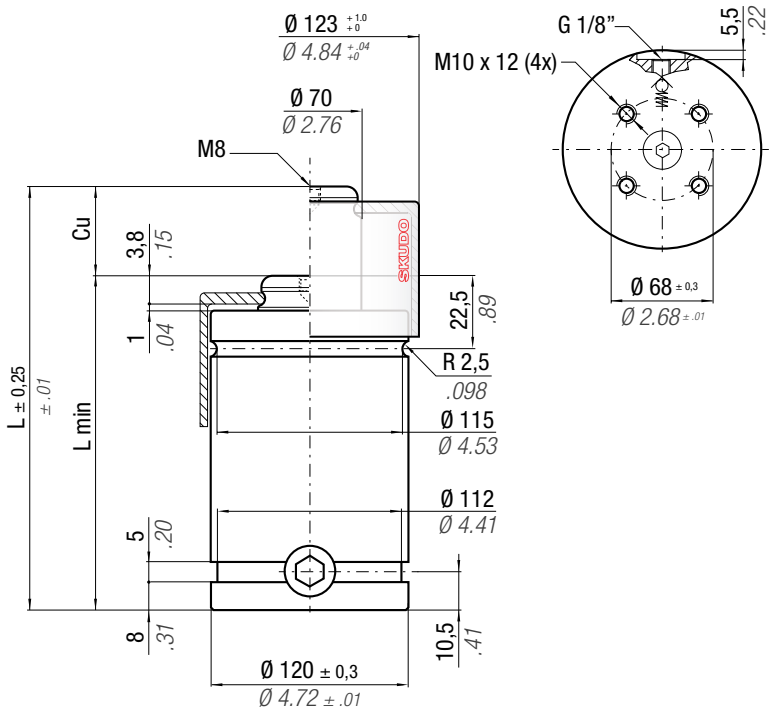






HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205



Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

**** $F1_p$ =** Polytrophic end force at 100% Cu

SW

ACTIVE SAFETY

OSAS

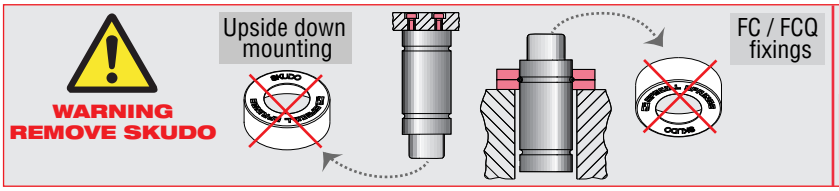
USAS

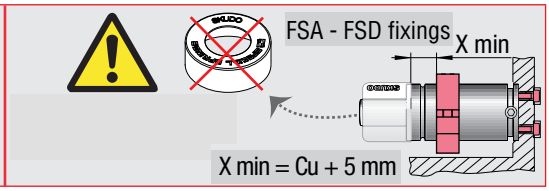
OPAS

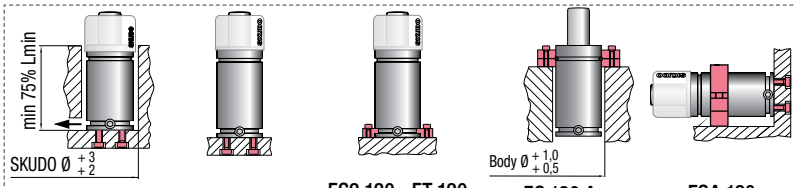
SKUDO

N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	78,54 cm² / 12.174 in²	~ 50 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE12000B

CODE	Cu mm	Cu inch	L mm	L inch	L min mm	L min inch	F0 Initial force daN	F0 lb	$F1_i$ * End force daN	$F1_i$ lb	$F1_p$ ** End force daN	$F1_p$ lb	V0 cm³	V0 in³	~Kg	~lb	PED 2014/68/EU
KE 12000 - 010 - B	10	0.39	100	3.94	90	3,54	11780 ± 5%	26482	17843	40113	21398	48104	267	16.28	5,49	12.10	✓
KE 12000 - 016 - B	16	0.63	126	4.96	110	4,33			17646	39670	21084	47399	437	26.64	6,11	13.47	✓
KE 12000 - 025 - B	25	0.98	155	6.10	130	5,12			18657	41943	22704	51040	613	37.39	6,76	14.90	✓
KE 12000 - 032 - B	32	1.26	187	7.36	155	6,10	150 bar 2175psi		18166	40838	21913	49261	824	50.28	7,54	16.62	✓
KE 12000 - 040 - B	40	1.57	220	8.66	180	7,09			18098	40687	21805	49020	1037	63.30	8,31	18.32	✓
KE 12000 - 050 - B	50	1.97	260	10.24	210	8,27			18116	40727	21834	49084	1294	78.97	9,25	20.9	✓
KE 12000 - 065 - B	65	2.56	320	12.60	255	10.04	+ 20 °C +68 °F		18133	40764	21860	49143	1679	102.48	10,66	23.50	✓







HOW TO ORDER p. 195

INSTALLATION GUIDELINE p. 205

KE 18500

SW

ACTIVE SAFETY

OSAS

USAS

OPAS

SKUDO

Il nuovo codice sarà fornito solo ad esaurimento del vecchio

The new code will be supplied only when the old will be out of stock

Der neue Kode wird nur angegeben, wenn der alte nicht mehr lieferbar ist

Le nouveau code sera fourni uniquement lorsque le vieux stock sera ecoulé

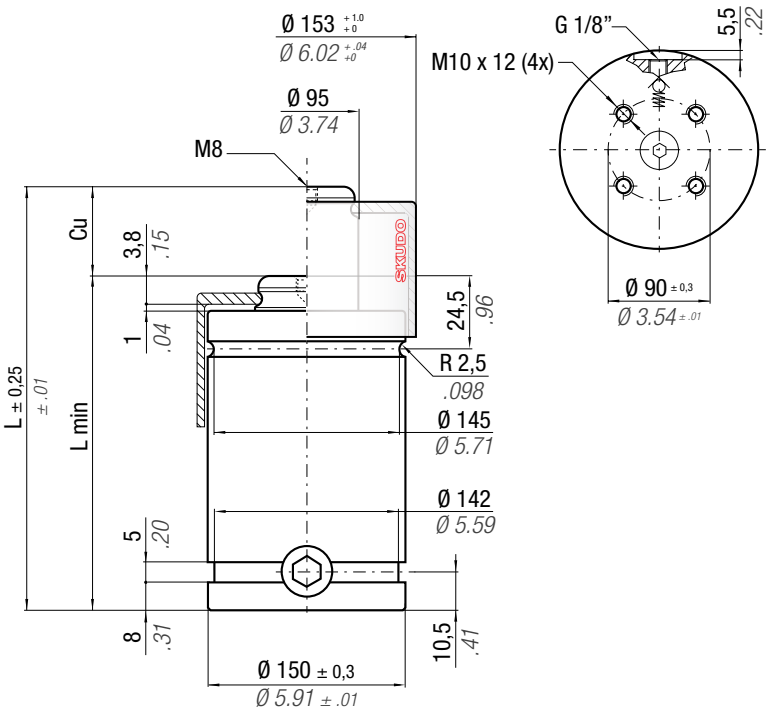
El nuevo código será suministrado sólo cuando se agoten las existencias del antiguo

O novo código irá ser fornecido apenas quando o antigo esgotar stock

easy MANIFOLD p. 247

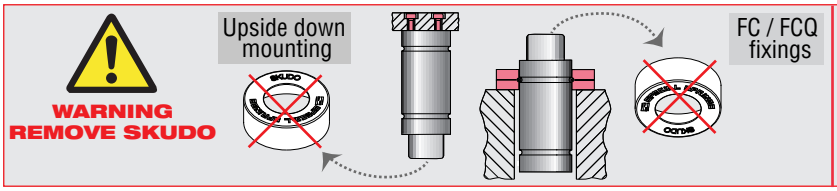
*** $F1_i$ =** Isothermal end force at 100% Cu p. 16

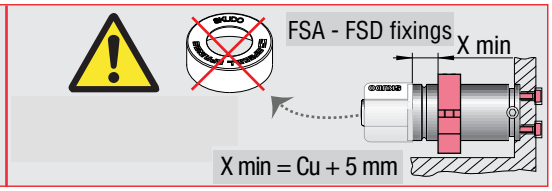
**** $F1_p$ =** Polytrophic end force at 100% Cu

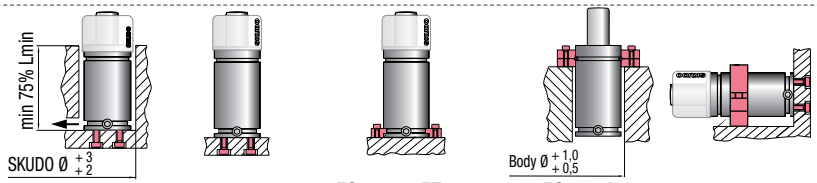


N_2	0 - 80 °C / 32 - 176 °F	ΔP	P max	P min	S	SPM	Max Speed	Maintenance kit
		± 0,33 %/°C	150 bar / 2175 psi	20 bar / 290 psi	122,72 cm² / 19.022 in²	~ 50 - 100 (at 20°C)	0,8 m/s / 31.5 in/s	39BMKE18500B

CODE	Cu		L		L min		Fo Initial force		$F1_i$ * End force		$F1_p$ ** End force		Vo				PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	daN	lb	cm³	in³	~Kg	~lb	
KE 18500 - 010 - B	10	0.39	110	4.33	100	3.94	18410 ± 5%	41386	25880	58181	30288	68090	493	30.08	9,31	20.53	✓
KE 18500 - 016 - B	16	0.63	136	5.35	120	4.72			26201	58903	30788	69214	765	46.68	10,28	22.66	✓
KE 18500 - 025 - B	25	0.98	165	6.50	140	5.51			27771	62431	33260	74771	1050	64.08	11,30	24.91	✓
KE 18500 - 032 - B	32	1.26	197	7.76	165	6.50	150 bar 2175psi		27347	61479	32588	73261	1388	84.69	12,51	27.58	✓
KE 18500 - 040 - B	40	1.57	235	9.25	195	7.68			26947	60580	31957	71842	1791	109.31	13,93	30.71	✓
KE 18500 - 050 - B	50	1.97	270	10.63	220	8.66			27505	61833	32838	73823	2142	130.73	15,19	33.49	✓
KE 18500 - 065 - B	65	2.56	323	12.72	258	10.16	+ 20 °C +68 °F		28055	63070	33713	75790	2675	163.23	17,10	37.70	✓



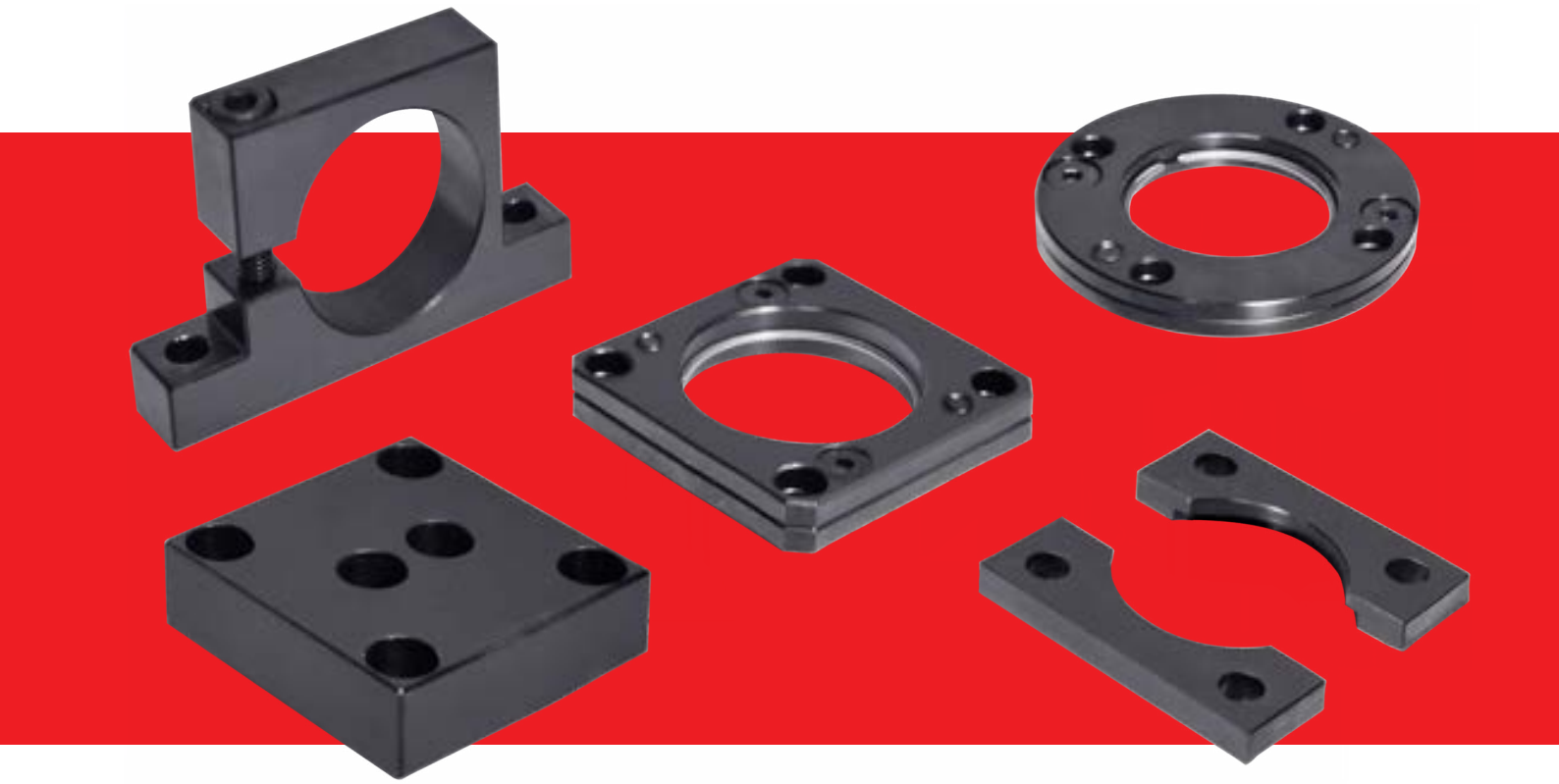




HOW TO ORDER p. 195

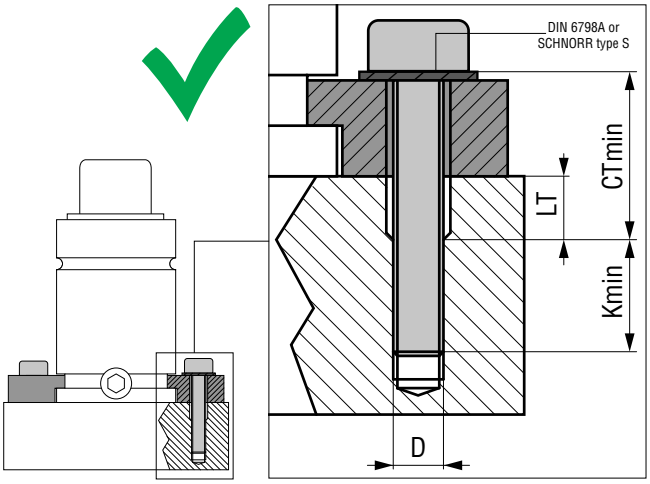
INSTALLATION GUIDELINE p. 205

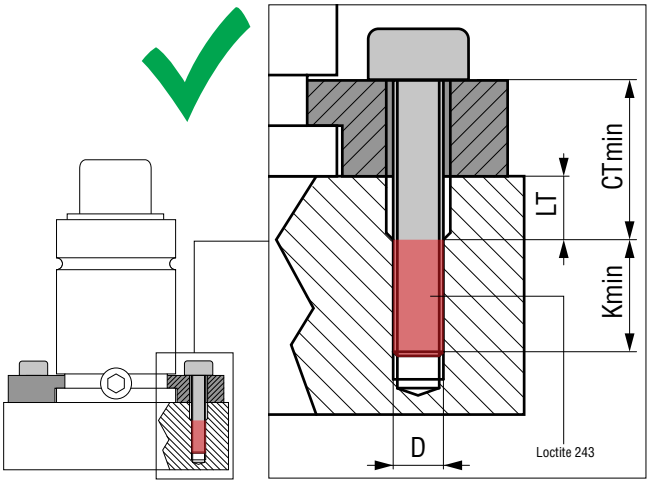
INSTALLATION GUIDELINE



INSTALLATION GUIDELINE

IT Un corretto fissaggio dei cilindri ad azoto previene danni ai prodotti e gravi pericoli agli operatori.
EN A correct fixing of the gas springs prevents damages to products and serious dangers to operators.
DE Die richtige Befestigung der Gasdruckfeder verhindert Schäden an den Produkten und ernsthafte Gefahren für das Personal.
FR La fixation correcte du ressort à gaz évite des dommages aux produits et des dangers graves pour les opérateurs.
ES Una correcta fijación del cilindro de gas previene daños a los productos y graves peligros a los operadores.
PT Uma correta fixação do cilindro pode previnir danos ao produto e tambem ao operador.





CTmin	Kmin	LT
Lunghezza libera (min. 2 x D)	Minimo impegno viti (acciaio = min. 1.5 x D, ghisa = min. 2 x D)	Allargamento per garantire CTmin
Free length (min. 2 x D)	Minimum thread engagement (steel = min. 1.5 x D, cast iron = min. 2 x D)	Widening to ensure CTmin
Klemmlänge (min. 2 x D)	Mindest-Einschraublänge (Stah = min. 1.5 x D, Guss = min. 2 x D)	Bohrung zur Gewährleistung der CTmin
Longueur libre (min. 2 x D)	Longueur minimum à visser (acier = min. 1.5 x D, fonte = min. 2 x D)	Élargissement pour assurer CTmin
Longitud libre (min. 2 x D)	Longitud mínima de roscado (acero = min. 1.5 x D, fundición = min. 2 x D)	Margen para garantizar CTmin
Comprimento livre (min. 2 x D)	Comprimento minimo roscado (aço 1,5 x D – Fundido 2,0 x D)	Alivio para garantir o CT min

IT Utilizzare sempre apposito frenafiletti e/o rondelle di sicurezza su tutte le viti di fissaggio. (Non rappresentate nei disegni delle pagine seguenti).
EN Always use the suitable threadlocker and/or safety washers on all fixing screws. (They are not represented in the drawings in the following pages of the catalog).
DE Verwenden Sie immer geeignete Schraubensicherungen und/oder Sicherungsscheiben an allen Befestigungsschrauben. (Nicht in den Zeichnungen auf den folgenden Seiten dargestellt).
FR Utilisez toujours le frein filet approprié et/ou les rondelles de sécurité sur toutes les vis de fixation. (Ils ne sont pas représentés sur les dessins dans les pages suivantes du catalogue).
ES Utilice siempre un adhesivo fijador de roscas adecuado y/o arandelas de seguridad en todos los tornillos de fijación. (No están representados en los dibujos de las páginas siguientes).
PT Sempre utilizar o trava roscas e/ou arruela de segurança em todos os parafusos de fixação (não estão representados nas proximas paginas do catalogo).



Rondelle di sicurezza - Safety Washers
Sicherungsscheiben - Rondelles de sécurité
Arandelas de seguridad - Arruela de segurança

Only for ML, MP, MQ series



Conical spring washer provided by Special Springs



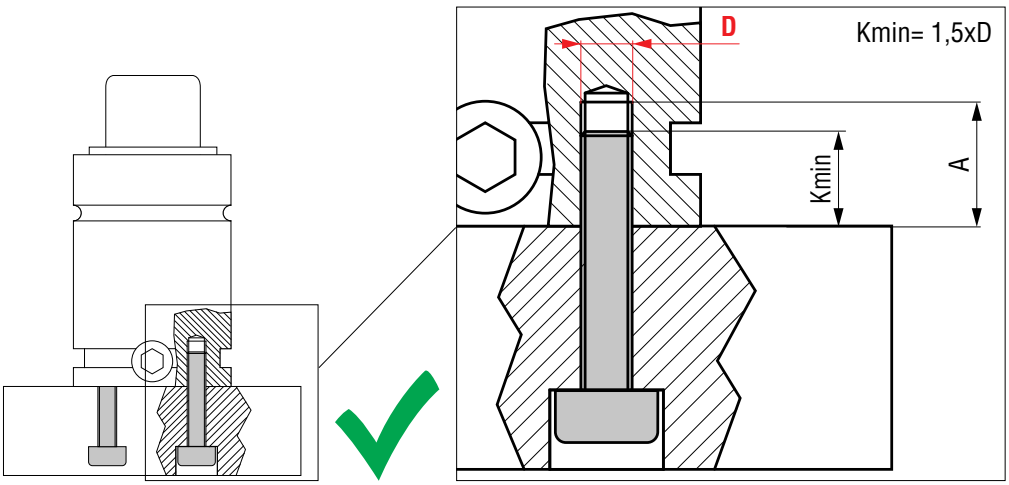
DIN 6798A or SCHNORR type S

IT L' uso di viti di classe superiore alla 8.8, come 9.8, 10.9 e 12.9, è sempre possibile. Si raccomanda di NON SUPERARE i valori della coppia di serraggio indicati per la classe 8.8 per qualsiasi classe di viti utilizzata (vedi pag. 207).
EN It is always possible to use screws belonging to Classes higher than 8.8, such as 9.8, 10.9 and 12.9. Do NOT EXCEED the values of the tightening torque valid for Class 8.8 for any of the screw's Classes you may use (see page 207 of the Catalogue).
DE Die Verwendung von Schrauben von höheren Klassen als 8.8, wie 9.8, 10.9 und 12.9 ist immer möglich. Es wird empfohlen, die für die Klasse 8.8 angegebenen Anziehdrehmomente für alle verwendeten Schraubenklassen nicht zu überschreiten.
FR L' Il est toujours possible d'utiliser des vis appartenant aux classes supérieures à 8.8, telles que 9.8, 10.9 et 12.9. NE PAS DÉPASSER les valeurs du couple de serrage indiquées pour la classe 8.8 pour n'importe quelle classe de résistance que vous allez utiliser (voir page 207 du catalogue).
ES El uso de tornillos de calidad superior a 8.8, como 9.8, 10.9 y 12.9 está permitido. Se recomienda NO EXCEDER el par de apriete indicado para la clase 8.8 para cualquier calidad de tornillos utilizados (consulte la página 207).
PT Sempre é possível usar parafusos pertencentes a classes superiores a 8.8, como 9.8, 10.9 e 12.9. NÃO SUPERAR os valores do torque recomendado para os parafusos da classe 8.8, mesmo que esteja utilizando parafusos com classes diferentes, (ver página 207).

INSTALLATION GUIDELINE

IT Cilindro ad azoto con fori di fissaggio in cui il valore di A è maggiore del valore D (esempio SC3000 con fori di fissaggio M8x13).
EN Gas spring with fixing holes for which value A is bigger than value D (e.g. SC3000 with fixing holes M8x13).
DE Gasdruckfeder mit Befestigungsbohrungen bei denen der Wert A größer als der Wert D ist (Beispiel SC3000 mit Befestigungsbohrungen M8x13).
FR Ressort à gaz avec trous de fixation dans lequel la valeur A est supérieure à la valeur D (par exemple, SC3000 avec trous de fixation M8x13).
ES Cilindro de gas con agujeros de fijación en el que el valor A es mayor que el valor D (ejemplo SC3000 con agujeros de fijación M8x13).
PT Cilindros com furos de fixação que a medida A é maior que a medida D (ex. SC3000 com furos de fixação M8x13).

Installation Example: A > D



IT Cilindro ad azoto in cui il valore A è minore del valore D (esempio RV1000 con fori di fissaggio M8x6). Attenzione: in questi casi utilizzare viti con lunghezza tale da impegnare l'intera profondità utile di fissaggio.

EN Gas spring with fixing holes for which value A is smaller than value D (e.g. RV1000 with fixing holes M8x6). In such cases, be careful to use screws with a length long enough to employ the whole usable fixing depth.

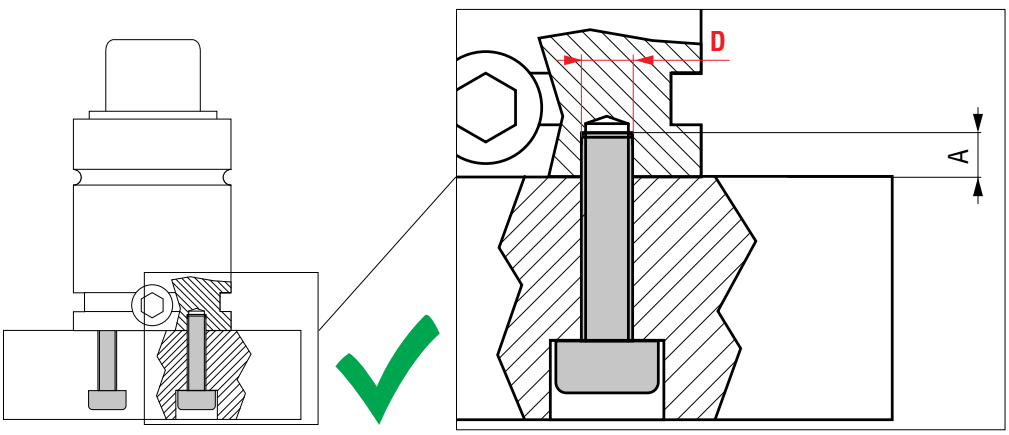
DE Gasdruckfeder bei der der Wert A kleiner als der Wert D ist (Beispiel RV1000 mit Befestigungsbohrungen M8x6). Achtung: Verwenden Sie in diesen Fällen Schrauben mit einer Länge, die über die gesamte Einschraublänge reicht.

FR Ressort à gaz avec trous de fixation dans lequel la valeur A est inférieure à la valeur D (par exemple, RV1000 avec trous de fixation M8x6). Dans ce cas, veuillez utiliser des vis suffisamment longues pour utiliser toute la profondeur de fixation utilisable.

ES Cilindro de gas en el que el valor A es menor que el valor D (ejemplo RV1000 con agujeros de fijación M8x6). Atención: en estos casos utilizar tornillos con una longitud que permita utilizar toda la profundidad útil de fijación.

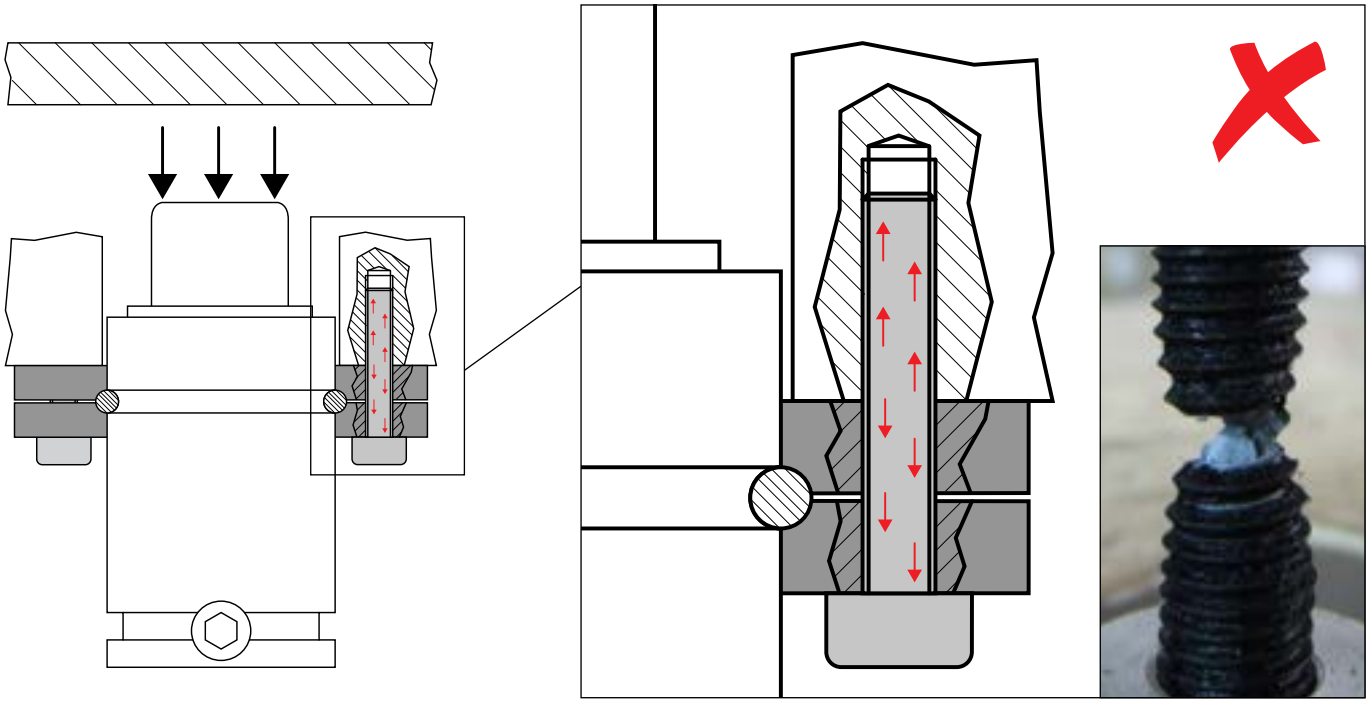
PT Cilindros que a medida A é menor que a medida D (ex. RV1000 com furos de fixação M8x6). Neste caso, atentar para que o comprimento do parafuso seja suficiente para garantir o comprimento minimo de roscado na placa.

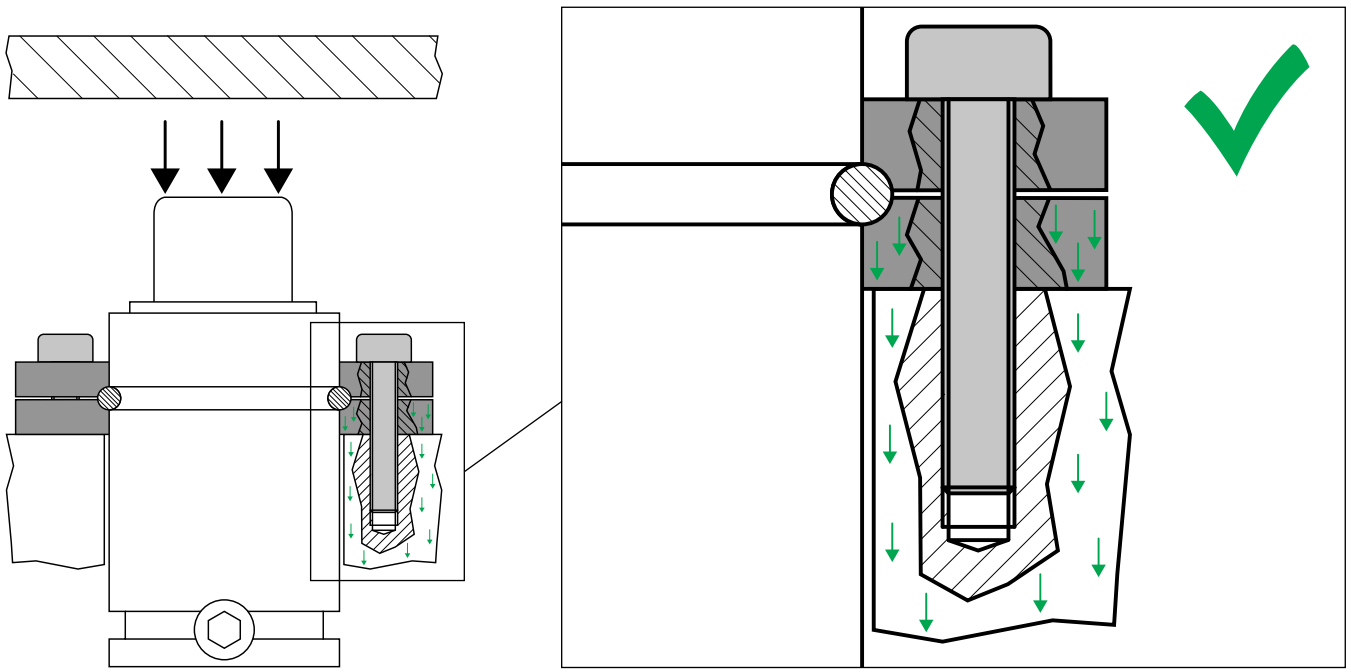
Installation Example: A ≤ D



INSTALLATION GUIDELINE

IT Le viti di fissaggio non devono mai essere sollecitate direttamente dal carico agente sul cilindro ad azoto.
EN Fixing screws shall never be directly strained by the load acting on the gas spring.
DE Die Befestigungsschrauben dürfen niemals direkt durch die auf die Gasdruckfeder wirkende Last belastet werden.
FR Les vis de fixation ne doivent jamais être directement sollicitées par la charge agissant sur le ressort à gaz.
ES Los tornillos de fijación nunca deben recibir directamente la carga que se aplica sobre el cilindro de gas.
PT Os parafusos de fixação jamais devem receber diretamente a carga do cilindro.

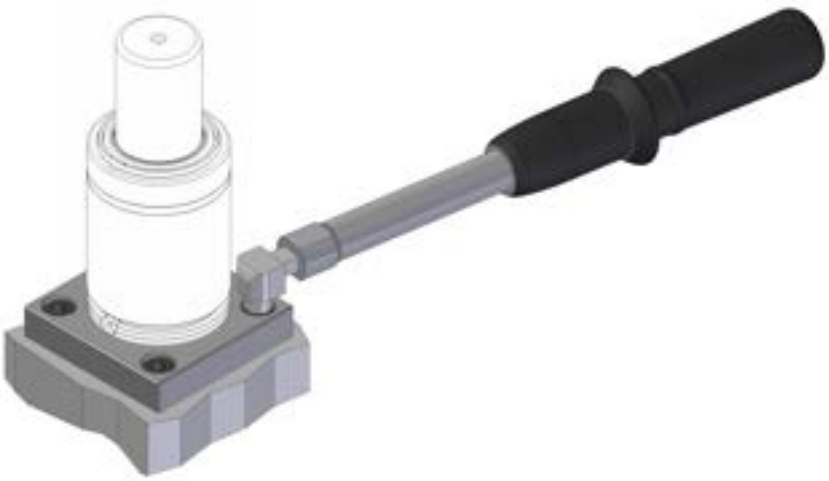


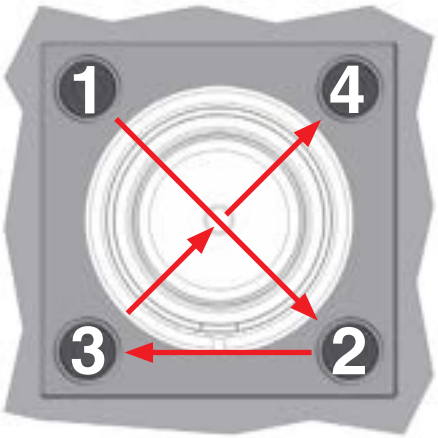


INSTALLATION GUIDELINE

IT Rispettare le coppie di serraggio prescritte e verificare sempre lo stato dei cilindri ad azoto e dei fissaggi ad ogni intervento sullo stampo.
EN Respect the specified tightening torques and verify always the condition of gas springs and fixings at each intervention on the die.
DE Beachten Sie die vorgeschriebenen Anziehdrehmomente und überprüfen Sie bei jedem Eingriff am Werkzeug den Zustand der Gasdruckfedern und Befestigungen.
FR Respectez les couples de serrage spécifiés et vérifiez les conditions des ressorts à gaz et des fixations à chaque intervention sur le moule.
ES Respete los pares de apriete indicados y verifique el estado de los cilindros de gas y de las fijaciones en cada intervención en el troquel.
PT Respeitar o torque dos parafusos especificado e a cada parada para manutenção da ferramenta deve ser verificado as condições dos cilindros e das flanges.

	**UNI EN ISO 21269:2007 class ≥ 8.8**	M5	M6	M8	M10	M12	M 16
	**Torque force**	6 Nm	10 Nm	24 Nm	50 Nm	84 Nm	205 Nm





IT Serrare tutte le viti di fissaggio seguendo l'ordine a croce (1, 2, 3, 4) applicando la coppia di serraggio corretta. In questo modo il cilindro ad azoto sarà perfettamente posizionato.

EN Tighten all fixing screws by following the order shown in the image (1, 2, 3, 4) and by applying the correct tightening torque. In doing so, the gas springs will be perfectly positioned.

DE Alle Befestigungsschrauben über Kreuz in der Reihenfolge 1, 2, 3, 4 (s. Bild) mit dem richtigen Anziehdrehmoment anziehen. Auf diese Weise wird die Gasdruckfeder perfekt positioniert.

FR Serrez toutes les vis de fixation en respectant l'ordre indiqué sur l'image (1, 2, 3, 4) et en appliquant le couple de serrage approprié. Ce faisant, les ressorts à gaz seront parfaitement positionnés.

ES Apriete todos los tornillos de fijación siguiendo el orden que se muestra en la imagen (1, 2, 3, 4) y aplicando el par de apriete correcto. Al hacerlo, los resortes de gas estarán perfectamente posicionados.

PT Os parafusos devem ser apertados seguindo a ordem do desenho (1,2,3,4) e aplicado o torque correto. Dessa forma os cilindrso estarão perfeitamente fixados.

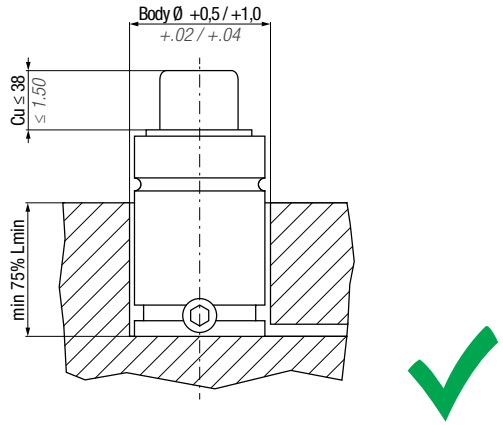
INSTALLATION GUIDELINE - DROP-IN

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

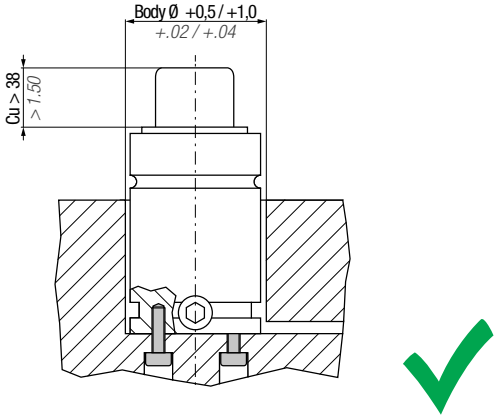
IT I cilindri ad azoto devono essere sempre installati perpendicolarmente rispetto allla direzione di trasmissione della forza.
EN Gas springs must always be installed perpendicular to the direction of force transmission.
DE Die Gasdruckfedern mussen immer lotrecht hinsichtlich der Richtung der Kraftübertragung eingebaut werden.
FR Les ressorts à gaz doivent toujours être installés perpendiculairement à la direction de la transmission de la force.
ES Los cilindros de gas siempre deben ser instalados perpendicularmente respecto a la dirección de transmisión de la fuerza.
PT Os Cilindros de Nitrogenio devem sempre ser instalados perpendicular a direção da força de acionamento.

IT I fori di alloggiamento in cui vengono installati i cilindri ad azoto devono sempre essere provvisti di fori di drenaggio.
EN The housing holes where the gas springs are installed must always have drain holes.
DE Die Gehäusebohrungen, in den die Gasdruckfedern eingebaut werden, müssen immer ein Drainageloch haben.
FR Les logements de l'outil où sont installés les vérins à gaz doivent toujours avoir des trous de drainage.
ES Los agujeros en los que se instalan los cilindros siempre deben tener agujeros de drenaje.
PT Os alojamentos dos cilindros devem sempre ter um furo para drenagem.

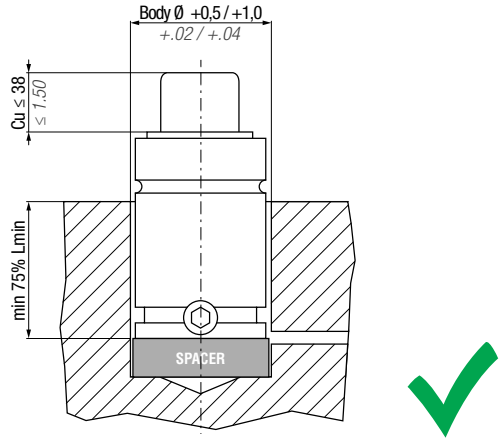
DROP - IN



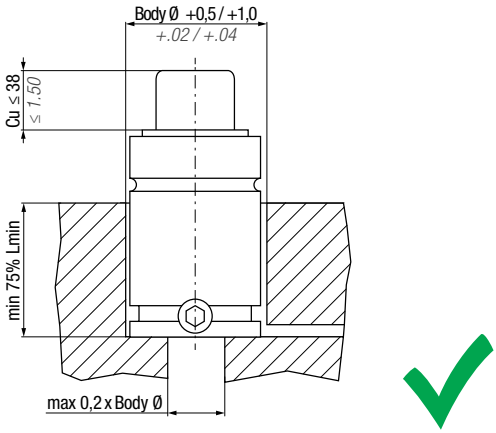
Installation in a flat-end hole.



Installation in a flat-end hole with bottom fixing screws.



Installation in a flat-end hole with spacer.



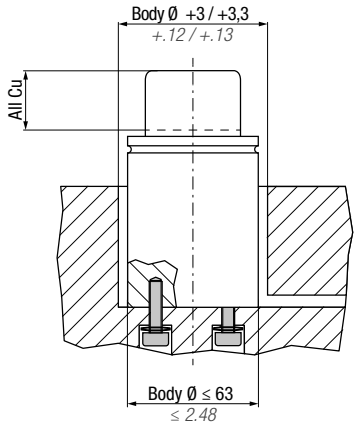
Max throughout bottom hole dimension for drop-in installation.

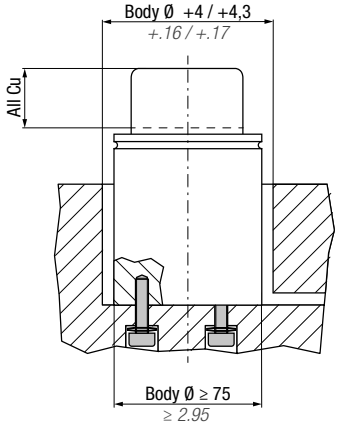
All dimensions in mm / *inch*

INSTALLATION GUIDELINE - DROP-IN

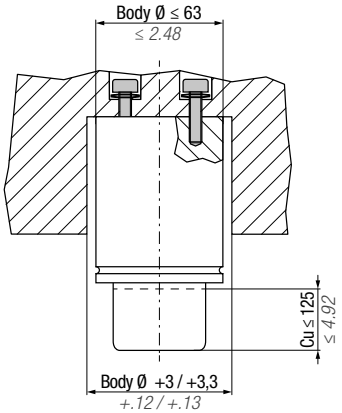
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

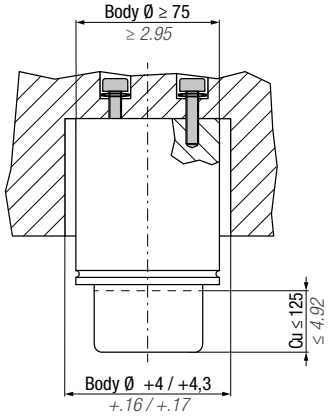
DROP - IN (ML, MP, MQ ☞ p. 221 - 222)





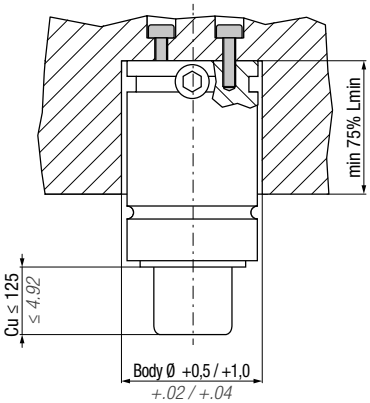
Installation in a flat-end hole with bottom fixing screws.



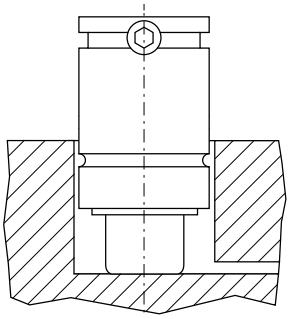


Installation in a flat-end hole with fixing screws in upside down position.

DROP - IN



Installation in a flat-end hole with fixing screws in upside down position.



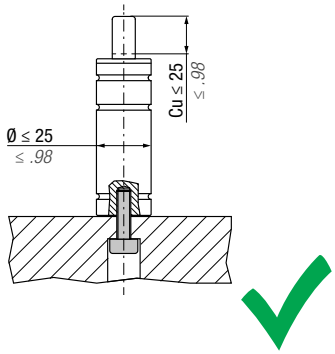
Installation NOT allowed due to excessive body wearing.

All dimensions in mm / *inch*

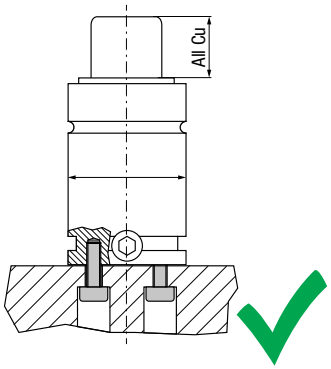
INSTALLATION GUIDELINE - BOTTOM MOUNT

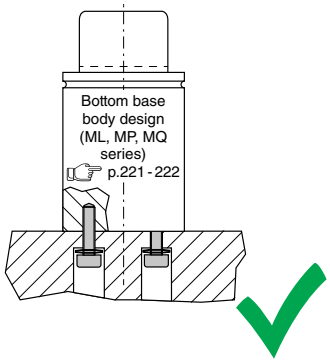
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

BODY THREADED HOLES

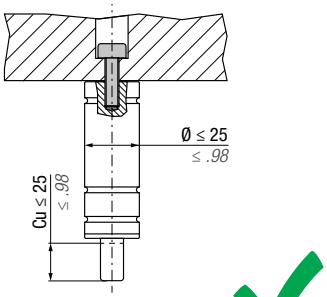


Installation with single fixing screw.

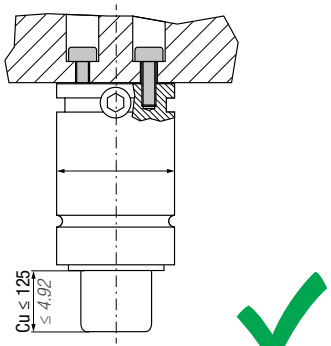


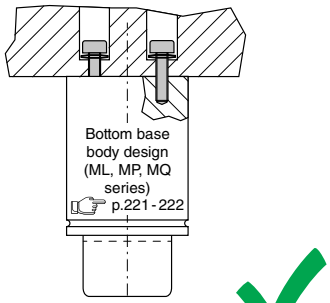


Installation with bottom fixing screws.

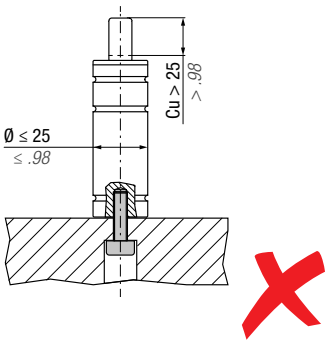


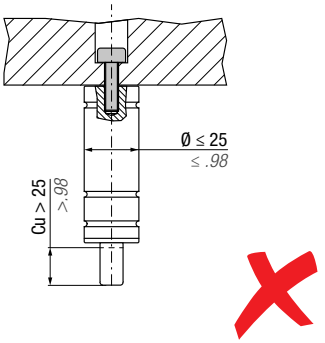
Installation with single fixing screw in upside down position.



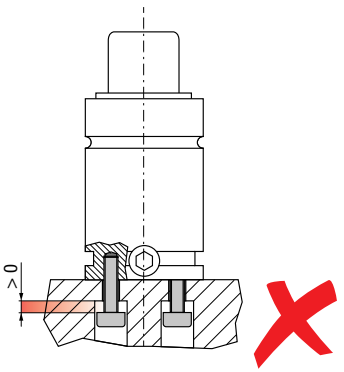


Installation with bottom fixing screws in upside down position.





Installation NOT allowed due to excessive stress on gas spring bottom.

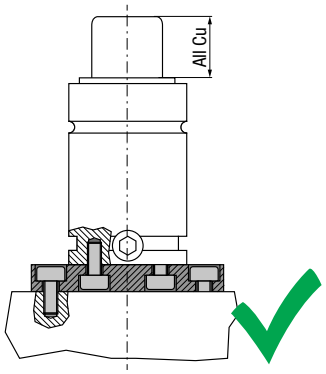


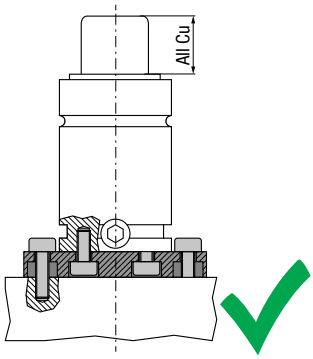
Installation NOT allowed due to incorrect screw length.

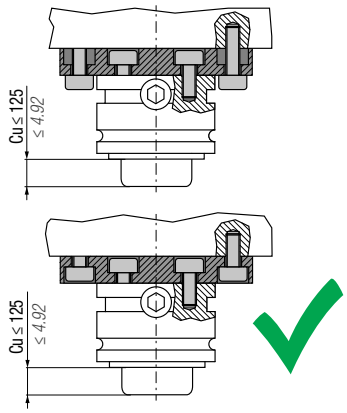
INSTALLATION GUIDELINE - BOTTOM MOUNT

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

FB - FBA - FBB - FBC - FBD - FBF

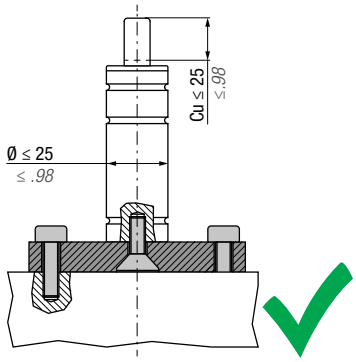




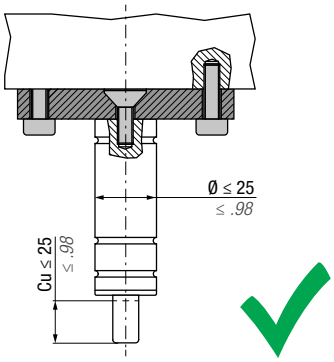


Installation with base flange through fixing screws.

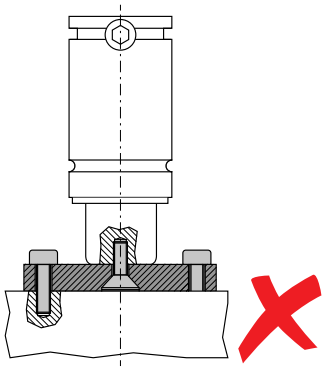
FBE



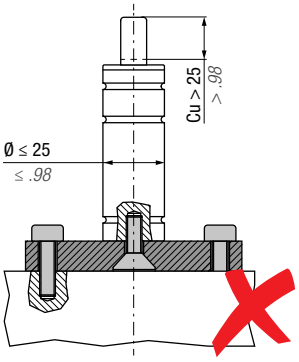
Installation with base flange through single fixing screw.

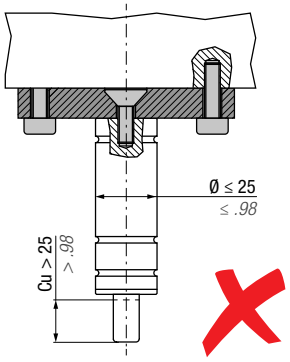


Installation with base flange through single fixing screw in upside down position.

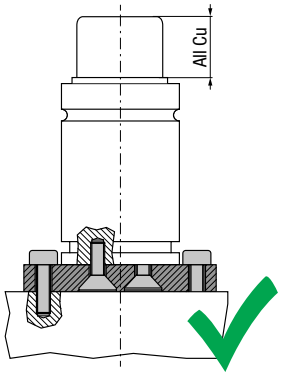


Installation NOT allowed due to excessive stress on screw and internal components.

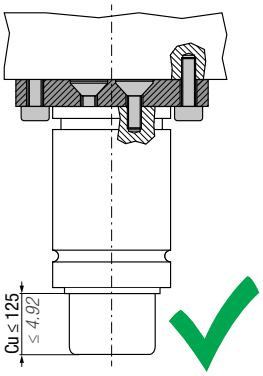




Installation NOT allowed due to excessive stress on gas spring bottom.



Installation with base flange through fixing screws.



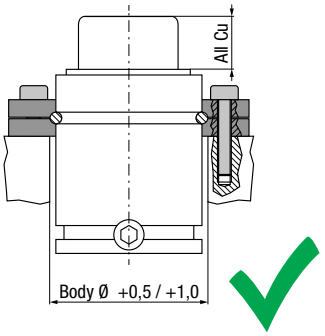
Installation with base flange through fixing screws in upside down position.

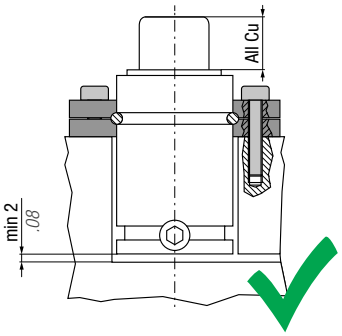
All dimensions in mm / *inch*

INSTALLATION GUIDELINE - TOP MOUNT

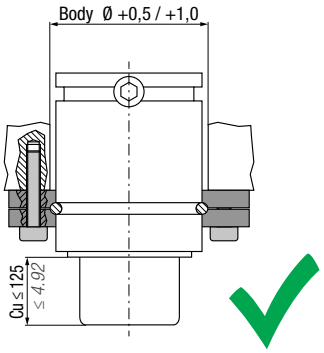
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

FCB - FCD - FC - FCC - FCQ - FCQC - FCQB

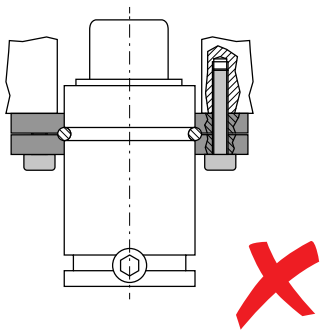


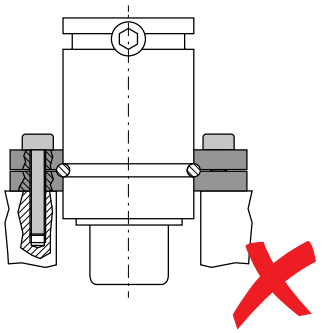


Installation with collar mount flange.

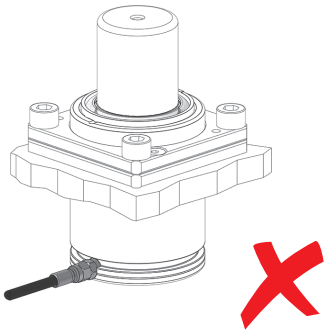


Installation with collar mount flange in upside down position.



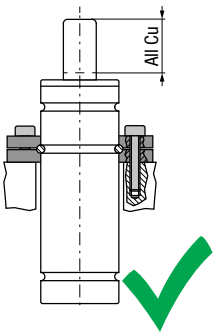


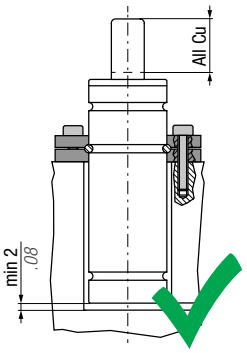
Installation NOT allowed due to tensile stress on screws.



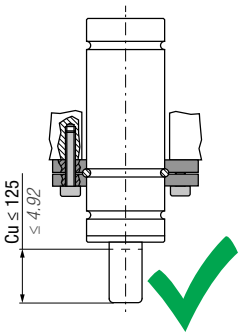
Installation NOT allowed due to risk of gas spring rotation and hose damage.

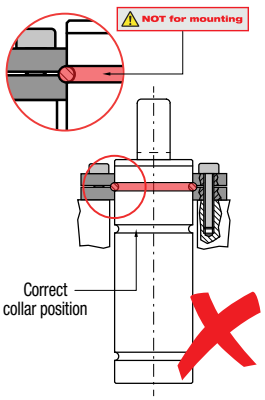
FC (for body gas spring Ø 12 ÷ 25)





Installation with collar mount flange.



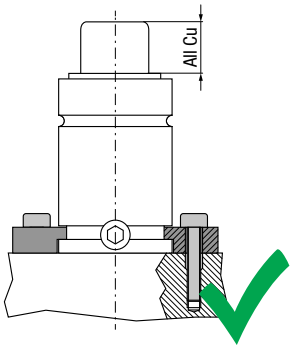


Installation NOT allowed due to excessive stress on internal component (wrong groove).

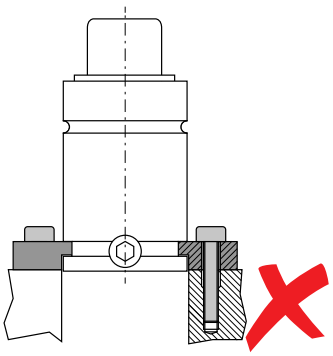
INSTALLATION GUIDELINE - BRACKET MOUNT

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

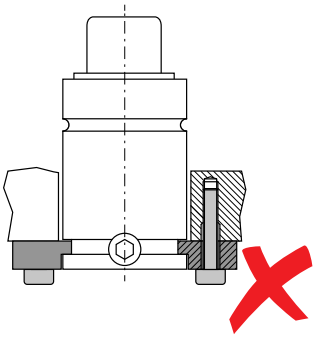
FS2 - FS2B - FS2A - FS2C



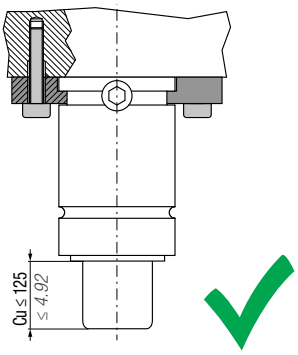
Installation with bracket mount flange.



Installation NOT allowed due to excessive stress on gas spring body and flange.

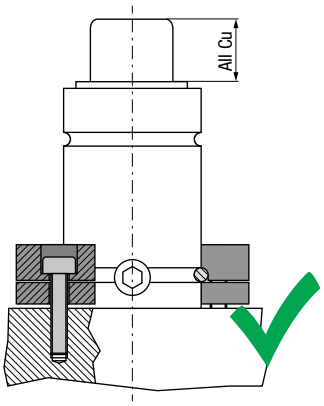


Installation NOT allowed due to tensile stress on screws.

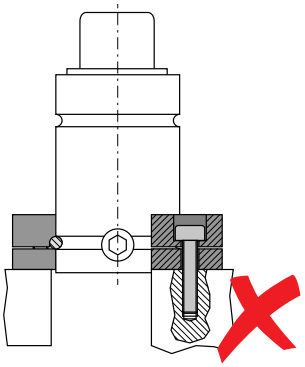


Installation with bracket mount flange in upside down position.

FS1

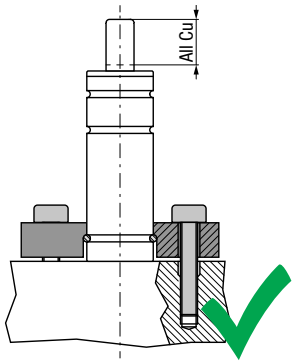


Installation with bracket mount flange.

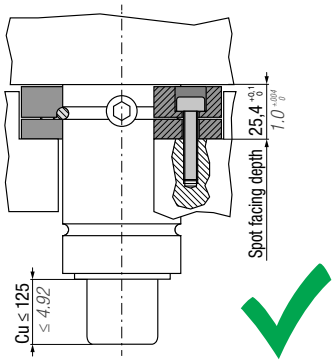


Installation NOT allowed due to excessive stress on gas spring body and flange.

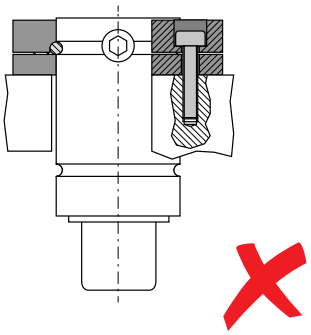
FS3



Installation with bracket mount flange.



Installation with bracket mount flange in upside down position. Gas spring base must me in contact with upper plate.



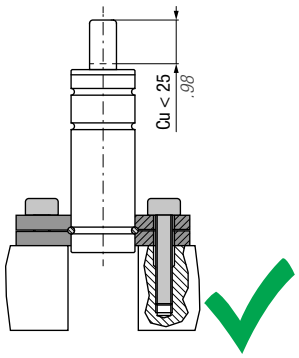
Installation NOT allowed due to tensile stress on screws.

All dimensions in mm / *inch*

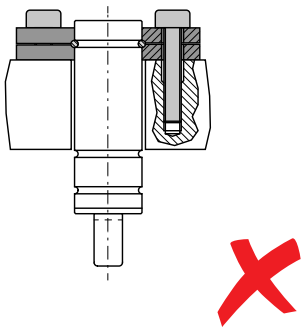
INSTALLATION GUIDELINE - BRACKET MOUNT

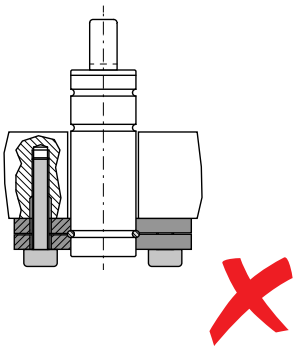
Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

FC (for body gas spring Ø 12 ÷ 25)



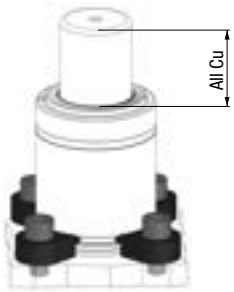
Installation with collar flange on the lower body groove.





Installation NOT allowed due to tensile stress on screws.

FT

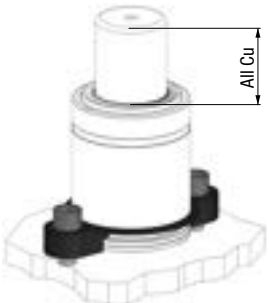


Installation with tooth flange on the lower body groove.



Installation NOT allowed due to risk of die damage in case of screw untightening.

FTP



Installation with tooth flange on the lower body groove.



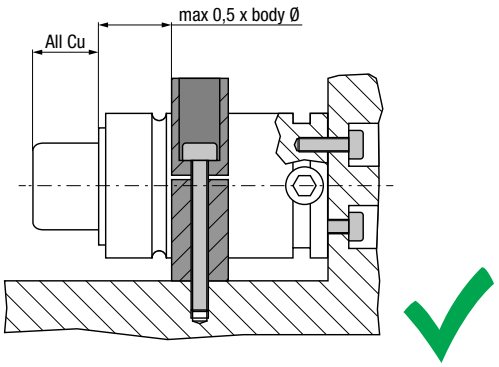
Installation NOT allowed due to risk of die damage in case of screw untightening.

All dimensions in mm / *inch*

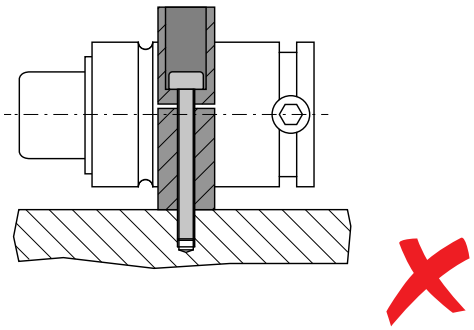
INSTALLATION GUIDELINE - BODY MOUNT

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

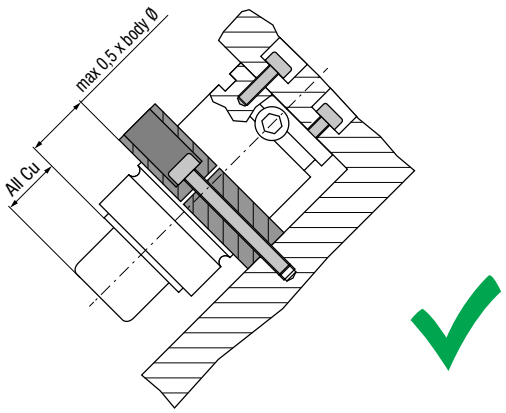
FSA - FSB - FSC - FSD - FSE



Installation with body mount flange and fixing screws.

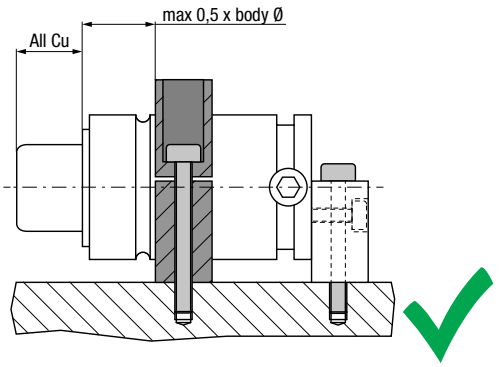


Installation NOT allowed due to lack of reaction force element.

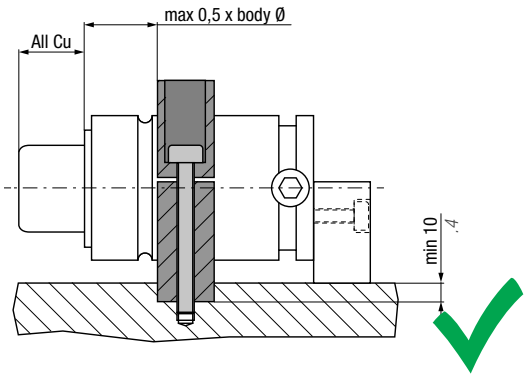


Installation with body mount flange and fixing screws.

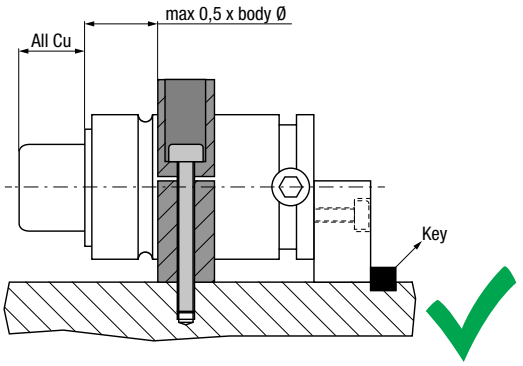
(FSA - FSB - FSC - FSD - FSE) + R



Installation with body mount flange and fixing screws in the rear support.



Installation with body mount flange and fixing screws in the rear support.



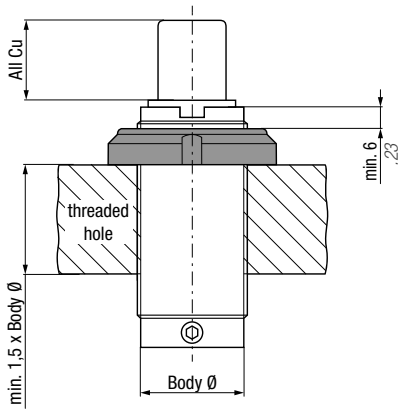
Installation with body mount flange and fixing screws in the key-fixed rear support.

All dimensions in mm / *inch*

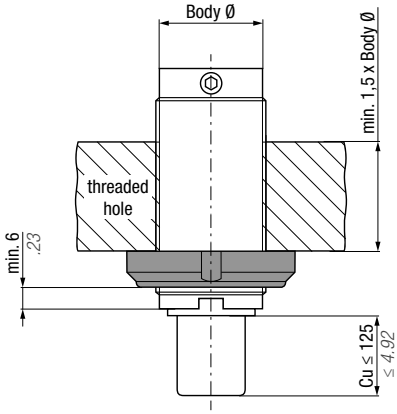
INSTALLATION GUIDELINE - THREAD MOUNT

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

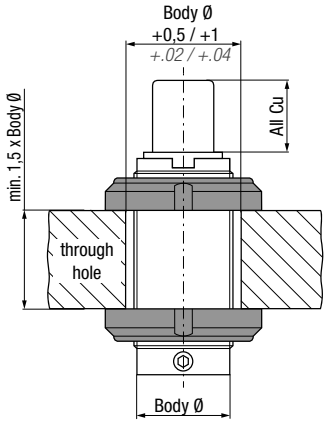
GM



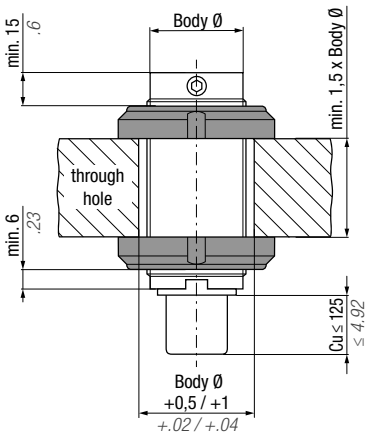
Installation into a threaded hole, locked by a threaded ring.



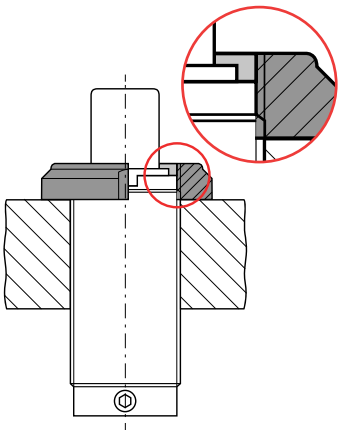
Installation into a threaded hole, locked by a threaded ring in upside down position.



Installation into a throughout hole, locked by two threaded rings.



Installation into a throughout hole, locked by two threaded rings in upside down position.



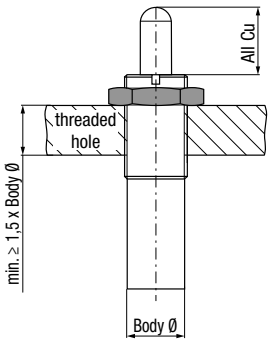
Installation NOT allowed due to insufficient length of engaged thread.

All dimensions in mm / *inch*

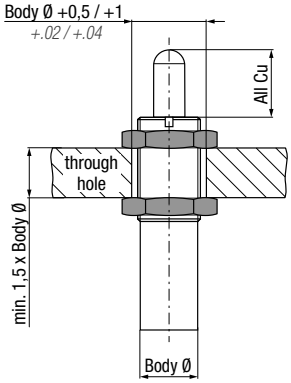
INSTALLATION GUIDELINE - THREAD MOUNT

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

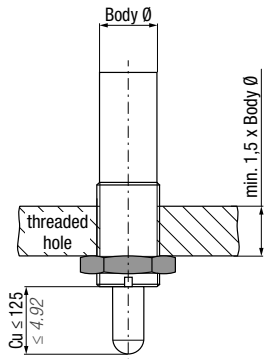
DM - DI



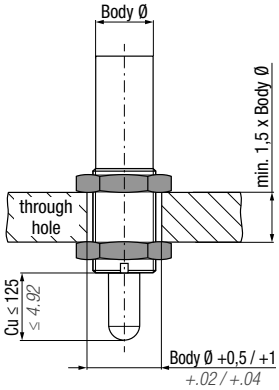
Installation into a threaded hole, locked by a nut.



Installation into a throughout hole, locked by two nuts.



Installation into a threaded hole, locked by a nut in upside down position.



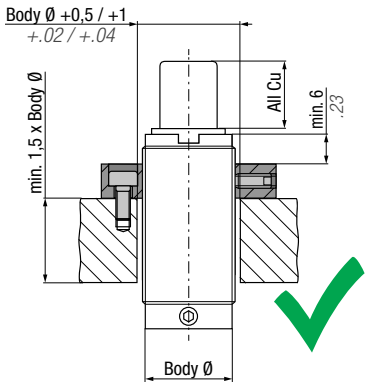
Installation into a throughout hole, locked by two nuts in upside down position.

All dimensions in mm / *inch*

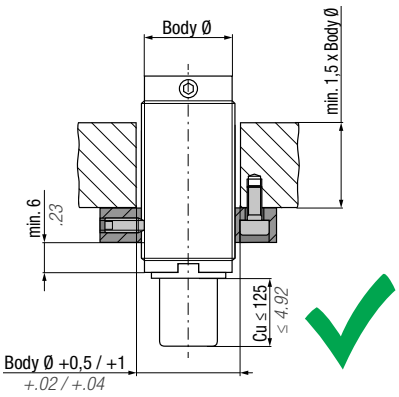
INSTALLATION GUIDELINE - THREAD MOUNT

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

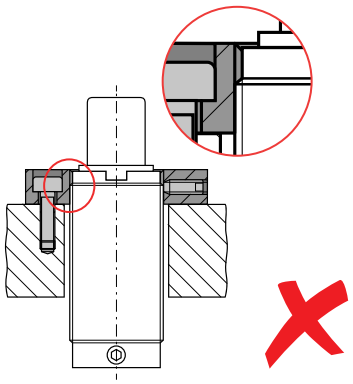
FCA



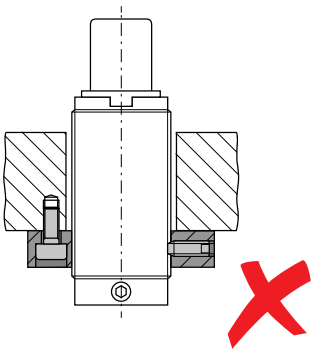
Installation into a throughout hole, fixed by a top mount threaded flange.



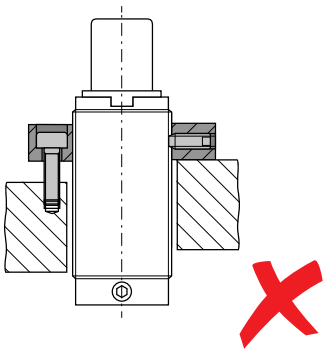
Installation into a throughout hole, fixed by a top mount threaded flange in upside down position.



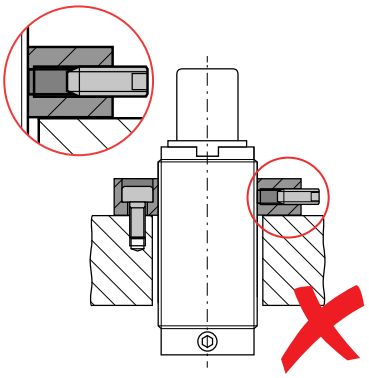
Installation NOT allowed due to insufficient engaged thread strength.



Installation NOT allowed due to tensile stress on screws.



Installation NOT allowed due to off-axis positioning.



Installation NOT allowed due to gas spring untightening.

INSTALLATION GUIDELINE - ML, MP, MQ series

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

IT Installare i cilindri ad azoto rispettando le indicazioni fornite qui sotto. Informazioni dettagliate sono presenti nel kit dedicato.

EN Install the gas springs following the directions given here below. Detailed information is included in the specific kit.

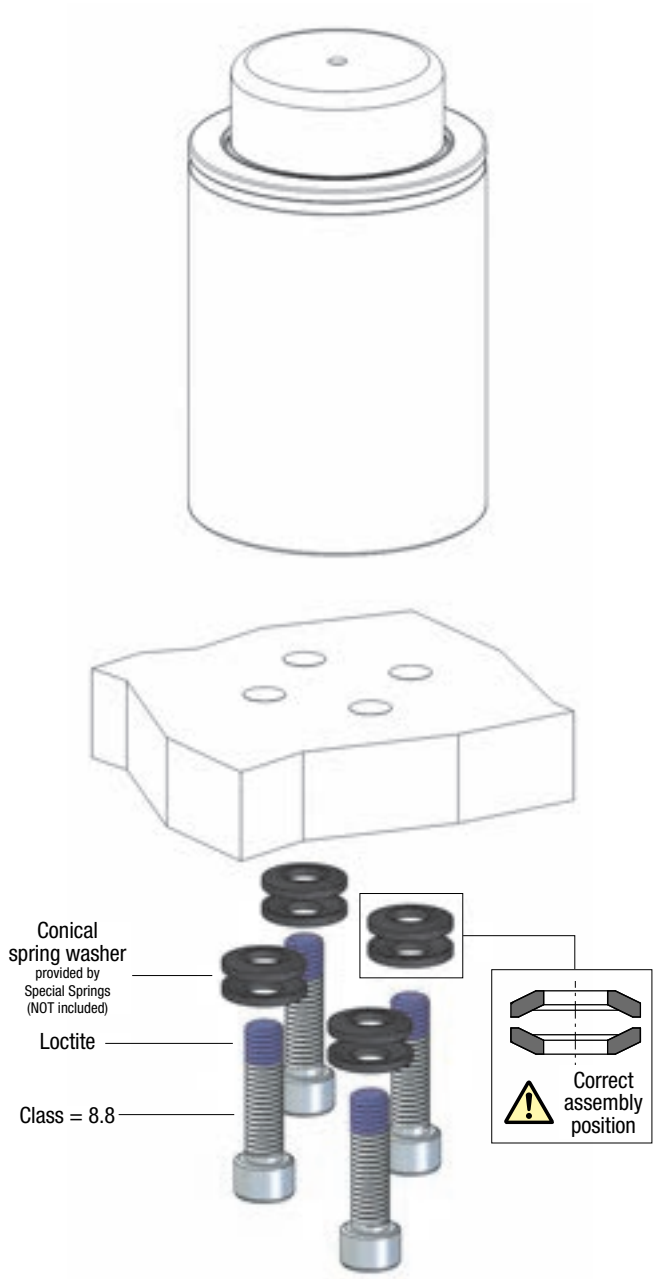
DE Montieren Sie die Gasdruckfedern gemäß den unten folgenden Anweisungen. Detaillierte Anweisungen finden Sie im jeweiligen Bausatz.

FR Installez les ressorts à gaz en suivant les instructions données ci-dessous. Des informations détaillées sont incluses dans le kit spécifique.

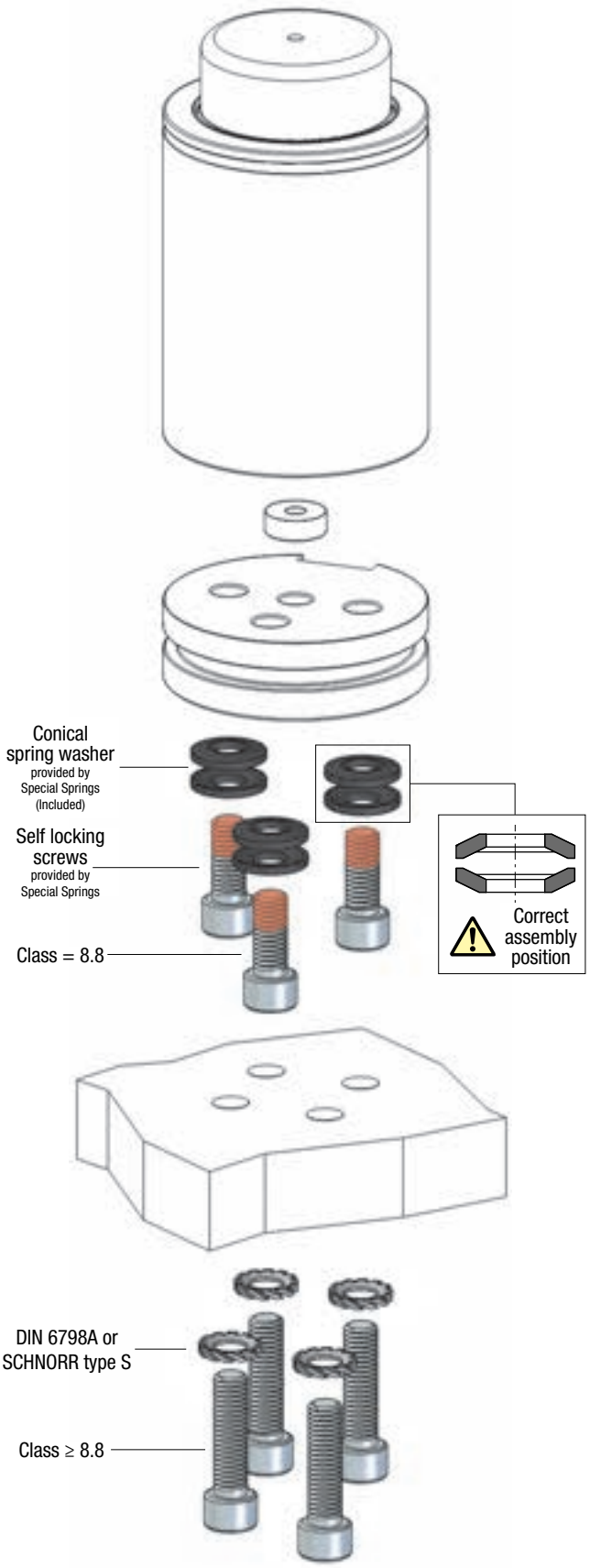
ES Instale los cilindros de gas siguiendo las instrucciones facilitadas a continuación. Información detallada incluida en el kit correspondiente.

PT Fixar os cilindros respeitando as orientações abaixo. Todas as informações detalhadas estão presentes no manual de instruções de cada cilindro.

ML, MP, MQ series - SELF CONTAINED



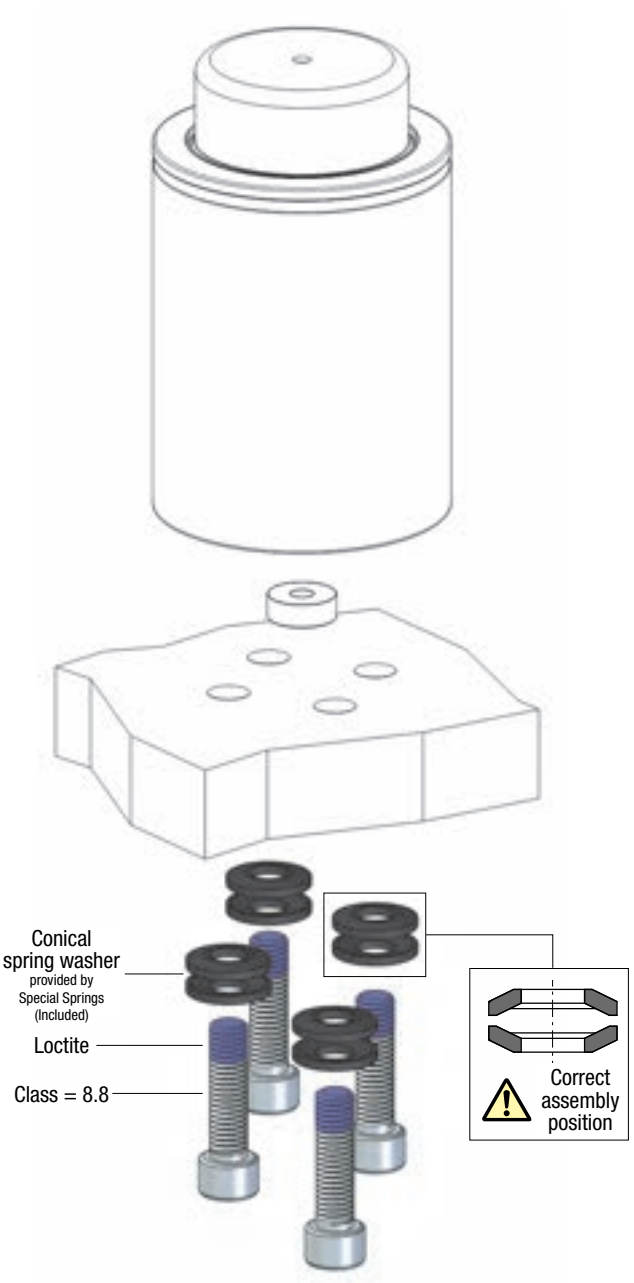
ML - LINKABLE



INSTALLATION GUIDELINE - ML, MP, MQ series

Esempi di installazione - Installation examples - Montagebeispiele - Exemples d'installation - Ejemplos de instalación - Exemplo de instalação

ML - EASY MANIFOLD



FIXING INFORMATION

IT Si raccomanda di installare i cilindri ad azoto nelle versioni "**Self Contained**" e "**Easy Manifold**" rispettando le indicazioni qui sotto.

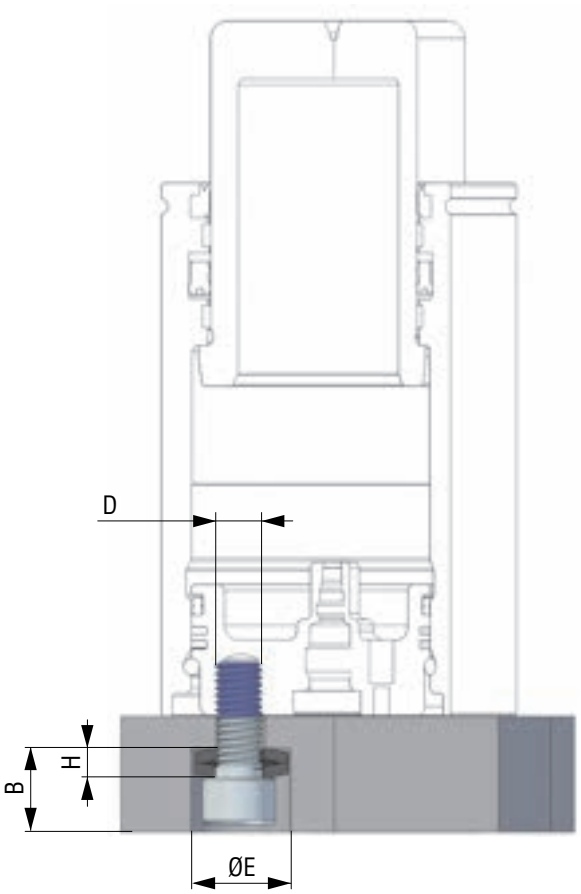
EN It is recommended to install gas springs in the **"Self-Contained"** and **"Easy Manifold"** versions by following the directions given here below.

DE Es wird empfohlen, die Gasdruckfedern der Versionen **"Self-Contained"** und **"Easy Manifold"** gemäß den unten aufgeführten Anweisungen einzubauen.

FR Il est recommandé d'installer les ressorts à gaz dans les versions **"Self-Contained"** (autonome) et **"Easy Manifold"** en suivant les instructions données ci-dessous.

ES Se recomienda instalar los cilindros de gas en las versiones **"Self-Contained"** (autónomo) y **"Easy Manifold"** siguiendo las instrucciones facilitadas a continuación.

PT Se recomenda fixar os cilindros **autonomos** e os para **"Easy Manifold"**, conforme as instruções abaixo.



Model	Conical spring washer code	Ø E		B		H		D	
		mm	*inch*	mm	*inch*	mm	*inch*		
ML 1000 D / ML 1800 D MP 500 A / MP 1000 A MQ 700 A	49RC06A	≥ 10,25	*≥ .40*	≥ 9,15	*≥ .36*	3,15	*.12*	M6	 UNI EN ISO 21269:2007 class = 8.8
ML 3000 D	49RCHS08A	≥ 17,3	*≥ .68*	≥ 12	*≥ .47*	4	*.16*	M8	
ML 4700 D / ML 7500 D MP 2000 A / MP 3000 A	49RC08A	≥ 18,3	*≥ .72*	≥ 12	*≥ .47*	4	*.16*	M8	
ML 12000 D	49RC10A	≥ 23,3	*≥ .92*	≥ 15	*≥ .59*	5	*.20*	M10	

THIS PAGE IS INTENTIONALLY LEFT BLANK

FLANGE MOUNTS

IT La seguente tabella indica i riferimenti Special Springs per ogni standards. Vedi esempio sotto riportato.

EN The following table shows the references for each Special Springs standards. See example below.

DE Die folgende Tabelle zeigt die Verweise für jede Special Springs Standards. Siehe Beispiel unten.

FR Le tableau suivant indique les références pour chacune des normes spéciales Springs. Voir l'exemple ci-dessous.

ES La siguiente tabla muestra las equivalencias de cada modelo Special Springs. Ver ejemplo en la parte inferior de esta hoja.

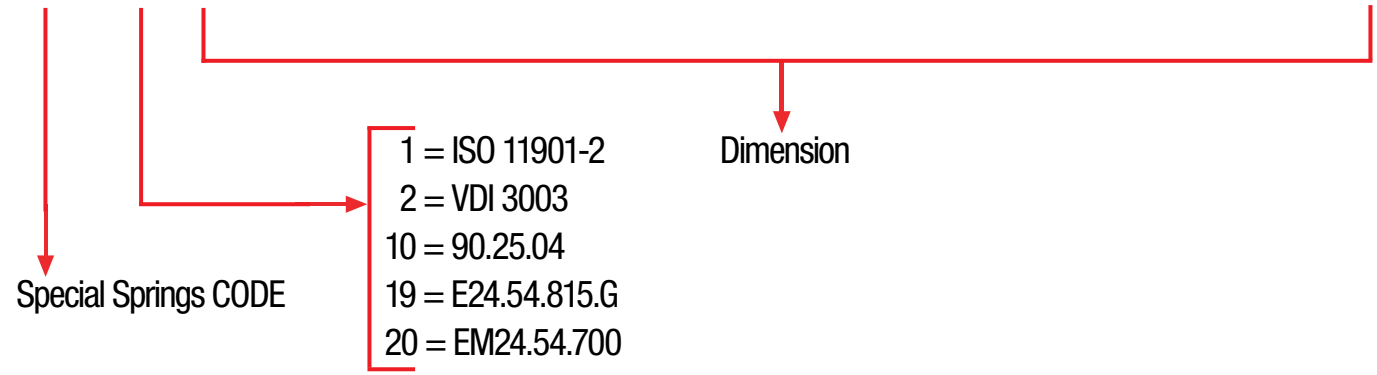
PT A tabela a seguir mostra as referências para cada normas especiais molas. Veja o exemplo abaixo.

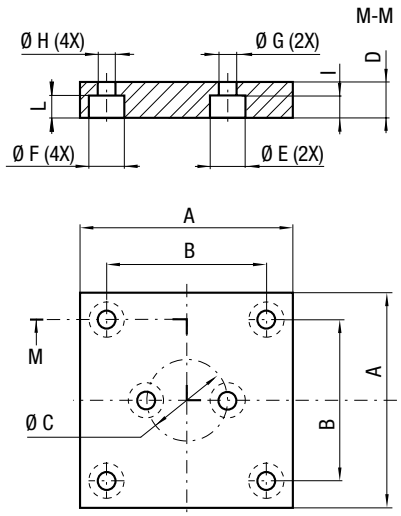
Reference to standards	Standards	
0	//	Special Springs
1	ISO 11901-2	
2	VDI 3003	
3	B2 4009	BMW
4	W-DX35-62M	Ford
5	W-DX35-80M	Ford
6	W-DX40-80M	Ford
7	90.25.01	General Motors
8	90.25.02	General Motors
9	90.25.03	General Motors
10	90.25.04	General Motors
11	90.25.06	General Motors
12	90.25.07	General Motors
13	90.25.455	General Motors
14	B8 0132 110 008 801	Mercedes Benz

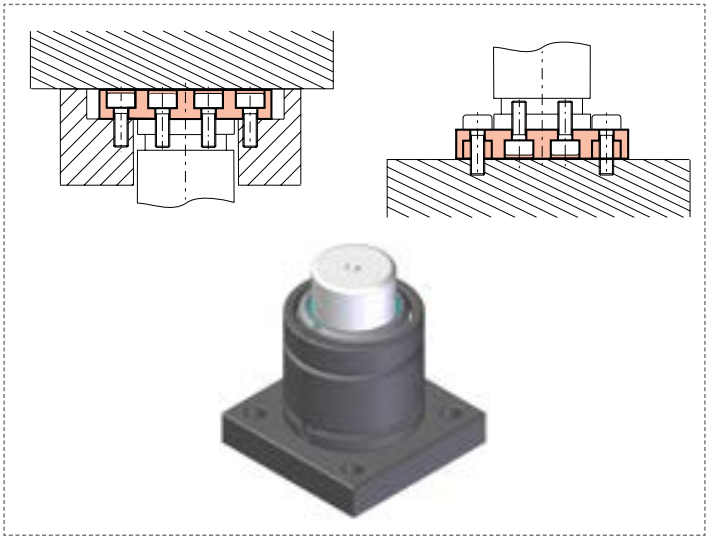
Reference to standards	Standards	
15	B8 0138 100 000 001	Mercedes Benz
16	B8 0134 300 000 001	Mercedes Benz
17	B8 0134 400 008 801	Mercedes Benz
18	B8	Mercedes Benz
19	E24.54.815.G	Peugeot - Citroën
20	EM24.54.700	Renault
21	39D 848	Volkswagen
22	075.90.70	FCA
23	075.90.75	FCA
24	075.90.80	FCA
25	075.90.85	FCA
26	075.90.90	FCA
27	075.90.95	FCA
28	075.90.40	FCA
29	K32D2-2400-50	Nissan

How to read the table

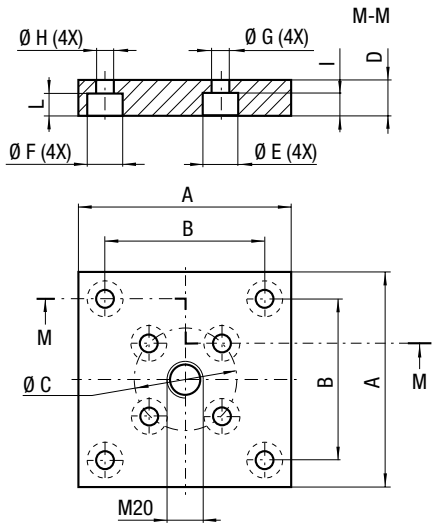
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*
FB 45	1-2-10-19-20	70	*2.76*	50	*1.97*	20	*0.79*	20	*0.79*	15	*0.59*	15	*0.59*	9	*0.35*	9	*0.35*	14	*0.55*	12	*0.47*

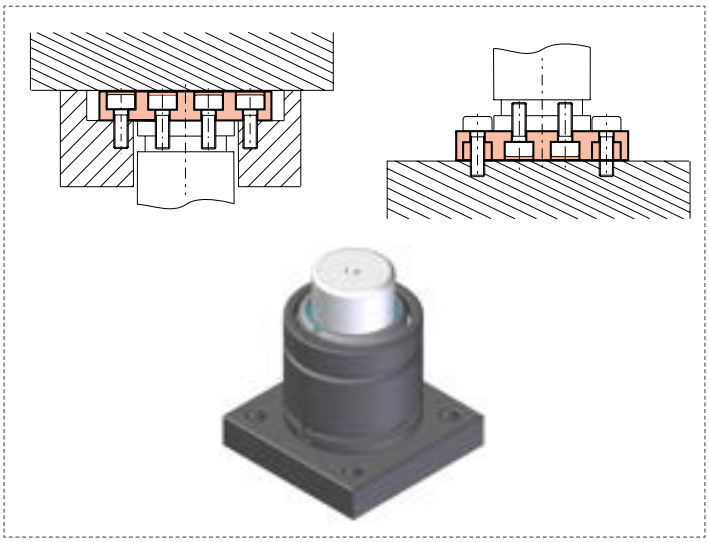






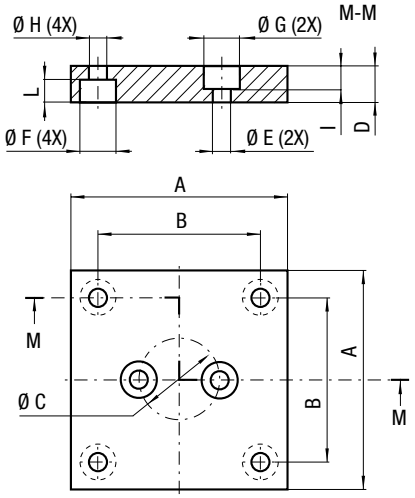
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FB 45	1-2-10-19-20	70	2.76	50	1.97	20	0.79	20	0.79	15	0.59	15	0.59	9	0.35	9	0.35	14	0.55	12	0.47
FB 50	1-2-10-19-20	75	2.95	56,5	2.22	20	0.79	20	0.79	15	0.59	15	0.59	9	0.35	9	0.35	14	0.55	12	0.47
FB 63	0	100	3.94	73,5	2.89	20	0.79	20	0.79	15	0.59	18	0.71	9	0.35	11	0.43	12	0.47	12	0.47

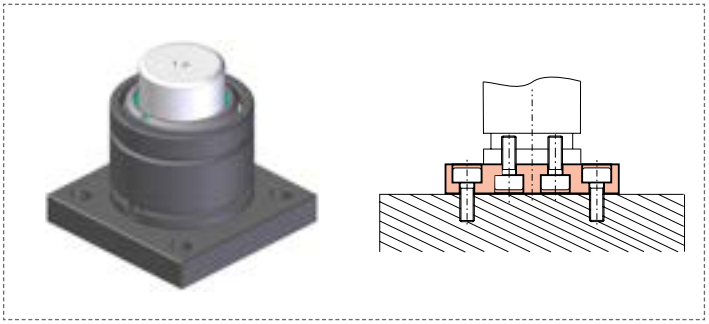




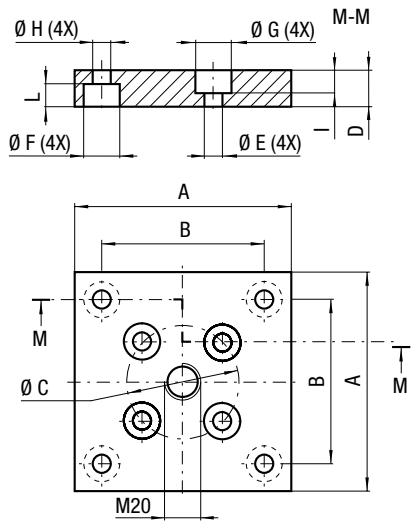
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FB 75	1-2-10-19-20	100	3.94	73,5	2.89	40	1.57	20	0.79	15	0.59	18	0.71	9	0.35	11	0.43	14	0.55	12	0.47
FB 95	1-2-10-19-20	120	4.72	92	3.62	60	2.36	20	0.79	15	0.59	20	0.79	9	0.35	13,5	0.53	14	0.55	13	0.51
FB 120	1-2-10-19-20	140	5.51	109,5	4.31	80	3.15	20	0.79	18	0.71	20	0.79	11	0.43	13,5	0.53	15	0.59	13	0.51
FB 150	1-2-10-20	190	7.48	138	5.43	100	3.94	25	0.98	18	0.71	26	1.02	11	0.43	17,5	0.69	15	0.59	17	0.67
FB 195	1-2-10-20	210	8.27	170	6.69	120	4.72	25	0.98	20	0.79	26	1.02	13,5	0.53	17,5	0.69	13	0.51	17	0.67

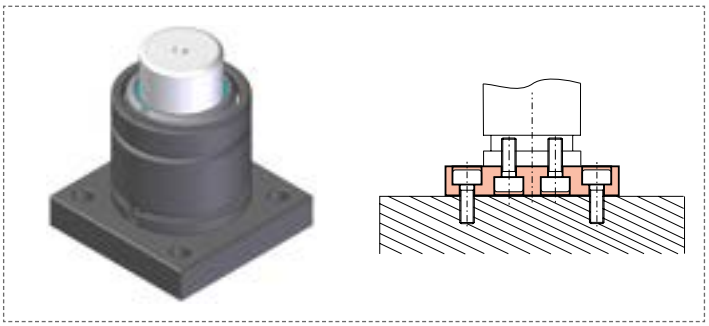
Renault			



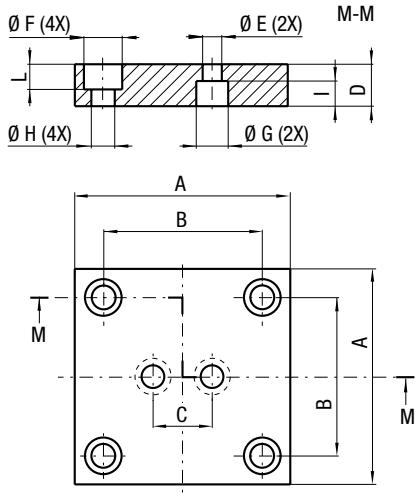


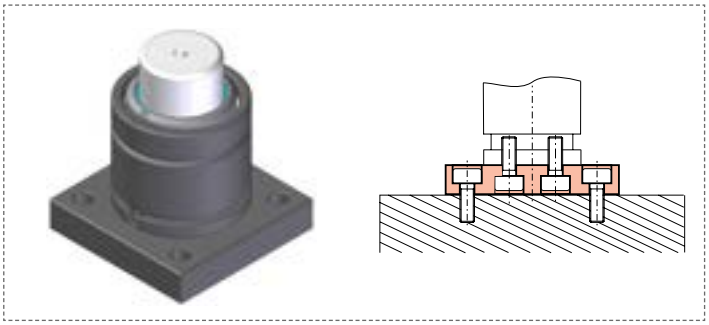
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBA 45	20	70	2.76	50	1.97	20	0.79	20	0.79	9	0.35	18	0.71	15	0.59	11	0.43	14	0.55	12	0.47
FBA 50	20	75	2.95	56,5	2.22	20	0.79	20	0.79	9	0.35	18	0.71	15	0.59	11	0.43	14	0.55	12	0.47



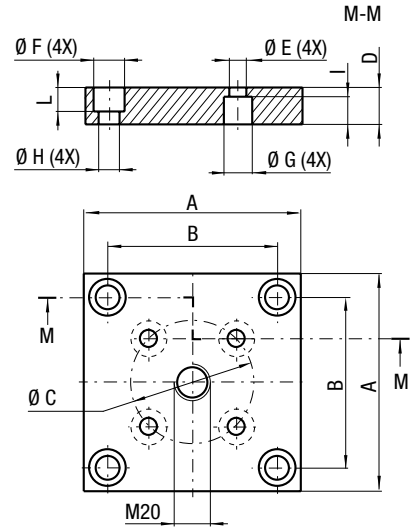


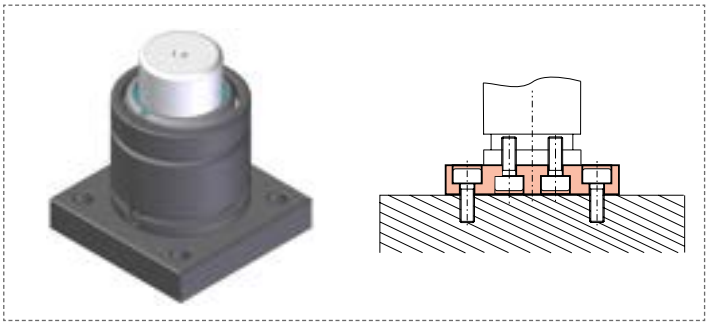
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBA 75	20	100	3.94	73,5	2.89	40	1.57	20	0.79	9	0.35	18	0.71	15	0.59	11	0.43	14	0.55	12	0.47
FBA 95	20	120	4.72	92	3.62	60	1.57	20	0.79	9	0.35	20	0.79	15	0.59	13,5	0.53	14	0.55	13	0.51
FBA 120	20	140	5.51	109,5	4.31	80	3.15	20	0.79	11	0.43	20	0.79	18	0.71	13,5	0.53	15	0.59	13	0.51
FBA 150	20	190	7.48	138	5.43	100	3.94	25	0.98	11	0.43	26	1.02	18	0.71	17,5	0.69	15	0.59	17	0.67
FBA 195	20	210	8.27	170	6.69	120	4.72	25	0.98	13,5	0.53	26	1.02	20	0.79	17,5	0.69	15	0.59	17	0.67



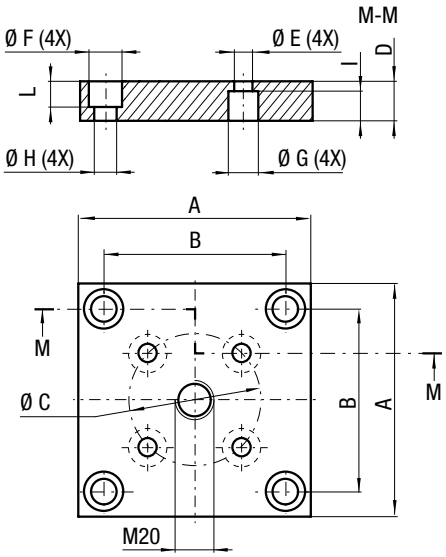


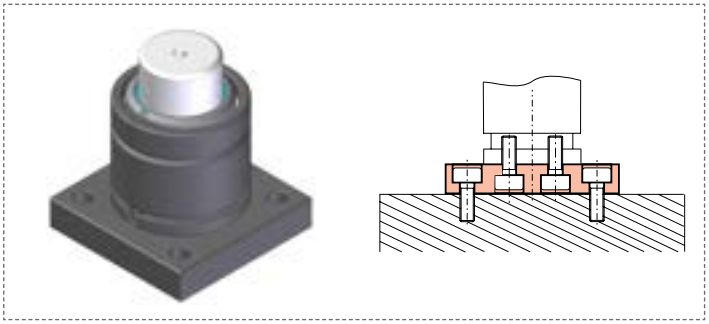
CODE	Reference to standards	A		B		C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBB 45	3-14	70	2.76	50	1.97	20	0.79	20	0.79	9	0.35	15	0.59	15	0.59	9	0.35	12	0.47	12	0.47
FBB 50	3-14	75	2.95	56,5	2.22	20	0.79	20	0.79	9	0.35	15	0.59	15	0.59	9	0.35	12	0.47	12	0.47
FBB 63	3-14	100	3.94	73,5	2.89	20	0.79	20	0.79	9	0.35	18	0.71	15	0.59	11	0.43	12	0.47	12	0.47



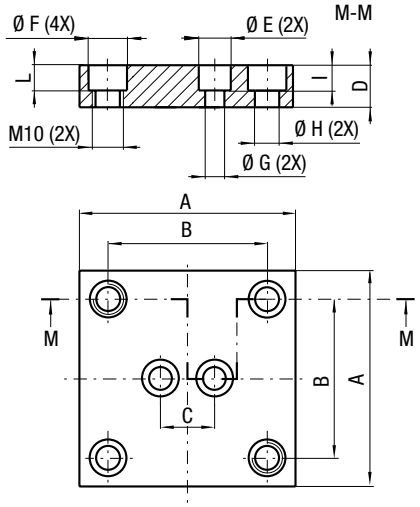


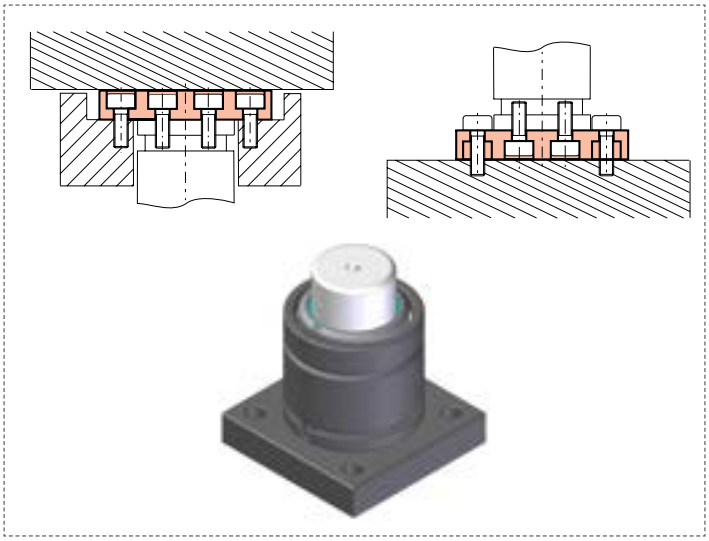
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBB 75	3-14	100	3.94	73,5	2.89	40	1.57	20	0.79	9	0.35	18	0.71	15	0.59	11	0.43	12	0.47	14	0.55
FBB 95	3-14	120	4.72	92	3.62	60	2.36	20	0.79	9	0.35	20	0.79	15	0.59	13,5	0.53	14	0.55	13	0.51
FBB 120	3-14	140	5.51	109,5	4.31	80	3.15	20	0.79	11	0.43	20	0.79	18	0.71	13,5	0.53	15	0.59	13	0.51
FBB 150 A	3-14	190	7.48	138	5.43	100	3.94	20	0.79	11	0.43	20	0.79	18	0.71	13,5	0.53	15	0.59	13	0.51
FBB 195	14	210	8.27	170	6.69	120	4.72	25	0.98	13,5	0.53	26	1.02	20	0.79	17,5	0.69	15	0.59	17	0.67



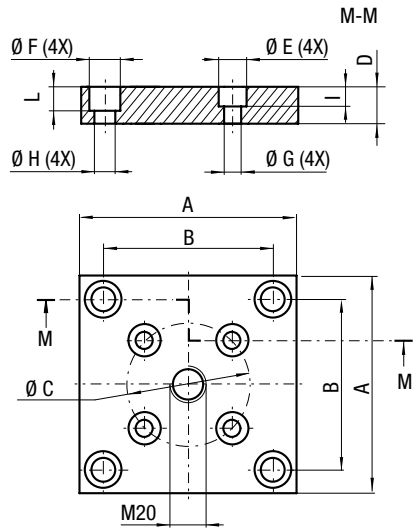


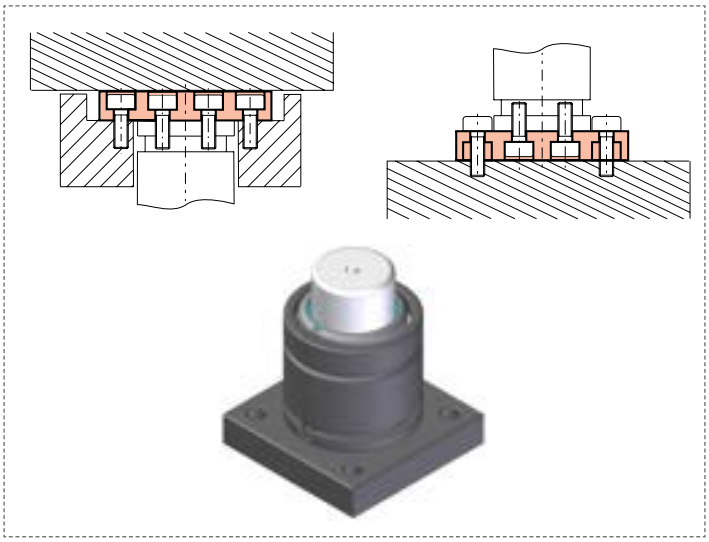
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*
FBC 75	0	100	*3.94*	73,5	*2.89*	40	*1.57*	20	*0.79*	9	*0.35*	18	*0.71*	15	*0.59*	11	*0.43*	12	*0.47*	15	*0.55*



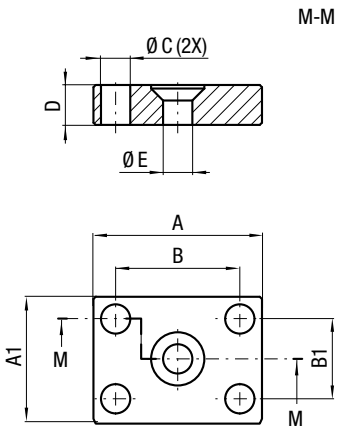


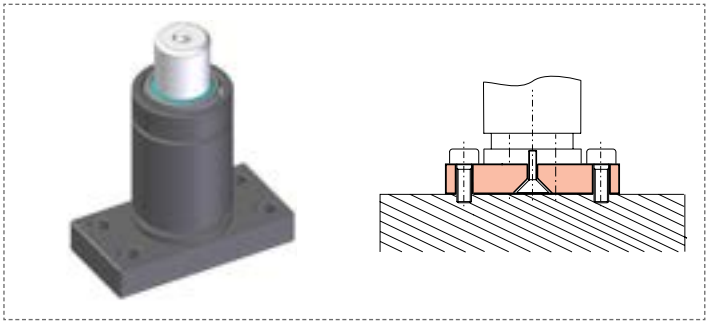
CODE	Reference to standards	A		B		C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBD 45	3	70	2.76	50	1.97	20	0.79	20	0.79	15	0.59	15	0.59	9	0.35	9	0.35	12	0.47	12	0.47
FBD 50	3	75	2.95	56,5	2.22	20	0.79	20	0.79	15	0.59	15	0.59	9	0.35	9	0.35	12	0.47	12	0.47



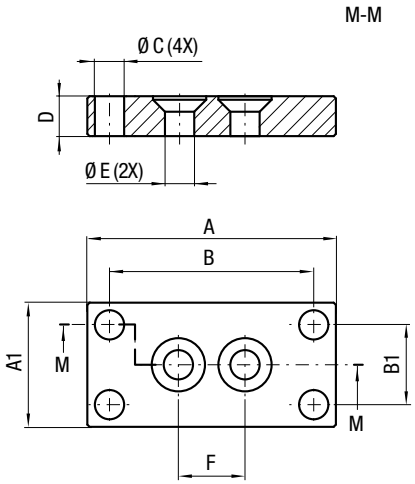


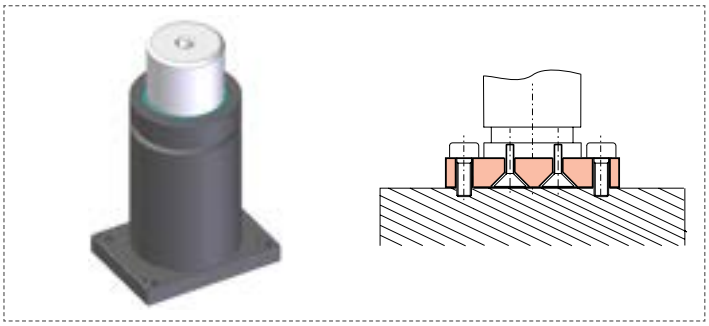
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBD 75	3	100	3.94	73,5	2.89	40	1.57	20	0.79	15	0.59	18	0.71	9	0.35	11	0.43	12	0.47	15	0.59
FBD 150	3-8	190	7.48	138	5.43	100	3.94	20	0.79	18	0.71	26	1.02	11	0.43	17,5	0.69	15	0.59	17	0.67



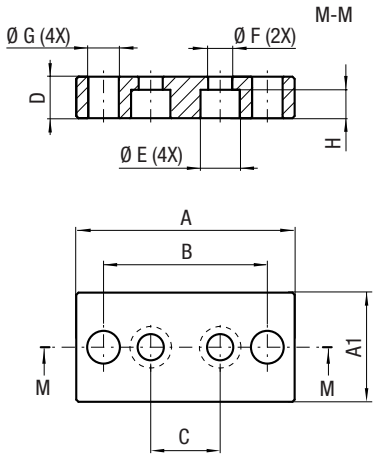


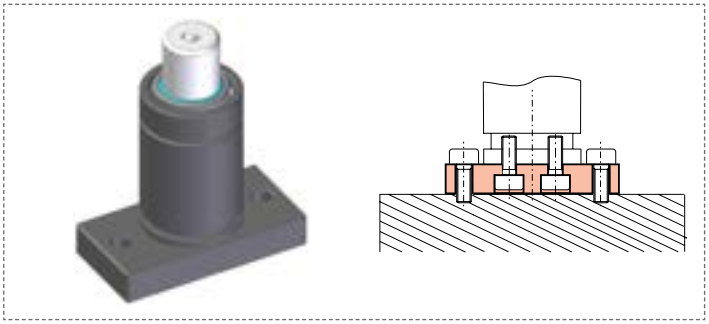
CODE	Reference to standards	A		A1		B		B1		Ø C		D		Ø E	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBE 19	0	38	1.50	28	1.10	28	1.10	18	0.71	6,6	0.26	9	0.35	6,6	0.26
FBE 25	0	44	1.73	28	1.10	34	1.34	18	0.71	6,6	0.26	9	0.35	6,6	0.26



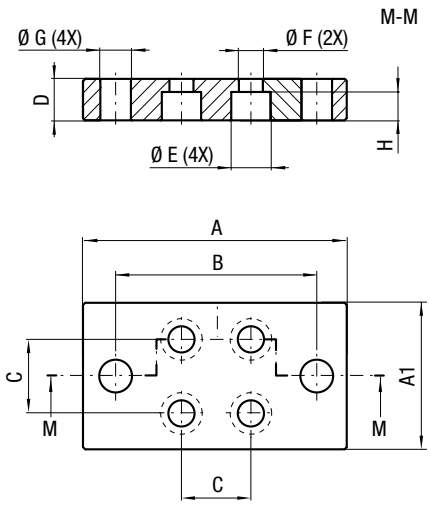


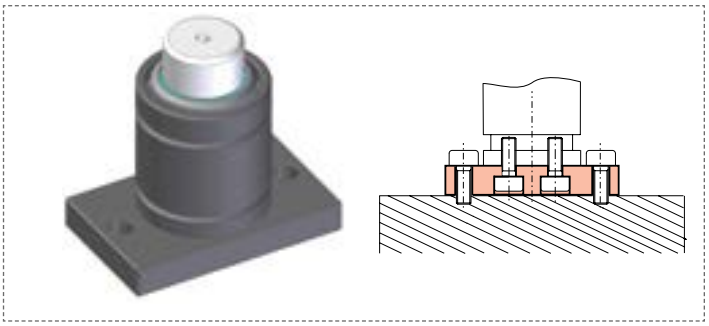
CODE	Reference to standards	A		A1		B		B1		Ø C		D		Ø E		F	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBE 32	0	51	2.01	32	1.26	41	1.61	22	0.87	6.6	0.26	9	0.35	6,6	0.26	15	0.59
FBE 38	0	57	2.24	38	1.50	47	1.85	28	1.10	6.6	0.26	9	0.35	6,6	0.26	20	0.79
FBE 50	0	69	2.72	50	1.97	59	2.32	40	1.57	6.6	0.26	9	0.35	9	0.35	20	0.79
FBE 63	0	84	3.31	65	2.56	70	2.76	50	1.97	6.6	0.26	9	0.35	9	0.35	20	0.79



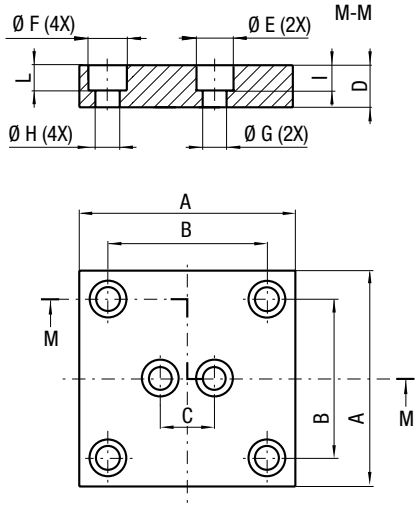


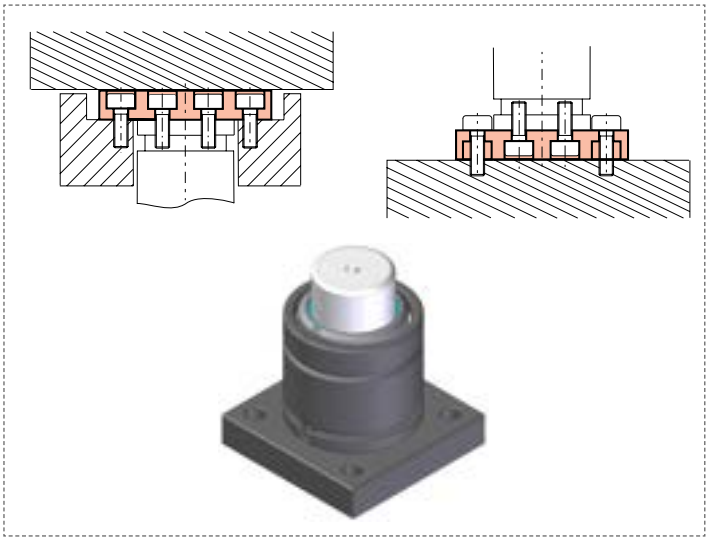
CODE	Reference to standards	A		A1		B		C		D		Ø E		Ø F		Ø G		H	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBF 45	20-29	90	3.54	45	1.77	70	2.76	20	0.79	16	0.63	14	0.55	9	0.35	9	0.35	10	0.39
FBF 50	20-29	100	3.94	50	1.97	75	2.95	31,8	1.25	19	0.75	18	0.71	11	0.43	14	0.55	13	0.51
FBFA 50	20-29	100	3.94	50	1.97	75	2.95	20	0.79	19	0.75	14	0.55	9	0.35	14	0.55	13	0.51



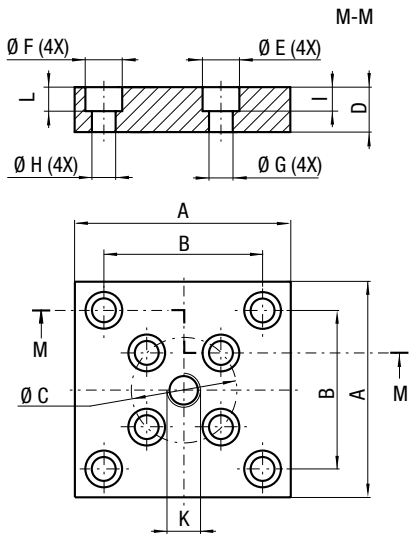


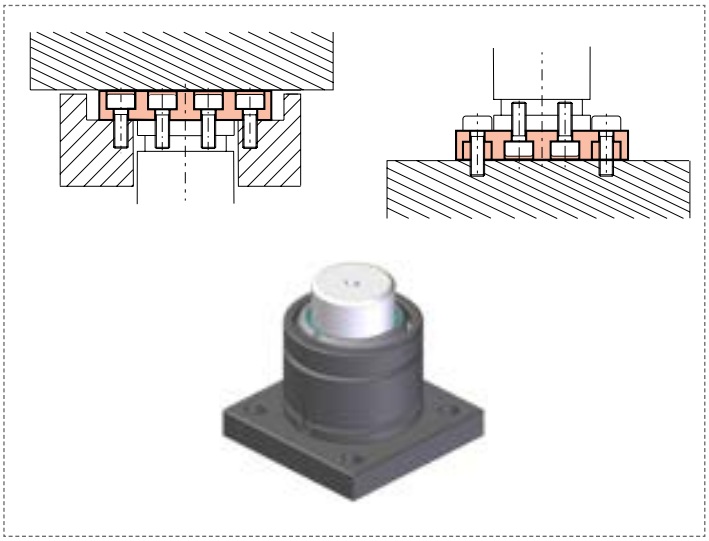
CODE	Reference to standards	A		A1		B		C		D		Ø E		Ø F		Ø G		H	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBF 75	20-29	130	5.12	80	3.15	105	4.13	38,1	1.50	19	0.75	20	0.79	14	0.55	14	0.55	13	0.51
FBFA 75	20-29	130	5.12	80	3.15	105	4.13	28,3	1,11	19	0.75	14	0.55	9	0.35	14	0.55	13	0.51
FBF 95	20-29	150	5.91	100	3.94	125	4.92	53,9	2,12	19	0.75	20	0.79	14	0.55	14	0.55	13	0.51
FBFA 95	20-29	150	5.91	100	3.94	125	4.92	42,4	1,67	19	0.75	14	0.55	9	0.35	14	0.55	13	0.51
FBF 120	20-29	170	6.69	120	4.72	145	5.71	57,1	2,25	19	0.75	20	0.79	14	0.55	14	0.55	13	0.51



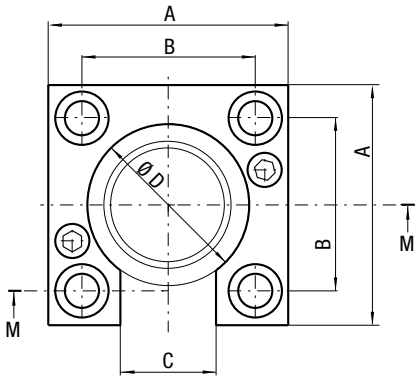


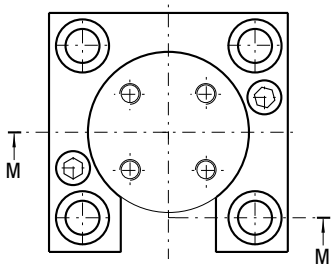
CODE	Reference to standards	A		B		C		D		Ø E		Ø F		Ø G		Ø H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FBH 50	19	85	3.35	62	2.44	31,8	1.25	25	0.98	18	0.71	18	0.71	11	0.43	11	0.43	13	0.51	13	0.51

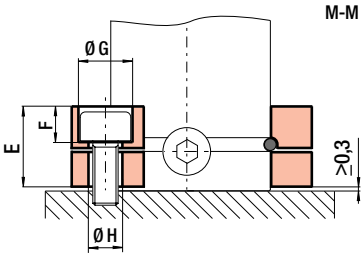




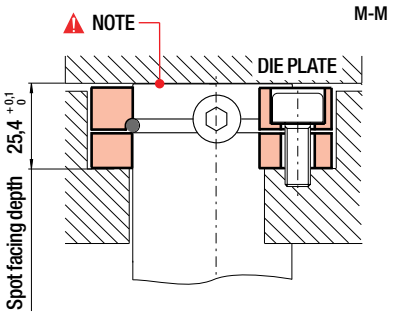
CODE	Reference to standards	A		B		Ø C		D		Ø E		Ø F		Ø G		Ø H		I		L		K
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
FBH 75	19	100	3.94	76	2.99	53,9	2.12	25	0.98	21	0.83	21	0.83	13	0.51	13	0.51	14	0.55	13	0.51	M16
FBH 95	19	132	5.20	95	3.74	76,2	3.00	30	1.18	20	0.79	26	1.02	13	0.51	17	0.67	14	0.55	18	0.71	M20













CODE	Reference to standards	A		B		C		Ø D		E		F		ØG		ØH	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FS1 50	0	75	2.95	53,9	2.12	30	1.18	50,5	1.99	25	0.98	11	0.43	17	0.67	11	0.43
FS1 63	0	100	3.94	73,5	2.89	30	1.18	63,5	2.50	25	0.98	11	0.43	17	0.67	11	0.43
FS1 75	0	100	3.94	76,2	3,00	30	1.18	75,5	2.97	25	0.98	13	0.51	20	0.79	13	0.51
FS1 95	0	125	4.92	98,3	3.87	30	1.18	95,5	3.76	25	0.98	13	0.51	20	0.79	13	0.51
FS1 120	0	140	5.51	114,3	4.50	30	1.18	120,5	4.74	25	0.98	13	0.51	20	0.79	13	0.51
FS1 150	0	175	6.89	139,7	5.50	30	1.18	150,5	5.93	25	0.98	17	0.67	25	0.98	17	0.67

NOTE

IT Garantire sempre il contatto tra il piano premente e il fondo del cilindro ad azoto.

EN Make sure there is always a contact between the bottom gas spring surface and the die plate.

DE Es muss immer ein Kontakt zwischen der Arbeitsfläche der Presse und dem Boden der Gasdruckfeder gewährleistet sein.

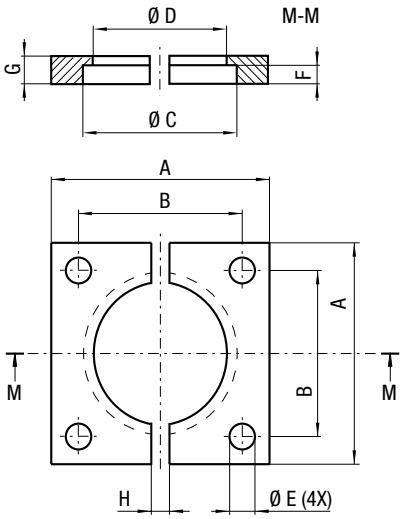
FR Toujours consentir un contact entre la surface du fond du cylindre et la presse.

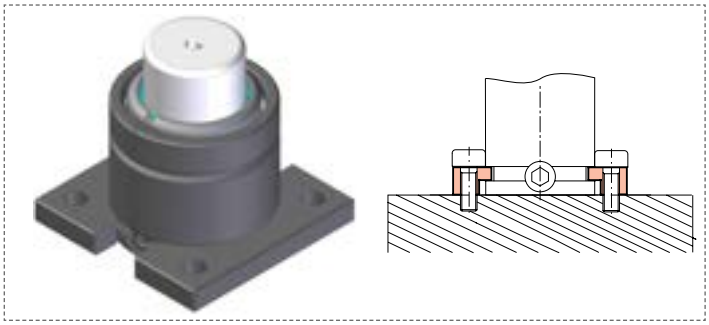
ES Garantizar siempre el contacto entre la base del cilindro y el utillaje.

PT Garantir sempre o contato entre o fundo do cilindro e o dispositivo de pressão.

FS2

ISO	VDI	BMW	Ford
General Motors	Mercedes Benz	Volkswagen	

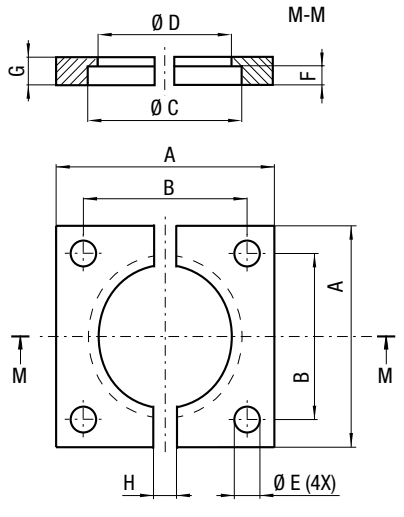


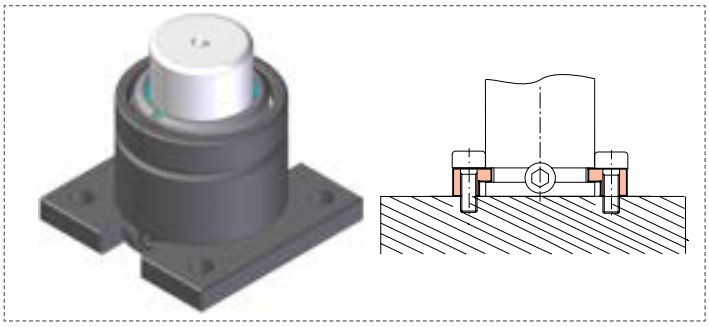


CODE	Reference to standards	A		B		Ø C		Ø D		Ø E		F		G		H	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FS2 32	1-3-4-7-15	50	1.97	35	1.38	32,5	1.28	28,5	1.12	6,6	0.26	4	0.16	7	0.28	5	0.20
FS2 38	1-3-4-7-15	55	2.17	40	1.57	38,5	1.52	34,5	1.36	7	0.28	4	0.16	7	0.28	5	0.20
FS2 45	1-2-3-4-7-15-21-26	70	2.76	50	1.97	45,5	1.79	41,5	1.63	9	0.35	4	0.16	7	0.28	20	0.79
FS2 50	1-2-3-4-7-15-21-26	75	2.95	56,5	2.22	50,5	1.99	44,5	1.75	9	0.35	8	0.31	12	0.47	24	0.95
FS2 63	0	85	3.35	63,5	2.50	63,5	2.50	57,5	2.26	11	0.43	8	0.31	12	0.47	24	0.95
FS2 75	1-2-3-4-7-15-21-26	100	3.94	73,5	2.89	75,5	2.97	68,5	2.70	11	0.43	8	0.31	12	0.47	24	0.95
FS2 95	1-2-3-4-7-15-21-26	120	4.72	92	3.62	95,5	3.76	88,5	3.48	13,5	0.53	8	0.31	12	0.47	24	0.95
FS2 120	1-2-3-4-7-15-21-26	140	5.51	109,5	4.31	120,5	4.74	113,5	4.47	13,5	0.53	8	0.31	12	0.47	24	0.95
FS2 150	1-2-3-4-7-15-21-26	190	7.48	138	5.43	150,5	5.93	143,5	5.65	17,5	0.69	8	0.31	12	0.47	24	0.95
FS2 195	1-2-4-7-15-21-26	210	8.27	170	6.69	195,5	7.70	188	7.40	17,5	0.69	8	0.31	13	0.51	24	0.95

FS2B

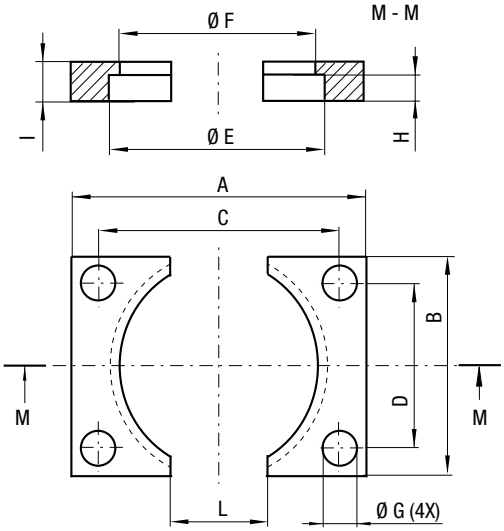
VDI	BMW	Ford	Mercedes Benz
Volkswagen			

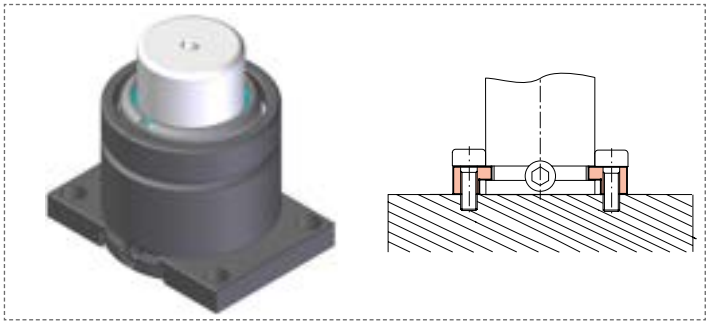




CODE	Reference to standards	A		B		Ø C		Ø D		Ø E		F		G		H	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FS2B 32	2-21-26	50	1.97	35	1.38	32,5	1.28	28,5	1.12	6,6	0.26	4	0.16	7	0.28	12	0.47
FS2B 38	2-21-26	55	2.17	40	1.57	38,5	1.52	34,5	1.36	6,6	0.26	4	0.16	7	0.28	12	0.47
FS2B 63	2-3-4-15-21	100	3.94	73,5	2.89	64	2.52	57,5	2.60	11	0.43	8	0.32	12	0.47	24	0.95

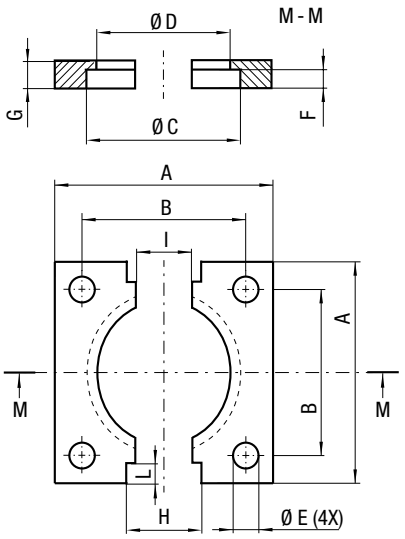
FS2A

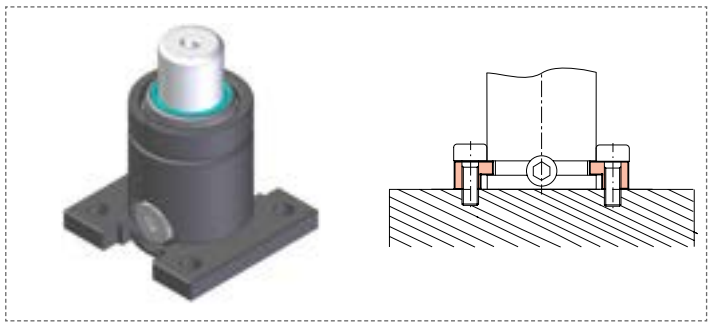




CODE	Reference to standards	A		B		C		D		Ø E		Ø F		Ø G		H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FS2A 32	0	50	1.97	27	1.06	40	1.57	18	0.71	32,5	1.28	28,5	1.12	6,6	0.26	4	0.16	7	0.28	20	0.79
FS2A 38	0	55	2.17	33	1.30	44	1.73	20	0.79	38,5	1.52	34,5	1.36	6,6	0.26	4	0.16	7	0.28	20	0.79
FS2A 45	0	70	2.76	40	1.57	57	2.24	27	1.06	45,5	1.79	41,5	1.63	9	0.35	4	0.16	7	0.28	25	0.98
FS2A 50	0	75	2.95	45	1.77	62	2.44	32	1.26	50,5	1.99	44,5	1.75	9	0.35	8	0.31	12	0.47	25	0.98
FS2A 63	0	85	3.35	58	2.28	69	2.72	42	1.65	63,5	2.5	57,5	2.26	11	0.43	8	0.31	12	0.47	30	1.18
FS2A 75	0	100	3.94	70	2.76	84	3.31	54	2.13	75,5	2.97	68,5	2.7	11	0.43	8	0.31	12	0.47	30	1.18
FS2A 95	0	120	4.72	90	3.54	100	3.94	70	2.76	95,5	3.76	88,5	3.48	13,5	0.53	8	0.31	12	0.47	40	1.57
FS2A 120	0	140	5.51	115	4.53	120	4.72	95	3.74	120,5	4.74	113,5	4.47	13,5	0.53	8	0.31	12	0.47	50	1.97
FS2A 150	0	190	7.48	145	5.71	165	6.5	120	4.72	150,5	5.93	143,5	5.65	17,5	0.69	8	0.31	12	0.47	60	2.36
FS2A 195	0	210	8.27	190	7.48	185	7.28	165	6.50	195,5	7.70	188	7.40	17,5	0.69	8	0.31	13	0.51	80	3.15

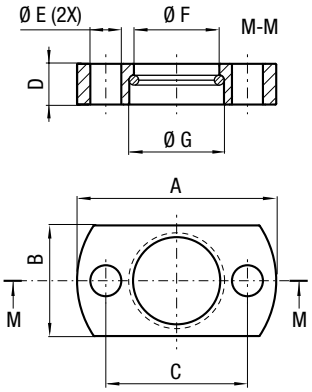
FS2C

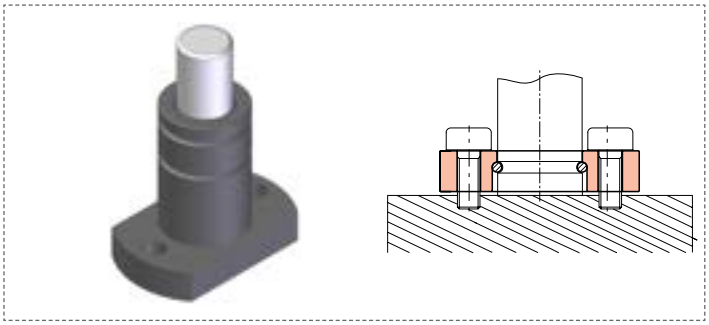




CODE	Reference to standards	A		B		C		D		Ø E		F		G		H		I		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FS2C 32	0	50	1.97	35	1.38	32,5	1.28	28,5	1.12	6,6	0.26	4	0.16	7	0.28	21	0.83	17	0.67	6,5	0.26
FS2C 38	0	55	2.17	40	1.57	38,5	1.52	34,5	1.36	6,6	0.26	4	0.16	7	0.28	21	0.83	17	0.67	6,5	0.26

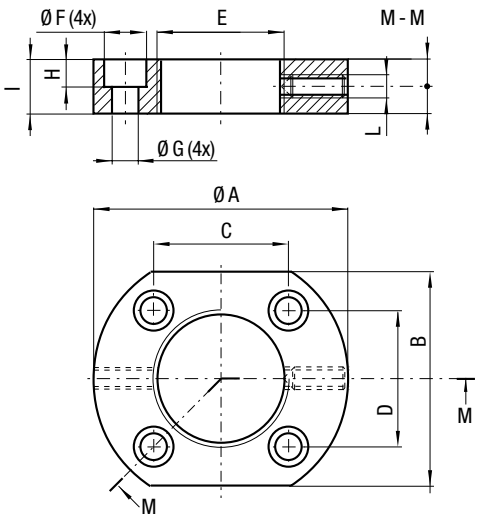
FS3

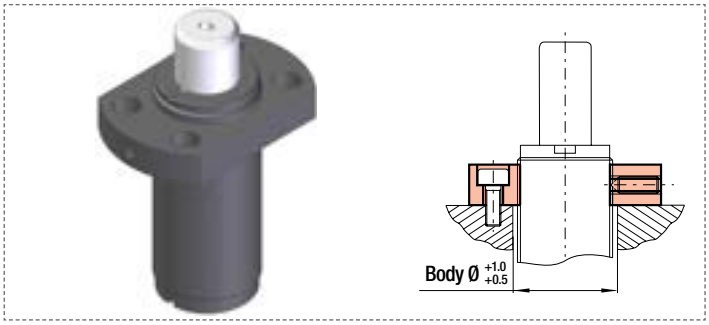




CODE	Reference to standards	A		B		C		D		Ø E		Ø F		Ø G	
		mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*
FS3 19	0	45	*1.77*	25	*0.98*	32	*1.26*	9,2	*0.36*	7	*0.28*	19,3	*0.76*	21,4	*0.84*
FS3 25	0	50	*1.97*	30	*1.18*	38	*1.50*	9,2	*0.36*	7	*0.28*	25,3	*1.00*	27,4	*1.08*

FCA



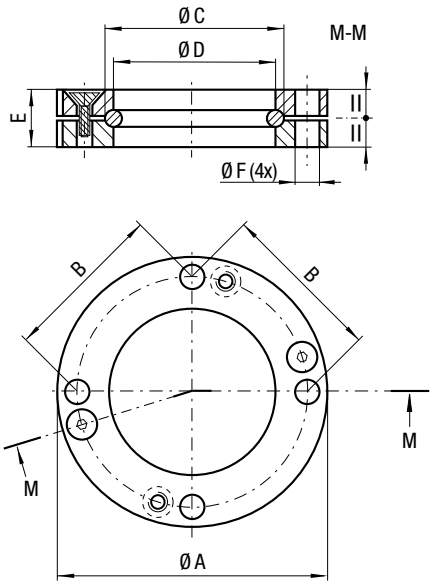


CODE	Reference to standards	Ø A		B		C		D		E	Ø F		Ø G		H		I		L
		mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*		mm	*inch*	mm	*inch*	mm	*inch*	mm	*inch*	
FCA 38	0	75	*2.95*	50	*1.97*	50,3	*1.98*	29	*1.14*	M 38 x 1,5	14	*0.55*	9	*0.35*	8	*0.31*	12	*0.47*	M6
⚠ FCA 45	0	90	*3.54*	60	*2.36*	60	*2.36*	34	*1.34*	M 45 x 1,5	14	*0.55*	9	*0.35*	8	*0.31*	16	*0.63*	M6
⚠ FCA 50	0-22	100	*3.94*	66	*2.60*	66	*2.60*	38	*1.50*	M 50 x 1,5	14	*0.55*	9	*0.35*	8	*0.31*	16	*0.63*	M6

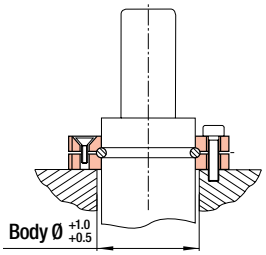
⚠ **Phasing out**

For KE series only

FCB

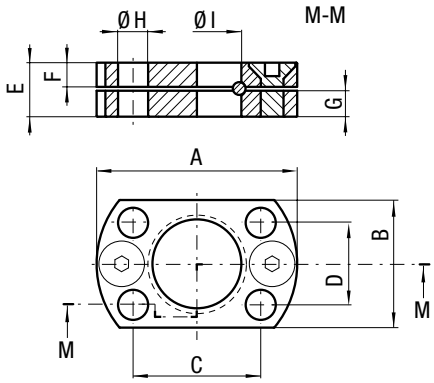




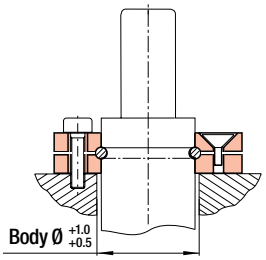


CODE	Reference to standards	Ø A		B		Ø C		Ø D		E		Ø F	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FCB 50	0	95	3.74	56,5	2.22	52	2.05	50,5	1.99	13	0.51	9	0.35
FCB 63	0	122	4.80	73,5	2.89	66	2.60	63,5	2.50	16	0.63	11	0.43
FCB 75	0	122	4.80	73,5	2.89	78	3.07	75,5	2.97	16	0.63	11	0.43
FCB 95	0	150	5.91	92	3.62	98	3.86	95,5	3.76	18	0.71	13,5	0.53

FCD







CODE	Reference to standards	A		B		C		D		E		F		G		Ø H		Ø I	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FCD 19	0	44	1.73	28	1.10	28	1.10	18	0.71	11	0.43	5,2	0.20	5,6	0.22	6,6	0.26	19,5	0.77
FCD 25	0	50	1.97	30	1.18	34	1.34	18	0.71	11	0.43	5,2	0.20	5,6	0.22	6,6	0.26	25,5	1.00
FCD 32	0	57	2.24	39	1.54	40	1.57	22	0.87	11	0.43	5,2	0.20	5,6	0.22	6,6	0.26	32,5	1.28
FCD 38	0	63	2.48	46	1.81	45	1.77	26	1.02	11	0.43	5,2	0.20	5,6	0.22	6,6	0.26	38,5	1.52
FCD 50	0	75	2.95	58	2.28	54	2.13	34	1.34	11	0.43	6,2	0.24	4,6	0.18	6,6	0.26	50,5	1.99
FCD 63	0	98	3.86	76	2.99	74	2.91	40	1.57	13	0.51	8,9	0.35	3,9	0.15	9	0.35	63,5	2.50

Fig. 1

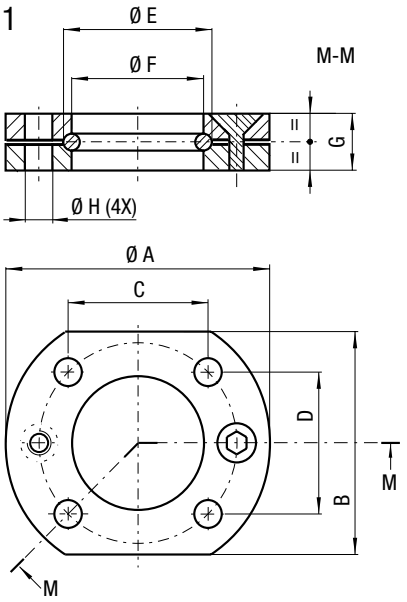
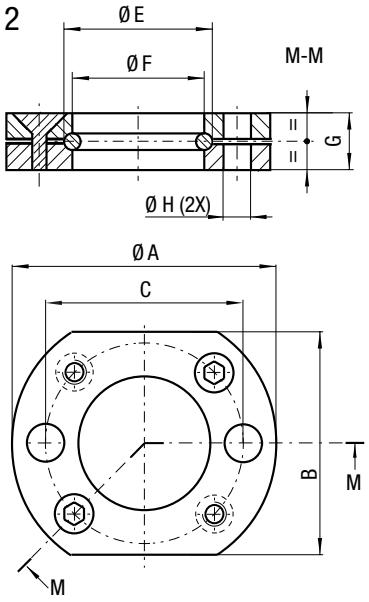
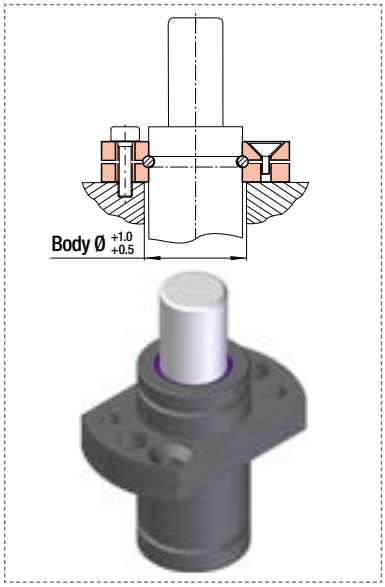
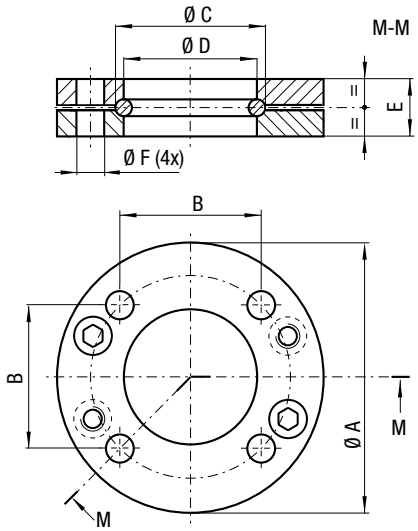


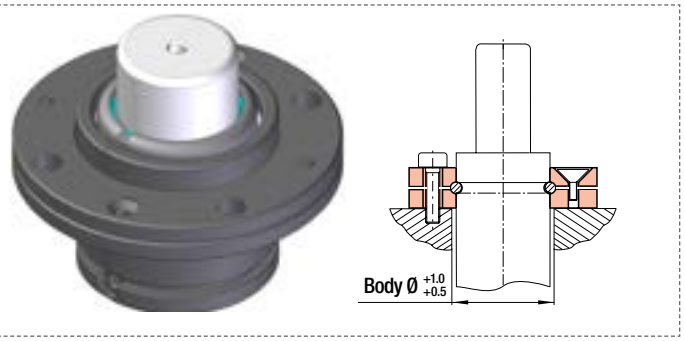
Fig. 2





CODE	Reference to standards	Ø A		B		C		D		Ø E		Ø F		G		Ø H		Rif. Fig
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
FC 12 A	0	34	1.34	21	0.83	24	0.94	-	-	13,7	0.54	12,5	0.49	9	0.35	6,6	0.26	Fig. 2
FC 15 A	0	37	1.36	24	0.94	27	1.06	-	-	16,7	0.66	15,5	0.61	9	0.35	6,6	0.26	
FC 19 B	1-5	44	1.73	25	0.98	30	1.18	12	0.47	21,9	0.86	19,5	0.77	9	0.35	6,6	0.26	Fig. 1
FC 25 B	1-5	50	1.97	30	1.18	34	1.34	18	0.71	27,9	1.10	25,5	1.00	9	0.35	6,6	0.26	
FCC 19 A	2-3-17-21-23	44	1.73	25	0.98	32	1.26	-	-	21	0.83	19,5	0.77	9	0.35	6,6	0.26	Fig. 2
FCC 25 A	2-3-17-19-21-23	50	1.97	30	1.18	38	1.50	-	-	27	1.06	25,5	1.00	9	0.35	6,6	0.26	

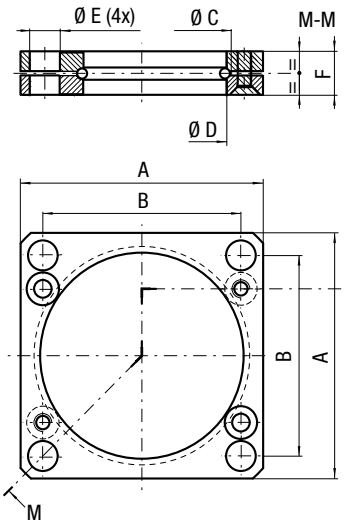


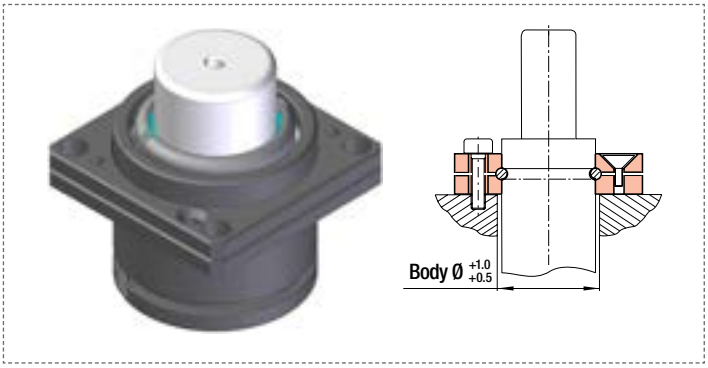


CODE	Reference to standards	Ø A		B		Ø C		Ø D		E		Ø F	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FC 32 A	1-9-16-24	60	2.36	35	1.38	34	1.34	32,5	1.28	9	0.35	7	0.28
FC 38 A	1-9-16-24	68	2.68	40	1.57	40	1.57	38,5	1.52	9	0.35	7	0.28
FC 45 A	1-9-16-24	86	3.39	50	1.97	47	1.85	45,5	1.79	13	0.51	9	0.35
FC 50 A	1-9-16-24	95	3.74	56,5	2.22	54	2.13	50,5	1.99	13	0.51	9	0.35
FC 63 A	0	122	4.80	73,5	2.89	67	2.64	63,5	2.50	16	0.63	11	0.43
FC 75 A	1-9-16-24	122	4.80	73,5	2.89	80	3.15	75,5	2.97	16	0.63	11	0.43
FC 95 A	1-9-16-24	150	5.91	92	3.62	100	3.94	95,5	3.76	18	0.71	13,5	0.53
FC 120 A	1-9-16-24	175	6.89	109,5	4.31	125	4.92	120,5	4.74	21	0.83	13,5	0.53
FC 150 A	1-9-16-24	220	8.66	138	5.43	155	6.10	150,5	5.93	27	1.06	17,5	0.69
FC 195 A	1-9-16-24	290	11.42	170	6.69	200	7.87	195,5	7.70	27	1.06	17,5	0.69

ISO	VDI	BMW	Ford
General Motors	Volkswagen		

FCQ - FCQC

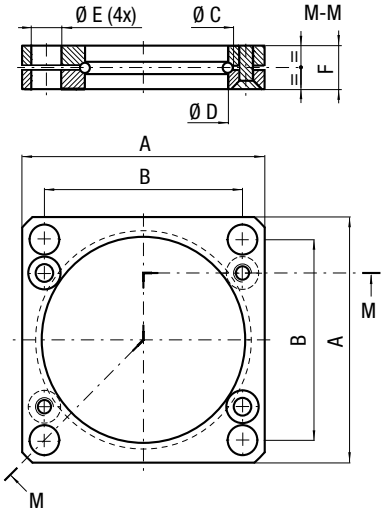


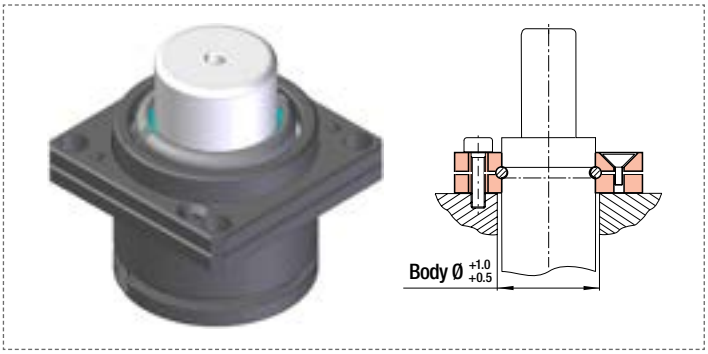


CODE		Reference to standards	A		B		Ø C		Ø D		Ø E		F	
PHASING OUT	NEW		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FCQ 32 A	FCQC 32	2-4-8-25	45	1.77	35	1.38	34	1.34	32,5	1.28	7	0.28	9	0.26
FCQ 38 A	FCQC 38	1-2-3-4-8-25	52	2.05	40	1.57	40	1.57	38,5	1.52	7	0.28	9	0.35
FCQ 45 A	FCQC 45	1-2-3-4-8-25	64	2.52	50	1.97	47	1.85	45,5	1.79	9	0.35	13	0.51
FCQ 50 A	FCQC 50	1-2-3-4-8-25	70	2.76	56,5	2.22	54	2.13	50,5	1.99	9	0.35	13	0.51
FCQ 63 A	FCQ 63 A	25	90	3.54	73,5	2.89	67	2.64	63,45	2.50	11	0.43	16	0.63
FCQC 63	FCQC 63	2-4-21	80	3.15	64	2.52	67	2.64	63,45	2.50	11	0.43	16	0.63
FCQ 75 A	FCQC 75	1-2-3-4-8-25	90	3.54	73,5	2.89	80	3.15	75,5	2.97	11	0.43	16	0.63
FCQ 95 A	FCQC 95	1-2-3-4-8-25	110	4.33	92	3.62	100	3.94	95,5	3.76	13,5	0.53	18	0.71
FCQ 120 A	FCQC 120	1-2-3-4-8-25	130	5.12	109,5	4.31	125	4.92	120,5	4.74	13,5	0.53	21	0.83
FCQ 150 A	FCQC 150	1-2-3-4-8-25	162	6.38	138	5.43	155	6.10	150,5	5.93	17,5	0.69	27	1.06
FCQ 195 A	FCQC 195	1-2-4-8-25	210	8.27	170	6.69	200	7.87	195,5	7.70	17,5	0.69	27	1.06

For KE series only

FCQB - FCQD





CODE	Reference to standards	A		B		Ø C		Ø D		Ø E		F	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FCQB 50	0	70	2.76	56,5	2.22	52	2.05	50,5	1.99	9	0.35	13	0.51
FCQB 63	0	90	3.54	73,5	2.89	66	2.60	63,5	2.50	11	0.43	16	0.63
FCQD 63	0	80	3.15	64	2.52	66	2.60	63,5	2.50	11	0.43	16	0.63
FCQB 75	0	90	3.54	73,5	2.89	78	3.07	75,5	2.97	11	0.43	16	0.63
FCQB 95	0	110	4.33	92	3.62	98	3.86	95,5	3.76	13,5	0.53	18	0.71

FT

Fig. 1

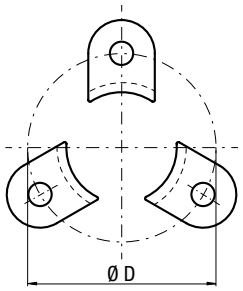
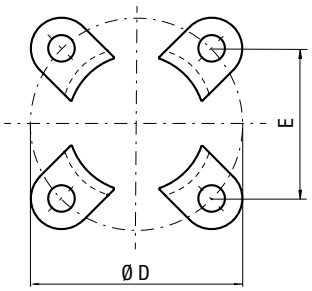
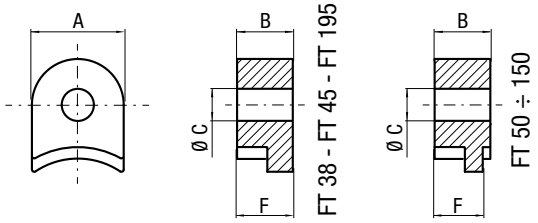


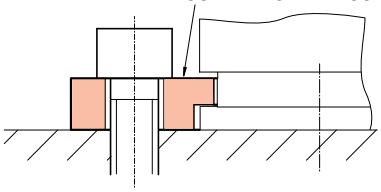
Fig. 2



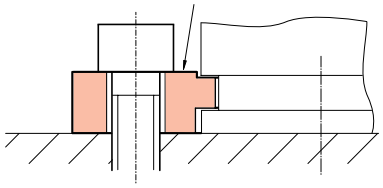




FT 38 - FT 45 - FT 195



FT 50 ÷ 150

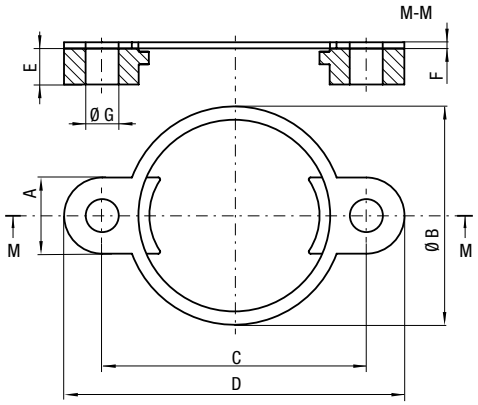


Std. box 1 pz =

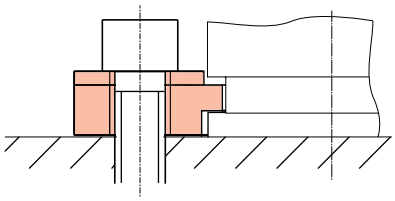
Order ex. FT 38 - 3pz =

CODE	Reference to standards	A		B		C		Ø D		E		F		Rif. Fig
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
FT 38	0	20	0.79	7	0.28	7	0.28	56,6	2.23	-	-	7	0.28	Fig. 1
FT 45	0	25	0.98	7	0.28	9	0.35	70,7	2.78	-	-	7	0.28	
FT 50	0	30	1.18	14,2	0.56	13	0.51	80	3.15	-	-	13	0.51	
FT 63	0	30	1.18	14,2	0.56	13	0.51	92	3.62	65	2.56	13	0.51	Fig. 2
FT 75	0	30	1.18	14,2	0.56	13	0.51	104	4.09	73,5	2.89	13	0.51	
FT 95	0	40	1.57	14,2	0.56	17	0.67	130	5.12	92	3.62	13	0.51	
FT 120	0	50	1.97	14,2	0.56	17	0.67	155	6.1	109,5	4.31	13	0.51	
FT 150	0	50	1.97	14,2	0.56	21	0.83	195	7.68	138	5.43	13	0.51	
FT 195	0	58	2.28	16	0.63	21	0.83	240	9.45	169	6.65	16	0.63	

FTP



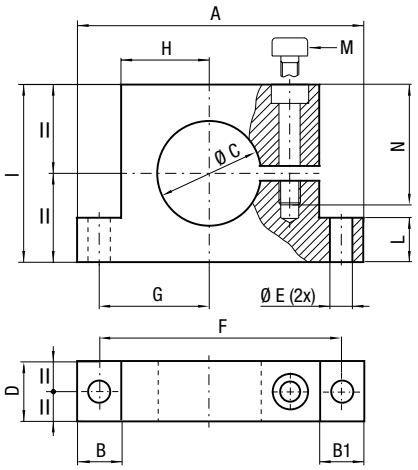


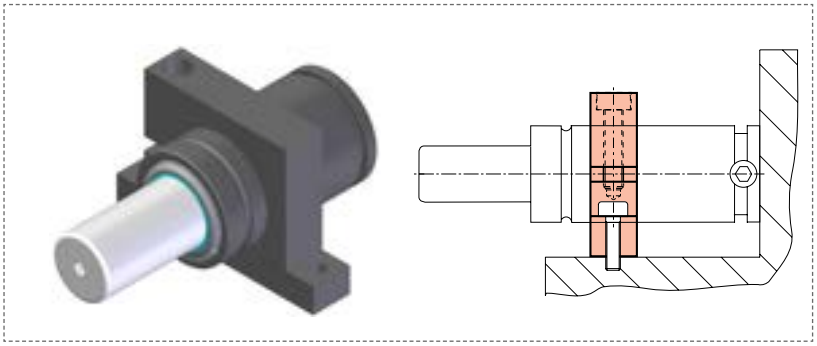


CODE	Reference to standards	A		Ø B		C		D		E		F		Ø G	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FTP 38	0	20	0.79	48	1.89	56.6	2.23	76.6	3.02	7	0.28	2,5	0.10	7	0.28
FTP 45	0	25	0.98	56	2.20	70.7	2.78	95.7	3.77	7	0.28	2,5	0.10	9	0.35
FTP 50	0	30	1.18	61	2.40	80	3.15	110	4.33	14,2	0.56	2,5	0.10	13	0.51
FTP 63	0	30	1.18	73	2.87	92	3.62	122	4.80	14,2	0.56	2,5	0.10	13	0.51
FTP 75	0	30	1.18	86	3.39	104	4.09	134	5.28	14,2	0.56	2,5	0.10	13	0.51
FTP 95	0	40	1.57	106	4.17	130	5.12	170	6.69	14,2	0.56	2,5	0.10	17	0.67
FTP 120	0	50	1.97	131	5.16	155	6.10	205	8.07	14,2	0.56	2,5	0.10	17	0.67
FTP 150	0	50	1.97	170	6.69	195	7.68	245	9.65	14,2	0.56	2,5	0.10	21	0.83

ISO	VDI	BMW	General Motors

FSA - FSF

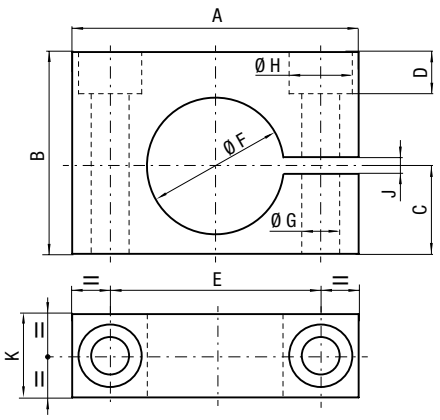


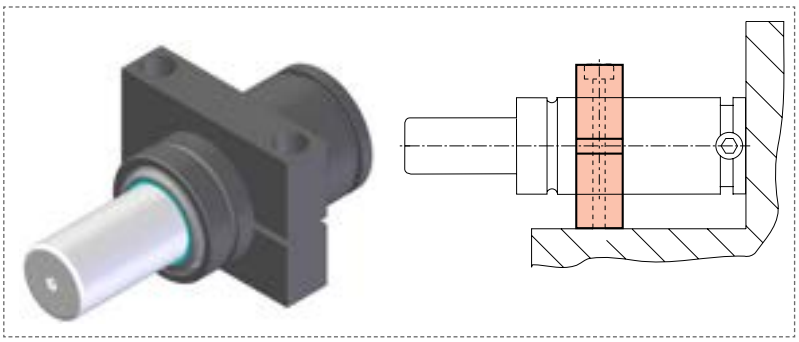


CODE	Reference to standards	A		B		B1		Ø C		D		Ø E		F		G		H		I		L		M	N	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		mm	inch
FSA 32	1-2-3-13-19	90	3.54	18	0.71	18	0.71	32	1.26	20	0.79	9	0.35	72	2.83	31	1.22	22	0.87	45	1.77	15	0.59	M8	39	1,54
FSF 32	12	90	3.54	18	0.71	18	0.71	32	1.26	30	1.18	8,5	0.33	72	2.83	31	1.22	22	0.87	45	1.77	15	0.59	M8	40	1,57
FSA 38	1-2-3-13-19	95	3.74	18	0.71	18	0.71	38	1.50	20	0.79	9	0.35	77	3.03	34	1.34	25	0.98	55	2.17	15	0.59	M8	45	1,77
FSF 38	12	95	3.74	17	0.67	19	0.75	38	1.50	30	1.18	8,5	0.33	77	3.03	34	1.34	25	0.98	55	2.17	15	0.59	M8	46	1,81
FSA 45	1-2-3-13-19	100	3.94	18	0.71	18	0.71	45	1.77	20	0.79	9	0.35	82	3.23	37	1.46	28	1.10	60	2.36	15	0.59	M8	45	1,77
FSF 45	12	100	3.94	18	0.71	18	0.71	45	1.77	30	1.18	8,5	0.33	82	3.23	37	1.46	28	1.10	60	2.36	15	0.59	M8	52	2,05
FSA 50	1-2-3-13-19	130	5.12	20	0.79	20	0.79	50	1.97	30	1.18	9	0.35	110	4.33	50	1.97	40	1.57	80	3.15	20	0.79	M8	55	2,17
FSA 75	1-2-3-13-19	160	6.30	22,5	0.89	22,5	0.89	75	2.95	30	1.18	11	0.43	137	5.39	63,5	2.50	52,5	2.07	105	4.13	20	0.79	M10	80	3,15
FSA 95	1-2-3-13-19	195	7.68	25	0.98	25	0.98	95	3.74	30	1.18	13,5	0.53	170	6.69	80	3.15	67,5	2.66	125	4.92	20	0.79	M12	99,5	3,92
FSA 120	1-2-3-13-19	220	8.66	27,5	1.08	27,5	1.08	120	4.72	30	1.18	13,5	0.53	195	7.68	92,5	3.64	77,5	3.05	148	5.83	20	0.79	M12	106	4,17
FSA 150	1-2-3-13-19	260	10.24	30	1.18	30	1.18	150	5.91	30	1.18	13,5	0.53	230	9.06	110	4.33	95	3.74	200	7.87	20	0.79	M12	138	5,43

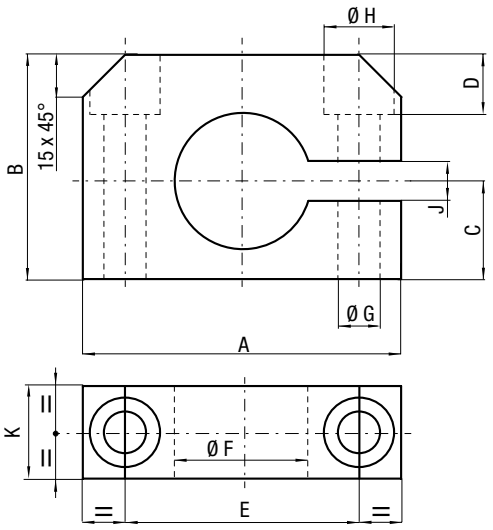
VDI	BMW	Ford	Mercedes Benz

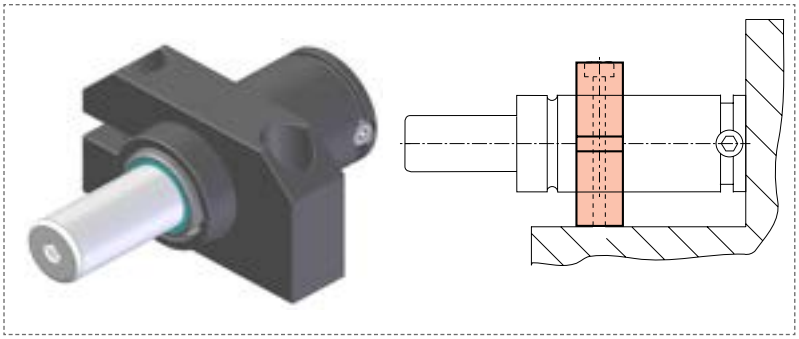
FSB - FSC - FSD



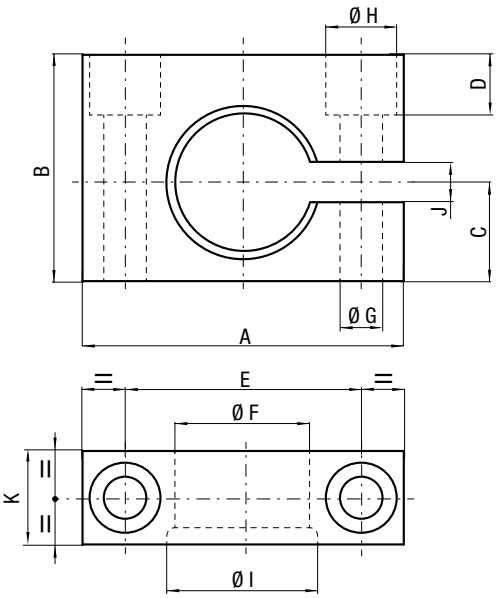


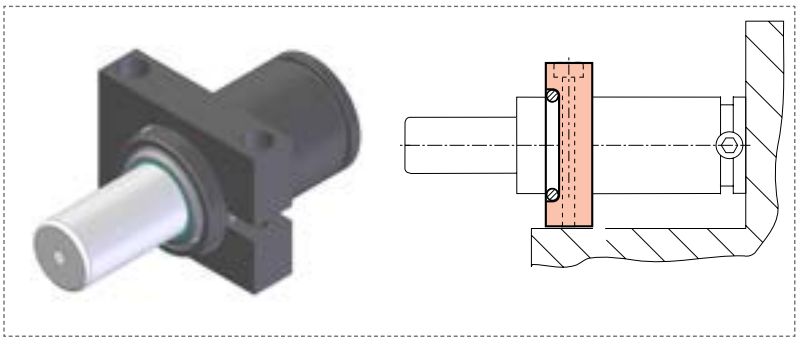
CODE	Reference to standards	A		B		C		D		E		Ø F		Ø G		Ø H		J		K	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FSB 32	6	80	3.15	63	2.48	38,5	1.52	18	0.71	56	2.20	32	1.26	10,5	0.41	17	0.67	6	0.24	25	0.98
FSD 32	2-3-12-18-21-27	68	2.68	48	1.89	20,9	0.82	10	0.39	50	1.97	32,5	1.28	9	0.35	15	0.59	4	0.16	20	0.79
FSD 38	2-3-12-18-21-27	74	2.91	54	2.13	23,9	0.94	16	0.63	54	2.13	38,5	1.52	9	0.35	15	0.59	4	0.16	20	0.79
FSD 45	2-3-12-18-21-27	80	3.15	60	2.36	27,5	1.08	22	0.87	60	2.36	45,5	1.79	9	0.35	15	0.59	4	0.16	20	0.79
FSD 50	2-3-4-12-18-21-27	90	3.54	70	2.76	30	1.18	25	0.98	68	2.68	50,5	1.99	11	0.43	18	0.71	5	0.20	30	1.18
FSC 63	0	105	4.13	80	3.15	40	1.57	11	0.43	80	3.15	63	2.48	10,5	0.41	17	0.67	10	0.39	30	1.18
FSD 63	2-18-21-27	108	4.25	82	3.23	36,5	1.44	27	1.06	84	3.31	63,5	2.50	11	0.43	18	0.71	5	0.20	30	1.18
FSD 75	2-3-4-12-18-21-27	125	4.92	94	3.70	42	1.65	32	1.26	100	3.94	75,5	2.97	13,5	0.53	20	0.79	5	0.20	30	1.18
FSD 95	2-3-4-12-18-21-27	140	5.51	115	4.53	52,5	2.07	33	1.30	115	4.53	95,5	3.76	13,5	0.53	20	0.79	5	0.20	30	1.18
FSD 120	2-3-12-18-21-27	170	6.69	140	5.51	65	2.56	58	2.28	145	5.71	120,5	4.74	13,5	0.53	20	0.79	7	0.28	30	1.18
FSD 150	2-3-12-18-21-27	200	7.87	170	6.69	80	3.15	68	2.68	175	6.89	150,5	5.93	13,5	0.53	20	0.79	7	0.28	30	1.18



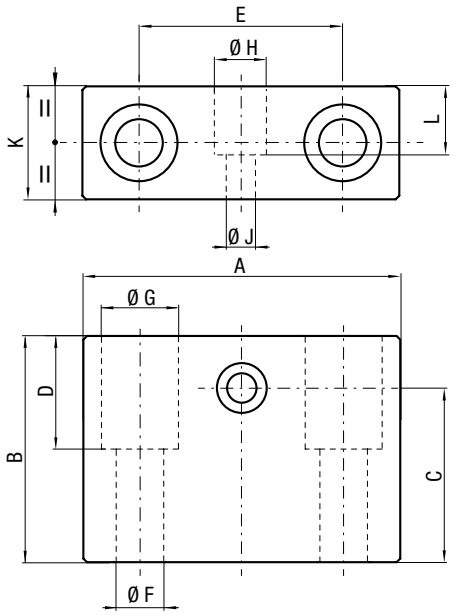


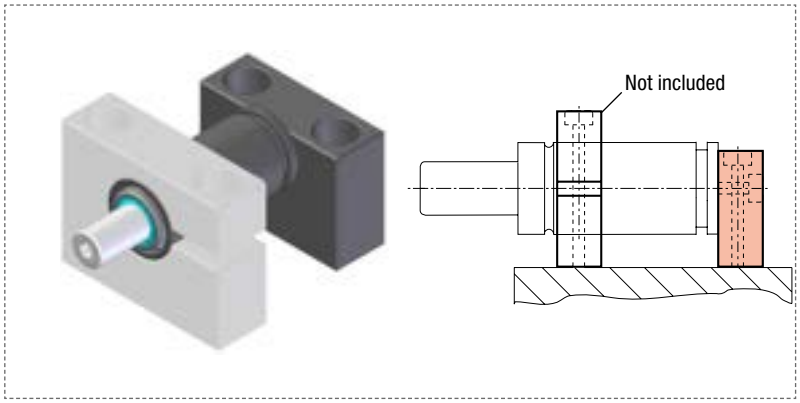
CODE	Reference to standards	A		B		C		D		E		Ø F		Ø G		Ø H		J		K	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FSE 45	0	100	3.94	60	2.36	30	1.18	20	0.79	70	2.76	45,3	1.78	11	0.43	18	0.71	10	0.39	25	0.98



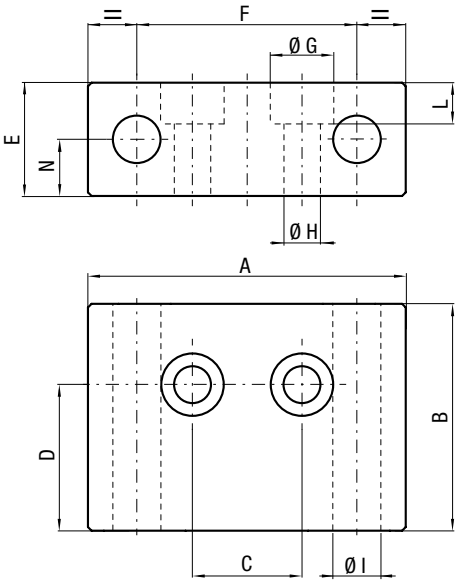


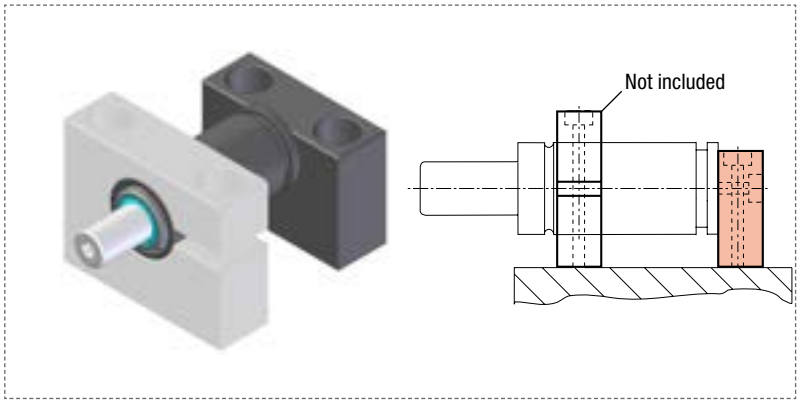
CODE	Reference to standards	A		B		C		D		E		Ø F		Ø G		Ø H		Ø I		J		K	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FSE 50	11	90	3.54	70	2.76	30	1.18	25	0.98	68	2.68	50,3	1.98	11	0.43	18	0.71	54,1	2.13	10	0.39	30	1.18
FSE 75	11	125	4.92	94	3.70	42	1.65	19	0.75	100	3.94	75,3	2.96	13	0.51	20	0.79	80,1	3.15	10	0.39	30	1.18
FSE 95	11	140	5.51	115	4.53	52.5	2.07	40	1.57	115	4.53	95,3	3.75	13	0.51	20	0.79	100,1	3.94	10	0.39	30	1.18





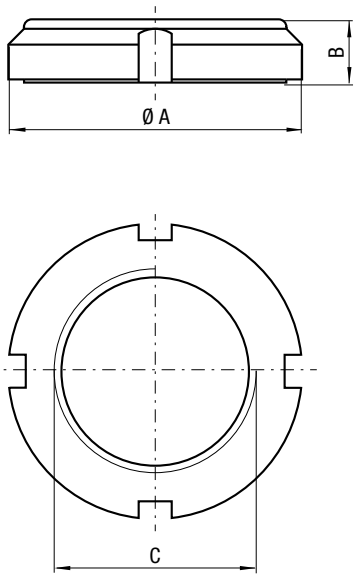
CODE	Reference to standards	A		B		C		D		E		Ø F		Ø G		Ø H		Ø J		L		K	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
R32A	5	70	2.76	50	1.97	38,5	1.52	25	0.98	45	1.77	10,5	0.41	17	0.67	11	0.43	6,5	0.26	15	0.59	25	0.98

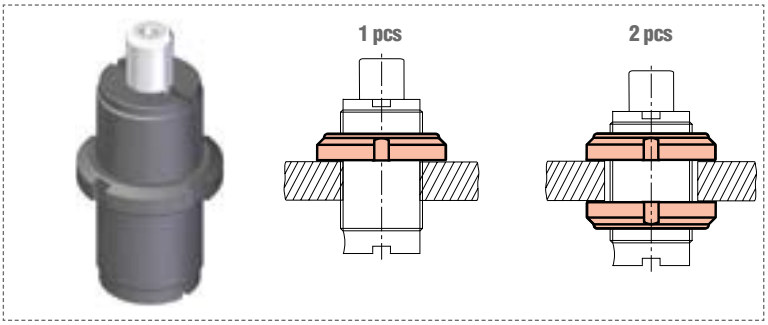




CODE	Reference to standards	A		B		C		D		E		F		Ø G		Ø H		L		Ø I		N	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
R38A	4	60	2.36	38	1.50	18	0.71	23,9	0.94	28	1.10	40	1.57	14	0.55	9	0.35	10	0.39	9	0.35	12	0,47
R50A	11	65	2.56	45	1.77	20	0.79	30	1.18	28	1.10	44	1.73	14	0.55	9	0.35	10	0.39	11	0.43	13	0,51
R75A	11	80	3.15	45	1.77	28,3	1.11	27,8	1.09	28	1.10	57	2.24	14	0.55	9	0.35	10	0.39	14	0.55	12	0,47
R95A	11	95	3.74	45	1.77	42,4	1.67	31,2	1.23	28	1.10	70	2.76	14	0.55	9	0.35	10	0.39	14	0.55	15	0,59

GM

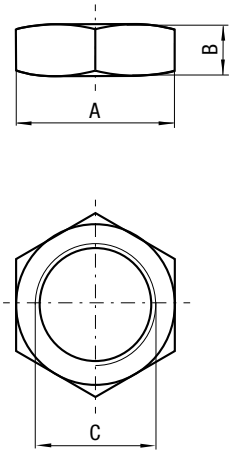


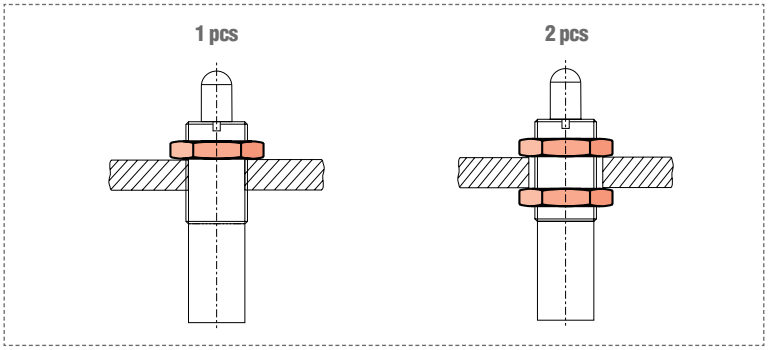


CODE (1 pcs)	Reference to standards	Ø A		B		C
		mm	*inch*	mm	*inch*	
GM 38	0	53	*2.09*	12	*0.47*	M 38 X 1,5
⚠ GM 45	0	62	*2.44*	12,3	*0.48*	M 45 X 1,5
⚠ GM 50	0	68	*2.68*	12,9	*0.51*	M 50 X 1,5

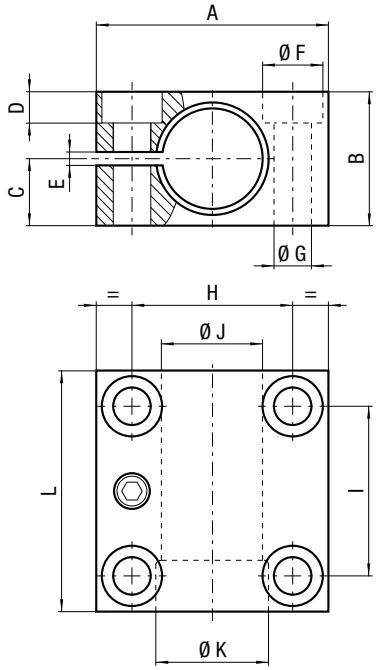
⚠ Phasing out

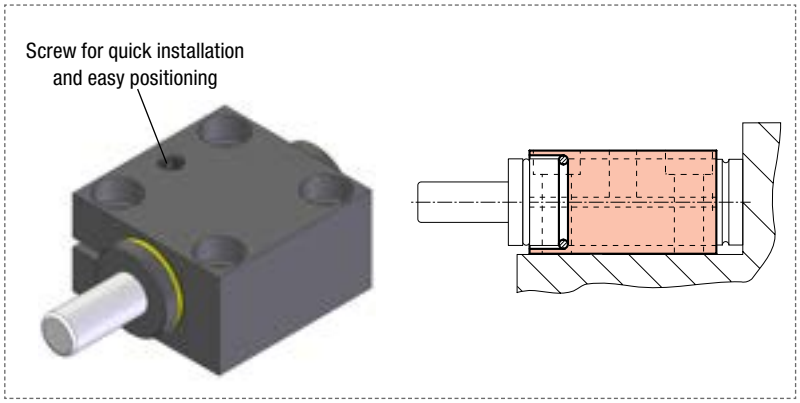
DM - DI





CODE (1 pcs)	Reference to standards	A	B		C
			mm	*inch*	
DM 16	0-28	S24	8	*0.31*	M 16 x 1,5
39DM16X2A	0	S24	8	*0.31*	M 16 x 2
39DI5/8-11A	0	S26	9	*0.36*	5/8" - 11 UNC
DM 24	0-28	S36	10	*0.39*	M 24 x 1,5
DI 1" - 8	0	S38	14	*0.55*	1" - 8





CODE	Reference to standards	A		B		C		D		E		Ø F		Ø G		H		I		J		K		L	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
FSG 25	0	52	2.05	30	1.18	15	0.59	7	0.28	3	0.12	13,5	0.53	8,4	0.33	36	1.42	38	1.5	25,2	1.03	27	1.06	54	2.13

THIS PAGE IS INTENTIONALLY LEFT BLANK

easy MANIFOLD since 1997

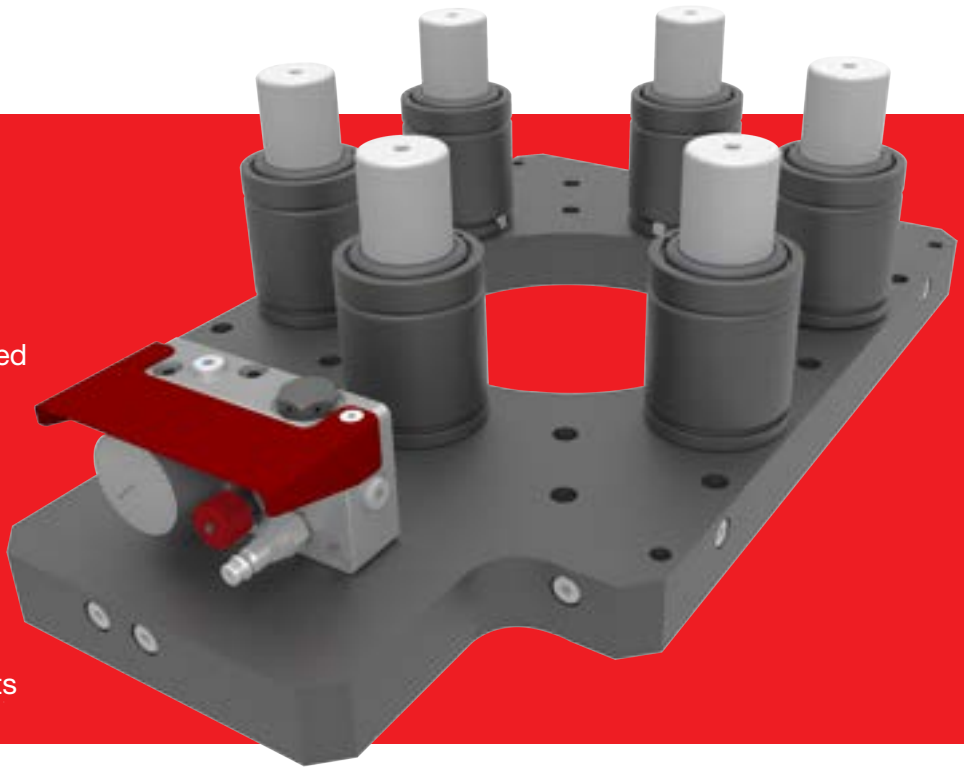
the easy way
to link gas springs through plate

OSAS
Over Stroke
Active Safety

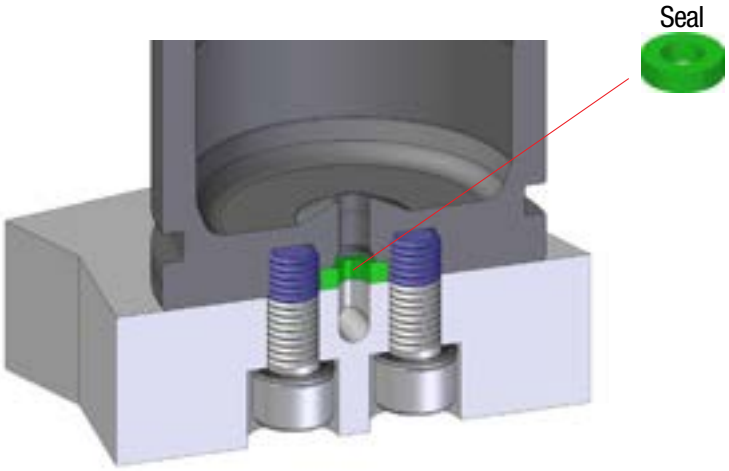
USAS
Uncontrolled Speed
Active Safety

OPAS
Over Pressure
Active Safety

SKUDO
Active Protection
from Contaminants



E - ED - EV versions



IT CARATTERISTICHE:

- Vantaggiosa alternativa ai tradizionali e costosi cilindri Manifold.
- Grande varietà di combinazioni con l'uso di cilindri standard.
- Totale eliminazione di tubi e raccordi.
- Pressione uniforme nel sistema.
- Facile manutenzione, uguale ai cilindri standard.
- Piastre di collegamento realizzabili direttamente dagli utilizzatori.
- Massima flessibilità di realizzazione degli impianti.
- Nessuna richiesta di utensili speciali per l'installazione.
- **Special Springs è in grado di fornire le piastre/cuscino su specifiche del cliente, collaudate e pronte per l'installazione.**

EN CHARACTERISTICS:

- An advantageous alternative to conventional and expensive. Manifold cylinders.
- Large variety of combinations with the use of standard gas springs.
- Total elimination of hoses and connections.
- Balanced pressure in the system.
- Easy maintenance, the same as standard gas springs.
- Connection plates can be made directly by users.
- Maximum flexibility in creation of systems.
- No special tools required for installation.
- **Special Springs can supply the plates/cushion to customer specifications, tested and ready for installation.**

FR CARACTERISTIQUES:

- Une alternative avantageuse aux traditionnels et coûteux cylindres Manifold.
- Une grande variété de combinaisons avec l'emploi de cylindres standard.
- L'élimination totale de tuyaux et raccords.
- Pression uniforme dans le système.
- Entretien facile, comme celui des cylindres standard.
- Plaques de liaison réalisables directement par les utilisateurs.
- Très grande souplesse de réalisation des installations.
- Aucun besoin d'outils spéciaux pour l'installation.
- **Special Springs est en mesure de fournir les plaques/coussin sur spécifications du client, testées et prêtes à être installées.**

ES CARACTERÍSTICAS:

- Ventajosa alternativa a los tradicionales y costosos cilindros Manifold.
- Gran variedad de combinaciones con el uso de cilindros (autónomos) estándar.
- Total eliminación de tubos y racores.
- Presión uniforme en el sistema.
- Fácil mantenimiento, igual a la de los cilindros (autónomos) estándar.
- Placas de conexión producibles directamente por el usuario.
- Máxima flexibilidad de diseño de los sistemas de conexión.
- No se requiere ninguna herramienta especial para la instalación.
- **Special Springs puede proporcionar las placas/cojines según especificaciones del cliente, comprobados y listos para la instalación.**

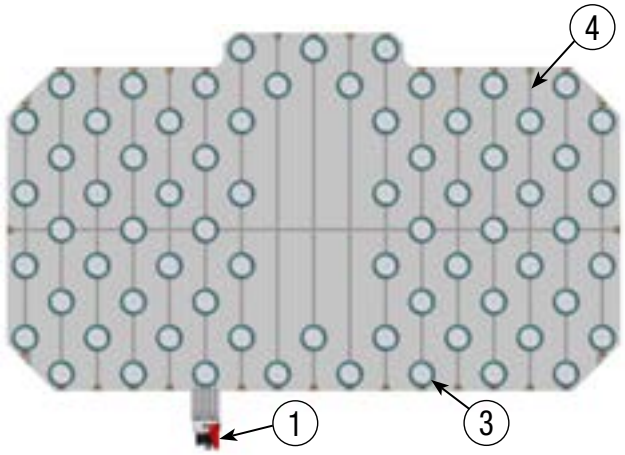
DE EIGENSCHAFTEN

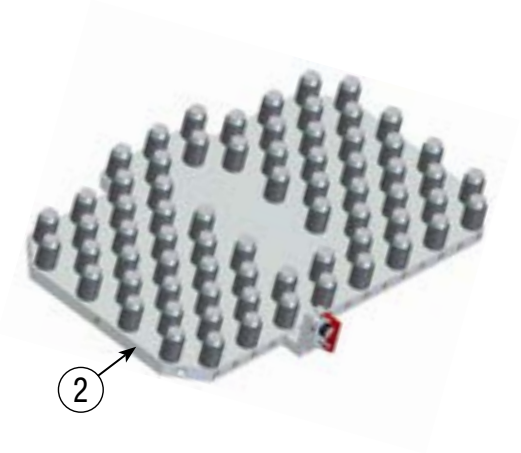
- Preisgünstige Alternative zu herkömmlichen Manifold-Gasdruckfedern.
- Große Auswahl an Einsatzkombinationen durch Verwendung von Standardzylindern.
- Keine Verwendung von Schläuchen und Anschlüssen.
- Gleichmäßiger Druck im System.
- Wartungsfreundlich.
- Verbundplatten können vom Kunden selbst gefertigt werden.
- Hohe Flexibilität bei den Anwendungen.
- Montage ohne Sonderwerkzeuge.
- **Platten können von Special Springs gefertigt, getestet und vormontiert geliefert werden.**

PT CARACTERÍSTICAS:

- Vantajosa alternativa aos tradicionais e caros cilindros Manifold.
- Grande variedade de combinações com uso de cilindros standard.
- Total eliminação de tubos e junções.
- Pressão uniforme en o sistema.
- Fácil manutenção, igual a dos cilindros standard.
- Chapas de conexão que podem ser realizadas diretamente pelos usuários.
- Máxima flexibilidade de realização das instalações.
- Não é necessário utilizar nenhum tipo de utensílio especial para a instalação.
- **Special Springs pode fornecer chapas/coxim conforme exigência do cliente, testadas e verificadas prontas para a instalação.**

Design recommendations





IT **Per una facile progettazione e per ridurre i costi di produzione seguire le linee guida di cui sotto**

(1) • Per collegare il pannello usare, se possibile, i canali del gas esistenti.
• In alternativa collegare il pannello con tubi e raccordi.

(2) • Resilienza materiale piastra alla temperatura minima di utilizzo ≥ 27J.
• Allungamento a rottura del materiale piastra ≥ 14%.

(3) • Evitare interferenza tra i fori di fissaggio dei cilindri e i canali del gas.
• Selezionare cilindri con corse maggiori per aumentare il volume del sistema.

(4) • Realizzare canali passanti e pulire adeguatamente.
• Evitare canali ciechi.

EN **For easier design and manufacturing cost-saving follow the guide lines below**

(1) • When possible, use the existing gas ports to link the panel.
• Alternatively, link the panel by using hoses and connections.

(2) • Resilience of the plate material at minimum operating temperature ≥ 27J.
• Elongation at break of plate material ≥ 14%.

(3) • Avoid interference between the gas spring's fixing holes and the gas ports.
• Select gas springs with higher stroke to increase the volume of the system.

(4) • Machine thru-holes and adequately clear the ports.
• Avoid blind channels.

DE **Für eine leichter von statten gehende Entwicklung und um Produktionskosten zu sparen, befolgen Sie die Richtlinien unten.**

(1) • Die Kontrollarmatur, wenn möglich, an den vorhandenen Tieflochbohrungen anbringen.
• Alternativ kann die Druckkontrollarmatur mit Schlauchkomponenten angeschlossen werden.

(2) • Zähigkeit des Plattenmaterials bei minimaler Betriebstemperatur ≥ 27 J.
• Bruchdehnung des Plattenmaterials ≥ 14 %.

(4) • Die Durchgangsbohrungen sauber fertigen
• Blinde Kanäle vermeiden.

(3) • Überschneidungen zwischen der Lage der Zylinder-Befestigungslöchern und den Gaskanälen sind zu vermeiden
• Um das Volumen des Systems zu vergrößern, wählen Sie Gasdruckfedern mit dem nächst größeren Hub.

FR **Pour une conception plus facile et de l'épargne des coûts de fabrications suivez les instructions ci-dessous**

(1) • Pour relier le panneau utiliser, si possible, les canaux du gaz existents.
• Alternativement, joindre le panneau en utilisant des tubes et des raccords.

(2) • Résilience du matériau de la plaque à la température minimale de fonctionnement ≥ 27J.
• Allongement à la rupture du matériau de la plaque ≥ 14%.

(4) • Réaliser des trous débouchants et nettoyez correctement.
• Eviter les trous sans issue.

(3) • Eviter l'interférence entre les trous de fixation des ressorts et les canaux du gaz.
• Sélectionner des ressorts avec des courses majeures pour augmenter le volume du système.

ES **Para facilitar el diseño y poder reducir costes de producción se recomienda seguir las instrucciones indicadas a continuación**

(1) • En la medida de lo posible usar los canales de gas existentes para conectar el panel.
• Como alternativa, conectar el panel con tuberías y racores.

(2) • Resiliencia del material de la placa a la temperatura mínima de uso ≥ 27J.
• Alargamiento a la rotura del material de la placa ≥ 14%.

(3) • Evitar la interferencia entre los orificios de fijacion de los cilindros y los canales de gas.
• Seleccionar cilindros con mayores carreras para aumentar el volumen del sistema.

(4) • Mecanizar agujeros pasantes en la placa y limpiar adecuadamente.
• Evitar agujeros ciegos.

PT **Para facilitar o desenho e economizar custos de produção seguir as orientações abaixo mencionados**

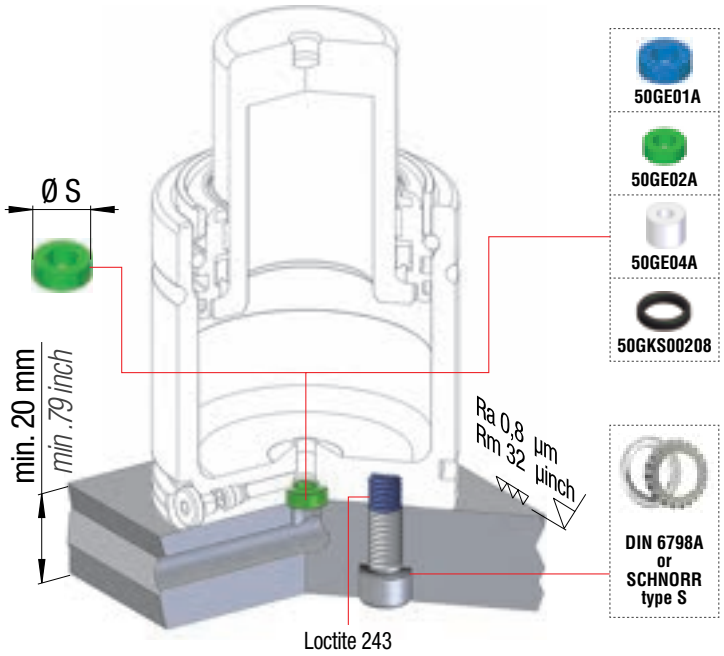
(1) • Para ligar o painel, se possível, usar os canais de gás existentes.
• Em alternativa conecte o painel com tubos e acessórios.

(2) • Placa com resistencia minima a temperatura minima de > 27J.
• Alongamento de ruptura do material da placa ≥ 14%.

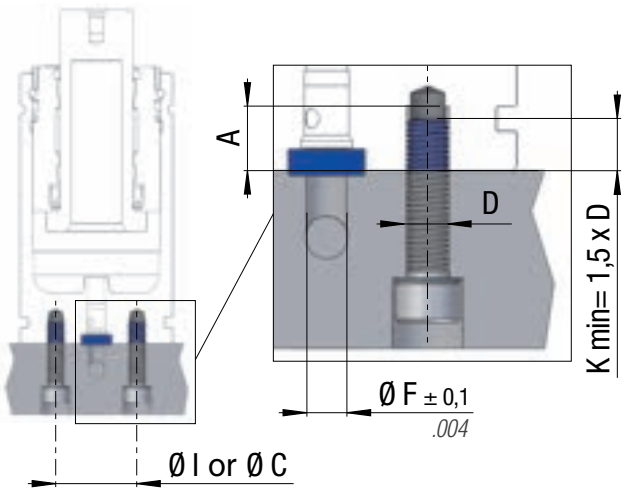
(3) • Evitar a interferência entre os orifícios de fixação dos cilindros e os canais de gás.
• Escolher os cilindros com curso mais grande para aumentar o volume do sistema.

(4) • Realizar orificios de passagem par toda a placa e bem limpar.
• Evitar orificios sem saída.

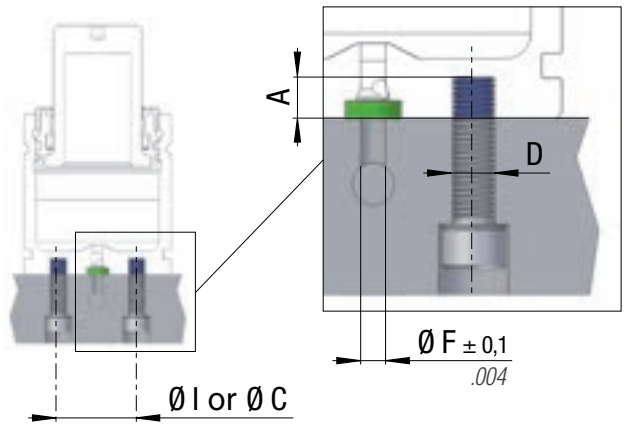
E - ED - EV versions



Example A > D : Thread size M8 x 13 (13 > 8)



Example A ≤ D : Thread size M8 x 6 (6 ≤ 8)

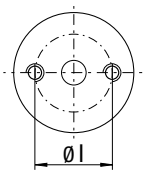


Ø l or Ø C	D	A
Interasse fissaggio Fixing c.t.c. distance Mittenabstand Entraxe Distancia centros Distância eixos	Dimensione viti Screw dimension Schraubengröße Dimension vis Dimensión tornillos Dimensão parafusos	Profondità filetti Thread depth Gewindetiefe Profondeur filet Profundidad rosca Profundidade rosca

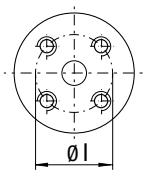
K min	Ø F	Ø S
Minimo impegno viti Minimum thread engagement Mindest-Einschraublänge Longueur minimum à visser Min Longitud roscada mínima Comprimento minimo roscado	Ø Foro piastra - cilindro Ø Plate - Gas spring hole Ø Platten - Zylinder Loch Ø Trou plaque - cylindre Ø Alojamiento Placa - Cilindro Ø Furo Placa - Cilindro	Ø Guarnizione piastra - cilindro Ø Plate - Gas spring seal Ø Platten - Zylinder Dichtung Ø Joint plaque - cylindre Ø Retén Placa - Cilindro Ø Junta Placa - Cilindro

MOUNTING HOLES

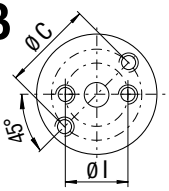
α



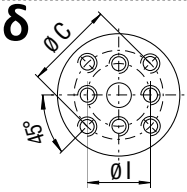
γ



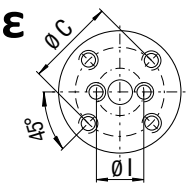
β



δ



ε



NOTE

1	Modello con corpo liscio senza cave di fissaggio Model with straight body without fixing grooves Model mit flachem Körper ohne Befestigungsnuten Modèle avec corps lisse sans encoches de fixation Modelo con cuerpo liso sin ranuras para la fijación Modelo com corpo liso sem ranhuras de fixação
2	Modello con corpo senza foro di caricamento laterale Model with body without side charging port Model mit Körper ohne Nebenladeloch Modèle avec corps sans trou de charge latéral Modelo con cuerpo sin agujero lateral de carga Modelo com corpo sem orifício de carregamen

IT Corse e ingombri uguali al cilindro autonomo
EN Strokes and sizes same to selfcontained gas spring
DE Hübe und Abmessungen sind identisch mit den autonomen Gdf
FR Courses et ecombrement égaux à ceux du Cylindre autonome
ES Carreras y dimensiones iguales a las del cilindro autónomo
PT Cursos e dimensões iguais às do cilindro autonómo

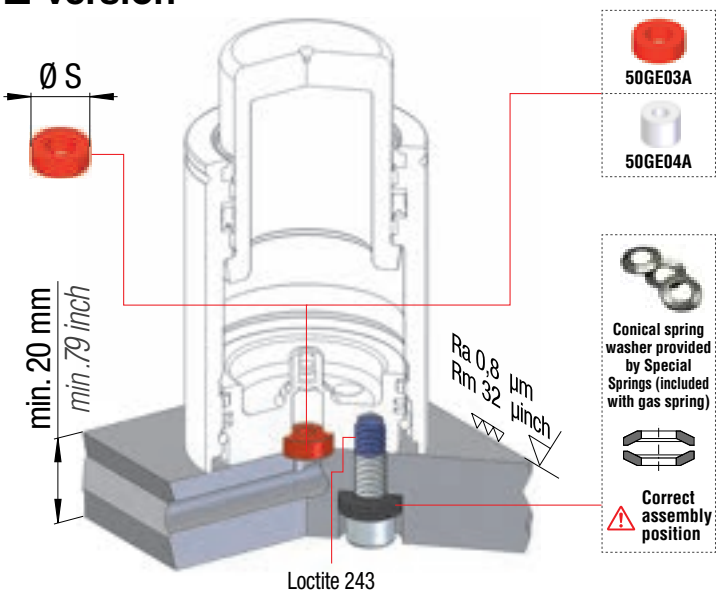
Series	Model	Rev. code	Version	Mounting holes	Thread size D x A	Ø I mm	Ø I inch	Ø C mm	Ø C inch	Ø F mm	Ø F inch	Ø S mm	Ø S inch	Seal code	Note	Cover code > see pag 257	Maintenance kit
RV	350	B	E	α	M6 x 6	20	0.79	-		5	0.20	7,5	0.30	50GE04A	1+2	39TE010A	39BMRV00350CE
	500	B	E	β	M6 x 6	20	0.79	25	0.98	5	0.20	7,5	0.30	50GE04A	1+2	39TE001A	39BMRV00500CE
	750	B	E	γ	M8 x 6	26	1.02	-		5	0.20	11	0.43	50GE02A	1+2	39TE002A	39BMRV00750CE
	1000	B	E	γ	M8 x 6	34	1.34	-		5	0.20	11	0.43	50GE02A	1+2	39TE003A	39BMRV01000CE
	1200	B	E	γ	M8 x 6	34	1.34	-		5	0.20	11	0.43	50GE02A	1+2	39TE003A	39BMRV01000CE
	1500	B	E	γ	M8 x 6	34	1.34	-		5	0.20	11	0.43	50GE02A	1+2	39TE009A	39BMRV01500CE
	2400	B	E	γ	M8 x 6	40	1.57	-		5	0.20	11	0.43	50GE02A	-	39TE004A	39BMRV02400DE
	4200	B	E	γ	M8 x 12	60	2.36	-		8	0.31	15	0.59	50GE01A	-	39TE005A	39BMRV04200CE
	6600	B	E	γ	M10 x 12	80	3.15	-		8	0.31	15	0.59	50GE01A	-	39TE006A	39BMRV06600CE
	9500	B	E	γ	M10 x 13	100	3.94	-		8	0.31	15	0.59	50GE01A	-	39TE007A	39BMRV09500CE
	12000	B	E	γ	M10 x 13	100	3.94	-		8	0.31	15	0.59	50GE01A	-	39TE007A	39BMRV12000AE
	20000	B	E	γ	M12 x 16	120	4.72	-		8	0.31	15	0.59	50GE01A	-	39TE008A	39BMRV20000AE
	750	B	EV	α	M8 x 6	20	0.79	-		5	0.20	11	0.43	50GE02A	-	39TE011A	39BMRV00750CE
	1000	B	EV	α	M8 x 6	20	0.79	-		5	0.20	11	0.43	50GE02A	-	39TE011A	39BMRV01000CE
	1200	B	EV	α	M8 x 6	20	0.79	-		5	0.20	11	0.43	50GE02A	-	39TE011A	39BMRV01000CE
	1500	C	EV	ε	M8 x 6	20	0.79	40	1.57	5	0.20	11	0.43	50GE02A	-	39TE011A	39BMRV01500CE
RS	350	B	E	α	M6 x 6	20	0.79	-		5	0.20	7,5	0.30	50GE04A	1+2	39TE010A	39BMRV00350CE
	500	B	E	β	M6 x 6	20	0.79	25	0.98	5	0.20	7,5	0.30	50GE04A	1+2	39TE001A	39BMRV00500CE
	750	B	E	γ	M8 x 6	26	1.02	-		5	0.20	11	0.43	50GE02A	1+2	39TE002A	39BMRV00750CE
	1000	B	E	γ	M8 x 6	34	1.34	-		5	0.20	11	0.43	50GE02A	1+2	39TE003A	39BMRV01000CE
	1200	B	E	γ	M8 x 6	34	1.34	-		5	0.20	11	0.43	50GE02A	1+2	39TE003A	39BMRV01000CE
	1500	B	E	γ	M8 x 6	34	1.34	-		5	0.20	11	0.43	50GE02A	1+2	39TE009A	39BMRV01500CE
	2400	B	E	γ	M8 x 6	40	1.57	-		5	0.20	11	0.43	50GE02A	-	39TE004A	39BMRV02400DE
	4200	B	E	γ	M8 x 12	60	2.36	-		8	0.31	15	0.59	50GE01A	-	39TE005A	39BMRV04200CE
	6600	B	E	γ	M10 x 12	80	3.15	-		8	0.31	15	0.59	50GE01A	-	39TE006A	39BMRV06600CE
	9500	B	E	γ	M10 x 13	100	3.94	-		8	0.31	15	0.59	50GE01A	-	39TE007A	39BMRV09500CE
RF	750	B	E	γ	M8 x 13	26	1.02	-		5	0.20	11	0.43	50GE02A	1+2	39TE002A	39BMRV00750CE
	2400	B	E	γ	M8 x 13	40	1.57	-		8	0.31	15	0.59	50GE01A	-	39TE004A	39BMRV02400DE
RG	2400	B	E	γ	M8 x 16	40	1.57	-		8	0.31	15	0.59	50GE01A	-	39TE004A	39BMRV02400DE
	4200	B	E	γ	M8 x 16	60	2.36	-		8	0.31	15	0.59	50GE01A	-	39TE005A	39BMRV04200CE
	6600	B	E	γ	M10 x 16	80	3.15	-		8	0.31	15	0.59	50GE01A	-	39TE006A	39BMRV06600CE
RT	2400	B	E	γ	M12 x 16	53,9	2.12	-		8	0.31	15	0.59	50GE01A	-	39TE004A	39BMRV02400DE
	4200	B	E	γ	M12 x 16	76,2	3,00	-		8	0.31	15	0.59	50GE01A	-	39TE005A	39BMRV04200CE
	6600	B	E	γ	M12 x 16	80,8	3.18	-		8	0.31	15	0.59	50GE01A	-	39TE006A	39BMRV06600CE
	9500	B	E	γ	M12 x 16	100	3.94	-		8	0.31	15	0.59	50GE01A	-	39TE007A	39BMRV09500CE
S	750	B	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	-	39TE011A	39BMS00750BE
	1500	B	E	γ	M8 x 13	40	1.57	-		8	0.31	15	0.59	50GE01A	-	39TE004A	39BMS01500BE
	3000	B	E	γ	M8 x 13	60	2.36	-		8	0.31	15	0.59	50GE01A	-	39TE005A	39BMS03000BE

Series	Model	Rev. code	Version	Mounting holes	Thread size D x A	Ø I mm	Ø I inch	Ø C mm	Ø C inch	Ø F mm	Ø F inch	Ø S mm	Ø S inch	Seal code	Note	Cover code > see pag 257	Maintenance kit
SC	150	E	E	α	M6 x 8	18	0.71	-		5	0.20	7,5	0.30	50GE04A	1+2	39TE012A	39BMSC00150EE
	250	E	E	β	M6 x 8	18	0.71	25	0.98	5	0.20	7,5	0.30	50GE04A	1+2	39TE012A	39BMSC00250EE
	500	E	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMSC00500DE
	750	E	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMSC00750DE
	1500	E	E	γ	M8 x 13	40	1.57	-		8	0.31	15	0.59	50GE01A	-	39TE004A	39BMSC01500DE Cu 25 ÷ 80 39BMSC01500DHE Cu 88 ÷ 300
	3000	E	E	γ	M8 x 13	60	2.36	-		8	0.31	15	0.59	50GE01A	-	39TE005A	39BMSC03000EE
	5000	E	E	γ	M10 x 16	80	3.15	-		8	0.31	15	0.59	50GE01A	-	39TE006A	39BMSC05000EE
	7500	E	E	γ	M10 x 16	100	3.94	-		8	0.31	15	0.59	50GE01A	-	39TE007A	39BMSC07500DE Cu 25 ÷ 80 39BMSC07500DHE Cu 88 ÷ 300
	10000	E	E	γ	M12 x 16	120	4.72	-		8	0.31	15	0.59	50GE01A	-	39TE008A	39BMSC10000DE
H	300	D	E	α	M6 x 8	18	0.71	-		5	0.20	7,5	0.30	50GE04A	1+2	39TE012A	39BMH00300BE
	500	D	E	β	M6 x 8	18	0.71	25	0.98	5	0.20	7,5	0.30	50GE04A	1+2	39TE012A	39BMH00500BE
	700	E	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMH00700DE
	1000	E	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMH01000DE
	1500	D	E	ε	M8 x 13	40	1.57	20	0.79	5	0.20	11	0.43	50GE02A	-	39TE004A	39BMH01500CE Cu 13 ÷ 80 39BMH01500CHE Cu 100 ÷ 300
	2400	E	E	γ	M8 x 13	40	1.57	-		8	0.31	15	0.59	50GE01A	-	39TE004A	39BMH02400DE Cu 25 ÷ 80 39BMH02400DHE Cu 100 ÷ 300
	4200	E	E	γ	M8 x 13	60	2.36	-		8	0.31	15	0.59	50GE01A	-	39TE005A	39BMH04200DE Cu 25 ÷ 80 39BMH04200DHE Cu 100 ÷ 300
	6600	E	E	γ	M10 x 16	80	3.15	-		8	0.31	15	0.59	50GE01A	-	39TE006A	39BMH06600DHE
	9500	D	E	γ	M10 x 16	100	3.94	-		8	0.31	15	0.59	50GE01A	-	39TE007A	39BMH09500CE
	18500	D	E	γ	M12 x 16	120	4.72	-		8	0.31	15	0.59	50GE01A	-	39TE008A	39BMH18500CE
	20000	A	E	γ	M12 x 16	120	4.72	-		8	0.31	15	0.59	50GE01A	-	39TE008A	39BMH20000AE
HT	500 T1	B	E	β	M6 x 8	18	0.71	25	0.98	5	0.20	7,5	0.30	50GE04A	1+2	39TE012A	39BMMMGS0038BE
	700 T1	B	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMMMGS0045BE
	1000 T1	B	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMHT01000AE
	500 T2	B	E	β	M6 x 8	18	0.71	25	0.98	5	0.20	7,5	0.30	50GE04A	1+2	39TE012A	39BMMMGS0038BE
	700 T2	B	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMMMGS0045BE
	1000 T2	B	E	α	M8 x 13	20	0.79	-		5	0.20	11	0.43	50GE02A	1+2	39TE011A	39BMHT01000AE
KE	750	B	ED	α	M6 x 8	24	0.94			5	0.20	11	0.43	50GE02A	1+2	39TE010A	39BMKE00750BE
	1000	B	ED	δ	M6 x 8	20	0.79	26	1.02	5	0.20	11	0.43	50GE02A	1+2	39TE001A	39BMKE01000BE
	1800	B	ED	γ	M6 x 8	26	1.02	-		5	0.20	11	0.43	50GE02A	1+2	39TE003A	39BMKE01800BE
	3000	B	ED	γ	M8 x 8	34	1.34	-		8	0.31	22	0.87	50GKS00208	1+2	39TE009A	39BMKE03000BE
	4700	B	ED	γ	M8 x 8	40	1.57	-		8	0.31	22	0.87	50GKS00208	1+2	39TE004A	39BMKE04700BE
	7500	B	ED	γ	M8 x 8	52	2.05	-		8	0.31	22	0.87	50GKS00208	1+2	39TE005A	39BMKE07500BE
	12000	B	ED	γ	M10 x 12	68	2.68	-		8	0.31	22	0.87	50GKS00208	1+2	39TE006A	39BMKE12000BE
	18500	B	ED	γ	M10 x 12	90	3.54	-		8	0.31	22	0.87	50GKS00208	1+2	39TE007A	39BMKE18500BE

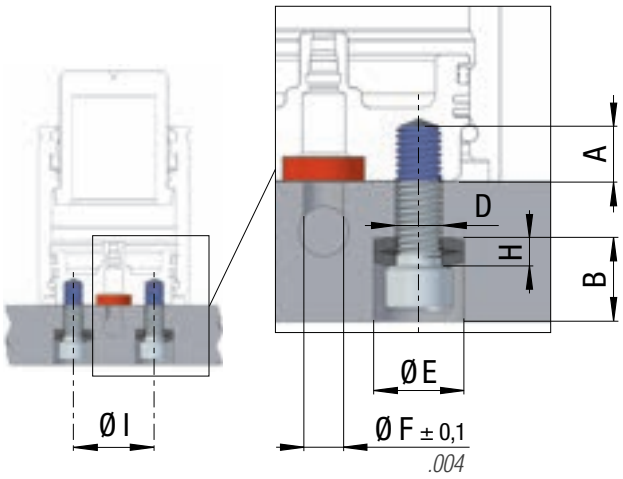
Series	Model	Rev. code	Version	Fixing pattern	Thread size D x A	Ø I mm	Ø I inch	Ø F mm	Ø F inch	Ø S mm	Ø S inch	Seal code	Note	Cover code > see pag 257	Maintenance kit
ML	1000	D	E	α	M6 x 7	17	0.67	5	0.20	7,5	0.29	50GE04A	1+2	-	39BMML01000CE
	1800	D	E	γ	M6 x 8	26	1,02			14,5	0.57	50GE03A	1+2	39TE003A	39BMML01800CE
	3000	D	E	γ	M8 x 8	34	1,34	8* or 10	0.31* or 0.39	14,5	0.57	50GE03A	1+2	39TE009A	39BMML03000CE
	4700	D	E	γ	M8 x 8	40	1,57			14,5	0.57	50GE03A	1+2	39TE004A	39BMML04700CE
	7500	D	E	γ	M8 x 8	52	2,05			14,5	0.57	50GE03A	1+2	39TE005A	39BMML07500CE
	12000	D	E	γ	M10 x 8	68	2,68			14,5	0.57	50GE03A	1+2	39TE006A	39BMML12000CE

*: dimensione preferita - preferred size - bevorzugte Größe - dimension préférée - tamaño preferido - tamanho preferido

E version



Example thread size M8 x 8



Ø I	D	A	B
Interasse fissaggio Fixing c.t.c. distance Mittenabstand Entraxe Distancia centros Distância eixos	Dimensione viti Screw dimension Schraubengröße Dimension vis Dimensión tornillos Dimensão parafusos	Profondità filetti Thread depth Gewindetiefe Profondeur filet Profundidad rosca Profundidade rosca	Profondità lamatura Depth of counterbore Senkungstiefe Profondeur du lamage Profundidad del contrataladro Profundida do alojamento

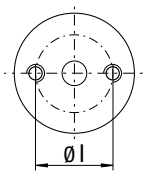
Ø E	Ø F	Ø S	H
Ø lamatura Ø counterbore Ø Senkung Ø lamage Ø Alojamiento Ø alojamento	Ø Foro piastra - cilindro Ø Plate - Gas spring hole Ø Platten - Zylinder Loch Ø Trou plaque - cylindre Ø Alojamiento Placa – Cilindro Ø Furo Placa - Cilindro	Ø Guarnizione piastra - cilindro Ø Plate - Gas spring seal Ø Platten - Zylinder Dichtung Ø Joint plaque - cylindre Ø Retén Placa - Cilindro Ø Junta Placa - Cilindro	Spessore rosette Thickness of washers Dicke Sicherheitsscheiben Epaisseur des rondelles Espesor de las arandelas Espessura das arruelas

Sostituire viti di fissaggio e rosette coniche ogni 1.000.000 di cicli.
Replace fixing screws and conical spring washers every 1 million cycles.
Alle 1 Mio. Hübe Befestigungsschrauben und Sicherheitsscheiben austauschen.
Remplacez les vis de fixation et les rondelles coniques à chaque million de cycles.
Reemplazar los tornillos de fijación y las arandelas cónicas cada 1 millón de ciclos.
Substituir a cada 1 milhão de ciclos os parafusos e arreulas de segurança.

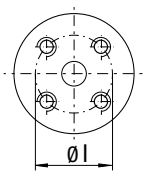
Model	Ø E mm	Ø E inch	B mm	B inch	H mm	H inch	Washer code for placement
ML 1000	≥ 10,25	≥ .40	≥ 9,15	≥ .36	3,15	.12	49RC06A
ML 1800	≥ 10,25	≥ .40	≥ 9,15	≥ .36	3,15	.12	49RC06A
ML 3000	≥ 17,3	≥ .68	≥ 12	≥ .47	4	.16	49RCHS08A
ML 4700	≥ 18,3	≥ .72	≥ 12	≥ .47	4	.16	49RC08A
ML 7500	≥ 18,3	≥ .72	≥ 12	≥ .47	4	.16	49RC08A
ML 12000	≥ 23,3	≥ .92	≥ 15	≥ .59	5	.20	49RC10A

MOUNTING HOLES

α



γ



IT Corse e ingombri uguali al cilindro autonomo
EN Strokes and sizes same to selfcontained gas spring
DE Hüben und Abmessungen gleiche zu den Autonomen Gdf
FR Courses et ecombrement égaux à ceux du Cylindre autonome
ES Carreras y dimensiones iguales a las del cilindro autónomo
PT Cursos e dimensões iguais às do cilindro autonómo

NOTE

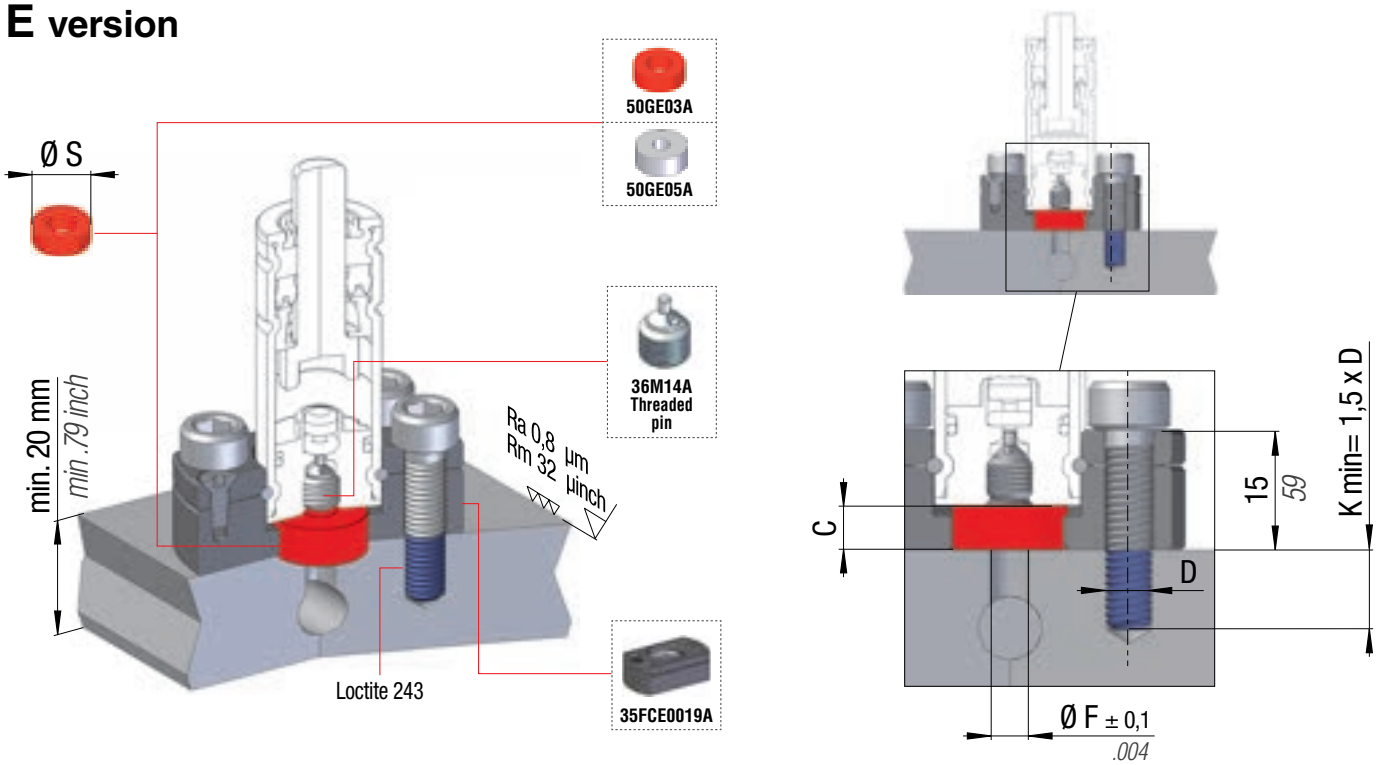
1
Modello con corpo liscio senza cave di fissaggio
Model with straight body without fixing grooves
Model mit flachem Körper ohne Befestigungsnuten
Modèle avec corps lisse sans encoches de fixation
Modelo con cuerpo liso sin ranuras para la fijación
Modelo com corpo liso sem ranhuras de fixação

2
Modello con corpo senza foro di caricamento laterale
Model with body without side charging port
Model mit Körper ohne Nebenladeloch
Modèle avec corps sans trou de charge latéral
Modelo con cuerpo sin agujero lateral de carga
Modelo com corpo sem orifício de carregamen

Series	Model	Rev. code	Version	Mounting holes	Thread size D	Ø F		Ø S		C		Seal code	Note
						mm	inch	mm	inch	mm	inch		
RV	170 *	C	E	ε	M6	5	0.20	14,5	0.57	4,6	0.18	50GE03A	2
RS	170 *	C	E	ε	M6	5	0.20	14,5	0.57	4,6	0.18	50GE03A	2
M	90 *	B	E	ε	M6	5	0.20	14,5	0.57	5,6	0.22	50GE05A	2
MS	90 *	B	E	ε	M6	5	0.20	14,5	0.57	5,6	0.22	50GE05A	2

* : sicurezza OSAS e OPAS non disponibile - Safety features OSAS and OPAS not available - Sicherheitsfeatures OSAS und OPAS nicht verfügbar - Dispositifs de sécurité OSAS et OPAS non disponibles - Dispositivos de seguridad OSAS y OPAS no disponibles - Dispositivos OSAS e OPAS não disponiveis

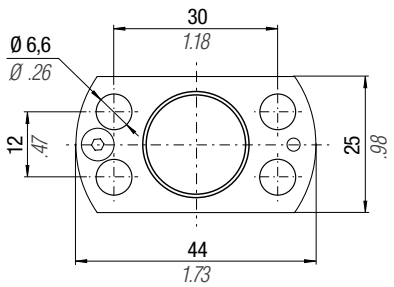
E version



D	K min	Ø F	Ø S
Dimensione viti Screw dimension Schraubengröße Dimension vis Dimensión tornillos Dimensão parafusos	Minimo impegno viti Minimum thread engagement Mindest-Einschraublänge Longueur minimum à visser min Longitud roscada mínima Comprimento minimo roscado	Ø Foro piastra - cilindro Ø Plate - gas spring hole Ø Platten - zylinder loch Ø Trou plaque - cylindre Ø Alojamiento Placa – Cilindro Ø Furo placa - Cilindro	Ø Guarnizione piastra - cilindro Ø Plate - gas spring seal Ø Platten - zylinder dichtung Ø Joint plaque - cylindre Ø Retén Placa - Cilindro Ø Junta Placa - cilindro

MOUNTING HOLES

ε



NOTE

1

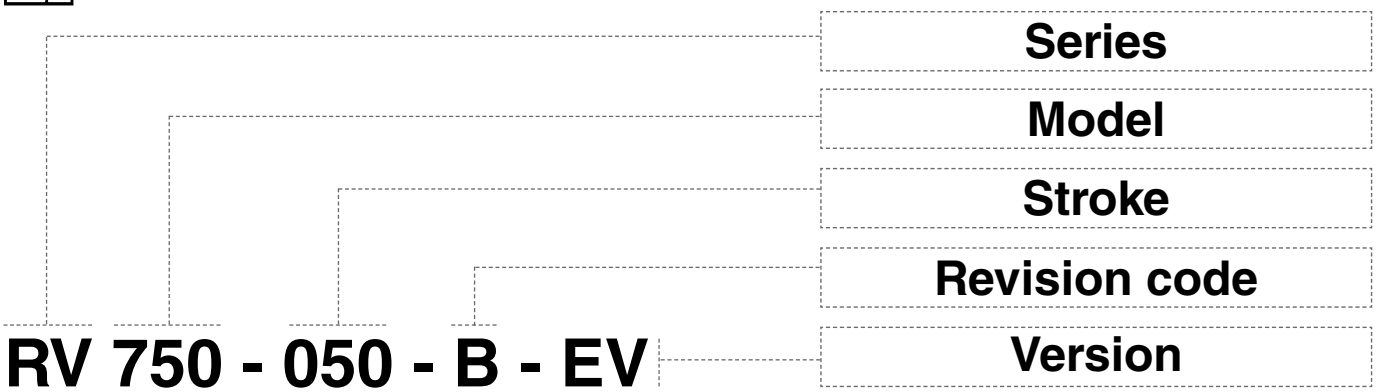
Modello con corpo liscio senza cave di fissaggio
Model with straight body without fixing grooves
Model mit flachem Körper ohne Befestigungsnuten
Modèle avec corps lisse sans encoches de fixation
Modelo con cuerpo liso sin ranuras para la fijación
Modelo com corpo liso sem ranhuras de fixação

2

Modello con corpo senza foro di caricamento laterale
Model with body without side charging port
Model mit Körper ohne Nebenladeloch
Modèle avec corps sans trou de charge latéral
Modelo con cuerpo sin agujero lateral de carga
Modelo com corpo sem orifício de carregamen

IT Corse uguali al cilindro autonomo
EN Strokes same to selfcontained gas spring
DE Hüben gleiche zu den Autonomen Gdf
FR Courses égales à celles du Cylindre autonome
ES Carreras iguales a las del cilindro autónomo
PT Cursos iguais às do cilindro autonómo

HOW TO ORDER



IT Stato di fornitura

Tutti i cilindri Easy manifold sono forniti con guarnizione e foglio istruzioni.

EN Supply status

All Easy Manifold gas springs are supplied with seal and operating instructions .

DE Lieferumfang

Alle Gasdruckfeder Easy Manifold sind mit Dichtung und Bedienungsanleitungen ausgestattet.

FR État de fourniture

Tous les vérins Easy manifold sont fournis avec un joint et une fiche d'instructions.

ES Condiciones de suministro

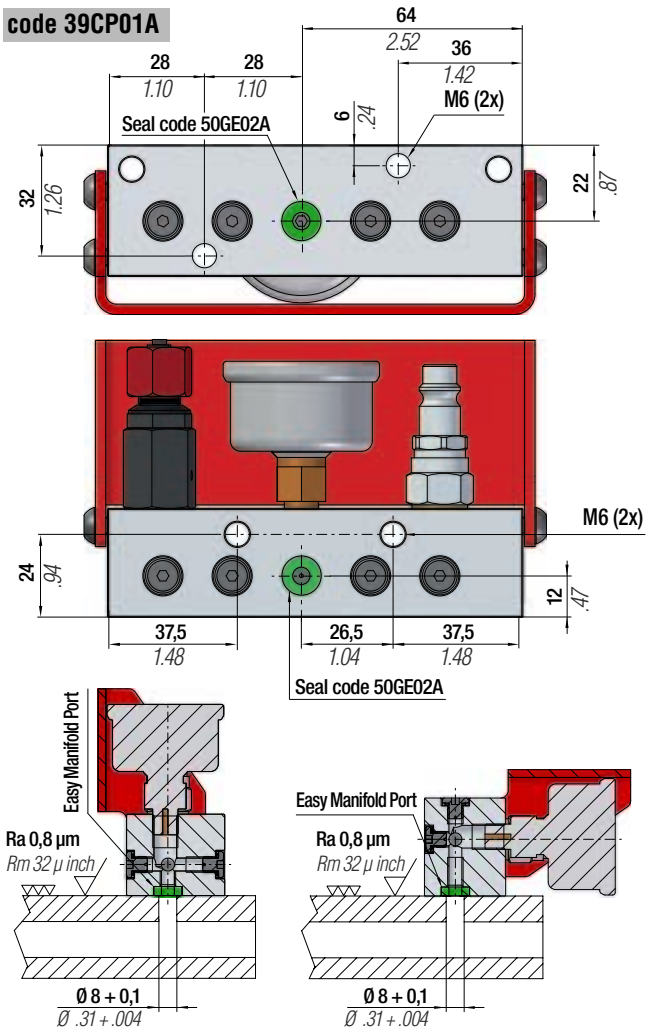
Todos los cilindros Easy manifold se suministran con reten y hoja de instrucciones.

PT Estado de abastecimento

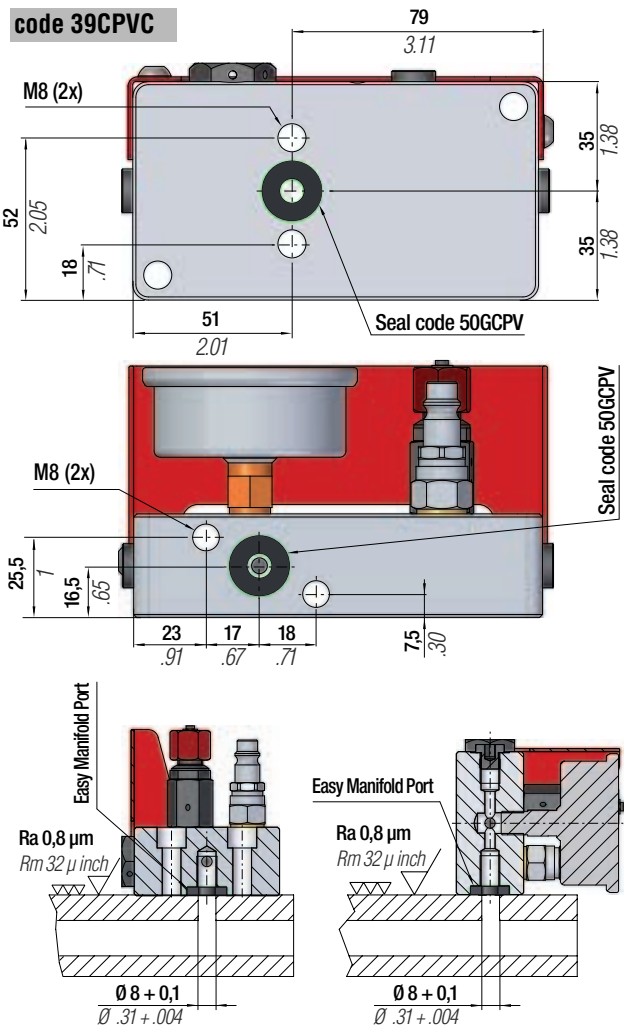
Todos os cilindros Easy manifold vêm com uma junta e um folheto de instruções.

Easy manifold control panel

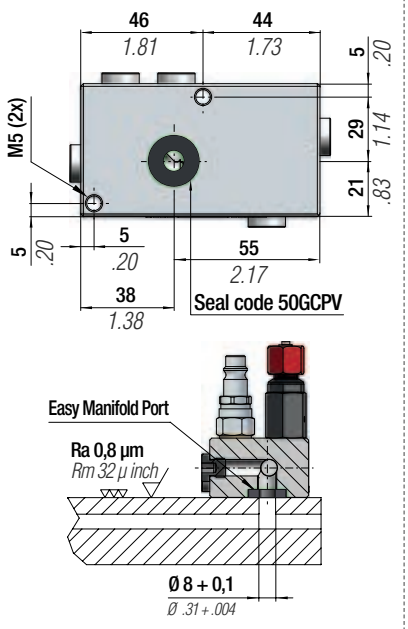
code 39CP01A



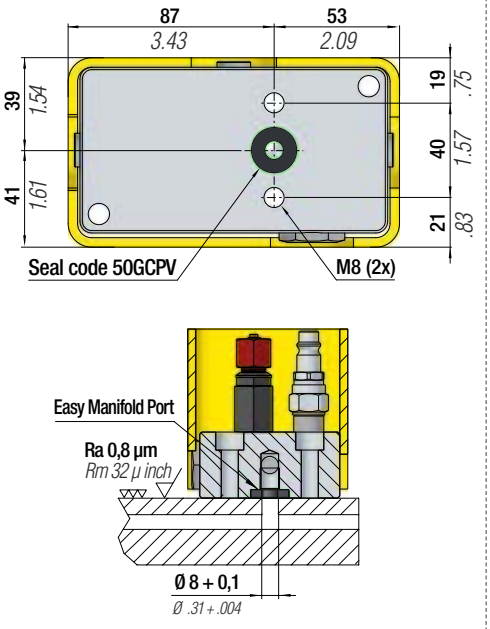
code 39CPVC



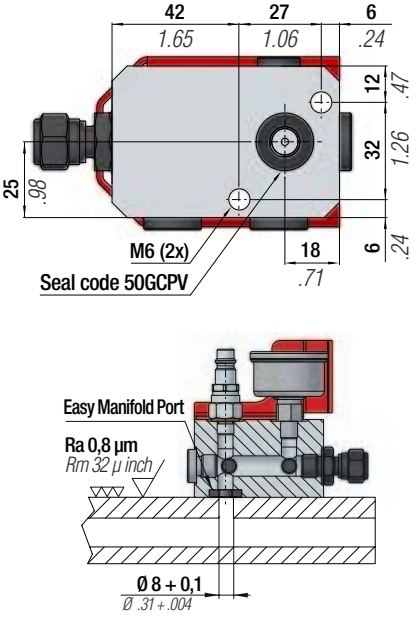
code 39MCPC



code 39CP14A



code 39CP07A



How to plug plate holes

IT Quando è richiesta una riduzione della forza del sistema, o del numero di cilindri, è possibile tappare i fori non utilizzati con una copertura dotata di guarnizione, che utilizza gli stessi fissaggi dei cilindri.

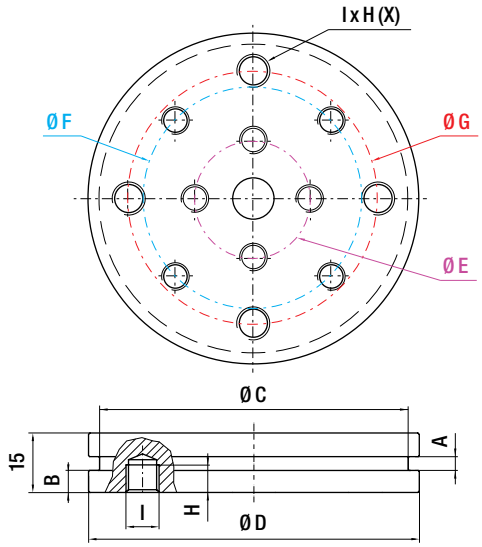
FR Quand une réduction de la force du système ou du nombre des vérins est requise, on peut boucher les trous qui ne sont pas utilisés, avec un couverture équipée avec un joint, qui utilise les mêmes trous de fixations des vérins.

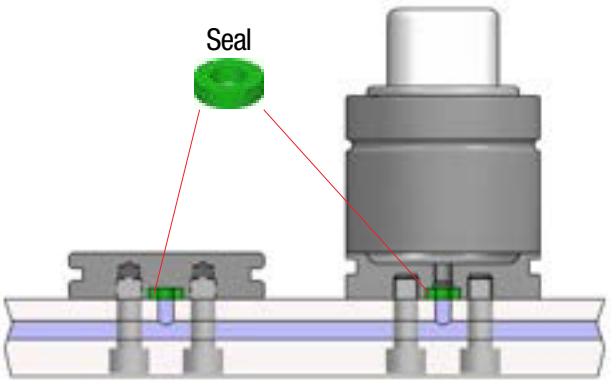
EN When a reduction either of the system's force, or of the number of gas springs, is required, it is possible to plug the holes which are not used, with a cover provided with a square seal, through the same fixing hoses of the gas springs.

ES Cuando se requiere de una reducción de la fuerza del sistema o del número de cilindros, se pueden tapar los alojamientos no utilizados con una tapa equipada con retenes que tiene los mismos agujeros de fijación que los cilindros.

DE Wenn die Systemkraft oder die Anzahl der Zylinder reduziert werden soll, können nicht benötigte Bohrungen mit einem Stöpsel verschlossen und abgedichtet werden, der die selben Befestigungen wie die Zylinder benutzt.

PT Quando você solicita uma redução na força do sistema, ou o número de cilindros, pode tapar os buracos não utilizados com uma tampa com vedação, que usa o mesmo buracos dos cilindros.



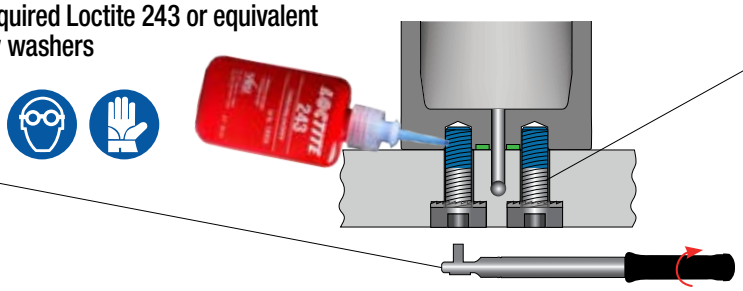


Code	A		B		Ø C		Ø D		Ø E		Ø F		Ø G		I (x)	H		Seal Code
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		mm	inch	
39TE012A	3,5	0.14	4	0.16	27	1.06	32	1.26	18	0.71	-	-	-	-	M6 (2x)	10	0.39	50GE02A
39TE010A	3,5	0.14	4	0.16	27	1.06	32	1.26	20	0.79	24	0.94	-	-	M6 (2x)	10	0.39	50GE02A
39TE001A	3,5	0.14	4	0.16	33	1.30	38	1.50	20	0.79	-	-	-	-	M6 (4x)	10	0.39	50GE02A
39TE011A	3,5	0.14	4	0.16	40	1.06	45	1.77	20	0.79	-	-	-	-	M8 (2x)	10	0.39	50GE02A
39TE002A	3,5	0.14	4	0.16	40	1.57	45	1.77	26	1.02	-	-	-	-	M8 (4x)	10	0.39	50GE01A
39TE003A	5	0.20	8	0.31	43	1.69	50	1.97	26	1.02	-	-	-	-	M6 (4x)	10	0.39	50GE01A
									-	-	34	1.34	-	-	M8 (4x)	10	0.39	
39TE009A	5	0.20	8	0.31	56	2.20	63	2.48	34	1.34	-	-	-	-	M8 (4x)	10	0.39	50GE01A
39TE004A	5	0.20	8	0.31	67	2.64	75	2.95	40	1.57	-	-	-	-	M8 (4x)	10	0.39	50GE01A
									-	-	53,9	2.12	-	-	M12 (4x)	10	0.39	
39TE005A	5	0.20	8	0.31	87	3.43	95	3.74	52	2.05	60	2.36	-	-	M8 (4x)	10	0.39	50GE01A
									-	-	-	-	76,2	3.00	M12 (4x)	10	0.39	
39TE006A	5	0.20	8	0.31	112	4.41	120	4.72	80	3.15	-	-	68	2.68	M10 (4x)	10	0.39	50GE01A
									-	-	80,8	3.18	-	-	M12 (4x)	10	0.39	
39TE007A	5	0.20	8	0.31	142	5.59	150	5.91	100	3.94	-	-	90	3.54	M10 (4x)	10	0.39	50GE01A
									-	-	100	3.94	-	-	M12 (4x)	10	0.39	
39TE008A	8	0.31	8	0.31	187	7.36	195	7.68	120	4.72	-	-	-	-	M12 (4x)	10	0.39	50GE01A

Mounting recommendations

It is always required Loctite 243 or equivalent and the safety washers

Chiave dinamometrica
Torque wrench
Drehmomentschlüssel
Clé dynamométrique
Llave dinamométrica
Chave dinamométrica



Torque force		
M6	class ≥ 8.8	max 10 Nm
M8	class ≥ 8.8	max 24 Nm
M10	class ≥ 8.8	max 50 Nm
M12	class ≥ 8.8	max 84 Nm

IT Raccomandazioni

- L' uso di viti di classe superiore alla 8.8, come 9.8, 10.9 e 12.9, é sempre possibile(questa indicazione non vale per ML, MP e MQ).
- Si raccomanda di NON SUPERARE i valori della coppia di serraggio indicati per la classe 8.8 per qualsiasi classe di viti utilizzata.
- Impegnare sempre il filetto il più possibile, almeno il valore di Kmin.
- Massima attenzione nel montaggio della guarnizione di collegamento tra cilindro e piastra.
- Utilizzare SEMPRE i fori di fissaggio previsti.
- Massima attenzione alla corretta coppia di serraggio da applicare alle viti.
- Usare SEMPRE rondelle anti svitamento su cilindri e pannelli.
- Usare SEMPRE frena filetti tipo Loctite 243 su cilindri e pannelli.
- Non caricare il sistema Easy Manifold con pressione superiore alla massima consentita per ogni modello.

EN Recommendations

- The use of screws of higher class than 8.8, such as 9.8, 10.9 and 12.9, is always allowed (this information is not valid for the Series ML, MP e MQ).
- DO NOT EXCEED the fixed values for torque force indicated for class 8.8, in any other class of screws used.
- ALWAYS engage thread as much as possible at least Kmin.
- Extreme caution when assembling the connecting seal between plate and gas spring.
- ALWAYS use the fixing holes provided.
- Extreme caution to tightening torque to be applied to screws.
- ALWAYS use lock washers on gas springs and panels.
- ALWAYS use thread lock LOCTITE 243 on gas springs and panels.
- Do not charge the easy manifold system over the maximum allowed pressure for each gas spring model.

DE Hinweise

- Schrauben mit einer höheren Festigkeit als 8.8 verwenden. Höhere Festigkeitsklassen wie 9.8, 10.9 und 12.9 sind immer möglich (Diese Angabe gilt nicht für die Baureihen ML, MP und MQ).
- Das angegebene Drehmoment der Festigkeitsklasse 8.8 für andere Schrauben Festigkeitsklassen nicht überschreiten.
- Die komplette Gewindelänge ausnutzen, mind. Kmin.
- Vorsicht bei der Montage der Dichtungen zwischen den Gasdruckfedern und der Platte.
- Äußerste Vorsicht bzgl. des korrekten Drehmoments beim Einschrauben.
- IMMER die vorgesehen Befestigungslöcher verwenden
- IMMER Sicherungsscheiben auf die Zylindern und Kontrollarmaturen, verwenden.
- IMMER eine Schraubensicherung wie z.B. Loctite 243 auf die Zylindern und Kontrollarmaturen, verwenden.
- Das Easy Manifold System nicht mit einem höheren Druck laden als dem, der speziell für das Modell der Gasdruckfeder empfohlen wird.

FR Reccomandacions

- L'usage de vis de classe supérieure au 8.8, tout comme 9.8, 10.9 et 12.9,est toujours possible (cette information n'est pas valable pour les séries ML, MP et MQ).
- N'EXCEDEZ PAS la valeur de la couple se serrage indiqués pour la classe 8.8 pour n'importe quelle autre classe de vis utilisée.
- Engager toujours le filetages plus que possible, et au moin Kmin.
- Une extrême vigilance est recommandée pour l'assemblage du joint entre la plaque et le vérin.
- Utiliser TOUJOURS les trous de fixation prévus.
- Bien veiller à appliquer le couple de serrage correct aux vis.
- TOUJOURS utiliser les rondelles de verrouillage avec les cylindres et les panneaux.
- TOUJOURS utiliser la colle frein filet LOCTITE 243 avec les cylindres et les panneaux.
- Ne pas charger le système manifold au delà de la pression autorisée pour chaque modèle de vérin.

ES Recomendaciones

- El uso de tornillos de calidad superior a 8.8, como 9.8, 10.9 y 12.9 está permitido (excepto para ML, MP y MQ).
- Se recomienda NO EXCEDER el par de apriete indicado para la clase 8.8 para cualquier calidad de tornillos utilizados.
- Utilizar la máxima longitud de rosca, como mínimo Kmin.
- Máxima atención en el montaje de la junta de conexión entre placa y cilindro.
- SIEMPRE use los agujeros de fijación previstos.
- Máxima atención al correcto par de torsión que se aplica a los tornillos.
- Utilizar SIEMPRE arandelas autoblocantes por los cilindros y paneles.
- Utilizar SIEMPRE fijador de rosca tipo Loctite 243 por los cilindros y paneles.
- No cargar el sistema Easy Manifold con preción superior a la máxima permitida para cada tipo de cilindro.

PT Recomendações

- O uso de limitadores superiores a 8,8, tal como 9,8, 10,9 e 12,9, é sempre possível (não valido para as linhas ML, MP e MQ).
- Recomendamos que você NÃO ULTRAPASSE os valores das especificações de torque para a classe 8,8 por os limitadores utilizados para qualquer classe.
- Sempre envolver a rosca, tanto quanto possìvel, pelo menos para Kmin.
- Máxima atenção quando fixar os vedantes conectores entre a placa e cilindro.
- Use SEMPRE os furos de fixação fornecidos.
- Máxima atenção no torque de aperto aplicado nos parafuso.
- Utilizar SEMPRE as anilhas de travamento nos cilindros e painéis.
- Utilizar SEMPRE o fixador de rosca LOCTITE 243 nos cilindros e painéis.
- Não carregar o sistema EASY MANIFOLD acima da pressão máxima recomendada para cada modelo de cilindro.

THIS PAGE IS INTENTIONALLY LEFT BLANK

SW - SECONDARY WIPER







IT Oltre alla protezione SKUDO installata come standard sulle serie KE, RS ed MS, Special Springs offre una completa gamma di raschiatori secondari per migliorare le prestazioni dei cilindri ad azoto utilizzati in ambienti molto contaminati.
I nuovi raschiatori secondari in poliuretano sono progettati per un perfetto fitting con i vari modelli di cilindri. Vedi le tabelle per i dati tecnici.
I raschiatori secondari sono ordinabili separatamente dal cilindro ad azoto e installabili dall'utilizzatore o, se richiesti al momento dell'ordine, installati direttamente in fabbrica da Special Springs.

EN In addition to the SKUDO protection, which is standard on series KE, RS and MS, Special Springs offers a complete range of secondary wipers to improve performances of gas springs used in heavy contamined environments.
The new secondary wipers, made in polyurethane, are designed for a perfect fitting with many series of gas springs. See the charts for technical data.
The secondary wipers can be ordered separately from the gas springs. They can be assembled by user or, if requested with the order, by Special Springs.

DE Neben dem SKUDO-Schutz, der standardmäßig auf der Produktreihe KE, RS und MS installiert ist, bietet Special Springs ein komplettes Sortiment an Sekundärabstreifer zur Verbesserung der Leistungen von Gasdruckfedern, die in stark kontaminierten Umgebungen eingesetzt werden.
Die neuen Sekundärabstreifer, hergestellt aus Polyurethan, sind für eine perfekte Montage mit vielen Serien von Gasdruckfedern ausgelegt. Siehe die Tabelle für technische Daten.
Die Sekundärabstreifer können separat von den Gasdruckfedern bestellt und vom Anwender montiert werden oder, falls in der Bestellung gewünscht, werkseitig vormontiert von Special Springs.

FR En plus de la protection SKUDO installée en standard sur les séries KE, RS et MS, Special Springs offre une gamme complète de joints racleurs secondaires pour améliorer les performances des ressorts à gaz utilisés dans les environnements fortement contaminés.
Les nouveaux joints racleurs secondaires, fabriqués en polyuréthane, sont conçus pour une parfaite fixation avec de nombreuses séries de ressorts à gaz. Voir les tableaux pour les données techniques.
Les joints racleurs secondaires peuvent être commandés séparément des cylindres et assemblés par l'utilisateur ou, si demandé dans la commande, seront assemblés en usine par Special Springs.

ES Además de la protección SKUDO instalada como estándar en las series KE, RS y MS, Special Springs ofrece una gama completa de rascadores secundarios para mejorar las prestaciones de los cilindros de nitrógeno en caso de uso en entornos especialmente contaminados.
Los nuevos rascadores secundarios de poliuretano están diseñados para un ajuste perfecto con varios modelos de cilindros de nitrógeno. Consulte las tablas para obtener información técnica.
Los rascadores secundarios se pueden pedir por separado y ser montados por el usuario o, si se solicita en el pedido, se montarán en fábrica por Special Springs.

PT Além da protecção SKUDO instalada como padrão na série KE, RS e MS, Special Springs oferece uma gama completa de raspadores secundários para melhorar os desempenhos dos cilindros de nitrogênio utilizados em ambientes muito contaminados.
Os novos raspadores secundários, feitos de poliuretano, são projetados para um perfeito montagem com muitas séries de cilindros de nitrogênio. Veja a guia abaixo para obter dados técnicos.
Os raspadores secundários podem ser encomendados separadamente dos cilindros e montados pelo usuário ou, se solicitado com a ordem, serão montados na fábrica por Special Springs.

HOW TO ORDER

E.g. How to order a gas spring with Secondary Wiper **already installed**



= RV 2400-63-B-W

- Identification letter for Secondary Wiper
- Code for gas spring

E.g. How to order **only** the Secondary Wiper



= 59SW007

- Code for Secondary Wiper

SW - SECONDARY WIPER

Gas spring Code	A mm	B mm	Secondary Wiper Code
M 300	2	4	59SW001
RV / RT 350	2	4	59SW002
RV / RT 500	2	4	59SW003
RV / RF / RG / RT 750	2	4	59SW004
RV / RF / RG / RT 1000	2	5	59SW005
RV / RF / RT 1200	2	5	59SW005
RV / RF / RG / RT 1500	2,5	5,5	59SW006
RV / RF / RG / RT 2400	2,5	5,5	59SW007
RV / RG / RT 4200	2,5	5,5	59SW008
RV / RG / RT 6600	2,5	5,5	59SW009
RV / RT 9500	3	6	59SW010
RV 12000	3	6	59SW011
RV 20000	3	6	59SW012
H 300	2	4	59SW002
H / HF 500	2	4	59SW003
HT 500	2	4	59SW047
H 700	2	4	59SW004
HT 700	2	4	59SW048
H 1000	2	5	59SW005
HT 1000	2	5	59SW049
H 1500	2,5	5,5	59SW006
H 2400	2,5	5,5	59SW007



A = Nominal stroke reduction Cu = Nominal Stroke

Gas spring Code	A mm	B mm	Secondary Wiper Code
H 4200	2,5	5,5	59SW008
H 6600	2,5	5,5	59SW009
H 9500	3	6	59SW010
H 18500	3	6	59SW013
H 20000	3	6	59SW058
SC 150 / SC 200	2	4	59SW014
SC / SCF 250	2	4	59SW015
S / SC 500	2	4	59SW016
S / SC 750	2	5	59SW017
S / SC 1500	2,5	5,5	59SW018
S / SC 3000	2,5	5,5	59SW019
SC 5000	3	6	59SW020
SC 7500	3	6	59SW021
SC 10000	3	6	59SW022

⚠ The installation of the secondary wiper requires the removal of the active safety marker OSM where mounted.

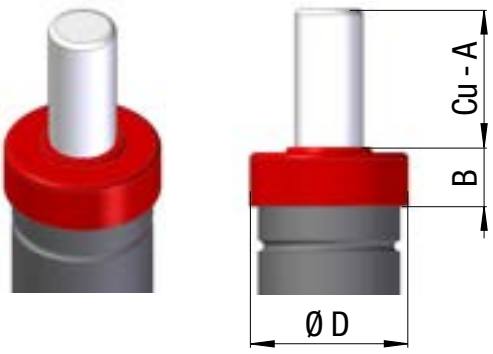
Gas spring Code	A mm	B mm	Secondary Wiper Code
KE 750	2	2	59SW070
KE 1000	2	2	59SW059
KE 1800	2	2	59SW071
KE 3000	2	2	59SW072
KE 4700	2	2	59SW073
KE 7500	2,5	2,5	59SW074
KE 12000	2,5	2,5	59SW075
KE 18500	3	3	59SW076



A = Nominal stroke reduction Cu = Nominal Stroke

⚠ The installation of the secondary wiper requires the removal of the outer seal. SW and Skudo can be mounted toghether.

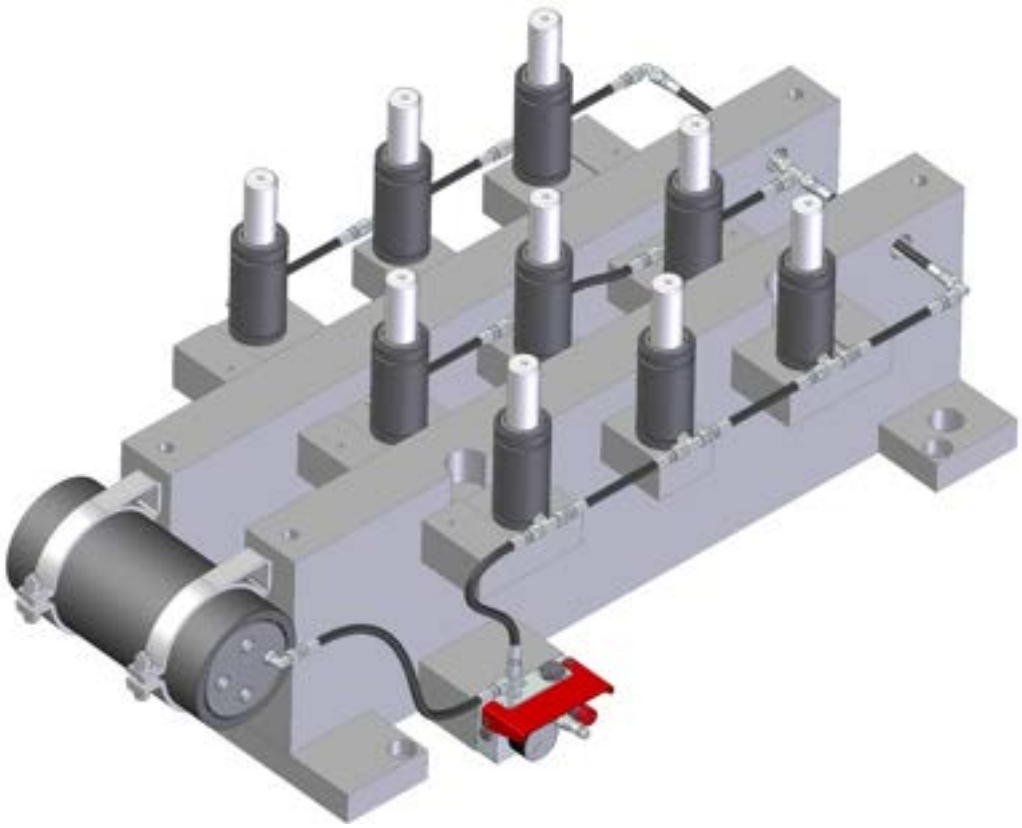
Gas spring Code	A mm	B mm	Ø D mm	Secondary Wiper Code
M 50	-	9,5	15	59SW023
M 70	-	9,5	18	59SW024
M 90 rev. A	0,5	10,5	22	59SW025
M 200 rev. A	0,5	10,5	28	59SW026
M 90 rev. B	0,5	10,5	22	59SW045
M 200 rev. B	0,5	10,5	28	59SW046
RV 170	1,5	9,5	22	59SW027
RV 320	1,5	9,5	28	59SW028
ML 300 rev. D	1,5	11,5	29	59SW030
ML 500 rev. D	1,5	11,5	36	59SW031
ML 1000 rev. D	1,5	11,5	42	59SW032
ML 1800 rev. D	0,5	11,5	54	59SW033
ML 3000 rev. D	0,5	11,5	67	59SW034
ML 4700 rev. D	0,5	11,5	79	59SW035
ML 7500 rev. D	0,5	11,5	100	59SW036
ML 12000 rev. D	0,5	11,5	125	59SW037
MP 500	1,5	33	36	59SW043



A = Nominal stroke reduction Cu = Nominal Stroke

Gas spring Code	A mm	B mm	Ø D mm	Secondary Wiper Code
MP 1000	1,5	19	42	59SW044
MP 2000	1,5	21	54	59SW061
KE 400	1	14,5	28	59SW069

LINKED SYSTEM



IT VANTAGGI

- Pressione uguale in tutti i cilindri
- Controllo della pressione = controllo della forza
- Aumento/riduzione della pressione = aumento/riduzione della forza attraverso il pannello di controllo (regolazione possibile anche con il sistema in lavoro, senza intervento diretto sui cilindri)
- Utilizzo di polmoni di compensazione per un ridotto incremento della pressione a fine compressione
- Gestione di impianti e forze diverse nello stesso stampo (uso multipannello MCPC+AUMCP)
- Stop di sicurezza con uso pressostato
- Utilizzo tappo di sicurezza con disco di rottura CE
- Flessibilità di collegamento con tubi e raccordi EO - 24°, JIC 37°, FlexFlow, Micro 32°, ORFS

I cilindri collegabili a sistema (codice modello + N/NA) sono forniti privi di valvola unidirezionale e con corpo/fondello speciale dove previsto. Per le serie S/SC/H/KE/RV/RS/RF/RG/RT/LS/ML/HT è possibile trasformare i cilindri autonomi in cilindri collegabili a sistema semplicemente rimuovendo i dispositivi di tenuta dal foro di caricamento. Scaricare completamente la pressione prima di questa operazione. Qualora si rendesse necessario rimuovere uno qualsiasi dei componenti installati, scaricare completamente la pressione attraverso il pannello.

EN BENEFITS

- Same pressure in all gas springs
- Pressure control = force control
- Pressure increase/decrease = force increase/decrease through the control panel (the adjustment is also possible with the system running, without direct intervention on the cylinders)
- Lower pressure increase by using compensation tank
- Possibility to manage different systems and forces in the same tool by using the multipanel MCPC+AUMCP
- Safe stop function through pressure switch
- Use of the safety plug with rupture disc CE
- Flexible linking by using hose and connection EO - 24°, JIC 37°, FlexFlow, Micro 32°, ORFS and couplings and many useful accessories

The hosed system gas springs (model code + N/NA) are supplied without charging valve and with special body/end plate when specified. However S/SC/H/KE/RV/RS/RF/RG/RT/LS/ML/HT series can be converted from self-contained to hosed system by simply removing the charging valve. Be sure that all pressure is exhausted before starting this operation. In case it's necessary to remove any of the installed components, pressure must be fully exhausted through the control panel.

DE VORTEILE

- Identischer Druck in allen Zylindern
- Druckkontrolle = Kraftkontrolle
- Druck erhöhen/mindern = Kraft erhöhen/mindern über das Bedienfeld (Einstellung auch beim laufenden System möglich, ohne direkten Eingriff in die Zylinder)
- Einsatz von Ausgleichbehältern zur Reduzierung von Druckerhöhungen
- Verwaltung verschiedenartiger Anlagen und Leistungen in demselber Werkzeug über die Multisteuerung MCPC+AUMCP
- Sicherheitsstopp per Druckwächter
- Verwendung eines Sicherheitsverschlusses mit Berstscheibe (CE-Kennzeichnung)
- Flexibilität bei der Verbindung mit Rohren und Anschlüssen EO - 24°, JIC 37°, FlexFlow, Micro 32°, ORFS

Zylinder im Verbund (Modellcode + N/NA) werden ohne Einwegventile und, sofern vorgesehen, mit speziellem Gehäuse/Boden geliefert. Für die Serien S/SC/H/KE/RV/RS/RF/RG/RT/LS/ML/HT können die autonomen arbeitenden Zylinder im Verbund im verbund abgeändert werden, indem die Dichtungsvorrichtungen an der Luftzufuhröffnung entfernt werden. Lassen Sie die Druckluft vor diesem Arbeitsschritt komplett ab. Falls es sich als notwendig erweisen sollte, einen der installierten Komponenten zu entfernen, muss vorher die Druckluft mittels der Steuerung vollständig abgelassen werden.

FR AVANTAGES

- La même pression dans tous les ressorts
- Contrôle de la pression = contrôle de la force
- Augmentation/diminution de la pression = augmentation/diminution de la force depuis le panneau de control (le réglage est possible même si le système est en fonction, sans intervention directe sur les vérins)
- Utilisation de réservoirs de compensation produisant une petite augmentation de la pression à la fin de la compression
- Gestion d'installations et de forces différentes sur le même outil (utilisation multi-panneaux MCPC+AUMCP)
- Arrêt de sécurité à l'aide d'un pressostat
- Utilisation d'un bouchon de sécurité avec disque de rupture CE
- Souplesse du raccordement à l'aide de tubes et de raccords EO - 24°, JIC 37°, FlexFlow, Micro 32°, ORFS

Les ressorts pouvant être reliés à un système (référence modèle + N/NA) sont livrés sans la vanne unidirectionnelle et avec corps/fond spécial si prévu. Pour les séries S/SC/H/KE/RV/RS/RF/RG/RT/LS/ML/HT, il est possible de transformer les ressorts autonomes en cylindres pouvant être reliés à un système en ôtant simplement les dispositifs d'étanchéité du trou de chargement. Décharger complètement la pression avant d'effectuer cette opération. S'il est nécessaire de démonter un des composants installés, décharger complètement la pression par l'intermédiaire du panneau de contrôle.

ES VENTAJAS

- Misma presión en todos los cilindros
- Control de la presión = control de la fuerza
- Aumento/disminución de la presión = aumento/disminución de la fuerza a través del panel de control (regulación posible incluso con el sistema en marcha, sin intervención directa en los cilindros)
- Pueden emplearse pulmones de compensación para reducir el aumento de la presión al final de la compresión
- Gestión de instalaciones y fuerzas distintas en el mismo útil (con uso del multipanel MCPC+AUMCP)
- Parada de emergencia con uso de presostato
- Tapón de seguridad con disco de ruptura CE
- Flexibilidad de conexión con tubos y racores EO - 24°, JIC 37°, FlexFlow, Micro 32°, ORFS

Los cilindros conectables (código modelo + N/NA) se suministran sin válvula unidireccional y con cuerpo/base especiales en los casos en que así se requiera. En las series S/SC/H/KE/RV/RS/RF/RG/RT/LS/ML/HT, los cilindros autónomos pueden transformarse en cilindros conectables simplemente quitando los dispositivos de estanqueidad del orificio de carga. Antes de realizar esta operación, vaciar completamente la presión. Si fuera necesario quitar alguno de los componentes instalados, vaciar completamente la presión mediante el panel de control.

PT VANTAGENS

- Pressão igual em todos os cilindros
- Controlo da pressão = controlo da força
- Aumento/Redução da pressão = Aumento/Redução da força através do painel de controle (É possível regular, inclusive, com o sistema trabalhando, sem nenhuma intervenção nos cilindros)
- Utilização dos tanques de compensação para redução do aumento da pressão no final da compressão
- Gestão de instalações e de várias forças na mesma Ferramenta (uso do multi-painel MCPC+AUMCP)
- Stop de segurança com utilização do pressostato
- Utilização de Bujão de segurança com disco de rotura CE
- Flexibilidade de ligação com tubos e ligações EO - 24°, JIC 37°, FlexFlow, Micro 32°, ORFS

Os cilindros ligáveis em sistema (código do modelo + N/NA) são fornecidos sem válvula unidireccional e com corpo/extremidade especial. Para a série S/SC/H/KE/RV/RS/RF/RG/RT/LS/ML/HT, é possível transformar os cilindros autónomos em cilindros ligáveis em sistema, bastando remover os dispositivos de retenção do orifício de carga. Descarregar completamente a pressão antes desta operação. No caso de ser necessário remover um dos componentes instalados, descarregar completamente a pressão através do painel de controlo.

LINKED SYSTEM OPERATING INSTRUCTIONS



IT Conservare tubi e raccordi lontano da fonti di calore e luce solare diretta (raggi UV).

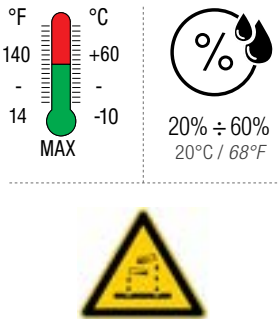
EN Store hoses and fittings away from heat sources and direct sunlight (UV radiation).

DE Lagern Sie Schläuche und Anschlussstücke fern von Wärmequellen und direktem Sonnenlicht (UV-Strahlung).

FR Conserver tuyaux et raccords à l'écart de toute source de chaleur et de la lumière directe du soleil.

ES Conservar mangueras y racores alejados de fuentes de calor y de la luz solar directa (rayos UV).

PT Manter mangueiras e conexões longe do calor e da luz do sol.



IT Conservare tubi e raccordi protetti da alte temperature e dal contatto con oli di stampaggio, solventi, acidi e fluidi aggressivi in genere (ad es. soda e cloruri).

EN Keep hoses and fittings protected against high temperatures and contact with oils, solvents, acids and aggressive fluids in general (e.g. soda and chlorides).

DE Halten Sie Schläuche und Anschlussstücke geschützt vor hohen Temperaturen und dem Kontakt mit Schmierstoffen für die Metallbearbeitung, Lösungsmitteln, Säuren und aggressiven Flüssigkeiten im Allgemeinen (z. B. Soda und Chloride).

FR Protégez les tuyaux et les raccords contre les températures élevées et le contact avec les huiles, les solvants, les acides et les fluides agressifs en général (par exemple, la soude et les chlorures).

ES Conservar mangueras y racores protegidos de altas temperaturas y del contacto con aceites de estampación, disolventes, ácidos y fluidos agresivos en general (por ejemplo, soda y cloruros).

PT Manter tubos e conexões longe de altas temperaturas e de contato com oleos, solventes, acidos ou qualquer outro elemento agressivo aos materiais (ex. solda, cloro, etc..).



IT Nella produzione del tubo rispettare le istruzioni operative indicate nel manuale d'uso della pressa pneumo-idraulica 39PR06.

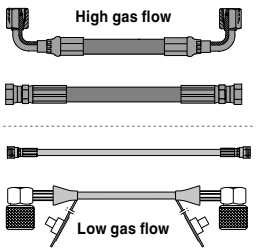
EN When producing the hoses, follow the instructions given in the user manual of the hydraulic press 39PR06.

DE Bei der Herstellung des Schlauchs die Angaben in der Betriebsanleitung der pneumo-hydraulischen Schlauchpresse 39PR06 beachten.

FR Lors de la fabrication des tuyaux, suivez les instructions données dans le manuel d'utilisation de la presse hydraulique 39PR06.

ES A la hora de fabricar las mangueras, seguir las instrucciones de funcionamiento indicadas en el manual del usuario de la prensa neumohidráulica 39PR06.

PT Para cravamento das mangueiras, respeitar as orientações do manual de instruções da prensa pneumatica 39PR06.



IT Selezionare tubi e raccordi idonei per l'applicazione.

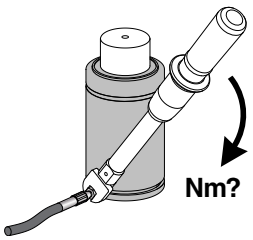
EN Select hoses and fittings suitable for the system.

DE Für die Anwendung geeignete Schläuche und Anschlussstücke auswählen.

FR Sélectionnez les tuyaux et les raccords adaptés au système.

ES Seleccione mangueras y racores adecuados para su aplicación.

PT Selecionar os tubos e conexões de acordo com a necessidade.



IT Rispettare la corretta coppia di serraggio dei raccordi indicata a catalogo per ogni modello.

EN Respect the correct tightening torque of the fittings as specified in the catalogue for each model.

DE Das richtige Anziehdrehmoment der Anschlüsse, wie im Katalog für jedes Modell angegeben, beachten.

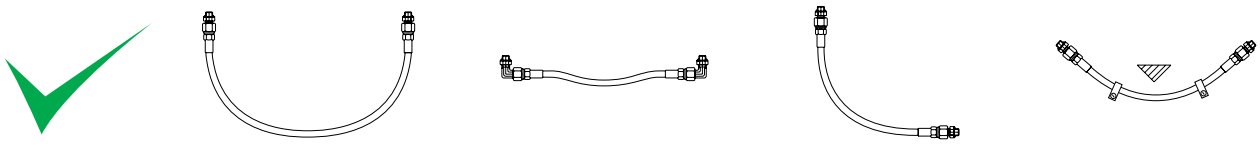
FR Respectez le couple de serrage correct des raccords comme indiqué dans le catalogue pour chaque modèle.

ES Respete el par de apriete de los racores indicado en el catálogo para cada modelo.

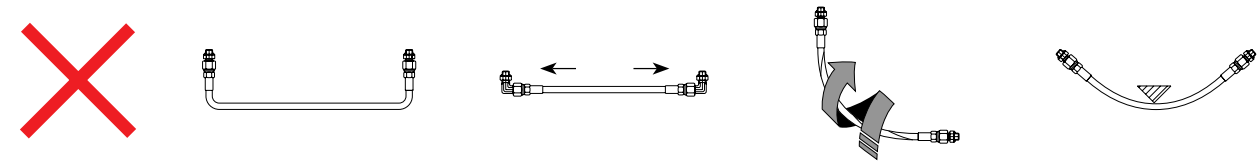
PT Respeitar o torque correto para cada conexão indicado no catalogo para cada modelo.

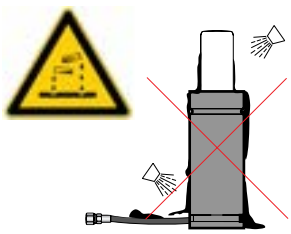
LINKED SYSTEM OPERATING INSTRUCTIONS

RIGHT



WRONG





IT Evitare il contatto con solventi, acidi e fluidi aggressivi in genere (soda, cloruri) durante l'uso.

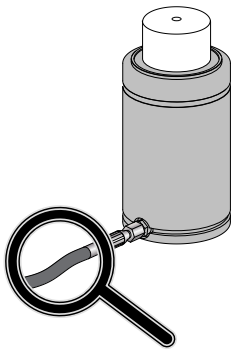
EN Avoid contact with solvents, acids and aggressive fluids in general (e.g. soda and chlorides) during use.

DE Bei Verwendung den Kontakt mit Lösungsmitteln, Säuren und aggressiven Flüssigkeiten im Allgemeinen (Soda, Chloride) vermeiden.

FR Évitez le contact avec les solvants, les acides et les fluides agressifs en général (par exemple, la soude et les chlorures) pendant l'utilisation.

ES Evite el contacto con disolventes, ácidos y fluidos agresivos en general (por ejemplo, soda y cloruros) durante el uso.

PT Evitar que tubos e conexões mantenham contato com oleos, solventes, acidos ou qualquer outro elemento agressivo aos materiais (ex. solda, cloro, etc..).



IT Verificare ad ogni manutenzione dello stampo lo stato dei tubi e in particolare:
- Assenza di deterioramento dei tubi dovuto a sfregamenti, corrosione, tagli o schiacciamenti.
- Posizione dei tubi come da progetto. - Corretto serraggio dei raccordi.

EN Check at each maintenance of the die the condition of the hoses and specifically:
- absence of hose deterioration due to rubbing, wear, cutting or crushing.
- positioning of the hoses corresponding to the project's specifications. - Correct tightening of the fittings.

DE Bei jeder Wartung des Werkzeugs den Zustand der Schläuche prüfen und insbesondere:
- keine Beschädigung der Schläuche durch Reibung, Korrosion, Schneiden, Quetschen.
- die Position der Schläuche entsprechend der Konstruktion. - Das richtige Anziehen der Anschlüsse.

FR Vérifiez à chaque entretien du moule l'état des tuyaux et plus précisément:
- absence de détérioration des tuyaux par frottement, usure, coupure ou écrasement.
- positionnement des tuyaux conforme aux spécifications du projet. - Serrage correct des raccords.

ES Compruebe el estado de las mangueras en cada mantenimiento del troquel, en particular:
- Ausencia de deterioro de las mangueras debido a roces, corrosión, cortes o aplastamientos.
- Posicionamiento de las mangueras según el proyecto. - Correcto apriete de los racores.

PT Verificar a cada manutenção do ferramental as condições das mangueiras e especificamente:
- Se as mangueiras não posseum nenhum dano, desgaste, corte ou fissura.
- Se as conexões estão nas mesmas posições indicadas no projeto. - Aperto correto das conexões.

LIFE WARRANTY

IT Se correttamente installati, utilizzati e non esposti a fattori di rischio, la durata in funzionamento di tubi e raccordi è attesa almeno pari a quella dei cilindri.

EN If correctly installed and used, without being exposed to risk factors, the expected lifetime of hoses and fittings is at least equal to the one of gas springs.

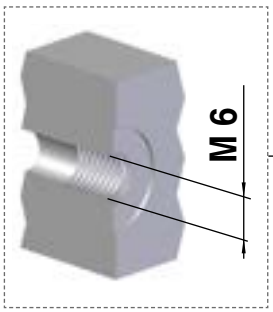
DE Bei sachgemäßem Einbau bzw. Anwendung und ohne Einwirken von Risikofaktoren wird erwartet, dass die Lebensdauer der Schläuche und Anschlüsse mindestens so lang ist wie die der Gasdruckfedern.

FR S'ils sont correctement installés et utilisés, sans être exposé à des facteurs de risque, la durée de vie attendue des tuyaux et des raccords est au moins égale à celle des ressorts à gaz.

ES Si están correctamente instalados, con un uso correcto y no expuestos a factores de riesgo, la vida útil de mangueras y racores debería ser al menos igual a la de los cilindros.

PT Se corretamente instalados e utilizados, a vida util das mangueiras e conexões são no minimo a mesma vida util dos cilindros.

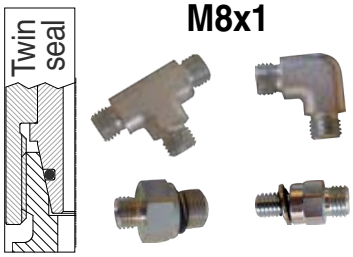
LINKED SYSTEM SELECTION



FLEXFLOW - CONNECTIONS
S12,65x1,5

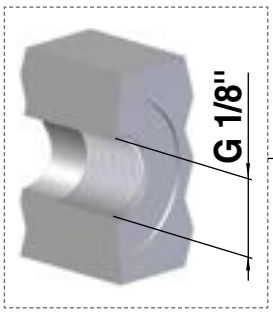


MICRO - CONNECTIONS
M8x1

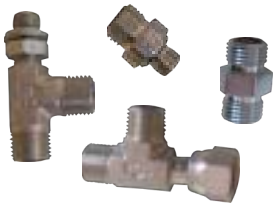


JIC 37°- CONNECTIONS
7/16"-20 UNF

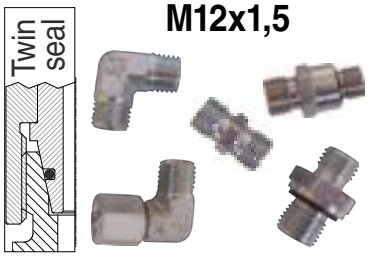




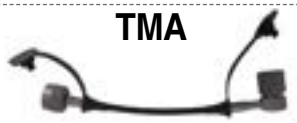
ORFS - CONNECTIONS
9/16"-18 UNF



EO - 24° - CONNECTIONS
M12x1,5



TMA



Low gas flow

TSM



Low gas flow

TNC



High gas flow

HY 400



High gas flow

HY 500



High gas flow

ACCESSORIES

IT
- Pressa trasportabile con pompa pneumo-idraulica
- Idonea per raccordi dritti, 45° e 90°

EN
- Transportable press with hydraulic manual pump
- Suitable for straight, 45° and 90° fittings

DE
- Transportabele Presse mit manueller Hydrau-likpumpe
- Geeignet für gerade, 45° und 90° Anschlüsse

FR
- Presse transportable avec pompe oléodyna-mique manuelle
- Utilisable avec raccords droits, 45° et 90°

ES
- Prensa transportable con bomba oleodinámica manual
- Puede ser utilizada con tu-berías derechas, 45° y 90°

PT
- Prensa transportável com bomba hidráulica manual
- Pode ser usado com tubos retos, 45° e 90°

code 39PR06



			H L P L x P x H	Kg	°F °C
AIR	**7 bar** *110 psi*	**100 TON** *110 US TON*	**380 x 430 x 400 mm** *15 x 17 x 16 inch*	**38 kg** *84 lb*	**-5 ÷ 40 °C** *23 ÷ 104 °F*

code 58UT022A (included)



IT Utensile rimuovi morsetti con calamita
EN Magnet tool to remove pressing jaws
DE Magnetwerkzeug für die Entfernung von Pressbacken
FR Outil magnétique pour enlever les mâchoires de pressage
ES Herramienta magnética para sacar las mordazas de la prensa
PT Ferramenta magnética para remover os mordentes de prensar

code 58UT001A (optional)



IT Forbice taglia tubo
EN Scissor for hose
DE Schlauchschneideschere
FR Ciseaux coupe-tube
ES Tijeras cortatubos
PT Tesouras corta tubos

code 58UT023A (optional)



IT Lampada led con magnete
EN LED Light with magnet
DE LED-Lampe mit Magnet
FR Lampe à LED magnétique
ES Lámpara LED con imán
PT Lâmpada LED com íman

CONNECTIONS

ORFS "TSM" *HOSE Ø 5,5*	Micro 32° - JIC 37° "TSM" *HOSE Ø 5,5*	FlexFlow "TMA" *HOSE Ø 5,1*	JIC 37° "TNB" *HOSE Ø 8*	EO 24° "HY 500" *HOSE Ø 11*	ORFS "HY 400" *HOSE Ø 12,7*
p. 288	p. 272 - 273	p. 275	p. 273	p. 268	p. 284

PRESSING JAWS

code 39MTR10 (optional)



code 39MTR11 (optional)



code 39MTR12 (optional)

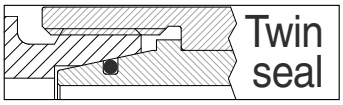


code 39MTR13 (optional)

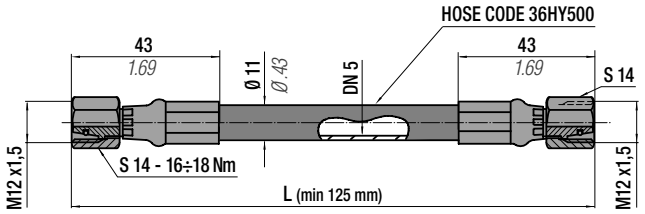


Ordering example: **39PR06A + 39MTR11** ← Pressing jaws for Jic 37° "TNB" HOSE Ø 8,1

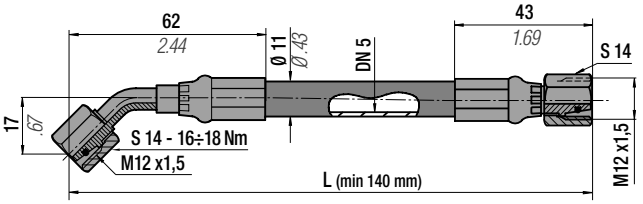
EO - 24°
Hose Ø 11 mm



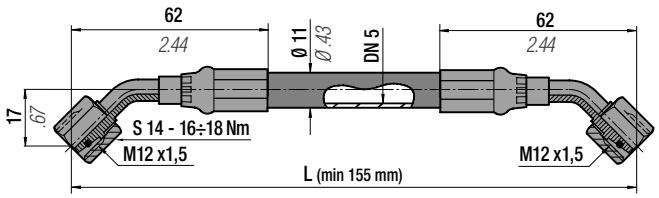
code 36HY50001...



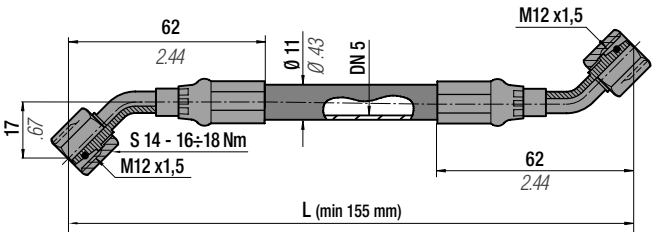
code 36HY50002...



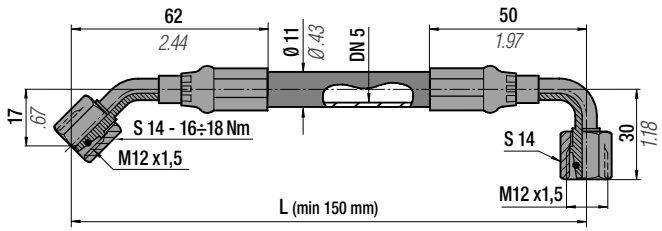
code 36HY50003...



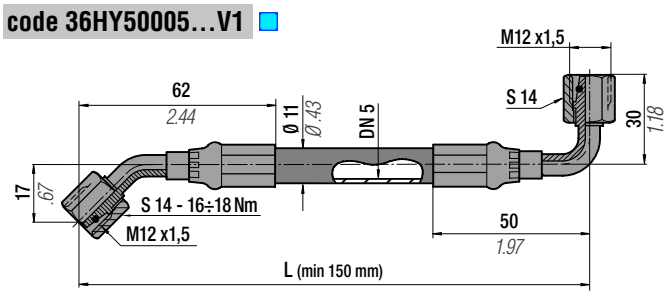
code 36HY50003...V1



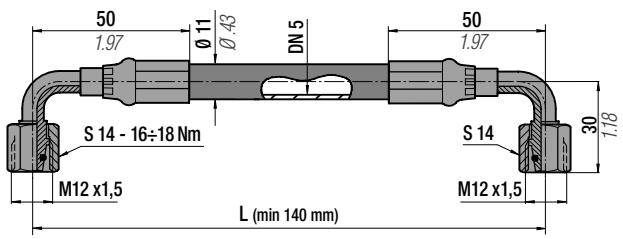
code 36HY50005...



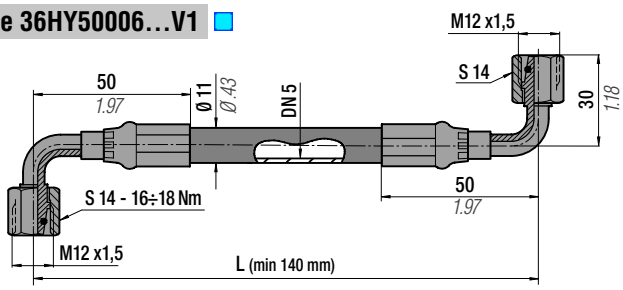
code 36HY50005...V1



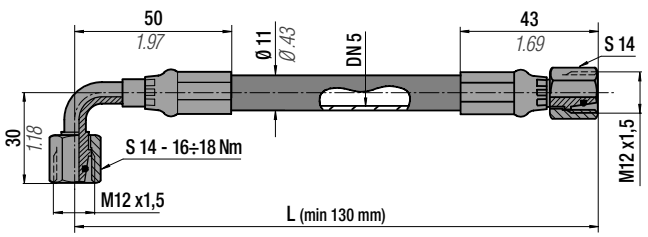
code 36HY50006...



code 36HY50006...V1



code 36HY50004...



*All dimensions in **mm**/inch*

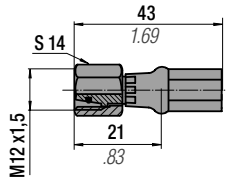
Technical data				
"L" min	See each type	-	Volume	18 ml/metre
Operation pressure	345 bar	*5003 psi*	Dimension	3/16'' (external ø 11 mm)
Burst Pressure	1380 bar at 20°C	*20010 psi at 68°F*	Material	Thermoplastic
R (bending radius)	40 mm	*1.57 in*	Standard	SAE 100R8
Operation temperature	-40+ 100°C	*-38 +212°F*	Outer casing	Perforated

Lunghezza richiesta comprensiva di raccordi terminali
Length upon request including end hose fittings
Länge Anfrage einschließlich Ende Schlaucharmaturen
Longueur requise, y compris des raccords d'extrémité
Longitud requerida, incluyendo racores de los extremos
Comprimento necessário incluindo todos os acessórios

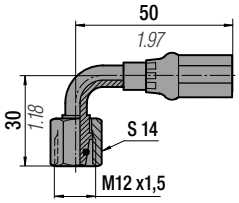
L = 5 mm upward increase - Example (36HY50001 0300; 36HY50001 0305; ...)

HOSE FITTINGS

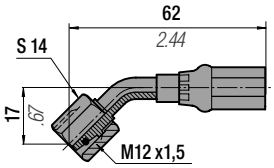
code 36P2401



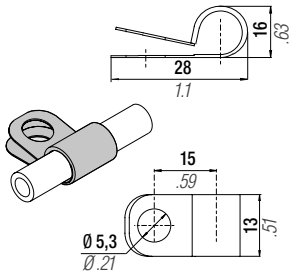
code 36P2402



code 36P2403

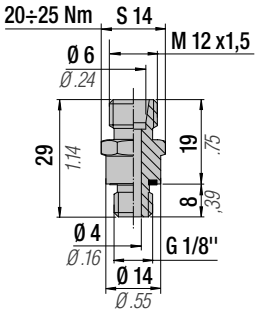


code: 36FF13A

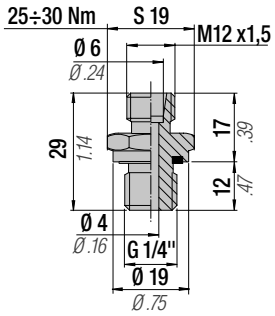


Raccordi tubo-cilindro/pannello - Hose-cylinder/panel connections - Anschlüsse zwischen schlauch und Zylinder/Kontrollarmatur - Raccords tuyau-cylindre/tableau - Racores manguera-cilindros/panel - Racord tubo-cilindro/painel

code 36R2401

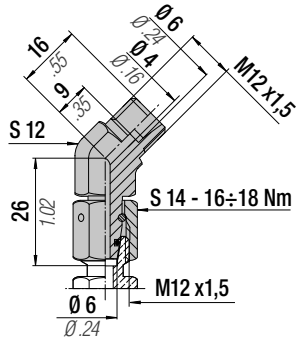


code 36R2402

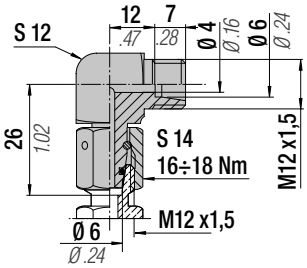


Raccordi di derivazione - Offtake connections - Anschlüßstutzen - Raccords de dérivation - Racores de derivación - Racord de derivação

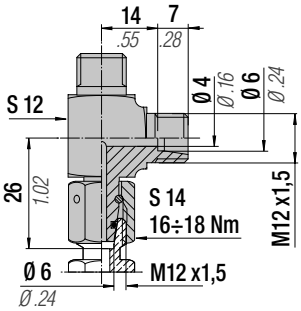
code 36R2403



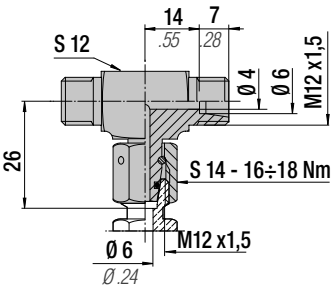
code 36R2404



code 36R2405

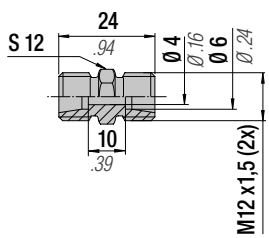


code 36R2406

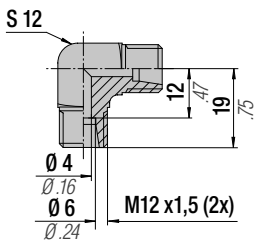


Raccordi tubo-tubo - Hose-hose connections - Anschlüsse zwischen Schlauch und Schlauch - Raccords tuyau-tuyau - Racores tubo-tubo - Racord tubo-tubo

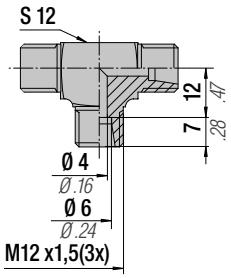
code 36R2407



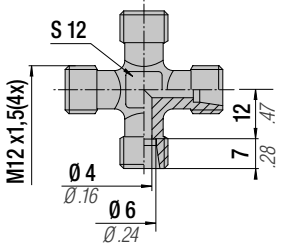
code 36R2408



code 36R2409

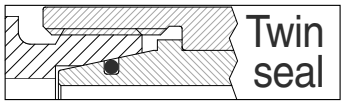


code 36R2410

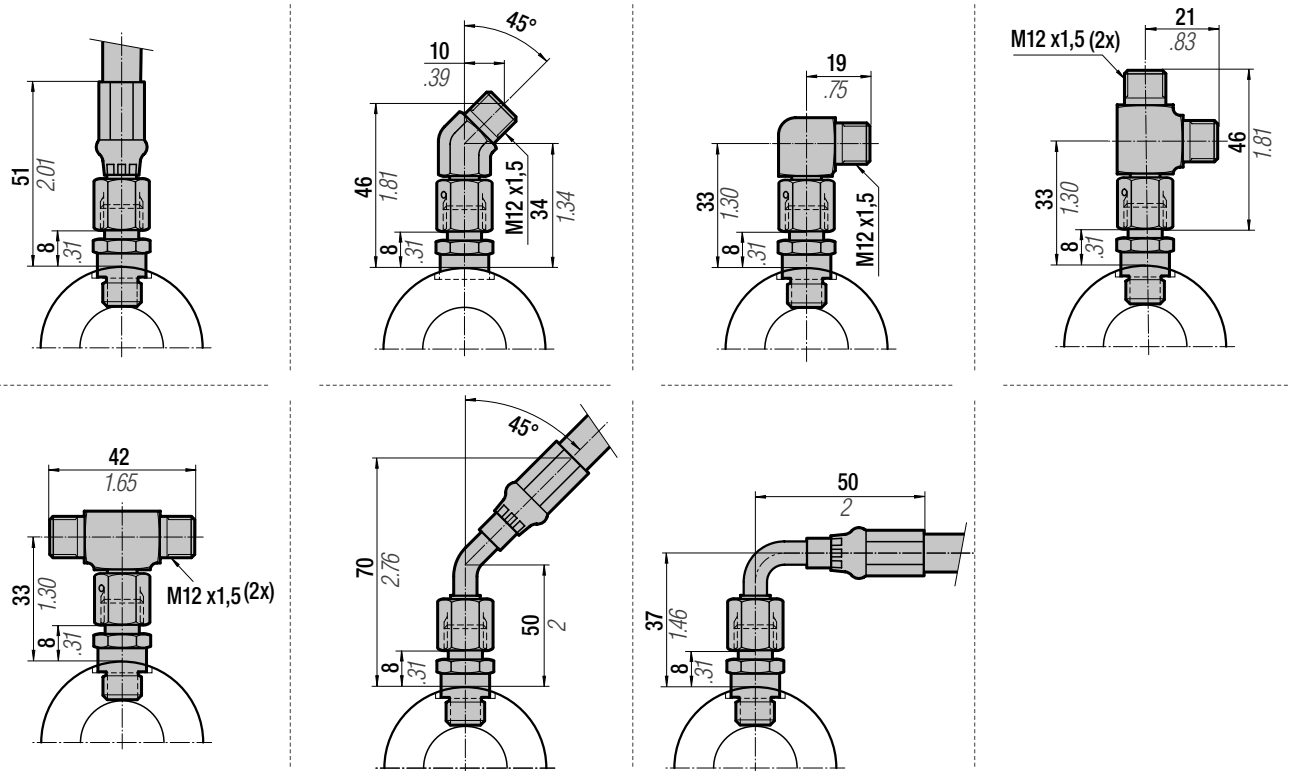


*All dimensions in **mm**/inch*

EO - 24°



Esempi di installazione - Installation examples - Einbaubeispiele - Exemples de montage - Ejemplos de instalación - Exemplos de instalação

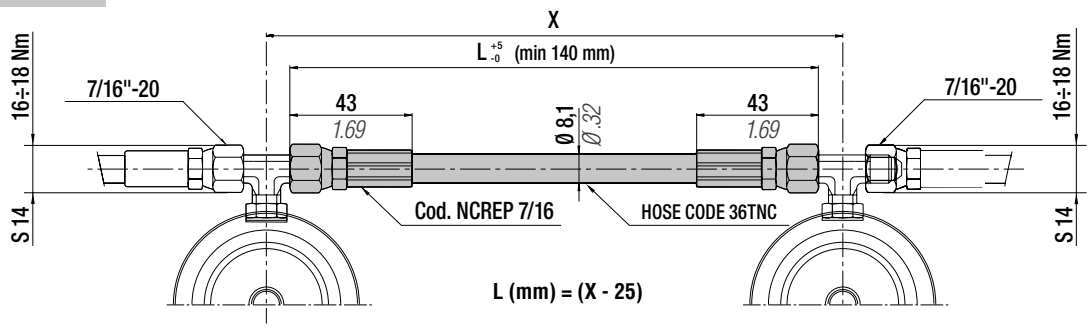


*All dimensions in **mm**/inch*

THIS PAGE IS INTENTIONALLY LEFT BLANK

TNC JIC 37° Hose Ø 8 mm

code TNC 7/16...



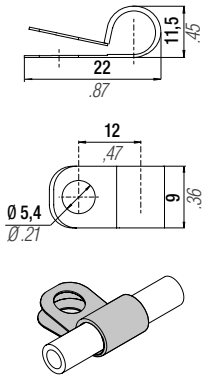
Technical data				
"L" min	See above	*5.51 in*	Volume	12,6 ml/metre
Operation pressure	420 bar	*6090 psi*	Dimension	1/8'' (external ø 8,1 mm)
Burst Pressure	1680 bar at 20°C	*24360 psi at 68°F*	Material	Thermoplastic
R (bending radius)	25 mm	*0.98 in*	Standard	SAE 100R8
Operation temperature	-40+ 100°C	*-38 +212°F*	Outer casing	Perforated

Lunghezze standard (mm) inclusive di n. 2 raccordi NCREP 7/16
Standard lengths (mm) inclusive of no. 2 connections NCREP 7/16
Standard-Länge (mm) einsch. 2 NCREP 7/16 -Anschlüssen

Longueur standard (mm) comprenant 2 raccords NCREP 7/16
Longitud estándar (mm) con 2 racores incluidos NCREP 7/16
Comprimento standard (mm) incluído nas 2 ligações NCREP 7/16

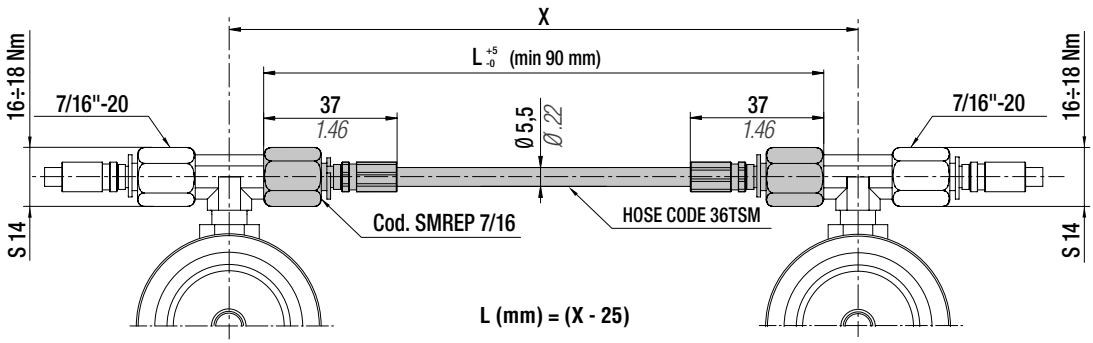
L = 5 mm upward increase - Example (TNC 7/16 140 mm; TNC 7/16 145 mm ...)

code: 36FF09A



TSM JIC 37° Hose Ø 5,5 mm

code TSM7/16...



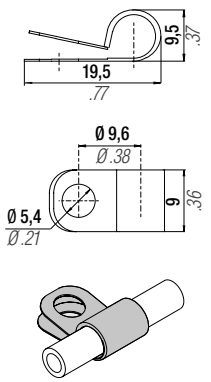
Technical data				
"L" min	See above	*3.54 in*	Volume	3 ml/metre
Operation pressure	630 bar	*9135 psi*	Dimension	5/64'' (external ø 5,5 mm)
Burst Pressure	1890 bar at 20°C	*27400 psi at 68°F*	Material	Thermoplastic
R (bending radius)	20 mm	*0.79 in*	Standard	-
Operation temperature	-40+ 100°C	*-38 +212°F*	Outer casing	Perforated

Lunghezze standard (mm) inclusive di n. 2 raccordi SMREP 7/16
Standard lengths (mm) inclusive of no. 2 connections SMREP 7/16
Standard-Länge (mm) einsch. 2 SMREP 7/16 -Anschlüssen

Longueur standard (mm) comprenant 2 raccords SMREP 7/16
Longitud estándar (mm) con 2 racores incluidos SMREP 7/16
Comprimento standard (mm) incluído nas 2 ligações SMREP 7/16

L = 5 mm upward increase - Example (TSM 7/16 90 mm; TSM 7/16 100 mm ...)

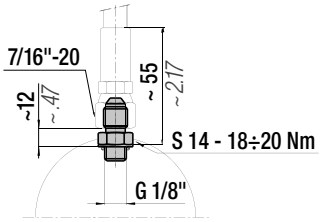
code: 36FF06A



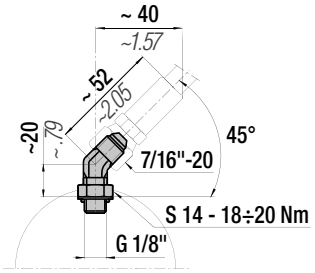
*All dimensions in **mm**/inch*

Raccordi tubo-cilindro/pannello - Hose-cylinder/panel connections - Anschlüsse zwischen schlauch und Zylinder/Kontrollarmatur - Raccords tuyau-cylindre/tableau - Racores manguera-cilindros/panel - Racord tubo-cilindro/painel

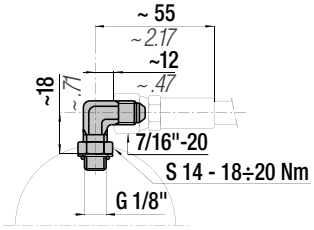
code RTC-D



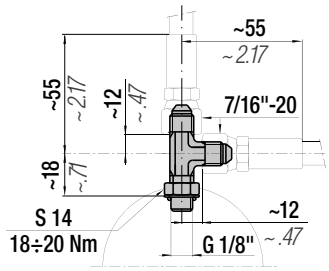
code RTC-M



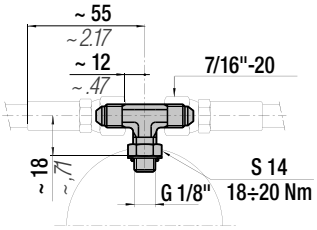
code RTC-R



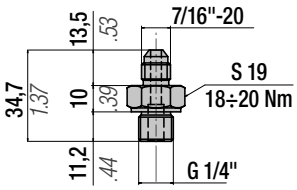
code RTC-L



code RTC-T

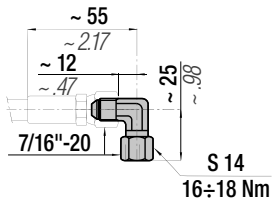


code 36J01A

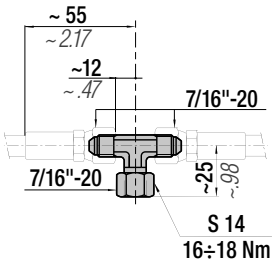


Raccordi di derivazione - Offtake connections - Anschlüßstutzen - Raccords de dérivation - Racores de derivación - Racord de derivação

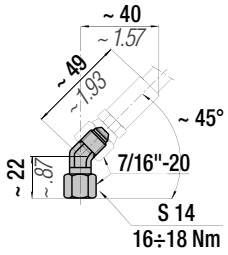
code RDR



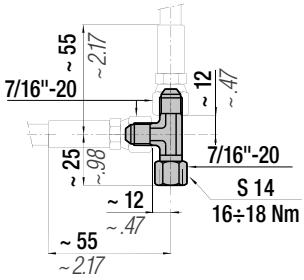
code RDT



code RDM

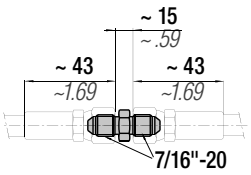


code RDL

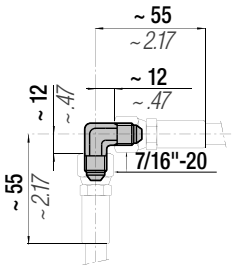


Raccordi tubo-tubo - Hose-hose connections - Anschlüsse zwischen Schlauch und Schlauch - Raccords tuyau-tuyau - Racores tubo-tubo - Racord tubo-tubo

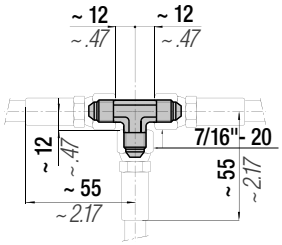
code RTT-D



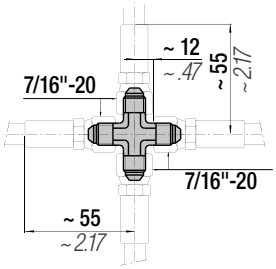
code RTT-R



code RTT-T



code RTT-C



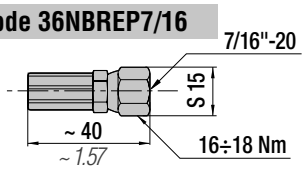
⚠ Available ONLY for loose supply

JIC 37° Hose Ø 8 mm TNB

PARKER made

Hose	Hose fittings
code 36TNB	code 36NBREP7/16





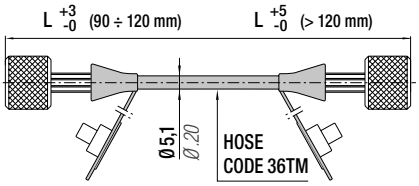
Technical data		
"L" min	140 mm	*5.51 in*
Operation pressure	415 bar	*6017 psi*
Burst Pressure	1655 bar at 20°C	*24000 psi at 68°F*
R (bending radius)	13 mm	*0.51 in*
Operation temperature	-40+ 100°C	*-38 +212°F*

*All dimensions in **mm**/inch*

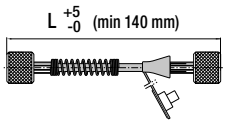
TM MINIMESS
Hose Ø 5,1 mm

code TMD

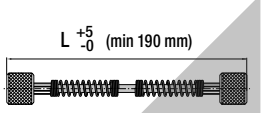




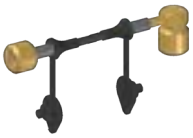
code TMD...-1

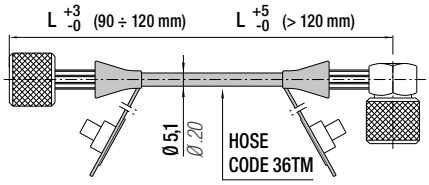


code TMD...-2

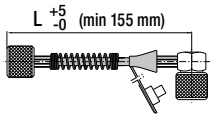


code TMDR

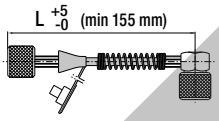




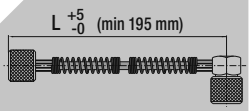
code TMDR...-1



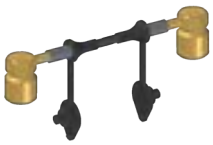
code TMDR...-3

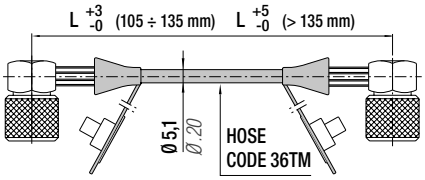


code TMDR...-2

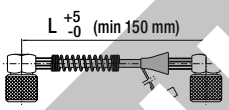


code TMR

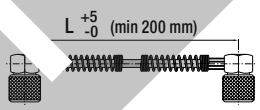




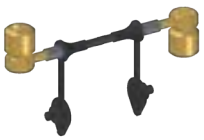
code TMR...-3

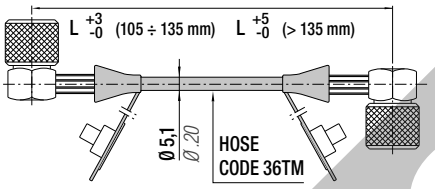


code TMR...-2

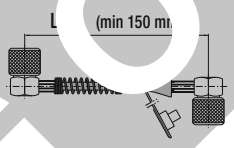


code TMR...V1

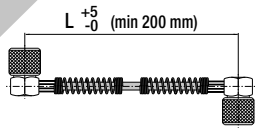




code T...-3

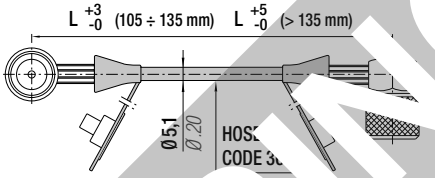


code TMR...V1-2

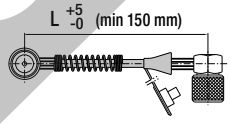


code TMR...V2

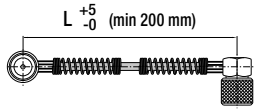




c... TMR...V2-3

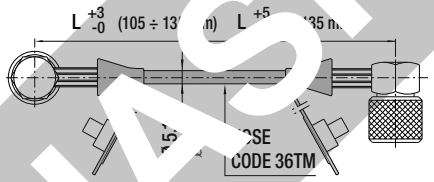


code TMR...V2-2

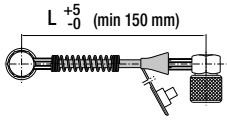


code TMR...V3

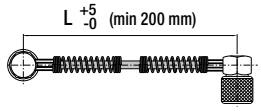




code TMR...V3-3



code TMR...V3-2



PHASING OUT

Technical data

"L" min (TMD - TMDR)	...e above	-	Operation temp.	-20 +100°C	*-2 +212°F*
"L" min (TMR - TM...	...bove	-	Dimension hose	5/64'' (external ø 5,1 mm)	
Operation press...	630 bar	*9135 psi*	Material hose	Polyamid	
Burst Pressure	1950 bar at 20°C	*28275 psi at 68°F*	Standard	-	
R (bending radius)	20 mm	*0.79 in*	Outer casing hose	Perforated	

Lunghezze standard (mm) inclusive di n.2 raccordi e tappi
Standard lengths (mm) inclusive of no.2 connections and plugs
Standard-Länge (mm) einsch.2 und Stopfen Anschlüssen

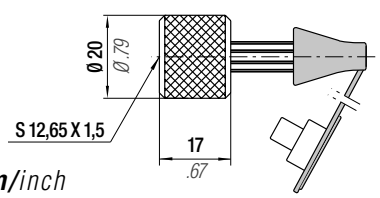
Longueur standard (mm) comprenant 2 raccords et bouchons
Longitud estándar (mm) con 2 racores incluidos y tapones
Comprimentzo standard (mm) incluído nas 2 ligações e tampões

standard L = 90 ÷ 120 mm min. - 1 mm upward increase
Example (TMD91; TMD119; TMR107; TMR114V1; ...)

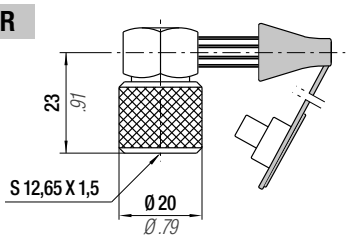
standard L = > 120 mm min. - 5 mm upward increase
Example (TMD120; TMD125; TMR135; TMR150V1; ...)

HOSE FITTINGS

code 36MREPD

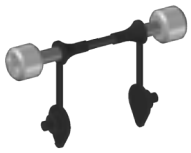


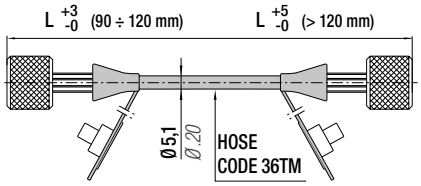
code 36MREPR



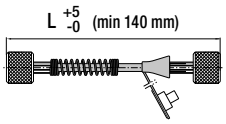
*All dimensions in **mm**/inch*

code TMAD

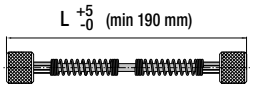




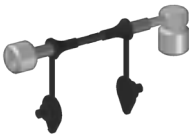
code TMAD...-1

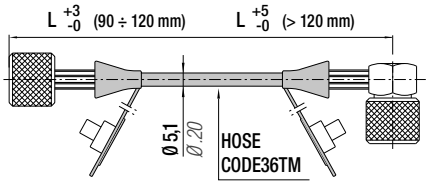


code TMAD...-2

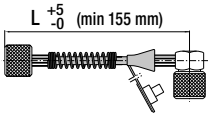


code TMADR

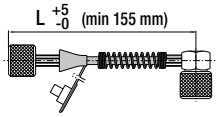




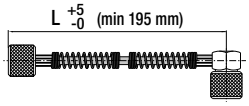
code TMADR...-1



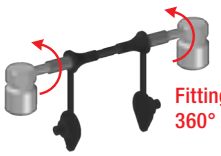
code TMADR...-3



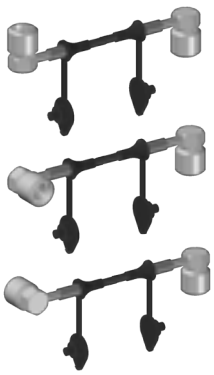
code TMADR...-2

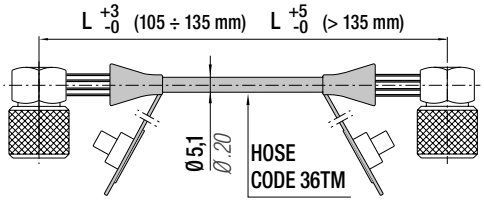


code TMAR

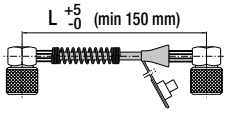


Examples of rotated fittings:

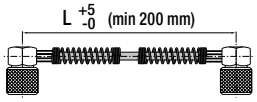




code TMAR...-3



code TMAR...-2



Examples of rotated fittings:



Technical data				
"L" min	See above	-	Dimension hose	5/64" (external ø 5,1 mm)
Operation pressure	630 bar	*9135 psi*	Material hose	Polyamide
Burst Pressure	1950 bar at 20°C	*28275 psi at 68°F*	Material fitting	Stainless Steel
R (bending radius)	20 mm	*0.79 in*	Standard	-
Operation temp.	-20 +100°C	*-2 +212°F*	Outer casing hose	Perforated

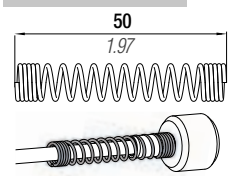
Lunghezze standard (mm) inclusive di n.2 raccordi e tappi
Standard lengths (mm) inclusive of no.2 connections and plugs
Standard-Länge (mm) einsch.2 und Stopfen Anschlüssen

Longueur standard (mm) comprenant 2 raccords et bouchons
Longitud estándar (mm) con 2 racores incluidos y tapones
Comprimentzo standard (mm) incluído nas 2 ligações e tampões

standard L = 90 ÷ 120 mm min. - 1 mm upward increase
Example (TMAD91; TMAD119; TMAR107; TMAR114; ...)

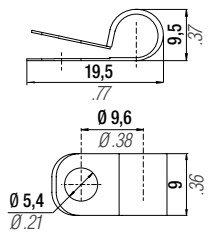
standard L = > 120 mm min. - 5 mm upward increase
Example (TMAD120; TMAD125; TMAR135; TMAR150; ...)

code: 59MTM



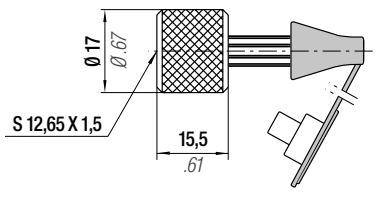
Protezione antipiega
Anti-kink protection
Knickschutzwendel
Protection anti-croquage
Protección anti-pliegue
Proteção anti-dobra

code: 36FF06A

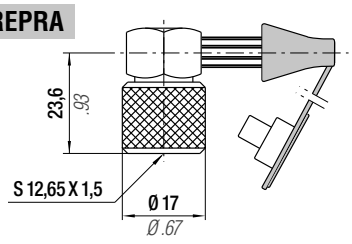


HOSE FITTINGS

code 36MREPDA

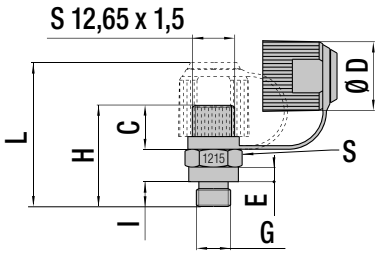


code 36MREPRA



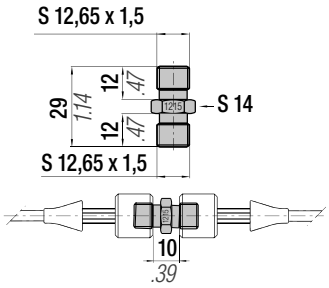
*All dimensions in **mm**/inch*

CODE	G	I		H		L		S	C		Ø D		E	
		mm	inch	mm	inch	mm	inch	S - ...÷... Nm	mm	inch	mm	inch	mm	inch
RMTC 1)	G 1/8''	8	0.31	30	1.18	41	1.61	S14 - 18÷20 Nm	12	0.47	19,5	0.77	4	0.16
RMTC01 1)	G 1/4''	10	0.39	31	1.22	39	1.54	S19 - 22÷25 Nm	12	0.47	17	0.67	3	0.12
RMTC02 2)	G 1/8''	8	0.31	30	1.18	-	-	S14 - 18÷20 Nm	12	0.47	-	-	4	0.16
RMTC03 2)	G 1/4''	10	0.39	31	1.22	-	-	S19 - 22÷25 Nm	12	0.47	-	-	3	0.12
RMPT 1)	7/16-20	11	0.43	30	1.18	43	1.69	S17 - 18÷20 Nm	12	0.47	19,5	0.77	3	0.12



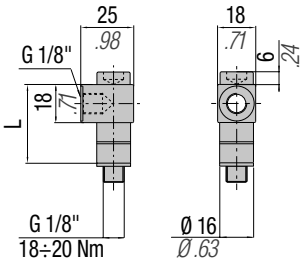
1) Con valvola unidirezionale - With one way valve - Mit Rückschlagventil - Avec valve unidirectionnelle - Con válvula unidireccional - Com válvula unidireccional
2) Senza valvola unidirezionale - Without one way valve - Ohne Rückschlagventil - Sans valve unidirectionnelle - Sin válvula unidireccional - Sem válvula unidireccional

code RMTT



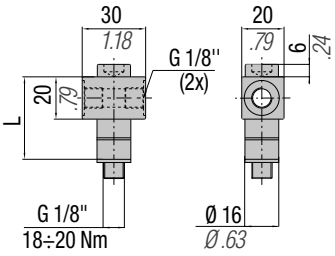
Blocchetto di distribuzione - Distribution block - Gasverteilstück - Plot de distribution - Bloque de distribución - Bloco de distribuição

BDM01...



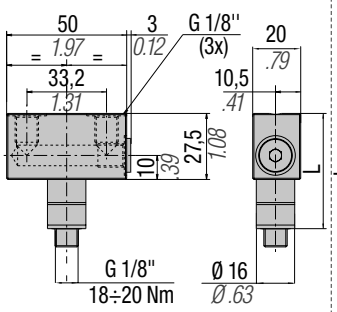
CODE	L	
	mm	inch
39BDM0102B	24	0.94
39BDM01B	38,5	1.52
39BDM0103B	48	1.89

BDM02...



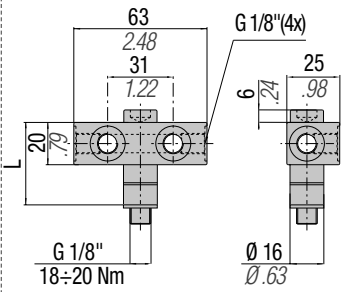
CODE	L	
	mm	inch
39BDM0202B	26	1.02
39BDM02B	40,5	1.59
39BDM0203B	50	1.97

BDM03...



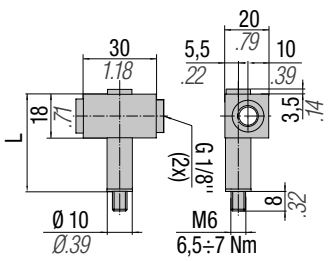
CODE	L	
	mm	inch
39BDM0302B	33,5	1.32
39BDM0301B	48	1.89
39BDM0303B	57,5	2.26

BDM04...



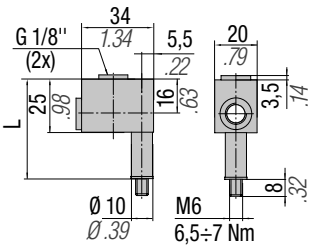
CODE	L	
	mm	inch
39BDM0402B	26	1.02
39BDM04B	40,5	1.59
39BDM0403B	50	1.97

BDM...



CODE	L	
	mm	inch
39BDM05A	26	1.020
39BDM06A	42	1.65

BDM...



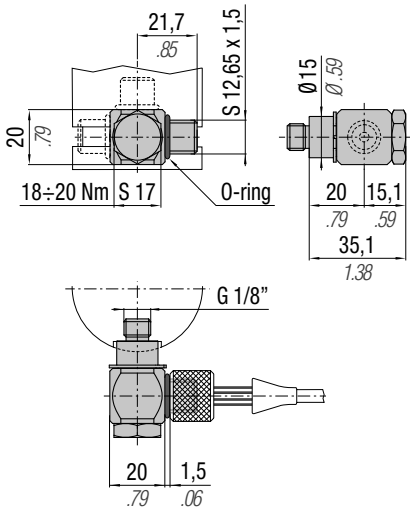
CODE	L	
	mm	inch
39BDM07A	33	1.30
39BDM08A	49	1.93

THIS PAGE IS INTENTIONALLY LEFT BLANK

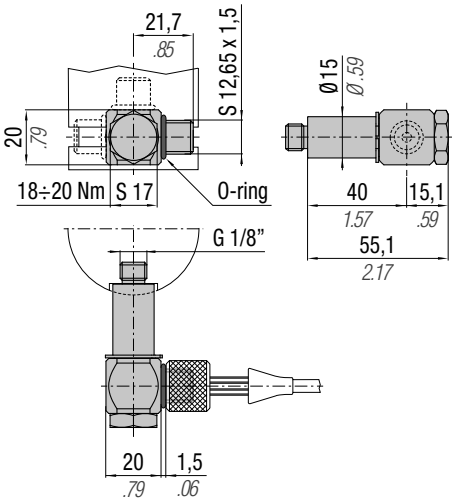
CONNECTIONS FLEXFLOW HEAVY DUTY STAINLESS STEEL G 1/8"

Raccordi tubo-cilindro/pannello - Hose-cylinder/panel connections - Anschlüsse zwischen schlauch und Zylinder/Kontrollarmatur - Raccords tuyau-cylindre/tableau - Racores manguera-cilindros/panel - Racord tubo-cilindro/painel

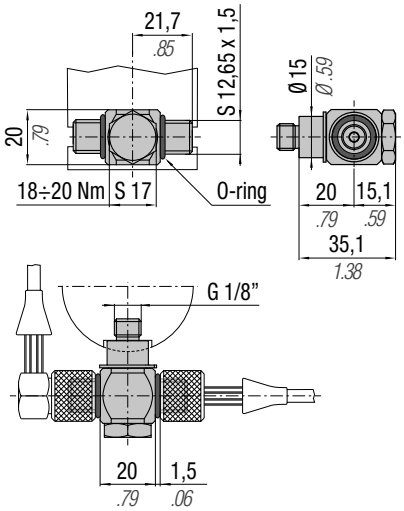
code 39BDM0901



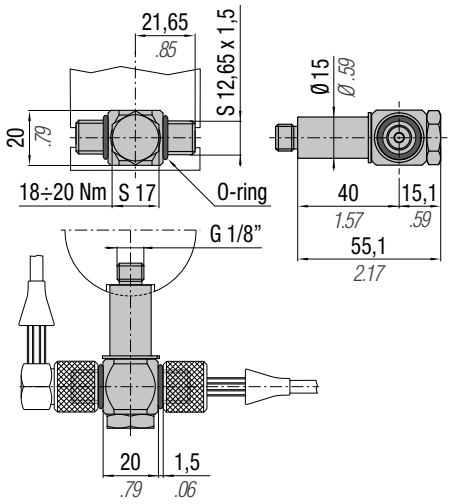
code 39BDM0902



code 39BDM1001

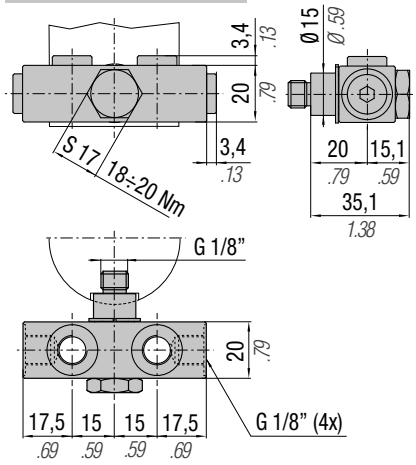


code 39BDM1002

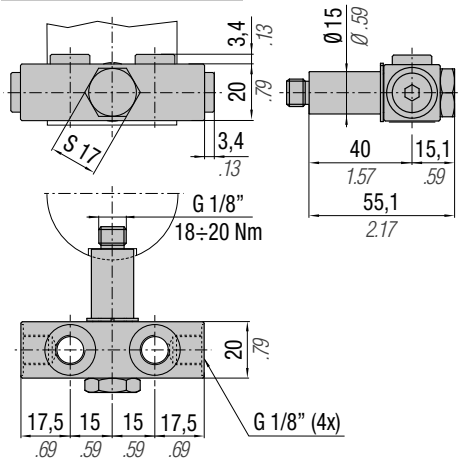


Blocchetto di distribuzione - Distribution block - Gasverteilstück - Plot de distribution - Bloque de distribución - Bloco de distribuição

code 39BDM1101



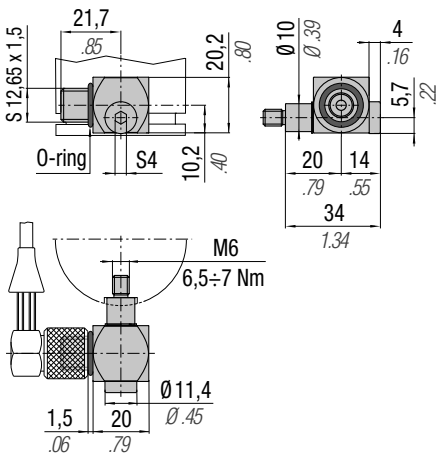
code 39BDM1102



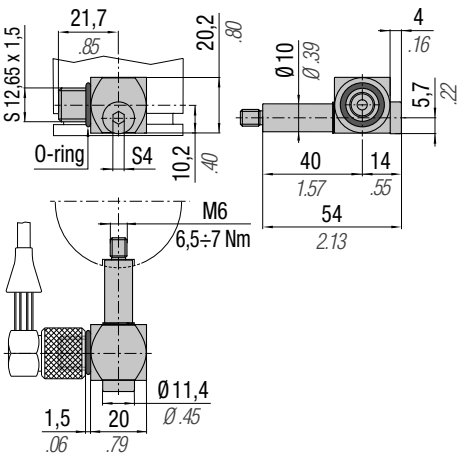
CONNECTIONS FLEXFLOW HEAVY DUTY STAINLESS STEEL M6

Raccordi tubo-cilindro/pannello - Hose-cylinder/panel connections - Anschlüsse zwischen schlauch und Zylinder/Kontrollarmatur - Raccords tuyau-cylindre/tableau - Racores manguera-cilindros/panel - Racord tubo-cilindro/painel

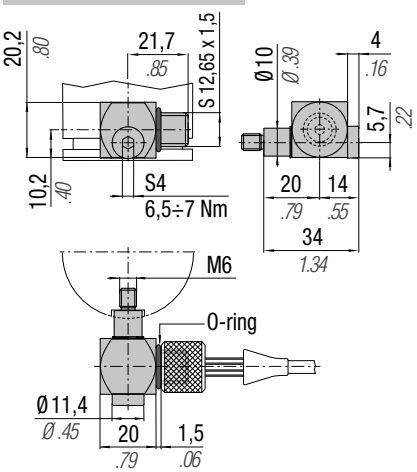
code 39BDM1201



code 39BDM1202

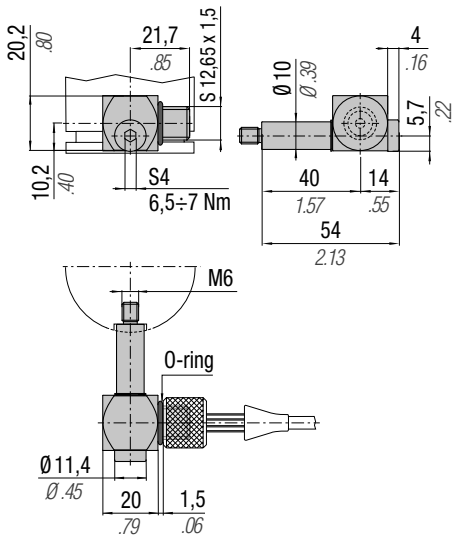


code 39BDM1301

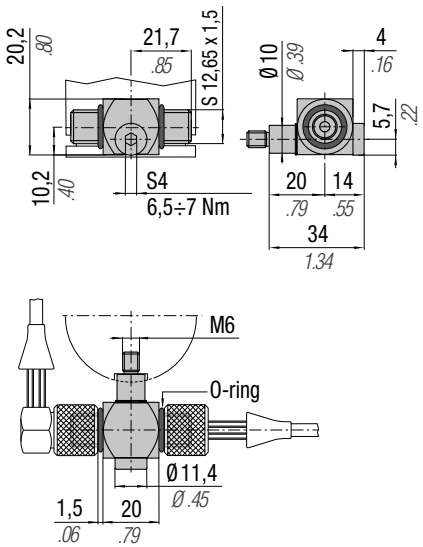


*All dimensions in **mm**/inch*

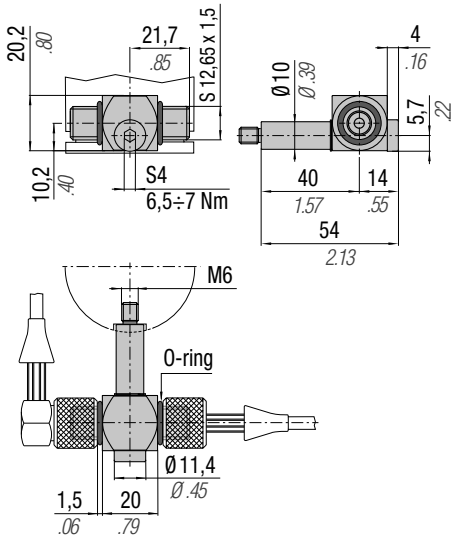
code 39BDM1302



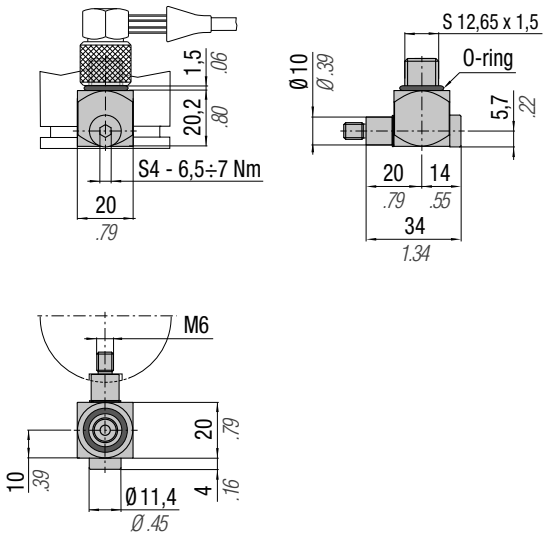
code 39BDM1401



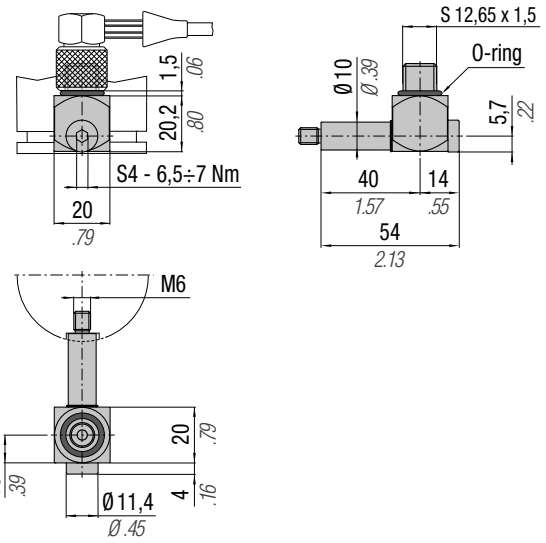
code 39BDM1402



code 39BDM1601

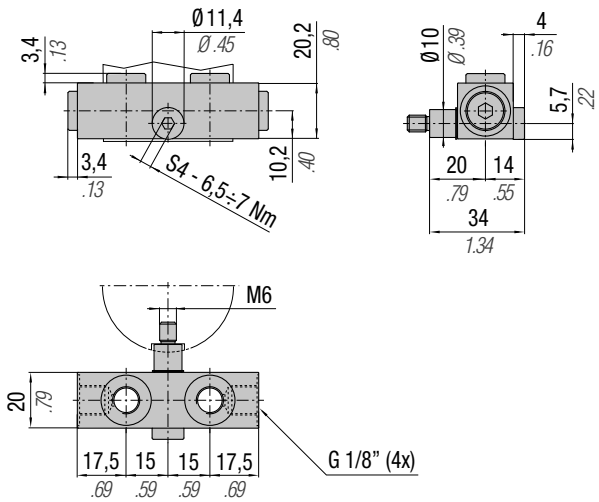


code 39BDM1602

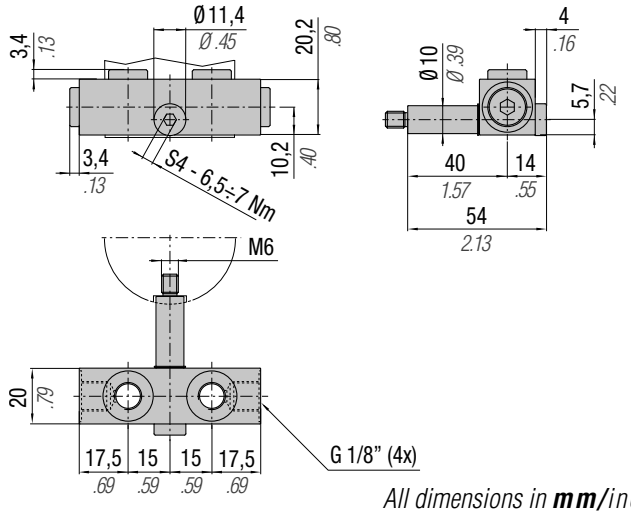


Blocchetto di distribuzione - Distribution block - Gasverteilstück - Plot de distribution - Bloque de distribución - Bloco de distribuição

code 39BDM1501

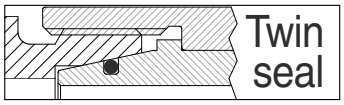


code 39BDM1502



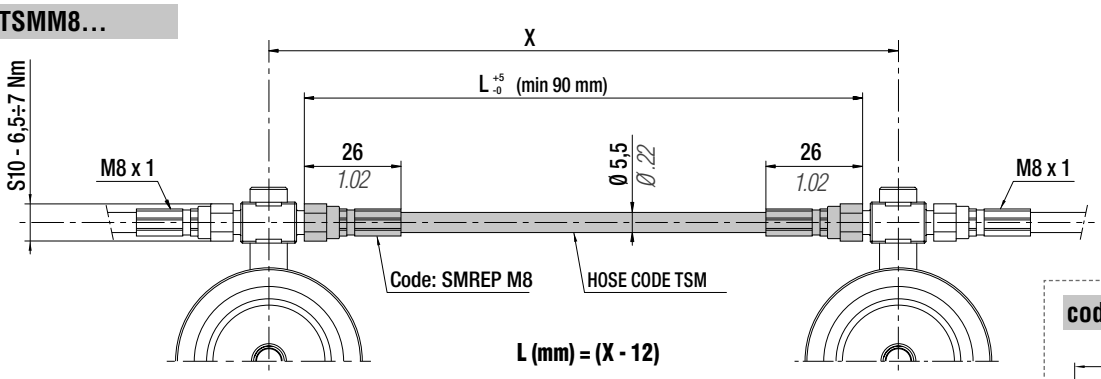
*All dimensions in **mm**/inch*

TSM MICRO 32° Hose Ø 5,5 mm



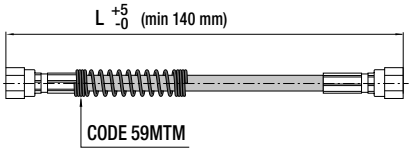
SPECIAL SPRINGS

code TSMM8...

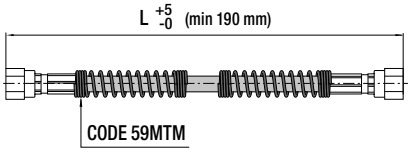


L = 5 mm upward increase - Example (TSMM8 090 mm; TSMM8 100 mm ...)

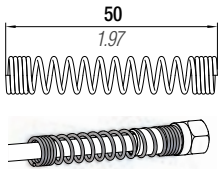
code TSMM8...-1



code TSMM8...-2

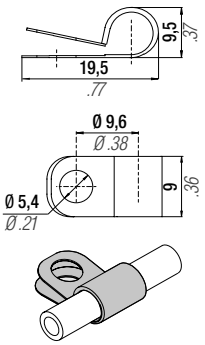


code: 59MTM



Protezione antipiega
Anti-kink protection
Knickschutzwendel
Protection anti-croquage
Protección anti-pliegue
Proteção anti-dobra

code: 36FF06A



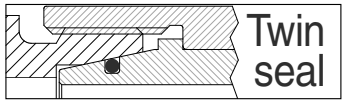
Technical data

"L" min	See each type	*3.54 in*	Volume	3 ml/metre
Operation pressure	630 bar	*9135 psi*	Dimension	5/64" (external ø 5,5 mm)
Burst Pressure	1890 bar at 20°C	*27400 psi at 68°F*	Material	Thermoplastic
R (bending radius)	20 mm	*0.79 in*	Standard	-
Operation temp.	-40 +100°C	*-38 +212°F*	Outer casing	Perforated

Lunghezze standard (mm) inclusive di n.2 raccordi SMREP M8
Standard lengths (mm) inclusive of no. 2 connections SMREP M8
Standard-Länge (mm) einsch. 2 SMREP-Anschlüssen M8

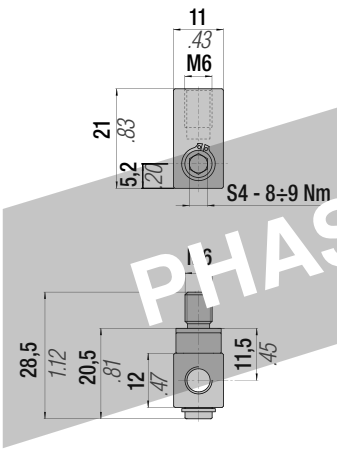
Longueur standard (mm) comprenant 2 raccords SMREP M8
Longitud estándar (mm) con 2 racores incluidos SMREP M8
Comprimento standard (mm) incluído nas 2 ligações SMREP M8

CONNECTIONS MICRO 32°

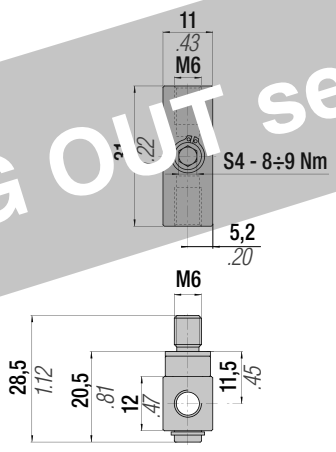


Blocchetto tubo-cilindro - Hose-cylinder block - Block, bestehend aus Schlauch-Zylinder - Bloc tube- cylindre - Bloque tubo-cilindro - Bloqueio do tubo-cilindro

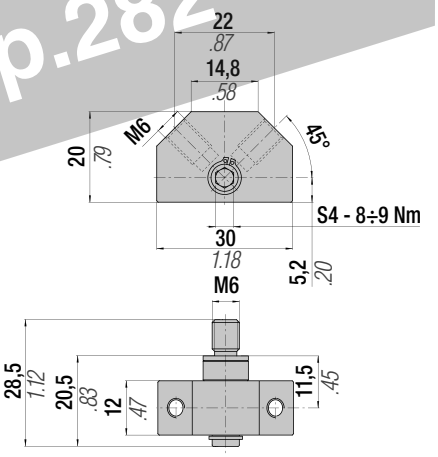
code BDSM01



code BDSM02



code BDSM02-45



PHASING OUT see p.282

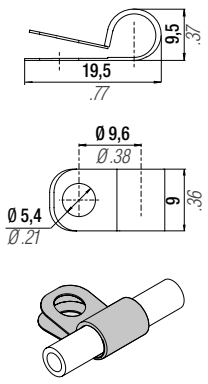
*All dimensions in **mm**/inch*

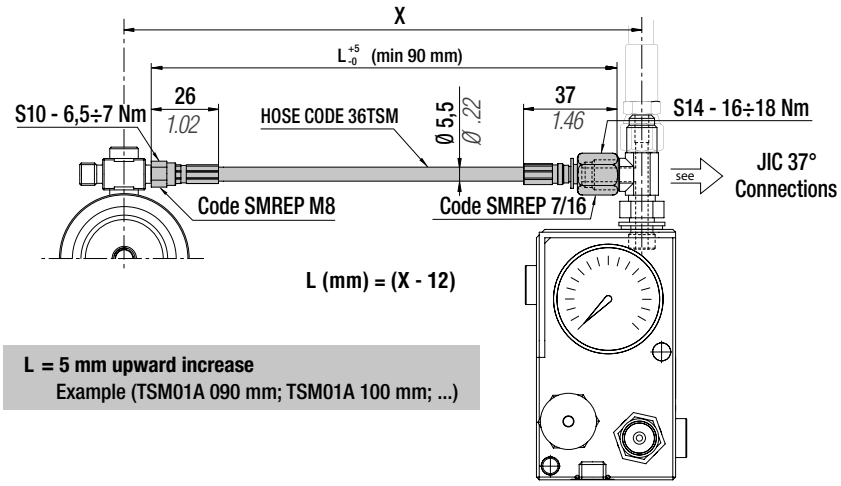
MICRO 32° and JIC 37°
Hose Ø 5,5 mm

TSM

code TSM01A...

code: 36FF06A





L = 5 mm upward increase
Example (TSM01A 090 mm; TSM01A 100 mm; ...)

Technical data				
"L" min	See each type	*3.54 in*	Volume	3 ml/metre
Operation pressure	630 bar	*9135 psi*	Dimension	5/64" (external ø 5,5 mm)
Burst Pressure	1890 bar at 20°C	*27400 psi at 68°F*	Material	Thermoplastic
R (bending radius)	20 mm	*0.79 in*	Standard	-
Operation temp.	-40 +100°C	*-38 +212°F*	Outer casing	Perforated

Lunghezze standard (mm) inclusive di n.2 raccordi SMREP M8
Standard lengths (mm) inclusive of no. 2 connections SMREP M8
Standard-Länge (mm) einsch. 2 SMREP-Anschlüssen M8

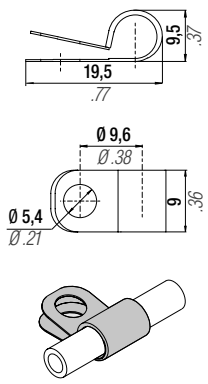
Longueur standard (mm) comprenant 2 raccords SMREP M8
Longitud estándar (mm) con 2 racores incluidos SMREP M8
Comprimento standard (mm) incluído nas 2 ligações SMREP M8

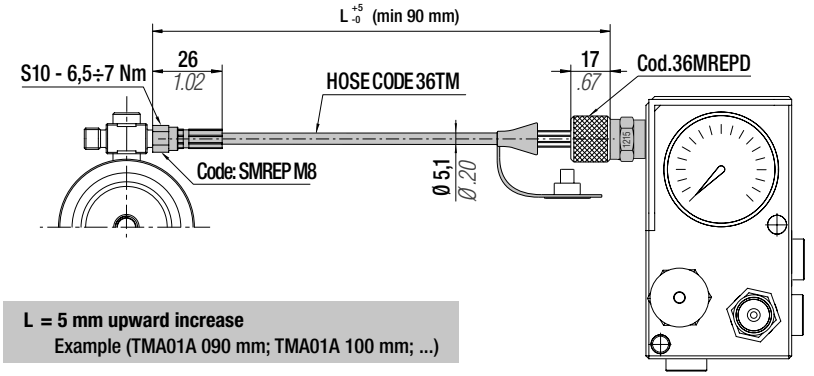
MICRO 32° and FLEXFLOW
Hose Ø 5,1 mm

TMA

code 36TMA01A...

code: 36FF06A





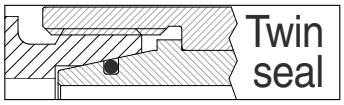
L = 5 mm upward increase
Example (TMA01A 090 mm; TMA01A 100 mm; ...)

Technical data				
"L" min	See each type	-	Volume	3 ml/metre
Operation pressure	630 bar	*9135 psi*	Dimension hose	5/64" (external ø 5,1 mm)
Burst Pressure	1950 bar at 20°C	*28275 psi at 68°F*	Material hose	Polyamide
R (bending radius)	20 mm	*0.79 in*	Standard	-
Operation temp.	-20 +100°C	*-2 +212°F*	Outer casing hose	Perforated

Lunghezze standard (mm) inclusive di n.2 raccordi e tappi
Standard lengths (mm) inclusive of no.2 connections and plugs
Standard-Länge (mm) einsch.2 und Stopfen Anschlüssen

Longueur standard (mm) comprenant 2 raccords et bouchons
Longitud estándar (mm) con 2 racores incluidos y tapones
Comprimentzo standard (mm) incluído nas 2 ligações e tampões

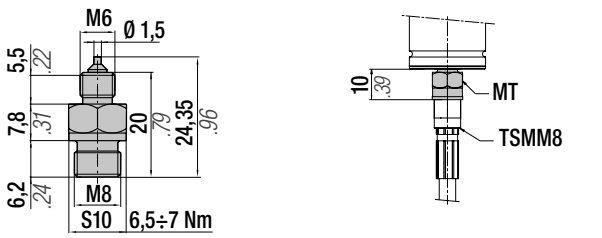
*All dimensions in **mm**/inch*



Raccordi tubo-cilindro/pannello - Hose-cylinder/panel connections - Anschlüsse zwischen schlauch und Zylinder/Kontrollarmatur - Raccords tuyau-cylindre/tableau - Racores manguera-cilindros/panel - Racord tubo-cilindro/painel

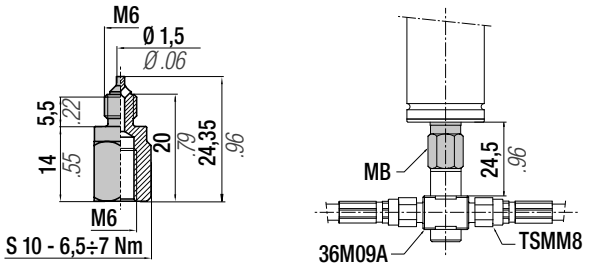
code MT

(only M 50, M70, M90, M90 TBM, M90 TEM, M90 TBI, M200 RV 170 - 320 rev.C)

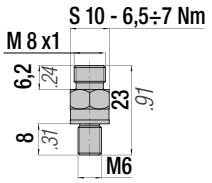


code MB

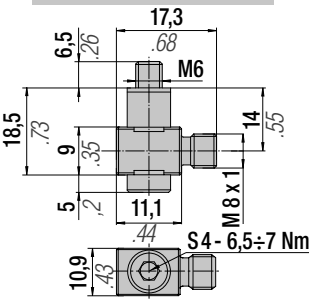
(only M 50, M70, M90, M90 TBM, M90 TEM, M90 TBI, M200 RV 170 - 320 rev.C)



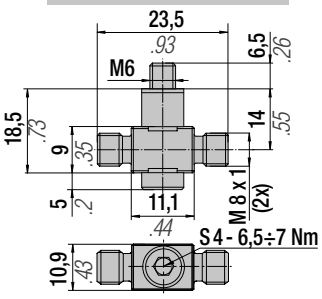
code RSMTCD



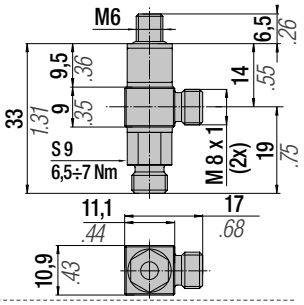
code 36M08B



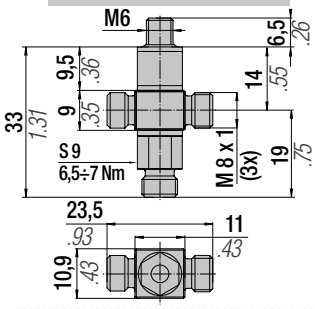
code 36M09B



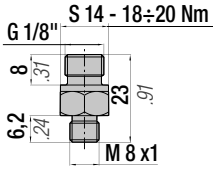
code 36M10C



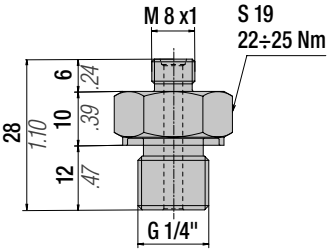
code 36M11C



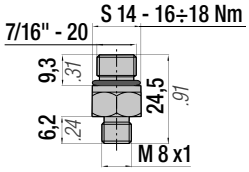
code RSMPTD



code 36M03A

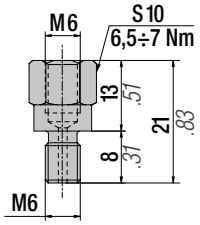


code 36M22A

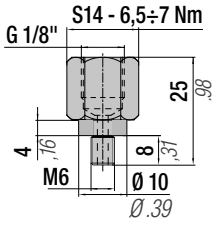


Raccordi di derivazione - Offtake connections - Anschlüßstutzen - Raccords de dérivation - Racores de derivación - Racord de derivação

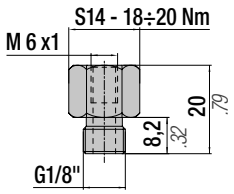
code 36M02A



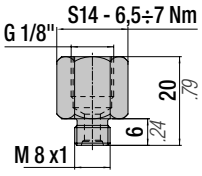
code 36M04A



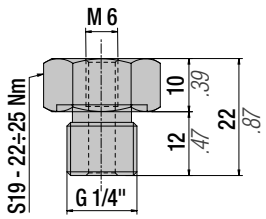
code 36MTC



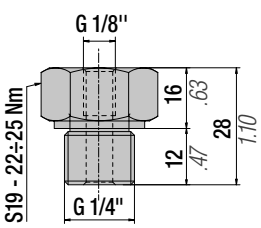
code 36MTR



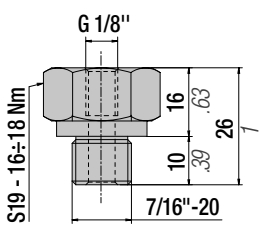
code 36M01A



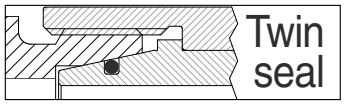
code 36M12A



code 36M21A



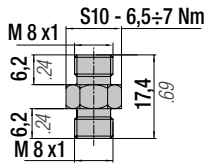
*All dimensions in **mm**/inch*



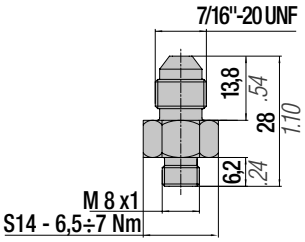
MICRO 32° CONNECTIONS

Raccordi tubo-tubo - Hose-hose connections - Anschlüsse zwischen Schlauch und Schlauch - Raccords tuyau-tuyau - Racores tubo-tubo - Racord tubo-tubo

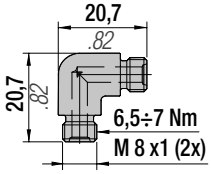
code 36MTTD



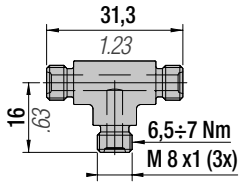
code 36RTTJM



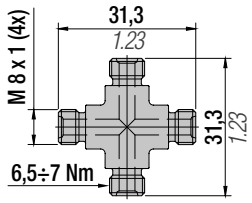
code 36M05A



code 36M06A



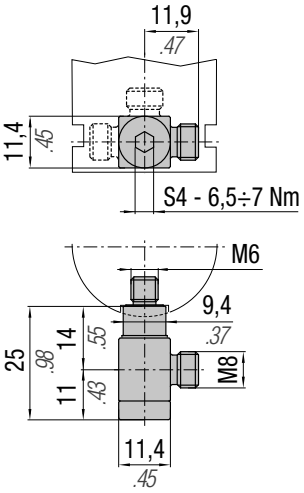
code 36M07A



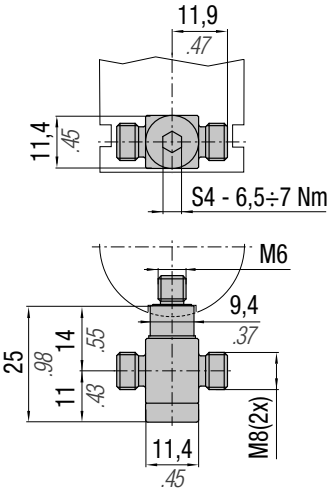
MICRO 32° HEAVY DUTY STAINLESS STEEL CONNECTIONS

Raccordi tubo-cilindro/pannello - Hose-cylinder/panel connections - Anschlüsse zwischen schlauch und Zylinder/Kontrollarmatur - Raccords tuyau-cylindre/tableau - Conexiones sistema de cilindros/panel - Racord tubo-cilindro/painel

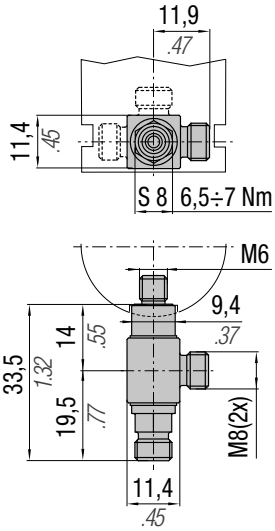
code 36M15A



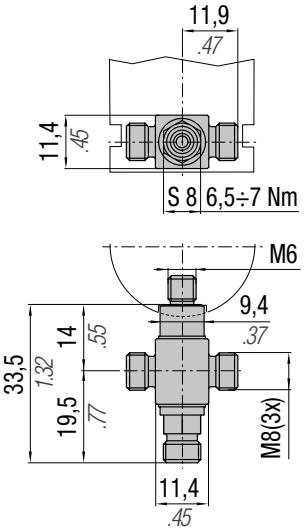
code 36M16A



code 36M17A



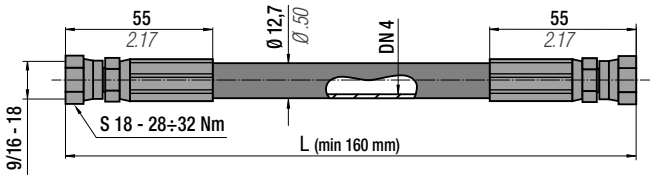
code 36M18A



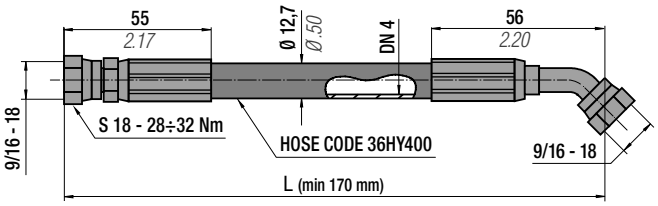
*All dimensions in **mm**/inch*

ORFS - O-ring face seal
Hose Ø 12,7 mm

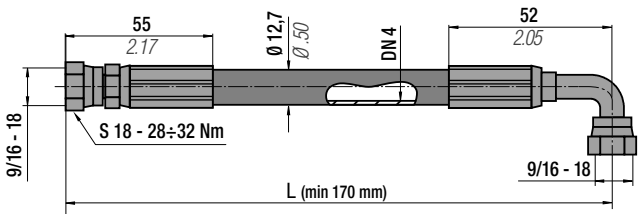
code 36HY40016...



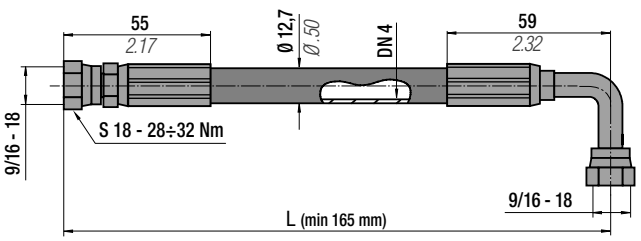
code 36HY40022...



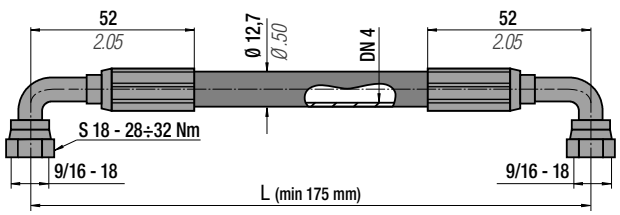
code 36HY40020...



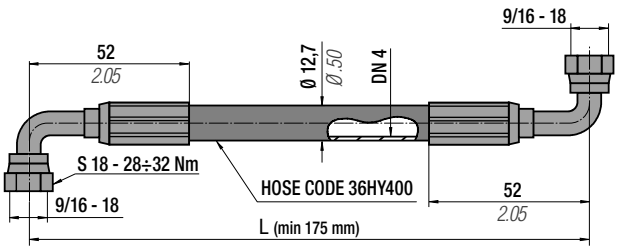
code 36HY40021...



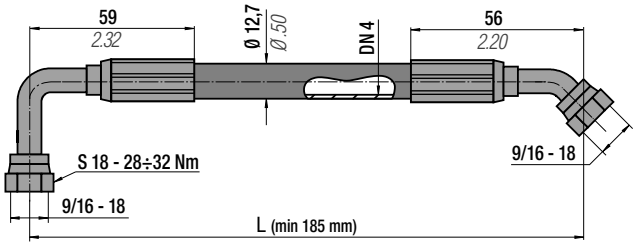
code 36HY40017...



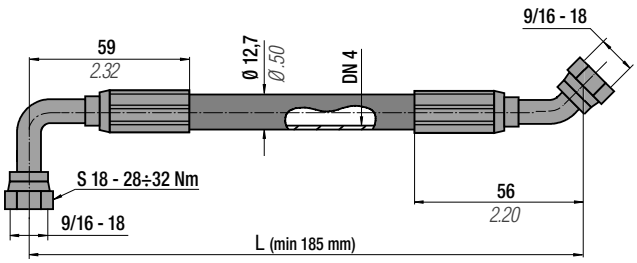
code 36HY40017...V1 ■



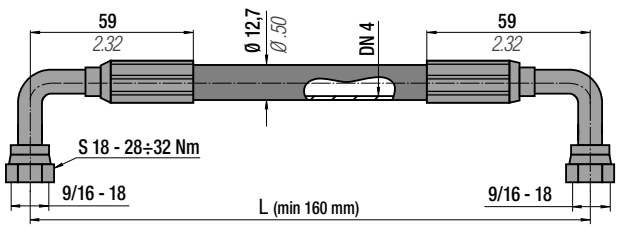
code 36HY40025...



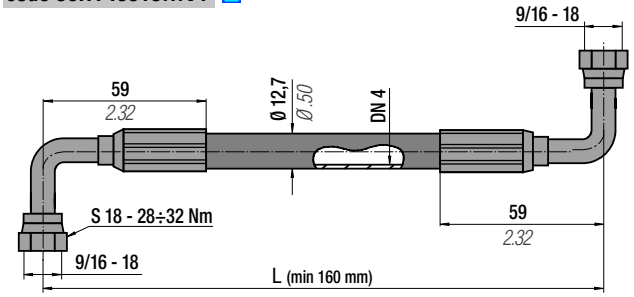
code 36HY40025...V1 ■



code 36HY40018...



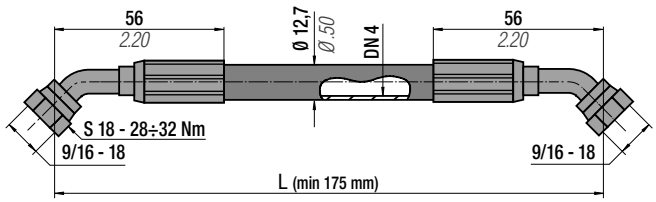
code 36HY40018...V1 ■



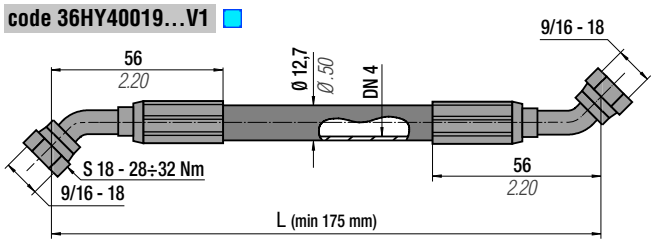
*All dimensions in **mm**/inch*

ORFS - O-ring face seal
Hose ø 12,7 mm

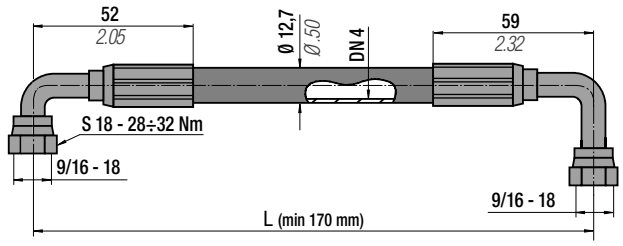
code 36HY40019...



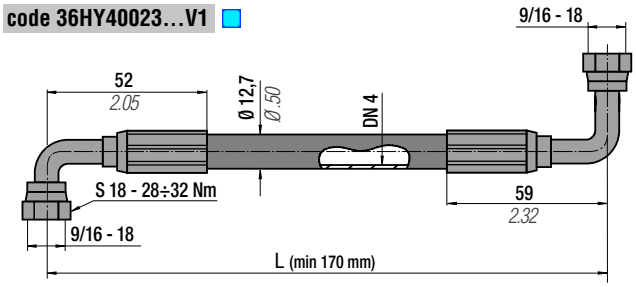
code 36HY40019...V1



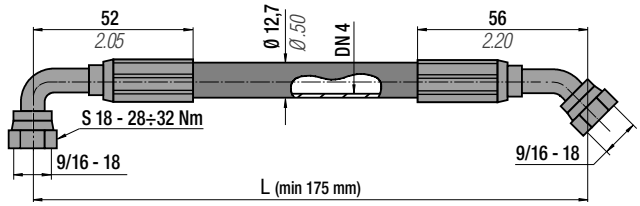
code 36HY40023...



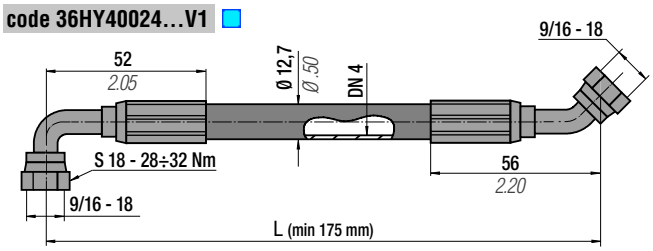
code 36HY40023...V1



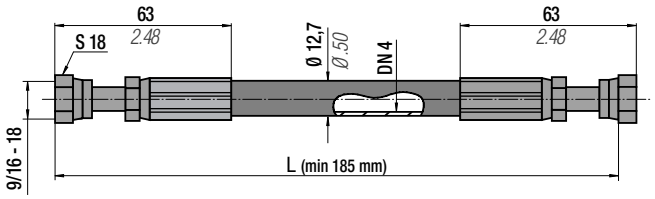
code 36HY40024...



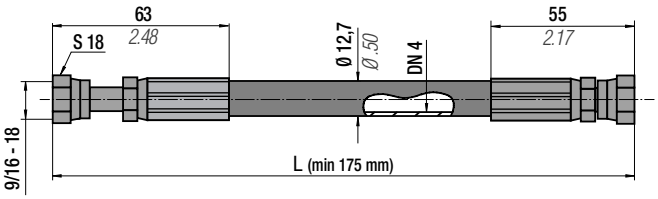
code 36HY40024...V1



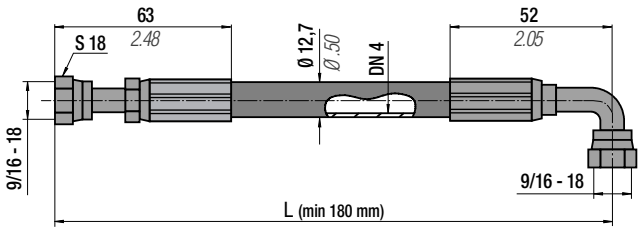
code 36HY40026...



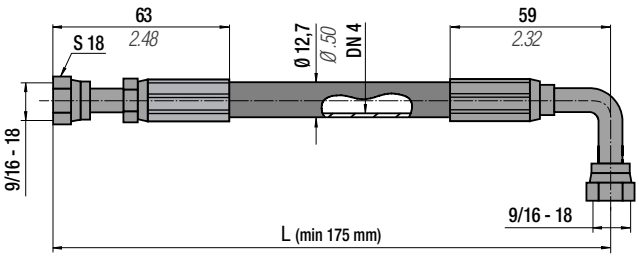
code 36HY40027...



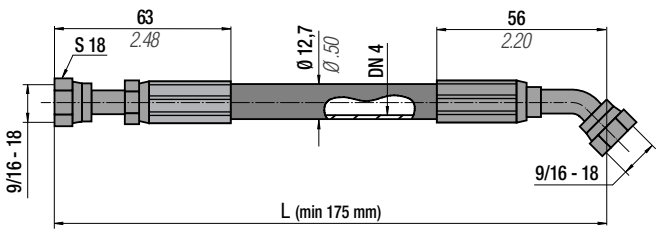
code 36HY40028...



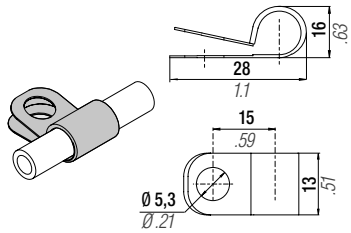
code 36HY40029...



code 36HY40030...



code: 36FF13A



*All dimensions in **mm**/inch*

HY 400 ORFS - O-ring face seal Hose Ø 5,5 mm

Technical data				
"L" min	See each type	-	Volume	32 ml/metre
Operation pressure	345 bar	*5003 psi*	Dimension	1/4" (external ø 5,5 mm)
Burst Pressure	1380 bar at 20°C	*20010 psi at 68°F*	Material	Thermoplastic
R (bending radius)	51 mm	*2.01 in*	Standard	SAE 100R8
Operation temperature	-40+ 100°C	*-38 +212°F*	Outer casing	Perforated

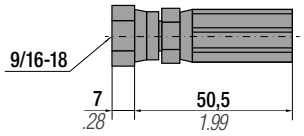
Lunghezza richiesta comprensiva di raccordi terminali
Length upon request including end hose fittings
Länge Anfrage einschließlich Ende Schlaucharmaturen
Longueur requise, y compris des raccords d'extrémité
Longitud requerida, incluyendo racores de los extremos
Comprimento necessário incluindo todos os acessórios

L = 5 mm upward increase - Example (36HY40016 0300; 36HY40016 0305; ...)

HOSE FITTINGS

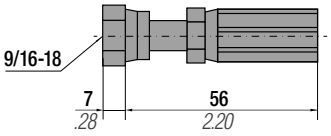
code 36P9/1604

Straight Swivel



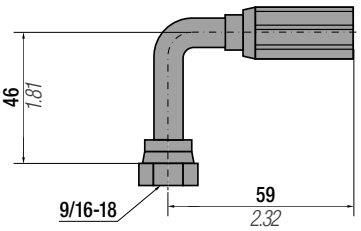
code 36P9/1605

Straight Long Swivel



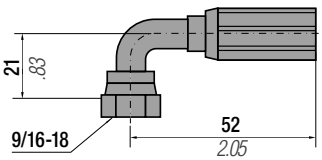
code 36P9/1606

90° Long Swivel



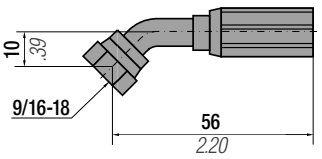
code 36P9/1607

90° Swivel



code 36P9/1608

45° Swivel

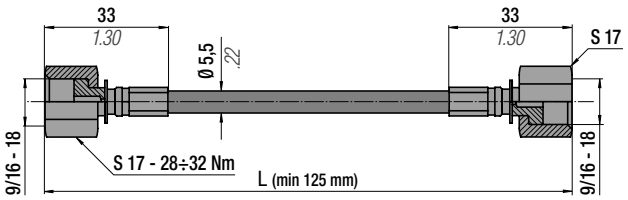


THIS PAGE IS INTENTIONALLY LEFT BLANK

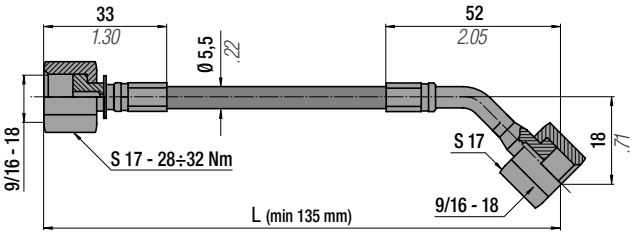
ORFS - O-ring face seal
Hose Ø 5,5 mm

SPECIAL SPRINGS

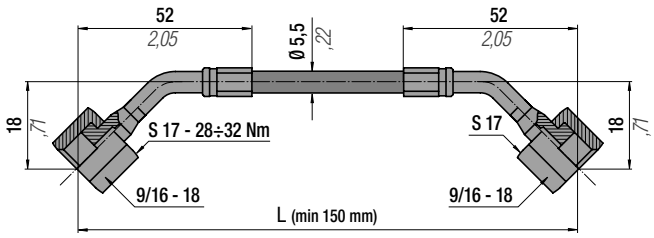
code 36TSM9/1601...



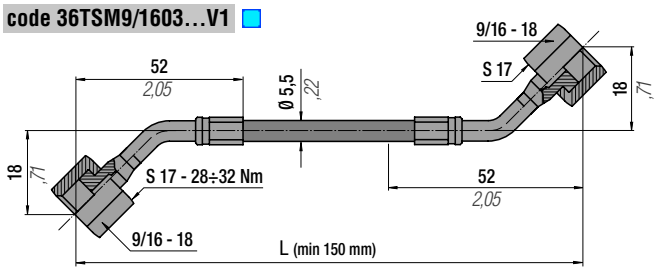
code 36TSM9/1602...



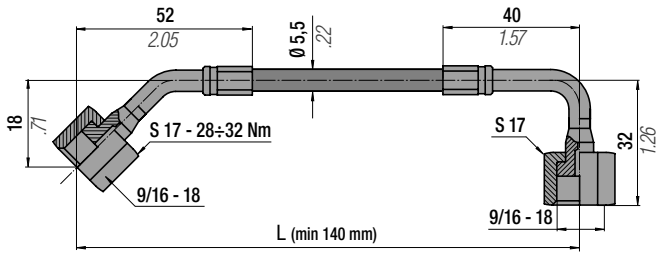
code 36TSM9/1603...



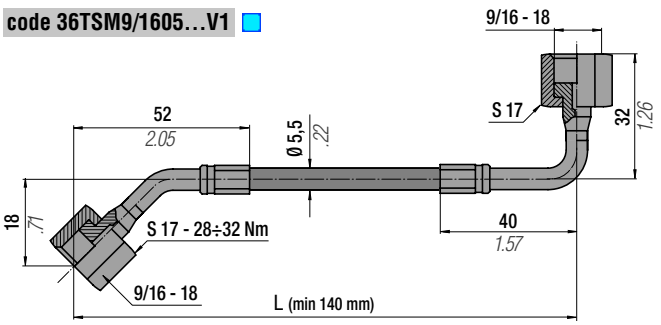
code 36TSM9/1603...V1



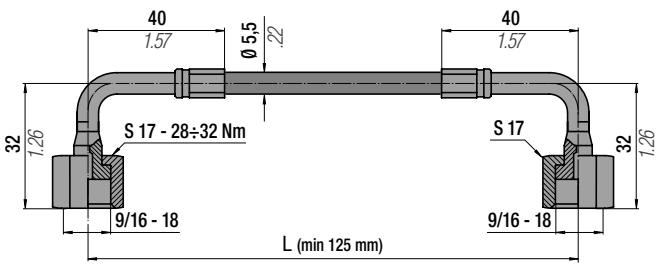
code 36TSM9/1605...



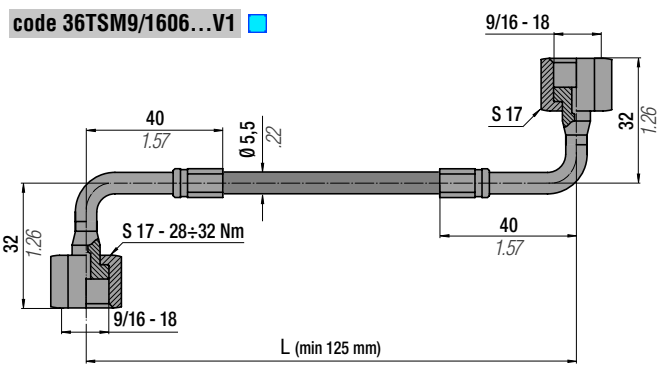
code 36TSM9/1605...V1



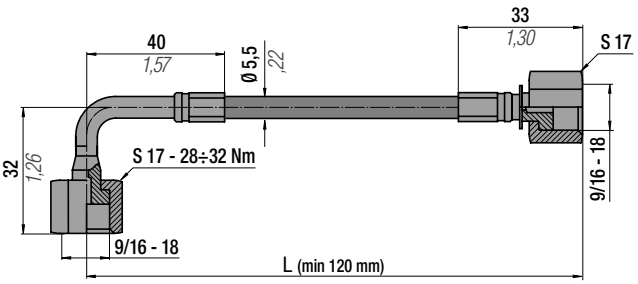
code 36TSM9/1606...



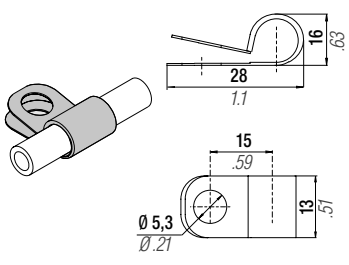
code 36TSM9/1606...V1



code 36TSM9/1604...



code: 36FF13A



ORFS - O-ring face seal
Hose Ø 5,5 mm

TSM

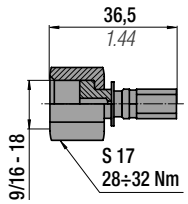
Technical data				
"L" min	See each type	-	Volume	3 ml/metre
Operation pressure	630 bar	*9135 psi*	Dimension	5/64" (external ø 5,5 mm)
Burst Pressure	1890 bar at 20°C	*27400 psi at 68°F*	Material	Thermoplastic
R (bending radius)	20 mm	*0,79 in*	Standard	-
Operation temperature	-40+ 100°C	*-38 +212°F*	Outer casing	Perforated

Lunghezza richiesta comprensiva di raccordi terminali
Length upon request including end hose fittings
Länge Anfrage einschließlich Ende Schlaucharmaturen
Longueur requise, y compris des raccords d'extrémité
Longitud requerida, incluyendo racores de los extremos
Comprimento necessário incluindo todos os acessórios

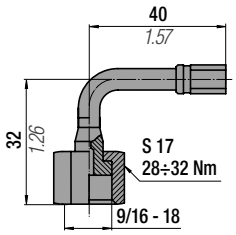
L = 5 mm upward increase - Example (36TSM9/1601 0300; 36TSM9/1605 0310; ...)

HOSE FITTINGS

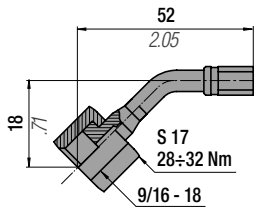
code 36P9/1601



code 36P9/1602



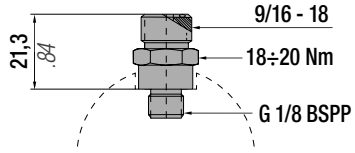
code 36P9/1603



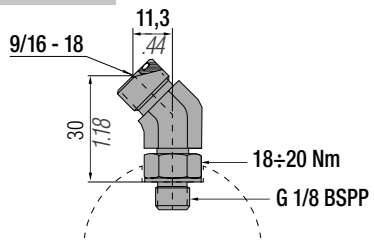
ORFS CONNECTIONS

Raccordi tubo-cilindro/pannello - Hose-cylinder/panel connections - Anschlüsse zwischen schlauch und Zylinder/Kontrollarmatur - Raccords tuyau-cylindre/tableau - Racores manguera-cilindros/panel - Racord tubo-cilindro/painel

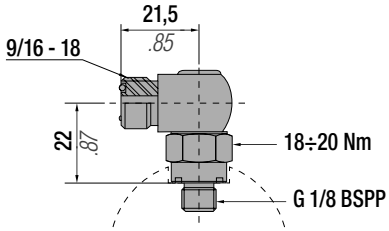
code PA-S Port Adapter - Straight



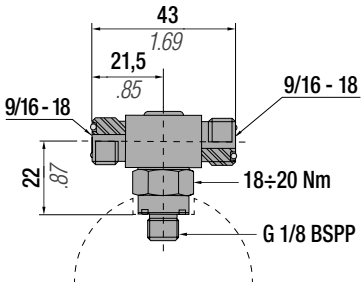
code PA-AS Port Adapter - Angle Swivel



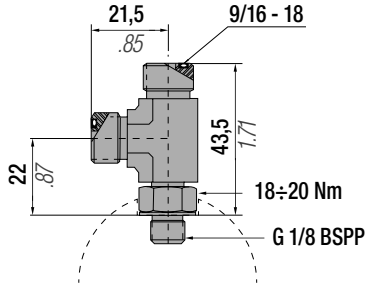
code PA-E Port Adapter - Elbow



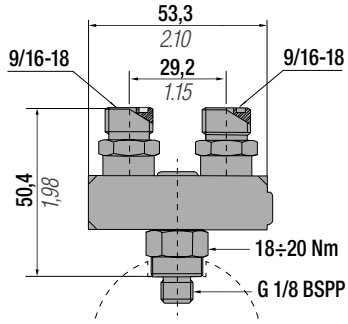
code PA-BTS Port Adapter - Brach Tee Swivel



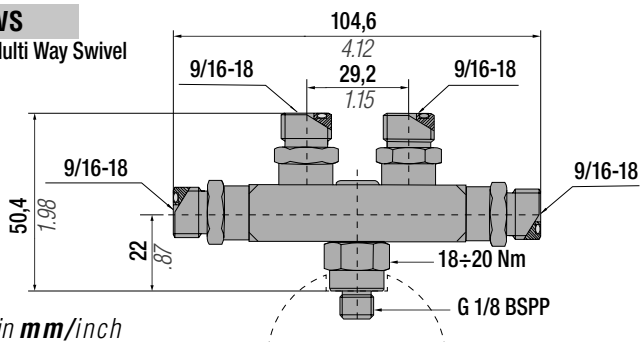
code PA-RT Port Adapter - Rum Tee



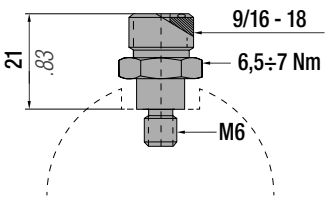
code PA-TWS Port Adapter - Two Way Swivel



code PA-MWS
Port Adapter - Multi Way Swivel



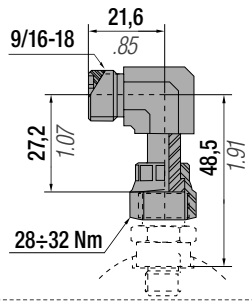
code PA-M6



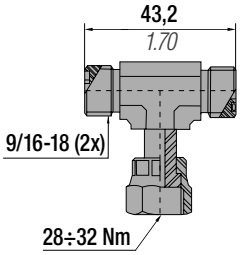
*All dimensions in **mm**/inch*

Raccordi di derivazione - Offtake connections - Anschlüßstutzen - Raccords de dérivation - Racores de derivación - Racord de derivação

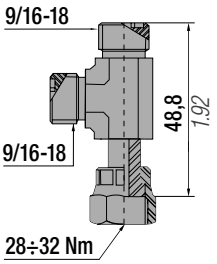
code SN-A
Swivel Nut-Angle



code SN-BT
Swivel Nut-Branch Tee

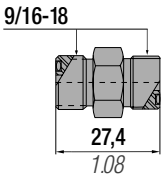


code SN-RT
Swivel Nut-Run Tee

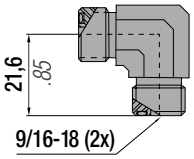


Raccordi tubo-tubo - Hose-hose connections - Anschlüsse zwischen Schlauch und Schlauch - Raccords tuyau-tuyau - Racores tubo-tubo - Racord tubo-tubo

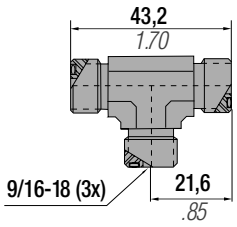
code F-U
Fitting-Union



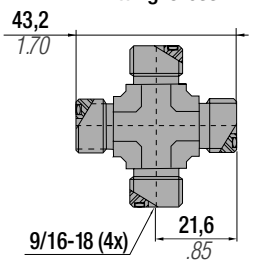
code F-E
Fitting-Elbow



code F-T
Fitting-Tee



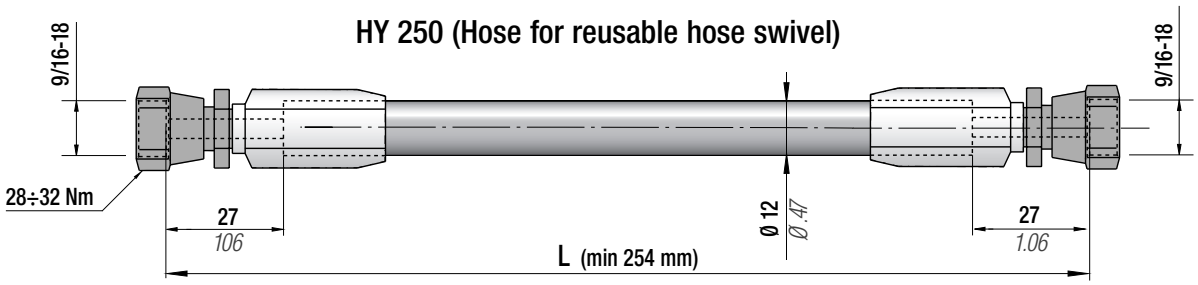
code F-C
Fitting-Cross



HY 250 ORFS - O-ring face seal Hose Ø 12 mm

(available in the North America market only)

HY 250 (Hose for reusable hose swivel)



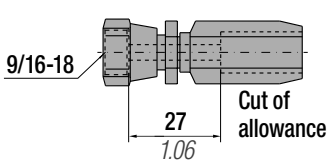
Technical data				
"L" min	See above	*10,0 in*	Volume	31 ml/metre
Operation pressure	190 bar	*2750 psi*	Dimension	1/4" (external ø 12 mm)
Burst Pressure	758 bar at 20°C	*11000 psi at 68°F*	Material	Thermoplastic
R (bending radius)	38 mm	*1,5 in*	Standard	SAE 100R7
Operation temperature	-40+ 100°C	*-38 +212°F*	Outer casing	Perforated

Lunghezza richiesta comprensiva di raccordi terminali
Length upon request including end hose fittings
Länge Anfrage einschließlich Ende Schlaucharmaturen
Longueur requise, y compris des raccords d'extrémité
Longitud requerida, incluyendo racores de los extremos
Comprimento necessário incluindo todos os acessórios

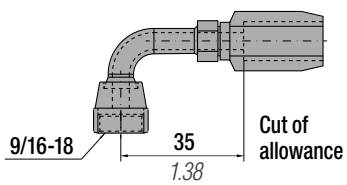
L = 10 mm upword increase - Example (36HY40005 12"(305)

REUSABLE HOSE SWIVELS

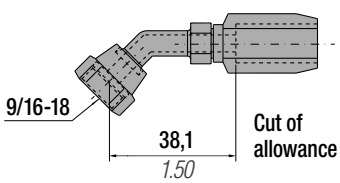
code SHF-R
Straight Swivel



code HF-R90
90° Swivel



code HF-R45
45° Swivel



THIS PAGE IS INTENTIONALLY LEFT BLANK

CONTROL PANEL CP01A

IT

Micro pannello di controllo composto da base in alluminio, manometro, valvola per caricamento e scaricamento, tappo di rottura sovrappressione e protezione in acciaio. Idoneo per le gestione di impianti collegati realizzati con micro hose e micro connections. 16 uscite M6.

EN

Micro control panel with aluminium base, gauge, charging and discharging valve, overpressure rupture plug and steel protection. Suitable for hose systems equipped with micro hose and micro connections. 16 M6 ports.

DE

Micro-Kontrollarmatur mit Aluminiumsockel, Manometer, Auffüll- und Ablassventil, Überdruck-Bruchstecker und Stahlabdeckung. Geeignet für Verbundsysteme mit Micro-Kupplung und -Schläuchen. 16 M6 Anschlüsse.

FR

Mini panneau de contrôle avec base aluminium, équipé de manomètre, valve de chargement et déchargement, bouchon de rupture de surpression et protection acier ; il est adapté aux systèmes connectés équipés de mini tuyaux et mini connexions. 16 Portes M6.

ES

Micropanel de control con base en aluminio, manómetro, válvula de carga y descarga, tapón de rotura por sobrepresión y protección en acero. Idóneo para la gestión de instalaciones de cilindros conectados entre sí con micro mangueras y micro racores. 16 salidas M6.

PT

Micro Painel de Controlo com base em alumínio, manómetro, válvula de carga e descarga, plugue ruptura sobrepressão e protecção em aço. Adequado para sistemas de mangueiras, equipado com micro mangueiras e micro conexões. 16 saídas M6.

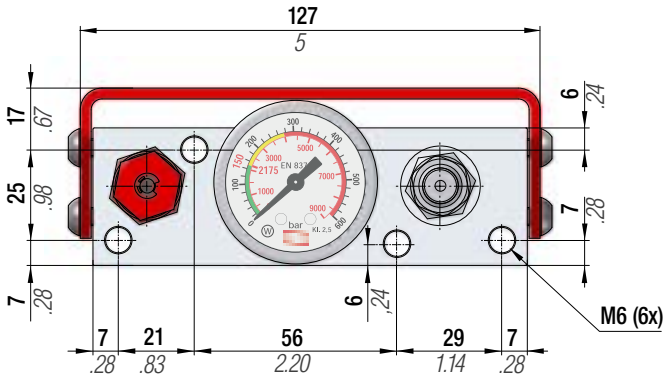
code	Pressure Gauge	Rupture Plug	Easy Manifold p.256	Gauge Angle Position 0°*	Gauge Angle Position 180°
39CP01A-...	bar/psi	✓	✓	-	180

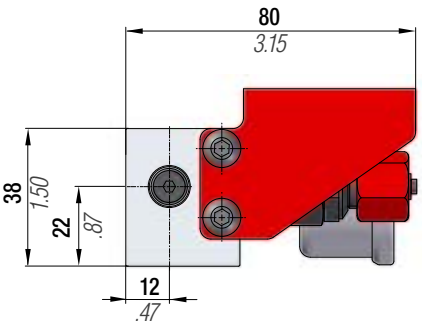
*Visible in the drawing

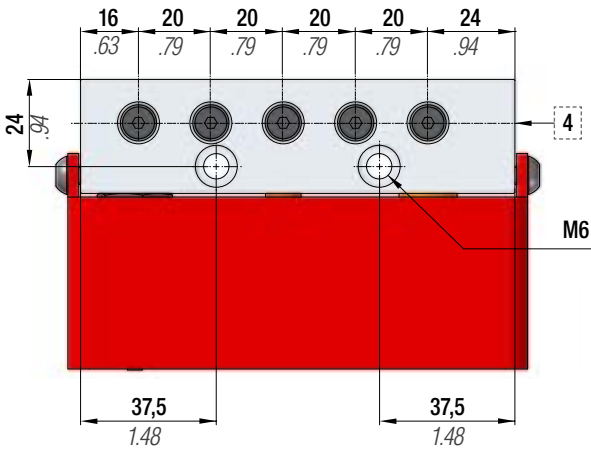
HOW TO ORDER

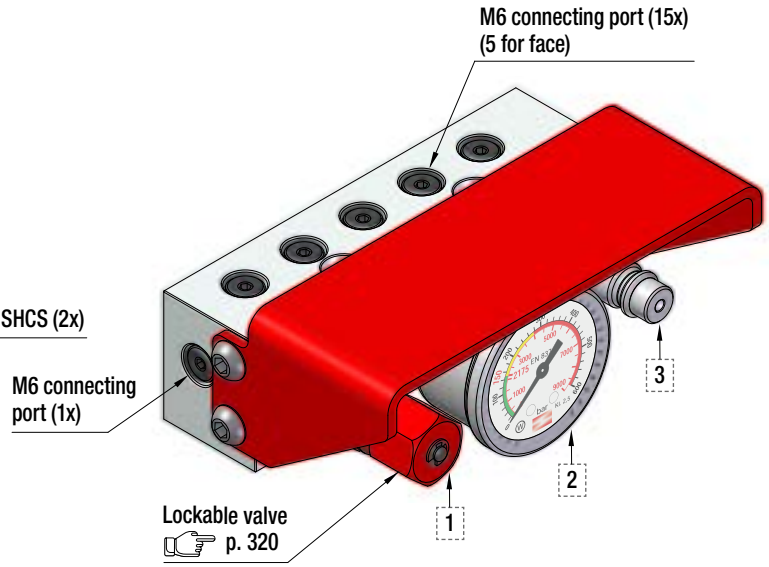
code **39CP01A-180**

Gauge angle position









1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mâle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão

CONTROL PANEL CPVC

IT

Pannello standard per caricamento, regolazione, scaricamento e controllo della pressione nel sistema collegato. Consiste in una base provvista di manometro, valvola di caricamento e scaricamento, 3 uscite, protezione in acciaio. Può essere equipaggiato con disco di rottura (opzionale).

EN

Standard control panel to charge, adjust and check the pressure in the connected system. It consists of a plate with pressure gauge, charging and discharging valve, 3 outlets, steel case and can be equipped with a rupture disc (optional).

DE

Standard-Schaltarmatur zur Ladung, Regulierung, Entladung und Kontrolle des Drucks im angeschlossenen System. Bestehend aus eine Sockel mit Manometer, Lade- und Entladeventil, 3 Ausgängen sowie Schutzabdeckung aus Stahl. Kann mit einer Berstscheibe ergänzt werden (Zubehör).

FR

Panneau standard pour le chargement, le réglage, le déchargement et le contrôle de la pression dans le système relié. Il est formé par une embase équipée de manomètre, vanne de chargement et déchargement, 3 sorties, protection en acier. Il peut être équipé d'un disque de rupture (option).

ES

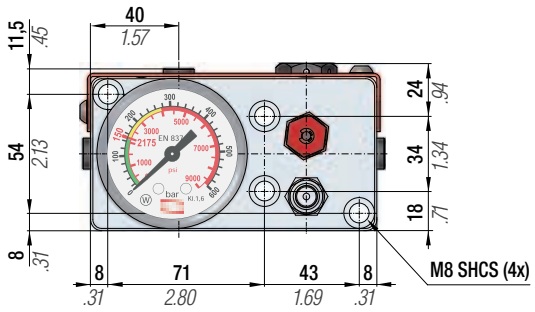
Panel estándar para la carga, regulación, descarga y control de la presión en sistemas de cilindros conectados. Consiste en una base provista de manómetro, válvula de carga y descarga, 3 salidas, protección en acero. Puede equiparse con disco de rotura (opcional).

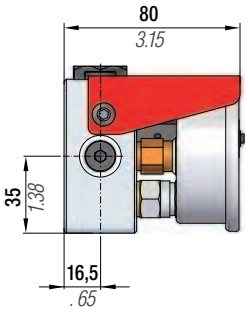
PT

Painel standard para carga, regulação, descarga e controlo da pressão no sistema ligado. É composto por uma base com manómetro. Válvula de carga e de descarga, 3 saídas, protecção em aço. Pode ser equipado com disco de rotura (opcional).

code	Pressure Gauge	Rupture Plug	Easy Manifold p.256	Gauge Angle Position ⟳	
				0°*	180°
39CPVC-...	bar/psi	✗	✓	-	180
39CPVC-... + 39DR004	bar/psi	✓	✓	-	180
39CPVC-... + 39TS460	bar/psi	✓	✓	-	180

*Visible in the drawing





HOW TO ORDER

code

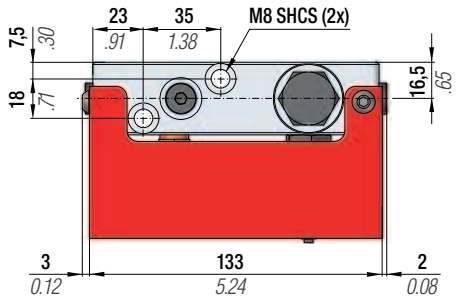
39CPVC-180

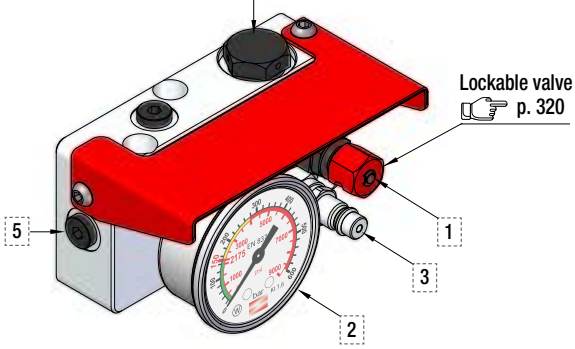
Gauge angle position

code 39TS460 4.2 - option

code 39DR004 4.1 - option

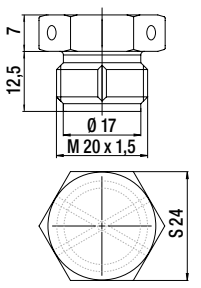
standard 4





1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mâle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di chiusura M20 Closing plug M20 Verschlussstopfen M20 Bouchon de fermeture M20 Tapón de cierre M20 Plugue de fechamento M20
4.1	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão	4.2	Tappo di sicurezza sovrapressione CE Overpressure safety plug CE Überdruck Sicherheitsstecker CE Bouchon de sécurité surpression CE Tapón de rotura por sobrepresión CE Bujão de segurança sobrepressão CE	5	Fori di collegamento 1/8"G (4x) 1/8"G connecting ports (4x) Anschlussöffnung 1/8"G (4x) Trous de raccordement 1/8"G (4x) Agujeros de conexión 1/8"G (4x) Furo de conexão 1/8"G (4x)		

code: 39TS460



CONTROL PANEL MCPC / CP19A

Replace code 39MCPB

IT

Il mini pannello di controllo Special Springs, grazie a un design miniaturizzato e unico, offre una grande flessibilità d'uso che aumenta con le unità addizionali AUMCP. Consiste in un blocchetto di alluminio provvisto di manometro, valvola di caricamento e scaricamento, 4 uscite, valvola d'intercettazione e tappo di rottura sovrappressione.

EN

The Special Springs mini control panel, thanks to its unique miniaturized design, offers wide flexibility of use, increased when combined with additional AUMCP units. It consists of a aluminium block with pressure gauge, charging and discharging valve, 4 outlets, on-off valve and overpressure rupture plug.

DE

Die Mini-Steuerung Special Springs bietet dank ihres miniaturisierten und einzigartigen Designs größte Benutzungsflexibilität, die mit den zusätzlichen AUMCP-Einheiten noch erhöht wird. Bestehend aus einem Aluminiumblock mit Manometer, Lade- und Entladeventil, 4 Ausgängen, Sperrventil und Überdruck-Bruchstecker.

FR

Grâce à une conception miniaturisée et unique, le mini-panneau de contrôle Special Springs offre une grande souplesse d'utilisation qui augmente avec les unités supplémentaires AUMCP. Il est formé par une plaque en aluminium équipée de manomètre, vanne de chargement et déchargement, 4 sorties, vanne d'arrêt et Bouchon de rupture surpression.

ES

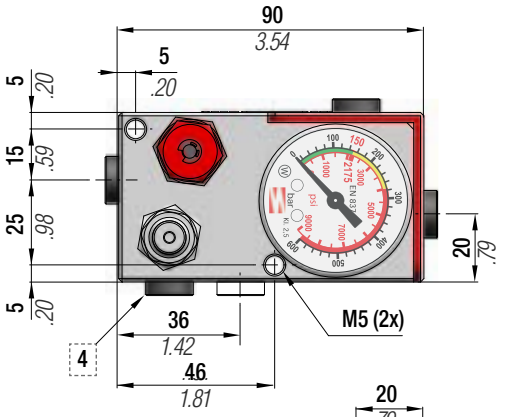
El mini-panel de control Special Springs, gracias a su compacto y exclusivo diseño, ofrece una gran flexibilidad de uso, más si cabe al poder añadir unidades adicionales AUMCP. Consiste en un bloque de aluminio provisto de manómetro, válvula de carga y descarga, 4 salidas, válvula de cierre y tapón de rotura por sobrepresión.

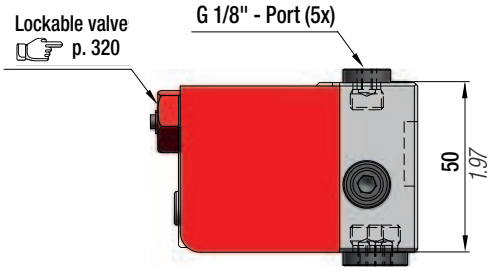
PT

O mini-painel de controlo Special Springs, graças a um design miniaturizado e exclusivo, oferece uma grande flexibilidade de utilização que aumenta com as unidades adicionais AUMCP. É composto por um bloco em alumínio com manómetro, válvula de carga e de descarga, 4 saídas , válvulade interceptação e plugue ruptura sobrepressão.

code	Pressure Gauge	Rupture Plug	Shut off valve	Easy Manifold p.256	Gauge Angle Position	
					0°*	270°
39MCPC-...	bar/psi	✓	✓	✓	-	270
39CP19A-...	bar/psi	✓	✗	✓	-	270

*Visible in the drawing



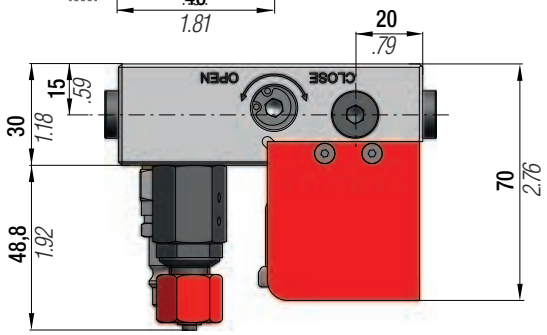


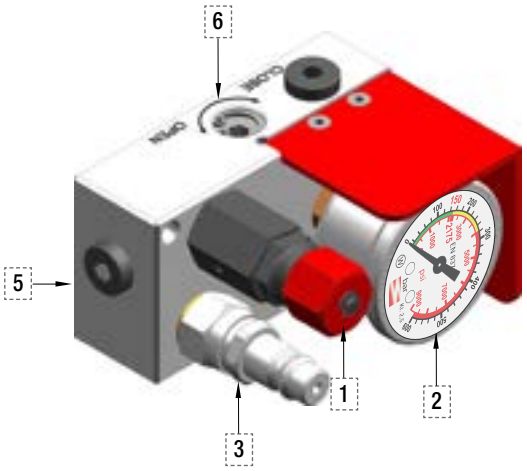
HOW TO ORDER

code

39MCPC-270

Gauge angle position





1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar				
3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mãle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão	5	Fori di collegamento 1/8"G (5x) 1/8"G connecting ports (5x) Anschlussöffnung 1/8"G (5x) Trous de raccordement 1/8"G (5x) Agujeros de conexión 1/8"G (5x) Furo de conexão 1/8G (5x)	6	Valvola di intercettazione Shut off valve Sperrventil Valve d'arrêt Válvula de interceptación Válvula de fecho

CONTROL PANEL AUMCP

IT

Unità addizionali per minipannello MCPC. Ideali per gestire impianti o cilindri singoli con pressioni diverse nello stesso stampo. Ogni unità include un manometro, una valvola di intercettazione e 1 uscita. Combinazione massima prevista 1 MCPC + 4 AUMCP.

EN

Additional units for the mini control panel MCPC. Ideal for operating hosed systems or single gas springs with different pressures in the same mould. Each unit includes pressure gauge, on-off valve and 1 outlet. Designed for a maximum combination of 1 MCPC + 4 AUMCP.

DE

Zusätzliche Einheiten für die Ministeuerung MCPC. Ideal zur Verwaltung von Anlagen oder einzelnen Zylindern, die beim selben Werkzeug verschiedene Druckwerte aufweisen. Jede Einheit ist mit einem Manometer, einem Sperrventil und einem Ausgang ausgestattet.Maximal mögliche Kombination: 1 MCPC + 4 AUMCP.

FR

Unités supplémentaires pour le mini-panneau MCPC. L'idéal pour gérer des installations ou des cylindres seuls sous des pressions différentes dans le même moule. Chaque unité inclut un manomètre, une vanne d'arrêt et 1 sortie. Combinaison maximum prévue: 1 MCPC + 4 AUMCP.

ES

Unidad adicional para mini-panel MCPC. Ideal para la gestión de sistemas o de cilindros aislados con presiones distintas en un mismo útil. Cada unidad incluye un manómetro, una válvula de cierre y 1 salida. Combinación máxima prevista 1 MCPC + 4 AUMCP.

PT

Unidade adicional para mini-painel MCPC. Ideais para gerir instalações ou cilindros individuais com pressões diferentes na mesma ferramenta. Cada unidade inclui um manómetro, uma válvula de intercepção e 1 saída. Combinação máxima prevista 1 MCPC + 4 AUMCP.

code	Pressure Gauge	Rupture Plug	Easy Manifold p.256	Gauge Angle Position ↻ 0°*	270°
39AUMCP-...	bar/psi	✓	✗	-	270

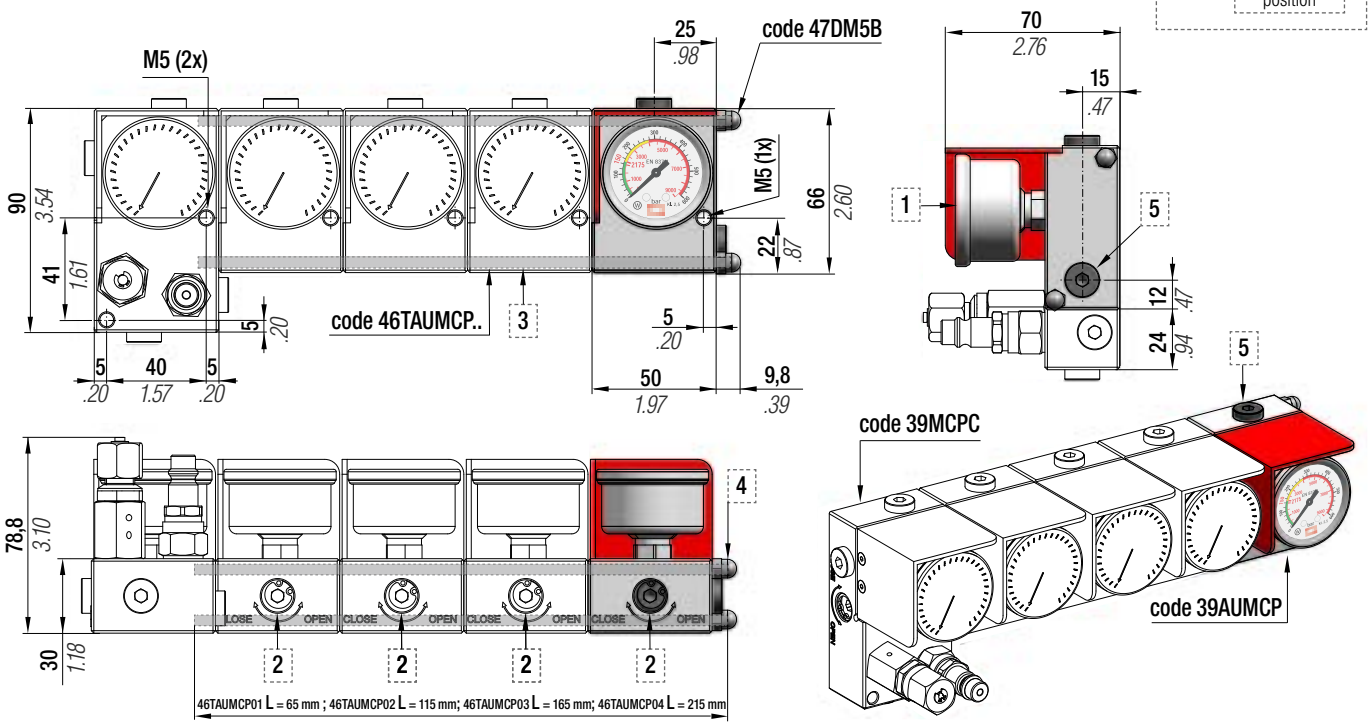
*Visible in the drawing

HOW TO ORDER

code

39AUMCP-270

Gauge angle position



1	Manometro 0÷ 620 bar Pressure gauge 0÷620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	2	Valvola di intercettazione Shut off valve Sperrventil Valve d'arrêt Válvula de interceptación Válvula de fecho	3	Tirante (2x) Tie rod (2x) Zugstange (2x) Tirant (2x) Tirante (2x) Barra de ligação(2x)	4	Dado cieco (2x) Cap nut (2x) Hutmutter (2x) Écrou borgne (2x) Tuerca de sombrerete (2x) Porca cega (2x)	5	Fori di collegamento 1/8"G (2x) 1/8"G connecting ports (2x) Anschlussöffnung 1/8"G (2x) Trous de raccordement 1/8"G (2x) Agujeros de conexión 1/8"G (2x) Furo de conexão 1/8G (2x)

Ordering example: **(1) 39MCPC + (4) 39AUMCP + 39TAUMCP04**

Q.ty — Q.ty

Micro control panel | Additional units | Tie rod(2x) + Cap nut(2x)

Ordering options code

(1) 39MCPC + (1) 39AUMCP + 39TAUMCP01
(1) 39MCPC + (2) 39AUMCP + 39TAUMCP02
(1) 39MCPC + (3) 39AUMCP + 39TAUMCP03
(1) 39MCPC + (4) 39AUMCP + 39TAUMCP04

CONTROL PANEL CP02A / CP08A / CP11A

(Ford, MABEC, Nissan, Renault and GM North America die Standard)

IT

Pannello di controllo secondo standard Ford e GM Nord America. Base in alluminio provvista di manometro, valvola di caricamento e scaricamento, adattatore 9/16-18 UNF ORFS, tappo di rottura sovrapressione e protezione in acciaio. 3 uscite G1/8" per gestione sistemi collegati.

EN

Control panel according to Ford and GM North America standards. Made up of aluminium base. Gauge, charging and discharging valve, 9/16-18 UNF ORFS adapter, over pressure rupture plug and steel protection. 3 ports G1/8".

DE

Kontrollarmatur gem. Ford und GM North America Normen. Mit Aluminiumgehäuse, Manometer, Auffüll- und Ablassventil, 9/16-18 UNF ORFS Adapter, Überdruck-Bruchstecker und Stahlabdeckung. 3 G1/8" Anschlüsse.

FR

Panneau de contrôle selon les standards Ford et GM, Amérique du Nord, base en aluminium. Manomètre, valve de chargement et déchargement, adaptateur 9/16-18 UNF ORFS, Bouchon de rupture de surpression et protection acier, 3 ports G1/8".

ES

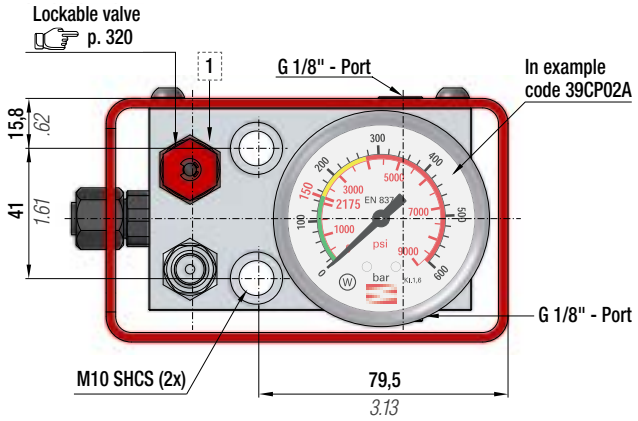
Panel de control según standard Ford y GM Norte América. Base de aluminio con manómetro, valvula de carga y descarga, adaptador 9/16-18 UNF ORFS, tapón de rotura por sobrepresión y protección en acero. 3 salidas G1/8'' para gestión sistemas de cilindros conectados.

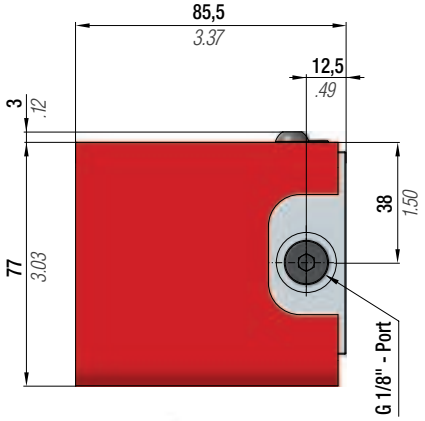
PT

Painel de controlo de acordo com os Standards Ford e GM América do Norte. Fabricado a partir de uma base de alumínio, manómetro, válvula de carga e descarga,adaptador ORFS 9/16-18 UNF, Plugue ruptura sobrepressão e protecção em aço. 3 saidas G1/8'' para sistemas de gestão relacionados.

code	Pressure Gauge	Rupture Plug	Easy Manifold	Gauge Angle Position ⟳	
				0°*	180°
39CP02A-...	bar/psi	✓	✗	-	180
39CP08A-...	bar/MPa	✓	✗	-	180
39CP11A-...	bar/psi	✗	✗	-	180

*Visible in the drawing



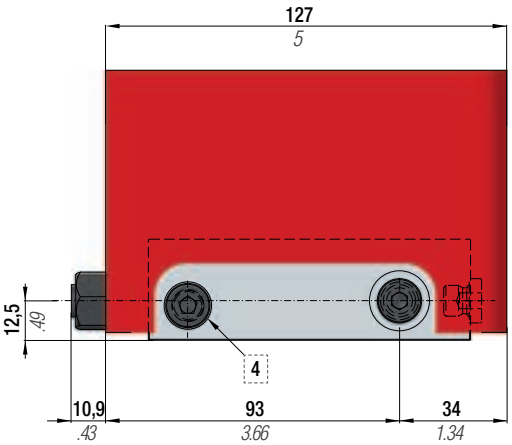


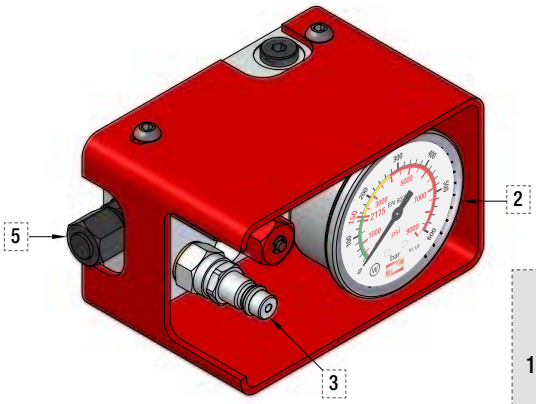
HOW TO ORDER

code

39CP02A-180

Gauge angle position





1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargment Válvula de descarga Válvula de descarga

2	Manometro 0÷ 620 bar Pressure gauge 0÷ 620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mâle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão	5	Adattatore tenuta frontale 9/16-18 UNF O-Ring Face Seal Adapter 9/16-18 UNF O-ring-Dichtung Adapter 9/16-18 UNF Joint torique adaptateur 9/16-18 UNF O-ring face seal adapter 9/16-18 UNF Adaptador de vedação frontal 9/16-18 UNF

CONTROL PANEL CP03A

IT

Pannello di controllo con base in alluminio, provvisto di manometro con valvola di intercettazione, valvola di caricamento e scaricamento, tappo di rottura sovrappressione, protezione in acciaio, 9 uscite da G1/4" per gestione sistemi collegati. La valvola di intercettazione protegge il manometro dalla pressione pulsante durante il funzionamento. Per controllare e regolare la pressione dell'impianto bisogna aprire la valvola di intercettazione del manometro.

EN

Control panel with aluminium base, gauge with shut-off valve, charging and discharging valve, over pressure rupture plug, steel protection. 9 G1/4" ports for hose systems managing. With shut-off valve closed the gauge is protected from pulsating pressure during operation. For checking and adjusting the pressure the interception valve on the gauge must be opened.

DE

Kontrollarmatur mit Aluminiumgehäuse, Manometer mit Sperrventil, Auffüll-und Ablassventil, Überdruck-Bruchstecker und Stahlabdeckung. 9 G1/4" Anschlüsse zur Steuerung der Verbundsysteme. Das Schließen des Manometers mit dem Sperrventil schützt vor Druckschwankungen während des Arbeitsgangs. Zum Prüfen und Einstellen des Drucks muss das Sperrventil am Manometer geöffnet sein.

FR

Panneau de contrôle avec embase aluminium, équipé de manomètre à valve d'arrêt, valve de chargement et déchargement, bouchon de rupture de surpression et protection acier. Ports 9 G1/4 pour gestion de la connectique. Lorsque la valve d'arrêt est fermée, le manomètre est protégé des vibrations dues à la pression durant les opérations. Pour contrôler et ajuster la pression, il convient d'ouvrir la valve d'interception au niveau du manomètre.

ES

Panel de control con base de aluminio, manómetro con válvula de cierre, válvula de carga y descarga, tapón de rotura por sobrepresión y protección en acero. 9 salidas G1/4"para gestión de sistemas interconectados. Con válvula de cierre cerrada el manómetro está protegido de picos de presión durante un funcionamiento normal. Para controlar y regular la presión abrir la válvula de cierre del manómetro.

PT

Painel de Controlo com base em alumínio, manómetro com válvula de obturação, plugue ruptura sobrepressão e protecção em aço. 9 furos* G1/4" para uso de sistemas de mangueiras. Com a válvula de obturação fechada fica protegido das pressões existentes durante a operação. Para verificar e ajustar a pressão, a válvula de intercepção no manómetro tem que estar aberta.

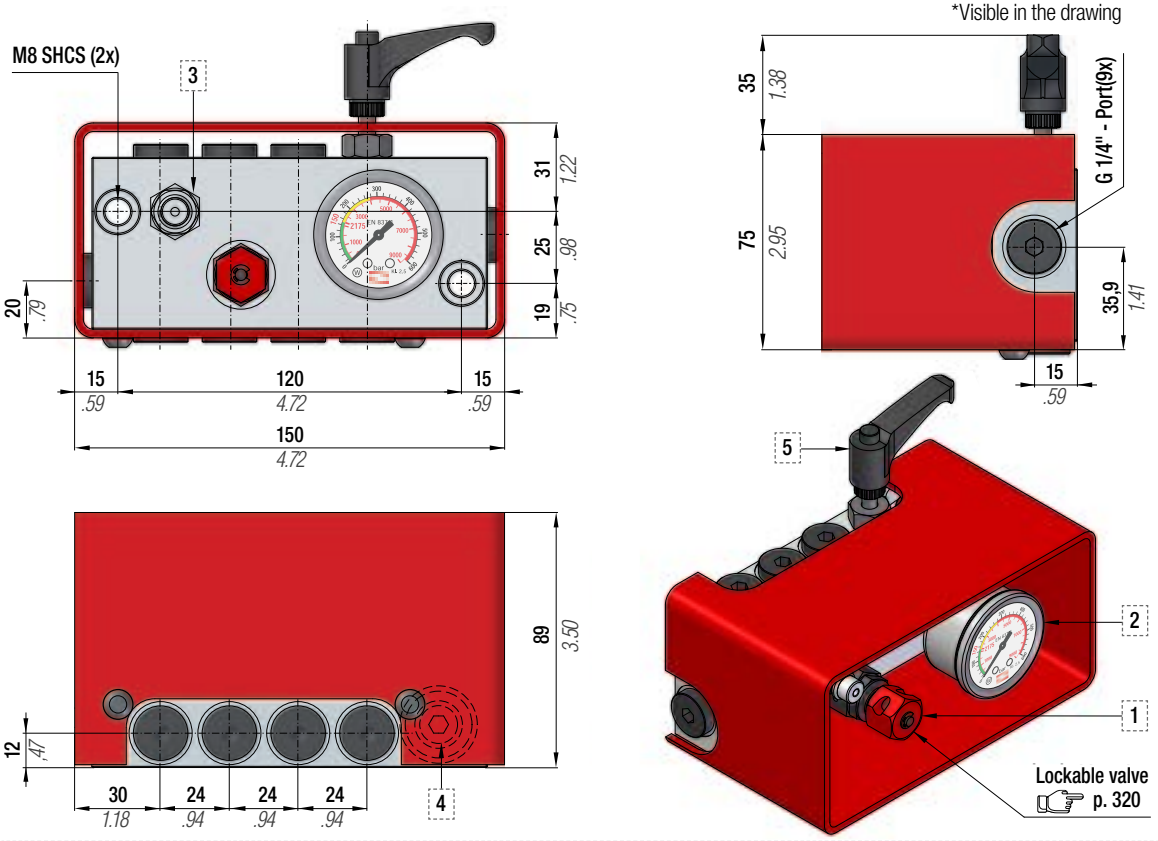
code	Pressure Gauge	Rupture Plug	Easy Manifold	Gauge Angle Position ⟳	
				0°*	180°
39CP03A-...	bar/psi	✓	✗	-	180

HOW TO ORDER

code: **39CP03A-180**

Gauge angle position

*Visible in the drawing



1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷ 620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mãle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão	5	Valvola di intercettazione Shut off valve Sperrventil Valve d'arrêt Válvula de interceptación Válvula de fecho

CONTROL PANEL CP06B / CP09B ■ IO-Link

IT

Pannello di controllo con base in alluminio provvisto di sensore di pressione con display digitale, valvola di caricamento e scaricamento, tappo di rottura sovrappressione, protezione in acciaio, 2 uscite da 1/8'' gas per gestione sistemi collegati. Collegando direttamente il sensore di pressione al controllo pressa è possibile impostare un range di lavoro desiderato al di fuori del quale il dispositivo invierà un segnale di allarme.

EN

Control panel with aluminium base, equipped with pressure sensor with digital display, charging and discharging valve, over pressure rupture plug, steel protection and two 1/8“gas outlets for hose system managing. By connecting directly the pressure sensor with the Press control unit, it is possible to set a desired working range, outside this value, the controll unit will send an alarm signal.

DE

Kontrollarmatur mit Aluminiumgehäuse, ausgestattet mit Drucksensor mit Digital-Display, Auffüll-und Ablassventil, Überdruck-Bruchstecker, Stahlabdeckung und zwei 1/8“ Anschlüssen zur Steuerung der Verbundsysteme. Bei der direkten Verbindung des Drucksensors mit der Pressensteuerung kann der gewünschte Arbeitsbereich eingestellt werden, außerhalb dieses Werts sendet die Einheit ein Alarmsignal.

FR

Panneau de contrôle avec embase en aluminium, équipé de senseur de pression à écran numérique,chargement et déchargement valve, Bouchon de rupture de surpression,protection en acier et deux sorties 1/8 gaz pour la gestion des systèmes connectés. En reliant directement le senseur de pression au système de gestion de la presse on peut établir un éventail désiré des valeurs de travail, au dehors de ces valeurs, le dispositif émettra un signal d’alarme.

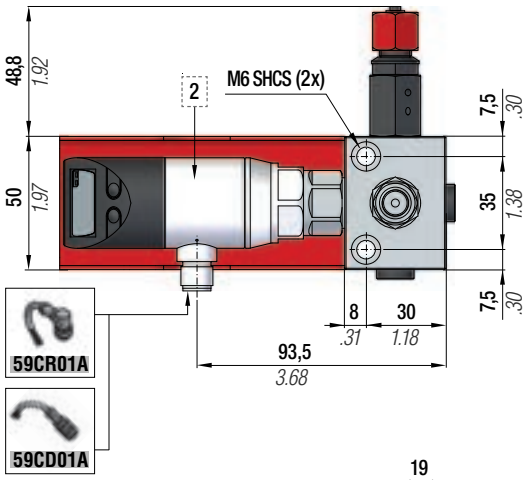
ES

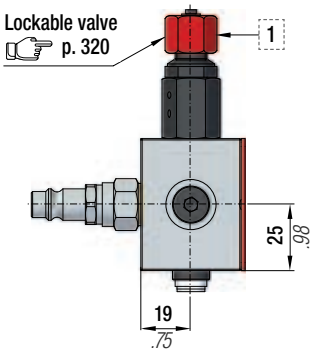
Panel de control con base de aluminio, provisto de sensor de presión con pantalla digital, válvula de carga y descarga, tapón de rotura por sobrepresión, protección en acero, 2 salidas de 1/8”gas para gestión de sistemas conectados. Conectando directamente el sensor de presión al control de la prensa es posible determinar unos rangos de trabajo, fuera de los cuales el dispositivo envía una señal de alarma.

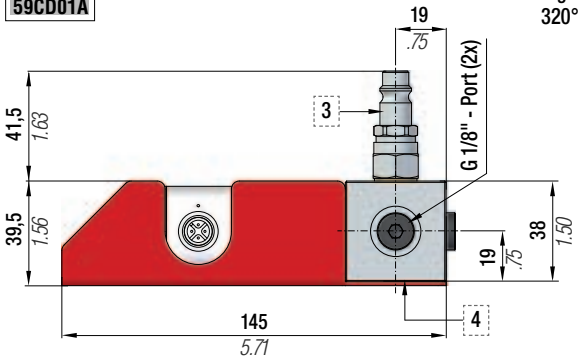
PT

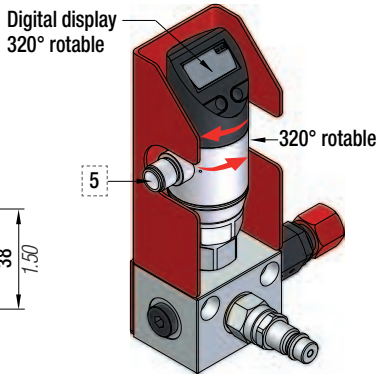
Painel de controlo com base de aluminio, equipado com sensor de pressão digital, válvula de carga e descarga, Plugue ruptura sobrepressão, sistema de protecção de aço e duas tomadas de 1/8”gas para ligação a mangeuiras. ao ligar directamente o sensor de pressão com a unidade de controlo, é possivél definir o funcionamento desejado, fora destes valores, a unidade de controlo envia um sinal de alarme.

code	Pressure Gauge	Rupture Plug	Easy Manifold	59CD01A	59CR01A
39CP06B	bar/psi	✓	✗	✓	✗
39CP09B	bar/psi	✓	✗	✗	✓





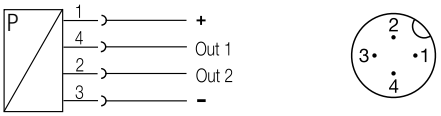




Technical data	
Electrical connector type	M12x1 - Male (4-pin), A-coded
Pressure connection	G 1/4" DIN 3852
Nominal pressure	0 - 600 bar
Burst pressure	1570 bar
Operating voltage Uo	18...36 V DC
Output current max.	150 mA
Current draw max	50 mA
Switching frequency f	170 Hz
Temperature range	- 25°C... + 85°C
Degree of protection as per IEC 60529	IP67 when connected

Always depressurize and disconnect sensors from the power supply before establishing an electrical connection.

Electrical connections	Pin number	Wire color	Factory setting
Supply +	1	Brown	-
Supply -	3	Blue	-
Out 1	4	Black	PNP Switching output / IO-link
Out 2	2	White	PNP Switching output



Electrical connections	Programmable settings
Out 1	PNP-NPN Switching output / IO-Link
Out 2	PNP-NPN Switching output / 4..20mA - 0-10V analog output

1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 600 bar Pressure gauge 0÷ 600 bar Manometer 0÷ 600 bar Manomètre 0÷ 600 bar Manómetro 0÷ 600 bar Manómetro 0÷ 600 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mãle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão	5	Connettore elettrico Electrical connector Elektrische Connecteur électrique Eléctrica Conector Conector elétrico

IO-Link CONTROL PANEL CP20B / CP21B

IT

Pannello di controllo con base in alluminio provvisto di sensore di pressione con display digitale, valvola di caricamento e scaricamento, tappo di rottura sovrappressione, protezione in acciaio, 2 uscite da 1/8'' gas per gestione sistemi collegati. Collegando direttamente il sensore di pressione al controllo pressa è possibile monitorare in continuo il valore della pressione dell'impianto e gestirlo di conseguenza.

EN

Control panel with aluminium base, equipped with pressure sensor and digital display, charging and discharging valve, overpressure rupture plug, steel protective cover and two G 1/8'' ports for managing linked systems. By connecting the pressure sensor to the press control, it is possible to constantly monitor the pressure value of the system and manage it accordingly.

DE

Kontrollarmatur mit Aluminiumgehäuse mit Drucksensor und Digitalanzeige, Befüll- und Ablassventil, Überdruck-Berstsicherung, Schutzabdeckung aus Stahl, zwei G1/8 Anschlussgewinden zur Steuerung von Verbundsystemen. Durch den Anschluss des Drucksensors direkt an die Pressensteuerung ist es möglich, den Druck der Anlage kontinuierlich zu überwachen und entsprechend zu steuern.

FR

Panneau de contrôle avec base en aluminium, équipé d'un capteur de pression et d'un affichage numérique, valve de chargement-déchargement, bouchon de rupture pour surpression, couverture de protection en acier et deux ports G 1/8'' pour la gestion des systèmes connectés. En connectant le capteur de pression à la commande de la presse, il est possible de surveiller en permanence la valeur de pression du système et de la gérer en conséquence.

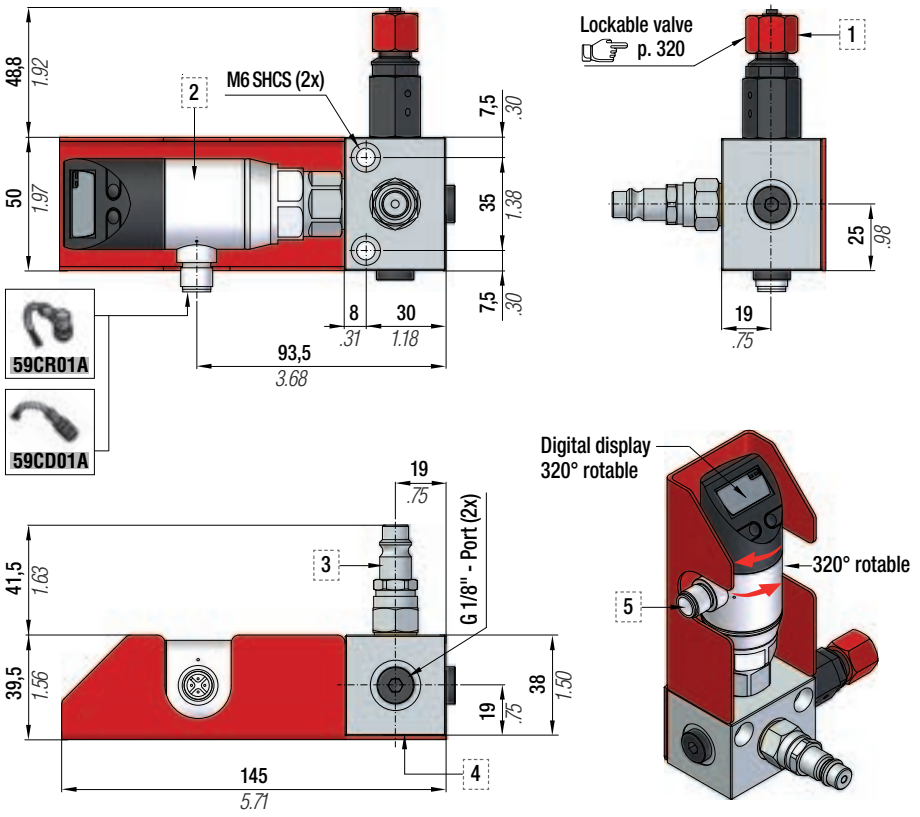
ES

Panel de control con base de aluminio equipado con sensor de presión con pantalla digital, válvula de carga y descarga, tapón de rotura por sobrepresión, protección de acero, 2 salidas G1/8"para administrar los sistemas conectados. Conectando directamente el sensor de presión al control de la prensa, es posible monitorear continuamente el valor de presión del sistema y administrarlo en consecuencia.

PT

Painel de controle com base em alumínio, fornecido com sensor de pressão e display digital, valvula de carregamento e descarregamento, bujão de rupture para sobre pressão, 2 saidas G1/8" para verificação do sistema. Conectando o painel ao comando da prensa, é possivel monitorar continuamente a pressão de trabalho do sistema, monitorando com total segurança o funcionamento.

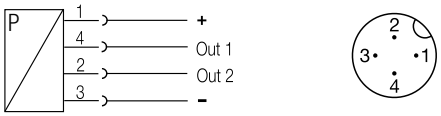
code	Pressure Gauge	Rupture Plug	Easy Manifold	59CD01A	59CR01A
39CP20B	bar/psi	✓	✗	✓	✗
39CP21B	bar/psi	✓	✗	✗	✓



Technical data	
Electrical connector type	M12x1 - Male (4-pin), A-coded
Pressure connection	G 1/4" DIN 3852
Nominal pressure	0 - 600 bar
Burst pressure	1570 bar
Operating voltage Uo	18...36 V DC
Output current max.	150 mA
Current draw max	50 mA
Switching frequency f	170 Hz
Temperature range	- 25°C... + 85°C
Degree of protection as per IEC 60529	IP67 when connected

Always depressurize and disconnect sensors from the power supply before establishing an electrical connection.

Electrical connections	Pin number	Wire color	Factory setting
Supply +	1	Brown	-
Supply -	3	Blue	-
Out 1	4	Black	PNP Switching output / IO-link
Out 2	2	White	4..20mA analog output



Electrical connections	Programmable settings
Out 1	PNP-NPN Switching output / IO-Link
Out 2	PNP-NPN Switching output / 4..20mA - 0-10V analog output

1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 600 bar Pressure gauge 0÷ 600 bar Manometer 0÷ 600 bar Manomètre 0÷ 600 bar Manómetro 0÷ 600 bar Manómetro 0÷ 600 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mâle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão	5	Connettore elettrico Electrical connector Elektrische Connecteur électrique Conector eléctrico Conector elétrico

CONTROL PANEL CP07A / CP10A / CP12A

IT

Pannello di controllo con base in alluminio provvisto di manometro, valvola di caricamento e scaricamento, tappo di rottura sovrapressione, protezione in acciaio, 3 uscite da 1/4" gas e un uscita da 1/8'' gas per gestione sistemi collegati.

EN

Control panel with aluminium base, equipped with gauge, charging and discharging valve, over pressure rupture plug, steel protection and three 1/4“ and one 1/8“ gas outlets for hose system managing.

DE

Kontrollarmatur mit Aluminiumgehäuse, Manometer, Auffüll- und Ablassventil, Überdruck-Bruchstecker, Stahlabdeckung, drei ¼“ und eine 1/8“ Gas-Anschlüsse zur Steuerung der Verbundsysteme.

FR

Panneau de contrôle avec base en aluminium pourvu de manomètre, valve de chargement-déchargement, bouchon de rupture de surpression, protection en acier et trois sorties 1/4 gaz et une sortie 1/8 gaz pour la gestion des systèmes connectés.

ES

Panel de control con base de aluminio provisto de manómetro, válvula de carga y descarga, tapón de rotura por sobrepresión, protección en acero, 3 salidas de 1/4” gas y 1 salida de 1/8” gas para gestión de sistemas conectados.

PT

Painel de controlo com base de aluminio, equipado com manómetro, válvula de carga e descarga, plugue ruptura sobrepressão, sistema de protecção de aço, três tomadas de 1/4” e uma 1/8”gas para ligação a mangeuiras.

code	Pressure Gauge	Pressure Switch	Rupture Plug	Easy Manifold p.256	Gauge Angle Position ⟳		
					0°*	180°	270°
39CP07A-...	bar/psi	✗	✓	✓	-	180	270
39CP10A-...	bar/psi	✓	✓	✓	-	180	270
39CP12A-...	bar/psi	✗	✗	✓	-	180	270

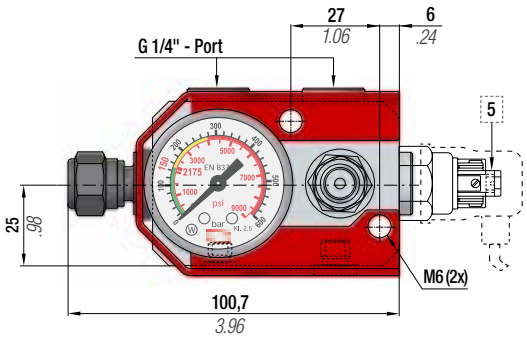
*Visible in the drawing

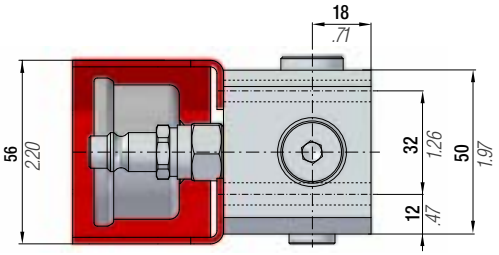
HOW TO ORDER

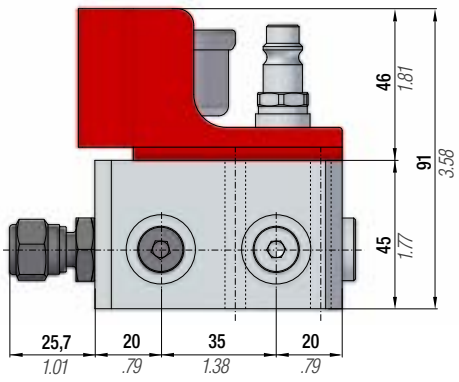
code

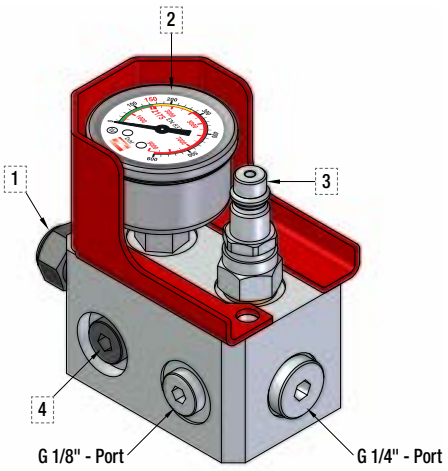
39CP07A-180

Gauge angle position









1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷ 620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mâle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão	5	Pressostato 50÷300 bar Pressure switch 50÷300 bar Druckwächter 50÷300 bar Pressostat 50÷300 bar Presostato 50÷300 bar Pressostato 50÷300 bar

CONTROL PANEL CP14A
(Daimler standard)

IT

Pannello di controllo a standard Daimler. Base in alluminio provvisto di manometro, valvola di caricamento e scaricamento, pressostato e protezione in acciaio. 3 uscite 7/16-20UNF per gestione sistemi collegati. Può essere equipaggiato con tappo di rottura sovrapressione.

EN

Control panel according to Daimler standard. Made of aluminum base. Equipped with pressure gauge, charging and discharging valve, pressure switch and steel protection. Three 7/16-20UNF gas outlets for managing hose system. It can be equipped with over pressure rupture plug.

DE

Kontrollarmatur nach Daimler-Norm. Mit Aluminiumgehäuse, Manometer, Auffüll- und Ablassventil, Druckwächter und Stahlabdeckung. Drei 7/16-20UNF Gas-Anschlüsse zur Steuerung der Verbundsysteme. Einheit kann mit Überdruck-Bruchstecker ausgestattet werden.

FR

Panneau de contrôle selon le standard Daimler. Avec base en aluminium, manomètre, valve de chargement-déchargement, pressostat et protection en acier. Trois sorties 7/16-20UNF gaz pour la gestion des systèmes connectés. Il peut être équipé avec bouchon de rupture de surpression.

ES

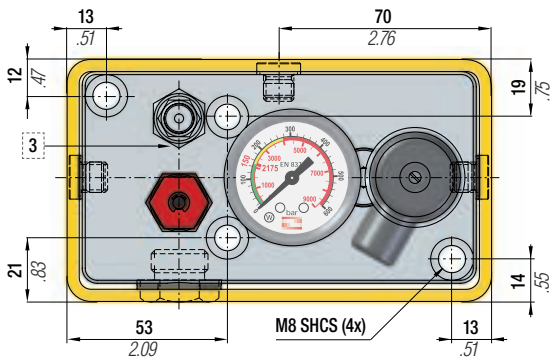
Panel de control según standard Daimler. Con base de aluminio, manómetro, válvula de carga y descarga, presostato y protección en acero. 3 salidas de 7/16-20UNF gas para gestión de sistemas conectados. Puede equiparse con tapón de rotura por sobrepresión.

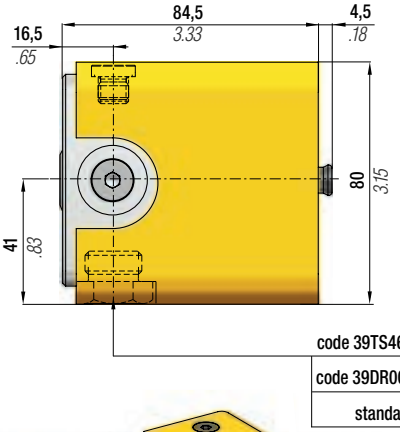
PT

Painel de controlo de acordo com o Standard Daimler. Fabricado a partir de uma base de aluminio. Equipado com manómetro, válvula de carga e descarga, presssostato e sistema de protecção de aço. Três saída de gás 7/16-20UNF para ligação a mangueiras. Pode ser equipado com plugue ruptura sobrepressão.

code	Pressure Gauge	Pressure Switch	Rupture Plug	Easy Manifold p.256	Gauge Angle Position ⟳	
					0°*	180°
39CP14A-...	bar/psi	✓	✗	✓	-	180
39CP14A-... + 39DR004	bar/psi	✓	✓	✓	-	180
39CP14A-... + 39TS460	bar/psi	✓	✓	✓	-	180

*Visible in the drawing



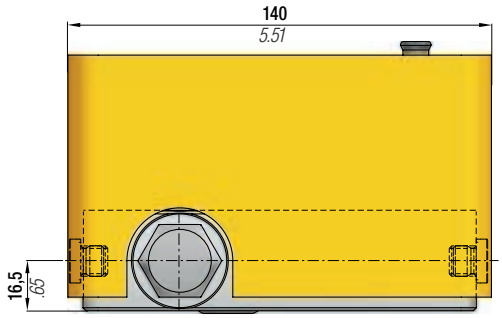


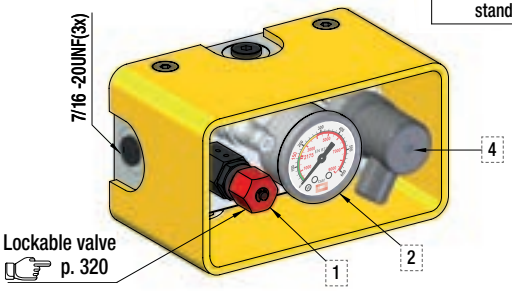
HOW TO ORDER

code

39CP14A-180

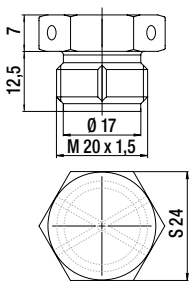
Gauge angle position





1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargemen Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷ 620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mãle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Pressostato 50÷300 bar Pressure switch 50÷300 bar Druckwächter 50÷300 bar Pressostat 50÷300 bar Presostato 50÷300 bar Pressostato 50÷300 bar
5	Tappo di chiusura M20 Closing plug M20 Verschlussstopfen M20 Bouchon de fermeture M20 Tapon de cierre M20 Plugue de fechamento M20	5.1	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Enchufe de ruptura de sobrepresión Plugue ruptura sobrepressão	5.2	Tappo di sicurezza sovrapressione CE Overpressure safety plug CE Überdruck Sicherheitsstecker CE Bouchon de sécurité surpression CE Enchufe de seguridad sobrepresion CE Bujão de segurança sobrepressão CE		

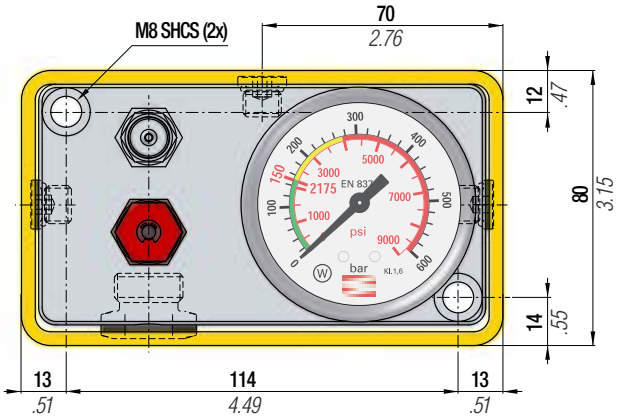
code: 39TS460



CONTROL PANEL CPVD
(Fiat standard)

code	Pressure Gauge	Rupture Plug	Easy Manifold	Gauge Angle Position ↻	
				0°*	180°
39CPVD-...	bar/psi	✗	✗	-	180
39CPVD-... + 39DR004	bar/psi	✓	✗	-	180
39CPVD-... + 39TS460	bar/psi	✓	✗	-	180

*Visible in the drawing

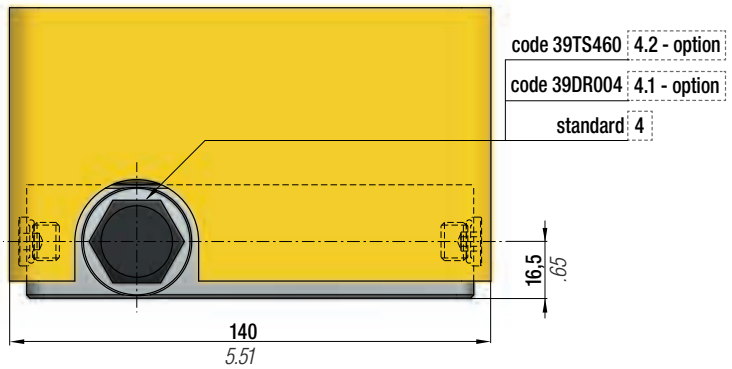


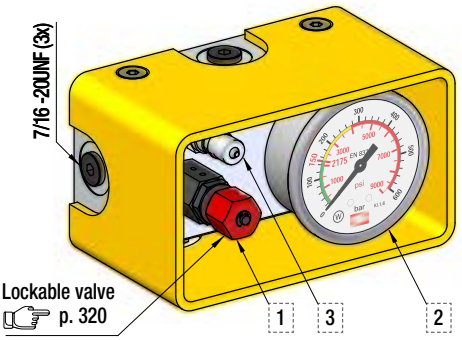
HOW TO ORDER

code

39CPVD-180

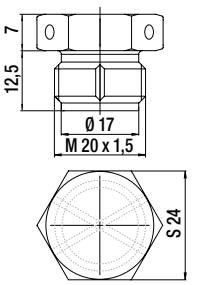
Gauge angle position





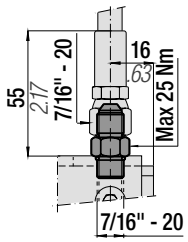
1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷ 620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido per caricamento ISO7241-1 Series B Quick coupling for charging ISO7241-1 Series B Steckkegel ISO7241-1 Series B Accouplement rapide mâle ISO7241-1 Series B Acoplamiento rápido para carga ISO7241-1 Series B União rápida para carregamento ISO7241-1 Series B
4	Tappo di chiusura M20 Closing plug M20 Verschlussstopfen M20 Bouchon de fermeture M20 Tapon de cierre M20 Plugue de fechamento M20	4.1	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Enchufe de ruptura de sobrepresión Plugue ruptura sobrepressão	4.2	Tappo di sicurezza sovrapressione CE Overpressure safety plug CE Überdruck Sicherheitsstecker CE Bouchon de sécurité surpression CE Enchufe de seguridad sobrepresion CE Bujão de segurança sobrepressão CE

code: 39TS460

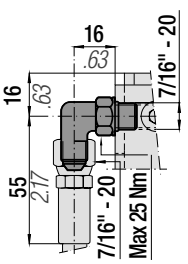


CONTROL PANEL CPVD (FIAT standard) - Hose connections

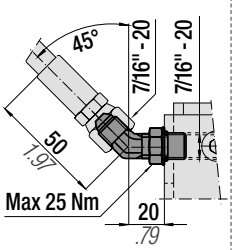
code RPT-D



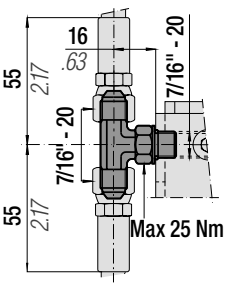
code RPT-R



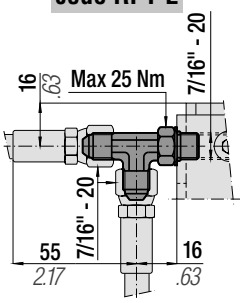
code RPT-M



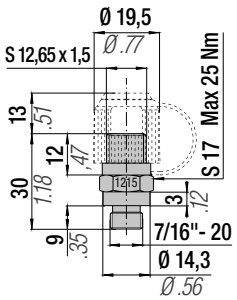
code RPT-T



code RPT-L



code RMPT



CONTROL PANEL CP15A
(Toyota standard)

IT

Pannello di controllo con base in alluminio, provvisto di manometro, valvola di caricamento e protezione in acciaio. 2 uscite da 1/8" gas per gestione sistemi collegati.

EN

Control panel with aluminum base. Equipped with pressure gauge, charging valve and steel protection. Two 1/8" gas outlets for managing hose system.

DE

Kontrollarmatur mit Aluminiumgehäuse. Ausgestattet mit Manometer, Auffüllventil und Stahlabdeckung. Zwei 1/8" Gas-Anschlüsse zur Steuerung der Verbundsysteme.

FR

Panneau de contrôle avec base en aluminium. Equipé de manomètre, valve de chargement et protection en acier. Deux sorties 1/8" gaz pour la gestion des systèmes connectés.

ES

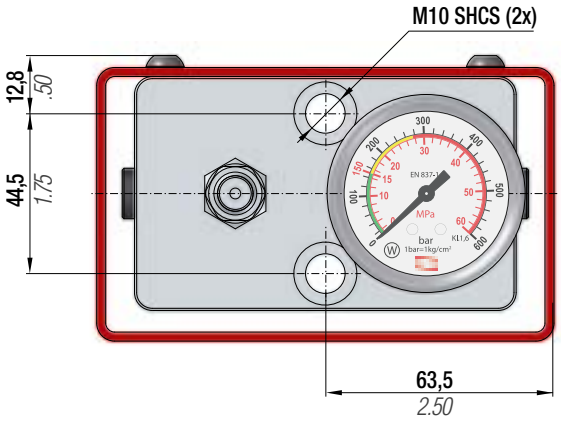
Panel de control con base de aluminio. Equipado con manómetro, válvula de carga y protección en acero. 2 salidas de 1/8" gas para gestión de sistemas conectados.

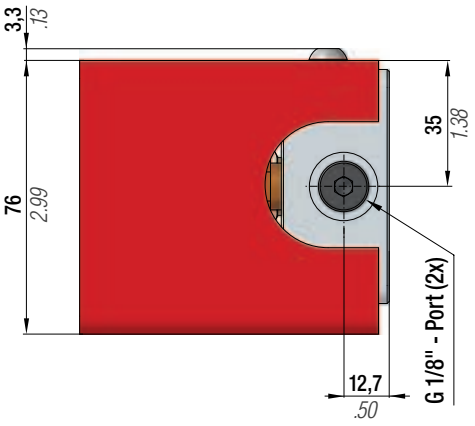
PT

Painel de controlo com base de alumínio. Equipado com manómetro, válvula de carga e sistema de protecção de aço. Duas saídas de gás 1/8" para ligação a mangueiras.

code	Pressure Gauge	Rupture Plug	Easy Manifold	Gauge Angle Position ⟳	
				0°*	180°
39CP15A-...	bar/MPa	✗	✗	-	180

*Visible in the drawing



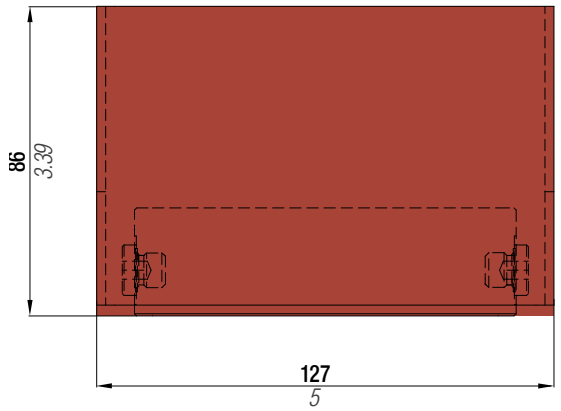


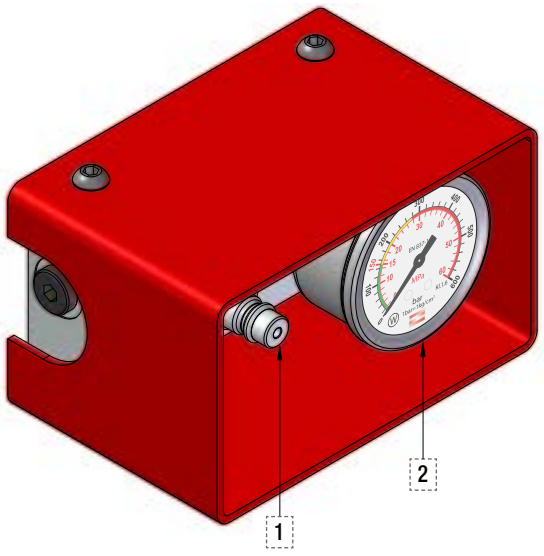
HOW TO ORDER

code

39CP15A-180

Gauge angle position





1	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mãle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	2	Manometro 0÷ 600 bar Pressure gauge 0÷ 600 bar Manometer 0÷ 600 bar Manomètre 0÷ 600 bar Manómetro 0÷ 600 bar Manómetro 0÷ 620 bar

code 39VS03B



⚠ Use only for 39CP15A

IT	Dispositivo di scaricamento
EN	Discharging device
DE	Ablassvorrichtung
FR	Dispositif de déchargement
ES	Dispositivo de descarga
PT	Dispositivo de descarga

CONTROL PANEL CP16A

IT

Pannello di controllo con base in alluminio, provvisto di manometro, valvola di caricamento e scaricamento, tappo di rottura sovrappressione, protezione in acciaio, 4 uscite da 1/8" gas per gestione sistemi collegati.

EN

Control panel with aluminum base. Equipped with pressure gauge, charging and discharging valve, over pressure rupture plug, steel protection, four 1/8" gas outlets for managing hose system.

DE

Kontrollarmatur mit Aluminiumgehäuse. Ausgestattet mit Manometer, Auffüll- und Ablassventil, Überdruck-Bruchstecker, Stahlabdeckung, vier 1/8" Gas-Anschlüsse zur Steuerung der Verbundsysteme.

FR

Panneau de contrôle avec base en aluminium. Equipé de manomètre, valve de chargement-déchargement, bouchon de rupture de surpression, protection en acier, quatre sorties 1/8" gaz pour la gestion des systèmes connectés.

ES

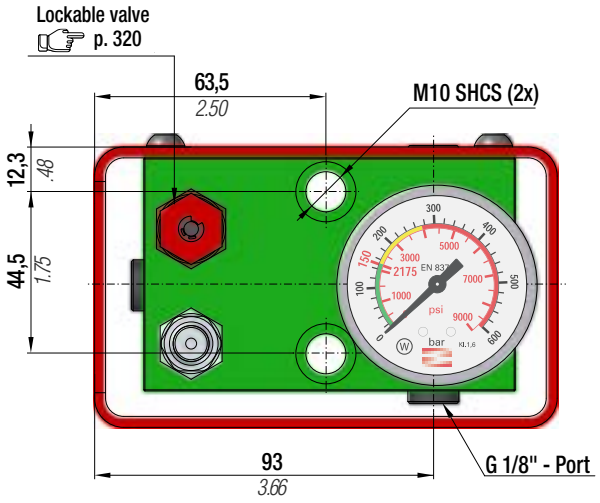
Panel de control con base de aluminio, provisto de manómetro, válvula de carga y descarga, tapón de rotura por sobrepresión, protección en acero, 4 salidas de 1/8" gas
para gestión de sistemas conectados.

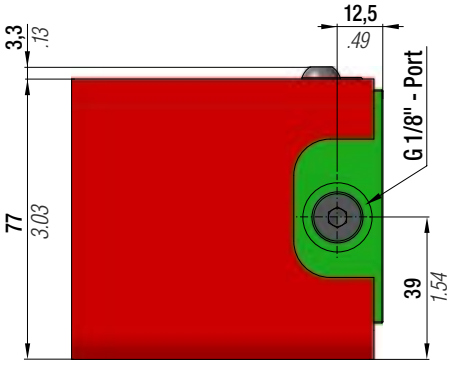
PT

Painel de controlo com base de aluminio. Equipado com manómetro, válvula de carga e descarga, plugue ruptura sobrepressão, sistema de protecção de aço, quatro saídas de gás 1/8" para ligação a mangueiras.

code	Pressure Gauge	Rupture Plug	Easy Manifold	Gauge Angle Position	
				0°*	180°
39CP16A-...	bar/psi	✓	✗	-	180

*Visible in the drawing



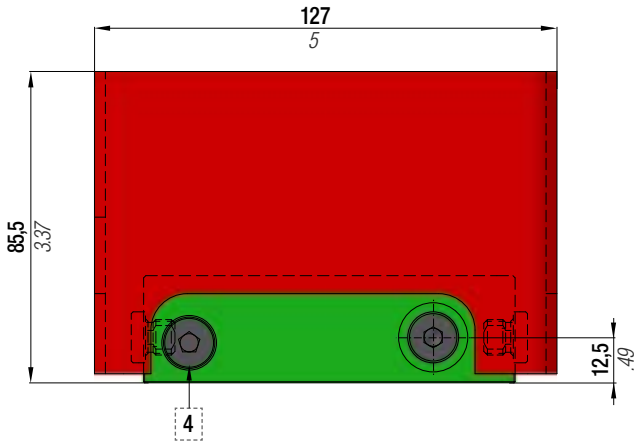


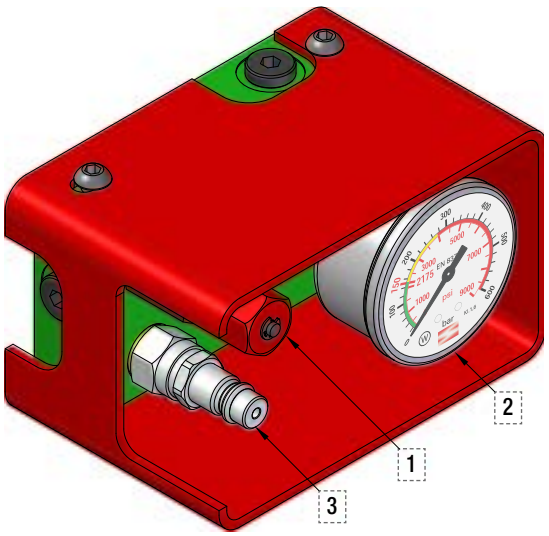
HOW TO ORDER

code

39CP16A-180

Gauge angle position





1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Manometro 0÷ 620 bar Pressure gauge 0÷620 bar Manometer 0÷ 620 bar Manomètre 0÷ 620 bar Manómetro 0÷ 620 bar Manómetro 0÷ 620 bar	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mâle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Tapón de rotura por sobrepresión Plugue ruptura sobrepressão

CONTROL PANEL CP17A
(Toyota standard)

IT

Pannello di controllo con base in alluminio provvisto di sensore di pressione con display digitale, innesto rapido di caricamento Cejn, tappo di rottura sovrappressione, 3 uscite da 1/8'' gas. Collegando il pannello al controllo pressa, è possibile impostare un range di lavoro desiderato al di fuori del quale il dispositivo invierà un segnale di allarme.

EN

Control panel with aluminium base, equipped with pressure sensor and digital display, Cejn-quick coupling for charging, overpressure rupture plug and three G 1/8'' ports. By connecting the control panel to the press control, it is possible to set a desired working range outside which the unit sends an alarm signal.

DE

Kontrollarmatur mit Aluminiumgehäuse mit Drucksensor und Digitalanzeige, Cejn-Schnellkupplung zur Befüllung, Überdruck-Berstsicherung und drei G1/8 Anschlussgewinden. Durch den Anschluss der Kontrollarmatur an die Pressensteuerung ist es möglich, einen gewünschten Arbeitsbereich einzustellen, außerhalb dessen das Gerät ein Alarmsignal sendet.

FR

Panneau de contrôle avec base en aluminium, équipé d'un capteur de pression et d'un affichage numérique, raccord rapide Cejn pour le chargement, bouchon de rupture pour surpression et trois ports G 1/8". En connectant le panneau de contrôle au système de contrôle de la presse, il est possible de définir une plage de fonctionnement souhaitée en dehors de laquelle l'unité envoie un signal d'alarme.

ES

Panel de control con base de aluminio equipado con sensor de presión con pantalla digital, conexión de carga rápida Cejn, tapón de rotura por sobrepresión, 3 salidas 1/8" gas. Conectando el panel al control de la prensa es posible establecer un rango de trabajo deseado fuera del cual el dispositivo enviará una señal de alarma.

PT

Painel de controle com base em aluminio, fornecido com sensor de pressão e display digital, engate rapido de carregamento CEJN, bujão de ruptura para sobre pressão, 3 saidas G1/8". Conectando o painel ao comando da prensa, é possivel determinar uma faixa de trabalho, que qualquer alteração desta faixa, o painel emitira um alarme.

code	Pressure Gauge	Rupture Plug	Easy Manifold	Pressure fitting position			
				Pos. A	Pos. B	Pos. C	Pos. A+C
39CP17A._	bar/MPa	✓	✗	.1	.2	.3	.4

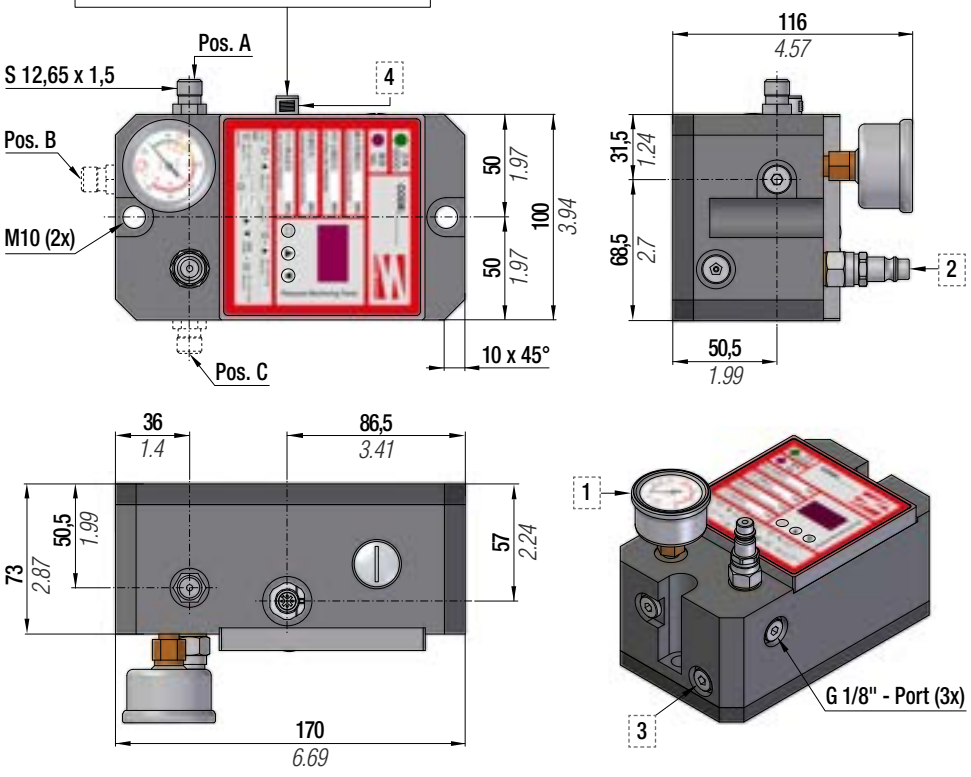
HOW TO ORDER

code: **39CP17A.1 + 59CR02A** (Fitting position: .1 / connector)

(Toyota part number D-PACPS-B-...)

Straight	Cable length	Female
59CD02A	2 meter	
59CD03A	5 meter	
59CD04A	10 meter	

90°	Cable length	Female
59CR02A	2 meter	
59CR03A	5 meter	
59CR04A	10 meter	

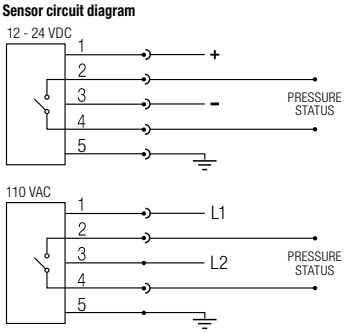


Technical data		
Electrical connector type	M12x1 (5-pin) male Reverse key (B-Code)	
Pressure connection	S12,65x1,5	
Nominal pressure	0 - 350 bar	
Temperature range	- 20°C... + 60°C	
Degree of protection as per IEC 60529	IP65 when connected	
Supply voltage	12...24 V DC	100…120 V AC 50…60Hz
Max Output relay current (2-4 wire)	2A	1A
Max current	230mA	

Always depressurize and disconnect control panel from the power supply before establishing an electrical connection.

Electrical connections	12...24 V DC	100…120 V AC 50…60Hz	Wire connections color
1	+	1	Brown
3	-	3	Blue
2	Output relay - Normally Open		White
4			Black
5	Ground		Green / Yellow

Sensor circuit diagram



1	Manometro 0÷ 600 bar Pressure gauge 0÷ 600 bar Manometer 0÷ 600 bar Manomètre 0÷ 600 bar Manómetro 0÷ 600 bar Manómetro 0÷ 620 bar	2	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mâle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	3	Tappo di sicurezza sovrapressione CE Overpressure safety plug CE Überdruck Sicherheitsstecker CE Bouchon de sécurité surpression CE Enchufe de seguridad sobrepresion CE Bujão de segurança sobrepressão CE	4	Connettore elettrico Electrical connector Elektrische Connecteur électrique Eléctrica Conector Conector elétrico

CONTROL PANEL CP23A

IT

Pannello di controllo con base in alluminio provvisto di sensore di pressione EYE, valvola di caricamento e scaricamento, tappo di rottura sovrappressione, protezione in acciaio, innesto rapido di caricamento Cejn e 3 uscite da 1/8'' gas per gestione sistemi collegati.

EN

Control panel with aluminium base, equipped with pressure sensor EYE, charging and discharging valve, overpressure rupture plug, steel protective cover, Cejn-quick coupling for charging and three G 1/8'' ports for managing linked systems.

DE

Kontrollarmatur mit Aluminiumgehäuse mit Drucksensor EYE, Befüll- und Ablassventil, Überdruck-Berstsicherung, Schutzabdeckung aus Stahl, Cejn-Schnellkupplung zur Befüllung, und drei G1/8 Anschlussgewinden zur Steuerung von Verbundsystemen.

FR

Panneau de contrôle avec base en aluminium, équipé du capteur de pression EYE, valve de chargement-déchargement, bouchon de rupture pour surpression, couverture de protection en acier, raccord rapide Cejn pour le chargement et trois ports G 1/8'' pour la gestion des systèmes connectés.

ES

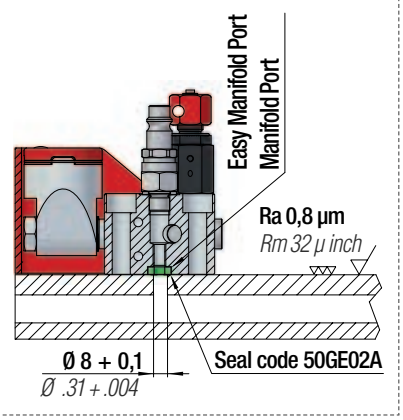
Panel de control con base de aluminio equipado con sensor de presión EYE, válvula de carga y descarga, tapón de rotura por sobrepresión, protección de acero, acoplamiento rápido Cejn y 3 salidas 1/8” gas para gestión de sistemas conectados.

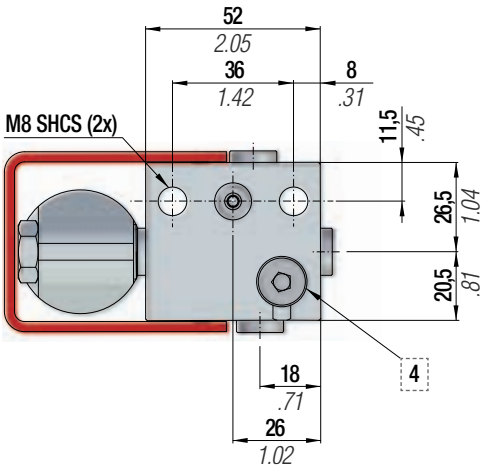
PT

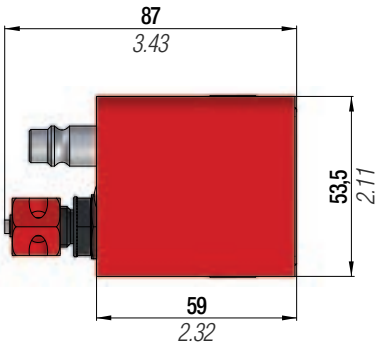
Painel de controle com base em aluminio, fornecido com o sensor de pressão EYE, válvula de carregamento e descarregamento, bujão de rupture para sobre pressão, cobertura protetora em aço, engate rapido de carregamento CEJN e 3 saidas G1/8” para a gestão de sistemas de mangueiras.

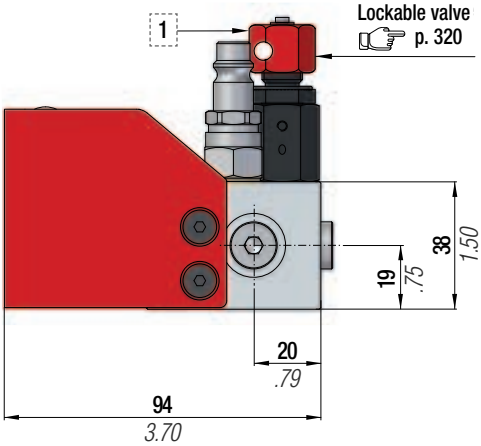
code	Pressure Gauge	Rupture Plug	Easy Manifold
39CP23A	bar/psi/MPa	✓	✓

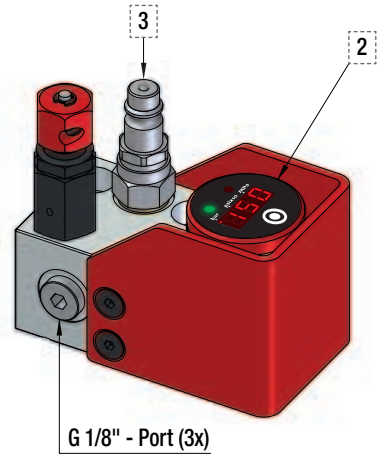
Easy Manifold mounting











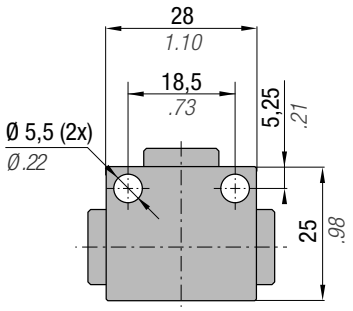
Technical data	
Measuring range	0 ÷ 600 bar / 8700 psi / 60 MPa
Visualization	3 digit display + 2 led
Resolution	1 bar, 10 psi, 1 MPa
Measurement unit	bar, psix10, MPa
Accuracy	±1,0% f.s., ±1 digit whichever is greater
Working temperature	0 ÷ 80°C / 176°F
Compatible fluids	Nitrogen
Battery	Maxell CR2032-3V, 220mAh
Material	Stainless steel/Aluminum alloy
Connection	G1/8”
Alarms	Low pressure (adjustable), High pressure (fixed), Sensor malfunction, Low battery
Battery lifetime	> 2000 readings
Degree of protection	IP65 when connected

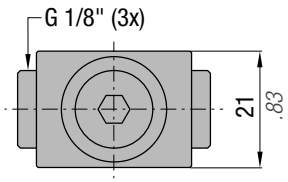
1	Valvola di scarico Discharging valve Auslaßventil Valve de déchargement Válvula de descarga Válvula de descarga	2	Sensore di pressione EYE EYE Pressure Sensor Drucksensor EYE Capteur de pression EYE Sensor de presión EYE Sensor de pressão EYE	3	Innesto rapido di caricamento Cejn Quick coupling for charging Cejn Steckkegel Cejn Accouplement rapide mãle Cejn Acoplamiento rápido para carga Cejn União rápida para carregamento Cejn	4	Tappo di rottura sovrappressione Over pressure rupture plug Überdruck-Bruchstecker Bouchon de rupture de surpression Enchufe de ruptura de sobrepresión Plugue ruptura sobrepressão

THIS PAGE IS INTENTIONALLY LEFT BLANK

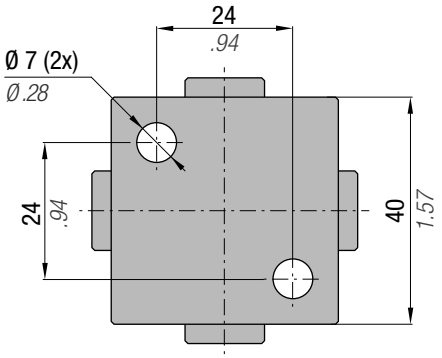
DISTRIBUTION BLOCKS

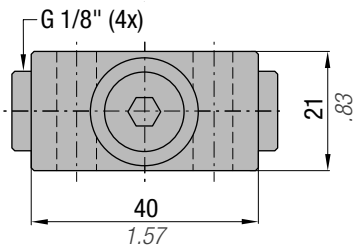
code 39BD0301B



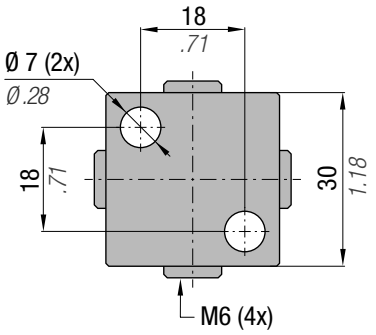


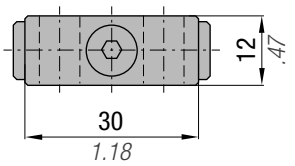
code 39BD0401A



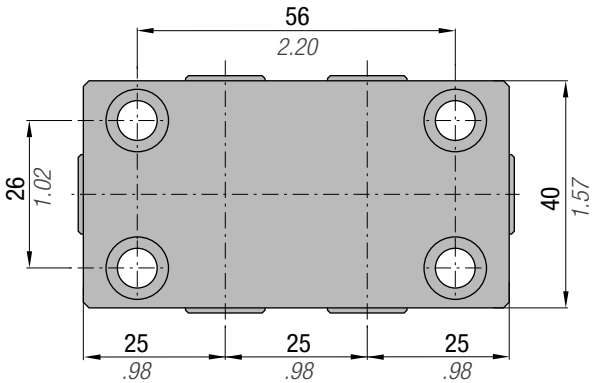


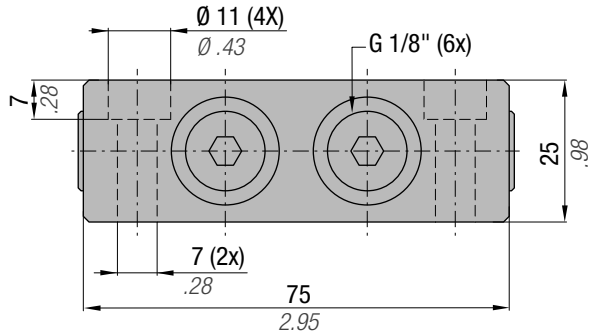
code 39BD0402A



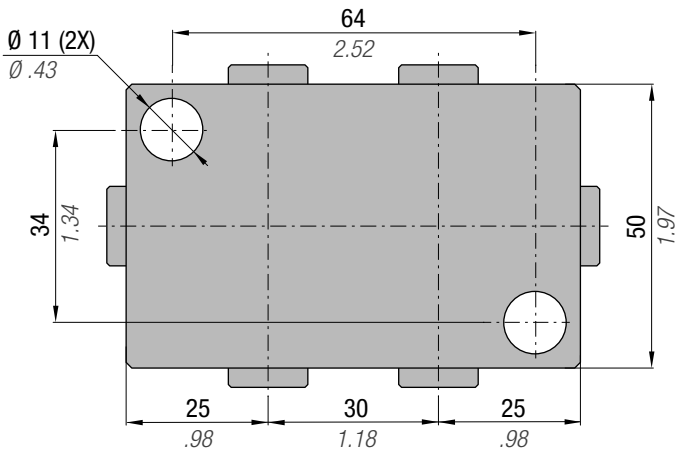


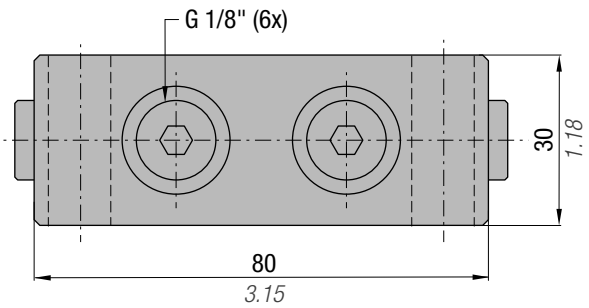
code 39BD06A





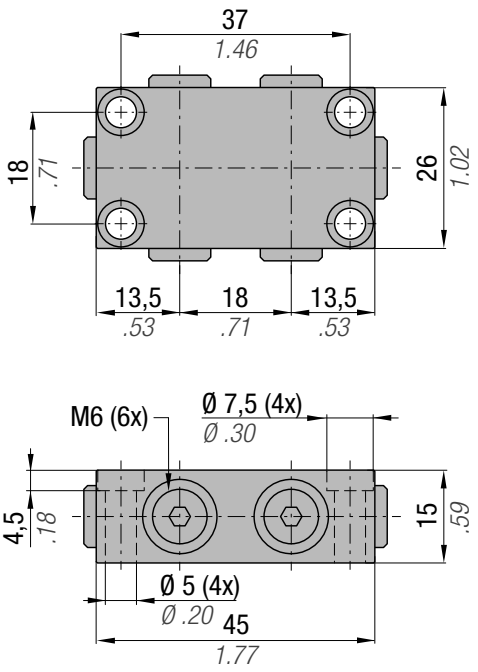
code 39BD0601A



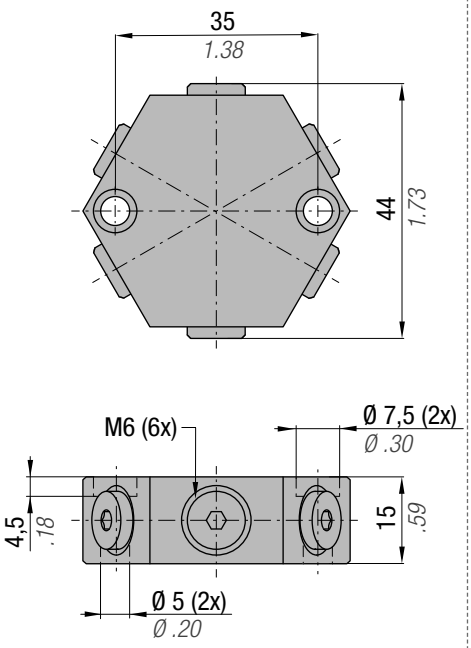


DISTRIBUTION BLOCKS

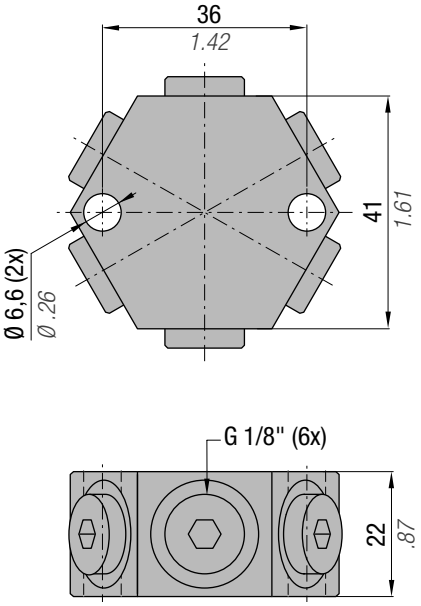
code 39BD06/1



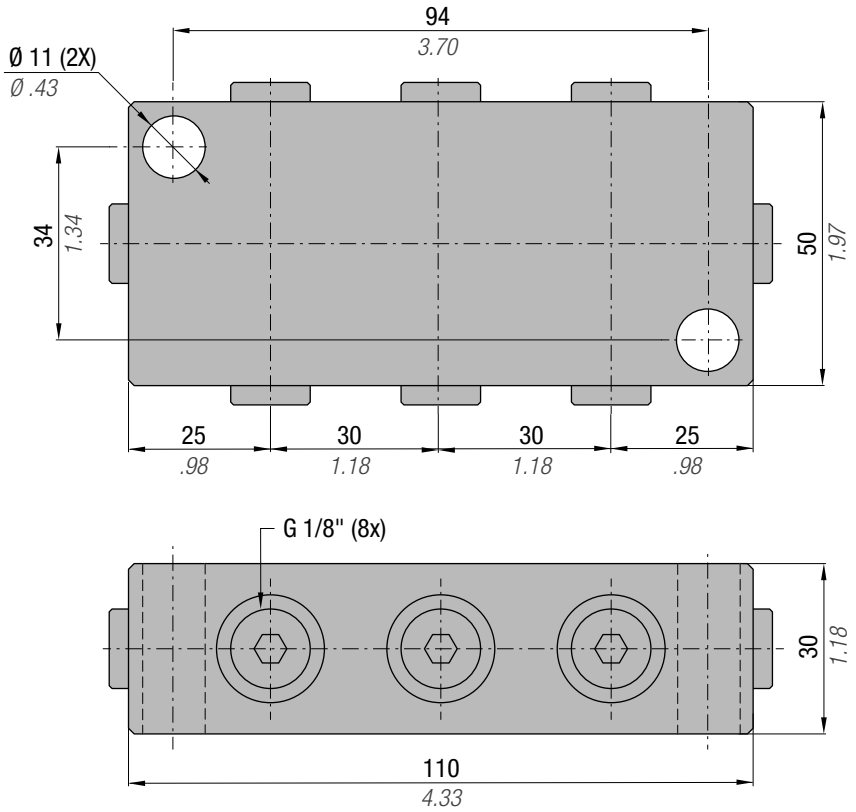
code 39BD06/2



code 39BD0603A



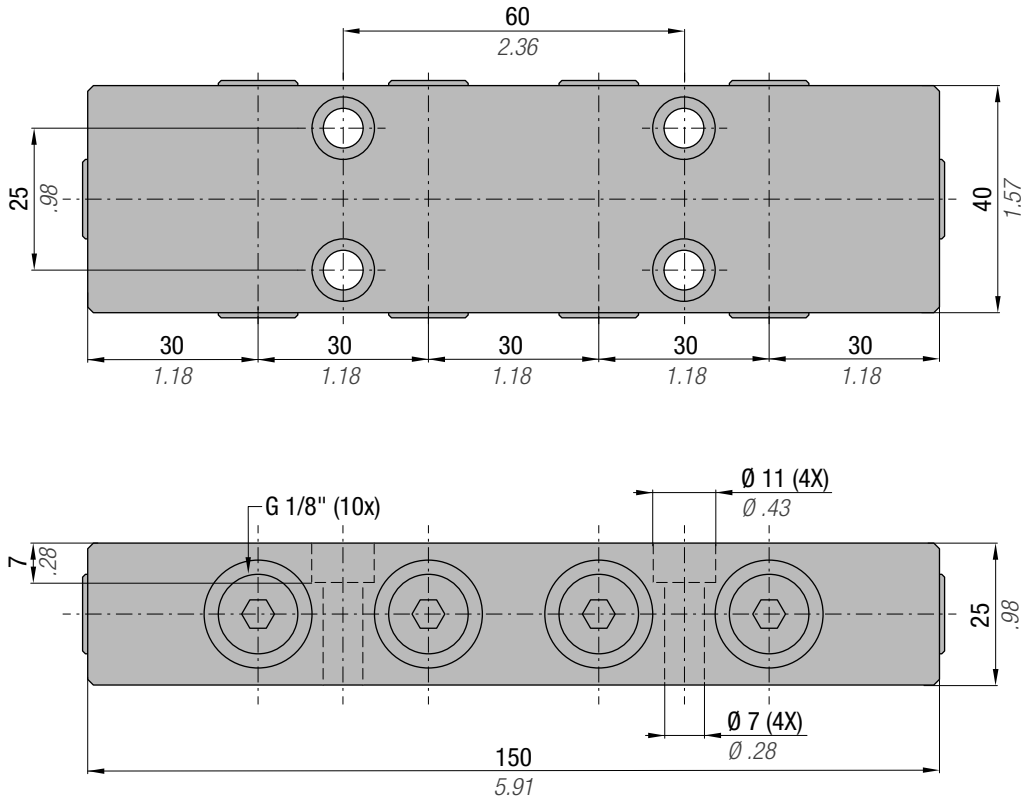
code 39BD0801A



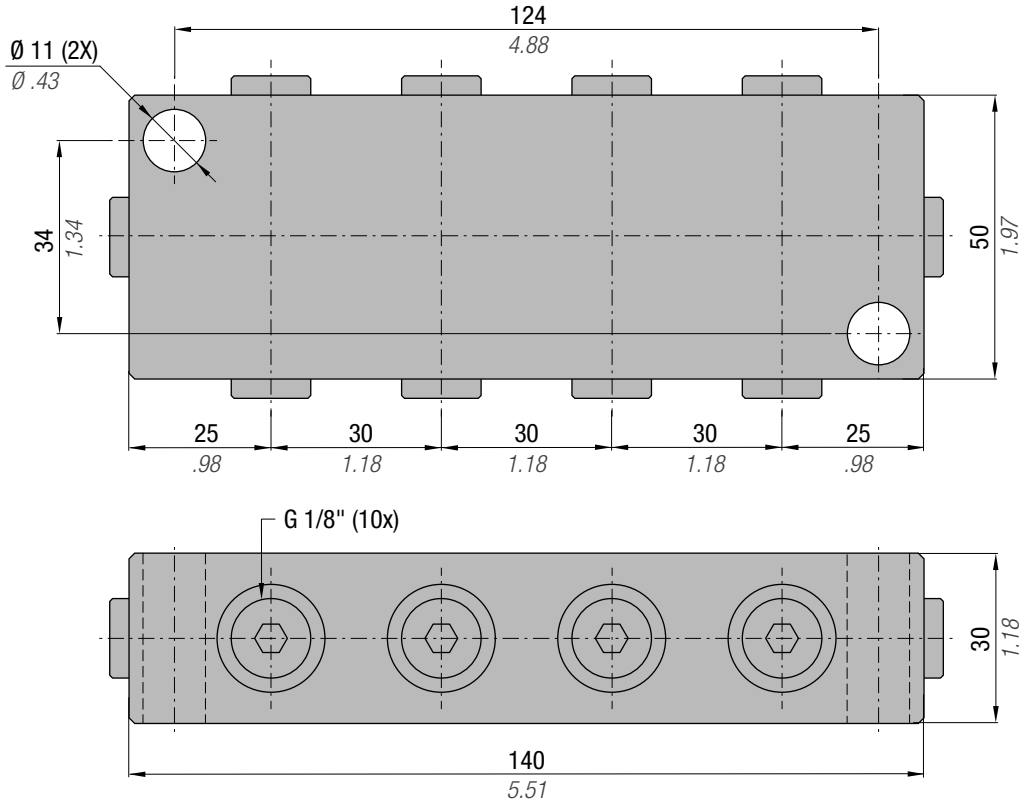
*All dimensions in **mm**/inch*

DISTRIBUTION BLOCKS

code 39BD10A

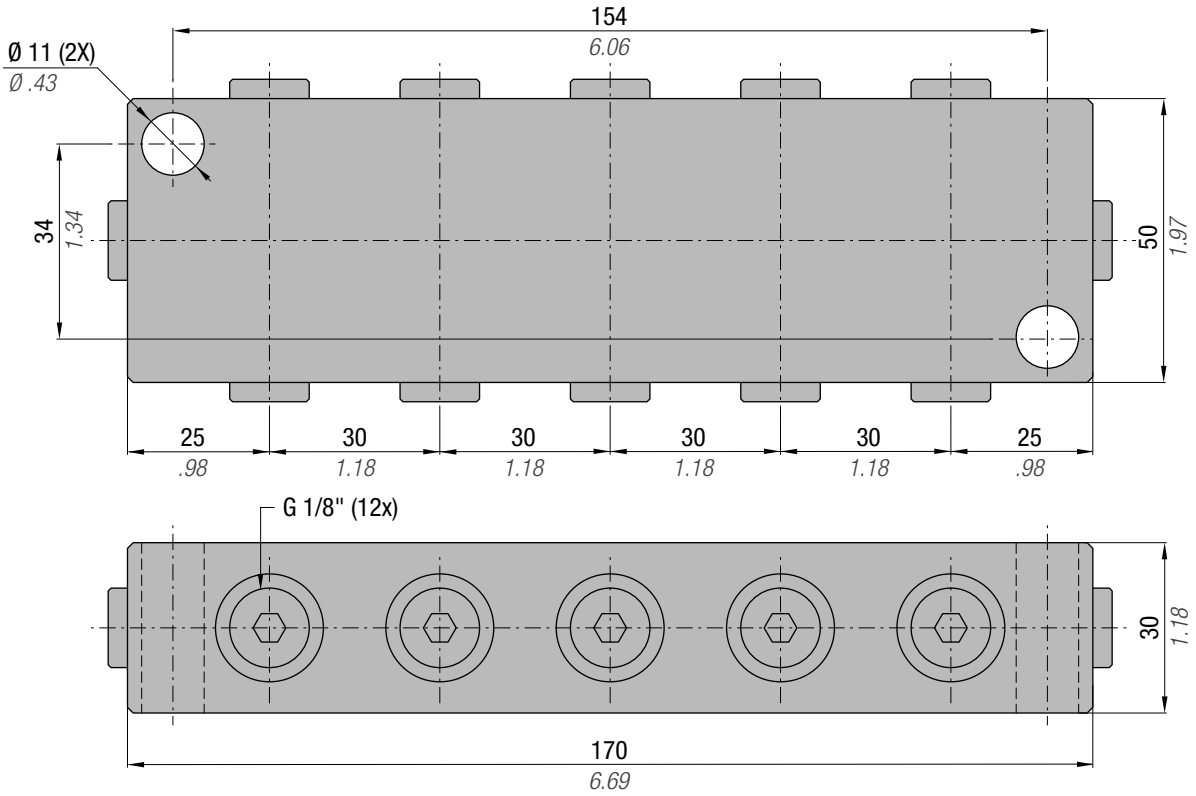


code 39BD1001A

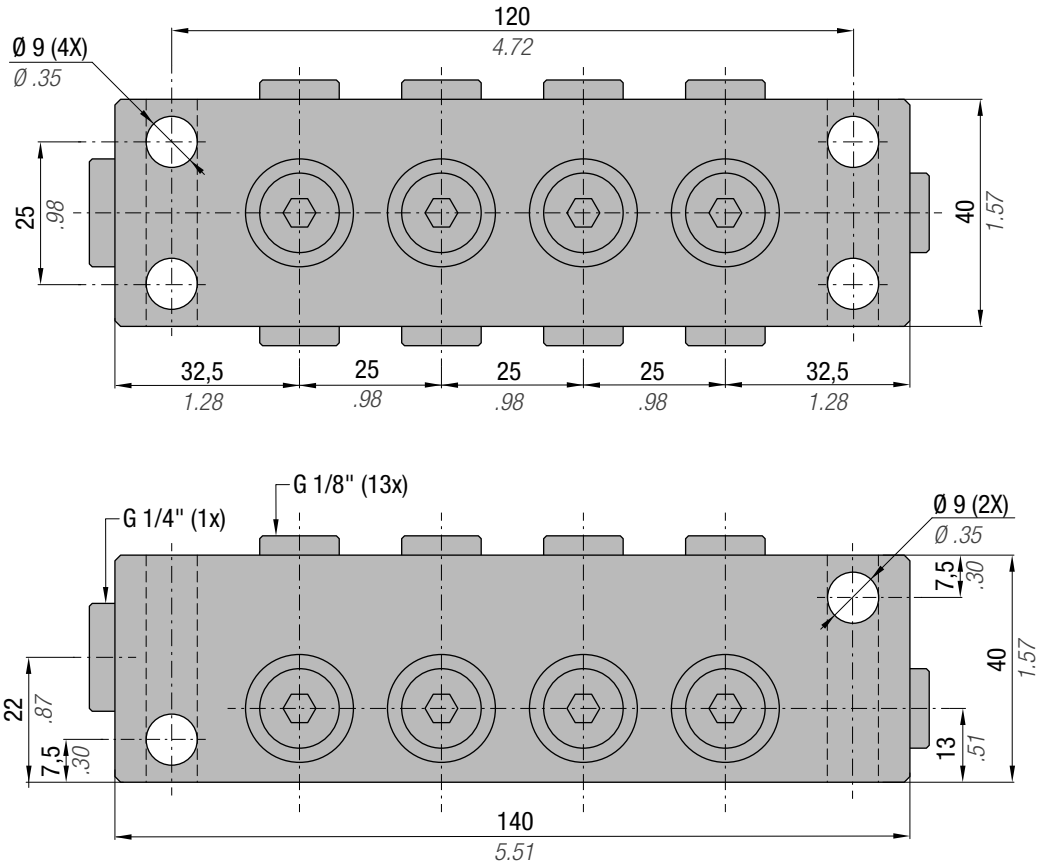


DISTRIBUTION BLOCKS

code 39BD1201A



code 39BD1401A



*All dimensions in **mm**/inch*

COMPENSATION TANKS

IT Nel modo di funzionamento non autonomo i cilindri possono essere collegati ad un polmone di compensazione esterno. Lo scopo principale é contenere l'aumento di pressione nel sistema entro limiti prefissati e minori rispetto al normale incremento dato dalla compressione degli steli-pistoni. La determinazione del volume di compensazione richiesto é facilmente calcolabile applicando la seguente formula:

Vp = n • {[S • x • R / (R-1)] - V0}

Vp = volume del polmone [cm3]
n = numero di cilindri componenti il sistema
S = sezione dello stelo (pistone per serie KE) di ogni singolo cilindro [cm2]
x = corsa effettiva di lavoro [cm]
R = rapporto tra pressione finale ed iniziale del sistema [max 1,4]
V_0 = volume iniziale di ogni singolo cilindro [cm^3]

Esempio:
Forza richiesta ~6000 daN ed R=1,1 (10%). Si scelgono n. 4 SC1500-50 (oppure n. 2 SC3000-50) Il volume richiesto é di circa 1300 cm^3 e quindi la scelta sara' per il polmone tipo PC-3. Un eventuale maggior volume del polmone non é un problema. Inoltre possono essere collegati tra loro piu' polmoni di compensazione per ottenere volumi piu' prossimi a quelli richiesti

EN Gas cylinders operating in non self-contained mode may be connected to a compensation tank. The principal aim is to limit the pressure within the system to a lower figure than would normally be obtained with standard compression rates. The compensation tank volume may be easily found using the following formula:

Vp = n • {[S • x • R / (R-1)] - V0}

Vp = compensation volume [cm3]
n = no. of gas cylinders required.
S = Area of rod (piston for series KE) in [cm2]
x = effective working stroke in [cm]
R = Ratio between final required pressure and initial pressure of the system [max 1,4]
V_0 = Initial volume of each cylinder in [cm^3]

Example:
Force required ~6000 daN and R = 1,1 (10%). No. of cylinders = 4 Type SC1500-50 (or 2 Type SC3000-50). The compensation volume required is approximately 1300 cm^3. Therefore, the compensation tank required will be type PC-3. Extra volume in the tank is generally not a problem, and to obtain more accurate volume, extra tanks may be connected in the system

DE Im gesteuerten, nicht-autonomen Funktionsmodus können die Zylinder an einen Ausgleichspeicher angeschlossen werden. Hauptzweck ist es, den Druckaufbau im System innerhalb der vorgegebenen Grenzwerte und unterhalb der normalen Zunahme durch den Druck der Kolbenstangen zu halten. Die Bestimmung des notwendigen Ausgleichvolumens kann mit folgender Formel leicht errechnet werden:

Vp = n • {[S • x • R / (R-1)] - V0}

Vp = Speichervolumen [cm3]
n = Anzahl der Zylinder im System
S = Stangenquerschnitt (Kolben für Serie KE) jedes einzelnen Zylinders [cm2]
x = tatsächlicher Arbeitshub [cm]
R = Verhältinis zwischen Anfangsund Enddruck des Systems [max 1,4]
V_0 = Anfangsvolumen jedes einzelnen Zylinders [cm^3]

Beispiel:
Benötigte Kraft ca. 6000 daN, R = 1,1 (10%) Nr. 4 SC1500-50 (oder Nr. 2 SC3000-50) Das benötigte Volumen beträgt ca. 1300 cm^3, die Wahl des Speichers fällt daher auf den Typ PC-3. Auch ein eventuelles höheres Speicher volumen stellt kein Problem dar. Außerdem können mehrere Ausgleichspeicher aneinander geschlossen werden, um die benötigten Volumina zu erhalten

FR Dans le mode de fonctionnement non autonome, les vérins peuvent être reliés à un réservoir de compensation.
L'objectif principal est de contenir l'élévation de la pression, dans le système, dans les limites préétablies et inférieures par rapport à l'augmentation normale provoquée par la compression des tiges-pistons.
La détermination du volume de compensation requis se calcule facilement en utilisant la formule suivante:

Vp = n • {[S • x • R / (R-1)] - V0}

Vp = volume du réservoir [cm3]
n = nombre de vérins composant le système
S = section de la tige (piston pour série KE) de chaque vérin [cm2]
x = course réelle de travail [cm]
R = rapport entre pression finale et initiale du système [max 1,4]
V_0 = volume initial de chaque vérin [cm^3]

Exemple:
Force requise env. 6000 daN et R = 1,1 (10%) 4 SC1500-50 (ou bien 2 SC3000-50) Le volume requis est d'environ 1300 cm^3 et le choix se portera donc sur le réservoir de type PC-3. A noter qu'un plus grand volume éventuel du réservoir ne représente pas un problème. De plus, les réservoirs peuvent être couplés pour obtenir les volumes voisinant ceux requis.

*All dimensions in **mm**/inch*

COMPENSATION TANKS

ES Los cilindros de gas en funcionamiento no autónomo pueden conectarse a un pulmón de compensación. El objetivo principal es limitar la presión del sistema, reduciéndola a un valor menor que el que normalmente se obtendría con tasas de compresión standard. El volumen del pulmón de compensación puede calcularse fácilmente mediante la siguiente fórmula:

Vp = n • {[S • x • R / (R-1)] - V0}

Vp = volumen de compensación [cm3]
n = nº de cilindros de gas existentes en el sistema.
S = Área del vástago (pistón en la serie KE) de cada cilindro en [cm2]
x = carrera efectiva en [cm]
R = Cociente entre la presión final necesaria y la presión inicial del sistema [max 1,4]
V0 = Volumen inicial de cada cilindro en [cm3]

Ejemplo:
Fuerza necesaria ~6000 daN y R = 1,1 (10%).
Nº de cilindros = 4 Tipo SC1500-50 (ó 2 Tipo SC3000-50). El volumen de compensación necesario es de aproximadamente 1300 cm^3. Por lo tanto, el pulmón de compensación será del tipo PC-3. Por lo general, un pulmón con volumen extra no constituye problema. Para obtener un volumen más exacto, puede ser necesario conectar más pulmones al sistema

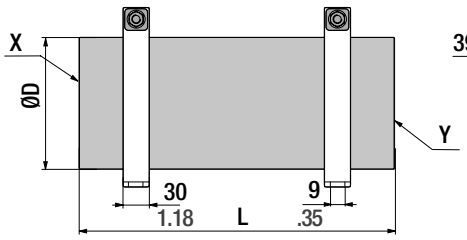
PT Os cilindros de gás que operam em modo não autónomo podem ser ligados a um depósito de compensação. O principal objectivo é limitar o aumento de pressão dentro do sistema a um valor inferior ao que se obteria normalmente com taxas de compressão normalizadas. O volume do depósito de compensação pode ser facilmente determinado utilizando a fórmula seguinte:

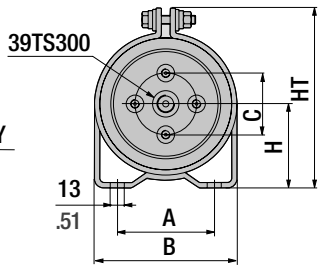
Vp = n • {[S • x • R / (R-1)] - V0}

Vp = volume de compensação [cm^3]
n = nº de cilindros de gás necessários.
S = Área do embolo (pistão para a série KE) em [cm2]
x = curso de trabalho efectivo em [cm]
R = Relação entre a pressão final requerida e a pressão inicial do sistema [max 1,4]
V0 = Volume inicial de cada cilindro em [cm3]

Exemplo:
Força requerida ~6000 daN e R = 1,1 (10%).
Nº de cilindros = 4 Tipo SC1500-50 (ou 2 Tipo SC3000-50). O volume de compensação requerido é de aproximadamente 1300 cm^3. Logo, o depósito de compensação requerido é do tipo PC-3. O volume suplementar no depósito não é geralmente um problema e, para obter um volume mais preciso, podem ser ligados ao sistema depósitos suplementares

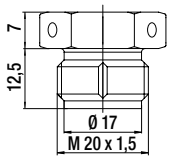
Codice Code Bestellnr. Code Codigo Còdigo	Ø D		L		A		H		HT		B		Faccia X X Side Seite X Face X Cara X Face X	Faccia Y Y Side Seite Y Face Y Cara Y Face Y	C		Raccordi Fittings Anschlüsse Raccords Racores Ligações	Volume Volume Volumen Volume Volumen Volume		PED 2014/68/EU
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			mm	inch		cm^3	in^3	
39PC001A	100	3.94	290	11.42	90	3.54	58	2.28	140	5.51	125	4,.20	G1/8" (3x)	G1/8" (4x)	40	1.57		1000	61.02	✓
39PC003A	150	5.91	310	12.20	136	5.35	83	3.27	190	7.48	172	6.77	G1/8" (4x)	G1/8" (4x)	70	2.76	RTC	3000	183.07	✓
39PC005A	150	5.91	475	18.70	136	5.35	83	3.27	190	7.48	172	6.77	G1/8" (4x)	G1/8" (4x)	70	2.76	RMTC	5000	305.12	✓
39PC008A	200	7.87	415	16.34	212	8.35	108	4.25	242	9.53	252	9.92	G1/8" (6x)	G1/8" (6x)	97	3.82	RSMPTD	8000	488.18	✓
39PC010A	200	7.87	505	19.88	212	8.35	108	4.25	242	9.53	252	9.92	G1/8" (6x)	G1/8" (6x)	97	3.82		9960	607.79	✓

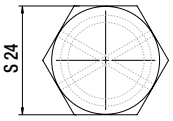




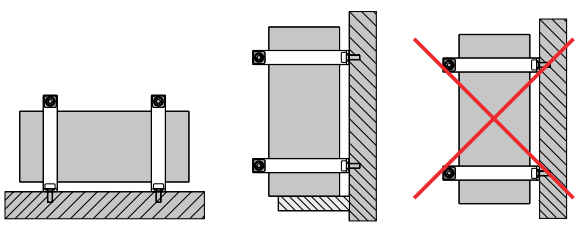
code: 39TS300 (300 bar)

Tappo di sicurezza sovrapressione CE
Overpressure safety plug CE
Überdruck Sicherheitsstecker CE
Bouchon de sécurité surpression CE
Enchufe de seguridad sobrepresion CE
Bujão de segurança sobrepressão CE





Esempio - Example - Beispiel - Exemple - Ejemplo - Exemplo:



IT Pressione massima di caricamento: P= 150 bar
EN Maximum charging pressure: P= 150 bar
DE Max. Fülldruck: P= 150 bar
FR Pression maximale: P= 150 bar
ES Presión màxima de carga: P= 150 bar
PT Pressão màxima de carregamento: P= 150 bar



*All dimensions in **mm**/inch*

AIR SYSTEMS TANKS

IT Le tabelle sotto riportate devono essere utilizzate, in fase di progettazione, per determinare il numero, il volume e le dimensioni dei serbatoi aria a bordo stampi. Tabella volumi (litri): volume d'aria necessario per cilindro ad azoto in relazione al diametro e alla corsa.

EN The tables below must be used, during design, to define the number, volume and sizes of the air tanks on the dies. Volume table (litres): volume of air needed for the pneumatic cylinder in relation to the diameter and stroke.

DE Die untenstehenden Tabellen werden in der Planungsphase für die Bestimmung der Anzahl, des Volumens und der Abmessung der Luftbehälter am Rand der Formen benutzt. Tabelle der Volumen (Liter): Das für Pneumatikzylinder in Bezug auf Durchmesser und Hub notwendige Luftvolumen.

FR Les tableaux reportés ci-dessous doivent être utilisés, lors de la conception, pour déterminer le nombre, le volume et les dimensions des réservoirs d'air sur le bord des moules. Tableau des volumes (litres) : volume d'air nécessaire par cylindre pneumatique par rapport au diamètre et à la course.

ES Las tablas propuestas abajo deben ser utilizadas, en la fase de diseño, para determinar el número, el volumen y las dimensiones de los tanques de aire de los utillajes. Tabla de volúmenes (litros): volumen de aire necesario por cada cilindro de nitrógeno en relación al diámetro y a la carrera.

PT As tabelas abaixo devem ser usadas na fase de design de forma a detarminar o número, o volume e o tamanho do reservatório de ar da ferramenta.

Cilindri ad Azoto **Gas Springs** **Gasdruckfedern** **Ressorts à Gaz** **Cilindros de Gas** **Cilindros de Nitrogênio**		**Corse standard - Standard Strokes - Standardhübe - Course standard - Carreras estándar - Cursos standard** **mm** | *inch*															
		25	*0.98*	**40**	*1.57*	**50**	*1.97*	**60**	*2.36*	**75**	*2.95*	**100**	*3.94*	**125**	*4.92*	**150**	*5.91*	**175**	*6.89*
mm	*inch*	**Volume - Volume - Volumens - Volume - Volumen - Volume** **dm³** | *in³*																	
Ø 32	*Ø 1.26*	**0,020**	*1.220*	**0,032**	*1.953*	**0,040**	*2.441*	**0,048**	*2.929*	**0,060**	*3.661*	**0,080**	*4.882*	**0,100**	*6.102*	**0,120**	*7.323*	**0,140**	*8.543*
Ø 40	*Ø 1.57*	**0,031**	*1.892*	**0,050**	*3.051*	**0,063**	*3.844*	**0,075**	*4.577*	**0,094**	*5.736*	**0,126**	*7.689*	**0,157**	*9.581*	**0,189**	*11.533*	**0,221**	*13.486*
Ø 50	*Ø 1.97*	**0,049**	*2.990*	**0,078**	*4.760*	**0,098**	*5.980*	**0,118**	*7.201*	**0,147**	*8.970*	**0,196**	*11.961*	**0,245**	*14.951*	**0,294**	*17.941*	**0,343**	*20.931*
Ø 63	*Ø 2.48*	**0,078**	*4.760*	**0,125**	*7.628*	**0,158**	*9.642*	**0,187**	*11.411*	**0,234**	*14.280*	**0,312**	*19.039*	**0,390**	*23.799*	**0,488**	*29.780*	**0,546**	*33.319*
Ø 80	*Ø 3.15*	**0,126**	*7.689*	**0,201**	*12.266*	**0,251**	*15.317*	**0,302**	*18.429*	**0,377**	*23.006*	**0,503**	*30.700*	**0,528**	*32.221*	**0,754**	*46.012*	**0,880**	*53.701*
Ø 100	*Ø 3.94*	**0,196**	*11.961*	**0,314**	*19.161*	**0,393**	*23.982*	**0,471**	*28.742*	**0,589**	*35.943*	**0,785**	*47.904*	**0,982**	*59.925*	**1,177**	*71.825*	**1,374**	*83.847*
Ø 125	*Ø 4.92*	**0,308**	*18.795*	**0,491**	*29.963*	**0,614**	*37.469*	**0,738**	*45.036*	**0,920**	*56.142*	**1,227**	*74.876*	**1,534**	*93.610*	**1,841**	*112.34*	**2,147**	*131.02*
Ø 160	*Ø 6.30*	**0,502**	*30.634*	**0,804**	*49.063*	**1,005**	*61.329*	**1,208**	*73.717*	**1,508**	*92.024*	**2,010**	*122.66*	**2,513**	*153.35*	**3,016**	*184.05*	**3,519**	*214.74*
Ø 200	*Ø 7.87*	**0,785**	*47.904*	**1,257**	*76.707*	**1,571**	*95.868*	**1,885**	*115.03*	**2,356**	*143.77*	**3,142**	*191.74*	**3,928**	*239.70*	**4,712**	*287.54*	**5,498**	*335.51*

IT Per cilindri pneumatici funzionanti a doppio effetto (d.e.) determinare il volume attraverso la tabella.
Per cilindri pneumatici funzionanti a semplice effetto (s.e.) determinare sempre il volume tramite la tabella e moltiplicare il risultato ottenuto per 3. Sommare tutti i volumi dei vari cilindri pneumatici a bordo stampo per ricavare la capacità totale (dm^3) del serbatoio. Scegliere il serbatoio in relazione alla capacità totale ricavata (dm^3) ed allo spazio disponibile sullo stampo.

EN For double acting pneumatic cylinders (d.e.) use the table to define the volume.
For single-acting pneumatic cylinders (s.e.) still use the table to define the volume and multiply the result obtained by 3.
Add all the volumes of the various pneumatic cylinders on the die to obtain the total capacity (dm^3) of the tank.
Choose the tank in relation to the total capacity obtained (dm^3) and to the space available on the die.

DE Für Pneumatikzylinder mit Doppeleffekt (d.e.) wird das Volumen auf Grund der Tabelle bestimmt.
Für Pneumatik Zylindern mit Einzeleffekt (s.e.) immer das Volumen aufgrund der Tabelle bestimmen, dann das Ergebnis miti 3 multiplizieren. Alle Volumen der verschiedene Pneumatik Zylindern am Form summen, um das totale Fassungsvermögen des Tanks (dm3) zu erzielen. Den Tankbehälter gemäß dem bestimmten Fassungsvermögen (dm3) und gemäß dem verfügbaren Raum auf der Form auswählen.

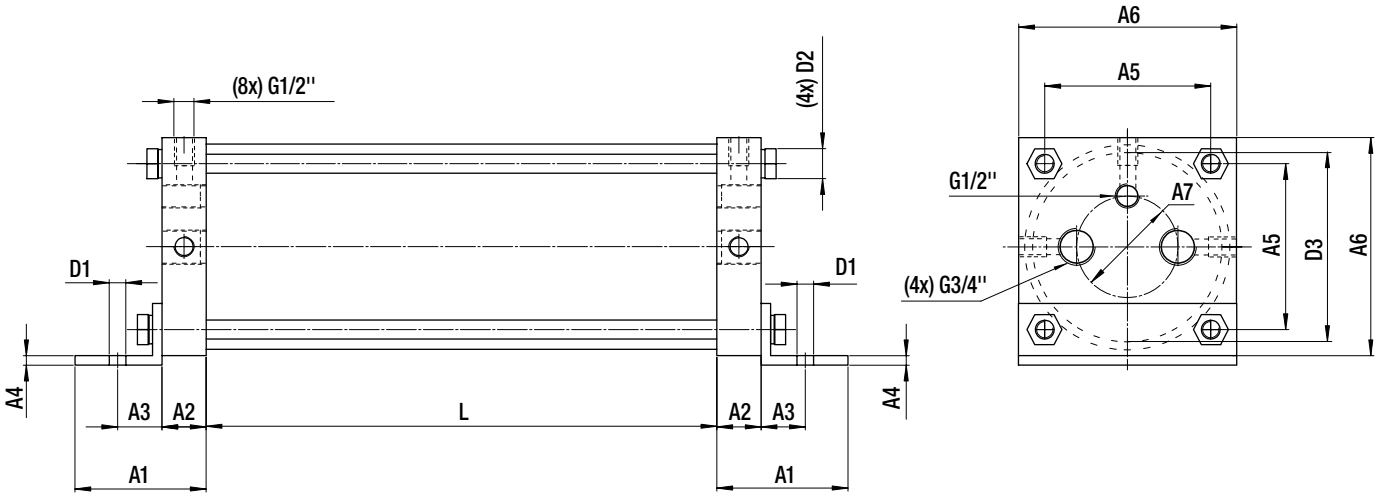
FR Pour les cylindres pneumatiques fonctionnant à double effet (d.e.), déterminer le volume au moyen du tableau. Pour les cylindres pneumatiques fonctionnant à effet simple (s.e.), déterminer toujours le volume au moyen du tableau et multiplier le résultat obtenu par 3. Sommer tous les volumes des différents cylindres pneumatiques sur le bord du moule pour obtenir la capacité totale (dm^3) du réservoir. Choix du réservoir par rapport à la capacité totale obtenue (dm^3) et à l'espace disponible sur le moule.

ES Para cilindros neumáticos de doble efecto (d. e.) determinar el volumen por medio de la tabla.
Para cilindros neumáticos de simple efecto (s. e.) determinar siempre el volumen por medio de la tabla y multiplicar el resultado obtenido por 3. Sumar todos los volúmenes de los diferentes cilindros neumáticos del útil para calcular la capacidad total (dm3) del depósito. Seleccionar el depósito en relación a la capacidad total obtenida (dm3) y al espacio disponible en el troquel.

PT Para cilindros pneumáticos de duplo efeito (d.e), o volume deve ser determinado de acordo com a tabela. Para cilindros pneumáticos de efeito único, o volume deve ser determinado de acordo com a mesma tabela. o resultado deve ser multipicado por3. Para saber a capacidade total (litros) do reservatório, deve somar todos os volumes dos cilindros pneumáticos A escolha da capacidade do reservatório, está relacionada com o cálculo da capacidade total (litros) e o espaço disponivél na ferramenta.

*All dimensions in **mm**/inch*

AIR SYSTEMS TANKS



Codice Code Bestellnr. Code Codigo Còdigo	Volume Volume Volumen Volume Volumen Volume		A1		A2		A3		A4		A5		A6		A7		D1		D2	D3		L		Peso Weight Gewicht Poids Peso Peso		PED 2014/68/EU
	dm³	in³	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	mm	inch	mm	inch	~Kg	~lb	
39SRA1003A	3	0,12	83	3,27	28	1,10	34	1,34	6	,24	105	4,13	138	5,43	65	2,56	10,5	,41	M12	120	4,72	271	10,67	14,0	30,9	✓
39SRA1004A	4	0,16	83	3,27	28	1,10	34	1,34	6	,24	105	4,13	138	5,43	65	2,56	10,5	,41	M12	120	4,72	360	14,17	15,7	34,6	✓
39SRA1005A	5	0,20	83	3,27	28	1,10	34	1,34	6	,24	105	4,13	138	5,43	65	2,56	10,5	,41	M12	120	4,72	449	17,68	17,4	38,4	✓
39SRA1006A	6	0,24	83	3,27	28	1,10	34	1,34	6	,24	105	4,13	138	5,43	65	2,56	10,5	,41	M12	120	4,72	538	21,18	19,1	42,1	✓
39SRA1008A	8	0,31	83	3,27	28	1,10	34	1,34	6	,24	105	4,13	138	5,43	65	2,56	10,5	,41	M12	120	4,72	716	28,19	22,5	49,6	✓
39SRA2003A	3	0,12	83	3,27	28	1,10	34	1,34	6	,24	127	5,00	168	6,61	80	3,15	12,5	,49	M12	150	5,91	175	6,89	17,2	37,9	✓
39SRA2004A	4	0,16	83	3,27	28	1,10	34	1,34	6	,24	127	5,00	168	6,61	80	3,15	12,5	,49	M12	150	5,91	232	9,13	18,4	40,6	✓
39SRA2005A	5	0,20	83	3,27	28	1,10	34	1,34	6	,24	127	5,00	168	6,61	80	3,15	12,5	,49	M12	150	5,91	289	11,38	19,7	43,4	✓
39SRA2006A	6	0,24	83	3,27	28	1,10	34	1,34	6	,24	127	5,00	168	6,61	80	3,15	12,5	,49	M12	150	5,91	346	13,62	21,0	46,3	✓
39SRA2008A	8	0,31	83	3,27	28	1,10	34	1,34	6	,24	127	5,00	168	6,61	80	3,15	12,5	,49	M12	150	5,91	460	18,11	23,6	52,0	✓
39SRA2010A	10	0,39	83	3,27	28	1,10	34	1,34	6	,24	127	5,00	168	6,61	80	3,15	12,5	,49	M12	150	5,91	574	22,60	26,2	57,8	✓
39SRA2012A	12	0,47	83	3,27	28	1,10	34	1,34	6	,24	127	5,00	168	6,61	80	3,15	12,5	,49	M12	150	5,91	688	27,09	28,7	63,3	✓
39SRA3004A	4	0,16	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	132	5,20	26,3	58,0	✓
39SRA3005A	5	0,20	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	164	6,46	27,3	60,2	✓
39SRA3006A	6	0,24	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	196	7,72	28,3	62,4	✓
39SRA3008A	8	0,31	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	260	10,24	30,3	66,8	✓
39SRA3010A	10	0,39	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	324	12,76	32,4	71,4	✓
39SRA3012A	12	0,47	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	388	15,28	34,4	75,8	✓
39SRA3015A	15	0,59	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	484	19,06	37,4	82,5	✓
39SRA3018A	18	0,71	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	580	22,83	40,4	89,0	✓
39SRA3022A	22	0,87	83	3,27	28	1,10	34	1,34	6	,24	163	6,42	218	8,58	120	4,72	12,5	,49	M16	200	7,87	708	27,87	44,4	97,9	✓

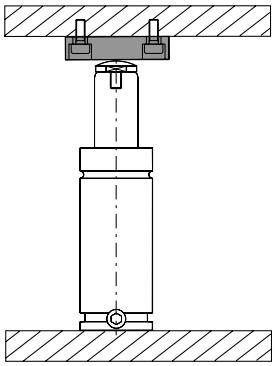


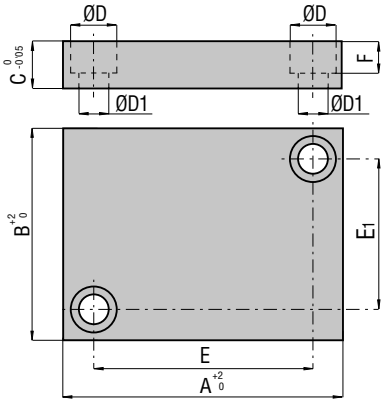
50°C	122°F	Temperatura max esercizio - Max. operating temperature - max. Betriebstemperatur Température maximum de fonctionnement - Temperatura máx. de funcionamiento - Temepratura Max operacional.
15 bar	218 psi	P. max esercizio - Maximum operating pressure - max: Betriebsdruck Pression Max de Fonctionnement - Presión máxima de funcionamiento - Pressão máxima de operação.
25 bar	363 psi	Pressione di collaudo - Testing pressure - Druckprüfung Pression d'essais - Presión de prueba - Pressão de teste.

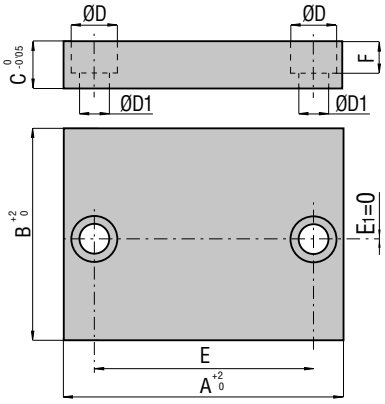
*All dimensions in **mm**/inch*

ACCESSORIES

IT	**Piastra di contrasto**	Temperato
EN	**Counter plate**	Hardened
DE	**Stellplatten**	Gehärtet
FR	**Plaques d'appui**	Tempré
ES	**Placas de apoyo**	Templado
PT	**Placas de apoi**	Temperado







CODE		A		B		C		Ø D		Ø D1		E		E1		F		d	
PHASING OUT	NEW	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
PS040040	39PA040040A [1) 5)]	40	1.57	40	1.57	15	0.59	15	0.59	9	0.35	21	0.83	21	0.83	10	0.39	d ≤ 20	0.79
-	39PAB040040A [4) 7)]	40	1.57	40	1.57	12	0.47	11	0.43	7	0.28	24	0.94	24	0.94	7	0.28	d ≤ 20	0.79
-	39PAA040040A	40	1.57	40	1.57	15	0.59	11	0.43	7	0.28	24	0.94	24	0.94	7	0.28	d ≤ 20	0.79
PS056056	39PA056056A [3) 5)]	56	2.20	56	2.20	20	0.79	18	0.71	11	0.43	32	1.26	32	1.26	13	0.51	d ≤ 36	1.42
-	39PA060060A [4) 7)]	60	2.36	60	2.36	15	0.59	15	0.59	9	0.35	40	1.57	40	1.57	9	0.35	d ≤ 36	1.42
-	39PAA060060A [6)]	60	2.36	60	2.36	12	0.47	14	0.55	9	0.35	38	1.5	38	1.5	9	0.35	d ≤ 36	1.42
-	39PA070070A [1)4)7)]	70	2.76	70	2.76	15	0.59	15	0.59	9	0.35	50	1.97	50	1.97	9	0.35	d ≤ 60	2.36
PS071071	39PA071071A [5)]	71	2.80	71	2.80	20	0.79	18	0.71	11	0.43	48	1.89	48	1.89	13	0.51	d ≤ 60	2.36
-	39PA080080A [2)]	80	3.15	80	3.15	16	0.63	15	0.59	9	0.35	62	2.44	0	0	10	0.39	d ≤ 65	2.56
-	39PAB090090A	90	3.54	90	3.54	12	0.47	15	0.59	9	0.35	64	2.52	64	2.52	9	0.35	d ≤ 80	3.15
-	39PAA090090A [1)]	90	3.54	90	3.54	15	0.59	15	0.59	9	0.35	70	2.76	70	2.76	9	0.35	d ≤ 80	3.15
-	39PA090090A [2)3)5)]	90	3.54	90	3.54	20	0.79	18	0.71	11	0.43	67	2.64	67	2.64	13	0.51	d ≤ 80	3.15
-	39PAC090090A [6)]	90	3.54	90	3.54	12	0.47	14	0.55	9	0.35	70	2.76	70	2.76	9	0.35	d ≤ 80	3.15
-	39PA100100A [2)]	100	3.94	100	3.94	16	0.63	15	0.59	9	0.35	82	3.23	0	0	10	0.39	d ≤ 90	3.54
-	39PAA100100A [4) 7)]	100	3.94	100	3.94	20	0.79	18	0.71	11	0.43	74	2.91	74	2.91	11	0.43	d ≤ 90	3.54
-	39PAB100100A [6)]	100	3.94	100	3.94	12	0.47	14	0.55	9	0.35	81	3.19	81	3.19	9	0.35	d ≤ 90	3.54
-	39PAA140140A [4)]	140	5.51	140	5.51	20	0.79	18	0.71	11	0.43	110	4.33	110	4.33	11	0.43	d ≤ 130	5.12
-	39PA140140A [3) 5)]	140	5.51	140	5.51	20	0.79	18	0.71	11	0.43	110	4.33	110	4.33	13	0.51	d ≤ 130	5.12
PS050025	39PA050025A [1) 5)]	50	1.97	25	0.98	12	0.47	11	0.43	7	0.28	32	1.26	8	0.31	8	0.31	d ≤ 15	0.59
39PA050030A [5)]	-	50	1.97	30	1.18	12	0.47	11	0.43	7	0.28	40	1.57	14	0.55	8	0.31	d ≤ 20	0.79
-	39PA050030B [5)]	50	1.97	30	1.18	12	0.47	11	0.43	7	0.28	35	1.38	14	0.55	7	0.28	d ≤ 20	0.79
PS055030	39PA055030A [1)]	55	2.17	30	1.18	12	0.47	11	0.43	7	0.28	40	1.57	14	0.55	8	0.31	d ≤ 20	0.79
-	39PA055032A [2)]	55	2.17	32	1.26	16	0.63	15	0.59	9	0.35	37	1.46	0	0	10	0.39	d ≤ 20	0.79
-	39PA065050A [2)]	65	2.56	50	1.97	16	0.63	15	0.59	9	0.35	47	1.85	0	0	10	0.39	d ≤ 36	1.42
PS070035	39PA070035A [1) 5)]	70	2.76	35	1.38	15	0.59	15	0.59	9	0.35	48	1.89	14	0.55	10	0.39	d ≤ 30	1.18
PS075050	39PA075050A [1) 5)]	75	2.95	50	1.97	15	0.59	15	0.59	9	0.35	56	2.2	30	1.18	10	0.39	d ≤ 36	1.42
-	39PA080060A [2)]	80	3.15	60	2.36	16	0.63	15	0.59	9	0.35	62	2.44	0	0	10	0.39	d ≤ 55	2.17
-	39PAA085060A [5)]	85	3.35	60	2.36	15	0.59	15	0.59	9	0.35	56	2.2	40	1.57	10	0.39	d ≤ 55	2.17
PS085060	39PA085060A [1)]	85	3.35	60	2.36	15	0.59	15	0.59	9	0.35	66	2.6	40	1.57	10	0.39	d ≤ 55	2.17
PS100080	39PA100080A [1) 5)]	100	3.94	80	3.15	20	0.79	18	0.71	11	0.43	72	2.83	56	2.2	12	0.47	d ≤ 70	2.76
PS110100	39PA110100A [5)]	110	4.33	100	3.94	20	0.79	18	0.71	11	0.43	85	3.35	75	2.95	12	0.47	d ≤ 100	3.94

[1)] VDI 3003 [2)] Volvo [3)] Renault [4)] Volkswagen [5)] FCA [6)] Mercedes Benz [7)] BMW

*All dimensions in **mm**/inch*

ACCESSORIES

IT	**Piastra di contrasto**	Temperato
EN	**Counter plate**	Hardened
DE	**Stellplatten**	Gehärtet
FR	**Plaques d'appui**	Tempré
ES	**Placas de apoyo**	Templado
PT	**Placas de apoi**	Temperado

CODE	Ø A		Ø B		C		D		Ø E		Ø F		d	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
⚠ 39PA050A 8)	50	1.97	29,6	1.17	15	0.59	10	0.39	15	0.59	9	0.35	d ≤ 15	0.59
⚠ 39PA070A 8)	70	2.76	45,2	1.78	20	0.79	13	0.51	18	0.71	11	0.43	d ≤ 25	0.98
⚠ 39PA094A 8)	94	3.70	67,8	2.67	20	0.79	13	0.51	18	0.71	11	0.43	d ≤ 50	1.97

8) Fiat

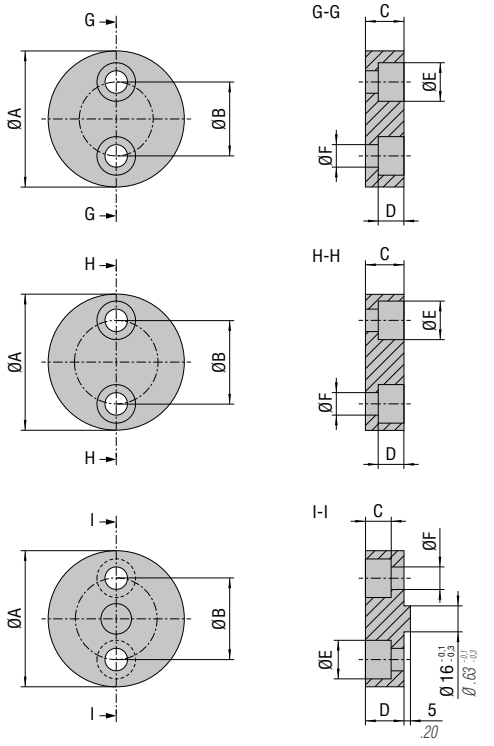
⚠ Phasing out

CODE	Ø A		Ø B		C		D		Ø E		Ø F		d	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
39PA050B 5)	50	1.97	21	0.83	15	0.59	10	0.39	15	0.59	9	0.35	d ≤ 15	0.59
39PA070B 5)	70	2.76	32	1.26	20	0.79	13	0.51	18	0.71	11	0.43	d ≤ 25	0.98
39PA094B 5)	94	3.70	48	1.89	20	0.79	13	0.51	18	0.71	11	0.43	d ≤ 50	1.97

5) FCA

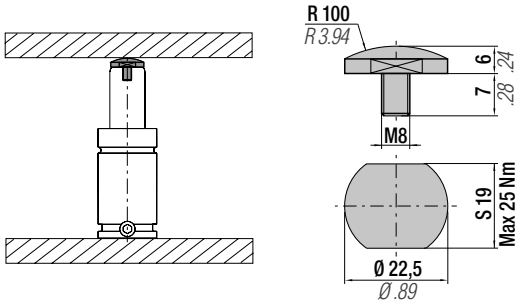
CODE	Ø A		Ø B		C		D		Ø E		Ø F		d	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
39PA098A 4)	98	3.86	73	2.87	13	0.51	20	0.79	20	0.79	13,5	0.53	d ≤ 50	1.97
39PA113A 4)	113	4.45	88	3.46	13	0.51	20	0.79	20	0.79	13,5	0.53	d ≤ 65	2.58
39PA128A 4)	128	5.04	103	4.06	13	0.51	20	0.79	20	0.79	13,5	0.53	d ≤ 80	3.15
39PA143A 4)	143	5.63	118	4.65	13	0.51	20	0.79	20	0.79	13,5	0.53	d ≤ 95	3.74

4) Volkswagen



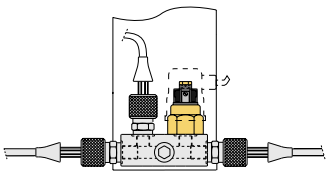
code FA 022

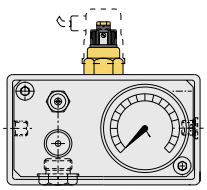
IT	**Calotta**	Temperato	**49 - 52 HRC**
EN	**Thrust plates**	Hardened	
DE	**Schaftkappe**	Gehärtet	
FR	**Calotte pour tiges**	Tempré	
ES	**Casquillo para vástagos**	Templado	
PT	**Calote para embolo**	Temperado	



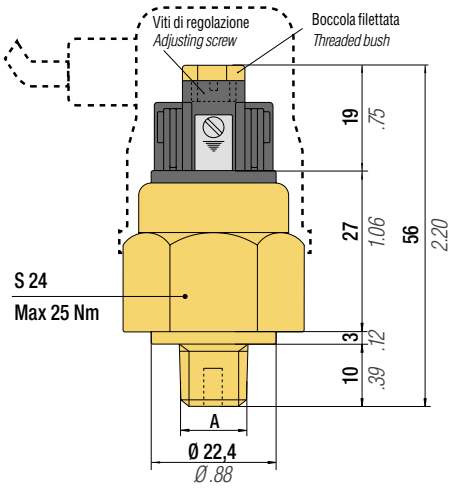
PRESSURE SWITCH

IT	**Pressostato**	Tensione di lavoro 48 V max	Normalmente aperto
EN	**Pressure switch**	Operating voltage 48 V max	Normally opened
DE	**Druckwächter**	Arbeitsspannung 48 V max	Normalerweise offen
FR	**Pressostat**	Tension d'utilisation 48 V max	Normalement ouvert
ES	**Presostato**	Tensión de trabajo 48 V max	Normalmente abierto
PT	**Pressostato**	Tensão de Trabalho 48 V max	Normalmente aberto





CODE	A	Range
PMM150A	1/8 " BSPT	50:150 bar
PMM300A	1/8 " BSPT	50:300 bar
PMM150A01	1/4 " BSPT	50:150 bar
PMM300A01	1/4 " BSPT	50:300 bar



*All dimensions in **mm**/inch*

ACCESSORIES

code 39DMA



IT Dispositivo completo per le operazioni di controllo, riduzione/aumento della pressione o caricamento di cilindri autonomi e sistemi collegati.

EN Complete device designed and built for checking operations, decreasing/increasing pressure, or charging self-contained gas springs and linked systems.

DE Komplette Vorrichtung zur Kontrolle Operationen, Verminderung / Erhöhung des Drucks, oder Ladung die Selbst-ständigen gasdruckfedern und verbundenen Systemen.

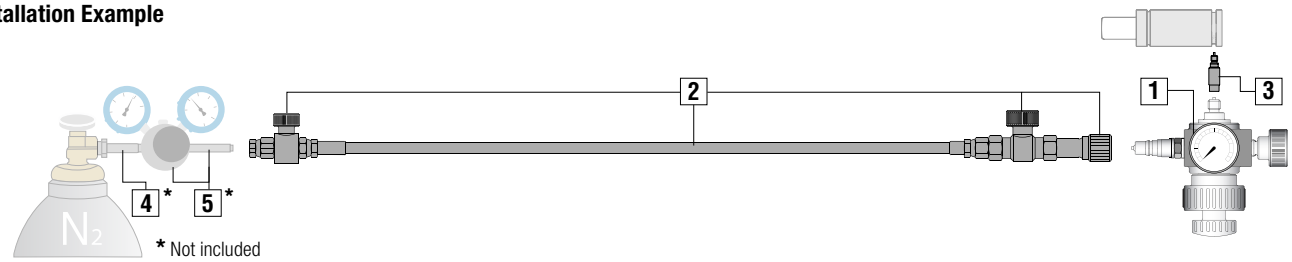
FR Dispositif complet pour les opérations de contrôle, réduction/augmentation de la pression ou chargement de cylindres autonomes et systèmes reliés.

ES Dispositivo completo para las operaciones de control, reducción/aumento de la presión o carga de cilindros autónomos y sistemas conectados.

PT Dispositivo completo para as operações de controle, redução/aumento da pressão ou carregamento dos cilindros autônomos e sistemas conectados.

Box content:	
1	39DMCILA (1 pcs)
2	39DMCPVA (1 pcs) included 39IR01A (1 pcs)
3	ADM01 (1 pcs) - ADM02 (1 pcs) - ADM03 (1 pcs) - ADM04 (1 pcs) - ADM05 (1 pcs) - ADM06 (1 pcs) - ADM08 (1 pcs) - ADM09 (1 pcs)
-	Declaration of CE conformity - User manual

Installation Example



4*	Attacco per bombola - Connection for bottle - Ansatz für die Flasche - Décapage pour bombonne - Conexión para bombona - Ataque a Bottle p.324
5*	Riduttore di pressione - Pressure reducer - Druckminderer - Réducteur de pression - Reductor de presión - Redutor de pressão p.325

code 39DMCILA



IT Manometro 0 ÷ 315 bar - 2 manopole - valvola di riduzione/scarico pressione - adattatore fisso G1/8"- attacco rapido maschio Cejn.

EN 0 ÷ 315 bar gauge - 2 hand knobs– pressure limitation/discharging valve - G1/8" built in adapter - quickfit male Cejn.

DE Manometer 0 ÷ 315 bar - 2 Drehknopfs - Entlüftungsventil - fester Adapter G1/8" - Schnellverschlusskupplung Stecker Cejn.

FR Manomètre 0 ÷ 315 bar - 2 poignées - soupape de réduction/déchargement pression - Adaptateur fixe G1/8" - enclenchement instantané mâle Cejn.

ES Manómetro 0 ÷ 315 bar - 2 manillas - válvula de reducción/descarga de presión - adaptador fijo G1/8"- en-chufe rápido macho Cejn.

PT Manômetro 0 ÷ 315 bar/psi - 2 manoplas - válvula de redução/descarga pressão - adaptador fixo G1/8"- engate rápido macho Cejn.

code	ith Mt hose
39DMCPVA	3 mt
39DMCPVA-5M	5 mt



IT mt di tubo - attacco rapido femmina Cejn - valvola ON/OFF - valvola di scarico tubo - 1 innesto rapido supplementare (cod. 39IR01A - SOLO PER CPVB - CPVD).

EN Mt high pressure hose- quickfit female Cejn- shut-off valve- hose release valve –additional quick coupling (cod. 39IR01A - ONLY FOR CPVB - CPVD).

DE Meter Schlauch- Schnellverschlusskupplung Muffe Cejn- Sperrventil- Rohr Ablassventil- 1 zusätzliche Schnell-verschluss Kupplung (im. 39IR01A - NUR FÜR CPVB-CPVD KONTROLLARMATUR).

FR m de tuyau – enclenchement instantané femelle Cejn – soupape ON/OFF – soupape de déchargement tuyau - 1 enclenchement instantané supplémentaire (cod. 39IR01A - UNIQUEMENT POUR CPVB - CPVD).

ES mt de tubo - enchufe rápido hembra Cejn - válvula ON/OFF - válvula de descarga tubo - 1 enchufe rápido suple-mentario (cod. 39IR01A - SOLO PARA CPVB - CPVD).

PT mt de tubo – engate rápido fêmea Cejn - válvula ON/OFF - válvula de descarga tubo - 1 engate rápido suplemen-tar (cod. 39IR01A - SOMENTE PARA CPVB - CPVD).

code 39IR01A



ISO 72 - C - 2 - 2 - RP

IT Innesto rapido femmina per dispositivo 39DMCPVA (USARE SOLO CON PANNELLI CPVB - CPVD).

EN Quickfit female coupling for device 39DMCPVA (SUITABLE ONLY FOR CPVB - CPVD PANELS).

DE Schnellverschlusskupplung Muffe für Ausstattung 39DMCPVA (NUR FÜR CPVB - CPVD KONTROLLARMATUR).

FR Enclenchement instantané femelle pour dispositif 39DMCPVA (N'UTILISER QU'AVEC PANNEAUX CPVB - CPVD).

ES Enchufe rápido hembra para dispositivo 39DMCPVA (USO SOLAMENTE CON PANELES CPVB - CPVD).

PT Engate rápido fêmea para dispositivo 39DMCPVA (USE UNICAMENTE COM PAINÉIS CPVB - CPVD).

code 39IRFA

⚠ Only for 39DMCPV



Cejn 358

IT Innesto rapido femmina per dispositivo 39DMCPV (NON USARE CON PANNELLI CPVB - CPVD).

EN Quickfit female coupling for device 39DMCPV (NOT SUITABLE FOR CPVB - CPVD PANELS).

DE Schnellverschlusskupplung Muffe für Ausstattung 39DMCPV (NICHT MIT CPVB - CPVD ARMATUR VERWENDEN).

FR Enclenchement instantané femelle pour dispositif 39DMCPV (NE PAS UTILISER AVEC PANNEAUX CPVB - CPVD).

ES Enchufe rápido hembra para dispositivo 39DMCPV (NO USAR CON PANELES CPVB - CPVD).

PT Engate rápido fêmea para dispositivo 39DMCPV (NÃO USE COM PAINÉIS CPVB - CPVD).

code 39QDFV01 for 1/8G thread
code 39QDFV02 for M6 thread
code 39QDFV03 for M6 thread



IT Adattatore per caricamento diretto con innesto rapido maschio Cejn.

EN Cejn male quick fit adapter for direct charging.

DE Adapter für direkt Ladung mit Schnellverschlusskupplung Stecker Cejn.

FR Adaptateur direct pour le chargement avec enclenchement instantané mâle Cejn.

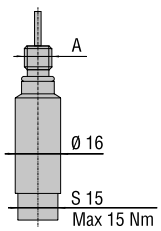
ES Adaptador para carga directa con enchufe rápido macho Cejn.

PT Adaptador direto para la carga con engate râpido macho Cejn.

⚠ ☞ **tab below.**

Code	39QDFV01	39QDFV03	39QDFV02	39QDFV03	39QDFV02	39QDFV02	39QDFV02	39QDFV03	39QDFV01
Modello Model Modell Model Modelo Modelo	ML1800 - 12000 (rev A)	HR300 Cu 5 - 16 HR500 Cu 5 - 16 HR700 Cu 10 - 16 HRF700 Cu 10 - 16 ML500 ML1000 LI400 Cu 13	NE16, NE24 (rev A) HR1000 - 4200 HRF1000 LI900 - 2000	SC150, SC250 SCF250, H300 H500, HF500 HR500 Cu 25 - 125 HR700 Cu 19 - 125 HRF500 Cu 25 - 125 HRF700 Cu 19 - 125 LI400 Cu 25 - 100	K40 ML300	HR200 MCS19 MCS19 - TBM MCS19 - TBI MCS19 - TEM MCS25	NE16 - NE24 (revB) NG16 - NG24 M50 - M70 M90 - MS90 M90 TBM - TBI - TEM M200 - MS200 M300 KE400 - 7500 RV170 - 2400 RS170 - 2400 SC150 - 250 (rev D) H 300 - 500 (rev C) ML300 (rev B+C+D) MP150	ML500-1000 (rev B+C+D) MP300 - 3000 MQ700	SC500 - 10000, SCF500 - 750 H700 - 18500 HF700 - 1000 HR6600 - 11800 LI3200 LS1500 - 9500 KE12000 - 18500 S500 - S3000 RV4200 - RV20000 RS4200 - RS9500 RF750 - RF2400 RG750 - RG6600 RT350 - RT9500 ML1800 - ML12000 (rev B+C+D)
A	G1/8"	M6	M6	M6	M6	M6	M6	M6	G 1/8"
Code	**ADM01**	**ADM02**	**ADM03**	**ADM04**	**ADM05**	**ADM06**	**ADM08**	**ADM09**	Direttamente con 39DMCILA (senza adattatore) Directly with 39DMCILA (without adapter) Direkt mit 39DMCILA (ohne Adapter) Directement avec 39DMCILA (sans adaptateur) Directamente con 39DMCILA (sin adaptador) Directamente com 39DMCILA (sem adaptador)

code ADM...





IT Adattatore per dispositivo 39DMCILA.

EN Adapter for 39DMCILA device.

DE Adapter für 39DMCILA Vorrichtung.

FR Adaptateur pour dispositif 39DMCILA.

ES Adaptador para dispositivo 39DMCILA.

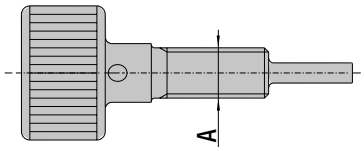
PT Adaptador para dispositivo 39DMCILA.

⚠ ☞ **tab above.**

ACCESSORIES

code 39DDS-...

IT Dispositivo di scaricamento.
EN Discharging device.
DE Ablassvorrichtung.
FR Dispositif de déchargement.
ES Dispositivo de descarga.
PT Dispositivo de descarga.





Code	39DDS-M6/1	39DDS-M6/2	39DDS-M6/3	39DDS-1/8G1	39DDS-1/8G
A	M6	M6	M6	G 1/8"	G 1/8"
Model	MCS K ML (rev. A) HR LI	NE (rev. A) SC (rev. B) H (rev. A) HR LI	NE (rev. B) NG M MS KE ML (rev. B + C) MP RS SC (rev. D) H (rev. C)	K ML (rev. A)	SC H HR LI LS KE ML (rev.B) S RV RS RF RT RG

PHASING OUT

⚠ ☞ **39DDS01A**

⚠ ☞ **39DDS01A**

code 39DDS01A

IT Dispositivo di scaricamento.
EN Discharging device.
DE Ablassvorrichtung.
FR Dispositif de déchargement.
ES Dispositivo de descarga.
PT Dispositivo de descarga.

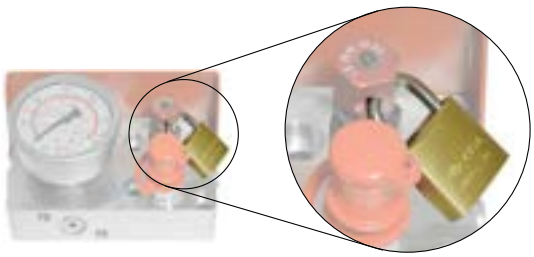
A	M6		
Model	NE (rev. B) NG M MS	KE ML (rev. B-C-D) MP MQ	RV RS SC (rev. D-E) H (rev. C-D)



A	G 1/8"			
Model	SC H HR LI	LS KE ML (rev.B) S	RV RS RF RT	RG

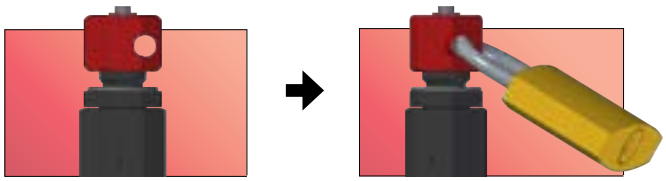
code 58UT029A





IT Lucchetto blocca valvola di scarico.
EN Padlock for discharge valve.
DE Vorhängeschloss für das Ablassventil.
FR Verrou pour soupape de décharge.
ES Candado de bloqueo de la válvula de descarga.
PT Cadeado para tramcar a valvula de descarregamento.

HOW TO USE IT



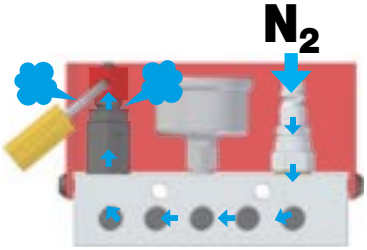
BENEFITS

IT Manutenzioni più sicure e con meno incidenti.
EN Safer maintenance and less accidents.
DE Mehr Sicherheit bei der Wartung und weniger Unfälle.
FR Un entretien plus sûr et moins d'accidents.
ES Mantenimientos más seguros y con menos accidentes.
PT Manutenção mais segura e com menos acidentes.



WHY TO USE IT

IT Per impedire caricamenti **NON autorizzati** durante la manutenzione.
EN To prevent **UNauthorized** charging during maintenance.
DE Um **unbefugtes** Befüllen zu verhindern bei der Wartung.
FR Pour empêcher le chargement **NON autorisé** pendant l'entretien.
ES Para impedir cargas **NO autorizadas** durante el mantenimiento.
PT Para impedir o carregamento **SEM autorização** durante a manutenção.



code 39SP01B

IT Sensore di pressione con display digitale. Collegando direttamente il sensore di pressione al controllo pressa è possibile impostare un range di lavoro desiderato al di fuori del quale il dispositivo invierà un segnale di allarme.

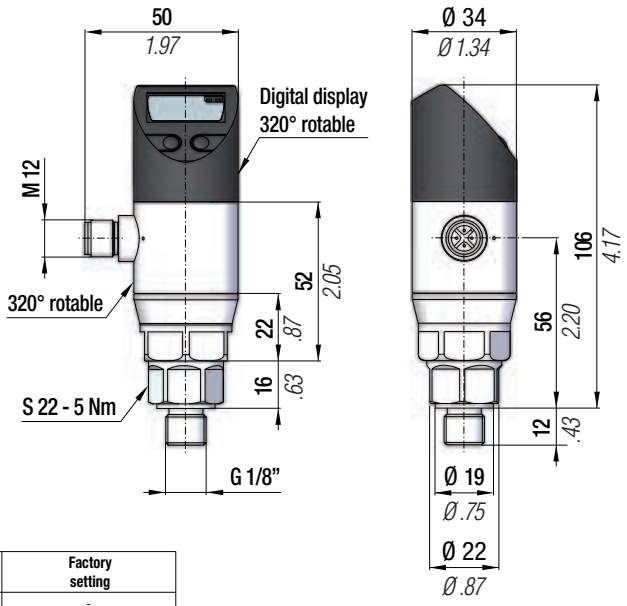
EN Pressure sensor with digital display. By connecting the pressure sensor directly to the press control, it is possible to set a desired working range outside which the unit sends an alarm signal.

DE Drucksensor mit Digitalanzeige. Wenn man den Drucksensor direkt an die Pressensteuerung anschließt, ist es möglich einen gewünschten Arbeitsbereich einzustellen, außerhalb dessen das Gerät ein Alarmsignal sendet.

FR Capteur de pression avec affichage numérique. En connectant le capteur de pression directement au système de contrôle de la presse, il est possible de définir une plage de fonctionnement souhaitée en dehors de laquelle l'unité envoie un signal d'alarme.

ES Sensor de presión con pantalla digital. Conectando directamente el sensor de presión al control de la prensa, es posible establecer un rango de trabajo deseado fuera del cual el dispositivo enviará una señal de alarma.

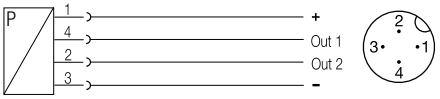
PT Sensor de pressão com display digital. Conectando o painel ao comando da prensa, é possivel determinar uma faixa de trabalho, que qualquer alteração desta faixa, o painel emitira um alarme.



Technical data	
Electrical connector type	M12x1 - Male (4-pin), A-coded
Pressure connection	G 1/4" DIN 3852
Nominal pressure	0 - 600 bar
Burst pressure	1570 bar
Operating voltage Uo	18...36 V DC
Output current max.	150 mA
Current draw max	50 mA
Switching frequency f	170 Hz
Temperature range	- 25°C... + 85°C
Degree of protection as per IEC 60529	IP67 when connected

Electrical connections	Pin number	Wire color	Factory setting
Supply +	1	Brown	-
Supply -	3	Blue	-
Out 1	4	Black	PNP Switching output / IO-link
Out 2	2	White	PNP Switching output

Electrical connections	Programmable settings
Out 1	PNP-NPN Switching output / IO-Link
Out 2	PNP-NPN Switching output / 4..20mA - 0-10V analog output



Always depressurize and disconnect sensors from the power supply before establishing an electrical connection.

IT Sistema digitale alimentato a batteria per il controllo della pressione di cilindri ad azoto autonomi o di impianti collegati. Il sistema visualizza la pressione quando viene premuto il tasto e indica se accettabile attraverso i led rosso/verde (valore di soglia impostabile). Display in bar, psi o MPa.

EN Battery-powered digital system for pressure control of self-contained nitrogen cylinders or linked systems. The system displays the pressure when the key is pressed and indicates if it is acceptable through the red/green LEDs (settable threshold value). Display in bar, psi or MPa.

DE Batteriebetriebenes digitales System zur Druckregelung von geschlossenen Stickstoffflaschen oder angeschlossenen Systemen. Das System zeigt den Druck beim Drücken der Taste an und zeigt über die roten/grünen LEDs an, ob dieser akzeptabel ist (einstellbarer Schwellenwert). Anzeige in bar, psi oder MPa.

FR Système numérique alimenté par batterie pour le contrôle de la pression des bouteilles d'azote autonomes ou des systèmes connectés. Le système affiche la pression à l'appui sur la touche et indique si elle est acceptable par les leds rouges/vertes (valeur seuil paramétrable). Affichage en bar, psi ou MPa.

ES Sistema digital alimentado por batería para el control de presión de cilindros de nitrógeno autónomos o sistemas conectados. El sistema muestra la presión cuando se presiona la tecla e indica si es aceptable a través de los LED rojo/verde (valor umbral configurable). Visualización en bar, psi o MPa.

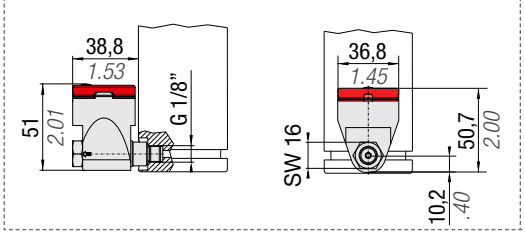
PT Sistema digital alimentado por bateria para controle de pressão de cilindros de nitrogênio independentes ou sistemas conectados. O sistema exibe a pressão quando a tecla é pressionada e indica se ela é aceitável através dos LEDs vermelho/verde (valor limite configurável). Exibição em bar, psi ou MPa.

EYE PRESSURE SENSOR

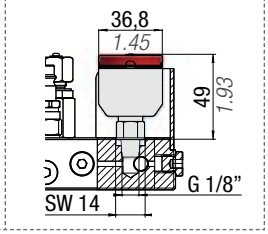


Technical data	
Measuring range (relative):	0 ÷ 600 bar / 8700 psi / 60 MPa
Visualization:	3 digit display + 2 led
Measurement unit:	bar, psix10, MPa
Resolution:	1 bar, 10 psi, 1 MPa
Accuracy:	±2,0% f.s. or ±1 digit, whichever is greater
Working temperature:	0 ÷ 80°C / 176°F
Compatible fluids:	Nitrogen
Battery:	Maxell CR2032-3V, 220mAh
Material:	Stainless steel/Aluminum alloy
Connection:	G 1/8
Alarms:	Min. pressure (adjustable), Pressure over 450 bar / 6530 psi / 45 MPa, Sensor malfunction, Low battery
Battery lifetime:	> 2000 readings
Protection Grade:	IP65 when connected
39SPB02A Suitable for:	CP01A, CP03A, CP07A, CP10A, CP12A, MCPC, CP19A, AUMCP
39SPB01A Suitable for:	Gas springs with G1/8" Charging hole and CP23A

code 39SPB01A



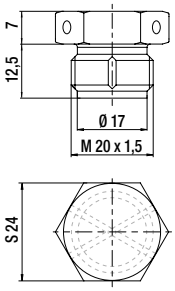
code 39SPB02A



ACCESSORIES

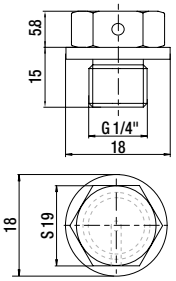
IT Tappo di sicurezza sovrapressione CE.
EN Overpressure safety plug CE.
DE Überdruck Sicherheitsstecker CE.
FR Bouchon de sécurité surpression CE.
ES Tapón de seguridad por sobrepresión CE.
PT Bujão de segurança sobrepressão CE.

code: 39TS300



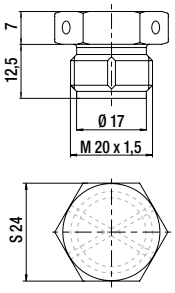
Burst pressure
@20°C 300bar / 4350 psi

code: 39TS360



Burst pressure
@20°C 360bar / 5220 psi

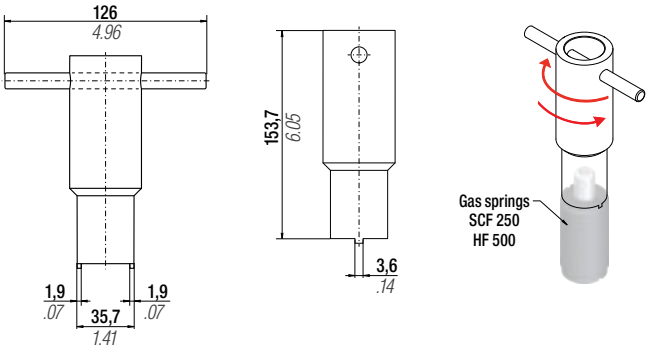
code: 39TS460



Burst pressure
@20°C 460bar / 6670 psi

code 58UT037A

IT Utensile per avvitare e svitare i cilindri SCF 250 e HF 500.
EN Tool to screw and unscrew gas springs SCF 250 and HF 500.
DE Schlüssel zum An- und Abschrauben von Gasdruckfedern SCF 250 und HF 500.
FR Outil pour visser et dévisser les ressorts à gaz SCF 250 et HF 500.
ES Herramienta para atornillar y desenroscar resortes de gas SCF 250 y HF 500.
PT Ferramenta para parafusar e desaparafusar molas a gás SCF 250 e HF 500.



IT Chiave dinamometrica con accessori.
EN Torque wrench with accessories.
DE Drehmomentschlüssel mit Zubehör.
FR Clé dynamométrique avec ses accessoires.
ES Llave dinamométrica con accesorios.
PT Chave dinamométrica com acessórios.



code	Torque force Nm
58UT025A	4 - 40



code
58UT013A

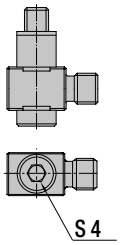


code	size mm	size inch
58UT009A	3	0.12
58UT010A	4	0.16
58UT011A	6	0.24
58UT012A	8	0.31

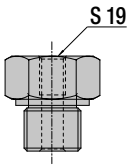


code	size mm	size inch
58UT014A	10	0.39
58UT015A	12	0.47
58UT016A	14	0.55
58UT017A	15	0.59
58UT018A	17	0.67
58UT019A	18	0.71
58UT020A	19	0.75

ORDERING EXAMPLE

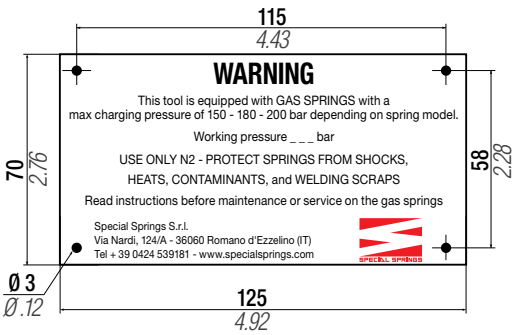


58UT025A
+
58UT013A
+
58UT010A



58UT025A
+
58UT020A

WARNING PLATE



IT	Targhetta	**Codice**	**39 TAR-I**
EN	Advice plate	**Code**	**39 TAR-GB**
DE	Schilder	**Bestellnummer**	**39 TAR-D**
FR	Plaquettes	**Référence**	**39 TAR-F**
ES	Placas	**Codigo**	**39 TAR-E**
PT	Etiquetas	**Codigo**	**39 TAR-P**

*All dimensions in **mm**/inch*

ACCESSORIES





code	Service tools	Service accessories
CMCA	✓	✓

IT Set completo per manutenzione cilindri.
EN Service tools and Accessories for gas spring maintenance.
DE Komplettes Wartungsset für Gasdruckfedern.
FR Kit d'entretien complet pour ressorts à gaz.
ES Kit de mantenimiento completo para resortes de gas.
PT Kit de manutenção completo para cilindros.



code	Service tools	Service accessories
CMCTA	✓	✗

IT Solo set utensili per manutenzione cilindri.
EN Service tools for gas spring maintenance.
DE Nur Werkzeugsset zur Wartung von Gasdruckfedern.
FR Set d'outils pour l'entretien de ressorts à gaz.
ES Set de herramientas para mantenimiento de resortes de gas.
PT Conjunto de ferramentas pela manutenção dos cilindros.



code	Service tools	Service accessories (specific family of gas springs)
CMCA - ...	✗	✓

IT Set accessori per determinata famiglia di cilindri (es. CMCA-SC 10000).
EN Service accessories for maintenance of a specific gas spring model (ex. CMCA-SC 10000).
DE Zubehörset für bestimmte Zylindertypen (z. B. CMCA-SC 10000).
FR Jeu d'accessoires pour une famille donnée de cylindres (ex.: CMCA-SC 10000).
ES Set de accesorios para una determinada familia de cilindros (p.ej. CMCA-SC 10000).
PT Acessórios de conjunto para determinada família de cilindros (ex. CMCA-SC 10000).

code 58CD01



IT Cacciavite dinamometrico per valvola unidirezionale.
EN Torque screwdriver for one-way valve.
DE Drehmomentschrauber für Rückschlagventil.
FR Tournevis dynamométrique pour valve anti-retour.
ES Destornillador dinamométrico para válvula anti-retorno.
PT Chave torquimétrica para válvula de retenção.

code 39PM02A



IT Pressa manuale per assemblaggio stelo, boccola e anello di ritegno a C.
EN Table manual press for assembly of rod, bushing and retaining C-ring.
DE Manuelle Presse zur Montage von Kolbenstange, Buchse und Sprengring.
FR Presse manuelle pour l'assemblage de la tige, douille et bague d'étanchéité en C.
ES Prensa manual para ensamblaje vastago, casquillo y anillo de retención a C.
PT Prensa manual para ensambladura haste, bucha e anel de retenção a C.

code 59VU02A



IT Valvola unidirezionale (esclusi M50-TBI/TBM1/TBM2/TEM, M70, M90-TBM/TEM/TBI, MS90, M/MS200, RV/RS170, RV/RS320).
EN One-way valve (excluding M50-TBI/TBM1/TBM2/TEM, M70, M90-TBM/TEM/TBI, MS90, M/MS200, RV/RS170, RV/RS320).
DE Rückschlagventil (außer M50-TBI/TBM1/TBM2/TEM, M70, M90-TBM/TEM/TBI, MS90, M/MS200, RV/RS170, RV/RS320).
FR Valve anti-retour (à l'exclusion de M50-TBI/TBM1/TBM2/TEM, M70, M90-TBM/TEM/TBI, MS90, M/MS200, RV/RS170, RV/RS320).
ES Válvula anti-retorno (excepto M50-TBI/TBM1/TBM2/TEM, M70, M90-TBM/TEM/TBI, MS90, M/MS200, RV/RS170, RV/RS320).
PT Válvula de retenção (excluindo M50-TBI/TBM1/TBM2/TEM, M70, M90-TBM/TEM/TBI, MS90, M/MS200, RV/RS170, RV/RS320).

Product Suggestion

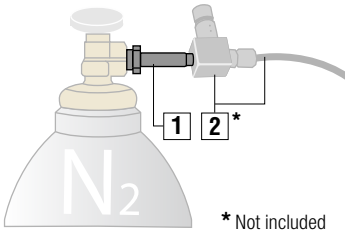


IT Spray rivelatore di fughe.
EN Gas detector.
DE Gasdetektor Spray.
FR Spray détecteur de fuites de gaz.
ES Spray detector de escapes de gas.
PT Spray revelador de fugas de gàs.

Potential supplier
www.tecnogas.net

ACCESSORIES

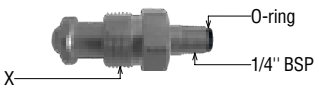
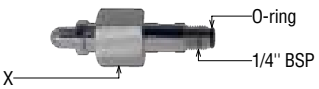
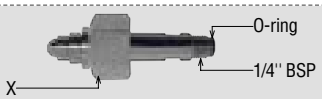
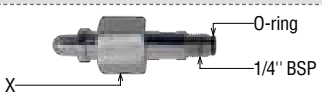
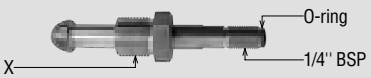
IT Attacco per bombola.
EN Connection for bottle.
DE Ansatz für die Flasche.
FR Décapage pour bombonne.
ES Adaptador para bombona
PT Ataque a Bottle.



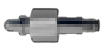
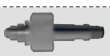
* Not included

Installation Example

1	Attacco per bombola Connection for bottle Ansatz für die Flasche Décapage pour bombonne Adaptador para bombona Ataque a Bottle	2*	Tubo collegamento bombola con valvola di scarico Connecting hose from the bottle to the valve discharging Verbindungsschlauch der Flasche mit Auslassventil Tube pour la connexion bombonne avec valve de décharge Tubo de conexión a bombona con válvula de descarga Tubo de ligação Frasco com a válvula de descarga

code	X	Box content	Country
47TB	W 21,7x1/14'' - Male - ISO 228		IT - Italy PT - Portugal
47TB01	-		CN - China KR - South Korea
47TB02	W 22,5 - 14 t.p.i JIS B 8246 - Male		JP - Japan ID - Indonesia
47TB03	W 24,32x1/14'' - DIN 477 - 1 Female (for bottles up to 200 bar / *2900 psi*)		DE - Germany
47TB04	d 21,7x1,814 - NF E 29 - 650 - Female		FR - France
47TB05	G 5/8'' - ISO 228 - Male		IN - India
47TB06	G 3/4'' - ISO 228 - Female		RU - Russia
47TB07	0.960 - 14 NGO - RH - Male - CGA NO. 580 (for bottles up to 206 bar / *3000 psi*)		US - United States
47TB08	1.040 - 14 NGO - RH - Male - CGA NO. 680 (for bottles from 206 bar / *3000 psi* to 324 bar / *4700 psi*)		US - United States
47TB09	W 21,7x1/14 - Female		ES - Spain
47TB10	W 24,32x1/14 - DIN 477 - 1 - Female		KR - South Korea
47TB11	W 30x2 - DIN 477 - 5 - Female (for bottles from 200 bar / *2900 psi* to 300 bar / *4351 psi*)		DE - Germany
47TB12	G 3/4A - RH IS 3224 - Female		IN - India
47TB13	W 22 - 14 t.p.i JIS B 8246 - Male		JP - Japan
47TB14	W 30x2 - DIN 477 - 5 - Male (for bottles from 200 bar / *2900 psi* to 300 bar / *4351 psi*)		PT - Portugal
47TB15	G 5/8'' - ISO 228 - Male		UK - United Kingdom

ACCESSORIES

code		Box content	Country
Phasing out	New	1 + 2	
39RP (max. inlet pressure 200 bar / 2900 psi)	39RHP (max. inlet pressure **300** bar / **4350** psi)	 + 	IT - Italy PT - Portugal
39RP01 (max. inlet pressure 200 bar / 2900 psi)	39RHP01 (max. inlet pressure **300** bar / **4350** psi)	+ 	CN - China KR - South Korea
39RP02 (max. inlet pressure 200 bar / 2900 psi)	39RHP02 (max. inlet pressure **300** bar / **4350** psi)	 + 	JP - Japan ID - Indonesia
39RP03 (max. inlet pressure 200 bar / 2900 psi)	39RHP03 (max. inlet pressure **200** bar / **2900** psi)	 (for bottles up to **200 bar** / *2900 psi*) + 	DE - Germany
39RP04 (max. inlet pressure 200 bar / 2900 psi)	39RHP04 (max. inlet pressure **300** bar / **4350** psi)	 + 	FR - France
39RP05 (max. inlet pressure 200 bar / 2900 psi)	39RHP05 (max. inlet pressure **300** bar / **4350** psi)	 + 	IN - India
39RP06 (max. inlet pressure 200 bar / 2900 psi)	39RHP06 (max. inlet pressure **300** bar / **4350** psi)	 + 	RU - Russia
39RP07 (max. inlet pressure 200 bar / 2900 psi)	39RHP07 (max. inlet pressure **300** bar / **4350** psi)	 (for bottles up to **206 bar** / *3000 psi*) + 	US - United States
39RP08 (max. inlet pressure 200 bar / 2900 psi)	39RHP08 (max. inlet pressure **300** bar / **4350** psi)	 (for bottles from **206 bar** / *3000 psi* to **324 bar** / *4700 psi*) + 	US - United States
39RP09 (max. inlet pressure 200 bar / 2900 psi)	39RHP09 (max. inlet pressure **300** bar / **4350** psi)	 + 	ES - Spain
39RP10 (max. inlet pressure 200 bar / 2900 psi)	39RHP10 (max. inlet pressure **300** bar / **4350** psi)	 + 	KR - South Korea
39RP11 (max. inlet pressure 200 bar / 2900 psi)	39RHP11 (max. inlet pressure **300** bar / **4350** psi)	 (for bottles from **200 bar** / *2900 psi* to **300 bar** / *4351 psi*) + 	DE - Germany
39RP12 (max. inlet pressure 200 bar / 2900 psi)	39RHP12 (max. inlet pressure **300** bar / **4350** psi)	 + 	IN - India
39RP13 (max. inlet pressure 200 bar / 2900 psi)	39RHP13 (max. inlet pressure **300** bar / **4350** psi)	 + 	JP - Japan
39RP14 (max. inlet pressure 200 bar / 2900 psi)	39RHP14 (max. inlet pressure **300** bar / **4350** psi)	 (for bottles from **200 bar** / *2900 psi* to **300 bar** / *4351 psi*) + 	PT - Portugal
–	39RHP15 (max. inlet pressure **300** bar / **4350** psi)	 + 	UK - United Kingdom

IT Riduttore di pressione completo di attacco bombola per controllare e ridurre la pressione.

EN Pressure reducer complete with gas spring connection to control and reduce the pressure.

DE Druckminderer komplett mit Flaschen-Anschluss, um den Druck zu kontrollieren und verringern.

FR Réducteur de pression complet avec jonction de bouteille pour contrôler et réduire la pression.

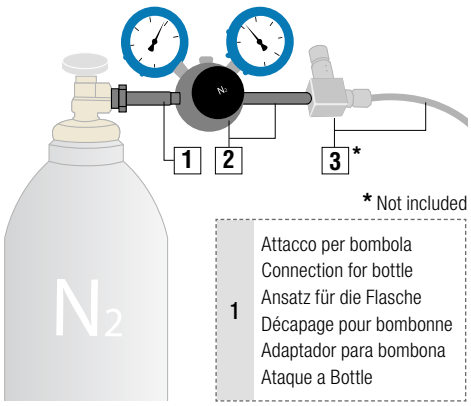
ES Reductor de presión completo con adaptador a bombona para controlar y reducir la presión

PT Redutor de pressão completo com engate para controlar e reduzir a pressão.

Example code: 39RHP



Installation Example



* Not included

1	Attacco per bombola Connection for bottle Ansatz für die Flasche Décapage pour bombonne Adaptador para bombona Ataque a Bottle
2	Riduttore di pressione max. **300** bar / ***4350*** *psi* Pressure reducer max. **300** bar / ***4350*** *psi* Druckminderer max. **300** bar / ***4350*** *psi* Réducteur de pression max. **300** bar / ***4350*** *psi* Reductor de presión max. **300** bar / ***4350*** *psi* Redutor de pressão max. **300** bar / ***4350*** *psi*
3*	Tubo collegamento bombola con valvola di scarico Connecting hose from the bottle to the valve discharging Flaschen-Verbindungsschlauch mit Auslassventil Tube pour la connexion bombonne avec valve de décharge Tubo de conexión a bombona con válvula de descarga Tubo de ligação Frasco com a válvula de descarga

ACCESSORIES



* Not included

code	Box content 1+(2+3)+4	Power suppy	Country	Kg
39NCU01B	Booster + 39RHP	220 ÷ 240 VAC 50 ÷ 60 Hz	Italy - Portugal	105 kg 231 lbs
39NCU10B	Booster + 39RHP01	220 ÷ 240 VAC 50 ÷ 60 Hz	China - Korea	105 kg 231 lbs
39NCU11B	Booster + 39RHP02	220 ÷ 240 VAC 50 ÷ 60 Hz	Indonesia	105 kg 231 lbs
39NCU12B	Booster + 39RHP03	220 ÷ 240 VAC 50 ÷ 60 Hz	Germany	105 kg 231 lbs
39NCU13B	Booster + 39RHP04	220 ÷ 240 VAC 50 ÷ 60 Hz	France	105 kg 231 lbs
39NCU14B	Booster + 39RHP05	220 ÷ 240 VAC 50 ÷ 60 Hz	India	105 kg 231 lbs
39NCU15B	Booster + 39RHP06	220 ÷ 240 VAC 50 ÷ 60 Hz	Russia	105 kg 231 lbs
39NCU22B	Booster + 39RHP07	120 VAC 50 ÷ 60 Hz	USA	116 kg 255 lbs
39NCU23B	Booster + 39RHP08	120 VAC 50 ÷ 60 Hz	USA	116 kg 255lbs
39NCU29B	Booster + 39RHP09	220 ÷ 240 VAC 50 ÷ 60 Hz	Spain	105 kg 231 lbs
39NCU31B	Booster + 39RHP10	220 ÷ 240 VAC 50 ÷ 60 Hz	Korea	105 kg 231 lbs
39NCU32B	Booster + 39RHP11	220 ÷ 240 VAC 50 ÷ 60 Hz	Germany	105 kg 231 lbs
39NCU33B	Booster + 39RHP12	220 ÷ 240 VAC 50 ÷ 60 Hz	India	105 kg 231 lbs
39NCU34B	Booster +39RHP13	100 VAC 50 ÷ 60 Hz	Japan	120 kg 265 lbs
39NCU40B	Booster + 39RHP14	220 ÷ 240 VAC 50 ÷ 60 Hz	Portugal	105 kg 231 lbs
39NCU41B	Booster + 39RHP02	100 VAC 50 ÷ 60 Hz	Japan	120 kg 265lbs
39NCU42B	Booster + 39RHP15	220 ÷ 240 VAC 50 ÷ 60 Hz	United Kingdom	105 kg 231 lbs

1	Booster carrellato per il caricamento di grandi volumi di azoto, con azionamento elettro-idraulico per la massima velocità Wheeled Booster for the filling of large volumes of nitrogen, with electro-hydraulic start-up for the maximum speed Ein fahrbarer Booster für die Ladung großer Mengen von Stickstoff, mit elektrohydraulischem Antrieb für Maximalgeschwindigkeit. Booster à chariot, pour la charge de grands volumes d'azote, avec actionnement électro-hydraulique pour la vitesse maximum Booster con ruedas para la carga de grandes volúmenes de nitrógeno con accionamiento electro-hidráulico para máxima rapidez. Booster rodado para o carregamento de grandes volumes de nitrogênio com acionamento eletro-hidráulico para a velocidade máxima	2	Attacco per bombola Connection for bottle Ansatz für die Flasche Décapage pour bombonne Adaptador para bombona Ataque a Bottle	Direct to N2 bottle p. 324	
3	Riduttore di pressione Pressure reducer Druckminderer Réducteur de pression Reductor de presión Redutor de pressão	4	Tubo collegamento bombola con valvola di scarico Connecting hose from the bottle to the valve discharging Verbindung Schlauche des Flasche mit Auslassventil Tube pour la connexion bombonne avec valve de décharge Tubo de conexión a bombona con válvula de descarga Tubo de ligação Frasco com a válvula de descarga	5*	Dispositivo di caricamento DMA Charging device DMA Ladung Vorrichtung DMA Dispositif de charge DMA Dispositivo de carga DMA Dispositivo de carregamento de DMA



IT **Caratteristiche - vantaggi**

- Massima sicurezza, minimi tempi di caricamento
- Arresto automatico alla pressione impostata
- Segnale luminoso di fine ciclo
- Valvola di sicurezza per sovrapressione
- Pompa elettrica
- Pressione di uscita regolabile
- Telaio carrellato con alloggiamento bombola N2
- Utilizzare con set di caricamento DMA (opzionale)

La fornitura comprende: Unità booster, 3 mt di tubo per collegamento a bombola o riduttore di pressione + attacco per bombola.

FR **Caractéristiques - avantages**

- Securité maximum, temps de chargemet minimum
- Arrêt automatique à la pression établie
- Signal lumineux de fin de cycle
- Valve de securité pour la surpression
- Pompe électrique
- Pression de sortie réglable
- Châssis à chariot avec logement de bonbonne N2
- À utiliser avec le set de chargement DMA (en option)

La fourniture inclut: Unité booster, 3 mt de tube pour la connexion à la bombonne ou au réducteur de pression + Décapage bombonne.

EN **Features - advantages**

- Maximum safety, low charging time
- Automatic stop when the set pressure is reached
- Light indicator of cycle end
- Safety valve for overpressure
- Electric pump
- Adjustable output pressure
- Wheeled cart with N2 bottle housing
- To be used with charging set DMA (optional)

The supply includes: Booster unit, 3 mt hose for connecting the bottle or pressure reducer + bottle connection.

ES **Características - Ventajas**

- Máxima seguridad, tiempo mínimo de carga
- Parada automática en la presión elegida
- Señal luminosa de final de ciclo
- Válvula de seguridad para sobrepresión
- Bomba eléctrica
- Presión de salida regulable
- Chasis sobre ruedas y alojamiento para botella de N2
- Utilizar combinado con set de carga DMA (opcional)

El suministro incluye: Unidad Booster, tubo de 3 mt para conexión a la bombona o al reductor de presión + adaptador para Bombona.

DE **Eigenheiten - Vorteile**

- Maximale Sicherheit, minimale Befüllzeiten
- Automatischers Anhalten beim Erreichen des Drucks
- Leuchtsignal bei Zyklusende
- Überdruck-Sicherheitsventil
- Elektrische Pumpe
- Einstellbarer Output-Druck
- Fahrbares Gestell mit Ablagefach für N2-Gasflasche
- Zum Einsatz mit der DMA Ladevorrichtung (optional)

Die Lieferung beinhaltet: Booster Gerät, 3 Meters Schlauch für den Anschluss zur Flasche oder zum Druckminderer + Ansatz für die Flasche.

PT **Características - Benefícios**

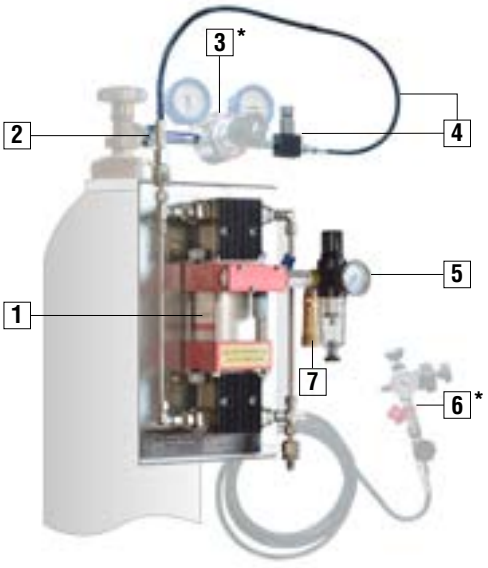
- Máxima segurança, tempos de carregamento mais baixos
- Paragem automática quando atingida a pressão especificada
- Sinal luminoso de fim de ciclo
- Válvula de segurança activa sobrepressão
- Bomba eléctrica
- Saída de pressão ajustável
- Quadro rodado com alojamento para tank N2
- Utilizado com o conjunto de carregamento DMA (opcional)

O fornecimento inclui: Unidade Booster, 3 mt tubo para ligação ao cilindro de azoto ou de redutor de pressão + Ataque a Bottle.

	BOOSTER Pmax	N2 Pmin BOOSTER	BOOSTER Vm	°F °C	H L P L x P x H	Kg
0,85 kW see power supply	210 bar *3045 psi*	30 bar *435 psi*	1300 NL / min *	0 - 45 °C *32 - 113 °F*	600 x 560 x 680 mm *24 x 22 x 27 inch*	See tab.

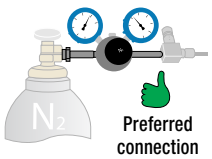
* Il rendimento volumetrico varia in funzione di PN_2 - The volumetric efficiency varies according to PN_2 - Der Liefergrad ändert sich in Abhängigkeit vom PN_2
Le rendement volumétrique varie en fonction de PN_2 - El rendimiento volumétrico varía en función de PN_2- O rendimento volumétrico varia en função da PN_2

ACCESSORIES



* Not included

To N2 bottle with pressure reducer
p. 325



Preferred connection

Direct to N2 bottle
p. 324



code	Box content 1 + 2	Country
39NCU03A	AirBooster + 47TB	Italy - Portugal
39NCU04A	AirBooster + 47TB01	China - Korea
39NCU05A	AirBooster + 47TB02	Japan - Indonesia
39NCU06A	AirBooster + 47TB03	Germany
39NCU07A	AirBooster + 47TB04	France
39NCU08A	AirBooster + 47TB05	India
39NCU09A	AirBooster + 47TB06	Russia
39NCU26A	AirBooster + 47TB07	USA
39NCU27A	AirBooster + 47TB08	USA
39NCU28A	AirBooster + 47TB09	Spain
39NCU35A	AirBooster + 47TB10	Korea
39NCU36A	AirBooster + 47TB11	Germany
39NCU37A	AirBooster + 47TB12	India
39NCU38A	AirBooster + 47TB13	Japan
39NCU39A	AirBooster + 47TB14	Portugal
39NCU43A	AirBooster + 47TB15	UK

1	Booster portatile compatto per caricamento azoto con azionamento pneumatico Compact portable booster for the filling of nitrogen, with pneumatic start-up Ein kompakter und portabler Booster Booster compacte et portable pour la charge avec azote, avec actionnement pneumatique Booster compacto y portátil para la carga con nitrógeno con accionamiento neumático Booster compacto e portátil para carregar com nitrogênio com acionamento pneumático	2	Attacco per bombola Connection for bottle Ansatz für die Flasche Décapage pour bombonne Adaptador para bombona Ataque a Bottle	3*	Riduttore di pressione Pressure reducer Druckminderer Réducteur de pression Reductor de presión Redutor de pressão						
4	Tubo collegamento bombola con valvola di scarico Connecting hose from the bottle to the valve discharging Flaschen-Verbindungsschlauch mit Auslassventil Tube pour la connexion bombonne avec valve de décharge Tubo de conexión a bombona con válvula de descarga Tubo de ligação Frasco com a válvula de descarga	5	Ingresso aria Air inlet Luft Eingang Entrée de l'air Entrada de aire Entrada de ar	6*	Dispositivo di caricamento DMA Charging device DMA Lade-Vorrichtung DMA Dispositif de charge DMA Dispositivo de carga DMA Dispositivo de carregamento de DMA	7	Valvola sicurezza e ingresso aria Safety valve and air inlet Sicherheitsventil und Lufteingang Valve de sécurité et entrée de l'air Válvula de seguridad y entrada de aire Válvula de segurança e entrada de ar				

IT **Caratteristiche - Vantaggi**

- Compatto, leggero e portabile
- Massimo utilizzo del volume bombola N2
- Installazione diretta su bombola N2
- Valvola di sicurezza output N2 max 220 bar

La fornitura comprende: Unità booster completa di valvola di sicurezza, supporto per bombola, 1 mt di tubo per collegamento a bombola o riduttore di pressione + attacco per bombola.

EN **Features - Advantages**

- Compact, light and portable
- Max use of the nitrogen bottle N2
- Direct installation on the N2 bottle
- Safety N2 output valve max 220 bar

The supply includes: Booster unit provided with safety valve, bottle support, 1 mt hose for connecting the bottle or pressure reducer + bottle connection.

DE **Eigenschaften - Vorteilen**

- Kompakt, leicht und portabel
- Maximaler Nutzung der Stickstoffflasche N2
- Direkte Installation an Stickstoffflasche N2
- Sicherheitsventil output N2 , max. 220 bar.

Die Lieferung beinhaltet: Booster-Gerät versehen mit Sicherheitsventil, Träger für die Stickstoffflasche, 1 Meter Schlauch für den Anschluss zur Flasche oder zum Druckminderer + Ansatz für die Flasche.

FR **Caractéristiques - Avantages**

- Compacte, léger et portable
- Utilisation maximale de la bombonne d'azote N2
- Installation directe sur la bombonne d'azote N2
- Valve de sortie N2 sécurisé max 220 bar

La fourniture inclut: Unité booster équipé avec valve de sécurité, support pour bombonne, 1 mt de tube pour la connexion à la bombonne ou au réducteur de pression + Décapage bombonne.

ES **Características - Ventajas**

- Compacto, ligero y portátil
- Uso máximo de la bombona de nitrógeno N2
- Instalación directamente sobre la bombona de N2
- Válvula de seguridad, output N2 max 220 bar

El suministro incluye: Unidad Booster equipado con válvula de seguridad, soporte para la bombona de nitrógeno, tubo de 1 mt para la conexión a la bombona o al reductor de presión + Adaptador a Bombona.

PT **Características - Benefícios**

- Compacto, leve e portátil
- Máxima utilização do cilindro de nitrogênio N2
- Instalação directamente sobre o cilindro de N2
- Válvula de segurança, saída máxima de 220 bar N2

O fornecimento inclui: Unidade Booster equipado com válvula de segurança, o suporte para o cilindro de nitrogênio, 1 mt tubo para ligação ao cilindro de azoto ou de redutor de pressão + Ataque a Bottle.

	BOOSTER Pmax	N2 Pmin BOOSTER	BOOSTER Vm	°F °C	H L P L x P x H	Kg
AIR 1 - 10 bar *15 - 145 psi*	220 bar *3190 psi*	30 bar *435 psi*	280 NL / min *	0 - 45 °C *32 - 113 °F*	230 x 350 x 230 mm *9 x 13 x 9 inch*	10,8 Kg *23.8 lbs*

* Il rendimento volumetrico varia in funzione di Pair e PN_2 - The volumetric efficiency varies according to Pair and PN_2 - Der Volumen-Liefergrad ändert sich in Abhängigkeit vom Pair und PN_2
Le rendement volumétrique varie en fonction de Pair et PN_2 - El rendimiento volumétrico varía en función de PN_2 - O rendimento volumétrico varia em função da Pair e PN_2

ACCESSORIES

IT Trolley completo di AirBooster e dispositivo 39DMA.

EN Trolley with AirBooster and charging device 39DMA.

DE Trolley mit AirBooster und Füll- und Kontroll-armatur 39DMA.

FR Chariot avec AirBooster et kit de chargement 39DMA.

ES Maleta completa con AirBooster y dispositivo 39DMA.

PT Maleta completa com Booster e Kit de carre-gamento 39DMA.



AirBooster
p. 327

39DMA
p. 318

code	Box content	Country
39KNCU03A	39NCU03A + 39DMA	Italy - Portugal
39KNCU04A	39NCU04A + 39DMA	China - Korea
39KNCU05A	39NCU05A + 39DMA	Japan - Indonesia
39KNCU06A	39NCU06A + 39DMA	Germany
39KNCU07A	39NCU07A + 39DMA	France
39KNCU08A	39NCU08A + 39DMA	India
39KNCU09A	39NCU09A + 39DMA	Russia
39KNCU26A	39NCU26A + 39DMA	USA
39KNCU27A	39NCU27A + 39DMA	USA
39KNCU28A	39NCU28A + 39DMA	Spain
39KNCU35A	39NCU35A + 39DMA	Korea
39KNCU36A	39NCU36A + 39DMA	Germany
39KNCU37A	39NCU37A + 39DMA	India
39KNCU38A	39NCU38A + 39DMA	Japan
39KNCU39A	39NCU39A + 39DMA	Portugal
39KNCU40A	39NCU43A + 39DMA	UK

IT **Caratteristiche**
Trolley con struttura antiurto e valvola pressurizzata per lo spostamento aereo e la sicurezza dei dispositivi all'interno.

EN **Features**
Trolley with shock-resistant structure and pressure relief valve for transport in the aircraft and safe storage of the contents.

DE **Eigenheiten**
Trolley mit stoßfester Struktur und Über-druckventil für den Transport im Flugzeug und ein sicheres Verstauen des Inhalts.

FR **Caractéristiques**
Chariot avec structure résistante aux chocs et soupape de surpression pour le transport dans l'avion et le stockage sécurisé du contenu.

ES **Características**
Maleta con estructura a prueba de golpes y válvula presurizada para viajes aéreos y para la seguridad de los dispositivos en el interior.

PT **Características**
Maleta de ferramentas com estrutura reforçada e pressurizada para viagens aéreas garantindo a segurança dos equipamentos.

ACCESSORIES

IT Stazione mobile per caricamento, controllo forza e manutenzione dei cilindri ad azoto.

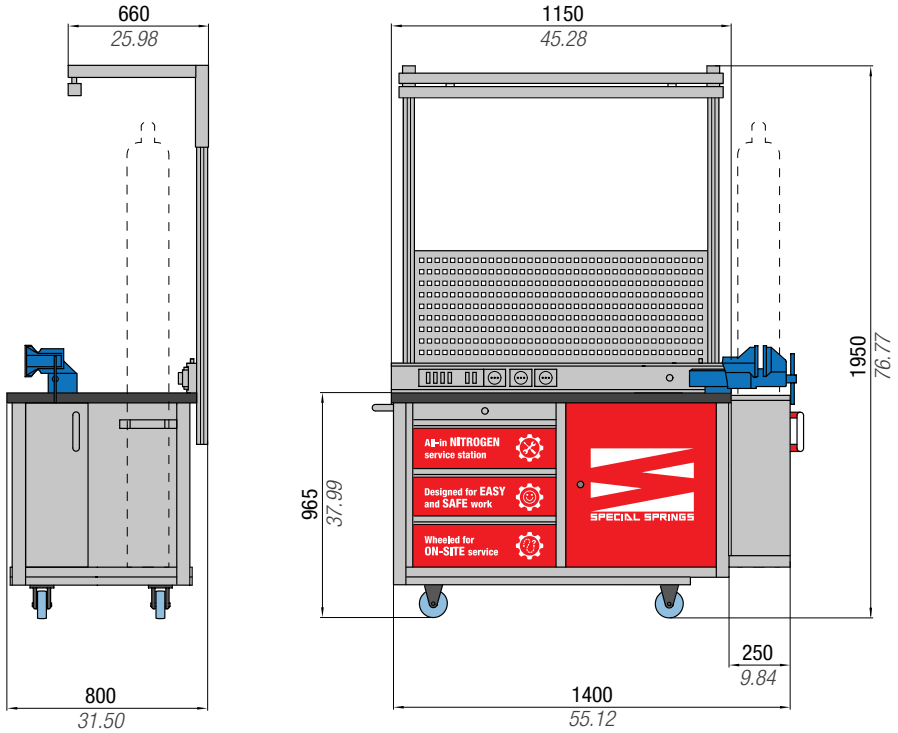
EN Mobile service station for charging, force testing and maintenance of gas springs.

DE Mobile Servicestation zum Befüllen, zur Druckkontrolle und zur Wartung der Gasdruckfedern.

FR Station de service mobile pour le chargement, la mesure de force et la maintenance de ressorts à gaz.

ES Estación móvil para carga, control de fuerza y mantenimiento de cilindros de gas.

PT Estação de trabalho movel para carregamento, ajuste de força e manutenção dos cilindros.



code	Country
58UT027A	Italy - Denmark Egypt - Russia Austria - Indonesia India - Greece Holland - Romania Finlandia Czech Republic Spain - France Slovenia - Portugal Turkey - Korea Germany
58UT031A	Japan - Usa
58UT032A	Belgium - France
58UT033A	United Kingdom
58UT034A	Brasil
58UT036A	China

IT Vantaggi
- Unica postazione per strumenti e kit.
- Elevata mobilità.
- Maggior sicurezza e comodità per ogni operazione.
- Predisposizione ancoraggio force tester.

EN Advantages
- All-in-one station for all tools and devices.
- High mobility.
- More safety and comfort for each operation.
- Prepared for mounting of force tester.

DE Vorteile
- All-in-one Servicestation für Werkzeuge und Reparatursätze.
- Hohe Mobilität.
- Mehr Sicherheit und Komfort bei jedem Arbeitsschritt.
- Aufnahme zur Befestigung des Kraftmessgeräts.

FR Avantages
- Station tout-en-un pour tous outils et appareils.
- Grande mobilité.
- Plus de sécurité et de confort pour chaque opération.
- Préparé pour le montage du testeur de force.

ES Ventajas
- Estación todo en uno para herramientas y kits.
- Alta movilidad.
- Mayor seguridad y comodidad para cada operación.
- Preparada para el montaje de tester de fuerza.

PT Benefícios
- Todas as ferramentas e kit de carregamento em um so lugar.
- Total mobilidade.
- Maior segurança e comodidade.
- Ja preparada para o Dinamometro.

IT Dati tecnici
- 3 cassetti (1 con vaschetta raccogli olio) + anta per riporre kit e tools.
- Piano di lavoro 1400 x 685 x 40 mm.
- Lampada a led con interruttore.
- Attacco aria compressa da 1/4".
- 3 prese elettriche.
- Connettore di alimentazione non incluso.
- Morsa parallela 130 mm.
- Protezione operatore da proiezione parti in fase di caricamento.

EN Technical Data
- 3 drawers (one with oil drain pan) + compartment closed with door for storing kits and tools.
- Worktop 1400 x 685 x 40 mm.
- LED light with switch.
- Compressed air supply 1/4".
- 3 power sockets.
- The electrical plug is not included.
- Parallel vice 130 mm.
- Operator's protection against projection of parts during charging.

DE Technische Daten
- 3 Schubladen (davon eine mit Ölauffangwanne) + mit Tür verschlossenes Fach zur Aufbewahrung von Reparatursätzen und Werkzeugen.
- Arbeitsplatte 1400 x 685 x 40 mm.
- LED-Leuchte mit Schalter.
- 1/4" Druckluftanschluss.
- 3 Steckdosen.
- Der Stromstecker ist nicht enthalten.
- Parallelschraubstock 130 mm.
- Schutz des Bedieners gegen das Herausspringen von Teilen beim Befüllen.

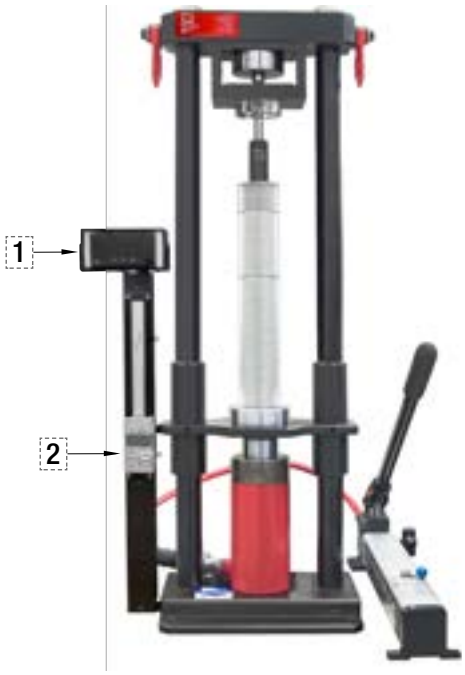
FR Données techniques
- 3 tiroirs (un avec bac de récupération d'huile) + compartiment fermé avec porte pour ranger kits et outils.
- Plan de travail 1400 x 685 x 40 mm.
- Lumière LED avec interrupteur.
- Alimentation en air comprimé 1/4".
- 3 prises de courant.
- La prise électrique n'est pas comprise.
- Étau parallèle 130 mm.
- Protection de l'opérateur contre la projection de pièces lors du chargement.

ES Datos técnicos
- 3 cajones (1 con bandeja de recogida de aceite) + puerta para guardar kit y herramientas.
- Encimera 1400 x 685 x 40 mm.
- Lámpara LED con interruptor.
- Conexión de aire comprimido de 1/4".
- 3 enchufes eléctricos.
- El enchufe eléctrico no está incluido.
- Tornillo de banco 130 mm.
- Protección del operador contra la proyección de piezas durante la carga.

PT Dados tecnicos
- 3 Gavetas (1 com espaçoes demarcados para os kits de manutenção) as outras para armazenar instrumentos e ferramentas.
- Mesa de trabalho de 1400 x 685 x 40mm.
- Lampada de LED com interruptor.
- Saida para ar comprimido 1/4".
- 3 tomadas.
- A ficha eléctrica não está incluída.
- Morsa paralela de 130mm.
- Proteção para o operador enquanto carrega os cilindros.

ACCESSORIES - DIGITAL FORCE TESTER





	code 39FT02000	code 39FT00250B	code 39FT00500B
Measuring range	0 ÷ 2000 daN *0 ÷ 4496 lb*	0 ÷ 250 daN *0 ÷ 562 lb*	0 ÷ 500 daN *0 ÷ 1124 lb*
Recommended for FO	0 ÷ 1500 daN *0 ÷ 3372 lb*	0 ÷ 250 daN *0 ÷ 562 lb*	250 ÷ 500 daN *562 ÷ 1124 lb*
Max. length	430 mm *16.93 inch*	430 mm *16.93 inch*	430 mm *16.93 inch*
Max. diameter	75 mm *2.95 inch*	45 mm *1.77 inch*	45 mm *1.77 inch*
Accuracy according EN ISO 7500-1	-	CLASS 1 (± 1%)	CLASS 1 (± 1%)
Power supply	Battery (included)	100 - 240 VAC 50-60 Hz	100 - 240 VAC 50-60 Hz
L x P x H	255 x 310 x 1300 mm *10.04 x 12.20 x 51.18 inch*	450 x 250 x 947 mm *17.72 x 9.84 x 37.28 inch*	450 x 250 x 947 mm *17.72 x 9.84 x 37.28 inch*
Weight	22 Kg *48.50 lb*	83,5 Kg *184.09 lb*	83,5 Kg *184.09 lb*

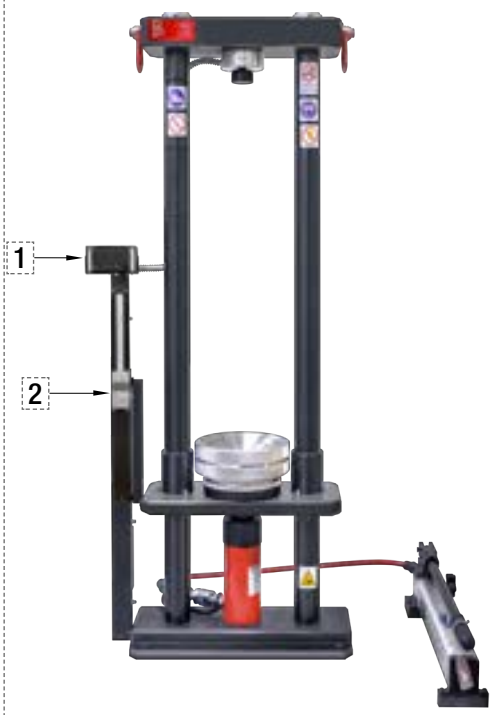
code 59VCATM03

1  DIGITAL DISPLAY

code 59RE150

2  DIGITAL LINEAR SCALE

ACCESSORIES - DIGITAL FORCE TESTER

	code 39FT07500B	code 39FT20000
		
Measuring range	0 ÷ 7500 daN *0 ÷ 16861 lb*	0 ÷ 20000 daN *0 ÷ 44962 lb*
Recommended for FO	500 ÷ 7500 daN *1124 ÷ 16861 lb*	7500 ÷ 20000 daN *16861 ÷ 44962 lb*
Max. length	400 mm *15.75 inch*	760 mm *29.92 inch*
Max. diameter	120 mm *4.72 inch*	195 mm *47.68 inch*
Accuracy according EN ISO 7500-1	CLASS 1 (± 1%)	CLASS 1 (± 1%)
Power supply	100 - 240 VAC 50-60 Hz	100 - 240 VAC 50-60 Hz
L x P x H	450 x 260 x 1350 mm *17.72 x 10.24 x 53.15 inch*	577x250x1317 mm *22.72 x 9.84 x 51.85 inch*
Weight	88,5 Kg *195.11lb*	197 Kg *434 lb*

code 59VCATM03

1  DIGITAL DISPLAY

code 59RE150

2  DIGITAL LINEAR SCALE

EYE PRESSURE SENSOR

code 39SPB01A **code 39SPB02A** p.321

IT Cos'è EYE?

Sistema digitale alimentato a batteria per il controllo della pressione di cilindri ad azoto autonomi o di impianti collegati. Il sistema visualizza la pressione quando viene premuto il tasto e indica se accettabile attraverso i led rosso/verde (valore di soglia impostabile). Display in bar, psi o MPa.

EN What's EYE?

Battery-powered digital system for pressure control of self-contained nitrogen cylinders or linked systems. The system displays the pressure when the key is pressed and indicates if it is acceptable through the red/green LEDs (settable threshold value). Display in bar, psi or MPa.

DE Was ist EYE?

Batteriebetriebenes digitales System zur Druckregelung von geschlossenen Stickstoffflaschen oder angeschlossenen Systemen. Das System zeigt den Druck beim Drücken der Taste an und zeigt über die roten/grünen LEDs an, ob dieser akzeptabel ist (einstellbarer Schwellenwert). Anzeige in bar, psi oder MPa.

FR Qu'est-ce que c'est EYE?

Système numérique alimenté par batterie pour le contrôle de la pression des bouteilles d'azote autonomes ou des systèmes connectés. Le système affiche la pression à l'appui sur la touche et indique si elle est acceptable par les leds rouges/vertes (valeur seuil paramétrable). Affichage en bar, psi ou MPa.

ES ¿ Qué es EYE?

Sistema digital alimentado por batería para el control de presión de cilindros de nitrógeno autónomos o sistemas conectados. El sistema muestra la presión cuando se presiona la tecla e indica si es aceptable a través de los LED rojo/verde (valor umbral configurable). Visualización en bar, psi o MPa.

PT O que é EYE?

Sistema digital alimentado por bateria para controle de pressão de cilindros de nitrogênio independentes ou sistemas conectados. O sistema exibe a pressão quando a tecla é pressionada e indica se ela é aceitável através dos LEDs vermelho/verde (valor limite configurável). Exibição em bar, psi ou MPa.



new

IT Vantaggi EYE

- Visualizzazione e lettura rapida
- Riduzione dei costi di manutenzione degli stampi
- Interfaccia semplice
- Piccole dimensioni
- Alimentazione elettrica con batterie a lunga durata

EN EYE benefits

- Quick visualization and reading
- Reduction of maintenance costs of dies
- Simple interface
- Small size
- Power supply with long-lasting battery

DE Vorteile von EYE

- Schnelle Anzeige und Ablesbarkeit
- Reduzierung der Wartungskosten der Werkzeuge
- Einfache Schnittstelle
- Platzsparend
- Stromversorgung über langlebige Batterie

FR Avantages EYE

- Visualisation et lecture rapide
- Réduction des coûts de maintenance des moules
- Interface simple
- Dimensions compactes
- Alimentation électrique avec batterie longue durée

ES Ventajas EYE

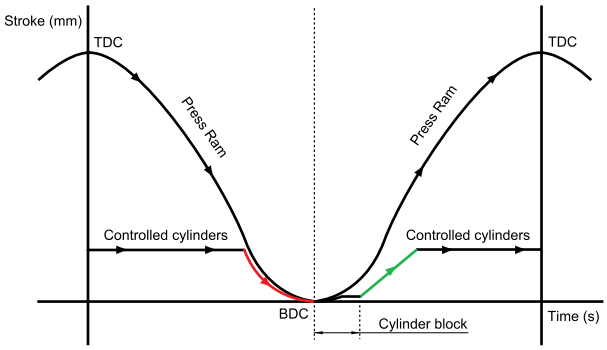
- Visualización y lectura rápida
- Reducción de los costes de mantenimiento de los troqueles
- Interfaz simple
- Tamaño pequeño
- Fuente de alimentación con batería de larga duración

PT Vantagens EYE

- Rapida leitura e vizualização da pressão
- Redução dos custos de Manutenção do ferramental
- Interface simples
- Dimensões reduzidas
- Fonte de alimentação com bacteria de longa duração

Battery lifetime	Measuring range:	Accuracy	Alarms	°F °C	
> 2000 readings	0 ÷ 600 bar *0 ÷ 8700 psi* 0 ÷ 60 MPa	±2,0% f.s., ±1 digit whichever is greater	Low pressure (adjustable), High pressure (fixed), Sensor malfunction, Low battery	0 - 80 °C *32 - 176 °F*	IP65

CONTROL DELAY SYSTEMS





IT Vantaggi del sistema Special Springs

- Ritorno degli steli dei cilindri indipendente dal ciclo pressa.
- Velocità di ritorno degli steli dei cilindri indipendente dalla velocità della pressa.
- Velocità di ritorno degli steli dei cilindri costante e regolabile.
- Forza di contrasto dei cilindri costante, crescente o decrescente da inizio a fine ciclo di lavoro.
- Utilizzo parziale della corsa dei cilindri possibile senza apportare modifiche al sistema.
- Continuo smaltimento del calore con scambiatori di calore sull'unità di comando.
- Massima affidabilità del sistema garantita dal fluido idraulico continuamente rigenerato.

FR Les avantages de special Springs Système

- Course de retour des pistons indépendante du cycle de la presse.
- Vitesse de remontée des pistons indépendante de la vitesse de la presse.
- Vitesse de remontée des pistons constante et réglable.
- Force d'opposition du vérin : constante, croissante ou décroissante du début à la fin du cycle de travail.
- Utilisation partielle de la course possible sans modification du système.
- Dispersion continue de la chaleur avec un échangeur thermique sur l'unité de commande.
- Fiabilité maximale du système garantie par le renouvellement permanent du fluide hydraulique.

EN Advantages of the special Springs System

- Return stroke of the gas spring rods independent from press cycle.
- Return speed of gas spring rods independent from press speed.
- Return speed of gas spring rods constant and adjustable.
- Gas spring contrasting force: constant, increasing or decreasing from beginning to end of working cycle.
- Partial use of gas spring stroke possible without system modifications.
- Continuous dispersal of the heat by heat exchanger on the command unit.
- Maximum system reliability guaranteed by the constant renewal of the hydraulic fluid.

ES Ventajas del sistema Special Springs

- Retorno del cilindro independiente del ciclo de la prensa.
- Velocidad de retorno del vástago independiente del ciclo de la prensa.
- Velocidad de retorno del vástago constante y regulable.
- Fuerza de contraste del cilindro: constante, superior o inferior de principio a fin del ciclo de trabajo.
- Posibilidad de utilizar la carrera parcialmente sin necesidad de modificar el sistema.
- Continua dispersión del calor a través de un intercambiador de calor en la unidad de control.
- Fiabilidad máxima del sistema garantizada por la constante renovación del fluido en el Sistema.

DE Die vorteile des systems von Special Springs

- Rücklauf der Kolbenstangen unabhängig vom Pressenzklus.
- Rücklaufgeschwindigkeit der Kolbenstangen unabhängig von der Pressengeschwindigkeit.
- Rücklaufgeschwindigkeit der Kolbenstangen konstant und einstellbar.
- Gegenkraft der Zylinder konstant, zunehmend oder abnehmend von Anfang bis Ende des Ardeitszyklus.
- Teilnutzung des Hubs der Zylinder möglich, ohne dass dazu Systemänderungen erforderlich sind
- Kontinuierliche Ableitung der Wärme, durch einen Wärmeaustauscher im Hydraulikaggregat.
- Maximale Zuverlässigkeit des Systems, garantiert durch eine kontinuierliche Regenerierung des Hydrauliköls.

PT Vantagens do sistema Special Springs

- Curso de retorno do cilindro independente do ciclo da prensa.
- Velocidade de retorno do êmbolo independente do ciclo da prensa.
- Velocidade de retorno do êmbolo constante ou regulável.
- Força do cilindro: constante ou variável (maior ou menor força) do início ao fim do ciclo de trabalho.
- Possibilidade de se usar também parcialmente o curso sem ter necessidade de modificar o sistema.
- Contínua dissipação do calor com um permutador de calor na unidade de comando.
- Máxima fiabilidade da ferramenta garantida pela renovação constante do fluído no sistema.

IT Richiedere o scaricare dal sito www.specialsprings.com il catalogo.

EN Ask for or download the catalog from our web site www.specialsprings.com.

DE Den Katalog von unsere Internetseite www.specialsprings.com herunterladen oder anfordern

FR Demandez ou téléchargez notre catalogue à partir de notre site web www.specialsprings.com.

ES Solicitar o descargar de la web www.specialsprings.com el catálogo.

PT Requerer ou descarregar no site www.special-springs.com o catálogo.



NITRO STRIP

IT Carichi forti - estrattore a gas con forza di estrazione regolabile. Montaggio diretto su portapunzoni standard per punzoni ball-lock o con testa ISO 8020.

EN Heavy duty - Nitrogen gas stripper with adjustable force. Direct mounting on standard retainers for Ball-Lock or ISO 8020 punches.

DE Schwere Belastung - Gasdruck-Abstreifer mit einstellbarer Kraft. Direktmontage auf Standard-Stempelhalteplatten für Stempel mit Ball-Lock-System oder nach ISO 8020.

FR Charge lourde - Unité de dévêtissage à gaz avec force réglable. Montage direct sur les plaques porte-poinçon standard pour poinçons avec système Ball-Lock ou selon ISO 8020.

ES Carga pesada - Extractor de punzones de nitrógeno con fuerza ajustable. Montaje directo en porta punzones estándares para punzones Ball-Lock o según ISO 8020.

PT Carga pesada - Perfuradores de nitrogênio com força ajustável. Montagem directa em porta punções padrão para punções Ball-Lock ou segundo ISO 8020.





IT **Richiedere o scaricare dal sito www.specialsprings.com il catalogo.**

EN **Ask for or download the catalog from our web site www.specialsprings.com.**

DE **Den Katalog von unsere Internetseite www.specialsprings.com herunterladen oder anfordern**

FR **Demandez ou téléchargez notre catalogue à partir de notre site web www.specialsprings.com.**

ES **Solicitar o descargar de la web www.specialsprings.com el catálogo.**

PT **Requerer ou descarregar no site www.special-springs.com o catálogo.**



IT Caratteristiche

- Montaggio diretto su portapunzoni standard
- Testina estrattore e premilamiera lunga o corta in bronzo guidata, rimovibile e sagomabile
- Testina anti-rotazione con 8 mm di corsa
- 4 codici colore standard indicativi del carico/forza
- 8 modelli per punzoni da 10 a 40 mm di diametro
- Forza a contatto fino a 1880 daN / 4200 lbf
- Forza di estrazione fino a 3200 daN / 7200 lbf
- Forze di estrazione regolabili
- Collegabile con altre unità NITRO STRIP per massima flessibilità
- Sicurezza OPAS inclusa come standard
- Dimensioni compatte

EN Features

- Direct mounting on standard retainers
- Bronze stripping head that is guided, demountable and machinable. Available short or long
- Anti-rotation head with 8 mm stroke
- 4 standard color codes for different forces/loads
- 8 models with punch diameter from 10 to 40 mm
- Contact force as high as 1880 daN / 4200 lbf
- Stripping force as high as 3200 daN / 7200 lbf
- Adjustable stripping force
- Connectable with other NITRO STRIP units for maximum flexibility
- OPAS built-in as standard
- Compact design

DE Merkmale

- Direktmontage auf Standard-Stempelhalteplatten
- Abstreiferkopf aus Bronze, geführt, abnehm-und bearbeitbar. Verfügbar kurz oder lang
- Abstreiferkopf verdrehgesichert, mit einem Hub von 8 mm
- 4 Standard-Farbcodes für verschiedene Kräfte/ Belastungen
- 8 Modelle mit Stempeldurchmesser von 10 bis 40 mm
- Kontaktkraft bis zu 1880 daN / 4200 lbf
- Abstreiferkraft bis zu 3200 daN / 7200 lbf
- Abstreiferkraft einstellbar
- Anschließbar mit anderen NITRO STRIP Einheiten für maximale Flexibilität
- OPAS standardmäßig eingebaut
- Kompaktes Design

FR Caractéristiques

- Montage direct sur les plaques porte-poinçon standard
- Tête de dévêtisseur de bronze, guidée, démontable et qui peut être usinée. Disponible courte ou longue
- Tête de dévêtisseur résistant à la torsion, avec une course de 8 mm
- 4 codes couleur standard avec différentes forces/charges
- 8 modèles avec diamètres de poinçon de 10 à 40 mm
- Force de contact jusqu'à 1880 daN / 4200 lbf
- Force de dévêtisseur jusqu'à 3200 daN / 7200 lbf
- Force de dévêtisseur ajustable
- Possibilité de relier avec autres unités NITRO STRIP pour une flexibilité maximale
- OPAS installée de série - Design compact

ES Características

- Montaje directo en porta punzones estandares
- Pisador bronce guiado, desmontable y mecanzable. Disponible con 2 longitudes.
- Con antigiro y carrera de 8 mm
- 4 códigos de colores estándares según la fuerza/carga requerida
- 8 modelos para diámetros de punzón de 10 a 40 mm
- Fuerza de contacto hasta 1880 daN / 4200 lbf
- Fuerza de extracción hasta 3200 daN / 7200 lbf
- Fuerza de extracción ajustable
- Conectable a otras unidades NITRO STRIP para una máxima flexibilidad
- OPAS incluida como estandar
- Diseño compacto

PT Características

- Montagem directa em porta punções padrão
- Cabeça do destacador em bronze, guiada, removível e de fácil usinagem. Disponível curta ou longa
- Cabeça anti-rotação com curso de 8 mm
- 4 códigos de cores padrão para diferentes forças/cargas
- 8 modelos com diâmetro da punção de 10 a 40 mm
- Força de contato até 1880 daN / 4200 lbf
- Força de extração até 3200 daN / 7200 lbf
- Força de extração pode ser ajustada
- Possibilidade de interligação com outras unidades NITRO STRIP para o máximo de flexibilidade
- OPAS como padrão
- Design compacto

NITROGEN PUNCHING UNIT

IT Carichi forti - estrattore a gas con forza di estrazione regolabile. Montaggio diretto con punzoni ISO 8020.

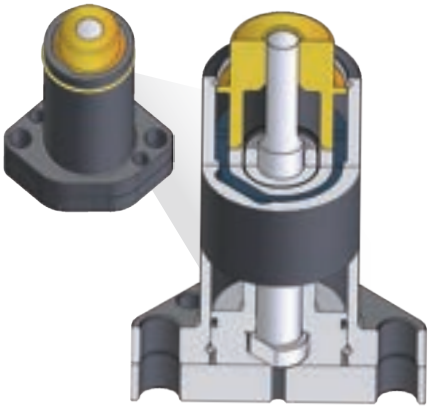
EN Heavy duty - Nitrogen gas stripper with adjustable force. Direct mounting with ISO 8020 punches.

DE Schwere Belastung - Gasdruck-Abstreifer mit einstellbarer Kraft. Direktmontage mit Stanzen ISO 8020.

FR Charge lourde - Unité de dévêtissage à gaz avec force réglable. Montage direct avec poinçons ISO 8020.

ES Carga pesada - Extractor de punzones de nitrógeno con fuerza ajustable. Montaje directo con punzones ISO 8020.

PT Carga pesada - Perfuradores de nitrogênio com força ajustável. Montagem direta com punções ISO 8020.





IT **Richiedere o scaricare dal sito www.specialsprings.com il catalogo.**

EN **Ask for or download the catalog from our web site www.specialsprings.com.**

DE **Den Katalog von unsere Internetseite www.specialsprings.com herunterladen oder anfordern**

FR **Demandez ou téléchargez notre catalogue à partir de notre site web www.specialsprings.com.**

ES **Solicitar o descargar de la web www.specialsprings.com el catálogo.**

PT **Requerer ou descarregar no site www.special-springs.com o catálogo.**



IT Caratteristiche

- Testa premilamiera estraibile e sagomabile
- Facile posizionamento e fissaggio
- Elevata forza di estrazione
- Dimensioni compatte
- Adatto per punzoni ISO 8020
- Non è richiesto l' uso di altro portapunzone
- Ideale per uso combinato con unità cam

EN Features

- Stripper head removable and mouldable
- Easy positioning
- High and adjustable holding and stripping force
- Compact dimensions
- Suitable for ISO 8020 shoulder style punch
- Doesn't require the use of standard retainer
- Ideal for combined use with cam unit

DE Merkmale

- Niederhalterkopf herausnehmbar und mit bearbeitbarer Kontur
- Einfache Positionierung
- Hohe und einstellbare Niederhalter- und Abstreiferkraft
- Kompakte Größe
- Geeignet für Schneidstempel ISO 8020
- Andere Stempelhalteplatten sind nicht erforderlich
- Ideal für den Einsatz in Kombination mit Schiebern

FR Caractéristiques

- Tête de bronze que peut être modelée et extraite
- Positionnement facile
- Force elevée de extraction
- Dimensions compactes
- Indiqué pour poincons ISO 8020
- Il ne demande pas l'emploi de autre poincon
- Idéal à utiliser avec l' unitée CAM

ES Características

- Pisador desmontable y mecanizable
- Fácil posicionamiento y amarre
- Fuerza de extracción muy elevada y ajustable
- Dimensiones compactas
- Apropiado para punzón con cabeza ISO 8020
- No requiere uso de porta punzón
- Ideal para utilizar con carro de punzonado

PT Características

- Cabeça de corte fácil remoção e maquinavel
- Fácil posicionamento
- Fixação alta e ajustável e força de corte
- Dimensões compactas
- Adequado para punção o ISO 8020 respigado
- Não necessita do uso de um retentor normalizado
- Ideal para uso combinado com uma unidade CAM

NOTES

NOTES

NOTES

NOTES

Questo catalogo annulla e sostituisce i precedenti. Special Springs si riserva il diritto di modificare e di migliorare i suoi prodotti senza alcun preavviso.
This catalog replaces any previous one. Special Springs reserves the right to modify and improve its products without notice.
Dieser Katalog ersetzt alle vorausgegangenen Ausgaben. Die Fa. Special Springs behalt sich das Recht vor, Anderungen und Verbesserungen der Produkte ohne Benachrichhtigung vorzunehmen.
Ce catalogue remplace et substitue tous les précedentes. Special Springs se réserve le droit de modifier et d'ameliorer ses produit sans aucun avis.
Este catálogo cancela y sustituye a los anteriores. Special Springs se reserva el derecho de modificar y añadir nuevos productos sin notificación previa.
Este catalogo anula e substitui o anterior. Special Springs reserva o direito de modificar e melhorar os seus produtos sem aviso prévio.

EUROPE

Headquarters
Special Springs S.r.l.
Via Nardi, 124/A
36060 Romano d'Ezzelino (VI) - ITALY
tel. +39 0424 539181
email: info@specialsprings.com
www.specialsprings.com

French Subsidiary
Special Springs France
Impasse de la Birbadière
49650 Allonnes - FRANCE
Ph. +33 (0)6 37 62 76 62
email: contact@specialsprings.fr
www.specialsprings.com

AMERICA

North American Subsidiary
Special Springs LLC
7707 Ronda Drive, Canton
Michigan 48187 - USA
Ph. +1 734.892.2324
email: info@specialspringsna.com
www.specialspringsna.com

South American Subsidiary
Special Springs do Brasil
Avenida dom Pedro I, 2156 - Vila Pires
09130-012 Santo André / SP - BRASIL
Ph. +55 11 2324 3545
email: comercial@specialsprings.com.br
www.specialsprings.com.br

ASIA

Indian Subsidiary
Global Special Springs pvt. Ltd.
Survay no. 69/2 - Chandarda, Tal. Kadi
Dist. Mehesana (Ahmedabad - Mehesana Highway)
Gujarat, 382705 - INDIA
Ph. +91 2764 273065
email: info@globalspecialsprings.com
www.specialsprings.com

Catalog code
9800C04600024

