GENERAL CATALOGUE

TECAPRES

PERFECTION IN PRESSURE DYNAMICS







TPGAS 07 01-2018

Técnicas Aplicadas de Presión, s.l.

Welcome to Tecapres!

The unveiling of this catalogue for us is yet another opportunity to share our products and services and make them known to you.
On behalf of TECAPRES we wish to thank you for your interest in our company.

We have elaborated this catalogue and it is our wish that it becomes a useful tool in your hands and that it provides intelligent solutions to your projects. We are happy to introduce this new commercial offer that benefits from the experience we have acquired over all these years together with the contributions we have received from our customers.

In it, we do not only describe performances, qualities and characteristics, but we also add certain norms for the use of our products with a view to guaranteeing maximum durability, as well as maximum safety for all the people who handle them.

At TECAPRES we understand the importance of offering maximum quality products, backed by proven and continuously evolving manufacturing processes that are in continuous evolution, managed as they are by trained and motivated personnel. This concern has become an occupation, and this is what has made it possible for many customers to trust our TECAPRES band.

This catalogue implies a environmental cost, and for this reason we request that you make the maximum use thereof.

To conclude, we wish you all the best while we remind you that any of your requirements are a commitment for TECAPRES.

¡Bienvenidos a **TECAPRES**!

La presentación de este catalogo es una nueva oportunidad para compartir y dar a conocer nuestros productos y servicios con ustedes.
Queremos agradecer desde **TECAPRES** el interés por nuestra empresa.

Hemos realizado este nuevo catalogo con la ilusión de que se convierta en una herramienta útil en sus manos y que aporte soluciones inteligentes a sus proyectos. Con la experiencia adquirida todos estos años y atendiendo las aportaciones de nuestros clientes, nos complace presentarles nuestra nueva oferta comercial.

En él describimos no solo prestaciones, calidades y características, si no que añadimos pautas de utilización para garantizar la más óptima durabilidad de nuestros productos, además de la seguridad de las personas que los manipulan.

En **TECAPRES** entendemos la importancia de ofrecer productos de la máxima calidad, avalada por procesos de fabricación contrastados y en continua evolución, gestionados por personas formadas y motivadas. Esta inquietud transformada en ocupación, ha hecho y hace posible que los clientes confíen en la marca **TECAPRES**.

Asumimos que este catalogo supone un costo a ***nuestro entorno,*** por eso solicitamos y agradecemos su máximo aprovechamiento.

Solo nos queda saludarles, recordándoles que cualquier requerimiento es un compromiso para **TECAPRES.**

TECAPRES

PERFECTION IN PRESSURE DYNAMICS



Ø BODY	INITIAL FORCE (daN)															
(mm)	≤50	90	170	200	250-300	350-400	420-450	470-500	550-600	660	740-750	850	920	1000	1100	1200-
12	TPC12															
14	TPC14															
15		MICRO15														
M16x1,5	TPR16 TPRB16															
M16x2	TPRC16															
19		TPC19	MICRO19V1													
20		TPA20														
22		TPG22														
M24,1,5		TPRC24 TPRT24	TPR24 TPRB24													
25				TPK25 TPKN25 TPKR25 TPC25 TPCT25 TPA25 TPG25	MICRO25 MICRO25R MICRO25H TPH300		TPF420									
26				TPG26												
M28x1,5				TPR28												
32				TPS32.1	TPSP300.1 TPKN32 TPKR32 TPCT300 TPG32	MICRO32VS MICRO32V MICRO32C TPK32 TPC350	MICRO32 MICRO32R MICRO32H TPCT450 TPGP32	TITAN32 TPH470 TPH500	TPH570		TPF750					
38					TPS250 TPS250.1			MICRO38VS MICRO38V MICRO38C TPSP500.1 TPC500	TPK600 TPCT550	MICRO38 MICRO38R MICRO38H	TITAN38	TPH850 TPH850C		TPH1000 TPH1000C TPF1000B TPF1000 TPF1000C TPFS1000		
M38x1,5					TPR38 TPR38.1			TPCR500								
45						TPB350		TPS500.2 TPKF500 TPG500			MICRO45V MICRO45 MICRO45C MICRO45CF TPSP750 TPK750 TPKS750					TPH1250 TPH1250C
M45x1,5											TPR45					
50					TPSL250 TPSLR250						TPS750 TPSC750 TPKF750		MICRO50.1 MICRO50VS MICRO50CS MICRO50CF	TPSP1000.1 TPK1000 TPKS1000 TPC1000	MICRO50V MICRO50C.1	TITAN50
M50x1,5														TPR50		
63												TPB850				
75											TPB750					TPB1250
95																
105																
120																
150																
195																





Ø BODY	INITIAL FORCE (daN)															
(mm)	1500	1700-1800	1900	2000-2100	2400-2500	2800-3000	4000-4300	4700-5000	6600	7000	7500	9500	10000	11800	18300	20000
12																
14																
15																
M16x1,5																
M16x2																
19																
20																
22																
M24,1,5																
25																
26																
M28x1,5																
32																
38																
M38x1,5																
45																
M45x1,5																
50		TPH1700 TPH1700C TPFS1800	TPH2000 TPH2000C	TPF2000 TPFS2000												
M50x1,5																
63	MICRO63V MICRO63CF MICRO63C TPSP1500 TPK1500.1 TPKN1500 TPC1500		MICRO63	TITAN63		TPH2800 TPH2800C TPFS3000										
75	TPS1500.1 TPSC1500.1 TPKF1500				MICRO75 MICRO75CS MICRO75CF TPSP2400 TPK2500 TPC2500 TPCT2500	TITAN75 TPK3000 TPC3000 TPCT3000	TPH4300 TPH4300C	TPFS4700								
95	TPB1500	TPB1800				TPS3000 TPSC3000 TPKF3000	MICRO95 TPSP4200 TPK4250 TPC4000			TPF7000	TPF7500 TPF7500C					
105								TPCT5000								
120						TPB2800 TPB3000		TPS5000	MICRO120V TPSP6600 TPC6500		MICRO120.1			TPF11800 TPF11800C		
150								TPB5000			TPS7500 TPSC7500	MICRO150 TPSP9500 TPC10000		MICRO150H	TPF18300 TPF18300C	
195													TPS10000 TPSC10000			MICRO195 TPSP20000


TECAPRES
PM201-4
MULTIPLE CONTROL PANEL




TECAPRES
TPCH 3000x25




TECAPRES

INFORMATION

GAS SPRINGS SERIES

- MICRO · MICRO R · MICRO H · MICRO V ·MICRO VS · MICRO C · MICRO CS · MICRO CF — MICRO
- TITAN — TITAN
- TPH · TPH C — TPH
- TPS · TPSC — TPS
- TPSP — TPSP
- TPF · TPFS · TPF B · TPF C — TPF
- TPK · TPKF · TPKN · TPKR · TPKS — TPK
- TPC · TPCR — TPC
- TPCT — TPCT
- TPB — TPB
- TPR · TPRB · TPRC · TPRT — TPR
- TPA · TPG · TPGP — TPA TPG
- TPSR · TPSRC — SPECIAL CYLINDERS — TPSR
- TPSRS — SPECIAL CYLINDERS — TPSRS
- TPNS · TPNSR — SPECIAL CYLINDERS — TPNS
- TPMCA · TPMCB · TPMCS · TPMCSB — SPECIAL CYLINDERS — STOP CYLINDER
- TPHFA · TPHFB — STOP CYLINDER FOR HOT FORMING SERIES — HOT FORMING
- TPHT — HIGH TEMPERATURE GAS SPRINGS — TPHT
- TPSL · TPSLR — GAS SPRING LIFTER — TPSL
- ECO-MANIFOLD
- TPM · TPMS

FLANGES

PROTECTION DEVICES

ACCESSORIES

SPRING PLUNGERS

- TPRC · TPRCS — PUNCHING UNITS
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- TPTN — PNEUMATIC PART CONVEYORS

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All TECAPRES gas springs fulfil the European Community Pressure Equipment Directive 2014/68/EU(PED)
Todos los cilindros TECAPRES cumplen con la Directiva europea sobre aparatos a presión 2014/68/UE

VDI 3003 | ISO 11901 | E.24.54.815.G | EM24.54/700/F

Gas Spring manufactured in accordance with this standard
El cilindro cumple con la norma indicada

Gas spring designed with active safety system for free release
Cilindro diseñado con sistemas de seguridad activa para la liberación descontrolada

Gas spring designed with active safety system for overstroke
Cilindro diseñado con sistemas de seguridad activa para la sobrecarrera

Gas spring designed with active safety system for overpressure
Cilindro diseñado con sistemas de seguridad activa para la sobrepresión

Floating guiding system that allows the gas spring to absorb side loads
Sistema de guiado flotante que permite al cilindro absorber cargas laterales

Autonomous gas springs with the possibility of connection to a control panel
Cilindros autónomos con posibilidad de conexión a panel de control

Protect gas springs from liquid or solid pollution
Proteger de contaminaciones sólidas y líquidas

This model allows for an optional shield-scraper
Permite opción al uso de rascador-escudo

Up to 120ºC

Designed to work up to a maximum of 120ºC
Diseñado para trabajar hasta un máximo de 120ºC

Stop cylinder
Cilindro con sistema de parada

Cylinder with slow speed return
Cilindro con lenta expansión del eje

Initial force for an open gas spring in daN, at 20ºC
Fuerza inicial a cilindro abierto en daN, a 20ºC

90%

Final force at 90% nominal stroke in daN, at 20ºC (maximum recommended stroke)
Fuerza final al 90% de la carrera nominal en daN, a 20ºC (carrera máxima recomendada)

100%

Final force at 100% nominal stroke in daN, at 20ºC (not recommended)
Fuerza final al 100% de la carrera nominal en daN, a 20ºC (no recomendado)

Charging pressure in Bar at 20ºC
Presión de carga a 20ºC

Weight in Kg
Peso en Kg

Smax
mm
Maximum working stroke in mm
Carrera máxima de trabajo en mm

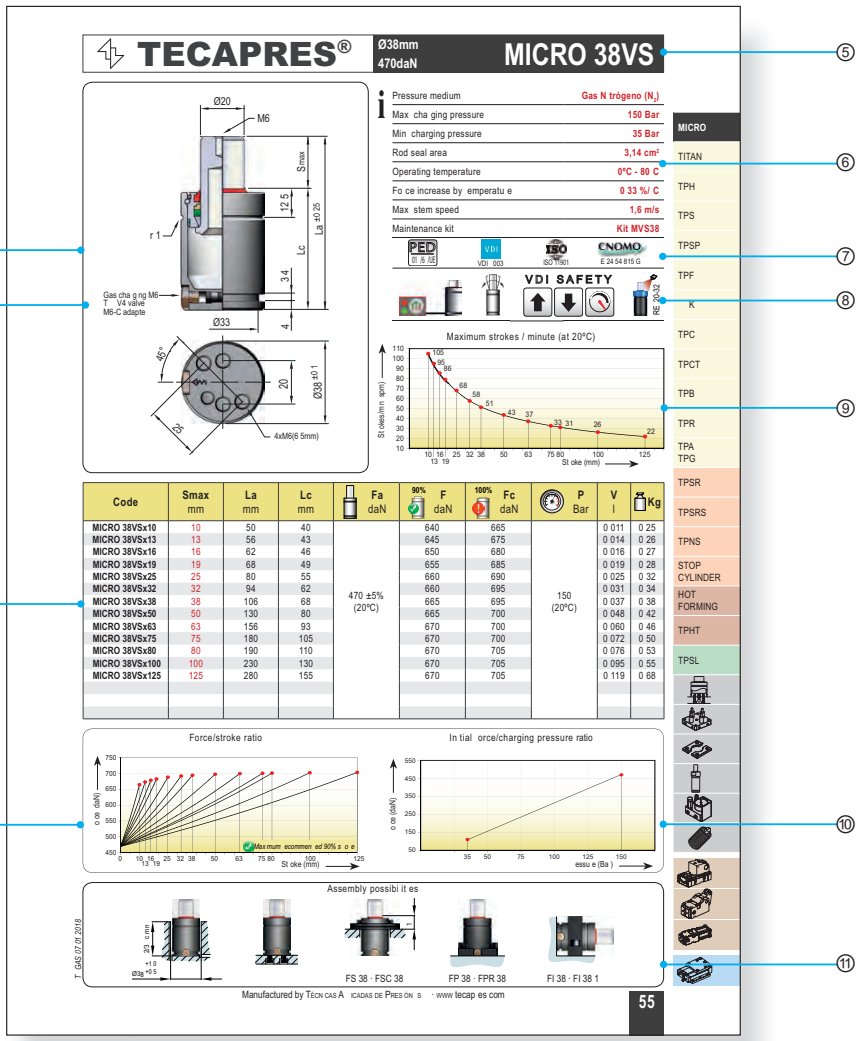
La
mm
Open gas spring length in mm
Longitud de cilindro abierto en mm

Lc
mm
Closed gas spring length (100% stroke) in mm
Longitud de cilindro cerrado (100% carrera) en mm

V
l
Gas volume of open gas spring in litres
Volumen de gas en cilindro abierto en litros

All dimensions are in mm. In Tecapres we are immersed in a policy of improvement and continuous evolution of the product through research and development. Therefore, all specifications are subject to change in this catalog without notice.

Todas las medidas son en mm. En Tecapres estamos inmersos en una política de mejora y evolución continua del producto a través de la investigación y desarrollo. Por ello, queda reservado el derecho a modificar cualquier especificación de este catálogo sin previo aviso.



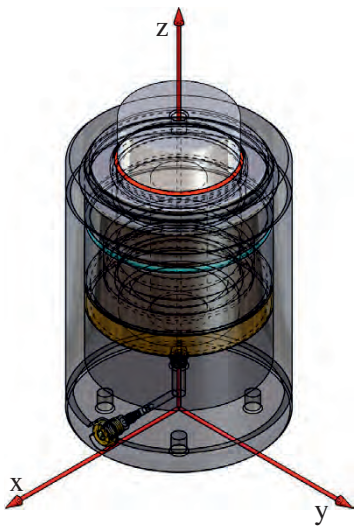
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38VSx10	10	50	40	470 ±5% (20°C)	640	665	150 (20°C)	0 011	0 25
MICRO 38VSx13	13	56	43		645	675		0 014	0 26
MICRO 38VSx16	16	62	46		650	680		0 016	0 27
MICRO 38VSx19	19	68	49		655	685		0 019	0 28
MICRO 38VSx25	25	80	55		660	690		0 025	0 32
MICRO 38VSx32	32	94	62		660	695		0 031	0 34
MICRO 38VSx38	38	106	68		665	695		0 037	0 38
MICRO 38VSx50	50	130	80		665	700		0 048	0 42
MICRO 38VSx63	63	156	93		670	700		0 060	0 46
MICRO 38VSx75	75	180	105		670	700		0 072	0 50
MICRO 38VSx80	80	190	110		670	705		0 076	0 53
MICRO 38VSx100	100	230	130		670	705		0 095	0 55
MICRO 38VSx125	125	280	155		670	705		0 119	0 68

Sketch	①	Croquis modelo
Charging port · Valve code · Charging adapter	②	Puerto de carga Código válvula Adaptador de carga
Datasheet	③	Tabla de datos
Force / stroke graph	④	Gráfica fuerza en función de la carrera
Gas spring model	⑤	Modelo
Technical data	⑥	Información técnica
Gas spring manufactured in accordance with this standard	⑦	Normas
Characteristics and options	⑧	Características y opciones del modelo
Maximum rate graph	⑨	Gráfica de cadencia máxima aconsejada
Intitial force / charging pressure graph	⑩	Gráfica fuerza inicial / presión de carga
Fixing element assembly posssibilities and flange codes	⑪	Posibilidades de montaje y referencia elementos de fijación

3D CAD FILES
AVAILABLE

TECAPRES provides for the free downloading of 3D CAD files in neutral format from our website, www.tecapres.com

TECAPRES proporciona la descarga gratuita de los archivos CAD en 3D con formato neutro desde nuestro sitio web, **www.tecapres.com**



WORLDWIDE GUARANTEE FOR TECAPRES® GAS SPRINGS · GARANTIA MUNDIAL TECAPRES®

The purpose of top level TECAPRES® gas spring development, as well as of the various tests carried out in all gas springs is to satisfy the expectations of our customers in terms of reliability, safety and service life.
All TECAPRES products are designed to meet the highest expectations and to bring full customer satisfaction.

- ◊ **2.000.000 cycles for strokes up to 50mm**
- ◊ **200.000 linear meters for strokes above 50mm**
- ◊ **2 years warranty as from date of sale**

Whichever condition takes place first.

El alto nivel en el desarrollo de los cilindros **TECAPRES®**, así como los correspondientes test y rigurosas pruebas que se realizan al 100%, permite a Técnicas Aplicadas de Presión garantizar, que los productos **TECAPRES®** están libre de defectos, tanto de materiales como de montaje.
Todos los productos **TECAPRES** están diseñados para satisfacer las más altas expectativas de los clientes.

- ◊ 2.000.000 ciclos para carreras hasta 50mm
- ◊ 200.000 metros lineales para carreras superiores a 50mm
- ◊ 2 años a partir de la fecha de adquisición

La garantía expira en cuanto se cumpla cualquiera de las condiciones indicadas



The guarantee (which covers parts and labour costs) is applicable if and when the following conditions are met:

1. The gas spring is to be returned to TECAPRES, for inspection.

2. The gas spring does not present defects due to dents (blows, scratches, spot facing, welding detachments, rust...).

3. Gas spring Its application and use is within the limits of the specified technical and environmental conditions.

4. The gas spring has not been manipulated (opening the gas spring cancels the guarantee).

La garantía (que cubre piezas y mano de obra) es aplicable siempre que se cumplan las siguientes condiciones y la causa del fallo sea imputable a **TECAPRES**

1. El cilindro debe retornar libre de coste a fábrica para su inspección, previa autorización.

2. El cilindro no muestra desperfectos por señales de marcas (golpes, rayas, refrentados, desprendimientos de soldadura, oxidaciones...).

3. Su aplicación y utilización este comprendida dentro de los límites de las condiciones técnicas y ambientales especificadas..

4. El cilindro no haya sido manipulado (la apertura del cilindro anula la garantía).

TECAPRES is not liable for injury, property damage, or other loss related to the inability to the gas spring or failure of the gas spring, nor is TECAPRES liable for any costs incurred relating to the removal and/or replacement of the gas spring. In no event is TECAPRES's liability to exceed the selling price of the gas spring.

TECAPRES no se hace responsable de las lesiones, daños a la propiedad u otras pérdidas relacionadas con la incapacidad del muelle de gas o el fallo del cilindro, **TECAPRES** tampoco es responsable de los costos incurridos en relación con la eliminación y / o sustitución del resorte de gas. En ningún caso la responsabilidad de **TECAPRES** es superior al precio de venta del muelle de gas.

TECHNICAL ADVICE ASESORAMIENTO TÉCNICO

Both the TECAPRES technical department and our wide-ranging commercial network are directly at your disposal to answer any questions, provide additional information and help you choose the most adequate product depending on its application.

TECAPRES offers the possibility of imparting training workshop sessions, both in technical matters and for maintenance purposes.



- ✓ **Quality** · Calidad
- ✓ **Service** · Servicio
- ✓ **Reliability** · Fiabilidad

Please go to our www.tecapres.com website to find the nearest distributor.

Tanto el departamento técnico de **TECAPRES** como nuestra amplia red comercial a través de un trato directo están a su disposición para responder a sus preguntas, facilitarles información adicional y ayudarles a escoger el producto más adecuado según la aplicación.

TECAPRES ofrece la posibilidad de impartir talleres de formación, tanto a personal de oficina técnica como de mantenimiento.





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support@tecapres.com

Consulte nuestra web www.tecapres.com para localizar a su distribuidor más cercano.



SHEATHED TYPE GAS SPRING
CILINDRO TIPO BUZO

BODY
Single-piece construction up to strokes of 160 mm. In higher strokes a tubular construction with a welded lid is used. In contrast with other brands, TECAPRES incorporates a threaded joint between the two elements that eliminates the possible fatigue factor in weld beads.

CUERPO
Desarrollado en una sola pieza hasta carreras de 160 mm. En carreras superiores se presenta una construcción de tubo con fondo soldado. A diferencia de otras marcas, **TECAPRES** incorpora una unión roscada entre los dos elementos que elimina el factor de la fatiga en el cordón de soldadura.



SINGLE CHAMBER GAS SPRING
CILINDRO TIPO BOMBA

STEM
Fatigue-resistant steels are employed, which have specific treatments that ensure a long useful life. TECAPRES offers the maximum quality MICROFINISH on the surface of all its stems, thus ensuring a longer service life by reducing friction and wear and tear in the seals.

VÁSTAGO-PISTÓN
Se emplean aceros aleados resistentes a la fatiga y con tratamientos específicos que aseguran una larga vida de trabajo. **TECAPRES** ofrece el acabado **MICROFINISH** de máxima calidad sobre la superficie de todos los vástagos, asegurando así una vida de servicio mayor al reducirse la fricción y el desgaste de la junta de sellado.



STANDARD GAS SPRING
CILINDRO ESTÁNDAR

Hardness Dureza	**Rugosity** Rugosidad
> 64HRc	**Ra < 0,05µm**

BUSHING
Bushings incorporate scrapers, which are elements that avoid the entrance of filth. All bushings are designed avoiding a metal-to-metal contact, recurring to self-lubricating guiding elements. Reference to gastightness, specific seals are used, which have been painstakingly tested and which offer a high working yield even near their maximum limits of use.

CASQUILLO
Incorporan roscador, elemento que evita la entrada de suciedad. Todos los casquillos se diseñan con ausencia de contacto metal-metal, recurriendo a elementos de guiado autolubricados. En el apartado de estanqueidad se emplean juntas específicas altamente testadas y que ofrecen un alto rendimiento de trabajo aún cerca de sus límites máximos.



PRESSURE EQUIPMENT DIRECTIVE 2014/68/EU (PED) DIRECTIVA EQUIPOS A PRESION 2014/68/UE (DEP)

PED 2014/68/UE

All TECAPRES gas springs comply with European Directive 2014/68/EU on pressurized appliances. New European Parliament and European Council Directive 2014/68/EU dated 15 May 2014 reforms European Parliament and European Council Directive 97/23/EC from 29 May 1997, adapting its provisions to recent Community legislation.

The current directive applies to design, manufacture and conformity assessment of pressure equipment subjected to a maximum permissible PS pressure of over 0,5 bar.

All gas springs with a volume over 1 litre and PS·V above 50 bar × litre are established in different categories (I, II and III). Gas springs belonging to these categories are identified by the corresponding «CE» marking.

There is a large variety of models that do not reach these values in the TECAPRES gas spring program, and therefore, again according to Directive 2014/68/EU, such products are covered by Article 4.3, and are designed and manufactured in accordance with general good practices. TECAPRES applies the same design, safety and manufacturing criteria as the Directive establishes, and therefore all TECAPRES gas springs are identified and marked as specified in the Directive. Gas springs covered by Article 4.3, however, cannot carry any «CE» markings.

Safety instructions and instructions for use are also supplied with each gas spring so as to guarantee correct use of the gas spring at all times.



Todos los cilindros **TECAPRES** cumplen con la Directiva Europea 2014/68/UE sobre aparatos a presión. La nueva Directiva 2014/68/UE del Parlamento Europeo y del Consejo, con fecha 15 de mayo de 2014, realiza una refundición de la anterior Directiva 97/23/CE del Parlamento Europeo y del Consejo, de 29 de mayo de 1997, adaptando sus disposiciones a la nueva normativa comunitaria.

La presente directiva se aplica al diseño, la fabricación y la evaluación de la conformidad de los equipos a presión y de los conjuntos sometidos a una presión máxima admisible PS superior a 0,5 bar.

Todos los cilindros a gas cuyo volumen sea superior a 1 litro y cuyo producto PS V sea superior a 50 bar x litro se agrupan en diferentes categorías (I, II y III). Los cilindros pertenecientes a estas categorías son identificados por el correspondiente marcado «CE».

Dentro del programa de cilindros **TECAPRES** existen una gran variedad de modelos que no alcanzan dichos valores, por lo cual, y según la Directiva 2014/68/UE estos quedan englobados dentro del artículo 4.3, y son diseñados y fabricados de conformidad con las buenas prácticas de la técnica al uso. **TECAPRES** aplica los mismos criterios de diseño, seguridad y fabricación que la Directiva establece, y por lo tanto todos los cilindros **TECAPRES** son identificados y marcados como se especifica en la Directiva. Estos cilindros del artículo 4.3 no pueden llevar el marcado «CE».

Se suministra asimismo con cada cilindro a gas las instrucciones de uso y seguridad para garantizar en todo momento la correcta utilización del mismo.

FEM FATIGUE ANALYSIS ANALISIS DE FATIGA POR ELEMENTOS FINITOS

Técnicas Aplicadas de Presión certifies that TECAPRES® gas springs have a guaranteed service life in terms of structural fatigue of all gas spring components, according to the following specifications:

Técnicas Aplicadas de Presión certifica que todos los componentes de los cilindros **TECAPRES®** tienen una resistencia mínima a la fatiga según las siguientes especificaciones:

◊ **Maximum period** · Tiempo máximo

8 years · años

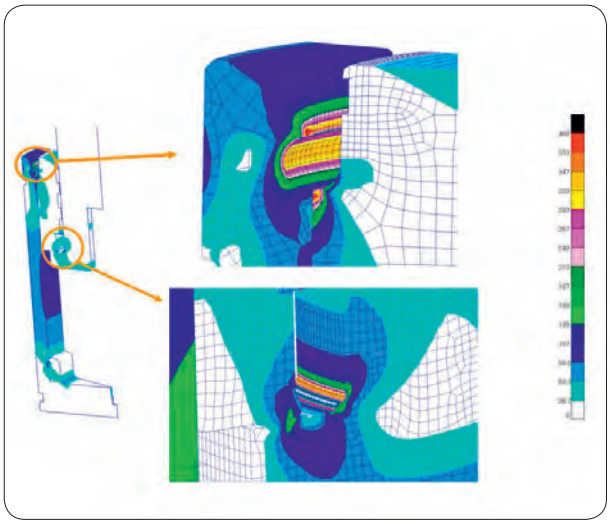
◊ **Models** · Modelos:

- ○ **Up to body diameter 95mm and strokes up to 125mm**
  Diámetro de cuerpo hasta 95mm y carreras hasta 125mm

  5.000.000 strokes · ciclos

- ○ **Body diameter 120mm to 195mm**
  Resto de diámetros y carreras

  3.400.000 strokes · ciclos



All TECAPRES gas spring components have a minimum resistance to fatigue of 3.400.000 cycles according to the FEM analysis following the UNE-EN 13445 norm.

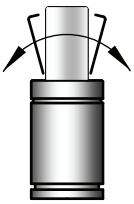
Todos los componentes de los cilindros **TECAPRES** tienen una resistencia mínima a la fatiga de 3.400.000 ciclos según análisis FEM acorde a la norma UNE-EN 13445.

The technology used in TECAPRES gas springs incorporates a flexible guiding system that makes it possible to absorb deviations in vertical movement, thus considerably reducing gas spring damage due to lateral forces.

See model options to check for availability.

La tecnología utilizada en los cilindros TECAPRES incorpora un sistema de guiado flexible que posibilita la absorción de desviaciones en el movimiento vertical, reduciendo considerablemente los daños en el cilindro por fuerzas laterales.

Ver opciones de modelo para comprobar disponibilidad.







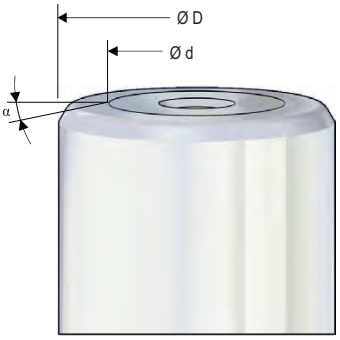
Movement allowed with no damage

Movimiento permitido sin daños



Absence of metal-to-metal contact

Ausencia contacto metal-metal



Special stem design in order to centralize contact

Diseño especial en eje para centrar contacto

Standard Gas Springs

Classical design

New design

Floating guide





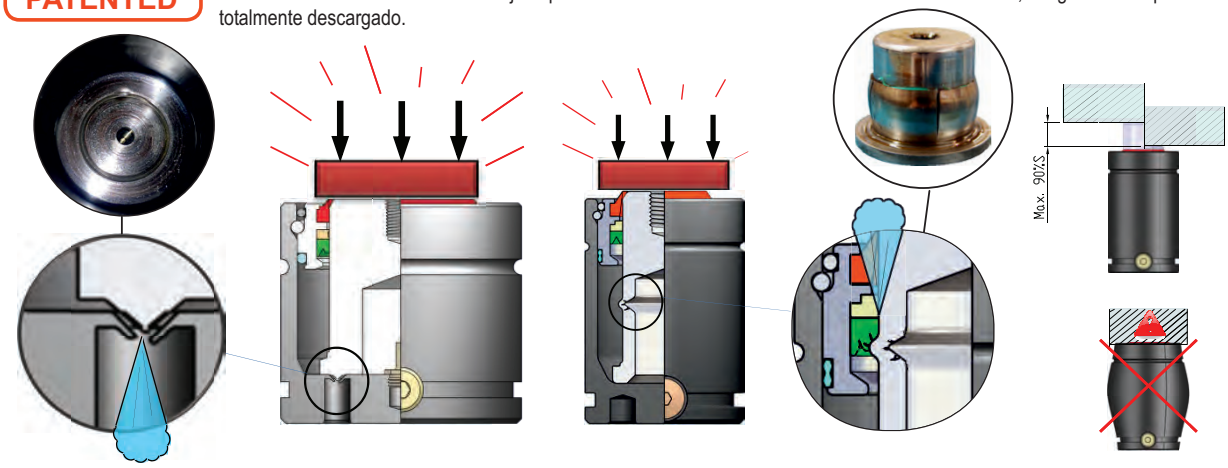
OVERSTROKE PROTECTION · PROTECCIÓN CONTRA SOBRECARRERA

VDI SAFETY

PATENTED

Patented active safety system that allows for controlled nitrogen gas discharge in gas springs in case of overstroke. The gas spring should be discarded, making sure that it is fully discharged.

Sistema de seguridad activa patentado, que permite la descarga controlada del gas nitrógeno de los cilindros en caso de actuar sobre ellos con una carrera de trabajo superior a la carrera nominal. El cilindro debe ser desechado, asegurandose que esté totalmente descargado.



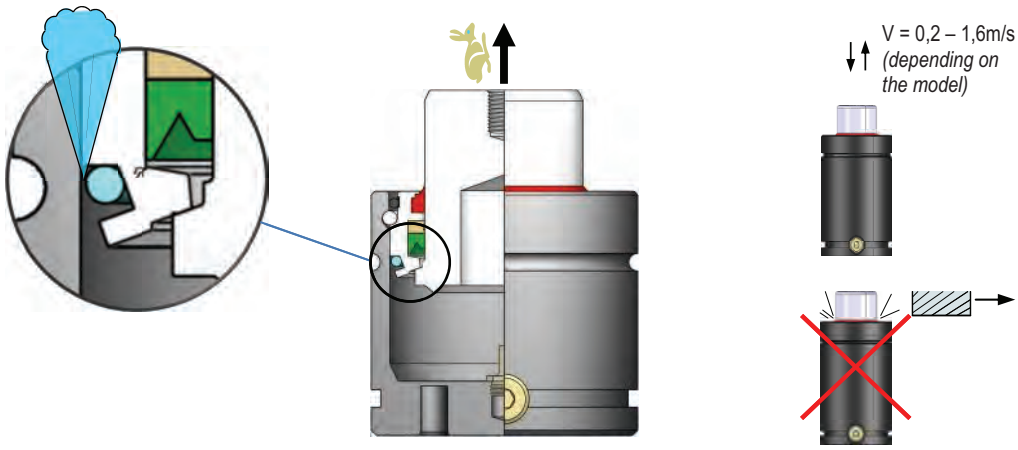
FREE RELEASE PROTECTION · PROTECCIÓN CONTRA LIBERACION DESCONTROLADA

VDI SAFETY

PATENTED

Designed and patented to produce controlled gas spring discharge in case of unrestricted expansion of the piston-rod. The gas spring should be discarded, making sure that it is fully discharged.

Diseñado y patentado para producir un vaciado controlado del cilindro, en caso de producirse una liberacion descontrolada del vástago-pistón. El cilindro debe ser desechado, asegurandose que esté totalmente descargado.

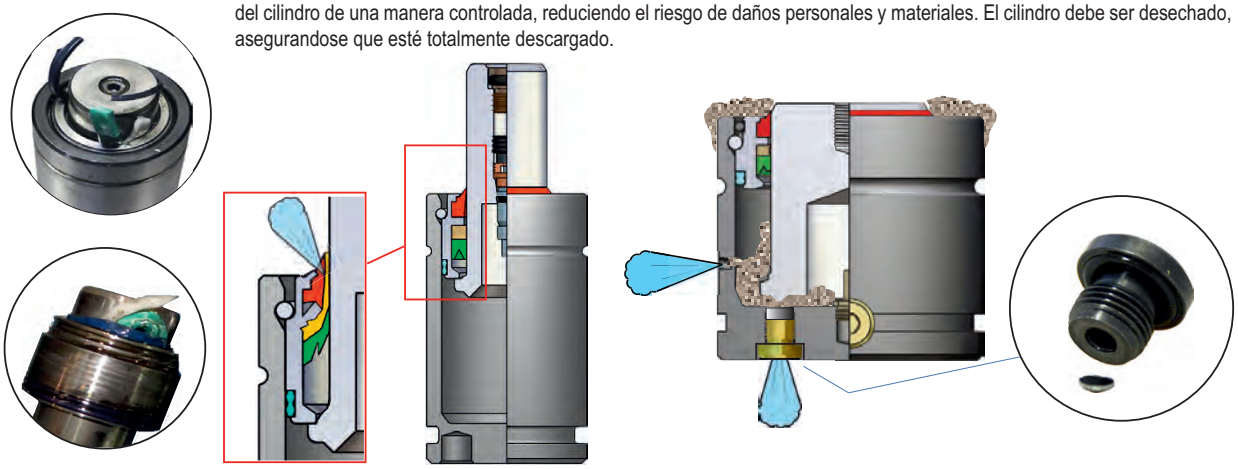


OVERPRESSURE PROTECTION · PROTECCIÓN CONTRA SOBREPRESIÓN

VDI SAFETY

Active safety system that allows for protection against damage produced by excessive pressure, allowing for controlled gas-spring discharge, thus reducing the risk of personal injury and damages. The gas spring should be discarded, making sure that it is fully discharged.

Sistema de seguridad activo que permite proteger contra los daños producidos por una sobrepresión, permitiendo la descarga del cilindro de una manera controlada, reduciendo el riesgo de daños personales y materiales. El cilindro debe ser desechado, asegurandose que esté totalmente descargado.



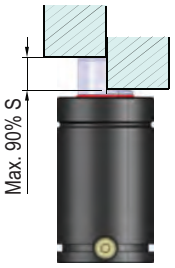
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL



WORKING STROKE (S) CARRERA DE TRABAJO (S)

The working stroke is the gas spring length that can be compressed. This is invariable throughout its use.

It is highly recommended, in order to obtain maximum service life, and to avoid activating the overstroke device, it is recommended to always design an additional safety reserve. A minimum 10% stroke reserve is recommended for this purpose.



Se define como carrera de trabajo, la longitud del cilindro que se puede comprimir. Se mantiene invariable en el uso.

Es muy recomendable, para alcanzar una vida de servicio óptima, y con el fin de no activar la protección contra la sobrecarrera, diseñar siempre con un rango de seguridad. Se recomienda prever una reserva minima de carrera del 10%.

WORKING TEMPERATURE · TEMPERATURA DE TRABAJO

Maximum working temperature is 80°C. Higher temperatures can damage the sealing elements, thus seriously affecting gas spring service life. Gas spring working temperature is mainly altered by the working environment and the gas spring work rate.

There is the possibility of assembling gas springs with special seals, to be able to work at higher temperatures if necessary. Please consult our technical department.





MAX. 80ºC / 176ºF!

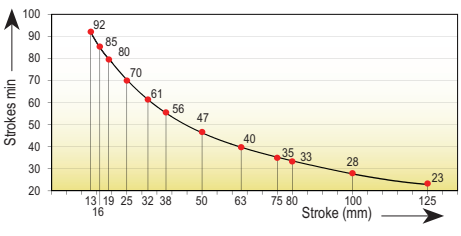
La temperatura máxima de trabajo es de 80ºC. Temperaturas superiores pueden dañar los elementos de estanqueidad, afectando seriamente la vida de servicio de los cilindros. La temperatura de trabajo de los cilindros se ve alterada principalmente por las condiciones ambientales de trabajo y la cadencia de trabajo del cilindro.

Existe la posibilidad de montar los cilindros con juntas especiales que permiten aumentar la temperatura máxima de trabajo hasta 180ºC. Consultar con nuestro departamento técnico.

MAXIMUM RATE (SPM) · CADENCIA MÁXIMA (SPM)

The working rate is the number of strokes or cycles per minute (spm) that a gas spring works at.

It is important to respect the maximum rate as indicated in the technical specifications for each model. This is a very interesting and important piece of information to bear in mind when choosing a gas spring for any given application.



Se define como cadencia, el número de golpes o ciclos por minuto (spm) a los que trabaja el cilindro.

Es importante respetar el valor máximo indicado en las fichas técnicas de cada modelo. Este es un dato muy interesante e importante a tener en cuenta en el momento de elegir un cilindro para una aplicación determinada.

A higher working rate above the maximum values produces high temperatures inside the gas spring which in turn bring about a rapid deterioration of seals, significantly shortening gas spring service life.

Valores superiores a los máximos indicados producen un exceso de temperatura en el cilindro que provoca un desgaste prematuro de los elementos de sellado, acortando significativamente la vida de servicio del cilindro.

WORKING SPEED · VELOCIDAD DE TRABAJO

Working speed is defined as the stem lineal speed. It must not go above the speed indicated in the specifications of each model.

A higher speed may rapidly deteriorate sealing and guiding elements. In addition to this, it could cause structural damage leading to an increased risk of uncontrolled explosions since mechanical stop limits have been designed for those maximum speeds even though ample safety margins have also been established.

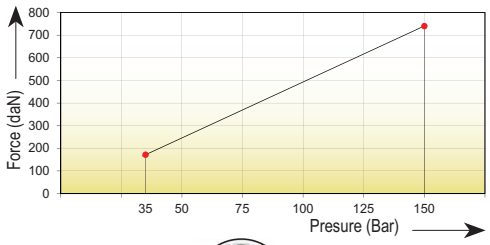


Se define como velocidad de trabajo, la velocidad lineal del vástago. No se debe superar el valor indicado en la ficha de cada modelo.

Velocidades superiores pueden deteriorar rápidamente las juntas de estanqueidad, así como afectar estructuralmente al cilindro, pudiendo causar la rotura de los topes mecánicos, que están diseñados para trabajar con dichas velocidades máximas.

CHARGING PRESSURE · PRESIÓN DE LLENADO

In order to guarantee maximum sealing, respect the maximum and minimum loading pressures for each model, as indicated in the technical specifications.



Para garantizar un sellado óptimo de las juntas de estanqueidad, se deben respetar tanto las presiones máximas como mínimas de cada modelo. Los valores se indican en las fichas técnicas de cada modelo.

Also, the pressure for each gas spring is variable, thus modifying its force. These values are indicated in the diagram corresponding to each model.



Asimismo, la presión de cada cilindro es variable, modificando así la fuerza de éste. Estos valores se indican en el diagrama correspondiente a cada modelo.

INITIAL FORCE FUERZA INICIAL

The definition of the initial force of a gas spring is the power offered by a gas spring at the beginning of its working stroke.

Se define como fuerza inicial de un cilindro a gas, la potencia que ofrece un cilindro al comenzar la carrera de trabajo.

The initial force (Fi) of Nitrogen gas springs depends mainly on:

- The working surface (A)
- The loading pressure (P)

La fuerza inicial (Fi) de los cilindros a Gas Nitrógeno depende principalmente de:

- El área de trabajo (A)
- La presión de carga (P)

The initial force of the gas spring is calculated depending on the gas spring rod seal area and the charging pressure in accordance with the following formula:

La fuerza inicial de los cilindros se calcula en función de la sección de trabajo del cilindro y la presión de carga según la siguiente fórmula:

Fa: Initial force (daN)
A: Working surface (cm²)
P: Charging pressure (bar)

Fa = A x P

Fa: Fuerza inicial nominal (daN)
A: sección de trabajo (cm²)
P: presión de carga (bar)

Charging pressure may be modified in order to vary the initial force of the gas spring. Any pressure may be chosen between minimum and maximum charging pressures.

La presión de carga puede ser modificada al efecto de variar la fuerza inicial de un cilindro. Se puede escoger cualquier valor entre los valores mínimos y máximos.

In order to vary the force, any of the following formulas can be simply applied, knowing the data that are indicated in the specifications for each model.

Para modificar la fuerza inicial de un cilindro se puede seguir cualquiera de estas fórmulas para hallar la presión de carga, conociendo los datos que se especifican en las fichas técnicas de cada modelo.

P = Desired pressure (Bar)
Pi = Nominal loading pressure (Bar)
F = Desired initial force (daN)
Fi = Nominal initial force (daN)
A = Working surface (cm²)

P = Pi x F/Fa

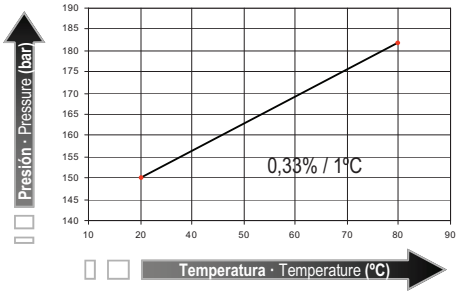
P = F / A

P = Presión buscada (Bar)
Pi = Presión de carga nominal (Bar)
F = Fuerza inicial deseada (daN)
Fa = Fuerza inicial nominal (daN)
A = Superficie de trabajo (cm²)

FORCE VARIATION DEPENDING ON THE TEMPERATURE · VARIACIÓN DE FUERZAS EN FUNCIÓN DE LA TEMPERATURA

Gas temperature affects the pressure of gas springs and therefore their force. The forces specified in the catalogue correspond to loading pressures at the temperature of 20°C.

In the following graph it is possible to see how nitrogen pressure varies according to temperature.



La temperatura del gas afecta a la presión de los cilindros y por lo tanto a su fuerza. Las fuerzas dadas en el catálogo corresponden a una presión de carga de 20ºC.

En la gráfica siguiente se muestra cómo la presión del Nitrógeno varía en función de la temperatura.

Gas springs are elements that contain gas subjected to high pressure. It is therefore very important to adhere to the following warnings, recommendations and a correct instalation.
Any unauthorised operation carried out may bring about serious material damages and personal injuries. It is therefore essential to handle such elements with care and to respect these instructions. These gas spring have been designed for use in stamping and die sets. Any use differing from the use they have been designed for is exclusively the responsibility of the user, TECAPRES assumes no resposability whatsoever.

El cilindro a gas es un elemento que contiene gas a alta presión, por lo que es muy importante seguir las siguientes advertencias, recomendaciones y una correcta instalación.
Cualquier operación realizada no autorizada puede ocasionar graves daños materiales y personales. Es esencial manipular los elementos con atención y respetando las indicaciones. Los cilindros han sido diseñados para su uso en estampación y troquelería, por lo que un uso fuera de aquel para el cual se han diseñado será bajo la responsabilidad del usuario, TECAPRES queda excluido de toda responsabilidad.

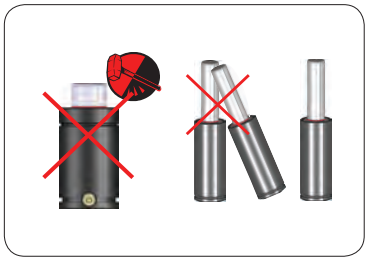
Gas springs must only be charged with nitrogen gas (N_2). The use of any other medium is expressly forbidden.



Los cilindros se deben cargar únicamente con Gas Nitrógeno (N_2). La utilización de otro medio queda expresamente prohibida.

Protect the gas spring body or stem from blows. Any resulting imperfection could bring about a loss of pressure and affect the useful life of the gas spring. Carry and keep the gas spring in a way that it does not hit other gas springs.

If the gas spring has been dented in its structure, discharge it completely before carrying out its revision or handling.



Preservar de golpes en el cuerpo o en el vástago del cilindro. Cualquier imperfección puede ocasionar una pérdida de presión y afectar a la vida útil del cilindro. Manipular y transportar los cilindros de manera que no se golpeen entre sí.

Si un cilindro presenta desperfectos en su estructura, descargar completamente de gas antes de proceder a su revisión o manipulación.

Protect gas springs adequately during transport, in order to prevent gas spring blows or damage.

Please foresee special protection in sea freight, and protect gas springs against rust and corrosion.

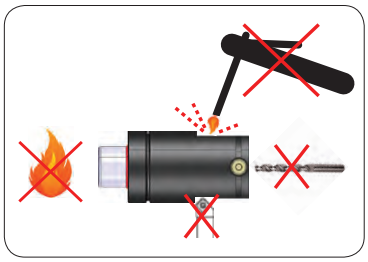


Proteger adecuadamente el cilindro durante el transporte, para prevenir golpes o deterioro de este.

Extremar protecciones en transporte marítimo protegiendo el cilindro contra oxidación y corrosión.

Any mechanical operation (machining, drilling, welding...) on the gas spring is strictly prohibited.

Do not use the gas spring close to flames or heat sources.

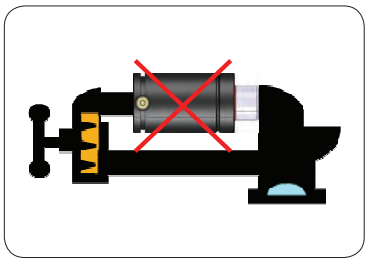


Cualquier operación mecánica (mecanizado, taladrado, soldaduras... etc.) en el cilindro queda totalmente prohibida.

No acercar ninguna llama o fuente de calor.

There are specific tools to measure gas spring force.

Never knock the stem with a hammer to check its pressure, and gas springs should not be inadequately compressed in order to check their force.

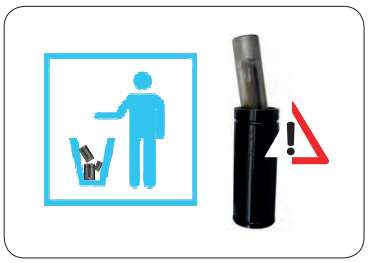


Para comprobar la fuerza de un cilindro existen útiles específicos para ello.

Nunca golpear el vástago con un martillo para verificar su presión, así como comprimir los cilindros de manera inadecuada para comprobar su fuerza.

Once the useful life of the gas spring is over, it should be completely discharged. The stem should remain fully introduced into the body.

In case of structural damage of the gas spring, it is imperative to discharge all residual pressure before handling.

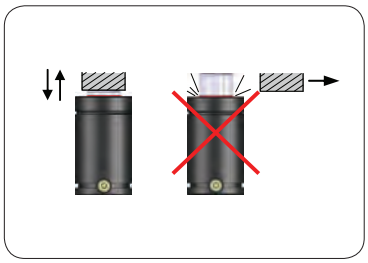


Acabada la vida de servicio del cilindro descargar completamente. El vástago debe quedar completamente introducido en el cuerpo.

En caso de cualquier daño estructural del cilindro descargar completamente toda presión residual antes de manipular.

Avoid sudden gas spring stem release to avoid sudden discharges or component damage.

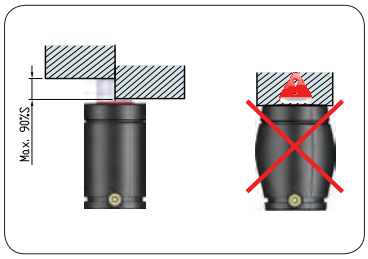
If checking the tool or gas springs a broken or loosen screw is found, could indicate that there has been a free release, please replace and correct the cause.



Prevenir la liberación descontrolada del vástago del cilindro para evitar descargas o daños en los componentes.

Si en una revisión del troquel y los cilindros, se encontraran tornillos rotos o aflojados, podría indicar que se ha producido una liberación libre, por lo que conviene reemplazar el clindro y corregir la causa

It is most recommendable not to go over 10% of the maximum stroke (Smax) due to the benefit this implies in terms of the gas spring useful life, but especially due to the possibility of the existence of nuggets, particles and pollutants that may make the press stroke increase, thus generating a possible gas spring over-stroke that could generate risks of crushing or explosion.



Es muy recomendable no superar el 90% de la carrera máxima (Smax) por el beneficio que supone para la vida útil del cilindro, pero sobre todo debido a la posibilidad de existencia de virutas, pepitas y contaminaciones que pueden hacer que aumente la carrera del pisador, generando una sobrecarrera sobre el cilindro con el riesgo de aplastamiento o explosión.

All TECAPRES gas springs are susceptible of repair. All handling or maintenance operations should be carried out by authorised personnel, who should be especially trained for this purpose.

Original components, accessories and spares should always be used. For any doubts during gas spring maintenance, please consult our Technical Department.

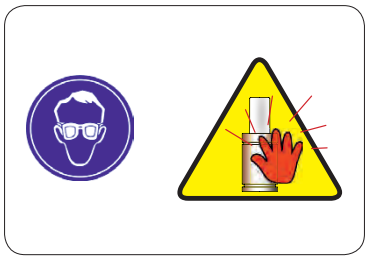


Todos los cilindros **TECAPRES** pueden ser reparados. Cualquier operación de manipulación o mantenimiento debe realizarse por personal autorizado, ya que debe estar especialmente formado para ello.

Siempre se deben usar componentes, accesorios y recambios originales. Para cualquier duda durante la realización del mantenimiento a un cilindro puede dirigirse a nuestro departamento técnico.

The use of protective goggles is recommended during any operations carried out on the gas spring, and specifically during maintenance operations.

Be careful if you touch a gas spring after use. It could be very hot.

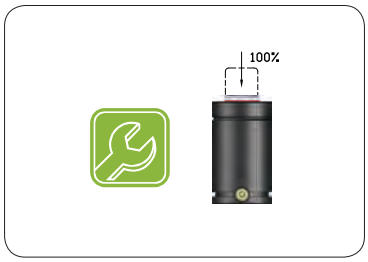


Se recomienda el uso de gafas de protección durante cualquier operación realizada sobre el cilindro, especificamente durante operaciones de mantenimiento.

Cuidado al tocar un cilindro después de trabajar. Puede quemar

Gas springs should never be handled without their being previously completely discharged.

To be on the safe side, the stem should be introduced completely into the body without it coming up again.



Nunca se deben realizar manipulaciones al cilindro sin estar descargado totalmente.

Para asegurarse se debe poder introducir el vástago dentro del cuerpo sin que éste vuelva a subir.

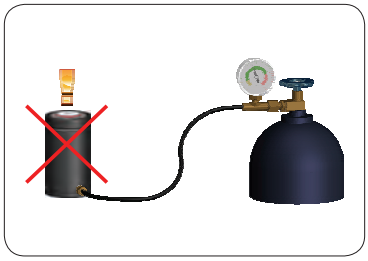
During gas spring discharging, the discharging point is to be placed as high as possible. The use of protective goggles is recommended.



Durante el vaciado del gas de un cilindro se debe posicionar el punto de descarga lo más alto posible. Se recomienda usar gafas de protección.

The gas spring should never be charged unless the stem has been extracted from the body 100% of its stroke (otherwise there is a risk of structural damage). It is first necessary to carry out a 5-to-10 bar precharge, checking the gas spring before carrying out the complete charge.

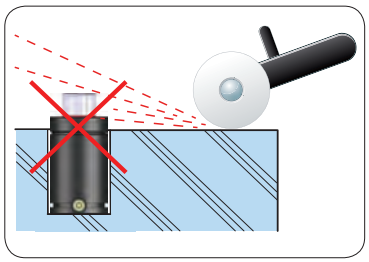
Maximum and minimum charging pressures should be respected, as indicated in the specifications for each gas spring model.



Nunca se debe cargar un cilindro si el vástago no esta completamente extendido al 100% de la carrera (riesgo de graves daños estructurales). Realizar primero una precarga de 5-10 bares verificando el cilindro antes de realizar la carga completa.

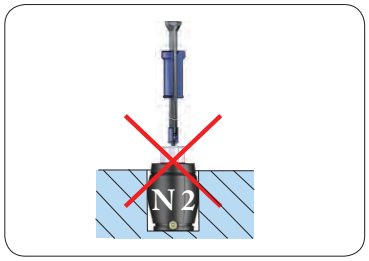
Respetar las presiones de llenado máximas y mínimas de cada modelo, indicadas en la ficha técnica de cada cilindro.

The cylinder must be fully protected during modifications or repairs to the die, and maintenance and cleaning operations.



El cilindro debe estar totalmente protegido durante las modificaciones o reparaciones que sufra el troquel, así como operaciones de mantenimiento y limpieza.

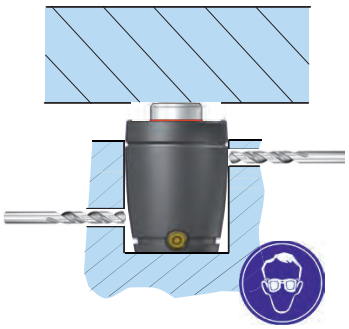
Before removing a damaged cylinder from its pocket, completely discharge the nitrogen gas from the inside.



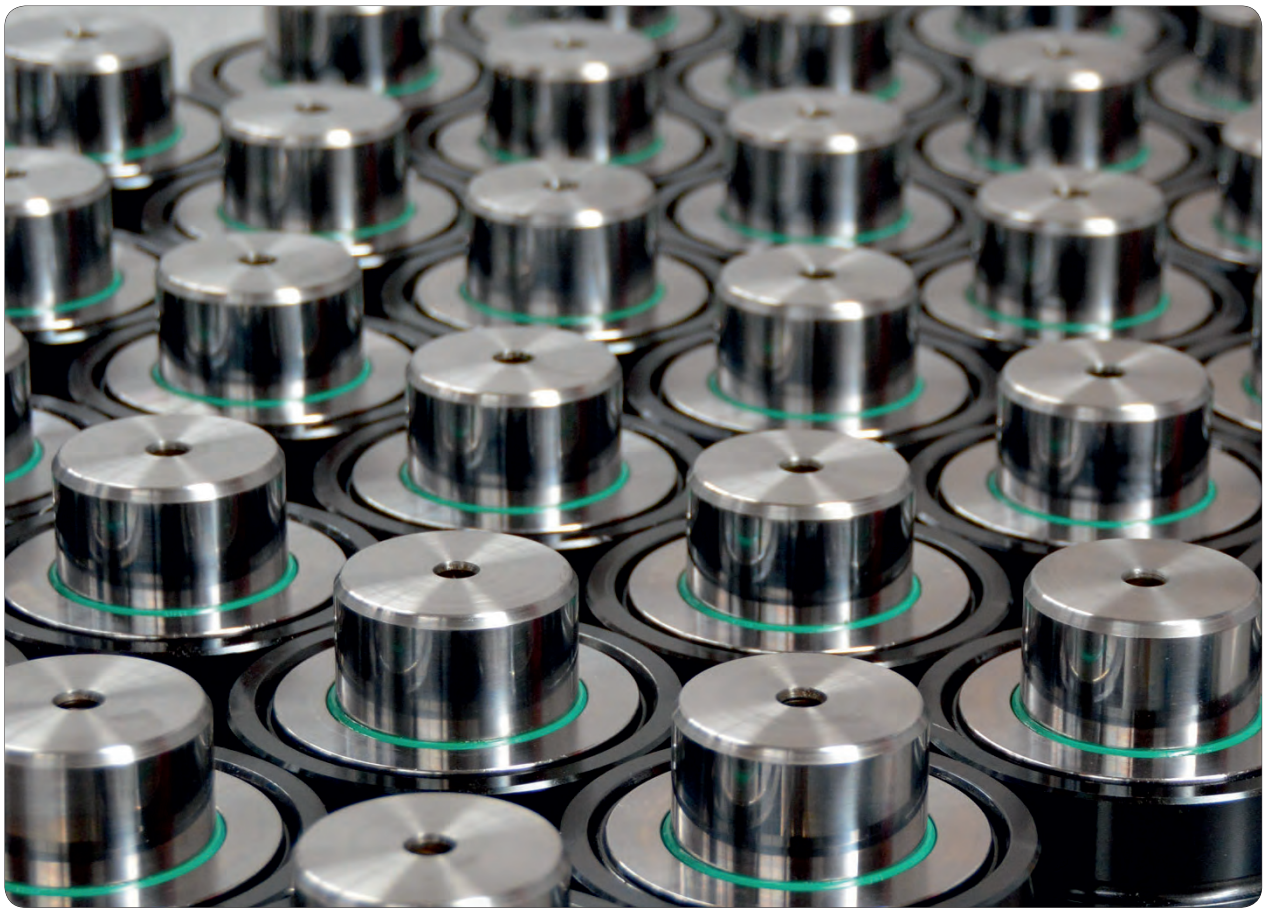
Antes de extraer un clindro dañado de su cajera, descargar completamente el gas nitrógeno del interior.

EMERGENCY DISCHARGE · DESCARGA DE EMERGENCIA

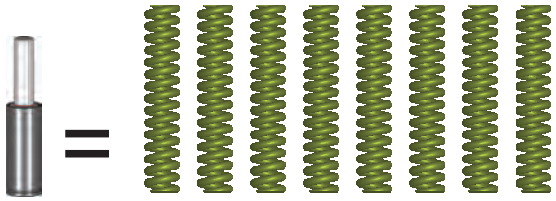
Occasionally, there can be some kind of incidents that jeopardize the structural integrity of a gas spring. In such cases, it is imperative to act with utmost care and diligence, discharging the gas spring immediately.
In the event that access to the valve is not possible or implies a risk, discharge the gas spring by drilling a hole on it on the middle of the body, or by applying heat (with a blowtorch or any other similar device) on the upper body, where the seals are situated. The heat will melt the seals, thus discharging the gas spring quickly and safety. Moreover, the latter option can be performed keeping a safe distance from the gas spring.



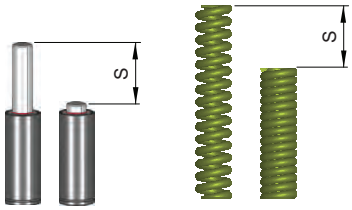
Ocasionalmente, puede haber algún tipo de incidentes que ponen en peligro la integridad estructural de un muelle de gas. En tales casos, es imprescindible actuar con sumo cuidado y diligencia, descargando la fuente de gas inmediatamente.
En caso de que el acceso a la válvula no sea posible o implique un riesgo, descargue el resorte de gas perforando un agujero en el centro del cuerpo o aplicando calor (con un soplete o cualquier otro dispositivo similar) en la parte superior cuerpo, donde se encuentran los sellos. El calor fundirá los sellos, descargando así el resorte de gas de forma rápida y segura. Además, esta última opción se puede realizar manteniendo una distancia segura del resorte de gas.



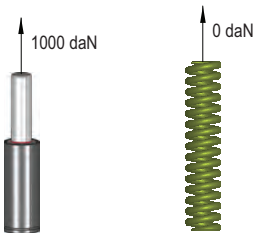
MORE FORCE IN LESS SPACE MAS FUERZA EN MENOS ESPACIO



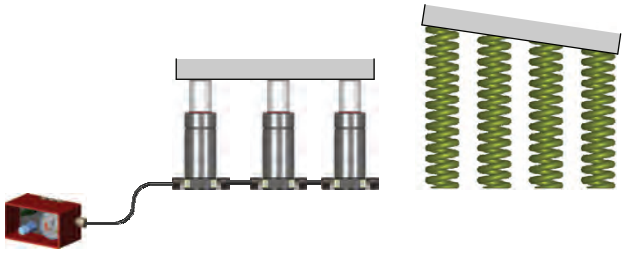
LESS LENGTH FOR THE SAME WORKING STROKE AND FORCE MENOR LONGITUD A IGUALDAD DE CARRERA DE TRABAJO Y FUERZA



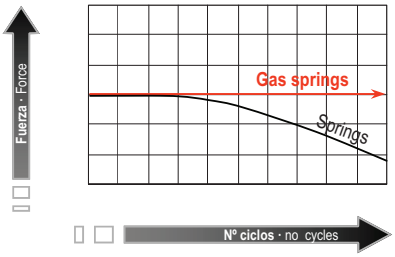
THE WHOLE OF THE FORCE AT THE BEGINNING OF THE STROKE · TOTALIDAD DE LA FUERZA AL INICIO DE LA CARRERA



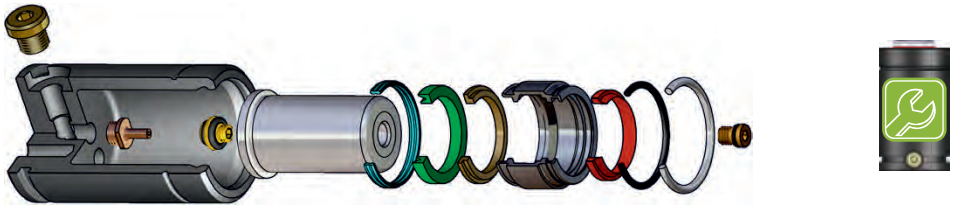
THE SAME FORCE AT ALL CONTACT POINTS · FUERZA EQUILIBRADA EN TODOS LOS PUNTOS DE LA CARRERA



INVARIABLE FORCE DURING USEFUL LIFE FUERZA INVARIABLE EN EL USO



PARTS MAINTENANCE AND REPLACEMENT CAPACITY CAPACIDAD DE MANTENIMIENTO Y RECAMBIO DE LAS PIEZAS

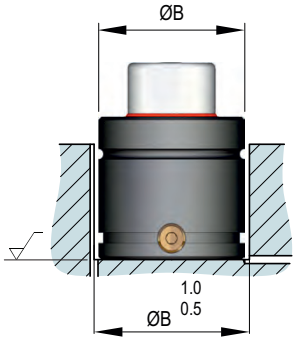


MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

PRELIMINARY CONSIDERATIONS. FLAT SUPPORT CONSIDERACION PREVIAS. APOYO PLANO

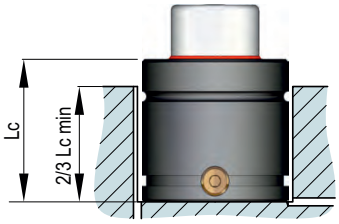
A flat surface is to be guaranteed for the base of the cylinder. Inadequate fixtures produce structural damage or reduce gas spring useful life. This type of installation is not possible for interconnected gas springs.

Se debe asegurar un apoyo plano contra la base del cilindro. Alojamientos inadecuados causan daños estructurales o reducen la vida útil del cilindro. Este tipo de instalación no es posible para cilindros intercomunicados.



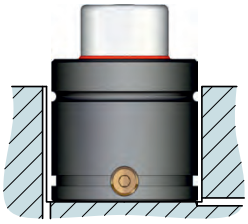
The hole is to have the dimensions as indicated

La cajera debe tener las dimensiones indicadas



Hole depth is to have adequate dimensions and never below 70% of the "Lc" dimension.

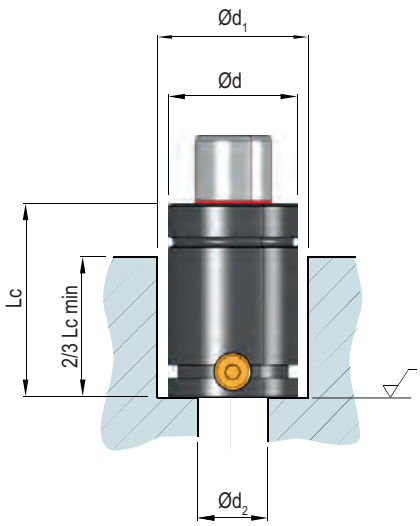
La profundidad de la cajera debe tener la dimensión adecuada, y nunca por debajo de 2/3 Lc.



The hole is to be equipped with drainage and drainage conducts are to be cleaned regularly.

Las cajera debe tener agujeros de drenaje y debe ser limpiada regularmente.

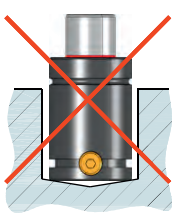
DROP-IN ASSEMBLY MONTAJE EN CAJERA PASANTE

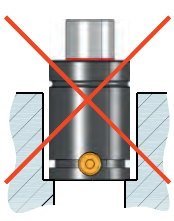


Code	Ød	$Ød_1^{+1.0}_{+0.5}$	$Ød_2$ max
MICRO 19V1	19,2	19	0
MICRO 25H	25,2	25	15
MICRO 32VS	32	32	20
MICRO 38VS	38	38	25
MICRO 45V	45	45	30
MICRO 50VS	50	50	35
MICRO 63V	63	63	40
MICRO 75	75,2	75	50
MICRO 95	95	95	70
MICRO 120V	120	120	90
TPC 19	19	19	0
TPC 25	25	25	15
TPS 32	32	32	15
TPS 250	38	38	25
TPS 500	45	45	30
TPS 750	50	50	35
TPS 1500	75	75	50
TPS 3000	95	95	70
TPS 5000	120	120	90

Please consult us reference to other models · Otros modelos consultar

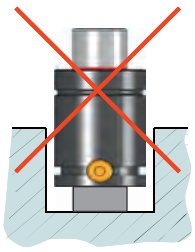
COMMON MISTAKES ERRORES COMUNES





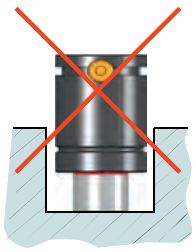
Ensure a flat support for the gas spring

Asegurar un apoyo plano al cilindro



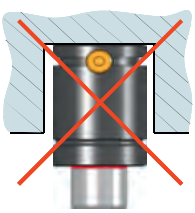
Do not place on another part

No colocar sobre otra pieza



Never install a gas spring in a hole in the upside down position

Nunca instalar un cilindro en cajera en posición invertida



Installation on the top part of a hole without fixing screws is forbidden

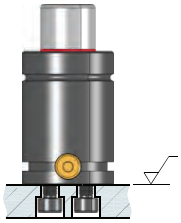
La instalación en cajera en la parte superior sin tornillos está prohibida

ASSEMBLY WITH SCREWS MONTAJE CON TORNILLOS

Secure the gas spring to the tool firmly. If possible, we recommend using the fixture holes in the gas spring to secure it with screws. This type of fixture is the most recommended for interconnected gas springs as vibrations and damage to the connecting elements are thus avoided.
In order to ensure a better grip of the gas spring to the tool, you should follow these guidelines:

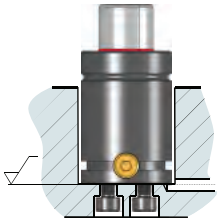
Fijar el cilindro al útil sólidamente. Si es posible, se recomienda usar los agujeros de amarre del cilindro para fijarlo con tornillos. Esta fijación de los cilindros es la más recomendable para cilindros intercomunicados, ya que evitan vibraciones y daños en los elementos de conexión.

Con el fin de asegurar la mejor sujeción del cilindro al útil, es recomendable seguir las siguientes indicaciones:



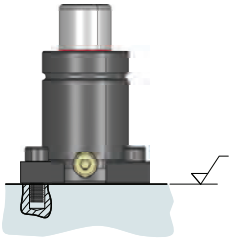
Make sure screw length is adequate

Asegurarse que la longitud de los tornillos es la adecuada



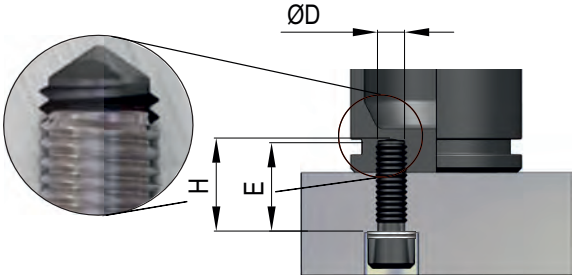
The use of screws is recommended even in the assembly of a gas spring in a hole.

Incluso en un montaje del cilindro en cajera se recomienda la utilización de tornillos.



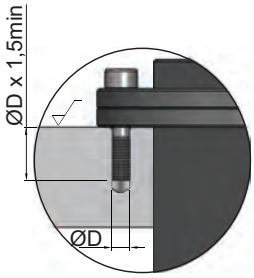
In fixtures with flanges, make sure the screws have the indicated torque.

En fijaciones con bridas, asegurarse que los tornillo tienen el apriete indicado.



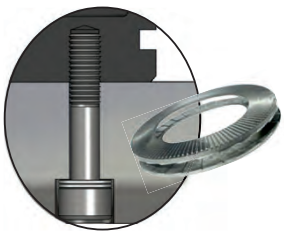
Use the maximum gas spring threaded length in order to ensure the best possible fixture

Utilizar el máximo de la longitud roscada del cilindro para asegurar la mayor sujeción



For all kinds of flanges, only screws with the adequate length are to be used

Para todos los tipos de bridas, solo deben utilizarse tornillos de la longitud adecuada.



The use of safety washers is recommended in all screwed fixtures or anaerobic thread fixtures.

Se recomienda utilizar arandelas de seguridad en todas las uniones atornilladas o fijadores de rosca anaeróbicos.

Torque references for SHCS-type threaded screws:

- **Quality 8.8**
- **Without lubrication**
- **New thread**
- **Torque coefficient μ = 0,14**

Diameter Diámetro	Torque (N)
M6	10
M8	25
M10	49
M12	85
M16	210

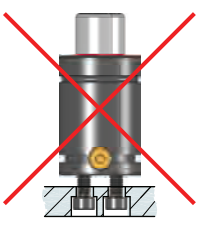
Valores de referencia de apriete para tornillos roscados tipo SHCS:

- Calidad 8.8
- Sin lubricación
- Rosca nueva
- Coeficiente de apriete μ = 0,14



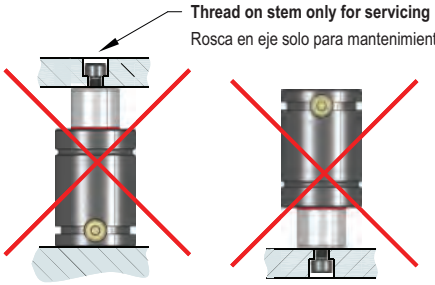
Only for maintenance and transport
Usar solo para mantenimiento y transporte

COMMON MISTAKES · ERRORES COMUNES



Screws should have the adequate length

Los tornillos deben tener la longitud adecuada



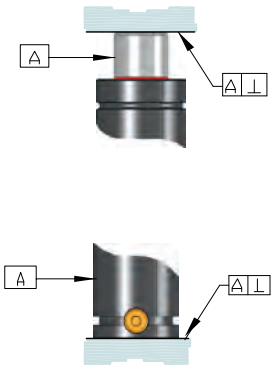
Fixing the gas spring by the stem is forbidden

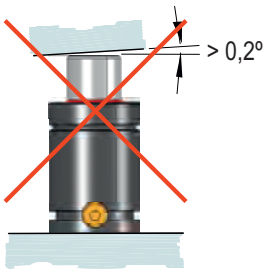
Está prohibido fijar el cilindro por el eje

PERPENDICULAR WORK · PERPENDICULARIDAD

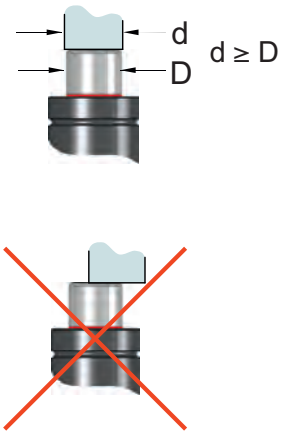
The gas spring must always work completely perpendicular to the contact surface. Lateral forces produced by a badly-aligned press can cause irreparable damage.

El cilindro debe trabajar siempre totalmente perpendicular a la superficie de contacto. Las fuerzas laterales producidas por un mal alineado pueden causar daños irreversibles.





Without floating guide
Sin guiado flotante

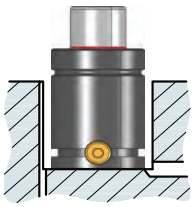


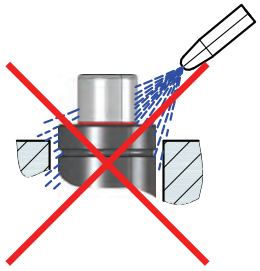
PROTECTION FROM POLLUTANTS· PROTEGER DE CONTAMINACIONES

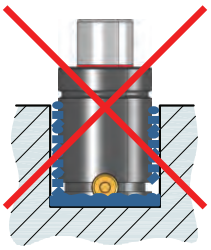


Protect gas springs from liquid or solid pollution, to avoid particles from making direct contact with the gas spring. Box cavities are to be cleaned regularly and should be equipped with drainage holes.

Proteger los cilindros de contaminaciones líquidas o sólidas, para evitar que entren en contacto directo con el cilindro. Las cavidades de las cajeras se deben limpiar regularmente y éstas deben de ir dotadas de orificios de drenaje.







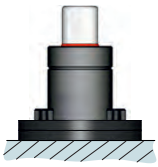
FIXING ELEMENTS · ELEMENTOS DE SUJECCIÓN

In order to fix the gas spring to the tool, use specific fixing elements. TECAPRES offers a wide variety of assembly options to satisfy our customers' different application needs.

Utilizar para fijar el cilindro al útil, los elementos de sujeción específicos. TECAPRES ofrece una gran variedad de opciones de montaje para satisfacer las diferentes necesidades de aplicación de nuestros clientes.



ASSEMBLY WITH FLANGE IN THE LOWER POSITION · MONTAJE EN POSICION INFERIOR CON BRIDA



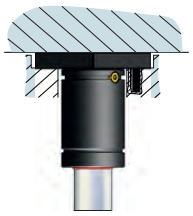
FS FSC



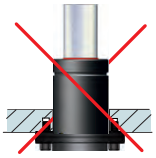
FP



FB



FB

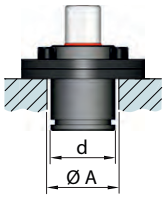




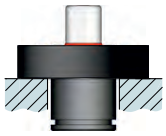
All the forces is to be supported by the contact surfaces of the flanges. Not by the fixing screws.

Todas las fuerzas deben ser soportadas por las superficies de contacto de las bridas. No por los tornillos de amarre.

ASSEMBLY WITH FLANGE IN THE UPPER POSITION · MONTAJE EN POSICION SUPERIOR CON BRIDA



FS · FSC

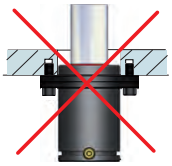


FRS

TOLERANCE
TOLERANCIA

$d \leq 95 \quad -ØA^{\,10}_{\,05}$

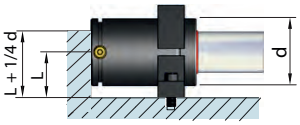
$d > 120 \quad -ØA^{\,15}_{\,05}$

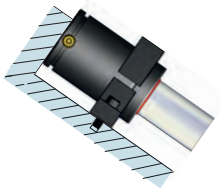


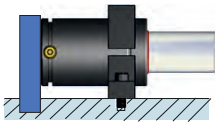
All the forces is to be supported by the contact surfaces of the flanges. Not by the fixing screws.

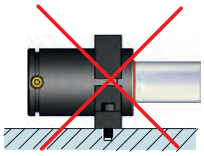
Todas las fuerzas deben ser soportadas por las superficies de contacto de las bridas. No por los tornillos de amarre.

ASSEMBLY WITH FI-TYPE FLANGE · MONTAJE CON BRIDA TIPO FI









The cylinder always be supported at its base, with this type of flange.

El cilindro siempre debe estar reaccionado en su base con este tipo de brida.

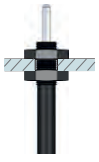
ASSEMBLY WITH THREADED GAS SPRINGS · MONTAJE CON CILINDROS ROSCADOS

TECAPRES has a wide variety of threaded body gas springs in its program.

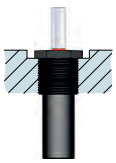
TECAPRES tiene en su programa una gran variedad de clindros con el cuerpo roscado.



TPR TPRB TPRC



FR



TPRT 24



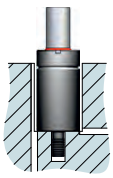
FR



FR



FRS



MICRO.....R

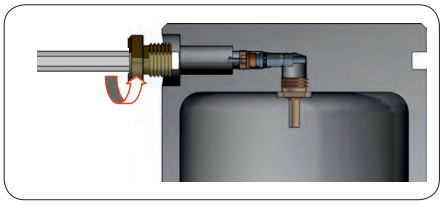


TPKR

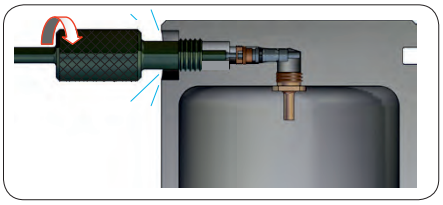
The use of thread chemical fasteners is recommended to make sure that the gas spring is completely secured. This also prevents the gas spring from getting loose due to vibrations or shocks.

Se recomienda la utilización de fijadores de rosca químicos para garantizar que el cilindro de gas esté completamente asegurado. Esto evita también que el cilindro de gas se pueda soltar debido a vibraciones o golpes.

GAS SPRING DISCHARGING WITH TPFV1 VALVE DESCARGA DEL CILINDRO VÁLVULA TPFV1



Withdraw the safety plug.
Retirar el tapón de seguridad.



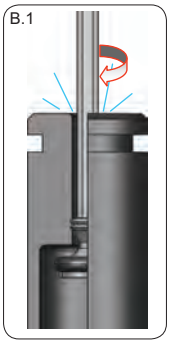
Softly screw in discharging tool DV-M6 or DV-G1/8 until the gas spring starts to discharge.
Roscar suavemente el útil de descarga DV-M6 ó DV-G1/8 hasta que el cilindro comience a descargarse.

GAS SPRING DISCHARGING WITH TPFV2 VALVE DESCARGA DEL CILINDRO VÁLVULA TPFV2

Loosen the valve using a 3mm Allen key turning right until the gas spring begins to discharge (2-3 turns) (B.1)

Once the gas spring has been discharged, place the valve by turning it left until it starts to exert pressure on the closing o-ring. The gas spring is ready for charging (B.2).

NOTE: once charging is concluded, leave the valve in its initial position turning it to the left until it stops.



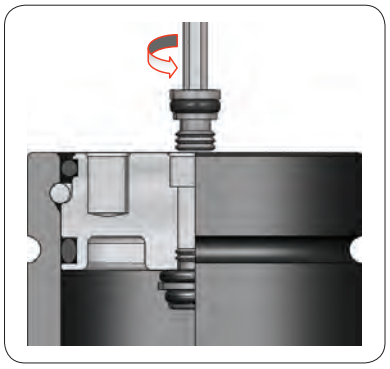


Aflojar la válvula utilizando una llave Allen de 3mm girando a derechas hasta que el cilindro comience a descargarse (2-3 vueltas) (B.1).

Descargado el cilindro posicionar la válvula girándola a izquierdas hasta que comience a hacer presión la tórica de cierre sin hacer bloque. Cilindro listo para la recarga (B.2).

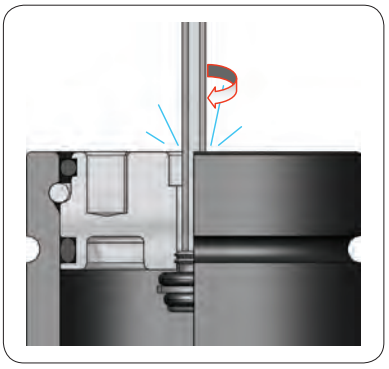
NOTA: después de finalizada la carga dejar la válvula en su posición inicial girando a izquierdas llevándola a bloque.

GAS SPRING DISCHARGING WITH TPFV3 VALVE DESCARGA DEL CILINDRO VÁLVULA TPFV3



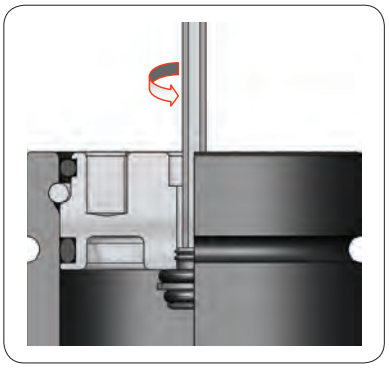
Withdraw the safety plug, if necessary.

Retirar el tapón de seguridad, si procede.



Loosen the valve using a 3mm Allen key turning right until the gas spring begins to discharge (1/2 turn).

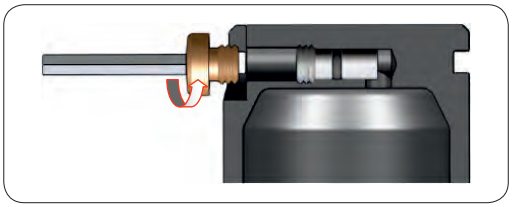
Aflojar la válvula utilizando una llave Allen de 3mm girando a derechas hasta que el cilindro comience a descargarse (1/2 vuelta).



Once the gas spring has been discharged, place the valve by turning it left until it reaches its initial position. Valve is ready for charging.

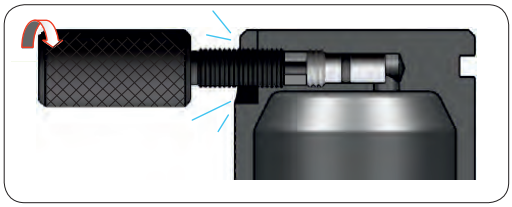
Descargado el cilindro posicionar la válvula girándola a izquierdas hasta su posición inicial, a bloque. Válvula lista para la recarga.

GAS SPRING DISCHARGING WITH TPFV4 VALVE DESCARGA DEL CILINDRO VÁLVULA TPFV4



Withdraw the safety plug.

Retirar el tapón de seguridad.



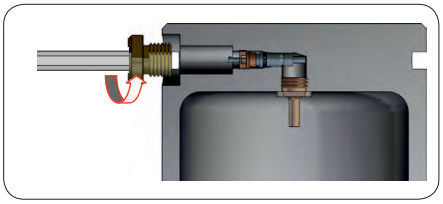
Softly screw in discharging tool DV-M6B until the gas spring start to discharge.

Roscar suavemente el útil de descarga DV- M6B hasta que el cilindro comience a descargarse.

CONVERSION FROM AUTONOMOUS GAS SPRING WITH CHARGING PORT G1/8 TO INTERCONNECTED GAS SPRING

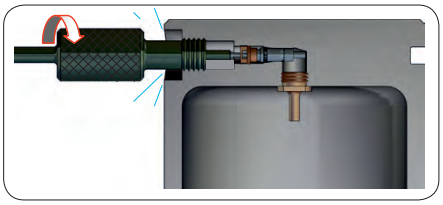
CONVERSIÓN DE CILINDRO AUTÓNOMO CON PUERTO DE CARGA G1/8 A INTERCOMUNICADO

Withdraw the safety plug.



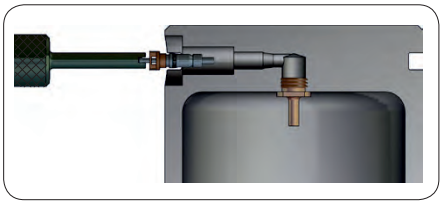
Retirar el tapón de seguridad.

Discharge the gas spring with key DV-G1/8, pressing slightly on the valve.



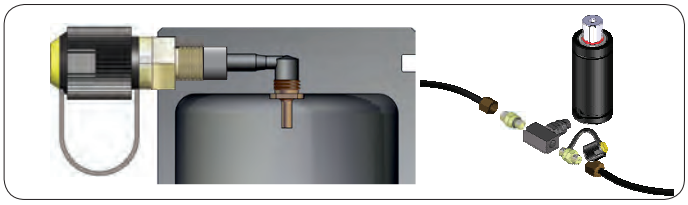
Descargar el cilindro con el útil DV-G1/8, presionando ligeramente la válvula.

Withdraw filling valve TPFV1 by unscrewing it with key DV-G1/8.



Extraer la válvula de llenado TPFV1 desenroscándola con el útil DV-G1/8.

Install the appropriate fittings and hoses. TECAPRES offers a wide variety of connection fitting options.



Instalar los racores y latiguillos apropiados. TECAPRES ofrece una gran variedad de opciones de racores de conexión.

CONVERSION FROM AUTONOMOUS GAS SPRING WITH CHARGING PORT M6 IN STEM, TO INTERCONNECTED GAS SPRING

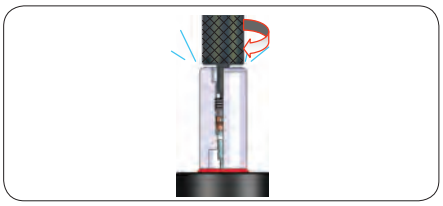
CONVERSIÓN DE CILINDRO AUTÓNOMO CON PUERTO DE CARGA M6 EN EL EJE, A INTERCOMUNICADO

Withdraw the M6 safety plug.



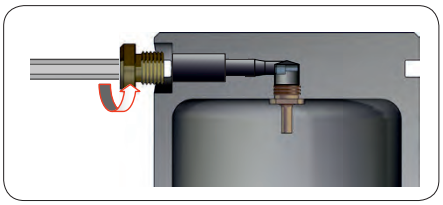
Retirar el tapón de seguridad M6.

Discharge the gas spring with key DV-M6, pressing slightly on the valve, and screw the M6 safety plug again.



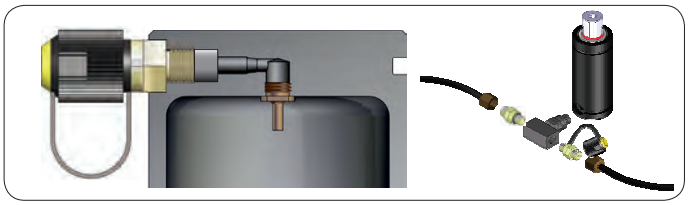
Descargar el cilindro con el útil DV-M6, presionando ligeramente la válvula, y volver a colocar el tapón M6.

Withdraw the G1/8 safety plug.



Retirar el tapón de seguridad G1/8.

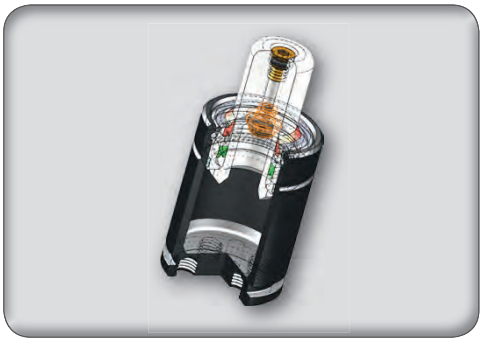
Install the appropriate fittings and hoses. TECAPRES offers a wide variety of connection fitting options.



Instalar los racores y latiguillos apropiados. TECAPRES ofrece una gran variedad de opciones de racores de conexión.

**Every day, our R+D department is at work developing new products to satisfy a demanding and competitive market.
We have a constant and long-standing commitment towards offering good quality, low costs and a high profitability in all our products.
Our considerable flexibility allows us to design and manufacture tailor-made gas springs in accordance with our customers' requirements in a record-breaking period of time.**

Nuestro departamento I+D trabaja cada día desarrollando nuevos productos para satisfacer un mercado exigente y competitivo.
Tenemos un compromiso constante y una larga trayectoria ofreciendo la mejor calidad, bajos costos y una alta rentabilidad en todos nuestros productos.
Nuestra flexibilidad y cualificacion nos permite diseñar y fabricar muelles de gas a medida según las necesidades de nuestros clientes en un tiempo récord.



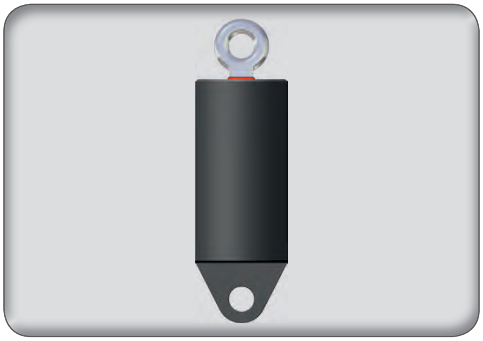
Customerised gas springs
Cilindros a medida del cliente



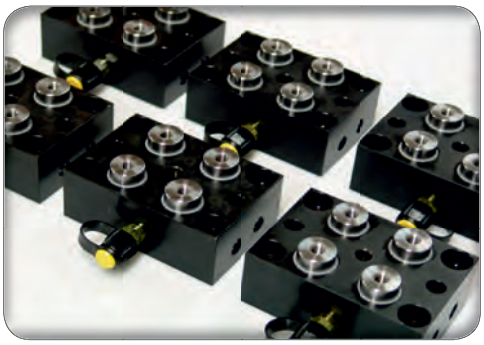
Hollow gas springs
Cilindros huecos



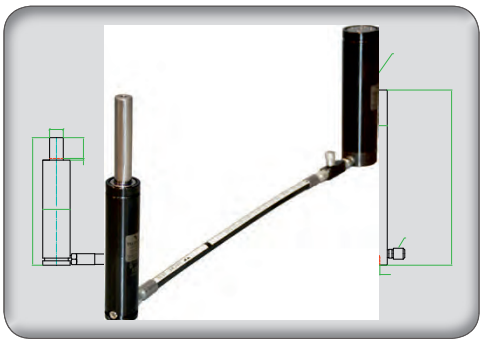
Spring pack



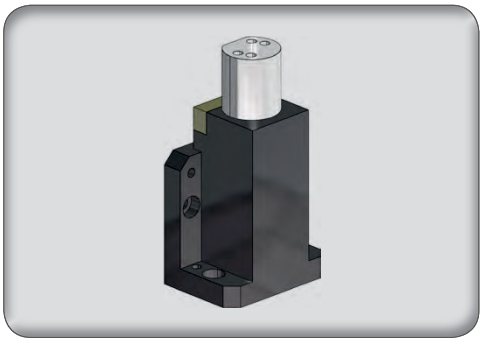
Gas spring for extension work
Cilindros para trabajos a tracción



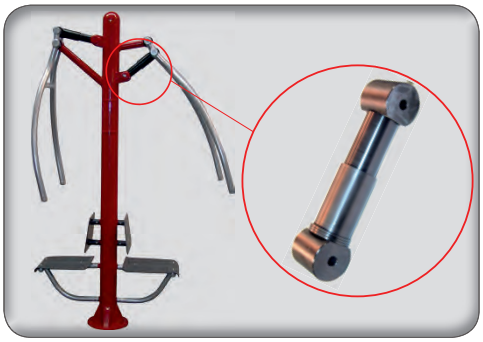
Pressure box



Hydraulic cylinders with controlled expansion speed
Cilindros hidráulicos con velocidad de expansión controlada



Flange stripper
Extractor de chapa



Articulated cylinders for multifunction gym equipment
Cilindros articulados para equipos de gimnasia multifunción

TECAPRES has a worldwide commercial distributor network that can offer global integral service in key markets in order to inmediately respond to our customers' needs.

Our philosophy is to provide quick and efficient assistance by means of a team of professionals. Our customers' satisfaction is also guaranteed thanks to our fast and reliable deliveries.

TECAPRES cuenta con una amplia red de distribuidores repartida por todo el mundo, capaz de ofrecer un servicio integral a nivel global en los mercados clave para responder inmediatamente a las necesidades de nuestros clientes.

Nuestra filosofía es proporcionar una asistencia rápida a través de un equipo de profesionales. La satisfacción de los clientes está garantizada además por entregas rápidas y fiables.



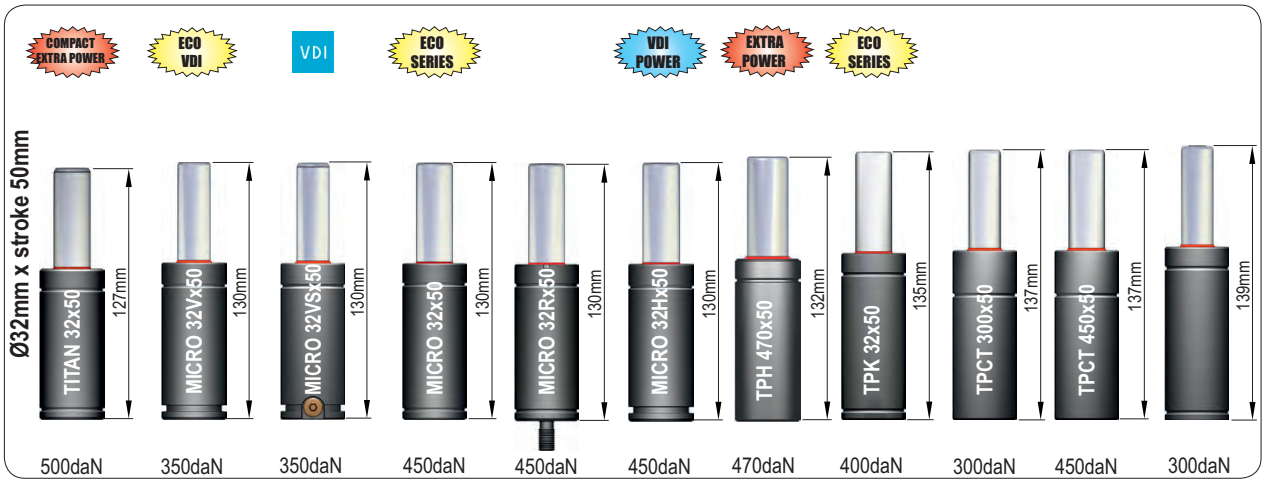


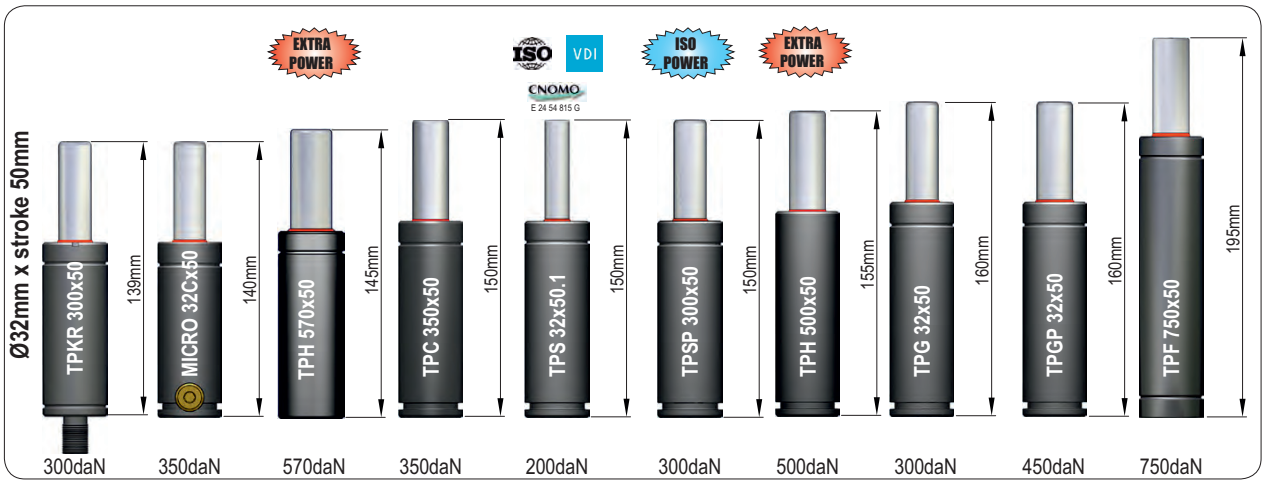
Please go to our www.tecapres.com website to find our nearest distributor.

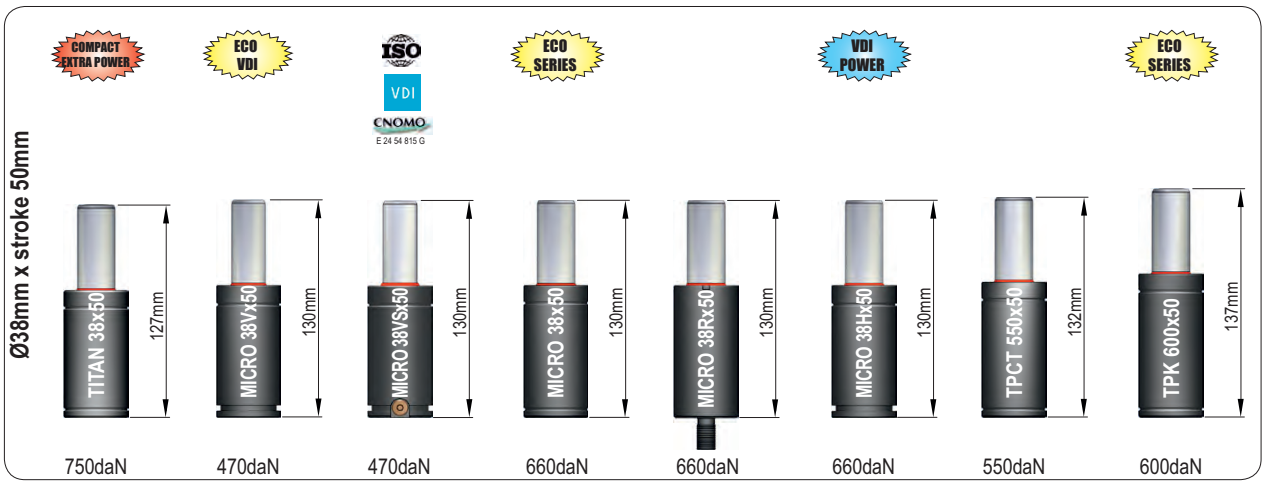
Consulte la página web para localizar a su distribuidor más cercano

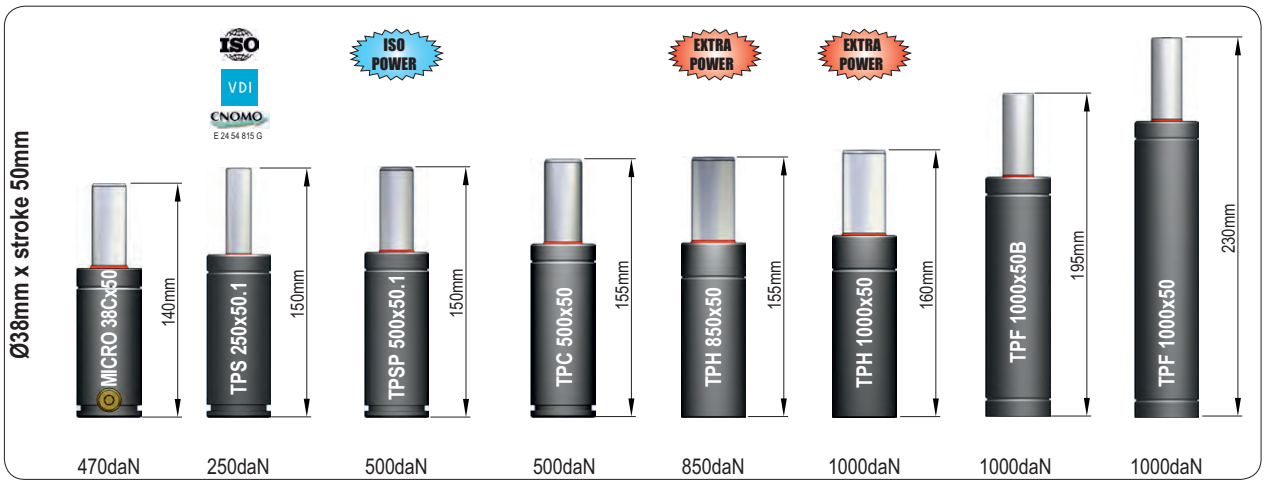
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL


Ø12mm x stroke 50mm
TPC 12x50
142mm
42daN
Ø14mm x stroke 50mm
TPC 14x50
142mm
50daN
Ø15mm x stroke 50mm
MICRO 15x50
142mm
90daN
M16x1,5 · M16x2 x stroke 50mm
TPRC 16x50
145mm
40daN
TPRB 16x50
145mm
50daN
TPR 16x50
160mm
50daN
Ø19mm x stroke 50mm
ISO
VDI
MICRO 19Vx50.1
130mm
170daN
TPC 19x50
142mm
90daN
Ø20mm x stroke 50mm
TPA 20x50
154mm
90daN
Ø22mm x stroke 50mm
TPG 22x50
160mm
90daN
M24x1,5 x stroke 50mm
TPRC 24x50
142mm
90daN
TPRT 24x50
142mm
90daN
TPRB 24x50
145mm
140daN
TPR 24x50
160mm
140daN
Ø25mm x stroke 50mm
ECO SERIES
MICRO 25x50
125mm
275daN
MICRO 25Rx50
125mm
275daN
TPK 25x50
130mm
200daN
MICRO 25Hx50
130mm
275daN
TPKN 25x50
132mm
200daN
TPKR 25x50
132mm
200daN
TPCT 25x50
133mm
200daN
TPC 25x50
142mm
200daN
Ø25mm x stroke 50mm
EXTRA POWER
TPA 25x50
145mm
200daN
TPG 25x50
154mm
200daN
TPH 300x50
155mm
300daN
TPF 420x50
195mm
420daN
Ø26mm x stroke 50mm
TPG 26x50
169mm
200daN
M28x1,5 x stroke 50mm
TPR 28x50
142mm
200daN

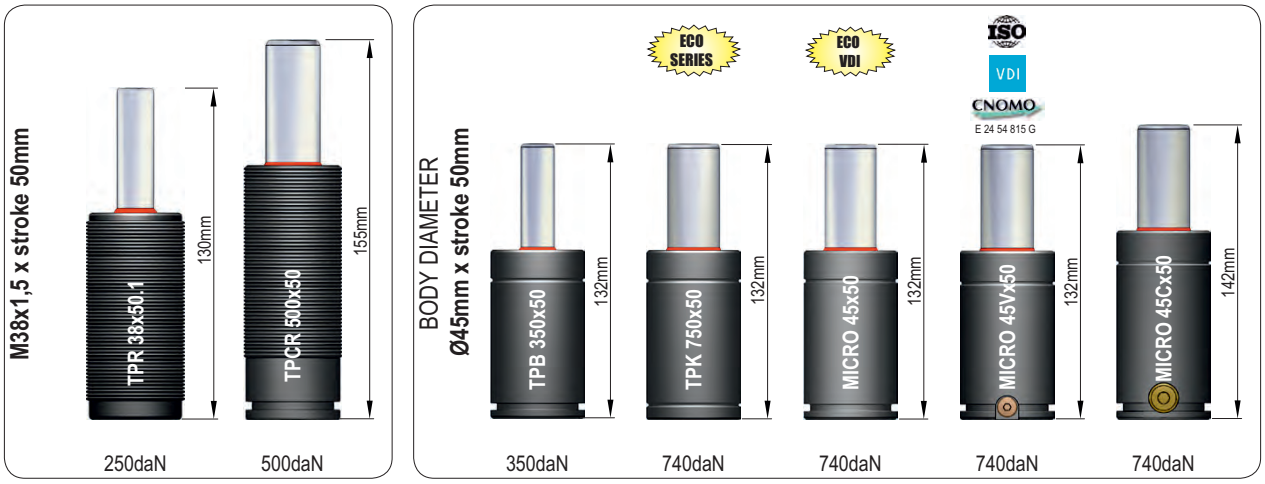


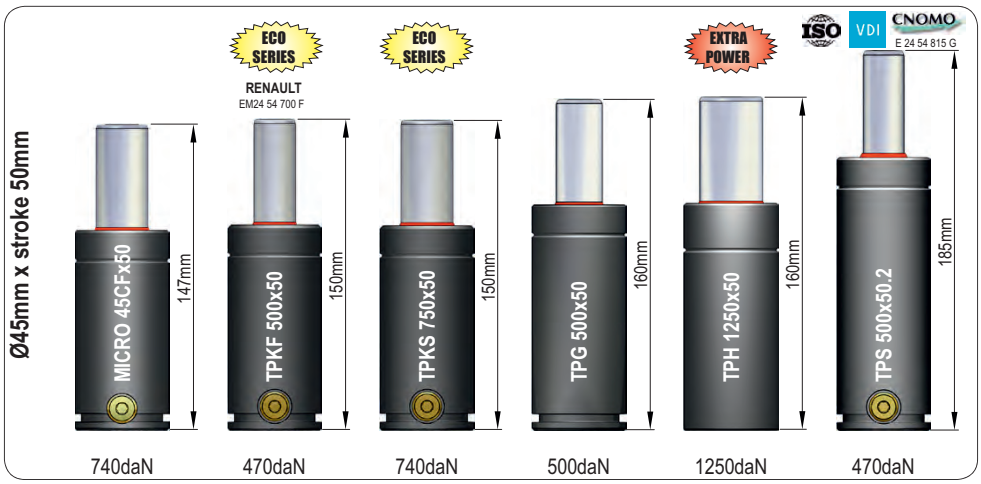




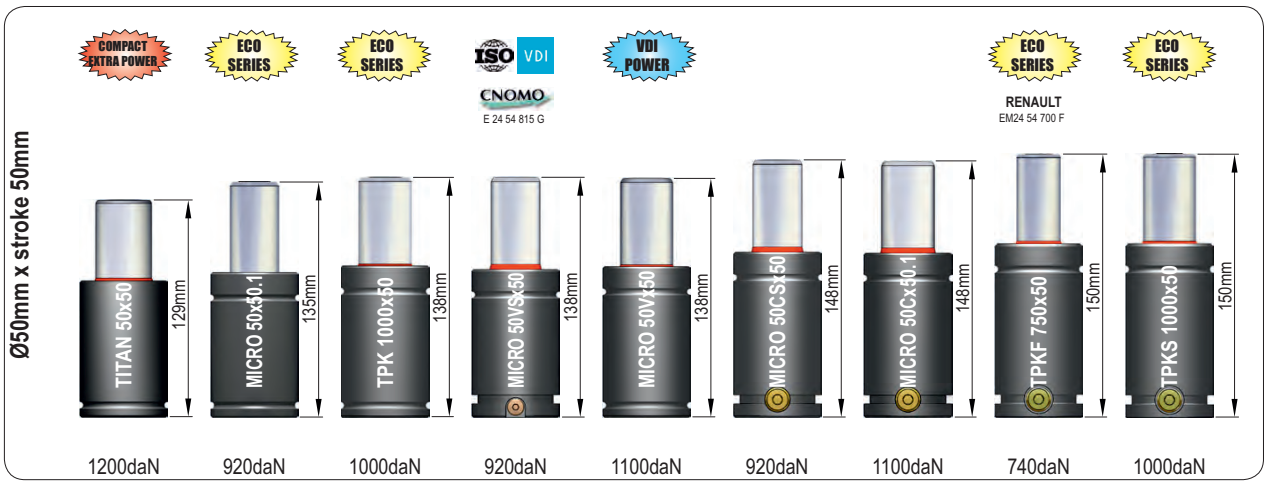


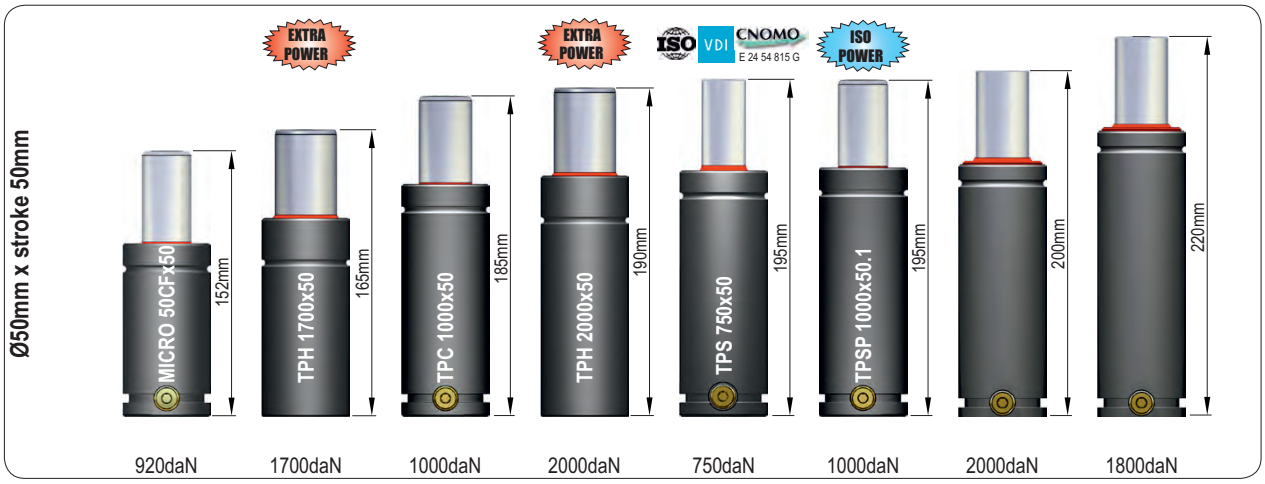
i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

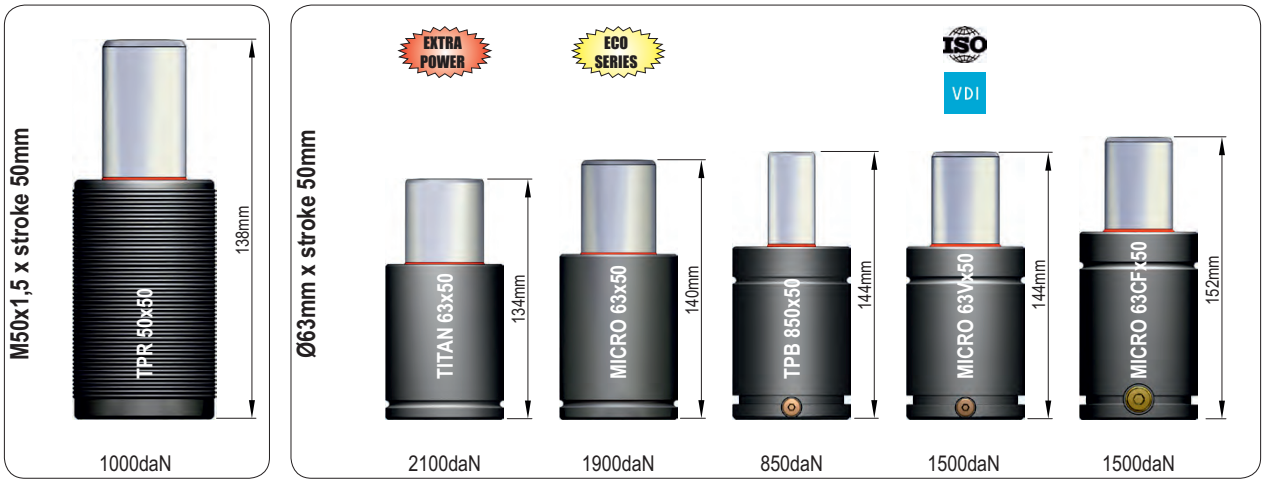

M38x1,5 x stroke 50mm
TPR 38x50.1
130mm
TPCR 500x50
155mm
250daN
500daN
BODY DIAMETER
Ø45mm x stroke 50mm
ECO SERIES
ECO VDI
ISO
VDI
CNOMO
E 24 54 815 G
TPB 350x50
132mm
TPK 750x50
132mm
MICRO 45x50
132mm
MICRO 45Vx50
132mm
MICRO 45Cx50
142mm
350daN
740daN
740daN
740daN
740daN


Ø45mm x stroke 50mm
ECO SERIES
RENAULT
EM24 54 700 F
ECO SERIES
EXTRA POWER
ISO
VDI
CNOMO
E 24 54 815 G
MICRO 45CFx50
147mm
TPKF 500x50
150mm
TPKS 750x50
150mm
TPG 500x50
160mm
TPH 1250x50
160mm
TPS 500x50.2
185mm
740daN
470daN
740daN
500daN
1250daN
470daN

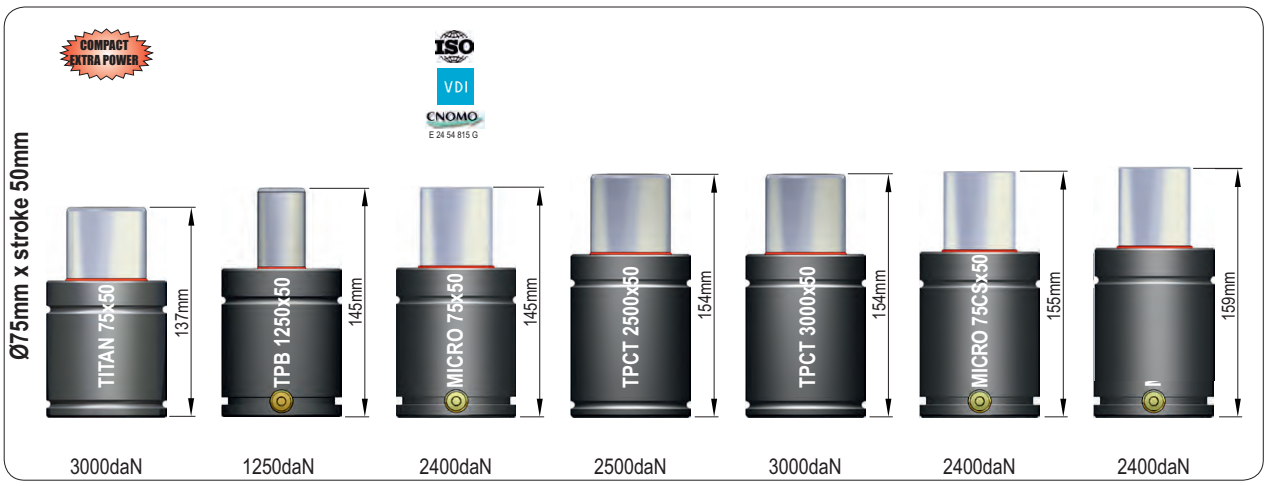

M45x1,5 x stroke 50mm
TPR 45x50
132mm
740daN


Ø50mm x stroke 50mm
COMPACT EXTRA POWER
ECO SERIES
ECO SERIES
ISO
VDI
CNOMO
E 24 54 815 G
VDI POWER
ECO SERIES
RENAULT
EM24 54 700 F
ECO SERIES
TITAN 50x50
129mm
MICRO 50x50.1
135mm
TPK 1000x50
138mm
MICRO 50VSx50
138mm
MICRO 50Vx50
138mm
MICRO 50CSx50
148mm
MICRO 50Cx50.1
148mm
TPKF 750x50
150mm
TPKS 1000x50
150mm
1200daN
920daN
1000daN
920daN
1100daN
920daN
1100daN
740daN
1000daN


Ø50mm x stroke 50mm
EXTRA POWER
EXTRA POWER
ISO
VDI
CNOMO
E 24 54 815 G
ISO POWER
MICRO 50CFx50
152mm
TPH 1700x50
165mm
TPC 1000x50
185mm
TPH 2000x50
190mm
TPS 750x50
195mm
TPSP 1000x50.1
195mm
200mm
220mm
920daN
1700daN
1000daN
2000daN
750daN
1000daN
2000daN
1800daN



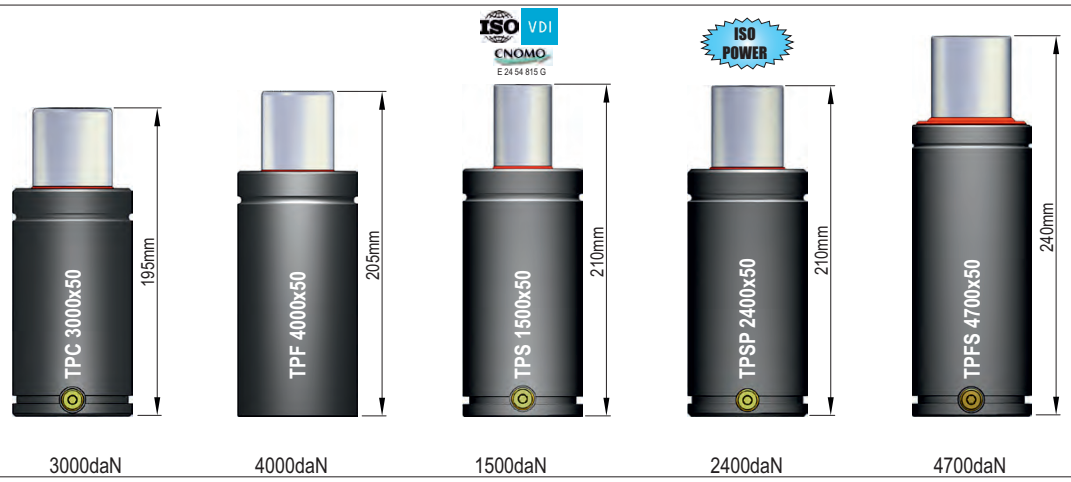






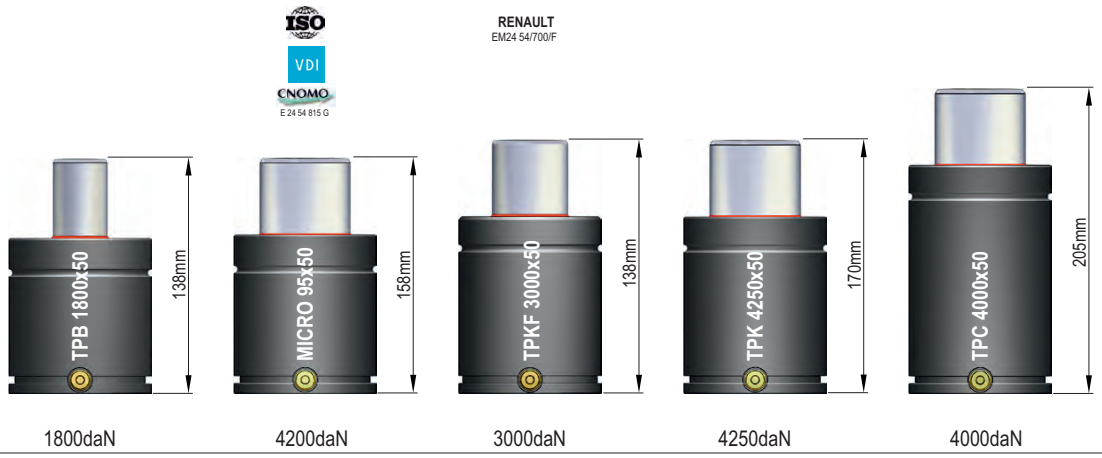
i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

Ø75mm x stroke 50mm



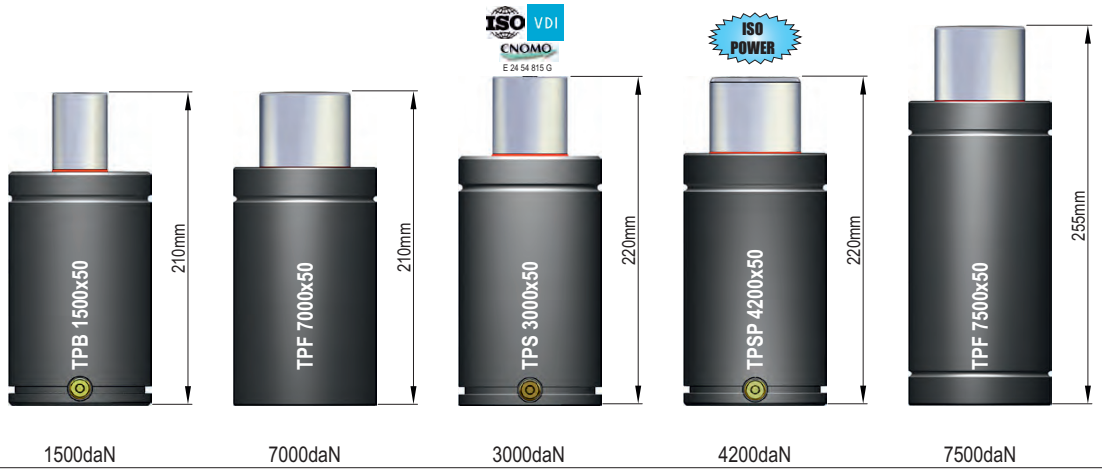
3000daN | 4000daN | 1500daN | 2400daN | 4700daN

Ø95mm x stroke 50mm



1800daN | 4200daN | 3000daN | 4250daN | 4000daN

Ø95mm x stroke 50mm



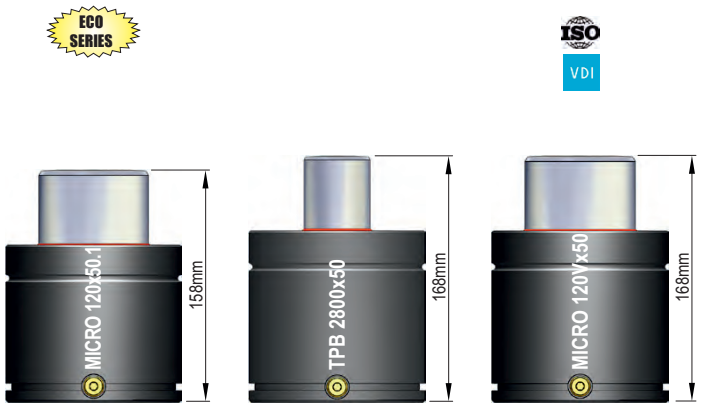
1500daN | 7000daN | 3000daN | 4200daN | 7500daN

Ø105mm x stroke 50mm



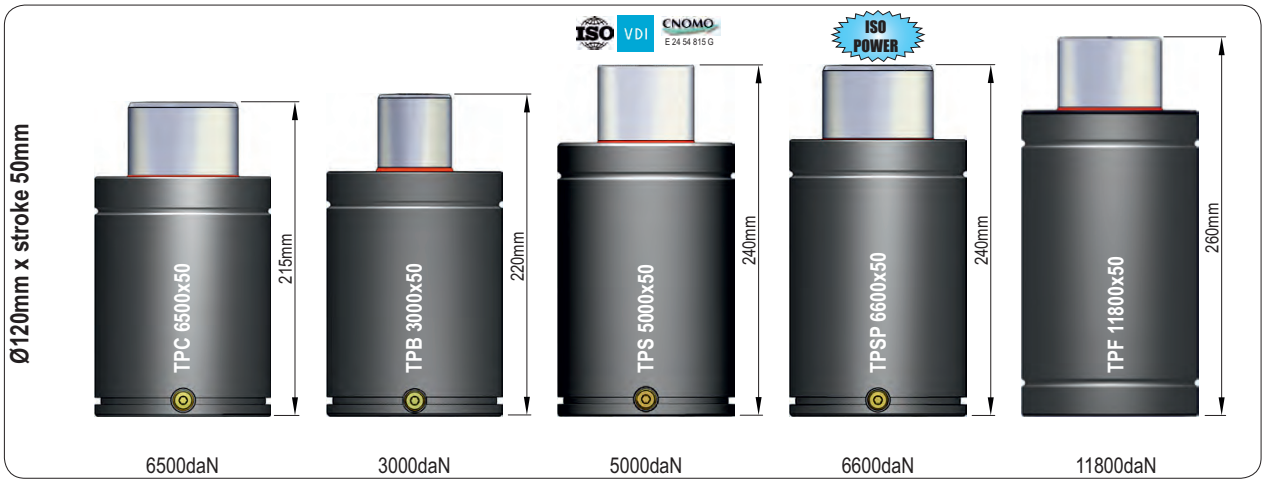
5000daN

Ø120mm x stroke 50mm



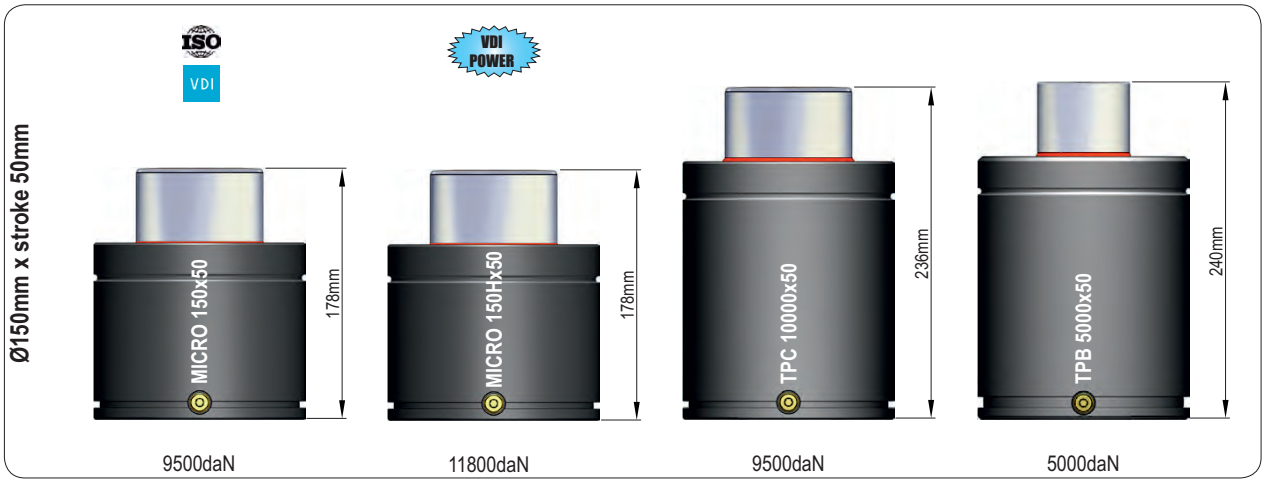
7500daN | 2800daN | 6600daN

Ø120mm x stroke 50mm



6500daN | 3000daN | 5000daN | 6600daN | 11800daN

Ø150mm x stroke 50mm



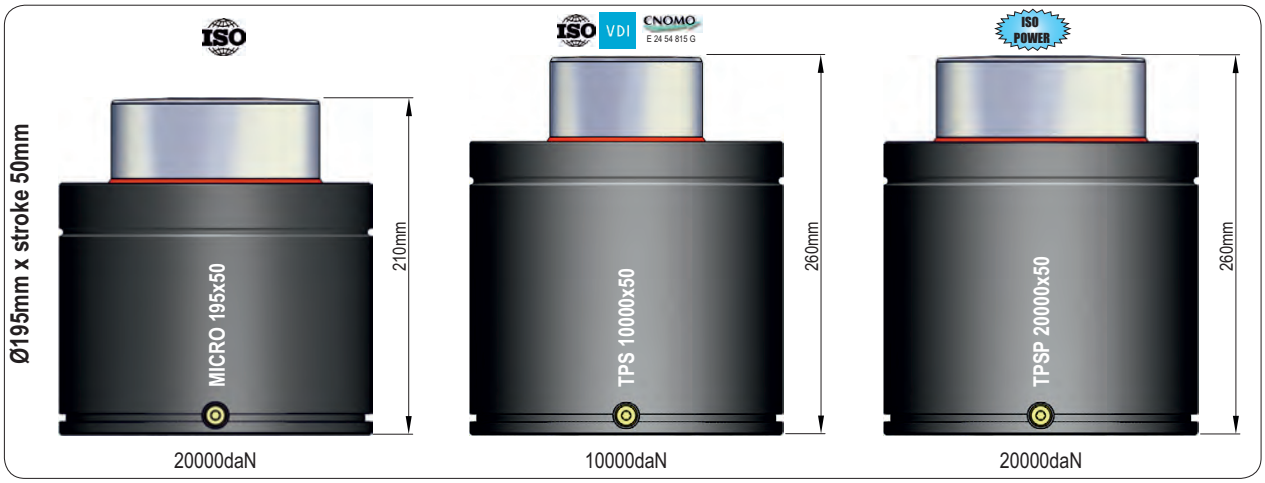
9500daN | 11800daN | 9500daN | 5000daN

Ø150mm x stroke 50mm



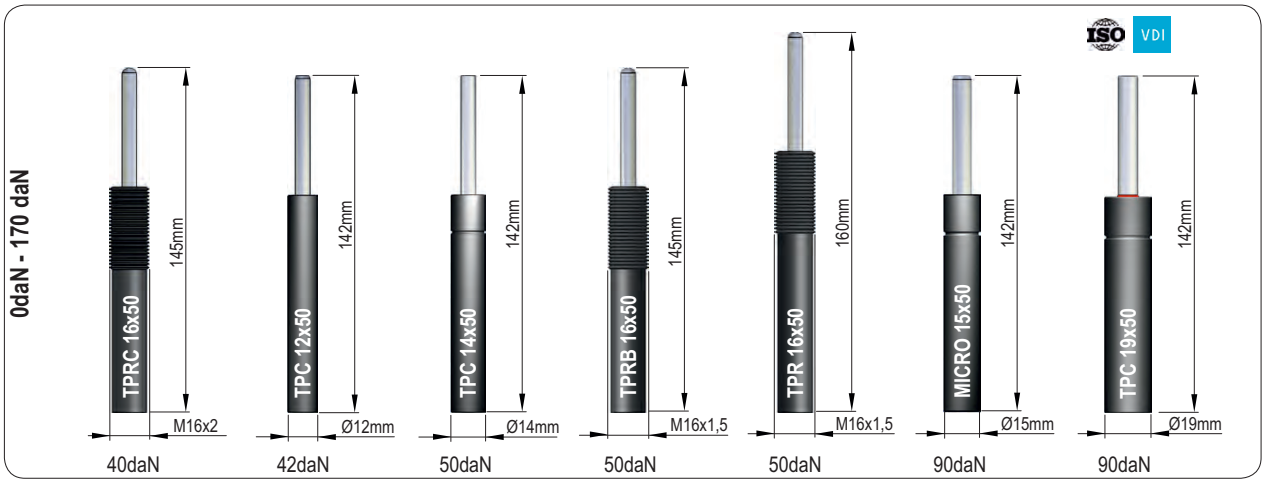
7500daN | 9500daN | 18300daN

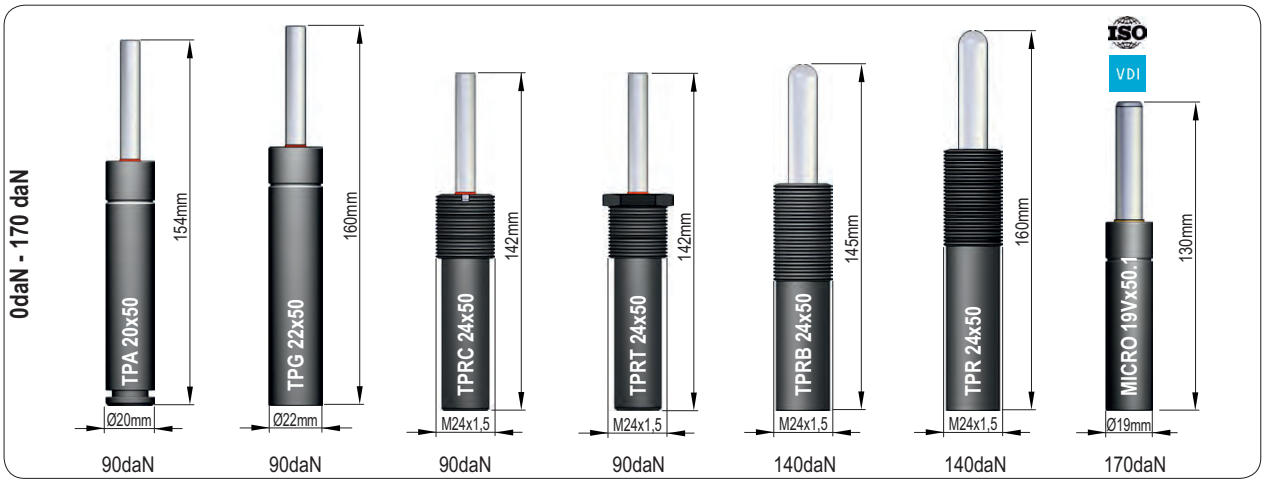
Ø195mm x stroke 50mm

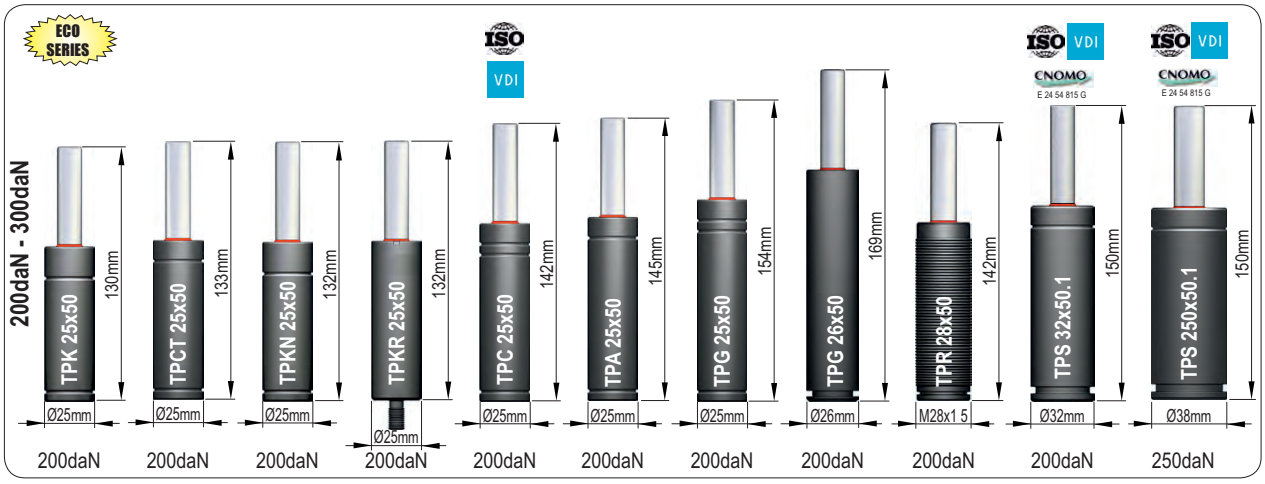


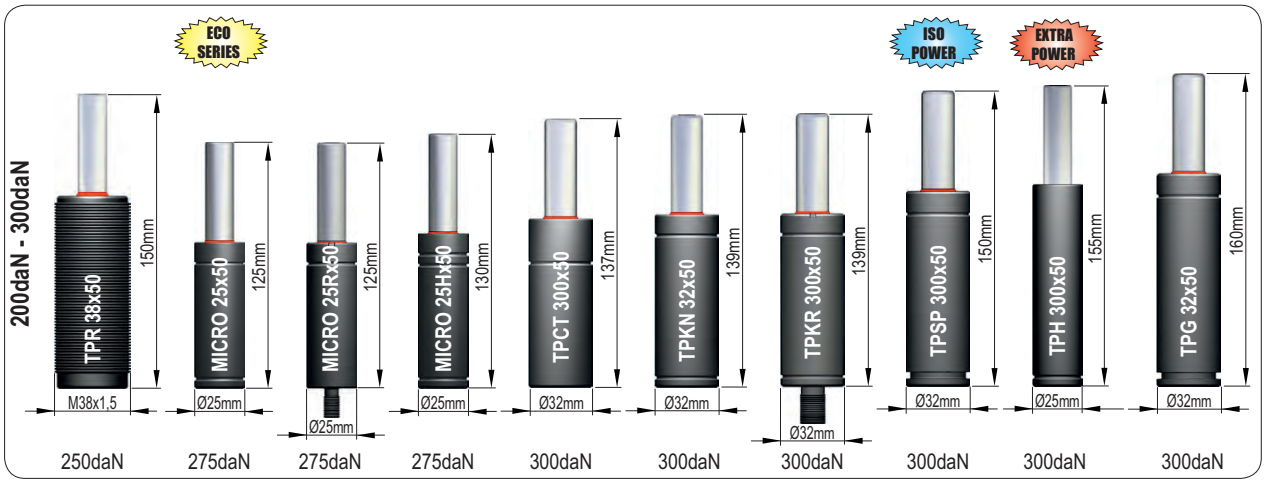
20000daN | 10000daN | 20000daN

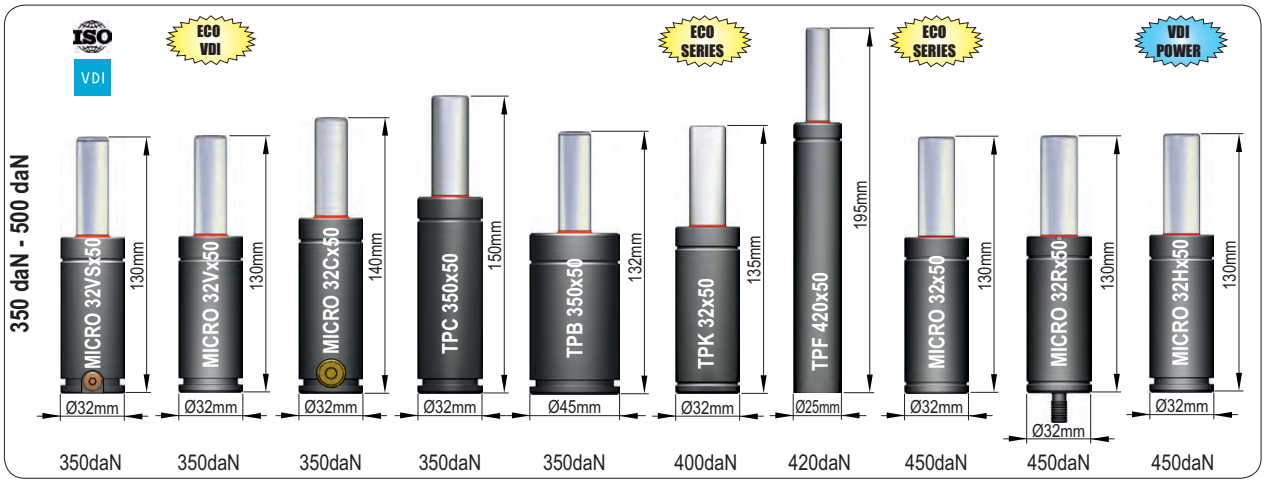
i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

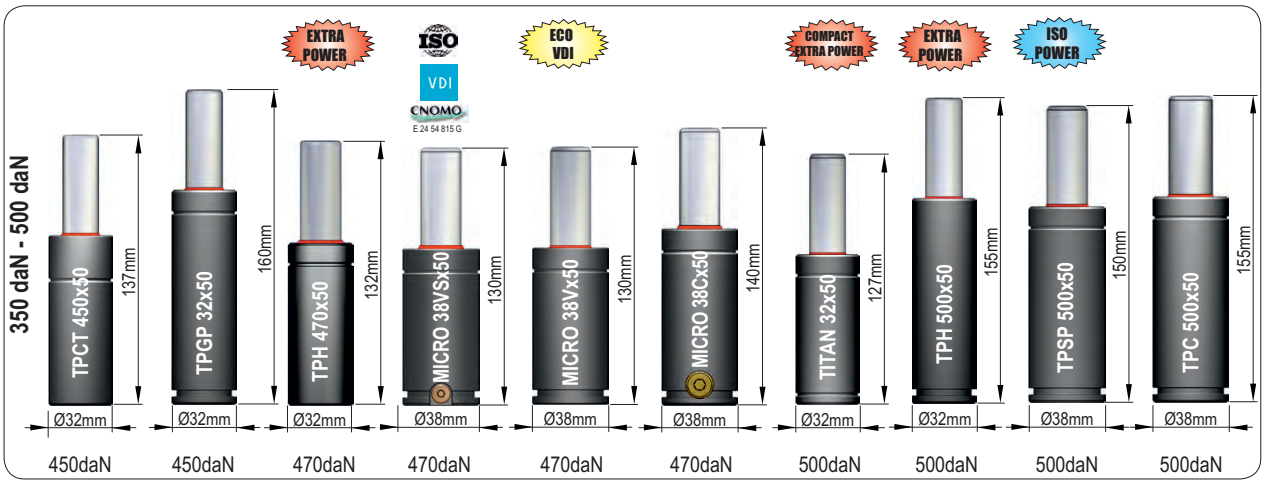

0daN - 170 daN
ISO
VDI
TPRC 16x50
145mm
M16x2
40daN
TPC 12x50
142mm
Ø12mm
42daN
TPC 14x50
142mm
Ø14mm
50daN
TPRB 16x50
145mm
M16x1,5
50daN
TPR 16x50
160mm
M16x1,5
50daN
MICRO 15x50
142mm
Ø15mm
90daN
TPC 19x50
142mm
Ø19mm
90daN

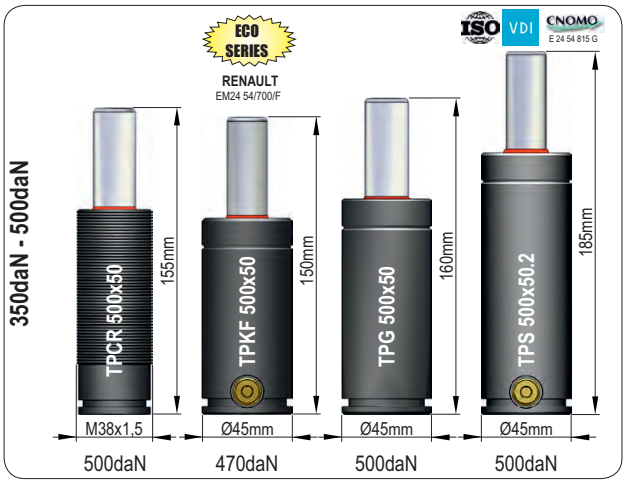

0daN - 170 daN
ISO
VDI
TPA 20x50
154mm
Ø20mm
90daN
TPG 22x50
160mm
Ø22mm
90daN
TPRC 24x50
142mm
M24x1,5
90daN
TPRT 24x50
142mm
M24x1,5
90daN
TPRB 24x50
145mm
M24x1,5
140daN
TPR 24x50
160mm
M24x1,5
140daN
MICRO 19Vx50.1
130mm
Ø19mm
170daN

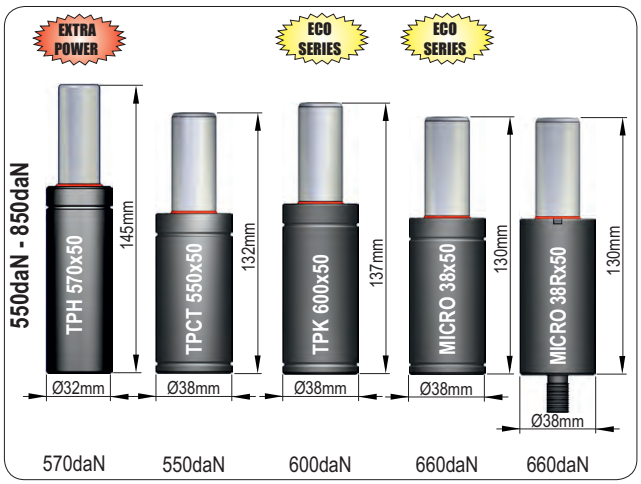

200daN - 300daN
ECO SERIES
ISO
VDI
CNOMO
E 24 54 815 G
TPK 25x50
130mm
Ø25mm
200daN
TPCT 25x50
133mm
Ø25mm
200daN
TPKN 25x50
132mm
Ø25mm
200daN
TPKR 25x50
132mm
Ø25mm
200daN
TPC 25x50
142mm
Ø25mm
200daN
TPA 25x50
145mm
Ø25mm
200daN
TPG 25x50
154mm
Ø25mm
200daN
TPG 26x50
169mm
Ø26mm
200daN
TPR 28x50
142mm
M28x1 5
200daN
TPS 32x50.1
150mm
Ø32mm
200daN
TPS 250x50.1
150mm
Ø38mm
250daN

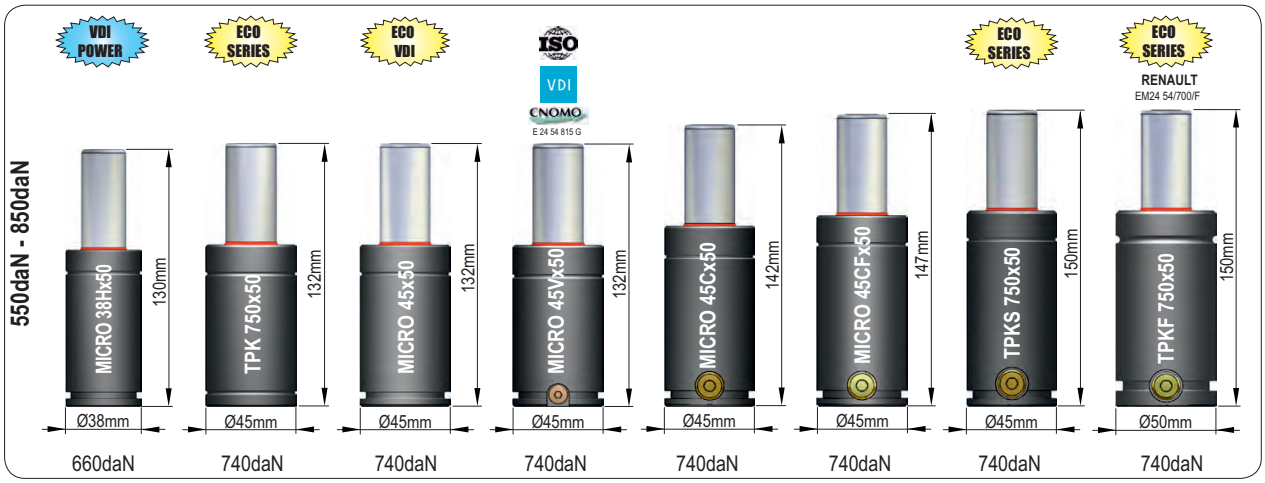

200daN - 300daN
ECO SERIES
ISO POWER
EXTRA POWER
TPR 38x50
150mm
M38x1,5
250daN
MICRO 25x50
125mm
Ø25mm
275daN
MICRO 25Rx50
125mm
Ø25mm
275daN
MICRO 25Hx50
130mm
Ø25mm
275daN
TPCT 300x50
137mm
Ø32mm
300daN
TPKN 32x50
139mm
Ø32mm
300daN
TPKR 300x50
139mm
Ø32mm
300daN
TPSP 300x50
150mm
Ø32mm
300daN
TPH 300x50
155mm
Ø25mm
300daN
TPG 32x50
160mm
Ø32mm
300daN



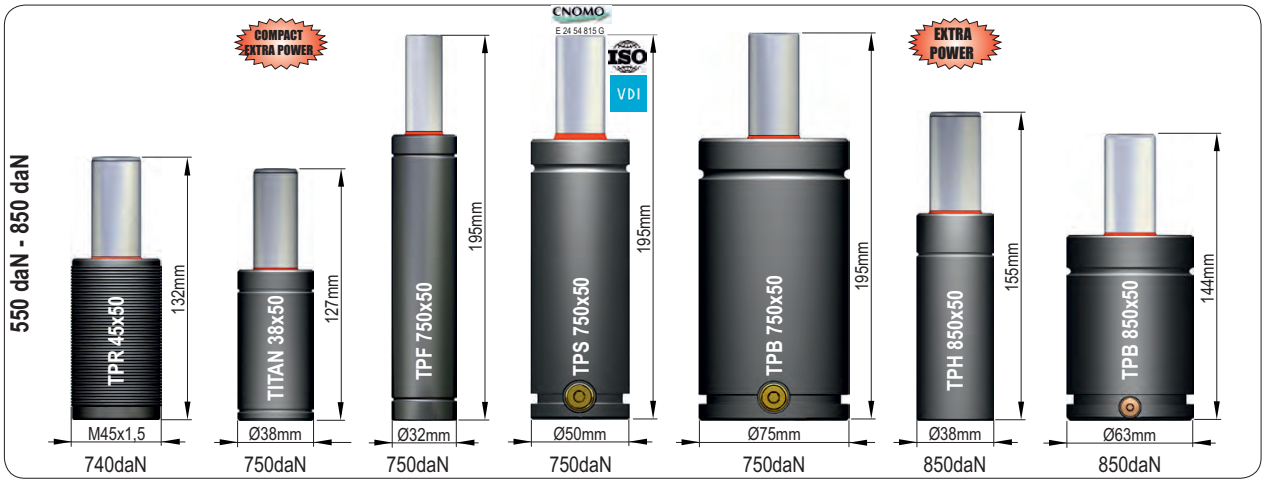




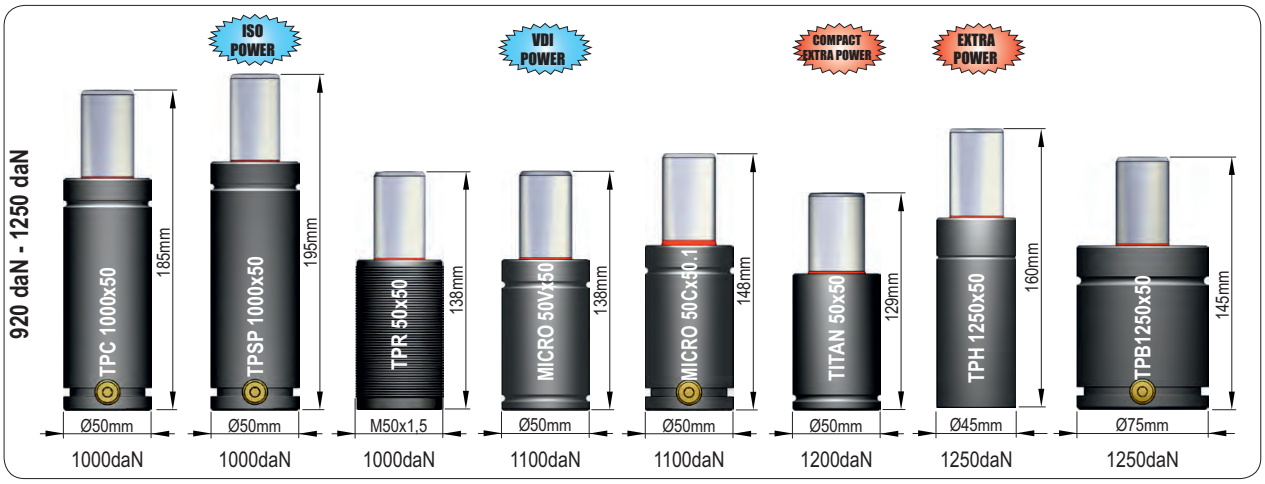


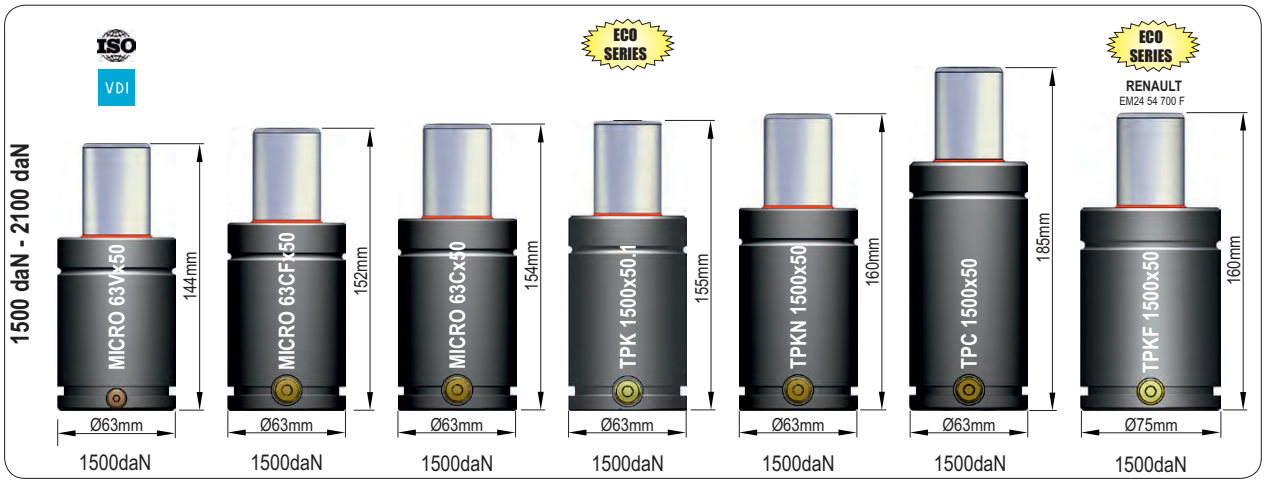


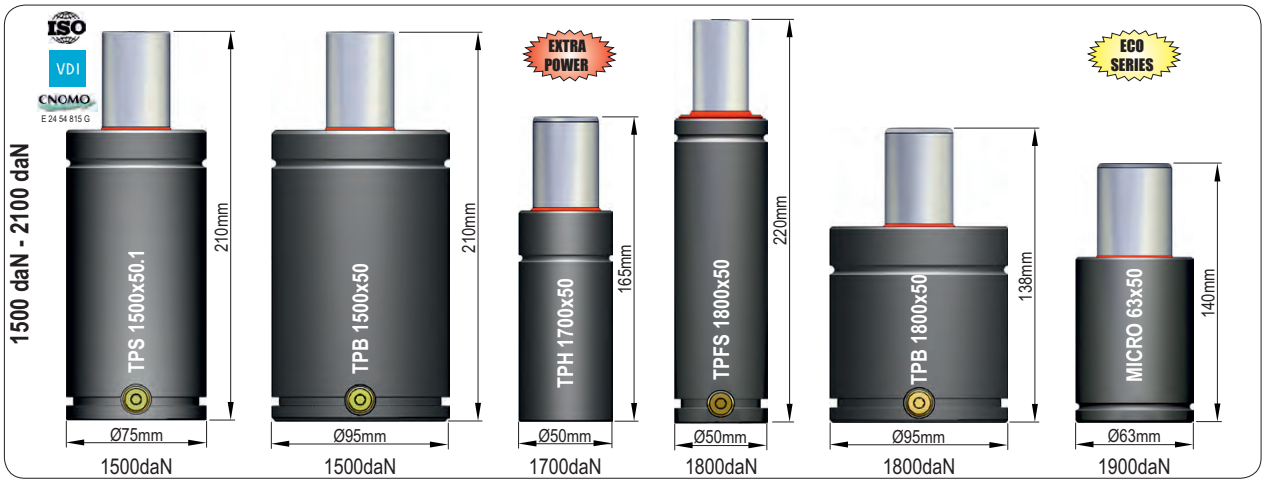
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL


550 daN - 850 daN
COMPACT EXTRA POWER
CNOMO
E 24 54 815 G
ISO
VDI
EXTRA POWER
TPR 45x50
132mm
M45x1,5
740daN
TITAN 38x50
127mm
Ø38mm
750daN
TPF 750x50
195mm
Ø32mm
750daN
TPS 750x50
195mm
Ø50mm
750daN
TPB 750x50
195mm
Ø75mm
750daN
TPH 850x50
155mm
Ø38mm
850daN
TPB 850x50
144mm
Ø63mm
850daN

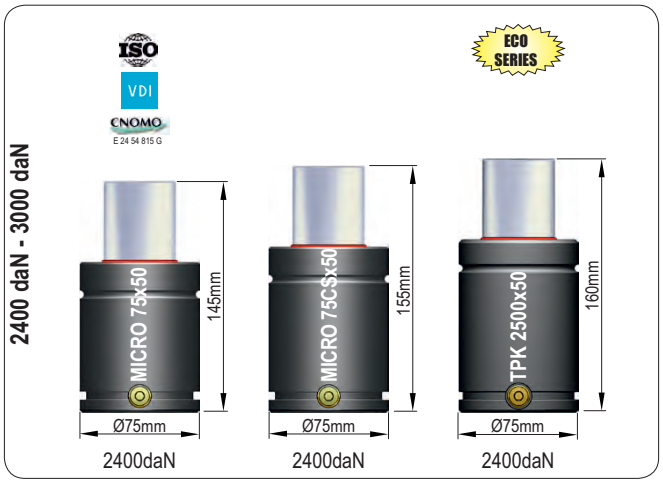

920 daN - 1250 daN
ECO SERIES
ISO
VDI
CNOMO
E 24 54 815 G
EXTRA POWER
ECO SERIES
ECO SERIES
MICRO 50x50.1
135mm
Ø50mm
920daN
MICRO 50VSx50
138mm
Ø50mm
920daN
MICRO 50CSx50
148mm
Ø50mm
920daN
MICRO 50CFx50
152mm
Ø50mm
920daN
TPH 1000x50
160mm
Ø38mm
1000daN
TPF 1000x50B
195mm
Ø38mm
1000daN
TPF 1000x50
230mm
Ø38mm
1000daN
TPK 1000x50
138mm
Ø50mm
1000daN
TPKS 1000x50
150mm
Ø50mm
1000daN

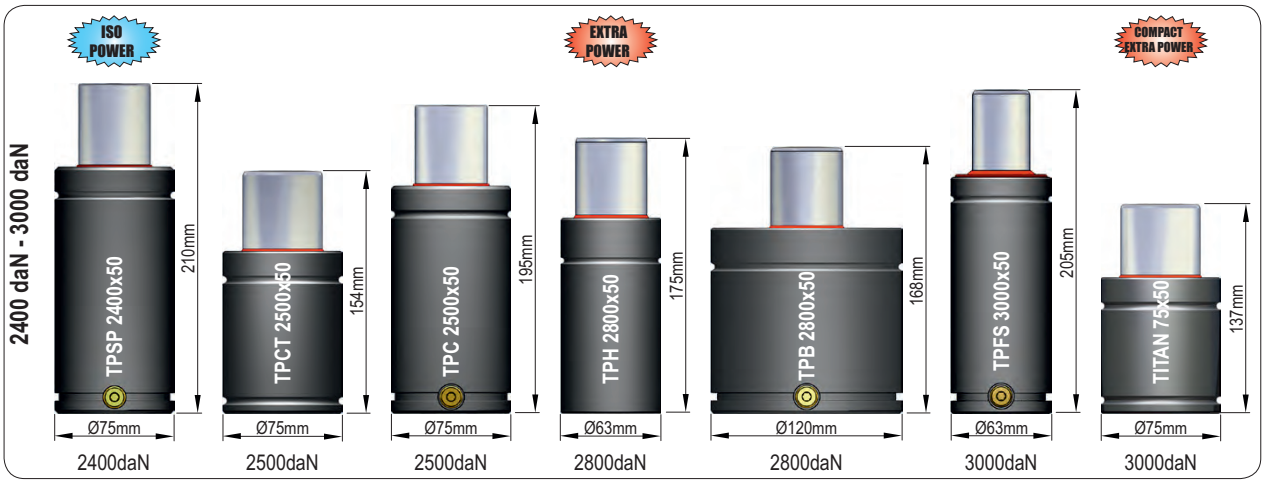

920 daN - 1250 daN
ISO POWER
VDI POWER
COMPACT EXTRA POWER
EXTRA POWER
TPC 1000x50
185mm
Ø50mm
1000daN
TPSP 1000x50
195mm
Ø50mm
1000daN
TPR 50x50
138mm
M50x1,5
1000daN
MICRO 50Vx50
138mm
Ø50mm
1100daN
MICRO 50Cx50.1
148mm
Ø50mm
1100daN
TITAN 50x50
129mm
Ø50mm
1200daN
TPH 1250x50
160mm
Ø45mm
1250daN
TPB1250x50
145mm
Ø75mm
1250daN

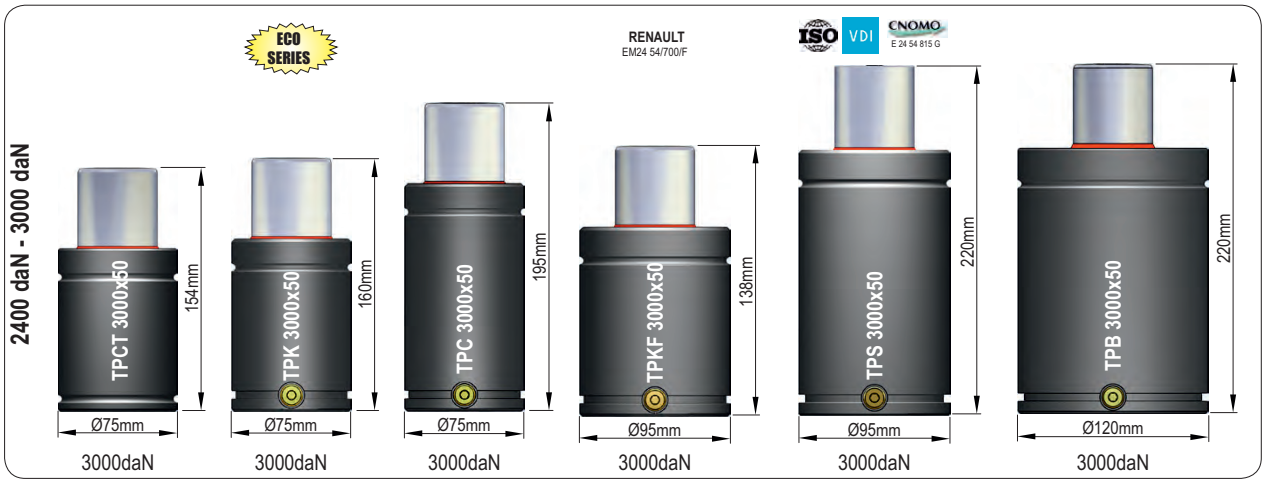

1500 daN - 2100 daN
ISO
VDI
ECO SERIES
ECO SERIES
RENAULT
EM24 54 700 F
MICRO 63Vx50
144mm
Ø63mm
1500daN
MICRO 63CFx50
152mm
Ø63mm
1500daN
MICRO 63Cx50
154mm
Ø63mm
1500daN
TPK 1500x50.1
155mm
Ø63mm
1500daN
TPKN 1500x50
160mm
Ø63mm
1500daN
TPC 1500x50
185mm
Ø63mm
1500daN
TPKF 1500x50
160mm
Ø75mm
1500daN





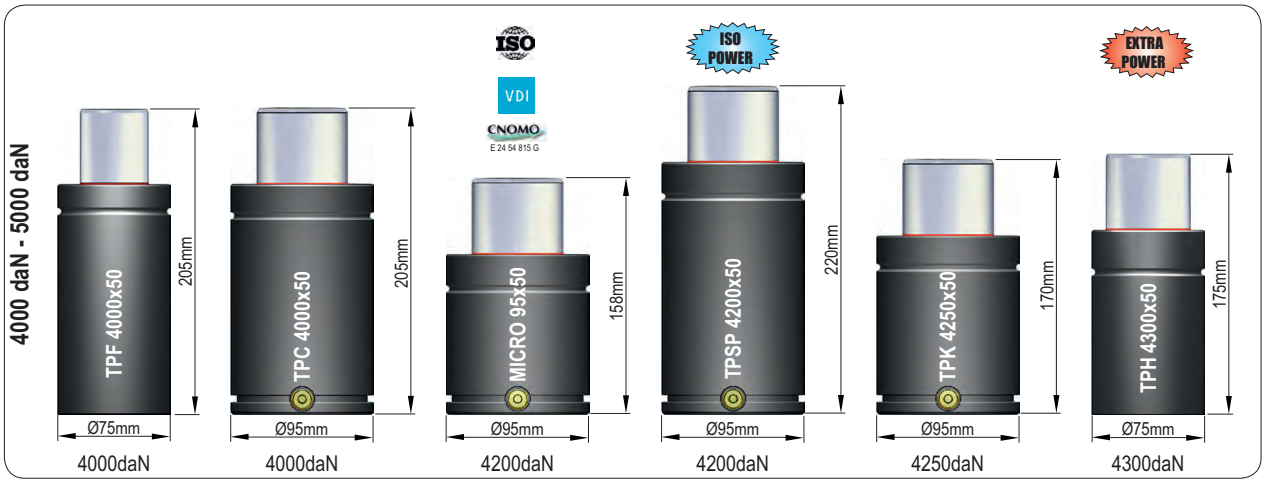




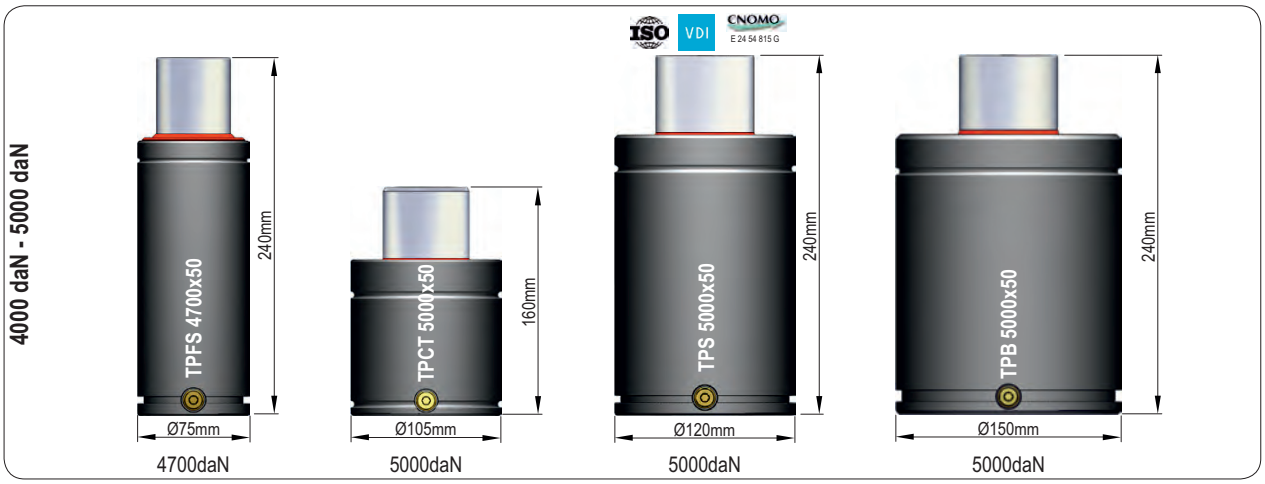


i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

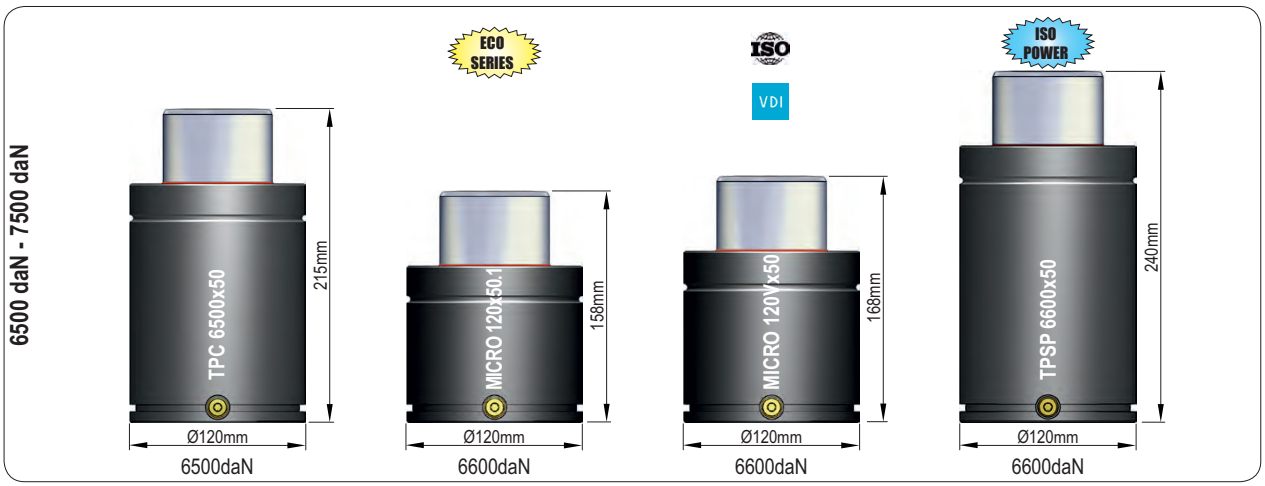
4000 daN - 5000 daN



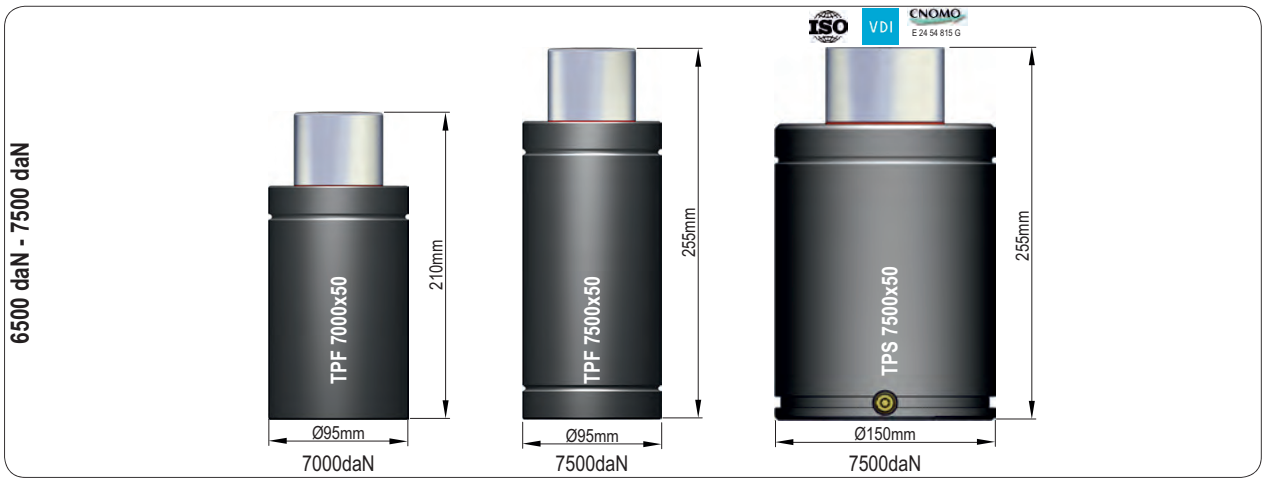
4000 daN - 5000 daN



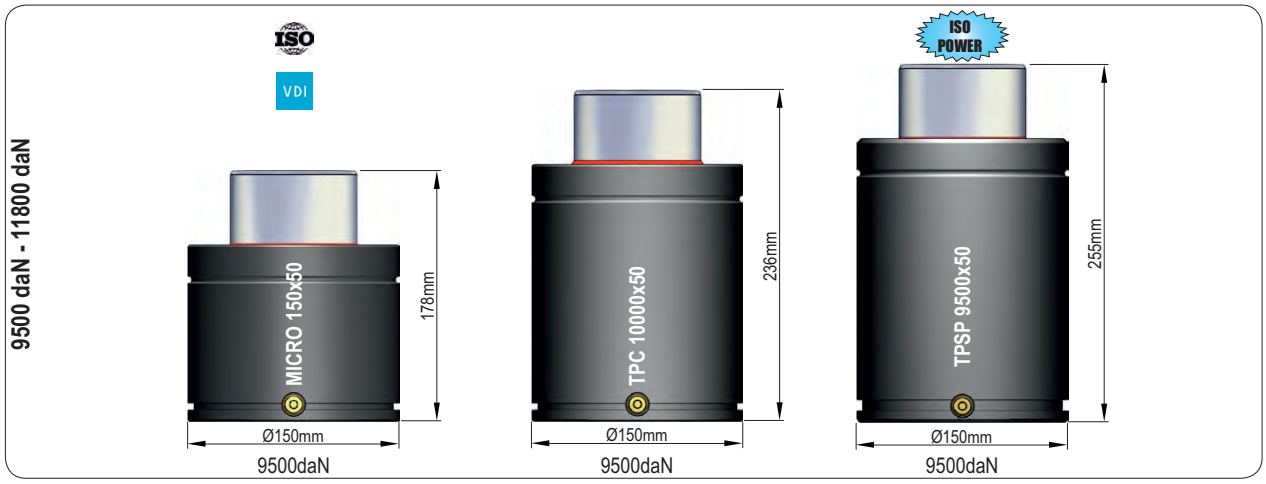
6500 daN - 7500 daN



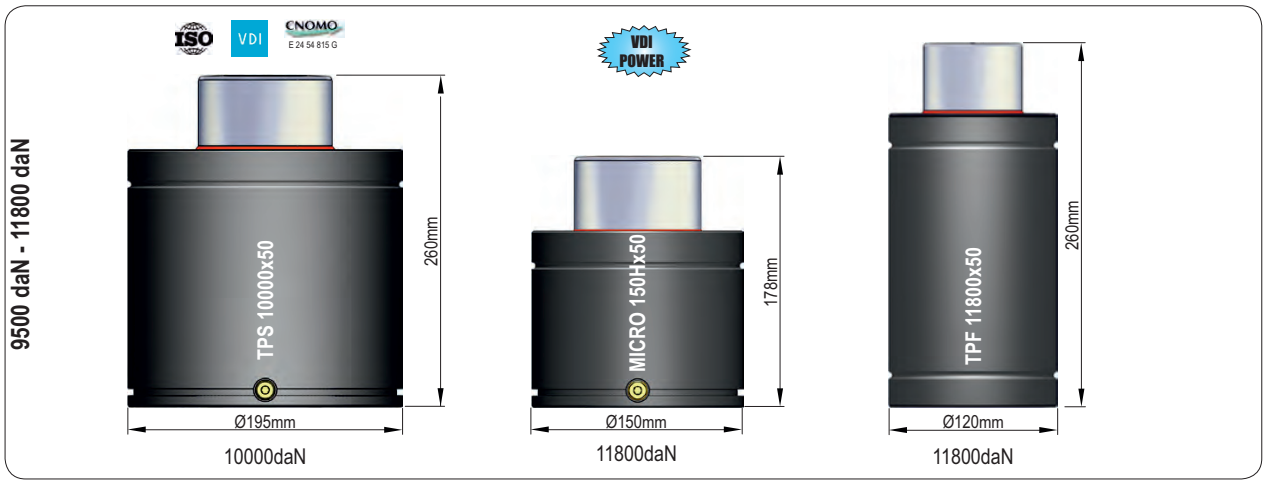
6500 daN - 7500 daN



9500 daN - 11800 daN



9500 daN - 11800 daN



18300 daN - 20000 daN





PED 2014/68/UE



ISO

VDI

CNOMO

VDI POWER

VDI gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY			VDI STANDARD
MICRO 15	15	7 - 80	90	√	√		√	
MICRO 19V1	19	7 - 125	170	√	√		√	√
MICRO 25	25	12 - 100	275	√	√		√	
MICRO 25H	25	7 - 125	275	√	√		√	
MICRO 25R	25	12 - 80	275	√	√		√	
MICRO 32	32	7 - 80	450	√	√		√	
MICRO 32V	32	10 - 125	350	√	√		√	
MICRO 32VS	32	10 - 125	350	√	√	√	√	√
MICRO 32H	32	10 - 100	450	√	√		√	
MICRO 32C	32	10 - 125	350	√	√	√	√	
MICRO 32R	32	12 - 100	450	√	√		√	
MICRO 38	38	12 - 80	660	√	√		√	
MICRO 38V	38	10 - 125	470	√	√		√	
MICRO 38VS	38	10 - 125	470	√	√	√	√	√
MICRO 38H	38	10 - 125	660	√	√		√	
MICRO 38C	38	10 - 125	470	√	√	√	√	
MICRO 38R	38	12 - 80	660	√	√	√	√	
MICRO 45	45	13 - 125	740	√	√		√	
MICRO 45V	45	10 - 125	740	√	√	√	√	√
MICRO 45C	45	10 - 125	740	√	√	√	√	
MICRO 45CF	45	10 - 125	740	√	√	√	√	
MICRO 50.1	50	13 - 100	920	√	√		√	
MICRO 50V	50	13 - 125	1100	√	√		√	
MICRO 50VS	50	13 - 125	920	√	√	√	√	√
MICRO 50CS	50	13 - 125	920	√	√	√	√	
MICRO 50C.1	50	13 - 125	1100	√	√	√	√	
MICRO 50CF	50	13 - 125	920	√	√	√	√	
MICRO 63	63	25 - 100	1900	√	√		√	
MICRO 63V	63	13 - 125	1500	√	√	√	√	√
MICRO 63CF	63	13 - 125	1500	√	√	√	√	
MICRO 63C	63	13 - 125	1500	√	√	√	√	
MICRO 75	75	16 - 125	2400	√	√	√	√	√
MICRO 75CS	75	16 - 125	2400	√	√	√	√	
MICRO 75CF	75	16 - 125	2400	√	√	√	√	
MICRO 95	95	16 - 125	4200	√	√	√	√	√
MICRO 120.1	120	25 - 100	7500	√	√	√	√	
MICRO 120V	120	16 - 125	6600	√	√	√	√	√
MICRO 150	150	16 - 125	9500	√	√	√	√	√
MICRO 150H	150	19 - 125	11800	√	√	√	√	
MICRO 195	195	16 - 125	20000	√	√	√	√	

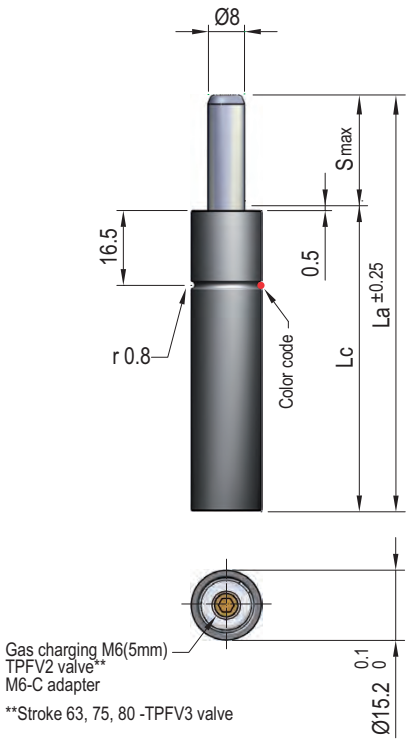










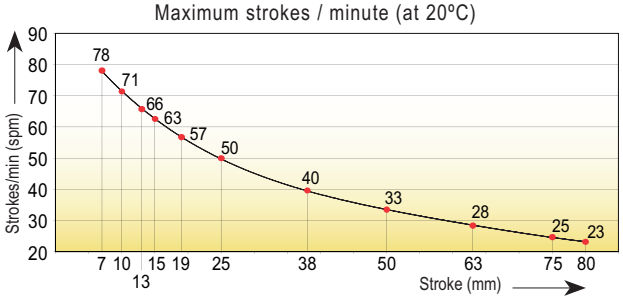



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	0,50 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit M15

PED 2014/68/UE



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 15x7	7	56	49	0,001	0,07
MICRO 15x10	10	62	52	0,002	0,07
MICRO 15x13	13	68	55	0,002	0,08
MICRO 15x15	15	72	57	0,002	0,08
MICRO 15x19	19	80	61	0,003	0,09
MICRO 15x25	25	92	67	0,003	0,09
MICRO 15x38	38	118	80	0,005	0,10
MICRO 15x50	50	142	92	0,006	0,11
MICRO 15x63	63	172	109	0,008	0,12
MICRO 15x75	75	195	120	0,009	0,14
MICRO 15x80	80	205	125	0,010	0,15

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	30 (±5)	≈ 48	60
BL *(Blue)*	50 (±5)	≈ 80	100
RD *(Red)*	70 (±10)	≈ 112	140
YW *(Yellow)*	90 (±10)	≈ 140	175
(Other forces)	25 - 90	≈ 40 - 140	50 - 175

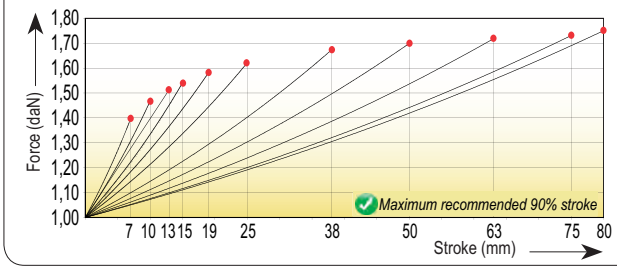
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (50Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

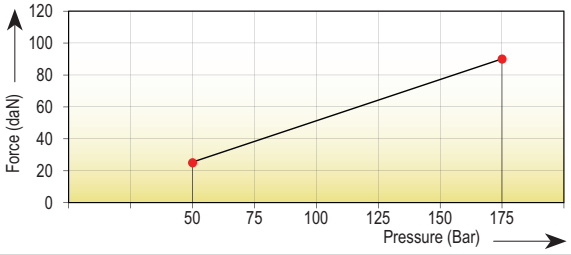
MICRO 15 x 50 YW

Model | Stroke | Color code

Force/stroke ratio

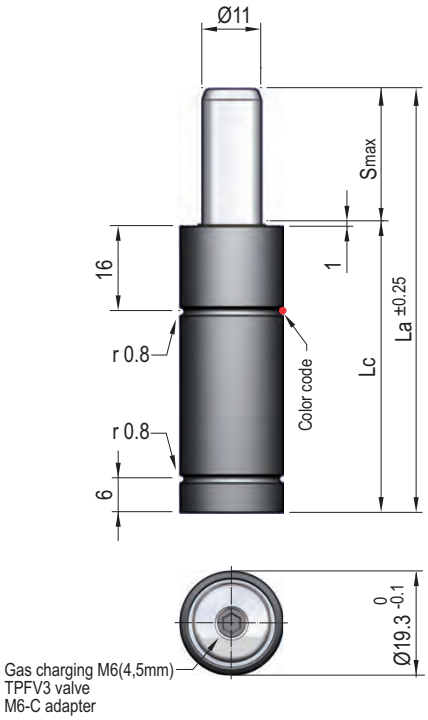


Initial force/charging pressure ratio



Assembly possibilities



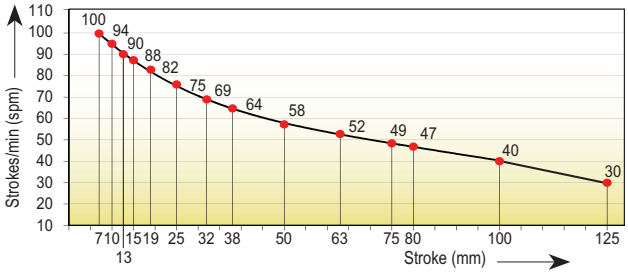


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	Ø11mm - 0,95 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M19V1

PED 2014/68/UE · VDI 3003 · ISO 11901



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 19V1x7	7	44	37	0,002	0,07
MICRO 19V1x10	10	50	40	0,002	0,07
MICRO 19V1x13	13	56	43	0,003	0,08
MICRO 19V1x15	15	60	45	0,004	0,08
MICRO 19V1x19	19	68	49	0,005	0,09
MICRO 19V1x25	25	80	55	0,006	0,09
MICRO 19V1x32	32	94	62	0,007	0,10
MICRO 19V1x38	38	106	68	0,008	0,11
MICRO 19V1x50	50	130	80	0,011	0,12
MICRO 19V1x63	63	156	93	0,014	0,13
MICRO 19V1x75	75	185	110	0,017	0,13
MICRO 19V1x80	80	195	115	0,018	0,14
MICRO 19V1x100	100	235	135	0,022	0,15
MICRO 19V1x125	125	285	160	0,027	0,16

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	60 (±5)	≈ 100	63
BL *(Blue)*	90 (±5)	≈ 150	95
RD *(Red)*	120 (±10)	≈ 200	125
YW *(Yellow)*	170 (±10)	≈ 280	175
(Other forces)	20 - 170	≈ 40 - 280	25 - 175

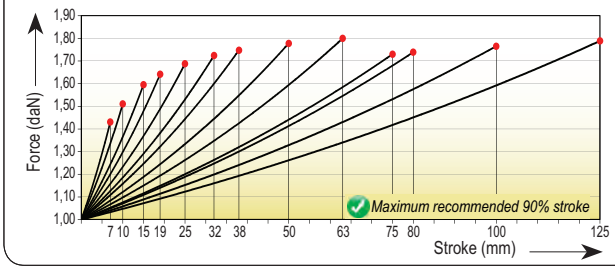
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (50Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

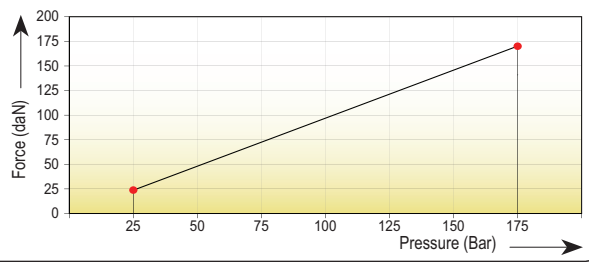
MICRO 19V1 x **75** **GR**

Model · Stroke · Color code

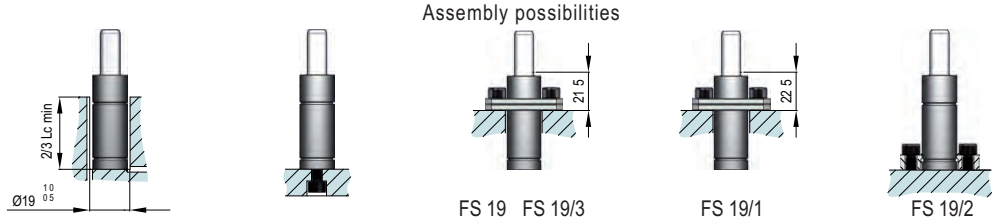
Force/stroke ratio



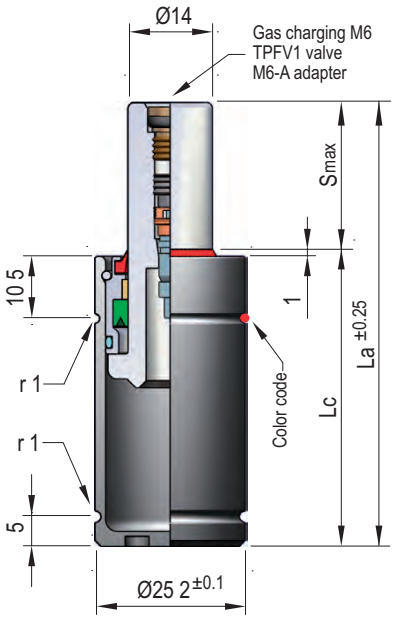
Initial force/charging pressure ratio



Assembly possibilities



ECO SERIES



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	1,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit M25

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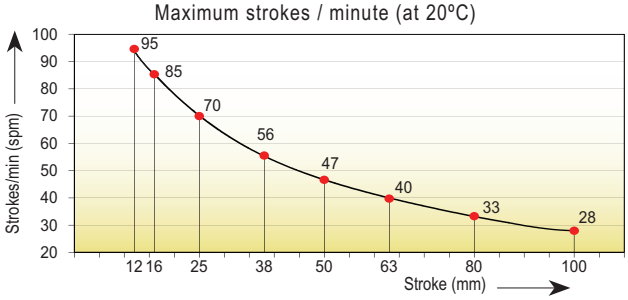


VDI SAFETY





Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 25x12	11,5	49	37	0,005	0,08
MICRO 25x16	15,5	57	41	0,007	0,09
MICRO 25x25	24,5	75	50	0,010	0,11
MICRO 25x38	37,5	101	63	0,016	0,13
MICRO 25x50	49,5	125	75	0,021	0,15
MICRO 25x63	62,5	151	88	0,026	0,18
MICRO 25x80	79,5	185	105	0,033	0,20
MICRO 25x100	99,5	225	125	0,041	0,25

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 160	65
BL *(Blue)*	150 (±10)	≈ 245	100
RD *(Red)*	200 (±15)	≈ 320	130
YW *(Yellow)*	275 (±20)	≈ 430	175
(Other forces)	75 - 275	≈ 120 - 430	50 - 175

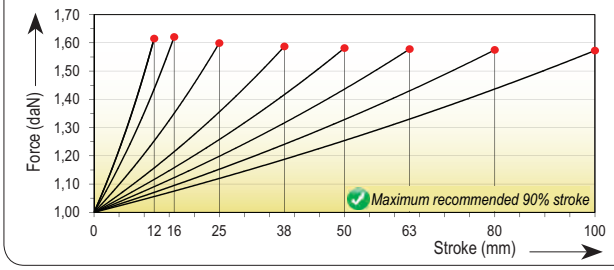
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (50Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

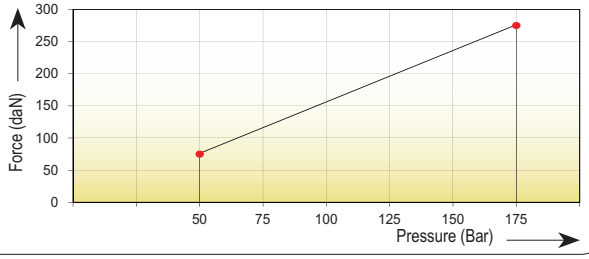
MICRO 25 x 38 RD

Model | Stroke | Color code

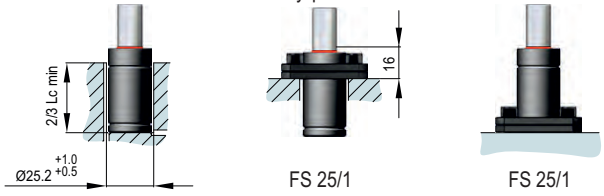
Force/stroke ratio



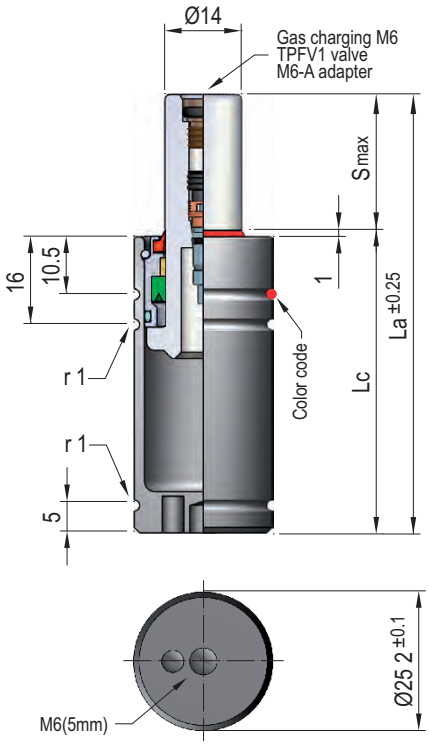
Initial force/charging pressure ratio



Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com



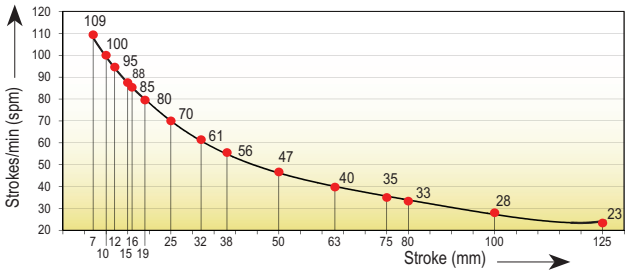
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	1,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MH25.1

PED 2014/68/UE

VDI SAFETY

RE-14-25

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 25Hx7	6,5	44	37	0,003	0,08
MICRO 25Hx10	9,5	50	40	0,004	0,10
MICRO 25Hx12	11,5	54	42	0,005	0,10
MICRO 25Hx15	14,5	60	45	0,006	0,11
MICRO 25Hx16	15,5	62	46	0,007	0,11
MICRO 25Hx19	18,5	68	49	0,008	0,12
MICRO 25Hx25	24,5	80	55	0,010	0,13
MICRO 25Hx32	31,5	94	62	0,013	0,14
MICRO 25Hx38	37,5	106	68	0,016	0,15
MICRO 25Hx50	49,5	130	80	0,021	0,17
MICRO 25Hx63	62,5	156	93	0,026	0,20
MICRO 25Hx75	74,5	185	110	0,033	0,21
MICRO 25Hx80	79,5	190	110	0,033	0,22
MICRO 25Hx80B	79,5	195	115	0,035	0,23
MICRO 25Hx100	99,5	235	135	0,041	0,27
MICRO 25Hx125	124,5	285	160	0,052	0,30

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 160	65
BL *(Blue)*	150 (±10)	≈ 245	100
RD *(Red)*	200 (±15)	≈ 315	130
YW *(Yellow)*	275 (±20)	≈ 425	175
(Other forces)	75 - 275	≈ 120 - 425	50 - 175

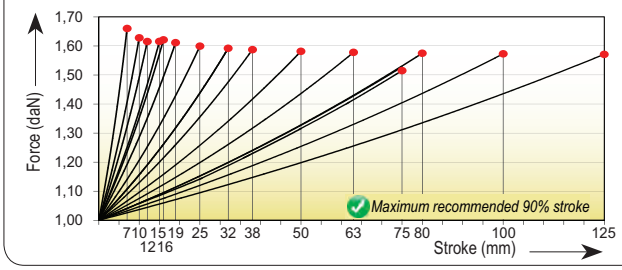
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (50Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

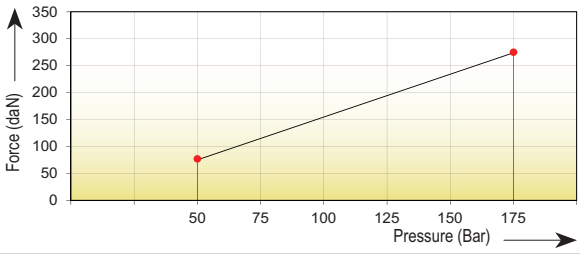
MICRO 25H x 50 RD

Model | Stroke | Color code

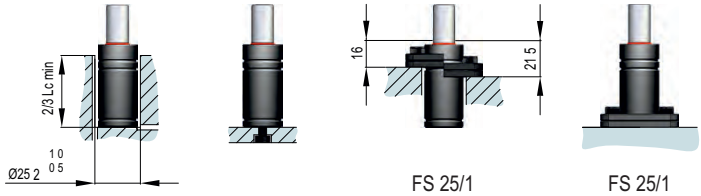
Force/stroke ratio

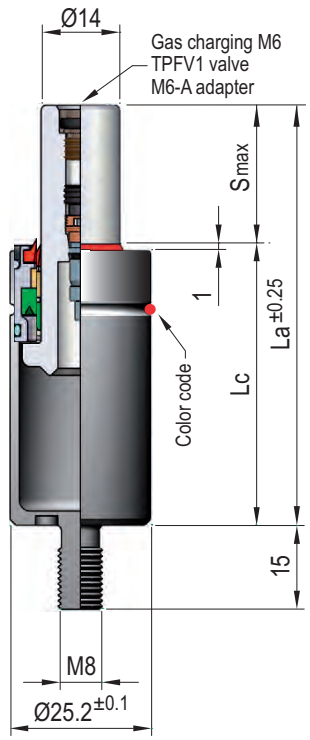


Initial force/charging pressure ratio



Assembly possibilities





Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	1,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MR25.1

PED 2014/68/UE

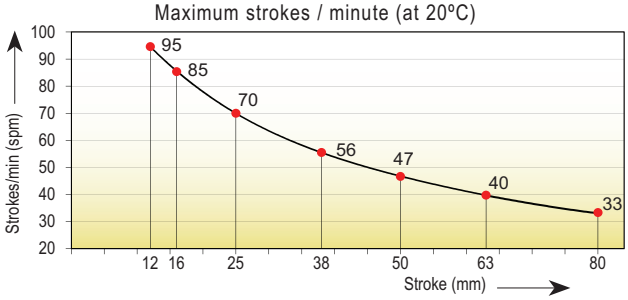


VDI SAFETY





Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 25Rx12	11,5	49	37	0,005	0,08
MICRO 25Rx16	15,5	57	41	0,007	0,09
MICRO 25Rx25	24,5	75	50	0,010	0,11
MICRO 25Rx38	37,5	101	63	0,016	0,13
MICRO 25Rx50	49,5	125	75	0,021	0,15
MICRO 25Rx63	62,5	151	88	0,026	0,18
MICRO 25Rx80	79,5	185	105	0,033	0,20

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 160	65
BL *(Blue)*	150 (±10)	≈ 245	100
RD *(Red)*	200 (±15)	≈ 320	130
YW *(Yellow)*	275 (±20)	≈ 430	175
(Other forces)	75 - 275	≈ 120 - 430	50 - 175

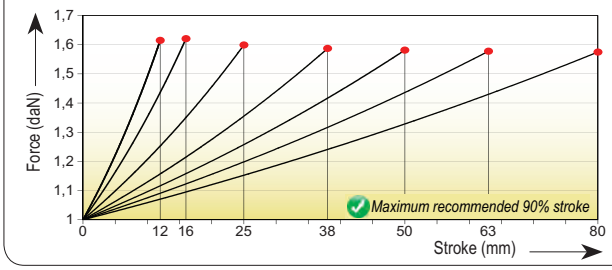
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (50Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

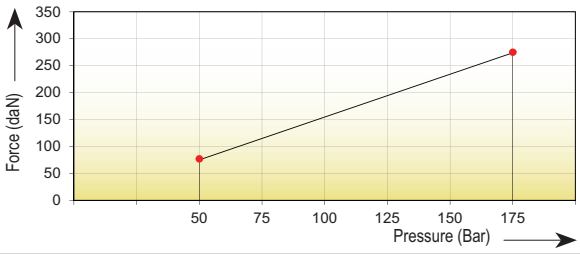
MICRO 25R x 80 BL

Model | Stroke | Color code

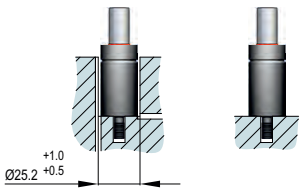
Force/stroke ratio

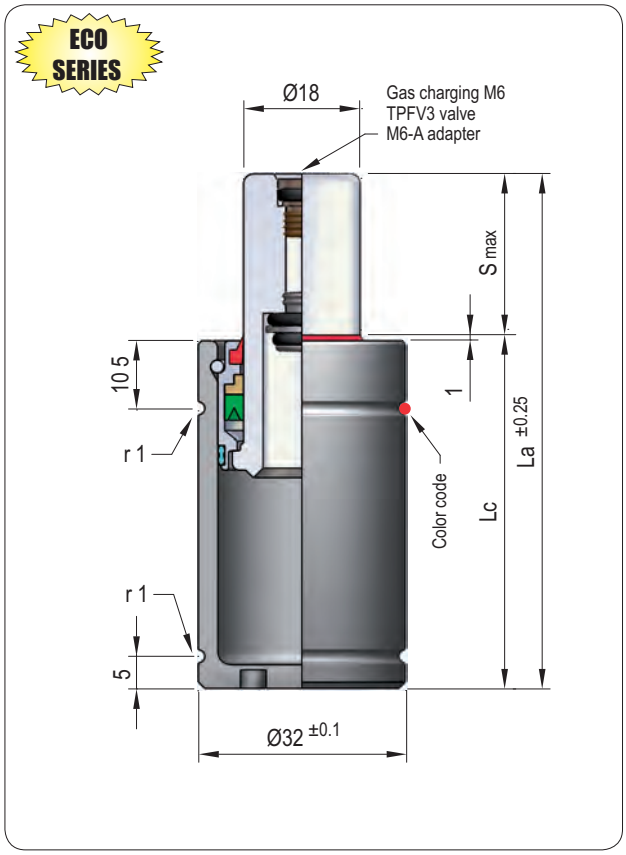


Initial force/charging pressure ratio



Assembly possibilities





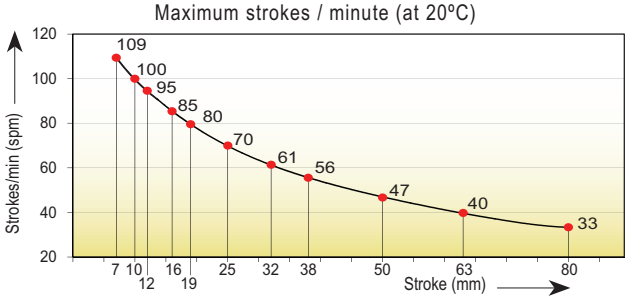
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit M32

PED 2014/68/UE

VDI SAFETY

RE-18-32

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 32x7	7	44	37	0,005	0,16
MICRO 32x10	10	50	40	0,007	0,17
MICRO 32x12	12	54	42	0,008	0,18
MICRO 32x16	16	62	46	0,011	0,19
MICRO 32x19	19	68	49	0,013	0,20
MICRO 32x25	25	80	55	0,017	0,22
MICRO 32x32	32	94	62	0,021	0,24
MICRO 32x38	38	106	68	0,025	0,26
MICRO 32x50	50	130	80	0,033	0,30
MICRO 32x63	63	156	93	0,041	0,36
MICRO 32x80	80	190	110	0,052	0,41

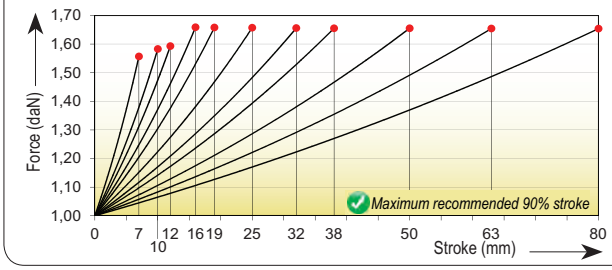
Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 165	40
BL *(Blue)*	200 (±15)	≈ 330	80
RD *(Red)*	300 (±20)	≈ 495	120
YW *(Yellow)*	450 (±20)	≈ 725	175
(Other forces)	60 - 450	≈ 100 - 725	25 - 175

The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

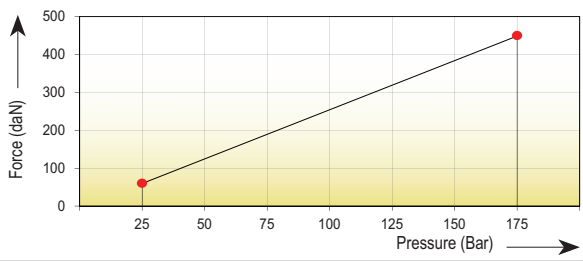
How to order

MICRO 32 (Model) x 19 (Stroke) RD (Color code)

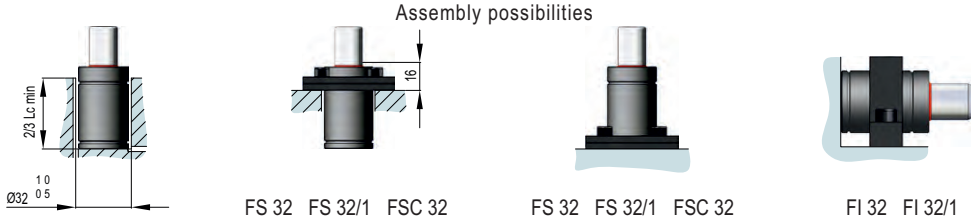
Force/stroke ratio



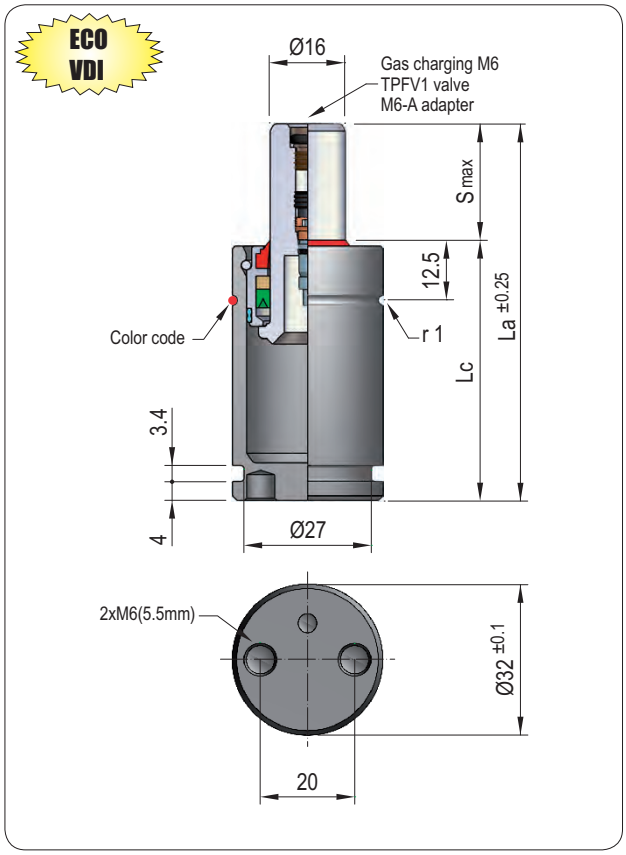
Initial force/charging pressure ratio



Assembly possibilities



FS 32 FS 32/1 FSC 32 — FS 32 FS 32/1 FSC 32 — FI 32 FI 32/1

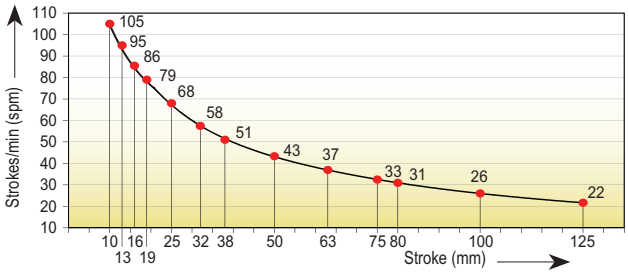


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MV32

PED 2014/68/UE



Maximum strokes / minute (at 20º)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 32Vx10	10	50	40	0,006	0,16
MICRO 32Vx13	13	56	43	0,008	0,17
MICRO 32Vx16	16	62	46	0,010	0,18
MICRO 32Vx19	19	68	49	0,012	0,19
MICRO 32Vx25	25	80	55	0,015	0,20
MICRO 32Vx32	32	94	62	0,019	0,22
MICRO 32Vx38	38	106	68	0,024	0,24
MICRO 32Vx50	50	130	80	0,031	0,28
MICRO 32Vx63	63	156	93	0,038	0,33
MICRO 32Vx75	75	180	105	0,046	0,36
MICRO 32Vx80	80	190	110	0,049	0,38
MICRO 32Vx100	100	230	130	0,061	0,44
MICRO 32Vx125	125	280	155	0,076	0,51

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 75	25
BL *(Blue)*	150 (±15)	≈ 225	75
RD *(Red)*	250 (±20)	≈ 375	125
YW *(Yellow)*	350 (±20)	≈ 525	175
(Other forces)	50 - 350	≈ 75 - 525	25 - 175

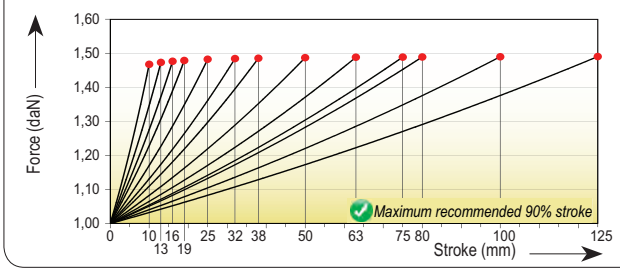
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

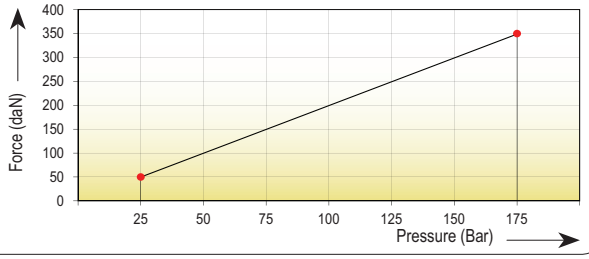
MICRO 32V x 19 YW

Model | Stroke | Color code

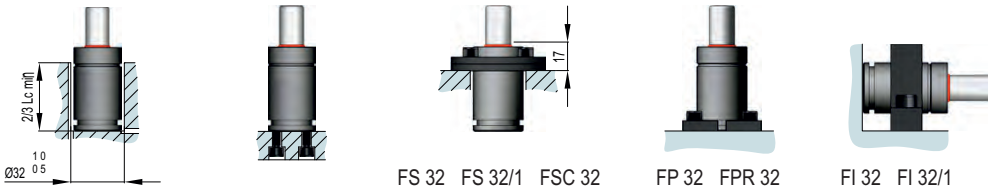
Force/stroke ratio

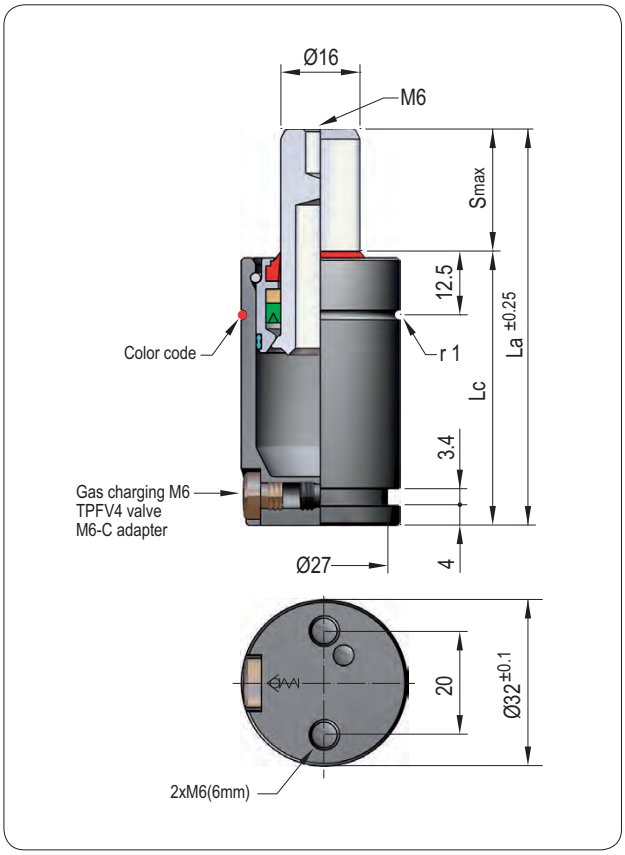


Initial force/charging pressure ratio



Assembly possibilities



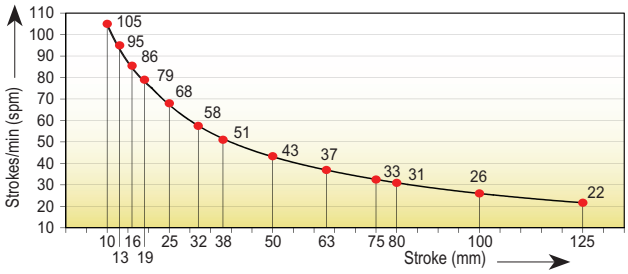


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MVS32

PED 2014/68/UE · VDI 3003 · ISO 11901



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 32VSx10	10	50	40	0,007	0,16
MICRO 32VSx13	13	56	43	0,008	0,17
MICRO 32VSx16	16	62	46	0,010	0,18
MICRO 32VSx19	19	68	49	0,012	0,19
MICRO 32VSx25	25	80	55	0,016	0,20
MICRO 32VSx32	32	94	62	0,020	0,22
MICRO 32VSx38	38	106	68	0,024	0,24
MICRO 32VSx50	50	130	80	0,031	0,28
MICRO 32VSx63	63	156	93	0,039	0,33
MICRO 32VSx75	75	180	105	0,046	0,36
MICRO 32VSx80	80	190	110	0,049	0,38
MICRO 32VSx100	100	230	130	0,061	0,44
MICRO 32VSx125	125	280	155	0,076	0,51

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 75	25
BL *(Blue)*	150 (±15)	≈ 225	75
RD *(Red)*	250 (±20)	≈ 370	125
YW *(Yellow)*	350 (±20)	≈ 520	175
(Other forces)	50 - 350	≈ 75 - 520	25 - 175

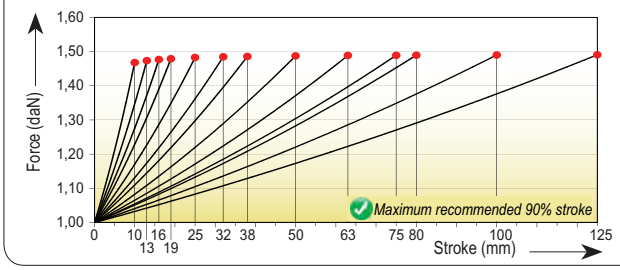
The black color code denotes a different pressure that the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

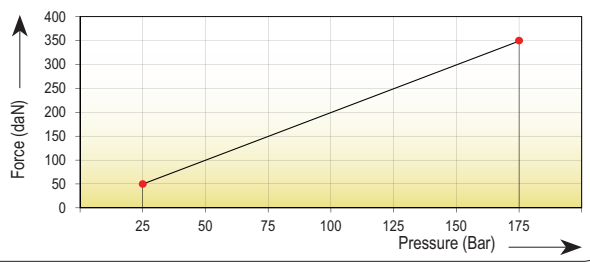
MICRO 32VS x 75 YW

Model · Stroke · Color code

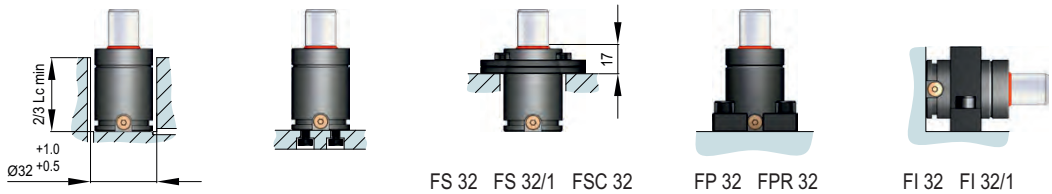
Force/stroke ratio

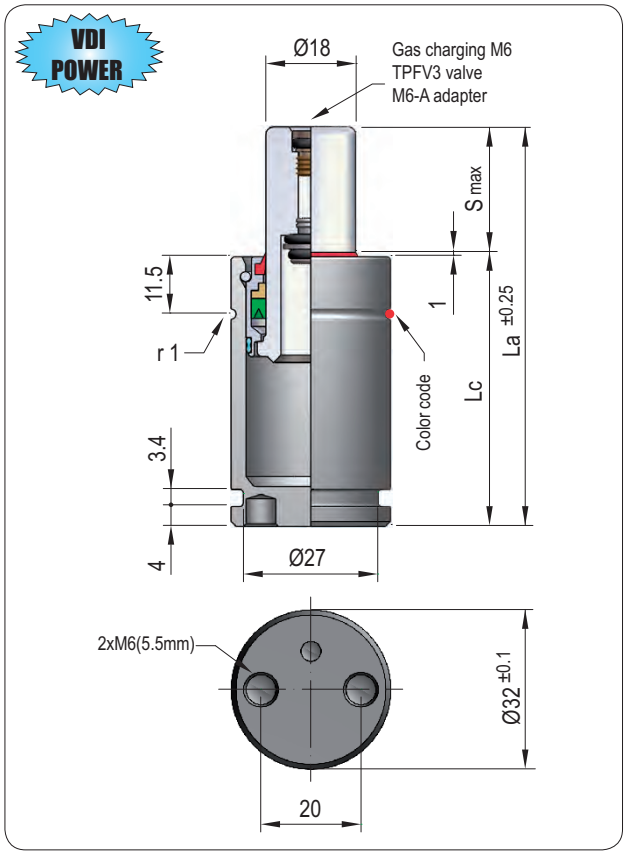


Initial force/charging pressure ratio



Assembly possibilities



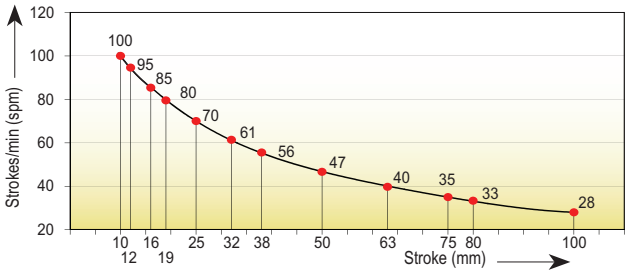


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MH32

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Maximum strokes / minute (at 20º)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 32Hx10	10	50	40	0,007	0,16
MICRO 32Hx12	12	54	42	0,008	0,17
MICRO 32Hx16	16	62	46	0,011	0,18
MICRO 32Hx19	19	68	49	0,013	0,19
MICRO 32Hx25	25	80	55	0,017	0,20
MICRO 32Hx32	32	94	62	0,021	0,22
MICRO 32Hx38	38	106	68	0,025	0,24
MICRO 32Hx50	50	130	80	0,033	0,28
MICRO 32Hx63	63	156	93	0,041	0,33
MICRO 32Hx75	75	180	105	0,049	0,36
MICRO 32Hx80	80	190	110	0,052	0,38
MICRO 32Hx100	100	230	130	0,065	0,44

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 165	40
BL *(Blue)*	200 (±15)	≈ 330	80
RD *(Red)*	300 (±20)	≈ 495	120
YW *(Yellow)*	450 (±20)	≈ 725	175
(Other forces)	60 - 450	≈ 100 - 725	25 - 175

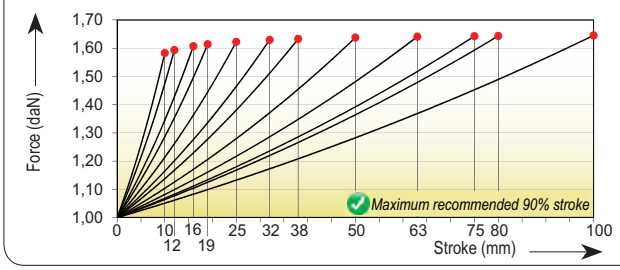
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

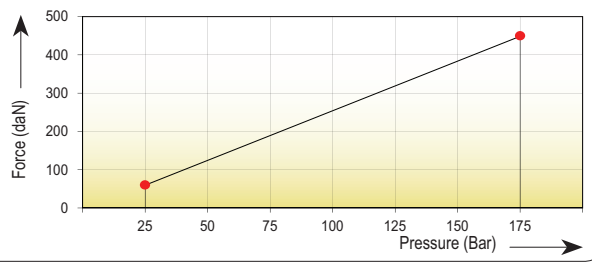
MICRO 32H x 50 RD

Model | Stroke | Color code

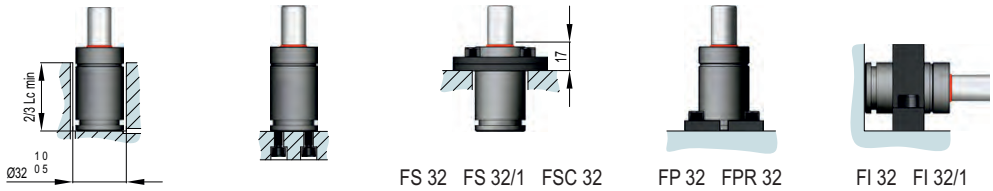
Force/stroke ratio



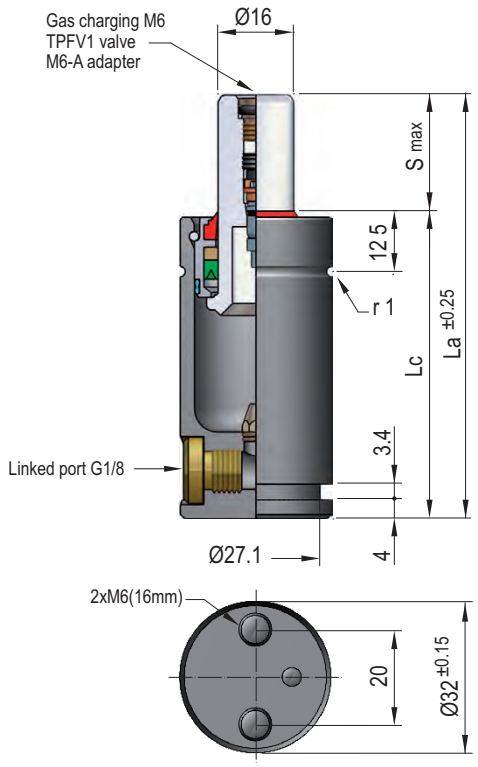
Initial force/charging pressure ratio



Assembly possibilities

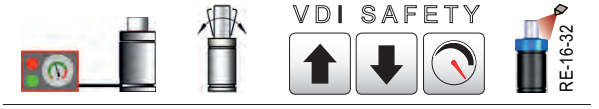


TPGAS 07 01-2018

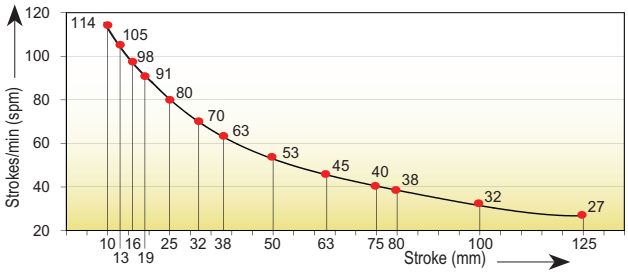


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MC32

PED 2014/68/UE

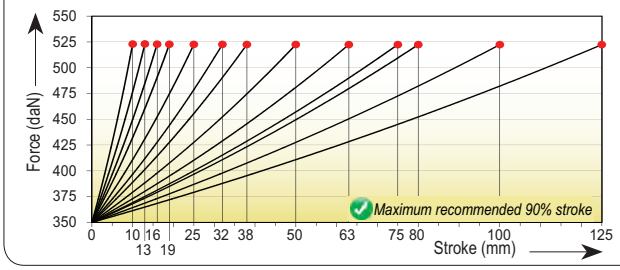


Maximum strokes / minute (at 20ºC)

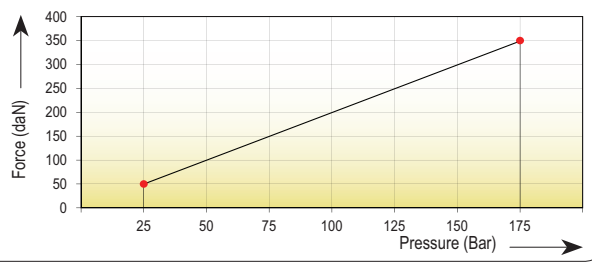


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 32Cx10	10	60	50	350 ±5% (20ºC)	500	525	175 (20ºC)	0,006	0,20
MICRO 32Cx13	13	66	53		500	525		0,008	0,22
MICRO 32Cx16	16	72	56		500	525		0,010	0,24
MICRO 32Cx19	19	78	59		500	525		0,012	0,25
MICRO 32Cx25	25	90	65		500	525		0,015	0,27
MICRO 32Cx32	32	104	72		500	525		0,019	0,30
MICRO 32Cx38	38	116	78		500	525		0,024	0,34
MICRO 32Cx50	50	140	90		500	525		0,031	0,37
MICRO 32Cx63	63	166	103		500	525		0,038	0,40
MICRO 32Cx75	75	190	115		500	525		0,046	0,46
MICRO 32Cx80	80	200	120		500	525		0,049	0,47
MICRO 32Cx100	100	240	140		500	525		0,061	0,51
MICRO 32Cx125	125	290	165		500	525		0,076	0,55

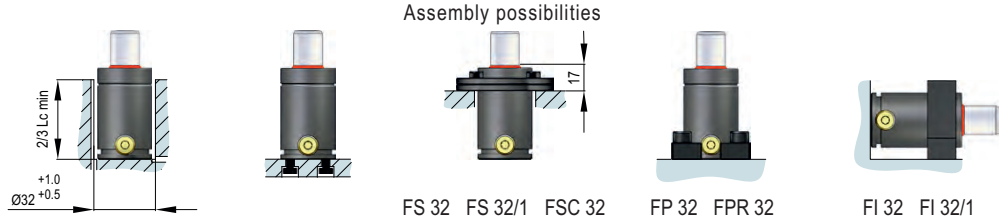
Force/stroke ratio

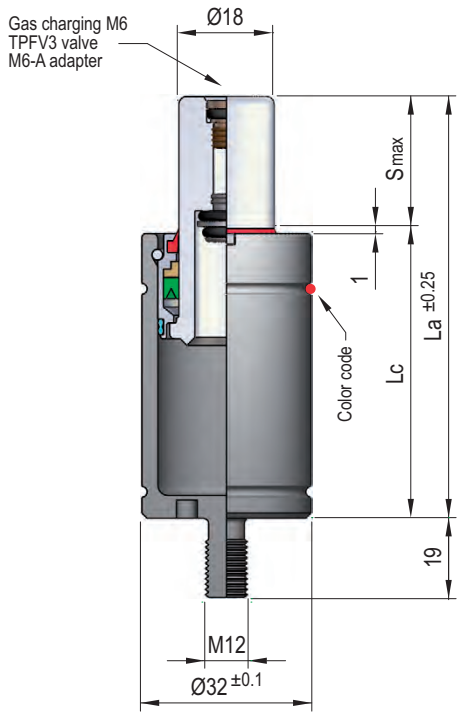


Initial force/charging pressure ratio



Assembly possibilities



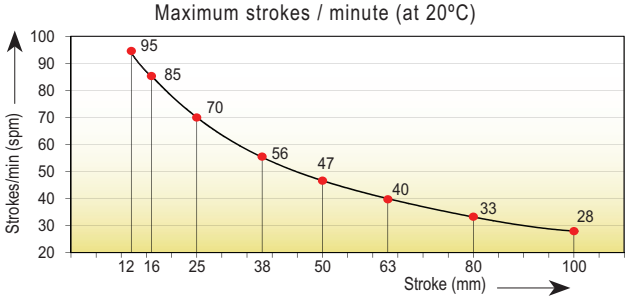


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MR32

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Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
MICRO 32Rx12	12	54	42	0,008	0,09
MICRO 32Rx16	16	62	46	0,011	0,10
MICRO 32Rx25	25	80	55	0,017	0,12
MICRO 32Rx38	38	106	68	0,025	0,14
MICRO 32Rx50	50	130	80	0,033	0,16
MICRO 32Rx63	63	156	93	0,041	0,19
MICRO 32Rx80	80	190	110	0,052	0,21
MICRO 32Rx100	100	230	130	0,065	0,25

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 165	40
BL *(Blue)*	200 (±15)	≈ 330	80
RD *(Red)*	300 (±20)	≈ 495	120
YW *(Yellow)*	450 (±20)	≈ 725	175
(Other forces)	60 - 450	≈ 100 - 725	25 - 175

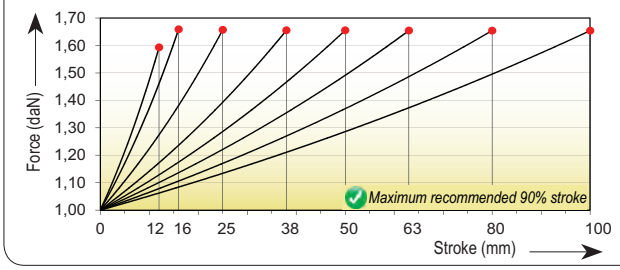
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

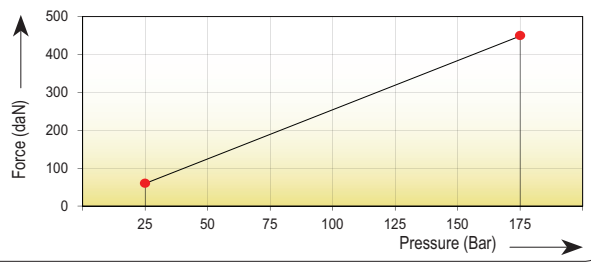
MICRO 32R x 63 RD

Model | Stroke | Color code

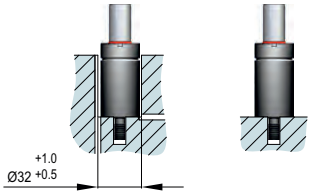
Force/stroke ratio



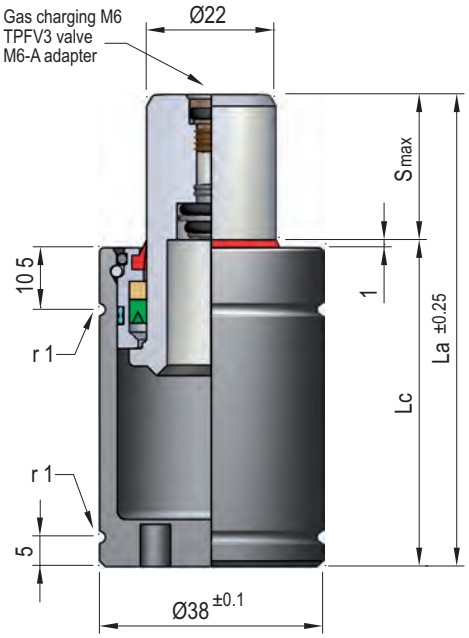
Initial force/charging pressure ratio



Assembly possibilities



ECO SERIES



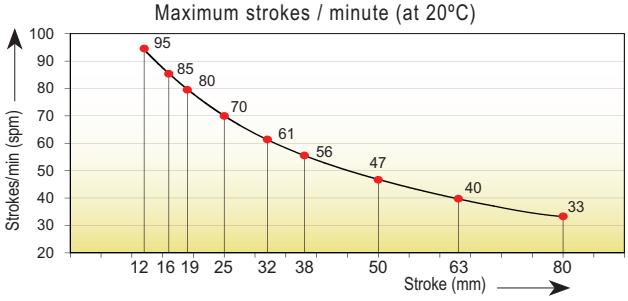
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit M38

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VDI SAFETY

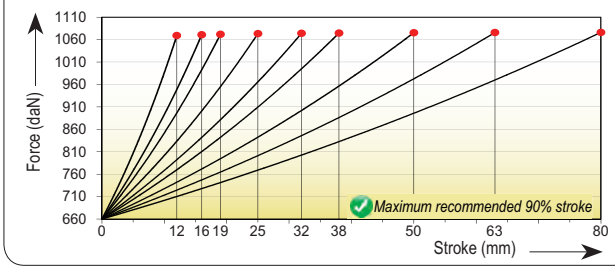
RE-22-32

Maximum strokes / minute (at 20ºC)

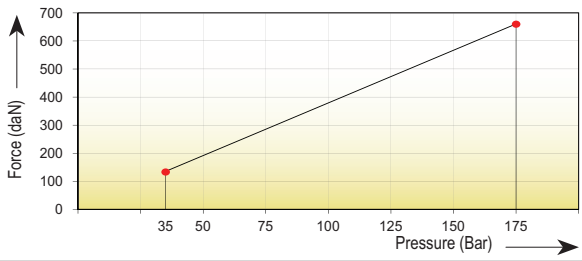


Code	Smax mm	La mm	Lc mm	Fa daN	9 % F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38x12	12	54	42	660 ±5% (20ºC)	1015	1080	175 (20ºC)	0,012	0,28
MICRO 38x16	16	62	46		1015	1080		0,016	0,30
MICRO 38x19	19	68	49		1015	1080		0,019	0,32
MICRO 38x25	25	80	55		1020	1080		0,025	0,33
MICRO 38x32	32	94	62		1020	1085		0,032	0,35
MICRO 38x38	38	106	68		1020	1085		0,037	0,39
MICRO 38x50	50	130	80		1020	1085		0,049	0,43
MICRO 38x63	63	156	93		1020	1085		0,062	0,48
MICRO 38x80	80	190	110		1020	1085		0,079	0,55

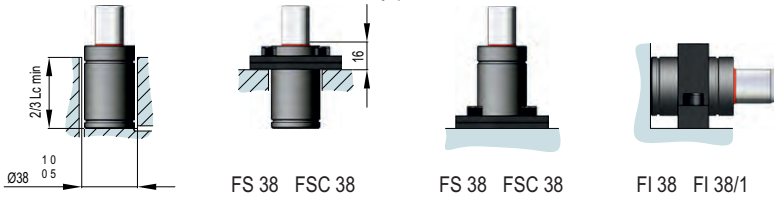
Force/stroke ratio



Initial force/charging pressure ratio



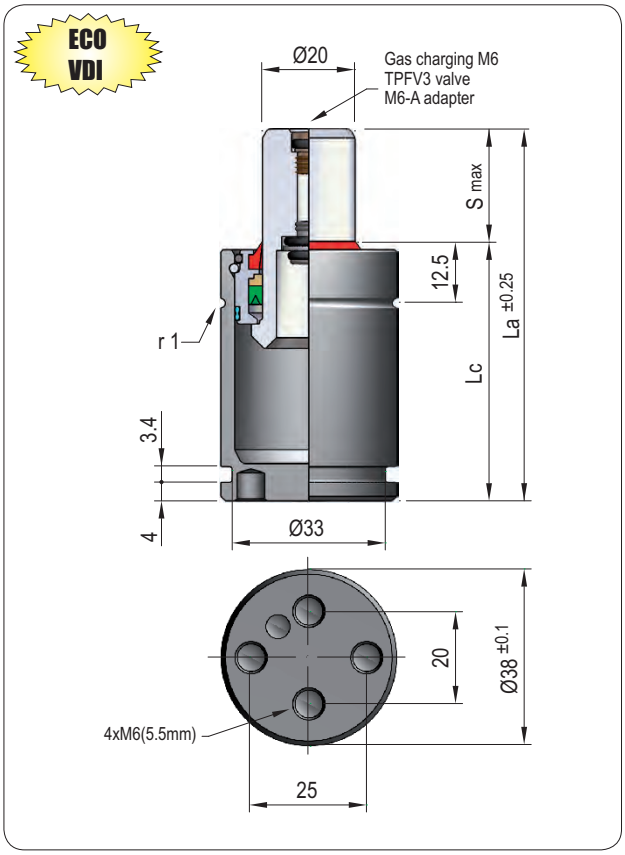
Assembly possibilities



TECAPRES®

Ø38mm 470daN

MICRO 38V

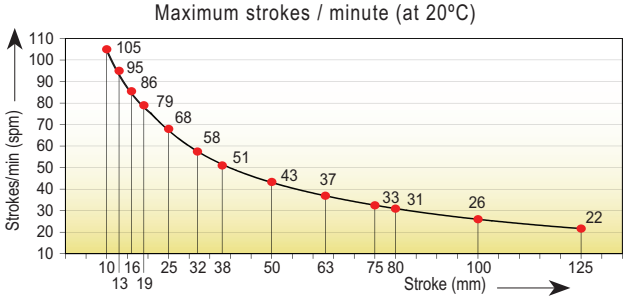


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MV38

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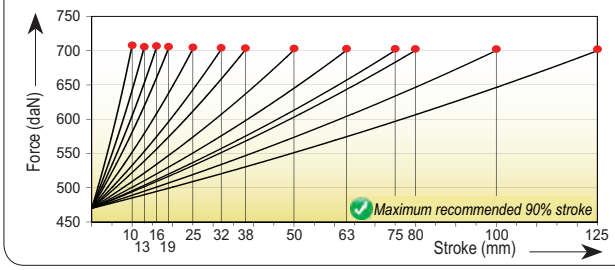


Maximum strokes / minute (at 20ºC)

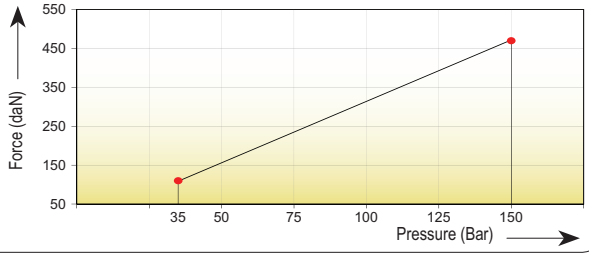


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38Vx10	10	50	40	470 ±5% (20ºC)	675	710	150 (20ºC)	0,010	0,25
MICRO 38Vx13	13	56	43		675	710		0,012	0,26
MICRO 38Vx16	16	62	46		675	705		0,015	0,27
MICRO 38Vx19	19	68	49		670	705		0,018	0,28
MICRO 38Vx25	25	80	55		670	705		0,024	0,32
MICRO 38Vx32	32	94	62		670	705		0,030	0,34
MICRO 38Vx38	38	106	68		670	705		0,036	0,38
MICRO 38Vx50	50	130	80		670	705		0,048	0,42
MICRO 38Vx63	63	156	93		670	700		0,060	0,46
MICRO 38Vx75	75	180	105		670	700		0,072	0,50
MICRO 38Vx80	80	190	110		670	700		0,076	0,53
MICRO 38Vx100	100	230	130		670	700		0,096	0,55
MICRO 38Vx125	125	280	155		670	700		0,120	0,68

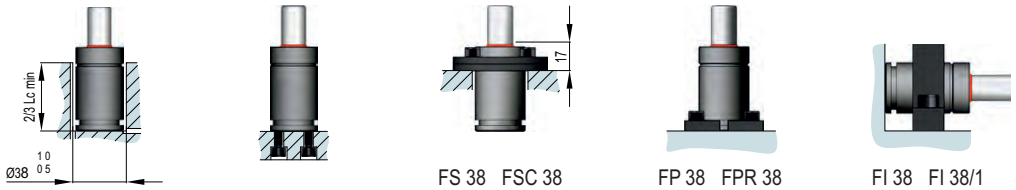
Force/stroke ratio



Initial force/charging pressure ratio

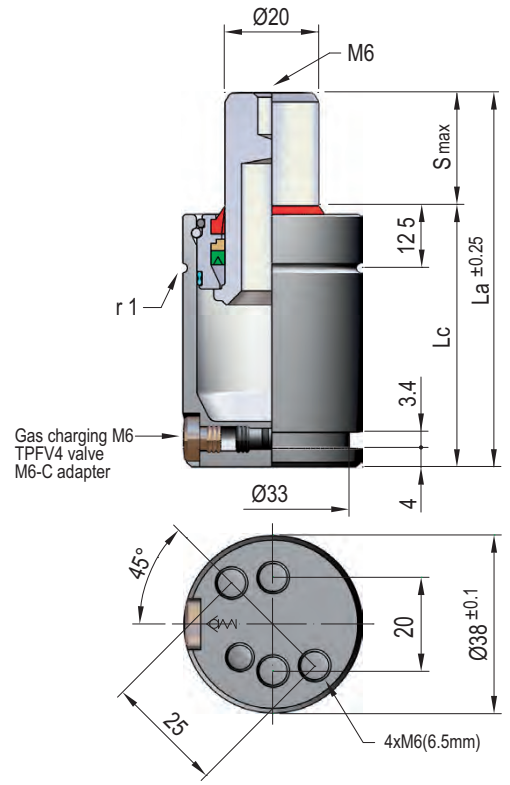


Assembly possibilities



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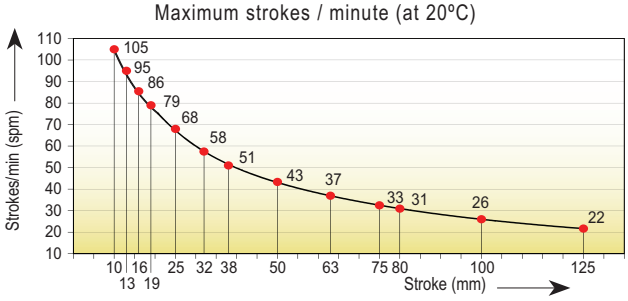


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MVS38

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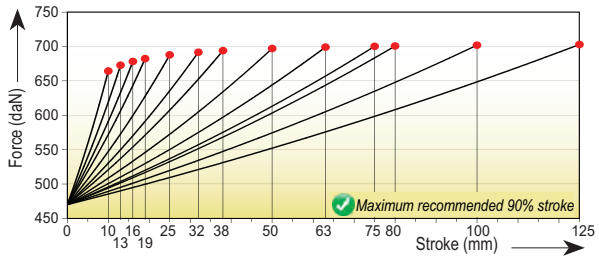


Maximum strokes / minute (at 20ºC)

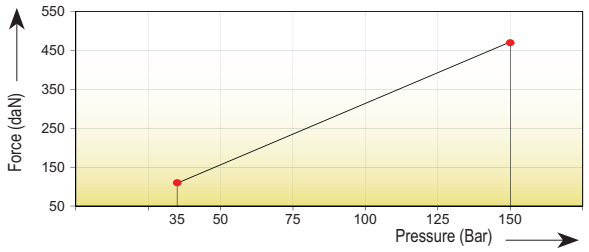


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38VSx10	10	50	40	470 ±5% (20ºC)	640	665	150 (20ºC)	0,011	0,25
MICRO 38VSx13	13	56	43		645	675		0,014	0,26
MICRO 38VSx16	16	62	46		650	680		0,016	0,27
MICRO 38VSx19	19	68	49		655	685		0,019	0,28
MICRO 38VSx25	25	80	55		660	690		0,025	0,32
MICRO 38VSx32	32	94	62		660	695		0,031	0,34
MICRO 38VSx38	38	106	68		665	695		0,037	0,38
MICRO 38VSx50	50	130	80		665	700		0,048	0,42
MICRO 38VSx63	63	156	93		670	700		0,060	0,46
MICRO 38VSx75	75	180	105		670	700		0,072	0,50
MICRO 38VSx80	80	190	110		670	705		0,076	0,53
MICRO 38VSx100	100	230	130		670	705		0,095	0,55
MICRO 38VSx125	125	280	155		670	705		0,119	0,68

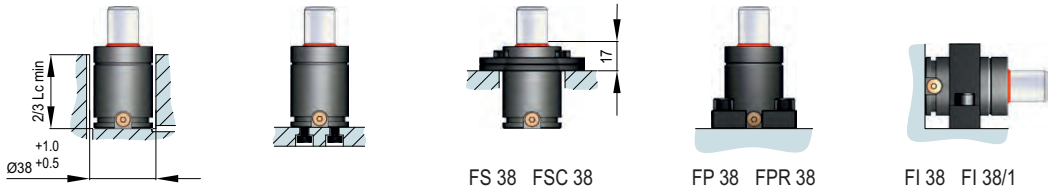
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

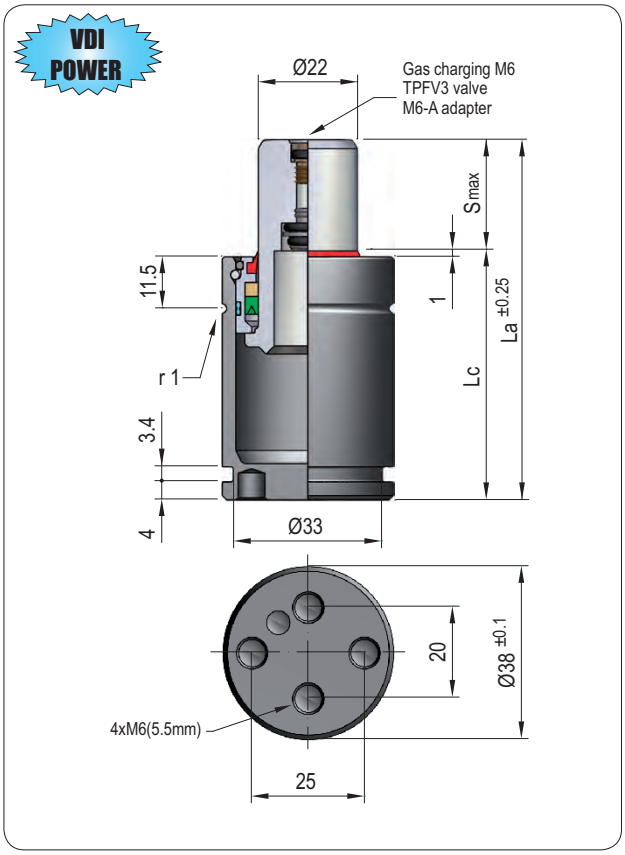


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TECAPRES®

Ø38mm 660daN

MICRO 38H

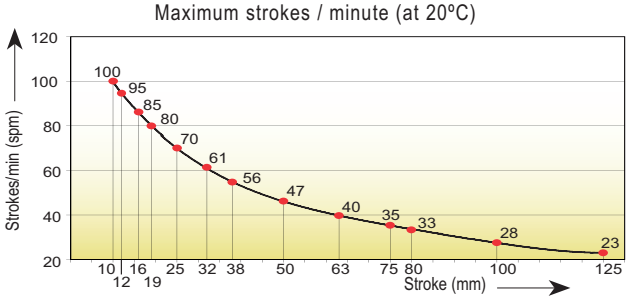


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MH38

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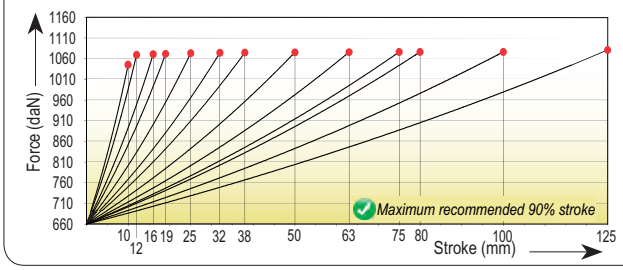


Maximum strokes / minute (at 20ºC)

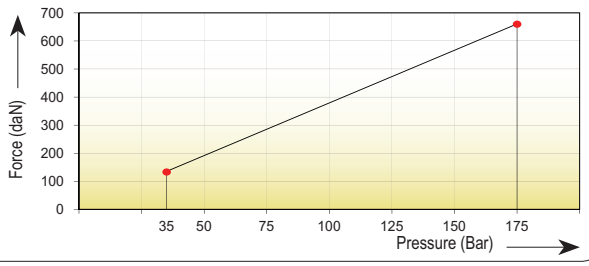


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38Hx10	10	50	40	660 ±5% (20ºC)	995	1055	175 (20ºC)	0,010	0,26
MICRO 38Hx12	12	54	42		1015	1080		0,012	0,27
MICRO 38Hx16	16	62	46		1015	1080		0,016	0,28
MICRO 38Hx19	19	68	49		1015	1080		0,019	0,30
MICRO 38Hx25	25	80	55		1020	1080		0,025	0,33
MICRO 38Hx32	32	94	62		1020	1085		0,032	0,35
MICRO 38Hx38	38	106	68		1020	1085		0,037	0,39
MICRO 38Hx50	50	130	80		1020	1085		0,049	0,43
MICRO 38Hx63	63	156	93		1020	1085		0,062	0,48
MICRO 38Hx75	75	180	105		1020	1085		0,074	0,51
MICRO 38Hx80	80	190	110		1020	1085		0,079	0,55
MICRO 38Hx100	100	230	130		1020	1085		0,098	0,62
MICRO 38Hx125	125	280	155		1020	1085		0,123	0,75

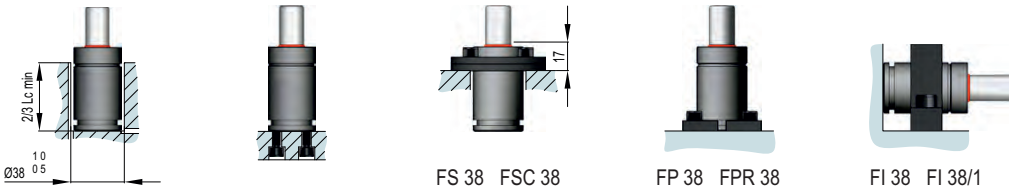
Force/stroke ratio



Initial force/charging pressure ratio

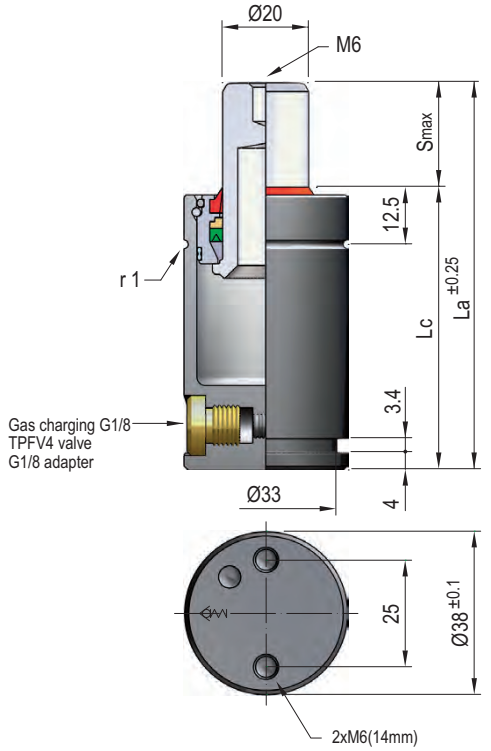


Assembly possibilities



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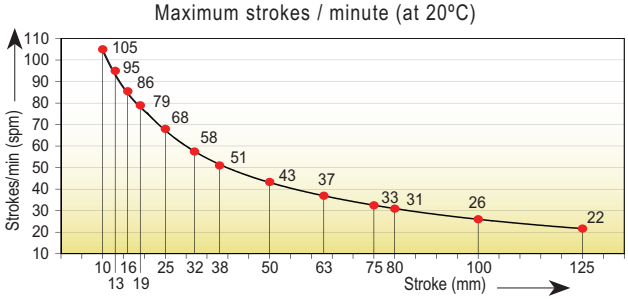


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MC38

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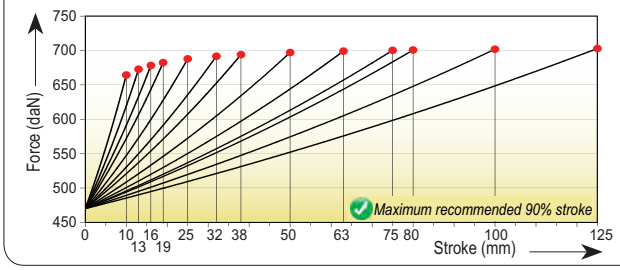


Maximum strokes / minute (at 20ºC)

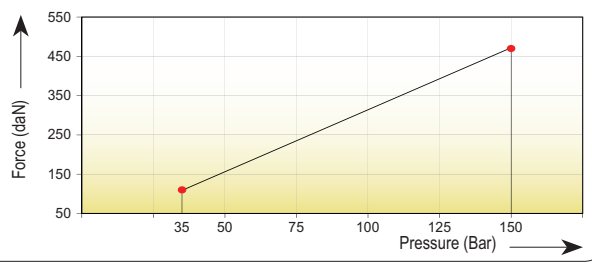


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38Cx10	10	60	50	470 ±5% (20ºC)	640	665	150 (20ºC)	0,011	0,33
MICRO 38Cx13	13	66	53		645	675		0,014	0,34
MICRO 38Cx16	16	72	56		650	680		0,016	0,35
MICRO 38Cx19	19	78	59		655	685		0,019	0,37
MICRO 38Cx25	25	90	65		660	690		0,025	0,40
MICRO 38Cx32	32	104	72		660	695		0,031	0,41
MICRO 38Cx38	38	116	78		665	695		0,037	0,45
MICRO 38Cx50	50	140	90		665	700		0,048	0,50
MICRO 38Cx63	63	166	103		670	700		0,060	0,54
MICRO 38Cx75	75	190	115		670	700		0,072	0,60
MICRO 38Cx80	80	200	120		670	705		0,076	0,62
MICRO 38Cx100	100	240	140		670	705		0,095	0,69
MICRO 38Cx125	125	290	165		670	705		0,119	0,76

Force/stroke ratio

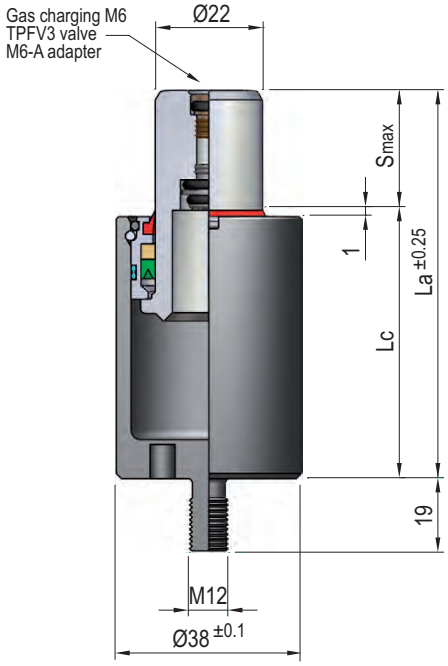


Initial force/charging pressure ratio



Assembly possibilities



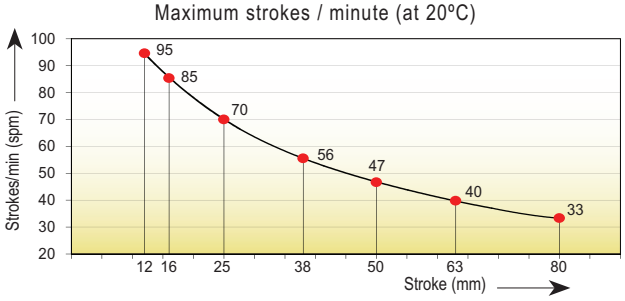


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MR38

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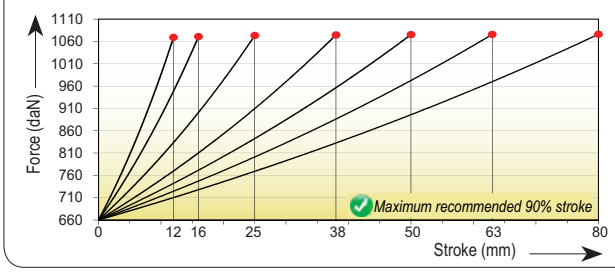


Maximum strokes / minute (at 20ºC)

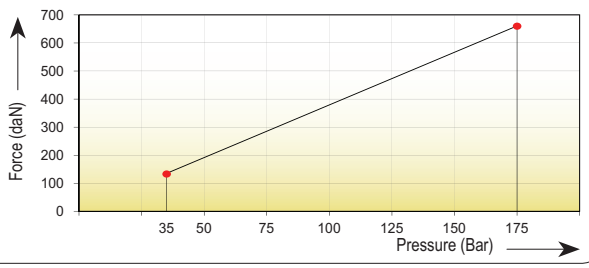


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38Rx12	12	54	42	660 ±5% (20ºC)	1015	1080	175 (20ºC)	0,012	0,28
MICRO 38Rx16	16	62	46		1015	1080		0,016	0,30
MICRO 38Rx25	25	80	55		1015	1080		0,025	0,33
MICRO 38Rx38	38	106	68		1020	1085		0,037	0,39
MICRO 38Rx50	50	130	80		1020	1085		0,049	0,43
MICRO 38Rx63	63	156	93		1020	1085		0,062	0,48
MICRO 38Rx80	80	190	110		1020	1085		0,079	0,55

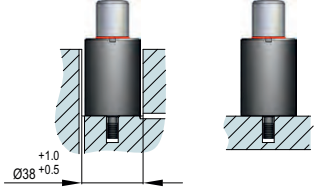
Force/stroke ratio

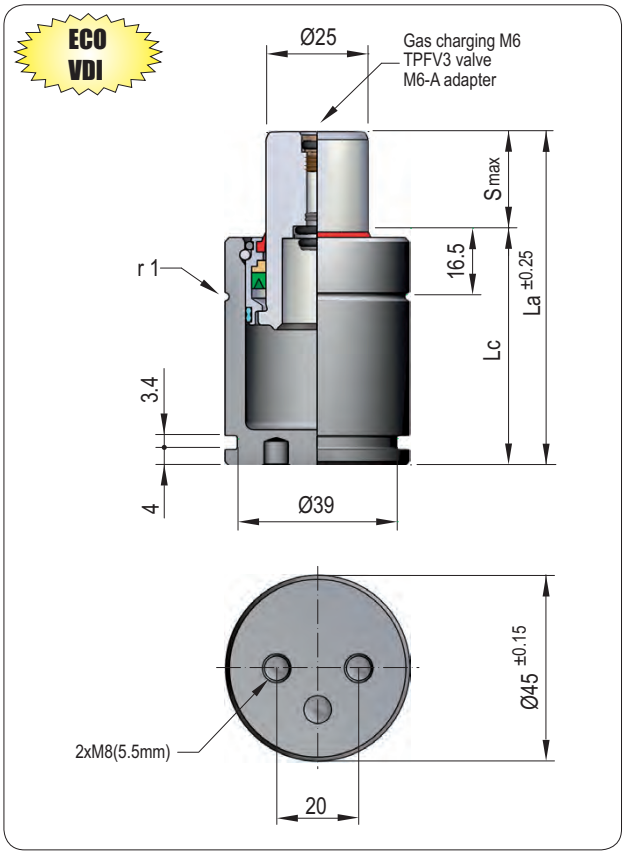


Initial force/charging pressure ratio



Assembly possibilities





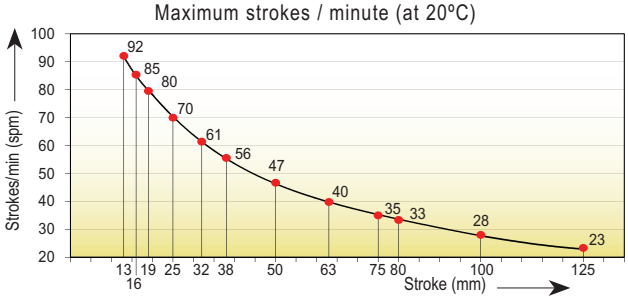
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M45

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VDI SAFETY

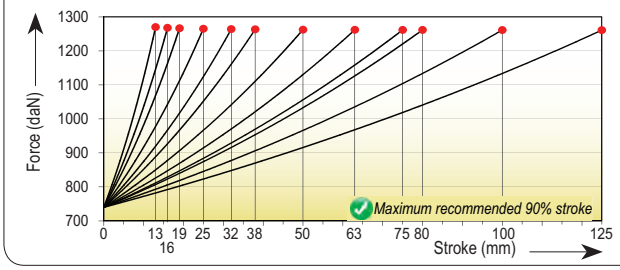
RE-25-35

Maximum strokes / minute (at 20ºC)

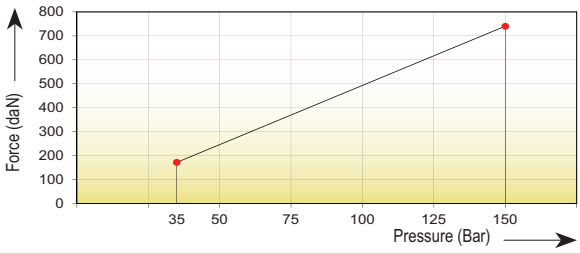


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 45x13	13	58	45	740 ±5% (20ºC)	1180	1265	150 (20ºC)	0,015	0,35
MICRO 45x16	16	64	48		1180	1260		0,019	0,39
MICRO 45x19	19	70	51		1175	1260		0,022	0,40
MICRO 45x25	25	82	57		1175	1260		0,030	0,44
MICRO 45x32	32	96	64		1175	1260		0,038	0,47
MICRO 45x38	38	108	70		1175	1255		0,045	0,50
MICRO 45x50	50	132	82		1175	1255		0,059	0,59
MICRO 45x63	63	158	95		1175	1255		0,075	0,65
MICRO 45x75	75	182	107		1175	1255		0,089	0,80
MICRO 45x80	80	192	112		1175	1255		0,095	0,85
MICRO 45x100	100	232	132		1175	1255		0,119	0,98
MICRO 45x125	125	282	157		1170	1255		0,149	1,15

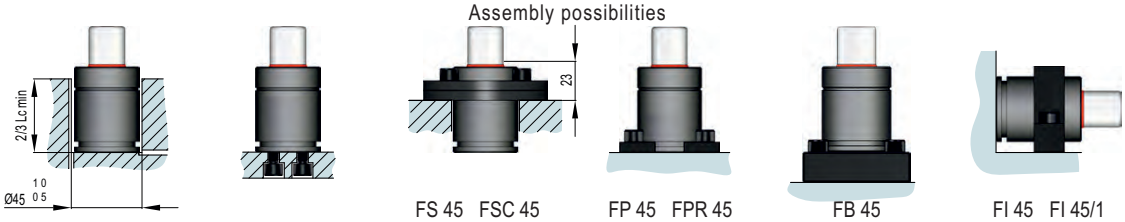
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

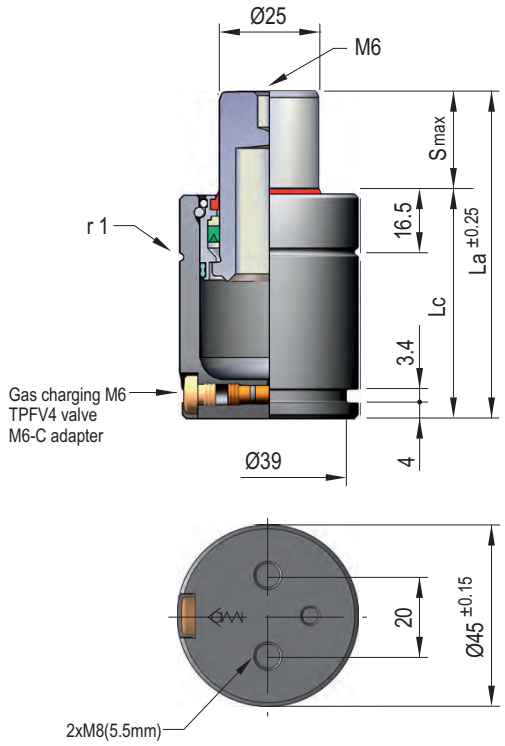


FS 45 FSC 45 FP 45 FPR 45 FB 45 FI 45 FI 45/1

TECAPRES®

Ø45mm 740daN

MICRO 45V

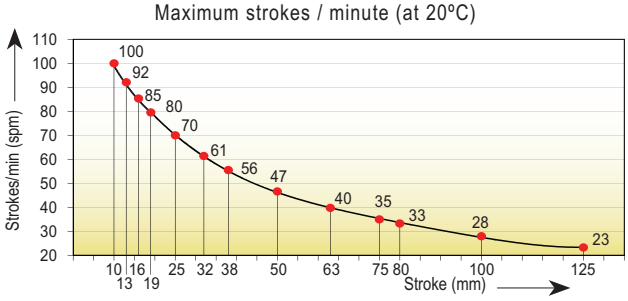


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MV45

PED 2014/68/UE · VDI VDI 3003 · ISO ISO 11901 · CNOMO E.24.54.815.G

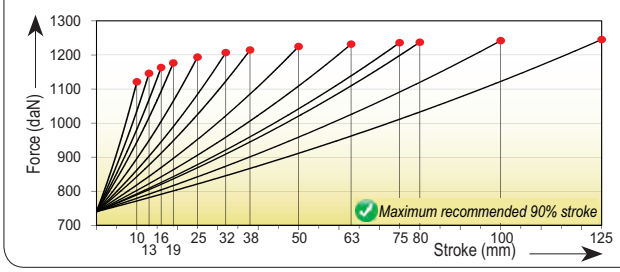


Maximum strokes / minute (at 20ºC)

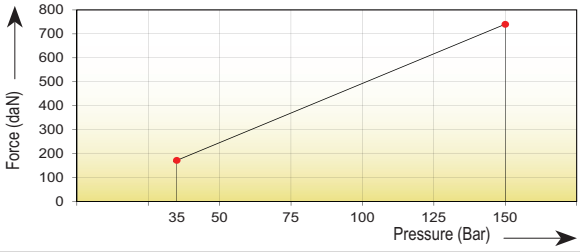


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 45Vx10	10	52	42	740 ±5% (20ºC)	1060	1115	150 (20ºC)	0,014	0,32
MICRO 45Vx13	13	58	45		1080	1140		0,018	0,35
MICRO 45Vx16	16	64	48		1095	1160		0,022	0,39
MICRO 45Vx19	19	70	51		1105	1170		0,025	0,40
MICRO 45Vx25	25	82	57		1120	1190		0,032	0,44
MICRO 45Vx32	32	96	64		1130	1200		0,041	0,47
MICRO 45Vx38	38	108	70		1135	1210		0,048	0,50
MICRO 45Vx50	50	132	82		1145	1220		0,062	0,59
MICRO 45Vx63	63	158	95		1150	1225		0,078	0,65
MICRO 45Vx75	75	182	107		1155	1230		0,092	0,80
MICRO 45Vx80	80	192	112		1155	1230		0,098	0,85
MICRO 45Vx100	100	232	132		1155	1235		0,122	0,98
MICRO 45Vx125	125	282	157		1160	1240		0,151	1,15

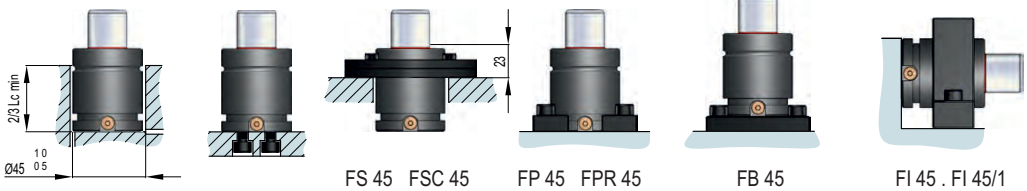
Force/stroke ratio



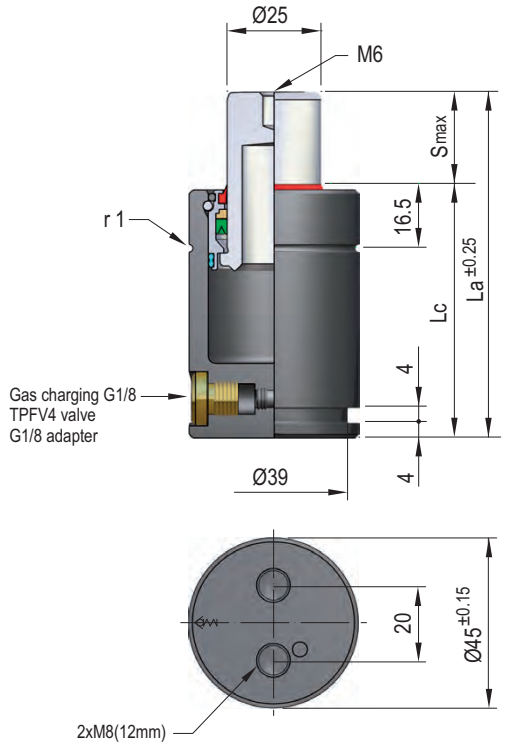
Initial force/charging pressure ratio



Assembly possibilities



FS 45 FSC 45 · FP 45 FPR 45 · FB 45 · FI 45 . FI 45/1

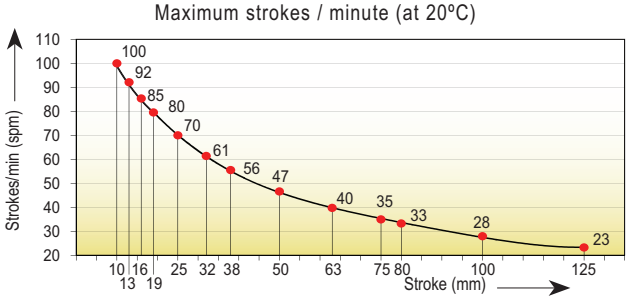


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MC45

PED 2014/68/UE

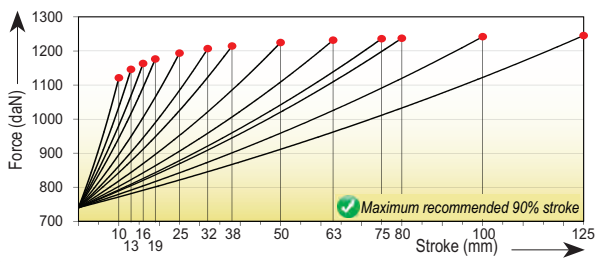


Maximum strokes / minute (at 20ºC)

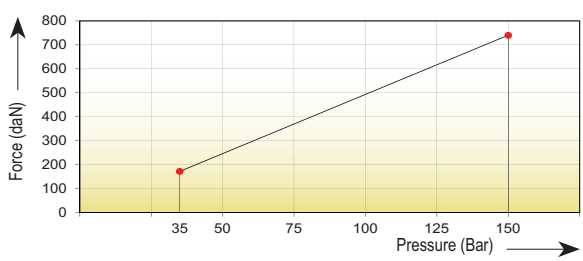


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 45Cx10	10	62	52	740 ±5% (20ºC)	1060	1115	150 (20ºC)	0,014	0,32
MICRO 45Cx13	13	68	55		1080	1140		0,018	0,35
MICRO 45Cx16	16	74	58		1095	1160		0,022	0,39
MICRO 45Cx19	19	80	61		1105	1170		0,025	0,40
MICRO 45Cx25	25	92	67		1120	1190		0,032	0,44
MICRO 45Cx32	32	106	74		1130	1200		0,041	0,47
MICRO 45Cx38	38	118	80		1135	1210		0,048	0,50
MICRO 45Cx50	50	142	92		1145	1220		0,062	0,59
MICRO 45Cx63	63	168	105		1150	1225		0,078	0,65
MICRO 45Cx75	75	192	117		1155	1230		0,092	0,80
MICRO 45Cx80	80	202	122		1155	1230		0,098	0,85
MICRO 45Cx100	100	242	142		1155	1235		0,122	0,98
MICRO 45Cx125	125	292	167		1160	1240		0,151	1,15

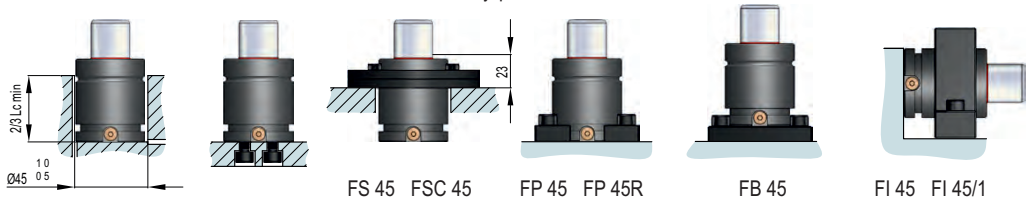
Force/stroke ratio



Initial force/charging pressure ratio



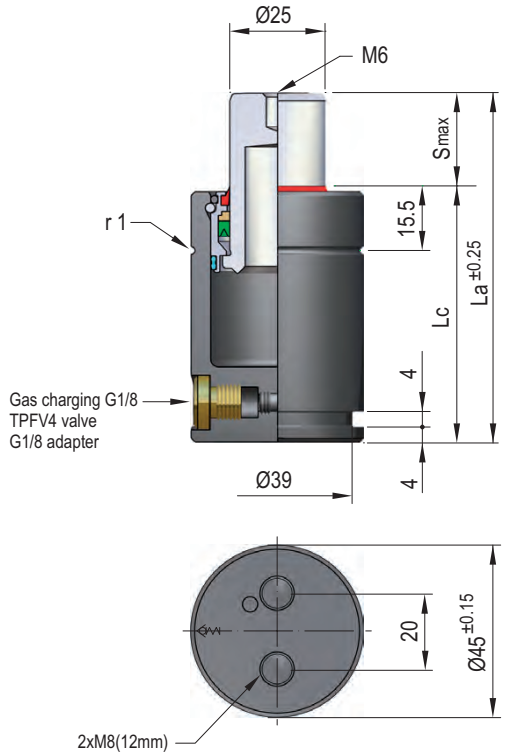
Assembly possibilities



TECAPRES®

Ø45mm · G1/8 connectable
740daN

MICRO 45CF

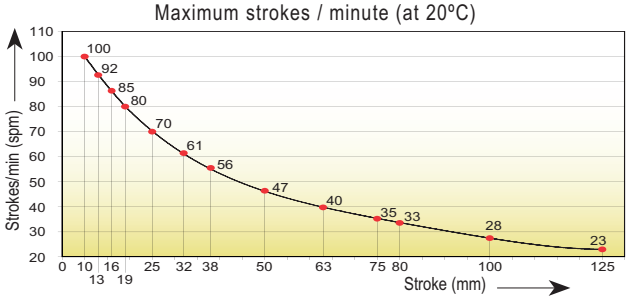


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M45CF

PED 2014/68/UE

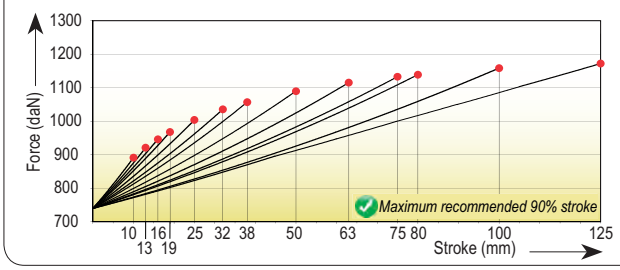


Maximum strokes / minute (at 20ºC)

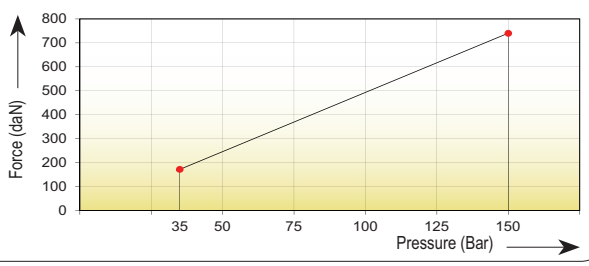


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 45CFx10	10	67	57		870	885		0,029	0,37
MICRO 45CFx13	13	73	60		895	915		0,032	0,40
MICRO 45CFx16	16	79	63		915	940		0,036	0,44
MICRO 45CFx19	19	85	66		935	965		0,040	0,45
MICRO 45CFx25	25	97	72		965	1000		0,047	0,49
MICRO 45CFx32	32	111	79	740 ±5%	990	1030	150	0,055	0,54
MICRO 45CFx38	38	123	85	(20ºC)	1010	1050	(20ºC)	0,062	0,55
MICRO 45CFx50	50	147	97		1035	1085		0,076	0,64
MICRO 45CFx63	63	173	110		1055	1110		0,092	0,70
MICRO 45CFx75	75	197	122		1070	1125		0,106	0,85
MICRO 45CFx80	80	207	127		1075	1135		0,112	0,90
MICRO 45CFx100	100	247	147		1090	1155		0,136	1,03
MICRO 45CFx125	125	297	172		1105	1170		0,166	1,29

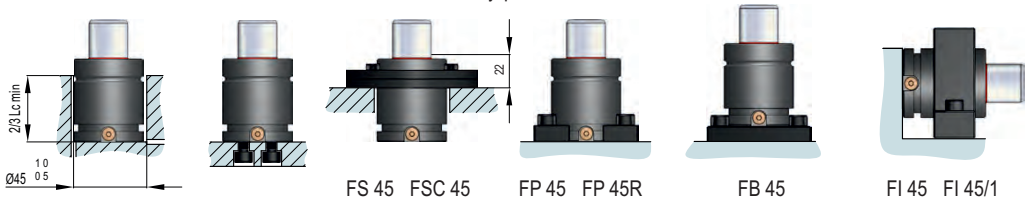
Force/stroke ratio



Initial force/charging pressure ratio

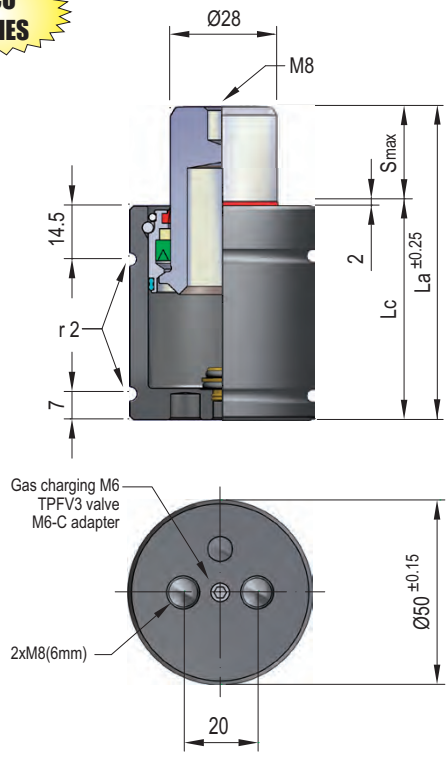


Assembly possibilities



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ECO SERIES



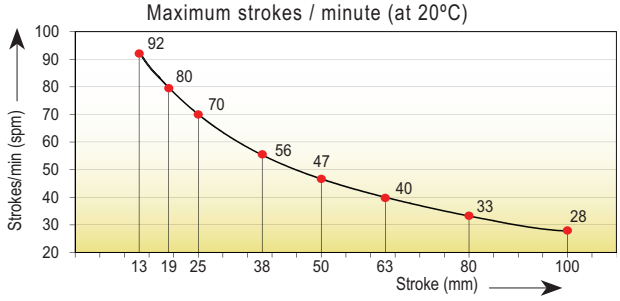
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M50.1

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VDI SAFETY

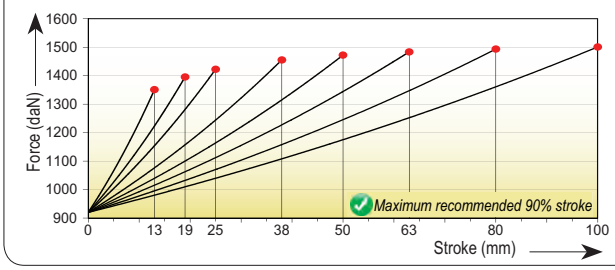
RE-28-40

Maximum strokes / minute (at 20ºC)

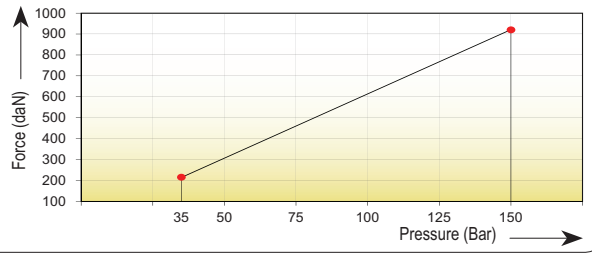


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50x13.1	13	61	48	920 ±5% (20ºC)	1295	1355	150 (20ºC)	0,025	0,57
MICRO 50x19.1	19	73	54		1330	1400		0,034	0,60
MICRO 50x25.1	25	85	60		1355	1430		0,044	0,67
MICRO 50x38.1	38	111	73		1380	1460		0,064	0,79
MICRO 50x50.1	50	135	85		1395	1480		0,082	0,89
MICRO 50x63.1	63	161	98		1405	1490		0,102	1,02
MICRO 50x80.1	80	195	115		1410	1500		0,128	1,18
MICRO 50x100.1	100	235	135		1415	1505		0,159	1,39

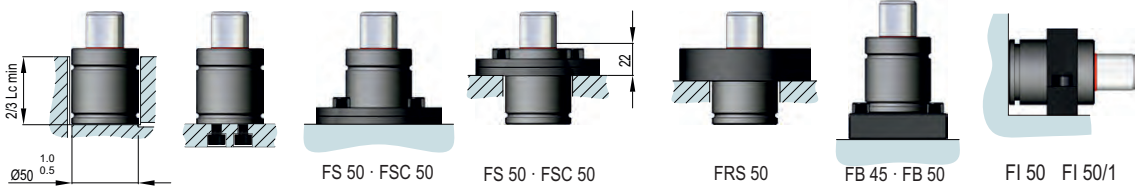
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



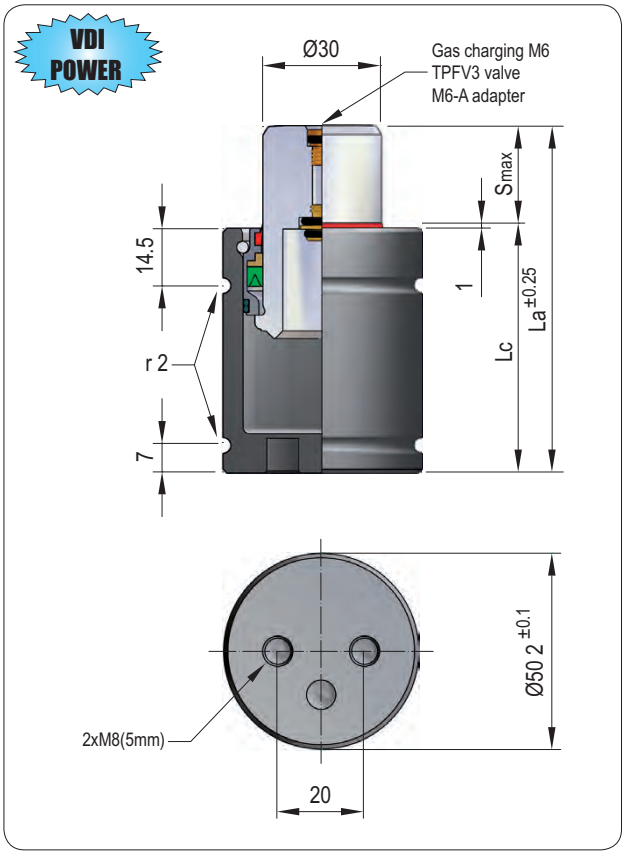
FS 50 · FSC 50 | FS 50 · FSC 50 | FRS 50 | FB 45 · FB 50 | FI 50 FI 50/1

TPGAS 07 01-2018

TECAPRES®

Ø50mm
1100daN

MICRO 50V

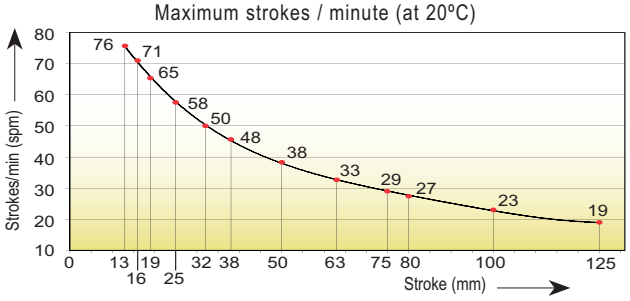


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1 m/s
Maintenance kit	Kit M50V

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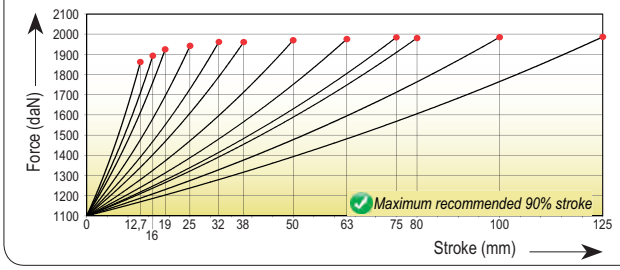


Maximum strokes / minute (at 20ºC)

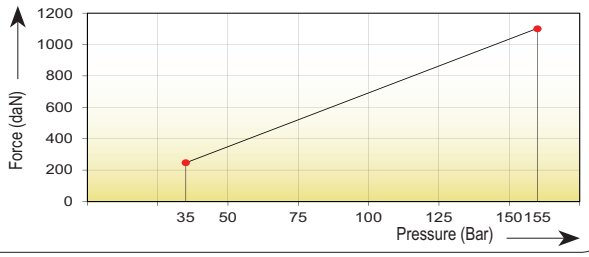


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50Vx13	12,7	63,4	50,7	1100 ±5% (20ºC)	1760	1885	155 (20ºC)	0,022	0,59
MICRO 50Vx16	16	70	54		1775	1905		0,027	0,60
MICRO 50Vx19	19	76	57		1785	1917		0,031	0,62
MICRO 50Vx25	25	88	63		1795	1935		0,041	0,69
MICRO 50Vx32	32	102	70		1805	1945		0,052	0,75
MICRO 50Vx38	38	114	76		1810	1955		0,061	0,81
MICRO 50Vx50	50	138	88		1820	1960		0,080	0,91
MICRO 50Vx63	63	165	102		1825	1970		0,101	1,05
MICRO 50Vx75	75	188	113		1825	1970		0,119	1,15
MICRO 50Vx80	80	198	118		1825	1975		0,127	1,20
MICRO 50Vx100	100	238	138		1830	1975		0,159	1,41
MICRO 50Vx125	125	288	163		1830	1980		0,198	1,68

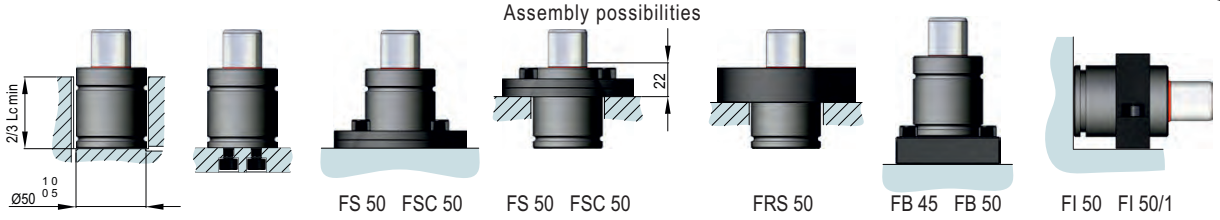
Force/stroke ratio

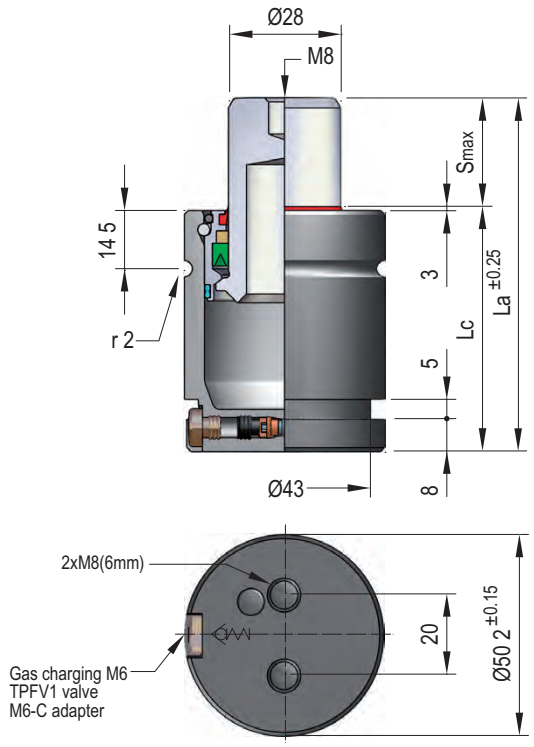


Initial force/charging pressure ratio



Assembly possibilities



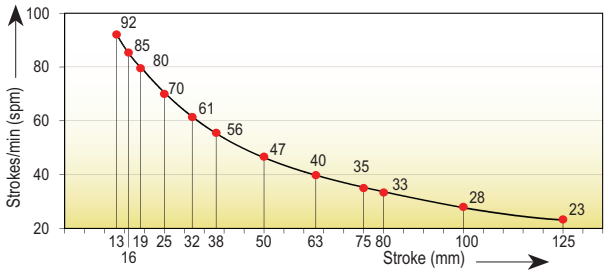


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M50VS

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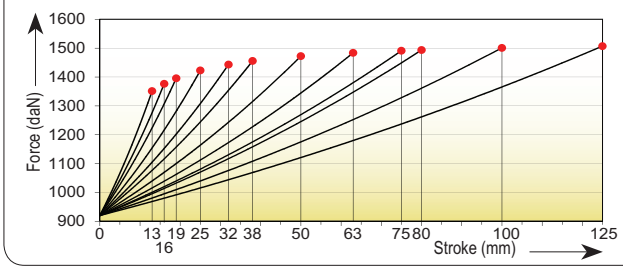


Maximum strokes / minute (at 20ºC)

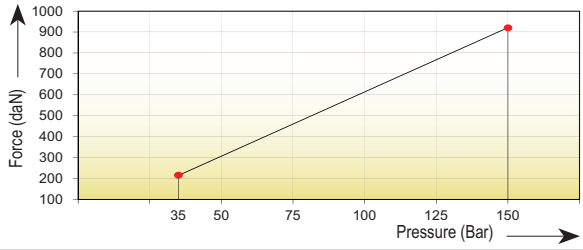


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50VSx13	13	64	51	920 ±5% (20ºC)	1295	1355	150 (20ºC)	0,025	0,53
MICRO 50VSx16	16	70	54		1315	1380		0,030	0,55
MICRO 50VSx19	19	76	57		1330	1400		0,034	0,58
MICRO 50VSx25	25	88	63		1355	1430		0,044	0,62
MICRO 50VSx32	32	102	70		1370	1450		0,054	0,67
MICRO 50VSx38	38	114	76		1380	1460		0,064	0,72
MICRO 50VSx50	50	138	88		1395	1480		0,082	0,82
MICRO 50VSx63	63	164	101		1405	1490		0,102	0,93
MICRO 50VSx75	75	188	113		1410	1495		0,121	1,10
MICRO 50VSx80	80	198	118		1410	1500		0,128	1,15
MICRO 50VSx100	100	238	138		1415	1505		0,159	1,25
MICRO 50VSx125	125	288	163		1420	1515		0,198	1,45

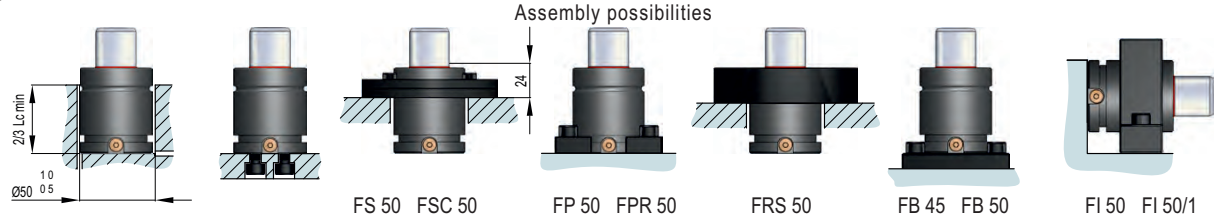
Force/stroke ratio



Initial force/charging pressure ratio



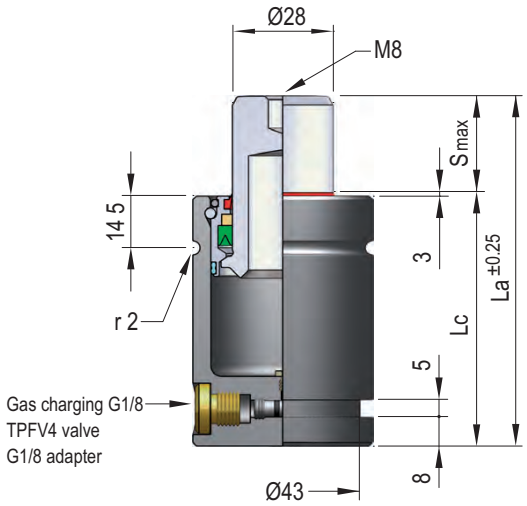
Assembly possibilities

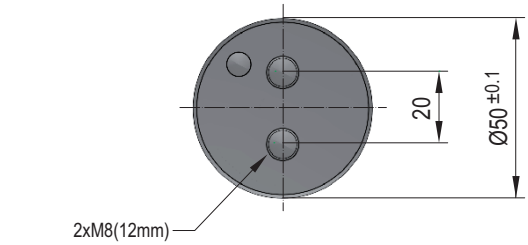


TECAPRES®

Ø50mm · G1/8 connectable
920daN

MICRO 50CS



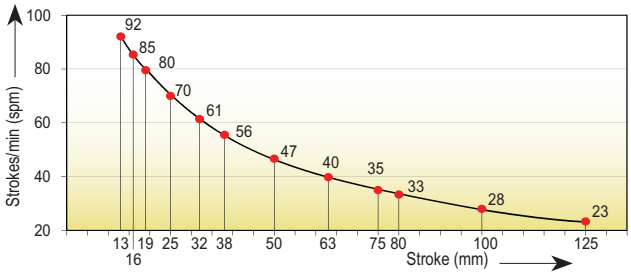


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit MCS50

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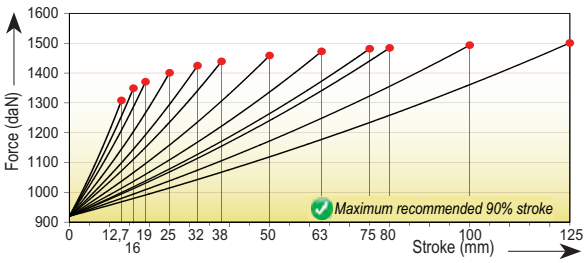


Maximum strokes / minute (at 20ºC)

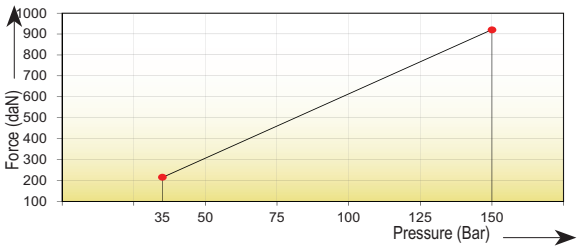


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50CSx13	13	74	61	920 ±5% (20ºC)	1270	1325	150 (20ºC)	0,026	0,60
MICRO 50CSx16	16	80	64		1295	1355		0,031	0,63
MICRO 50CSx19	19	86	67		1310	1375		0,036	0,68
MICRO 50CSx25	25	98	73		1335	1405		0,045	0,79
MICRO 50CSx32	32	112	80		1355	1430		0,056	0,89
MICRO 50CSx38	38	124	86		1370	1445		0,065	1,02
MICRO 50CSx50	50	148	98		1385	1465		0,083	1,18
MICRO 50CSx63	63	174	111		1395	1480		0,103	1,31
MICRO 50CSx75	75	198	123		1400	1485		0,122	1,44
MICRO 50CSx80	80	208	128		1405	1490		0,130	1,52
MICRO 50CSx100	100	248	148		1410	1500		0,160	1,88
MICRO 50CSx125	125	298	173		1415	1505		0,199	2,13

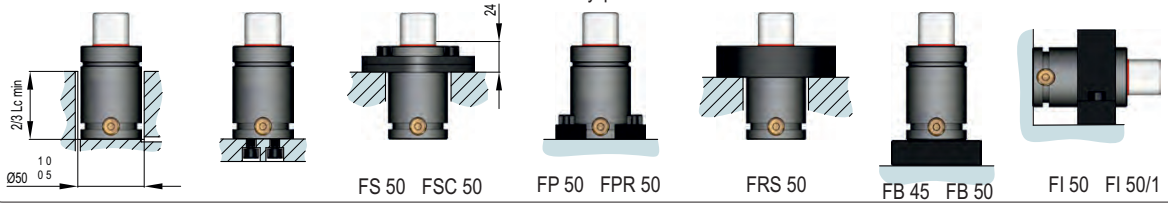
Force/stroke ratio



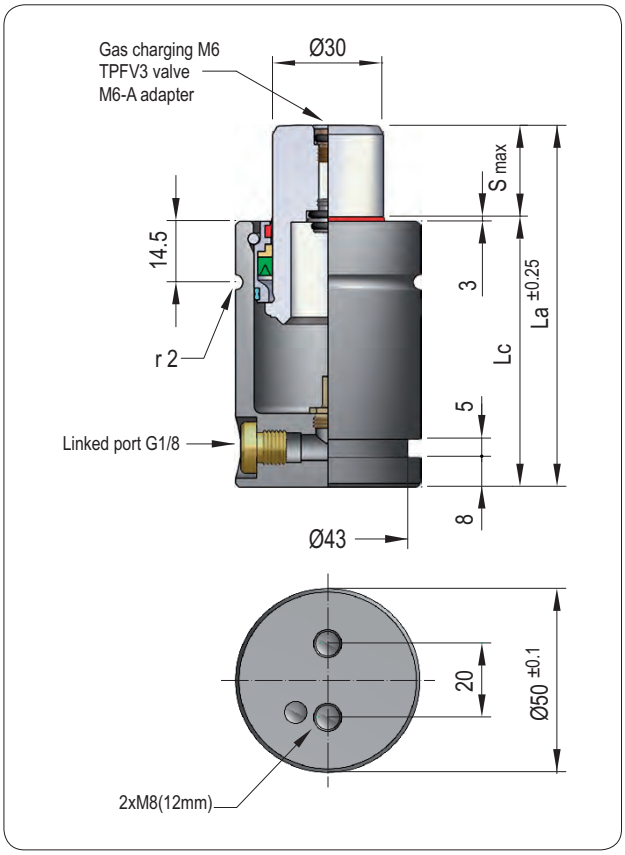
Initial force/charging pressure ratio



Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

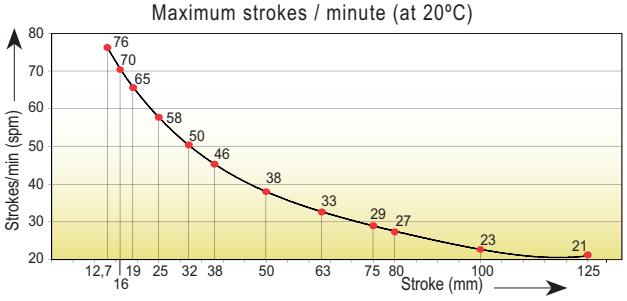


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MC50.1

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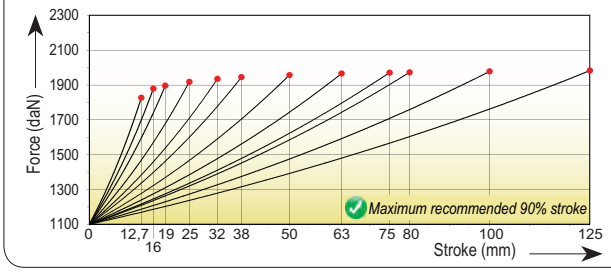


Maximum strokes / minute (at 20ºC)

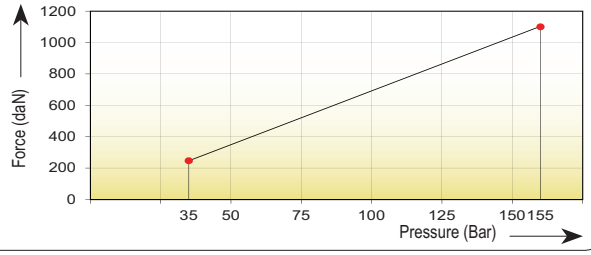


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50Cx13.1	12,7	74	61,3	1100 ±5% (20ºC)	1740	1860	160 (20ºC)	0,023	0,70
MICRO 50Cx16.1	16	80	64		1760	1885		0,027	0,73
MICRO 50Cx19.1	19	86	67		1775	1900		0,032	0,78
MICRO 50Cx25.1	25	98	73		1790	1925		0,041	0,89
MICRO 50Cx32.1	32	112	80		1805	1940		0,052	0,99
MICRO 50Cx38.1	38	124	86		1810	1950		0,062	1,12
MICRO 50Cx50.1	50	148	98		1820	1960		0,081	1,28
MICRO 50Cx63.1	63	174	111		1825	1970		0,101	1,41
MICRO 50Cx75.1	75	198	123		1830	1975		0,120	1,54
MICRO 50Cx80.1	80	208	128		1830	1980		0,128	1,62
MICRO 50Cx100.1	100	248	148		1835	1985		0,159	1,98
MICRO 50Cx125.1	125	298	173		1840	1985		0,199	2,23

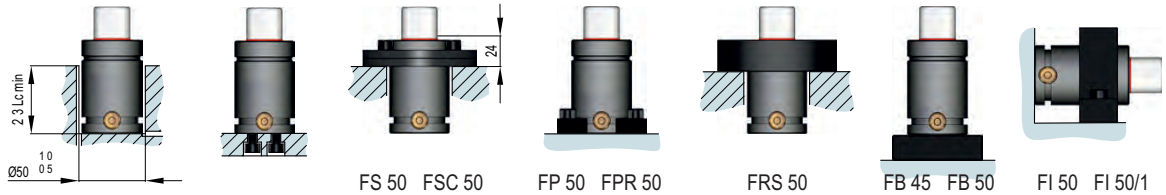
Force/stroke ratio



Initial force/charging pressure ratio



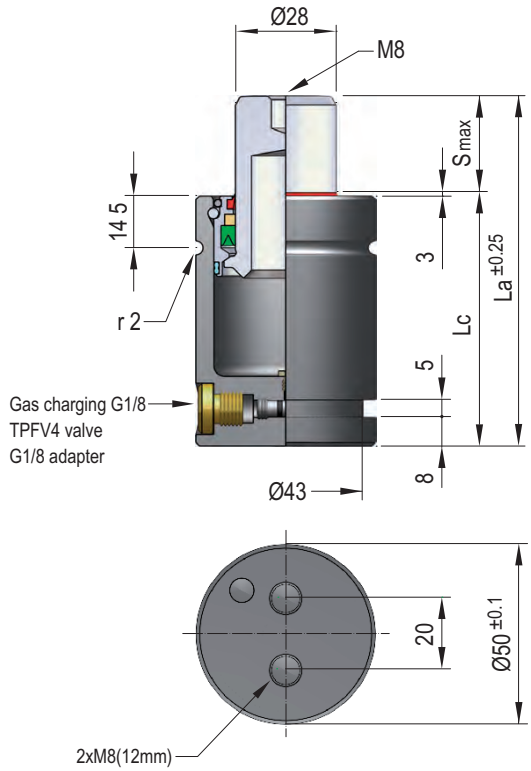
Assembly possibilities



TECAPRES®

Ø50mm · G1/8 connectable
920daN

MICRO 50CF

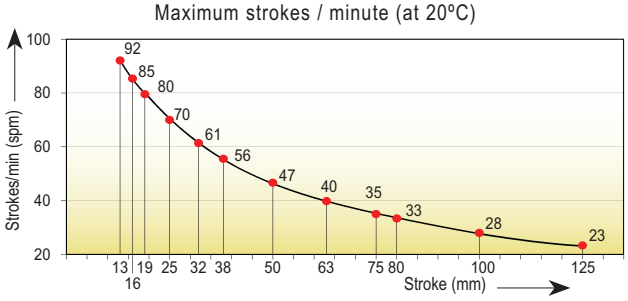


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M50CF

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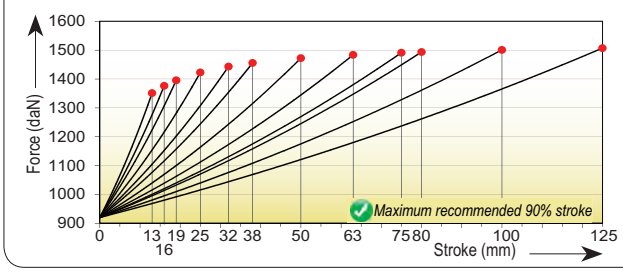


Maximum strokes / minute (at 20ºC)

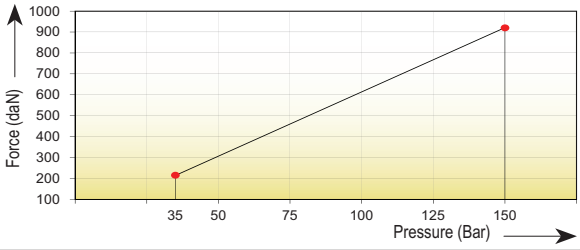


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50CFx13	13	78	65	920 ±5% (20ºC)	1295	1355	150 (20ºC)	0,025	0,64
MICRO 50CFx16	16	84	68		1315	1380		0,030	0,67
MICRO 50CFx19	19	90	71		1330	1400		0,034	0,72
MICRO 50CFx25	25	102	77		1355	1430		0,044	0,83
MICRO 50CFx32	32	116	84		1370	1450		0,054	0,93
MICRO 50CFx38	38	128	90		1380	1460		0,064	1,05
MICRO 50CFx50	50	152	102		1395	1480		0,082	1,22
MICRO 50CFx63	63	178	115		1405	1490		0,102	1,36
MICRO 50CFx75	75	202	127		1410	1495		0,121	1,50
MICRO 50CFx80	80	212	132		1410	1500		0,128	1,57
MICRO 50CFx100	100	252	152		1415	1505		0,159	1,92
MICRO 50CFx125	125	302	177		1420	1515		0,198	2,20

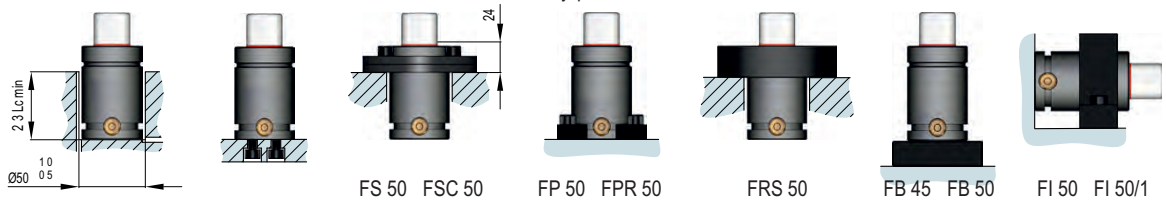
Force/stroke ratio



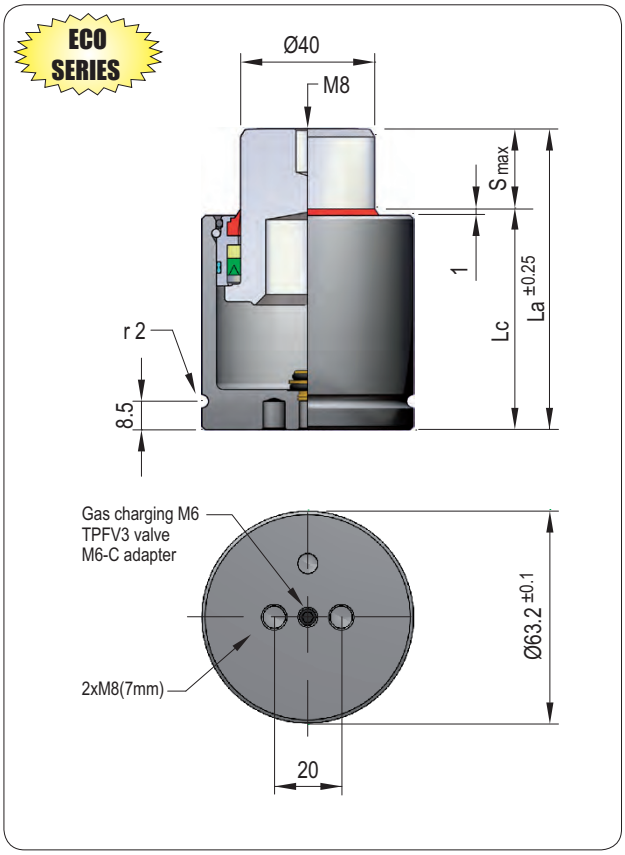
Initial force/charging pressure ratio



Assembly possibilities



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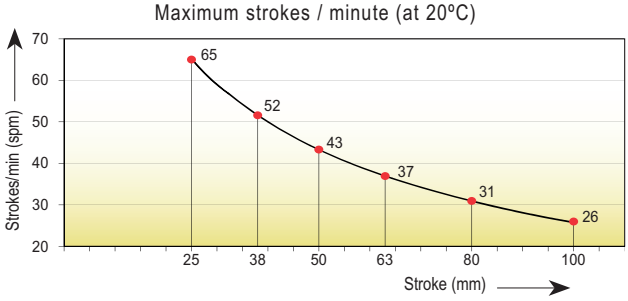


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	12,57 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,6 m/s
Maintenance kit	Kit M63

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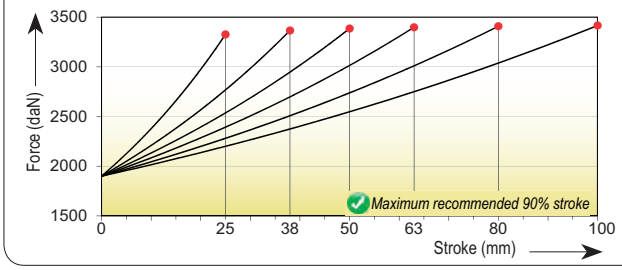


Maximum strokes / minute (at 20ºC)

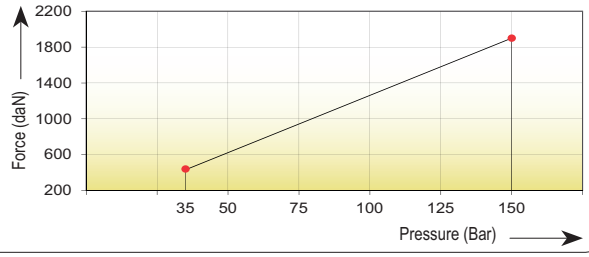


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 63x25	25	90	65		3070	3300		0,073	0,93
MICRO 63x38	38	116	78		3100	3340		0,110	1,39
MICRO 63x50	50	140	90	1900 ±5%	3115	3360	150	0,143	1,65
MICRO 63x63	63	166	103	(20ºC)	3125	3370	(20ºC)	0,180	1,81
MICRO 63x80	80	200	120		3135	3380		0,227	1,90
MICRO 63x100	100	240	140		3140	3390		0,283	2,23

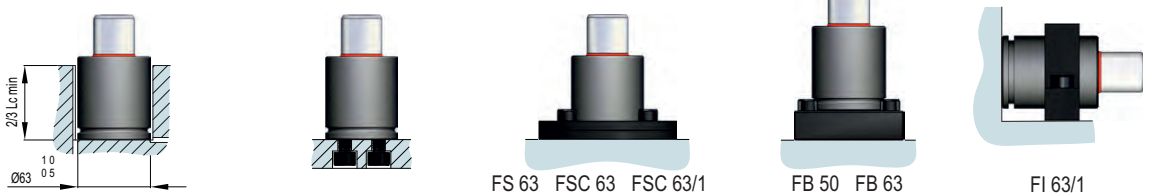
Force/stroke ratio



Initial force/charging pressure ratio



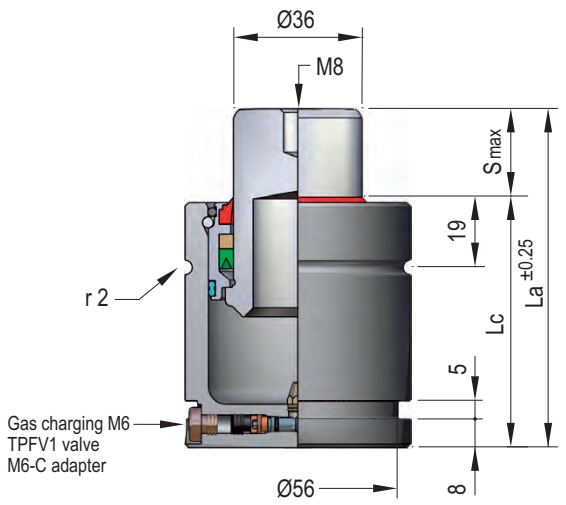
Assembly possibilities



TECAPRES®

Ø63mm 1500daN

MICRO 63V

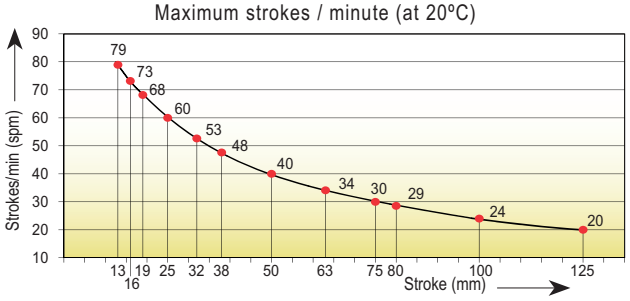


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M63V

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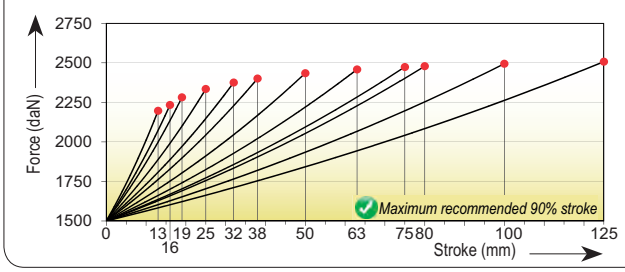


Maximum strokes / minute (at 20ºC)

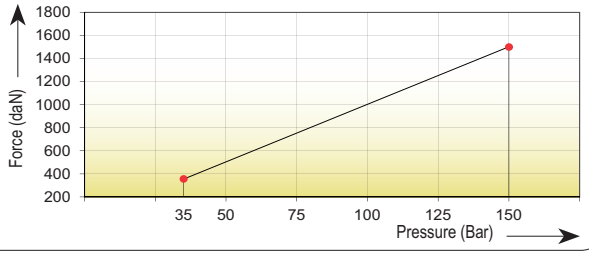


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 63Vx13	13	70	57	1500 ±5% (20ºC)	2135	2245	150 (20ºC)	0,040	0,95
MICRO 63Vx16	16	76	60		2165	2275		0,048	0,97
MICRO 63Vx19	19	82	63		2200	2320		0,054	1,15
MICRO 63Vx25	25	94	69		2235	2365		0,069	1,27
MICRO 63Vx32	32	108	76		2265	2405		0,086	1,35
MICRO 63Vx38	38	120	82		2280	2425		0,101	1,40
MICRO 63Vx50	50	144	94		2305	2455		0,131	1,55
MICRO 63Vx63	63	170	107		2320	2470		0,162	1,71
MICRO 63Vx75	75	194	119		2330	2485		0,192	1,83
MICRO 63Vx80	80	204	124		2335	2490		0,204	1,95
MICRO 63Vx100	100	244	144		2345	2500		0,253	2,32
MICRO 63Vx125	125	294	169		2355	2510		0,315	2,82

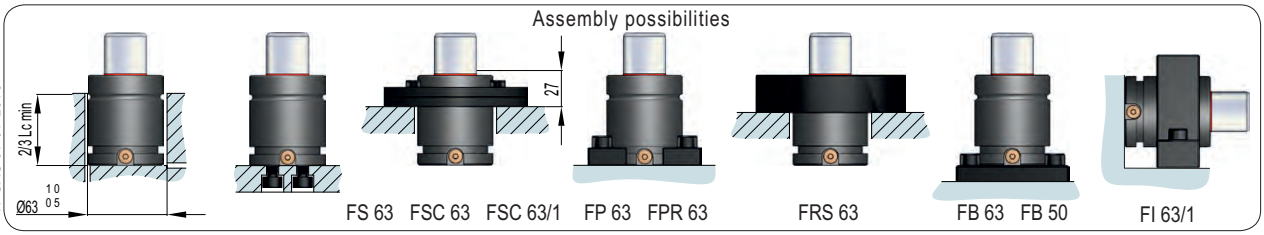
Force/stroke ratio



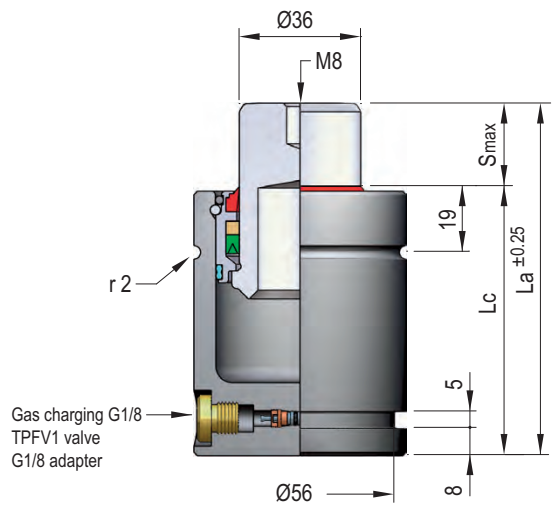
Initial force/charging pressure ratio



Assembly possibilities



Ø63mm · G1/8 connectable 1500daN MICRO 63CF

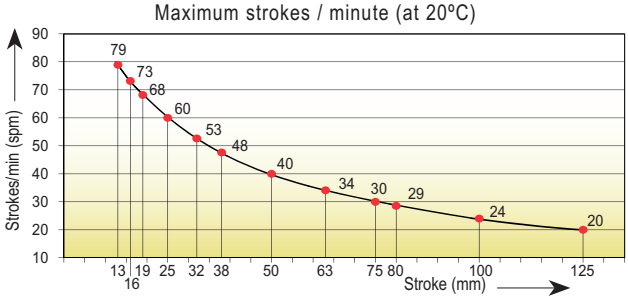


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M63CF

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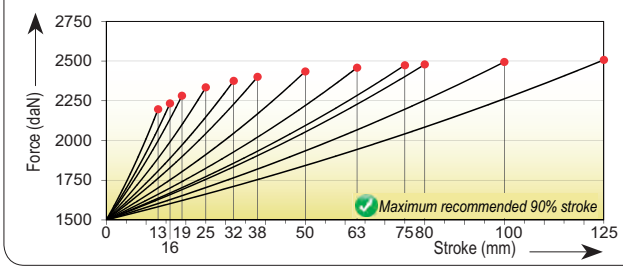


Maximum strokes / minute (at 20ºC)

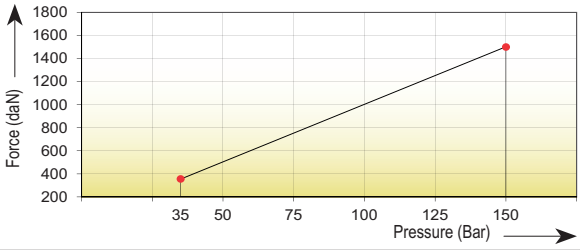


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 63CFx13	13	78	65	1500 ±5% (20ºC)	2135	2245	150 (20ºC)	0,040	0,95
MICRO 63CFx16	16	84	68		2165	2275		0,048	0,97
MICRO 63CFx19	19	90	71		2200	2320		0,054	1,15
MICRO 63CFx25	25	102	77		2235	2365		0,069	1,27
MICRO 63CFx32	32	116	84		2265	2405		0,086	1,35
MICRO 63CFx38	38	128	90		2280	2425		0,101	1,40
MICRO 63CFx50	50	152	102		2305	2455		0,131	1,55
MICRO 63CFx63	63	178	115		2320	2470		0,162	1,71
MICRO 63CFx75	75	202	127		2330	2485		0,192	1,83
MICRO 63CFx80	80	212	132		2335	2490		0,204	1,95
MICRO 63CFx100	100	252	152		2345	2500		0,253	2,32
MICRO 63CFx125	125	302	177		2355	2510		0,315	2,82

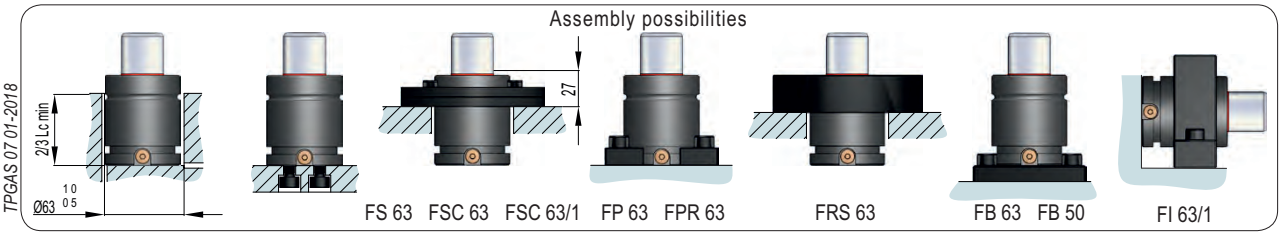
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

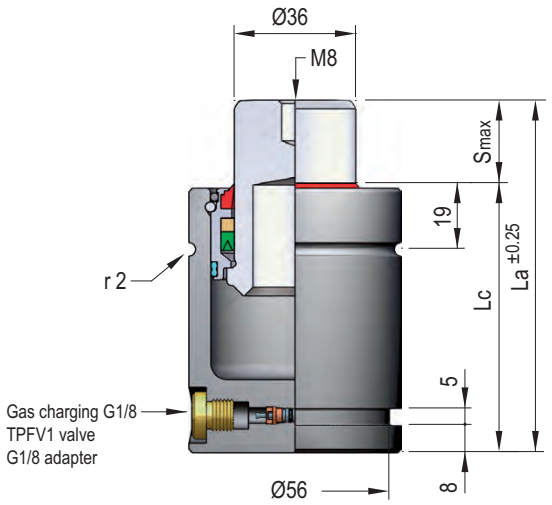


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TECAPRES®

Ø63mm · G1/8 connectable
1500daN

MICRO 63C

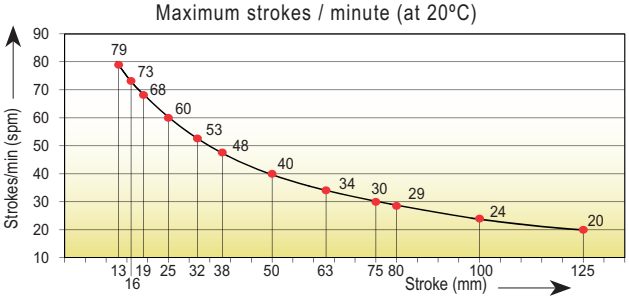


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M63C

PED 2014/68/UE

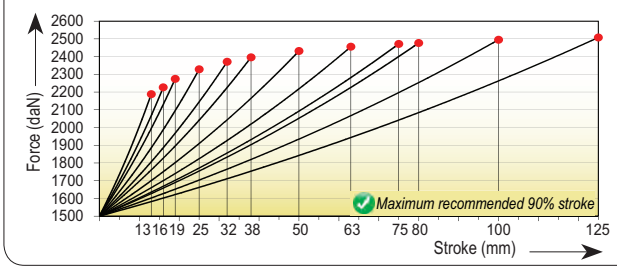


Maximum strokes / minute (at 20ºC)

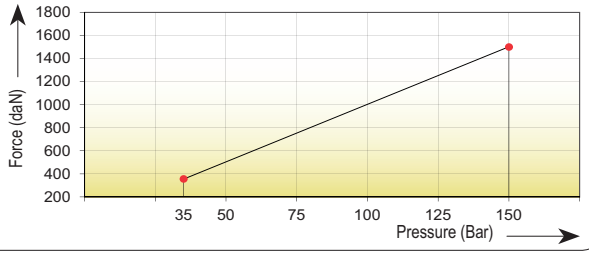


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 63Cx13	13	80	67	1500 ±5% (20ºC)	2085	2185	150 (20ºC)	0,042	1,18
MICRO 63Cx16	16	86	70		2120	2220		0,050	1,22
MICRO 63Cx19	19	92	73		2155	2270		0,057	1,36
MICRO 63Cx25	25	104	79		2200	2325		0,072	1,41
MICRO 63Cx32	32	118	86		2235	2365		0,089	1,75
MICRO 63Cx38	38	130	92		2255	2390		0,103	1,85
MICRO 63Cx50	50	154	104		2285	2425		0,133	2,10
MICRO 63Cx63	63	180	117		2305	2450		0,165	2,28
MICRO 63Cx75	75	204	129		2315	2465		0,194	2,60
MICRO 63Cx80	80	214	134		2320	2470		0,207	2,70
MICRO 63Cx100	100	254	154		2330	2485		0,256	2,85
MICRO 63Cx125	125	304	179		2345	2500		0,317	3,05

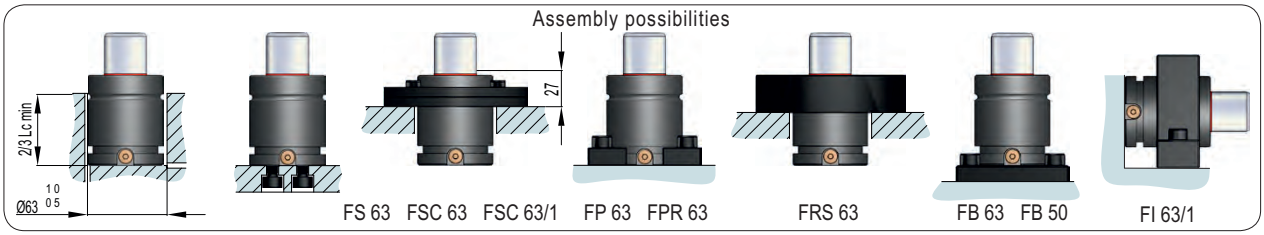
Force/stroke ratio



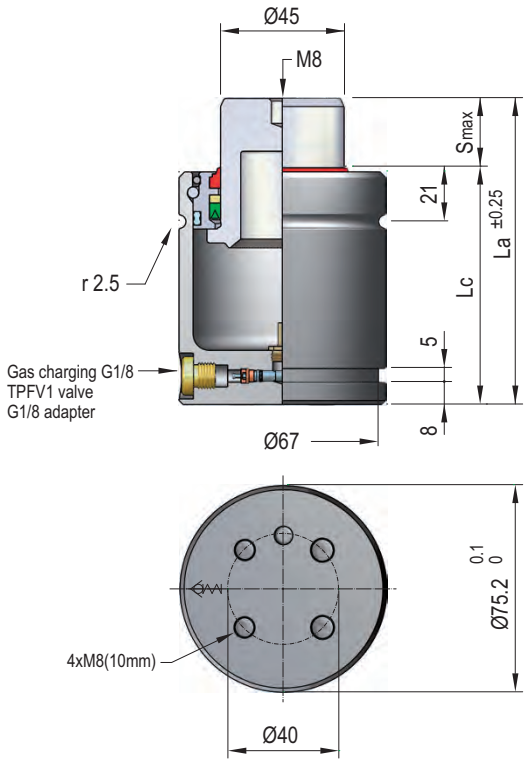
Initial force/charging pressure ratio



Assembly possibilities



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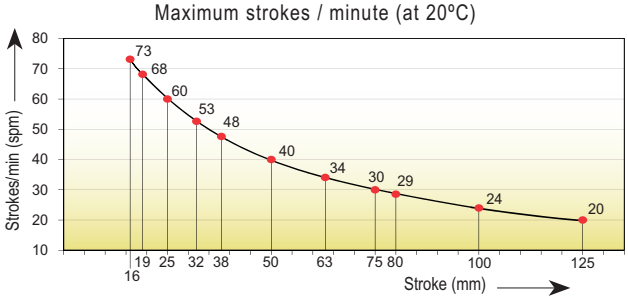


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M75

VDI 3003 · PED 2014/68/UE · ISO 11901 · CNOMO E.24.54.815.G

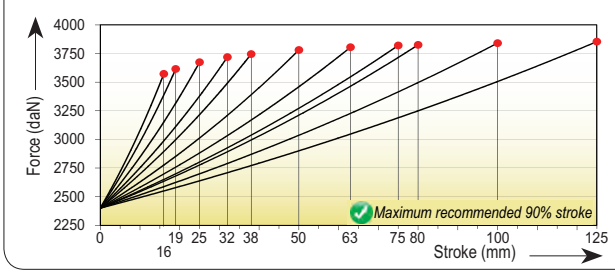


Maximum strokes / minute (at 20ºC)

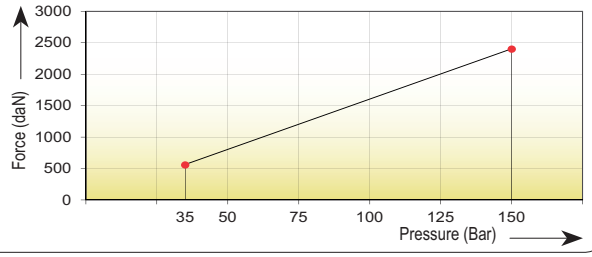


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 75x16	16	77	61	2400 ±5% (20ºC)	3385	3550	150 (20ºC)	0,078	1,40
MICRO 75x19	19	83	64		3420	3595		0,090	1,43
MICRO 75x25	25	95	70		3470	3650		0,115	1,45
MICRO 75x32	32	109	77		3505	3695		0,144	1,65
MICRO 75x38	38	121	83		3525	3725		0,168	1,70
MICRO 75x50	50	145	95		3555	3760		0,218	1,80
MICRO 75x63	63	171	108		3575	3785		0,271	2,10
MICRO 75x75	75	195	120		3585	3800		0,321	2,15
MICRO 75x80	80	205	125		3590	3805		0,341	2,25
MICRO 75x100	100	245	145		3600	3820		0,424	2,60
MICRO 75x125	125	295	170		3610	3830		0,527	3,10

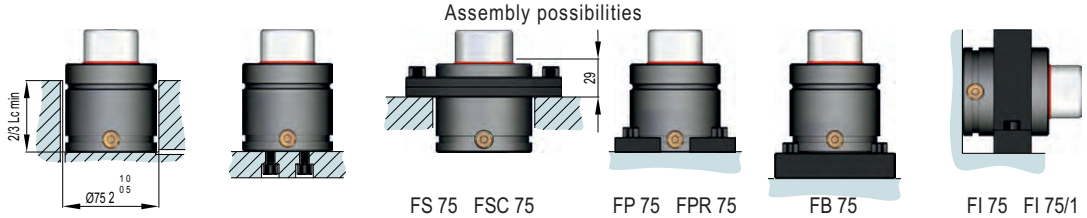
Force/stroke ratio



Initial force/charging pressure ratio



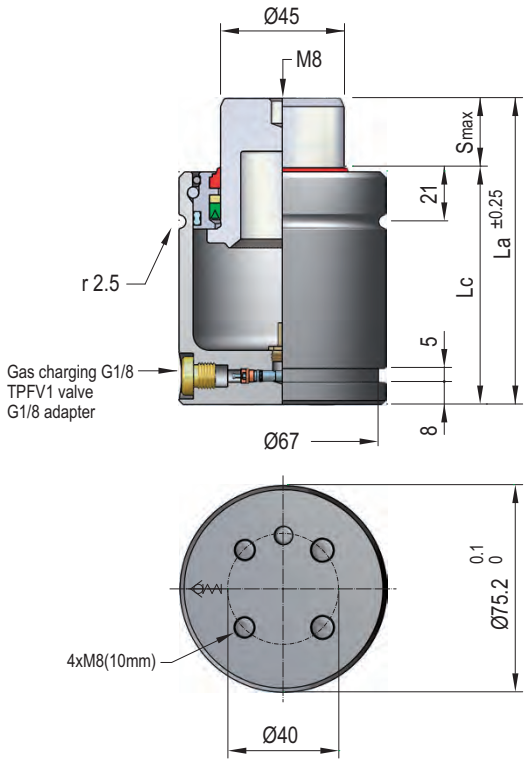
Assembly possibilities



TECAPRES®

Ø75mm · G1/8 connectable
2400daN

MICRO 75CS

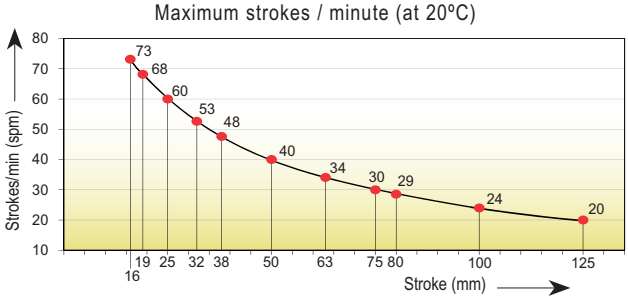


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M75CS

PED 2014/68/UE

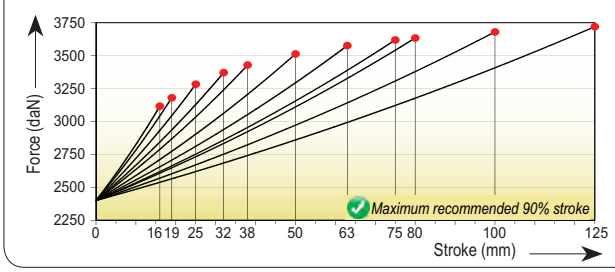


Maximum strokes / minute (at 20ºC)

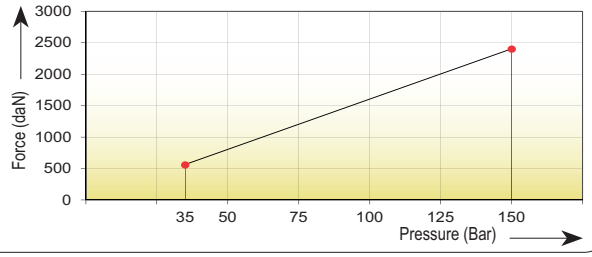


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 75CSx16	16	87	71	2400 ±5% (20ºC)	3010	3100	150 (20ºC)	0,111	1,60
MICRO 75CSx19	19	93	74		3060	3160		0,123	1,63
MICRO 75CSx25	25	105	80		3150	3265		0,148	1,65
MICRO 75CSx32	32	119	87		3220	3350		0,177	1,85
MICRO 75CSx38	38	131	93		3270	3410		0,201	1,90
MICRO 75CSx50	50	155	105		3340	3495		0,251	2,00
MICRO 75CSx63	63	181	118		3390	3555		0,305	2,30
MICRO 75CSx75	75	205	130		3425	3600		0,354	2,35
MICRO 75CSx80	80	215	135		3435	3615		0,375	2,45
MICRO 75CSx100	100	255	155		3475	3660		0,457	2,80
MICRO 75CSx125	125	305	180		3505	3700		0,560	3,30

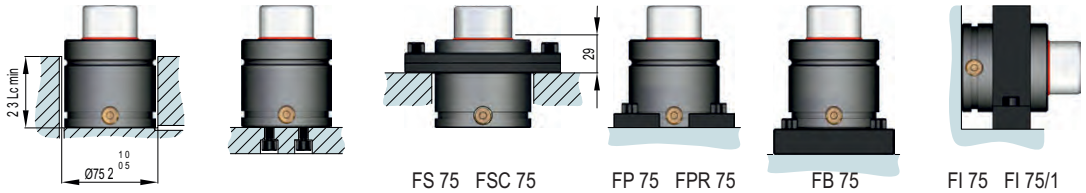
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

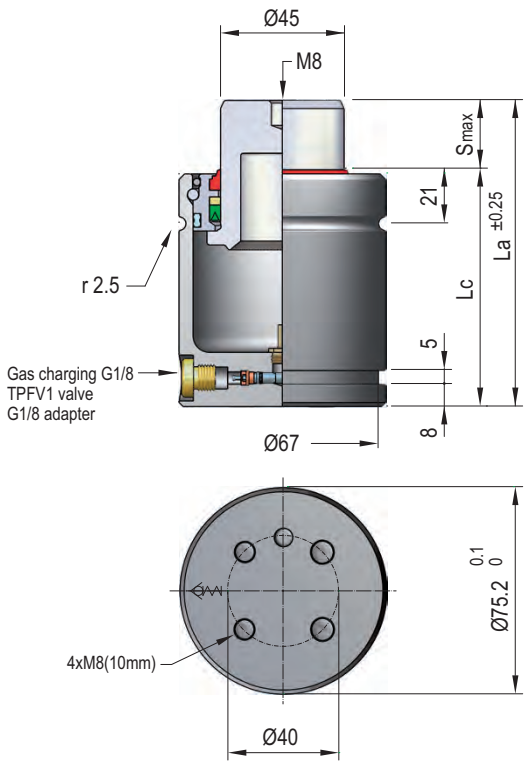


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TECAPRES®

Ø75mm · G1/8 connectable
2400daN

MICRO 75CF

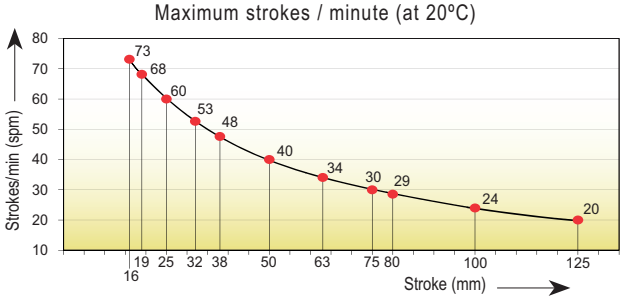


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M75CF

PED 2014/68/UE

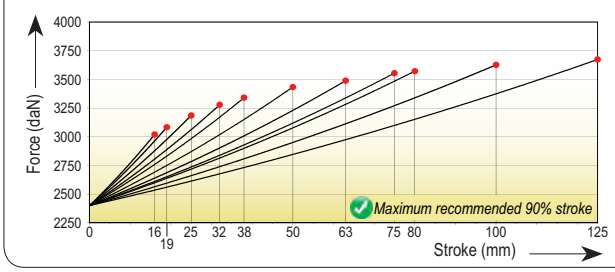


Maximum strokes / minute (at 20ºC)

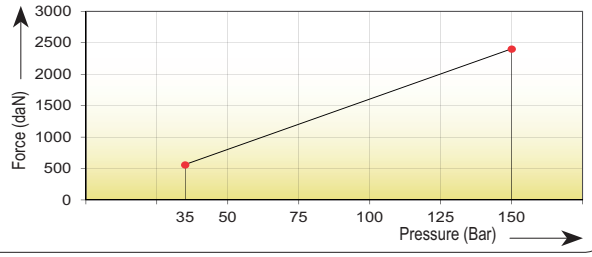


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 75CFx16	16	91	75	2400 ±5% (20ºC)	2925	3000	150 (20ºC)	0,124	1,75
MICRO 75CFx19	19	97	78		2980	3065		0,137	1,78
MICRO 75CFx25	25	109	84		3065	3165		0,161	1,80
MICRO 75CFx32	32	123	91		3145	3260		0,190	2,00
MICRO 75CFx38	38	135	97		3195	3320		0,215	2,05
MICRO 75CFx50	50	159	109		3270	3415		0,264	2,15
MICRO 75CFx63	63	185	122		3315	3470		0,321	2,45
MICRO 75CFx75	75	209	134		3370	3535		0,367	2,50
MICRO 75CFx80	80	219	139		3385	3550		0,388	2,60
MICRO 75CFx100	100	259	159		3430	3605		0,470	2,95
MICRO 75CFx125	125	309	184		3470	3650		0,573	3,45

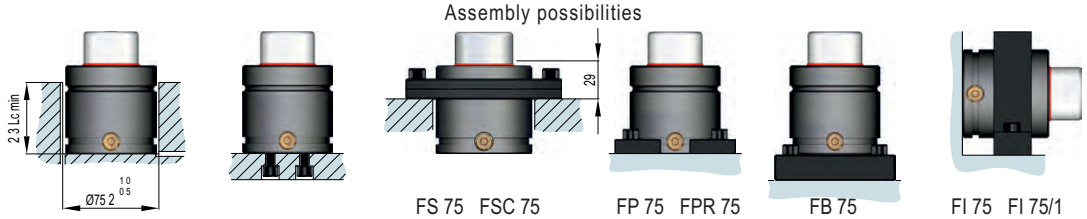
Force/stroke ratio



Initial force/charging pressure ratio



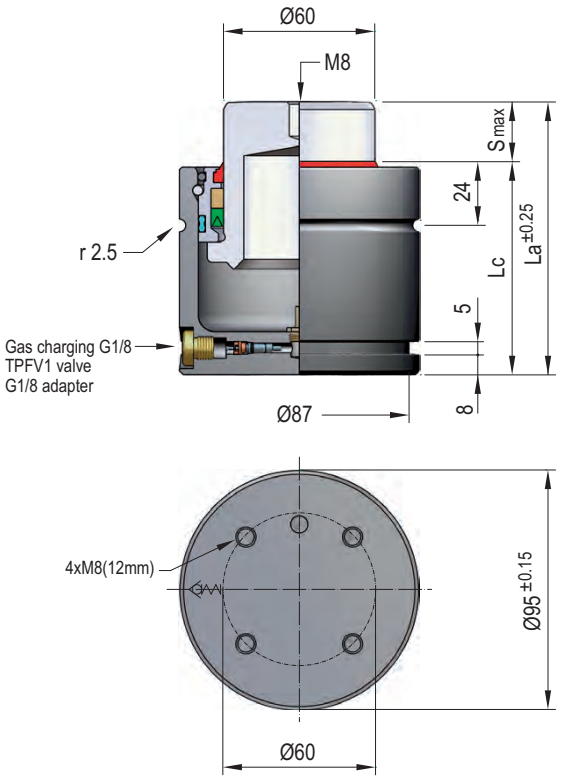
Assembly possibilities



TECAPRES®

Ø95mm
4200daN

MICRO 95

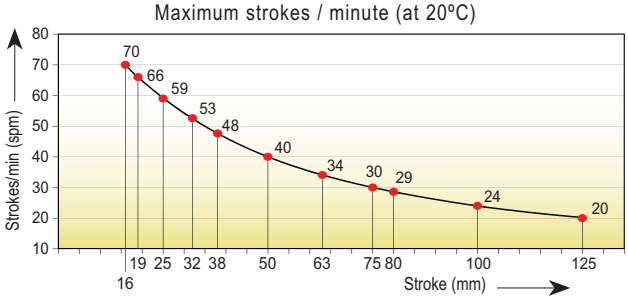


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M95

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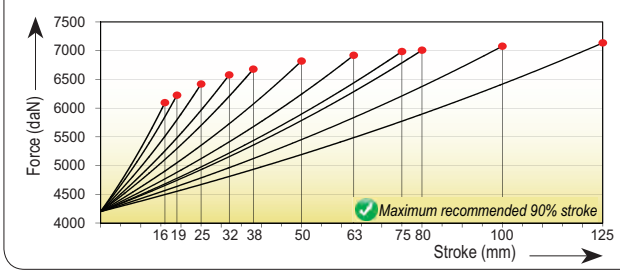


Maximum strokes / minute (at 20ºC)

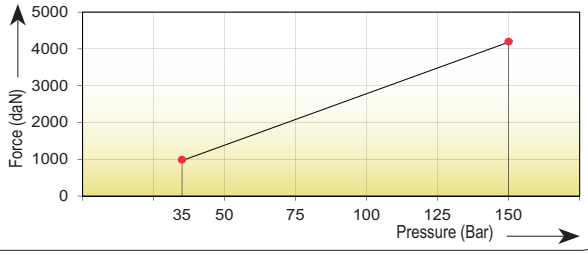


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 95x16	16	90	74	4200 ±5% (20ºC)	5890	6155	150 (20ºC)	0,146	2,80
MICRO 95x19	19	96	77		6000	6285		0,165	2,90
MICRO 95x25	25	108	83		6160	6485		0,204	3,10
MICRO 95x32	32	122	90		6285	6645		0,250	3,25
MICRO 95x38	38	134	96		6370	6745		0,290	3,70
MICRO 95x50	50	158	108		6480	6885		0,368	3,90
MICRO 95x63	63	184	121		6565	6990		0,453	4,40
MICRO 95x75	75	208	133		6615	7055		0,532	4,75
MICRO 95x80	80	218	138		6635	7075		0,565	4,90
MICRO 95x100	100	258	158		6690	7145		0,695	6,00
MICRO 95x125	125	308	183		6735	7205		0,859	6,50

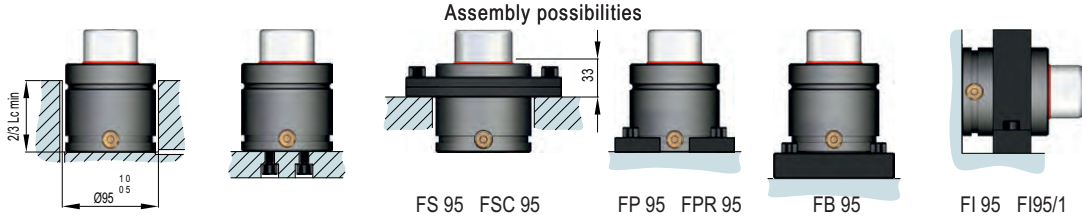
Force/stroke ratio



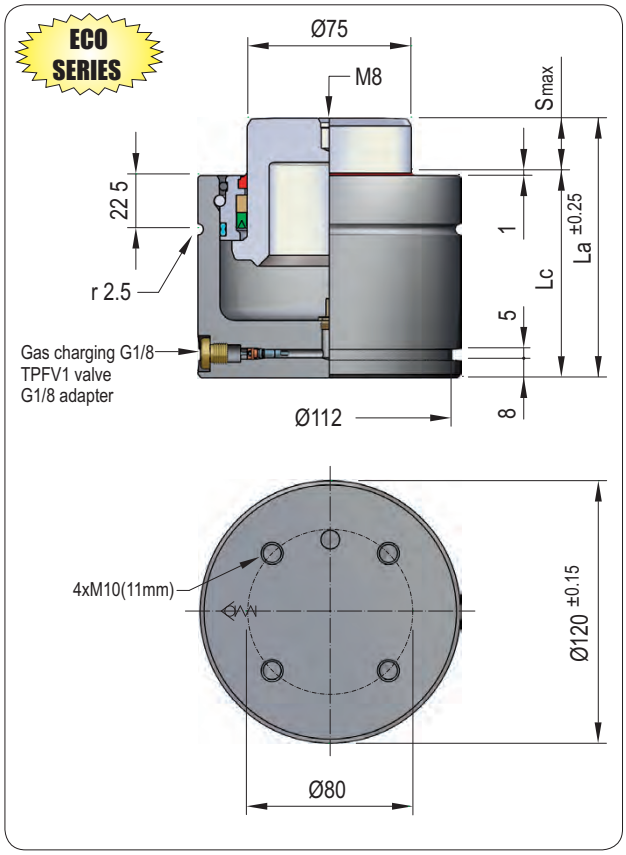
Initial force/charging pressure ratio



Assembly possibilities



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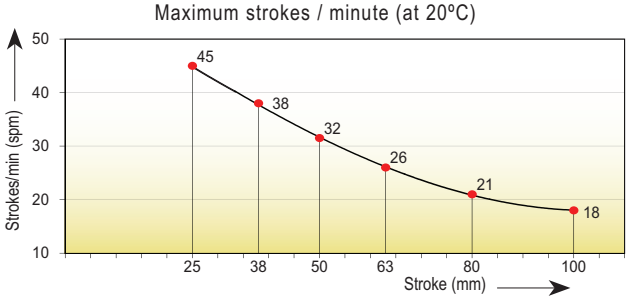


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	170 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit M120.1

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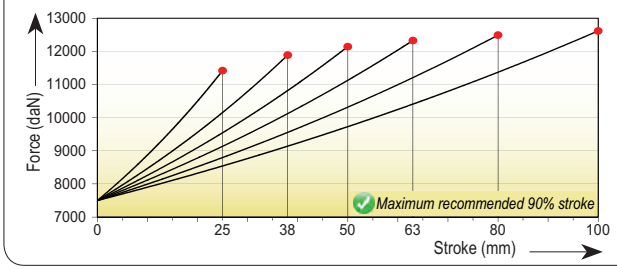


Maximum strokes / minute (at 20ºC)

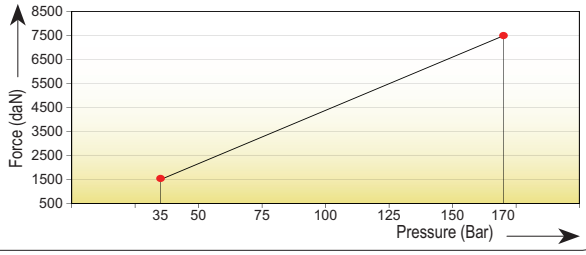


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 120x25.1	25	108	83		10870	11435		0,322	5,0
MICRO 120x38.1	38	134	96		11250	11905		0,455	5,5
MICRO 120x50.1	50	158	108	7500 ±5%	11455	12165	170	0,578	5,9
MICRO 120x63.1	63	184	121	(20ºC)	11600	12350	(20ºC)	0,710	6,4
MICRO 120x80.1	80	218	138		11730	12510		0,885	7,1
MICRO 120x100.1	100	258	158		11830	12635		1,089	7,9

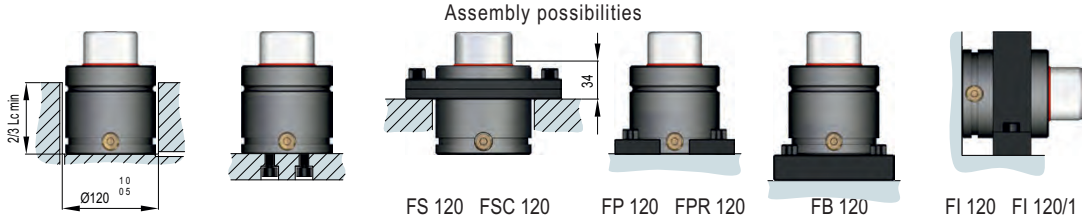
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

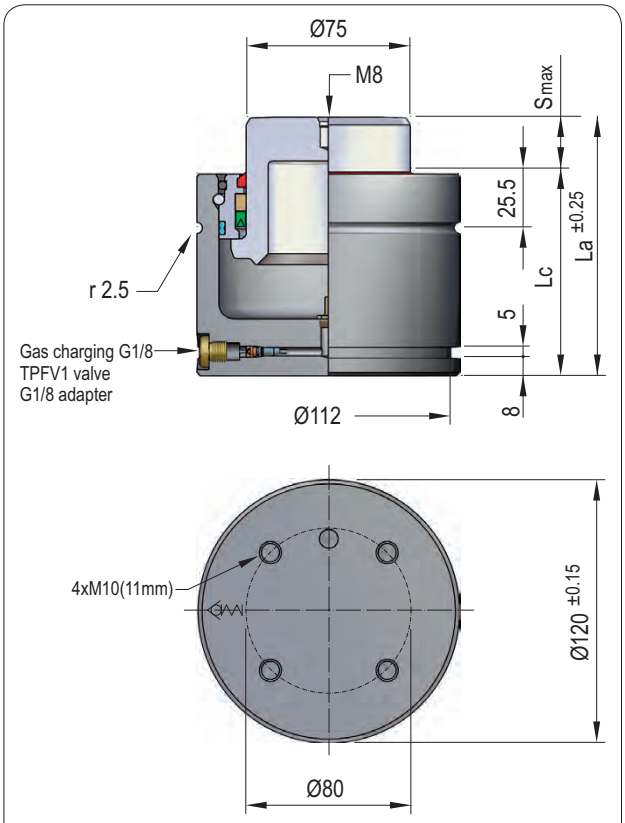


FS 120 FSC 120 FP 120 FPR 120 FB 120 FI 120 FI 120/1

TECAPRES®

Ø120mm
6600daN

MICRO 120V

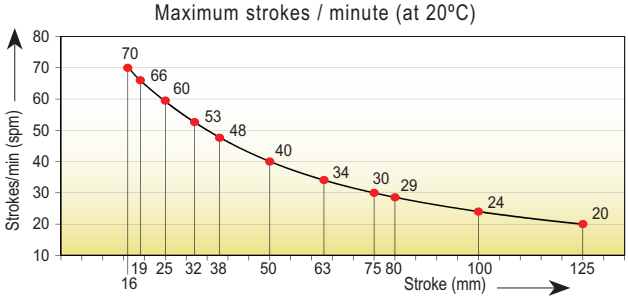


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M120V

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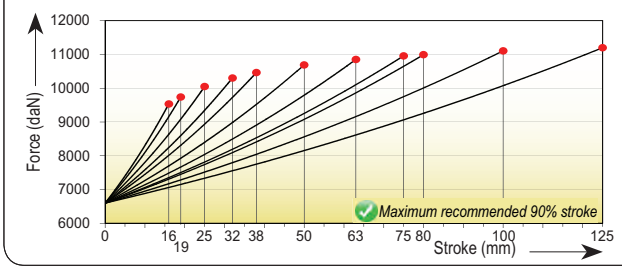


Maximum strokes / minute (at 20ºC)

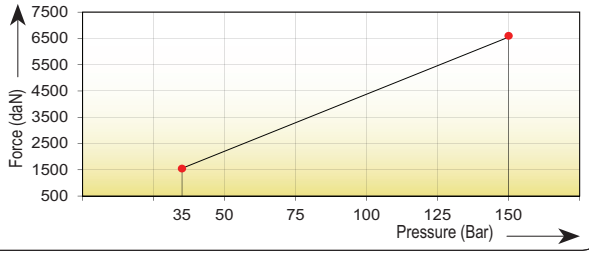


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 120Vx16	16	100	84	6600 ±5% (20ºC)	9165	9575	150 (20ºC)	0,230	5,20
MICRO 120Vx19	19	106	87		9335	9780		0,260	5,35
MICRO 120Vx25	25	118	93		9590	10090		0,322	5,40
MICRO 120Vx32	32	132	100		9795	10345		0,393	5,60
MICRO 120Vx38	38	144	106		9925	10505		0,455	5,95
MICRO 120Vx50	50	168	118		10105	10730		0,577	6,30
MICRO 120Vx63	63	194	131		10235	10895		0,710	6,70
MICRO 120Vx75	75	218	143		10320	11000		0,833	7,05
MICRO 120Vx80	80	228	148		10350	11040		0,884	7,55
MICRO 120Vx100	100	268	168		10440	11150		1,089	8,40
MICRO 120Vx125	125	318	193		10510	11245		1,345	9,45

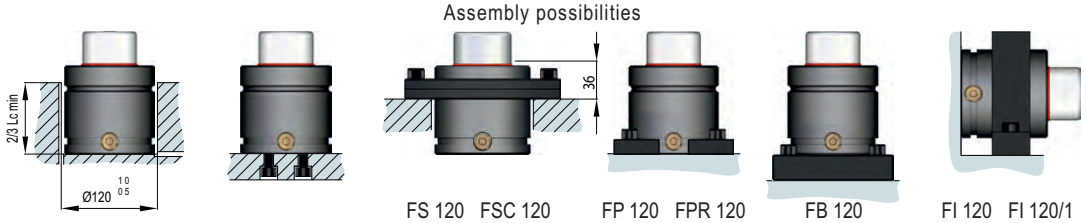
Force/stroke ratio



Initial force/charging pressure ratio

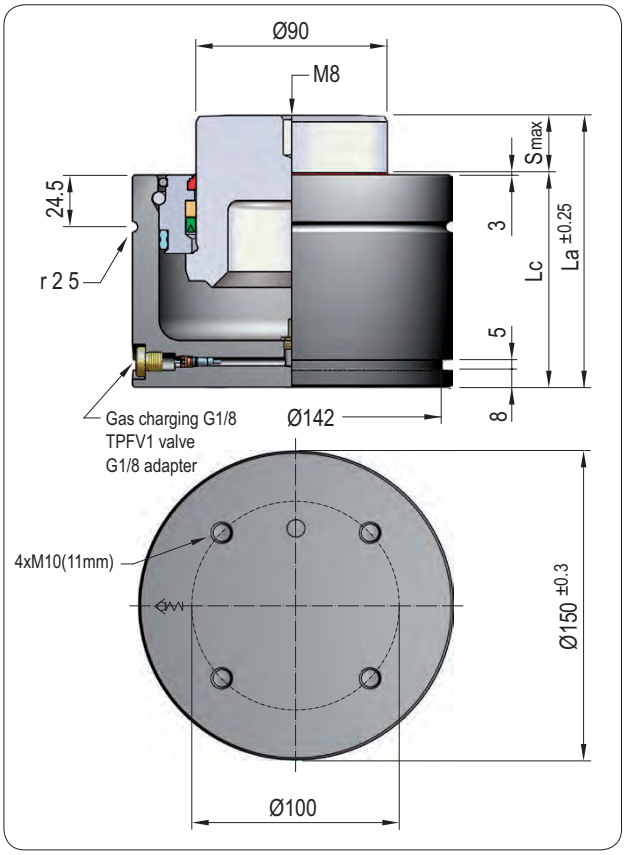


Assembly possibilities



FS 120 FSC 120 FP 120 FPR 120 FB 120 FI 120 FI 120/1

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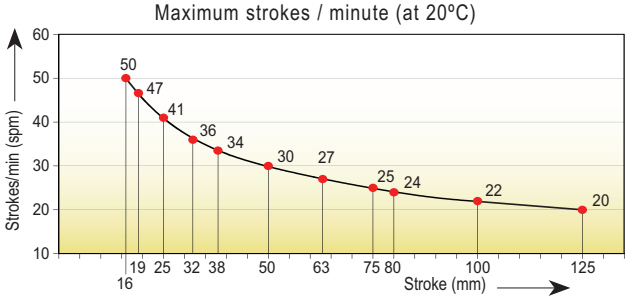


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	63,62 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M150

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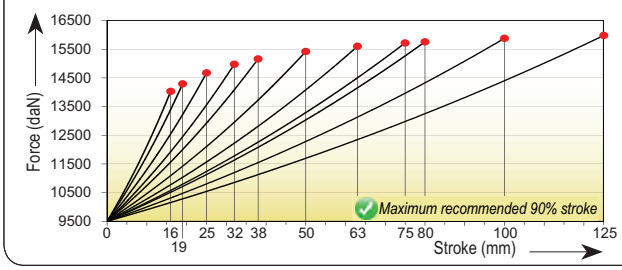


Maximum strokes / minute (at 20ºC)

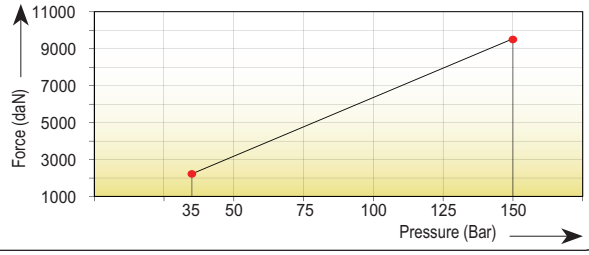


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 150x16	16	110	94	9500 ±5% (20ºC)	13455	14095	150 (20ºC)	0,315	9,50
MICRO 150x19	19	116	97		13665	14355		0,361	9,60
MICRO 150x25	25	128	103		13980	14740		0,451	9,85
MICRO 150x32	32	142	110		14225	15045		0,557	10,50
MICRO 150x38	38	154	116		14375	15230		0,647	10,85
MICRO 150x50	50	178	128		14580	15490		0,829	11,45
MICRO 150x63	63	204	141		14725	15670		1,025	12,05
MICRO 150x75	75	228	153		14820	15790		1,206	12,45
MICRO 150x80	80	238	158		14850	15830		1,282	13,70
MICRO 150x100	100	278	178		14945	15950		1,584	14,80
MICRO 150x125	125	328	203		15025	16050		1,961	15,95

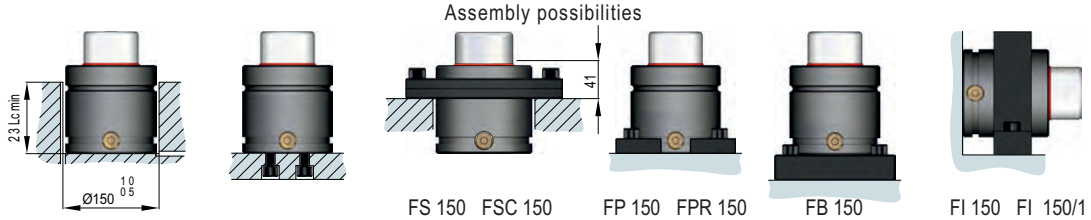
Force/stroke ratio



Initial force/charging pressure ratio



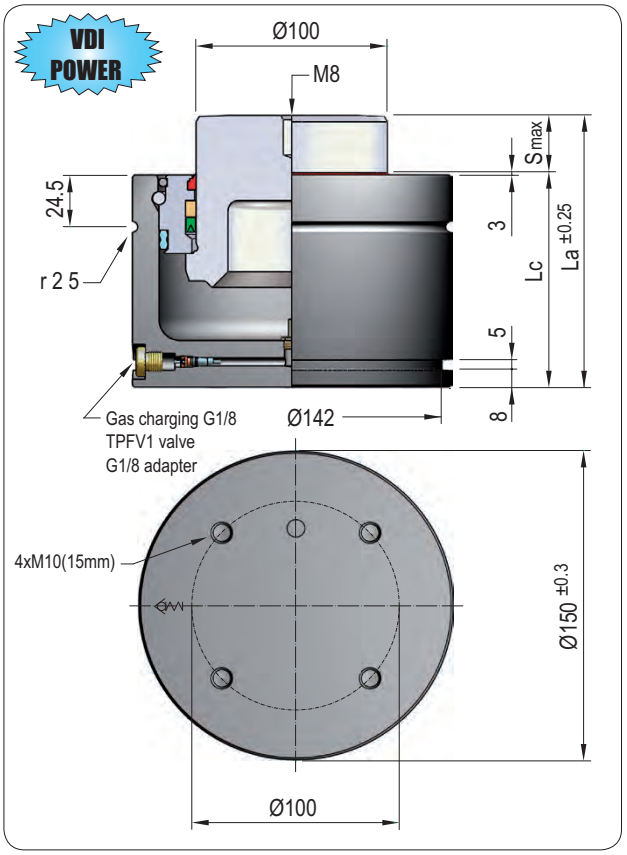
Assembly possibilities



TECAPRES®

Ø150mm
9500daN

MICRO 150H

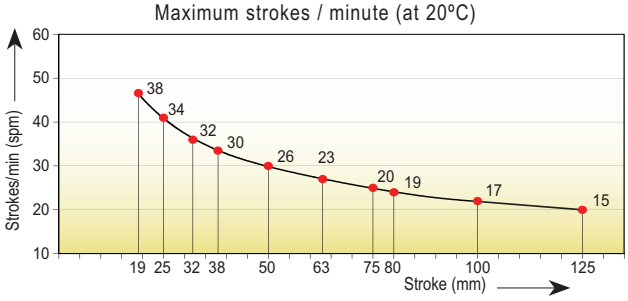


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	78,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit M150H

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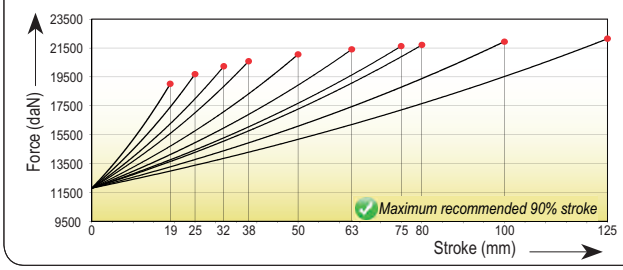


Maximum strokes / minute (at 20ºC)

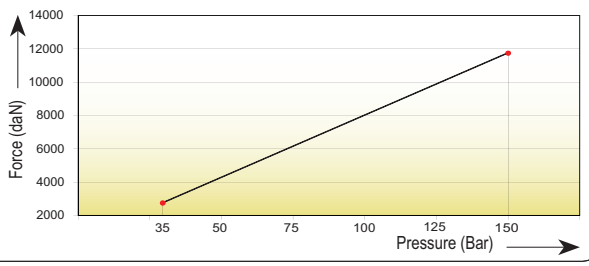


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 150Hx19	19	116	97	11800 ±5% (20ºC)	17895	18990	150 (20ºC)	0,393	9,70
MICRO 150Hx25	25	128	103		18430	19660		0,490	9,95
MICRO 150Hx32	32	142	110		18860	20210		0,603	10,60
MICRO 150Hx38	38	154	116		19125	20550		0,699	10,95
MICRO 150Hx50	50	178	128		19500	21030		0,893	11,55
MICRO 150Hx63	63	204	141		19765	21375		1,102	12,15
MICRO 150Hx75	75	228	153		19935	21600		1,296	12,55
MICRO 150Hx80	80	238	158		19995	21675		1,376	13,80
MICRO 150Hx100	100	278	178		20175	21910		1,699	14,90
MICRO 150Hx125	125	328	203		20325	22105		2,102	16,05

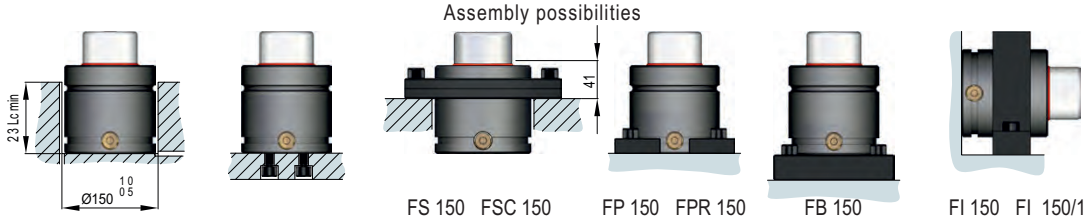
Force/stroke ratio



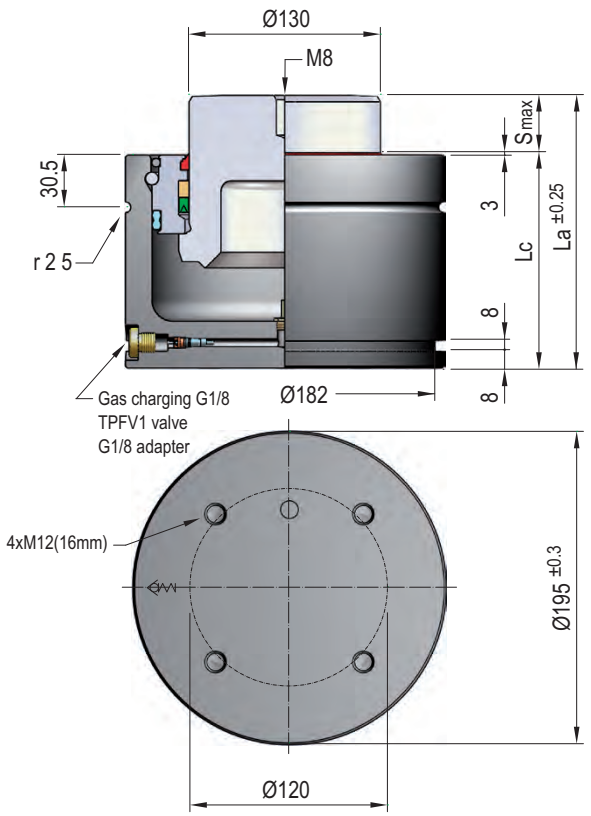
Initial force/charging pressure ratio



Assembly possibilities



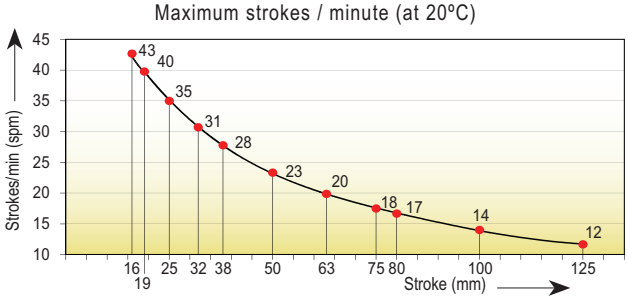
TPGAS 07 01-2018



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	132,73 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1 m/s
Maintenance kit	Kit M195

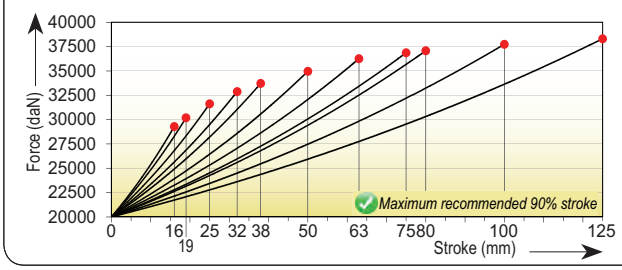
PED 2014/68/UE
ISO ISO 11901
VDI SAFETY

Maximum strokes / minute (at 20ºC)

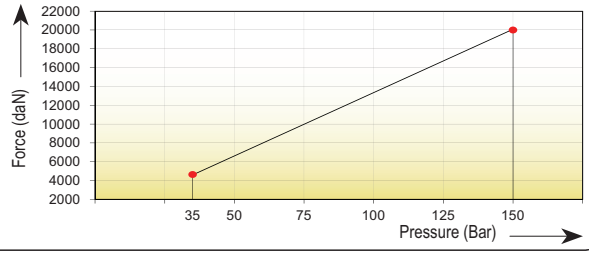


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 195x16	16	142	126	20000 ±5% (20ºC)	28260	29645	150 (20ºC)	0,647	20,85
MICRO 195x19	19	148	129		28990	30540		0,725	21,45
MICRO 195x25	25	160	135		30135	31960		0,880	22,10
MICRO 195x32	32	174	142		31115	33190		1,061	22,85
MICRO 195x38	38	186	148		31755	34005		1,217	23,45
MICRO 195x50	50	210	160		32690	35200		1,528	24,70
MICRO 195x63	63	236	173		33380	36095		1,865	26,10
MICRO 195x75	75	260	185		33850	36700		2,176	27,25
MICRO 195x80	80	270	190		34005	36910		2,305	28,20
MICRO 195x100	100	310	210		34510	37570		2,824	31,10
MICRO 195x125	125	360	235		34940	38135		3,472	35,20

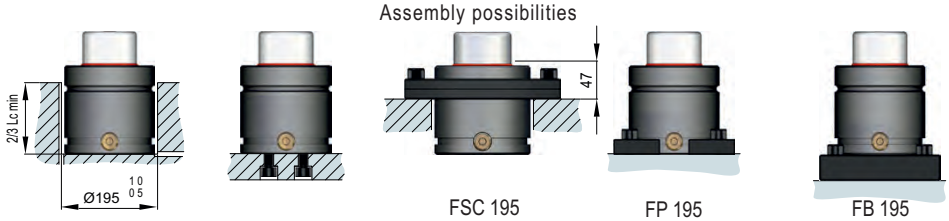
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



PED 2014/68/UE



COMPACT
EXTRA POWER

Extra force and extremely compact gas springs

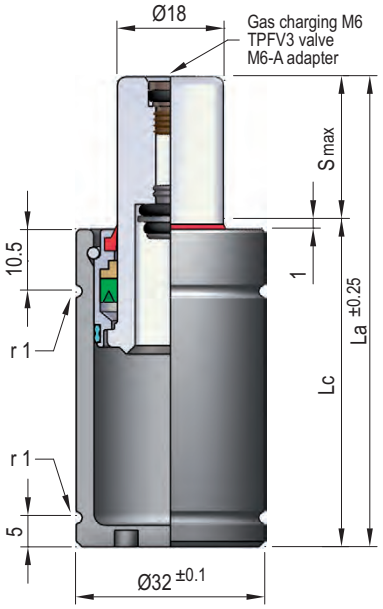
Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY		
TITAN 32	32	12 - 80	500	√	√		√
TITAN 38	38	16 - 80	750	√	√		√
TITAN 50	50	13 - 80	1200	√	√		√
TITAN 63	63	13 - 80	2100	√	√		√
TITAN 75	75	12 - 80	3000	√	√		√

TECAPRES®

Ø32mm
500daN

TITAN 32

COMPACT
EXTRA POWER



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	190 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit T32

PED 2014/68/UE

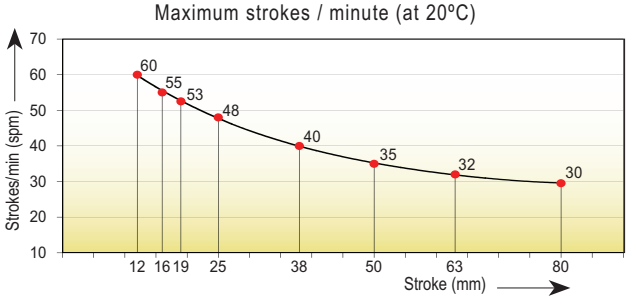


VDI SAFETY



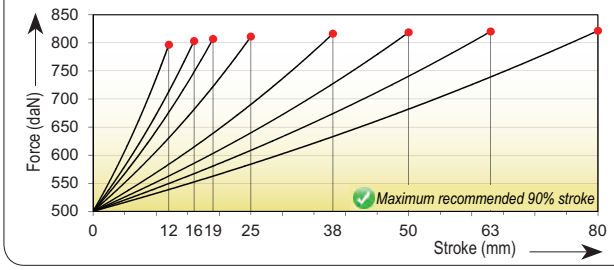


Maximum strokes / minute (at 20ºC)

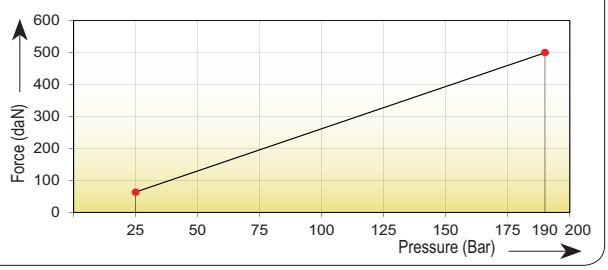


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TITAN 32x12	12	49	37	500 ±5% (20ºC)	755	800	190 (20ºC)	0,008	0,19
TITAN 32x16	16	58	42		760	805		0,011	0,21
TITAN 32x19	19	65	46		760	810		0,013	0,22
TITAN 32x25	25	76	51		765	815		0,017	0,24
TITAN 32x38	38	102	64		770	820		0,025	0,27
TITAN 32x50	50	127	77		770	820		0,033	0,30
TITAN 32x63	63	152	89		775	825		0,041	0,34
TITAN 32x80	80	186	106		775	825		0,052	0,41

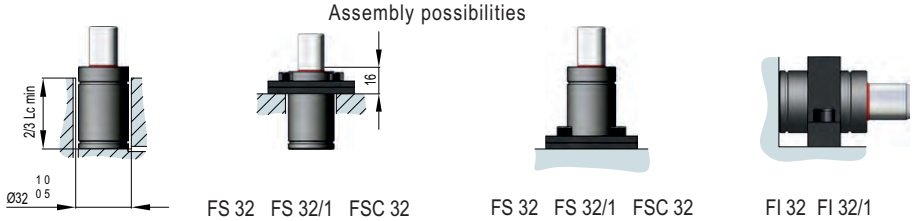
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 32 FS 32/1 FSC 32

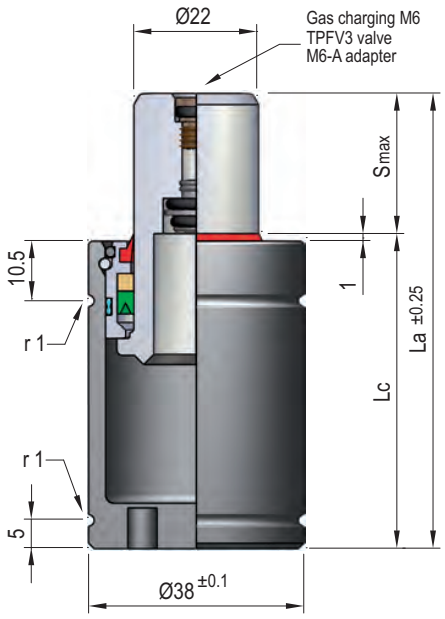
FS 32 FS 32/1 FSC 32

FI 32 FI 32/1

TPGAS 07 01-2018

Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

COMPACT
EXTRA POWER



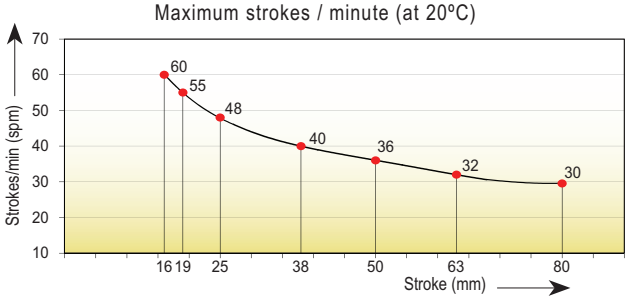
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	190 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit T38

PED 2014/68/UE

VDI SAFETY

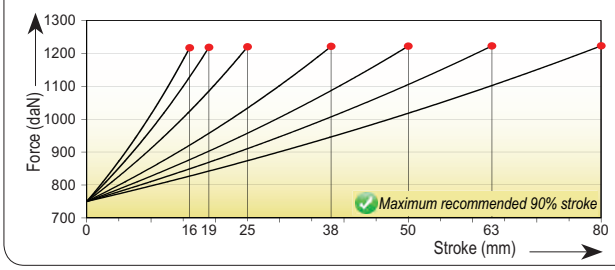
RE-22-32

Maximum strokes / minute (at 20ºC)

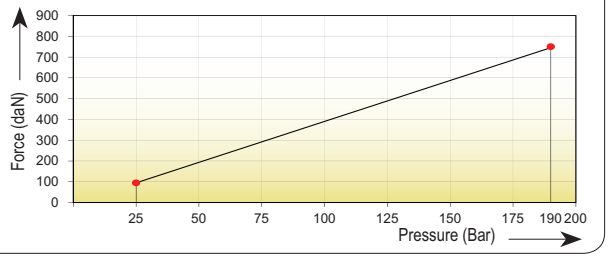


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TITAN 38x16	16	58	42	750 ±5% (20ºC)	1145	1215	190 (20ºC)	0,016	0,27
TITAN 38x19	19	65	46		1145	1215		0,019	0,30
TITAN 38x25	25	78	53		1145	1220		0,025	0,32
TITAN 38x38	38	102	64		1145	1220		0,037	0,35
TITAN 38x50	50	127	77		1150	1220		0,049	0,39
TITAN 38x63	63	152	89		1150	1220		0,062	0,42
TITAN 38x80	80	186	106		1150	1220		0,079	0,51

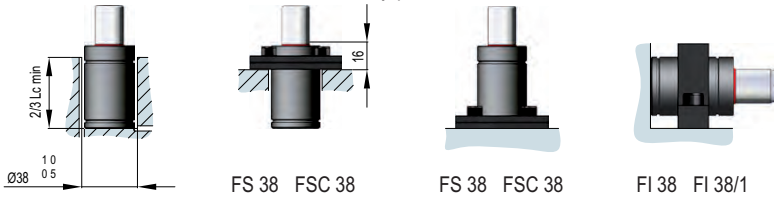
Force/stroke ratio



Initial force/charging pressure ratio

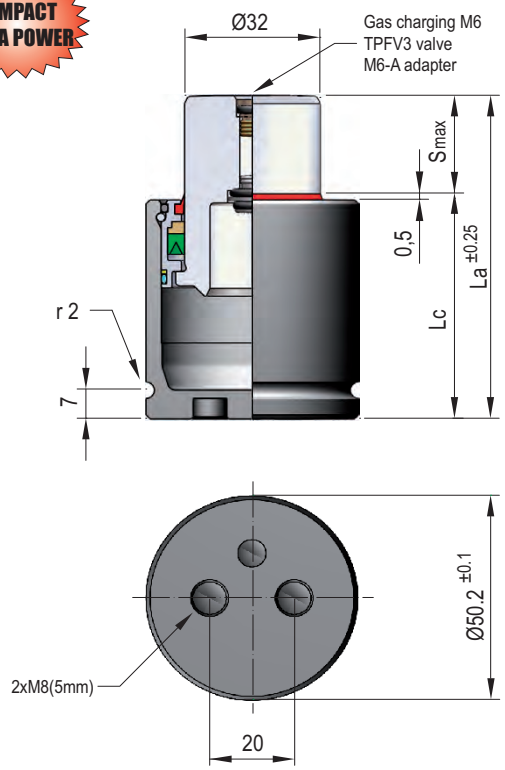


Assembly possibilities



FS 38 FSC 38 | FS 38 FSC 38 | FI 38 FI 38/1

COMPACT
EXTRA POWER

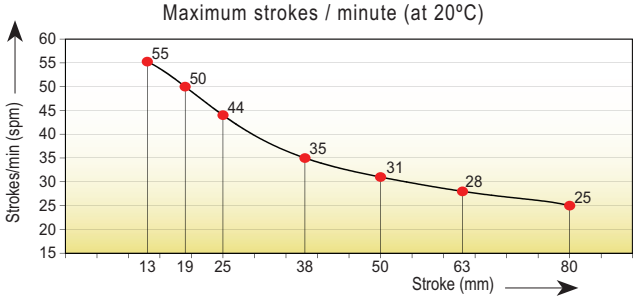


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	8,04 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit T50

PED 2014/68/UE

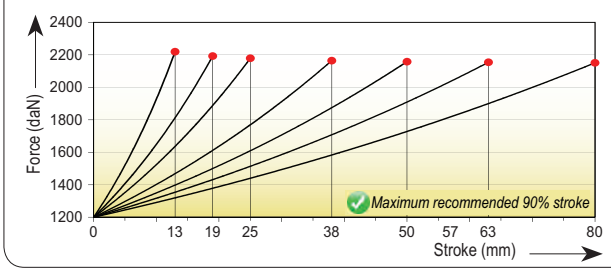


Maximum strokes / minute (at 20ºC)

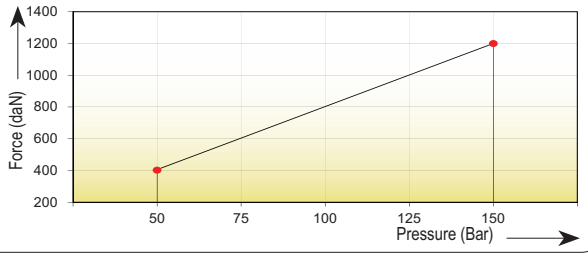


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TITAN 50x13	13	55	42	1200 ±5% (20ºC)	2045	2215	150 (20ºC)	0,023	0,49
TITAN 50x19	19	67	48		2020	2190		0,034	0,52
TITAN 50x25	25	79	54		2010	2175		0,045	0,59
TITAN 50x38	38	105	67		2000	2160		0,069	0,68
TITAN 50x50	50	129	79		1995	2155		0,091	0,79
TITAN 50x63	63	155	92		1995	2150		0,114	0,95
TITAN 50x80	80	189	109		1990	2150		0,146	1,10

Force/stroke ratio

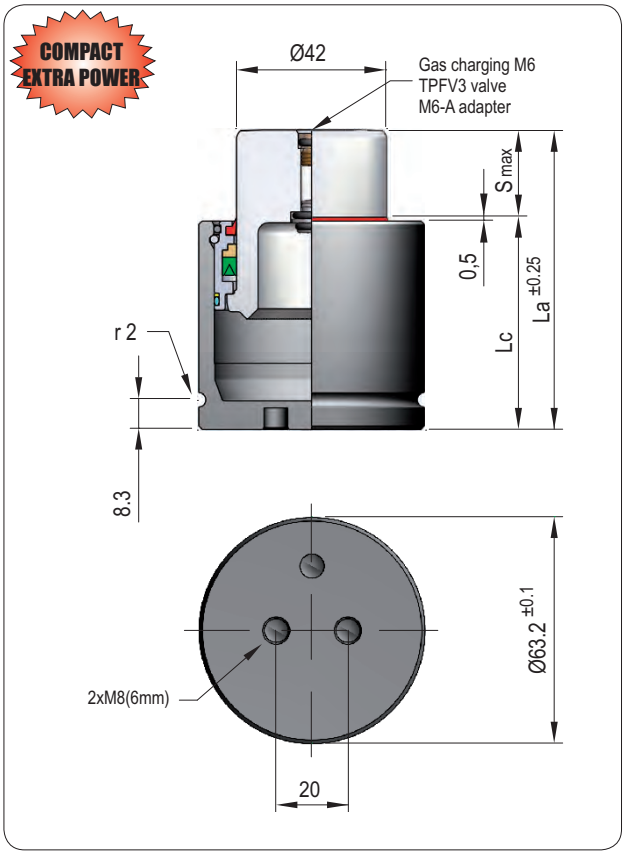


Initial force/charging pressure ratio



Assembly possibilities





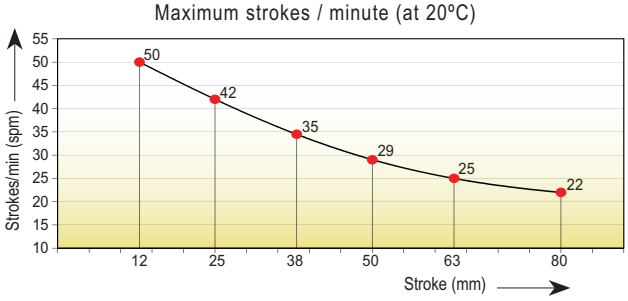
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	13,85 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit T63

PED 2014/68/UE

VDI SAFETY

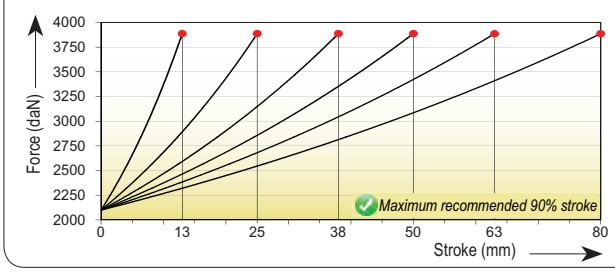
RE-42-55

Maximum strokes / minute (at 20ºC)

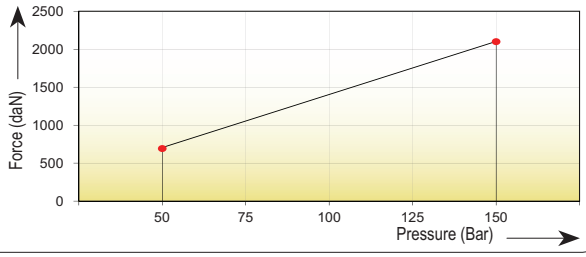


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TITAN 63x13	13	60	47		3545	3845		0,039	0,87
TITAN 63x25	25	84	59		3545	3845		0,075	0,92
TITAN 63x38	38	110	72	2100 ±5%	3545	3845	150	0,115	1,30
TITAN 63x50	50	134	84	(20ºC)	3545	3845	(20ºC)	0,151	1,55
TITAN 63x63	63	160	97		3545	3845		0,190	1,70
TITAN 63x80	80	194	114		3545	3845		0,241	1,85

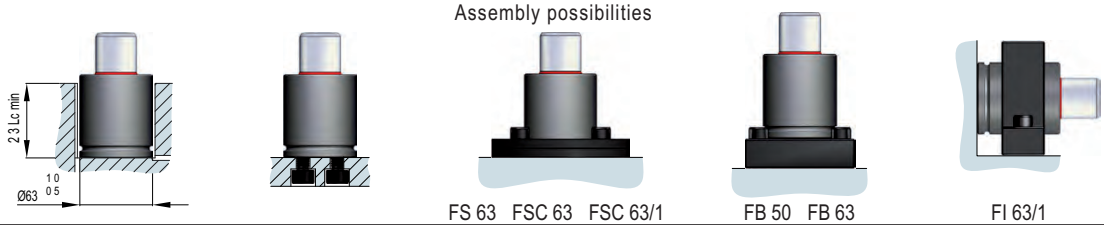
Force/stroke ratio



Initial force/charging pressure ratio



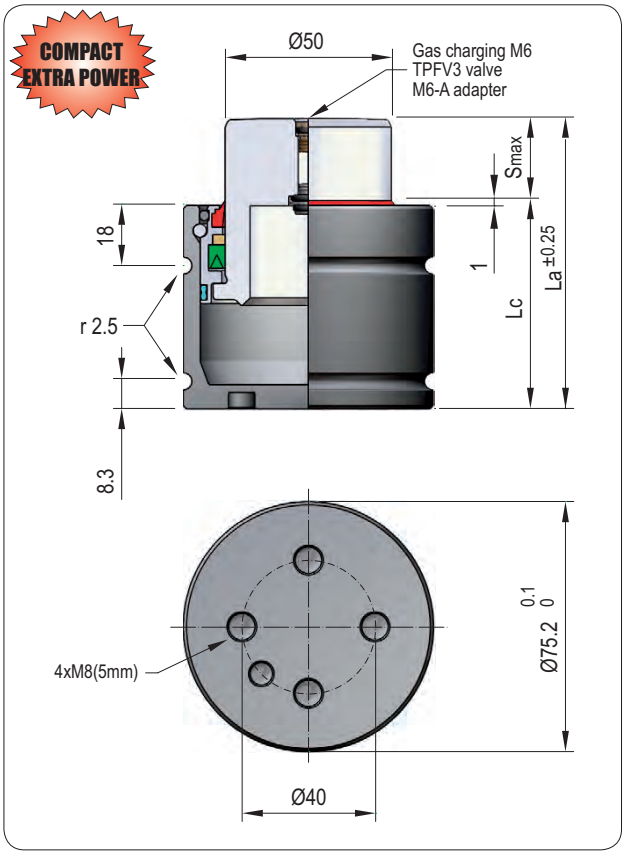
Assembly possibilities



TECAPRES®

Ø75mm 3000daN

TITAN 75



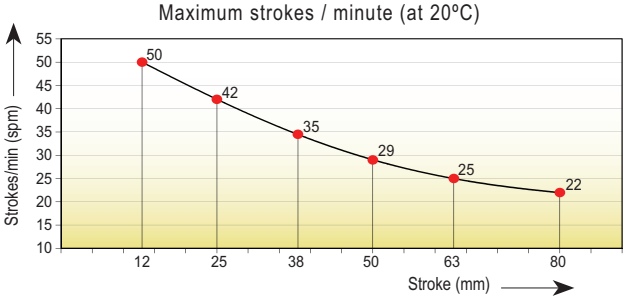
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit T75

PED 2014/68/UE

VDI SAFETY

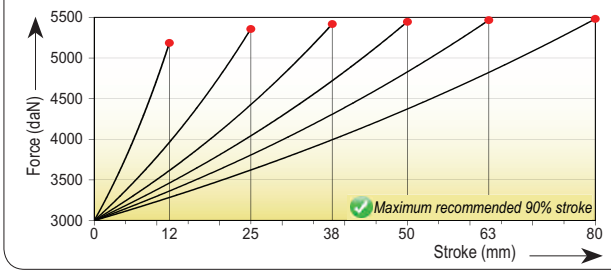
RE-50-65

Maximum strokes / minute (at 20ºC)

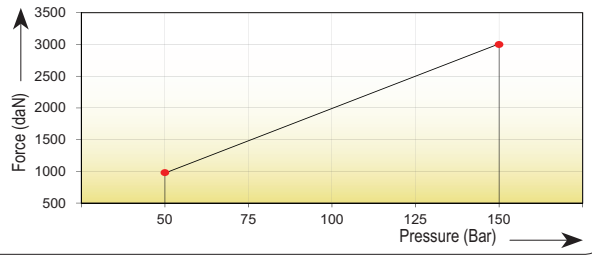


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TITAN 75x12	12	61	49		4810	5160		0,056	1,25
TITAN 75x25	25	87	62		4940	5330		0,112	1,39
TITAN 75x38	38	113	75	3000 ±5%	4990	5390	150	0,167	1,62
TITAN 75x50	50	137	87	(20ºC)	5010	5420	(20ºC)	0,219	1,72
TITAN 75x63	63	163	100		5025	5435		0,274	1,99
TITAN 75x80	80	197	117		5035	5455		0,347	2,18

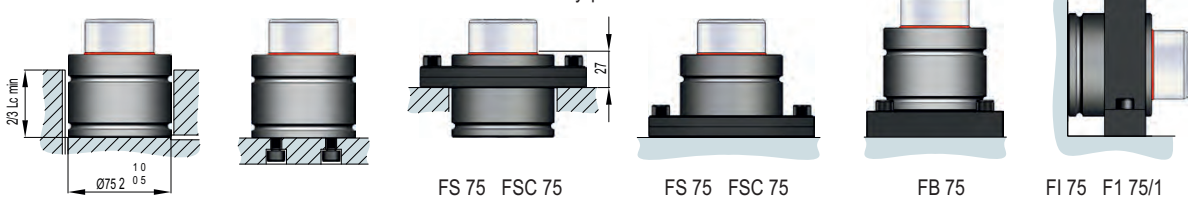
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 75 FSC 75 | FS 75 FSC 75 | FB 75 | FI 75 F1 75/1

TPGAS 07 01-2018

PED 2014/68/UE



EXTRA POWER

Maximum force gas springs. Gas-tight rod

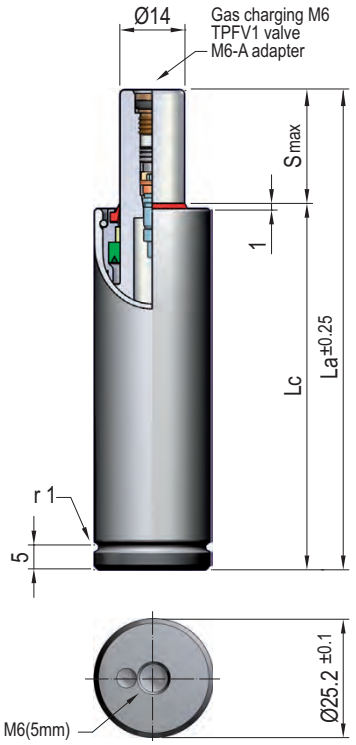
Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY	
TPH 300	25	10 - 80	300	✓	✓	
TPH 500	32	10 - 80	500	✓	✓	
TPH 850	38	12 - 80	850		✓	
TPH 850C	38	12 - 80	850		✓	✓
TPH 1000	38	10 - 80	1000		✓	
TPH 1000C	38	10 - 80	1000		✓	✓
TPH 1250	45	12 - 80	1250		✓	
TPH 1250C	45	12 - 80	1250		✓	✓
TPH 1700	50	12 - 80	1700		✓	
TPH 1700C	50	12 - 80	1700		✓	✓
TPH 2000	50	15 - 80	1900		✓	
TPH 2000C	50	15 - 80	1900		✓	✓
TPH 2800	63	12 - 80	2800		✓	
TPH 2800C	63	12 - 80	2800		✓	✓
TPH 4300	75	12 - 80	4300		✓	
TPH 4300C	75	12 - 80	4300		✓	✓

TECAPRES®

Ø25mm
300daN

TPH 300

EXTRA POWER

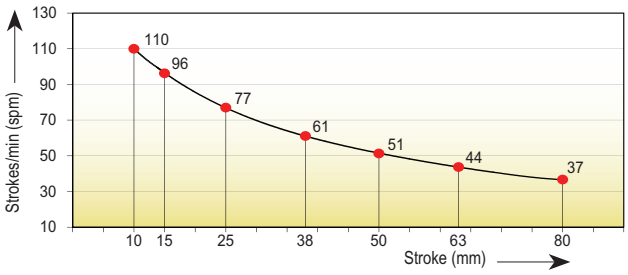


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	190 Bar
Min. charging pressure	50 Bar
Rod seal area	1,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit M25.1

PED 2014/68/UE

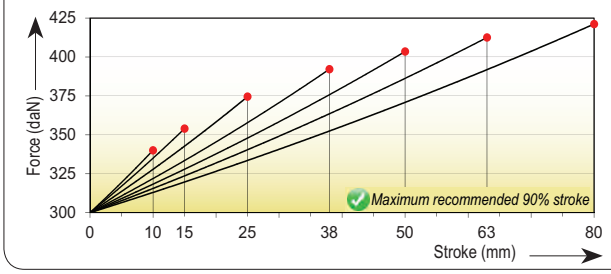
VDI SAFETY

Maximum strokes / minute (at 20ºC)

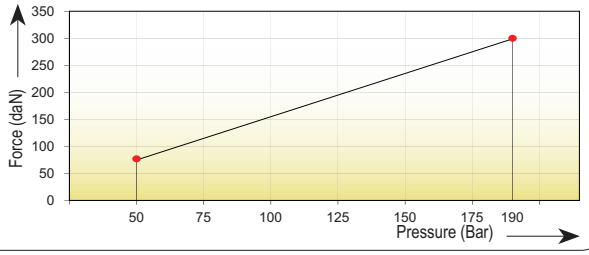


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 300x10	10	75	65	300 ±5% (20ºC)	325	330	190 (20ºC)	0,013	0,16
TPH 300x15	15	85	70		340	345		0,015	0,17
TPH 300x25	25	105	80		355	365		0,019	0,21
TPH 300x38	38	130	92		375	385		0,025	0,24
TPH 300x50	50	155	105		385	395		0,030	0,26
TPH 300x63	63	185	122		390	405		0,036	0,31
TPH 300x80	80	220	140		400	415		0,043	0,36

Force/stroke ratio



Initial force/charging pressure ratio

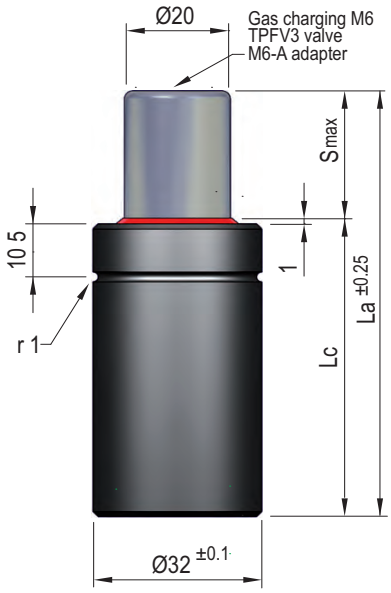


Assembly possibilities



FS 25/1

EXTRA POWER

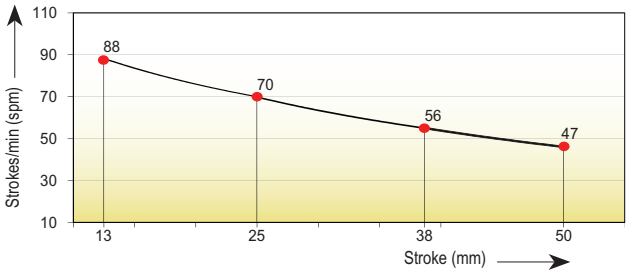


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit H470

PED 2014/68/UE

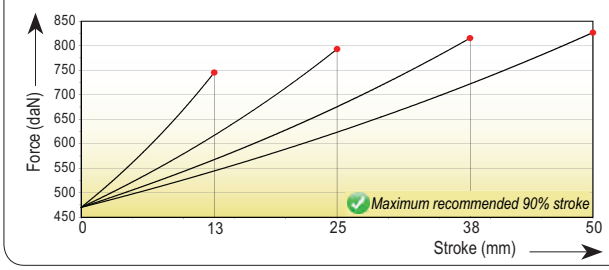
VDI SAFETY

Maximum strokes / minute (at 20ºC)

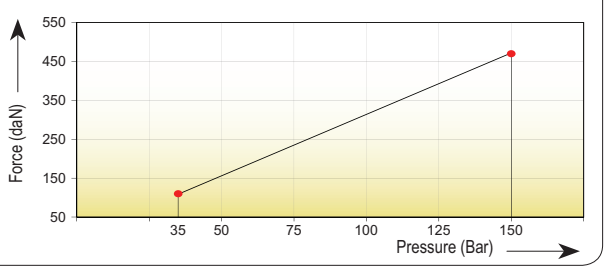


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 470x13	13	58	45		705	745		0,011	
TPH 470x25	25	82	57	470 ±5%	745	795	150	0,019	
TPH 470x38	38	108	70	(20ºC)	760	815	(20ºC)	0,028	
TPH 470x50	50	132	82		770	830		0,036	

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 32 FS 32/1 FSC 32

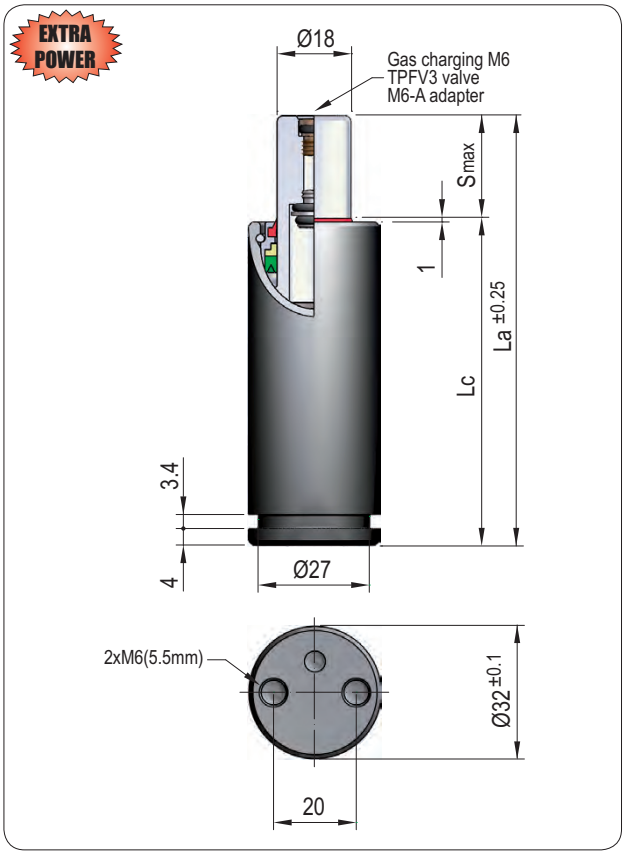
FI 32 FI 32/1

TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

TECAPRES®

Ø32mm 500daN

TPH 500



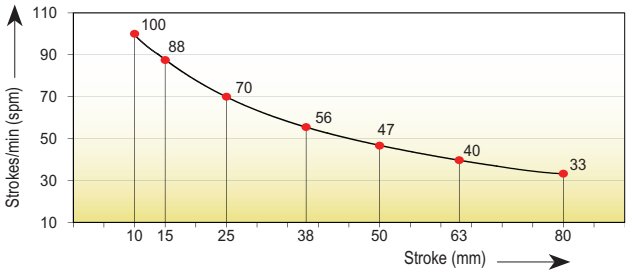
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	190 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit MH32

PED 2014/68/UE



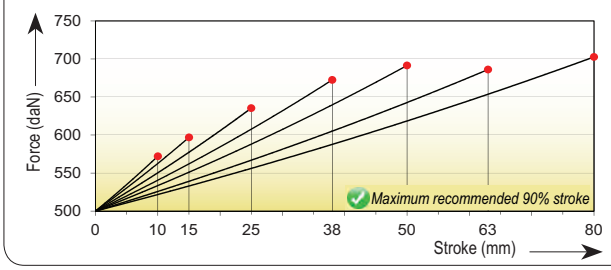
VDI SAFETY

Maximum strokes / minute (at 20ºC)

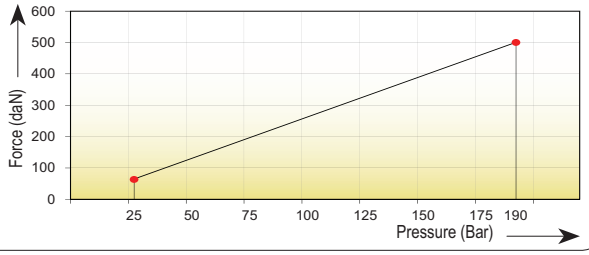


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 500x10	10	75	65		565	570		0,020	0,18
TPH 500x15	15	85	70		585	595		0,024	0,20
TPH 500x25	25	105	80		615	635		0,030	0,25
TPH 500x38	38	130	92		650	670		0,038	0,28
TPH 500x38B	38	135	97	500 ±5%	635	655	190	0,040	0,30
TPH 500x50	50	155	105	(20ºC)	665	690	(20ºC)	0,046	0,33
TPH 500x50B	50	160	110		650	675		0,049	0,36
TPH 500x63	63	190	127		660	685		0,059	0,40
TPH 500x63B	63	195	132		651	675		0,062	0,42
TPH 500x80	80	225	145		674	700		0,071	0,45

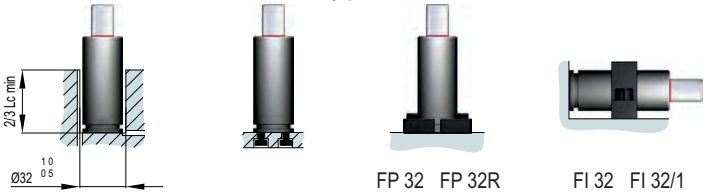
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

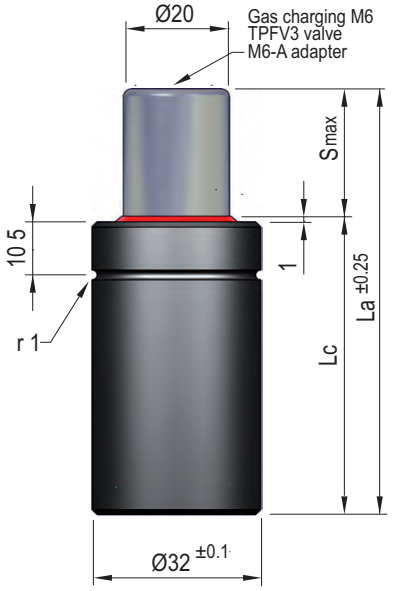


FP 32 FP 32R FI 32 FI 32/1

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Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

EXTRA POWER

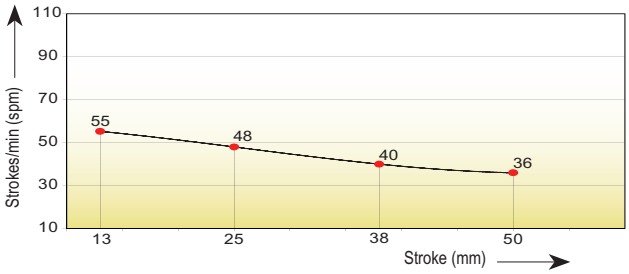


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	180 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit H570

PED 2014/68/UE

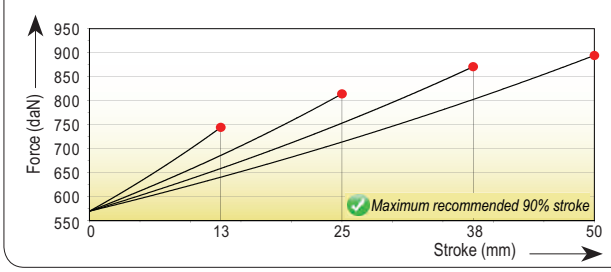
VDI SAFETY

Maximum strokes / minute (at 20ºC)

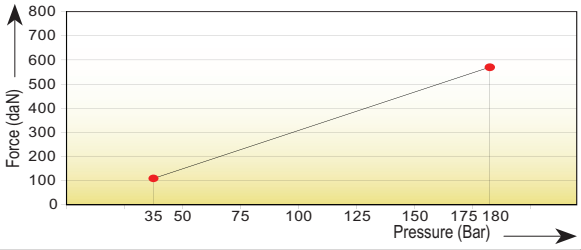


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 570x13	13	70	57		715	740		0,017	
TPH 570x25	25	95	70	570 ±5%	775	810	180	0,026	
TPH 570x38	38	120	82	(20ºC)	820	865	(20ºC)	0,035	
TPH 570x50	50	145	95		840	885		0,043	

Force/stroke ratio



Initial force/charging pressure ratio



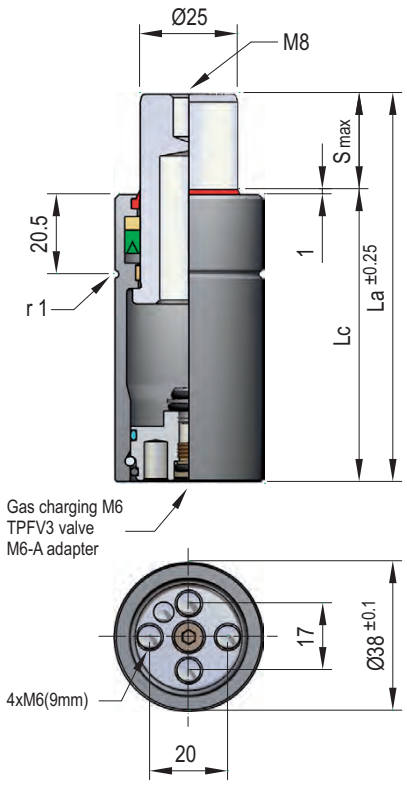
Assembly possibilities



FS 32 FS 32/1 FSC 32

FI 32 FI 32/1

EXTRA POWER

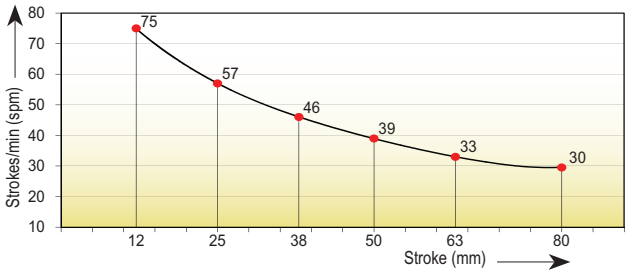


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit H850

PED 2014/68/UE

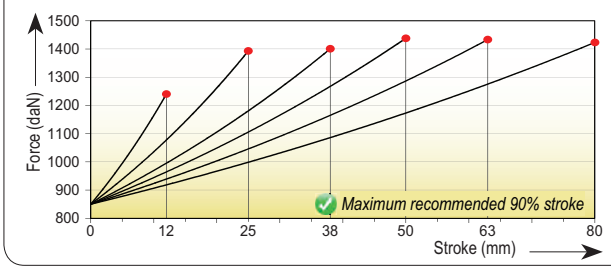
VDI SAFETY

Maximum strokes / minute (at 20ºC)

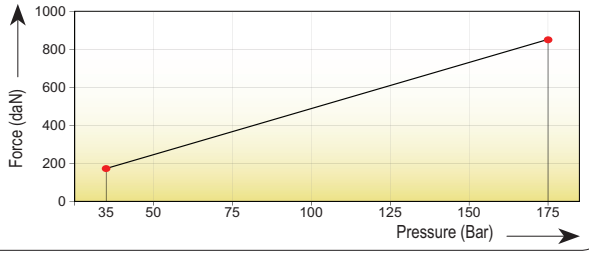


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 850x12	12	74	62		1200	1255		0,019	0,40
TPH 850x25	25	100	75		1325	1405		0,031	0,45
TPH 850x38	38	130	92	850 ±5%	1330	1415	175	0,047	0,52
TPH 850x50	50	155	105	(20ºC)	1360	1455	(20ºC)	0,060	0,64
TPH 850x63	63	185	122		1355	1450		0,076	0,75
TPH 850x80	80	225	145		1350	1440		0,098	0,86

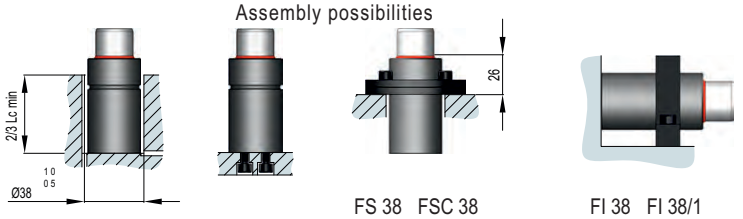
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



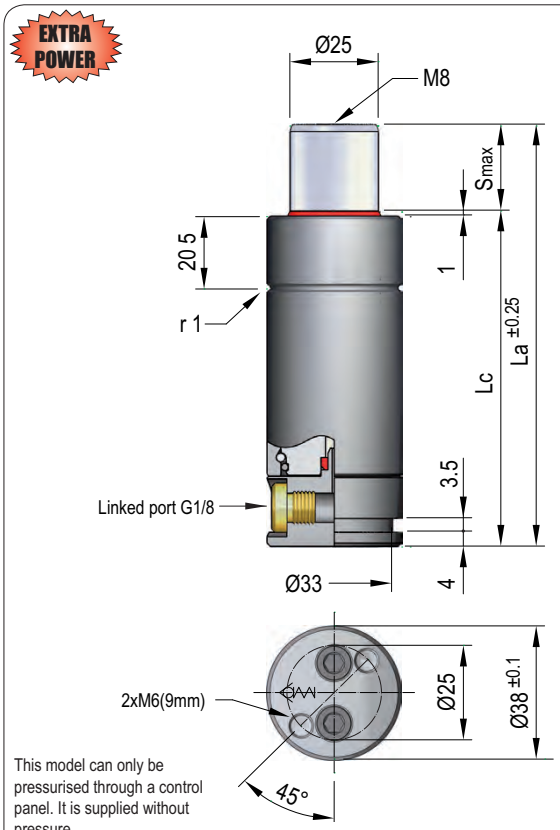
FS 38 FSC 38 FI 38 FI 38/1

TPGAS 07 01-2018

TECAPRES®

Ø38mm · G1/8 connectable
850daN

TPH 850C



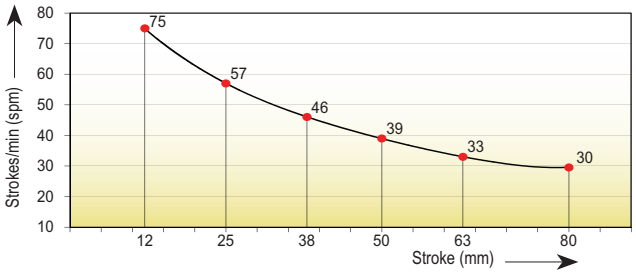
This model can only be pressurised through a control panel. It is supplied without pressure.

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit HC850

PED 2014/68/UE

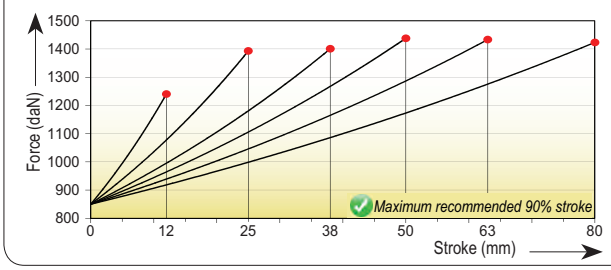


Maximum strokes / minute (at 20ºC)

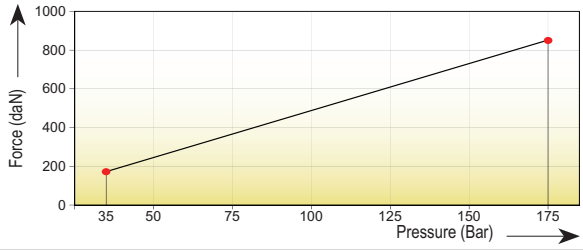


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 850x12C	12	94	82		1200	1255		0,019	0,60
TPH 850x25C	25	120	95		1325	1405		0,031	0,65
TPH 850x38C	38	150	112	850 ±5%	1330	1415	175	0,047	0,72
TPH 850x50C	50	175	125	(20ºC)	1360	1455	(20ºC)	0,060	0,84
TPH 850x63C	63	205	142		1355	1450		0,076	0,95
TPH 850x80C	80	245	165		1350	1440		0,098	1,06

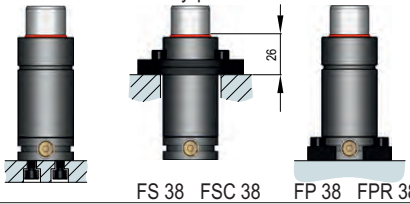
Force/stroke ratio



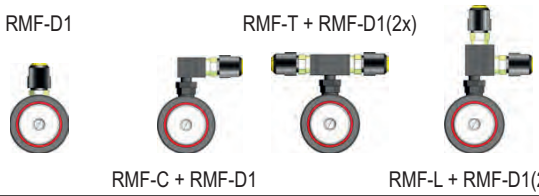
Initial force/charging pressure ratio



Assembly possibilities



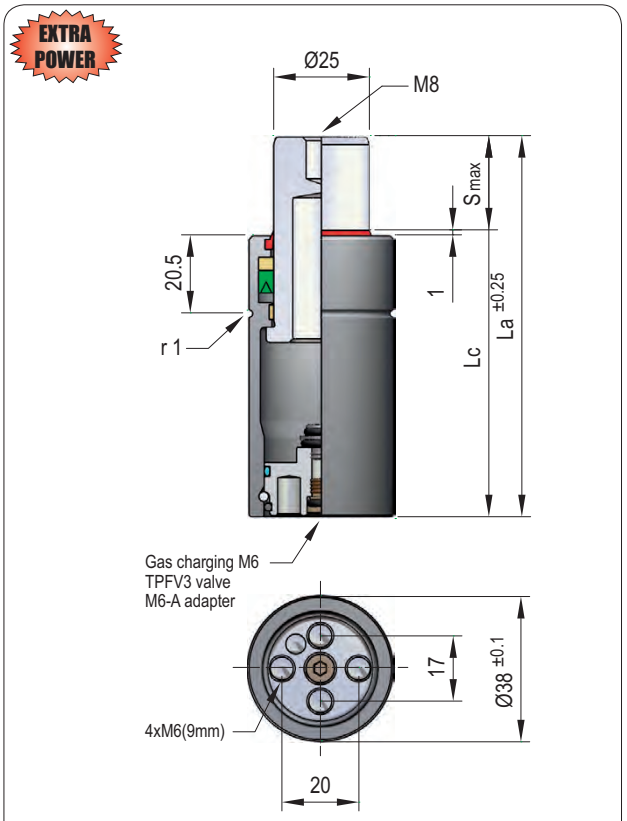
Connection alternatives



TECAPRES®

Ø38mm
1000daN

TPH 1000

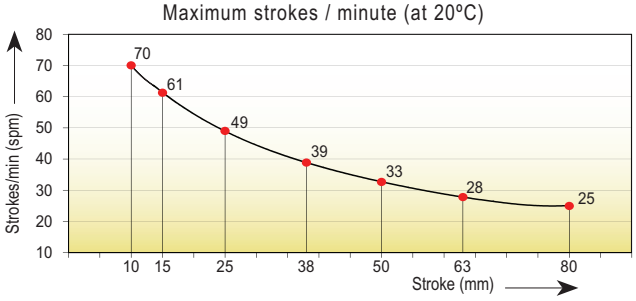


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	190 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit H1000

PED 2014/68/UE

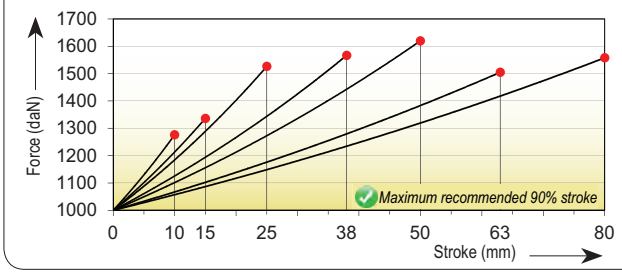
VDI SAFETY

Maximum strokes / minute (at 20ºC)

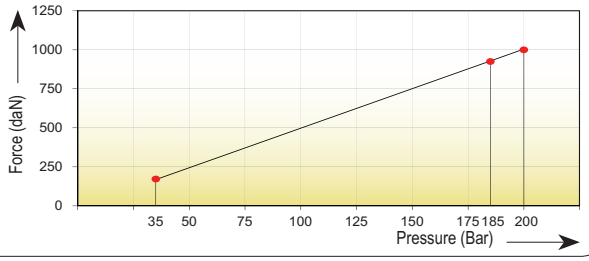


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 1000x10	10	75	65	1000 ±5% (20ºC)	1245	1280	190 (20ºC)	0,023	0,35
TPH 1000x15	15	85	70		1295	1340		0,029	0,42
TPH 1000x25	25	105	80		1450	1530		0,035	0,50
TPH 1000x38	38	135	97		1485	1570		0,052	0,57
TPH 1000x50	50	160	110		1530	1620		0,064	0,69
TPH 1000x63	63	205	142		1435	1505		0,092	0,80
TPH 1000x80	80	240	160		1480	1560		0,110	0,91

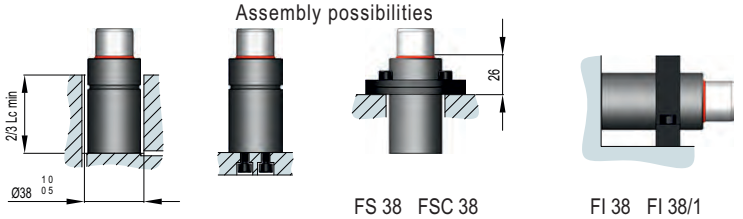
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



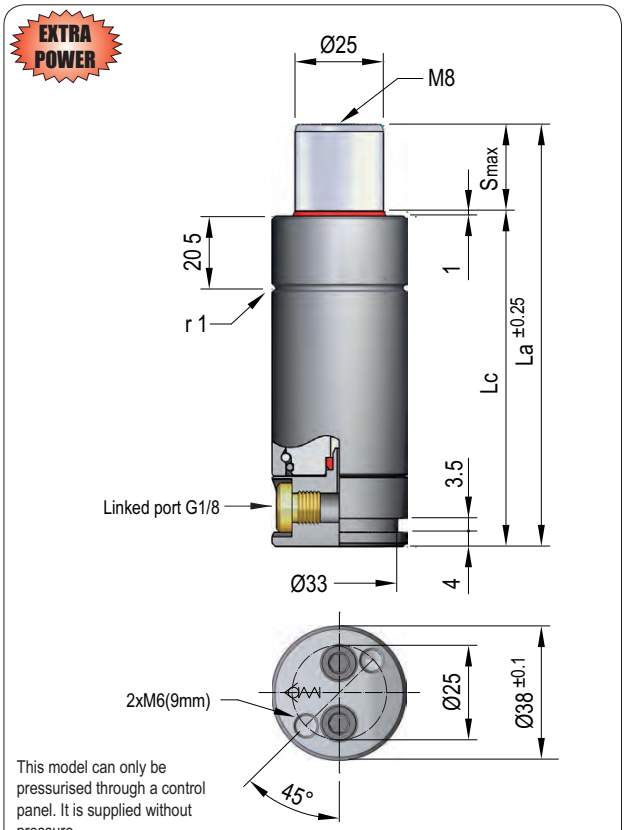
FS 38 FSC 38 FI 38 FI 38/1

TPGAS 07 01-2018

TECAPRES®

Ø38mm · G1/8 connectable
1000daN

TPH 1000 C



This model can only be pressurised through a control panel. It is supplied without pressure.

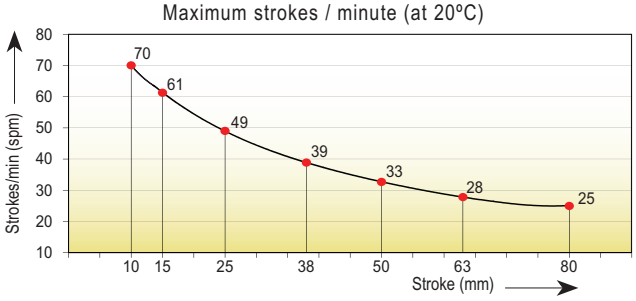
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	200 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit HC1000

PED 2014/68/UE

VDI SAFETY

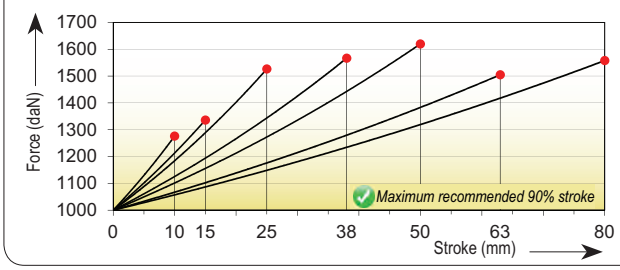


Maximum strokes / minute (at 20ºC)

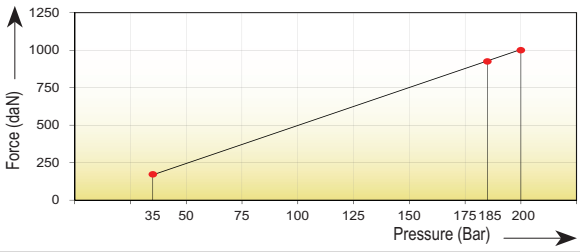


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 1000x10C	10	95	85	1000 ±5% (20ºC)	1245	1280	185 (20ºC)	0,023	0,35
TPH 1000x15C	15	105	90		1295	1340		0,029	0,42
TPH 1000x25C	25	125	100		1450	1530		0,035	0,50
TPH 1000x38C	38	155	117		1485	1570		0,052	0,57
TPH 1000x50C	50	180	130		1530	1620		0,064	0,69
TPH 1000x63C	63	225	162		1435	1505		0,092	0,80
TPH 1000x80C	80	260	180		1480	1560		0,110	0,91

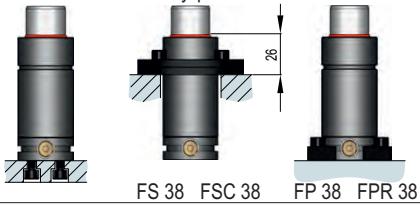
Force/stroke ratio



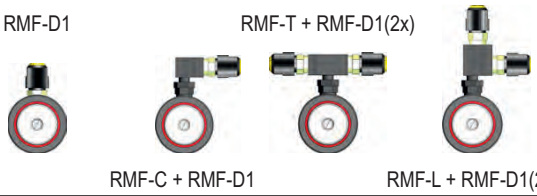
Initial force/charging pressure ratio

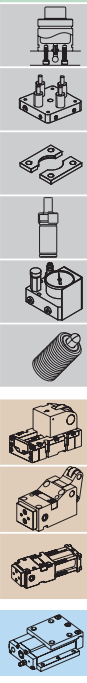


Assembly possibilities



Connection alternatives

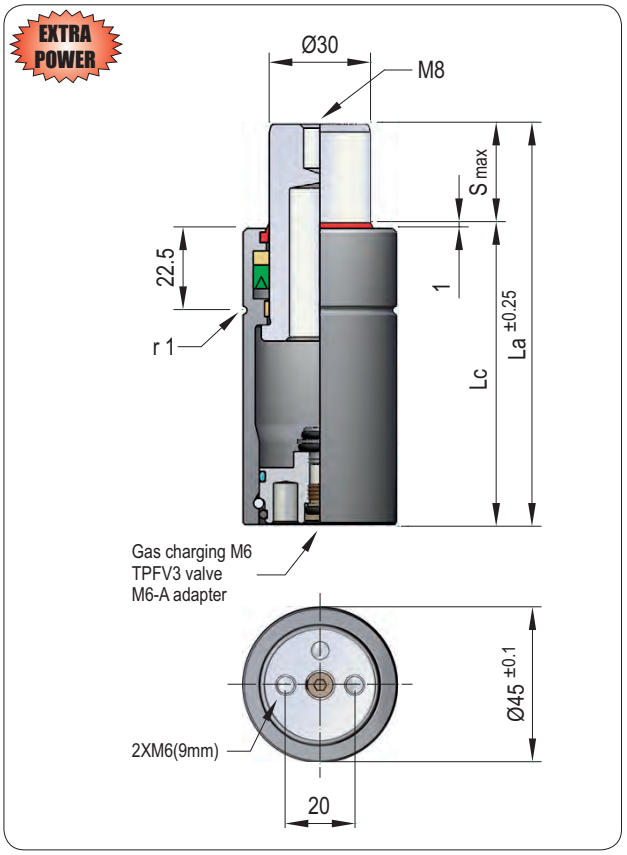




TECAPRES®

Ø45mm 1250daN

TPH 1250

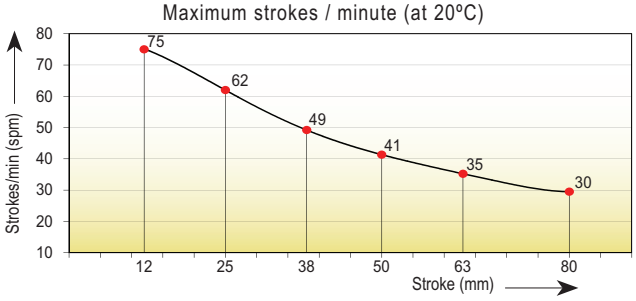


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit H1250

PED 2014/68/UE

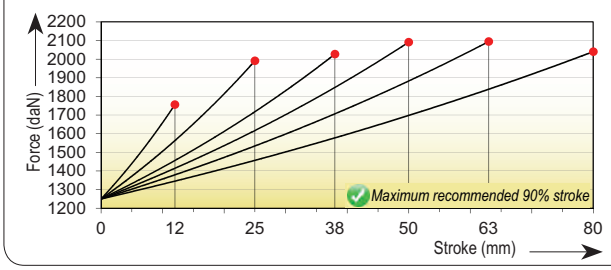
VDI SAFETY

Maximum strokes / minute (at 20ºC)

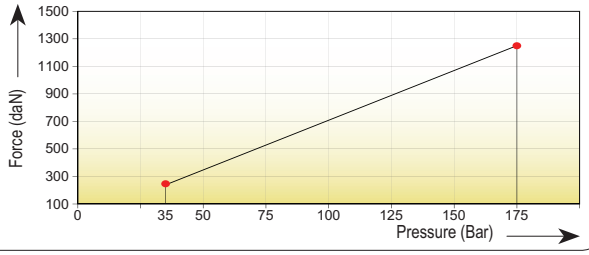


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 1250x12	12	79	67		1670	1740		0,029	0,62
TPH 1250x25	25	105	80		1860	1970		0,047	0,75
TPH 1250x38	38	135	97	1250 ±5%	1890	2005	175	0,070	0,83
TPH 1250x50	50	160	110	(20ºC)	1940	2070	(20ºC)	0,088	0,91
TPH 1250x63	63	190	127		1940	2075		0,110	1,10
TPH 1250x80	80	230	150		1900	2020		0,146	1,17

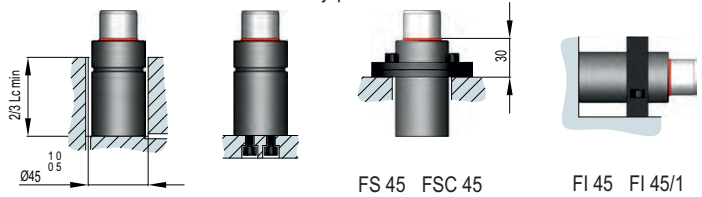
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 45 FSC 45 FI 45 FI 45/1

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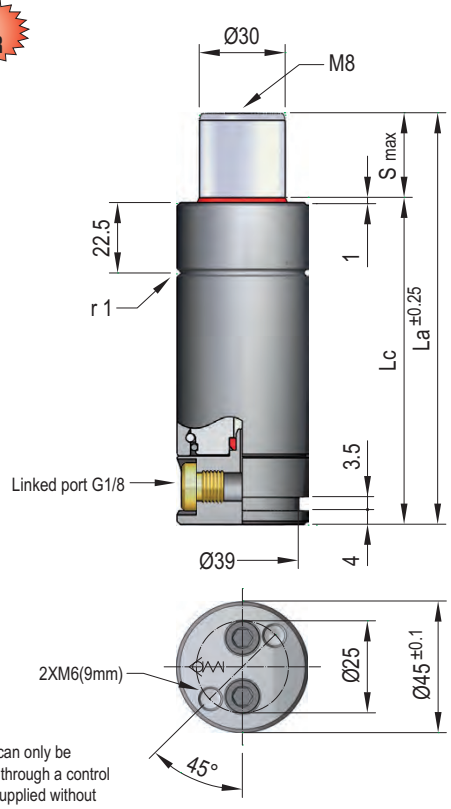
Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

TECAPRES®

Ø45mm · G1/8 connectable
1250daN

TPH 1250 C

EXTRA POWER



This model can only be pressurised through a control panel. It is supplied without pressure.

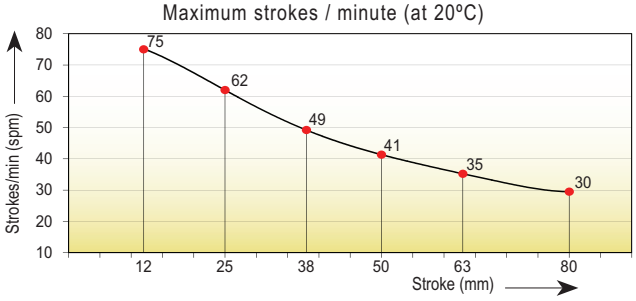
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit HC1250

PED 2014/68/UE

VDI SAFETY

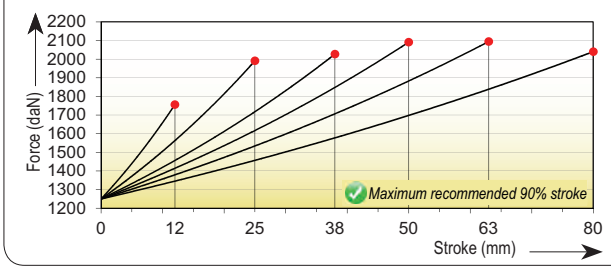


Maximum strokes / minute (at 20ºC)

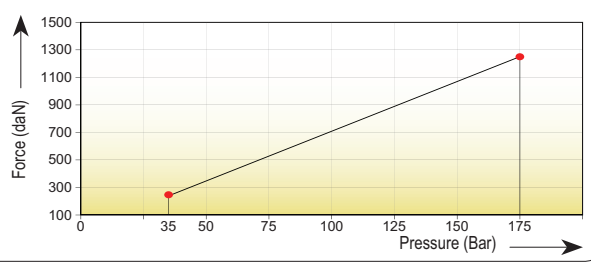


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 1250x12C	12	99	87		1670	1740		0,029	0,82
TPH 1250x25C	25	125	100		1860	1970		0,047	0,95
TPH 1250x38C	38	155	117	1250 ±5%	1890	2005	175	0,070	1,03
TPH 1250x50C	50	180	130	(20ºC)	1940	2070	(20ºC)	0,088	1,15
TPH 1250x63C	63	210	147		1940	2075		0,110	1,30
TPH 1250x80C	80	250	170		1900	2020		0,146	1,27

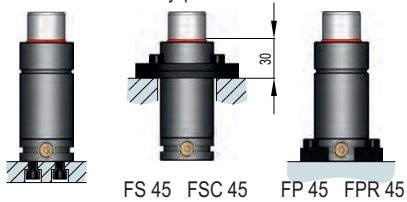
Force/stroke ratio



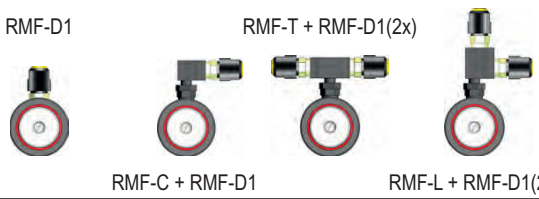
Initial force/charging pressure ratio



Assembly possibilities



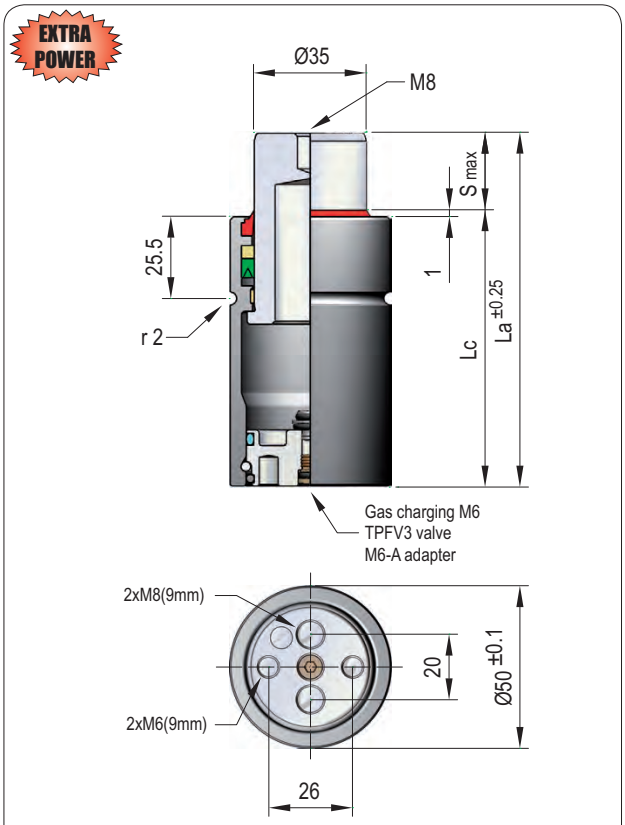
Connection alternatives



TECAPRES®

Ø50mm 1700daN

TPH 1700

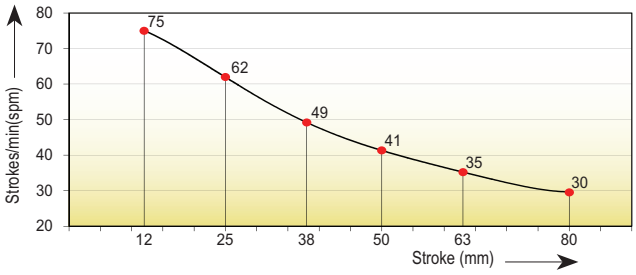


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	9,62 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit H1700

PED 2014/68/UE

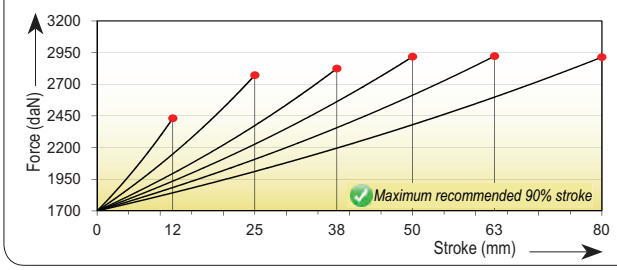
VDI SAFETY

Maximum strokes / minute (at 20ºC)

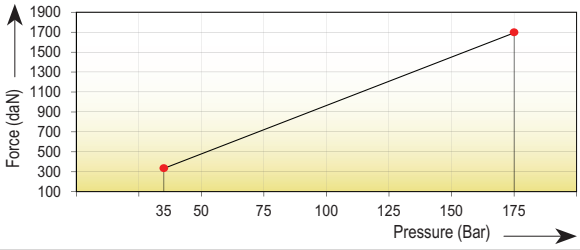


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 1700x12	12	84	72	1700 ±5% (20ºC)	2310	2410	175 (20ºC)	0,039	0,82
TPH 1700x25	25	110	85		2580	2745		0,062	0,91
TPH 1700x25B	25	115	90		2445	2575		0,069	1,00
TPH 1700x38	38	140	102		2625	2795		0,092	1,12
TPH 1700x50	50	165	115		2695	2890		0,115	1,25
TPH 1700x63	63	195	132		2700	2895		0,145	1,35
TPH 1700x80	80	235	155		2695	2885		0,185	1,48

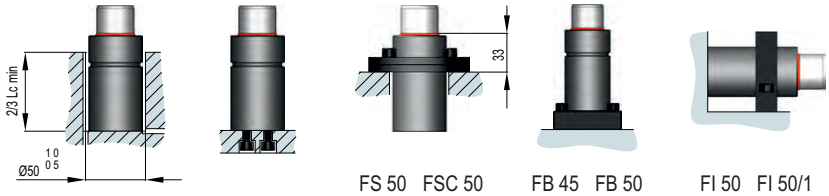
Force/stroke ratio



Initial force/charging pressure ratio



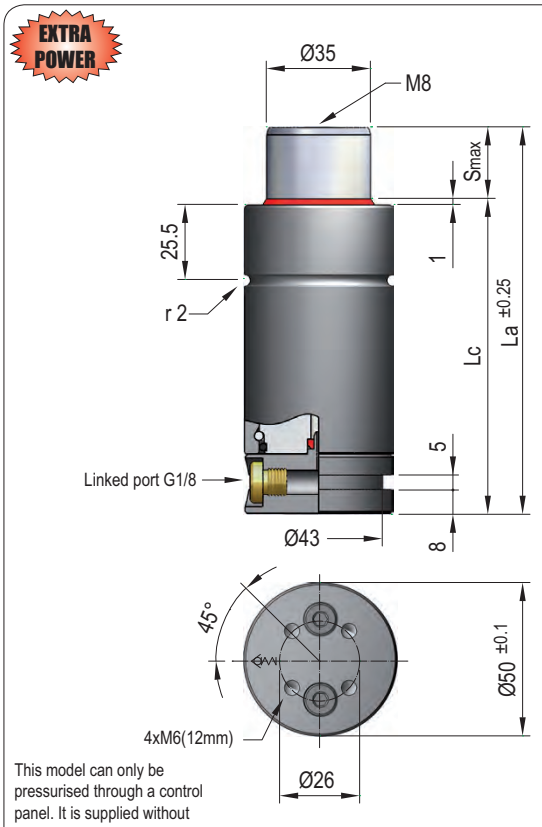
Assembly possibilities



FS 50 FSC 50 FB 45 FB 50 FI 50 FI 50/1

TPGAS 07 01-2018

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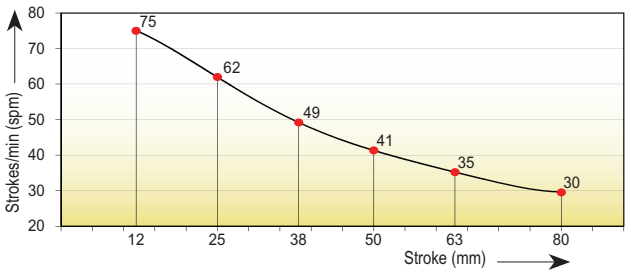
This model can only be pressurised through a control panel. It is supplied without pressure.

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	9,62 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit HC1700

PED 2014/68/UE

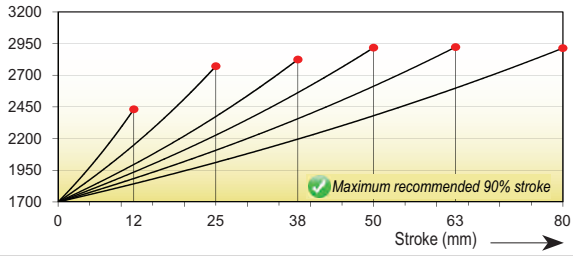


Maximum strokes / minute (at 20ºC)

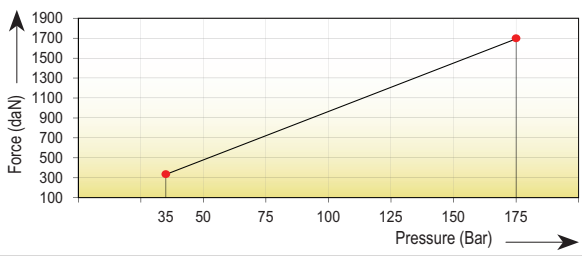


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 1700x12C	12	104	92	1700 ±5% (20ºC)	2310	2410	175 (20ºC)	0,039	1,12
TPH 1700x25C	25	130	105		2580	2745		0,062	1,21
TPH 1700x25BC	25	135	110		2445	2575		0,069	1,3
TPH 1700x38C	38	160	122		2625	2795		0,092	1,42
TPH 1700x50C	50	185	135		2695	2890		0,115	1,55
TPH 1700x63C	63	215	152		2700	2895		0,145	1,65
TPH 1700x80C	80	255	175		2695	2885		0,185	1,78

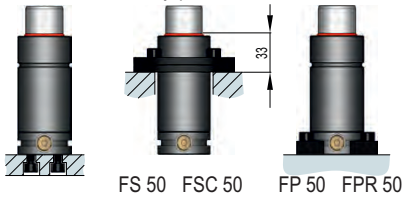
Force/stroke ratio



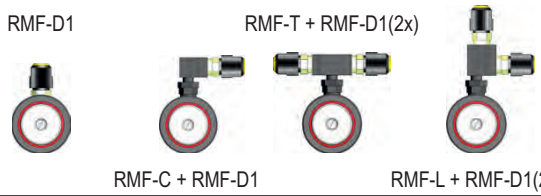
Initial force/charging pressure ratio



Assembly possibilities



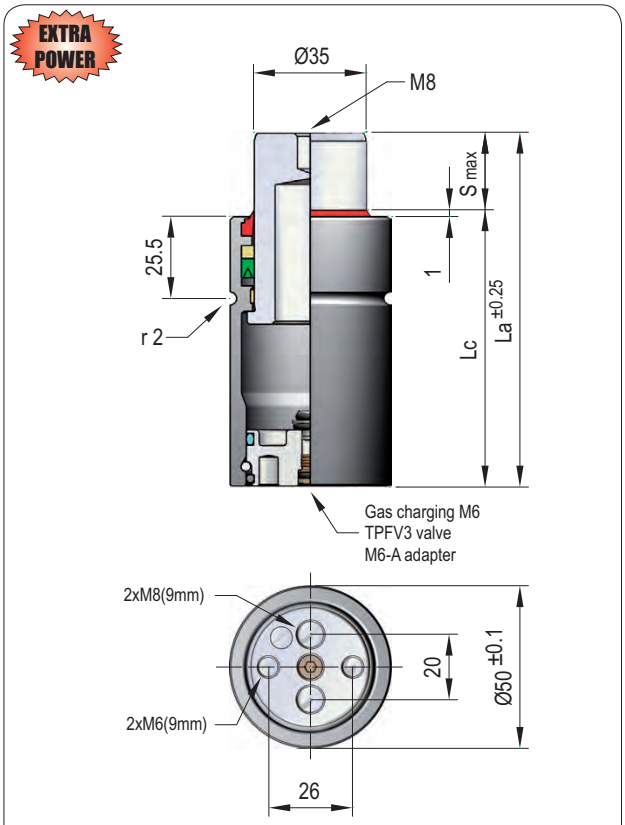
Connection alternatives



TECAPRES®

Ø50mm
1925daN

TPH 2000

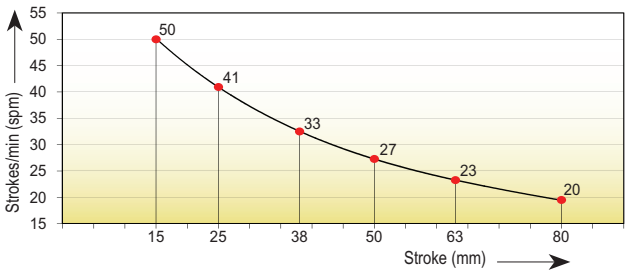


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	195 Bar
Min. charging pressure	35 Bar
Rod seal area	9,62 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit H2000

PED 2014/68/UE

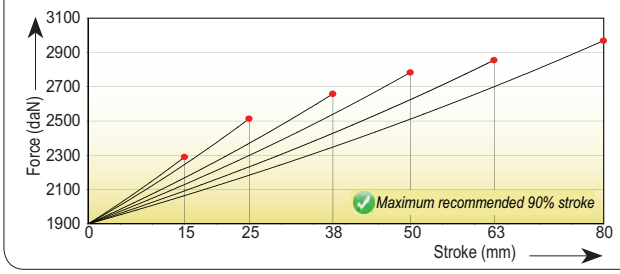
VDI SAFETY

Maximum strokes / minute (at 20ºC)

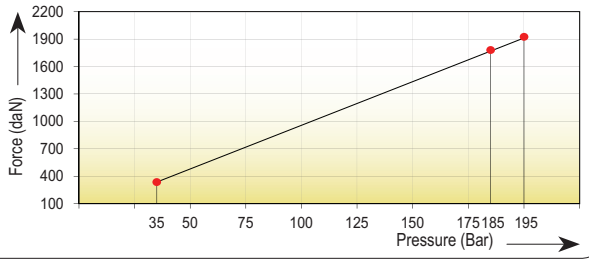


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 2000x15	15	115	100		2240	2285		0,085	0,80
TPH 2000x25	25	135	110		2430	2510		0,099	1,02
TPH 2000x38	38	165	127	1900 ±5%	2550	2650	195	0,128	1,32
TPH 2000x50	50	190	140	(20ºC)	2655	2775	(20ºC)	0,152	1,45
TPH 2000x63	63	220	157		2645	2765		0,193	1,55
TPH 2000x80	80	255	175		2805	2960		0,214	1,68

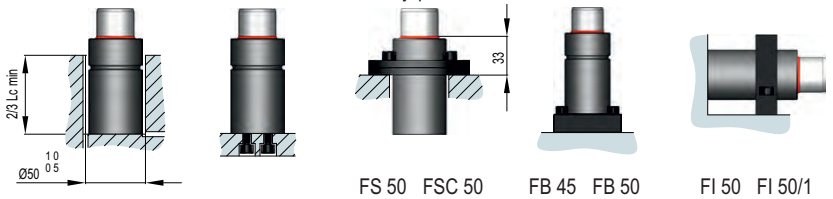
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

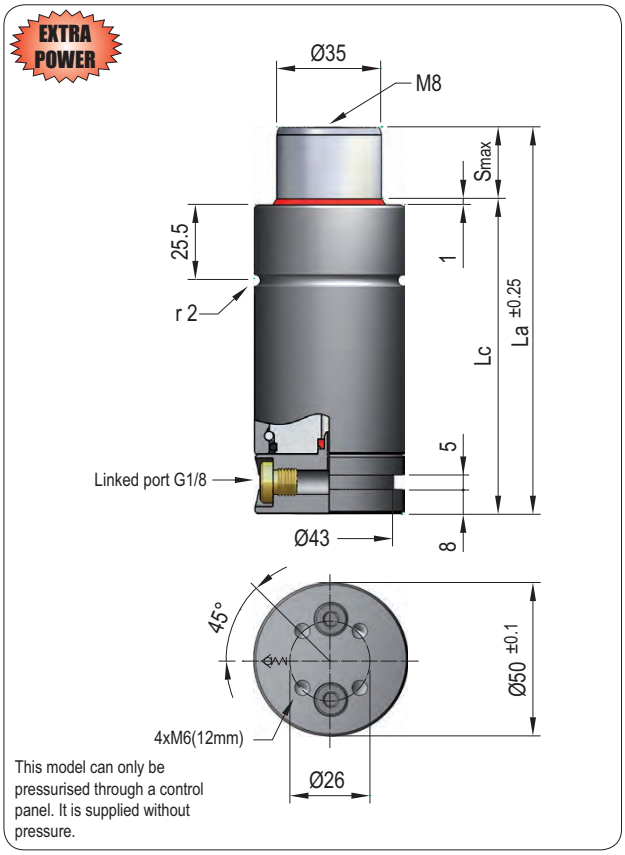


FS 50 FSC 50 FB 45 FB 50 FI 50 FI 50/1

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Ø50mm · G1/8 connectable 1925daN — TPH 2000 C



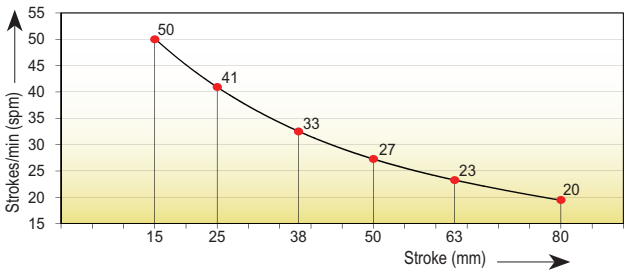
This model can only be pressurised through a control panel. It is supplied without pressure.

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	195 Bar
Min. charging pressure	35 Bar
Rod seal area	9,62 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit HC2000

PED 2014/68/UE

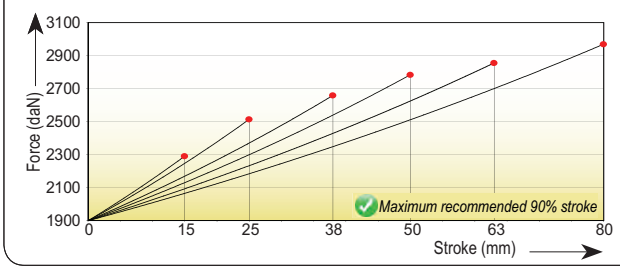


Maximum strokes / minute (at 20ºC)

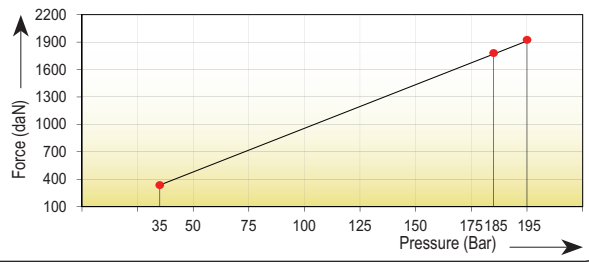


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 2000x15C	15	135	120		2275	2320		0,085	0,95
TPH 2000x25C	25	155	130		2465	2545		0,099	1,22
TPH 2000x38C	38	185	147	1900 ±5%	2590	2690	195	0,128	1,52
TPH 2000x50C	50	210	160	(20ºC)	2695	2820	(20ºC)	0,152	1,65
TPH 2000x63C	63	240	177		2685	2890		0,193	1,75
TPH 2000x80C	80	275	195		2845	3005		0,214	1,88

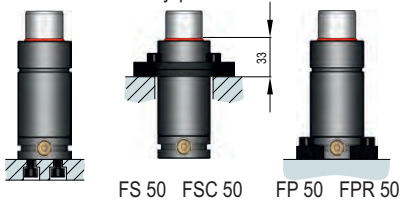
Force/stroke ratio



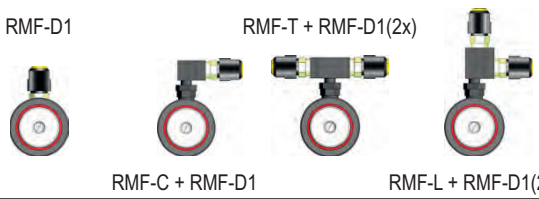
Initial force/charging pressure ratio



Assembly possibilities



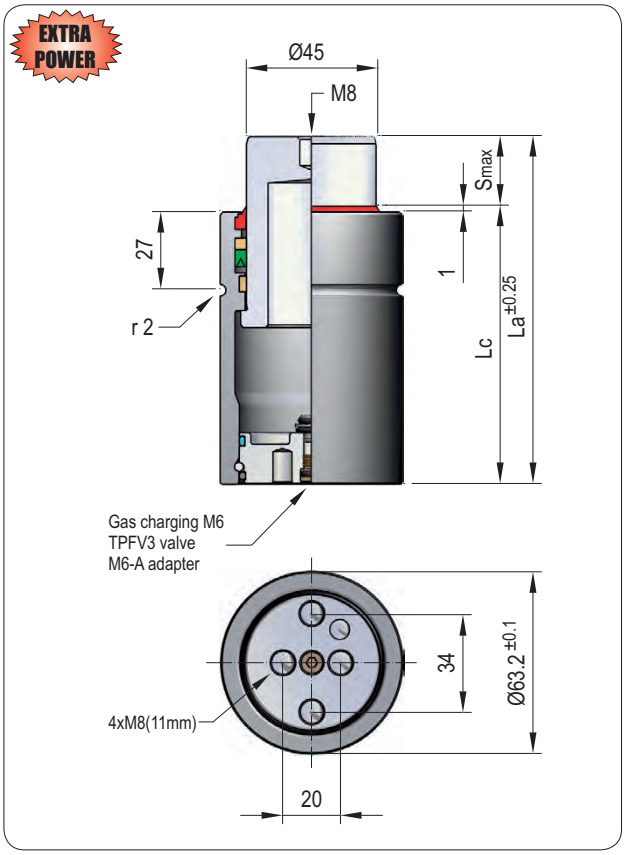
Connection alternatives



TECAPRES®

Ø63mm
2800daN

TPH 2800

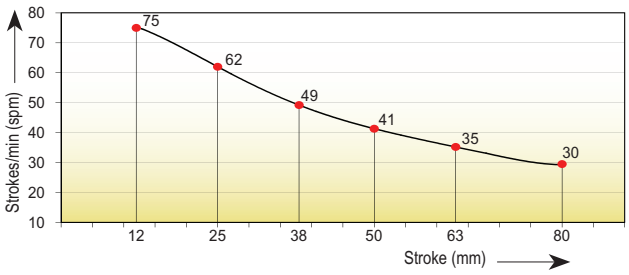


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit H2800

PED 2014/68/UE

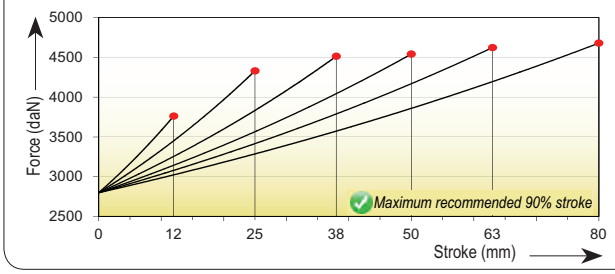
VDI SAFETY

Maximum strokes / minute (at 20ºC)

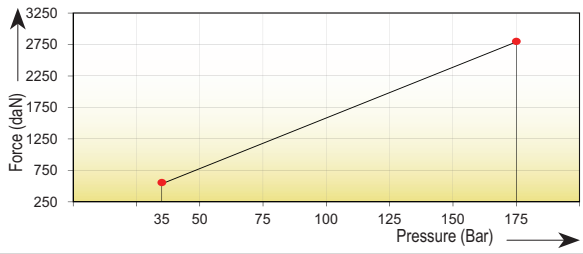


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 2800x12	12	94	82		3615	3740		0,075	1,31
TPH 2800x25	25	120	95		4080	4305		0,112	1,52
TPH 2800x38	38	150	112	2800 ±5%	4230	4485	175	0,159	1,85
TPH 2800x50	50	175	125	(20ºC)	4250	4515	(20ºC)	0,207	1,97
TPH 2800x63	63	210	147		4315	4595		0,254	2,05
TPH 2800x80	80	250	170		4360	4650		0,317	2,22

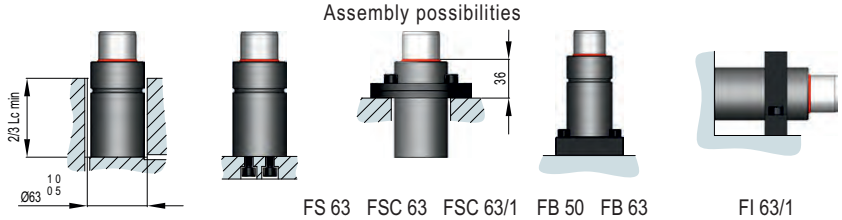
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

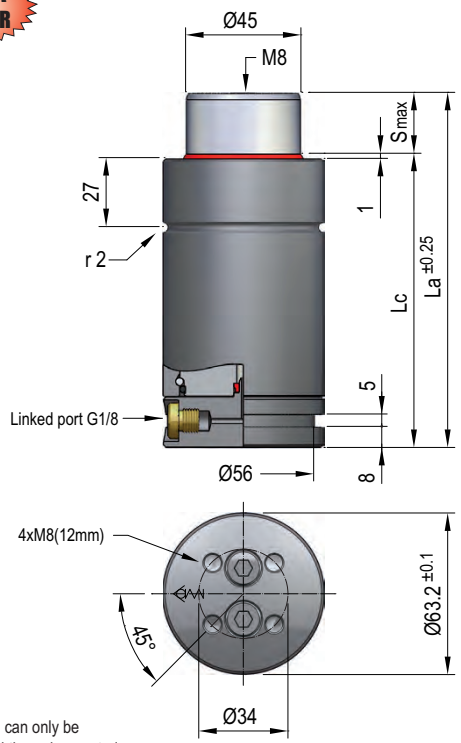


FS 63 FSC 63 FSC 63/1 FB 50 FB 63 FI 63/1

Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

Ø63mm · G1/8 connectable 2800daN — TPH 2800 C

EXTRA POWER



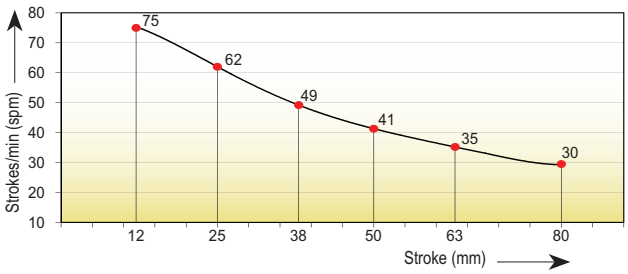
This model can only be pressurised through a control panel. It is supplied without pressure.

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit HC2800

PED 2014/68/UE

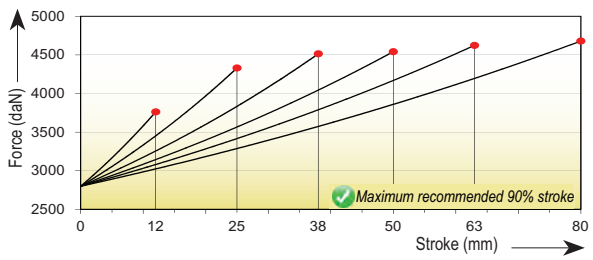
VDI SAFETY

Maximum strokes / minute (at 20ºC)

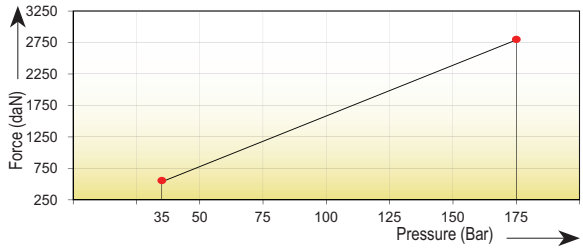


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 2800x12C	12	114	102		3615	3740		0,075	1,41
TPH 2800x25C	25	140	115		4080	4305		0,112	1,92
TPH 2800x38C	38	170	132	2800 ±5%	4230	4485	175	0,159	2,35
TPH 2800x50C	50	195	145	(20ºC)	4250	4515	(20ºC)	0,207	2,37
TPH 2800x63C	63	230	167		4315	4595		0,254	2,45
TPH 2800x80C	80	270	190		4360	4650		0,317	2,62

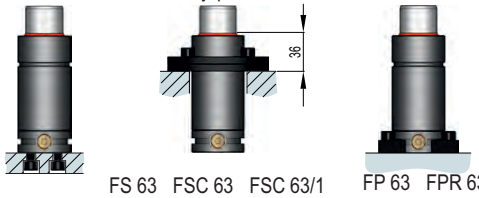
Force/stroke ratio



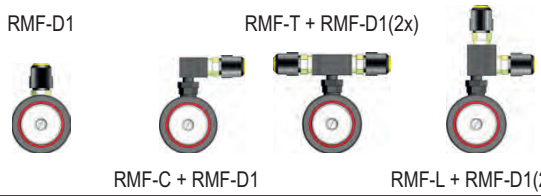
Initial force/charging pressure ratio



Assembly possibilities



Connection alternatives

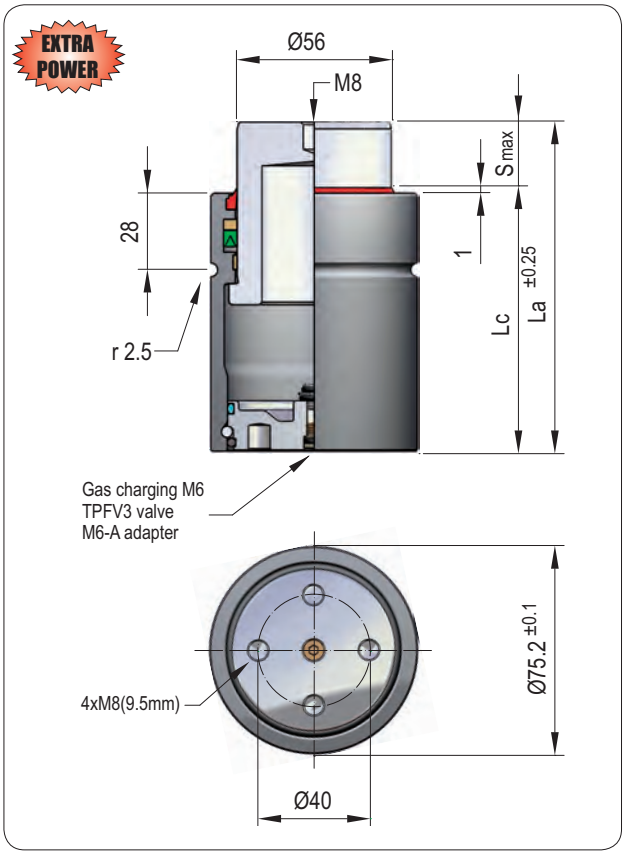


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TECAPRES®

Ø75mm 4300daN

TPH 4300

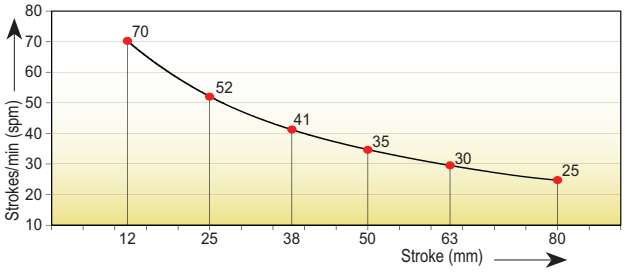


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	24,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit H4300

PED 2014/68/UE

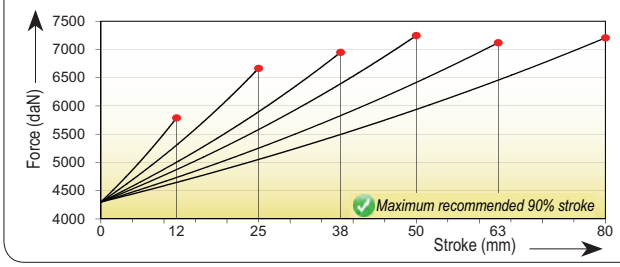
VDI SAFETY

Maximum strokes / minute (at 20ºC)

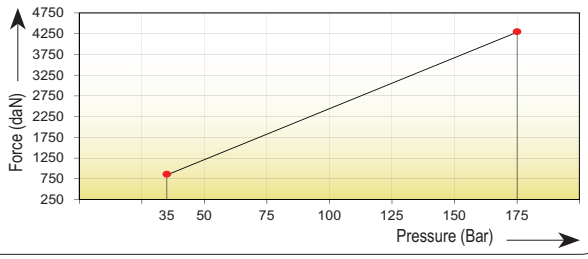


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 4300x12	12	94	82		5610	5800		0,115	1,82
TPH 4300x25	25	120	95		6335	6680		0,174	2,10
TPH 4300x38	38	150	112	4300 ±5%	6560	6965	175	0,246	2,42
TPH 4300x50	50	175	125	(20ºC)	6795	7265	(20ºC)	0,303	2,61
TPH 4300x63	63	210	147		6700	7135		0,392	2,70
TPH 4300x80	80	250	170		6765	7225		0,489	3,05

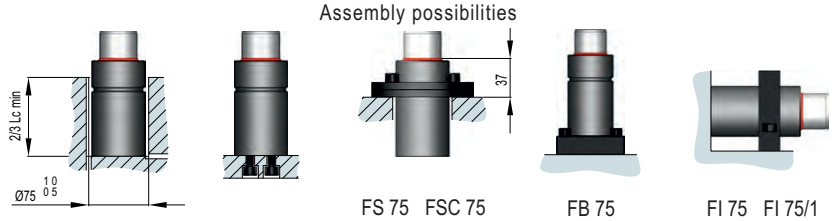
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



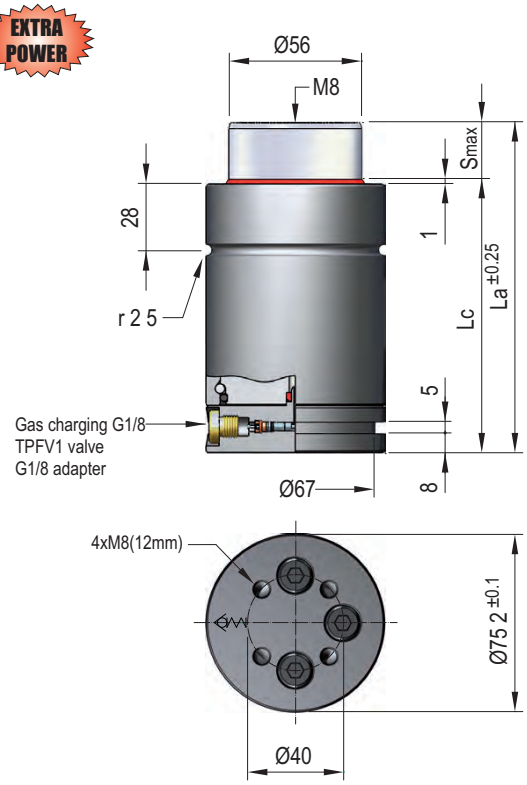
FS 75 FSC 75 FB 75 FI 75 FI 75/1

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Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

Ø75mm · G1/8 connectable 4300daN — TPH 4300 C

EXTRA POWER



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	24,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit HC4300

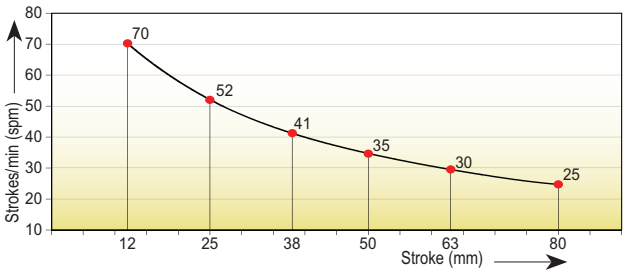
PED 2014/68/UE



VDI SAFETY

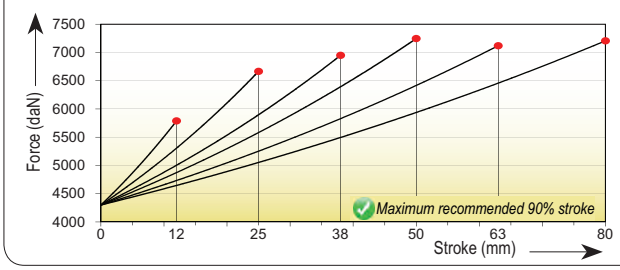


Maximum strokes / minute (at 20ºC)

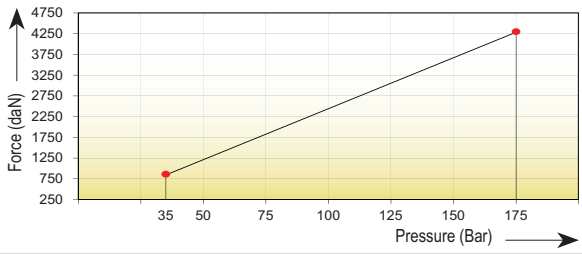


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPH 4300x12C	12	114	102		5610	5800		0,115	2,32
TPH 4300x25C	25	140	115		6335	6680		0,174	2,60
TPH 4300x38C	38	170	132	4300 ±5%	6560	6965	175	0,246	2,92
TPH 4300x50C	50	195	145	(20ºC)	6795	7265	(20ºC)	0,303	3,11
TPH 4300x63C	63	230	167		6700	7135		0,392	3,20
TPH 4300x80C	80	270	190		6765	7225		0,489	4,05

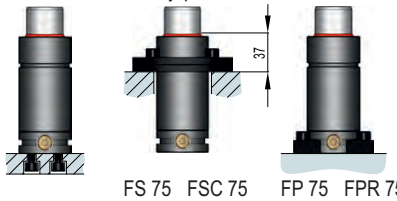
Force/stroke ratio



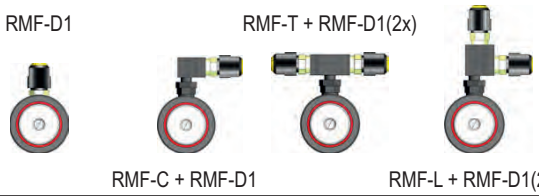
Initial force/charging pressure ratio



Assembly possibilities



Connection alternatives



PED 2014/68/UE



ISO

VDI

CNOMO

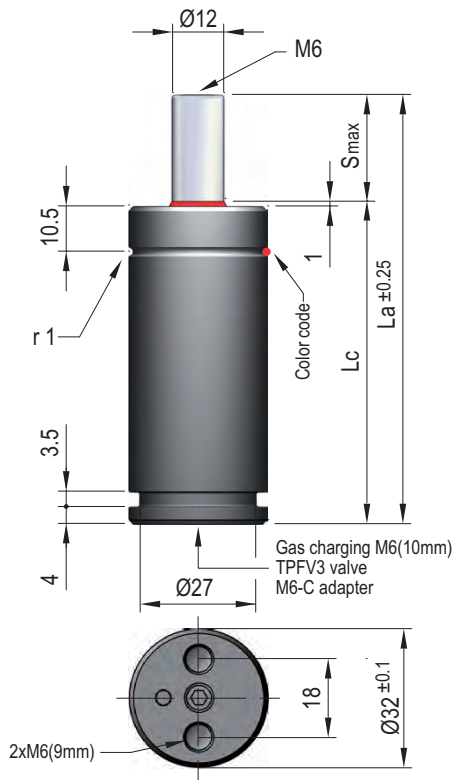
ISO gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY			ISO STANDARD
TPS 32.1	32	10 - 125	200	√	√			√
TPS 250	38	10 - 125	250	√	√			√
TPS 250.1	38	10 - 125	250	√	√	√		√
TPS 500.2	45	10 - 160	470	√	√	√	√	√
TPS 750	50	13 - 300	740	√	√	√	√	√
TPSC 750	50	13 - 300	740	√	√	√	√	
TPS 1500.1	75	13 - 300	1500	√	√	√	√	√
TPSC 1500.1	75	13 - 300	1500	√	√	√	√	
TPS 3000	95	25 - 300	3000	√	√	√	√	√
TPSC 3000	95	25 - 300	3000	√	√	√	√	
TPS 5000	120	25 - 300	5000	√	√	√	√	√
TPSC 5000	120	25 - 300	5000	√	√	√	√	
TPS 7500	150	25 - 300	7500	√	√	√	√	√
TPSC 7500	150	25 - 300	7500	√	√	√	√	
TPS 10000	195	25 - 200	10000	√	√	√		√
TPSC 10000	195	25 - 200	10000	√	√	√		

TECAPRES®

Ø32mm 200daN

TPS 32.1

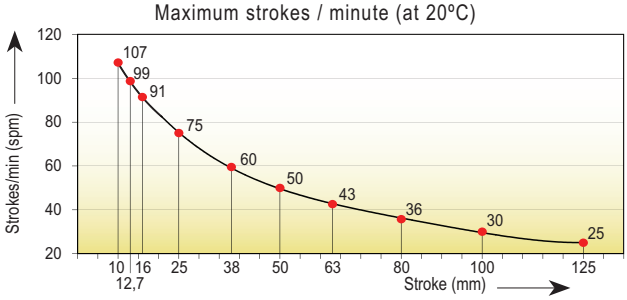


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S32.1

PED 2014/68/UE · ISO ISO 11901 · VDI VDI 3003 · CNOMO E.24.54.815.G



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPS 32x10.1	10	70	60	0,006	0,30
TPS 32x13.1	12,7	75,4	62,7	0,007	0,32
TPS 32x16.1	16	82	66	0,008	0,33
TPS 32x25.1	25	100	75	0,011	0,37
TPS 32x38.1	38	126	88	0,015	0,42
TPS 32x50.1	50	150	100	0,019	0,47
TPS 32x63.1	63	177	114	0,024	0,52
TPS 32x80.1	80	210	130	0,030	0,60
TPS 32x100.1	100	250	150	0,037	0,75
TPS 32x125.1	125	300	175	0,045	0,85

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 70	45
BL *(Blue)*	100 (±10)	≈ 140	90
RD *(Red)*	150 (±15)	≈ 210	135
YW *(Yellow)*	200 (±20)	≈ 270	175
(Other forces)	28 - 200	≈ 40 - 270	25 - 175

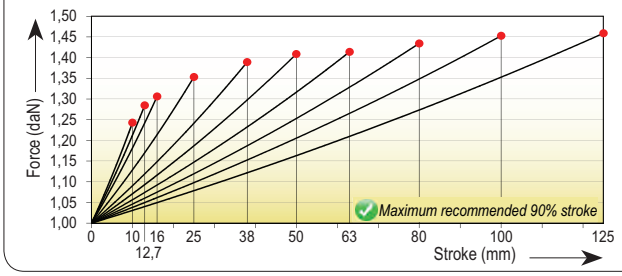
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

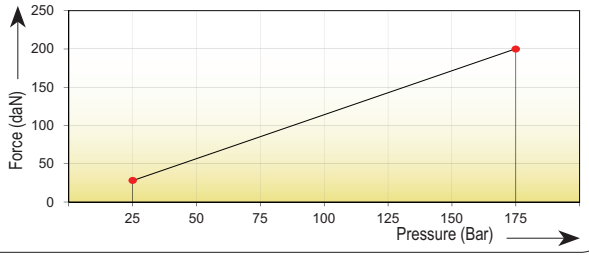
TPS 32 x **63.1** **RD**

Model · Stroke · Color code

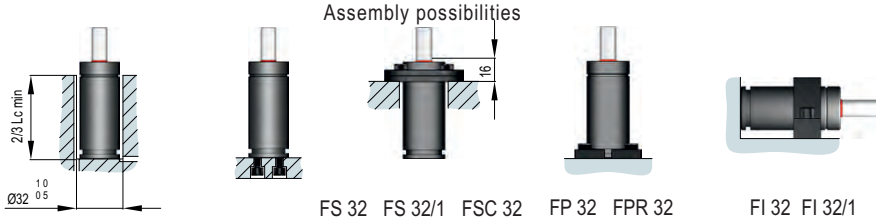
Force/stroke ratio



Initial force/charging pressure ratio



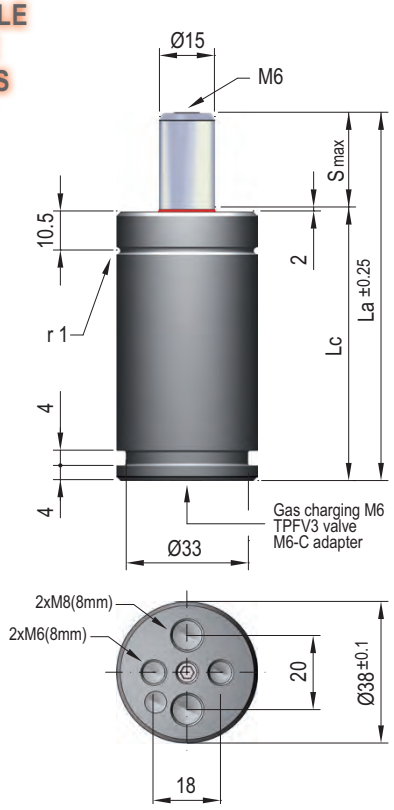
Assembly possibilities



FS 32 FS 32/1 FSC 32 FP 32 FPR 32 FI 32 FI 32/1

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AVAILABLE WHILE STOCKS LAST

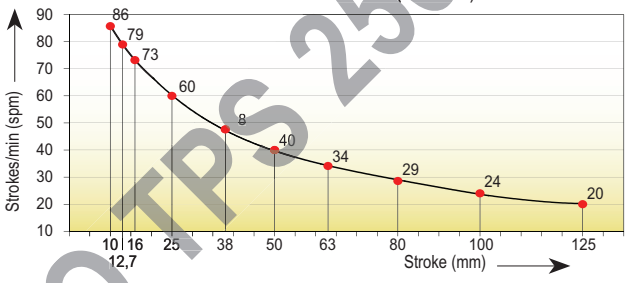


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	1,77 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1 m/s
Maintenance kit	Kit S250

PED 2014/68/UE · ISO ISO 11901 · VDI VDI 3003 · CNOMO E.24.54.815.G

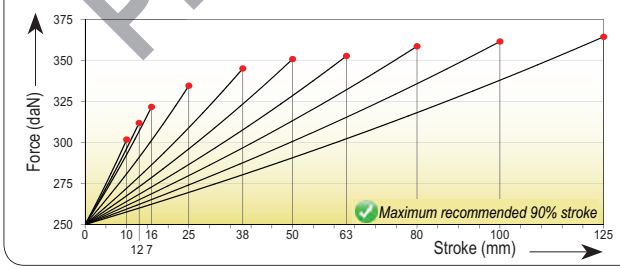
VDI SAFETY

Maximum strokes / m nute (a 20ºC)

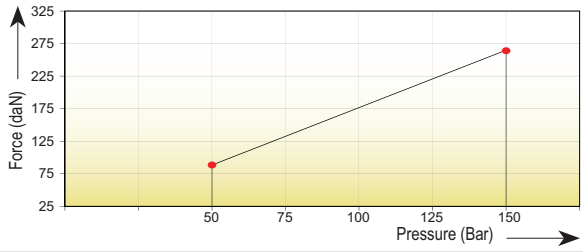


Code	Smax mm	La mm	Lc mm	Fa daN	F 0% daN	Fc 100% daN	P Bar	V l	Kg
TPS 250x10	10	70	60	250 ±5% (20ºC)	295	300	142 (20ºC)	0,011	0,43
TPS 250x13	12,7	75,4	62,7		305	310		0,012	0,44
TPS 250x16	16	82	66		310	320		0,013	0,46
TPS 250x25	25	100	75		325	335		0,018	0,51
TPS 250x38	38	126	88		330	345		0,025	0,59
TPS 250x50	50	150	00		335	350		0,031	0,66
TPS 250x63	63	177	114		340	355		0,039	0,73
TPS 250x80	80	210	130		345	360		0,047	0,83
TPS 250x100	100	50	150		345	360		0,058	0,96
TPS 250x125	125	30	175		350	365		0,071	1,05

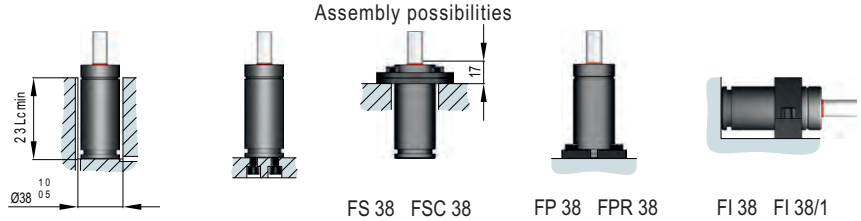
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 38 FSC 38 FP 38 FPR 38 FI 38 FI 38/1

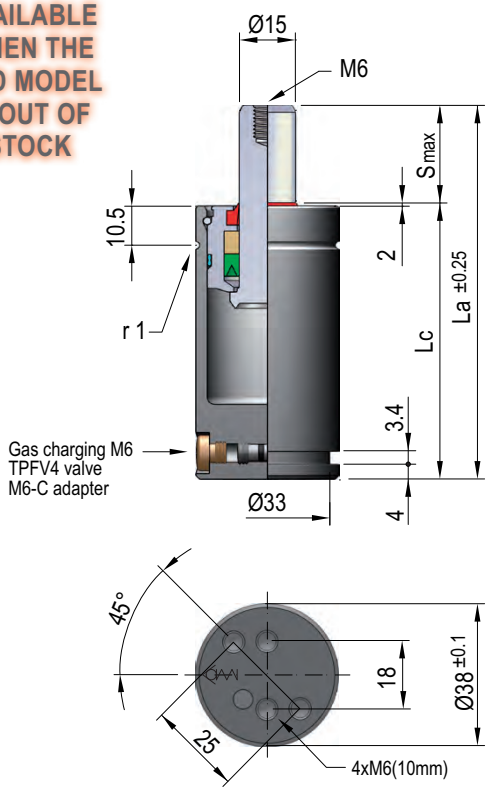
PHASING OUT TO TPS 250.1

TECAPRES®

Ø38mm
250daN

TPS 250.1

AVAILABLE WHEN THE OLD MODEL IS OUT OF STOCK

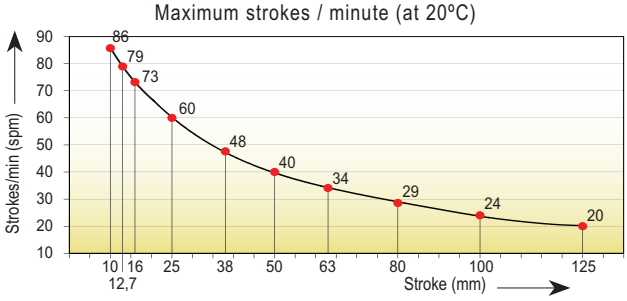


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	1,77 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S250.1

PED 2014/68/UE · ISO ISO 11901 · VDI VDI 3003 · CNOMO E.24.54.815.G

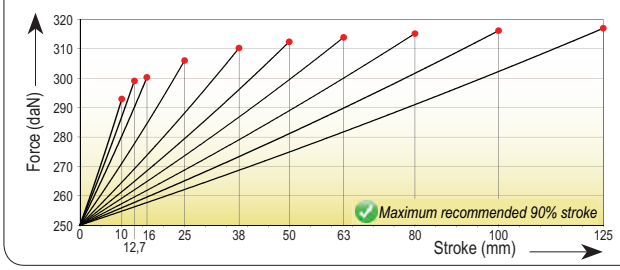


Maximum strokes / minute (at 20ºC)

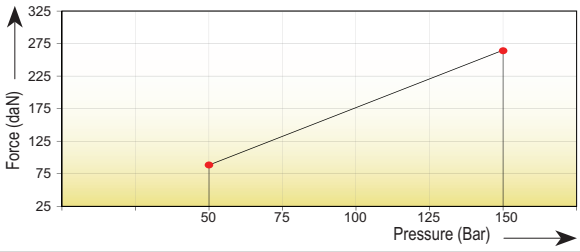


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 250x10.1	10	70	60	250 ±5% (20ºC)	290	295	142 (20ºC)	0,012	0,43
TPS 250x13.1	12,7	75,4	62,7		295	300		0,014	0,44
TPS 250x16.1	16	82	66		295	300		0,017	0,46
TPS 250x25.1	25	100	75		300	305		0,024	0,51
TPS 250x38.1	38	126	88		305	310		0,035	0,59
TPS 250x50.1	50	150	100		305	315		0,044	0,66
TPS 250x63.1	63	177	114		305	315		0,055	0,73
TPS 250x80.1	80	210	130		310	315		0,068	0,83
TPS 250x100.1	100	250	150		310	315		0,085	0,96
TPS 250x125.1	125	300	175		310	320		0,105	1,05

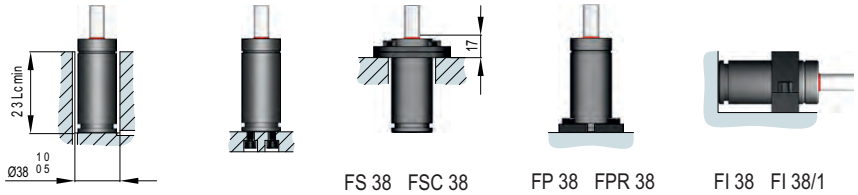
Force/stroke ratio



Initial force/charging pressure ratio



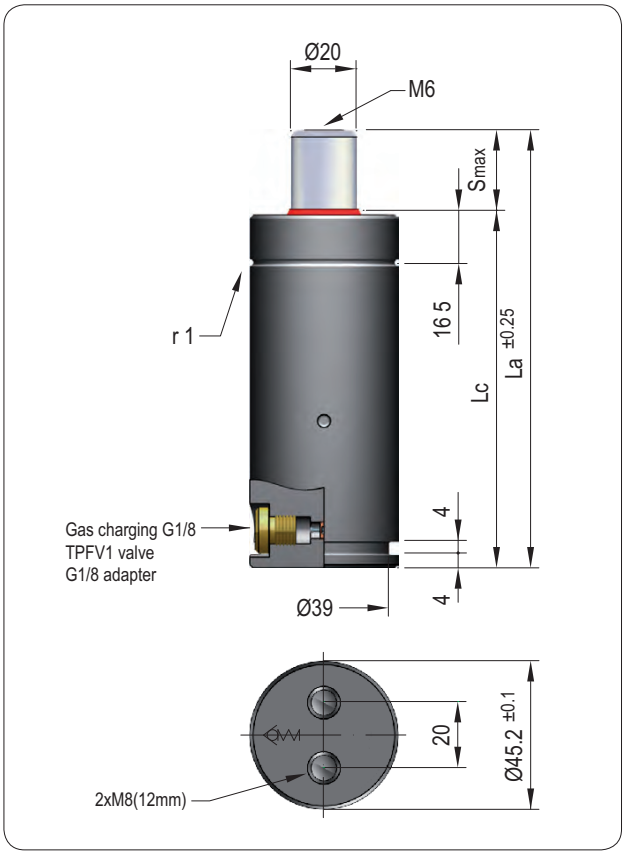
Assembly possibilities



FS 38 FSC 38 FP 38 FPR 38 FI 38 FI 38/1

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Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

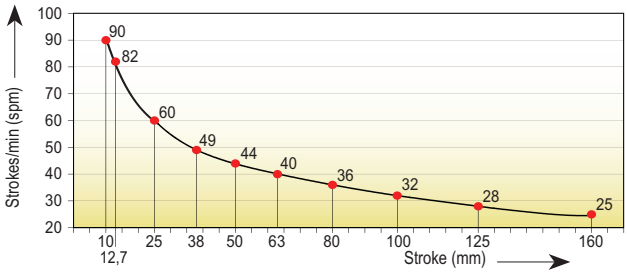


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S500.2

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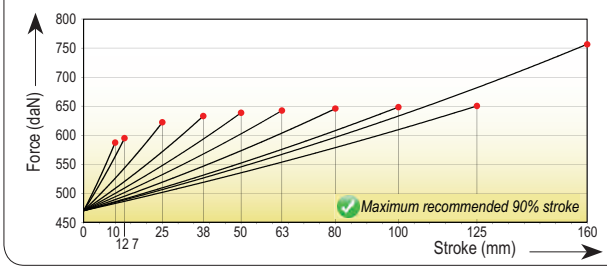


Maximum strokes / minute (at 20ºC)

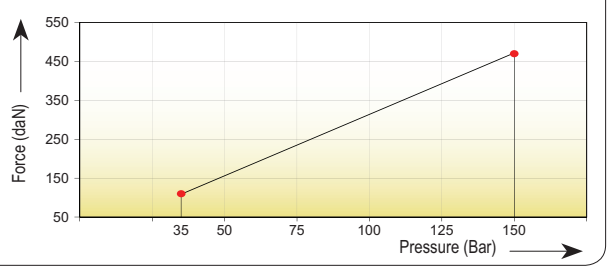


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 500x10.2	10	105	95	470 ±5% (20ºC)	575	590	150 (20ºC)	0,016	0,43
TPS 500x13.2	12,7	110,4	97,7		580	595		0,019	0,44
TPS 500x25.2	25	135	110		605	625		0,032	0,46
TPS 500x38.2	38	161	123		615	635		0,046	0,51
TPS 500x50.2	50	185	135		620	640		0,060	0,59
TPS 500x63.2	63	212	149		620	645		0,074	0,66
TPS 500x80.2	80	245	165		625	645		0,092	0,73
TPS 500x100.2	100	285	185		625	650		0,114	0,83
TPS 500x125.2	125	335	210		630	650		0,142	0,96
TPS 500x160.2	160	405	245		715	760		0,133	1,05

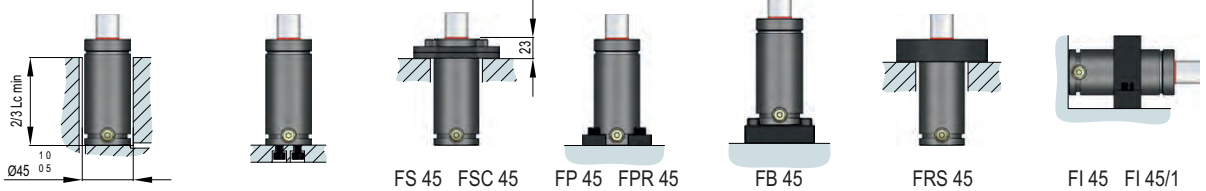
Force/stroke ratio

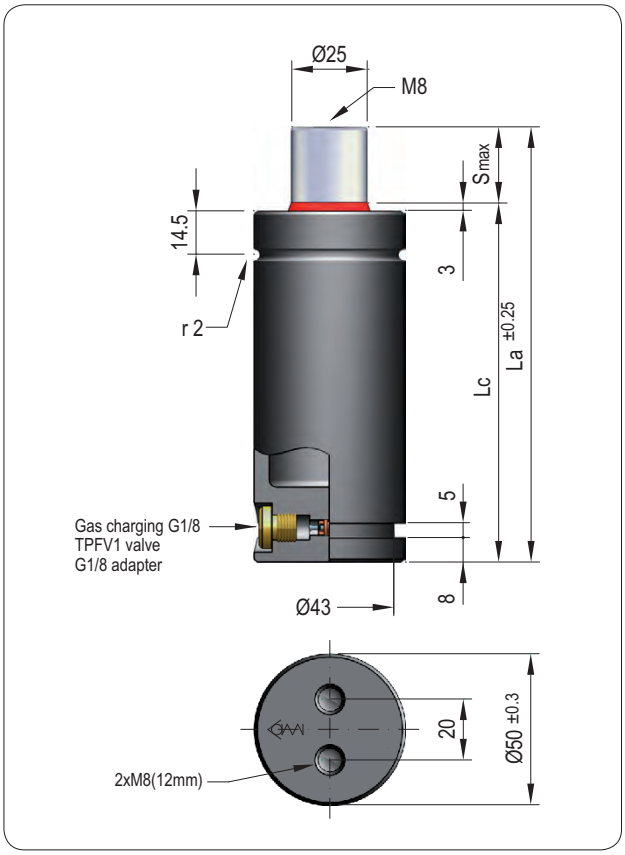


Initial force/charging pressure ratio



Assembly possibilities



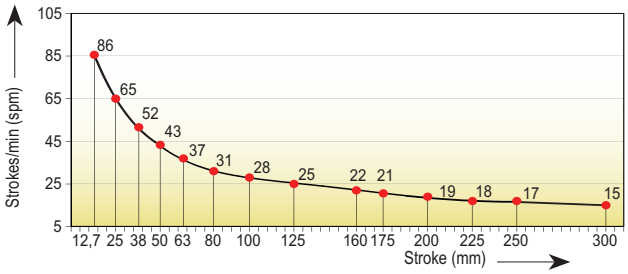


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S750

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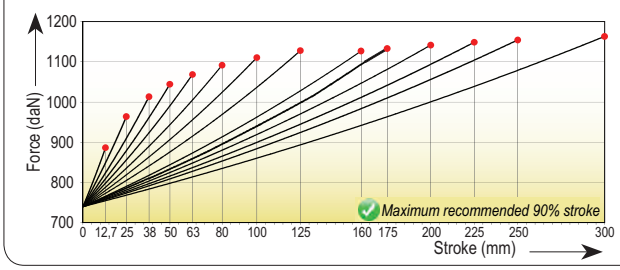


Maximum strokes / minute (at 20ºC)

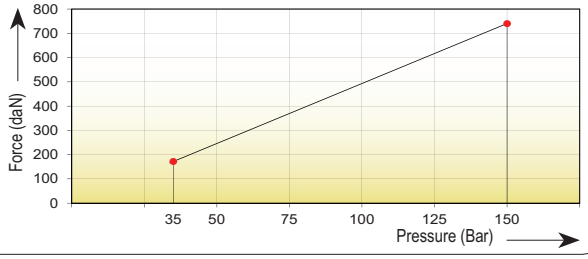


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 750x13	12,7	120,4	107,7	740 ±5% (20ºC)	865	880	150 (20ºC)	0,037	1,20
TPS 750x25	25	145	120		930	960		0,053	1,35
TPS 750x38	38	171	133		975	1010		0,069	1,40
TPS 750x50	50	195	145		1000	1040		0,084	1,52
TPS 750x63	63	222	159		1020	1065		0,101	1,70
TPS 750x80	80	255	175		1035	1085		0,122	1,82
TPS 750x100	100	295	195		1055	1105		0,147	1,85
TPS 750x125	125	345	220		1065	1120		0,178	2,20
TPS 750x160	160	415	255		1065	1120		0,229	2,30
TPS 750x175	175	445	270		1070	1130		0,248	2,65
TPS 750x200	200	495	295		1080	1135		0,279	3,10
TPS 750x225	225	545	320		1085	1145		0,310	3,27
TPS 750x250	250	595	345		1090	1150		0,342	3,60
TPS 750x300	300	695	395		1095	1160		0,405	4,15

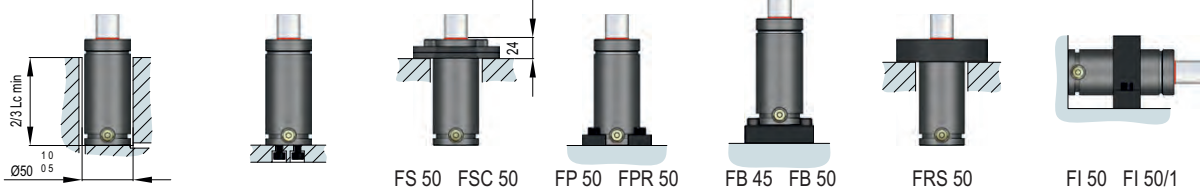
Force/stroke ratio



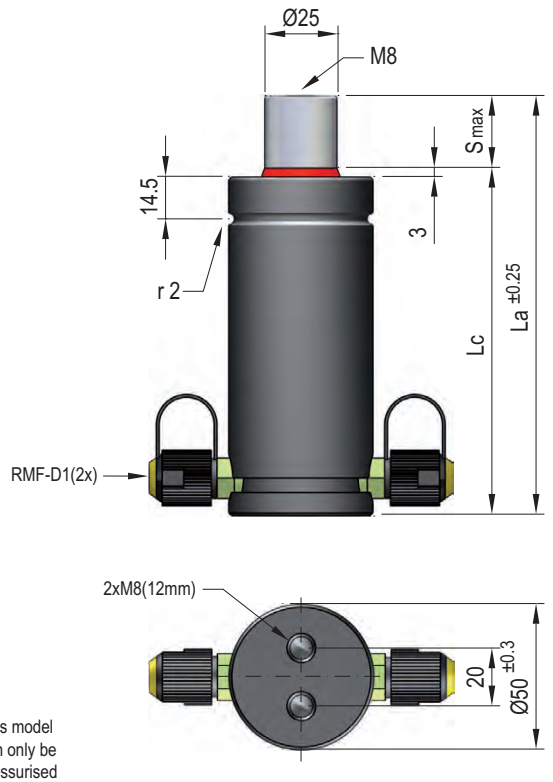
Initial force/charging pressure ratio



Assembly possibilities



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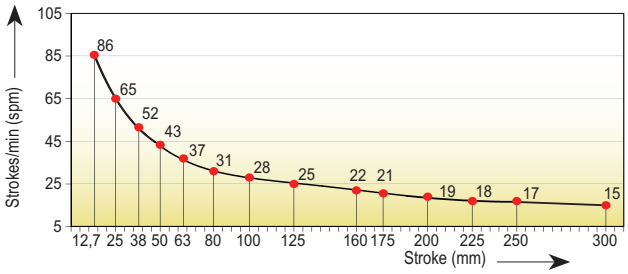
This model can only be pressurised through a control

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC750

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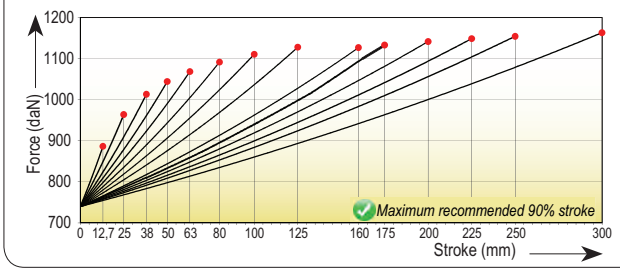


Maximum strokes / minute (at 20ºC)

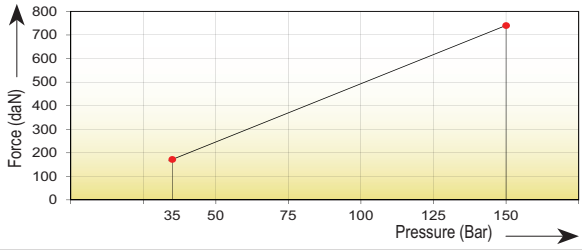


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSC 750x13	12,7	120,4	107,7	740 ±5% (20ºC)	865	880	150 (20ºC)	0,037	1,20
TPSC 750x25	25	145	120		930	960		0,053	1,35
TPSC 750x38	38	171	133		975	1010		0,069	1,40
TPSC 750x50	50	195	145		1000	1040		0,084	1,52
TPSC 750x63	63	222	159		1020	1065		0,101	1,70
TPSC 750x80	80	255	175		1035	1085		0,122	1,82
TPSC 750x100	100	295	195		1055	1105		0,147	1,85
TPSC 750x125	125	345	220		1065	1120		0,178	2,20
TPSC 750x160	160	415	255		1065	1120		0,229	2,30
TPSC 750x175	175	445	270		1070	1130		0,248	2,65
TPSC 750x200	200	495	295		1080	1135		0,279	3,10
TPSC 750x225	225	545	320		1085	1145		0,310	3,27
TPSC 750x250	250	595	345		1090	1150		0,342	3,60
TPSC 750x300	300	695	395		1095	1160		0,405	4,15

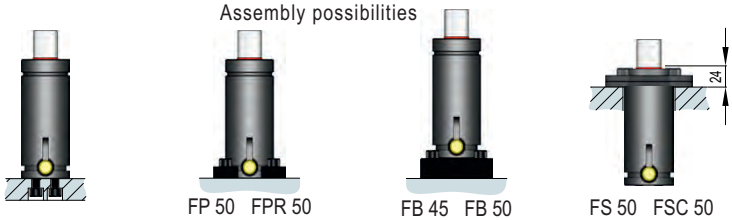
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

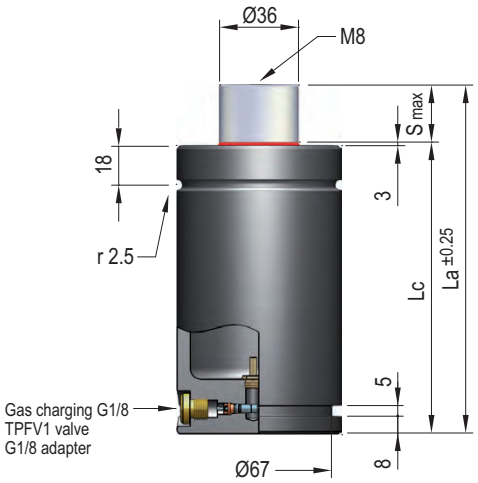


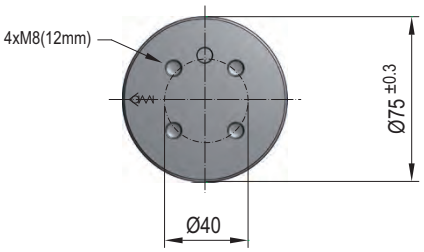
FP 50 FPR 50 FB 45 FB 50 FS 50 FSC 50

TECAPRES®

Ø75mm 1500daN

TPS 1500.1



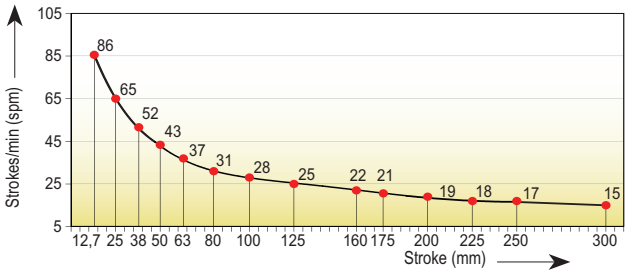


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S1500.1

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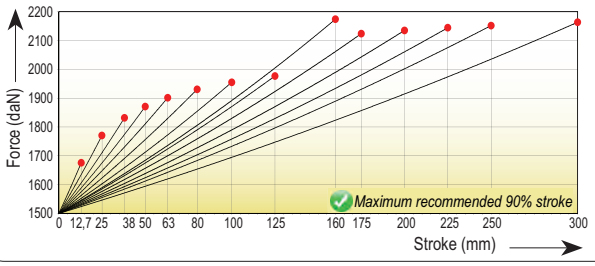


Maximum strokes / minute (at 20ºC)

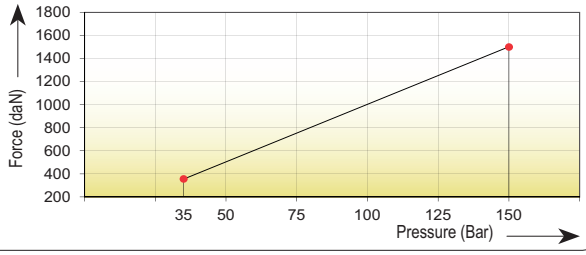


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 1500x13.1	12,7	135,4	122,7	1500 ±5% (20ºC)	1665	1685	148 (20ºC)	0,123	3,15
TPS 1500x25.1	25	160	135		1745	1780		0,167	3,30
TPS 1500x38.1	38	186	148		1800	1840		0,214	3,50
TPS 1500x50.1	50	210	160		1835	1880		0,257	3,65
TPS 1500x63.1	63	237	174		1860	1910		0,304	3,90
TPS 1500x80.1	80	270	190		1885	1940		0,365	4,45
TPS 1500x100.1	100	310	210		1905	1965		0,437	4,80
TPS 1500x125.1	125	360	235		1925	1985		0,527	5,36
TPS 1500x160.1	160	430	270		2090	2185		0,525	6,10
TPS 1500x175.1	175	460	285		2050	2135		0,606	6,55
TPS 1500x200.1	200	510	310		2060	2145		0,684	7,15
TPS 1500x225.1	225	560	335		2065	2155		0,762	7,45
TPS 1500x250.1	250	610	360		2070	2160		0,840	7,86
TPS 1500x300.1	300	710	410		2080	2175		0,996	8,66

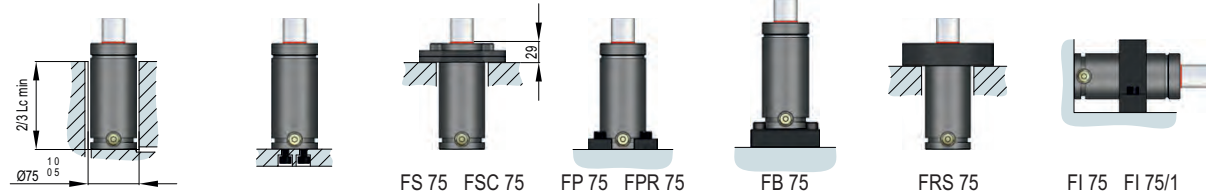
Force/stroke ratio



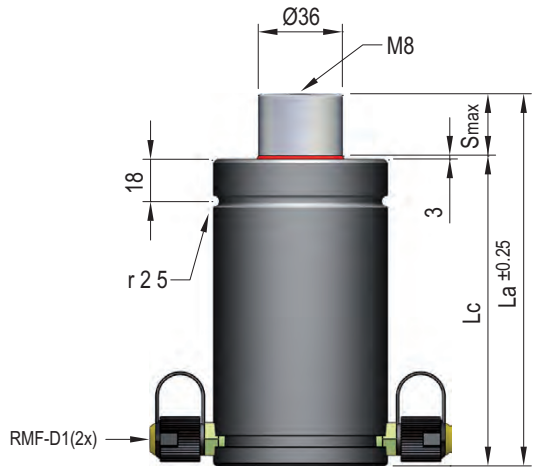
Initial force/charging pressure ratio

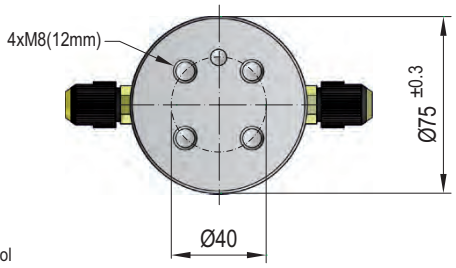


Assembly possibilities



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This model can only be pressurised through a control

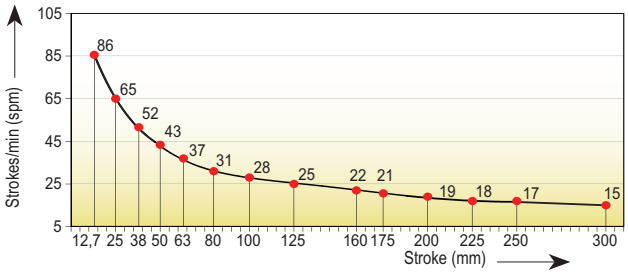
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC1500.1

PED 2014/68/UE

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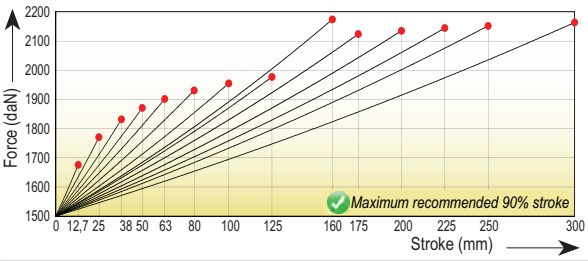


Maximum strokes / minute (at 20ºC)

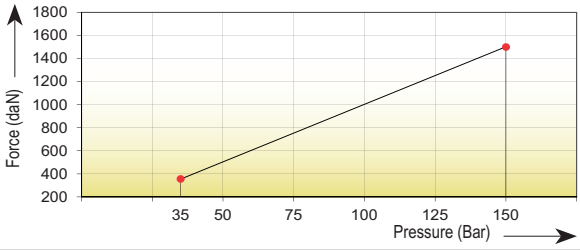


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSC 1500x13.1	12,7	135,4	122,7	1500 ±5% (20ºC)	1665	1685	148 (20ºC)	0,123	3,15
TPSC 1500x25.1	25	160	135		1745	1780		0,167	3,30
TPSC 1500x38.1	38	186	148		1800	1840		0,214	3,50
TPSC 1500x50.1	50	210	160		1835	1880		0,257	3,65
TPSC 1500x63.1	63	237	174		1860	1910		0,304	3,90
TPSC 1500x80.1	80	270	190		1885	1940		0,365	4,45
TPSC 1500x100.1	100	310	210		1905	1965		0,437	4,80
TPSC 1500x125.1	125	360	235		1925	1985		0,527	5,36
TPSC 1500x160.1	160	430	270		2090	2185		0,525	6,10
TPSC 1500x175.1	175	460	285		2050	2135		0,606	6,55
TPSC 1500x200.1	200	510	310		2060	2145		0,684	7,15
TPSC 1500x225.1	225	560	335		2065	2155		0,762	7,45
TPSC 1500x250.1	250	610	360		2070	2160		0,840	7,86
TPSC 1500x300.1	300	710	410		2080	2175		0,996	8,66

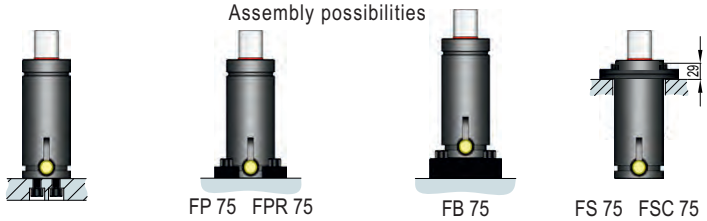
Force/stroke ratio

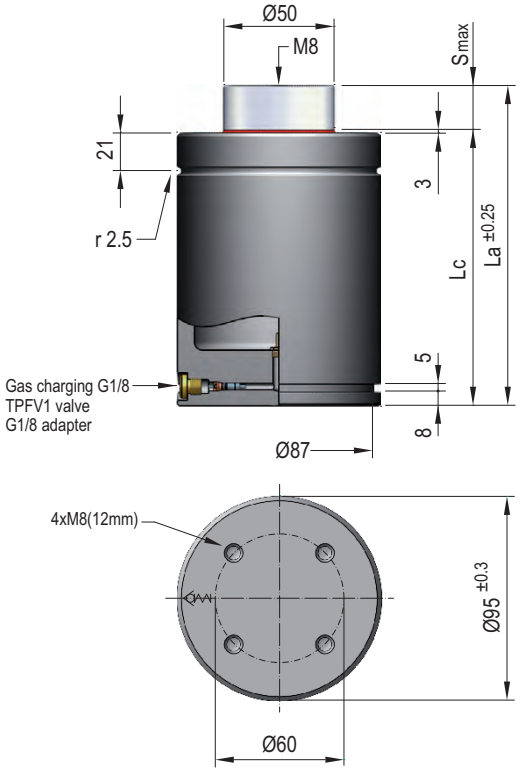


Initial force/charging pressure ratio



Assembly possibilities



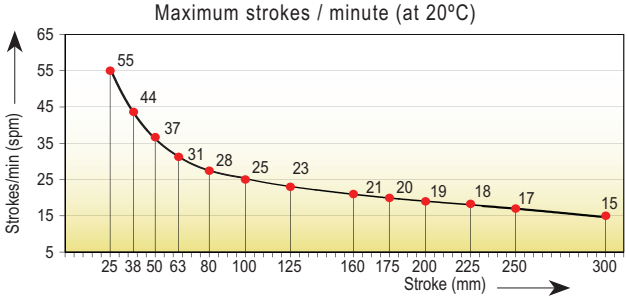


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S3000

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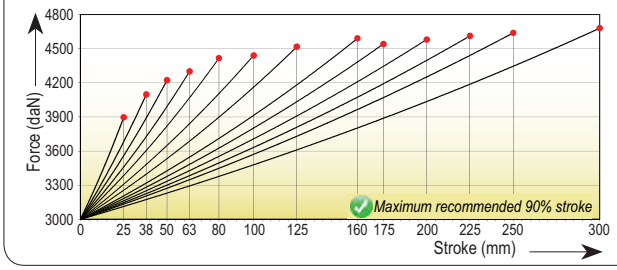


Maximum strokes / minute (at 20ºC)

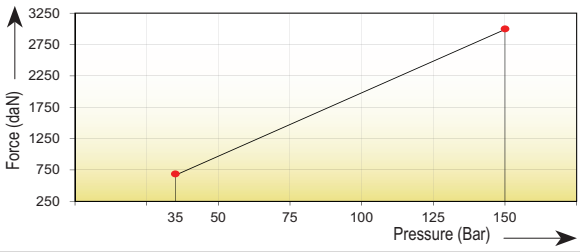


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 3000x25	25	170	145	3000 ±5% (20ºC)	3790	3900	150 (20ºC)	0,213	5,75
TPS 3000x38	38	196	158		3960	4105		0,279	6,15
TPS 3000x50	50	220	170		4065	4230		0,339	6,53
TPS 3000x63	63	247	184		4045	4220		0,409	6,91
TPS 3000x80	80	280	200		4225	4420		0,490	7,25
TPS 3000x100	100	320	220		4245	4445		0,605	8,00
TPS 3000x125	125	370	245		4305	4520		0,731	8,15
TPS 3000x160	160	440	280		4365	4595		0,907	9,24
TPS 3000x175	175	470	295		4325	4545		1,013	9,60
TPS 3000x200	200	520	320		4355	4585		1,138	10,31
TPS 3000x225	225	550	345		4385	4620		1,264	11,36
TPS 3000x250	250	620	370		4405	4645		1,390	11,90
TPS 3000x300	300	720	420		4440	4685		1,641	14,87

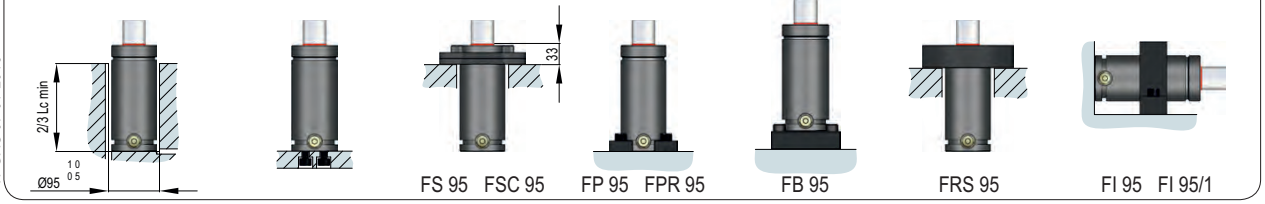
Force/stroke ratio

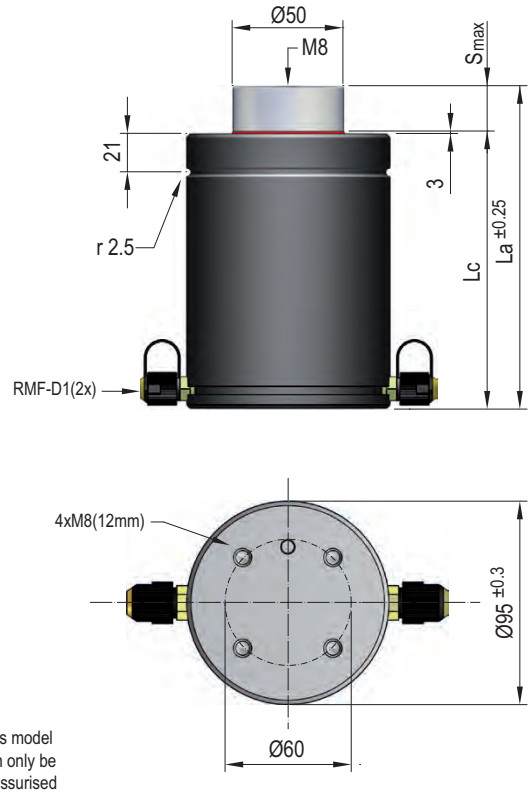


Initial force/charging pressure ratio



Assembly possibilities



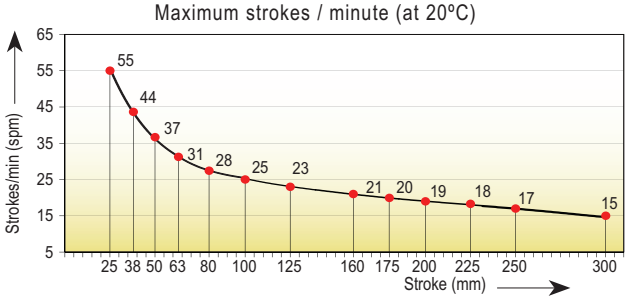


This model can only be pressurised through a control

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC3000

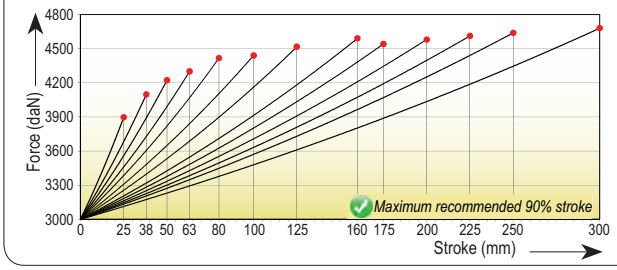
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VDI SAFETY
RE-50-80

Maximum strokes / minute (at 20ºC)

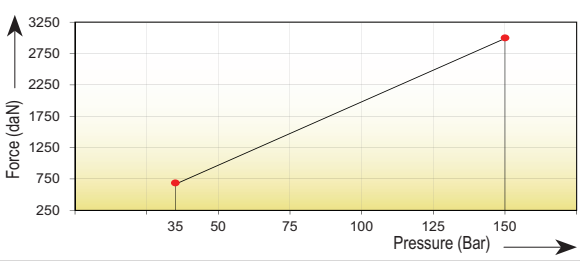


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSC 3000x25	25	170	145	3000 ±5% (20ºC)	3790	3900	150 (20ºC)	0,213	5,75
TPSC 3000x38	38	196	158		3960	4105		0,279	6,15
TPSC 3000x50	50	220	170		4065	4230		0,339	6,53
TPSC 3000x63	63	247	184		4045	4220		0,409	6,91
TPSC 3000x80	80	280	200		4225	4420		0,490	7,25
TPSC 3000x100	100	320	220		4245	4445		0,605	8,00
TPSC 3000x125	125	370	245		4305	4520		0,731	8,15
TPSC 3000x160	160	440	280		4365	4595		0,907	9,24
TPSC 3000x175	175	470	295		4325	4545		1,013	9,60
TPSC 3000x200	200	520	320		4355	4585		1,138	10,31
TPSC 3000x225	225	550	345		4385	4620		1,264	11,36
TPSC 3000x250	250	620	370		4405	4645		1,390	11,90
TPSC 3000x300	300	720	420		4440	4685		1,641	14,87

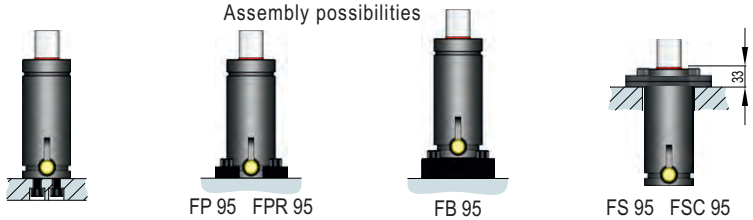
Force/stroke ratio

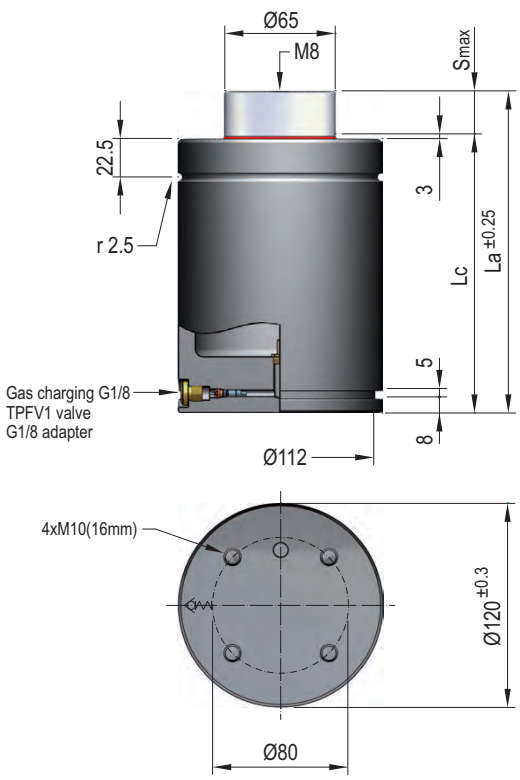


Initial force/charging pressure ratio



Assembly possibilities



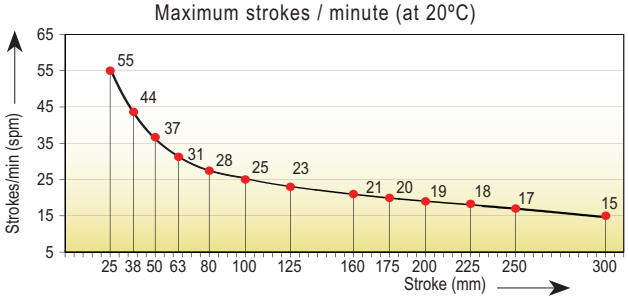


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	33,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S5000

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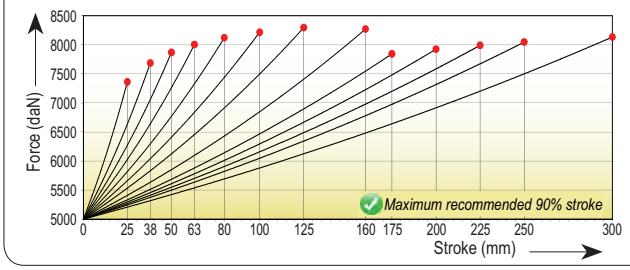


Maximum strokes / minute (at 20ºC)

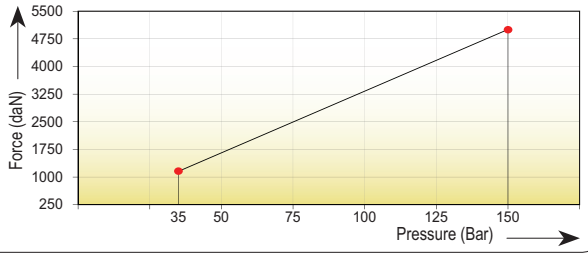


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 5000x25	25	190	165	5000 ±5% (20ºC)	7000	7330	150 (20ºC)	0,258	12,01
TPS 5000x38	38	216	178		7265	7655		0,361	12,85
TPS 5000x50	50	240	190		7410	7835		0,455	13,60
TPS 5000x63	63	267	204		7515	7970		0,557	14,50
TPS 5000x80	80	300	220		7610	8085		0,690	15,39
TPS 5000x100	100	340	240		7685	8180		0,847	16,48
TPS 5000x125	125	390	265		7750	8260		1,044	18,05
TPS 5000x160	160	460	300		7730	8235		1,342	19,83
TPS 5000x175	175	490	315		7390	7810		1,601	20,11
TPS 5000x200	200	540	340		7455	7890		1,798	21,70
TPS 5000x225	225	590	365		7505	7955		1,994	22,60
TPS 5000x250	250	640	390		7550	8010		2,191	23,85
TPS 5000x300	300	740	440		7620	8100		2,583	25,60

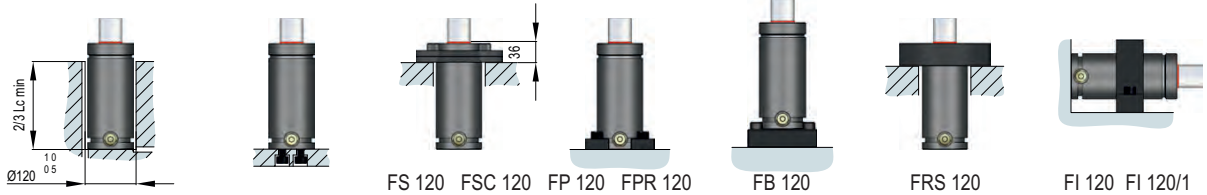
Force/stroke ratio



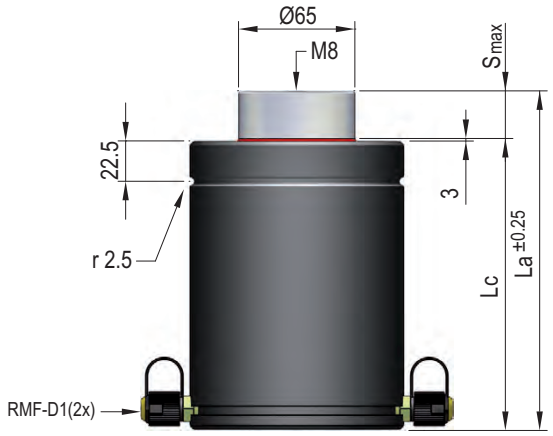
Initial force/charging pressure ratio

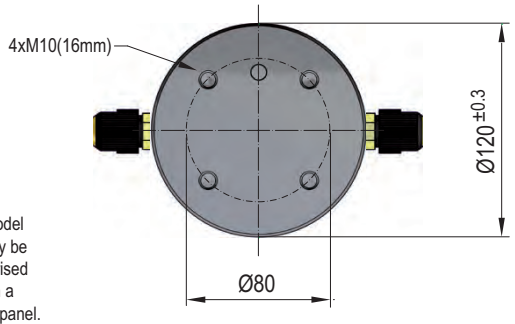


Assembly possibilities



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This model can only be pressurised through a control panel.

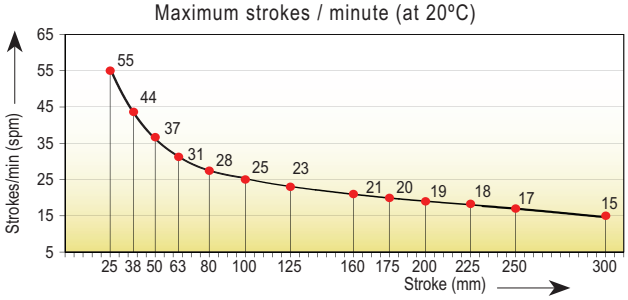
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	33,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC5000

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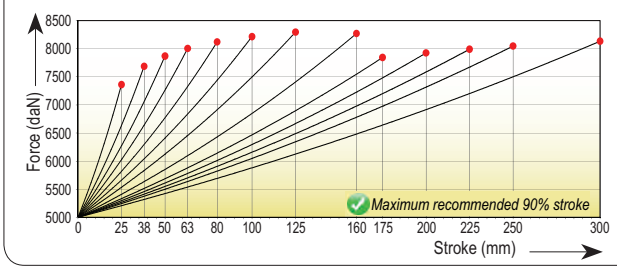


Maximum strokes / minute (at 20ºC)

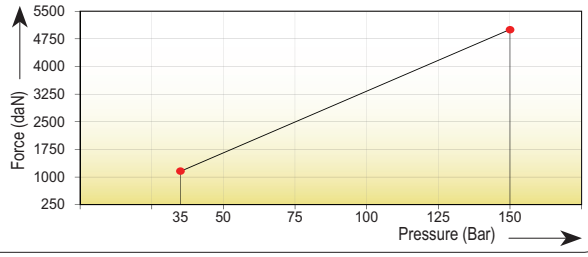


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSC 5000x25	25	190	165	5000 ±5% (20ºC)	7000	7330	150 (20ºC)	0,258	12,01
TPSC 5000x38	38	216	178		7265	7655		0,361	12,85
TPSC 5000x50	50	240	190		7410	7835		0,455	13,60
TPSC 5000x63	63	267	204		7515	7970		0,557	14,50
TPSC 5000x80	80	300	220		7610	8085		0,690	15,39
TPSC 5000x100	100	340	240		7685	8180		0,847	16,48
TPSC 5000x125	125	390	265		7750	8260		1,044	18,05
TPSC 5000x160	160	460	300		7730	8235		1,342	19,83
TPSC 5000x175	175	490	315		7390	7810		1,601	20,11
TPSC 5000x200	200	540	340		7455	7890		1,798	21,70
TPSC 5000x225	225	590	365		7505	7955		1,994	22,60
TPSC 5000x250	250	640	390		7550	8010		2,191	23,85
TPSC 5000x300	300	740	440		7620	8100		2,583	25,60

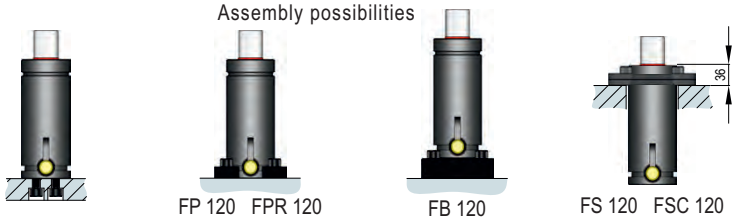
Force/stroke ratio



Initial force/charging pressure ratio



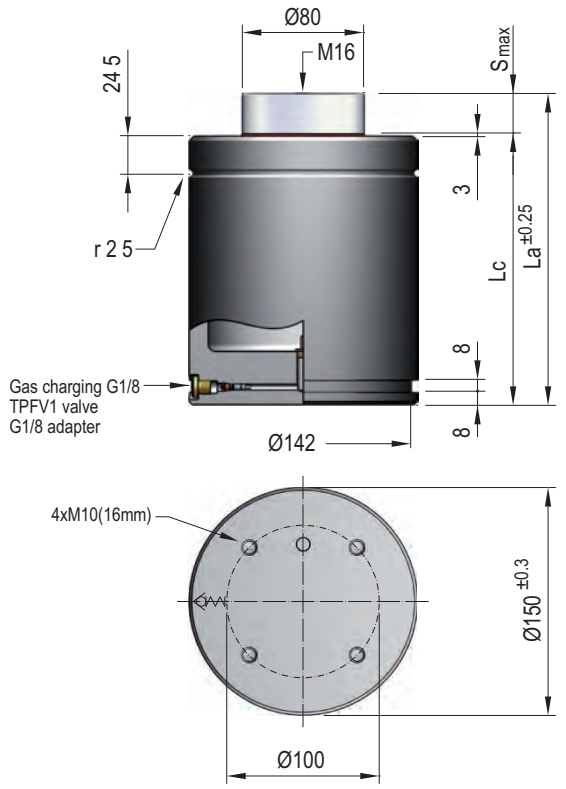
Assembly possibilities



TECAPRES®

Ø150mm
7500daN

TPS 7500

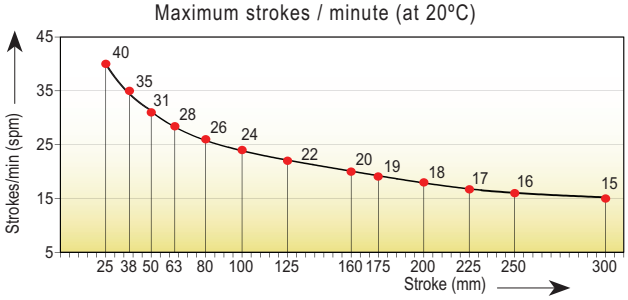


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	50,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S7500

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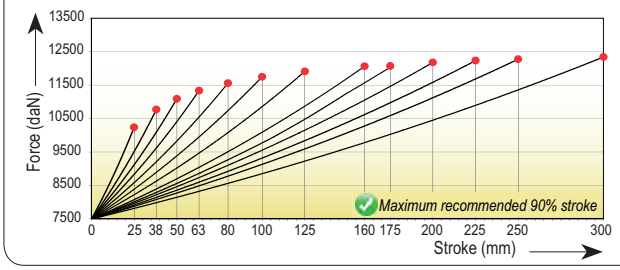


Maximum strokes / minute (at 20ºC)

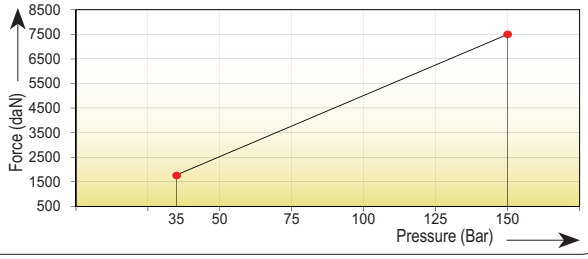


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 7500x25	25	205	180	7500 ±5% (20ºC)	9935	10295	150 (20ºC)	0,469	19,50
TPS 7500x38	38	231	193		10375	10830		0,629	20,60
TPS 7500x50	50	255	205		10640	11150		0,776	21,50
TPS 7500x63	63	282	219		10845	11400		0,936	22,30
TPS 7500x80	80	315	235		11030	11625		1,144	23,70
TPS 7500x100	100	355	255		11180	11815		1,390	25,40
TPS 7500x125	125	405	280		11310	11975		1,697	27,00
TPS 7500x160	160	475	315		11430	12130		2,126	30,60
TPS 7500x175	175	505	330		11470	12175		2,310	31,40
TPS 7500x200	200	555	355		11525	12245		2,617	37,40
TPS 7500x225	225	605	380		11565	12295		2,924	35,60
TPS 7500x250	250	655	405		11600	12340		3,230	37,40
TPS 7500x300	300	755	455		11655	12405		3,844	40,10

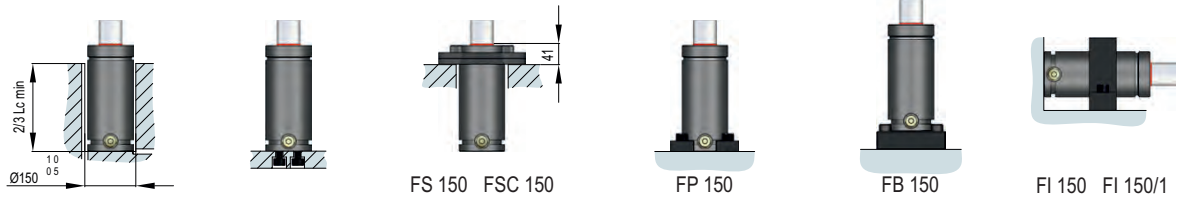
Force/stroke ratio



Initial force/charging pressure ratio



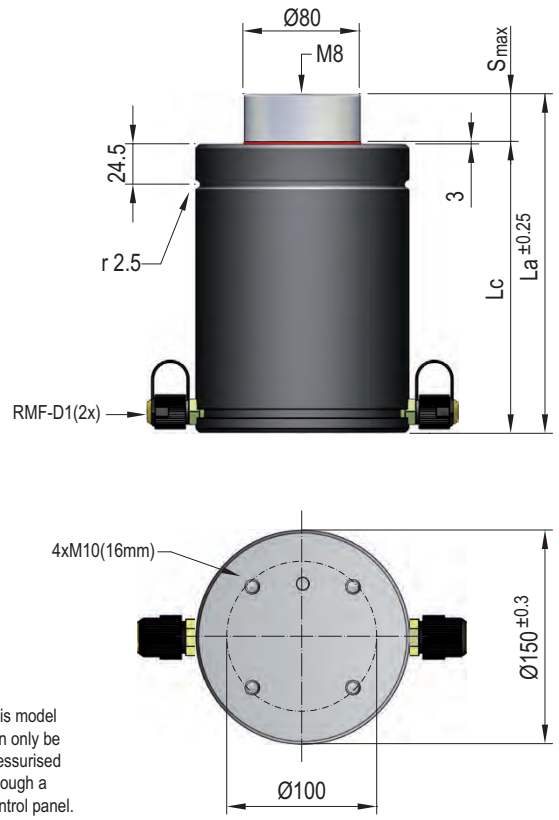
Assembly possibilities



FS 150 FSC 150 · FP 150 · FB 150 · FI 150 FI 150/1

TPGAS 07 01-2018

Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com



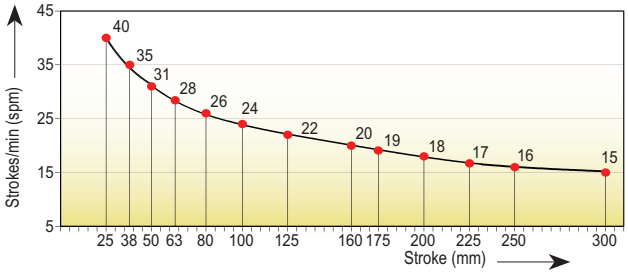
This model can only be pressurised through a control panel.

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	50,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC7500

PED 2014/68/UE
CNOMO E.24.54.815.G

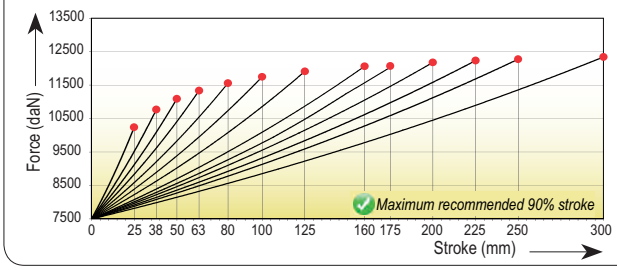


Maximum strokes / minute (at 20ºC)

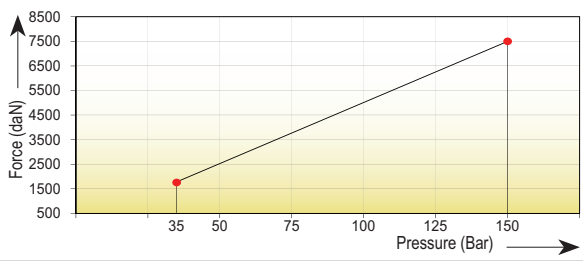


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSC 7500x25	25	205	180	7500 ±5% (20ºC)	9935	10295	150 (20ºC)	0,469	19,50
TPSC 7500x38	38	231	193		10375	10830		0,629	20,60
TPSC 7500x50	50	255	205		10640	11150		0,776	21,50
TPSC 7500x63	63	282	219		10845	11400		0,936	22,30
TPSC 7500x80	80	315	235		11030	11625		1,144	23,70
TPSC 7500x100	100	355	255		11180	11815		1,390	25,40
TPSC 7500x125	125	405	280		11310	11975		1,697	27,00
TPSC 7500x160	160	475	315		11430	12130		2,126	30,60
TPSC 7500x175	175	505	330		11470	12175		2,310	31,40
TPSC 7500x200	200	555	355		11525	12245		2,617	37,40
TPSC 7500x225	225	605	380		11565	12295		2,924	35,60
TPSC 7500x250	250	655	405		11600	12340		3,230	37,40
TPSC 7500x300	300	755	455		11655	12405		3,844	40,10

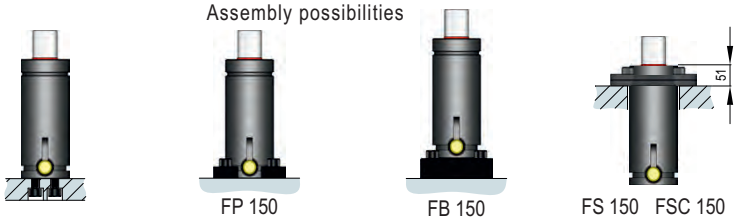
Force/stroke ratio

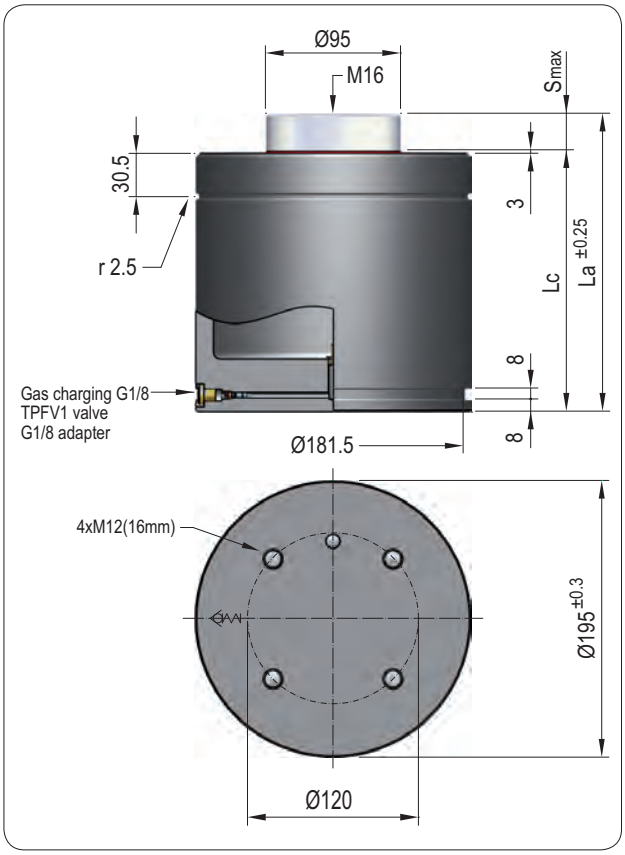


Initial force/charging pressure ratio



Assembly possibilities



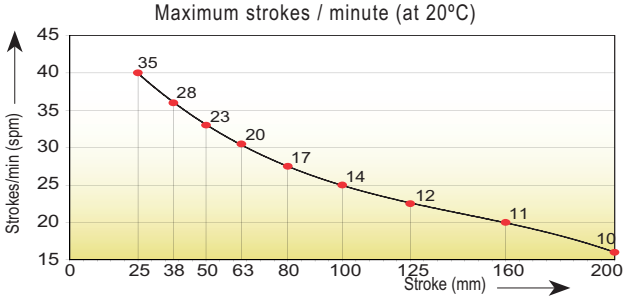


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	70,88 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit S10000

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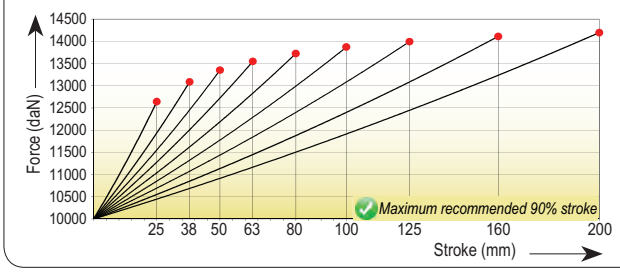


Maximum strokes / minute (at 20ºC)

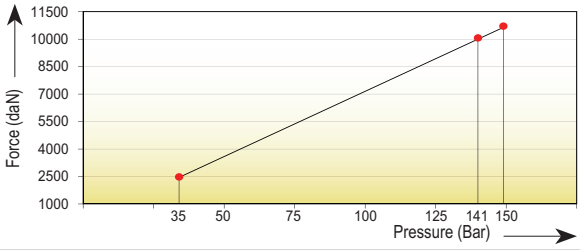


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 10000x25	25	210	185	10000 ±5% (20ºC)	12310	12635	141 (20ºC)	0,848	35,60
TPS 10000x38	38	236	198		12690	13085		1,141	37,30
TPS 10000x50	50	260	210		12910	13345		1,412	39,10
TPS 10000x63	63	287	224		13075	13540		1,705	41,20
TPS 10000x80	80	320	240		13225	13720		2,089	43,50
TPS 10000x100	100	360	260		13345	13865		2,540	46,10
TPS 10000x125	125	410	285		13450	13985		3,104	50,50
TPS 10000x160	160	480	320		13545	14100		3,894	55,90
TPS 10000x200	200	560	360		13615	14190		4,797	61,30
(Other strokes under order)									

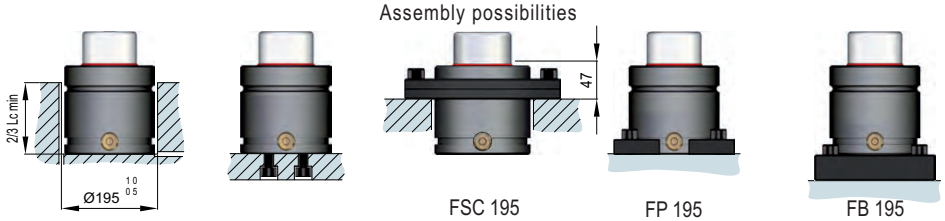
Force/stroke ratio



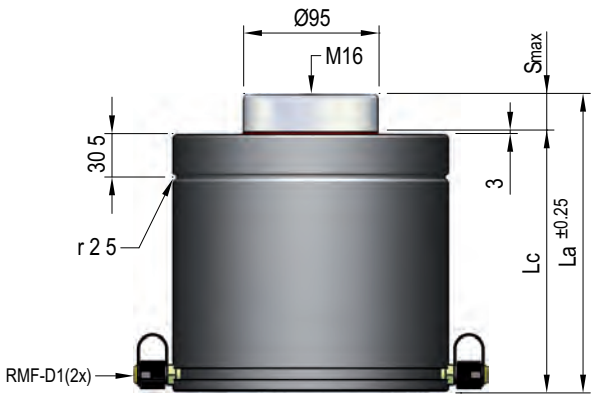
Initial force/charging pressure ratio

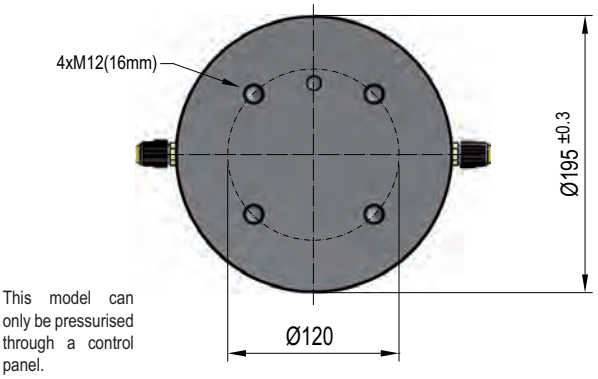


Assembly possibilities



TPGAS 07 01-2018





This model can only be pressurised through a control panel.

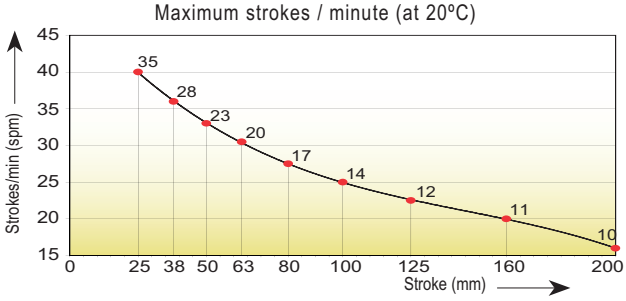
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	70,88 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC10000

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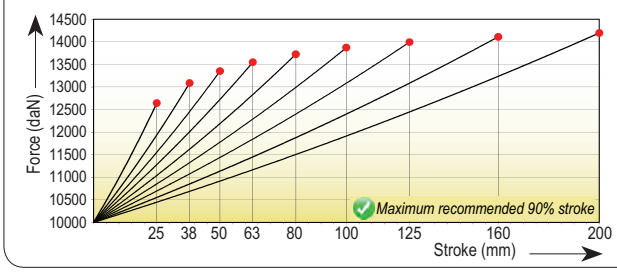


Maximum strokes / minute (at 20ºC)

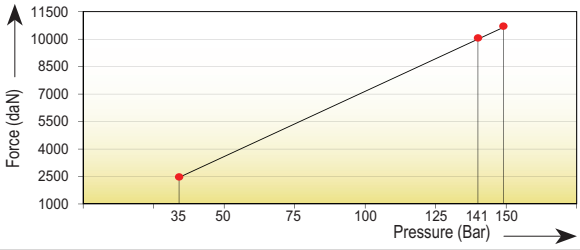


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSC 10000x25	25	210	185		12310	12635		0,848	35,60
TPSC 10000x38	38	236	198		12690	13085		1,141	37,30
TPSC 10000x50	50	260	210		12910	13345		1,412	39,10
TPSC 10000x63	63	287	224	10000 ±5%	13075	13540	141	1,705	41,20
TPSC 10000x80	80	320	240	(20ºC)	13225	13720	(20ºC)	2,089	43,50
TPSC 10000x100	100	360	260		13345	13865		2,540	46,10
TPSC 10000x125	125	410	285		13450	13985		3,104	50,50
TPSC 10000x160	160	480	320		13545	14100		3,894	55,90
TPSC 10000x200	200	560	360		13615	14190		4,797	61,30
(Other strokes under order)									

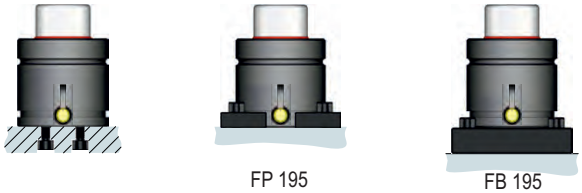
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



PED 2014/68/UE



ISO

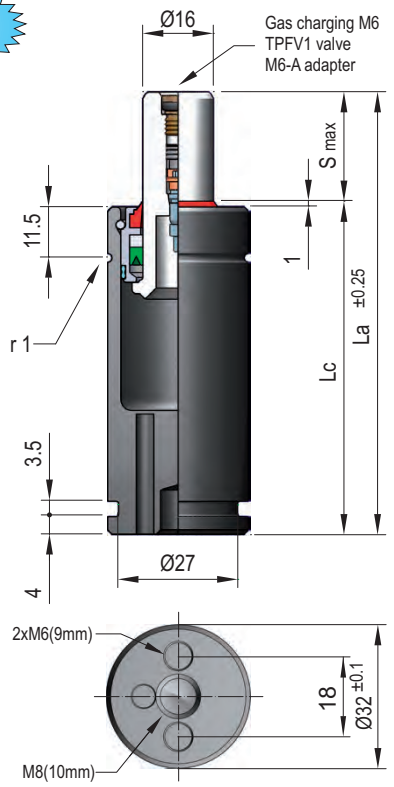
VDI

ISO POWER

ISO gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY			ISO STANDARD
TPSP 300.1	32	10 - 125	300	√	√		√	
TPSP 500.1	38	10 - 125	470	√	√	√	√	
TPSP 750	45	13 - 160	740	√	√	√	√	
TPSP 1000.1	50	13 - 300	920	√	√	√	√	
TPSP 1500	63	13 - 160	1500	√	√	√	√	
TPSP 2400	75	25 - 300	2400	√	√	√	√	√
TPSP 4200	95	25 - 300	4200	√	√	√	√	√
TPSP 6600	120	25 - 300	6600	√	√	√	√	√
TPSP 9500	150	25 - 300	9500	√	√	√	√	√
TPSP 20000	195	25 - 200	20000	√	√	√		

ISO POWER

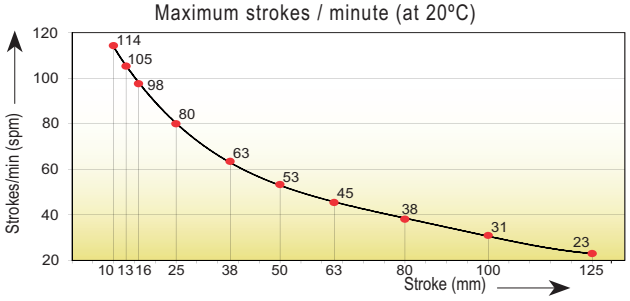


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP300.1

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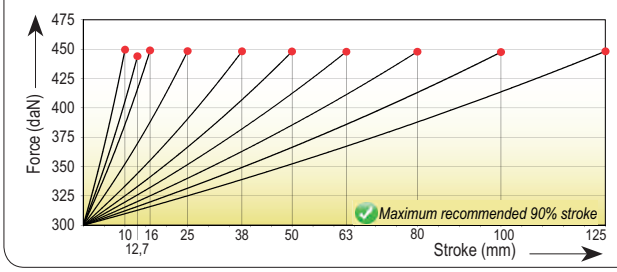


Maximum strokes / minute (at 20ºC)

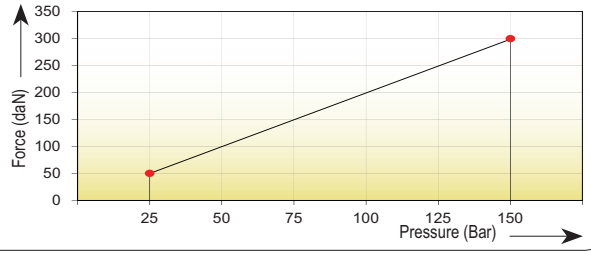


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 300x10.1	10	70	60	300 ±5% (20ºC)	430	450	150 (20ºC)	0,006	0,31
TPSP 300x13.1	13	75,4	62,7		425	445		0,008	0,33
TPSP 300x16.1	16	82	66		430	450		0,010	0,34
TPSP 300x25.1	25	100	75		430	450		0,015	0,38
TPSP 300x38.1	38	126	88		430	450		0,023	0,43
TPSP 300x50.1	50	150	100		430	450		0,030	0,48
TPSP 300x63.1	63	176	113		430	450		0,038	0,53
TPSP 300x80.1	80	210	130		430	450		0,049	0,61
TPSP 300x100.1	100	250	150		430	450		0,061	0,77
TPSP 300x125.1	125	300	175		430	450		0,076	0,89

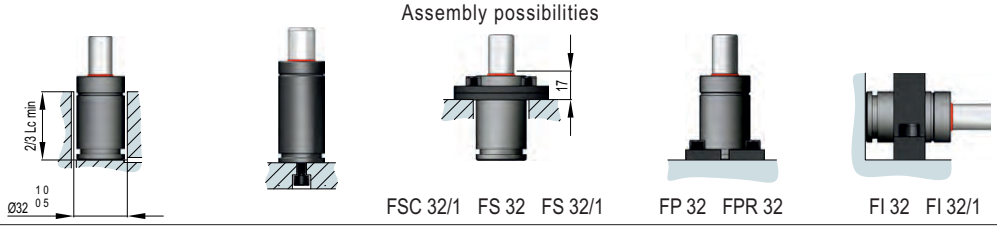
Force/stroke ratio

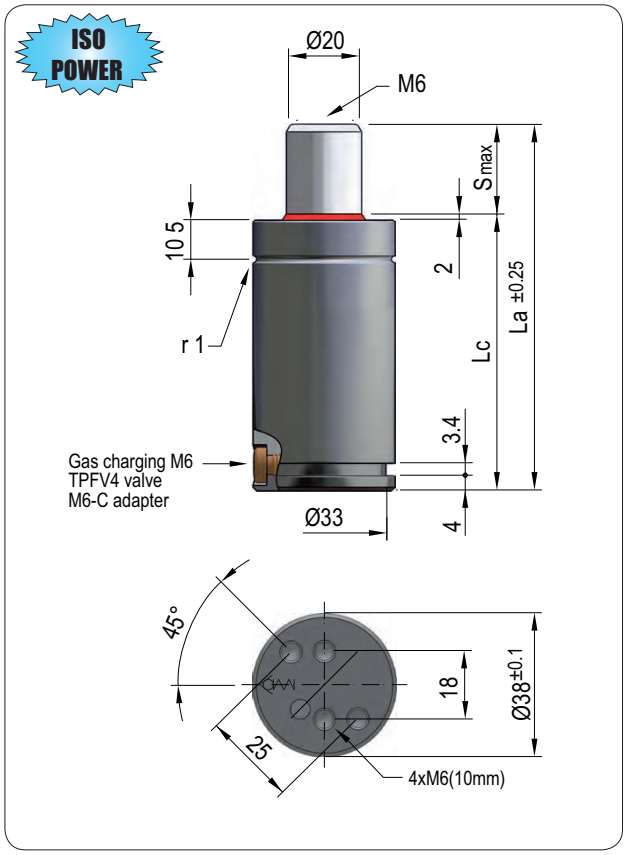


Initial force/charging pressure ratio



Assembly possibilities



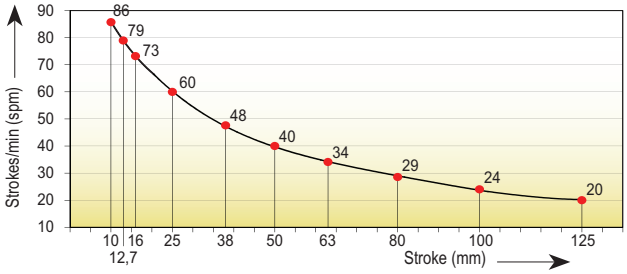


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP500.1

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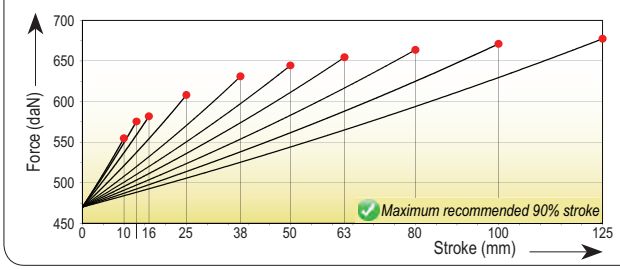


Maximum strokes / minute (at 20ºC)

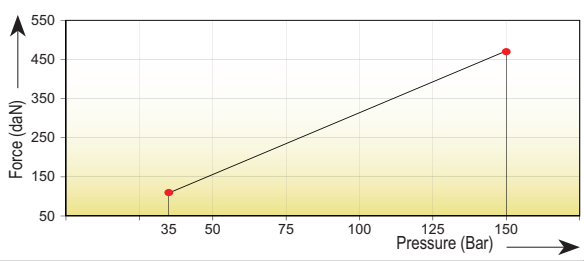


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 500x10.1	10	70	60		545	555		0,021	0,43
TPSP 500x13.1	12,7	75,4	62,7		565	575		0,022	0,44
TPSP 500x16.1	16	82	66		570	585		0,026	0,46
TPSP 500x25.1	25	100	75		590	610		0,035	0,51
TPSP 500x38.1	38	126	88	470 ±5%	610	635	150	0,047	0,59
TPSP 500x50.1	50	150	100	(20ºC)	625	645	(20ºC)	0,058	0,66
TPSP 500x63.1	63	177	114		630	655		0,070	0,73
TPSP 500x80.1	80	210	130		640	665		0,086	0,83
TPSP 500x100.1	100	250	150		645	675		0,105	0,96
TPSP 500x125.1	125	300	175		650	680		0,128	1,05

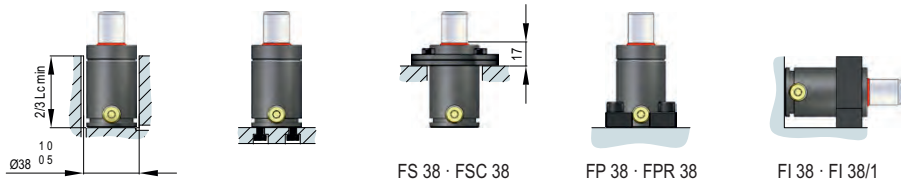
Force/stroke ratio

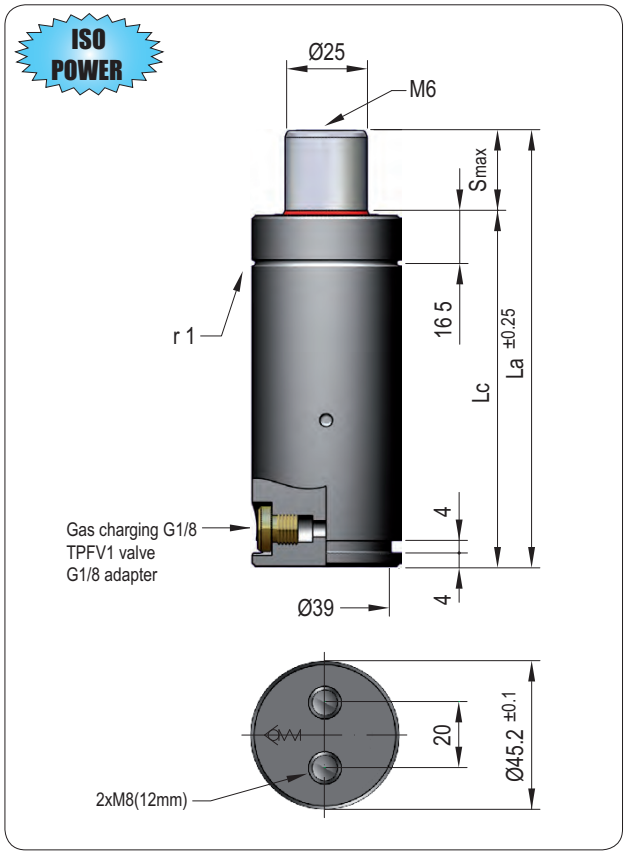


Initial force/charging pressure ratio



Assembly possibilities



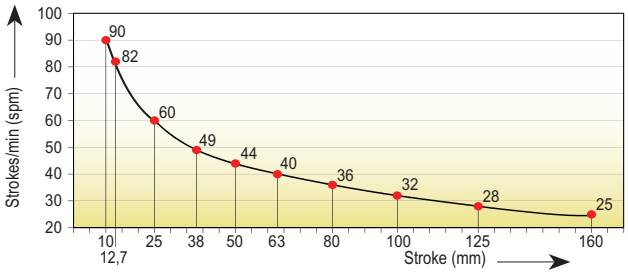


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP750

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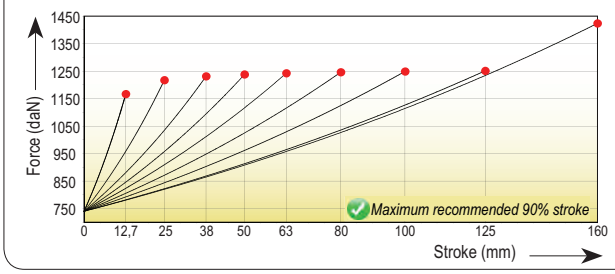


Maximum strokes / minute (at 20ºC)

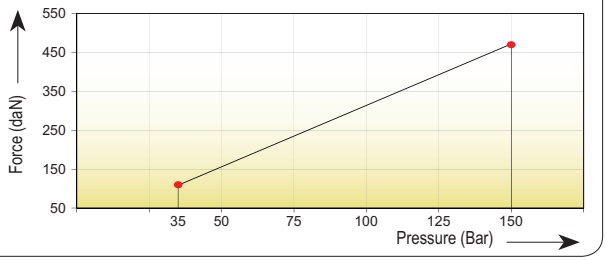


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 750x13	12,7	110,4	97,7	740 ±5% (20ºC)	1105	1170	150 (20ºC)	0,017	0,90
TPSP 750x25	25	135	110		1145	1220		0,031	0,98
TPSP 750x38	38	161	123		1155	1235		0,047	1,02
TPSP 750x50	50	185	135		1160	1240		0,061	1,15
TPSP 750x63	63	212	149		1165	1245		0,077	1,24
TPSP 750x80	80	245	165		1170	1250		0,097	1,35
TPSP 750x100	100	285	185		1170	1250		0,121	1,60
TPSP 750x125	125	335	210		1170	1255		0,150	1,70
TPSP 750x160	160	405	245		1305	1425		0,163	2,20

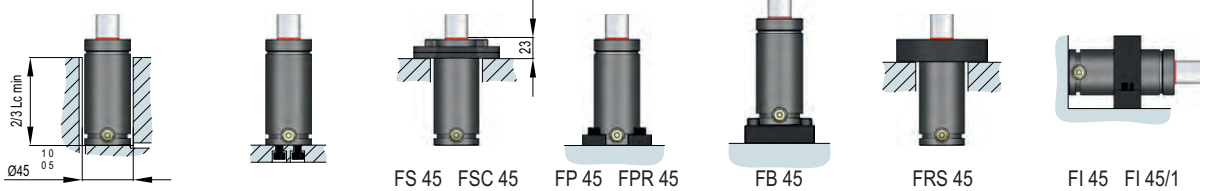
Force/stroke ratio

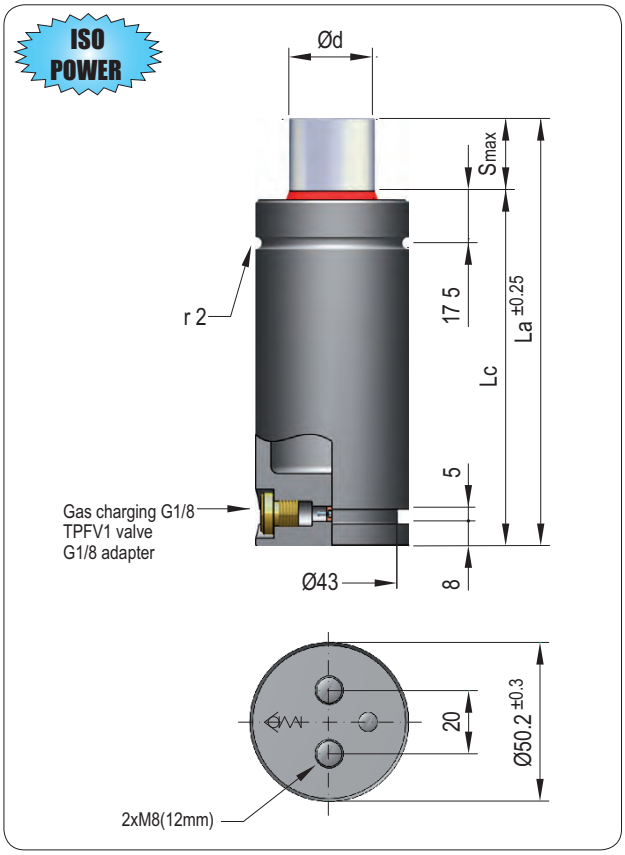


Initial force/charging pressure ratio



Assembly possibilities



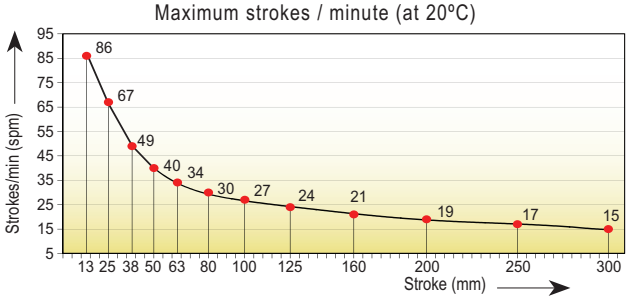


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	Ø28mm - 6,16 cm² Ø30mm - 7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Ø28mm-Kit SP1000/28 Ø30mm-Kit SP1000/30

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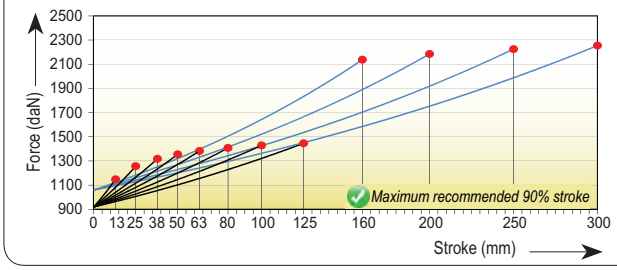


Maximum strokes / minute (at 20ºC)

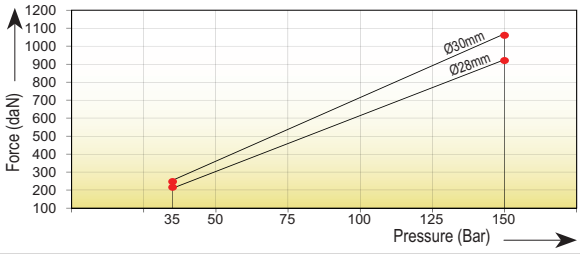


Code	Smax mm	La mm	Lc mm	d mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 1000x13.1	13	120,4	107,7	28		1120	1145		0,040	1,25
TPSP 1000x25.1	25	145	120	28		1220	1260		0,057	1,40
TPSP 1000x38.1	38	171	133	28		1270	1325		0,077	1,45
TPSP 1000x50.1	50	195	145	28	920 ±5%	1300	1360		0,096	1,57
TPSP 1000x63.1	63	222	159	28	(20ºC)	1320	1390		0,116	1,75
TPSP 1000x80.1	80	255	175	28		1340	1415	150	0,142	1,87
TPSP 1000x100.1	100	295	195	28		1360	1435	(20ºC)	0,173	1,90
TPSP 1000x125.1	125	345	220	28		1375	1450		0,211	2,25
TPSP 1000x160.1	160	415	255	30		1940	2140		0,224	2,35
TPSP 1000x200.1	200	495	295	30	1060 ±5%	1975	2185		0,275	2,50
TPSP 1000x250.1	250	595	345	30	(20ºC)	2005	2225		0,337	3,25
TPSP 1000x300.1	300	695	395	30		2025	2255		0,400	3,95

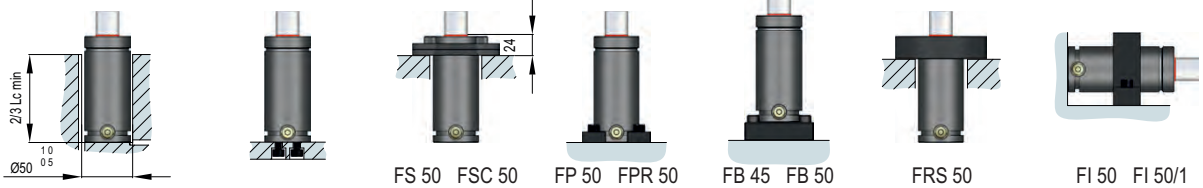
Force/stroke ratio

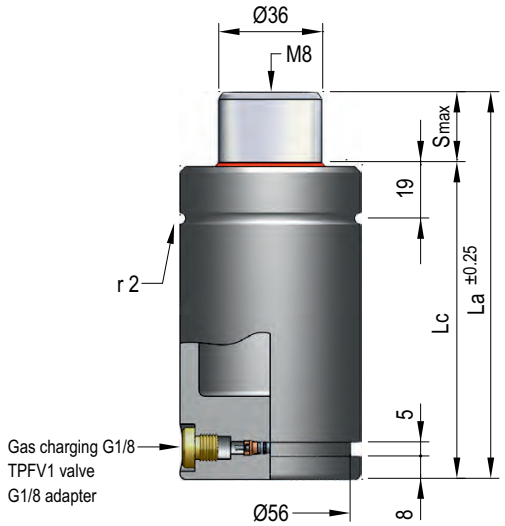


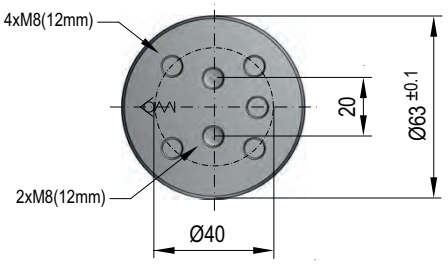
Initial force/charging pressure ratio



Assembly possibilities





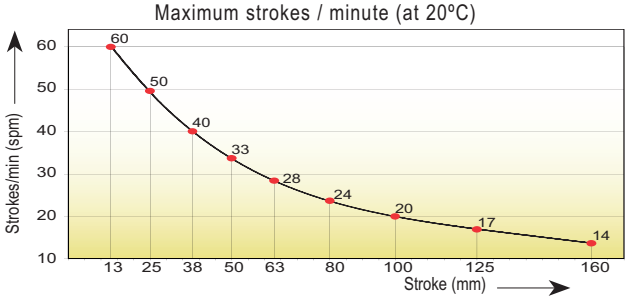


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP1500

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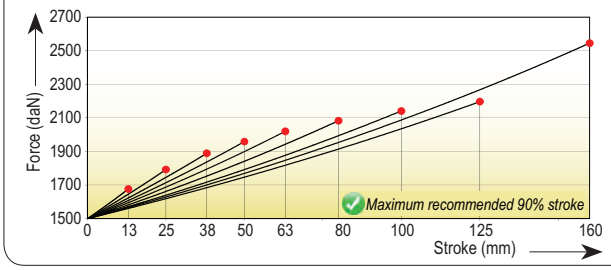


Maximum strokes / minute (at 20ºC)

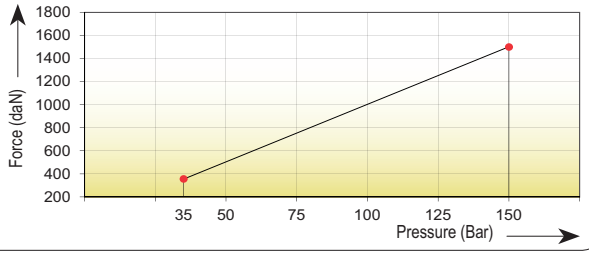


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 1500x13	13	121	108	1500 ±5% (20ºC)	1660	1680	148 (20ºC)	0,126	1,96
TPSP 1500x25	25	145	120		1765	1800		0,156	2,20
TPSP 1500x38	38	171	133		1850	1895		0,188	2,36
TPSP 1500x50	50	195	145		1910	1965		0,217	2,44
TPSP 1500x63	63	221	158		1960	2030		0,249	2,55
TPSP 1500x80	80	255	175		2015	2090		0,291	2,61
TPSP 1500x100	100	295	195		2060	2150		0,340	3,25
TPSP 1500x125	125	345	220		2110	2205		0,401	4,06
TPSP 1500x160	160	415	255		2390	2555		0,397	5,23

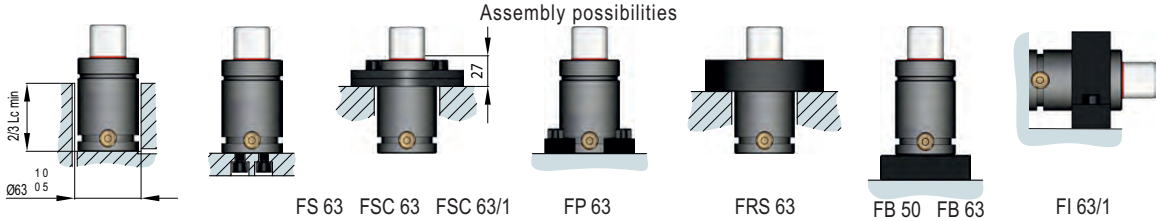
Force/stroke ratio

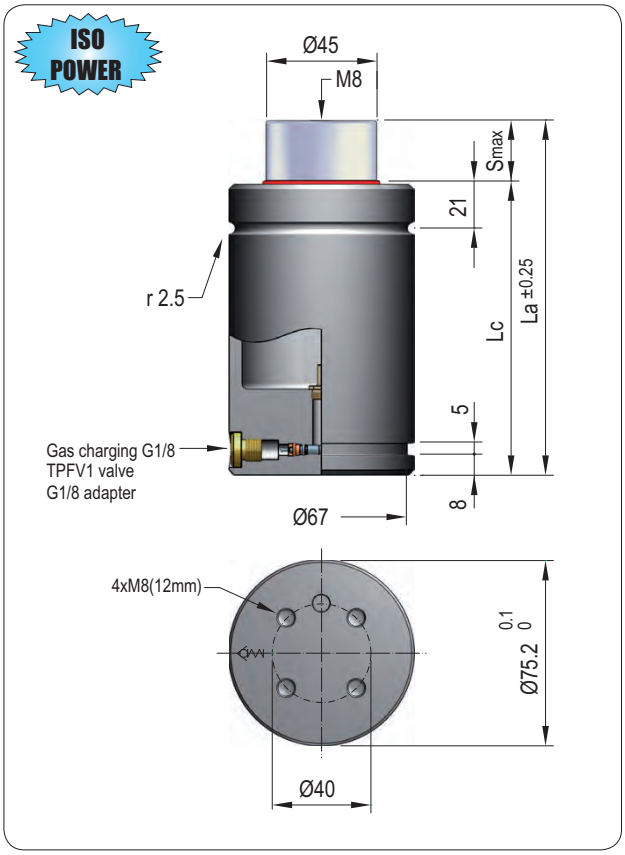


Initial force/charging pressure ratio



Assembly possibilities



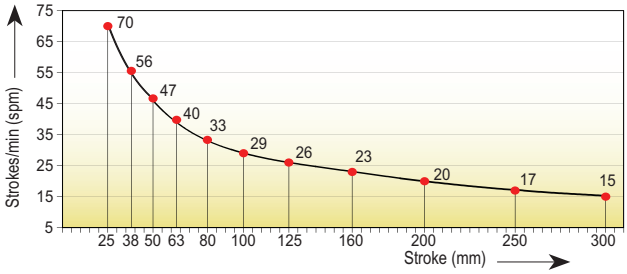


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP2400

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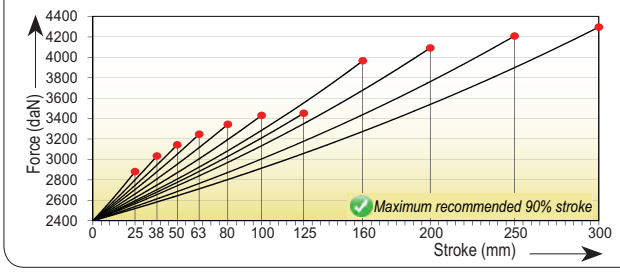


Maximum strokes / minute (at 20ºC)

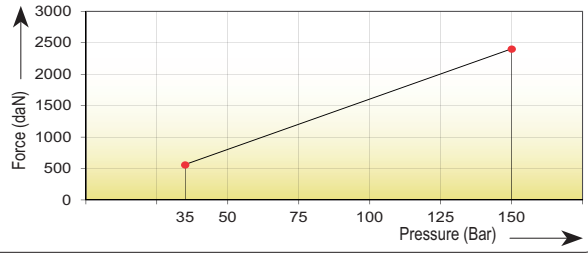


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 2400x25	25	160	135	2400 ±5% (20ºC)	2810	2865	150 (20ºC)	0,238	3,50
TPSP 2400x38	38	186	148		2940	3015		0,289	3,70
TPSP 2400x50	50	210	160		3030	3125		0,336	3,85
TPSP 2400x63	63	237	174		3120	3230		0,384	4,10
TPSP 2400x80	80	270	190		3200	3325		0,451	4,65
TPSP 2400x100	100	310	210		3270	3410		0,529	5,00
TPSP 2400x125	125	360	235		3290	3430		0,652	5,56
TPSP 2400x160	160	430	270		3700	3940		0,645	6,24
TPSP 2400x200	200	510	310		3800	4070		0,769	7,36
TPSP 2400x250	250	610	360		3890	4185		0,925	8,12
TPSP 2400x300	300	710	410		3960	4270		1,081	9,05

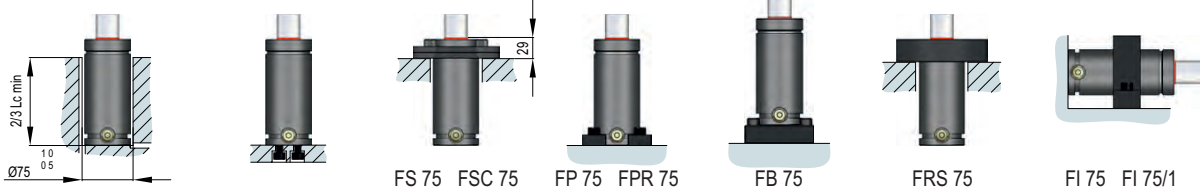
Force/stroke ratio



Initial force/charging pressure ratio



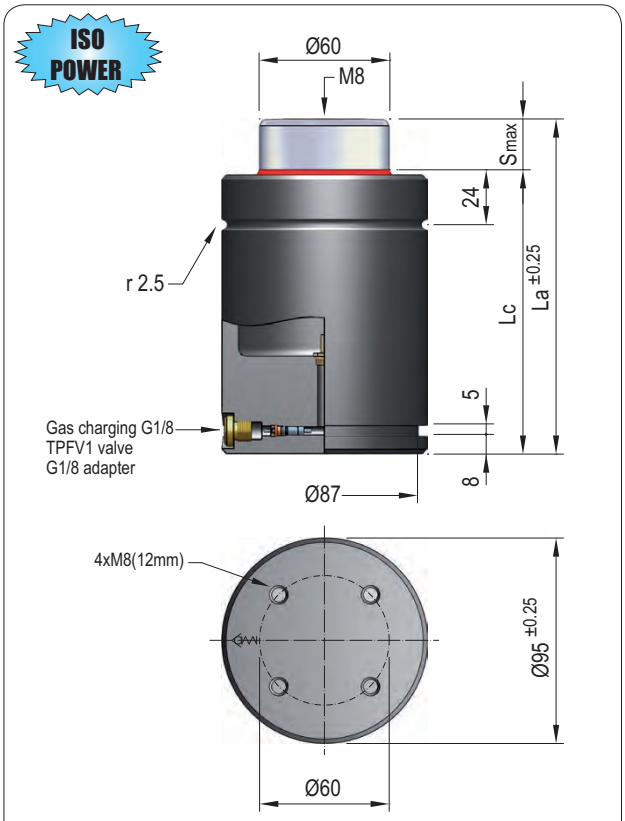
Assembly possibilities



TECAPRES®

Ø95mm 4200daN

TPSP 4200

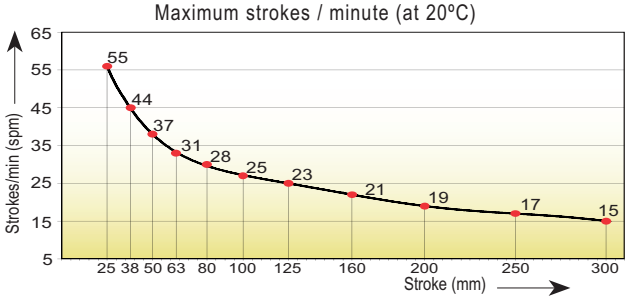


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP4200

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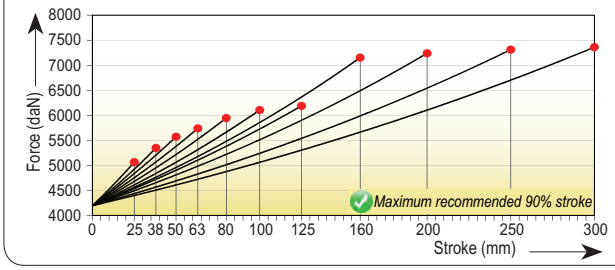


Maximum strokes / minute (at 20ºC)

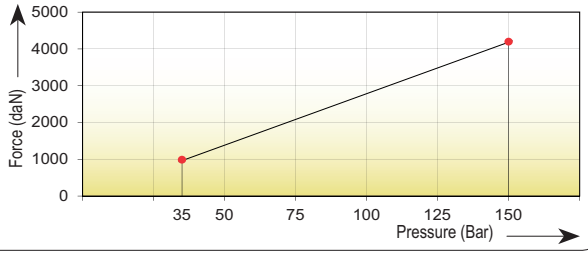


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 4200x25	25	170	145	4200 ±5% (20ºC)	5010	5115	150 (20ºC)	0,413	6,25
TPSP 4200x38	38	196	158		5260	5400		0,500	6,75
TPSP 4200x50	50	220	170		5450	5630		0,574	7,05
TPSP 4200x63	63	247	184		5590	5795		0,664	7,54
TPSP 4200x80	80	280	200		5765	6005		0,770	8,04
TPSP 4200x100	100	320	220		5900	6165		0,906	9,05
TPSP 4200x125	125	370	245		5970	6250		1,099	9,87
TPSP 4200x160	160	440	280		6750	7225		1,096	10,75
TPSP 4200x200	200	520	320		6815	7310		1,347	11,84
TPSP 4200x250	250	620	370		6875	7380		1,661	13,21
TPSP 4200x300	300	720	420		6910	7435		1,975	16,43

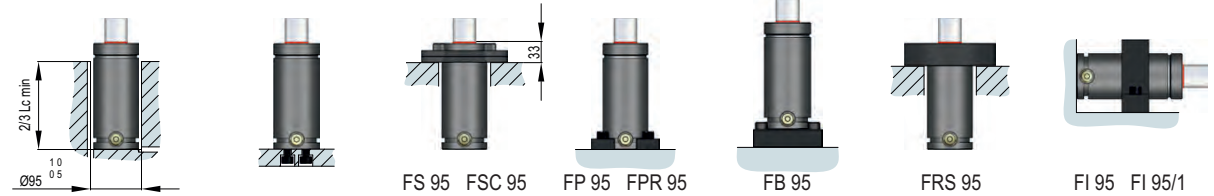
Force/stroke ratio



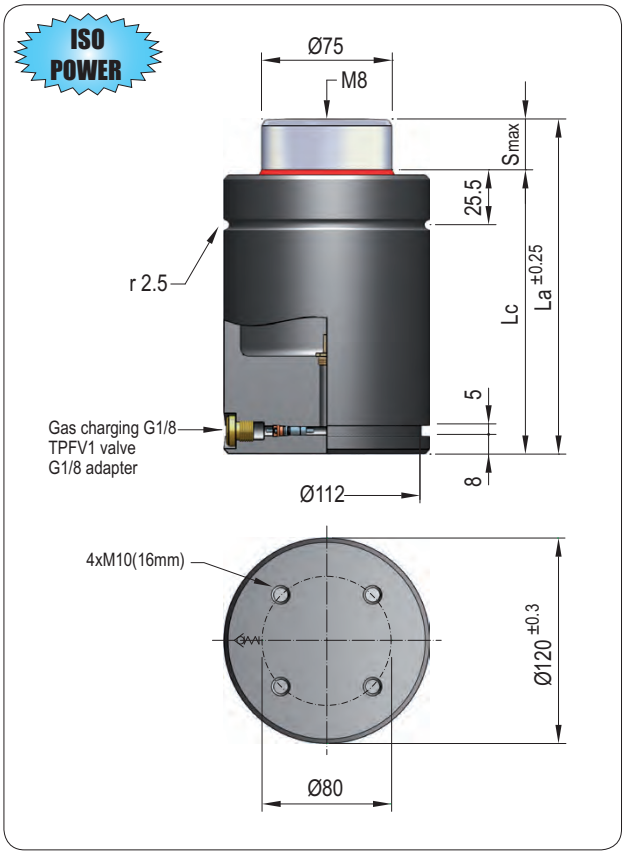
Initial force/charging pressure ratio



Assembly possibilities



TPGAS 07 01-2018

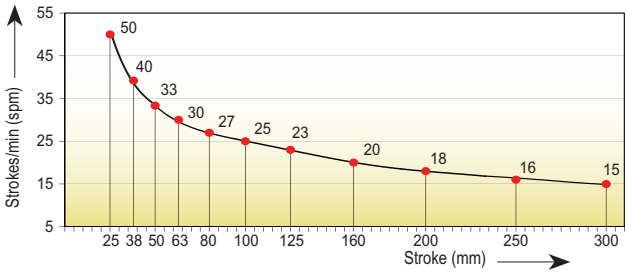


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP6600

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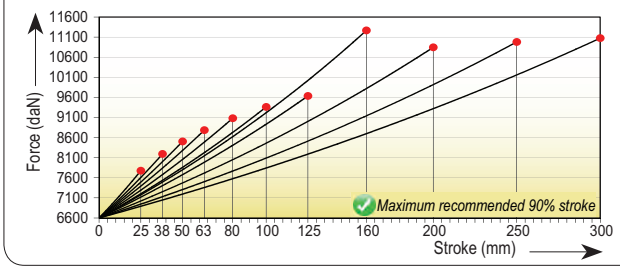


Maximum strokes / minute (at 20ºC)

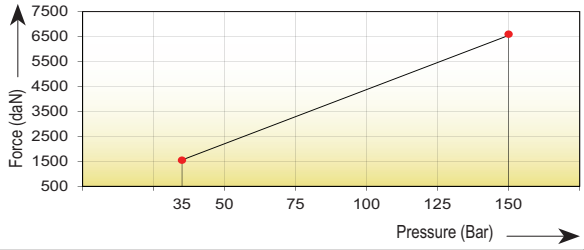


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 6600x25	25	190	165	6600 ±5% (20ºC)	7620	7755	147 (20ºC)	0,730	12,47
TPSP 6600x38	38	216	178		7980	8170		0,863	13,75
TPSP 6600x50	50	240	190		8245	8485		0,986	14,09
TPSP 6600x63	63	267	204		8480	8760		1,119	15,34
TPSP 6600x80	80	300	220		8730	9060		1,293	16,15
TPSP 6600x100	100	340	240		8965	9340		1,497	17,08
TPSP 6600x125	125	390	265		9185	9610		1,753	18,95
TPSP 6600x160	160	460	300		10495	11240		1,706	20,58
TPSP 6600x200	200	540	340		10165	10818		2,257	22,46
TPSP 6600x250	250	640	390		10270	10950		2,769	25,13
TPSP 6600x300	300	740	440		10345	11045		3,280	27,87

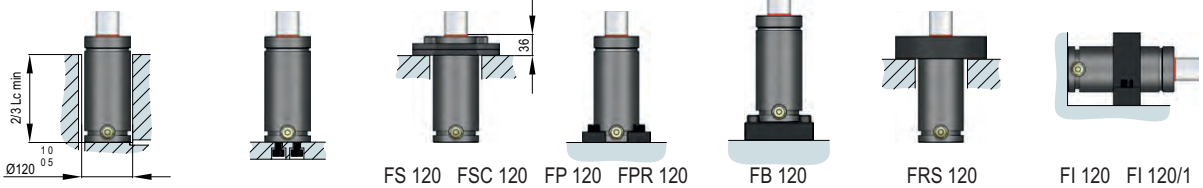
Force/stroke ratio

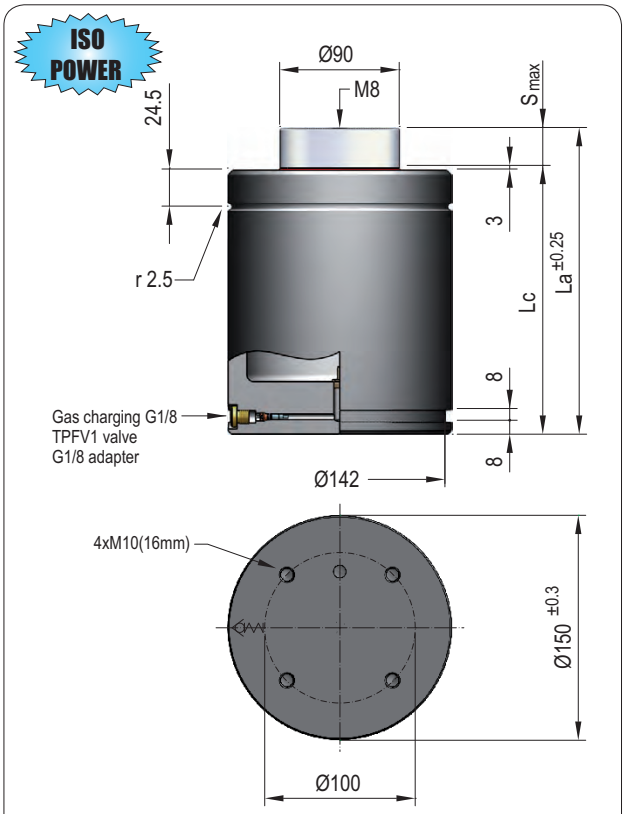


Initial force/charging pressure ratio



Assembly possibilities



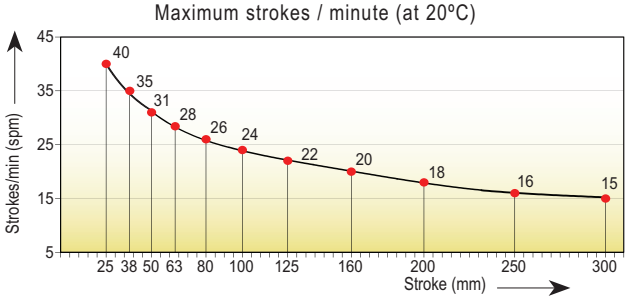


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	63,62 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP9500

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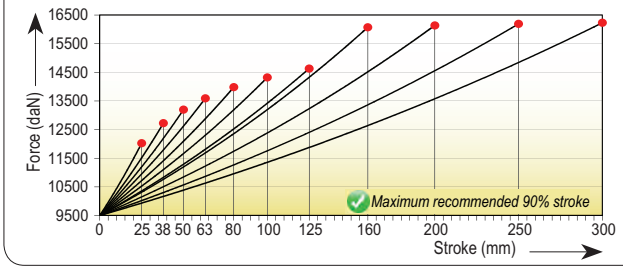


Maximum strokes / minute (at 20ºC)

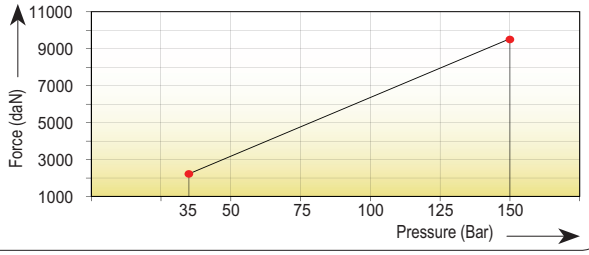


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 9500x25	25	205	180	9500 ±5% (20ºC)	11765	12075	150 (20ºC)	0,758	20,61
TPSP 9500x38	38	231	193		12360	12780		0,954	21,72
TPSP 9500x50	50	255	205		12760	13255		1,135	22,62
TPSP 9500x63	63	282	219		13090	13650		1,332	23,93
TPSP 9500x80	80	315	235		13410	14040		1,588	25,84
TPSP 9500x100	100	355	255		13690	14385		1,890	27,55
TPSP 9500x125	125	405	280		13945	14695		2,268	29,15
TPSP 9500x160	160	475	315		15100	16145		2,490	32,78
TPSP 9500x200	200	555	355		15150	16210		3,093	34,00
TPSP 9500x250	250	655	405		15195	16265		3,848	40,62
TPSP 9500x300	300	755	455		15225	16300		4,603	43,33

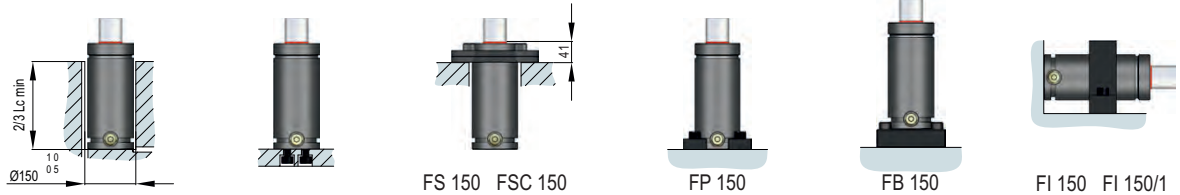
Force/stroke ratio



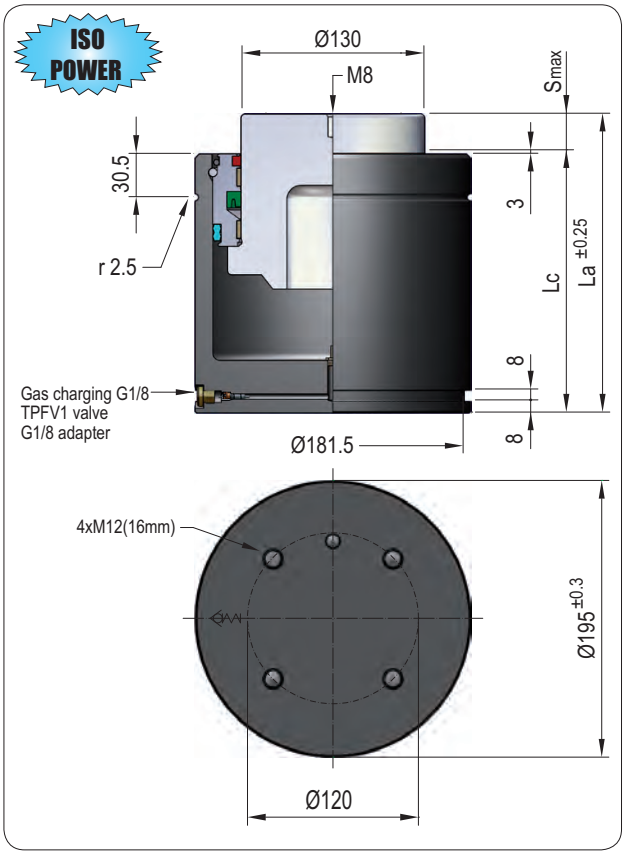
Initial force/charging pressure ratio



Assembly possibilities



Ø195mm 20000daN TPSP 20000

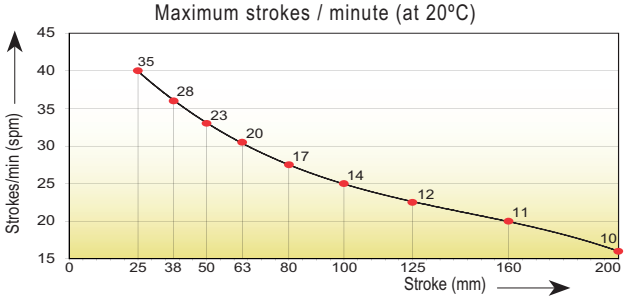


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	132,73 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1 m/s
Maintenance kit	Kit SP20000

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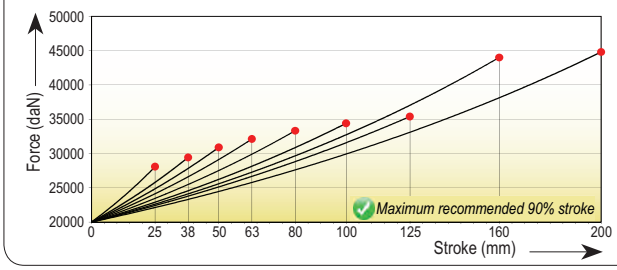


Maximum strokes / minute (at 20ºC)

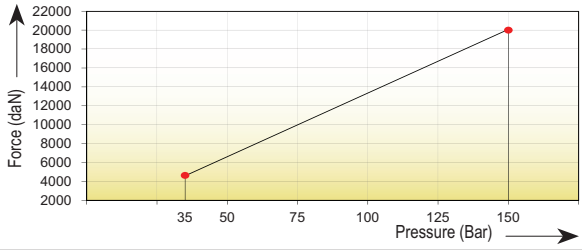


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 20000x25	25	210	185	20000 ±5% (20ºC)	26865	27950	150 (20ºC)	1,154	31,8
TPSP 20000x38	38	236	198		27990	29310		1,573	32,3
TPSP 20000x50	50	260	210		29165	30755		1,882	34,25
TPSP 20000x63	63	286	223		30140	31965		2,217	35,37
TPSP 20000x80	80	320	240		31105	33175		2,655	38,09
TPSP 20000x100	100	360	260		31945	34245		3,171	39,15
TPSP 20000x125	125	410	285		32710	35230		3,816	42,75
TPSP 20000x160	160	480	320		39105	43795		3,894	45,91
TPSP 20000x200	200	560	360		39670	44585		4,797	51,33
(Other strokes under order)									

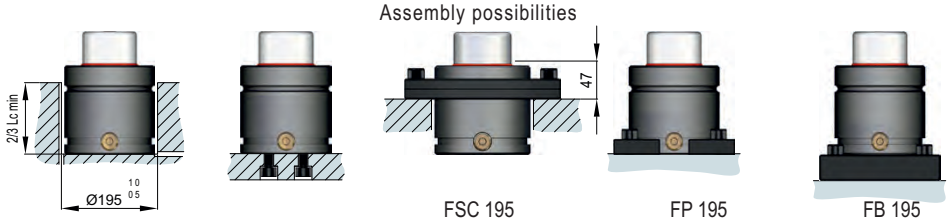
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

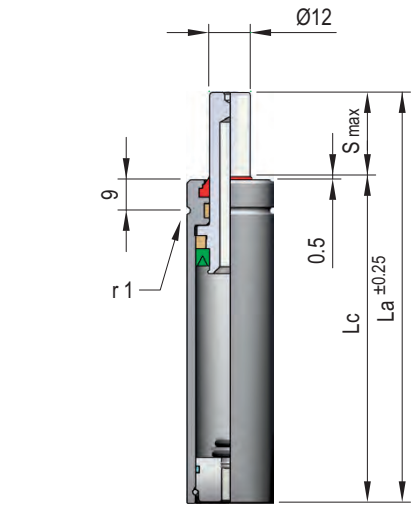


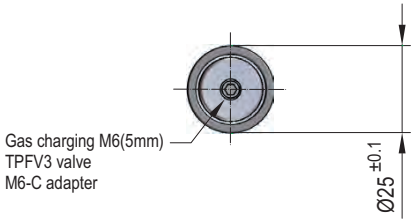
PED 2014/68/UE



Maximum force gas springs. Gas-tight piston

Code	ØBody mm	Strokes mm	Fa daN	ACTIVE SAFETY		
TPF 420	25	6 - 50	420	√		
TPF 750	32	6 - 50	750	√		√
TPF 1000B	38	10 - 50	1000	√		
TPF 1000	38	6 - 50	1000	√		
TPF 1000C	38	6 - 50	1000	√	√	
TPFS 1000	38	6 - 50	1000	√	√	√
TPFS 1800	50	6 - 65	1800	√	√	√
TPF 2000	50	15 - 50	2000	√		
TPFS 2000	50	15 - 50	2000	√	√	√
TPFS 3000	63	10 - 65	3000	√	√	√
TPF 4000	75	10 - 50	4000	√		
TPFS 4700	75	10 - 65	4700	√	√	√
TPF 7000	95	10 - 50	7000	√		
TPF 7500	95	10 - 50	7500	√		
TPF 7500C	95	10 - 50	7500	√	√	
TPF 11800	120	10 - 50	11800	√		
TPF 11800C	120	10 - 50	11800	√	√	
TPF 18300	150	10 - 50	18300	√		
TPF 18300C	150	10 - 50	18300	√	√	



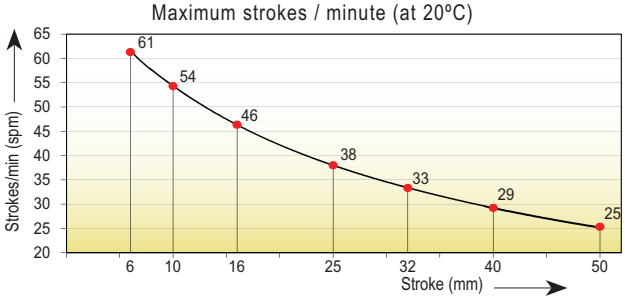


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F420

PED 2014/68/UE

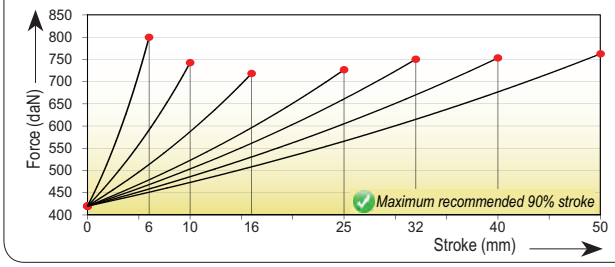
VDI SAFETY

Maximum strokes / minute (at 20ºC)

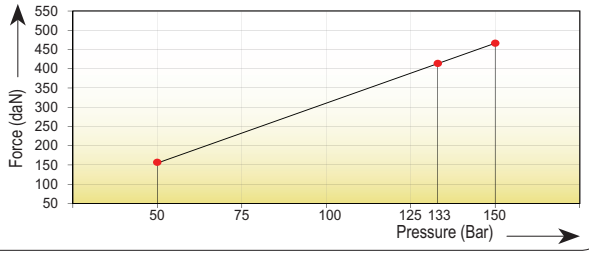


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg	Kit
TPF 420x6	6	56	50	420 ±5% (20ºC)	730	795	133 (20ºC)	0,004	0,13	✓
TPF 420x10	10	70	60		685	740		0,007	0,15	✓
TPF 420x16	16	91	75		665	715		0,012	0,20	✓
TPF 420x25	25	120	95		675	725		0,019	0,30	✓
TPF 420x32	32	140	108		690	745		0,023	0,38	✓
TPF 420x40	40	165	125		695	750		0,028	0,46	-
TPF 420x50	50	195	145		700	760		0,035	0,57	-

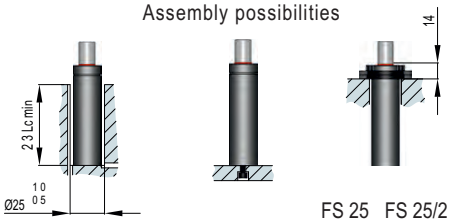
Force/stroke ratio



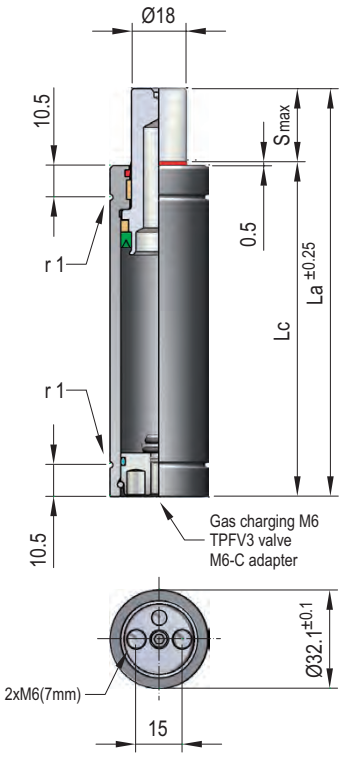
Initial force/charging pressure ratio



Assembly possibilities



Ø32mm 750daN — TPF 750

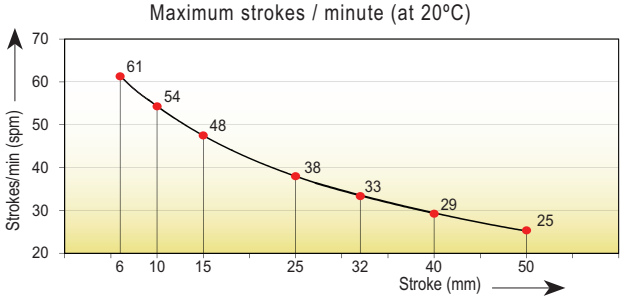


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F750

PED 2014/68/UE

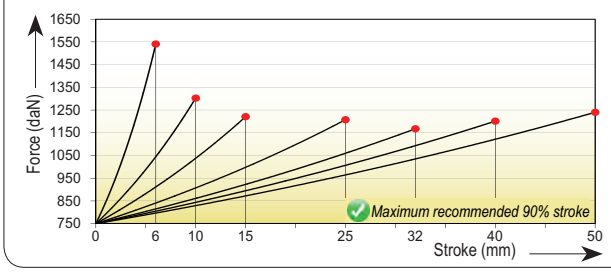


Maximum strokes / minute (at 20ºC)

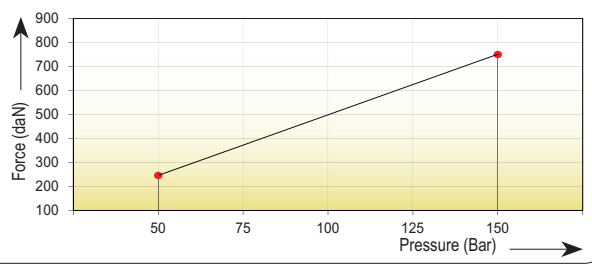


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 750x6	6	63	57		1395	1540		0,006	0,29
TPF 750x10B	10	75	65		1455	1625		0,009	0,33
TPF 750x10	10	80	70		1215	1305		0,012	0,35
TPF 750x15B	15	93	78		1305	1420		0,016	0,39
TPF 750x15	15	100	85	750 ±5%	1150	1225	150	0,019	0,42
TPF 750x25B	25	120	95	(20ºC)	1345	1475	(20ºC)	0,025	0,48
TPF 750x25	25	135	110		1140	1210		0,032	0,51
TPF 750x32	32	140	108		1105	1170		0,044	0,55
TPF 750x40	40	165	125		1135	1205		0,052	0,61
TPF 750x50	50	195	145		1165	1240		0,062	0,67

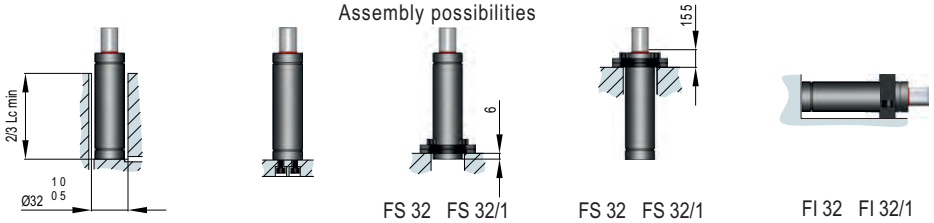
Force/stroke ratio

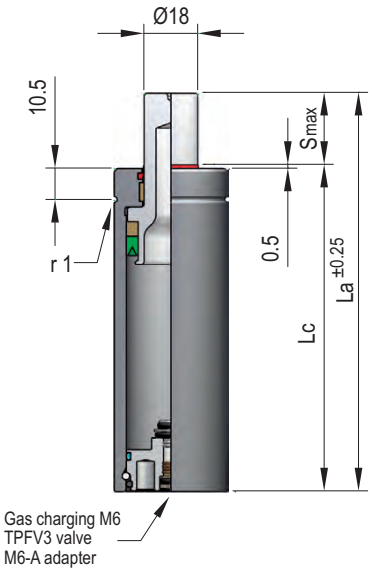


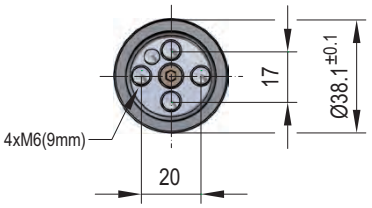
Initial force/charging pressure ratio



Assembly possibilities





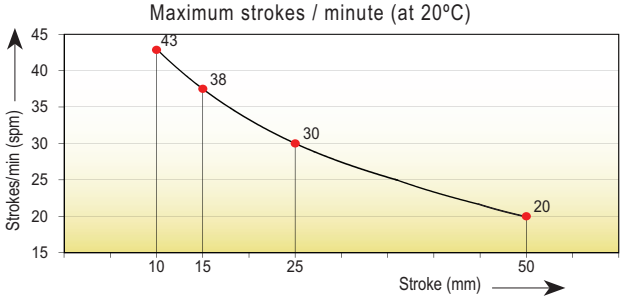


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F1000B

PED 2014/68/UE

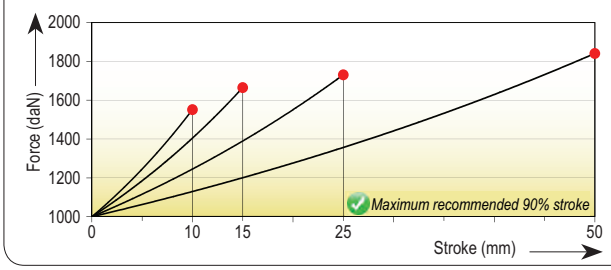


Maximum strokes / minute (at 20ºC)

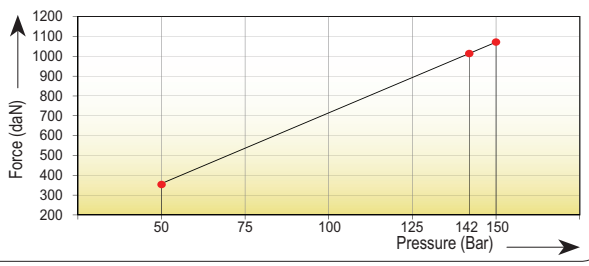


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 1000x10B	10	75	65	1000 ±5% (20ºC)	1455	1535	142 (20ºC)	0,020	0,39
TPF 1000x15B	16	90	74		1545	1645		0,027	0,45
TPF 1000x25B	25	120	95		1595	1715		0,042	0,51
TPF 1000x50B	50	195	145		1680	1820		0,077	0,75

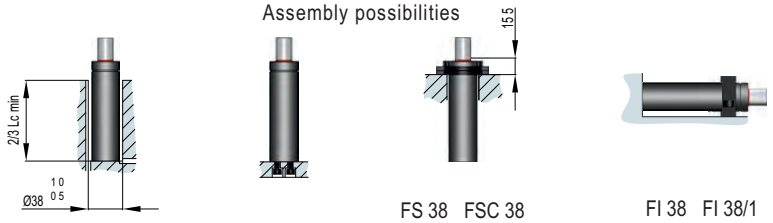
Force/stroke ratio



Initial force/charging pressure ratio

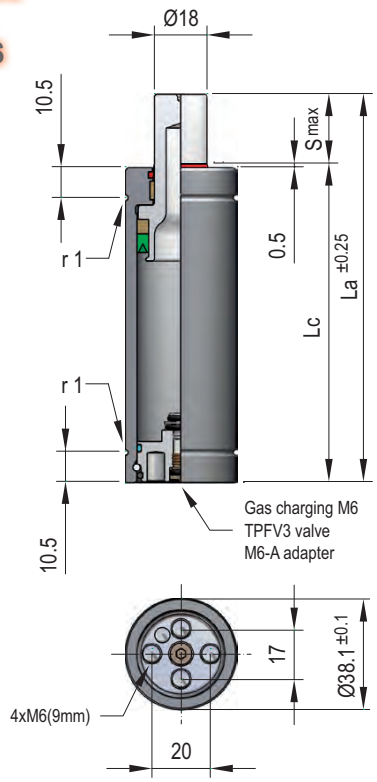


Assembly possibilities



TPGAS 07 01-2018

AVAILABLE WHILE STOCKS LAST

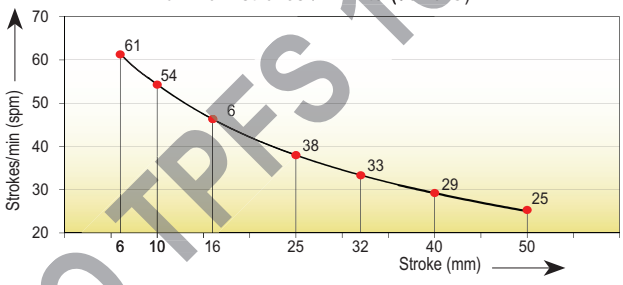


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F1000

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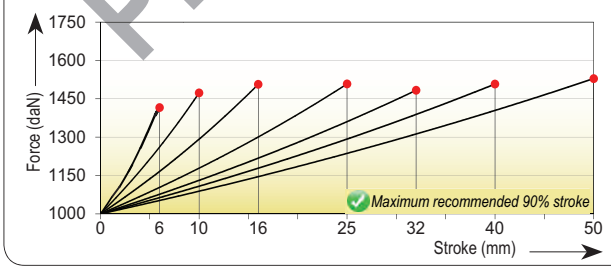
VDI SAFETY

Maximum strokes / minute (at 20 C)

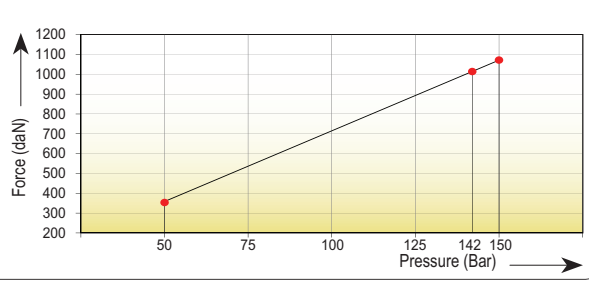


Code	Smax mm	La mm	Lc mm	Fa daN	0% F daN	100% Fc daN	P Bar	V l	Kg
TPF 1000x6	6	61	55	1000 ±5% (20ºC)	1570	1680	142 (20ºC)	0,010	0,35
TPF 1000x10	10	78	68		1390	1460		0,022	0,40
TPF 1000x16	16	100	84		1420	1490		0,034	0,48
TPF 1000x25	25	135	110		1420	1490		0,053	0,56
TPF 1000x32	32	167	135		1400	1470		0,069	0,63
TPF 1000x40	40	195	55		1420	1490		0,084	0,75
TPF 1000x50	50	230	180		1435	1515		0,102	0,90

Force/stroke ratio



Initial force/charging pressure ratio

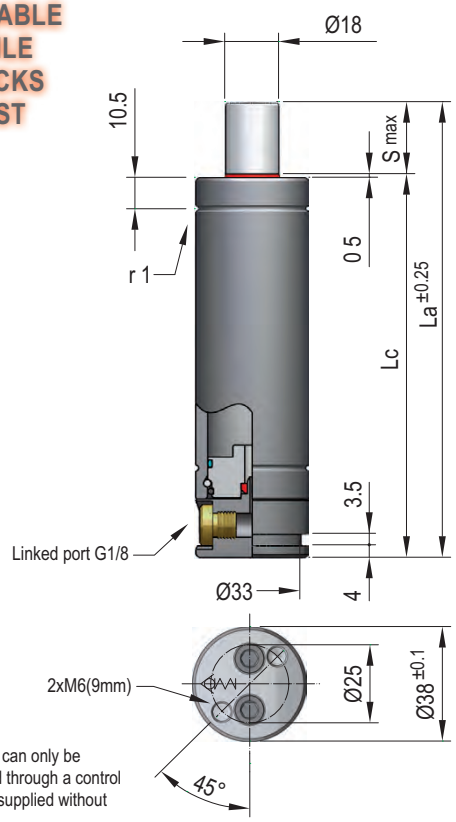


Assembly possibilities



PHASING OUT TO TPFS 1000

AVAILABLE WHILE STOCKS LAST



This model can only be pressurised through a control panel. It is supplied without pressure.

Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F1000C

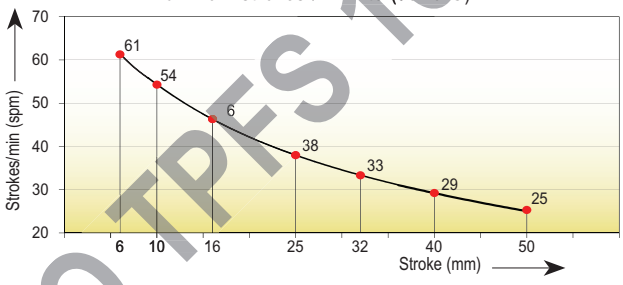
PED 2014/68/UE



VDI SAFETY

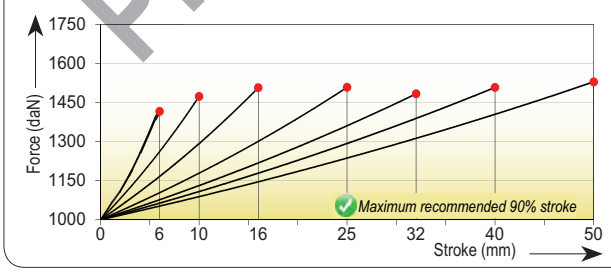


Maximum strokes / minute (at 20 C)

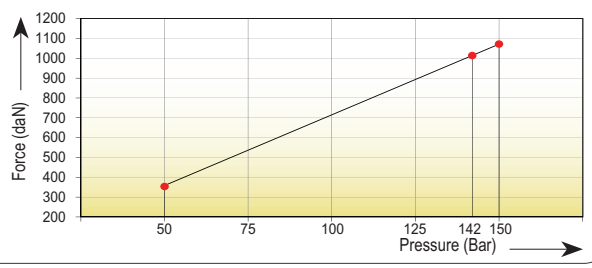


Code	Smax mm	La mm	Lc mm	Fa daN	0% F daN	100% Fc daN	P Bar	V l	Kg
TPF 1000x6C	6	81	75	1000 ±5% (20ºC)	1570	1680	142 (20ºC)	0,010	0,35
TPF 1000x10C	10	98	88		1390	1460		0,022	0,40
TPF 1000x16C	16	120	104		1420	1490		0,034	0,48
TPF 1000x25C	25	155	130		1420	1490		0,053	0,56
TPF 1000x32C	32	187	155		1400	1470		0,069	0,63
TPF 1000x40C	40	215	75		1420	1490		0,084	0,75
TPF 1000x50C	50	250	200		1435	1515		0,102	0,90

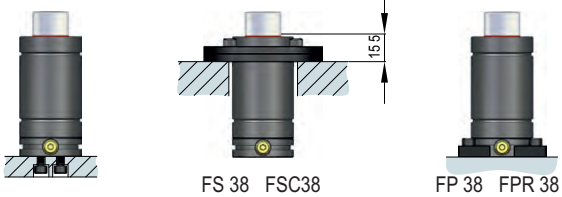
Force/stroke ratio



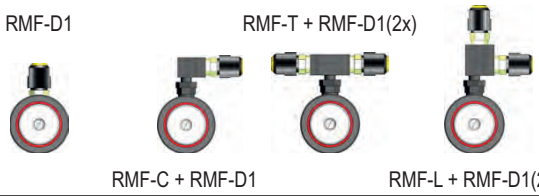
Initial force/charging pressure ratio



Assembly possibilities



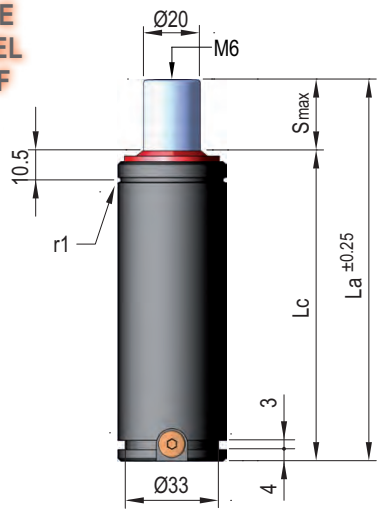
Connection alternatives

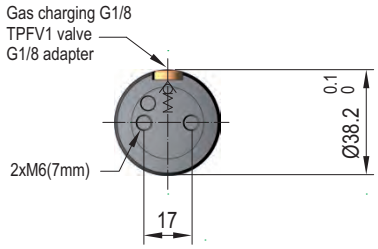


PHASING OUT TO TPFS 1000

Ø38mm 1000daN — TPFS 1000

AVAILABLE WHEN THE OLD MODEL IS OUT OF STOCK



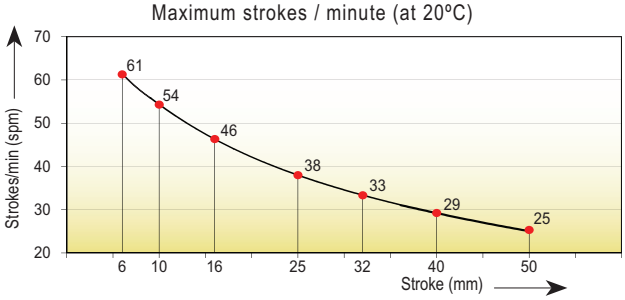


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit FS1000

PED 2014/68/UE

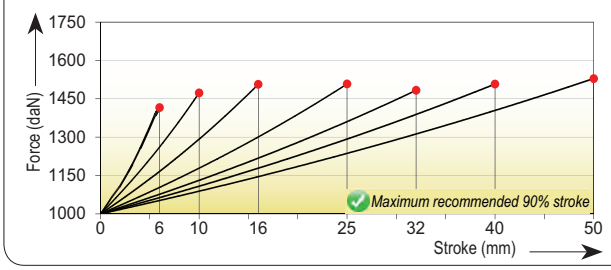


Maximum strokes / minute (at 20ºC)

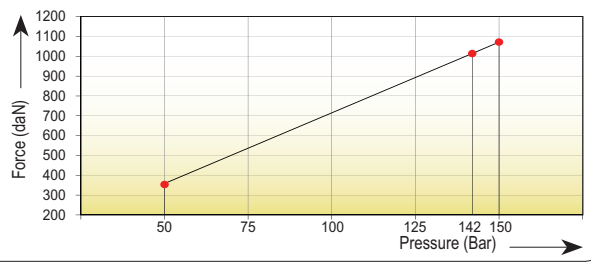


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPFS 1000x6	6	61	55	1000 ±5% (20ºC)	1320	1370	142 (20ºC)	0,016	0,37
TPFS 1000x10	10	78	68		1375	1435		0,024	0,42
TPFS 1000x16	16	100	84		1410	1475		0,035	0,51
TPFS 1000x25	25	135	110		1420	1485		0,055	0,58
TPFS 1000x32	32	167	135		1395	1455		0,073	0,66
TPFS 1000x40	40	195	155		1415	1485		0,087	0,78
TPFS 1000x50	50	230	180		1435	1505		0,106	0,95

Force/stroke ratio



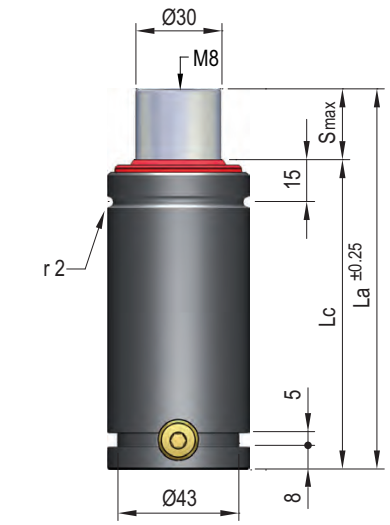
Initial force/charging pressure ratio

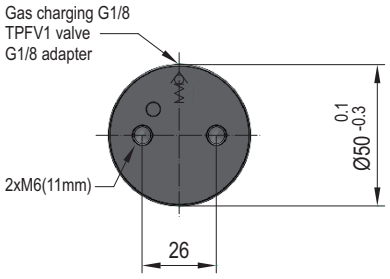


Assembly possibilities



FP 38 FPR 38 — FS 32 FSC 38 — FI 38 FI 38/1



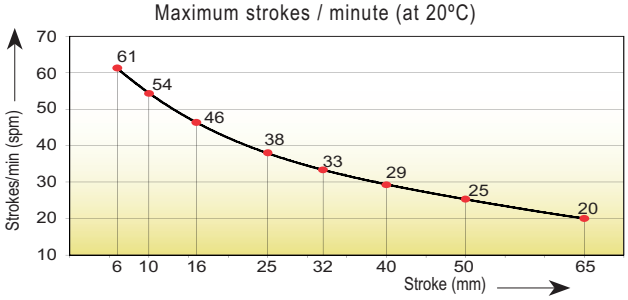


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	12,57 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit FS1800

PED 2014/68/UE

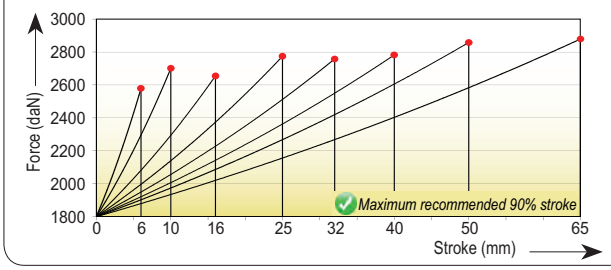


Maximum strokes / minute (at 20ºC)

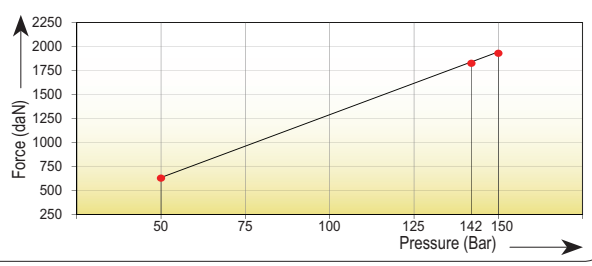


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPFS 1800x6	6	66	60	1800 ±5% (20ºC)	2450	2555	142 (20ºC)	0,025	0,62
TPFS 1800x10	10	80	70		2550	2680		0,038	0,73
TPFS 1800x16	16	106	90		2515	2630		0,062	0,85
TPFS 1800x25	25	135	110		2610	2750		0,090	0,98
TPFS 1800x32	32	162	130		2595	2735		0,116	1,20
TPFS 1800x40	40	190	150		2615	2760		0,142	1,25
TPFS 1800x50	50	220	170		2675	2835		0,170	1,42
TPFS 1800x65	65	271	206		2695	2855		0,218	1,65

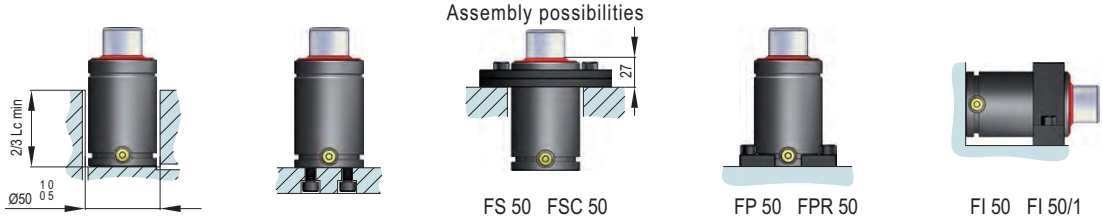
Force/stroke ratio



Initial force/charging pressure ratio



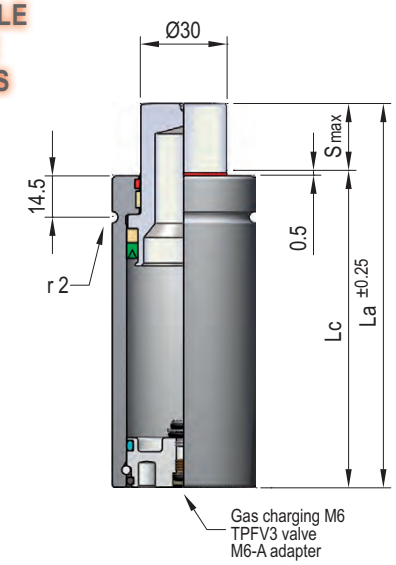
Assembly possibilities

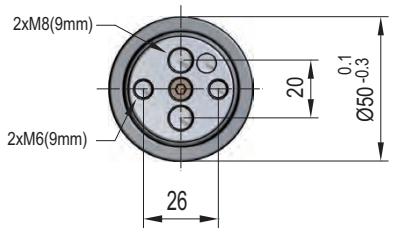


FS 50 FSC 50 FP 50 FPR 50 FI 50 FI 50/1

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AVAILABLE WHILE STOCKS LAST



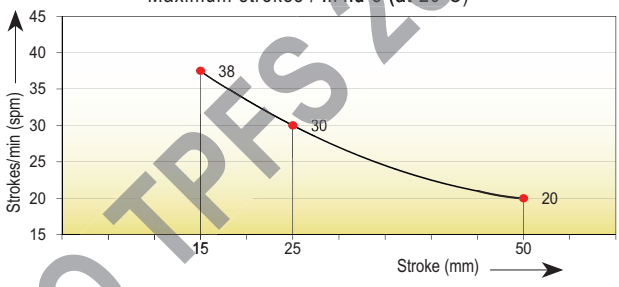


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	50 Bar
Piston seal area	12,57 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F2000

PED 2014/68/UE

VDI SAFETY

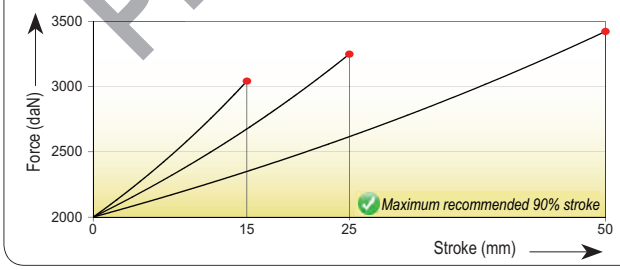
Maximum strokes / m nu e (at 20 C)



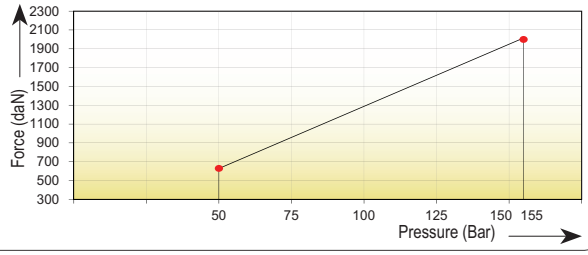
PHASING OUT TO TPFS 2000

Code	Smax mm	La mm	Lc mm	Fa daN	0% F daN	100% Fc daN	P Bar	V l	Kg
TPF 2000x15	15	95	80	200 ±5% (20ºC)	2890	3040	155 (20ºC)	0,055	0,70
TPF 2000x25	25	125	100		3055	3245		0,082	0,81
TPF 2000x50	50	200	150		3195	3420		0,151	1,05

Force/stroke ratio



Initial force/charging pressure ratio



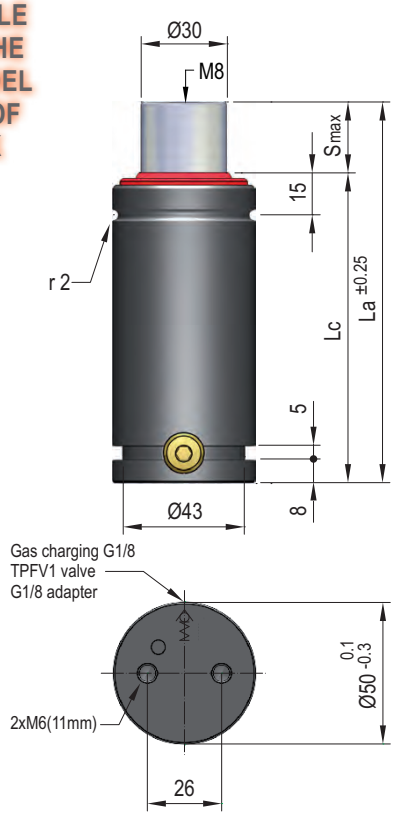
Assembly possibilities



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AVAILABLE WHEN THE OLD MODEL IS OUT OF STOCK

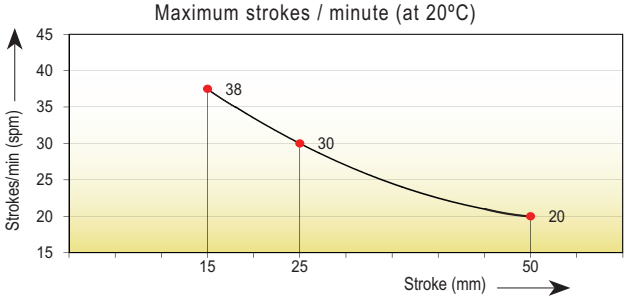


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	50 Bar
Piston seal area	12,57 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit FS2000

PED 2014/68/UE

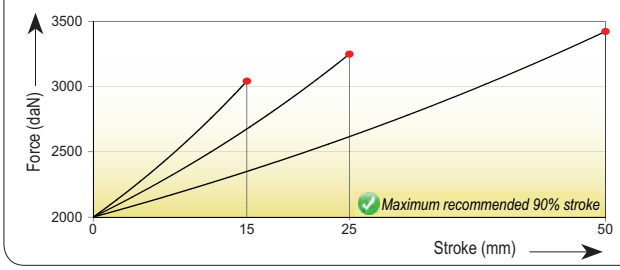


Maximum strokes / minute (at 20ºC)

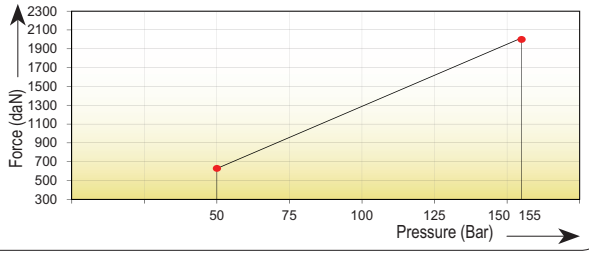


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPFS 2000x16	16	95	80	2000 ±5% (20ºC)	2890	3040	155 (20ºC)	0,055	0,70
TPFS 2000x25	25	125	100		3055	3245		0,082	0,81
TPFS 2000x50	50	200	150		3195	3420		0,151	1,05

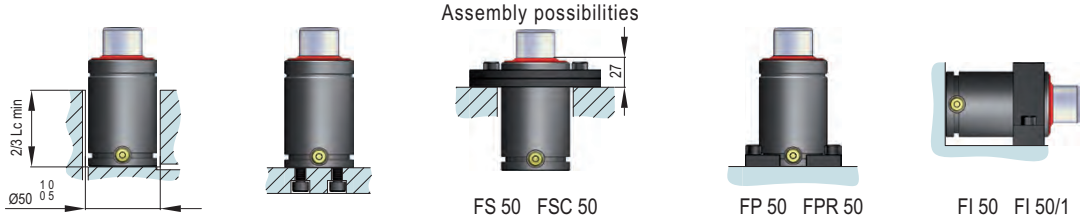
Force/stroke ratio



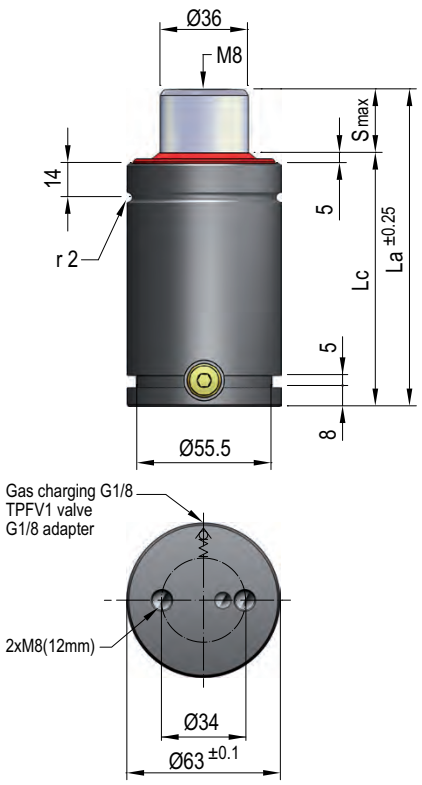
Initial force/charging pressure ratio



Assembly possibilities



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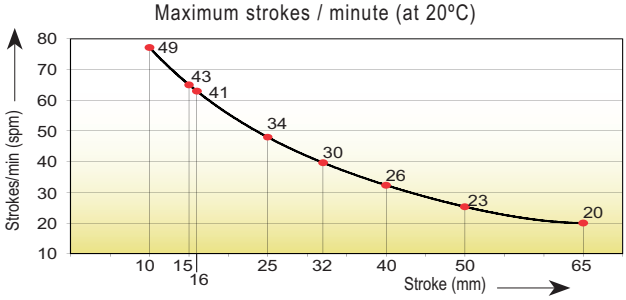


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit FS3000

PED 2014/68/UE

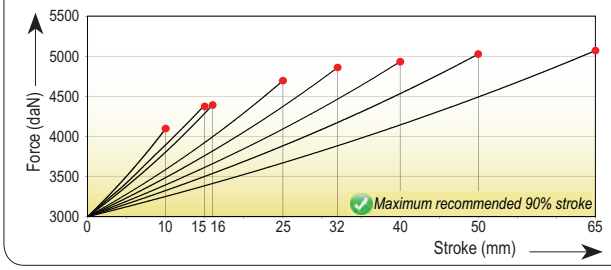


Maximum strokes / minute (at 20ºC)

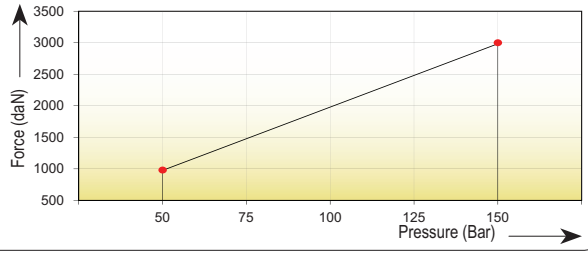


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPFS 3000x10	10	85	75	3000 ±5% (20ºC)	3960	4105	150 (20ºC)	0,073	1,15
TPFS 3000x15	15	100	85		4160	4350		0,095	1,30
TPFS 3000x16	16	103	87		4205	4400		0,099	1,32
TPFS 3000x25	25	130	105		4450	4705		0,136	1,50
TPFS 3000x32	32	150	118		4585	4870		0,164	1,57
TPFS 3000x40	40	175	135		4640	4940		0,200	1,77
TPFS 3000x50	50	205	155		4715	5035		0,243	2,07
TPFS 3000x65	65	256	191		4750	5080		0,313	2,38

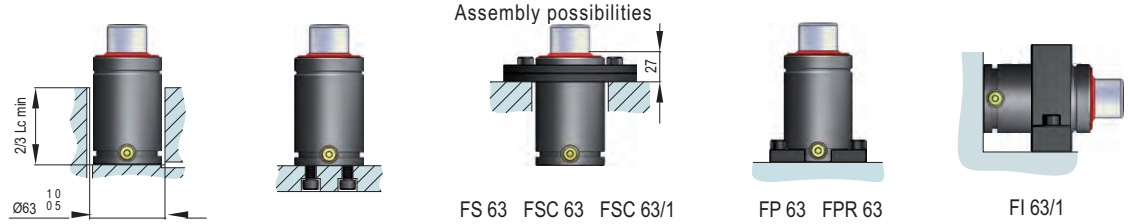
Force/stroke ratio



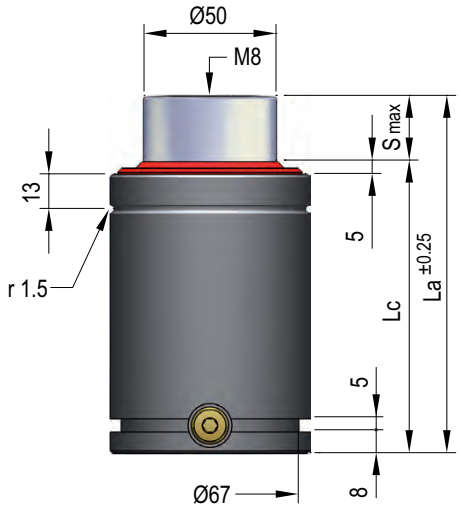
Initial force/charging pressure ratio

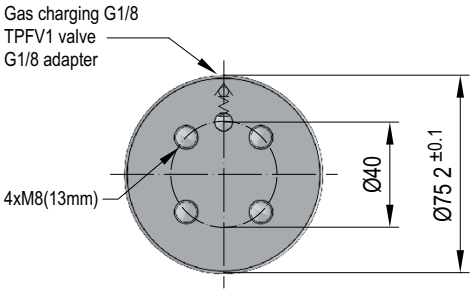


Assembly possibilities



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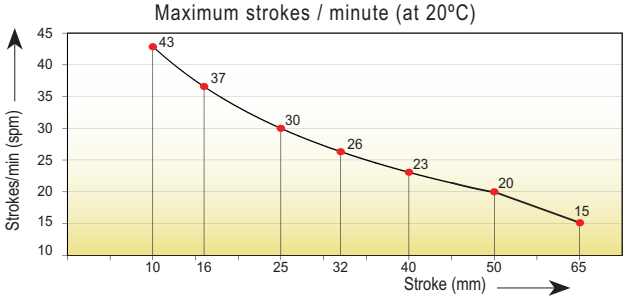


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	31,17 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit FS4700

PED 2014/68/UE

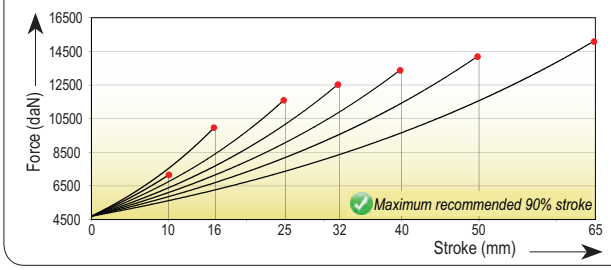


Maximum strokes / minute (at 20ºC)

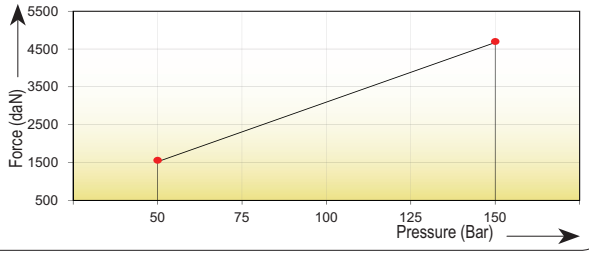


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPFS 4700x10	10	80	70	4700 ±5% (20ºC)	6770	7120	150 (20ºC)	0,091	1,55
TPFS 4700x16	16	106	90		8975	9995		0,094	1,83
TPFS 4700x25	25	135	110		10115	11615		0,130	2,15
TPFS 4700x32	32	167	135		10740	12550		0,159	2,37
TPFS 4700x40	40	200	160		11285	13385		0,192	2,70
TPFS 4700x50	50	240	190		11795	14195		0,232	3,10
TPFS 4700x65	65	273	208		12340	15090		0,294	3,65

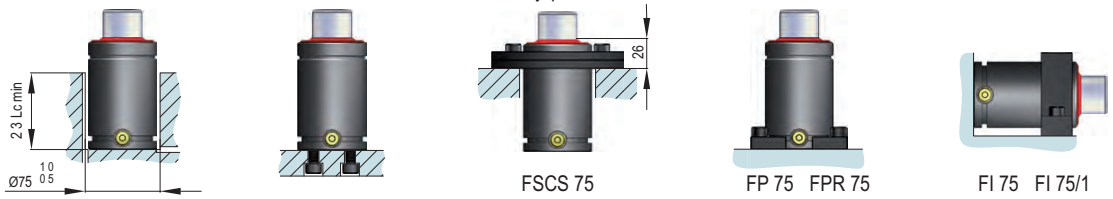
Force/stroke ratio



Initial force/charging pressure ratio

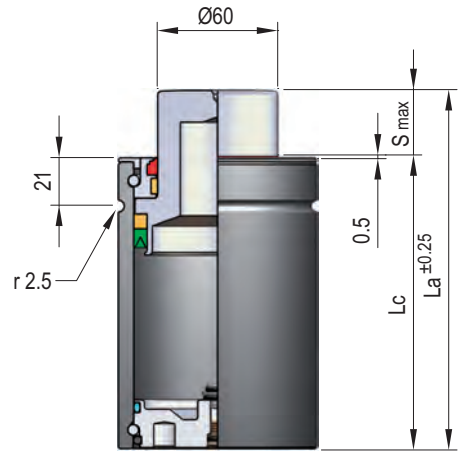


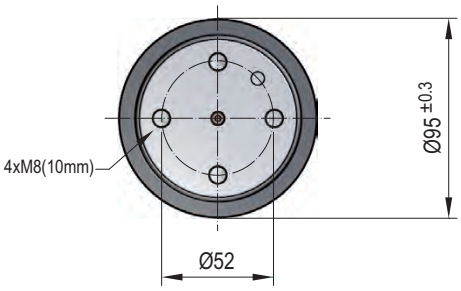
Assembly possibilities



FSCS 75 FP 75 FPR 75 FI 75 FI 75/1

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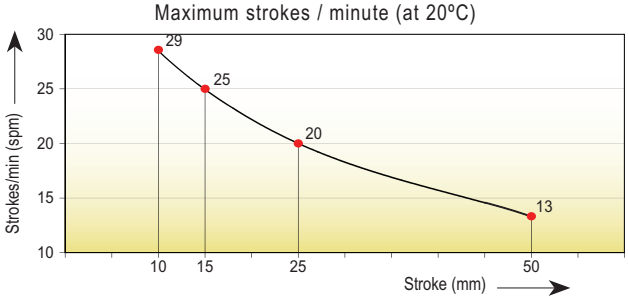


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	50,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F7000

PED 2014/68/UE

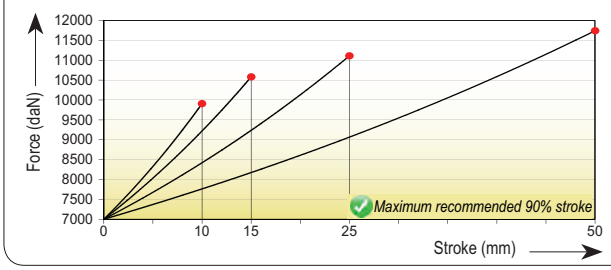
VDI SAFETY

Maximum strokes / minute (at 20ºC)

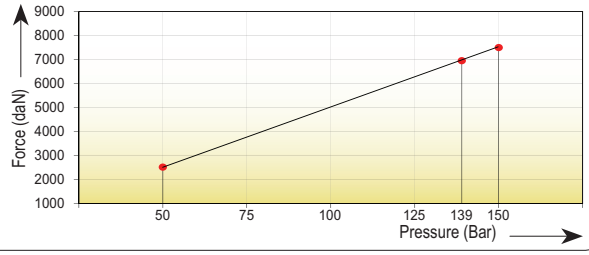


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 7000x10	10	90	80	7000 ±5% (20ºC)	9495	9890	139 (20ºC)	0,171	3,10
TPF 7000x15	15	105	90		10050	10560		0,223	3,20
TPF 7000x25	25	135	110		10475	11090		0,340	3,45
TPF 7000x50	50	210	160		10975	11720		0,622	4,95

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

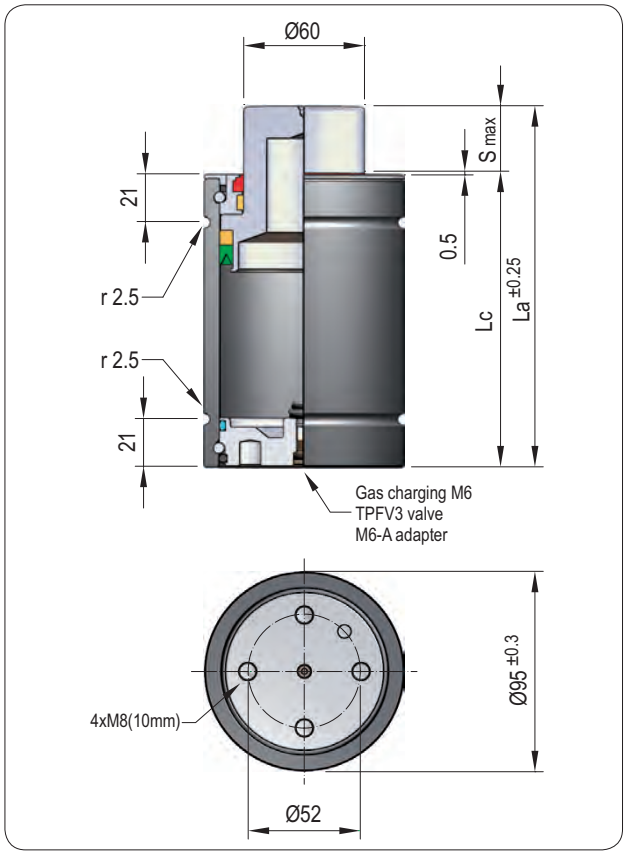


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TECAPRES®

Ø95mm 7500daN

TPF 7500

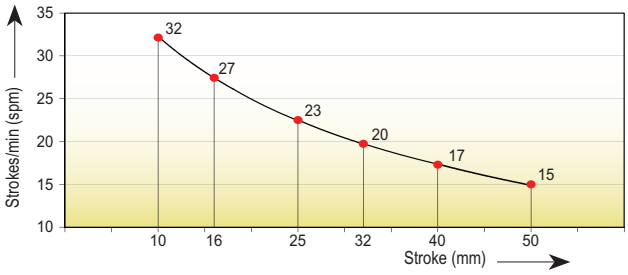


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	50,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F7500

PED 2014/68/UE

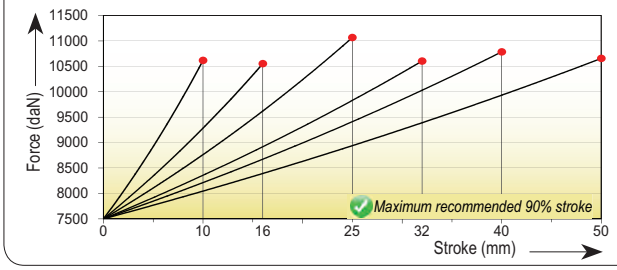
VDI SAFETY

Maximum strokes / minute (at 20ºC)

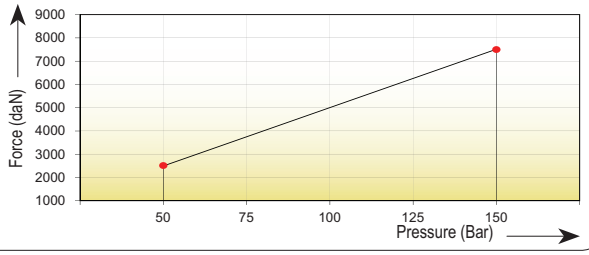


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 7500x10	10	90	80		10245	10675		0,171	3,10
TPF 7500x16	16	116	100		10195	10610		0,278	3,30
TPF 7500x25	25	145	120	7500 ±5%	10620	11125	150	0,390	3,85
TPF 7500x32	32	182	150	(20ºC)	10235	10660	(20ºC)	0,550	4,46
TPF 7500x40	40	210	170		10390	10845		0,660	4,69
TPF 7500x50	50	255	205		10280	10715		0,849	5,50

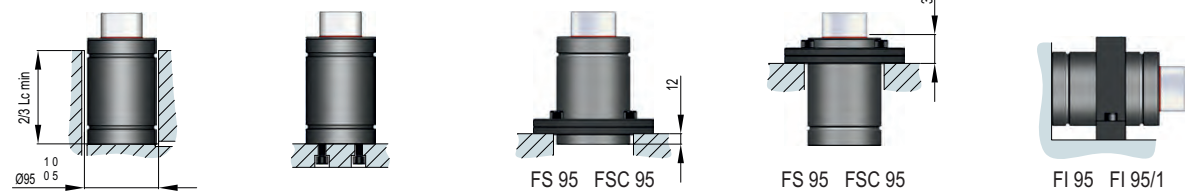
Force/stroke ratio



Initial force/charging pressure ratio



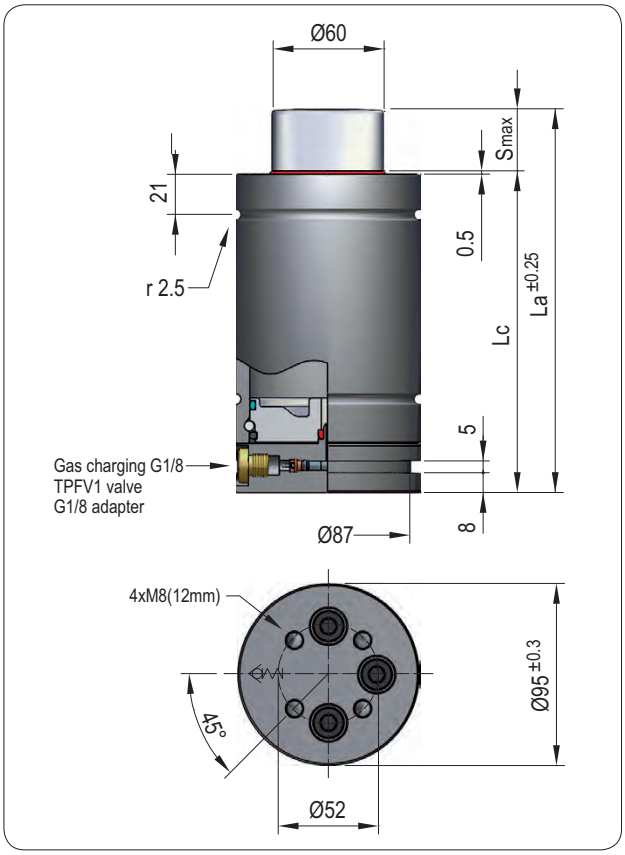
Assembly possibilities



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Ø95mm · G1/8 connectable 7500daN — TPF 7500 C

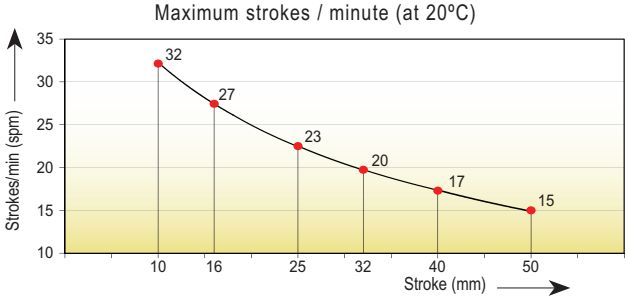


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	50,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F7500C

PED 2014/68/UE

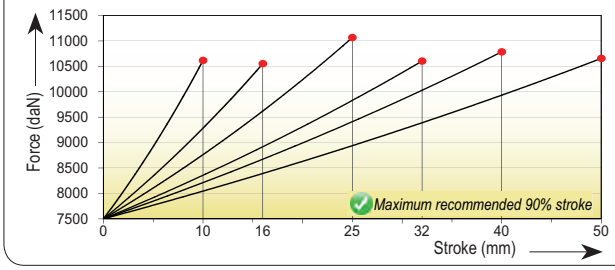


Maximum strokes / minute (at 20ºC)

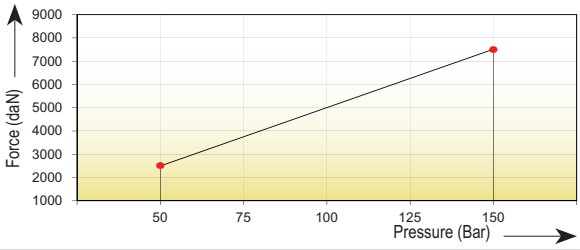


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 7500x10C	10	110	100		10245	10675		0,171	4,05
TPF 7500x16C	16	136	120		10195	10610		0,278	4,25
TPF 7500x25C	25	165	140	7500 ±5%	10620	11125	150	0,390	4,80
TPF 7500x32C	32	202	170	(20ºC)	10235	10660	(20ºC)	0,550	5,41
TPF 7500x40C	40	230	190		10390	10845		0,660	5,64
TPF 7500x50C	50	275	225		10280	10715		0,849	6,45

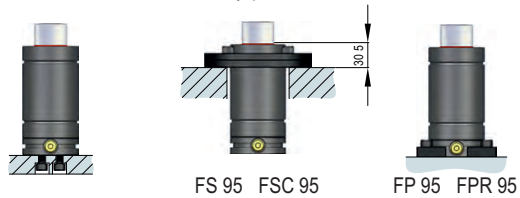
Force/stroke ratio



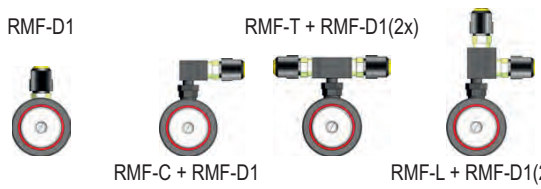
Initial force/charging pressure ratio



Assembly possibilities



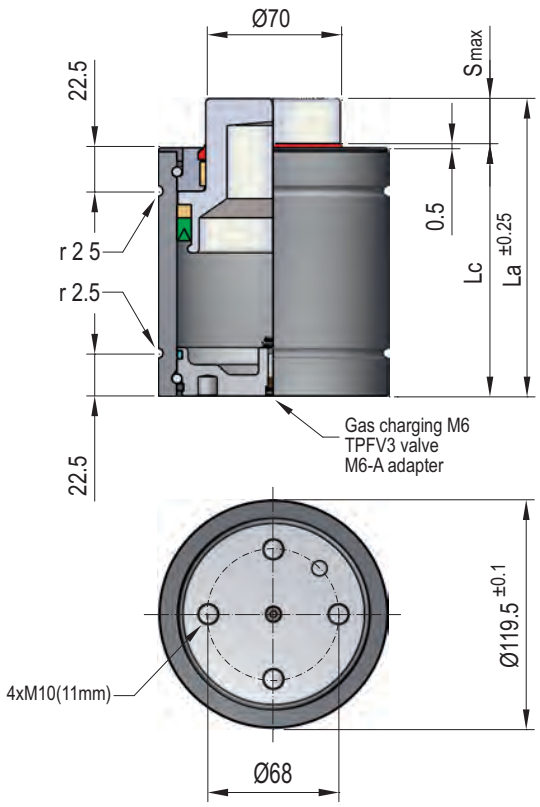
Connection alternatives



TECAPRES®

Ø120mm
11800daN

TPF 11800

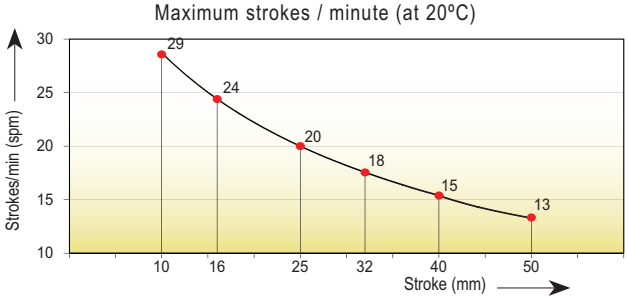


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	78,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F11800

PED 2014/68/UE

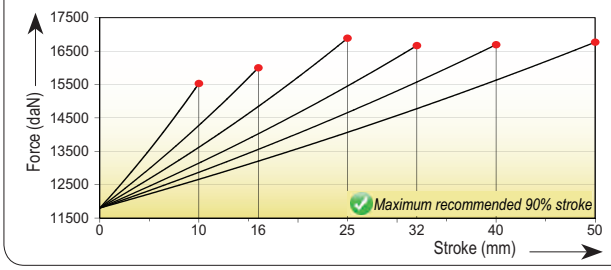
VDI SAFETY

Maximum strokes / minute (at 20ºC)

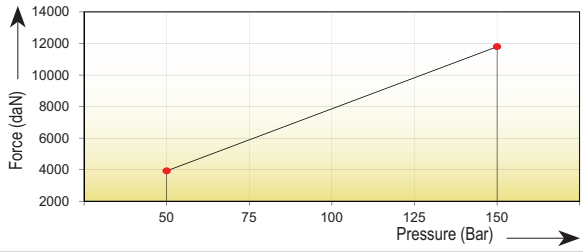


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 11800x10	10	100	90		15030	15505		0,327	5,60
TPF 11800x16	16	126	110		15425	15975		0,479	6,39
TPF 11800x25	25	155	130	11800 ±5%	16160	16860	150	0,652	7,15
TPF 11800x32	32	187	155	(20ºC)	15980	16640	(20ºC)	0,861	7,96
TPF 11800x40	40	220	180		16005	16665		1,072	8,91
TPF 11800x50	50	260	210		16065	16740		1,326	10,15

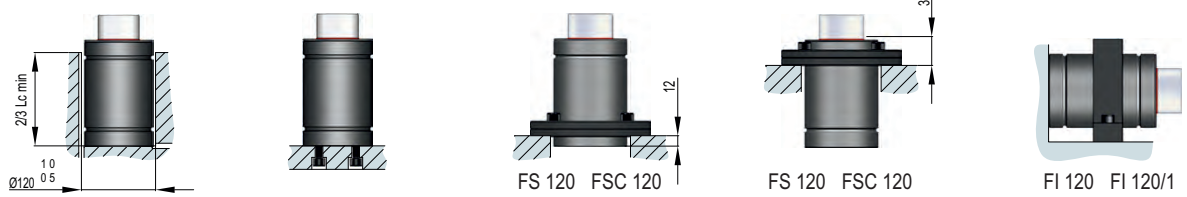
Force/stroke ratio



Initial force/charging pressure ratio

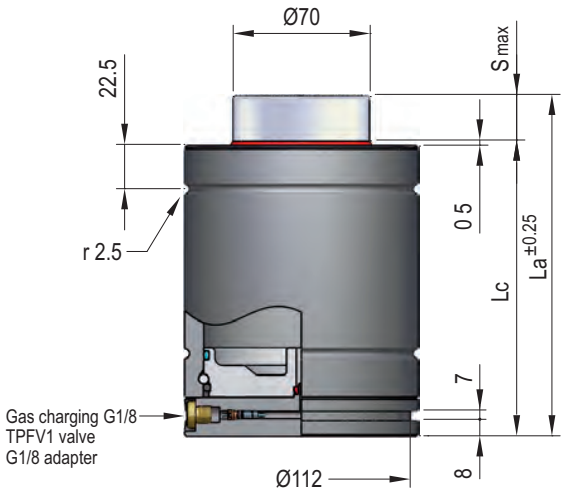


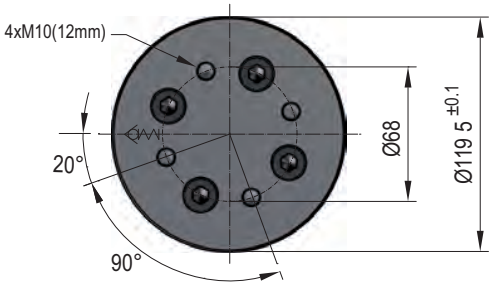
Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

Ø120mm · G1/8 connectable 11800daN TPF 11800 C



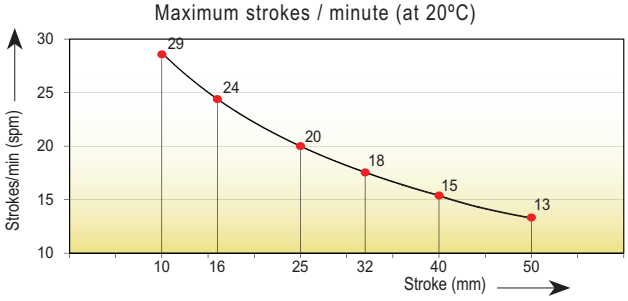


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	78,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F11800C

PED 2014/68/UE

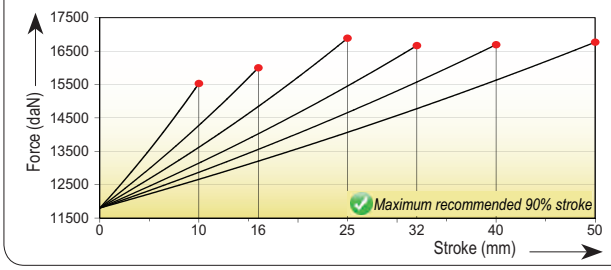


Maximum strokes / minute (at 20ºC)

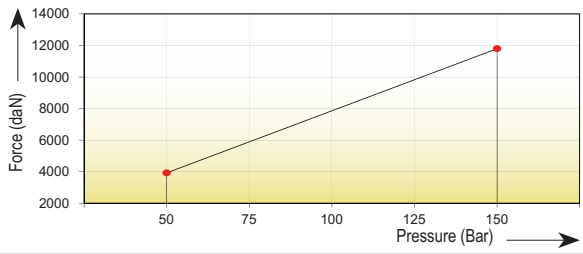


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 11800x10C	10	120	110		15030	15505		0,327	7,10
TPF 11800x16C	16	146	130		15425	15975		0,479	7,89
TPF 11800x25C	25	175	150	11800 ±5%	16160	16860	150	0,652	8,65
TPF 11800x32C	32	207	175	(20ºC)	15980	16640	(20ºC)	0,861	9,46
TPF 11800x40C	40	240	200		16005	16665		1,072	10,41
TPF 11800x50C	50	280	230		16065	16740		1,326	11,65

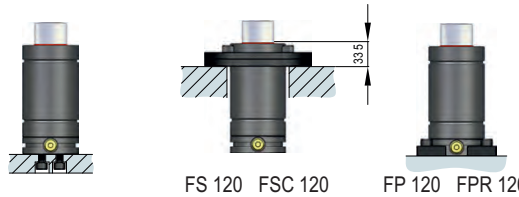
Force/stroke ratio



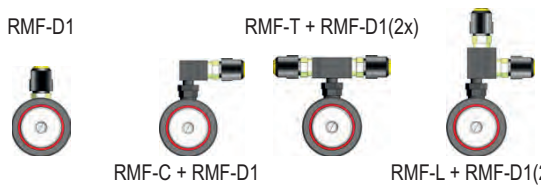
Initial force/charging pressure ratio

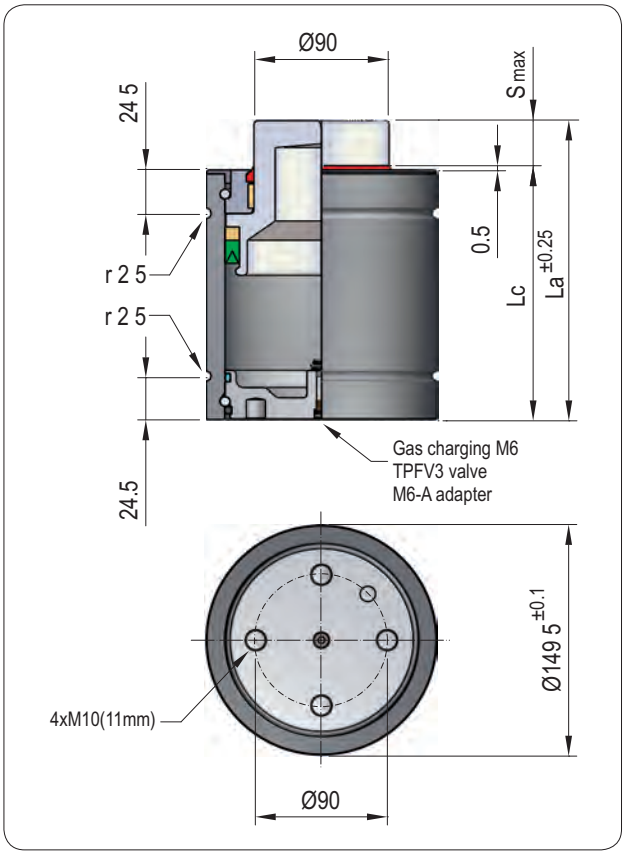


Assembly possibilities



Connection alternatives



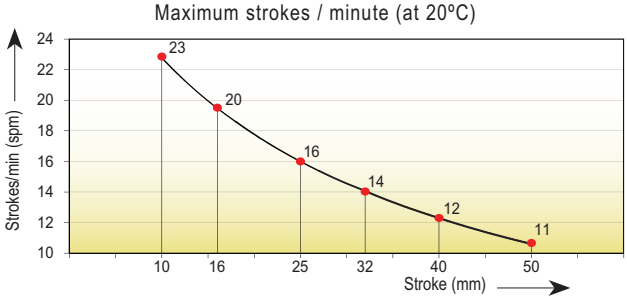


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	122,72 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F18300

PED 2014/68/UE

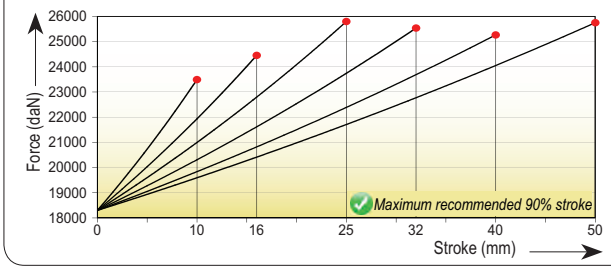
VDI SAFETY

Maximum strokes / minute (at 20ºC)

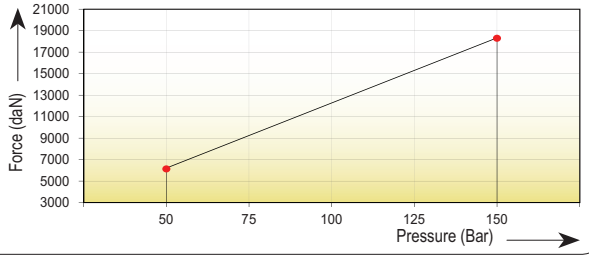


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 18300x10	10	110	100		22980	23630		0,555	9,10
TPF 18300x16	16	136	120		23800	24600		0,780	9,95
TPF 18300x25	25	165	140	18300 ±5%	24930	25950	150	1,055	10,80
TPF 18300x32	32	197	165	(20ºC)	24710	25690	(20ºC)	1,385	13,26
TPF 18300x40	40	235	195		24485	25415		1,780	15,10
TPF 18300x50	50	270	220		24890	25905		2,120	16,80

Force/stroke ratio



Initial force/charging pressure ratio



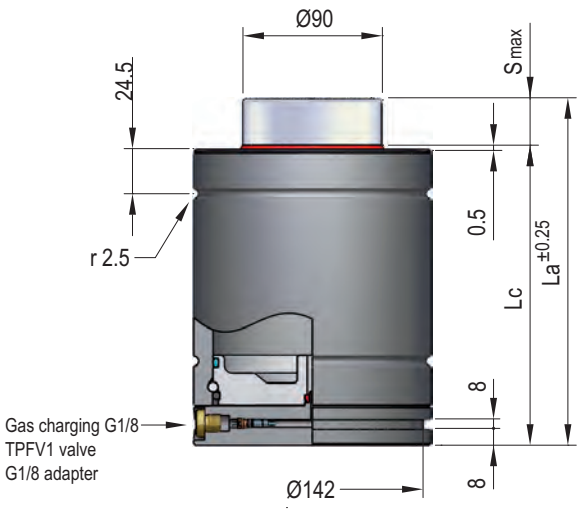
Assembly possibilities



FS 150 FSC 150 | FS 150 FSC 150 | FI 150 FI 150/1

Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

Ø150mm · G1/8 connectable 18300daN TPF 18300 C

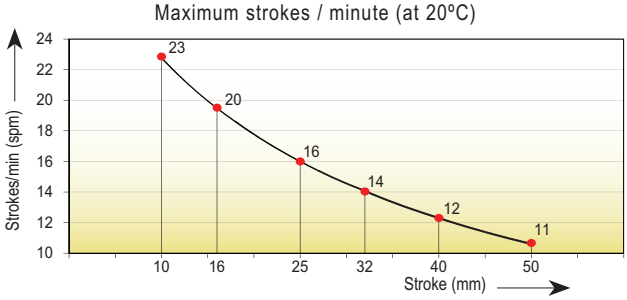


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	122,72 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	25 m/min
Maintenance kit	Kit F18300C

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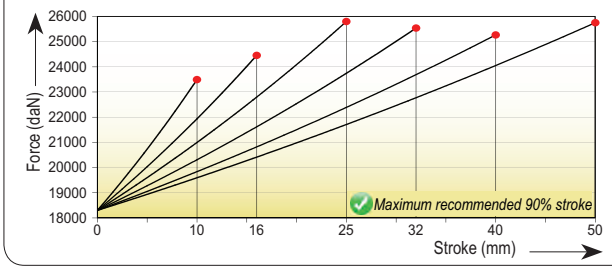


Maximum strokes / minute (at 20ºC)

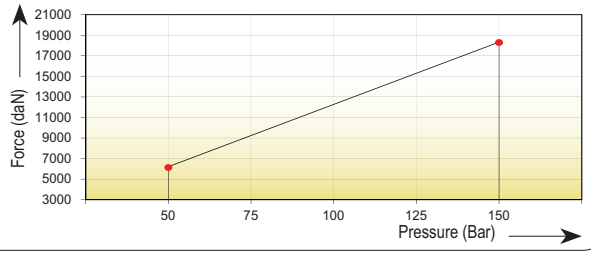


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 18300x10C	10	130	120		22980	23630		0,555	11,20
TPF 18300x16C	16	156	140		23800	24600		0,780	12,15
TPF 18300x25C	25	185	160	18300 ±5%	24930	25950	150	1,055	13,00
TPF 18300x32C	32	217	185	(20ºC)	24710	25690	(20ºC)	1,385	15,46
TPF 18300x40C	40	255	215		24485	25415		1,780	17,30
TPF 18300x50C	50	290	240		24890	25905		2,120	19,00

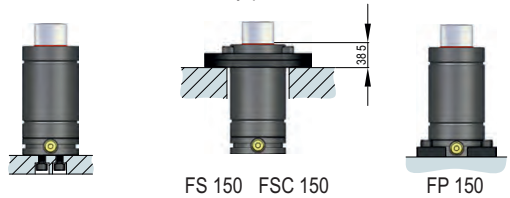
Force/stroke ratio



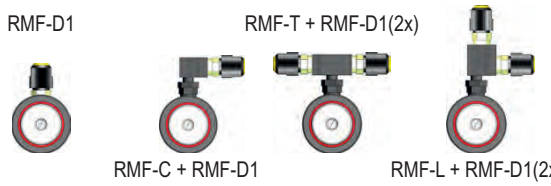
Initial force/charging pressure ratio



Assembly possibilities



Connection alternatives



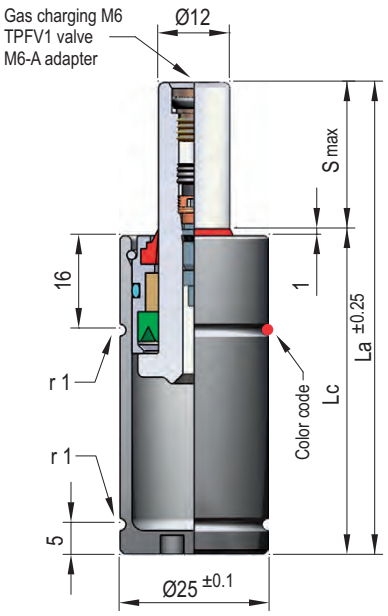
PED 2014/68/UE



Medium compact gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY			RENAULT STANDARD
TPK 25	25	7 - 125	200	✓	✓			
TPKN 25	25	12 - 80	200	✓	✓			
TPKR 25	25	7 - 63	200	✓	✓			
TPK 32	32	7 - 100	400	✓	✓		✓	
TPKN 32	32	7 - 80	300	✓	✓		✓	
TPKR 32	32	7 - 80	300	✓	✓		✓	
TPK 600	38	12 - 125	600	✓	✓		✓	
TPKF 500	45	13 - 125	470	✓	✓	✓	✓	✓
TPK 750	45	13 - 100	740	✓	✓		✓	
TPKS 750	45	13 - 125	740	✓	✓	✓	✓	
TPKF 750	50	13 - 125	740	✓	✓	✓	✓	✓
TPK 1000	50	13 - 125	1000	✓	✓		✓	
TPKS 1000	50	13 - 125	1000	✓	✓	✓	✓	
TPK 1500.1	63	12 - 100	1500	✓	✓	✓	✓	
TPKN 1500	63	12 - 80	1500	✓	✓	✓	✓	
TPKF 1500	75	25 - 100	1500	✓	✓	✓	✓	✓
TPK 2500	75	25 - 125	2400	✓	✓	✓	✓	
TPK 3000	75	12 - 100	3000	✓	✓	✓	✓	
TPKF 3000	95	25 - 100	3000	✓	✓	✓	✓	✓
TPK 4250	95	25 - 125	4250	✓	✓	✓	✓	

ECO SERIES

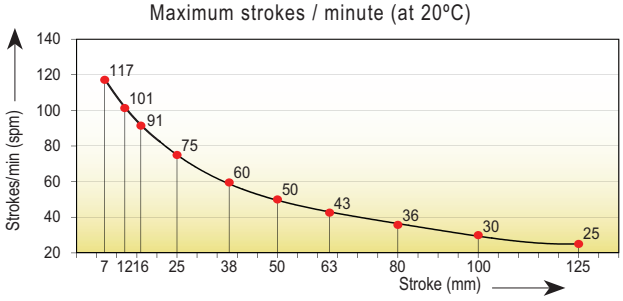


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit K25

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPK 25x7	7	46	39	0,003	0,09
TPK 25x12	12	54	42	0,005	0,10
TPK 25x16	16	62	46	0,006	0,11
TPK 25x25	25	80	55	0,009	0,13
TPK 25x38	38	106	68	0,014	0,15
TPK 25x50	50	130	80	0,018	0,17
TPK 25x63	63	156	93	0,023	0,20
TPK 25x80	80	190	110	0,029	0,22
TPK 25x100	100	230	130	0,036	0,25
TPK 25x125	125	282	157	0,046	0,30

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 75	45
BL *(Blue)*	100 (±10)	≈ 145	90
RD *(Red)*	150 (±15)	≈ 220	135
YW *(Yellow)*	200 (±20)	≈ 285	175
(Other forces)	28 - 200	≈ 40 - 285	25 - 175

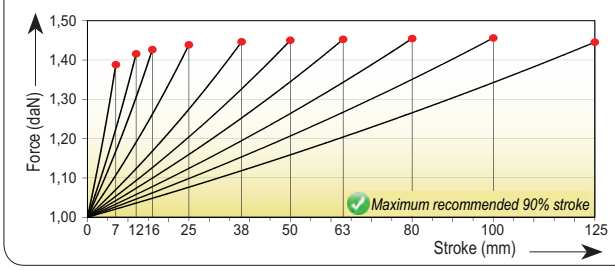
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

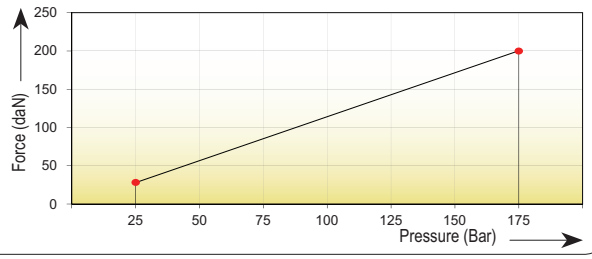
TPK 25 x 38 YW

Model | Stroke | Color code

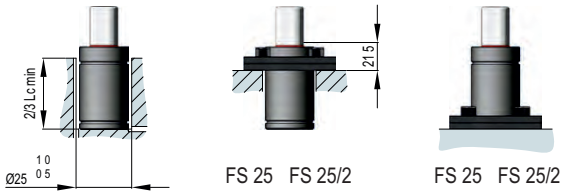
Force/stroke ratio

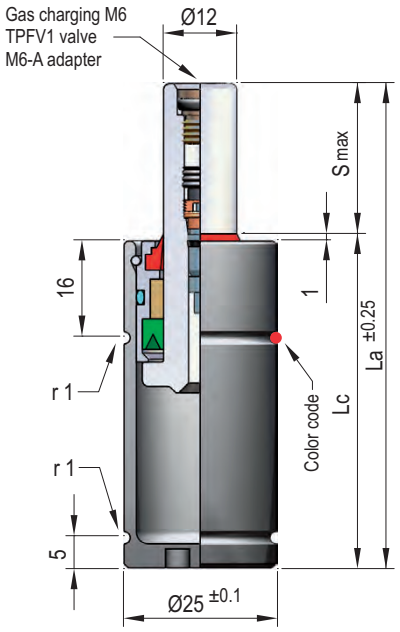


Initial force/charging pressure ratio



Assembly possibilities



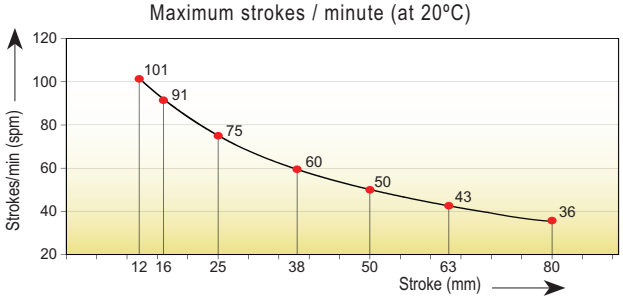


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KN25

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPKN 25x12	12	56	44	0,005	0,12
TPKN 25x16	16	64	48	0,006	0,13
TPKN 25x25	25	82	57	0,009	0,15
TPKN 25x38	38	108	70	0,014	0,17
TPKN 25x50	50	132	82	0,018	0,19
TPKN 25x63	63	158	95	0,023	0,21
TPKN 25x80	80	192	112	0,029	0,24

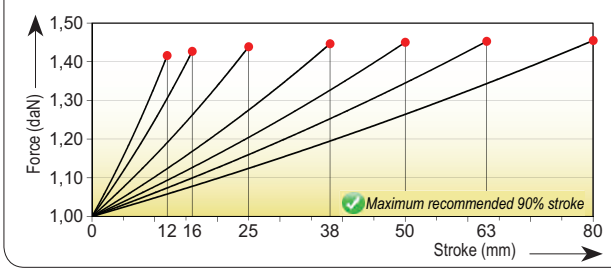
Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 75	45
BL *(Blue)*	100 (±10)	≈ 145	90
RD *(Red)*	150 (±15)	≈ 220	135
YW *(Yellow)*	200 (±20)	≈ 285	175
(Other forces)	28 - 200	≈ 40 - 285	25 - 175

The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

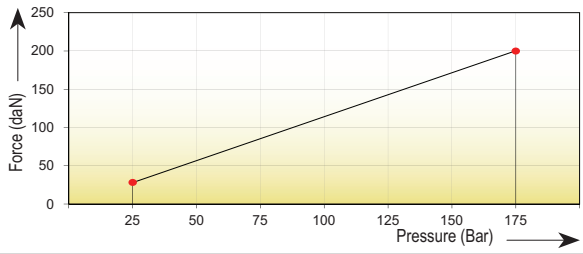
How to order

TPKN 25 (Model) x 50 (Stroke) YW (Color code)

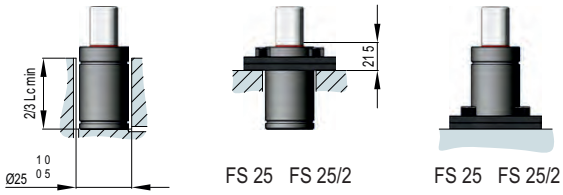
Force/stroke ratio

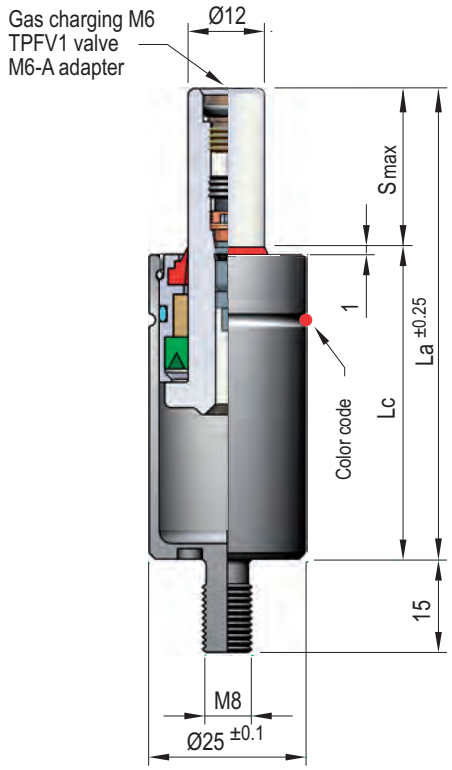


Initial force/charging pressure ratio



Assembly possibilities



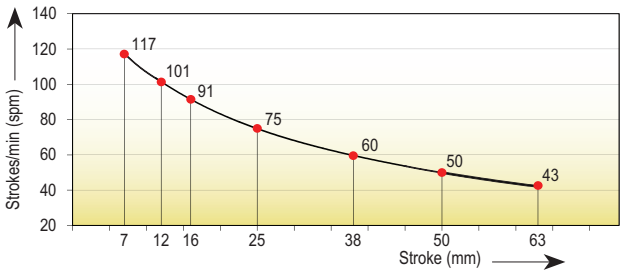


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KR25

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPKR 25x7	7	46	39	0,003	0,13
TPKR 25x12	12	56	44	0,005	0,14
TPKR 25x16	16	64	48	0,006	0,16
TPKR 25x25	25	82	57	0,009	0,18
TPKR 25x38	38	108	70	0,014	0,20
TPKR 25x50	50	132	82	0,018	0,22
TPKR 25x63	63	158	95	0,023	0,25

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 75	45
BL *(Blue)*	100 (±10)	≈ 145	90
RD *(Red)*	150 (±15)	≈ 220	135
YW *(Yellow)*	200 (±20)	≈ 285	175
(Other forces)	28 - 200	≈ 40 - 285	25 - 175

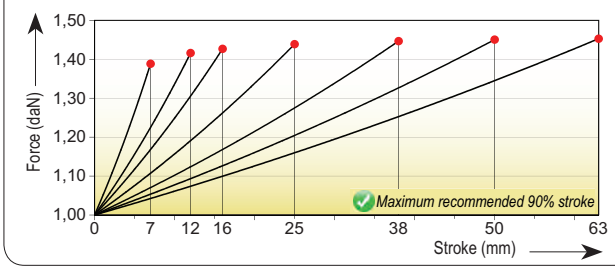
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

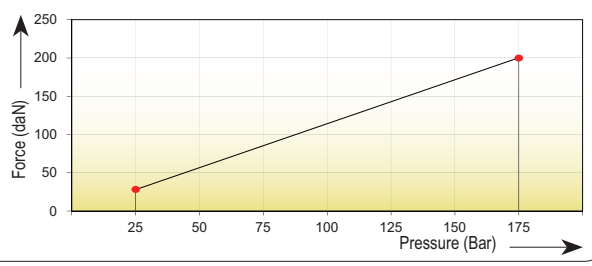
TPKR 25 x 12 GR

Model | Stroke | Color code

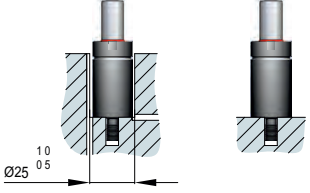
Force/stroke ratio



Initial force/charging pressure ratio

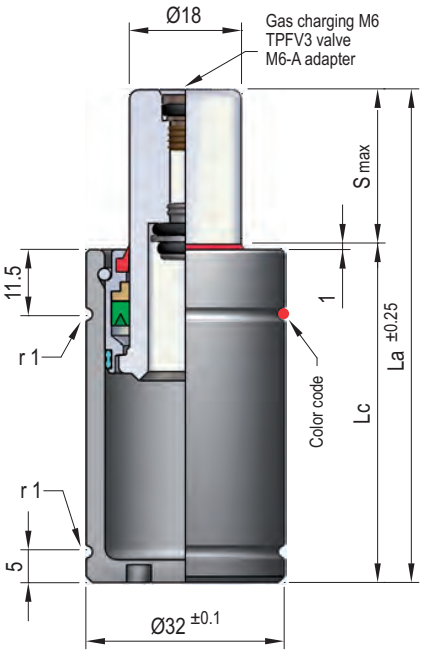


Assembly possibilities



TPGAS 07 01-2018

ECO SERIES



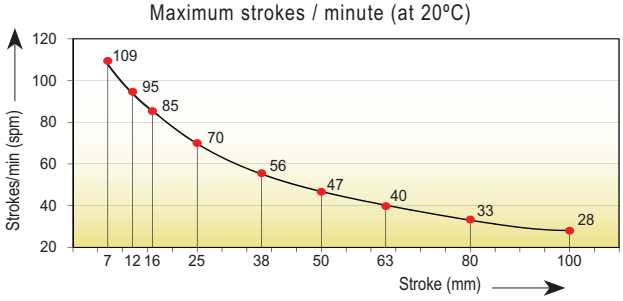
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit K32

PED 2014/68/UE

VDI SAFETY

RE-18-32

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPK 32x7	7	49	42	0,005	0,20
TPK 32x12	12	59	47	0,008	0,21
TPK 32x16	16	67	51	0,011	0,23
TPK 32x25	25	85	60	0,017	0,26
TPK 32x38	38	111	73	0,025	0,29
TPK 32x50	50	135	85	0,033	0,33
TPK 32x63	63	161	98	0,041	0,37
TPK 32x80	80	195	115	0,052	0,43
TPK 32x100	100	235	135	0,065	0,49

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 165	40
BL *(Blue)*	200 (±15)	≈ 330	80
RD *(Red)*	300 (±20)	≈ 495	120
YW *(Yellow)*	400 (±20)	≈ 640	155
(Other forces)	65 - 400	≈ 100 - 640	25 - 155

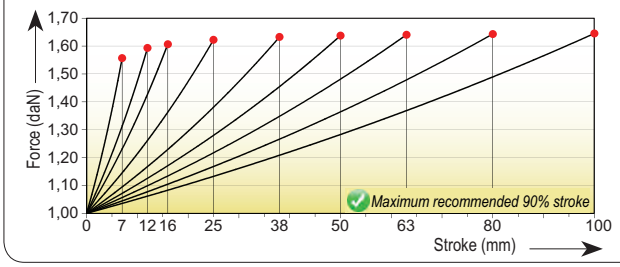
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (155Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

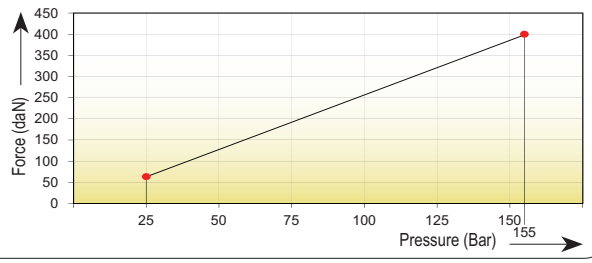
TPK 32 x 38 YW

Model | Stroke | Color code

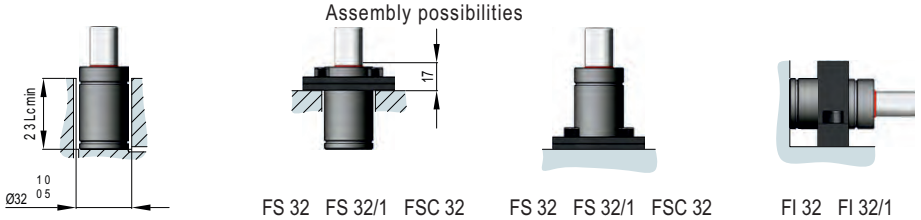
Force/stroke ratio

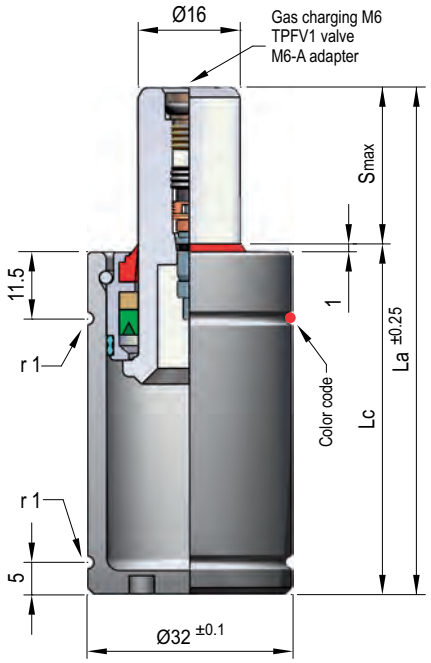


Initial force/charging pressure ratio



Assembly possibilities



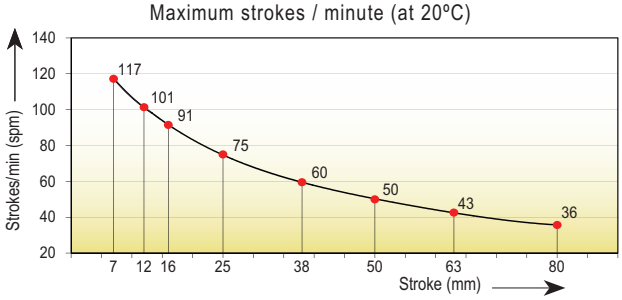


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KN32

PED 2014/68/UE



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPKN 32x7	7	53	46	0,005	0,22
TPKN 32x12	12	63	51	0,007	0,23
TPKN 32x16	16	71	55	0,010	0,25
TPKN 32x25	25	89	64	0,015	0,29
TPKN 32x38	38	115	77	0,023	0,31
TPKN 32x50	50	139	89	0,030	0,35
TPKN 32x63	63	165	102	0,038	0,39
TPKN 32x80	80	199	119	0,049	0,45

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 150	50
BL *(Blue)*	200 (±15)	≈ 300	100
RD *(Red)*	250 (±20)	≈ 375	125
YW *(Yellow)*	300 (±20)	≈ 450	150
(Other forces)	50 - 300	≈ 75 - 450	25 - 150

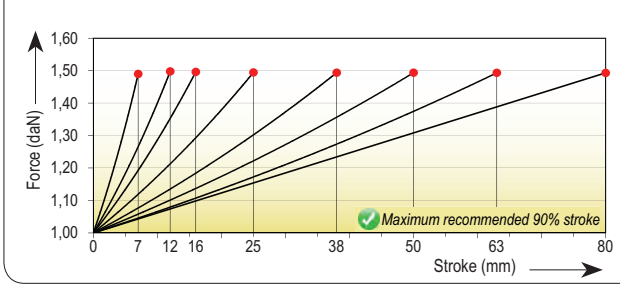
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (150Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

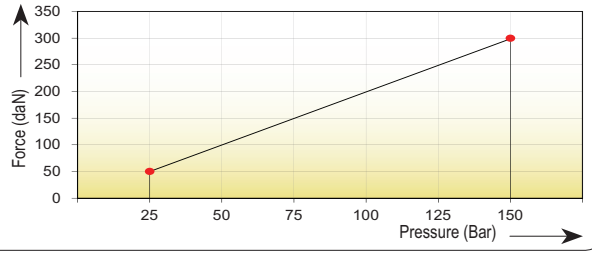
TPKN 32 x 63 BL

Model | Stroke | Color code

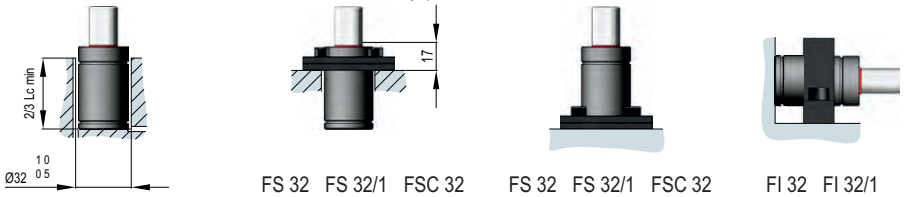
Force/stroke ratio

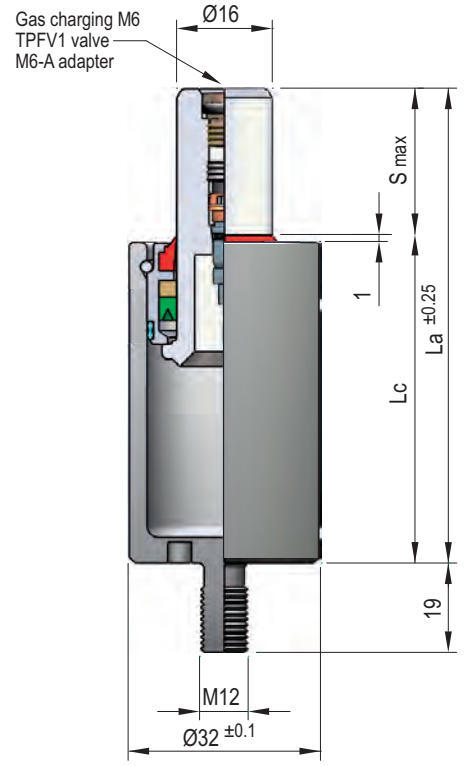


Initial force/charging pressure ratio



Assembly possibilities





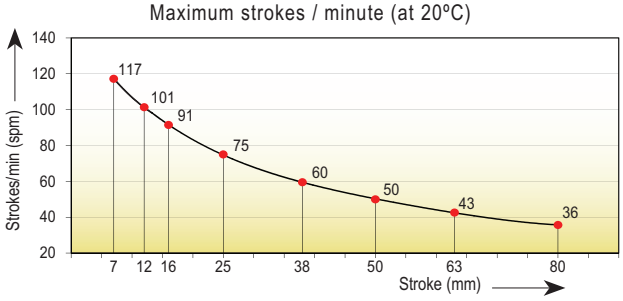
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KR32

PED 2014/68/UE

VDI SAFETY

RE-16-32

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPKR 32x7	7	53	46	0,005	0,23
TPKR 32x12	12	63	51	0,007	0,24
TPKR 32x16	16	71	55	0,010	0,26
TPKR 32x25	25	89	64	0,015	0,30
TPKR 32x38	38	115	77	0,023	0,32
TPKR 32x50	50	139	89	0,030	0,36
TPKR 32x63	63	165	102	0,038	0,40
TPKR 32x80	80	199	119	0,049	0,46

Color code	Fa daN	Fa daN	P Bar
GR (Green)	100 (±10)	≈ 150	50
BL (Blue)	200 (±15)	≈ 300	100
RD (Red)	250 (±20)	≈ 375	125
YW (Yellow)	300 (±20)	≈ 450	150
(Other forces)	50 - 300	≈ 75 - 450	25 - 150

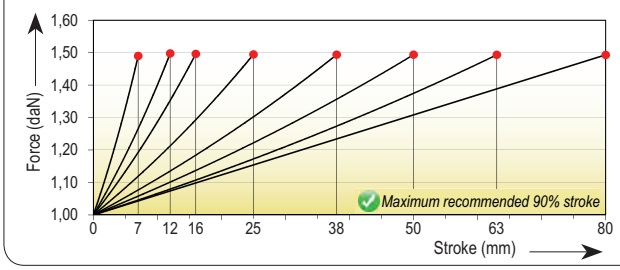
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (150Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

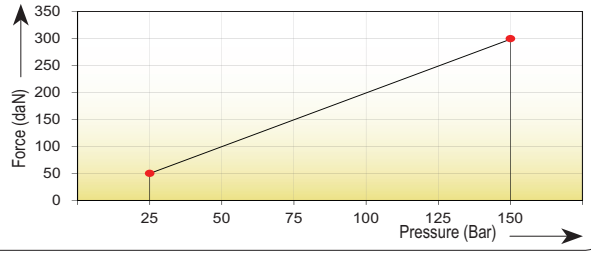
TPKR 32 x 25 RD

Model | Stroke | Color code

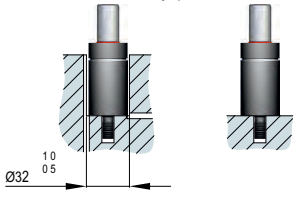
Force/stroke ratio



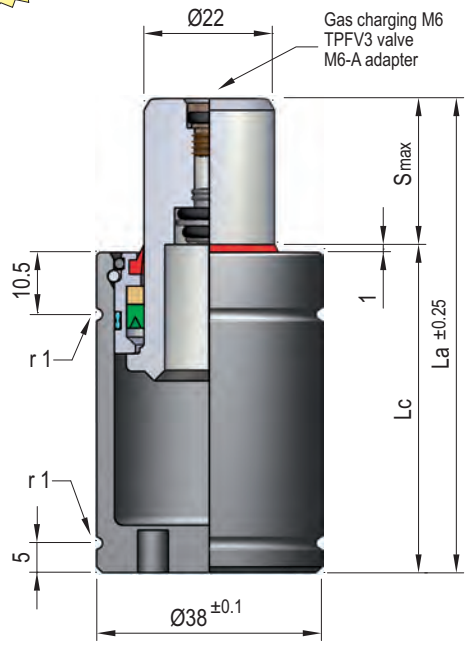
Initial force/charging pressure ratio



Assembly possibilities



ECO SERIES



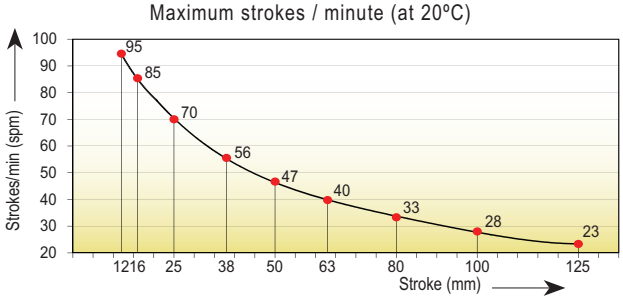
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit K600

PED 2014/68/UE

VDI SAFETY

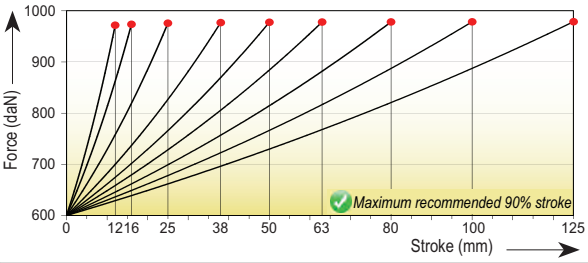
RE-22-32

Maximum strokes / minute (at 20ºC)

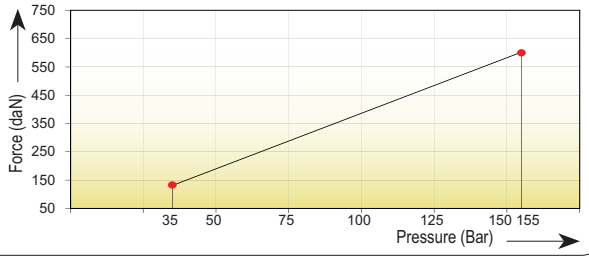


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPK 600x12	12	61	49	600 ±5% (20ºC)	900	955	155 (20ºC)	0,012	0,30
TPK 600x16	16	69	53		900	955		0,016	0,32
TPK 600x25	25	87	62		900	960		0,025	0,35
TPK 600x38	38	113	75		905	960		0,037	0,41
TPK 600x50	50	137	87		905	960		0,049	0,45
TPK 600x63	63	163	100		905	960		0,062	0,50
TPK 600x80	80	197	117		905	960		0,079	0,57
TPK 600x100	100	237	137		905	960		0,098	0,66
TPK 600x125	125	287	162		905	960		0,123	0,79

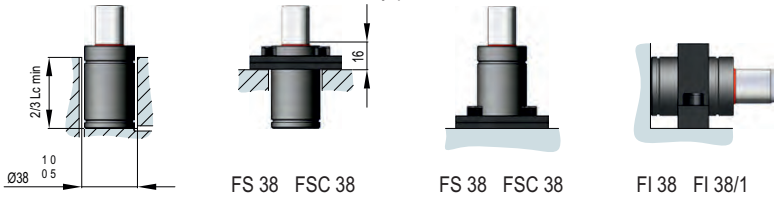
Force/stroke ratio



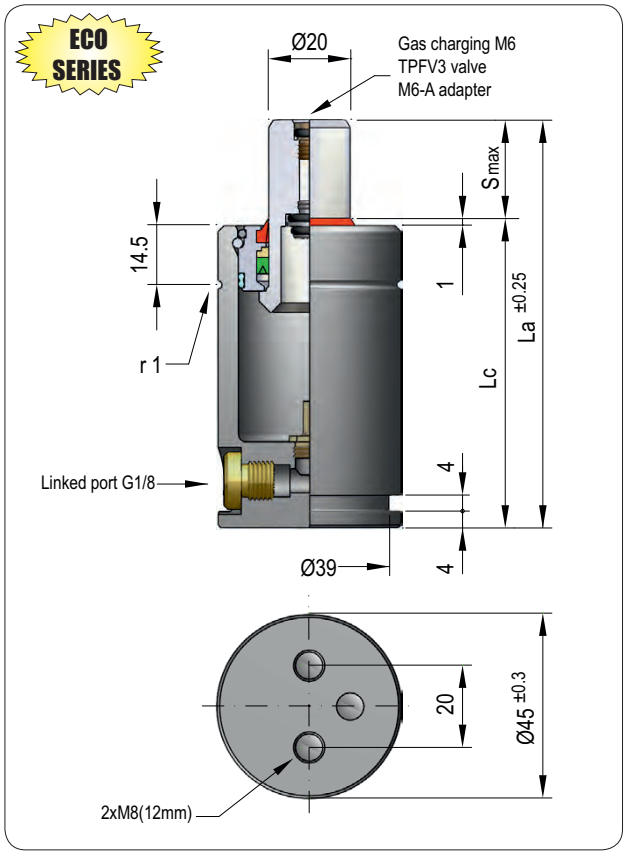
Initial force/charging pressure ratio



Assembly possibilities



FS 38 FSC 38 | FS 38 FSC 38 | FI 38 FI 38/1



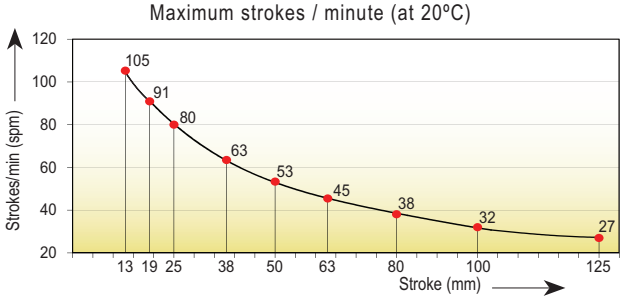
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KF500

PED 2014/68/UE

RENAULT
EM24.54/700/F

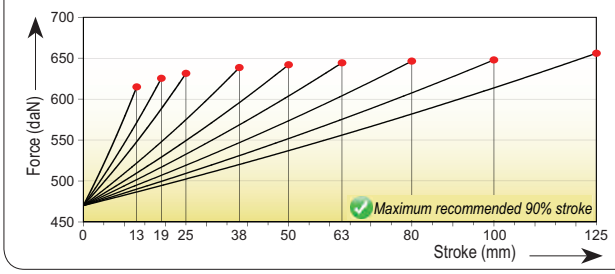


Maximum strokes / minute (at 20ºC)

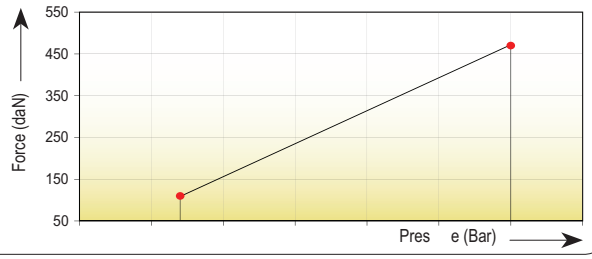


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKF 500x13	13	75,7	62,7	470 ±5% (20ºC)	600	615	150 (20ºC)	0,017	0,55
TPKF 500x19	19	88	69		605	625		0,024	0,60
TPKF 500x25	25	100	75		610	635		0,031	0,65
TPKF 500x38	38	126	88		620	640		0,045	0,85
TPKF 500x50	50	150	100		620	645		0,059	0,88
TPKF 500x63	63	177	114		625	645		0,073	0,95
TPKF 500x80	80	210	130		625	650		0,092	1,05
TPKF 500x100	100	250	150		625	650		0,114	1,20
TPKF 500x125	125	300	175		635	660		0,139	1,45

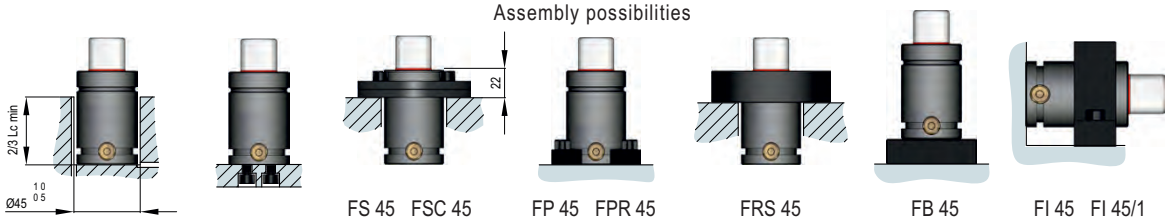
Force/stroke ratio



Initial force/charging pressure ratio

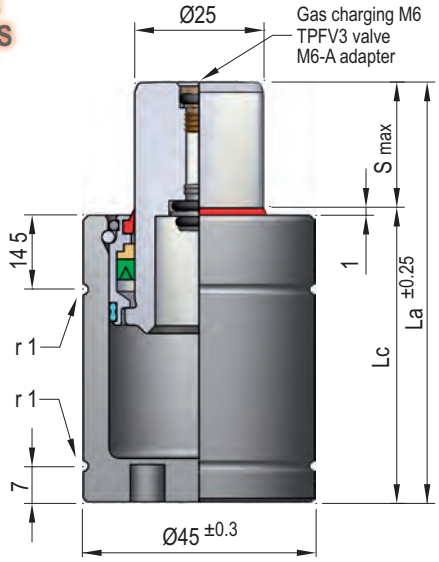


Assembly possibilities



ECO SERIES

AVAILABLE WHILE STOCKS LAST

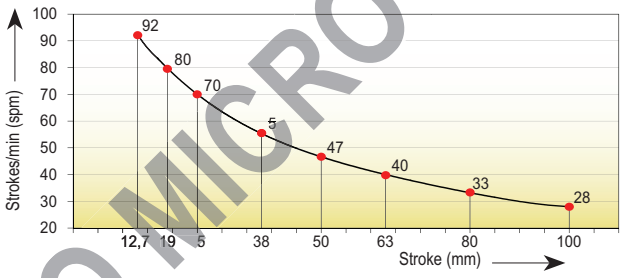


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit K750

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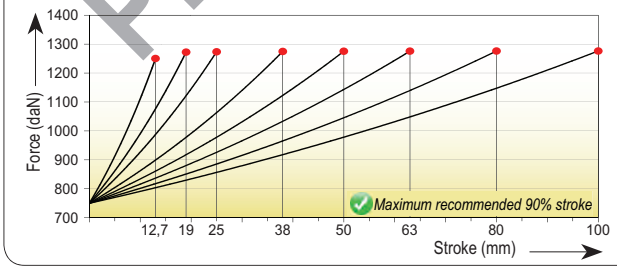


Maximum strokes / minute (at 20ºC)

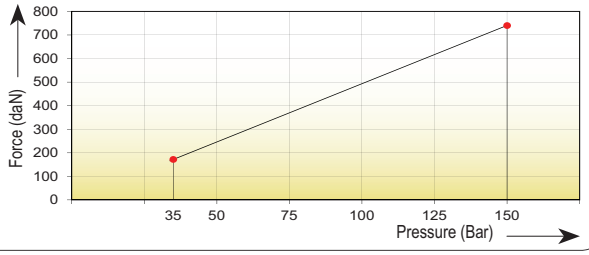


Code	Smax mm	La mm	Lc mm	Fa daN	0% F daN	100% Fc daN	P Bar	V l	Kg
TPK 750x13	12,7	57,4	44,7		1150	1225		0,016	0,43
TPK 750x19	19	70	51		1170	1250		0,023	0,48
TPK 750x25	25	82	57		1170	1250		0,030	0,52
TPK 750x38	38	108	70	7 0 ±5%	1170	1250	150	0,045	0,62
TPK 750x50	50	132	82	(20ºC)	1170	1250	(20ºC)	0,060	0,70
TPK 750x63	63	159	96		1170	1255		0,075	0,80
TPK 750x80	80	192	112		1170	1255		0,095	0,92
TPK 750x100	100	232	132		1170	1255		0,119	1,10

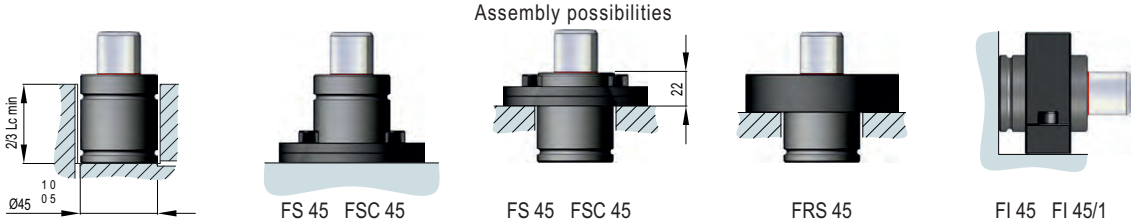
Force/stroke ratio



Initial force/charging pressure ratio

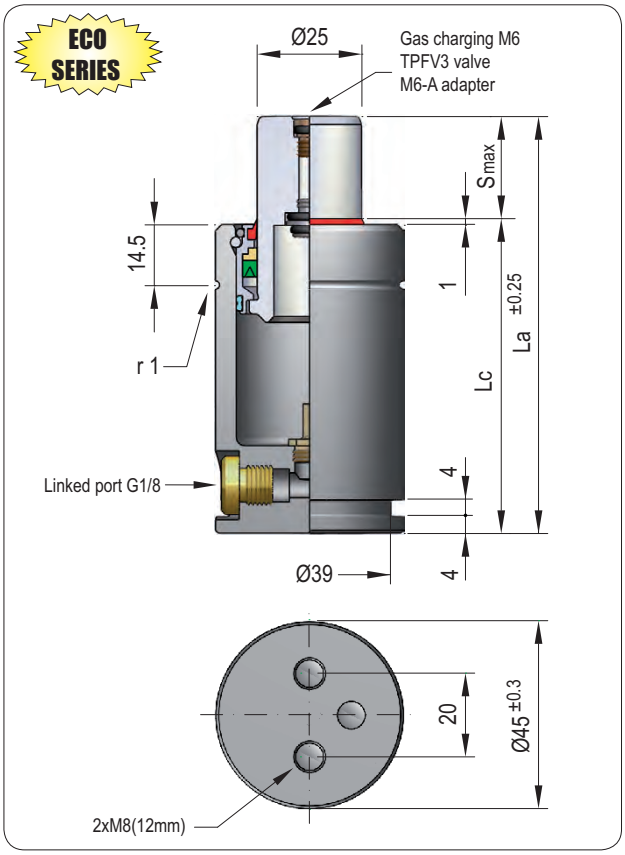


Assembly possibilities



FS 45 FSC 45 | FS 45 FSC 45 | FRS 45 | FI 45 FI 45/1

PHASING OUT TO MICRO 45

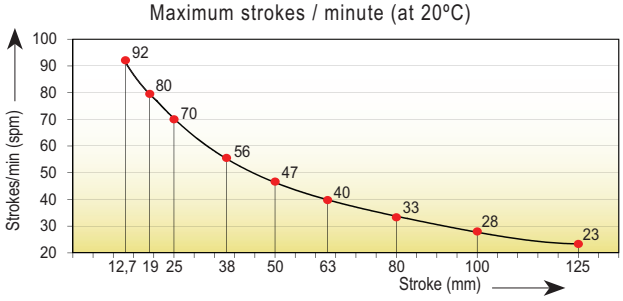


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KS750

PED 2014/68/UE

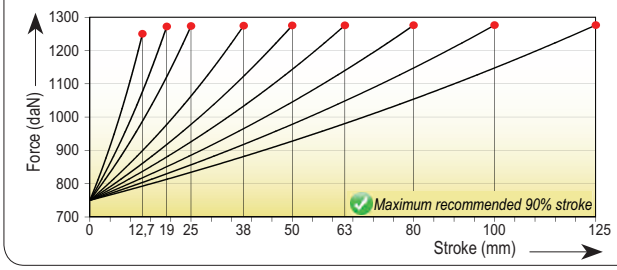


Maximum strokes / minute (at 20ºC)

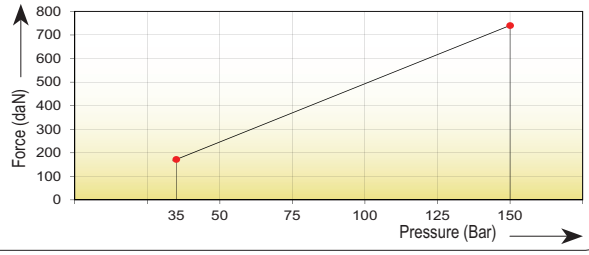


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKS 750x13	12,7	75,4	62,7	740 ±5% (20ºC)	1150	1225	150 (20ºC)	0,016	0,60
TPKS 750x19	19	88	69		1170	1250		0,023	0,65
TPKS 750x25	25	100	75		1170	1250		0,030	0,70
TPKS 750x38	38	126	88		1170	1250		0,045	0,80
TPKS 750x50	50	150	100		1170	1250		0,060	0,88
TPKS 750x63	63	177	114		1170	1255		0,075	0,98
TPKS 750x80	80	210	130		1170	1255		0,095	1,10
TPKS 750x100	100	250	150		1170	1255		0,119	1,24
TPKS 750x125	125	300	175		1170	1255		0,149	1,37

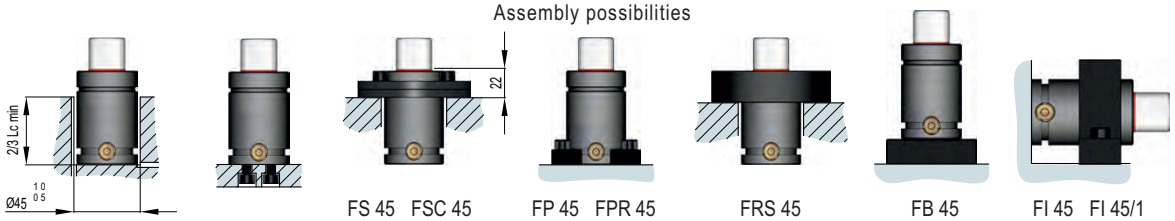
Force/stroke ratio

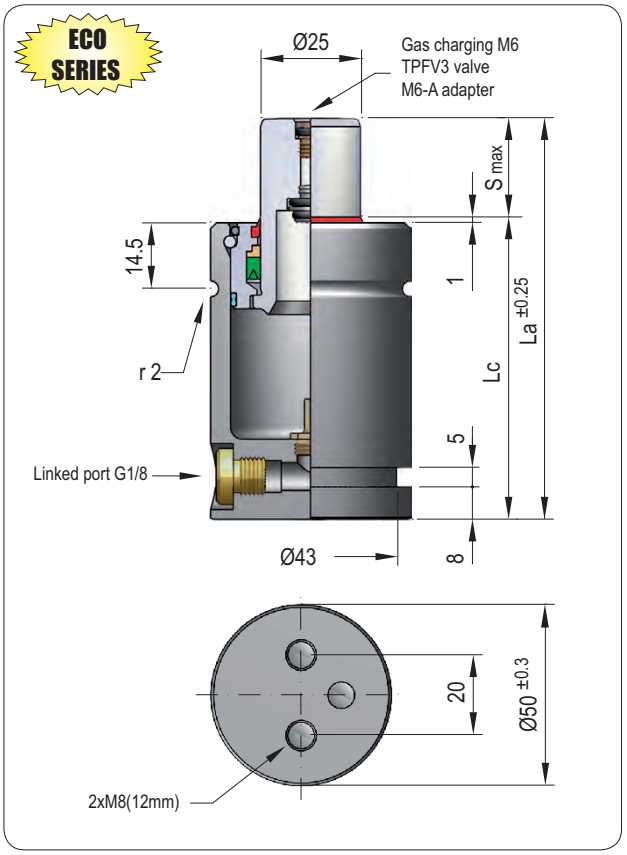


Initial force/charging pressure ratio



Assembly possibilities





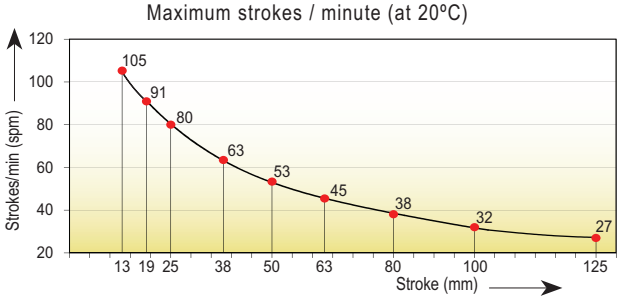
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KF750

PED 2014/68/UE

RENAULT
EM24.54/700/F

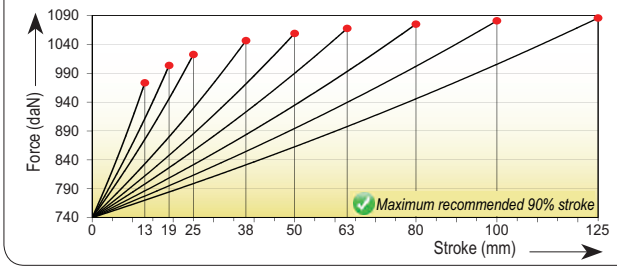


Maximum strokes / minute (at 20ºC)

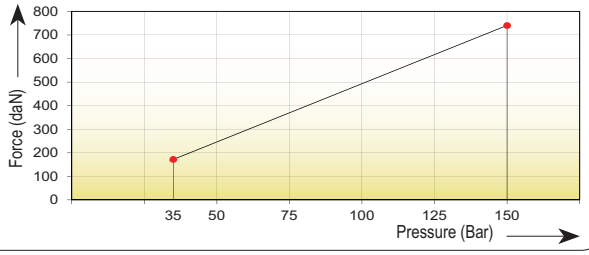


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKF 750x13	13	75,7	62,7	740 ±5% (20ºC)	935	960	150 (20ºC)	0,027	0,72
TPKF 750x19	19	88	69		965	1000		0,036	0,75
TPKF 750x25	25	100	75		980	1015		0,044	0,80
TPKF 750x38	38	126	88		1000	1040		0,064	0,92
TPKF 750x50	50	150	100		1010	1055		0,082	1,02
TPKF 750x63	63	177	114		1015	1060		0,101	1,15
TPKF 750x80	80	210	130		1025	1070		0,126	1,31
TPKF 750x100	100	250	150		1030	1075		0,156	1,50
TPKF 750x125	125	300	175		1030	1080		0,193	1,65

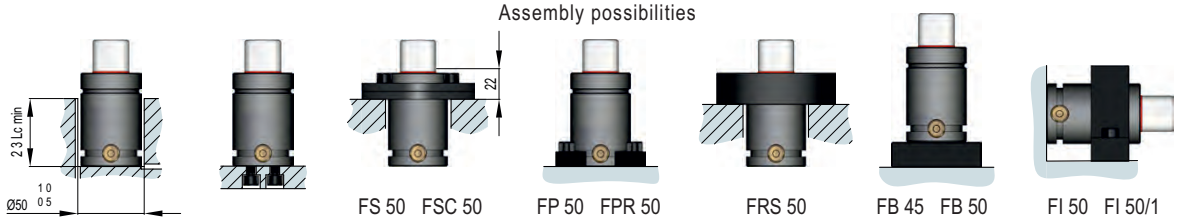
Force/stroke ratio



Initial force/charging pressure ratio



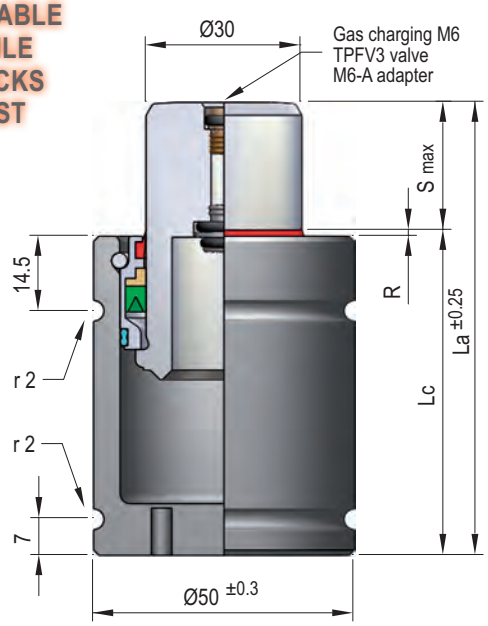
Assembly possibilities



TPGAS 07 01-2018

ECO SERIES

AVAILABLE WHILE STOCKS LAST

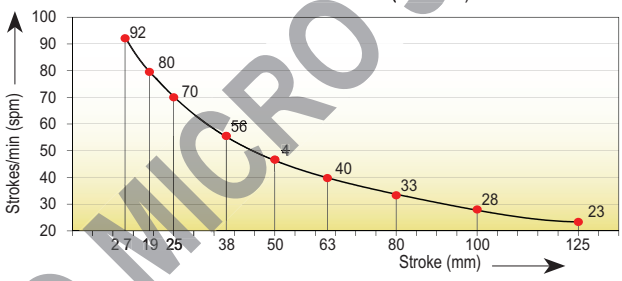


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1 m/s
Maintenance kit	Kit K1000

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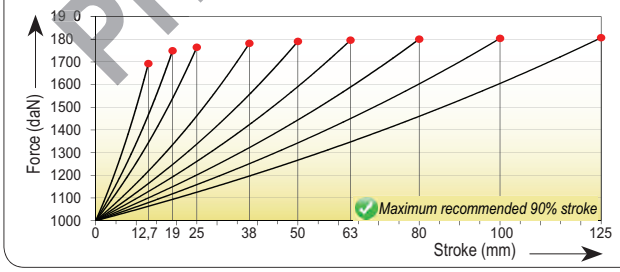


Maximum strokes / minute (at 2 ºC)

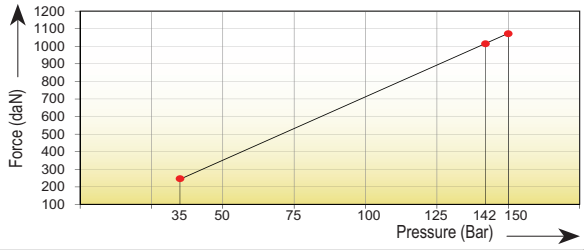


Code	Smax mm	La mm	Lc mm	R mm	Fa daN	90 F daN	100% Fc daN	P Bar	V l	Kg
TPK 1000x13	12,7	63,4	50,7	1	1000 ±5% (20ºC)	1590	1700	142 (20ºC)	0,022	0,59
TPK 1000x19	19	76	57	1		1635	1755		0,031	0,62
TPK 1000x25	25	88	63	1		1645	1770		0,041	0,69
TPK 1000x38	38	114	76	1		1660	1790		0,061	0,81
TPK 1000x50	50	138	88	1		1665	1795		0,080	0,91
TPK 1000x63	63	165	102	1		1670	1805		0,101	1,05
TPK 1000x80	80	198	118	1		1675	1805		0,127	1,20
TPK 1000x100	100	238	138	1		1675	1810		0,159	1,41
TPK 1000x125	125	290	1	3		1680	1815		0,198	1,55

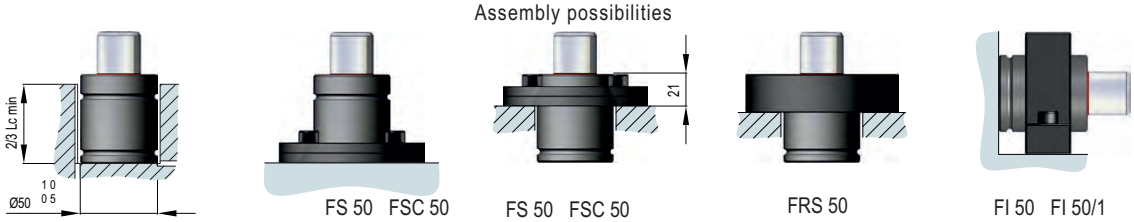
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

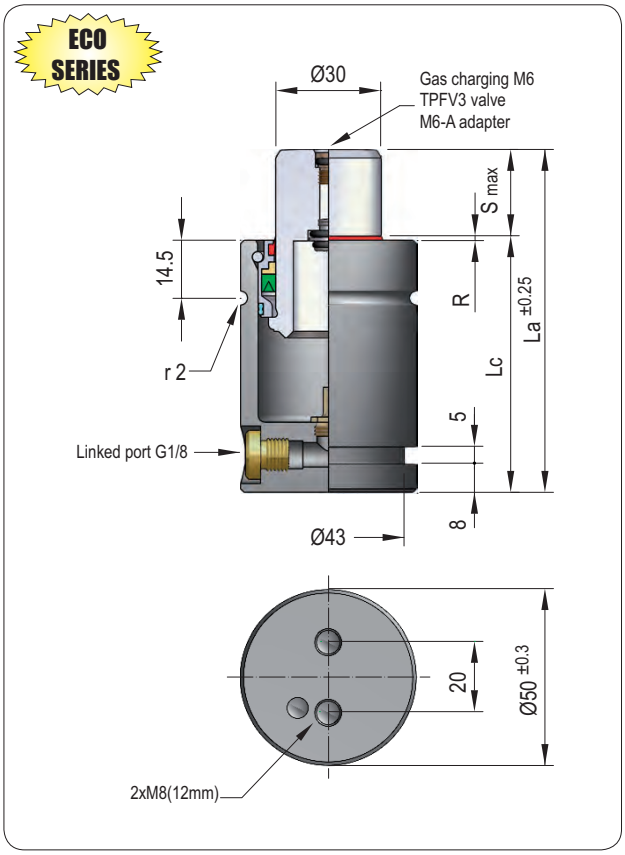


PHASING OUT TO MICRO 50V

TECAPRES®

Ø50mm 1000daN

TPKS 1000

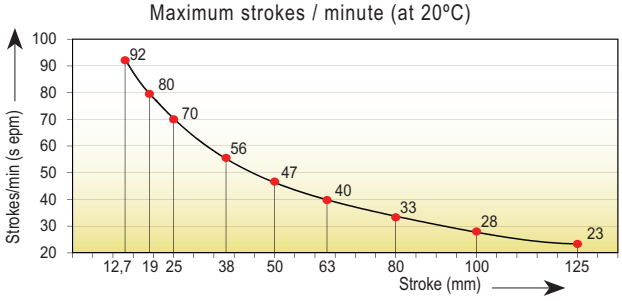


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit KS1000

PED 2014/68/UE

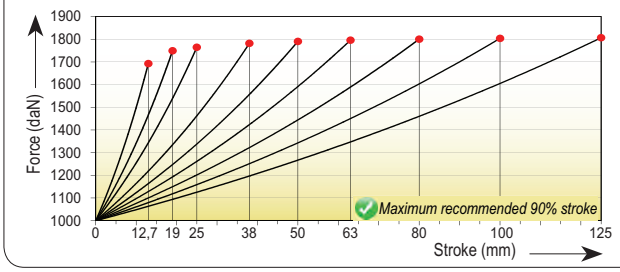


Maximum strokes / minute (at 20ºC)

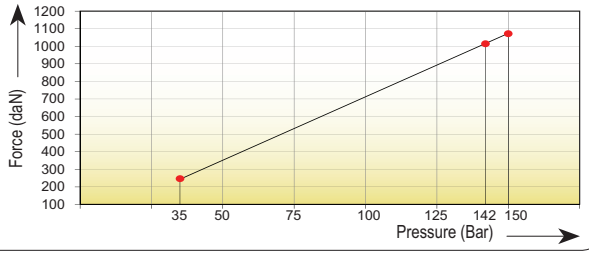


Code	Smax mm	La mm	Lc mm	R mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKS 1000x13	12,7	75,4	62,7	1	1000 ±5% (20ºC)	1590	1700	142 (20ºC)	0,022	0,59
TPKS 1000x19	19	88	69	1		1635	1755		0,031	0,62
TPKS 1000x25	25	100	75	1		1645	1770		0,041	0,69
TPKS 1000x38	38	126	88	1		1660	1790		0,061	0,81
TPKS 1000x50	50	150	100	1		1665	1795		0,080	0,91
TPKS 1000x63	63	177	114	1		1670	1805		0,101	1,05
TPKS 1000x80	80	210	130	1		1675	1805		0,127	1,20
TPKS 1000x100	100	250	150	1		1675	1810		0,159	1,41
TPKS 1000x125	125	300	175	3		1680	1815		0,198	1,55

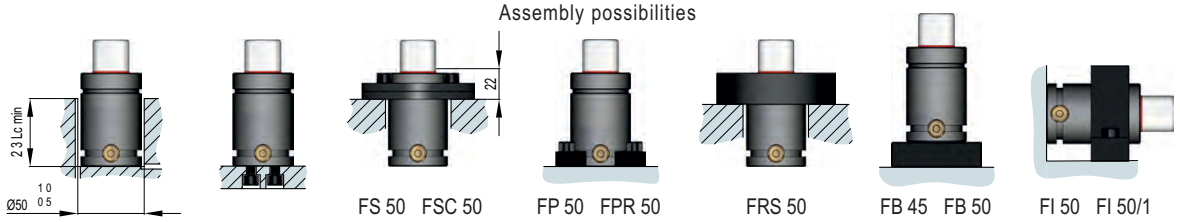
Force/stroke ratio



Initial force/charging pressure ratio

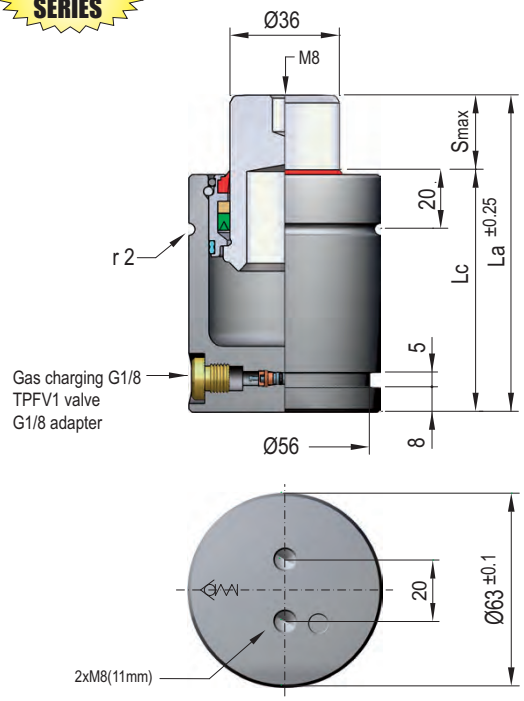


Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

ECO SERIES

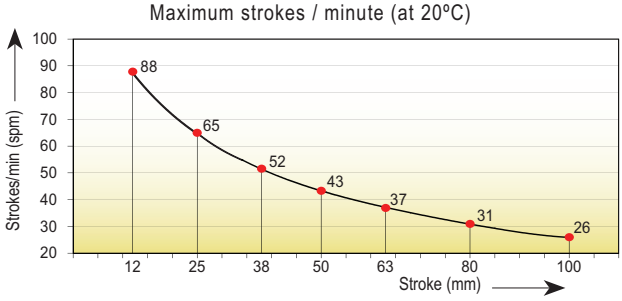


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit K1500.1

PED 2014/68/UE

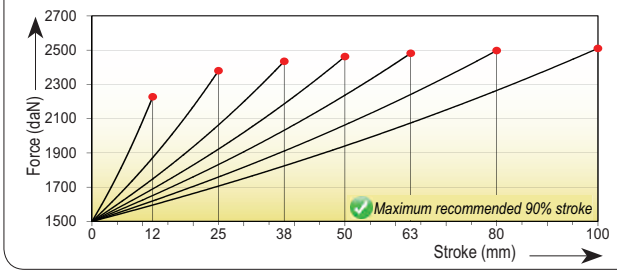


Maximum strokes / minute (at 20ºC)

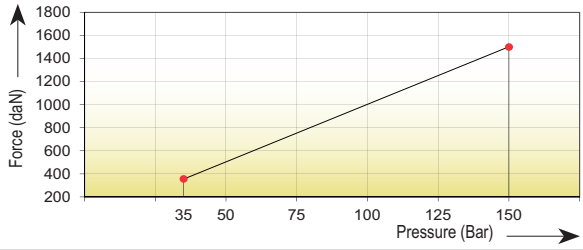


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPK 1500x12.1	12	79	67	1500 ±5% (20ºC)	2135	2235	148 (20ºC)	0,037	1,20
TPK 1500x25.1	25	105	80		2260	2390		0,069	1,43
TPK 1500x38.1	38	131	93		2300	2445		0,101	1,89
TPK 1500x50.1	50	155	105		2325	2475		0,130	2,45
TPK 1500x63.1	63	181	118		2340	2495		0,162	2,31
TPK 1500x80.1	80	215	135		2350	2510		0,204	2,40
TPK 1500x100.1	100	255	155		2360	2520		0,253	2,73

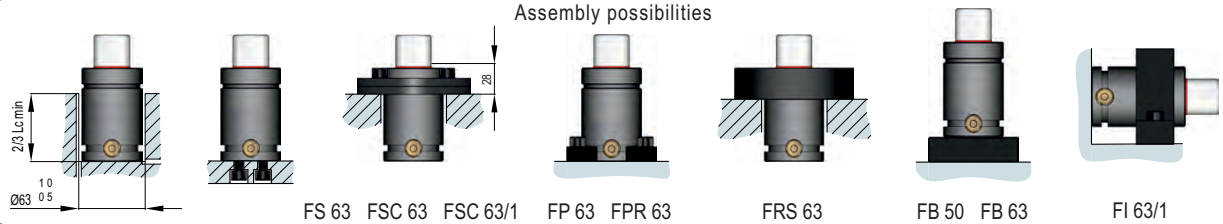
Force/stroke ratio

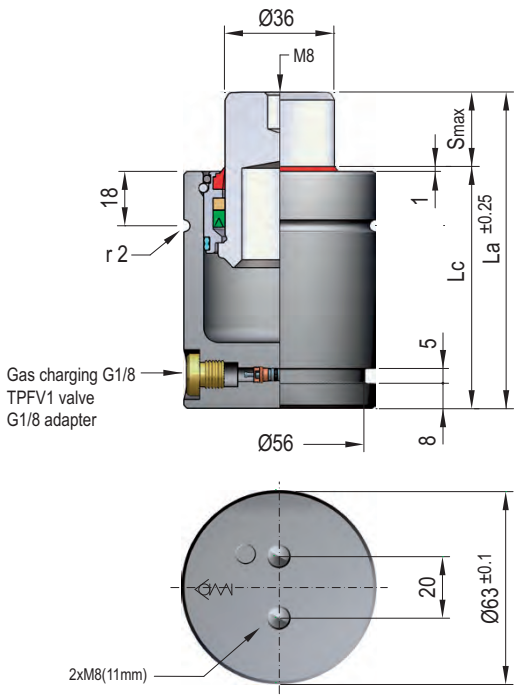


Initial force/charging pressure ratio



Assembly possibilities



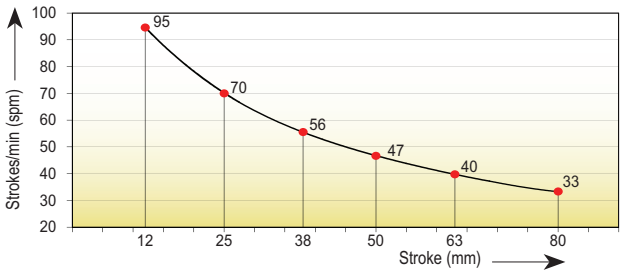


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KN1500

PED 2014/68/UE

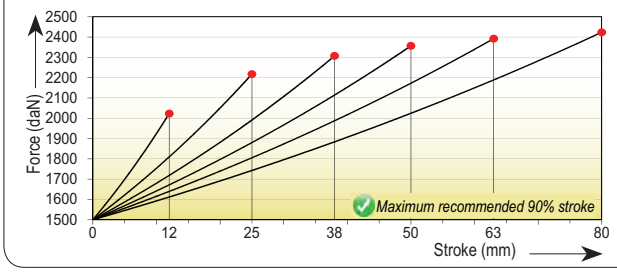


Maximum strokes / minute (at 20ºC)

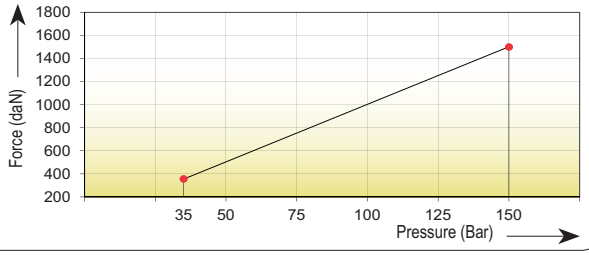


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKN 1500x12	12	84	72		1965	2030		0,047	1,30
TPKN 1500x25	25	110	85		2125	2225		0,079	1,53
TPKN 1500x38	38	136	98	1500 ±5%	2200	2315	148	0,111	1,99
TPKN 1500x50	50	160	110	(20ºC)	2240	2365	(20ºC)	0,140	2,25
TPKN 1500x63	63	186	123		2270	2405		0,172	2,41
TPKN 1500x80	80	220	140		2295	2435		0,214	2,50

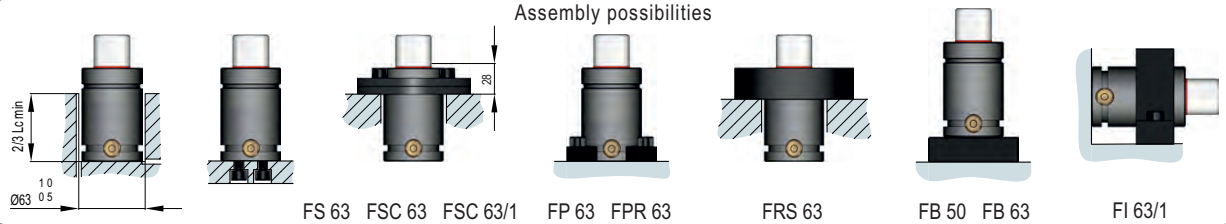
Force/stroke ratio

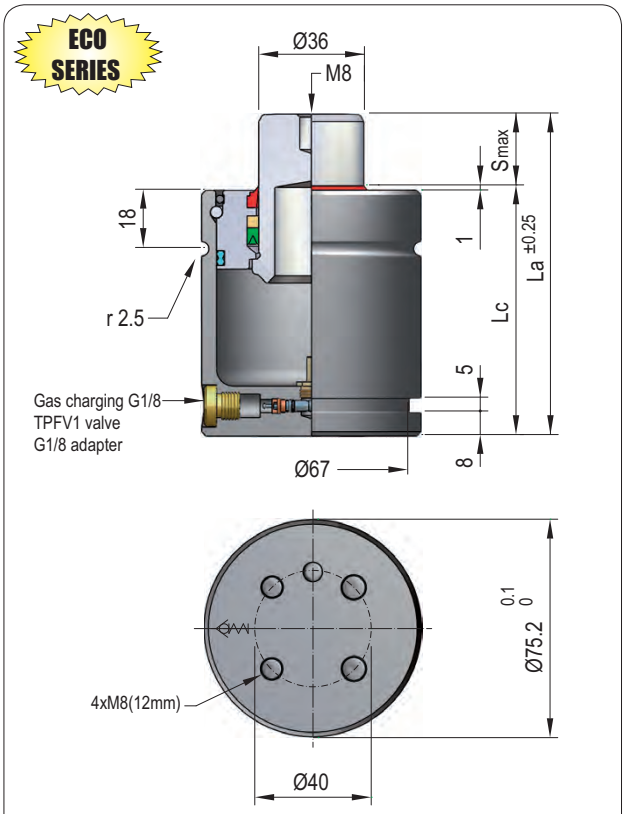


Initial force/charging pressure ratio



Assembly possibilities





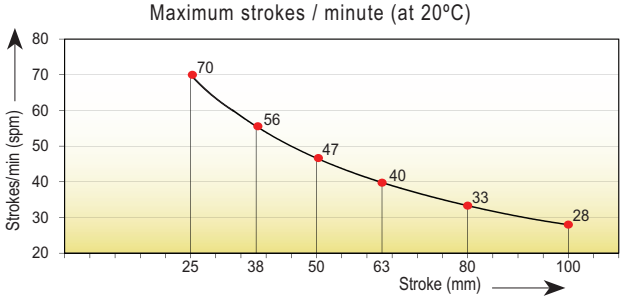
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KF1500

PED 2014/68/UE

RENAULT
EM24.54/700/F

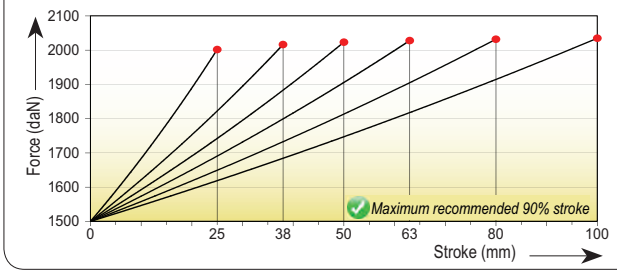


Maximum strokes / minute (at 20ºC)

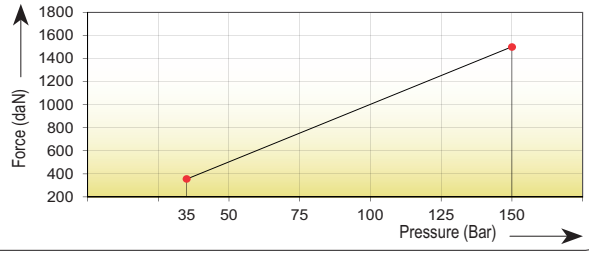


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKF 1500x25	25	110	85		1945	2010		0,102	1,80
TPKF 1500x38	38	136	98		1960	2025		0,151	1,90
TPKF 1500x50	50	160	110	1500 ±5%	1965	2030	148	0,197	2,20
TPKF 1500x63	63	186	123	(20ºC)	1970	2035	(20ºC)	0,246	2,45
TPKF 1500x80	80	220	140		1970	2040		0,311	2,80
TPKF 1500x100	100	260	160		1975	2045		0,387	3,20

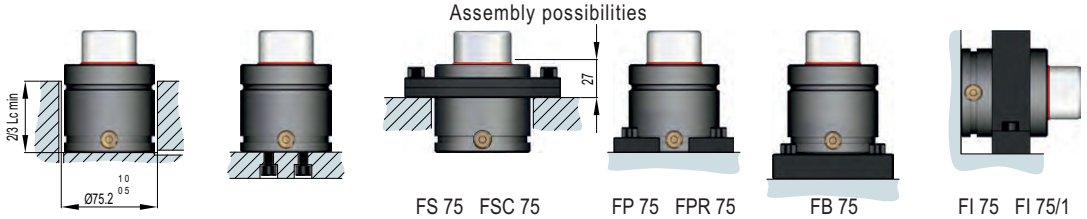
Force/stroke ratio



Initial force/charging pressure ratio



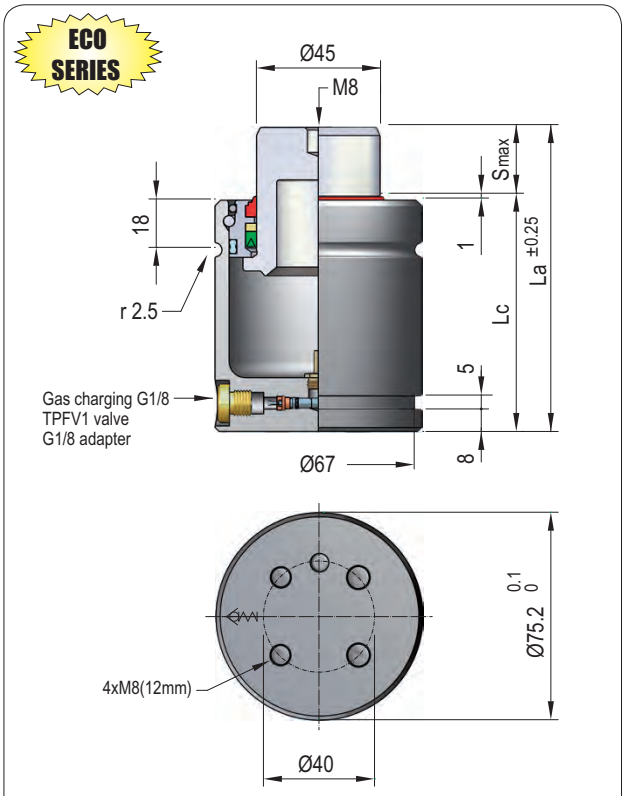
Assembly possibilities



TECAPRES®

Ø75mm 2400daN

TPK 2500

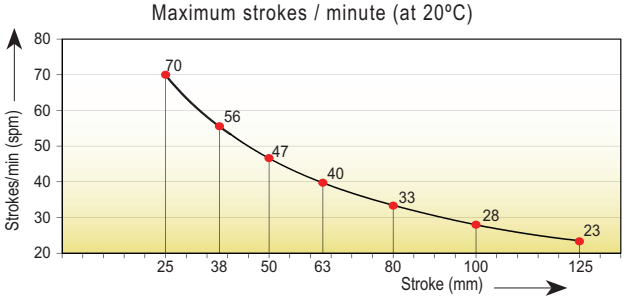


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit K2500

PED 2014/68/UE

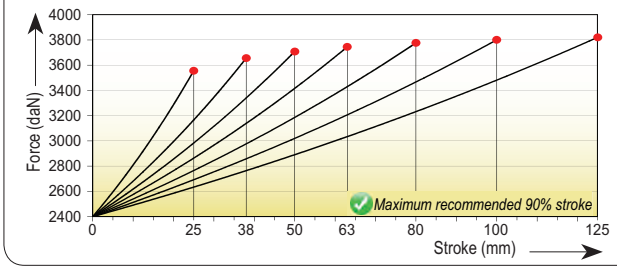


Maximum strokes / minute (at 20ºC)

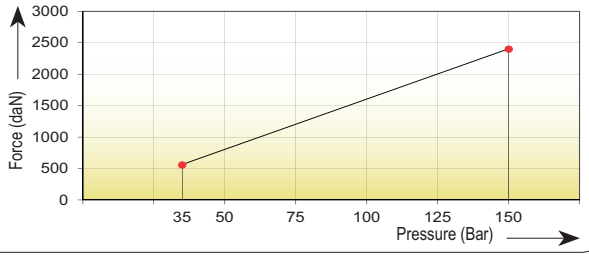


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPK 2500x25	25	110	85	2400 ±5% (20ºC)	3375	3535	150 (20ºC)	0,122	2,00
TPK 2500x38	38	136	98		3455	3635		0,176	2,10
TPK 2500x50	50	160	110		3495	3685		0,225	2,40
TPK 2500x63	63	186	123		3525	3725		0,279	2,65
TPK 2500x80	80	220	140		3550	3755		0,349	3,00
TPK 2500x100	100	260	160		3570	3780		0,432	3,30
TPK 2500x125	125	310	185		3585	3800		0,535	3,65

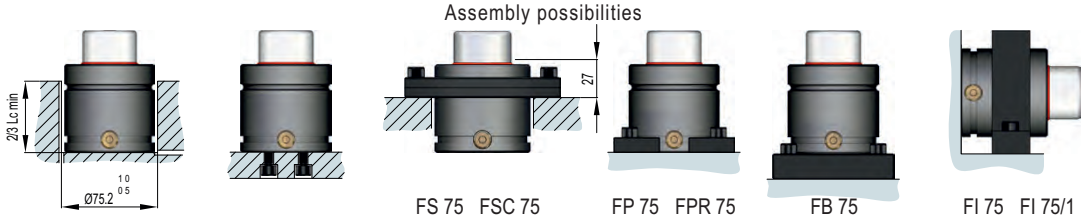
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

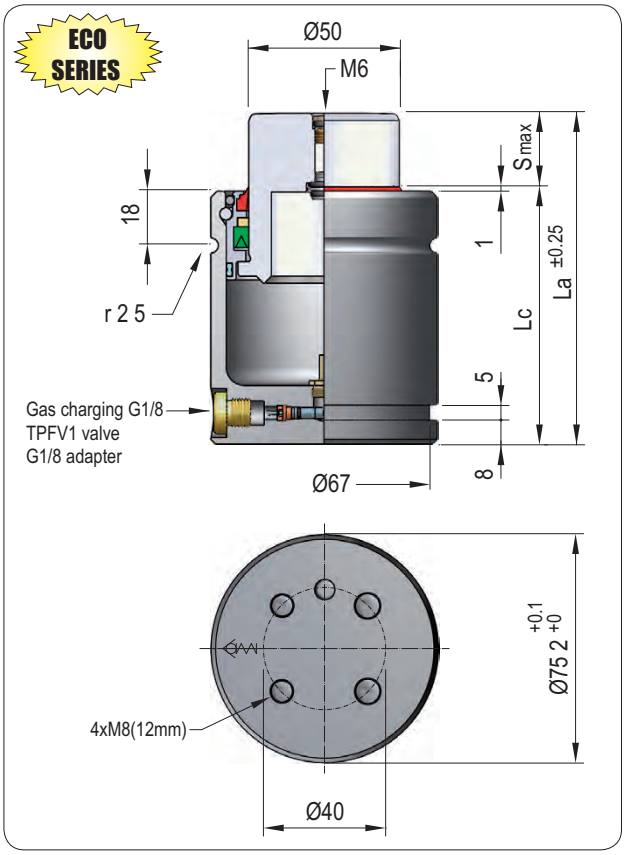


Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

TECAPRES®

Ø75mm
3000daN

TPK 3000

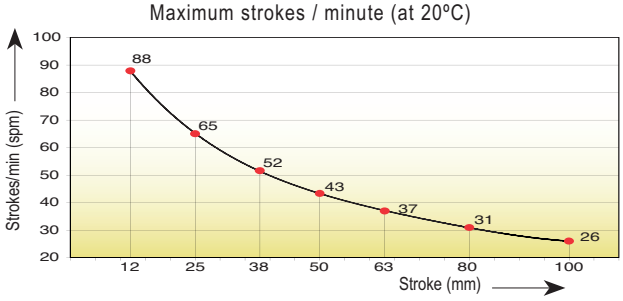


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit K3000

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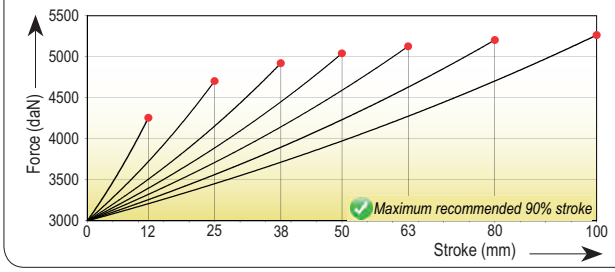


Maximum strokes / minute (at 20ºC)

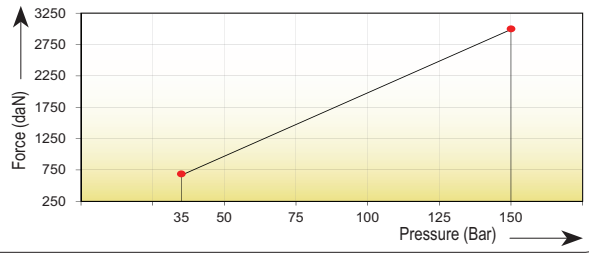


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPK 3000x12	12	84	72	3000 ±5% (20ºC)	4090	4265	150 (20ºC)	0,080	1,65
TPK 3000x25	25	110	85		4460	4710		0,136	2,10
TPK 3000x38	38	136	98		4630	4930		0,191	2,25
TPK 3000x50	50	160	110		4725	5050		0,243	2,50
TPK 3000x63	63	186	123		4795	5135		0,298	2,75
TPK 3000x80	80	220	140		4855	5210		0,371	3,15
TPK 3000x100	100	260	160		4900	5270		0,457	3,45

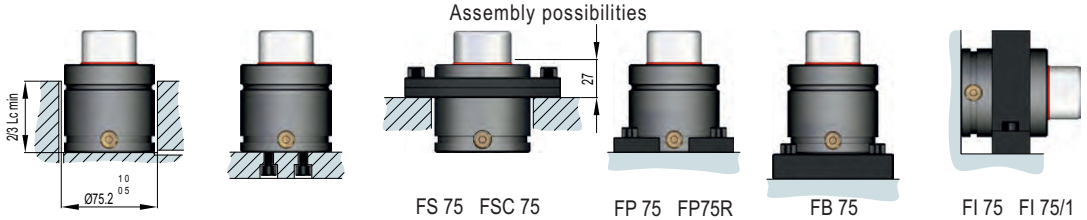
Force/stroke ratio

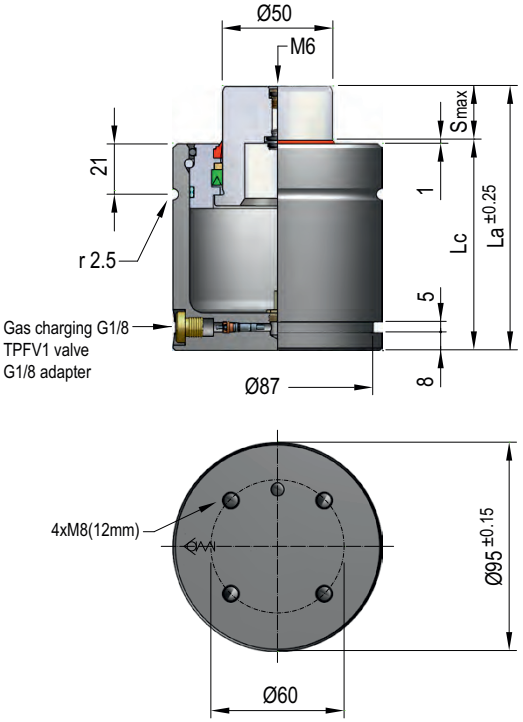


Initial force/charging pressure ratio



Assembly possibilities





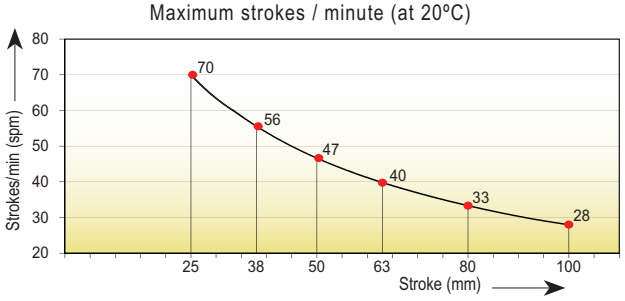
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit KF3000

PED 2014/68/UE

RENAULT
EM24.54/700/F

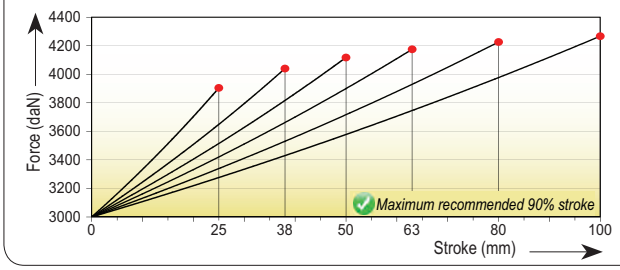


Maximum strokes / minute (at 20ºC)

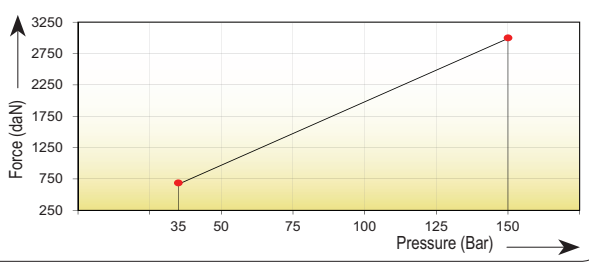


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKF 3000x25	25	120	95		3795	3910		0,212	3,60
TPKF 3000x38	38	146	108		3910	4045		0,290	4,20
TPKF 3000x50	50	170	120	3000 ±5%	3975	4125	150	0,362	4,40
TPKF 3000x63	63	196	133	(20ºC)	4025	4180	(20ºC)	0,440	4,90
TPKF 3000x80	80	230	150		4065	4230		0,541	5,40
TPKF 3000x100	100	270	170		4100	4275		0,661	6,50

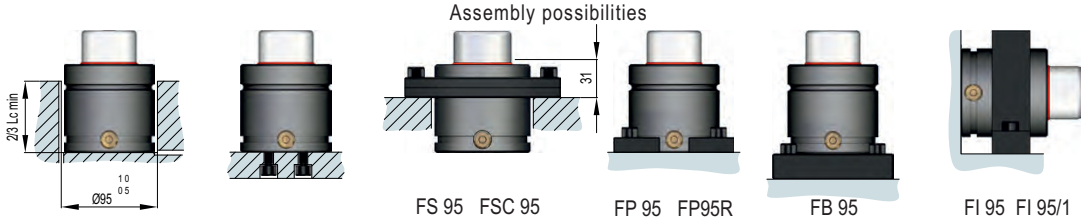
Force/stroke ratio



Initial force/charging pressure ratio



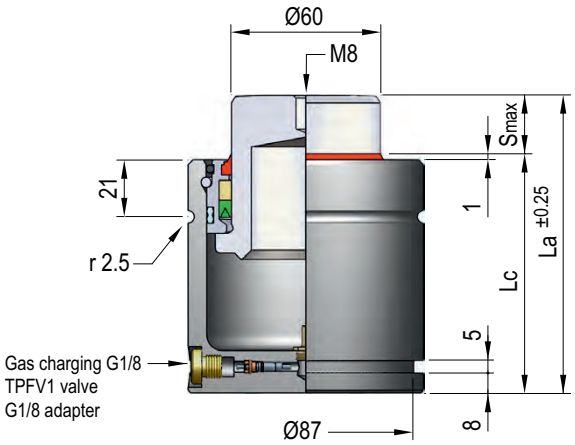
Assembly possibilities

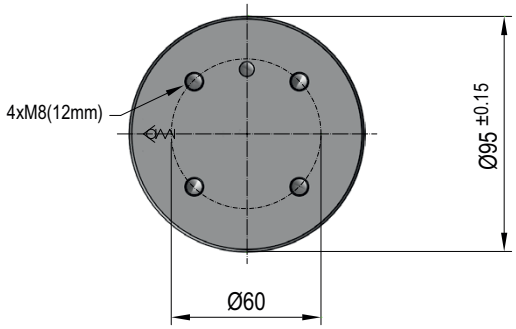


FS 95 FSC 95 FP 95 FP95R FB 95 FI 95 FI 95/1

TPGAS 07 01-2018

Ø95mm 4250daN — TPK 4250



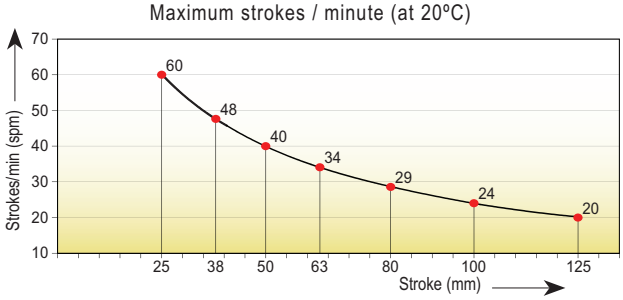


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit K4250

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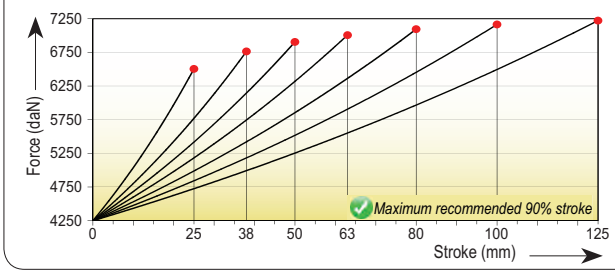


Maximum strokes / minute (at 20ºC)

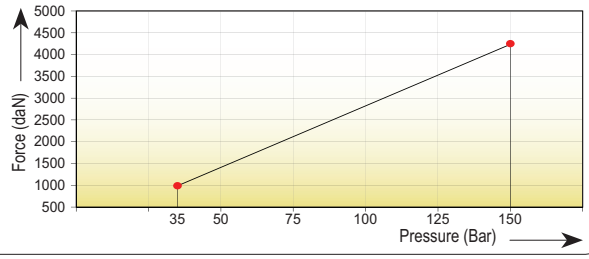


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPK 4250x25	25	120	95	4250 ±5% (20ºC)	6165	6490	150 (20ºC)	0,204	3,65
TPK 4250x38	38	146	108		6375	6750		0,289	4,25
TPK 4250x50	50	170	120		6485	6890		0,368	4,45
TPK 4250x63	63	196	133		6565	6995		0,453	4,95
TPK 4250x80	80	230	150		6635	7080		0,564	5,45
TPK 4250x100	100	270	170		6690	7150		0,695	6,55
TPK 4250x125	125	320	195		6735	7210		0,859	7,65

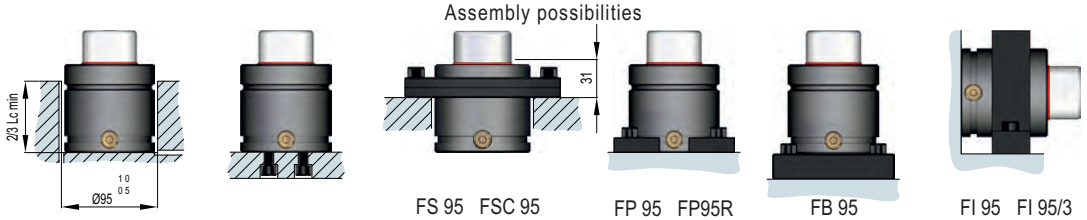
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

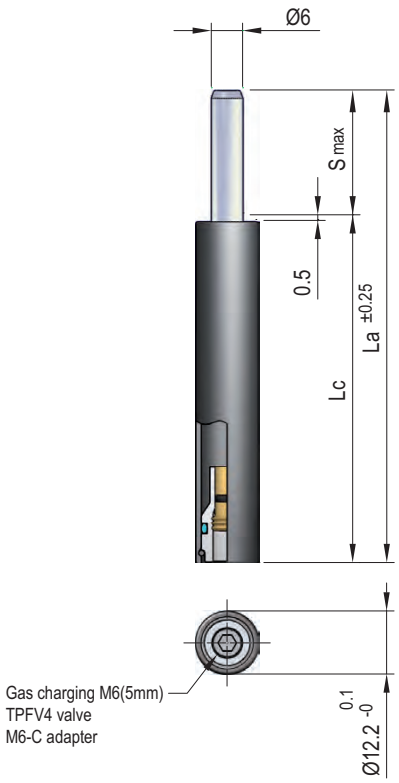


PED 2014/68/UE



Medium compact gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY		
TPC 12	12	7 - 63	42	√	√		√
TPC 14	14	15 - 80	50	√	√		√
TPC 19	19	7 - 125	90	√	√		√
TPC 25	25	7 - 125	200	√	√		√
TPC 350	32	10 - 125	350	√	√		√
TPC 500	38	10 - 80	500	√	√		√
TPCR 500	M38x1,5	10 - 80	500	√	√		√
TPC 1000	50	25 - 100	1000	√	√	√	√
TPC 1500	63	25 - 160	1500	√	√	√	√
TPC 2500	75	25 - 125	2500	√	√	√	√
TPC 3000	75	25 - 200	3000	√	√	√	√
TPC 4000	95	25 - 100	4000	√	√	√	√
TPC 6500	120	25 - 160	6500	√	√	√	√
TPC 10000	150	25 - 125	9500	√	√	√	√

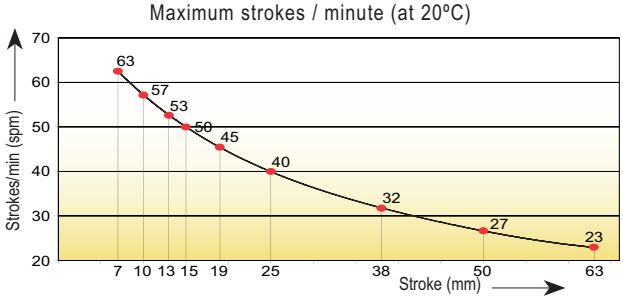


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	20 Bar
Rod seal area	0,28 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit C12

PED 2014/68/UE



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPC 12x7	7	56	49	0,001	0,03
TPC 12x10	10	62	52	0,001	0,03
TPC 12x13	13	68	55	0,001	0,03
TPC 12x15	15	72	57	0,001	0,04
TPC 12x19	19	80	61	0,001	0,05
TPC 12x25	25	92	67	0,002	0,05
TPC 12x38	38	118	80	0,003	0,06
TPC 12x50	50	142	92	0,004	0,06
TPC 12x63	63	172	109	0,005	0,07

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	13 (±5%)	≈ 20	45
BL *(Blue)*	25 (±5%)	≈ 40	90
RD *(Red)*	38 (±5%)	≈ 60	135
YW *(Yellow)*	42 (±5%)	≈ 65	150
(Other forces)	6 - 42	≈ 10 - 65	20 - 150

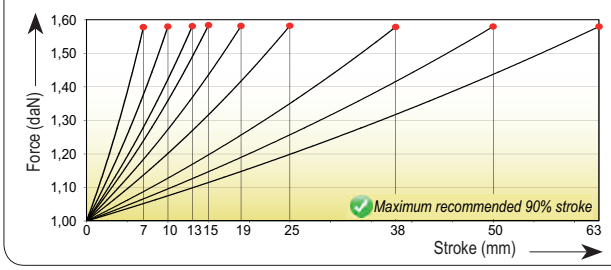
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (20Bar) and the maximum charging pressure (150Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

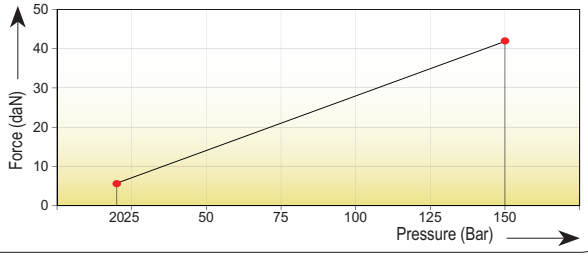
TPC 12 x 7 YW

Model | Stroke | Color code

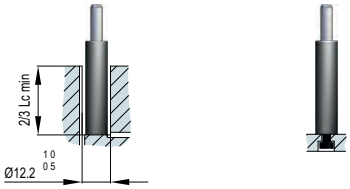
Force/stroke ratio

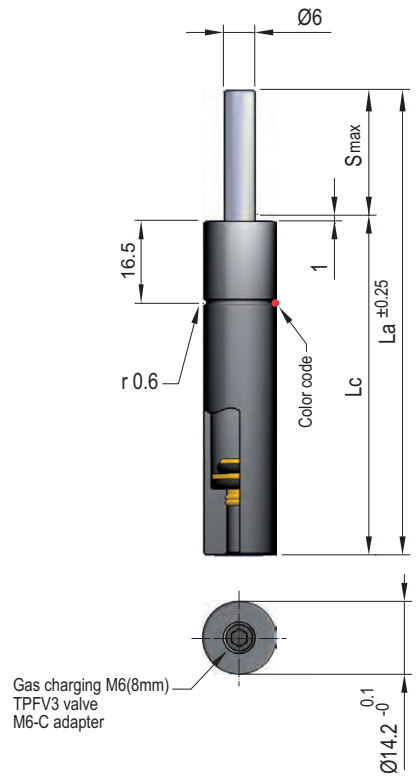


Initial force/charging pressure ratio



Assembly possibilities



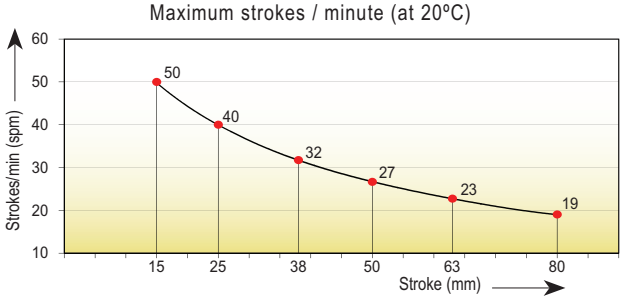


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	0,28 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit C14

PED 2014/68/UE



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPC 14x15	15	72	57	0,002	0,06
TPC 14x25	25	92	67	0,003	0,08
TPC 14x38	38	118	80	0,005	0,09
TPC 14x50	50	142	92	0,006	0,10
TPC 14x63	63	169	106	0,007	0,12
TPC 14x80	80	205	125	0,009	0,15

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	20 (±5%)	≈ 25	70
BL *(Blue)*	30 (±5%)	≈ 40	110
RD *(Red)*	40 (±5%)	≈ 50	142
YW *(Yellow)*	50 (±5%)	≈ 65	175
(Other forces)	14 - 50	≈ 20 - 65	50 - 175

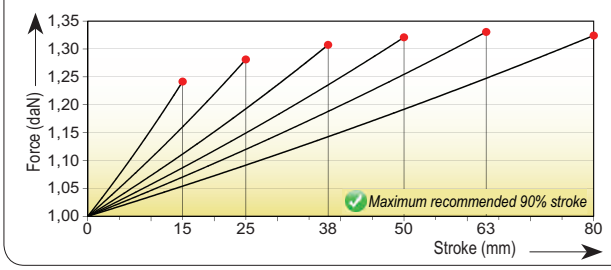
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (50Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

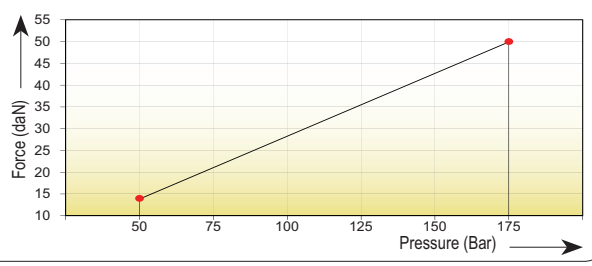
TPC 14 x 15 YW

Model | Stroke | Color code

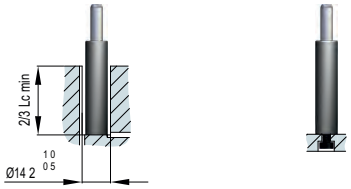
Force/stroke ratio

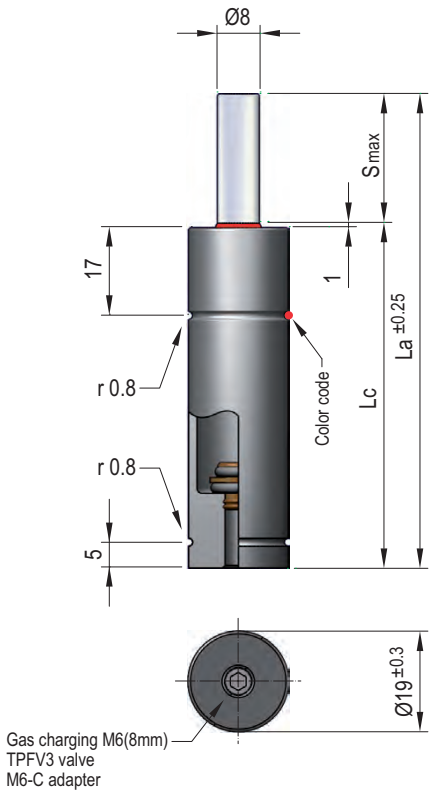


Initial force/charging pressure ratio



Assembly possibilities



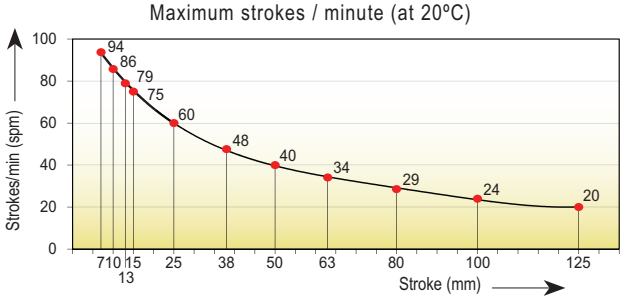


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,50 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit C19

PED 2014/68/UE · ISO 11901 · VDI 3003



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPC 19x7	7	56	49	0,002	0,08
TPC 19x10	10	62	52	0,003	0,08
TPC 19x13	13	67,4	54,4	0,003	0,08
TPC 19x15	15	72	57	0,004	0,09
TPC 19x25	25	92	67	0,006	0,10
TPC 19x38	38	118	80	0,008	0,12
TPC 19x50	50	142	92	0,011	0,13
TPC 19x63A	63	168	105	0,013	0,15
TPC 19x63	63	172	109	0,014	0,15
TPC 19x80A	80	202	122	0,016	0,16
TPC 19x80	80	205	125	0,017	0,17
TPC 19x100	100	245	145	0,021	0,18
TPC 19x125	125	295	170	0,026	0,21

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	30 (±5%)	≈ 38	60
BL *(Blue)*	50 (±5%)	≈ 65	100
RD *(Red)*	70 (±5%)	≈ 90	140
YW *(Yellow)*	90 (±5%)	≈ 112	175
(Other forces)	13 - 90	≈ 16 - 112	25 - 175

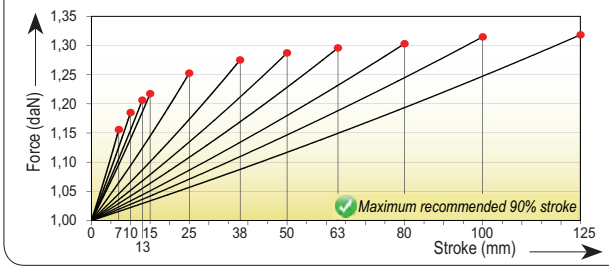
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

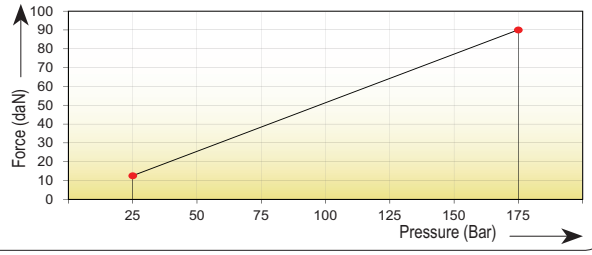
TPC 19 x 125 YW

Model · Stroke · Color code

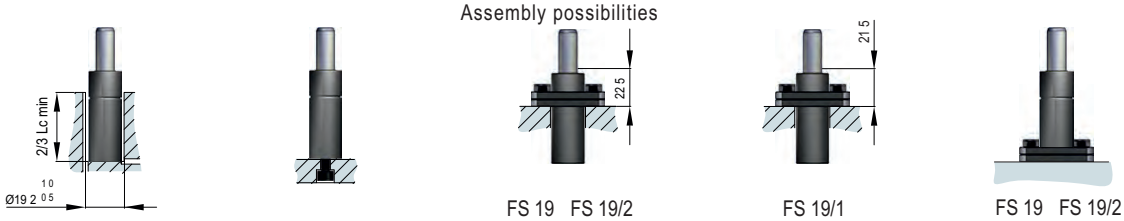
Force/stroke ratio

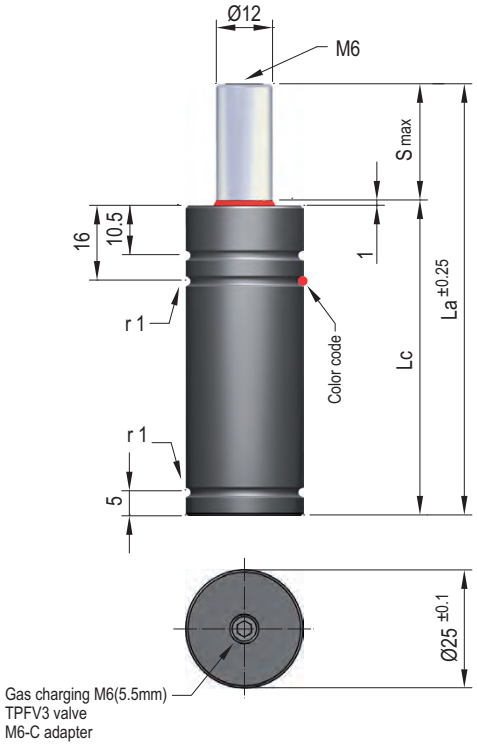


Initial force/charging pressure ratio



Assembly possibilities



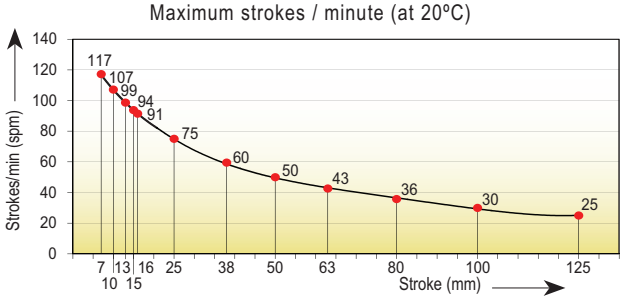


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit C25

PED 2014/68/UE · ISO 11901 · VDI 3003



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPC 25x7	7	56	49	0,004	0,13
TPC 25x10	10	62	52	0,005	0,14
TPC 25x13	13	67,4	54,7	0,006	0,14
TPC 25x15	15	72	57	0,007	0,15
TPC 25x16	16	74,3	58,3	0,008	0,15
TPC 25x25	25	92	67	0,011	0,16
TPC 25x38	38	118	80	0,015	0,19
TPC 25x50	50	142	92	0,019	0,21
TPC 25x63	63	172	109	0,023	0,25
TPC 25x80	80	205	125	0,029	0,26
TPC 25x100	100	245	145	0,036	0,29
TPC 25x125	125	295	170	0,046	0,33

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 70	45
BL *(Blue)*	100 (±10)	≈ 140	90
RD *(Red)*	150 (±15)	≈ 210	135
YW *(Yellow)*	200 (±20)	≈ 270	175
(Other forces)	28 - 200	≈ 40 - 270	25 - 175

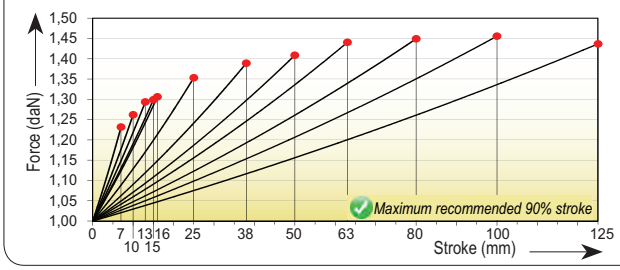
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

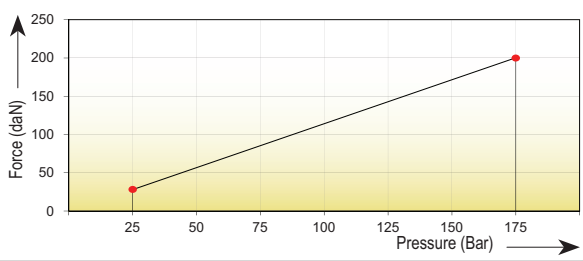
TPK 25 x 25 BL

Model · Stroke · Color code

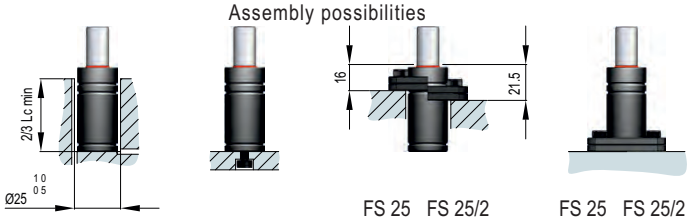
Force/stroke ratio



Initial force/charging pressure ratio



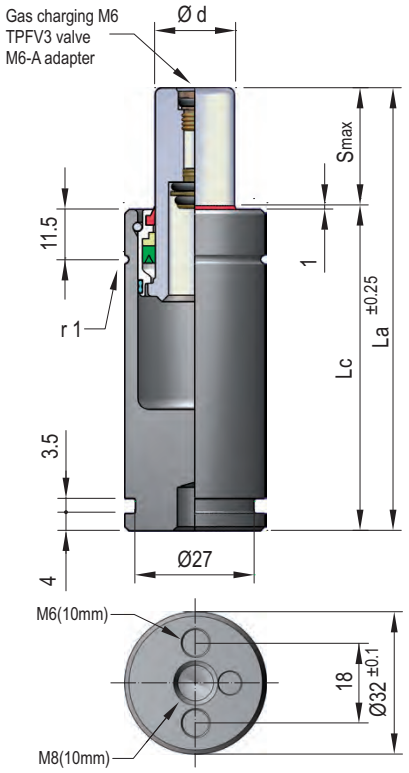
Assembly possibilities



TECAPRES®

Ø32mm
350daN

TPC 350.1



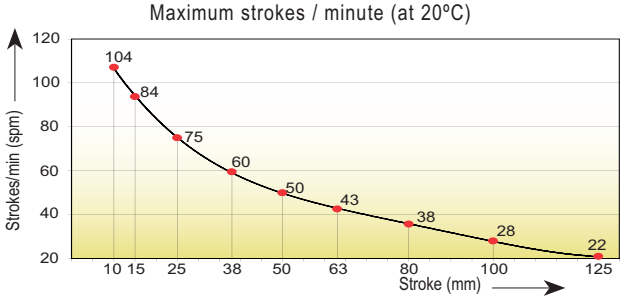
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	Ø18mm - 2,54 cm² Ø16mm - 2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Ø18mm - KIT C350 /18 Ø16mm - KIT C350 /16

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VDI SAFETY

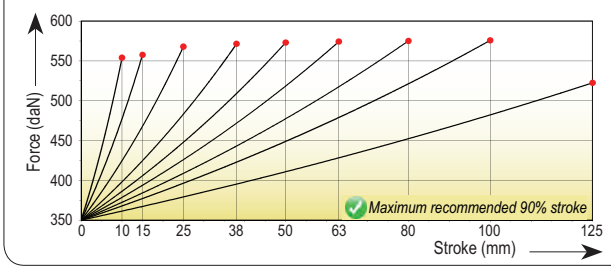
RE-16-32
RE-18-32

Maximum strokes / minute (at 20ºC)

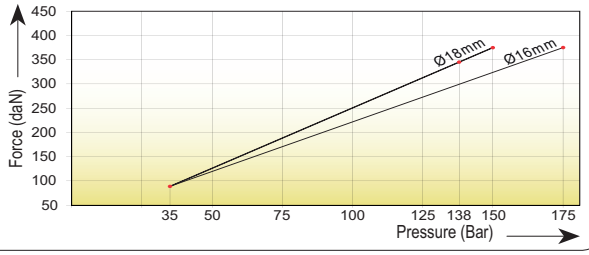


Code	Smax mm	La mm	Lc mm	d mm	Fa daN	90% F daN	100% Fc daN	P bar	V l	Kg
TPC 350x10.1	10	70	60	18	350 ±5% (20ºC)	520	550	138 (20ºC)	0,007	0,28
TPC 350x15.1	15	80	65	18		525	555		0,010	0,30
TPC 350x25.1	25	100	75	18		535	565		0,017	0,32
TPC 350x38.1	38	126	88	18		535	570		0,025	0,36
TPC 350x50.1	50	150	100	18		537	570		0,033	0,40
TPC 350x63.1	63	176	113	18		540	570		0,041	0,44
TPC 350x80.1	80	210	130	18		540	575		0,052	0,50
TPC 350x100.1	100	250	150	18		540	575		0,065	0,57
TPC 350x125.1	125	300	175	16		500	520	175 (20ºC)	0,076	0,65

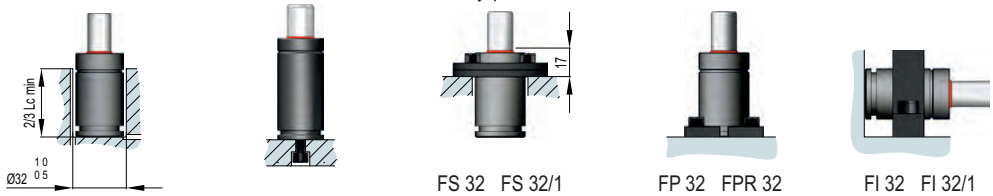
Force/stroke ratio



Initial force/charging pressure ratio



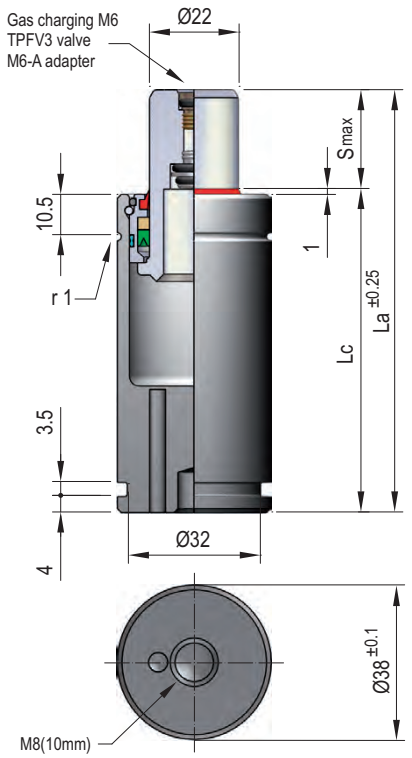
Assembly possibilities



FS 32 FS 32/1 FP 32 FPR 32 FI 32 FI 32/1

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Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com



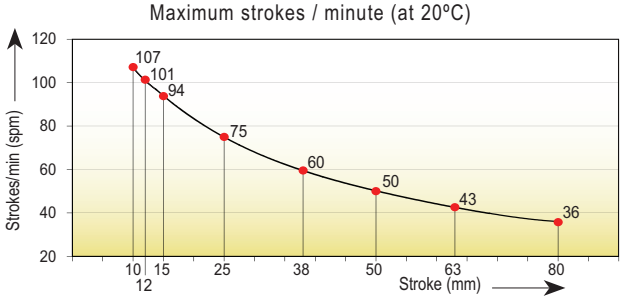
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit C500

PED 2014/68/UE

VDI SAFETY

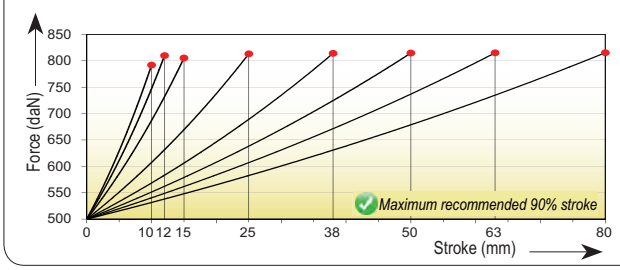
RE-22-32

Maximum strokes / minute (at 20ºC)

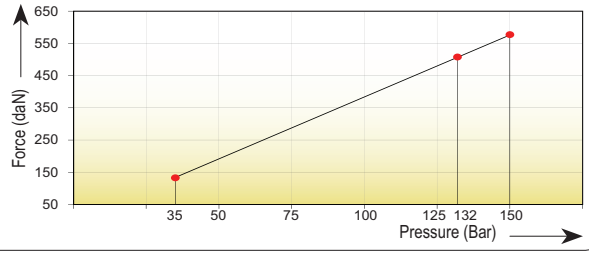


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 500x10	10	75	65	500 ±5% (20ºC)	750	795	132 (20ºC)	0,010	0,38
TPC 500x12	12	79	67		765	815		0,012	0,40
TPC 500x15	15	85	70		760	810		0,015	0,43
TPC 500x25	25	105	80		770	815		0,025	0,45
TPC 500x38	38	131	93		770	815		0,037	0,52
TPC 500x50	50	155	105		770	820		0,049	0,55
TPC 500x63	63	186	123		770	820		0,062	0,62
TPC 500x80	80	220	140		770	820		0,079	0,69

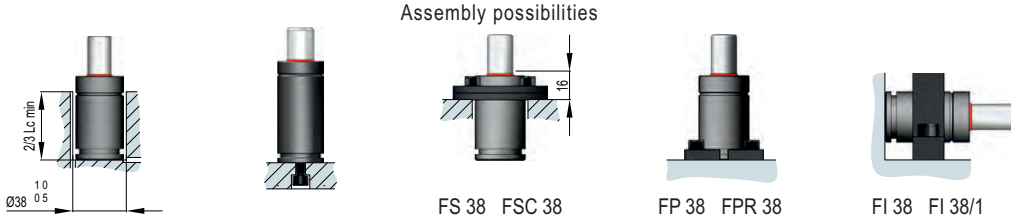
Force/stroke ratio

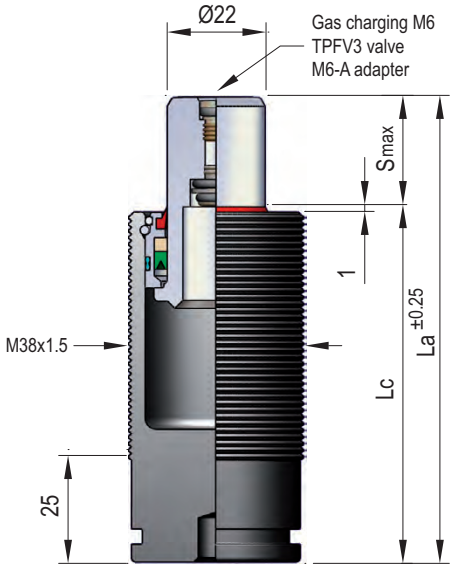


Initial force/charging pressure ratio



Assembly possibilities





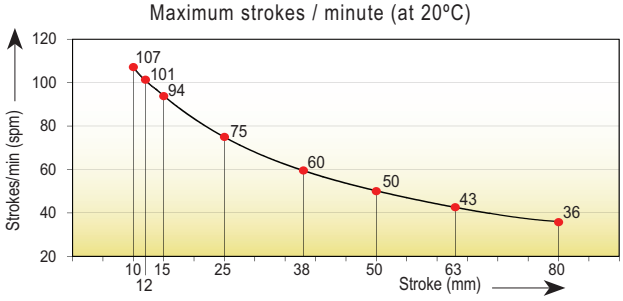
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit CR500

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VDI SAFETY

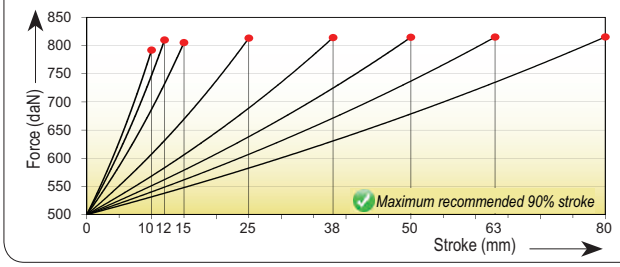
RE-22-32

Maximum strokes / minute (at 20ºC)

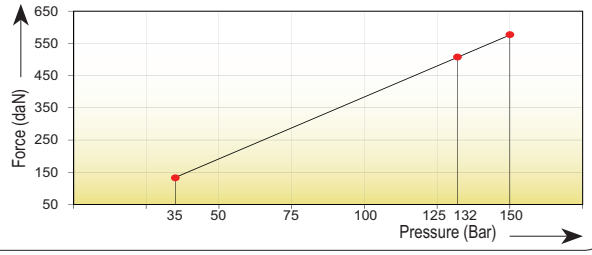


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPCR 500x10	10	75	65	500 ±5% (20ºC)	750	795	132 (20ºC)	0,010	0,38
TPCR 500x12	12	79	67		765	815		0,012	0,40
TPCR 500x15	15	85	70		760	810		0,015	0,43
TPCR 500x25	25	105	80		770	815		0,025	0,45
TPCR 500x38	38	131	93		770	815		0,037	0,52
TPCR 500x50	50	155	105		770	820		0,049	0,55
TPCR 500x63	63	186	123		770	820		0,062	0,62
TPCR 500x80	80	220	140		770	820		0,079	0,69

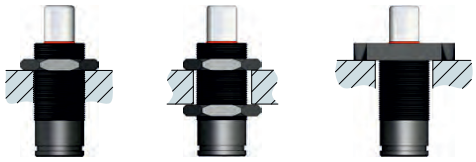
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

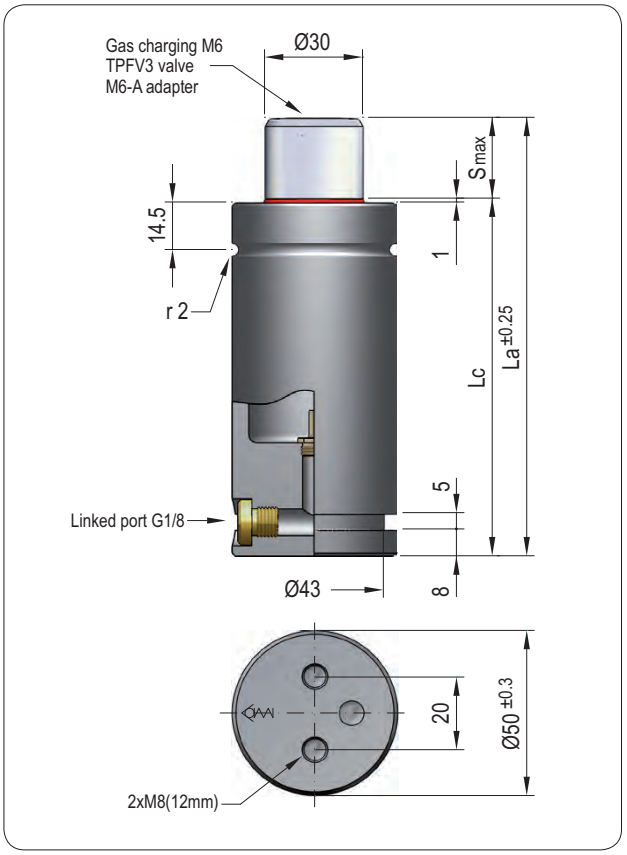


FR 38 FR 38 FRS 38

TECAPRES®

Ø50mm
1000daN

TPC 1000

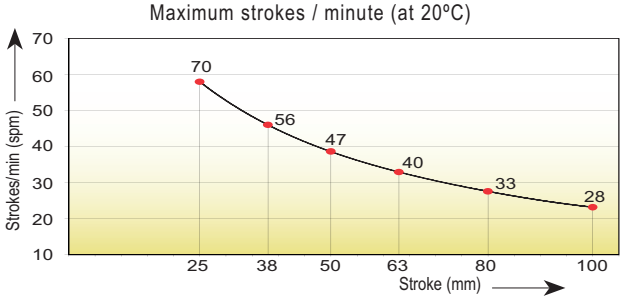


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit C1000

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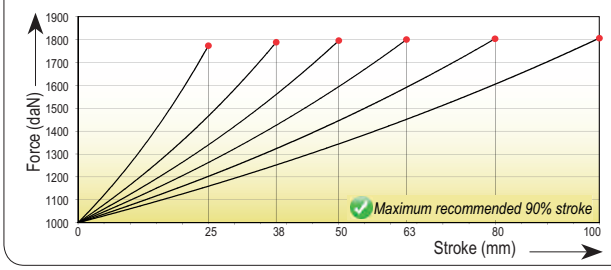


Maximum strokes / minute (at 20ºC)

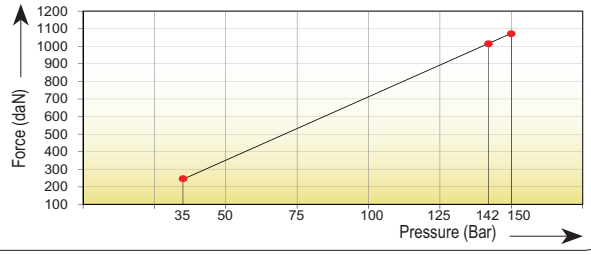


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 1000x25	25	135	110	1000 ±5% (20ºC)	1650	1780	142 (20ºC)	0,041	1,20
TPC 1000x38	38	161	123		1665	1795		0,061	1,35
TPC 1000x50	50	185	135		1670	1800		0,080	1,46
TPC 1000x63	63	211	148		1675	1805		0,100	1,52
TPC 1000x80	80	245	165		1675	1810		0,127	1,73
TPC 1000x100	100	295	195		1680	1815		0,158	2,41

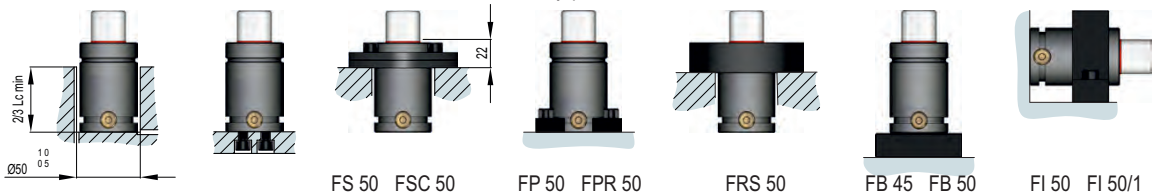
Force/stroke ratio

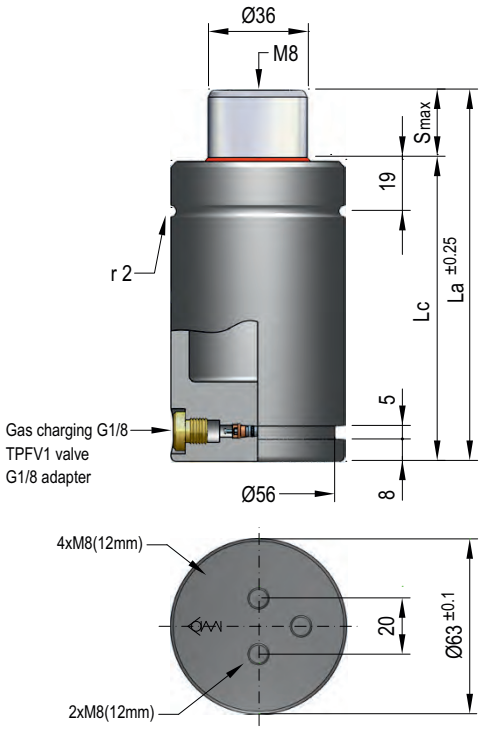


Initial force/charging pressure ratio



Assembly possibilities



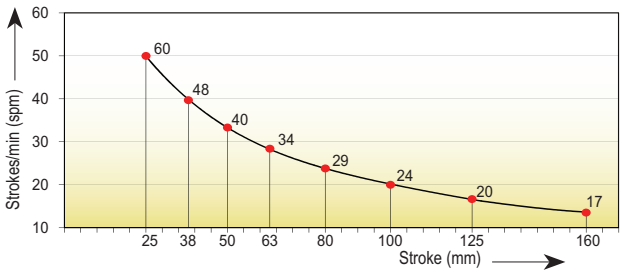


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit C1500

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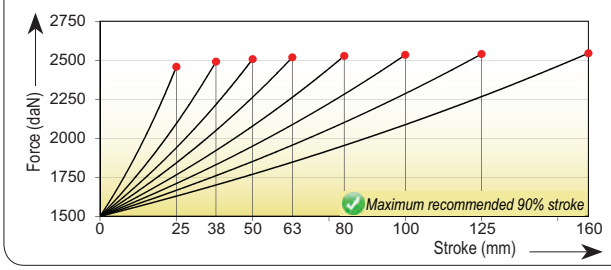


Maximum strokes / minute (at 20ºC)

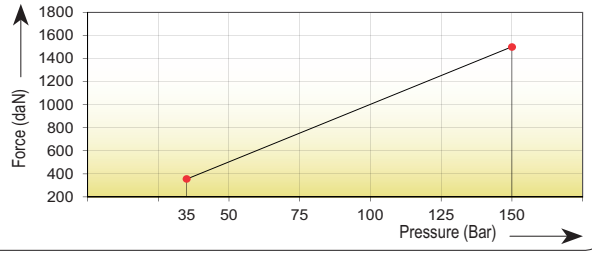


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 1500x25	25	135	110	1500 ±5% (20ºC)	2275	2420	148 (20ºC)	0,065	1,86
TPC 1500x38	38	161	123		2300	2450		0,097	2,10
TPC 1500x50	50	185	135		2310	2470		0,127	2,25
TPC 1500x63	63	211	148		2320	2480		0,159	2,30
TPC 1500x80	80	245	165		2330	2485		0,200	2,55
TPC 1500x100	100	285	185		2335	2495		0,249	3,15
TPC 1500x125	125	345	220		2335	2500		0,311	4,06
TPC 1500x160	160	415	255		2340	2505		0,397	5,23

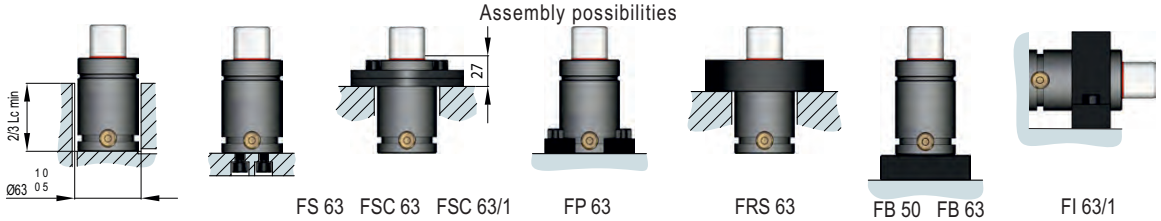
Force/stroke ratio



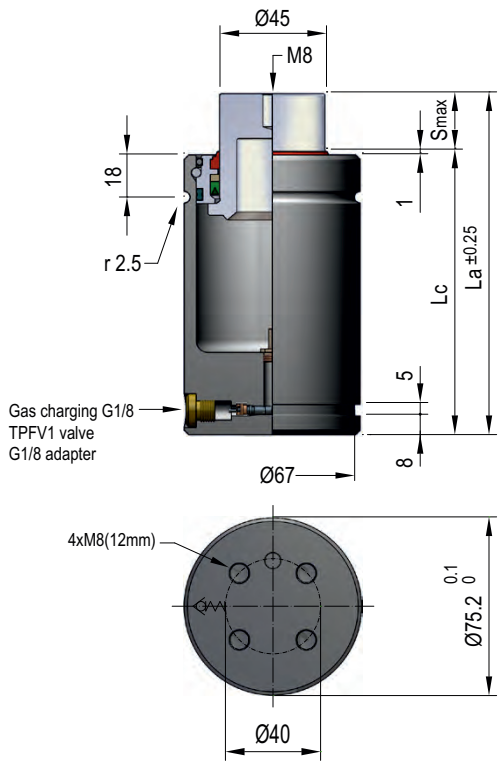
Initial force/charging pressure ratio



Assembly possibilities



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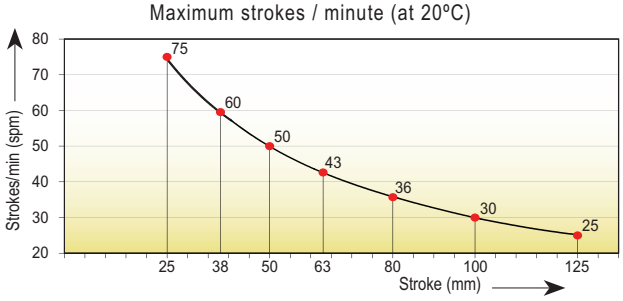


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit C2500

PED 2014/68/UE

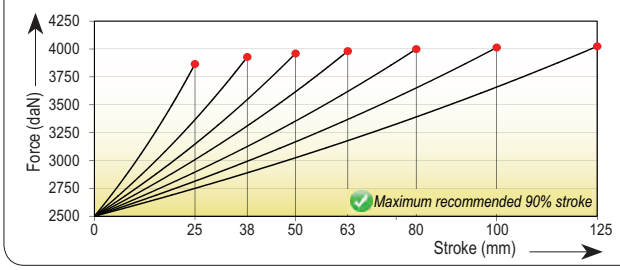


Maximum strokes / minute (at 20ºC)

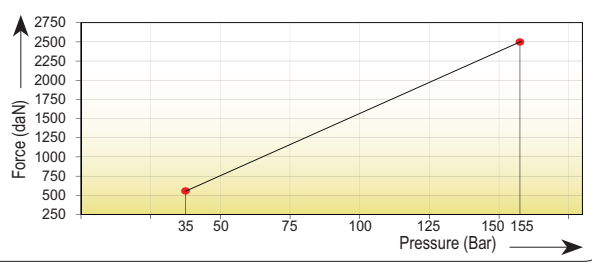


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 2500x25	25	145	120	2500 ±5% (20ºC)	3655	3855	155 (20ºC)	0,113	2,50
TPC 2500x38	38	171	133		3710	3920		0,167	3,25
TPC 2500x50	50	195	145		3735	3950		0,216	4,00
TPC 2500x63	63	221	158		3750	3975		0,270	4,40
TPC 2500x80	80	255	175		3765	3990		0,340	5,05
TPC 2500x100	100	300	200		3780	4005		0,422	5,55
TPC 2500x125	125	350	225		3785	4020		0,525	5,98

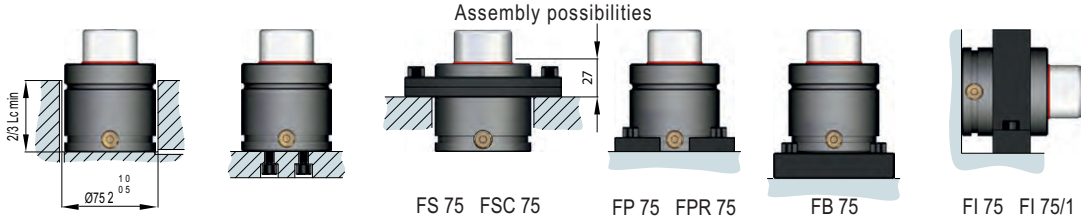
Force/stroke ratio

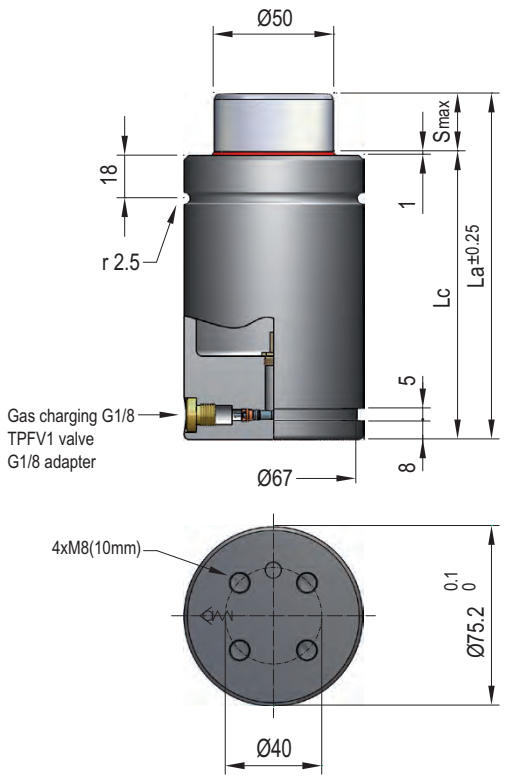


Initial force/charging pressure ratio



Assembly possibilities



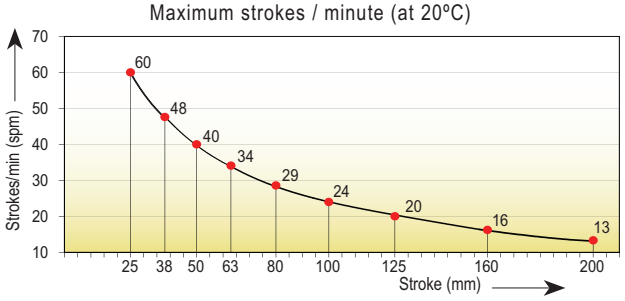


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,8 m/s
Maintenance kit	Kit C3000

PED 2014/68/UE

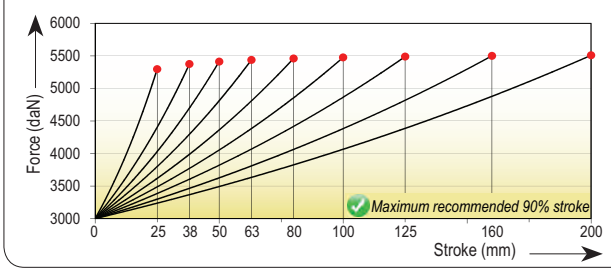


Maximum strokes / minute (at 20ºC)

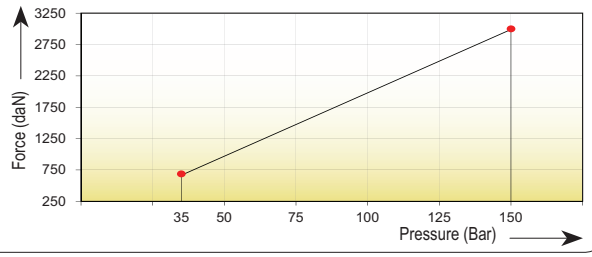


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 3000x25	25	145	120	3000 ±5% (20ºC)	4925	5305	150 (20ºC)	0,113	2,70
TPC 3000x38	38	171	133		4990	5380		0,169	3,30
TPC 3000x50	50	195	145		5015	5420		0,221	4,10
TPC 3000x63	63	221	158		5035	5445		0,276	4,50
TPC 3000x80	80	255	175		5055	5470		0,349	5,10
TPC 3000x100	100	300	200		5065	5485		0,434	5,90
TPC 3000x125	125	350	225		5075	5495		0,541	6,50
TPC 3000x160	160	425	265		5085	5510		0,691	7,40
TPC 3000x200	200	510	310		5090	5515		0,862	7,85

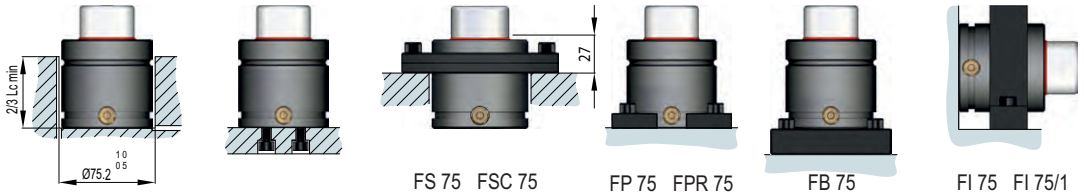
Force/stroke ratio



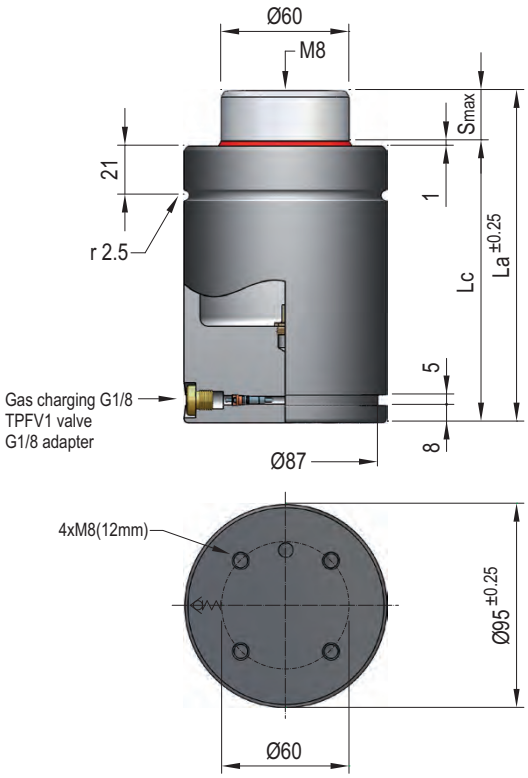
Initial force/charging pressure ratio



Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

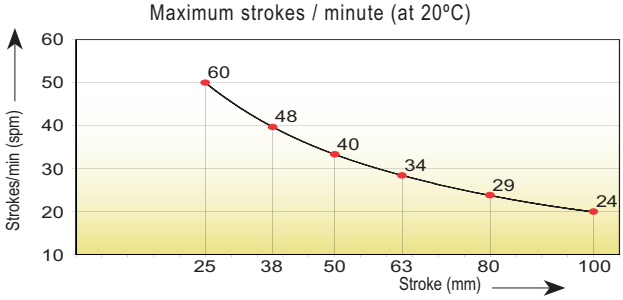


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit C4000

PED 2014/68/UE

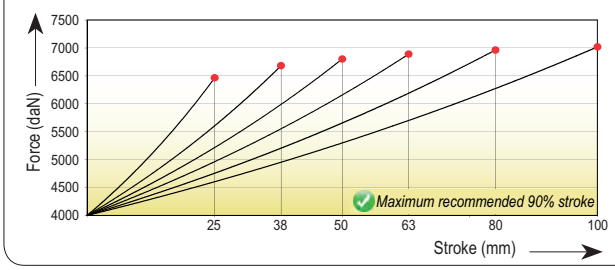


Maximum strokes / minute (at 20ºC)

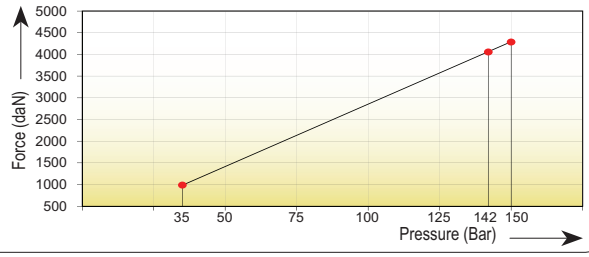


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 4000x25	25	155	130	4000 ±5% (20ºC)	6115	6490	142 (20ºC)	0,185	4,20
TPC 4000x38	38	181	143		6285	6705		0,268	4,90
TPC 4000x50	50	205	155		6380	6830		0,343	5,30
TPC 4000x63	63	236	173		6450	6915		0,425	6,10
TPC 4000x80	80	270	190		6505	6990		0,532	7,20
TPC 4000x100	100	310	210		6550	7045		0,657	7,80

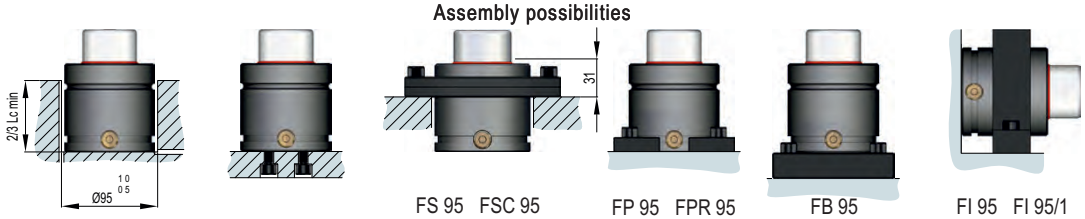
Force/stroke ratio



Initial force/charging pressure ratio



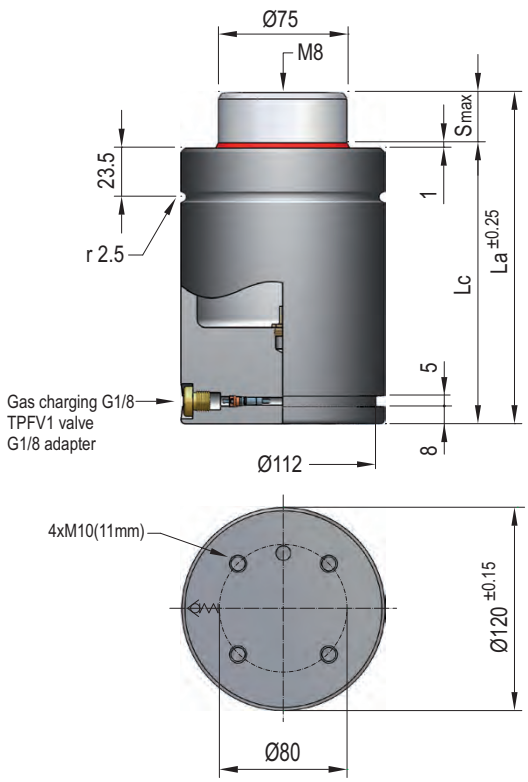
Assembly possibilities



TECAPRES®

Ø120mm
6500daN

TPC 6500

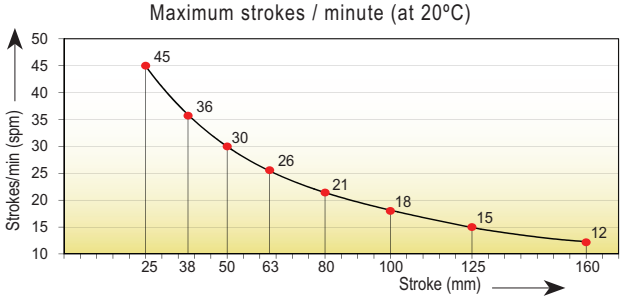


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit C6500

PED 2014/68/UE

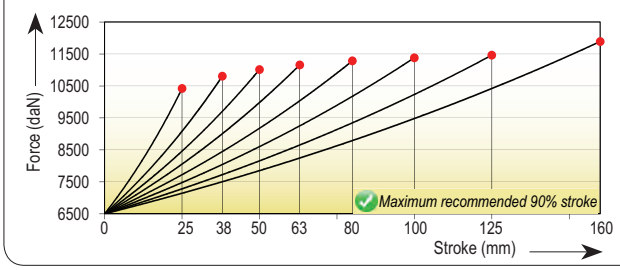


Maximum strokes / minute (at 20ºC)

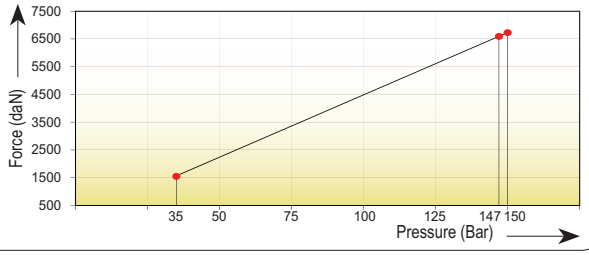


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 6500x25	25	165	140	6500 ±5% (20ºC)	9820	10400	147 (20ºC)	0,294	9,45
TPC 6500x38	38	191	153		10125	10800		0,421	10,05
TPC 6500x50	50	215	165		10290	11000		0,539	10,75
TPC 6500x63	63	241	178		10405	11150		0,667	11,67
TPC 6500x80	80	275	195		10500	11275		0,834	12,28
TPC 6500x100	100	315	215		10580	11375		1,030	13,35
TPC 6500x125	125	375	250		10640	11455		1,275	14,29
TPC 6500x160	160	450	290		10970	11880		1,559	17,53

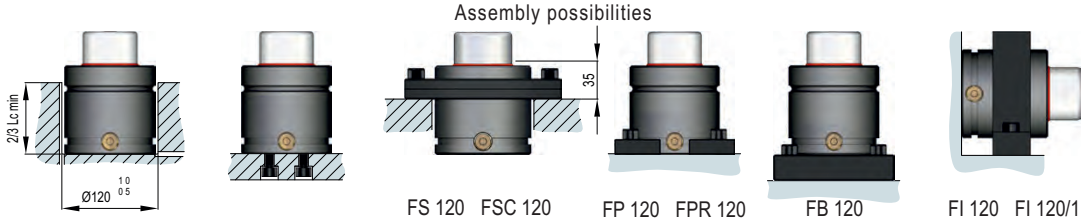
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



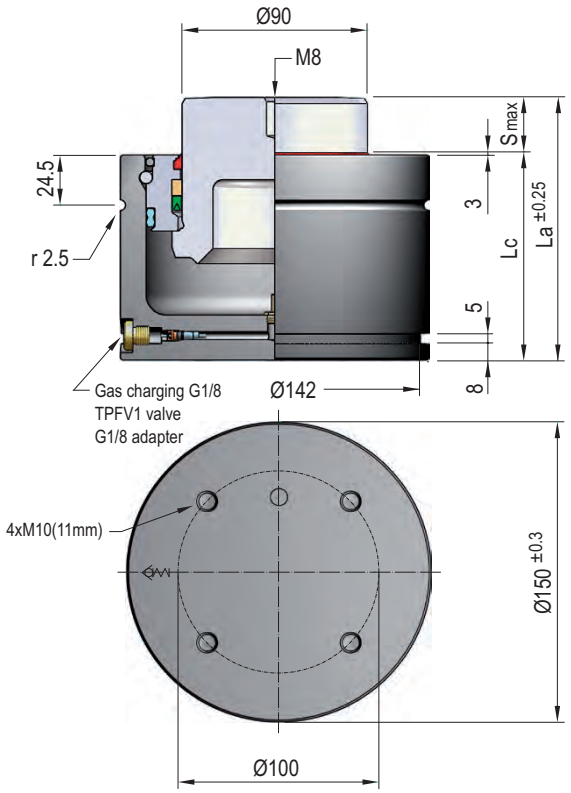
FS 120 FSC 120 FP 120 FPR 120 FB 120 FI 120 FI 120/1

TPGAS 07 01-2018

TECAPRES®

Ø150mm 9500daN

TPC 10000

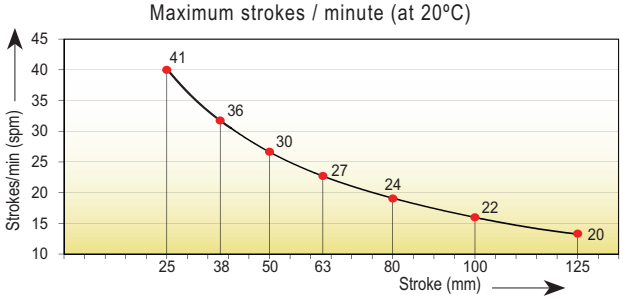


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	63,62 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit C10000

PED 2014/68/UE

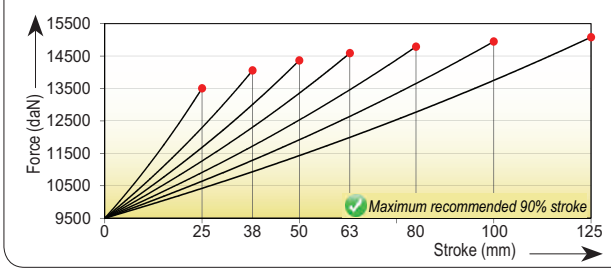


Maximum strokes / minute (at 20ºC)

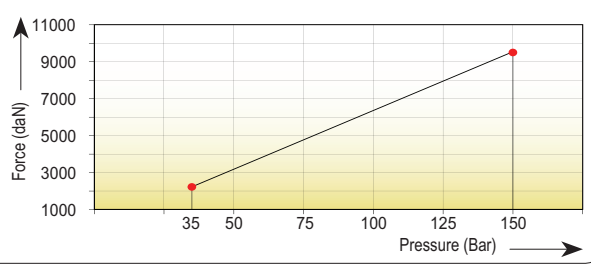


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 10000x25	25	186	161	9500 ±5% (20ºC)	13020	13570	150 (20ºC)	0,536	19,70
TPC 10000x38	38	212	174		13475	14120		0,745	21,70
TPC 10000x50	50	236	186		13730	14430		0,939	22,90
TPC 10000x63	63	262	199		13910	14655		1,149	24,10
TPC 10000x80	80	296	216		14075	14860		1,422	26,40
TPC 10000x100	100	336	236		14200	15015		1,745	29,60
TPC 10000x125	125	386	261		14310	15150		2,148	31,50

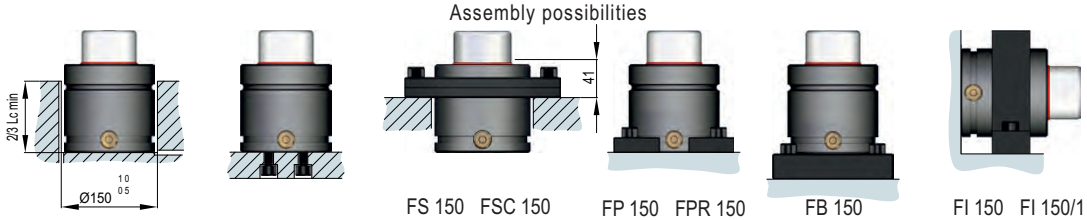
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

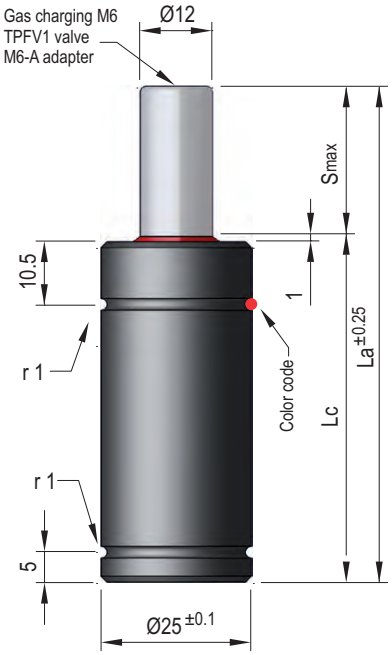


PED 2014/68/UE



Medium compact gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY		
TPCT 25	25	7 - 80	200	√	√		√
TPCT 300	32	10 - 100	300	√	√		√
TPCT 450	32	7 - 100	450	√	√		
TPCT 550	38	12 - 100	550	√	√		√
TPCT 2500	75	12 - 125	2500	√	√		√
TPCT 3000	75	12 - 125	3000	√	√		√
TPCT 5000	105	25 - 125	5000	√	√	√	√

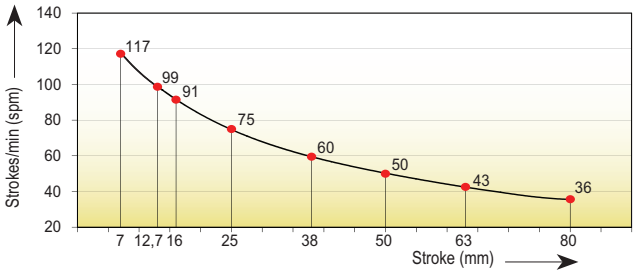


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit CT25

PED 2014/68/UE



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPCT 25x7	7	47	40	0,003	0,10
TPCT 25x13	12,7	58,4	45,7	0,005	0,11
TPCT 25x16	16	65	49	0,006	0,12
TPCT 25x25	25	83	58	0,009	0,14
TPCT 25x38	38	109	71	0,014	0,16
TPCT 25x50	50	133	83	0,018	0,18
TPCT 25x63	63	160	97	0,023	0,21
TPCT 25x80	80	193	113	0,029	0,23

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 75	45
BL *(Blue)*	100 (±10)	≈ 145	90
RD *(Red)*	150 (±15)	≈ 220	135
YW *(Yellow)*	200 (±20)	≈ 285	175
(Other forces)	28 - 200	≈ 40 - 285	25 - 175

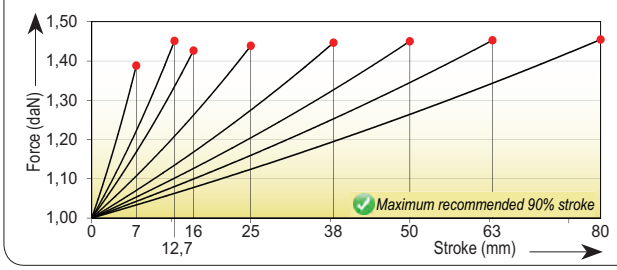
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

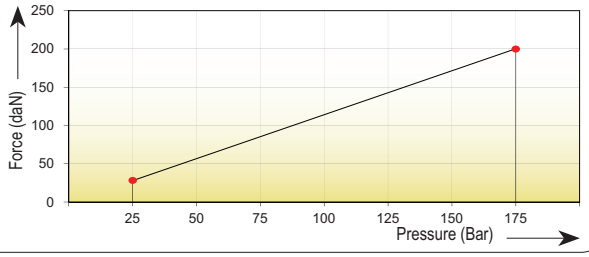
TPCT 25 x **38** **YW**

Model | Stroke | Color code

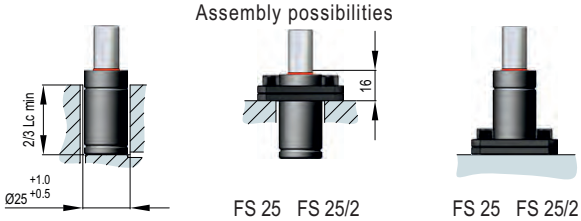
Force/stroke ratio



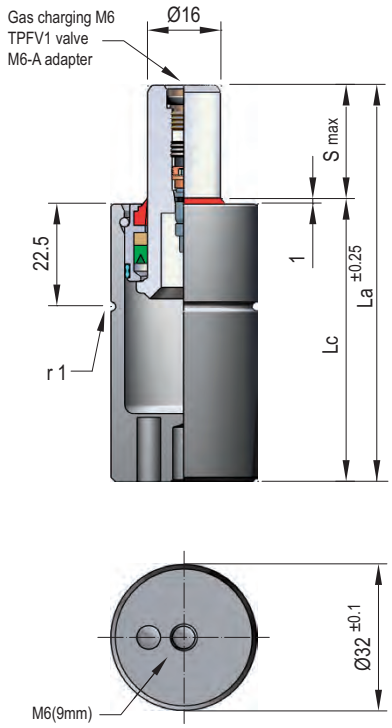
Initial force/charging pressure ratio



Assembly possibilities



TPGAS 07 05-2017



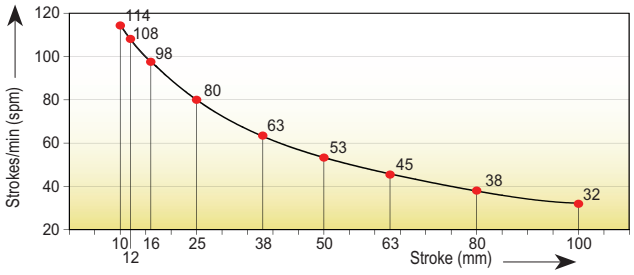
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit CT300

PED 2014/68/UE

VDI SAFETY

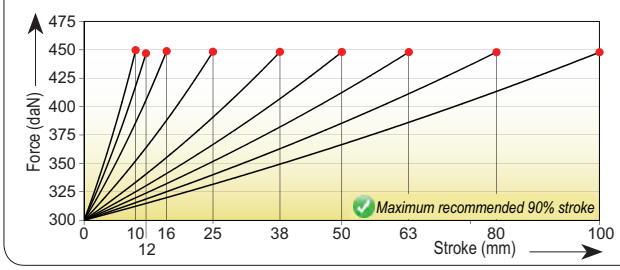
RE-16-32

Maximum strokes / minute (at 20ºC)

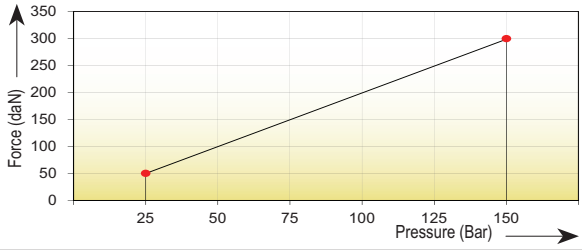


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPCT 300x10	10	57	47	300 ±5% (20ºC)	430	450	150 (20ºC)	0,006	0,16
TPCT 300x12	12	61	49		430	450		0,007	0,17
TPCT 300x16	16	69	53		430	450		0,010	0,18
TPCT 300x25	25	87	62		430	450		0,015	0,20
TPCT 300x38	38	113	75		430	450		0,023	0,24
TPCT 300x50	50	137	87		430	450		0,030	0,28
TPCT 300x63	63	163	100		430	450		0,038	0,33
TPCT 300x80	80	197	117		430	450		0,049	0,38
TPCT 300x100	100	237	137		430	450		0,061	0,44

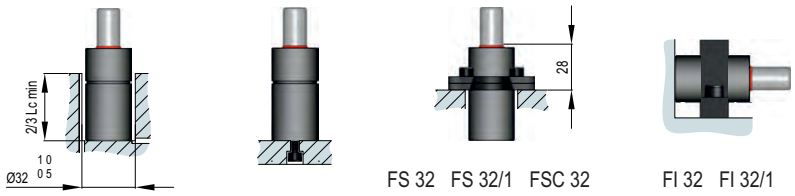
Force/stroke ratio



Initial force/charging pressure ratio

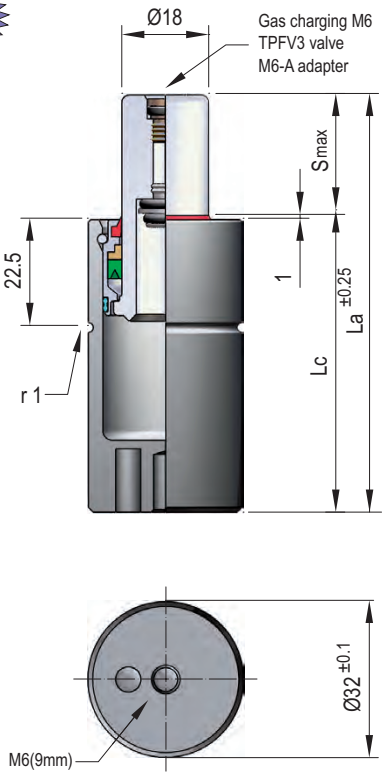


Assembly possibilities



FS 32 FS 32/1 FSC 32 FI 32 FI 32/1

POWER



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit CT450

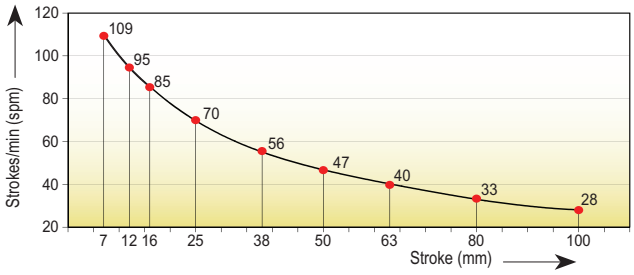
PED 2014/68/UE



VDI SAFETY

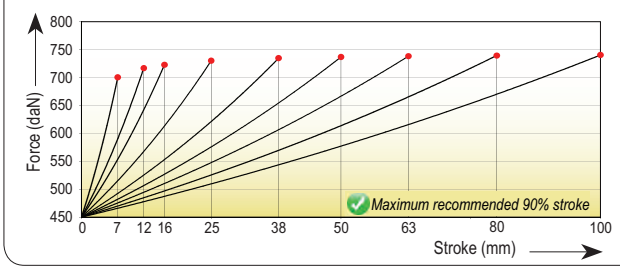


Maximum strokes / minute (at 20ºC)

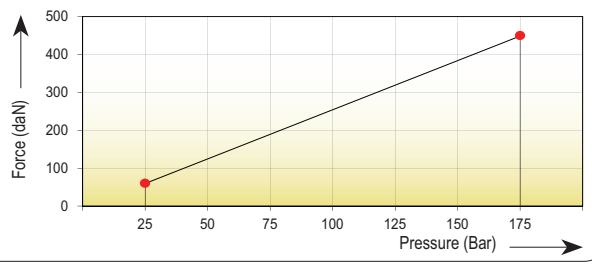


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPCT 450x7	7	51	44	450 ±5% (20ºC)	655	695	175 (20ºC)	0,005	0,16
TPCT 450x12	12	61	49		670	710		0,008	0,17
TPCT 450x16	16	69	53		675	715		0,011	0,18
TPCT 450x25	25	87	62		680	725		0,017	0,20
TPCT 450x38	38	113	75		685	725		0,025	0,24
TPCT 450x50	50	137	87		685	730		0,033	0,28
TPCT 450x63	63	163	100		685	730		0,041	0,33
TPCT 450x80	80	197	117		690	730		0,052	0,38
TPCT 450x100	100	237	137		690	735		0,065	0,44

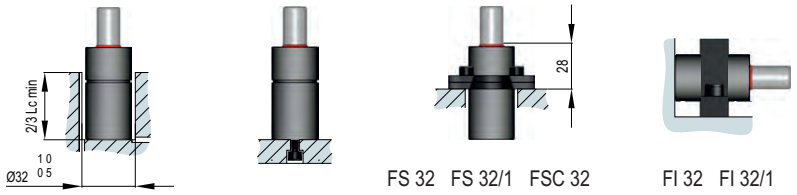
Force/stroke ratio



Initial force/charging pressure ratio

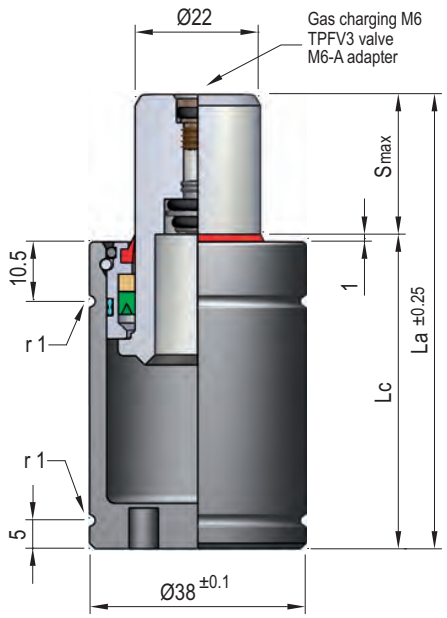


Assembly possibilities



FS 32 FS 32/1 FSC 32 FI 32 FI 32/1

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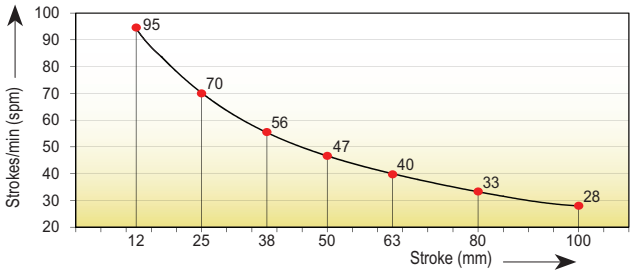
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit CT550

PED 2014/68/UE

VDI SAFETY

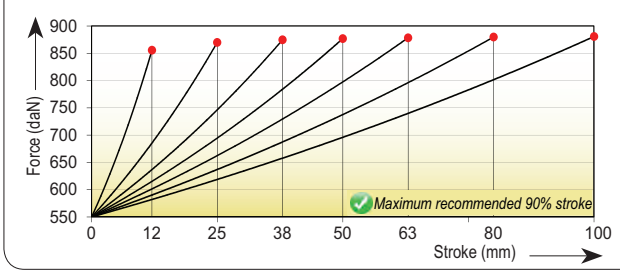
RE-22-32

Maximum strokes / minute (at 20ºC)

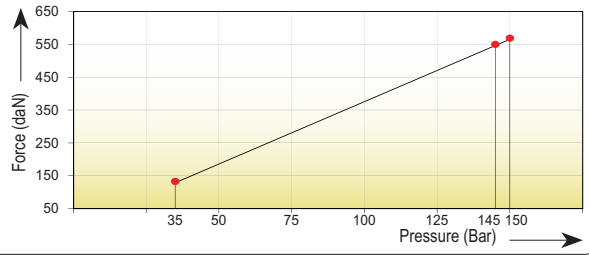


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPCT 550x12	12	56	44	550 ±5% (20ºC)	810	860	145 (20ºC)	0,013	0,28
TPCT 550x25	25	82	57		825	870		0,026	0,34
TPCT 550x38	38	108	70		830	875		0,039	0,39
TPCT 550x50	50	132	82		830	880		0,051	0,43
TPCT 550x63	63	158	95		830	880		0,064	0,48
TPCT 550x80	80	192	112		830	880		0,081	0,55
TPCT 550x100	100	232	132		835	885		0,101	0,64

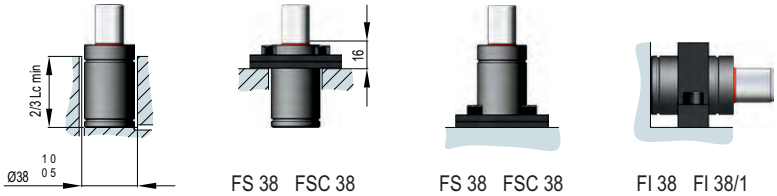
Force/stroke ratio



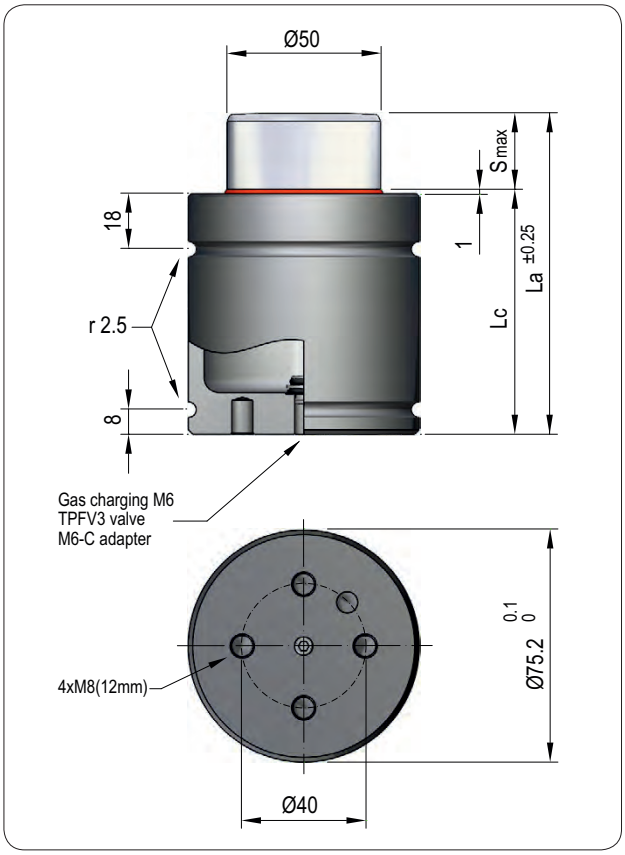
Initial force/charging pressure ratio



Assembly possibilities



FS 38 FSC 38 | FS 38 FSC 38 | FI 38 FI 38/1

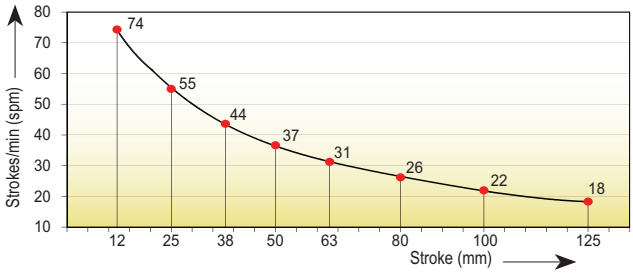


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Maximum stem speed	0,8 m/s
Maintenance kit	Kit CT2500

PED 2014/68/UE

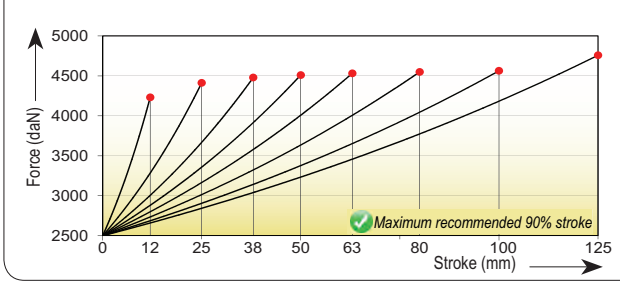


Maximum strokes / minute (at 20ºC)

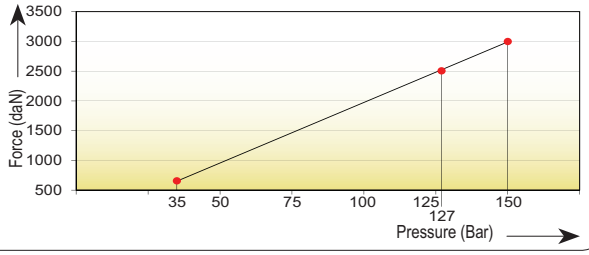


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPCT 2500x12	12	78	66	2500 ±5% (20ºC)	3950	4220	127 (20ºC)	0,058	1,60
TPCT 2500x25	25	104	79		4090	4400		0,113	1,90
TPCT 2500x38	38	130	92		4140	4470		0,169	2,05
TPCT 2500x50	50	154	104		4165	4500		0,220	2,30
TPCT 2500x63	63	180	117		4180	4520		0,276	2,55
TPCT 2500x80	80	214	134		4195	4540		0,349	2,95
TPCT 2500x100	100	254	154		4205	4550		0,434	3,25
TPCT 2500x125	125	304	179		4355	4745		0,517	3,70

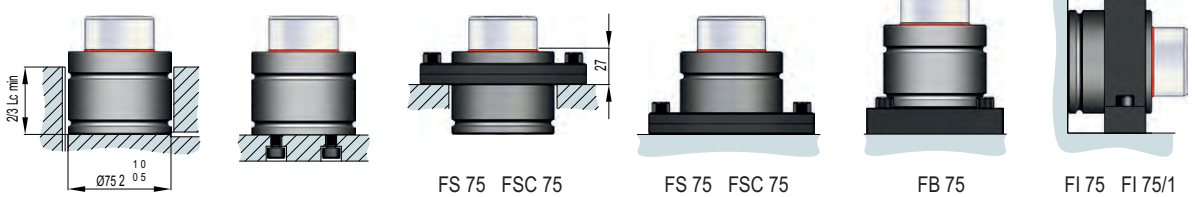
Force/stroke ratio

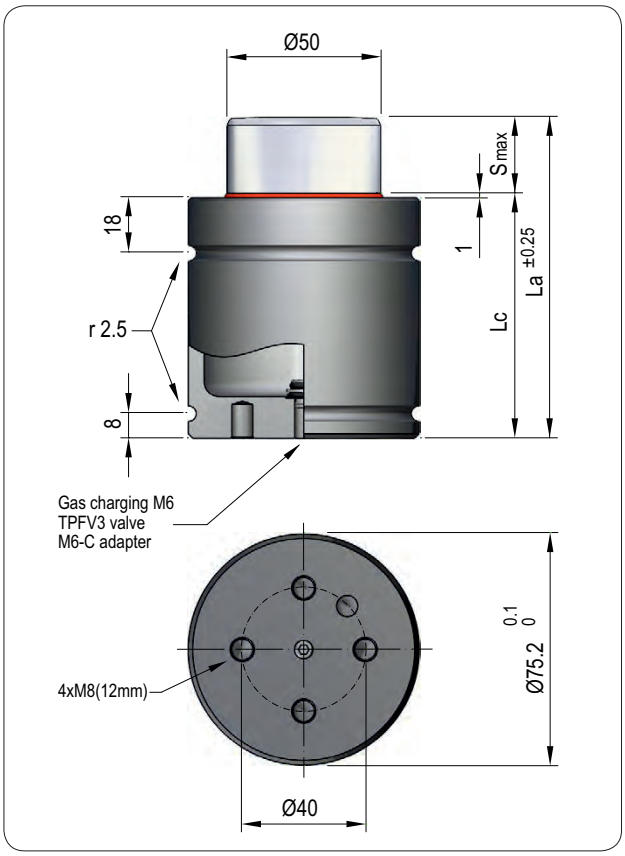


Initial force/charging pressure ratio



Assembly possibilities





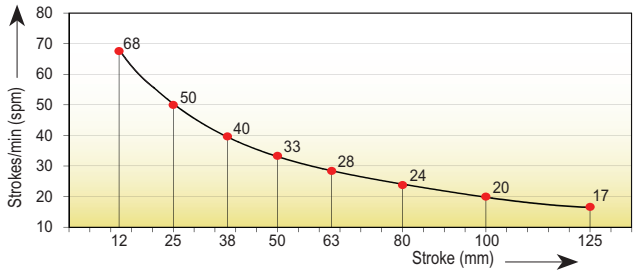
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,6 m/s
Maintenance kit	Kit CT3000

PED 2014/68/UE

VDI SAFETY

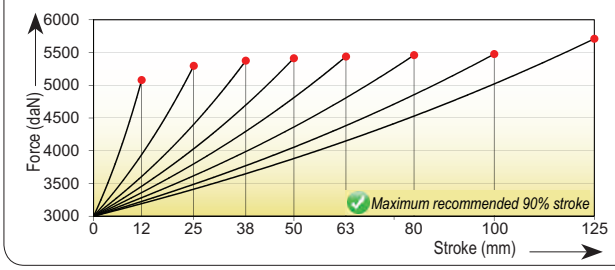
RE-50-65

Maximum strokes / minute (at 20ºC)

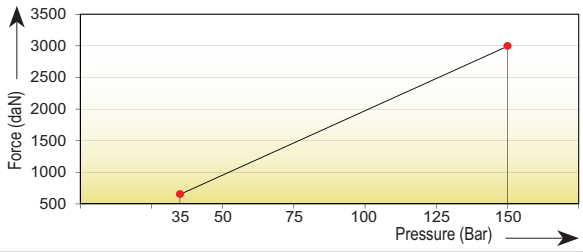


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPCT 3000x12	12	78	66	3000 ±5% (20ºC)	4755	5085	150 (20ºC)	0,058	1,60
TPCT 3000x25	25	104	79		4925	5305		0,113	1,90
TPCT 3000x38	38	130	92		4500	5380		0,169	2,05
TPCT 3000x50	50	154	104		5015	5420		0,220	2,30
TPCT 3000x63	63	180	117		5035	5445		0,276	2,55
TPCT 3000x80	80	214	134		5055	5470		0,349	2,95
TPCT 3000x100	100	254	154		5065	5485		0,434	3,25
TPCT 3000x125	125	304	179		5245	5715		0,517	3,70

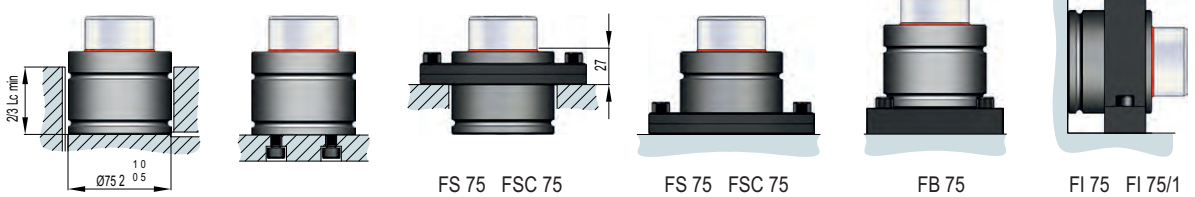
Force/stroke ratio



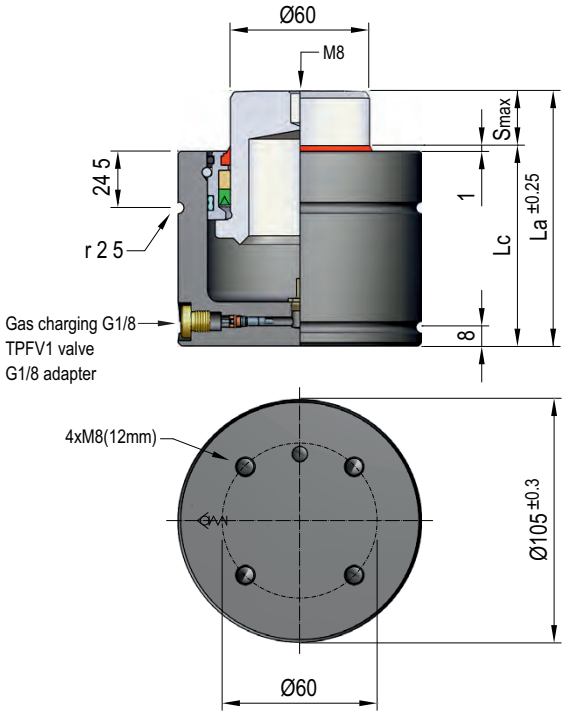
Initial force/charging pressure ratio



Assembly possibilities



TPCT
TPB
TPR
TPA TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

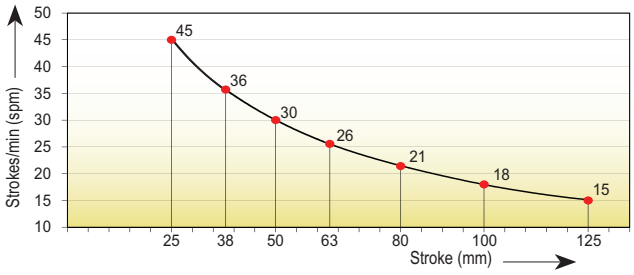


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit CT5000

PED 2014/68/UE

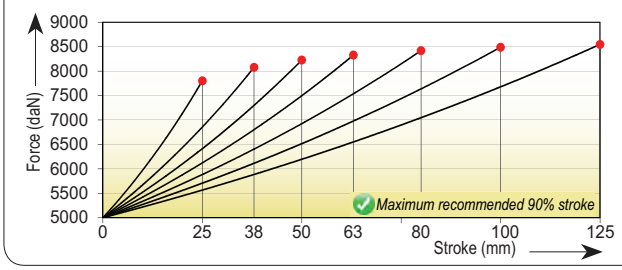


Maximum strokes / minute (at 20ºC)

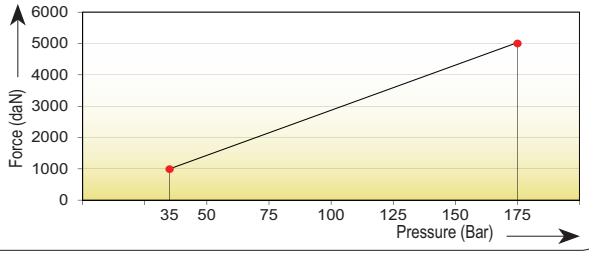


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPCT 5000x25	25	110	85	5000 ±5% (20ºC)	7395	7810	175 (20ºC)	0,197	4,10
TPCT 5000x38	38	136	98		7615	8085		0,282	4,70
TPCT 5000x50	50	160	110		7735	8235		0,361	4,90
TPCT 5000x63	63	186	123		7815	8335		0,446	5,40
TPCT 5000x80	80	220	140		7890	8425		0,557	5,75
TPCT 5000x100	100	260	160		7945	8495		0,688	5,90
TPCT 5000x125	125	310	185		7990	8555		0,852	7,05

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



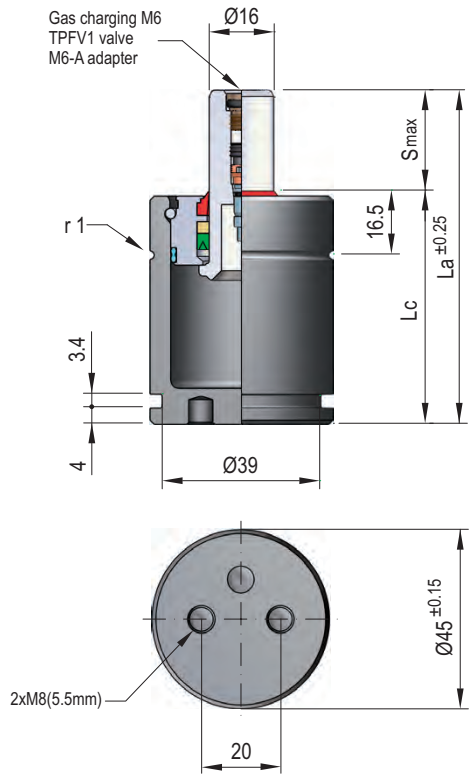
TPGAS 07 01-2018

PED 2014/68/UE



Low compresion gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY	
TPB 350	45	13 - 100	350	✓	✓	
TPB 850	63	13 - 100	850	✓	✓	✓
TPB 750	75	13 - 300	740	✓	✓	✓
TPB 1250	75	25 - 100	1250	✓	✓	✓
TPB 1500	95	13 - 300	1500	✓	✓	✓
TPB 1800	95	25 - 100	1800	✓	✓	✓
TPB 2800	120	25 - 100	2800	✓	✓	✓
TPB 3000	120	25 - 300	3000	✓	✓	✓
TPB 5000	150	25 - 300	5000	✓	✓	✓

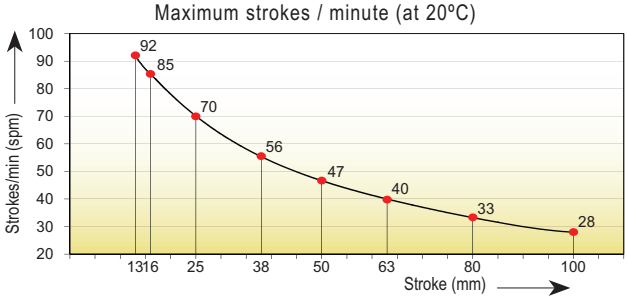


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit B350

PED 2014/68/UE

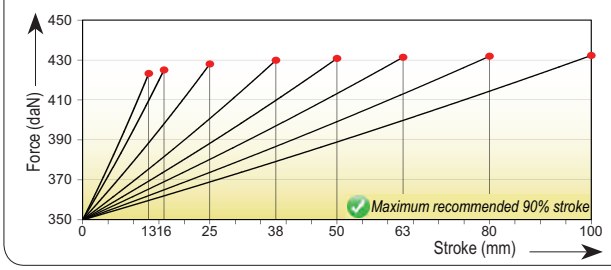
VDI SAFETY

Maximum strokes / minute (at 20ºC)

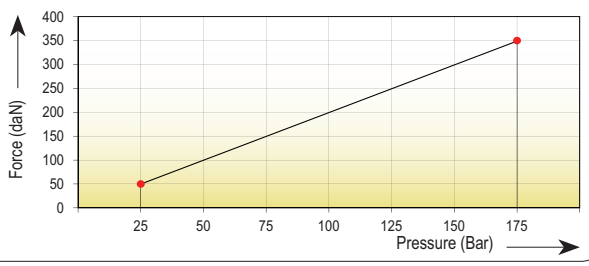


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 350x13	13	58	45	350 ±5% (20ºC)	415	425	175 (20ºC)	0,015	0,34
TPB 350x16	16	64	48		420	425		0,018	0,38
TPB 350x25	25	82	57		420	430		0,028	0,39
TPB 350x38	38	108	70		425	430		0,041	0,43
TPB 350x50	50	132	82		425	435		0,054	0,46
TPB 350x63	63	158	95		425	435		0,067	0,49
TPB 350x80	80	192	112		425	435		0,085	0,57
TPB 350x100	100	232	132		425	435		0,106	0,63

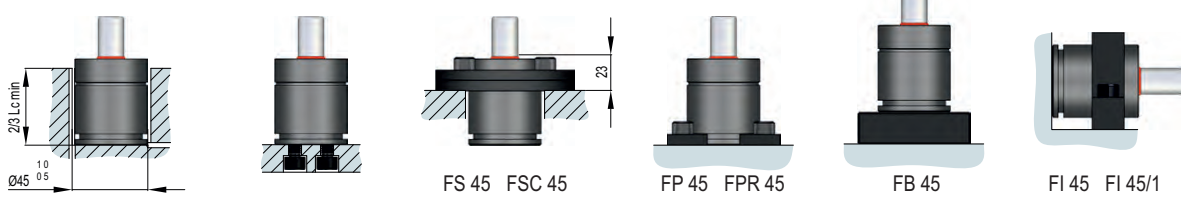
Force/stroke ratio



Initial force/charging pressure ratio



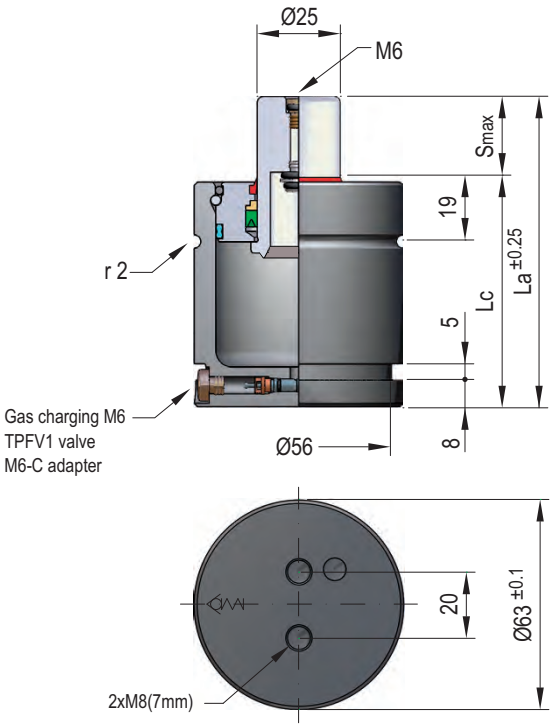
Assembly possibilities



FS 45 FSC 45 FP 45 FPR 45 FB 45 FI 45 FI 45/1

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Ø63mm · Low compresion 850daN — TPB 850

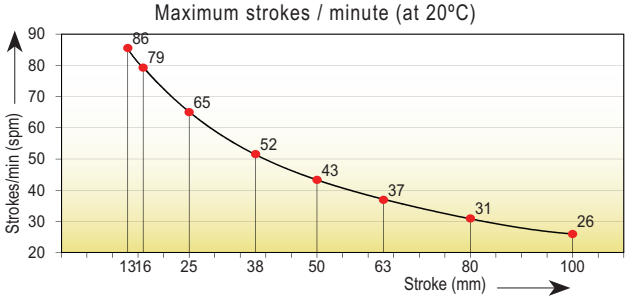


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit B850

PED 2014/68/UE

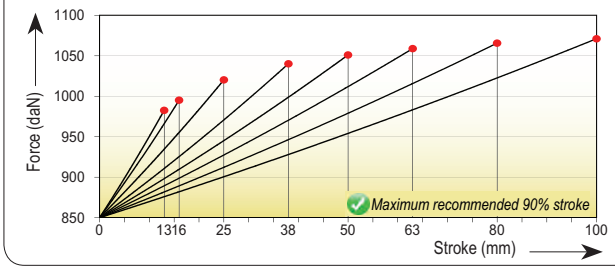


Maximum strokes / minute (at 20ºC)

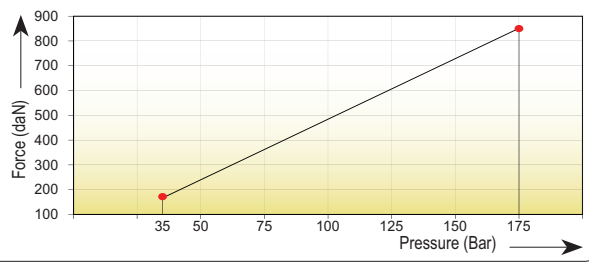


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 850x13	13	70	57	850 ±5% (20ºC)	980	995	175 (20ºC)	0,047	0,92
TPB 850x16	16	76	60		990	1005		0,054	0,95
TPB 850x25	25	94	69		1010	1030		0,074	1,24
TPB 850x38	38	120	82		1030	1050		0,102	1,32
TPB 850x50	50	144	94		1040	1060		0,128	1,37
TPB 850x63	63	170	107		1045	1070		0,157	1,52
TPB 850x80	80	204	124		1050	1075		0,194	1,68
TPB 850x100	100	244	144		1055	1080		0,238	1,80

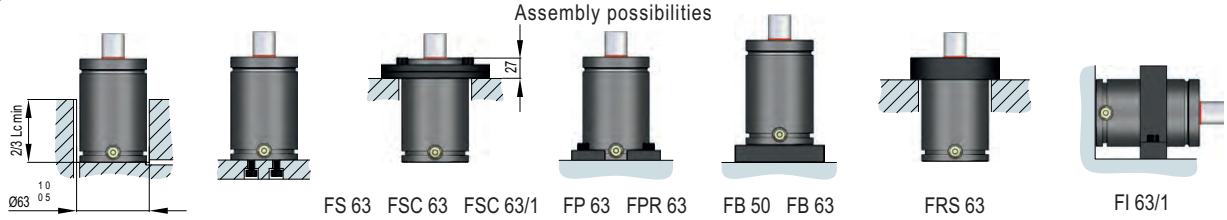
Force/stroke ratio

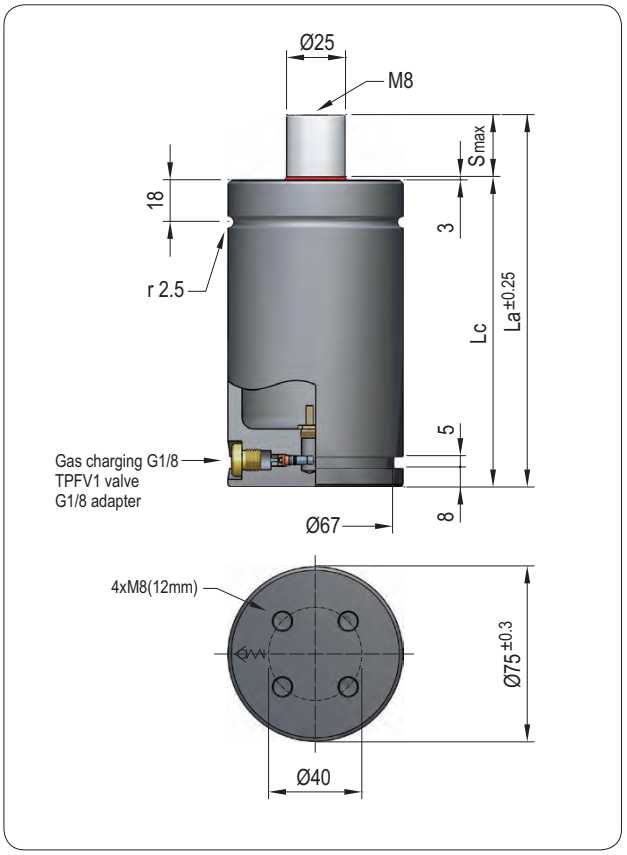


Initial force/charging pressure ratio



Assembly possibilities



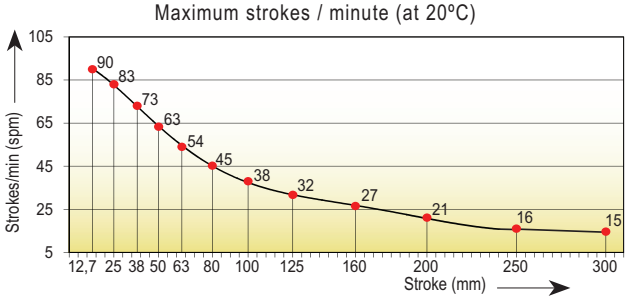


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit B750

PED 2014/68/UE

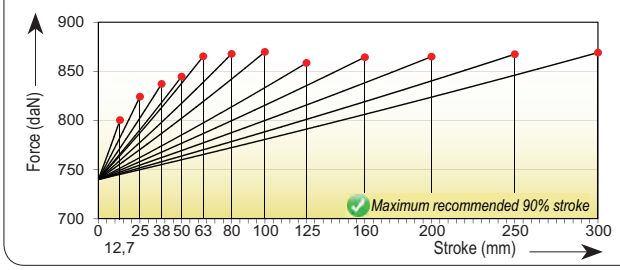


Maximum strokes / minute (at 20ºC)

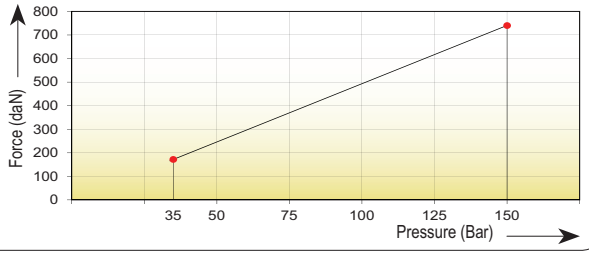


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 750x13	12,7	120,4	107,7		790	795		0,083	3,00
TPB 750x25	25	145	120		810	820		0,120	3,15
TPB 750x38	38	171	133		820	835		0,161	3,35
TPB 750x50	50	195	145		830	840		0,198	3,50
TPB 750x63	63	222	159		845	860		0,214	3,75
TPB 750x80	80	255	175	740 ±5%	850	865	150	0,267	4,30
TPB 750x100	100	295	195	(20ºC)	850	865	(20ºC)	0,329	4,65
TPB 750x125	125	345	220		840	855		0,444	5,21
TPB 750x160	160	415	255		845	860		0,546	5,94
TPB 750x200	200	495	295		845	860		0,680	7,00
TPB 750x250	250	595	345		850	865		0,835	7,68
TPB 750x300	300	695	395		850	865		0,991	8,09

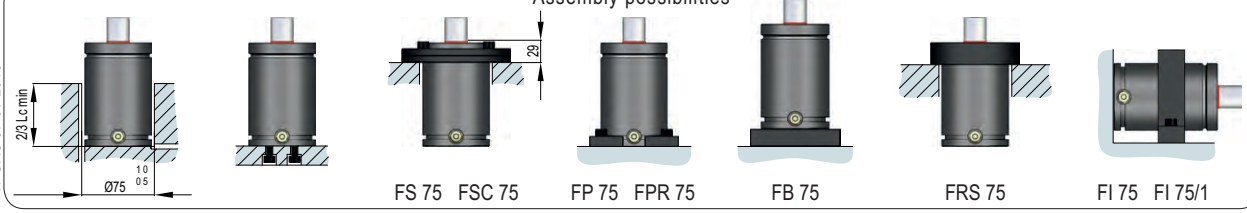
Force/stroke ratio



Initial force/charging pressure ratio



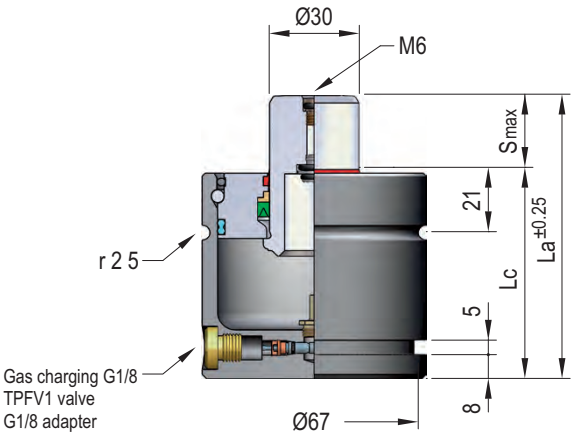
Assembly possibilities

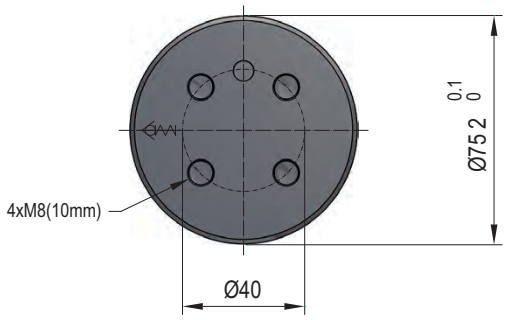


TECAPRES®

Ø75mm · Low compresion 1250daN

TPB 1250



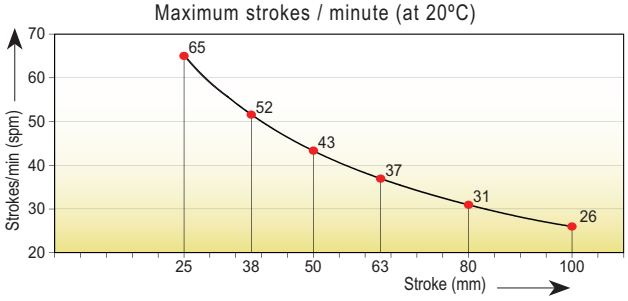


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit B1250

PED 2014/68/UE

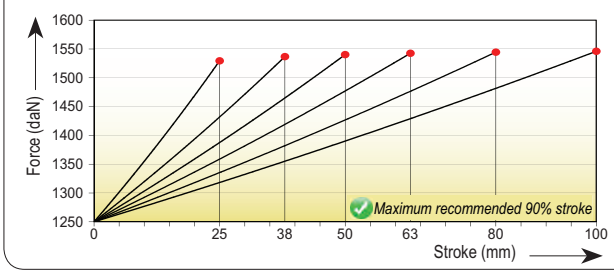


Maximum strokes / minute (at 20ºC)

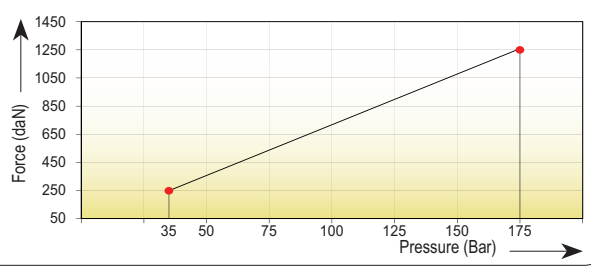


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 1250x25	25	95	70		1505	1540		0,097	1,30
TPB 1250x38	38	121	83		1510	1545		0,144	1,51
TPB 1250x50	50	145	95	1250 ±5%	1510	1545	175	0,188	1,58
TPB 1250x63	63	171	108	(20ºC)	1510	1550	(20ºC)	0,235	1,67
TPB 1250x80	80	205	125		1515	1550		0,297	2,08
TPB 1250x100	100	245	145		1515	1550		0,369	2,49

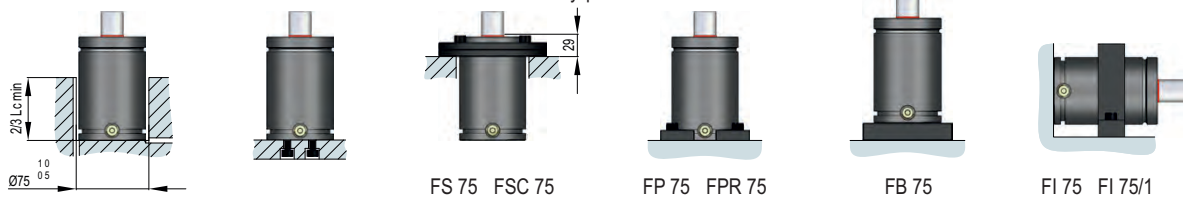
Force/stroke ratio

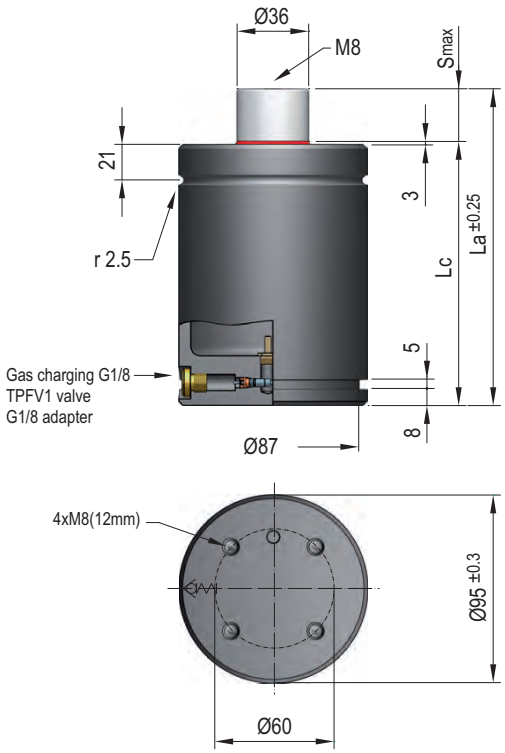


Initial force/charging pressure ratio



Assembly possibilities



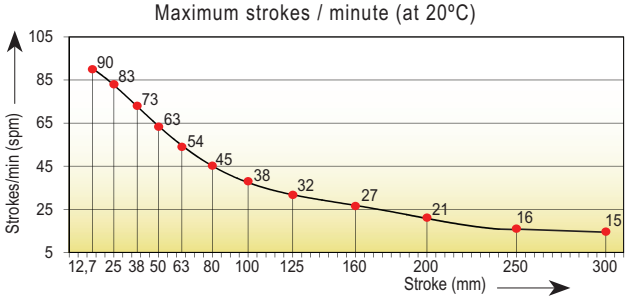


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit B1500

PED 2014/68/UE

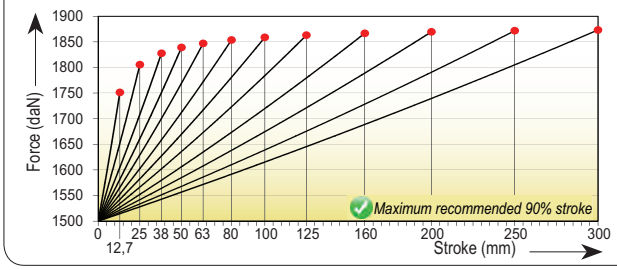


Maximum strokes / minute (at 20ºC)

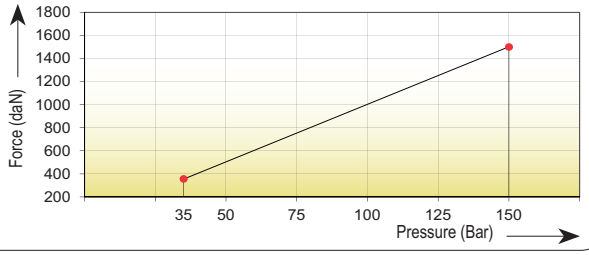


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 1500x13	12,7	135,4	122,7	1500 ±5% (20ºC)	1730	1760	148 (20ºC)	0,090	5,25
TPB 1500x25	25	160	135		1775	1815		0,150	5,50
TPB 1500x38	38	186	148		1795	1835		0,216	5,90
TPB 1500x50	50	210	160		1805	1845		0,276	6,28
TPB 1500x63	63	237	174		1815	1855		0,341	6,60
TPB 1500x80	80	270	190		1820	1860		0,427	7,05
TPB 1500100	100	310	210		1825	1865		0,527	7,65
TPB 1500x125	125	360	235		1825	1870		0,653	7,90
TPB 1500x160	160	430	270		1830	1875		0,829	8,98
TPB 1500x200	200	510	310		1830	1880		1,030	10,05
TPB 1500x250	250	610	360		1835	1880		1,281	11,65
TPB 1500x300	300	710	410		1835	1880		1,533	14,60

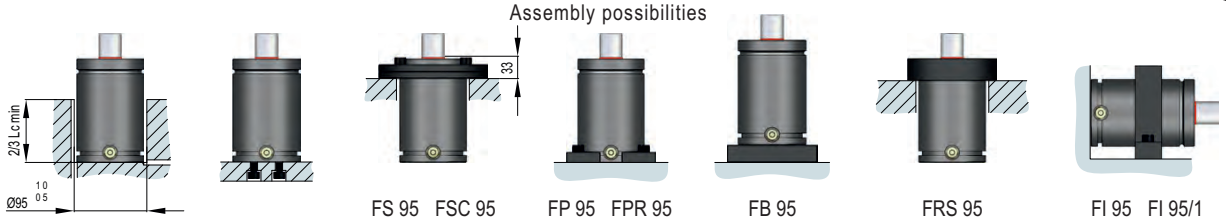
Force/stroke ratio



Initial force/charging pressure ratio

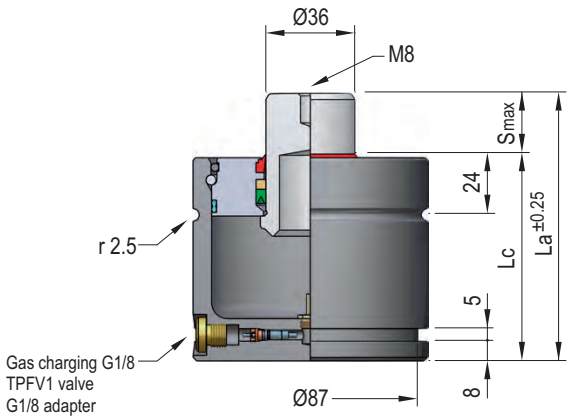


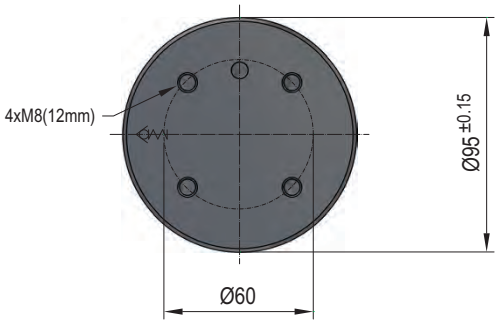
Assembly possibilities



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Ø95mm · Low compresion 1800daN — TPB 1800



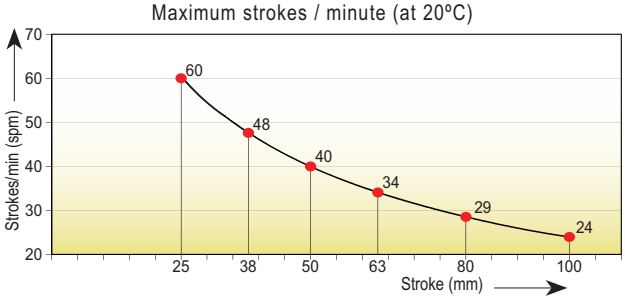


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit B1800

PED 2014/68/UE

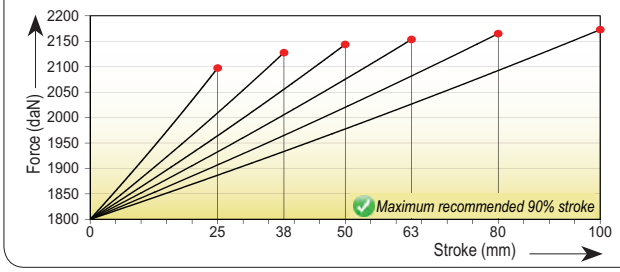


Maximum strokes / minute (at 20ºC)

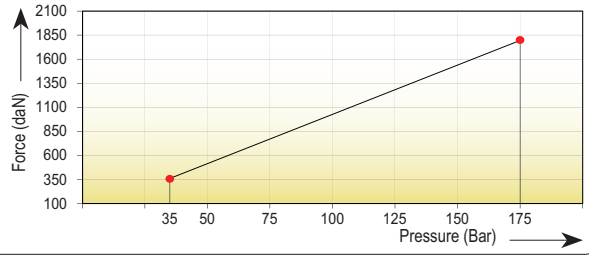


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 1800x25	25	108	83	1800 ±5% (20ºC)	2040	2075	175 (20ºC)	0,179	3,05
TPB 1800x38	38	134	96		2070	2105		0,251	3,65
TPB 1800x50	50	158	108		2080	2120		0,317	3,84
TPB 1800x63	63	184	121		2090	2130		0,391	4,32
TPB 1800x80	80	218	138		2100	2145		0,483	4,79
TPB 1800x100	100	258	158		2105	2150		0,593	5,88

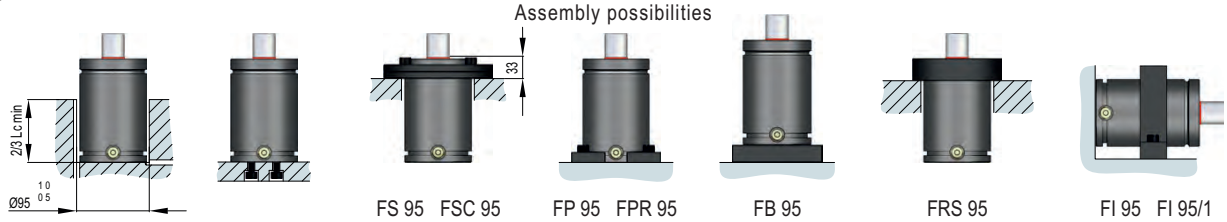
Force/stroke ratio

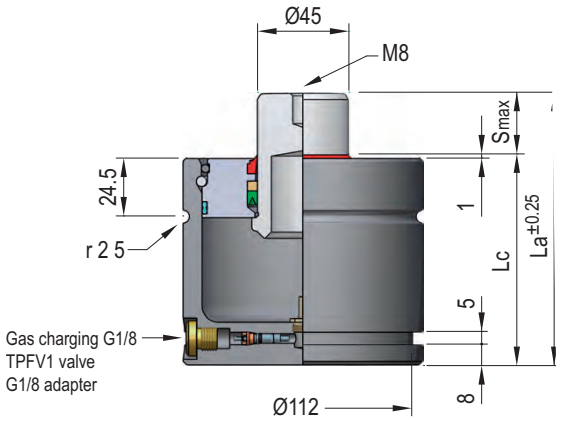


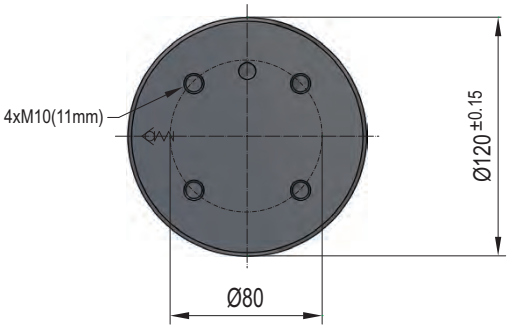
Initial force/charging pressure ratio



Assembly possibilities





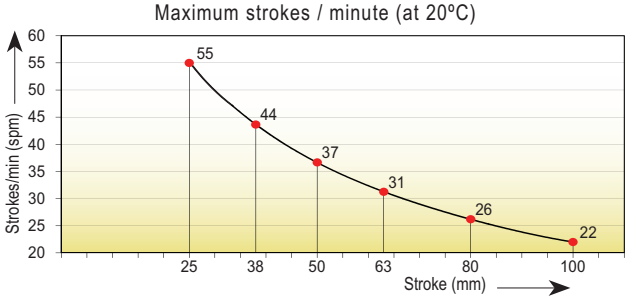


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit B2800

PED 2014/68/UE

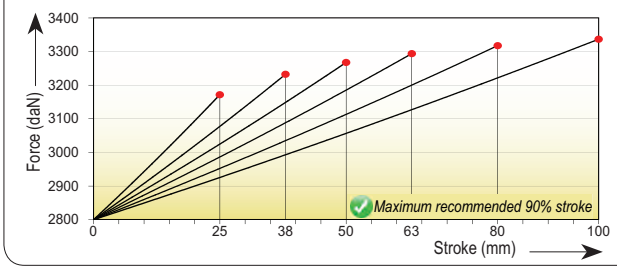


Maximum strokes / minute (at 20ºC)

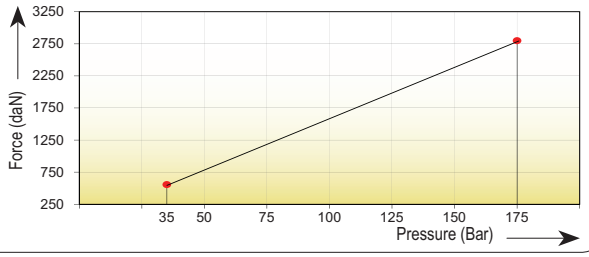


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 2800x25	25	118	93		3110	3155		0,339	4,80
TPB 2800x38	38	144	106		3165	3215		0,452	5,55
TPB 2800x50	50	168	118	2800 ±5%	3195	3250	175	0,556	6,25
TPB 2800x63	63	194	131	(20ºC)	3215	3275	(20ºC)	0,668	6,32
TPB 2800x80	80	228	148		3240	3300		0,816	7,15
TPB 2800x100	100	268	168		3255	3315		0,987	8,10

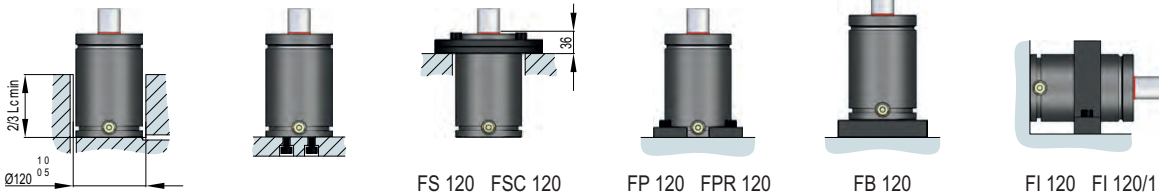
Force/stroke ratio



Initial force/charging pressure ratio

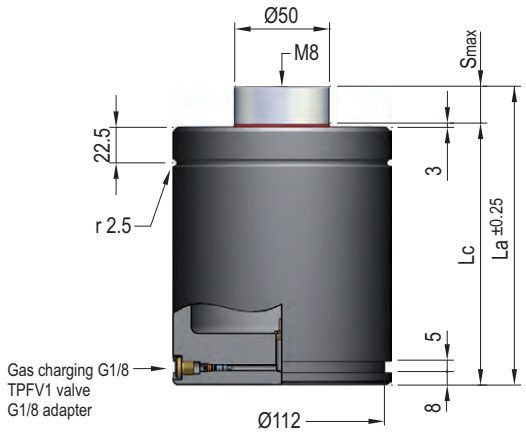


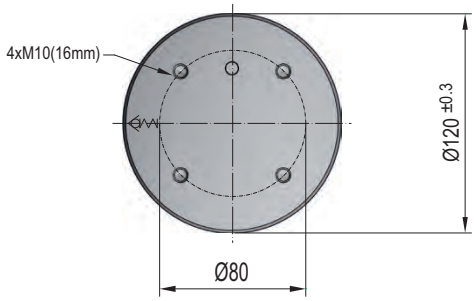
Assembly possibilities



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Ø120mm · Low compresion 3000daN — TPB 3000



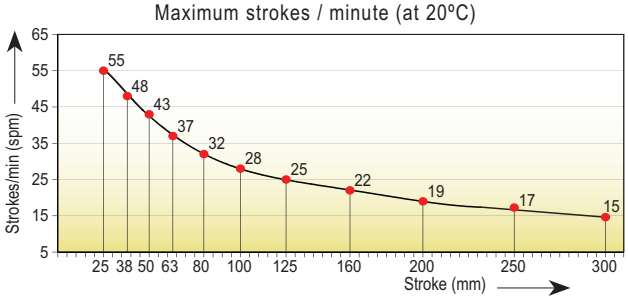


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit B3000

PED 2014/68/UE

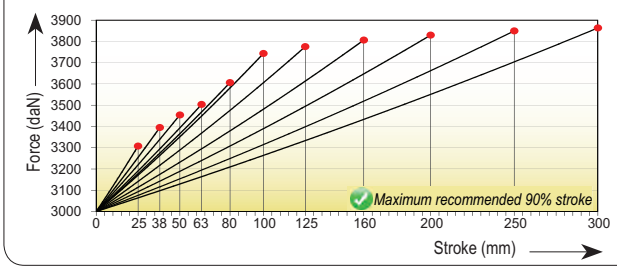


Maximum strokes / minute (at 20ºC)

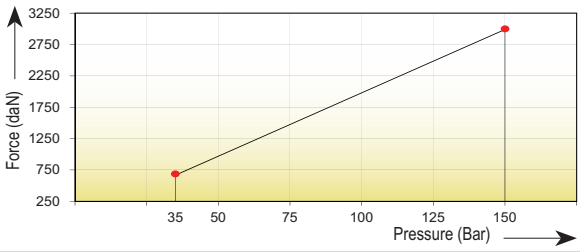


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 3000x25	25	170	145	3000 ±5% (20ºC)	3280	3315	150 (20ºC)	0,527	11,75
TPB 3000x38	38	196	158		3275	3310		0,641	12,70
TPB 3000x50	50	220	170		3410	3460		0,746	13,45
TPB 3000x63	63	247	184		3450	3510		0,860	14,25
TPB 3000x80	80	280	200		3540	3610		0,934	15,16
TPB 3000x100	100	320	220		3660	3750		0,989	16,20
TPB 3000x125	125	370	245		3685	3780		1,195	17,85
TPB 3000x160	160	440	280		3710	3810		1,483	19,60
TPB 3000x200	200	520	320		3730	3835		1,812	21,50
TPB 3000x250	250	620	370		3750	3855		2,224	23,60
TPB 3000x300	300	720	420		3760	3870		2,635	25,30

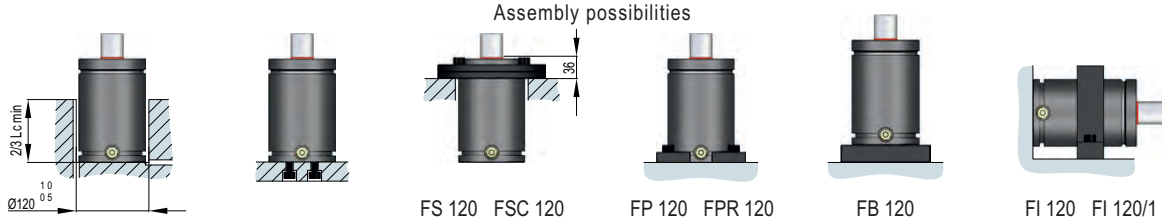
Force/stroke ratio



Initial force/charging pressure ratio

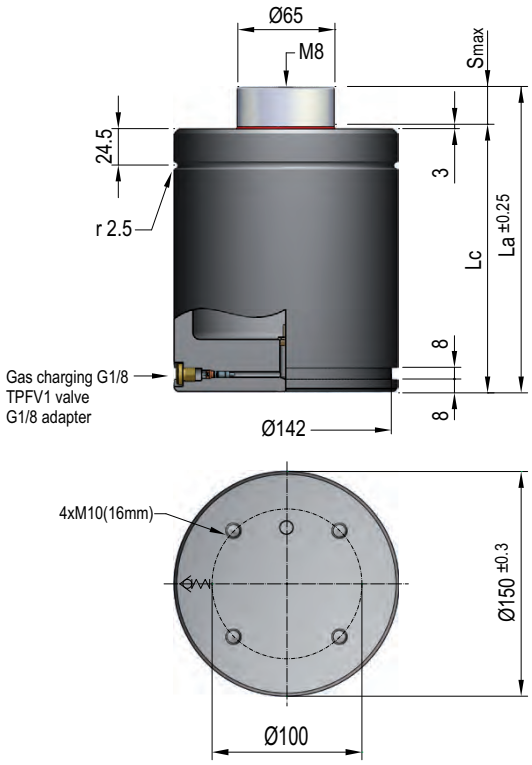


Assembly possibilities



TPGAS 07 01-2018

Ø150mm · Low compresion 5000daN — TPB 5000

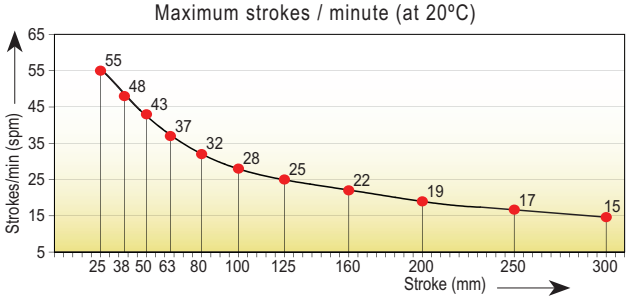


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	33,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit B5000

PED 2014/68/UE

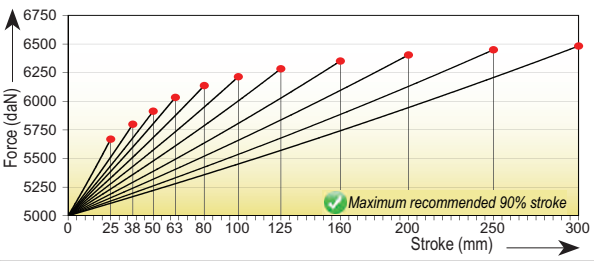


Maximum strokes / minute (at 20ºC)

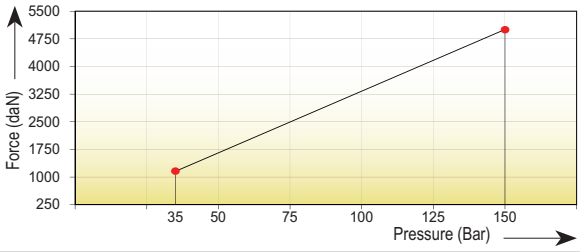


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 5000x25	25	190	165	5000 ±5% (20ºC)	5570	5645	150 (20ºC)	0,702	18,50
TPB 5000x38	38	216	178		5685	5585		0,915	19,30
TPB 5000x50	50	240	190		5780	5885		1,074	20,10
TPB 5000x63	63	267	204		5885	6005		1,220	21,00
TPB 5000x80	80	300	220		5975	6110		1,432	22,85
TPB 5000x100	100	340	240		6040	6185		1,698	24,00
TPB 5000x125	125	390	265		6100	6255		2,030	26,45
TPB 5000x160	160	460	300		6155	6325		2,494	29,25
TPB 5000x200	200	540	340		6200	6375		3,025	32,10
TPB 5000x250	250	640	390		6240	6420		3,689	36,20
TPB 5000x300	300	740	440		6270	6455		4,352	39,10

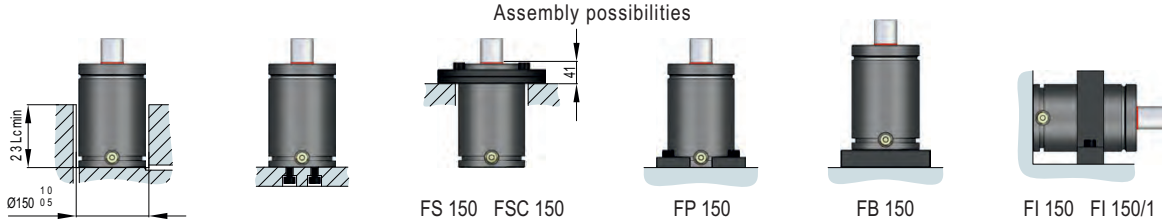
Force/stroke ratio



Initial force/charging pressure ratio

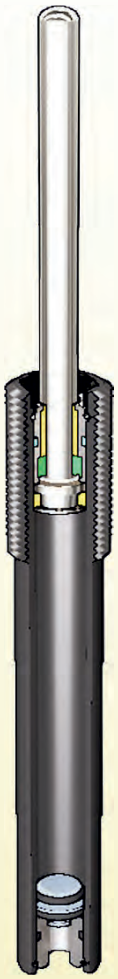


Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

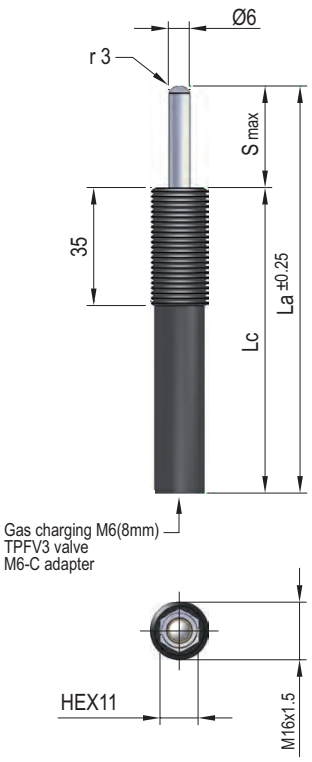
PED 2014/68/UE





Threaded body gas springs

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY	
TPR 16	M16 x 1,5	10 - 100	50		✓	
TPRB 16	M16 x 1,5	10 - 100	50		✓	
TPRC 16	M16 x 2	10 - 125	40		✓	
TPR 24	M24 x 1,5	10 - 100	140		✓	
TPRB 24	M24 x 1,5	10 - 100	140		✓	
TPRC 24	M24 x 1,5	7 - 125	90	✓	✓	
TPRT 24	M24 x 1,5	7 - 125	90	✓	✓	
TPR 28	M28 x 1,5	15 - 125	200	✓	✓	
TPR 38	M38 x 1,5	12 - 100	250	✓	✓	
TPR 38.1	M38 x 1,5	13 - 100	250	✓	✓	✓
TPR 45	M45 x 1,5	13 - 100	740	✓	✓	✓
TPR 50	M50 x 1,5	13 - 100	1000	✓	✓	✓

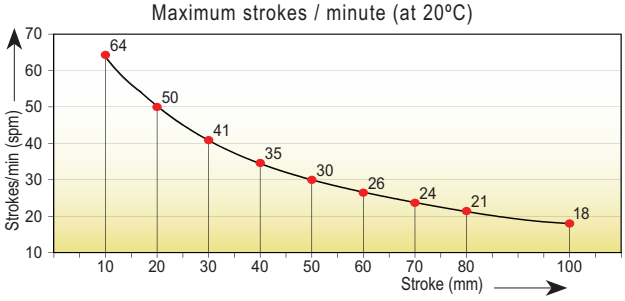


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	0,28 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit R16

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPR 16x10	10	80	70	0,004	0,06
TPR 16x20	20	100	80	0,005	0,06
TPR 16x30	30	120	90	0,006	0,07
TPR 16x40	40	140	100	0,007	0,08
TPR 16x50	50	160	110	0,008	0,08
TPR 16x60	60	180	120	0,009	0,09
TPR 16x70	70	200	130	0,010	0,09
TPR 16x80	80	220	140	0,011	0,11
TPR 16x100	100	260	160	0,013	0,11

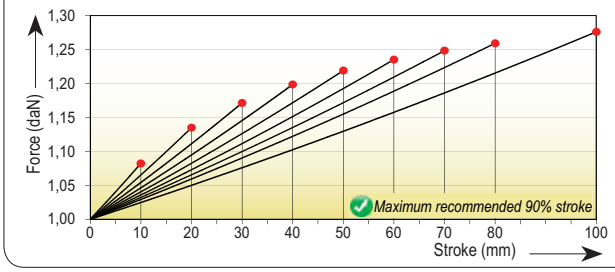
Code	Fa daN	Fc daN	P Bar
TPR 16x ... F10	10 (±5%)	≈ 12	35
TPR 16x ... F15	15 (±5%)	≈ 15	50
TPR 16x ... F20	20 (±5%)	≈ 25	70
TPR 16x ... F25	25 (±5%)	≈ 30	90
TPR 16x ... F30	30 (±5%)	≈ 35	110
TPR 16x ... F35	35 (±5%)	≈ 45	125
TPR 16x ... F40	40 (±5%)	≈ 50	140
TPR 16x ... F45	45 (±5%)	≈ 55	160
TPR 16x ... F50	50 (±5%)	≈ 60	175

How to order

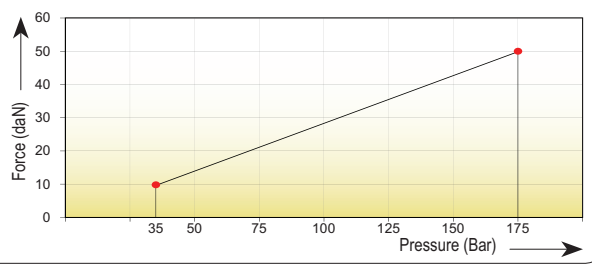
TPR 16 x 20 F50

Model | Stroke | Force

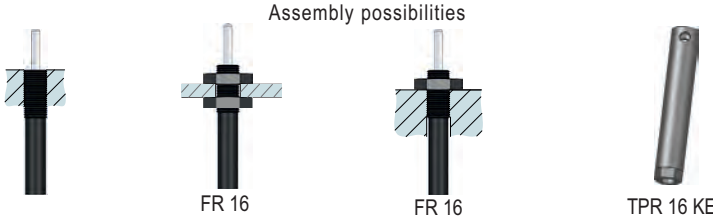
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

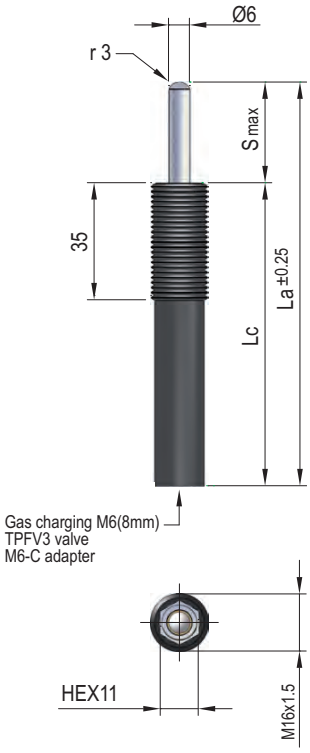


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TECAPRES®

M16x1,5
50daN

TPRB 16

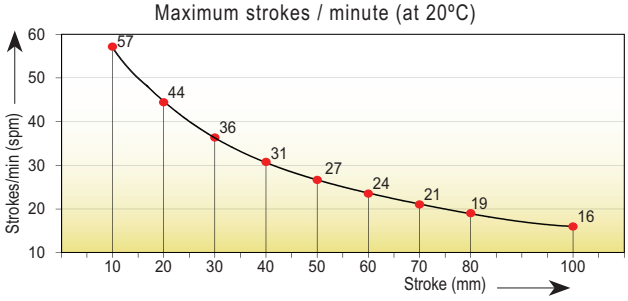


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	0,28 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit RB16

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPRB 16x10	10	65	55	0,002	0,05
TPRB 16x20	20	85	65	0,003	0,05
TPRB 16x30	30	105	75	0,004	0,06
TPRB 16x40	40	125	85	0,005	0,07
TPRB 16x50	50	145	95	0,006	0,07
TPRB 16x60	60	165	105	0,007	0,08
TPRB 16x70	70	185	115	0,008	0,08
TPRB 16x80	80	205	125	0,009	0,10
TPRB 16x100	100	245	145	0,012	0,10

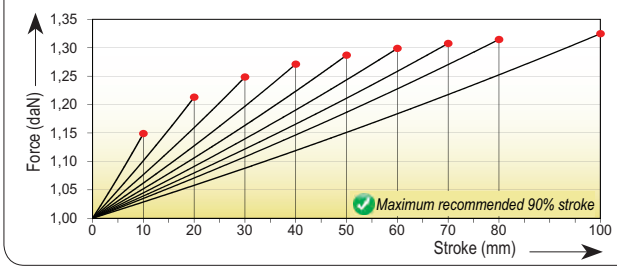
Code	Fa daN	Fc daN	P Bar
TPRB 16x ... F10	10 (±5%)	≈ 13	35
TPRB 16x ... F15	15 (±5%)	≈ 18	50
TPRB 16x ... F20	20 (±5%)	≈ 25	70
TPRB 16x ... F25	25 (±5%)	≈ 32	90
TPRB 16x ... F30	30 (±5%)	≈ 40	110
TPRB 16x ... F35	35 (±5%)	≈ 45	125
TPRB 16x ... F40	40 (±5%)	≈ 50	140
TPRB 16x ... F45	45 (±5%)	≈ 55	160
TPRB 16x ... F50	50 (±5%)	≈ 60	175

How to order

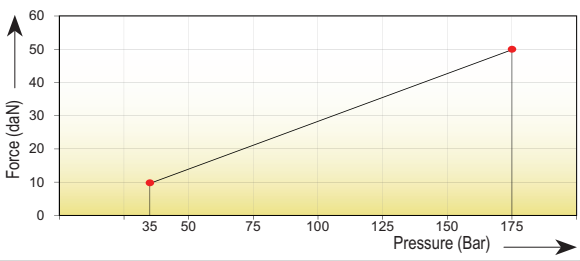
TPRB 16 x **40** **F30**

Model | Stroke | Force

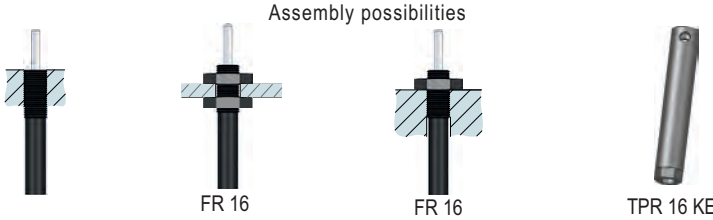
Force/stroke ratio

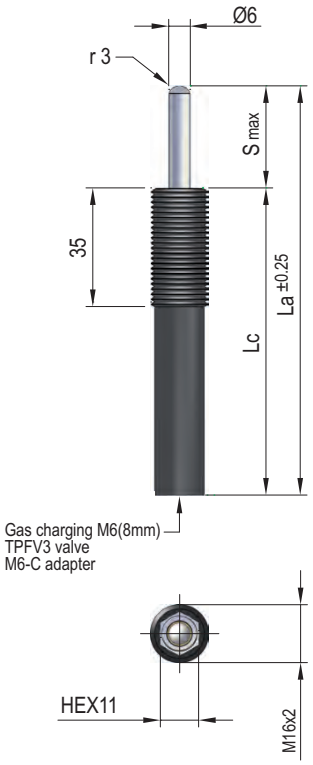


Initial force/charging pressure ratio



Assembly possibilities



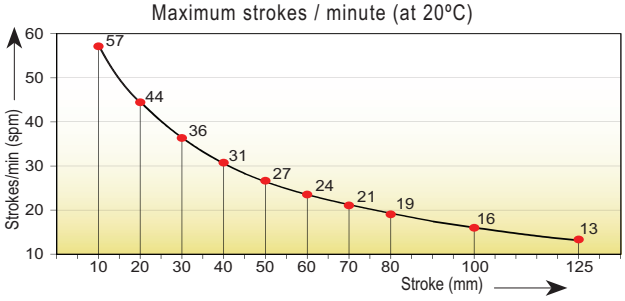


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	140 Bar
Min. charging pressure	20 Bar
Rod seal area	0,28 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit RC16

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPRC 16x10	10	65	55	0,002	0,05
TPRC 16x20	20	85	65	0,003	0,05
TPRC 16x30	30	105	75	0,004	0,06
TPRC 16x40	40	125	85	0,005	0,07
TPRC 16x50	50	145	95	0,006	0,07
TPRC 16x60	60	165	105	0,007	0,08
TPRC 16x70	70	185	115	0,008	0,08
TPRC 16x80	80	205	125	0,009	0,10
TPRC 16x100	100	245	145	0,012	0,10
TPRC 16x125	125	295	170	0,014	0,13

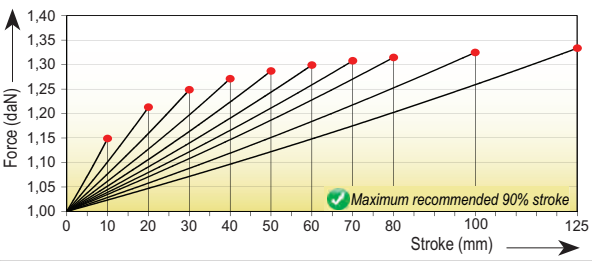
Code	Fa daN	Fc daN	P Bar
TPRC 16x ... F6	6 (±5%)	≈ 7	20
TPRC 16x ... F10	10 (±5%)	≈ 13	35
TPRC 16x ... F15	15 (±5%)	≈ 18	50
TPRC 16x ... F20	20 (±5%)	≈ 25	70
TPRC 16x ... F25	25 (±5%)	≈ 32	90
TPRC 16x ... F30	30 (±5%)	≈ 40	110
TPRC 16x ... F35	35 (±5%)	≈ 45	125
TPRC 16x ... F40	40 (±5%)	≈ 50	140

How to order

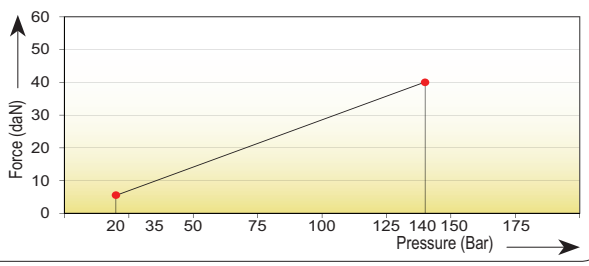
TPRC 16 x 60 F6

Model | Stroke | Force

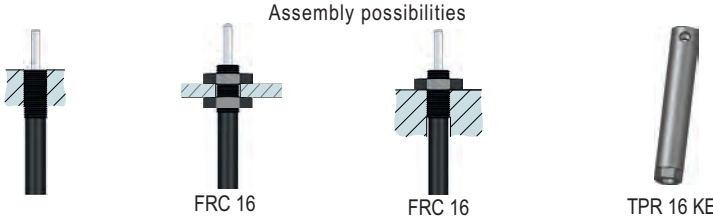
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

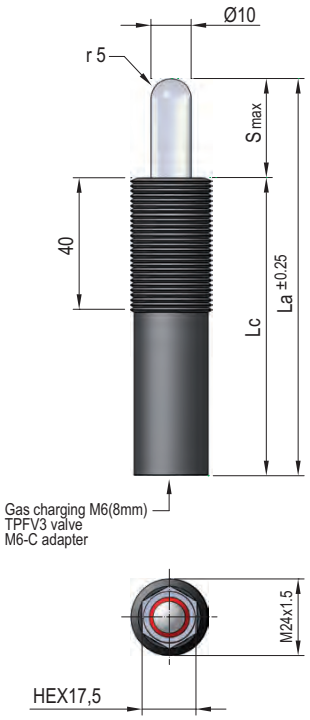


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TECAPRES®

M24x1,5
140daN

TPR 24

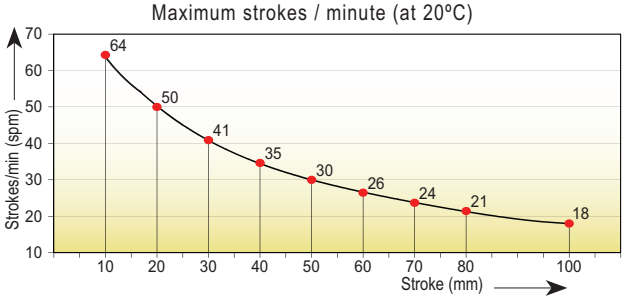


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,78 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit R24

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPR 24x10	10	80	70	0,008	0,20
TPR 24x20	20	100	80	0,011	0,22
TPR 24x30	30	120	90	0,013	0,24
TPR 24x40	40	140	100	0,016	0,25
TPR 24x50	50	160	110	0,018	0,27
TPR 24x60	60	180	120	0,021	0,30
TPR 24x70	70	200	130	0,023	0,35
TPR 24x80	80	220	140	0,026	0,41
TPR 24x100	100	260	160	0,031	0,45

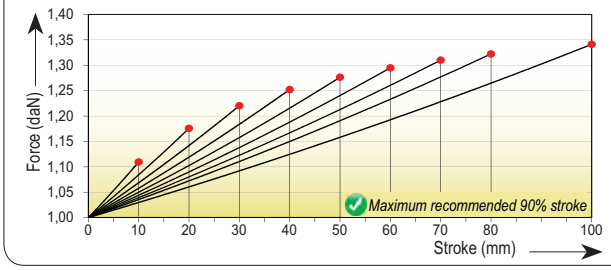
Code	Fa daN	Fc daN	P Bar
TPR 24x ... F20	20 (±5%)	≈ 25	25
TPR 24x ... F40	40 (±5%)	≈ 50	50
TPR 24x ... F60	60 (±5%)	≈ 75	75
TPR 24x ... F80	80 (±5%)	≈ 100	100
TPR 24x ... F100	100 (±5%)	≈ 125	125
TPR 24x ... F120	120 (±5%)	≈ 150	150
TPR 24x ... F140	140 (±5%)	≈ 175	175

How to order

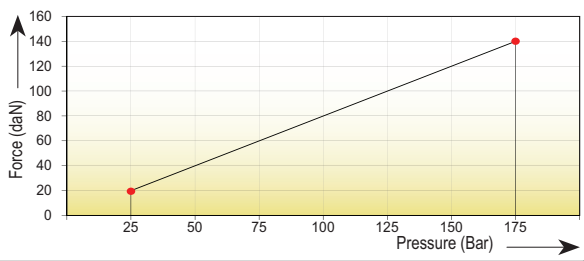
TPR 24 x **60** **F140**

Model | Stroke | Force

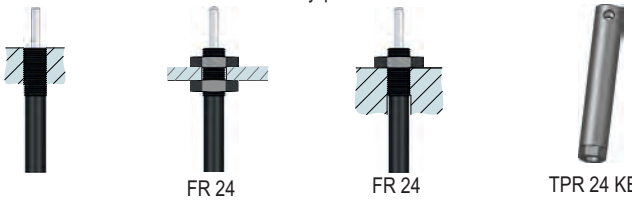
Force/stroke ratio

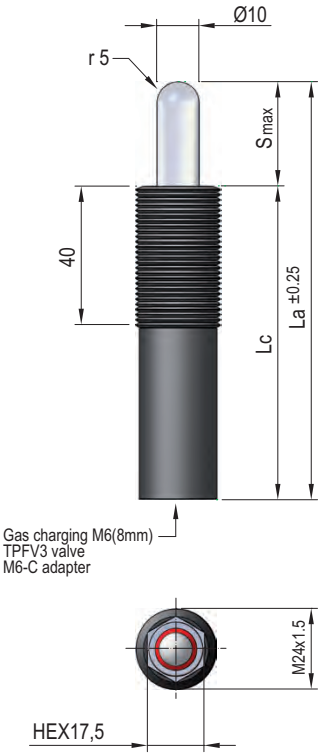


Initial force/charging pressure ratio



Assembly possibilities



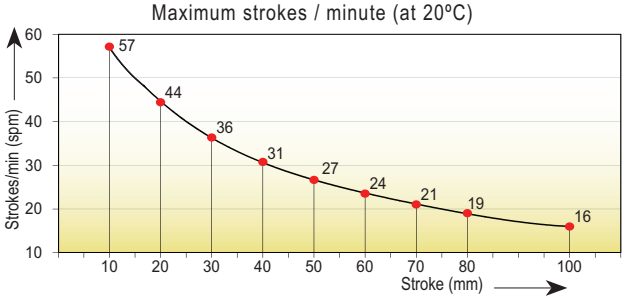


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,78 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit RB24

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPRB 24x10	10	65	55	0,004	0,18
TPRB 24x20	20	85	65	0,007	0,20
TPRB 24x30	30	105	75	0,009	0,22
TPRB 24x40	40	125	85	0,012	0,23
TPRB 24x50	50	145	95	0,014	0,25
TPRB 24x60	60	165	105	0,017	0,28
TPRB 24x70	70	185	115	0,019	0,32
TPRB 24x80	80	205	125	0,022	0,38
TPRB 24x100	100	245	145	0,027	0,42

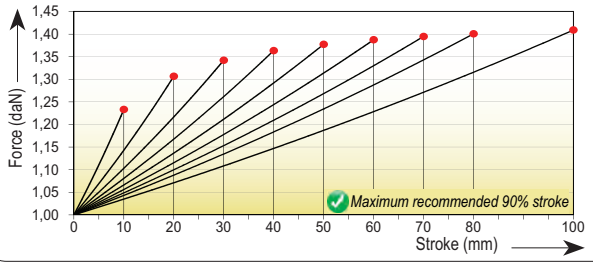
Code	Fa daN	Fc daN	P Bar
TPRB 24x ... F20	20 (±5%)	≈ 25	25
TPRB 24x ... F40	40 (±5%)	≈ 55	50
TPRB 24x ... F60	60 (±5%)	≈ 80	75
TPRB 24x ... F80	80 (±5%)	≈ 105	100
TPRB 24x ... F100	100 (±5%)	≈ 135	125
TPRB 24x ... F120	120 (±5%)	≈ 160	150
TPRB 24x ... F140	140 (±5%)	≈ 185	175

How to order

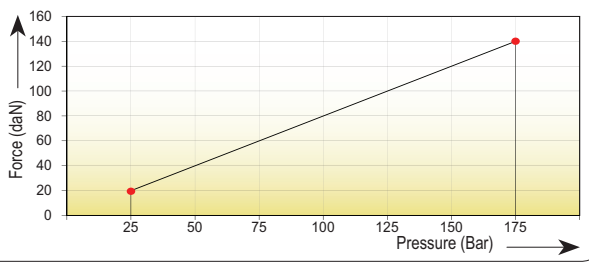
TPRB 24 x 30 F80

Model | Stroke | Force

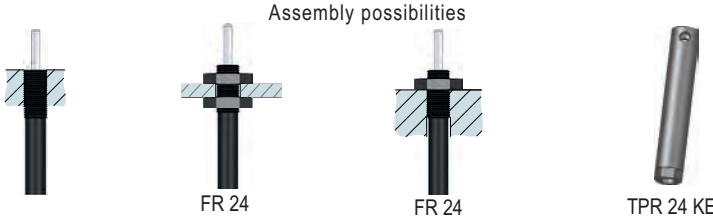
Force/stroke ratio



Initial force/charging pressure ratio



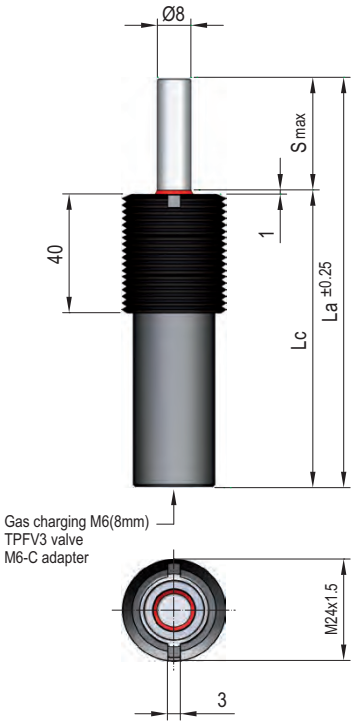
Assembly possibilities



TECAPRES®

M24x1,5
90daN

TPRC 24

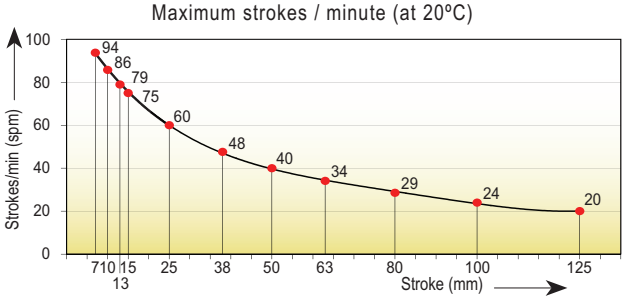


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	20 Bar
Rod seal area	0,50 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit RC24

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPRC 24x7	7	56	49	0,002	0,08
TPRC 24x10	10	62	52	0,003	0,08
TPRC 24x13	13	67,4	54,4	0,003	0,08
TPRC 24x15	15	72	57	0,004	0,09
TPRC 24x25	25	92	67	0,006	0,10
TPRC 24x38	38	118	80	0,008	0,12
TPRC 24x50	50	142	92	0,011	0,13
TPRC 24x63	63	172	109	0,014	0,15
TPRC 24x80	80	205	125	0,017	0,17
TPRC 24x100	100	245	145	0,021	0,18
TPRC 24x125	125	295	170	0,026	0,21

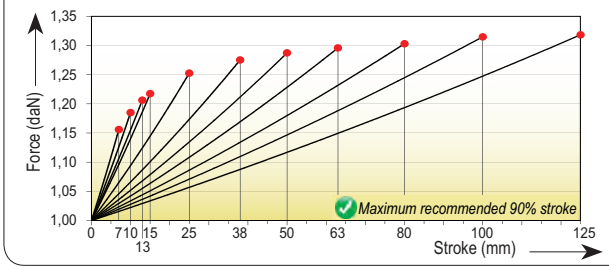
Code	Fa daN	Fc daN	P Bar
TPRC 24x ... F10	10 (±5%)	≈ 13	20
TPRC 24x ... F20	20 (±5%)	≈ 25	40
TPRC 24x ... F30	30 (±5%)	≈ 40	60
TPRC 24x ... F40	40 (±5%)	≈ 50	80
TPRC 24x ... F50	50 (±5%)	≈ 65	100
TPRC 24x ... F60	60 (±5%)	≈ 75	120
TPRC 24x ... F70	70 (±5%)	≈ 90	140
TPRC 24x ... F80	80 (±5%)	≈ 105	160
TPRC 24x ... F90	90 (±5%)	≈ 110	175

How to order

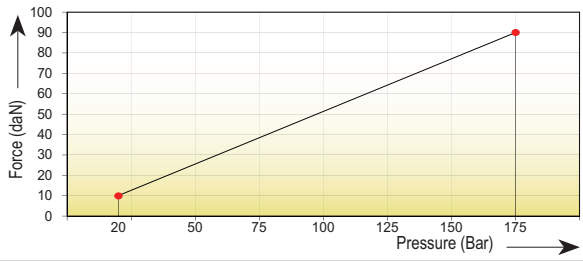
TPRC 24 x **100** **F50**

Model | Stroke | Force

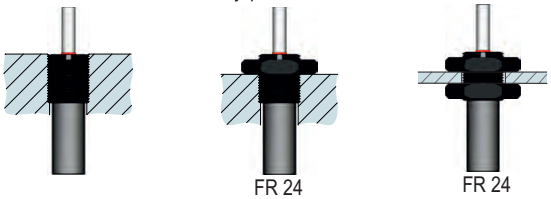
Force/stroke ratio

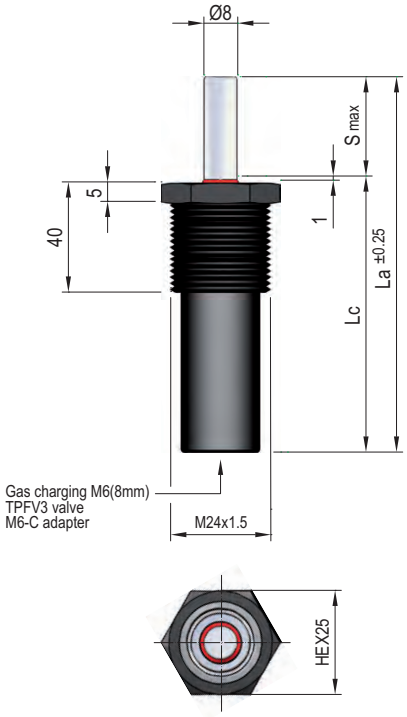


Initial force/charging pressure ratio



Assembly possibilities



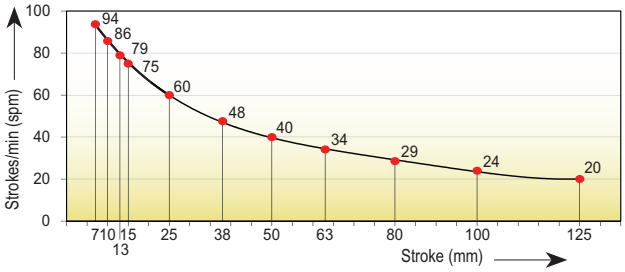


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	20 Bar
Rod seal area	0,50 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit RT24

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPRT 24x7	7	56	49	0,002	0,08
TPRT 24x10	10	62	52	0,003	0,08
TPRT 24x13	13	67,4	54,4	0,003	0,08
TPRT 24x15	15	72	57	0,004	0,09
TPRT 24x25	25	92	67	0,006	0,10
TPRT 24x38	38	118	80	0,008	0,12
TPRT 24x50	50	142	92	0,011	0,13
TPRT 24x63	63	172	109	0,014	0,15
TPRT 24x80	80	205	125	0,017	0,17
TPRT 24x100	100	245	145	0,021	0,18
TPRT 24x125	125	295	170	0,026	0,21

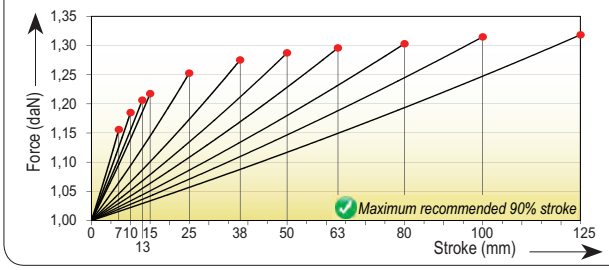
Code	Fa daN	Fc daN	P Bar
TPRT 24x ... F10	10 (±5%)	≈ 13	20
TPRT 24x ... F20	20 (±5%)	≈ 25	40
TPRT 24x ... F30	30 (±5%)	≈ 40	60
TPRT 24x ... F40	40 (±5%)	≈ 50	80
TPRT 24x ... F50	50 (±5%)	≈ 65	100
TPRT 24x ... F60	60 (±5%)	≈ 75	120
TPRT 24x ... F70	70 (±5%)	≈ 90	140
TPRT 24x ... F80	80 (±5%)	≈ 105	160
TPRT 24x ... F90	90 (±5%)	≈ 110	175

How to order

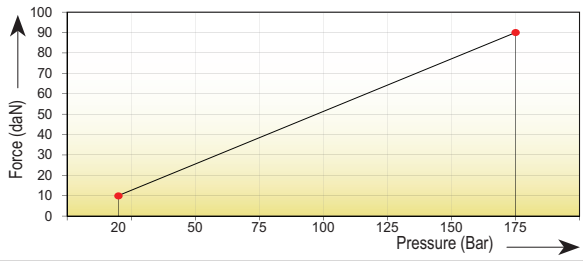
TPRT 24 x 10 F40

Model | Stroke | Force

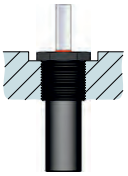
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

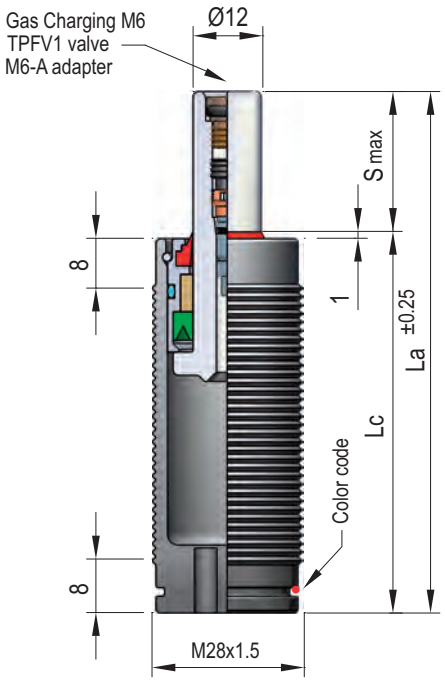


TPGAS 07 01-2018

TECAPRES®

M28x1,5
200daN

TPR 28

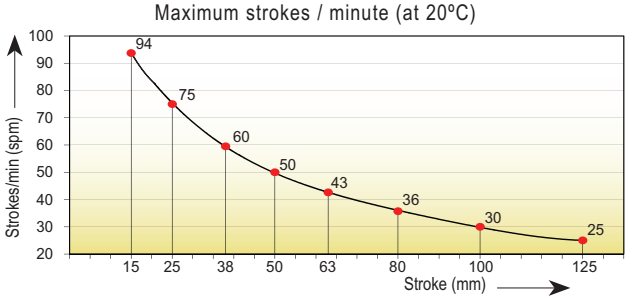


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit R28

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPR 28x15	15	72	57	0,006	0,15
TPR 28x25	25	92	67	0,010	0,17
TPR 28x38	38	118	80	0,014	0,20
TPR 28x50	50	142	92	0,019	0,22
TPR 28x63	63	172	109	0,024	0,25
TPR 28x80	80	205	125	0,030	0,30
TPR 28x100	100	242	142	0,037	0,35
TPR 28x125	125	292	167	0,046	0,38

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5)	≈ 70	45
BL *(Blue)*	100 (±10)	≈ 140	90
RD *(Red)*	150 (±15)	≈ 210	135
YW *(Yellow)*	200 (±20)	≈ 270	175
(Other forces)	28 - 200	≈ 40 - 270	25 - 175

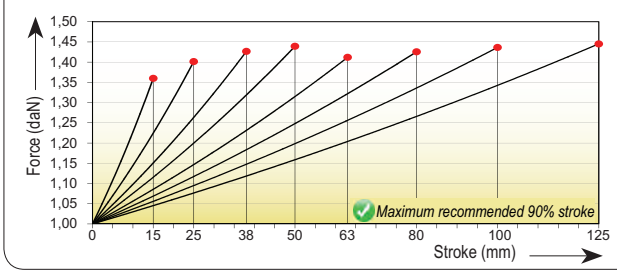
The black color code denotes a different pressure that the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

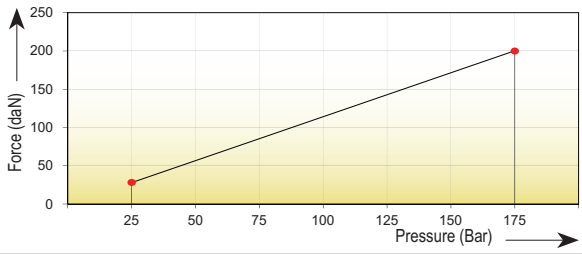
TPR 28 x **38** **RD**

Model | Stroke | Color code

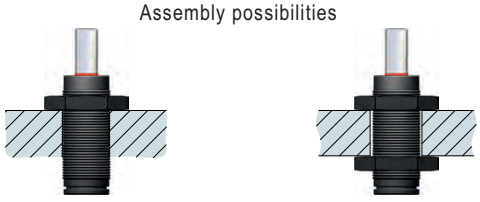
Force/stroke ratio



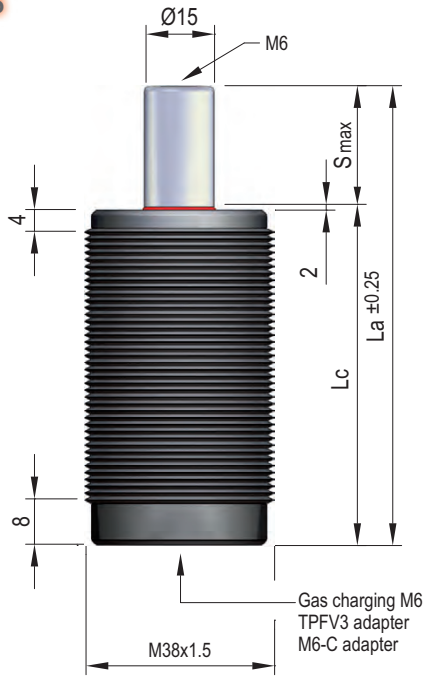
Initial force/charging pressure ratio



Assembly possibilities



AVAILABLE WHILE STOCKS LAST



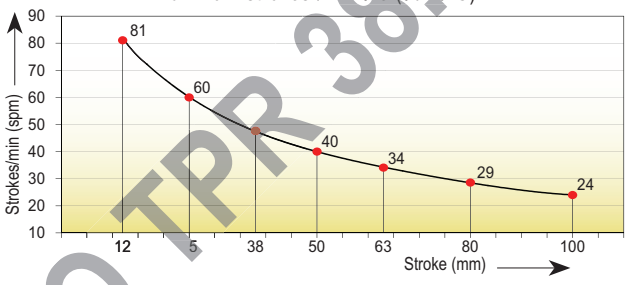
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	1,77 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit R38

PED 2014/68/UE



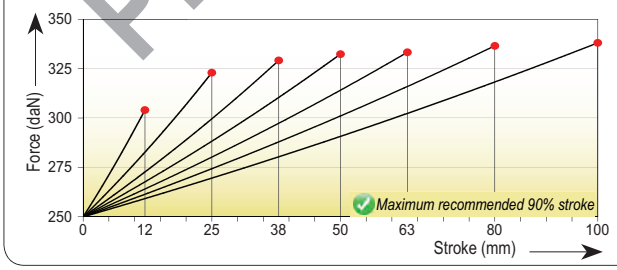
VDI SAFETY

Maximum strokes / minute (at 20ºC)

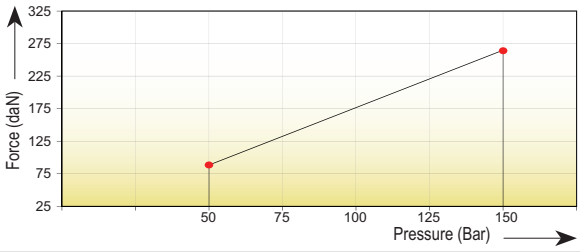


Code	Smax mm	La mm	Lc mm	Fa daN	0% F daN	100% Fc daN	P Bar	V l	Kg
TPR 38x12	12	75,4	63,4	50 ±5% (20ºC)	300	305	142 (20ºC)	0,012	0,35
TPR 38x25	25	100	75		315	325		0,020	0,40
TPR 38x38	38	126	88		320	330		0,028	0,46
TPR 38x50	50	150	100		323	335		0,036	0,54
TPR 38x63	63	177	114		325	335		0,045	0,61
TPR 38x80	80	210	30		325	340		0,055	0,72
TPR 38x100	100	250	150		330	340		0,068	0,80

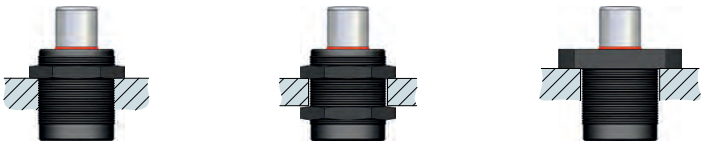
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FR 38 FR 38 FRS 38

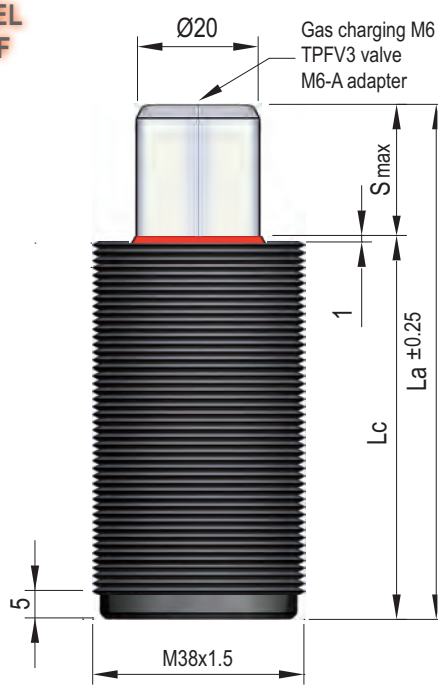
PHASING OUT TO TPR 38.1

TECAPRES®

M38x1,5
250daN

TPR 38.1

AVAILABLE WHEN THE OLD MODEL IS OUT OF STOCK

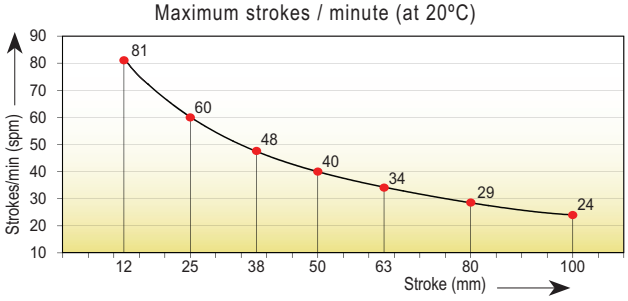


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	100 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit R38.1

PED 2014/68/UE

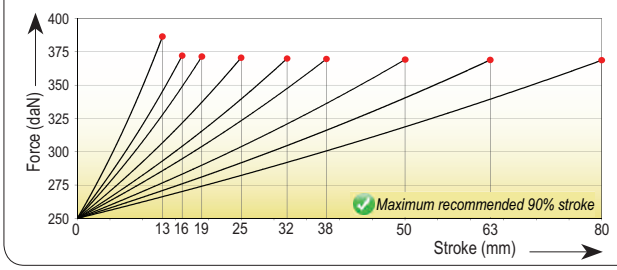


Maximum strokes / minute (at 20ºC)

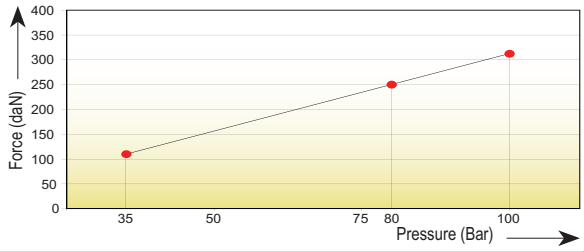


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPR 38x13.1	13	56	43	250 ±5% (20ºC)	370	390	80 (20ºC)	0,012	0,28
TPR 38x16.1	16	62	46		355	375		0,015	0,30
TPR 38x19.1	19	68	49		355	375		0,018	0,32
TPR 38x25.1	25	80	55		355	370		0,024	0,33
TPR 38x32.1	32	94	62		355	370		0,031	0,35
TPR 38x38.1	38	106	68		355	370		0,037	0,39
TPR 38x50.1	50	130	80		355	370		0,049	0,43
TPR 38x63.1	63	156	93		355	370		0,062	0,48
TPR 38x80.1	80	190	110		355	370		0,078	0,55

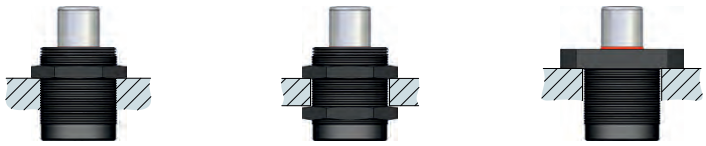
Force/stroke ratio



Initial force/charging pressure ratio



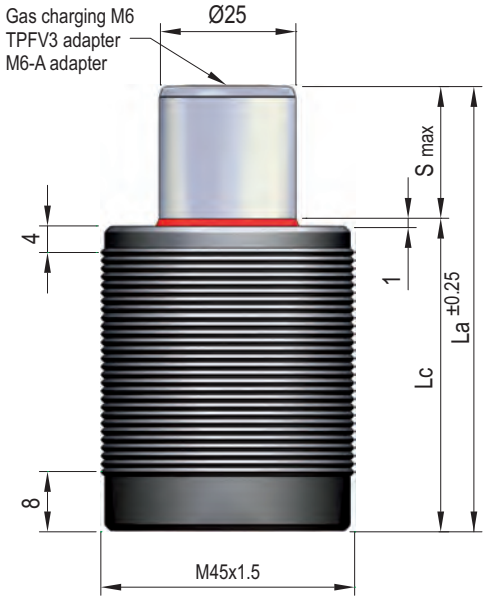
Assembly possibilities



TECAPRES®

M45x1,5
740daN

TPR 45



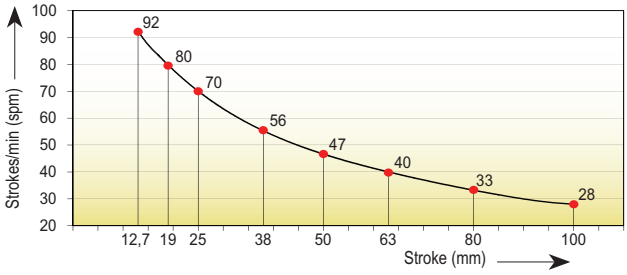
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit R45

PED 2014/68/UE

VDI SAFETY

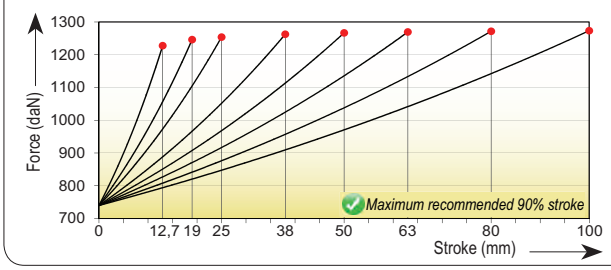
RE-25-35

Maximum strokes / minute (at 20ºC)

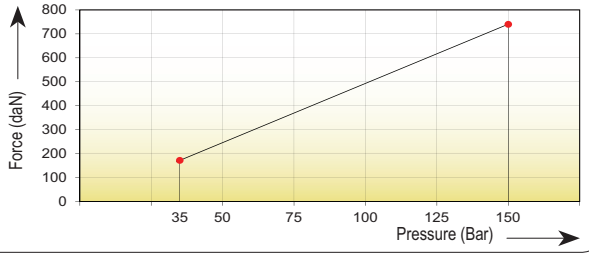


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPR 45x13	12,7	57,4	44,7		1145	1220		0,016	0,40
TPR 45x19	19	70	51		1160	1240		0,023	0,47
TPR 45x25	25	82	57		1165	1250		0,030	0,50
TPR 45x38	38	108	70	740 ±5%	1175	1255	150	0,045	0,61
TPR 45x50	50	132	82	(20ºC)	1175	1260	(20ºC)	0,059	0,69
TPR 45x63	63	159	96		1180	1265		0,074	0,80
TPR 45x80	80	192	112		1180	1265		0,094	0,91
TPR 45x100	100	232	132		1180	1265		0,117	1,10

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FR 45 FR 45

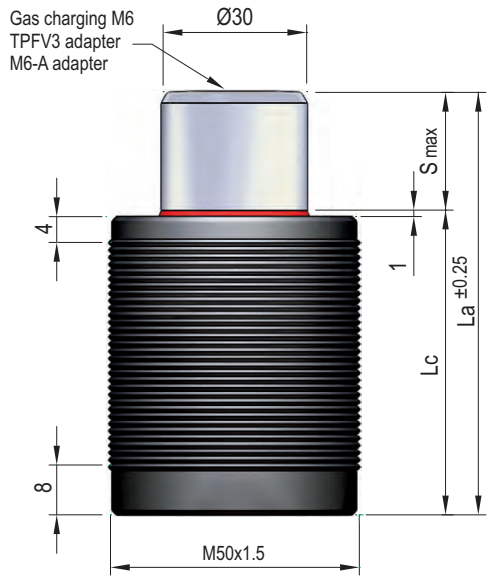
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Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

TECAPRES®

M50x1,5
1000daN

TPR 50



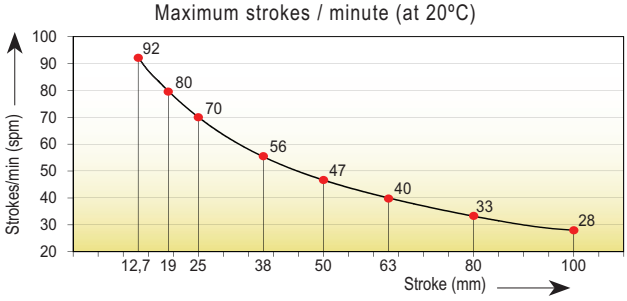
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit R50

PED 2014/68/UE

VDI SAFETY

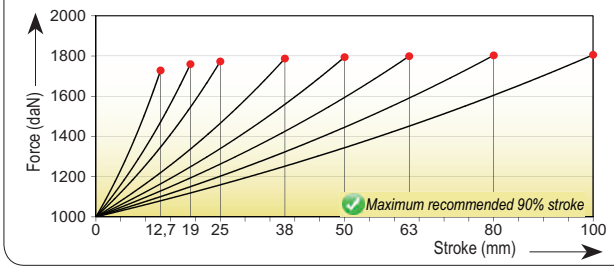
RE-30-40

Maximum strokes / minute (at 20ºC)

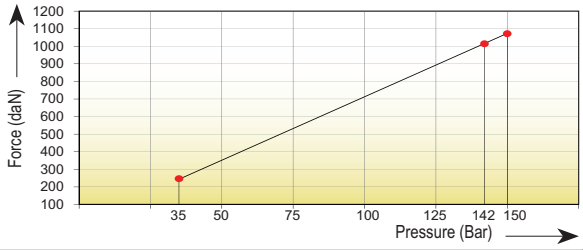


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPR 50x13	12,7	63,4	50,7		1615	1735		0,021	0,59
TPR 50x19	19	76	57		1640	1765		0,031	0,63
TPR 50x25	25	88	63		1650	1780		0,041	0,69
TPR 50x38	38	114	76	1000 ±5%	1665	1795	142	0,061	0,80
TPR 50x50	50	138	88	(20ºC)	1670	1800	(20ºC)	0,080	0,90
TPR 50x63	63	165	102		1675	1805		0,100	1,10
TPR 50x80	80	198	118		1675	1810		0,127	1,15
TPR 50x100	100	238	138		1680	1815		0,158	1,40

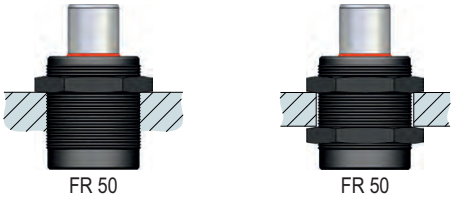
Force/stroke ratio



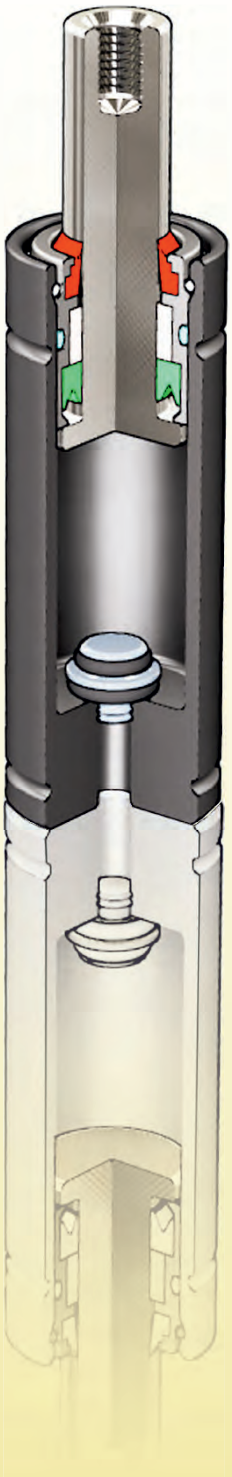
Initial force/charging pressure ratio



Assembly possibilities

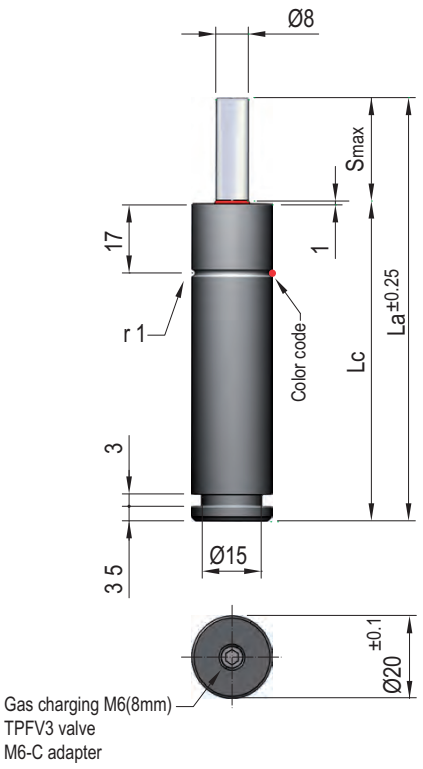


PED 2014/68/UE



Small gas springs for reduced forces

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY		
TPA 20	20	13 - 80	90	√	√		
TPA 25	25	10 - 50	200	√	√		√
TPG 22	22	12 - 160	90	√	√		
TPG 25	25	12 - 100	200	√	√		√
TPG 26	26	12 - 160	200	√	√		
TPG 32	32	12 - 100	300	√	√		√
TPGP 32	32	12 - 100	450	√	√		√
TPG 500	45	12 - 100	500	√	√		√

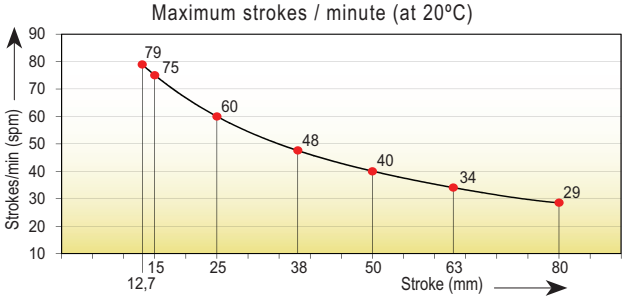


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,50 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit A20

PED 2014/68/UE

VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPA 20x13	12,7	79,4	66,7	0,004	0,11
TPA 20x15	15	86	71	0,005	0,12
TPA 20x25	25	104	79	0,007	0,13
TPA 20x38	38	130	92	0,009	0,15
TPA 20x50	50	154	104	0,012	0,16
TPA 20x63	63	180	117	0,014	0,18
TPA 20x80	80	214	134	0,017	0,20

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	25 (±5%)	≈ 32	50
BL *(Blue)*	50 (±5%)	≈ 65	100
RD *(Red)*	75 (±5%)	≈ 96	150
YW *(Yellow)*	90 (±5%)	≈ 116	175
(Other forces)	13 - 90	≈ 16 - 116	25 - 175

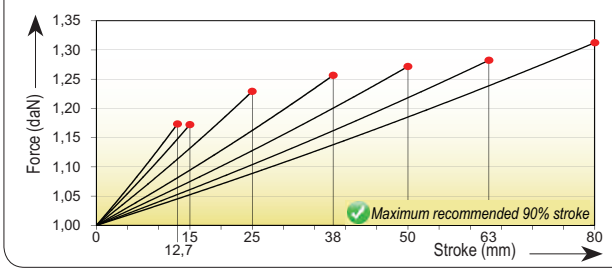
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

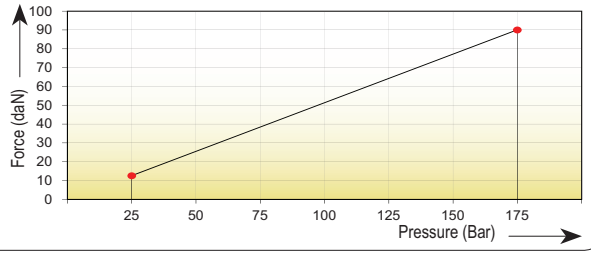
TPA 20 x 15 GR

Model | Stroke | Color code

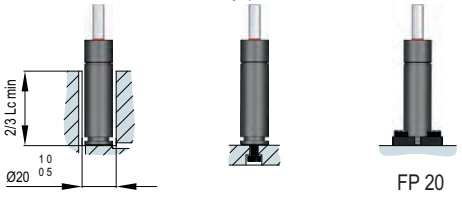
Force/stroke ratio



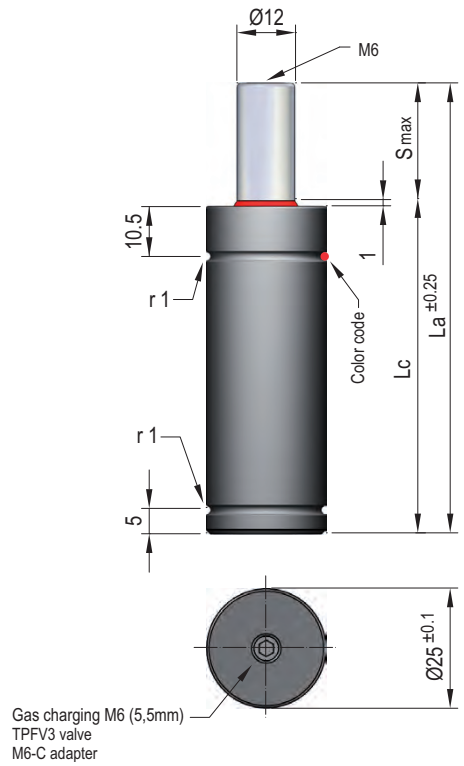
Initial force/charging pressure ratio



Assembly possibilities



FP 20

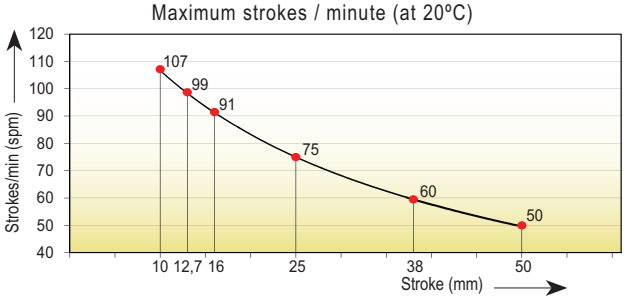


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit A25

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Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPA 25x10	10	65	55	0,006	0,14
TPA 25x13	12,7	70,4	57,7	0,007	0,14
TPA 25x16	16	77	61	0,008	0,15
TPA 25x25	25	95	70	0,012	0,17
TPA 25x38	38	121,2	83,2	0,017	0,19
TPA 25x50	50	145	95	0,021	0,21

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5%)	≈ 70	45
BL *(Blue)*	100 (±5%)	≈ 140	90
RD *(Red)*	150 (±5%)	≈ 210	135
YW *(Yellow)*	200 (±5%)	≈ 280	175
(Other forces)	28 - 200	≈ 40 - 280	25 - 175

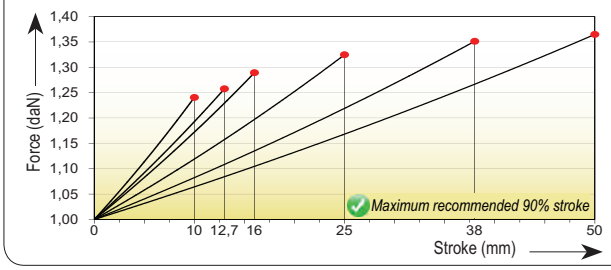
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

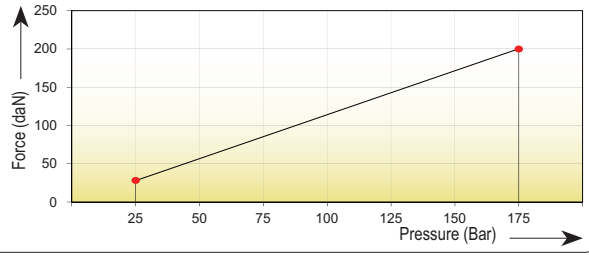
TPA 25 x 25 BL

Model | Stroke | Color code

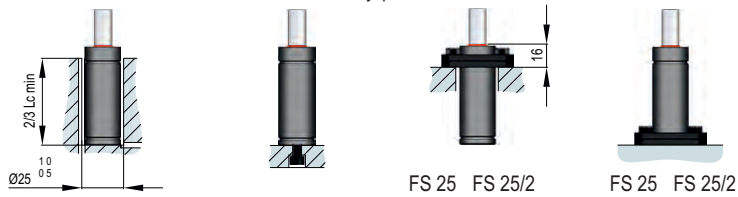
Force/stroke ratio

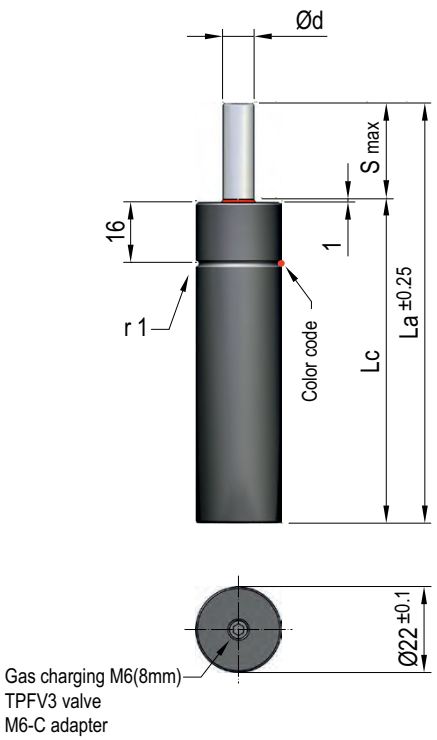


Initial force/charging pressure ratio



Assembly possibilities



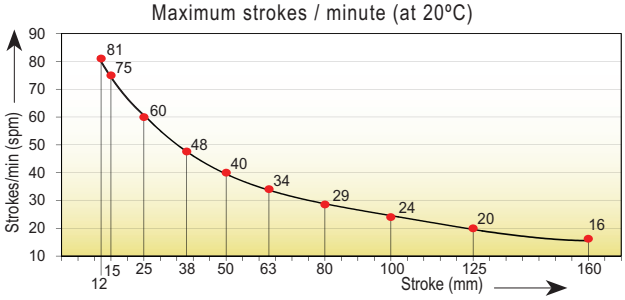


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	Ø8mm - 0,50 cm² Ø10mm - 0,78 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit G22

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Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	Ød mm	V l	Kg
TPG 22x12	12	84	72	8	0,005	0,23
TPG 22x15	15	90	75	8	0,006	0,24
TPG 22x25	25	110	85	8	0,008	0,27
TPG 22x38	38	136	98	8	0,010	0,29
TPG 22x50	50	160	110	8	0,013	0,32
TPG 22x63	63	186	123	8	0,015	0,36
TPG 22x80	80	220	140	8	0,019	0,38
TPG 22x100	100	260	160	8	0,023	0,44
TPG 22x125	125	310	185	8	0,028	0,46
TPG 22x160	160	380	220	10	0,035	0,52

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	30 (±5%)	≈ 38	60*
BL *(Blue)*	50 (±5%)	≈ 65	100*
RD *(Red)*	70 (±5%)	≈ 90	140*
YW *(Yellow)*	90 (±5%)	≈ 116	175*
(Other forces)	25 - 90	≈ 32 - 116	50 - 175

* TPG22x160: YW - 130Bar / RD - 90Bar / BL - 65Bar / GR - 40Bar

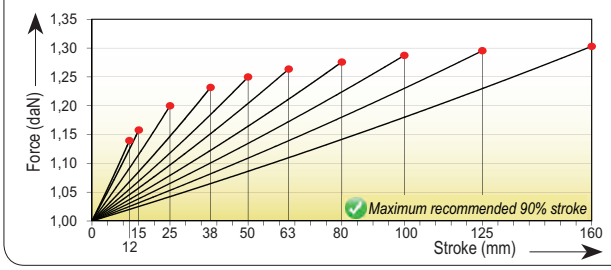
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (50Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

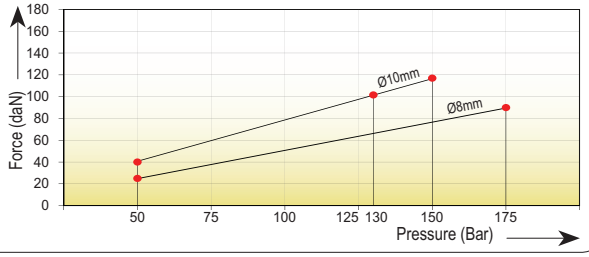
TPG 22 x 100 YW

Model | Stroke | Color code

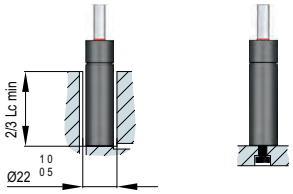
Force/stroke ratio

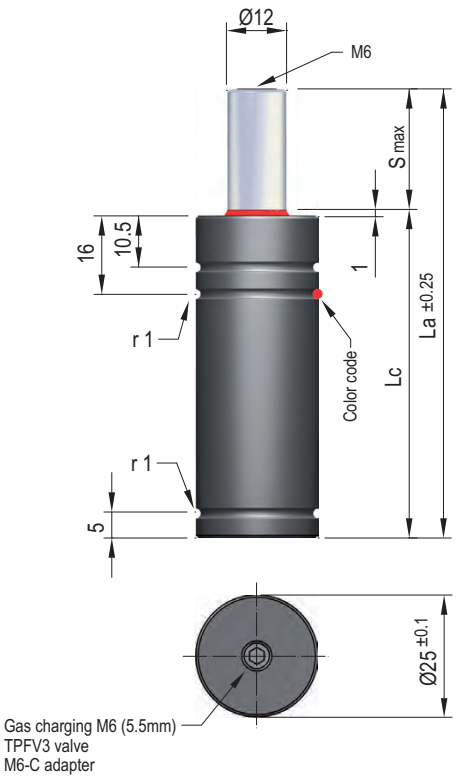


Initial force/charging pressure ratio



Assembly possibilities



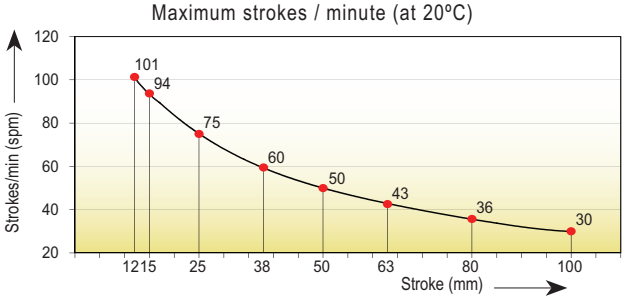


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit G25

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Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPG 25x12	12	78	66	0,009	0,16
TPG 25x15	15	84	69	0,010	0,17
TPG 25x25	25	104	79	0,014	0,18
TPG 25x38	38	130	92	0,019	0,22
TPG 25x50	50	154	104	0,024	0,25
TPG 25x63	63	180	117	0,029	0,26
TPG 25x80	80	214	134	0,035	0,28
TPG 25x100	100	254	154	0,043	0,32

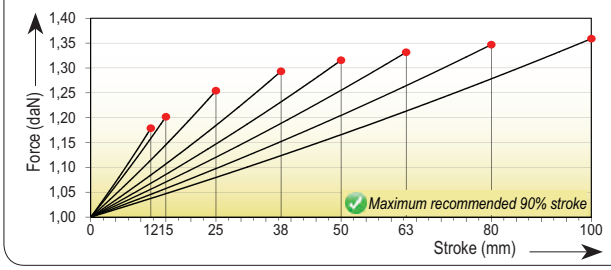
Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5%)	≈ 70	45
BL *(Blue)*	100 (±5%)	≈ 140	90
RD *(Red)*	150 (±5%)	≈ 210	135
YW *(Yellow)*	200 (±5%)	≈ 270	175
(Other forces)	28 - 200	≈ 40 - 270	25 - 175

The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

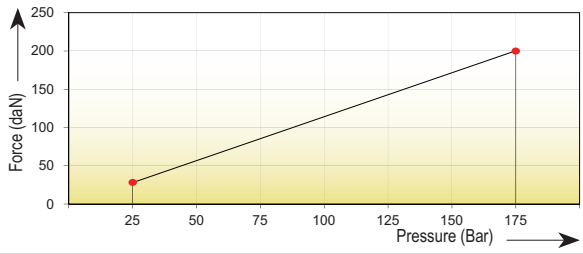
How to order

TPG 25 (Model) x 63 (Stroke) RD (Color code)

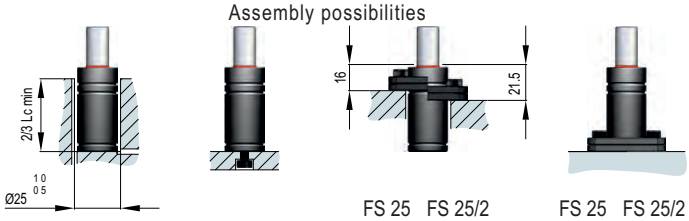
Force/stroke ratio

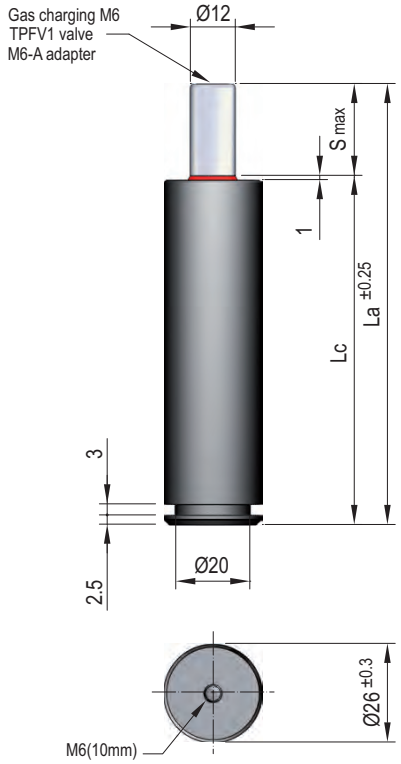


Initial force/charging pressure ratio



Assembly possibilities



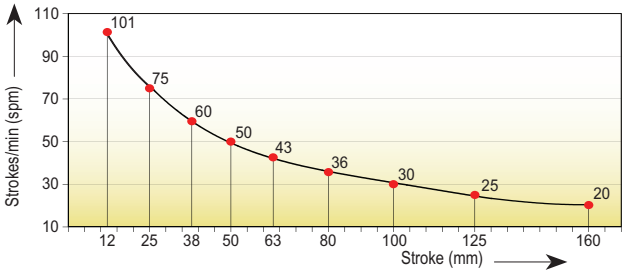


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit G26

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VDI SAFETY

Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPG 26x12	12	93	81	0,009	0,16
TPG 26x25	25	119	94	0,014	0,20
TPG 26x38	38	145	107	0,019	0,22
TPG 26x50	50	169	119	0,024	0,24
TPG 26x63	63	195	132	0,029	0,26
TPG 26x80	80	229	149	0,035	0,30
TPG 26x100	100	269	169	0,039	0,33
TPG 26x125	125	319	194	0,049	0,39
TPG 26x160	160	389	229	0,062	0,48

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	50 (±5%)	≈ 70	45
BL *(Blue)*	100 (±5%)	≈ 140	90
RD *(Red)*	150 (±5%)	≈ 210	135
YW *(Yellow)*	200 (±5%)	≈ 270	175
(Other forces)	28 - 200	≈ 40 - 270	25 - 175

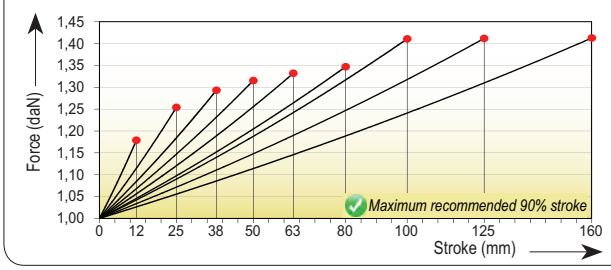
The black color code denotes a different pressure that the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

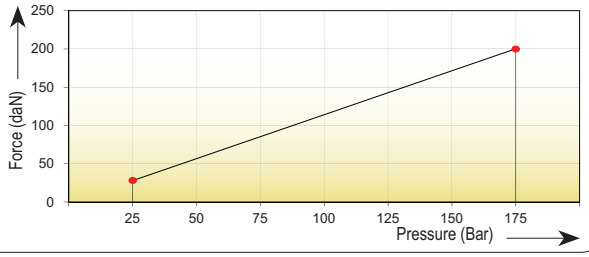
TPG 26 x 100 RD

Model | Stroke | Color code

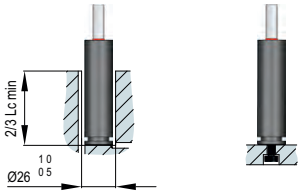
Force/stroke ratio

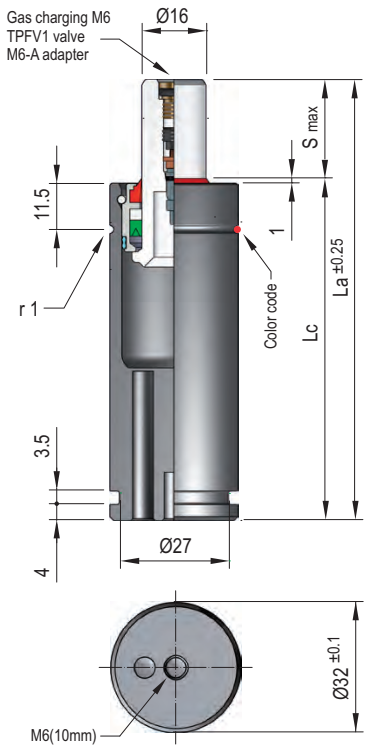


Initial force/charging pressure ratio



Assembly possibilities



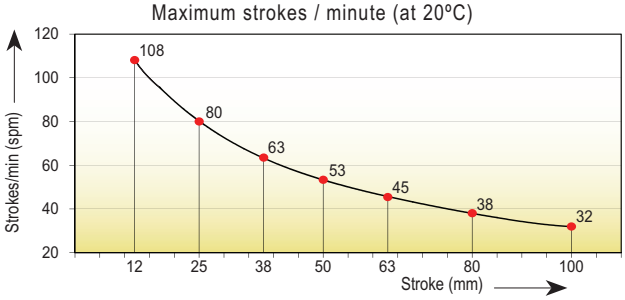


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit G32

PED 2014/68/UE



Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPG 32x12	12	84	72	0,007	0,35
TPG 32x25	25	110	85	0,015	0,36
TPG 32x38	38	136	98	0,023	0,40
TPG 32x50	50	160	110	0,030	0,47
TPG 32x63	63	186	123	0,038	0,48
TPG 32x80	80	220	140	0,049	0,56
TPG 32x100	100	260	160	0,061	0,64

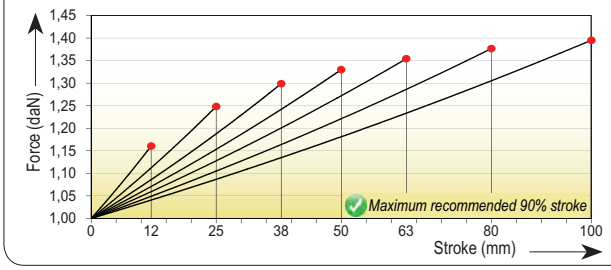
Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 150	50
BL *(Blue)*	200 (±15)	≈ 300	100
RD *(Red)*	250 (±20)	≈ 375	125
YW *(Yellow)*	300 (±20)	≈ 450	150
(Other forces)	50 - 300	≈ 75 - 450	25 - 150

The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (150Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

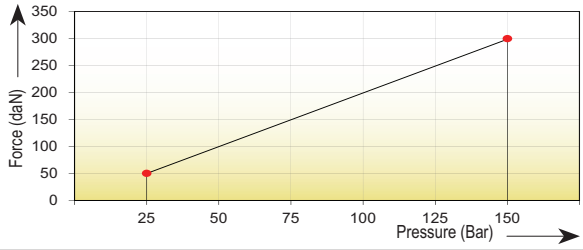
How to order

TPG 32 (Model) x 50 (Stroke) YW (Color code)

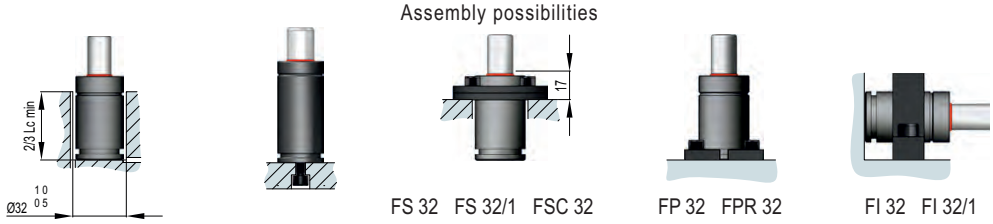
Force/stroke ratio



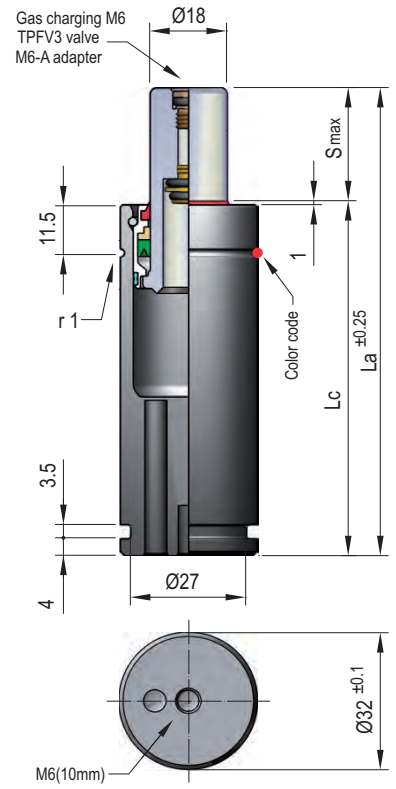
Initial force/charging pressure ratio



Assembly possibilities



TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL

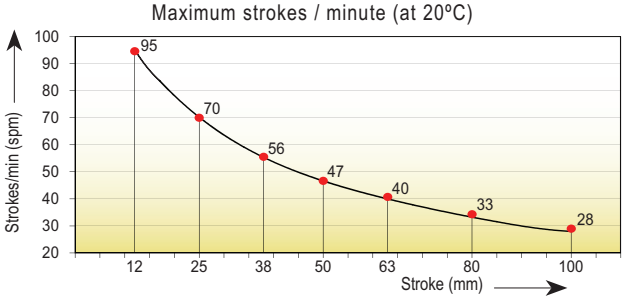


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit GP32

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Maximum strokes / minute (at 20ºC)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPGP 32x12	12	84	72	0,008	0,36
TPGP 32x25	25	110	85	0,017	0,37
TPGP 32x38	38	136	98	0,025	0,41
TPGP 32x50	50	160	110	0,033	0,48
TPGP 32x63	63	186	123	0,041	0,49
TPGP 32x80	80	220	140	0,052	0,57
TPGP 32x100	100	260	160	0,065	0,65

Color code	Fa daN	Fc daN	P Bar
GR *(Green)*	100 (±10)	≈ 165	40
BL *(Blue)*	200 (±15)	≈ 330	80
RD *(Red)*	300 (±20)	≈ 500	120
YW *(Yellow)*	450 (±20)	≈ 725	175
(Other forces)	60 - 450	≈ 25-725	25 - 175

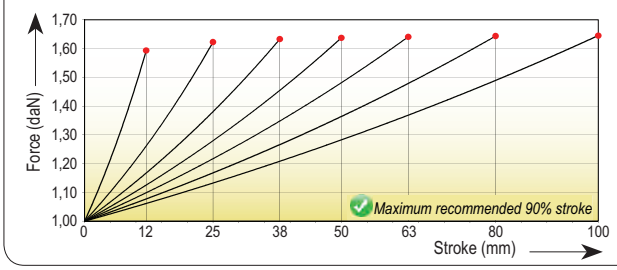
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

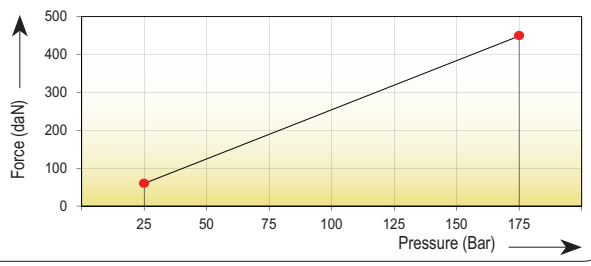
TPGP 32 x 25 GR

Model | Stroke | Color code

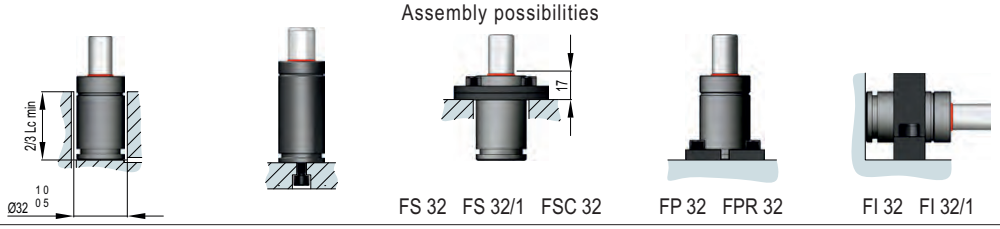
Force/stroke ratio



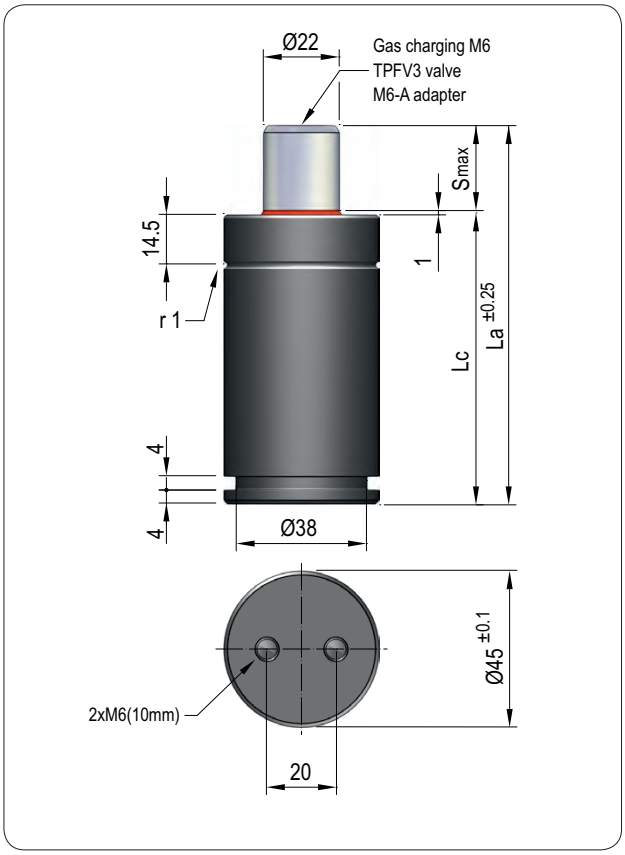
Initial force/charging pressure ratio



Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com



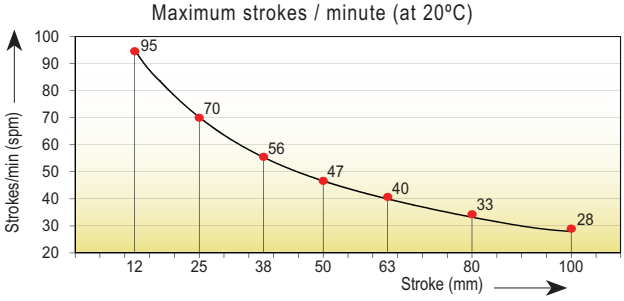
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit G500

PED 2014/68/UE

VDI SAFETY

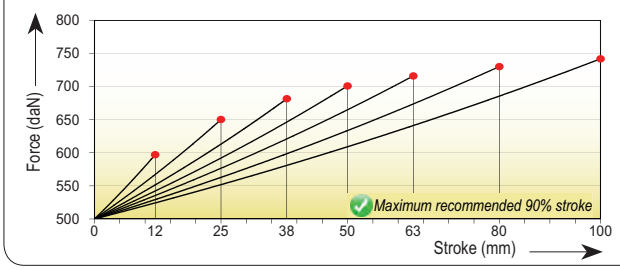
RE-22-32

Maximum strokes / minute (at 20ºC)

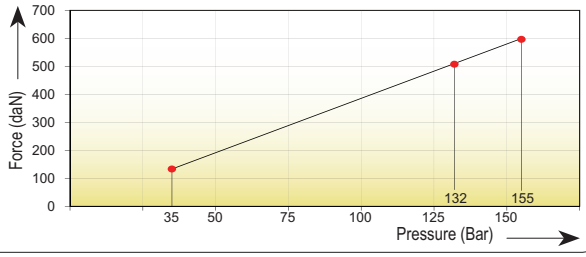


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPG 500x12	12	84	72	500 ±5% (20ºC)	590	600	132 (20ºC)	0,028	0,70
TPG 500x25	25	110	85		635	655		0,041	0,78
TPG 500x38	38	136	98		660	685		0,054	0,88
TPG 500x50	50	160	110		675	705		0,066	0,97
TPG 500x63	63	186	123		690	720		0,079	1,07
TPG 500x80	80	220	140		700	735		0,096	1,20
TPG 500x100	100	260	160		710	745		0,117	1,38

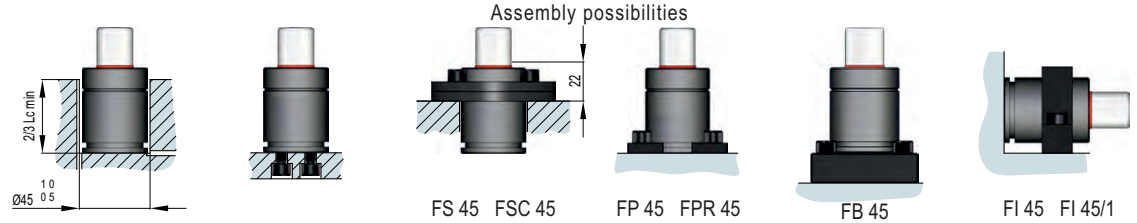
Force/stroke ratio



Initial force/charging pressure ratio



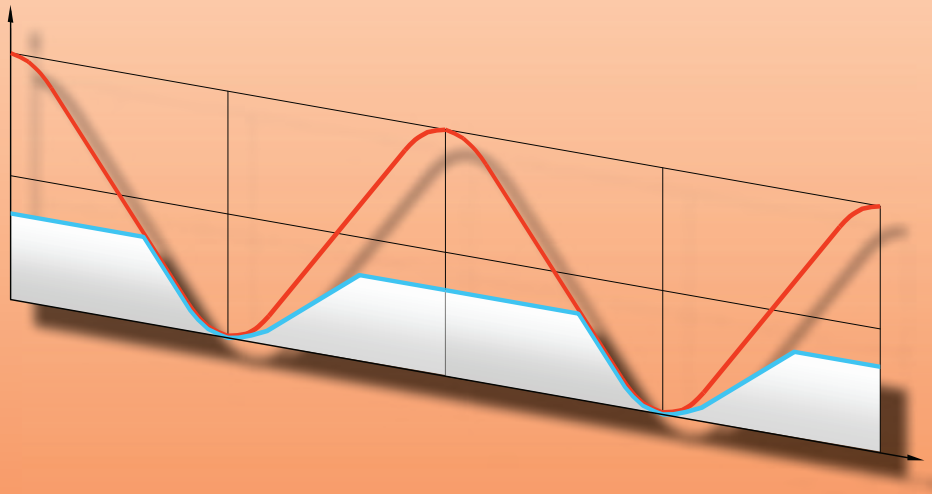
Assembly possibilities



FS 45 FSC 45 FP 45 FPR 45 FB 45 FI 45 FI 45/1







Cylinders with slow-speed return

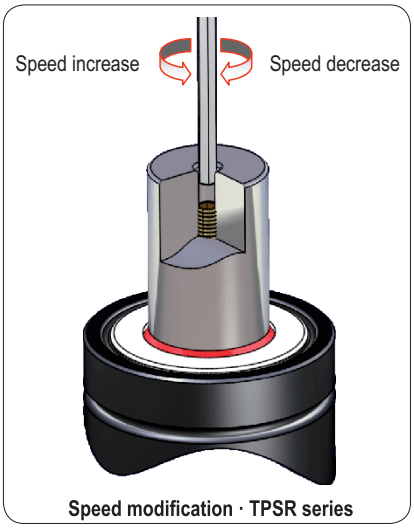
Code	ØBody mm	Strokes mm	Fa daN	
TPSR 750	50	13 - 125	750	√
TPSR 1500	75	13 - 125	1500	√
TPSR 3000	95	25 - 125	3000	√
TPSR 5000	120	25 - 125	5000	√
TPSRC 750	50	160 - 300	750	√
TPSRC 1500	75	160 - 300	1500	√
TPSRC 3000	95	160 - 300	3000	√
TPSRC 5000	120	160 - 300	5000	√

Gas springs of the TPSR and TPSRC series make it possible to control stem recovery speed when the gas spring opens after its compression.

During the compression phase, the gas spring works in just the same manner as that of a conventional gas spring (see operation graph below). It is during the phase when the gas spring recovers its original position that we obtain this delay effect that allows us to avoid damage to delicate parts since the press does not recover its original position at the same speed. This characteristic allows for maximum optimization of working conditions.

- **TPSR:** adjustable slow speed return
- **TPSRC:** non adjustable slow speed return

In TPSR series, the speed can be adjusted to the customer's requirements. Speed selection is carried out by manipulating an internal valve situated on the stem head. Turning the valve to the right decreases the speed and turning it to the left increases it.



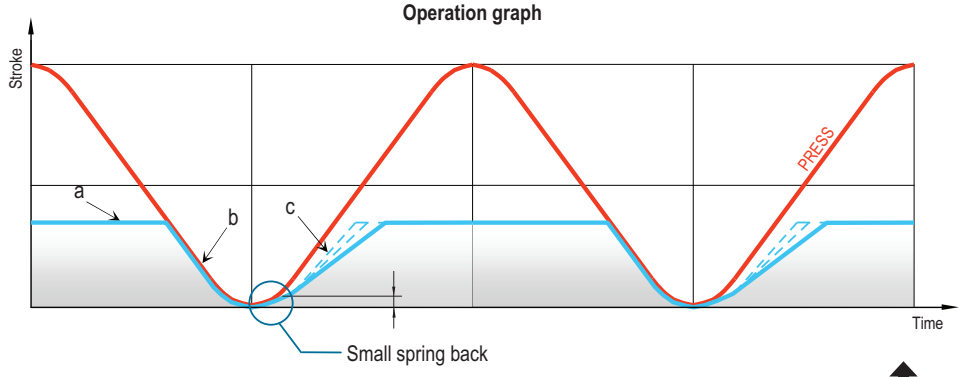
Speed modification · TPSR series

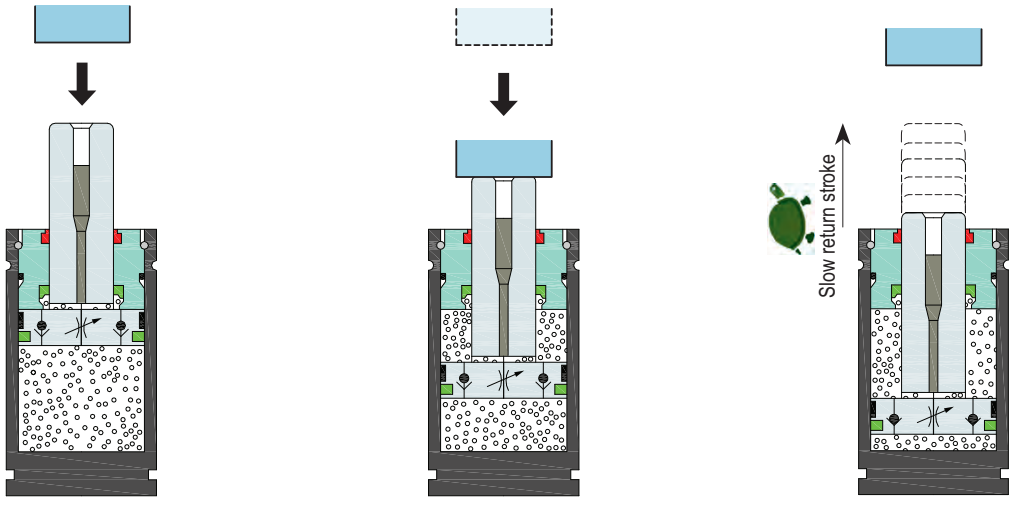


In order to avoid damage in the sealing system due to an increase in temperature, the gas spring stroke rate should be limited. The temperature should not be allowed to go above 80°C. In order to use this product correctly the customer is to provide data as requested.

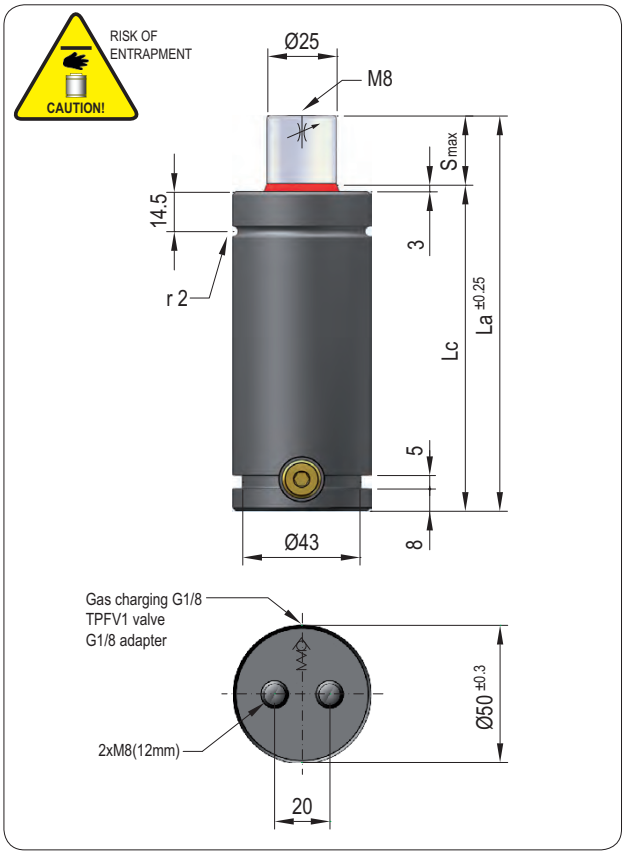
The TPSR and TPSRC series are manufactured in ISO-norm dimensions. They admit operation both in the autonomous mode and connected to a control panel.

Operation graph





Cylinders with adjustable slow-speed return — TPSR 750



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	12 m/min
Maintenance kit	Kit SR750
Recommended max. strokes/min	5 - 20 spm

PED 2014/68/UE — ISO STANDARD DIMENSIONS



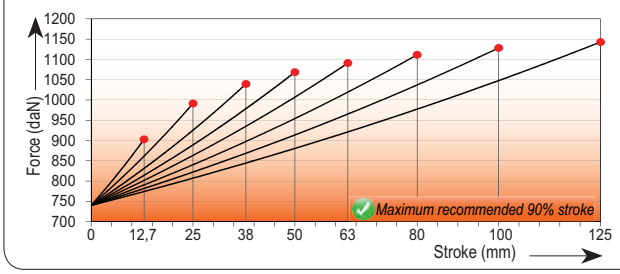
Required data

- *Working stroke* (mm)
- *Press speed* (m/min)
- *Maximum press rate* (spm)
- *Gas spring expansion* speed (m/min)

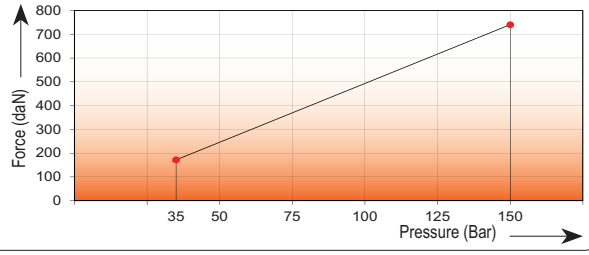
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSR 750x13	12,7	120,4	107,7	740 ±5% (20ºC)	880	900	150 (20ºC)	0,035	1,20
TPSR 750x25	25	145	120		955	990		0,048	1,35
TPSR 750x38	38	171	133		995	1035		0,065	1,40
TPSR 750x50	50	195	145		1020	1065		0,080	1,52
TPSR 750x63	63	222	159		1035	1085		0,096	1,70
TPSR 750x80	80	255	175		1055	1105		0,118	1,82
TPSR 750x100	100	295	195		1065	1125		0,143	1,85
TPSR 750x125	125	345	220		1080	1135		0,174	2,20

(Other strokes under order)

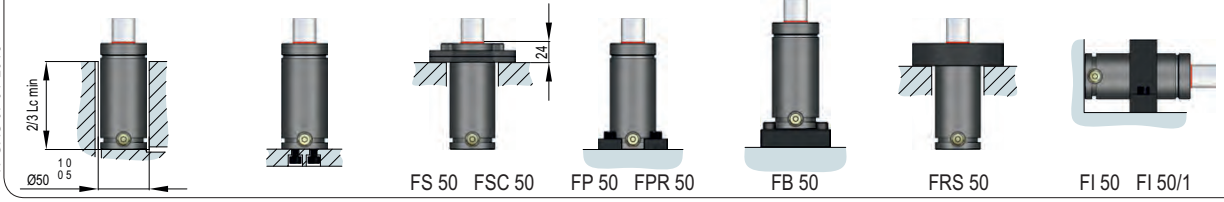
Force/stroke ratio



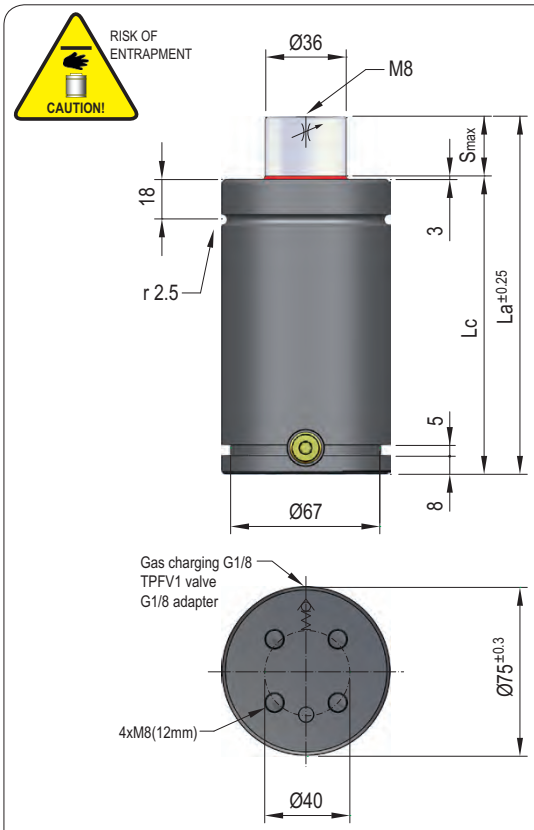
Initial force/charging pressure ratio



Assembly possibilities



TPGAS 07 01-2018



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	15 m/min
Maintenance kit	Kit SR1500
Recommended max. strokes/min	5 - 20 spm

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ISO STANDARD DIMENSIONS



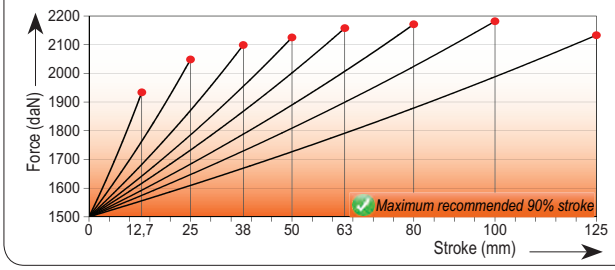
Required data

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*
Gas spring expansion speed	*(m/min)*

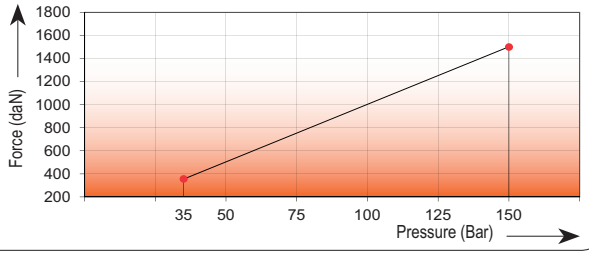
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSR 1500x13	12,7	135,4	122,7		1890	1940		0,058	3,15
TPSR 1500x25	25	160	135		1985	2055		0,095	3,30
TPSR 1500x38	38	186	148		2025	2110		0,136	3,50
TPSR 1500x50	50	210	160	1500 ±5% (20ºC)	2050	2135	150 (20ºC)	0,173	3,65
TPSR 1500x63	63	237	174		2075	2165		0,210	3,90
TPSR 1500x80	80	270	190		2085	2180		0,263	4,45
TPSR 1500x100	100	310	210		2095	2190		0,326	4,80
TPSR 1500x125	125	360	235		2055	2145		0,429	5,36

(Other strokes under order)

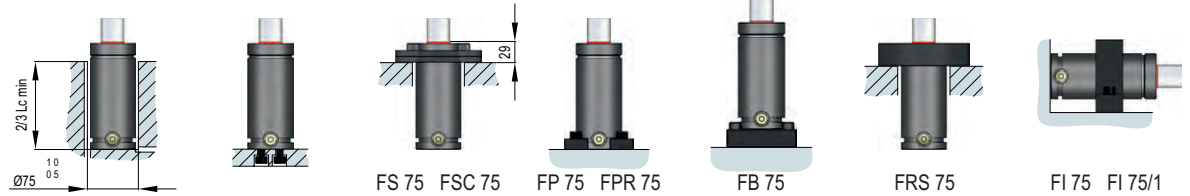
Force/stroke ratio



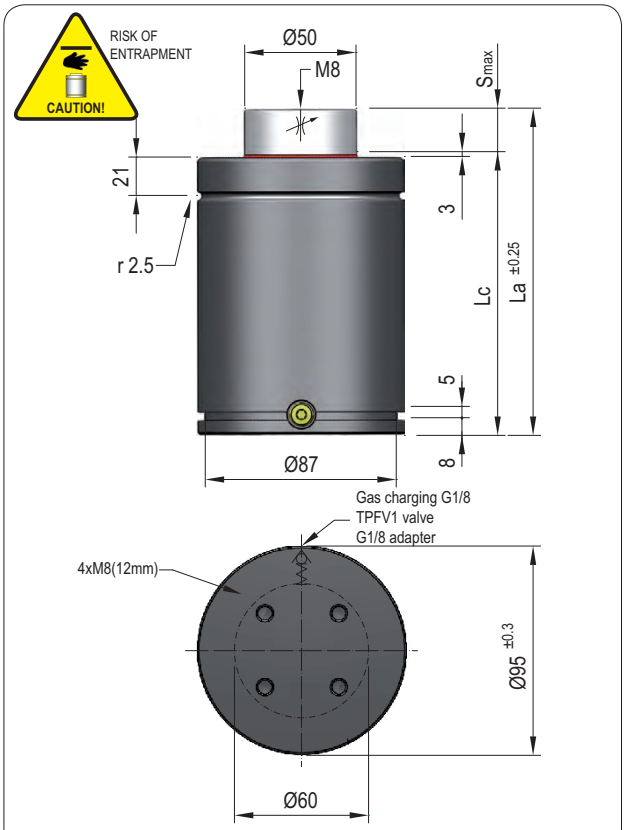
Initial force/charging pressure ratio



Assembly possibilities



Cylinders with adjustable slow-speed return TPSR 3000



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	20 m/min
Maintenance kit	Kit SR3000
Recommended max. strokes/min	5 - 20 spm

PED 2014/68/UE — ISO STANDARD DIMENSIONS



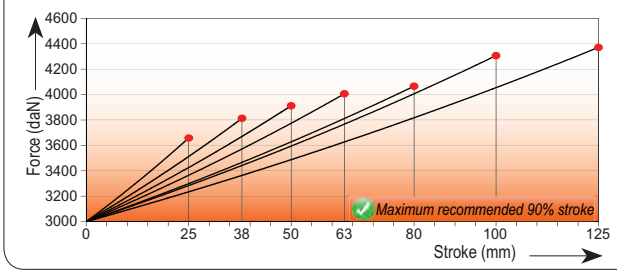
Required data

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*
Gas spring expansion speed	*(m/min)*

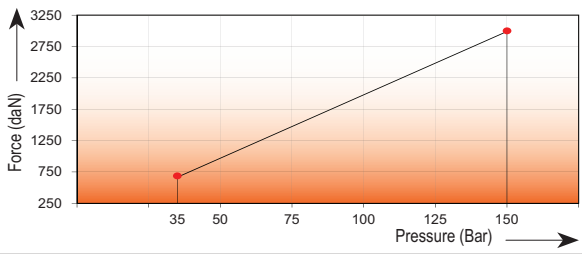
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSR 3000x25	25	170	145	3000 ±5% (20ºC)	3515	3590	150 (20ºC)	0,273	5,75
TPSR 3000x38	38	196	158		3645	3745		0,350	6,15
TPSR 3000x50	50	220	170		3725	3840		0,421	6,53
TPSR 3000x63	63	247	184		3805	3935		0,492	6,91
TPSR 3000x80	80	280	200		3855	3990		0,599	7,25
TPSR 3000x100	100	320	220		4050	4230		0,647	8,00
TPSR 3000x125	125	370	245		4105	4290		0,782	8,15

(Other strokes under order)

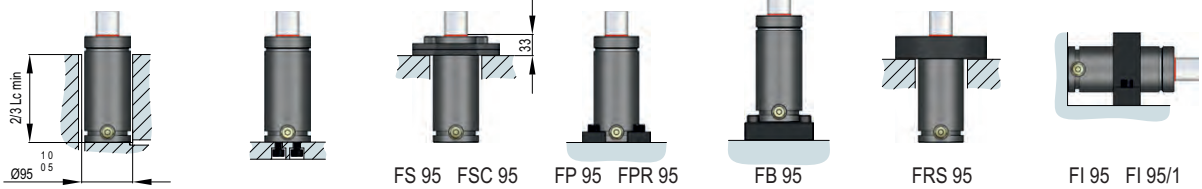
Force/stroke ratio



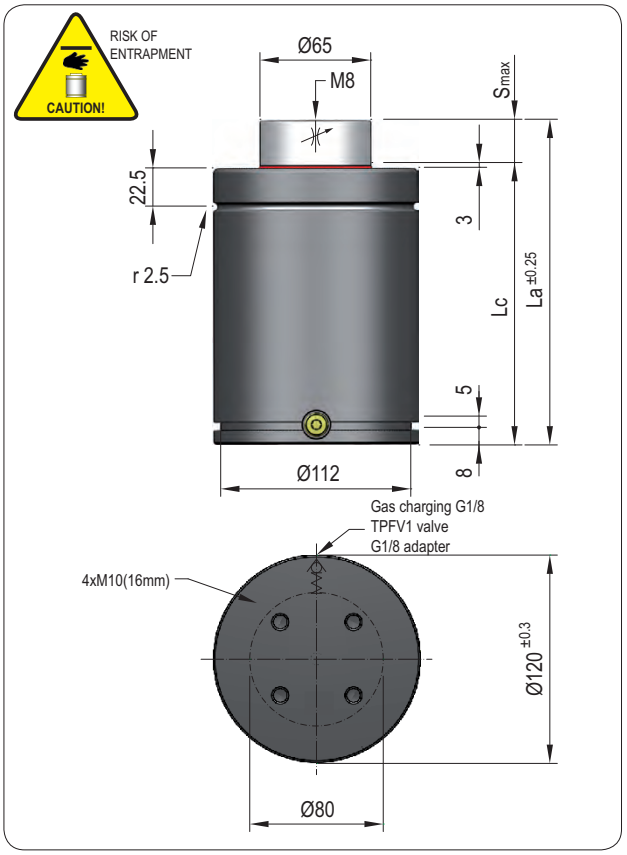
Initial force/charging pressure ratio



Assembly possibilities



Cylinders with adjustable slow-speed return TPSR 5000



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	33,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	20 m/min
Maintenance kit	Kit SR5000
Recommended max. strokes/min	5 - 20 spm

PED 2014/68/UE

ISO STANDARD DIMENSIONS



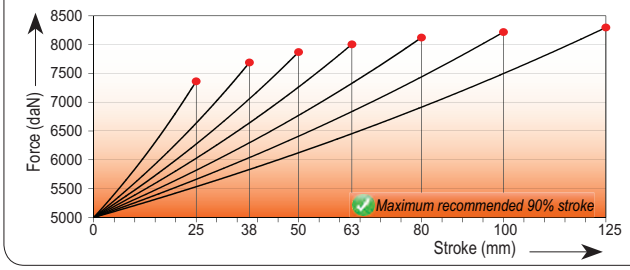
Required data

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*
Gas spring expansion speed	*(m/min)*

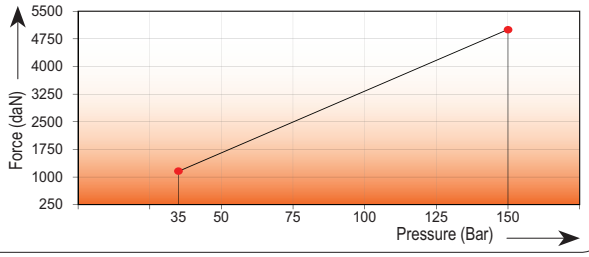
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSR 5000x25	25	190	165	5000 ±5% (20ºC)	7000	7330	150 (20ºC)	0,258	12,01
TPSR 5000x38	38	216	178		7265	7655		0,361	12,85
TPSR 5000x50	50	240	190		7410	7835		0,455	13,60
TPSR 5000x63	63	267	204		7515	7970		0,557	14,50
TPSR 5000x80	80	300	220		7610	8085		0,690	15,39
TPSR 5000x100	100	340	240		7685	8180		0,847	16,48
TPSR 5000x125	125	390	265		7750	8260		1,044	18,05

(Other strokes under order)

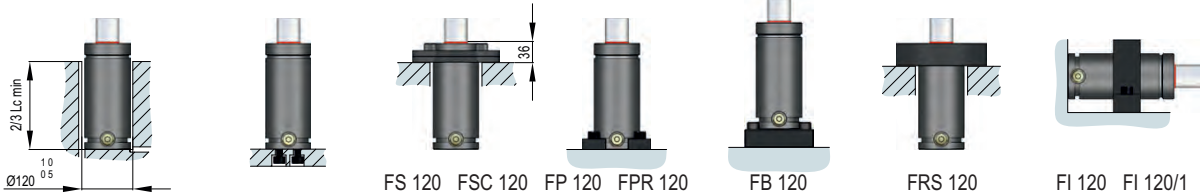
Force/stroke ratio



Initial force/charging pressure ratio

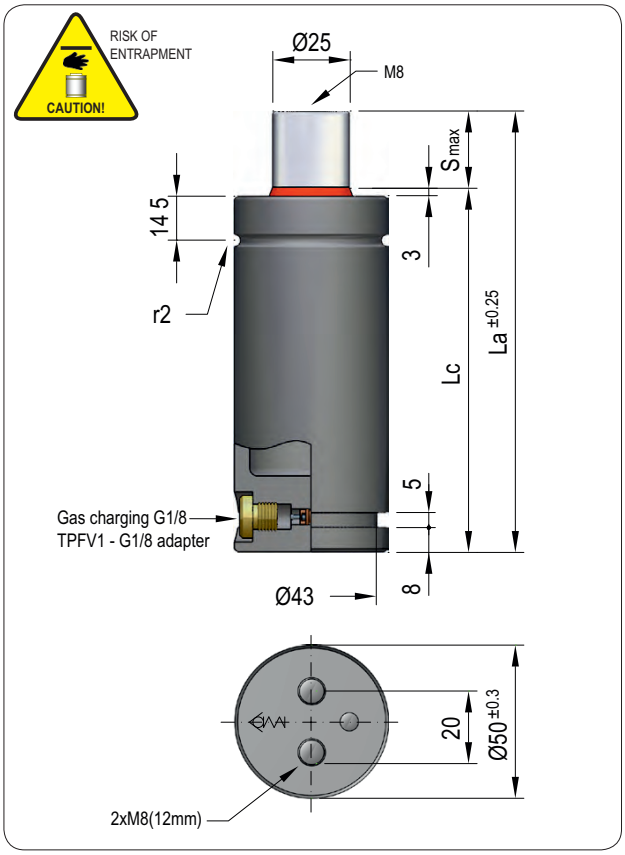


Assembly possibilities



Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

Cylinders with slow-speed return TPSRC 750



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	12 m/min
Maintenance kit	Kit SR750
Recommended max. strokes/min	5 - 20 spm

PED 2014/68/UE — ISO STANDARD DIMENSIONS



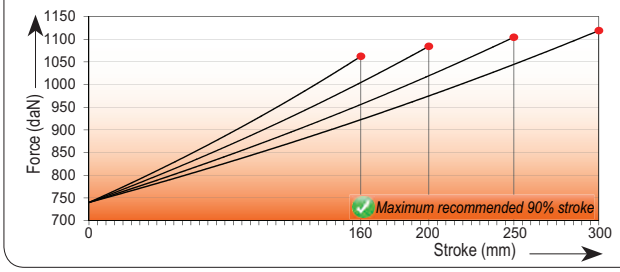
Required data

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*
Gas spring expansion speed	*(m/min)*

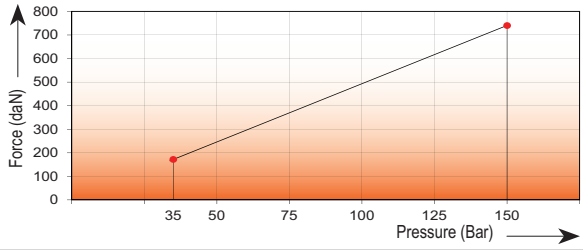
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSRC 750x160	160	415	255		1015	1055		0,259	2,30
TPSRC 750x200	200	495	295	740 ±5%	1030	1080	150	0,309	3,10
TPSRC 750x250	250	595	345	(20ºC)	1045	1100	(20ºC)	0,372	3,60
TPSRC 750x300	300	695	395		1060	1115		0,435	4,15

(Other strokes under order)

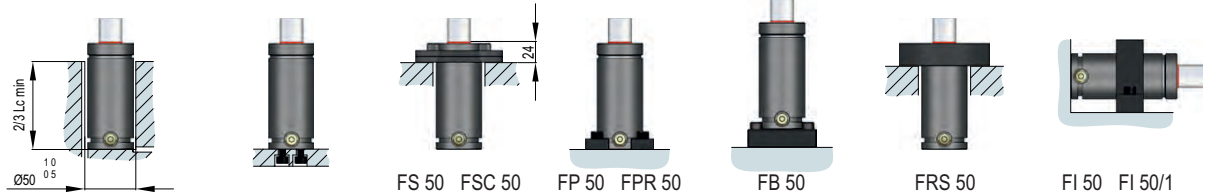
Force/stroke ratio



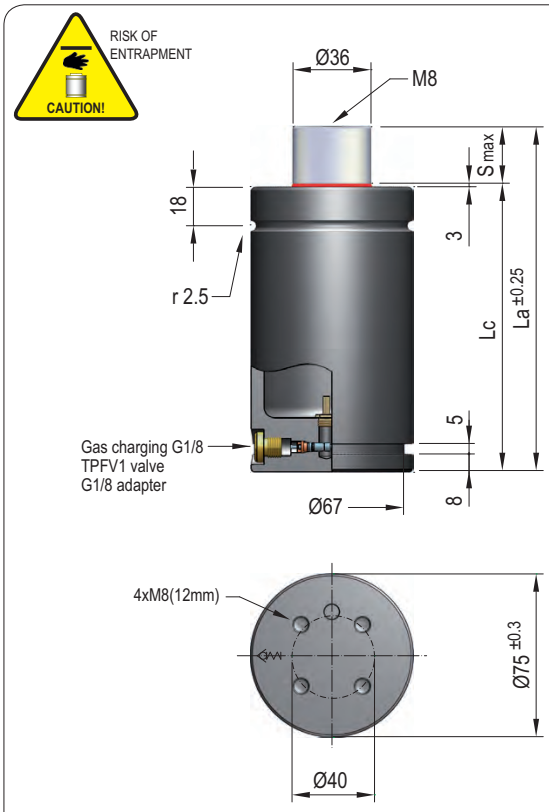
Initial force/charging pressure ratio



Assembly possibilities



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Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	15 m/min
Maintenance kit	Kit SR1500
Recommended max. strokes/min	2 - 8 spm

PED 2014/68/UE

ISO STANDARD DIMENSIONS



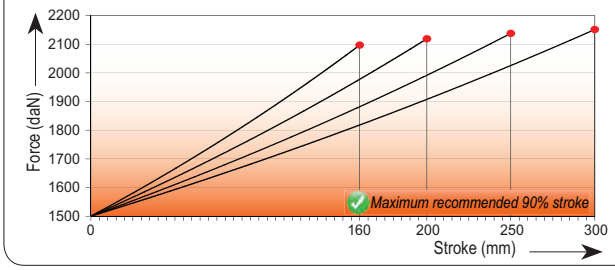
Required data

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*
Gas spring expansion speed	*(m/min)*

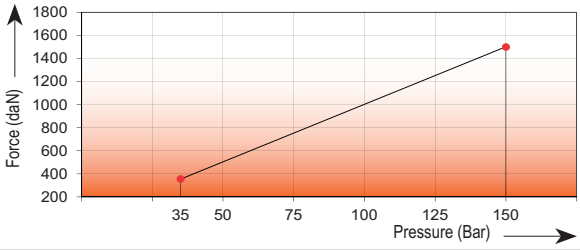
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSRC 1500x160	160	430	270		2025	2105		0,572	6,10
TPSRC 1500x200	200	510	310	1500 ±5%	2045	2130	148	0,697	7,15
TPSRC 1500x250	250	610	360	(20º C)	2060	2145	(20ºC)	0,853	7,86
TPSRC 1500x300	300	710	410		2070	2160		1,008	8,86

(Other strokes under order)

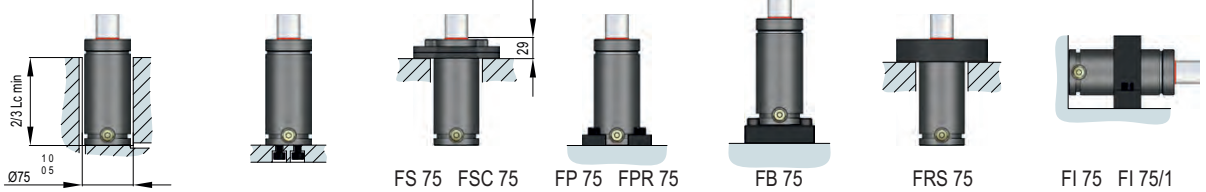
Force/stroke ratio

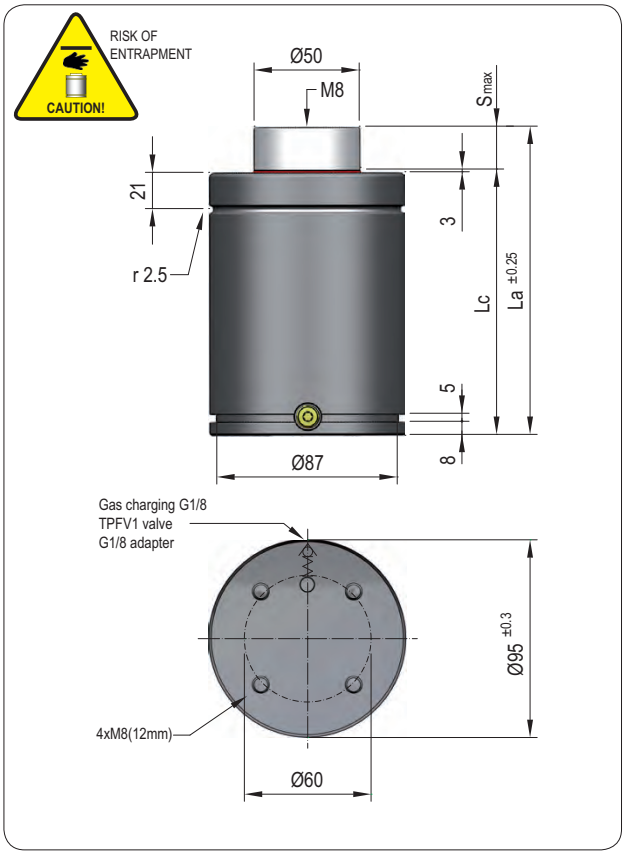


Initial force/charging pressure ratio



Assembly possibilities





Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	20 m/min
Maintenance kit	Kit SR3000
Recommended max. strokes/min	2 - 8 spm

PED 2014/68/UE — ISO STANDARD DIMENSIONS

VDI SAFETY — RE-50-80

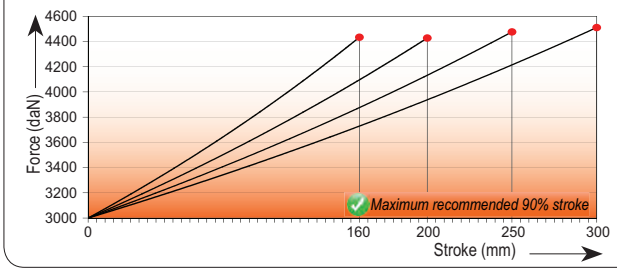
Required data

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*
Gas spring expansion speed	*(m/min)*

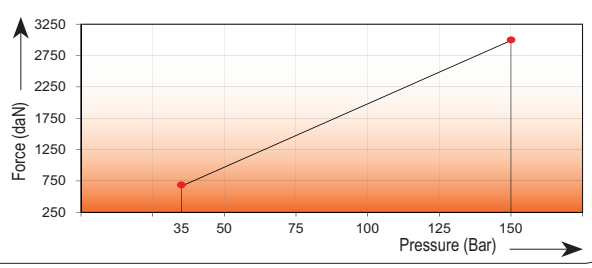
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSRC 3000x160	160	440	280		4410	4665		0,852	9,24
TPSRC 3000x200	200	520	320	3000 ±5%	4270	4495	150	1,138	10,31
TPSRC 3000x250	250	620	370	(20ºC)	4320	4555	(20ºC)	1,390	11,90
TPSRC 3000x300	300	720	420		4350	4595		1,641	14,87

(Other strokes under order)

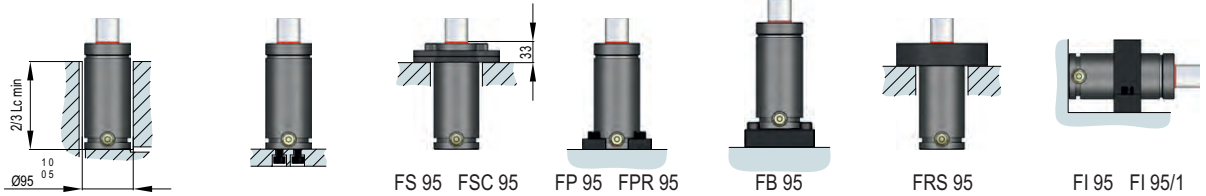
Force/stroke ratio

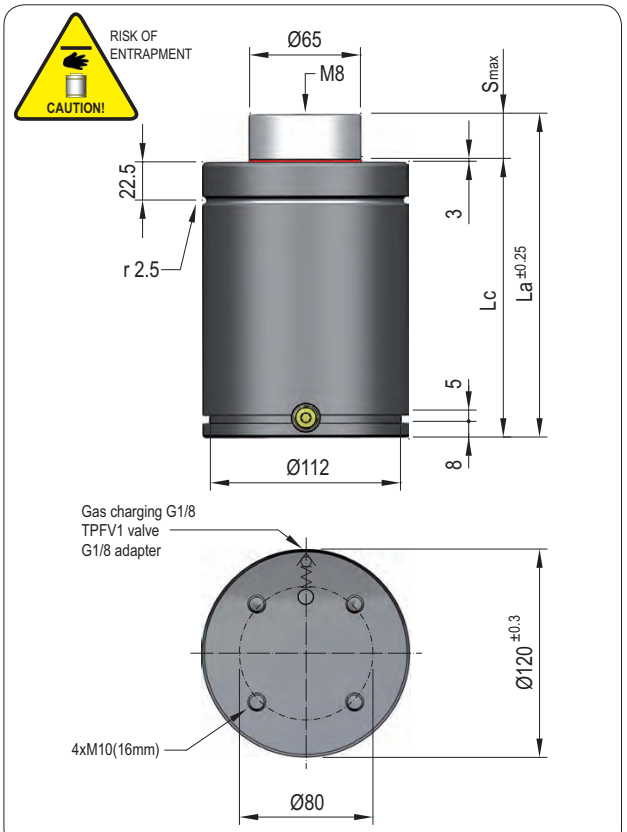


Initial force/charging pressure ratio



Assembly possibilities





Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	33,18 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	20 m/min
Maintenance kit	Kit SR5000
Recommended max. strokes/min	2 - 8 spm

PED 2014/68/UE — ISO STANDARD DIMENSIONS



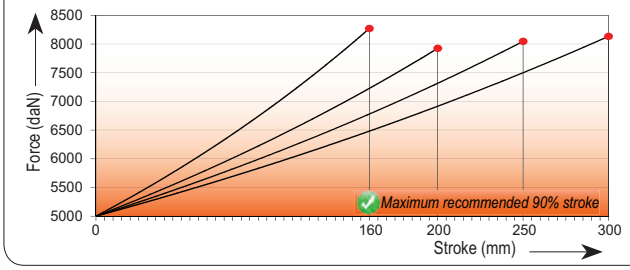
Required data

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*
Gas spring expansion speed	*(m/min)*

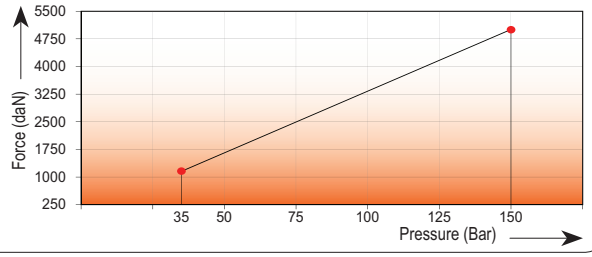
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSRC 5000x160	160	460	300		7730	8235		1,342	19,83
TPSRC 5000x200	200	540	340	5000 ±5%	7455	7890	150	1,798	21,70
TPSRC 5000x250	250	640	390	(20ºC)	7550	8010	(20ºC)	2,191	23,85
TPSRC 5000x300	300	740	440		7620	8100		2,583	25,60

(Other strokes under order)

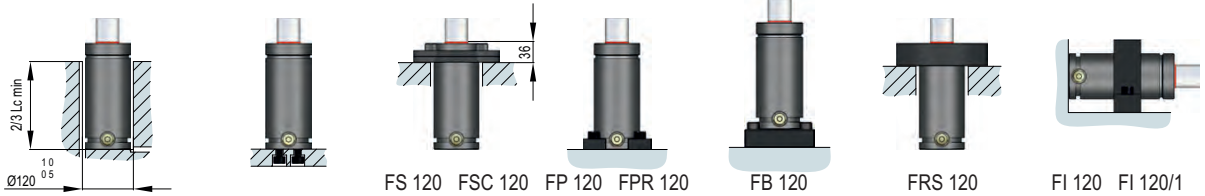
Force/stroke ratio

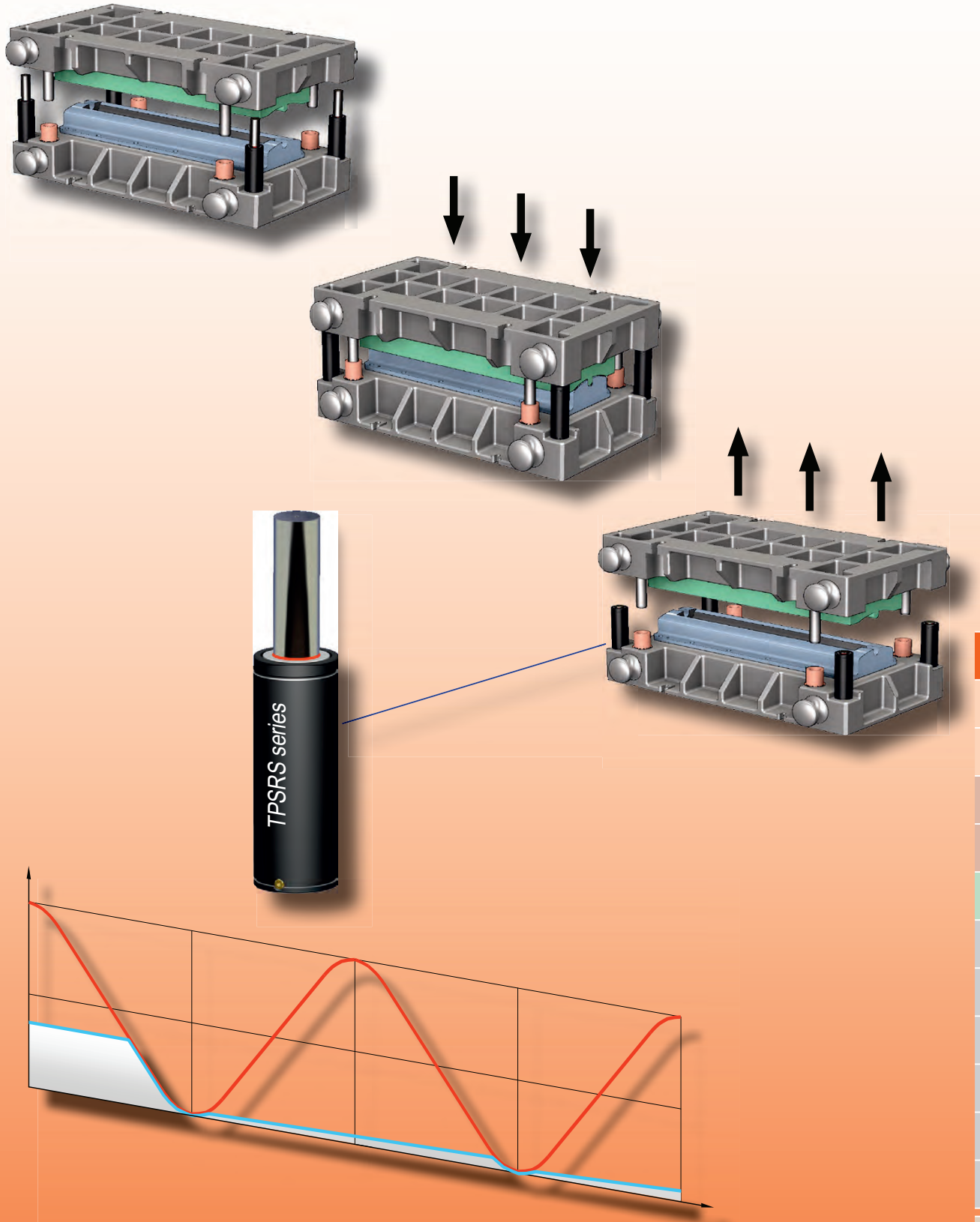


Initial force/charging pressure ratio



Assembly possibilities





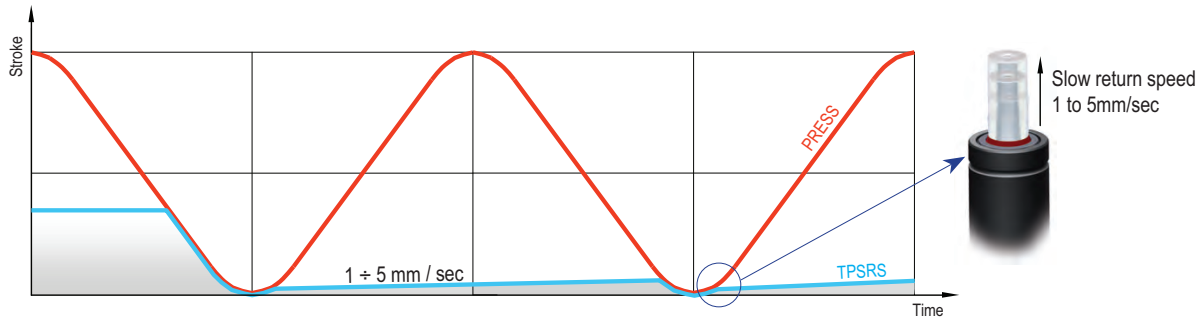
Storage cylinders

Code	Strokes mm	Fa daN		
TPSRS 3000	100 - 300	3000	✓	
TPSRS 5000	100 - 300	5000	✓	
TPSRS 7500	100 - 300	7500	✓	

As with our TPSR series (delayed ascent gas springs), the TPSRS series allows us to control the expansion speed of the stem once the gas spring has been compressed. This delayed ascent is extremely slow (1 / 5 mm per second). This makes this series an ideal option for die set storage operations.

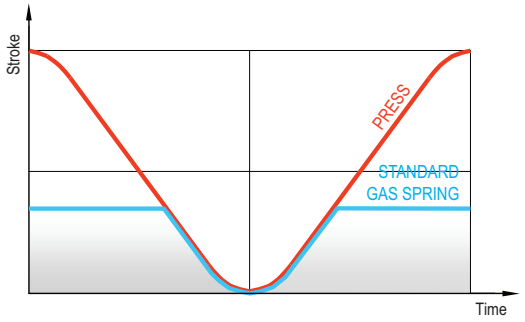
These gas springs only expand for a small fraction of the stroke (see diagram 3).

Operation graph
TPSRS series

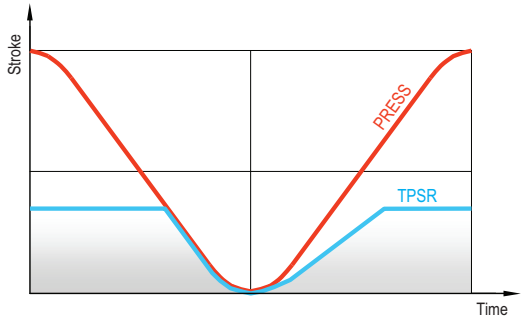


NOTE: please take into a consideration that the return could be not sincronized between the different gas springs in the same tool

Operation graph
STANDARD GAS SPRING



Operation graph
TPSR series



ADVANTAGES

- Excepcionally long service-life
- ISO norm dimensions
- High frequency of use 30 / 60 spm
- Low working temperatures
- Optional use of shield scrapers

CHARACTERISTICS

- 3-ton, 5-ton and 7.5-ton forces
- Working rate from 100 to 300 m
- Great variety of assembly options
- VDI Safety

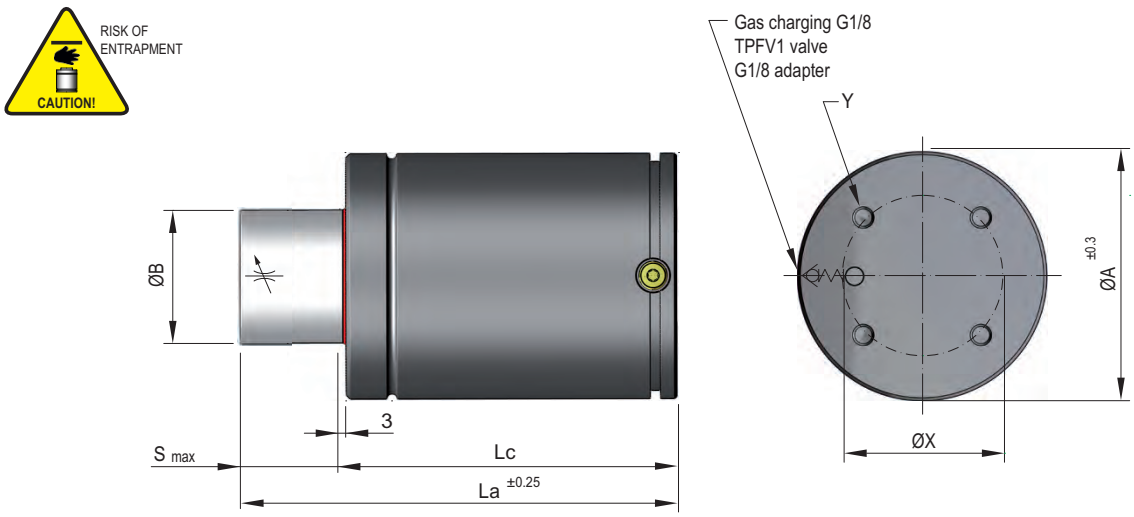
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s

PED 2014/68/UE
ISO STANDARD DIMENSIONS



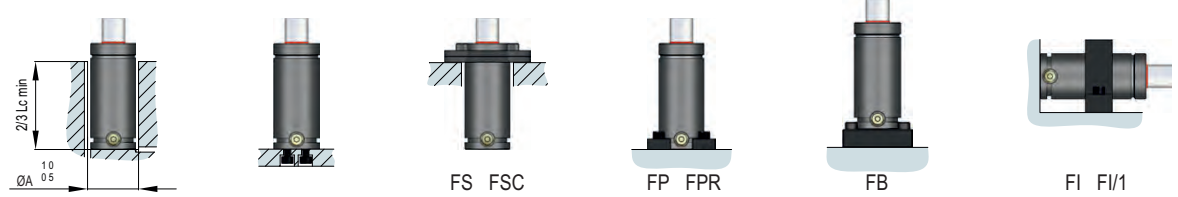
Maintenance kit TPSRS 3000	Kit SRS3000
Maintenance kit TPSRS 5000	Kit SRS5000
Maintenance kit TPSRS 7500	Kit SRS7500

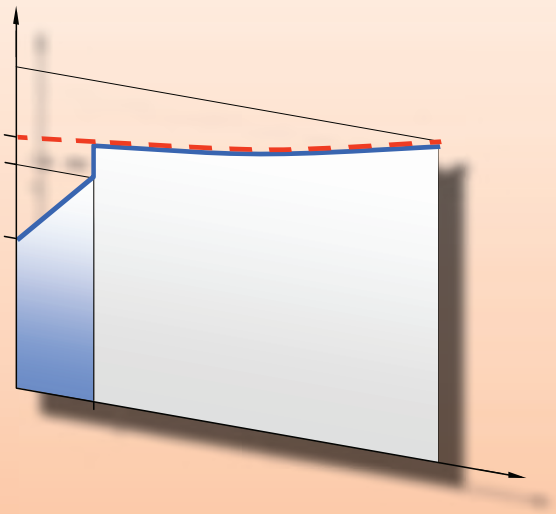
Code	Smax mm	La mm	Lc mm	Fa daN	Fc daN	P Bar	Ø A mm	Ø B mm	Ø X mm	Y
TPSRS 3000x100.1	100	320	220	3000 ±5% (20°C)	≈ 4340	150	95 (20°C)	50	60	4 x M8
TPSRS 3000x125.1	125	370	245							
TPSRS 3000x160.1	160	440	280							
TPSRS 3000x200.1	200	520	320							
TPSRS 3000x250.1	250	620	370							
TPSRS 3000x300.1	300	720	420							
TPSRS 5000x100.1	100	340	240	5000 ±5% (20°C)	≈ 8115	150	120 (20°C)	65	80	4 x M10
TPSRS 5000x125.1	125	390	265							
TPSRS 5000x160.1	160	460	300							
TPSRS 5000x200.1	200	540	340							
TPSRS 5000x250.1	250	640	390							
TPSRS 5000x300.1	300	740	440							
TPSRS 7500x100.1	100	355	255	7500 ±5% (20°C)	≈ 12150	150	150 (20°C)	80	100	4 x M10
TPSRS 7500x125.1	125	405	280							
TPSRS 7500x160.1	160	475	315							
TPSRS 7500x200.1	200	555	355							
TPSRS 7500x250.1	250	655	405							
TPSRS 7500x300.1	300	755	455							



NOTE: These gas-springs do not have sincronized return speed.

Assembly possibilities







- Noise reduction
- Vibration reduction
- Low contact force
- More efficient working environment

Cylinders with impact dampening

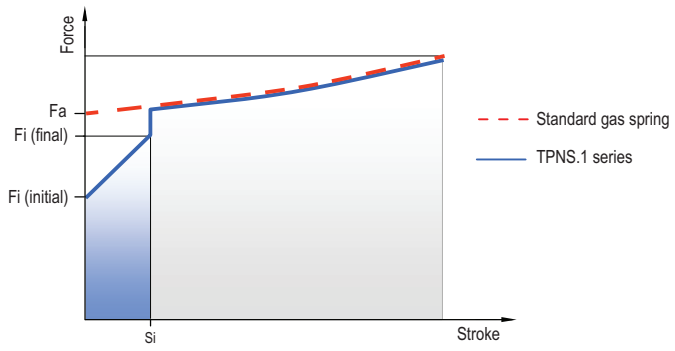
Code	ØBody mm	Strokes mm	Fa daN	
TPNS 750.1	50	25 - 300	750	
TPNS 1500.1	75	25 - 300	1500	
TPNS 3000.1	95	25 - 300	3000	
TPNS 5000.1	120	25 - 300	5000	
TPNSR 1500	75	125 - 200	1500	✓
TPNSR 3000	95	125 - 200	3000	✓

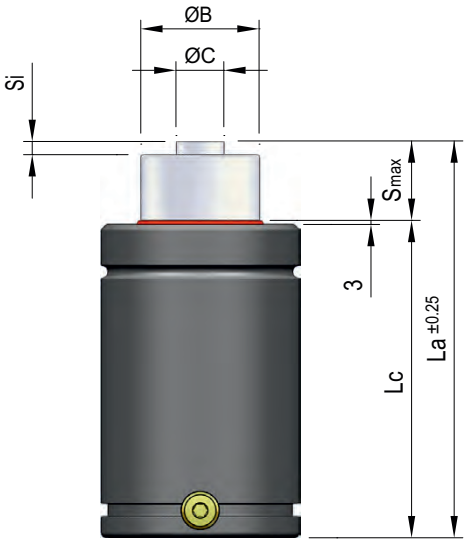
All TPNS.1 gas springs are characterised by the fact that they reduce the impact force at the beginning of their working stroke. This series gradually increases force in such a way that in the first few millimetres of working stroke, the force is practically null.

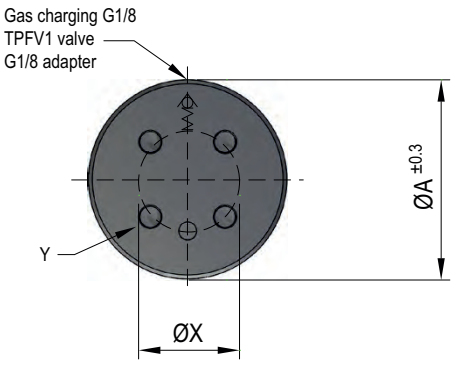
The TPNS series is manufactured in ISO-norm dimensions and fixtures. They admit operation both in the autonomous mode and connected to a control panel.



Force curve







Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1 m/s

PED 2014/68/UE

ISO STANDARD DIMENSIONS



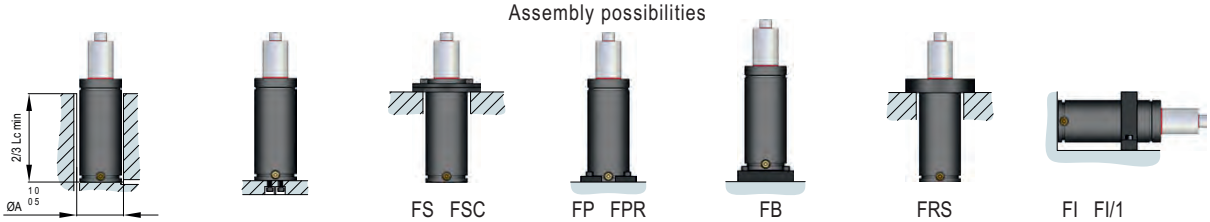
Advantages

- ✓ Noise reduction
- ✓ Vibration reduction
- ✓ Progressive increase of force
- ✓ Interchangeability with ISO-standard gas springs
- ✓ Possibility of interconnection to a control panel
- ✓ Decrease in maintenance costs
- ✓ More efficient working environment

Code	Smax mm	La mm	Lc mm	Fi daN	Fa daN	Fc daN	Si mm	Ø A mm	Ø B mm	Ø C mm	Ø X mm	Y	P Bar	spm
TPNS 750x25.1	25	145	120	Initial 270	750 ±5% (20ºC)	≈ 1000	6	50	30	14	20	2 x M8	105 (20ºC)	65
TPNS 750x38.1	38	171	133											52
TPNS 750x50.1	50	195	145											43
TPNS 750x63.1	63	222	159											37
TPNS 750x80.1	80	255	175											31
TPNS 750x100.1	100	295	195											26
TPNS 750x125.1	125	345	220											22
TPNS 750x160.1	160	415	255	Final 430										18
TPNS 750x200.1	200	495	295											14
TPNS 750x250.1	250	595	345											12
TPNS 750x300.1	300	695	395											10
TPNS 1500x25.1	25	160	135	Initial 450	1500 ±5% (20ºC)	≈ 2000	5	75	45	18	40	4 x M8	95 (20ºC)	65
TPNS 1500x38.1	38	186	148											52
TPNS 1500x50.1	50	210	160											43
TPNS 1500x63.1	63	237	174											37
TPNS 1500x80.1	80	270	190											31
TPNS 1500x100.1	100	310	210											26
TPNS 1500x125.1	125	360	235											22
TPNS 1500x160.1	160	430	270	Final 700										18
TPNS 1500x200.1	200	510	310											14
TPNS 1500x250.1	250	610	360											12
TPNS 1500x300.1	300	710	410											10
TPNS 3000x25.1	25	170	145	Initial 750	3000 ±5% (20ºC)	≈ 4000	5	95	60	22	60	4 x M8	105 (20ºC)	55
TPNS 3000x38.1	38	196	158											44
TPNS 3000x50.1	50	220	170											37
TPNS 3000x63.1	63	247	184											31
TPNS 3000x80.1	80	280	200											26
TPNS 3000x100.1	100	320	220											22
TPNS 3000x125.1	125	370	245											18
TPNS 3000x160.1	160	440	280											15
TPNS 3000x200.1	200	520	320	Final 1200										12
TPNS 3000x250.1	250	620	370											10
TPNS 3000x300.1	300	720	420											8
TPNS 5000x25.1	25	190	165	Initial 1200	5000 ±5% (20ºC)	≈ 7000	5	120	75	32	80	4 x M10	110 (20ºC)	55
TPNS 5000x38.1	38	216	178											44
TPNS 5000x50.1	50	240	190											37
TPNS 5000x63.1	63	267	204											31
TPNS 5000x80.1	80	300	220											26
TPNS 5000x100.1	100	340	240											22
TPNS 5000x125.1	125	390	265											18
TPNS 5000x160.1	160	460	300											15
TPNS 5000x200.1	200	540	340	Final 2000										12
TPNS 5000x250.1	250	640	390											10
TPNS 5000x300.1	300	740	440											8

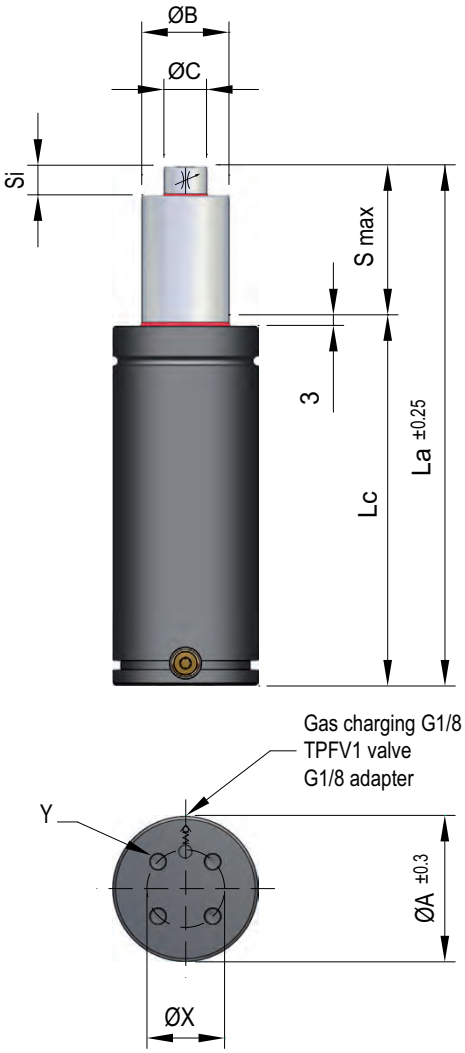
(Other models under order)

Assembly possibilities



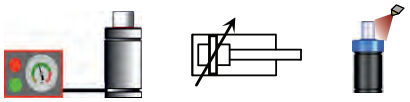
TPNSR gas springs are characterised by two functions:

- ► Reduction of initial working stroke force
- ► Reduction of stem speed during the expansion in the final stroke phase (Si)

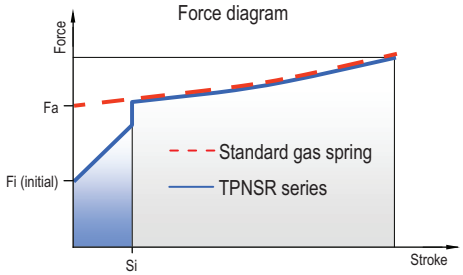


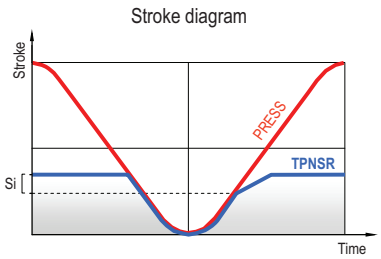
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1 m/s

PED 2014/68/UE — ISO STANDARD DIMENSIONS



Operation graph

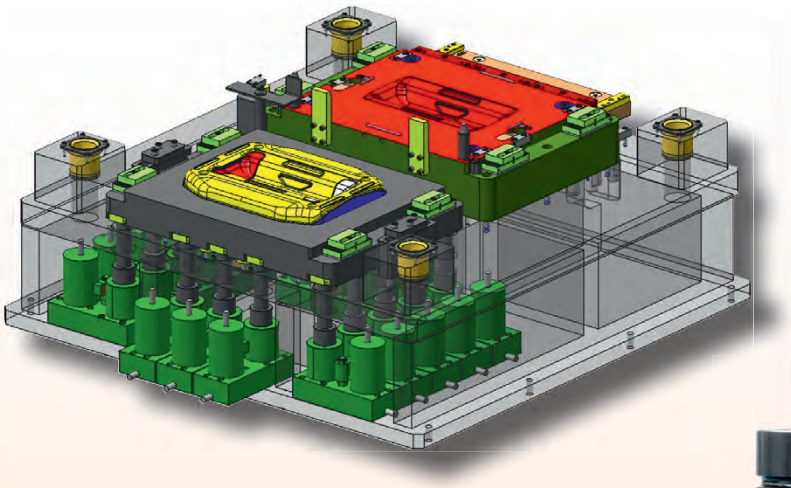




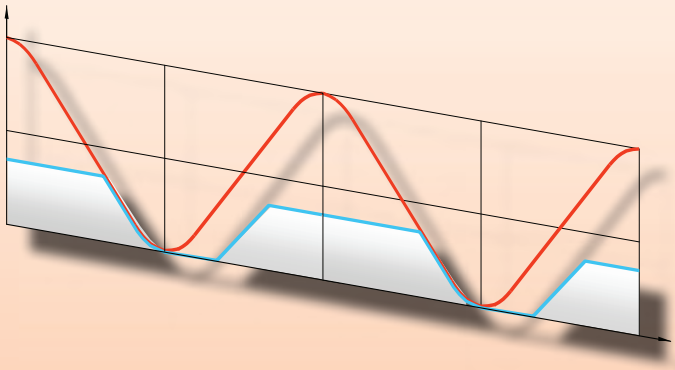
Code	Smax mm	La mm	Lc mm	Fi daN	Fa daN	Fc daN	Si mm	Ø A mm	Ø B mm	Ø C mm	Ø X mm	Y	P Bar	spm
TPNSR 1500x125	125	360	235	750	1500 ±5% (20°C)	≈ 2200	15	75	45	22	40	4 x M8	95 (20°C)	22
TPNSR 1500x160	160	430	270											18
TPNSR 1500x200	200	510	310											14
TPNSR 3000x125	125	370	245	1200	3000 ±5% (20°C)	≈ 4500	24	95	60	32	60	4 x M8	105 (20°C)	18
TPNSR 3000x160	160	440	280											15
TPNSR 3000x200	200	520	320											12

Assembly possibilities











Stop-cylinders

Code	Strokes mm	Fa daN	STOP
TPMCA 1500	12 - 125	1500	√
TPMCB 1500.1	12 - 125	1500	√
TPMCS 1500	12 - 125	1500	√
TPMCSB 1500	12 - 125	1500	√
TPMCS 2400	12 - 125	2400	√
TPMCSB 2400	12 - 125	2400	√
TPMCA 3000	12 - 125	3000	√
TPMCB 3000.1	12 - 125	3000	√
TPMCS 3000	12 - 125	3000	√
TPMCSB 3000	12 - 125	3000	√
TPMCA 4500	12 - 125	4500	√
TPMCB 4500.1	12 - 125	4500	√
TPMCA 6500	12 - 125	6500	√
TPMCB 6500.1	12 - 125	6500	√
TPMCA 12000	15	12000	√



Cylinders with stem-controlled movement can stop at the desired working position, with the possibility of deciding when stem withdrawal is to take place by means of an electric signal, in accordance with the application that is being executed.

The complete set has the following elements:

- Working cylinder
- Pressure accumulator
- Manifold plate
- Hydraulic valve

The adaptor plate lodges all the elements, communicating them one with another. The working cylinder, which is full of oil, is connected through the adaptor plate to the pressure accumulator. This is subjected in one of its parts to nitrogen gas pressure, thus providing pressure for the whole system. The accumulator has the capacity to absorb the whole of the volume of oil displaced by the working cylinder.

The working cylinder is activated by the movement of the press, displacing the hydraulic volume freely through the adaptor plate up to the pressure accumulator. Once the working stroke has been attained, the hydraulic valve, which is controlled by means of an electric signal, stops the return of hydraulic fluid from the accumulator to the working cylinder, with which the stem movement stops. When the hydraulic valve opens once again, the hydraulic volume returns to the working cylinder, thus bringing about the return of the stem to its stand-by position.

The pressure accumulator is regulated in accordance to pressure device norms, as it is charged with nitrogen gas at a pressure of 150 Bar.



Safety features

- ✓ **Stoppable at any STAGE of the working stroke**
- ✓ **Small size format**
- ✓ **Slow return stroke**
- ✓ **It can work in every position and angle**
- ✓ **Total synchronization**
- ✓ **Safety features:**

VDI SAFETY



- ✓ **No cooling system required**
- ✓ **Supply voltage:**
  24VDC
  110V AC
  220V AC
- ✓ **Compact and modular Version**
- ✓ **Long service-life without maintenance**
- ✓ **Operation: autonomous & linked system**
- ✓ **Very easy mounting on the tool**

Operation graph

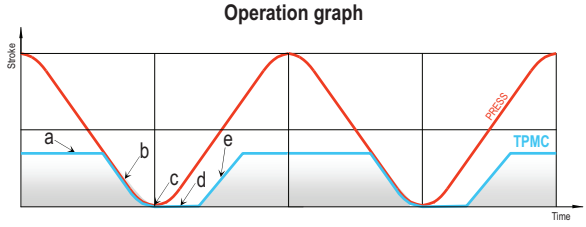


Figure a

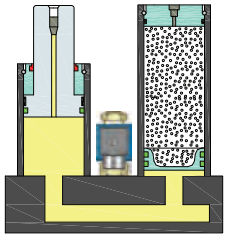


Figure b

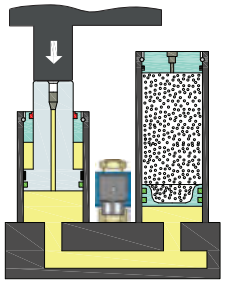


Figure c

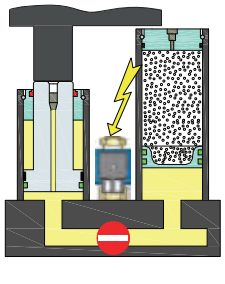


Figure d



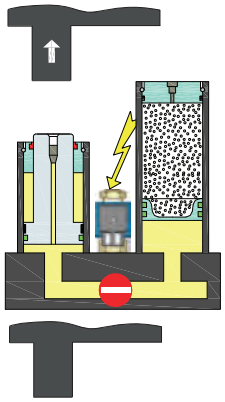
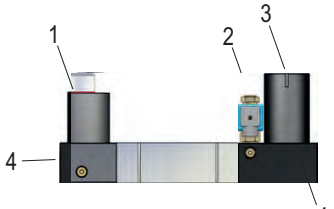


Figure e

Components description



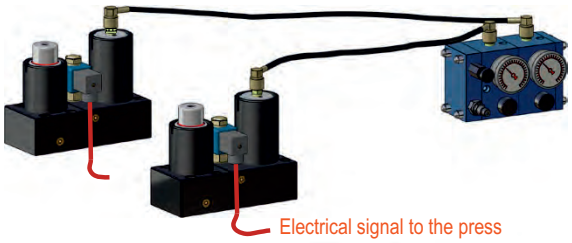
Compact application



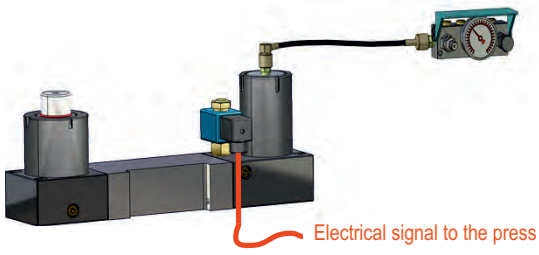
Modular application

① Working cylinder
② Hydraulic valve
③ Pressure accumulation cylinder
④ Adaptation plate
⑤ Alumnium Block

Example of an application connected to a control panel



Electrical signal to the press



Electrical signal to the press

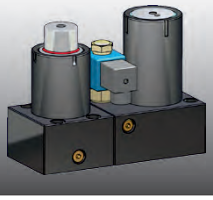


Hydraulic valve - Technical information

Hydraulic valve	E 24	E 110	E 220
Supply voltage	24 VDC	110 VAC	220 VAC
Power consumption	17w	17w	17w

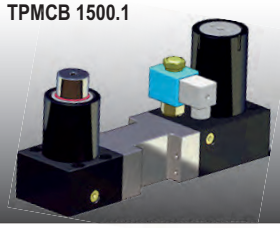
TPMCA 1500

Fa. initial: 1500 daN
Stem speed: 10 m/min
Press rate: 10 - 40 spm



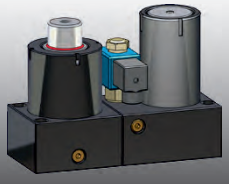
TPMCB 1500.1

Fa. initial: 1500 daN
Stem speed: 7-9 m/min



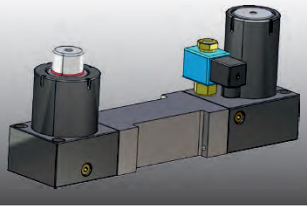
TPMCS 1500

Fa. initial: 1500 daN
Stem speed: 15 m/min
Press rate: 10 - 40 spm



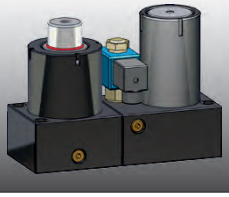
TPMCSB 1500

Fa. initial: 1500 daN
Stem speed: 7-14 m/min
Press rate: 10 - 35 spm



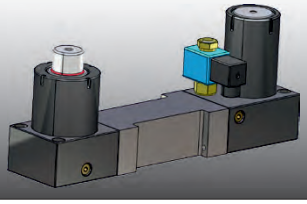
TPMCS 2400

Fa. initial: 2400 daN
Stem speed: 15 m/min
Press rate: 10 - 30 spm



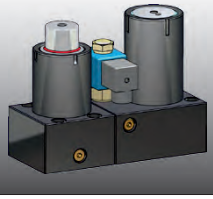
TPMCSB 2400

Fa. initial: 2400 daN
Stem speed: 8-14 m/min
Press rate: 10 - 25 spm



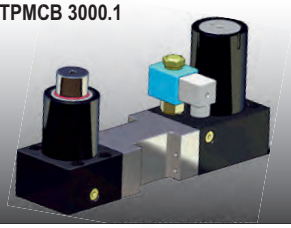
TPMCA 3000

Fa. initial: 3000 daN
Stem speed: 10 m/min
Press rate: 10 - 30 spm



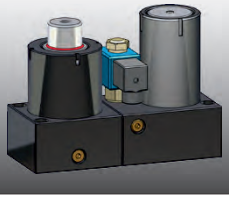
TPMCB 3000.1

Fa. initial: 3000 daN
Stem speed: 7,5-9 m/min
Press rate: 10 - 25 spm



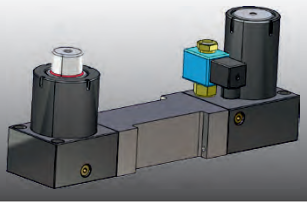
TPMCS 3000

Fa. initial: 3000 daN
Stem speed: 14m/min
Press rate: 10 - 35 spm



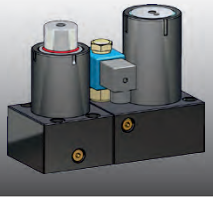
TPMCSB 3000

Fa. initial: 3000 daN
Stem speed: 8-13 m/min
Press rate: 10 - 25 spm



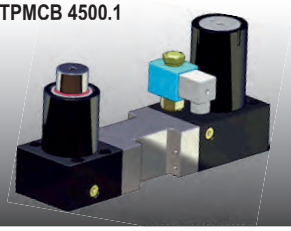
TPMCA 4500

Fa. initial: 4500 daN
Stem speed: 18 m/min
Press rate: 10 - 40 spm



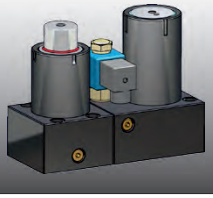
TPMCB 4500.1

Fa. initial: 4500 daN
Stem speed: 7-16 m/min
Press rate: 10 - 30 spm



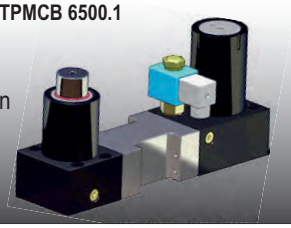
TPMCA 6500

Fa. initial: 6500 daN
Stem speed: 12 m/min
Press rate: 10 - 35 spm



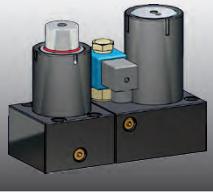
TPMCB 6500.1

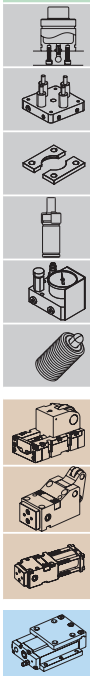
Fa. initial: 6500 daN
Stem speed: 6,5-10 m/min
Press rate: 10 - 20 spm



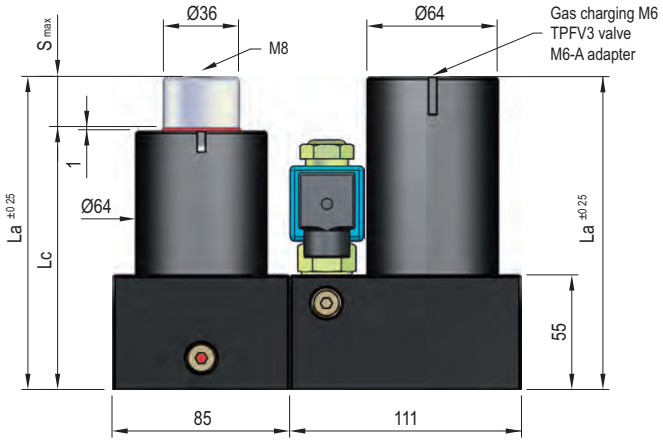
TPMCA 12000

Fa. initial: 12000 daN
Stem speed: 12 m/min
Press rate: 15 spm



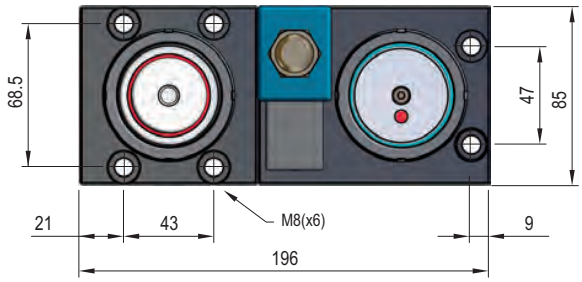








The TPMCA 1500 model is also available equipped with RMF-D1. (TPMCA 1500....C - Linked system)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCA 1500x12	12	124	112	1500 ±5% (20°C)	1660	1680	150 (20°C)
TPMCA 1500x25	25	150	125		1740	1770	
TPMCA 1500x38	38	176	138		1790	1825	
TPMCA 1500x50	50	200	150		1820	1860	
TPMCA 1500x63	63	226	163		1845	1885	
TPMCA 1500x80	80	260	180		1865	1915	
TPMCA 1500x100	100	300	200		1885	1935	
TPMCA 1500x125	125	350	225		1905	1955	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

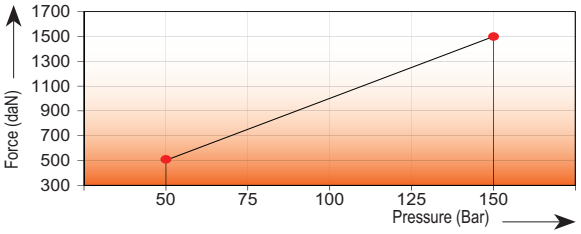
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	10,18 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	10 m/min
Max. recommended strokes/min	10 - 40* spm

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Initial force/charging pressure ratio

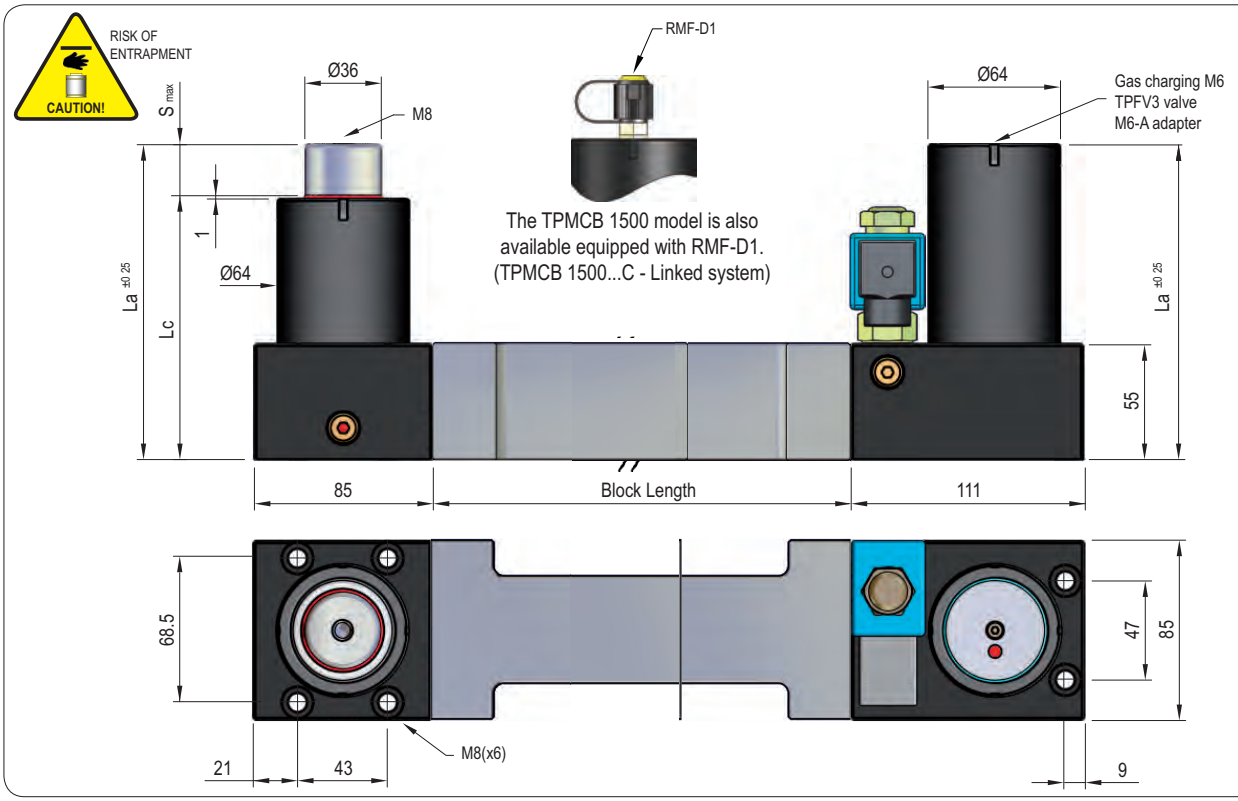


How to order

TPMCA 1500 x 12 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained

STOP - CYLINDER TPMCB 1500.1



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCB 1500x12.1	12	124	112	1500 ±5% (20°C)	1660	1680	150 (20°C)
TPMCB 1500x25.1	25	150	125		1740	1770	
TPMCB 1500x38.1	38	176	138		1790	1825	
TPMCB 1500x50.1	50	200	150		1820	1860	
TPMCB 1500x63.1	63	226	163		1845	1885	
TPMCB 1500x80.1	80	260	180		1865	1915	
TPMCB 1500x100.1	100	300	200		1885	1935	
TPMCB 1500x125.1	125	350	225		1905	1955	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

* Maximum rate will depend on working parameters

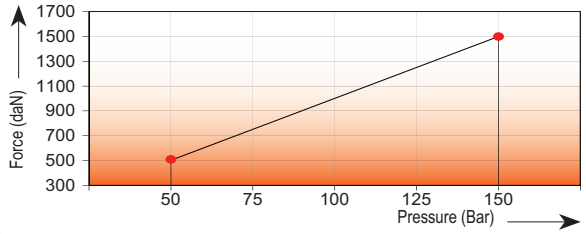
Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	10,18 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	7 - 9 m/min
Max. recommended strokes/min	10 - 35* spm

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VDI SAFETY

RE-36-50

Initial force/charging pressure ratio

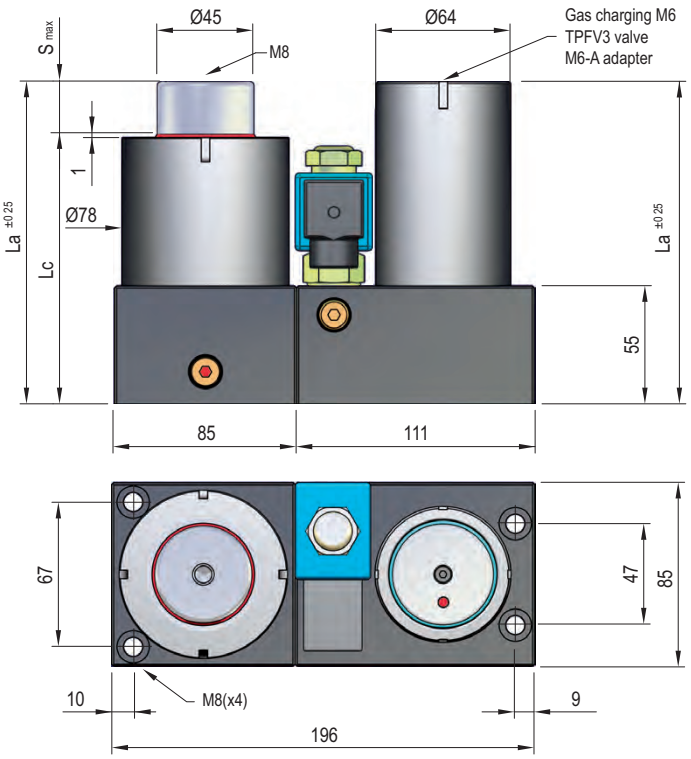


How to order

TPMCB 1500 x 12.1 - E24 - C - L=200

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Block Length







The TPMCS1500 model is also available equipped with RMF-D1. (TPMCS 1500.....C-Linked)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCS 1500x12	12	124	112	1500 ±5% (20°C)	1545	1555	90 (20°C)
TPMCS 1500x25	25	150	125		1610	1630	
TPMCS 1500x38	38	176	138		1650	1675	
TPMCS 1500x50	50	200	150		1675	1705	
TPMCS 1500x63	63	226	163		1690	1725	
TPMCS 1500x80	80	260	180		1710	1750	
TPMCS 1500x100	100	300	200		1725	1765	
TPMCS 1500x125	125	350	225		1740	1785	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

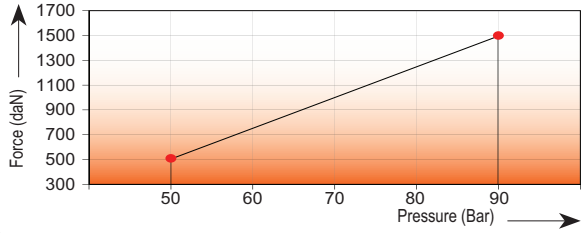
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	90 Bar
Min. charging pressure	50 Bar
Rod seal area	15,90 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	15 m/min
Max. recommended strokes/min	10 - 40* spm

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Initial force/charging pressure ratio

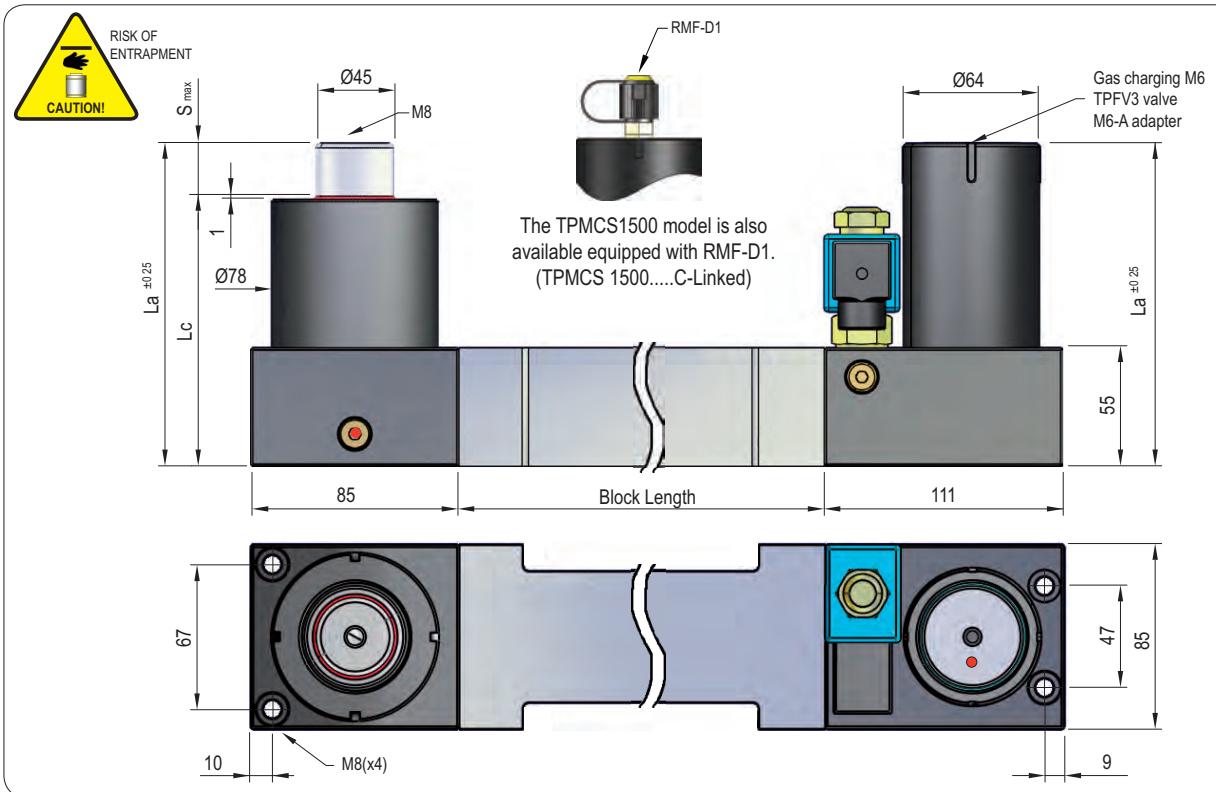


How to order

TPMCS 1500 x 12 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained

STOP CYLINDER TPMCSB 1500



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCSB 1500x12	12	124	112	1500 ±5% (20°C)	1545	1555	90 (20°C)
TPMCSB 1500x25	25	150	125		1610	1630	
TPMCSB 1500x38	38	176	138		1650	1675	
TPMCSB 1500x50	50	200	150		1675	1705	
TPMCSB 1500x63	63	226	163		1690	1725	
TPMCSB 1500x80	80	260	180		1710	1750	
TPMCSB 1500x100	100	300	200		1725	1765	
TPMCSB 1500x125	125	350	225		1740	1785	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

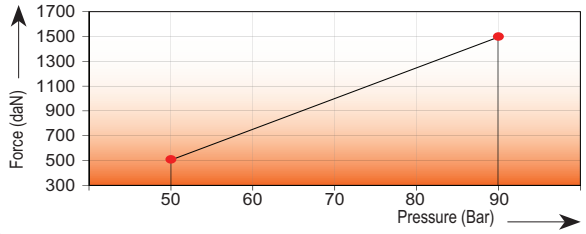
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	90 Bar
Min. charging pressure	50 Bar
Rod seal area	15,90 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	7-14 m/min
Max. recommended strokes/min	10 - 35* spm

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Initial force/charging pressure ratio

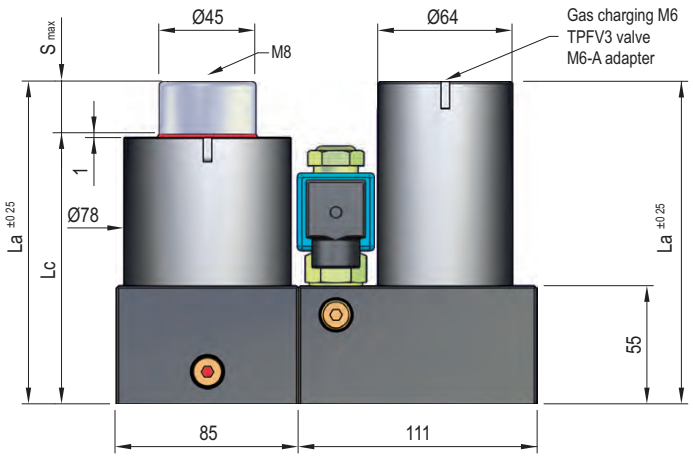


How to order

TPMCSB 1500 x 12 - E24 - C

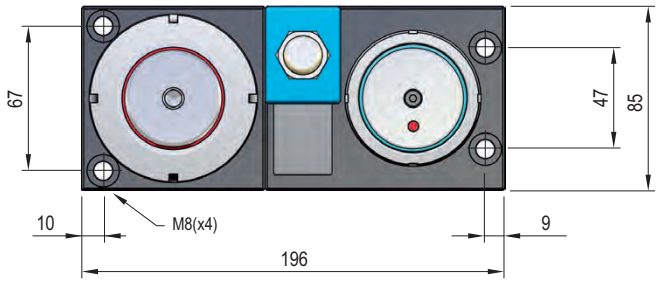
Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained







The TPMCS2400 model is also available equipped with RMF-D1. (TPMCS 2400.....C-Linked)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCS 2400x12	12	124	112	2400 ±5% (20°C)	2575	2595	150 (20°C)
TPMCS 2400x25	25	150	125		2680	2720	
TPMCS 2400x38	38	176	138		2745	2795	
TPMCS 2400x50	50	200	150		2790	2840	
TPMCS 2400x63	63	226	163		2820	2880	
TPMCS 2400x80	80	260	180		2850	2915	
TPMCS 2400x100	100	300	200		2875	2945	
TPMCS 2400x125	125	350	225		2900	2970	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

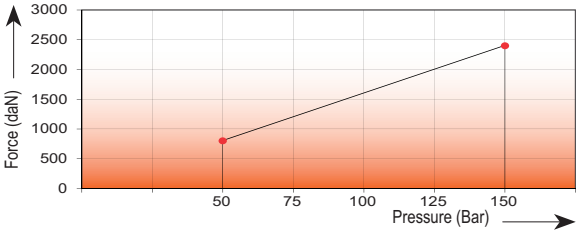
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	15,90 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	15 m/min
Max. recommended strokes/min	10 - 30* spm

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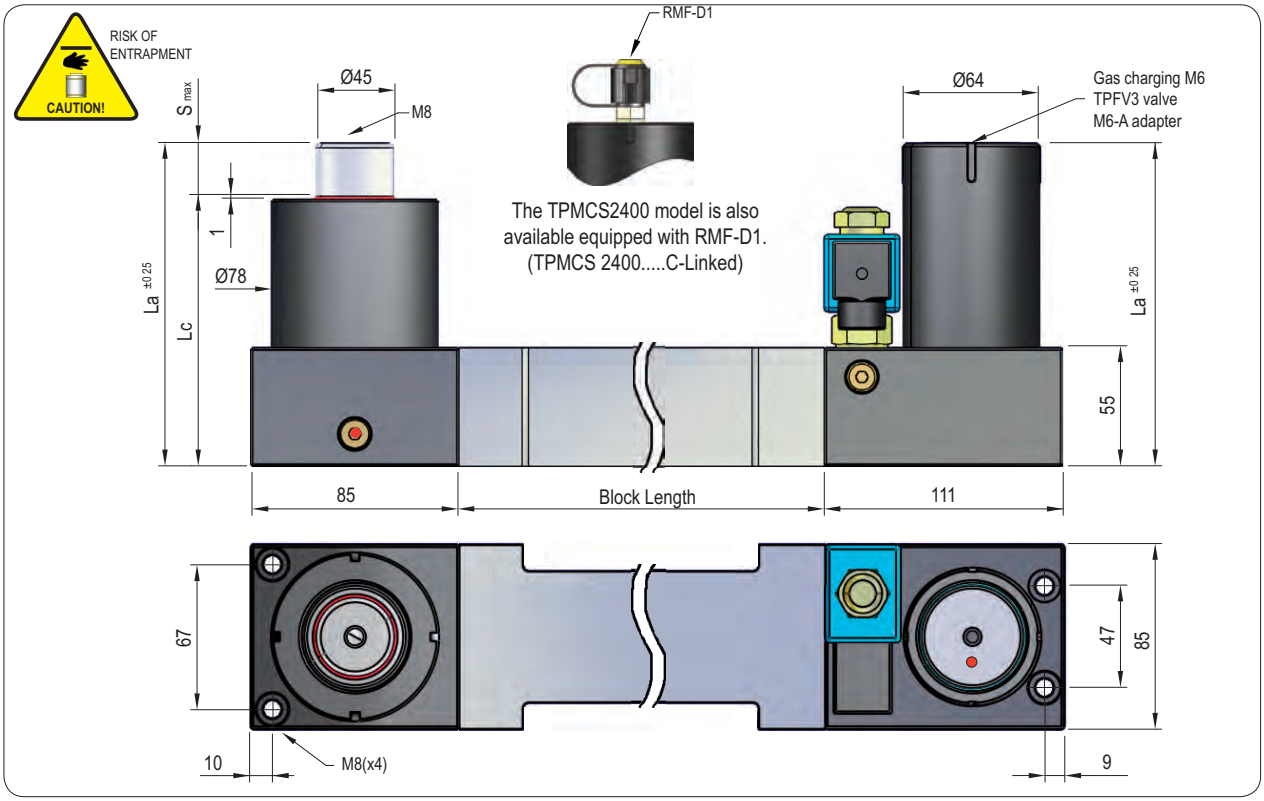
Initial force/charging pressure ratio



How to order

TPMCS 2400 x 38 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCSB 2400x12	12	124	112	2400 ±5% (20°C)	2575	2595	150 (20°C)
TPMCSB 2400x25	25	150	125		2680	2720	
TPMCSB 2400x38	38	176	138		2745	2795	
TPMCSB 2400x50	50	200	150		2790	2840	
TPMCSB 2400x63	63	226	163		2820	2880	
TPMCSB 2400x80	80	260	180		2850	2915	
TPMCSB 2400x100	100	300	200		2875	2945	
TPMCSB 2400x125	125	350	225		2900	2970	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

* Maximum rate will depend on working parameters

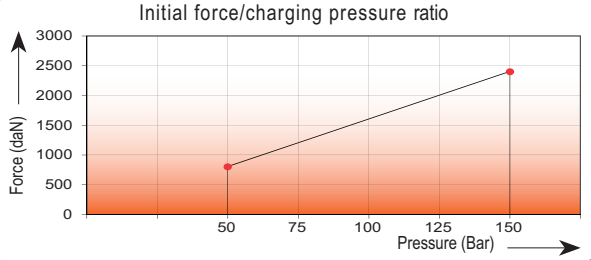
Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	15,90 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	8 - 14 m/min
Max. recommended strokes/min	10 - 25* spm

PED 2014/68/UE

VDI SAFETY

RE-45-65

Initial force/charging pressure ratio

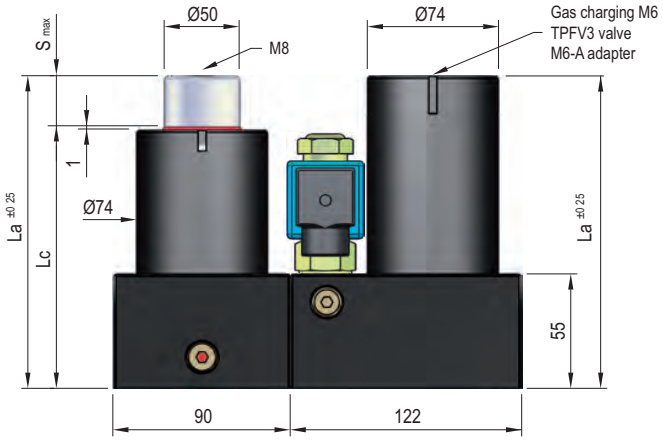


How to order

TPMCSB 2400 x 38 - E24 - C

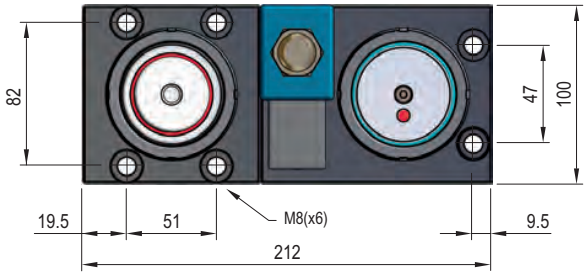
Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained







The TPMCA 3000 model is also available equipped with RMF-D1. (TPMCA 3000...C - Linked system)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCA 3000x12	12	129	117	3000 ±5% (20°C)	3250	3285	150 (20°C)
TPMCA 3000x25	25	155	130		3435	3500	
TPMCA 3000x38	38	181	143		3560	3645	
TPMCA 3000x50	50	205	155		3635	3735	
TPMCA 3000x63	63	231	168		3700	3810	
TPMCA 3000x80	80	265	185		3760	3880	
TPMCA 3000x100	100	305	205		3815	3945	
TPMCA 3000x125	125	355	230		3860	4000	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

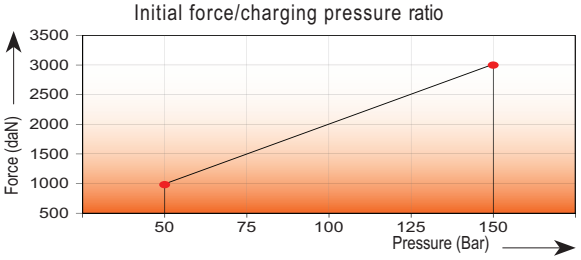
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	19,63 cm^2
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	10 m/min
Max. recommended strokes/min	10 - 30* spm

PED 2014/68/UE



Initial force/charging pressure ratio

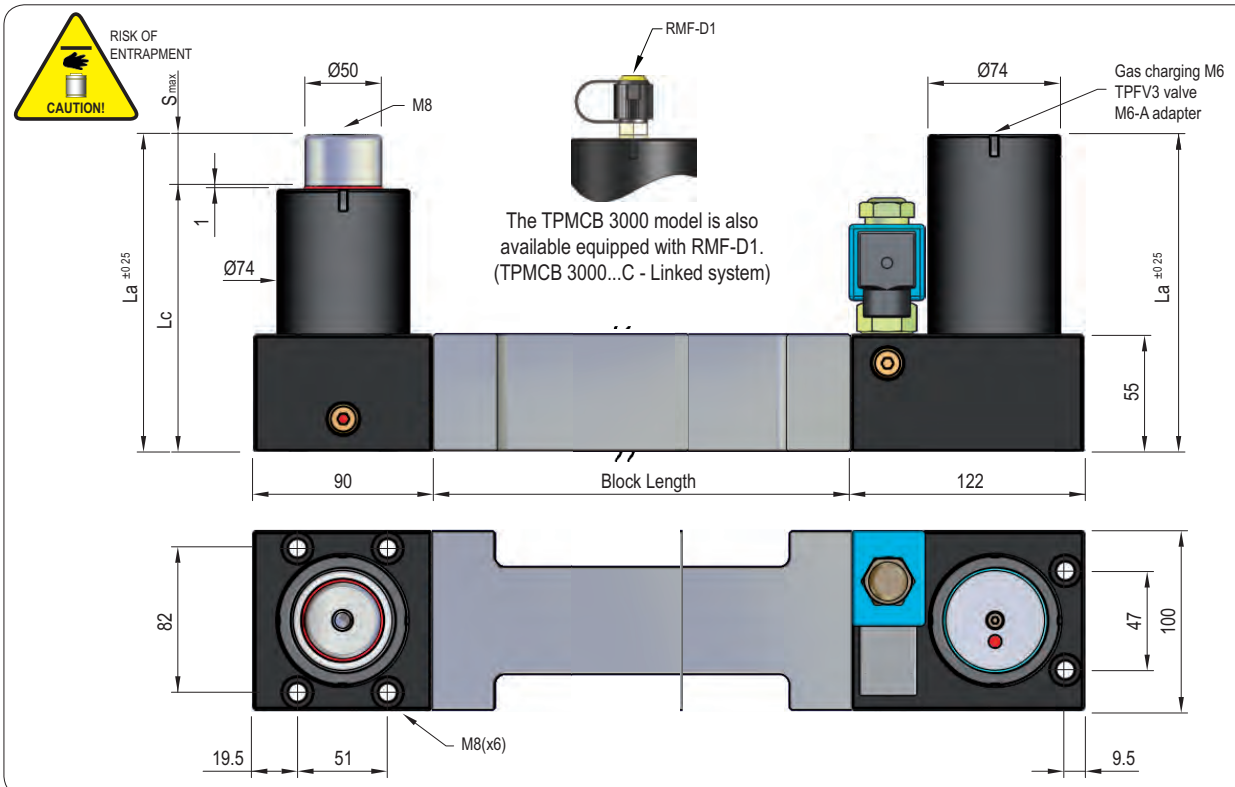


How to order

TPMCA 3000 x 25 - E110 - NC

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained

STOP - CYLINDER TPMCB 3000.1



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCB 3000x12.1	12	129	117	3000 ±5% (20°C)	3250	3285	150 (20°C)
TPMCB 3000x25.1	25	155	130		3435	3500	
TPMCB 3000x38.1	38	181	143		3560	3645	
TPMCB 3000x50.1	50	205	155		3635	3735	
TPMCB 3000x63.1	63	231	168		3700	3810	
TPMCB 3000x80.1	80	265	185		3760	3880	
TPMCB 3000x100.1	100	305	205		3815	3945	
TPMCB 3000x125.1	125	355	230		3860	4000	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

* Maximum rate will depend on working parameters

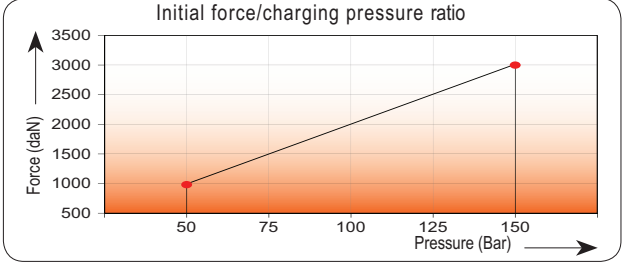
Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	19,63 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	7.5 - 9 m/min
Max. recommended strokes/min	10 - 25* spm

PED 2014/68/UE

VDI SAFETY

RE-50-65

Initial force/charging pressure ratio

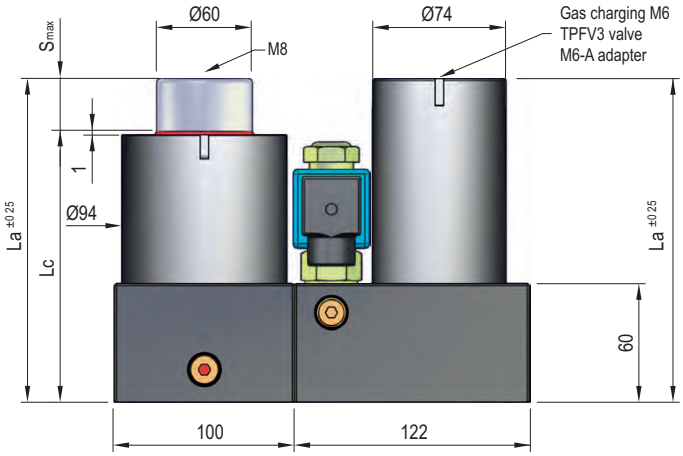


How to order

TPMCB 3000 x 50.1 - E24 - C - L=350

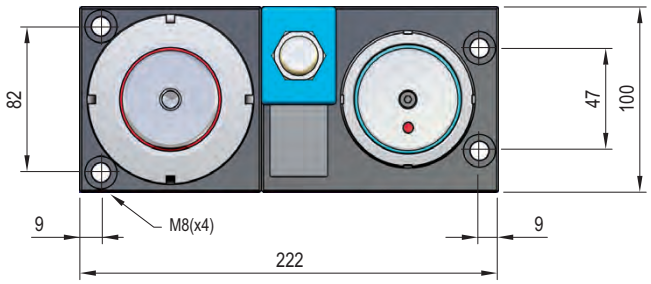
Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Block Length







The TPMCS 3000 model is also available equipped with RMF-D1. (TPMCS 3000.....C-Linked)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCS 3000x12	12	140	128	3000 ±5% (20°C)	3215	3240	105 (20°C)
TPMCS 3000x25	25	166	141		3370	3425	
TPMCS 3000x38	38	192	154		3475	3540	
TPMCS 3000x50	50	216	166		3545	3620	
TPMCS 3000x63	63	242	179		3600	3685	
TPMCS 3000x80	80	276	196		3655	3750	
TPMCS 3000x100	100	316	216		3700	3805	
TPMCS 3000x125	125	366	241		3745	3855	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

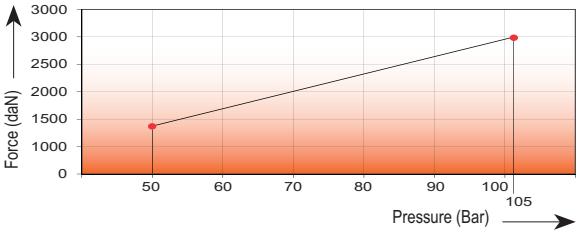
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	105 Bar
Min. charging pressure	50 Bar
Rod seal area	28,27 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	14 m/min
Max. recommended strokes/min	10 - 35* spm

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Initial force/charging pressure ratio



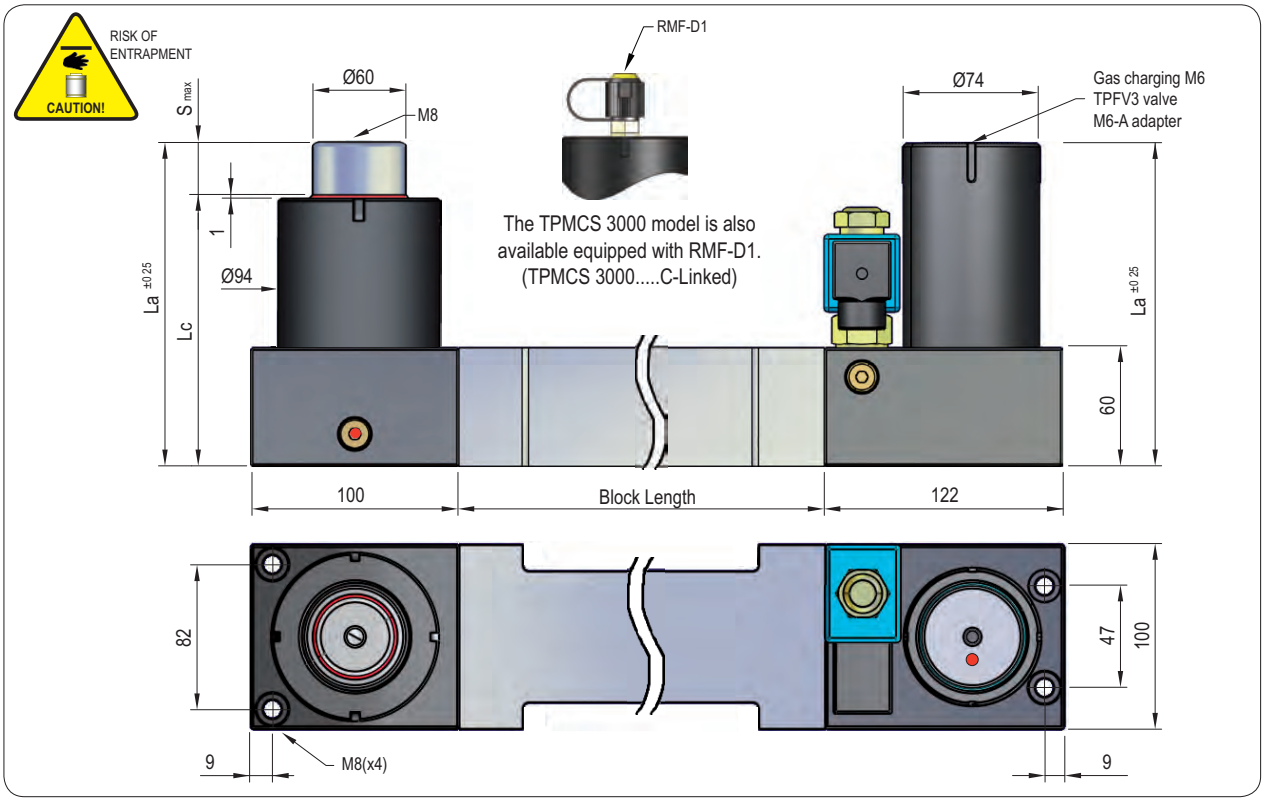
How to order

TPMCS 3000 x 38 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained

Manufactured by Técnicas Aplicadas de Presión, s.l. www.tecapres.com

STOP - CYLINDER TPMCSB 3000



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCSB 3000x12	12	140	128	3000 ±5% (20°C)	3215	3240	105 (20°C)
TPMCSB 3000x25	25	166	141		3370	3425	
TPMCSB 3000x38	38	192	154		3475	3540	
TPMCSB 3000x50	50	216	166		3545	3620	
TPMCSB 3000x63	63	242	179		3600	3685	
TPMCSB 3000x80	80	276	196		3655	3750	
TPMCSB 3000x100	100	316	216		3700	3805	
TPMCSB 3000x125	125	366	241		3745	3855	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

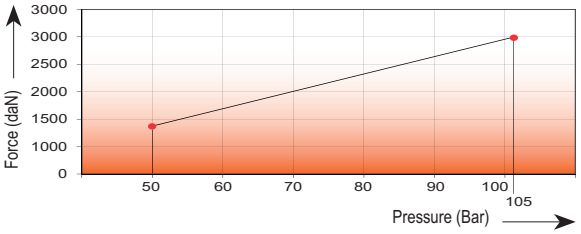
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	105 Bar
Min. charging pressure	50 Bar
Rod seal area	28,27 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	8 - 13 m/min
Max. recommended strokes/min	10 - 25* spm

PED 2014/68/UE



Initial force/charging pressure ratio

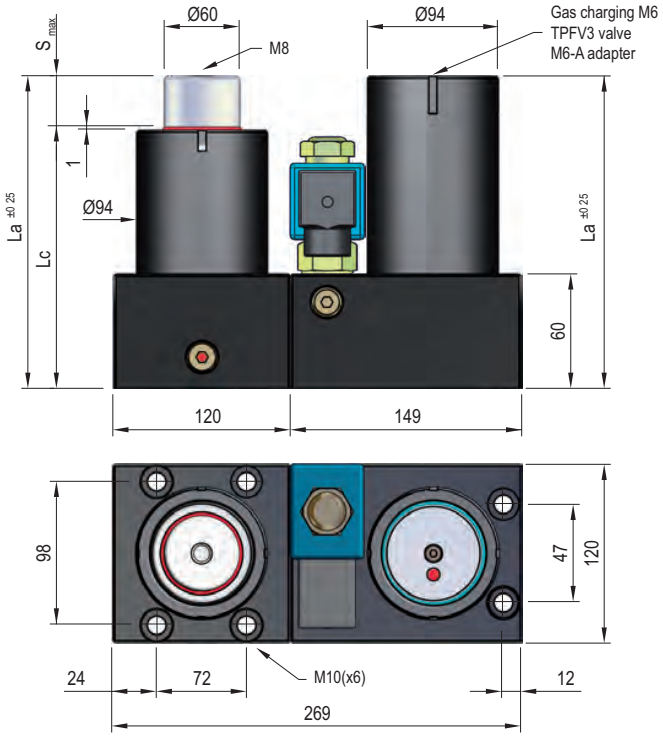


How to order

TPMCSB 3000 x 38 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained







The TPMCA 4500 model is also available equipped with RMF-D1 (TPMCA 4500...C - Linked system)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCA 4500x12	12	140	128	4500 ±5% (20°C)	4590	4630	150 (20°C)
TPMCA 4500x25	25	166	141		4815	4890	
TPMCA 4500x38	38	192	154		4965	5060	
TPMCA 4500x50	50	216	166		5065	5175	
TPMCA 4500x63	63	242	179		5140	5265	
TPMCA 4500x80	80	276	196		5220	5355	
TPMCA 4500x100	100	316	216		5285	5435	
TPMCA 4500x125	125	366	241		5345	5505	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

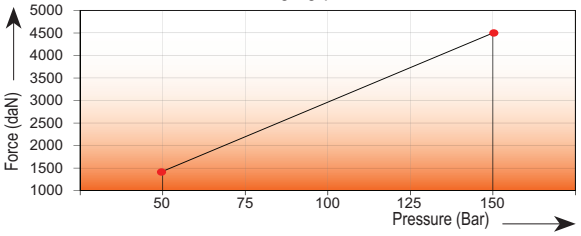
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	28,27 cm^2
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	18 m/min
Max. recommended strokes/min	10 - 40* spm

PED 2014/68/UE



Initial force/charging pressure ratio

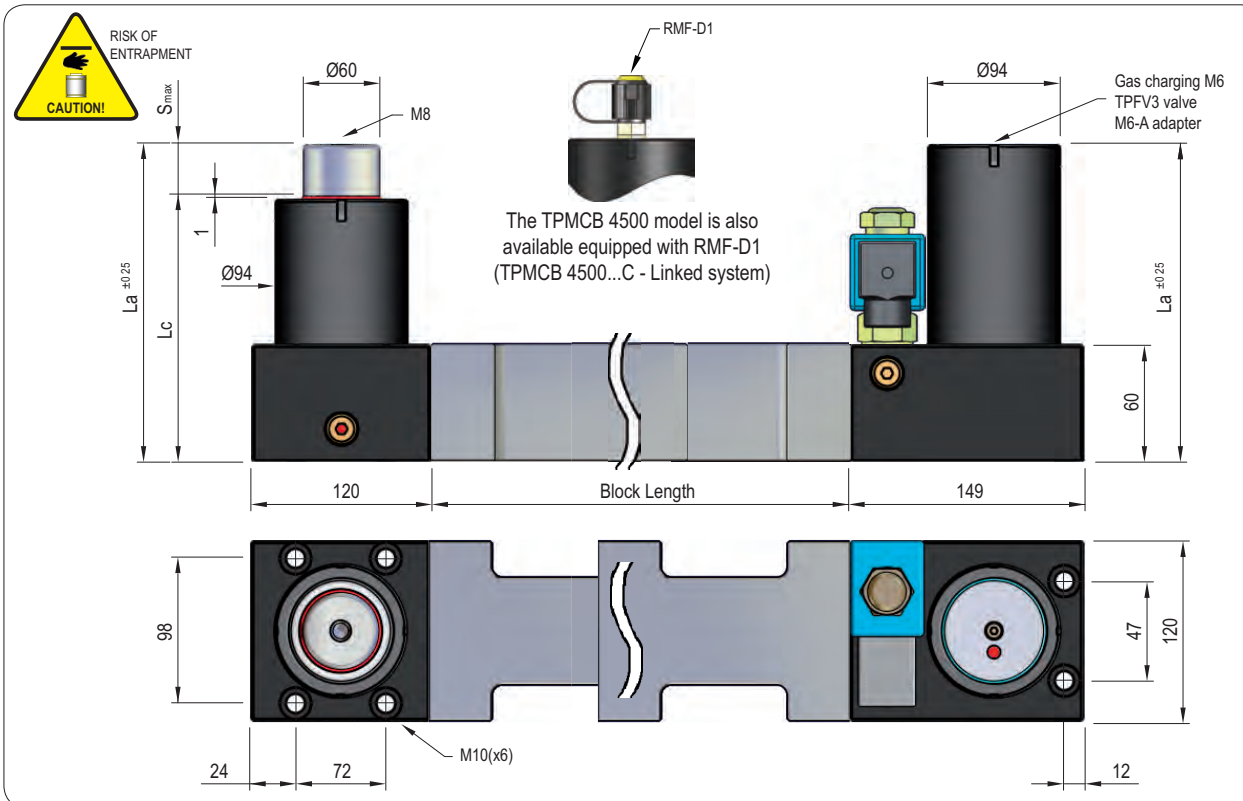


How to order

TPMCA 4500 x 125 - E24 - NC

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained

STOP - CYLINDER TPMCB 4500.1



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCB 4500x12.1	12	140	128	4500 ±5% (20°C)	4590	4630	150 (20°C)
TPMCB 4500x25.1	25	166	141		4815	4890	
TPMCB 4500x38.1	38	192	154		4965	5060	
TPMCB 4500x50.1	50	216	166		5065	5175	
TPMCB 4500x63.1	63	242	179		5140	5265	
TPMCB 4500x80.1	80	276	196		5220	5355	
TPMCB 4500x100.1	100	316	216		5285	5435	
TPMCB 4500x125.1	125	366	241		5345	5505	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

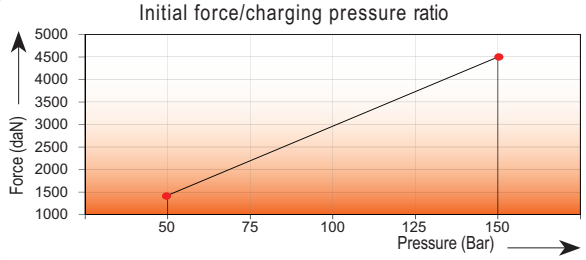
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	28,27 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	7 - 16 m/min
Max. recommended strokes/min	10 - 30* spm

PED 2014/68/UE



Initial force/charging pressure ratio



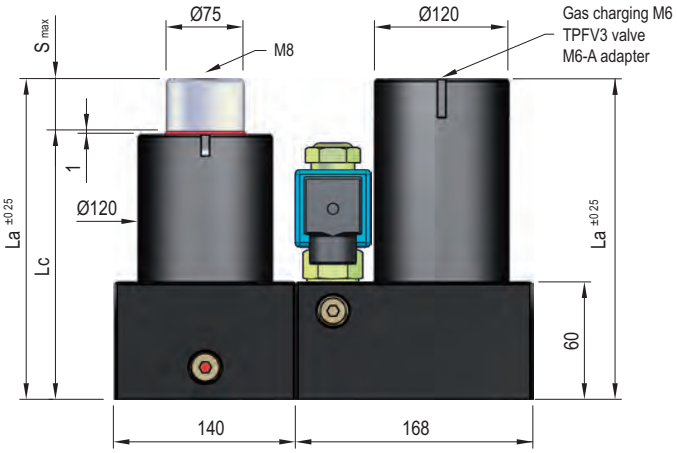
TPGAS 07 01-2018

How to order

TPMCB 4500 x 80.1 - E220 - NC - L=500

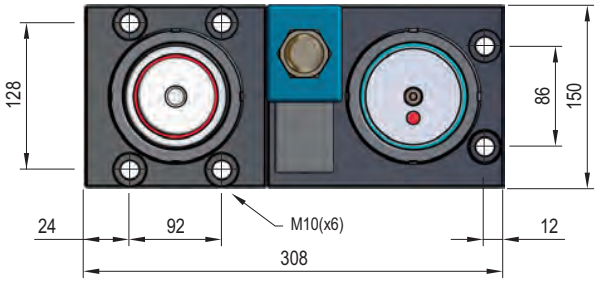
Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Block Length







The TPMCA 6500 model is also available equipped with RMF-D1 (TPMCA 6500...C - Linked system)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCA 6500x12	12	152	140	6500 ±5% (20°C)	7125	7185	150 (20°C)
TPMCA 6500x25	25	178	153		7465	7570	
TPMCA 6500x38	38	204	166		7690	7830	
TPMCA 6500x50	50	228	178		7845	8010	
TPMCA 6500x63	63	254	191		7970	8155	
TPMCA 6500x80	80	288	208		8095	8305	
TPMCA 6500x100	100	328	228		8205	8430	
TPMCA 6500x125	125	378	253		8305	8545	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

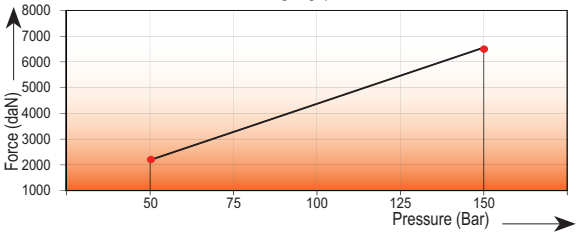
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	44,18 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	12 m/min
Max. recommended strokes/min	10 - 35* spm

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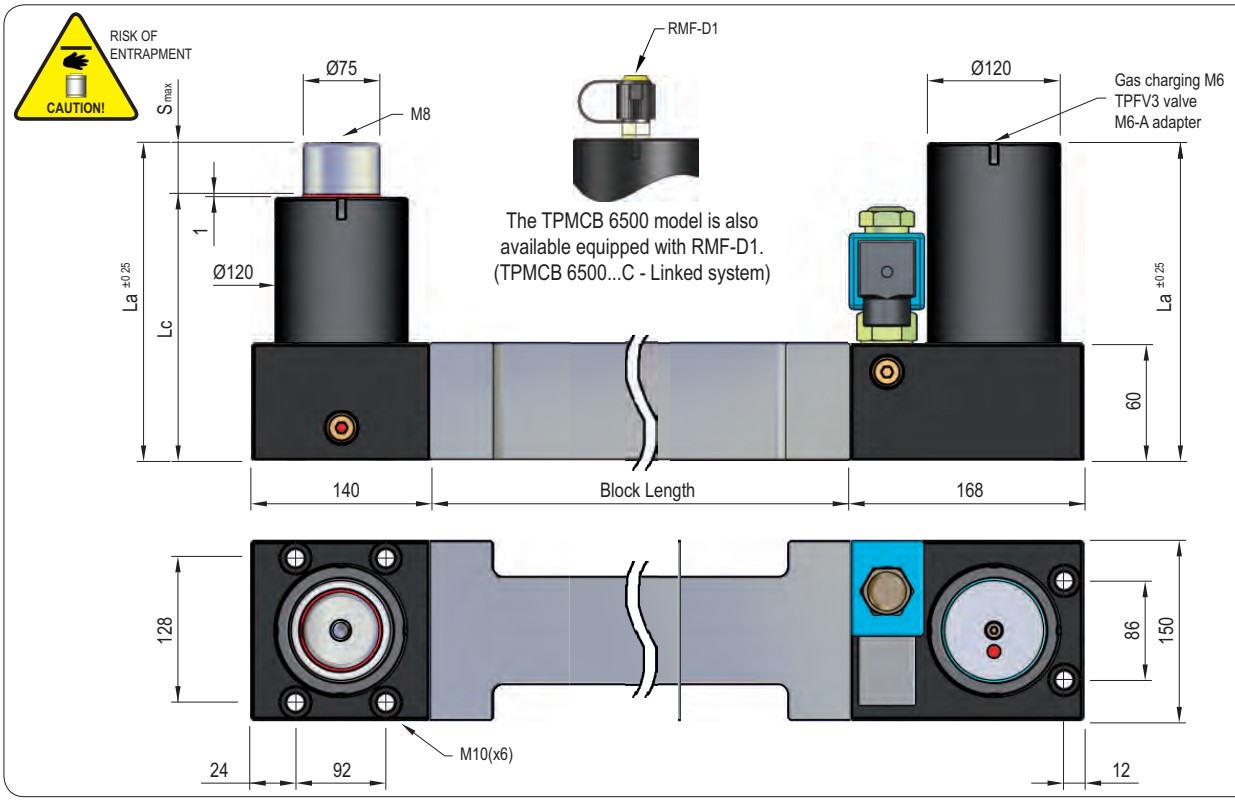
Initial force/charging pressure ratio



How to order · Ejemplo de pedido

TPMCA 6500	x	38	-	E110	-	C
Model		Stroke		Hydraulic valve		C - Linked system NC - Self contained

STOP - CYLINDER TPMCB 6500.1



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCB 6500x12.1	12	152	140	6500 ±5% (20°C)	7125	7185	150 (20°C)
TPMCB 6500x25.1	25	178	153		7465	7570	
TPMCB 6500x38.1	38	204	166		7690	7830	
TPMCB 6500x50.1	50	228	178		7845	8010	
TPMCB 6500x63.1	63	254	191		7970	8155	
TPMCB 6500x80.1	80	288	208		8095	8305	
TPMCB 6500x100.1	100	328	228		8205	8430	
TPMCB 6500x125.1	125	378	253		8305	8545	

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

* Maximum rate will depend on working parameters

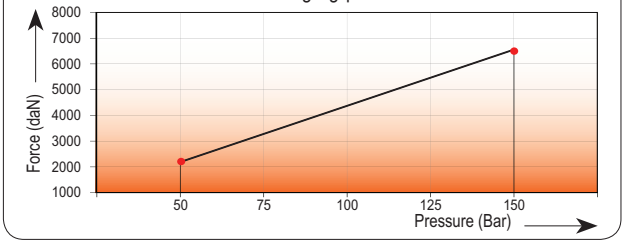
Pressure medium	Gas Nitrógeno (N_2) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	44,18 cm²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	6,5 - 10 m/min
Max. recommended strokes/min	10 - 20* spm

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VDI SAFETY

RE-75-100

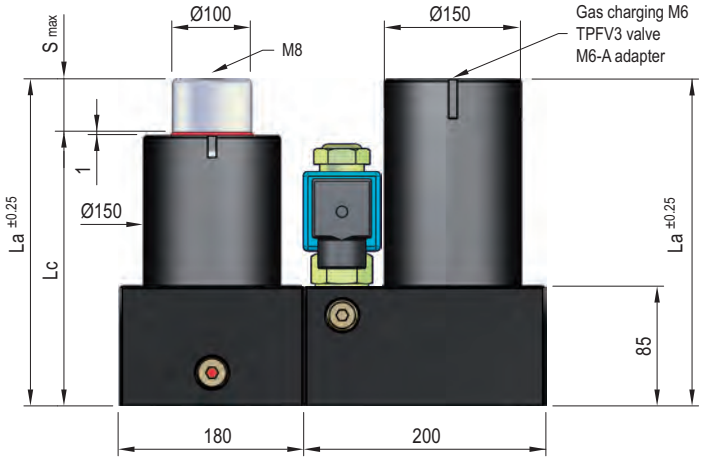
Initial force/charging pressure ratio



How to order

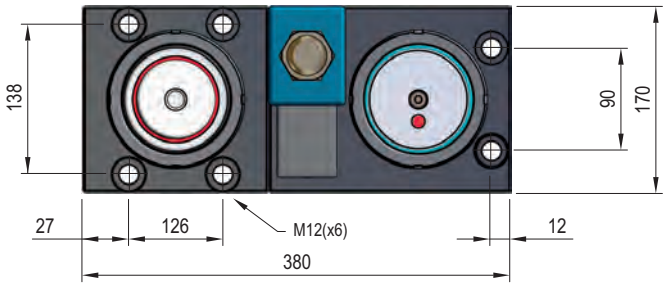
TPMCB 6500	x 125.1	- E24	- C	- L=275
Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Block Length







The TPMCA 12000 model is also available equipped with RMF-D1 (TPMCA 12000...C - Linked system)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCA 12000x15	15	188	173	12000 ±5% (20°C)	13305	13495	150 (20°C)

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**150 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**78,54 cm²**
Operating temperature	**0°C - 60°C**
Force increase by temperature	**0,33 %/°C**
Max. stem speed	**12 m/min**
Max. recommended strokes/min	**15 spm**

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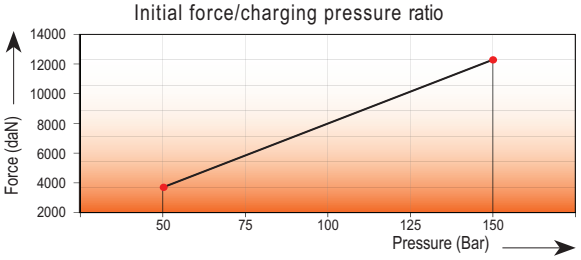


VDI SAFETY





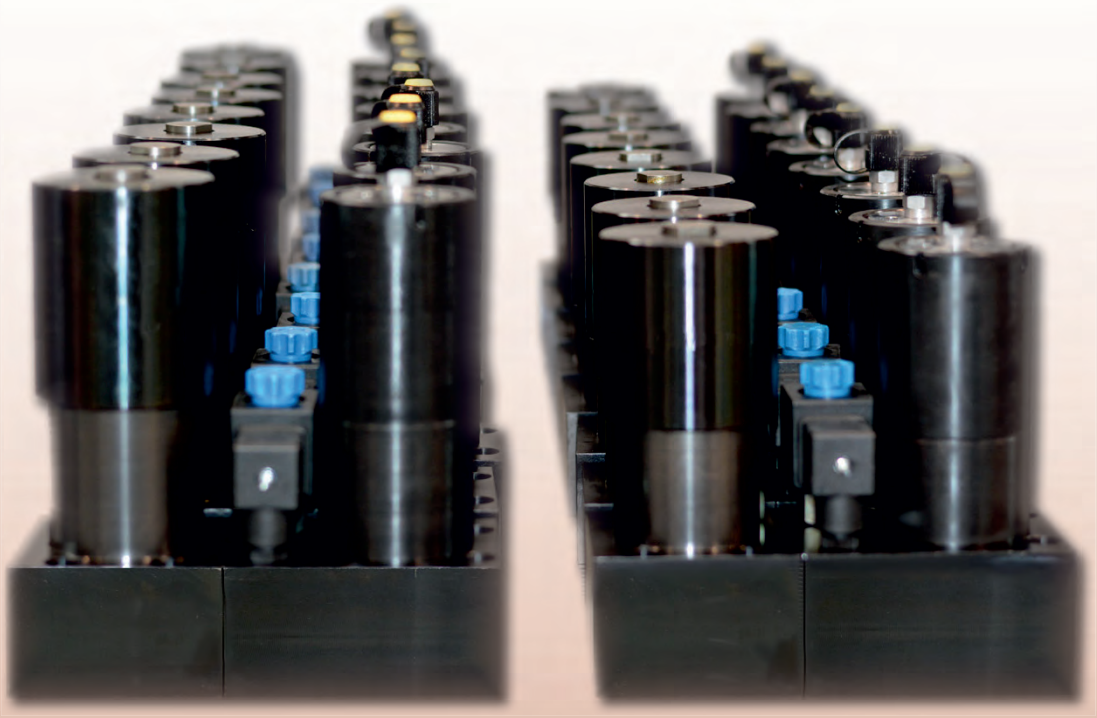
Initial force/charging pressure ratio

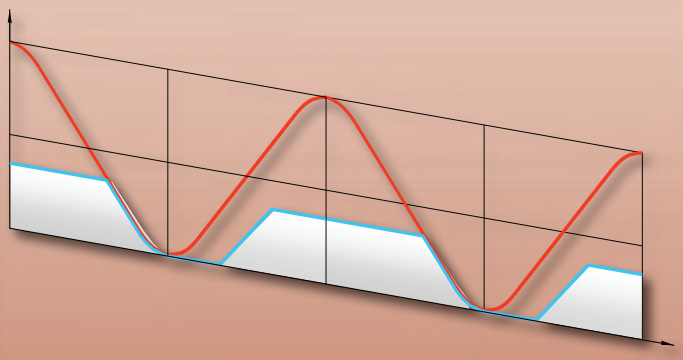


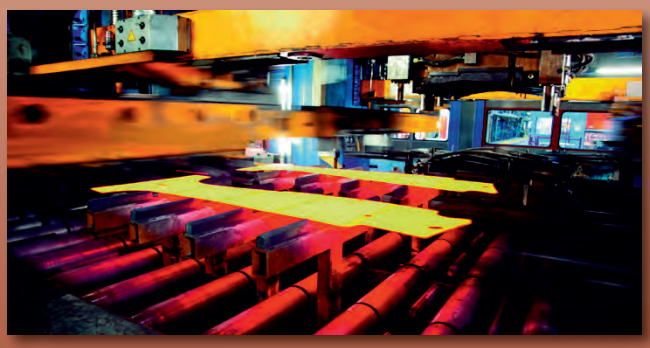
How to order · Ejemplo de pedido

TPMCA 12000 x 15 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained







Hot forming tool Stop-cylinders

Code	Strokes mm	Fa daN	
TPHFA 1500	25 - 125	1500	√
TPHFB 1500	25 - 125	1500	√
TPHFA 3000	25 - 125	3000	√
TPHFB 3000	25 - 125	3000	√
TPHFA 4500	25 - 125	4500	√
TPHFB 4500	25 - 125	4500	√
TPHFA 6500	25 - 125	6500	√
TPHFB 6500	25 - 125	6500	√

From the very beginning, automotive industry engineers are always working to find new ways to manufacture stronger, safer and more aerodynamic cars. Another of their goals is to reduce weight



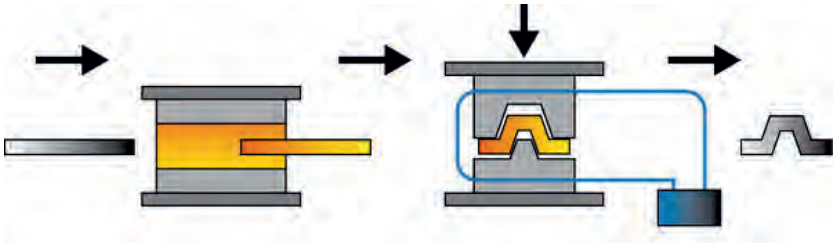
Hot forming is a new innovative process for producing automobile structural parts, providing cars with two main features:

- Parts with the required safety characteristics.
- Significant weight reduction in comparison with the traditional cold forming process, which directly brings about low fuel consumption.

After a few decades developing this hot-forming technology, at present many car parts are made using this process, especially components with high-strength-requirement parts such as bumper supports, floor reinforcements and door reinforcements.

Hot forming processes:

- Shape the part by means of traditional stamping.
- Heat up the part in a furnace (around 900-950º)
- Produce parts by means of deep drawing.
- Quickly cool the part in the tool. The tool is equipped with cooling systems.



Hot-forming enviroment:
Because of the process described above, the environment of hot-forming activities takes place in very harsh conditions of liquid and solid pollution and corrosion. As is widely known, such harsh conditions are really demanding for gas spring technology. The service life of a standard gas spring in such conditions is usually very short.

TECAPRES technicians have determined the nature of the specific problem and have worked hard to provide solutions to our customers. It is now a pleasure for us to be able to introduce a especial line of products designed to work even in hot-forming processes in our program. These solutions have considerable advantages:

- Savings in costs.
- An increase in productivity.
- Total interchangeability with current products.



- ✓ **Sealed rod protection cap**
- ✓ **Chromed stem**
- ✓ **Designed to work in any position**
- ✓ **Compact system (reduced space for installation)**
- ✓ **Slow return stroke**
- ✓ **Variable stroke stop, between 1 to 90% of stop-cylinder working stroke**
- ✓ **No cooling system required**
- ✓ **Easy installation, BUY and MOUNT**
- ✓ **110V AC, 220V AC and 24VDC operation**
- ✓ **Safety features**

VDI SAFETY

Operation graph

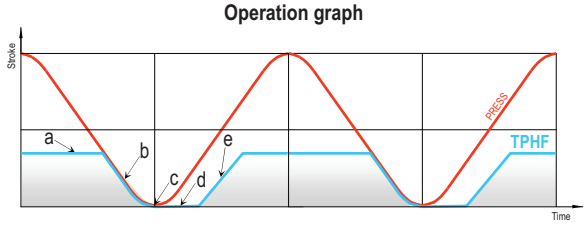


Figure a

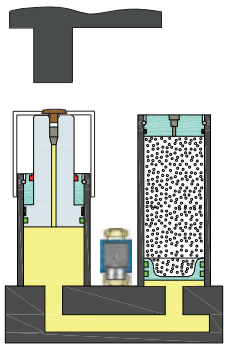


Figure b

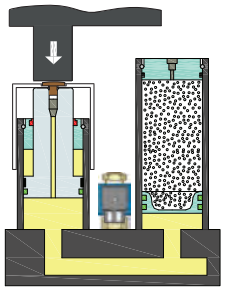


Figure c

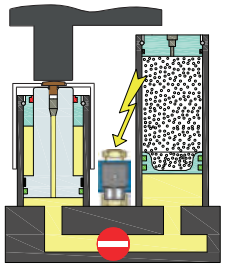


Figure d



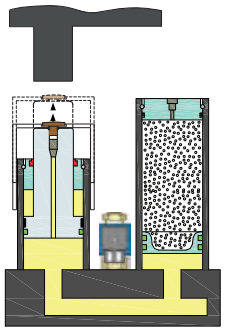
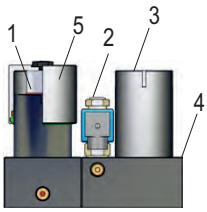
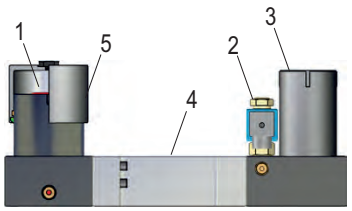


Figure e

Components description



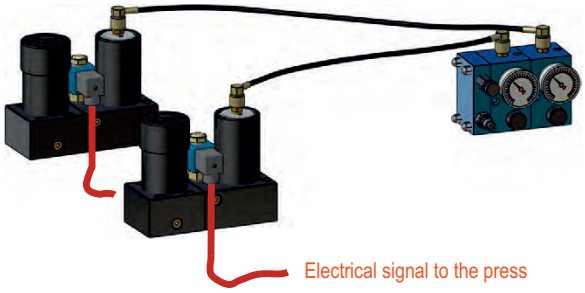
Compact application

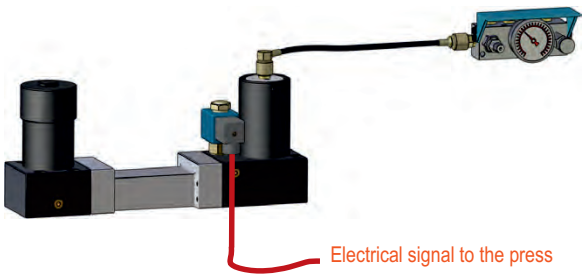


Modular application

① Working cylinder
② Hydraulic valve
③ Pressure accumulation cylinder
④ Aluminium Block
⑤ Rod sealed protection cap

Example of an application connected to a control panel

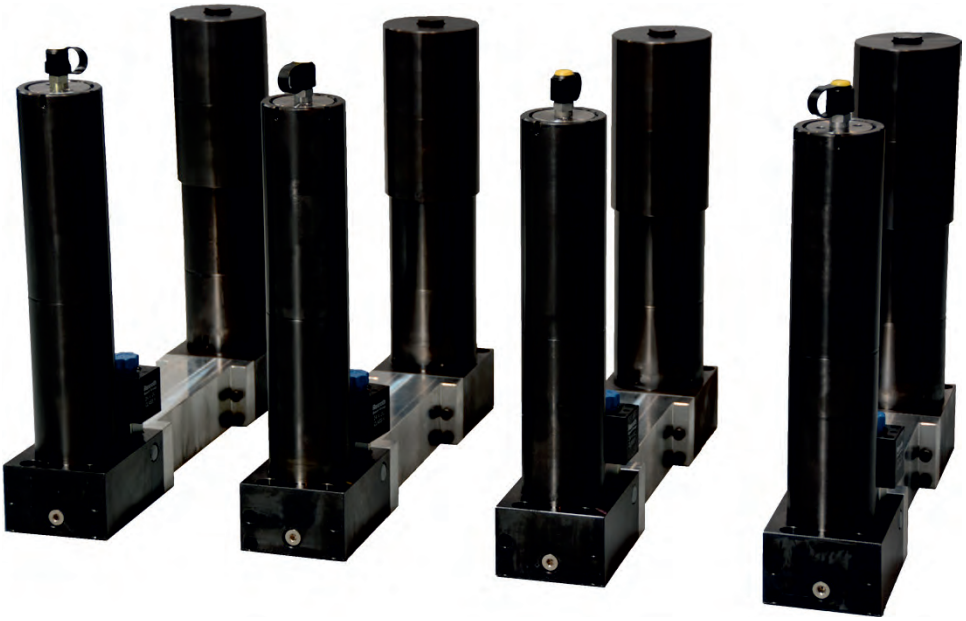


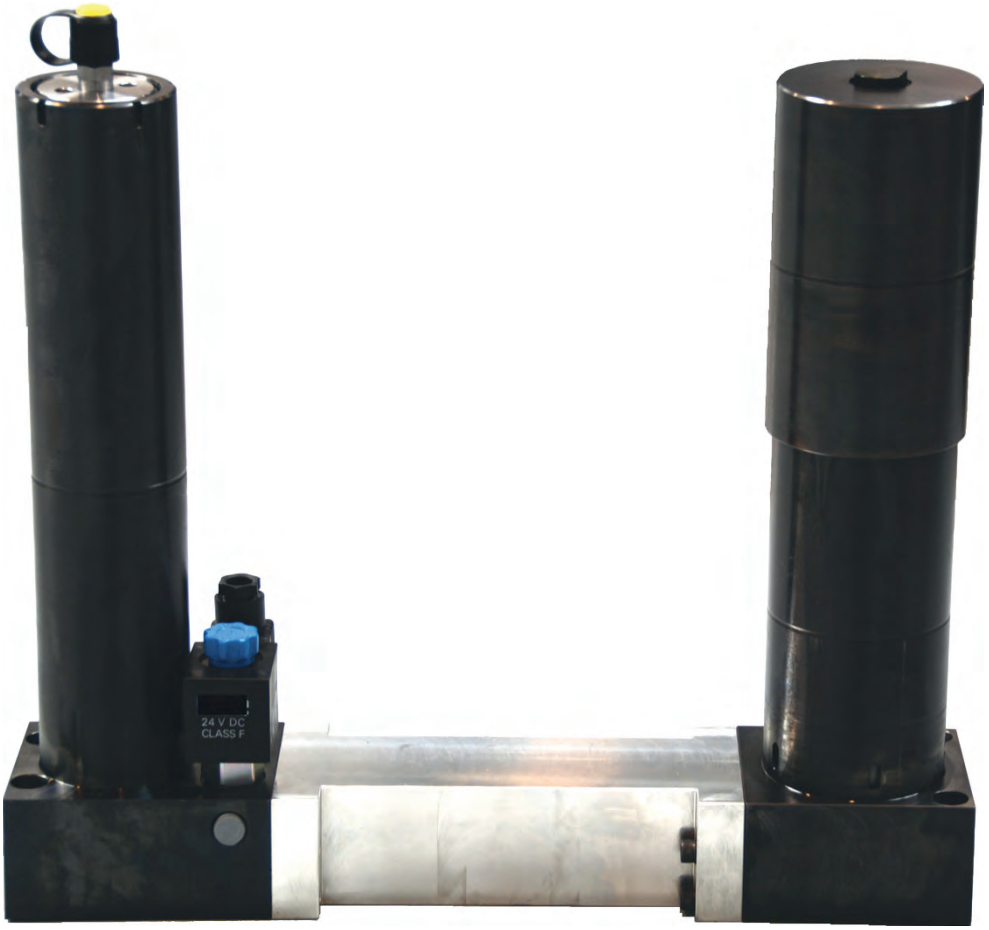




Hydraulic valve - Technical information

Hydraulic valve	E 24	E 110	E 220
Supply voltage	24 VDC	110 VAC	220 VAC
Power consumption	17w	17w	17w




24 V DC
CLASS F

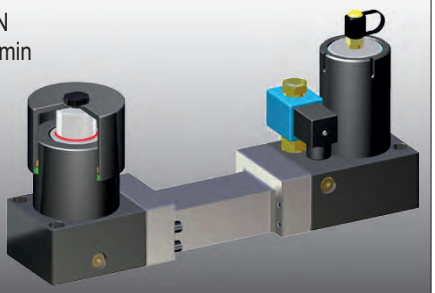
TPHFA 1500

Fa. initial: 1500 daN
Stem speed: 15 m/min
Press rate: 10 spm



TPHFB 1500

Fa. initial: 1500 daN
Stem speed: 15 m/min
Press rate: 10 spm



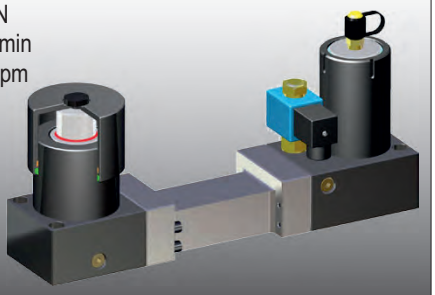
TPHFA 3000

Fa. initial: 3000 daN
Stem speed: 14 m/min
Press rate: 10 spm



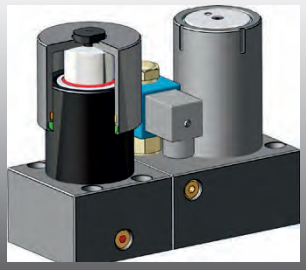
TPHFB 3000

Fa. initial: 3000 daN
Stem speed: 14 m/min
Press rate: 6 - 10 spm



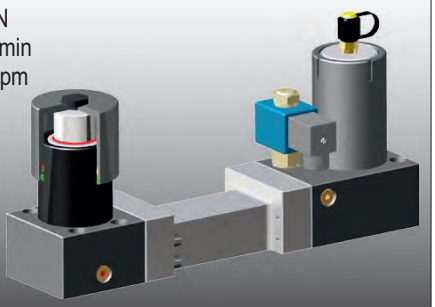
TPHFA 4500

Fa. initial: 4500 daN
Stem speed: 18 m/min
Press rate: 10 spm



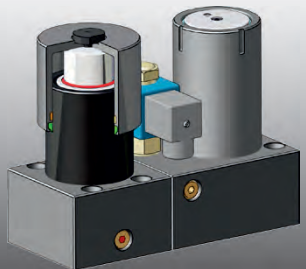
TPHFB 4500

Fa. initial: 4500 daN
Stem speed: 18 m/min
Press rate: 6 - 10 spm



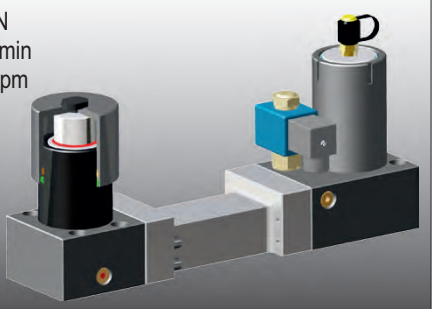
TPHFA 6500

Fa. initial: 6500 daN
Stem speed: 12 m/min
Press rate: 10 spm

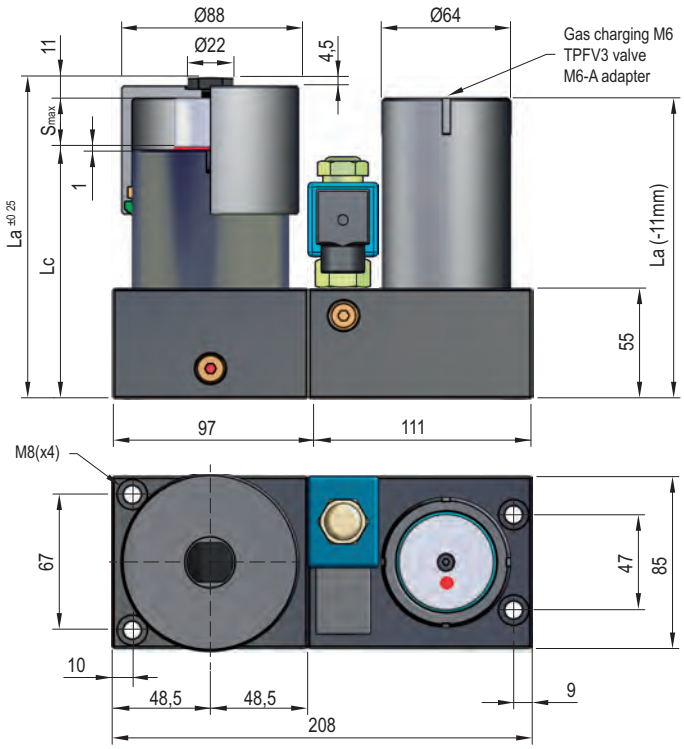


TPHFB 6500

Fa. initial: 6500 daN
Stem speed: 12 m/min
Press rate: 6 - 10 spm









The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFA 1500x25	25	161	125	1500 ±5% (20ºC)	1610	1630	90 (20ºC)
TPHFA 1500x50	50	211	150		1675	1705	
TPHFA 1500x80	80	271	180		1710	1750	
TPHFA 1500x100	100	311	200		1725	1765	
TPHFA 1500x125	125	361	225		1740	1785	
(Other strokes under order)							

Required information

Working stroke	***(mm)***
Press speed	***(m/min)***
Maximum press rate	***(spm)***

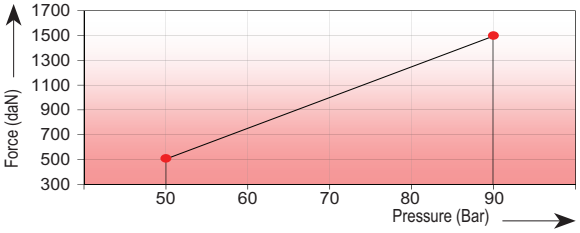
* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**90 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**15,90 cm²**
Operating temperature	**0ºC - 60ºC**
Force increase by temperature	**0,33 %/ºC**
Max. stem speed	**15 m/min**
Max. recommended strokes/min	**10 spm**

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Initial force/charging pressure ratio

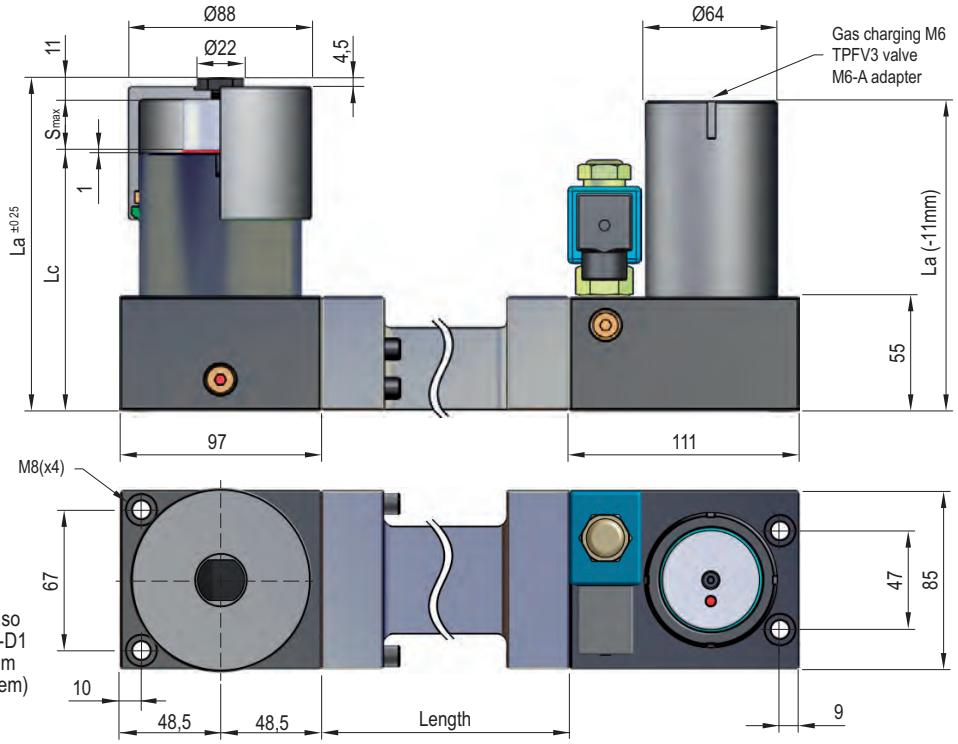


How to order

TPHFA 1500 x 12 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained







The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFB 1500x25	25	161	125	1500 ±5%) (20ºC)	1610	1630	90 (20ºC)
TPHFB 1500x50	50	211	150		1675	1705	
TPHFB 1500x80	80	271	180		1710	1750	
TPHFB 1500x100	100	311	200		1725	1765	
TPHFB 1500x125	125	361	225		1740	1785	
(Other strokes under order)							

Required information

Working stroke	***(mm)***
Press speed	***(m/min)***
Maximum press rate	***(spm)***

* Maximum rate will depend on working parameters

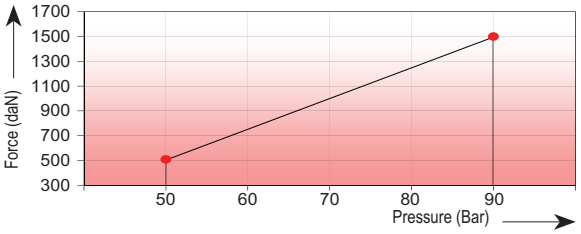
Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**90 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**15,90 cm²**
Operating temperature	**0ºC - 60ºC**
Force increase by temperature	**0,33 %/ºC**
Max. stem speed	**15 m/min**
Max. recommended strokes/min	**10 spm**

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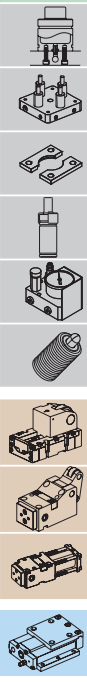


Initial force/charging pressure ratio

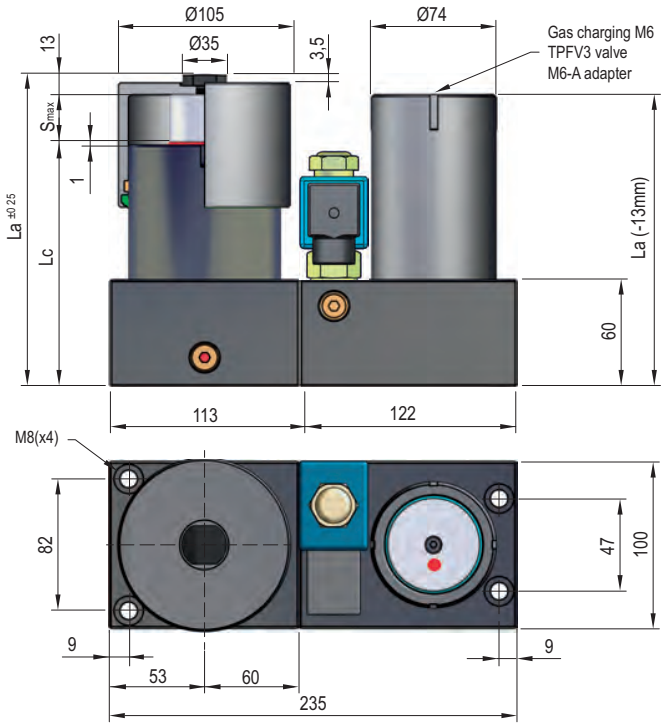


How to order

TPHFB 1500	x	80	-	E24	-	C	-	L=275
Model		Stroke		Hydraulic valve		C - Linked system NC - Self contained		Length









The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFA 3000x25	25	179	141	3000 ±5% (20ºC)	3370	3425	105 (20ºC)
TPHFA 3000x50	50	229	166		3545	3620	
TPHFA 3000x80	80	289	196		3655	3750	
TPHFA 3000x100	100	329	216		3700	3805	
TPHFA 3000x125	125	379	241		3745	3855	
(Other strokes under order)							

Required information

Working stroke	***(mm)***
Press speed	***(m/min)***
Maximum press rate	***(spm)***

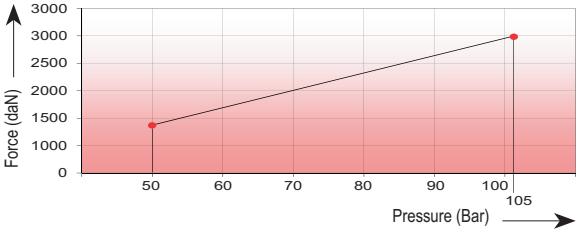
* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**105 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**28,27 cm²**
Operating temperature	**0ºC - 60ºC**
Force increase by temperature	**0,33 %/ºC**
Max. stem speed	**14 m/min**
Max. recommended strokes/min	**10 spm**

PED 2014/68/UE



Initial force/charging pressure ratio

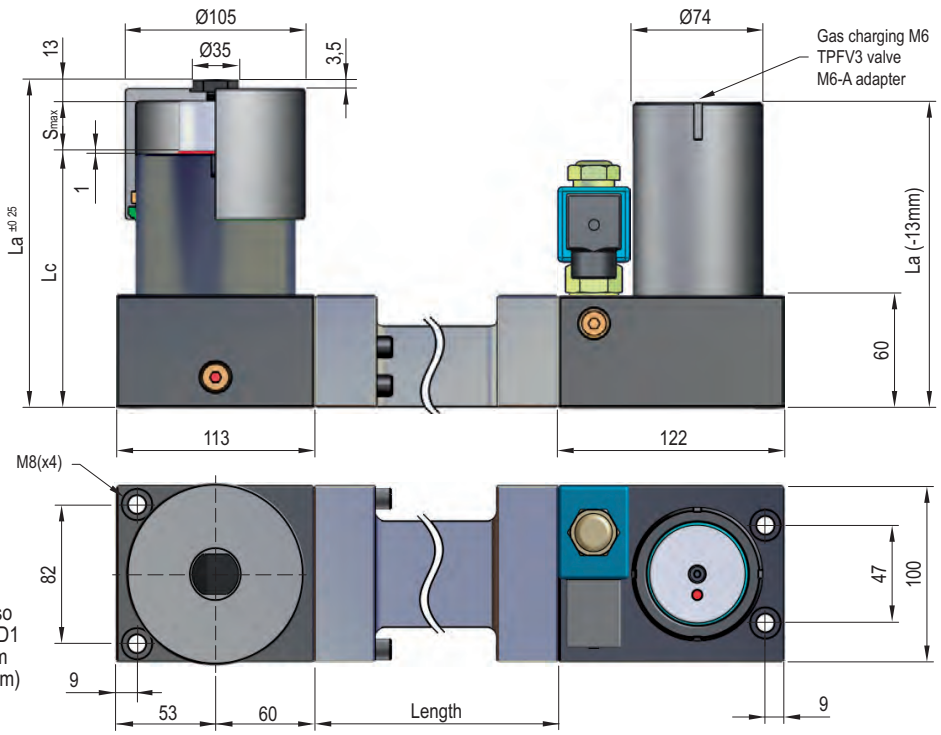


How to order

TPHFA 3000 x 38 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained







The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFB 3000x25	25	179	141	3000 ±5% (20ºC)	3370	3425	105 (20ºC)
TPHFB 3000x50	50	229	166		3545	3620	
TPHFB 3000x80	80	289	196		3655	3750	
TPHFB 3000x100	100	329	216		3700	3805	
TPHFB 3000x125	125	379	241		3745	3855	
(Other strokes under order)							

Required information

Working stroke	***(mm)***
Press speed	***(m/min)***
Maximum press rate	***(spm)***

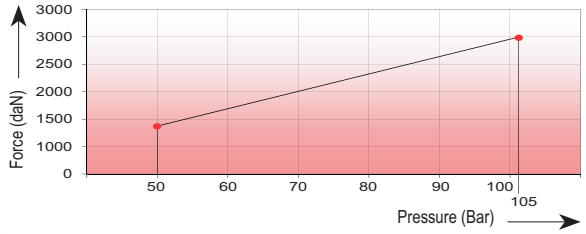
* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**105 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**28,27 cm²**
Operating temperature	**0ºC - 60ºC**
Force increase by temperature	**0,33 %/ºC**
Max. stem speed	**14 m/min**
Max. recommended strokes/min	**6 - 10 spm**

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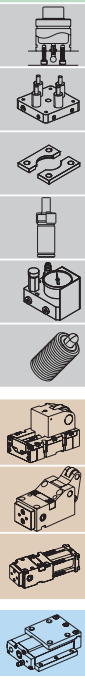
Initial force/charging pressure ratio



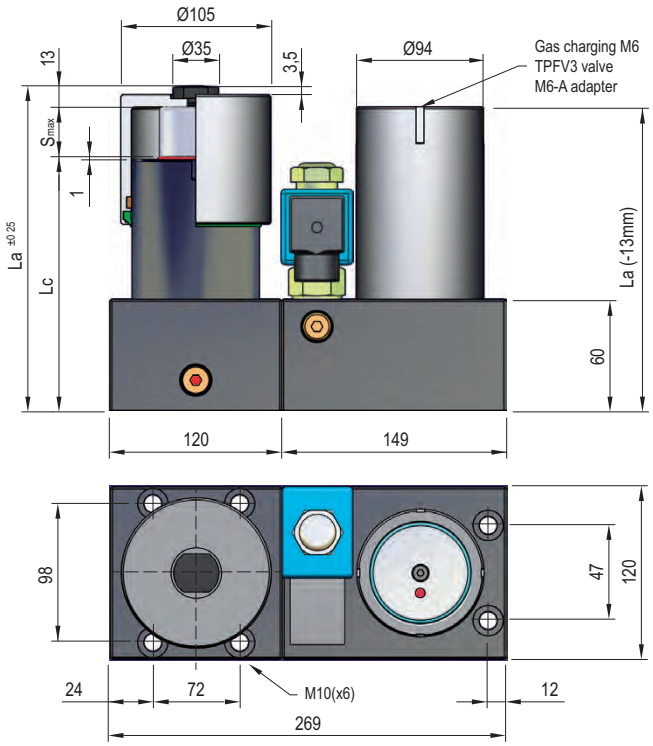
How to order

TPHFB 3000	x	50	-	E24	-	NC	-	L=150
Model		Stroke		Hydraulic valve		C - Linked system NC - Self contained		Length

HOT FORMING
TPHT
TPSL









The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFA 4500x25	25	179	141	4500 ±5% (20ºC)	4815	4890	150 (20ºC)
TPHFA 4500x50	50	229	166		5065	5175	
TPHFA 4500x80	80	289	196		5220	5355	
TPHFA 4500x100	100	329	216		5285	5435	
TPHFA 4500x125	125	379	241		5345	5505	
(Other strokes under order)							

Required information

Working stroke	***(mm)***
Press speed	***(m/min)***
Maximum press rate	***(spm)***

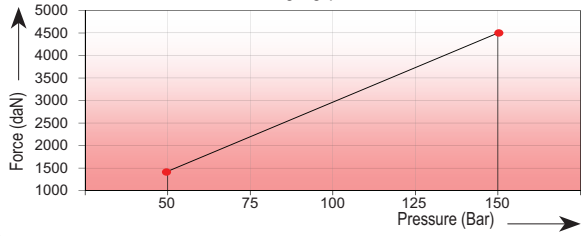
* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**150 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**28,27 cm²**
Operating temperature	**0ºC - 60ºC**
Force increase by temperature	**0,33 %/ºC**
Max. stem speed	**18 m/min**
Max. recommended strokes/min	**10 spm**

PED 2014/68/UE



Initial force/charging pressure ratio

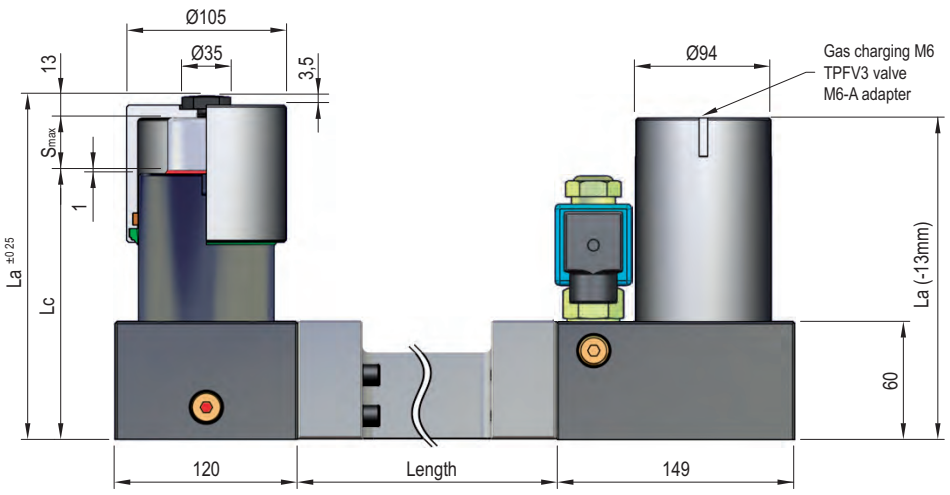


How to order

TPHFA 4500 x 125 - E24 - NC

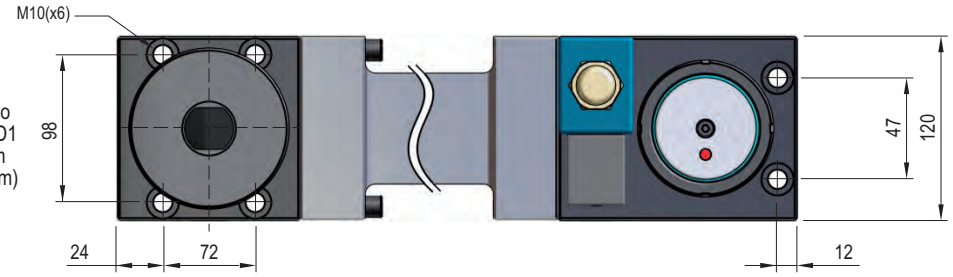
Model	Stroke	Hydraulic valve	**C** - Linked system **NC** - Self contained







The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFB 4500x25	25	179	141	4500 ±5% (20ºC)	4815	4890	150 (20ºC)
TPHFB 4500x50	50	229	166		5065	5175	
TPHFB 4500x80	80	289	196		5220	5355	
TPHFB 4500x100	100	329	216		5285	5435	
TPHFB 4500x125	125	379	241		5345	5505	
(Other strokes under order)							

Required information

Working stroke	***(mm)***
Press speed	***(m/min)***
Maximum press rate	***(spm)***

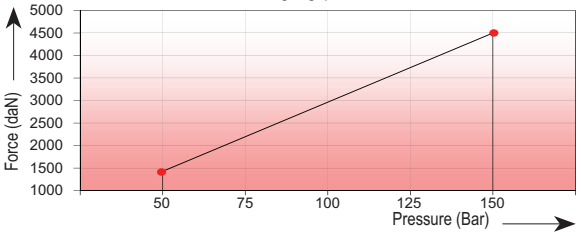
* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**150 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**28,27 cm²**
Operating temperature	**0ºC - 60ºC**
Force increase by temperature	**0,33 %/ºC**
Max. stem speed	**18 m/min**
Max. recommended strokes/min	**6 - 10* spm**

PED 2014/68/UE



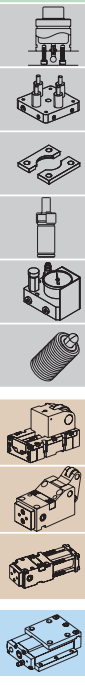
Initial force/charging pressure ratio



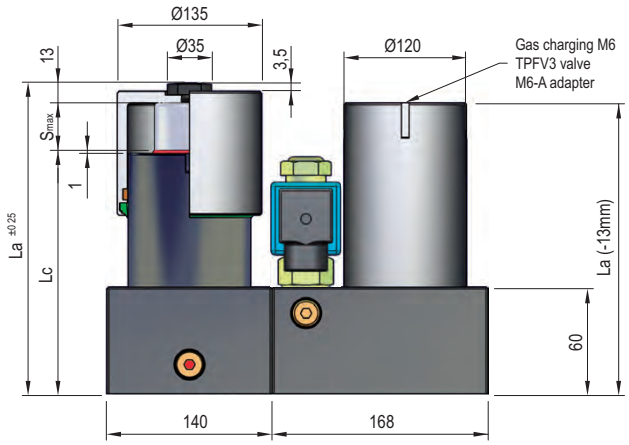
How to order

TPHFB 4500	x	25	-	E24	-	NC	-	L=250
Model		Stroke		Hydraulic valve		C - Linked system NC - Self contained		Length

HOT FORMING
TPHT
TPSL

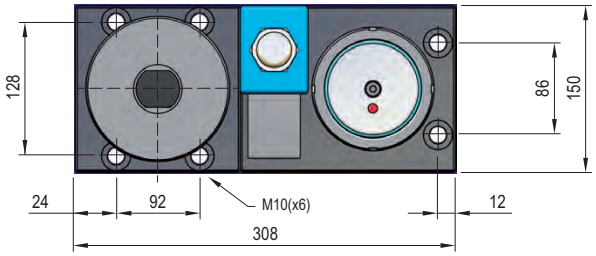








The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFA 6500x25	25	191	153	6500 ±5% (20ºC)	7465	7570	150 (20ºC)
TPHFA 6500x50	50	241	178		7845	8010	
TPHFA 6500x80	80	301	208		8095	8305	
TPHFA 6500x100	100	341	228		8205	8430	
TPHFA 6500x125	125	391	253		8305	8545	
(Other strokes under order)							

Required information

Working stroke	***(mm)***
Press speed	***(m/min)***
Maximum press rate	***(spm)***

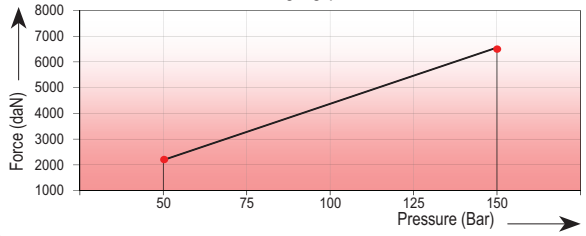
* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**150 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**44,18 cm²**
Operating temperature	**0ºC - 60ºC**
Force increase by temperature	**0,33 %/ºC**
Max. stem speed	**12 m/min**
Max. recommended strokes/min	**10* spm**

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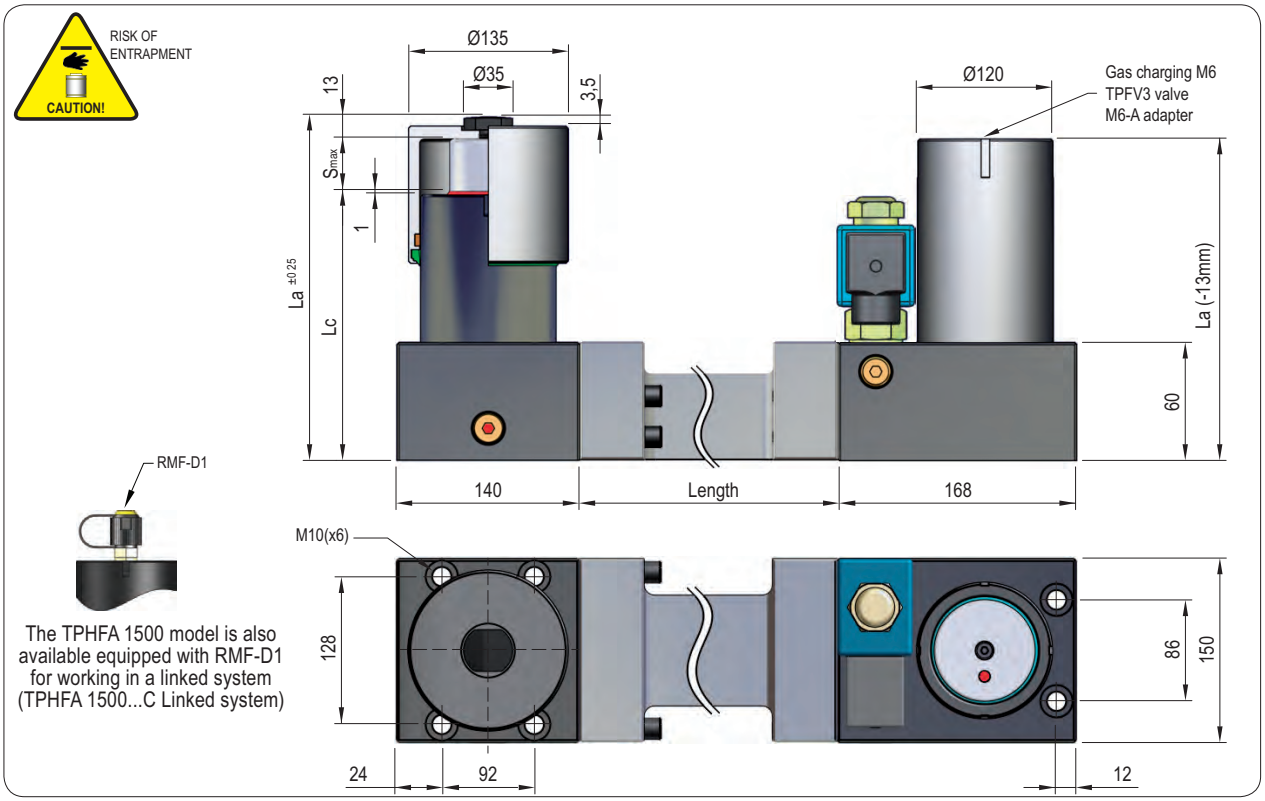


Initial force/charging pressure ratio



How to order · Ejemplo de pedido

TPHFA 6500	x	38	-	E110	-	C
Model		Stroke		Hydraulic valve		**C** - Linked system **NC** - Self contained



The TPHFA 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 1500...C Linked system)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPHFB 6500x25	25	191	153	6500 ±5% (20°C)	7465	7570	150 (20°C)
TPHFB 6500x50	50	241	178		7845	8010	
TPHFB 6500x80	80	301	208		8095	8305	
TPHFB 6500x100	100	341	228		8205	8430	
TPHFB 6500x125	125	391	253		8305	8545	
(Other strokes under order)							

Required information

Working stroke	*(mm)*
Press speed	*(m/min)*
Maximum press rate	*(spm)*

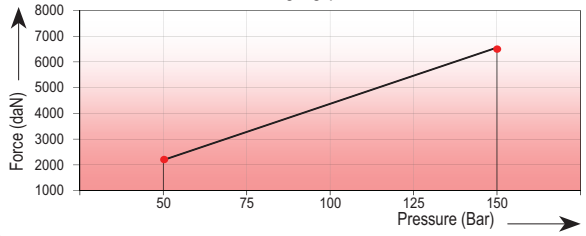
* Maximum rate will depend on working parameters

Pressure medium	**Gas Nitrógeno (N_2) / Oil**
Max. charging pressure	**150 Bar**
Min. charging pressure	**50 Bar**
Rod seal area	**44,18 cm²**
Operating temperature	**0°C - 60°C**
Force increase by temperature	**0,33 %/°C**
Max. stem speed	**12 m/min**
Max. recommended strokes/min	**6 - 10* spm**

PED 2014/68/UE

VDI SAFETY

Initial force/charging pressure ratio



How to order · Ejemplo de pedido

TPHFB 6500	x	125	-	E24	-	NC	-	L=300
Model		Stroke		Hydraulic valve		C - Linked system NC - Self contained		Length

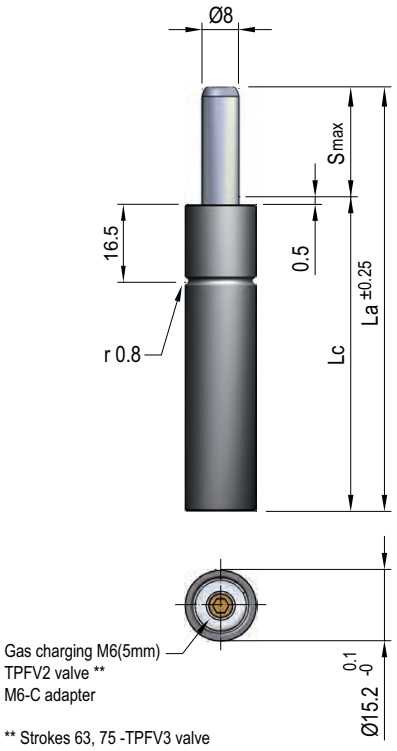




- Maximum operating temperature: 120ºC / 248ºF
- Product in stock
- Adjustable range of forces
- Chromed stem

Gas springs for high temperature applications

Code	ØBody mm	Strokes mm	Fa daN		ACTIVE SAFETY	Up to 120ºC
TPHT 15	15	7 - 75	40	√	√	√
TPHT 25	25	7 - 80	125	√	√	√
TPHT 32	32	10 - 80	200	√	√	√
TPHT 38	38	10 - 80	300	√	√	√
TPHT 45	45	13 - 80	400	√	√	√
TPHT 50	50	13 - 80	500	√	√	√



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	80 Bar
Min. charging pressure	20 Bar
Rod seal area	0,50 cm²
Operating temperature	0ºC - 120ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT15
Max. strokes / min	10 - 15 spm
Life service	300.000 ÷ 500.000 strokes

PED 2014/68/UE

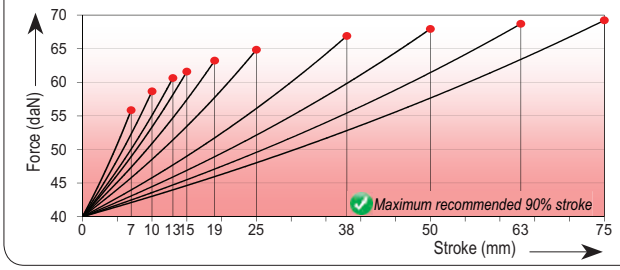




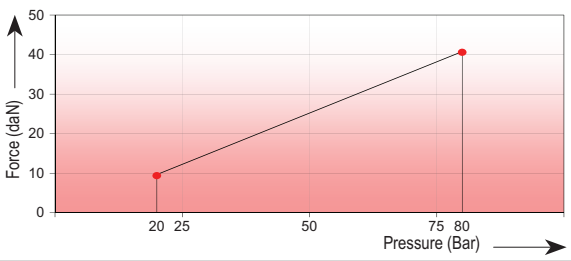
Designed to work up to a maximum of 120ºC, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPHT 15x7	7	56	49		55	55		0,001	0,07
TPHT 15x10	10	62	52		55	60		0,002	0,07
TPHT 15x13	13	68	55		60	60		0,002	0,08
TPHT 15x15	15	72	57		60	60		0,002	0,08
TPHT 15x19	19	80	61	40 ±5%	60	65	80	0,003	0,09
TPHT 15x25	25	92	67	(20ºC)	60	65	(20ºC)	0,003	0,09
TPHT 15x38	38	118	80		65	65		0,005	0,10
TPHT 15x50	50	142	92		65	70		0,006	0,11
TPHT 15x63	63	172	109		65	70		0,008	0,12
TPHT 15x75	75	195	120		65	70		0,009	0,14

Force/stroke ratio



Initial force/charging pressure ratio

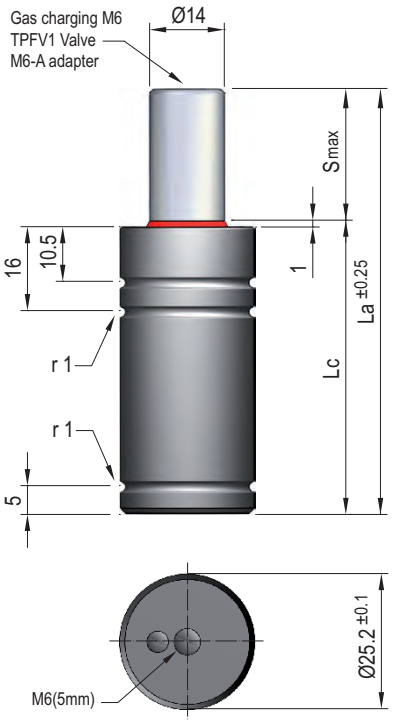


Assembly possibilities



TPGAS 07 01-2018

TPHT 25



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	80 Bar
Min. charging pressure	25 Bar
Rod seal area	1,54 cm²
Operating temperature	0ºC - 120ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT25
Max. strokes / min	10 - 25 spm
Life service	300.000 ÷ 500.000 strokes

PED 2014/68/UE

Up to 120ºC

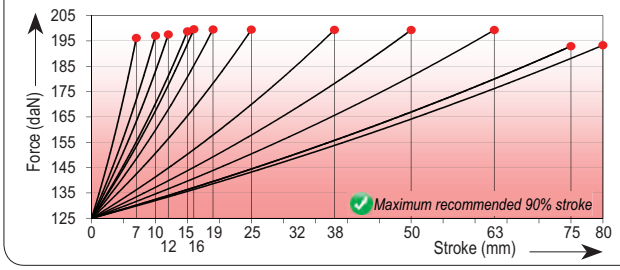
VDI SAFETY

FOR HIGH Temperature
Up to 120ºC

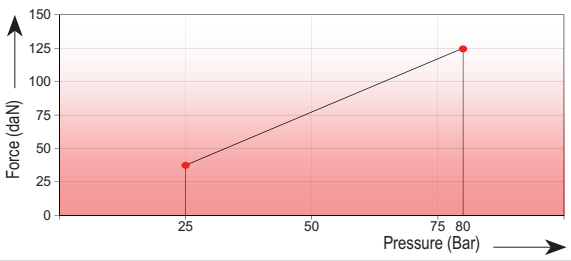
Designed to work up to a maximum of 120ºC, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPHT 25x7	7	44	37	125 ±5% (20ºC)	185	195	80 (20ºC)	0,003	0,08
TPHT 25x10	10	50	40		185	195		0,004	0,10
TPHT 25x12	12	54	42		185	195		0,005	0,10
TPHT 25x15	15	60	45		185	195		0,006	0,11
TPHT 25x16	16	62	46		185	195		0,007	0,11
TPHT 25x19	19	68	49		185	195		0,008	0,12
TPHT 25x25	25	80	55		185	195		0,010	0,13
TPHT 25x32	32	94	62		185	195		0,013	0,14
TPHT 25x38	38	106	68		185	195		0,016	0,15
TPHT 25x50	50	130	80		185	195		0,021	0,17
TPHT 25x63	63	156	93		185	195		0,026	0,20
TPHT 25x75	75	185	110		180	190		0,033	0,21
TPHT 25x80	80	195	115		180	190		0,035	0,23

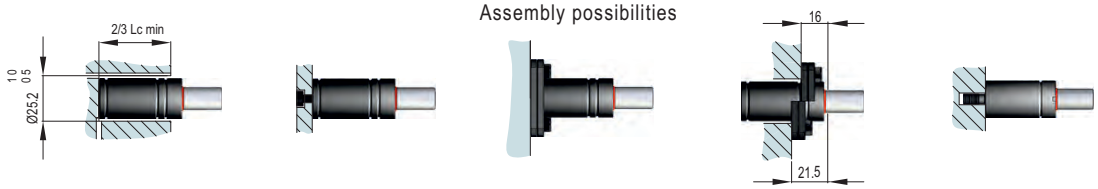
Force/stroke ratio



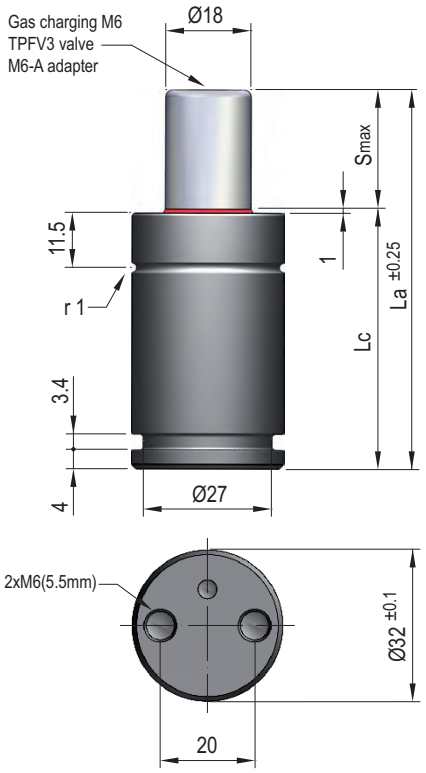
Initial force/charging pressure ratio



Assembly possibilities



TPGAS 07 01-2018



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	80 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm²
Operating temperature	0ºC - 120ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT32
Max. strokes / min	10 - 20 spm
Life service	300.000 ÷ 500.000 strokes

PED 2014/68/UE





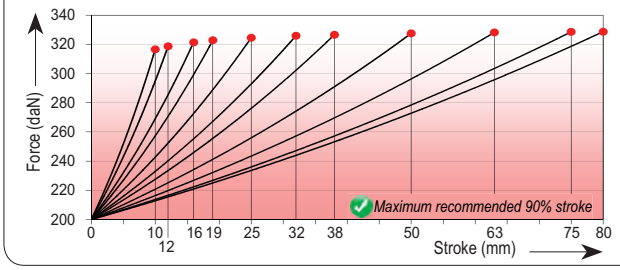




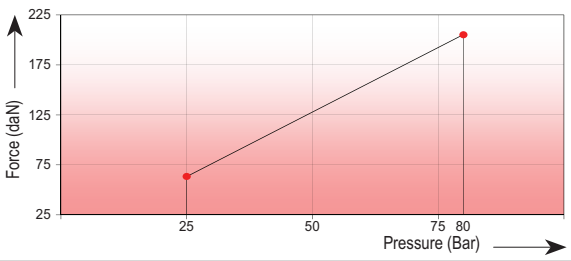
Designed to work up to a maximum of 120ºC, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPHT 32x10	10	50	40	200 ±5% (20ºC)	305	320	80 (20ºC)	0,007	0,16
TPHT 32x12	12	54	42		305	325		0,008	0,17
TPHT 32x16	16	62	46		310	325		0,011	0,18
TPHT 32x19	19	68	49		310	330		0,013	0,19
TPHT 32x25	25	80	55		310	330		0,017	0,20
TPHT 32x32	32	94	62		310	330		0,021	0,22
TPHT 32x38	38	106	68		315	330		0,025	0,24
TPHT 32x50	50	130	80		315	335		0,033	0,28
TPHT 32x63	63	156	93		315	335		0,041	0,33
TPHT 32x75	75	180	105		315	335		0,049	0,36
TPHT 32x80	80	190	110		315	335		0,052	0,38

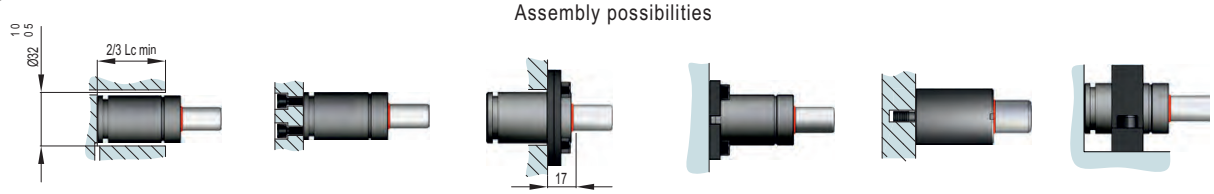
Force/stroke ratio



Initial force/charging pressure ratio

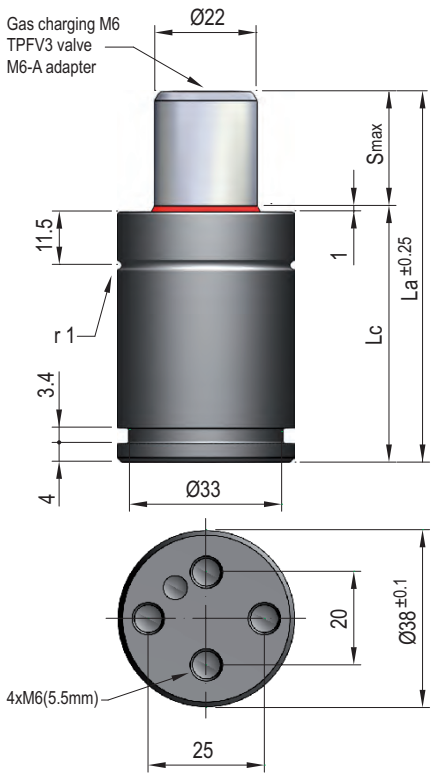


Assembly possibilities



TPGAS 07 01-2018

TPHT 38



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0ºC - 120ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT38
Max. strokes / min	10 - 20 spm
Life service	300.000 ÷ 500.000 strokes

PED 2014/68/UE

Up to 120ºC

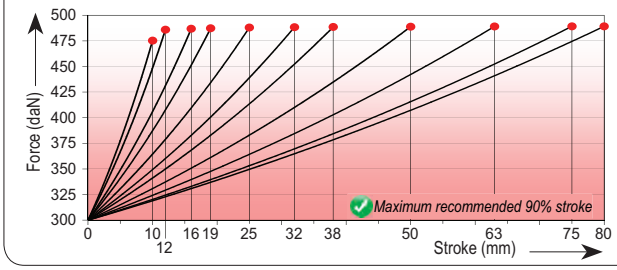
VDI SAFETY

FOR HIGH Temperature
Up to 120ºC

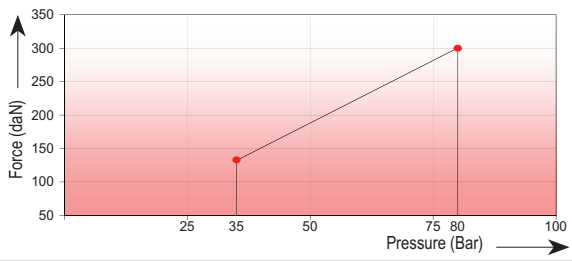
Designed to work up to a maximum of 120ºC, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPHT 38x10	10	50	40	300 ±5% (20ºC)	455	480	80 (20ºC)	0,010	0,26
TPHT 38x12	12	54	42		465	495		0,012	0,27
TPHT 38x16	16	62	46		465	495		0,016	0,28
TPHT 38x19	19	68	49		465	495		0,019	0,30
TPHT 38x25	25	80	55		465	495		0,025	0,33
TPHT 38x32	32	94	62		465	495		0,032	0,35
TPHT 38x38	38	106	68		465	495		0,037	0,39
TPHT 38x50	50	130	80		465	495		0,049	0,43
TPHT 38x63	63	156	93		465	495		0,062	0,48
TPHT 38x75	75	180	105		465	495		0,074	0,51
TPHT 38x80	80	190	110		465	495		0,079	0,55

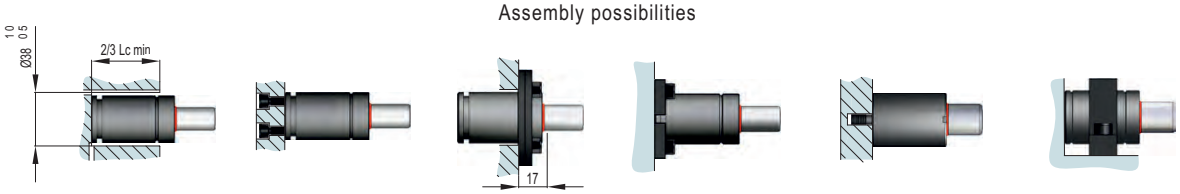
Force/stroke ratio



Initial force/charging pressure ratio

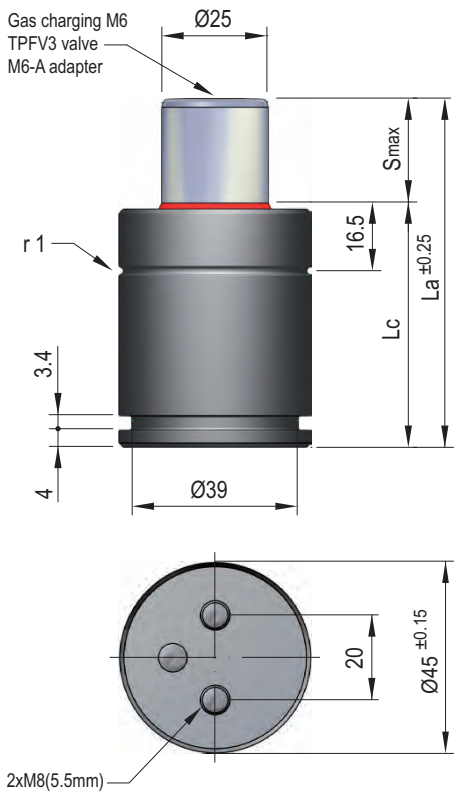


Assembly possibilities



FS 38 FSC 38 | FP 38 FPR 38 | TPHT 38R | FI 38 FI 38/1

TPHT
TPSL



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm^2
Operating temperature	0ºC - 120ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT45
Max. strokes / min	10 - 25 spm
Life service	300.000 ÷ 500.000 strokes

PED 2014/68/UE





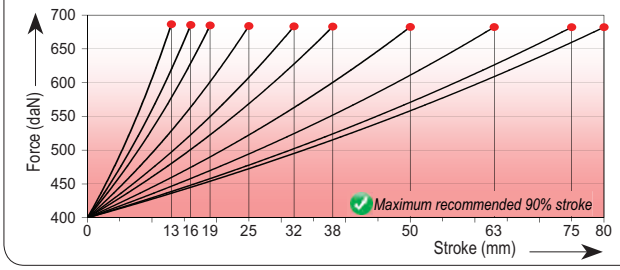




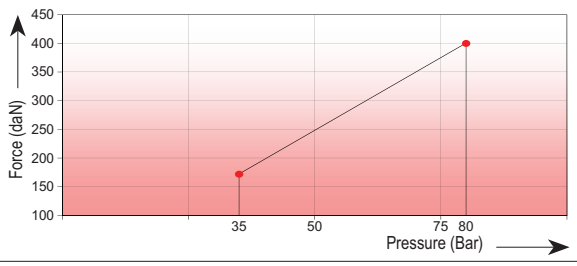
Designed to work up to a maximum of 120ºC, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPHT 45x13	13	58	45	400 ±5% (20ºC)	630	675	80 (20ºC)	0,015	0,35
TPHT 45x16	16	64	48		630	675		0,019	0,39
TPHT 45x19	19	70	51		630	670		0,022	0,40
TPHT 45x25	25	82	57		625	670		0,030	0,44
TPHT 45x32	32	96	64		625	670		0,038	0,47
TPHT 45x38	38	108	70		625	670		0,045	0,50
TPHT 45x50	50	132	82		625	670		0,059	0,59
TPHT 45x63	63	158	95		625	670		0,075	0,65
TPHT 45x75	75	182	107		625	670		0,089	0,80
TPHT 45x80	80	192	112		625	670		0,095	0,85

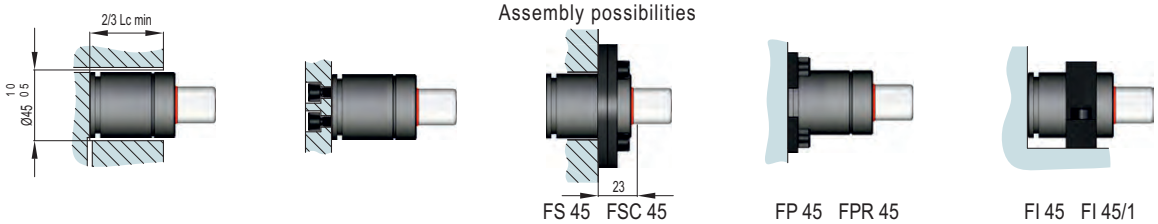
Force/stroke ratio



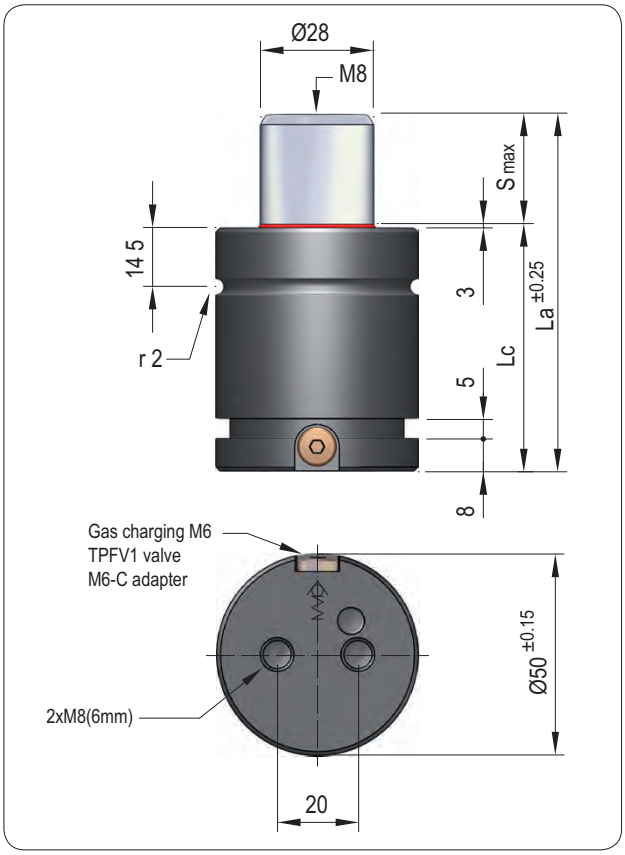
Initial force/charging pressure ratio



Assembly possibilities



TPHT 50



Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0ºC - 120ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT50
Life service	300.000 ÷ 500.000 strokes

PED 2014/68/UE





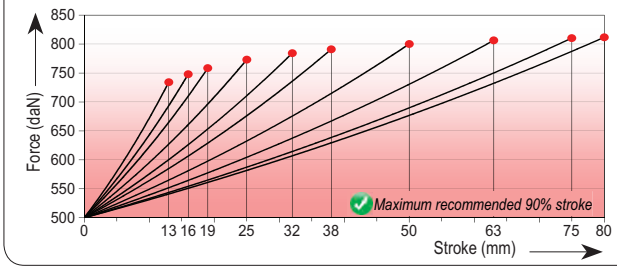




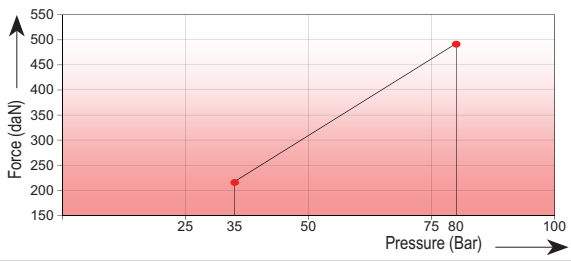
Designed to work up to a maximum of 120ºC, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPHT 50x13	13	64	51	500 ±5% (20ºC)	690	725	80 (20ºC)	0,025	0,53
TPHT 50x16	16	70	54		700	735		0,030	0,55
TPHT 50x19	19	76	57		710	745		0,034	0,58
TPHT 50x25	25	88	63		720	760		0,044	0,62
TPHT 50x32	32	102	70		730	775		0,054	0,67
TPHT 50x38	38	114	76		735	780		0,064	0,72
TPHT 50x50	50	138	88		745	790		0,082	0,82
TPHT 50x63	63	164	101		750	795		0,102	0,93
TPHT 50x75	75	188	113		750	800		0,121	1,10
TPHT 50x80	80	198	118		755	800		0,128	1,15

Force/stroke ratio

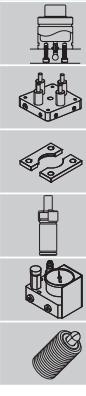


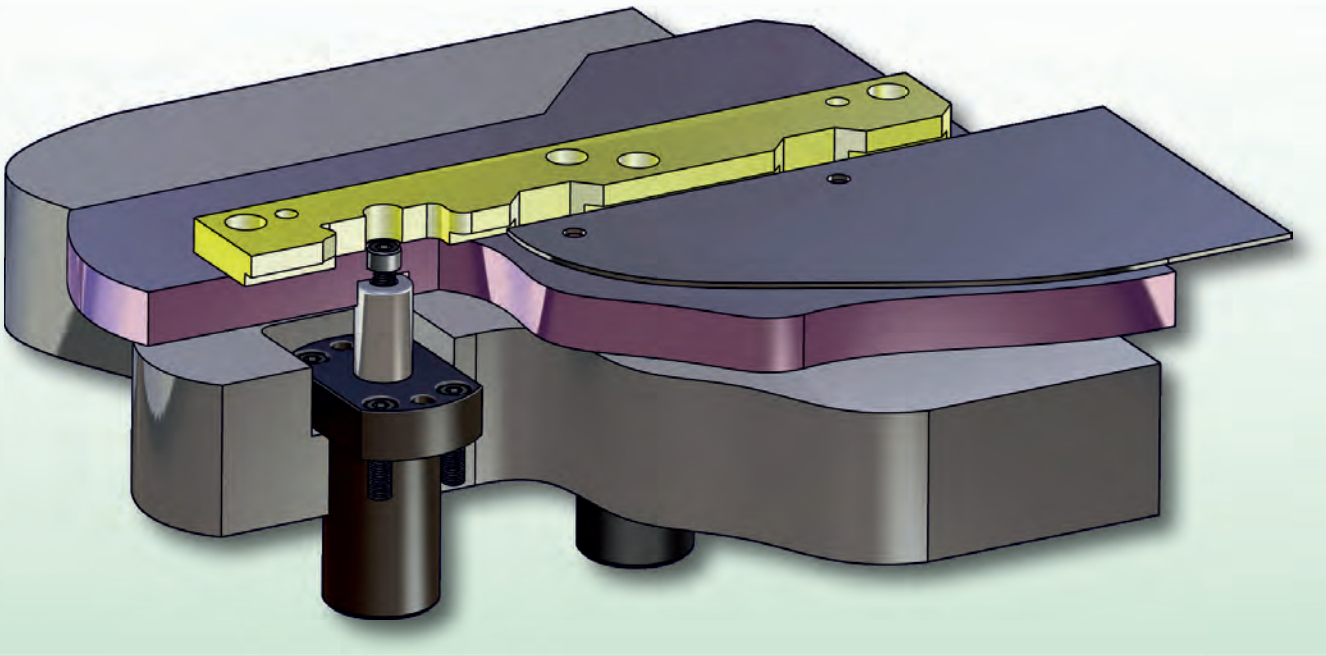
Initial force/charging pressure ratio



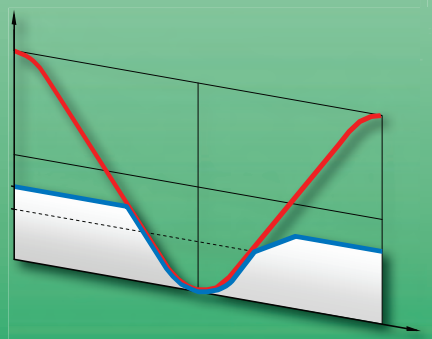
Assembly possibilities







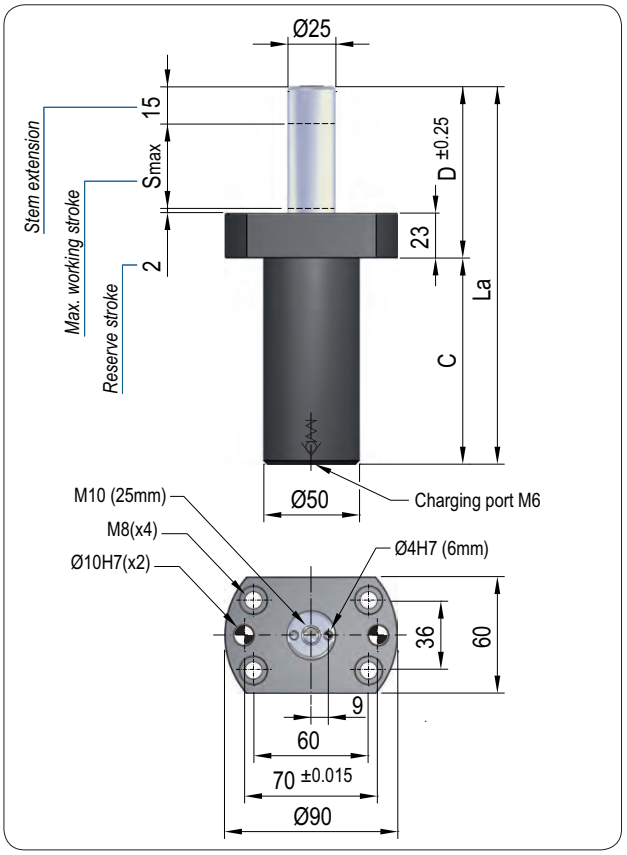




► Special cushioning feature

Gas spring lifters

Code	ØBody mm	Strokes mm	Fa daN	
TPSL 250	50	25 - 160	250	
TPSLR 250	50	25 - 160	250	✓

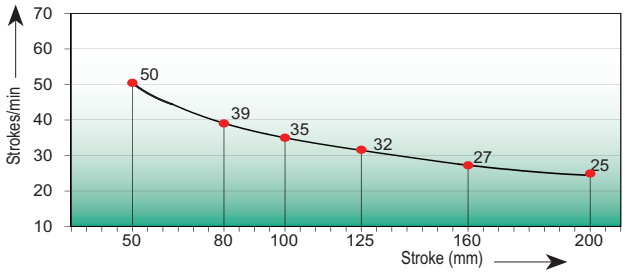


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	50 Bar
Min. charging pressure	25 Bar
Rod seal area	4,91 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,6 m/s
Maintenance kit	Kit SL250

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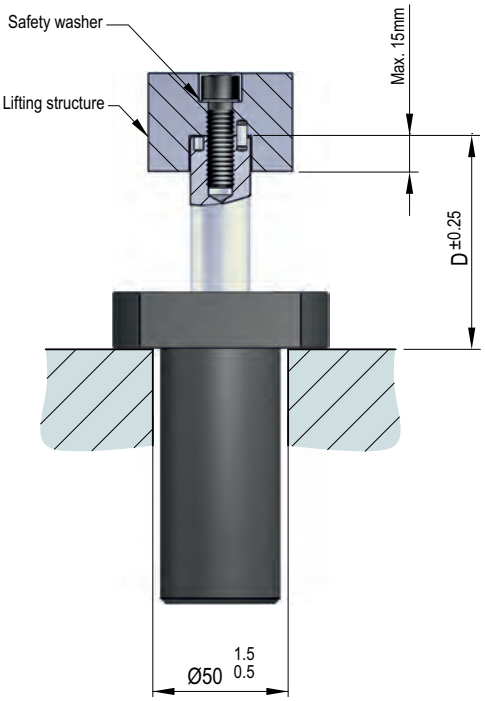
VDI SAFETY

Maximum strokes / minute



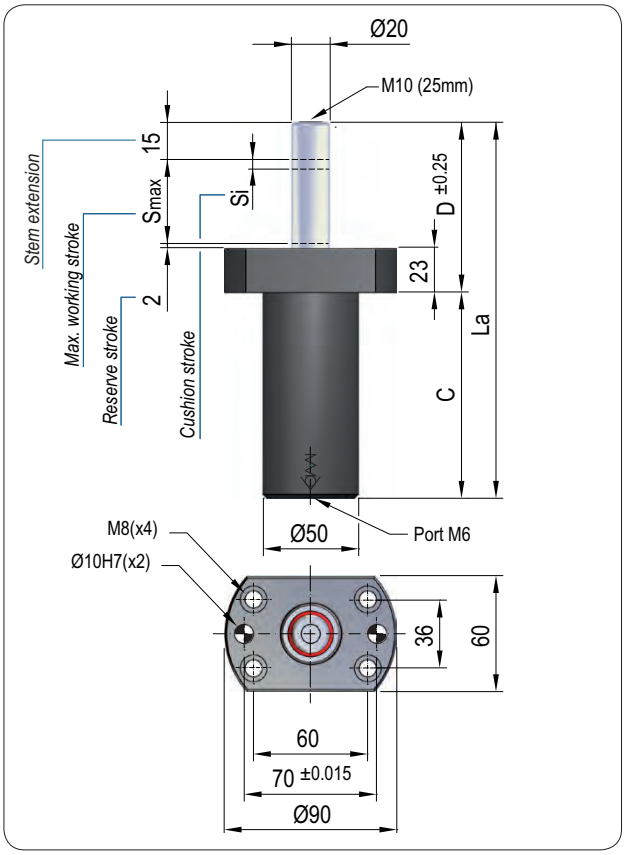
Code	Smax mm	La mm	C mm	D mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l
TPSL 250x50	50	197	107	90		365	385		0,068
TPSL 250x80	80	257	137	120		370	390		0,106
TPSL 250x100	100	297	157	140	250 ±5%	370	395	50	0,131
TPSL 250x125	125	347	182	165	(20ºC)	370	395	(20ºC)	0,162
TPSL 250x160	160	417	217	200		375	395		0,206
TPSL 250x200	200	497	257	240		375	395		0,257
(Other strokes under order)									

Mounting example



The stem is an extra 15mm long to facilitate attachment to the lifting structure.

Gas Spring lifter with final cushion stroke TPSLR 250



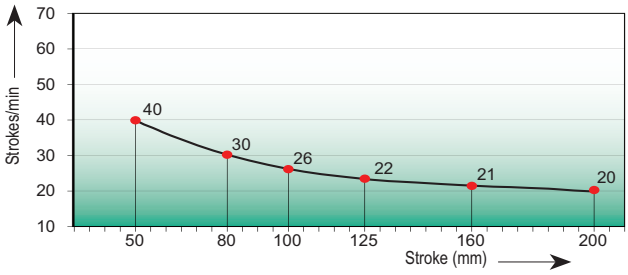
Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	80 Bar
Min. charging pressure	25 Bar
Rod seal area	3,14 cm²
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit SLR250

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VDI SAFETY



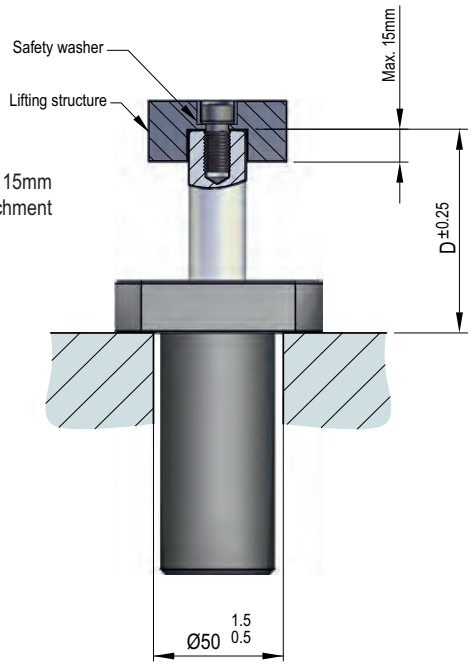
Maximum strokes / minute



Code	Smax mm	La mm	C mm	D mm	Si mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l
TPSLR 250x50	50	230	140	90	15	250 ±5% (20ºC)	320	330	80 (20ºC)	0,065
TPSLR 250x80	80	290	170	120			320	330		0,103
TPSLR 250x100	100	330	190	140			320	335		0,128
TPSLR 250x125	125	380	215	165			325	335		0,160
TPSLR 250x160	160	450	250	200			325	335		0,204
TPSLR 250x200	200	530	290	240			325	335		0,254
(Other strokes under order)										

Mounting example

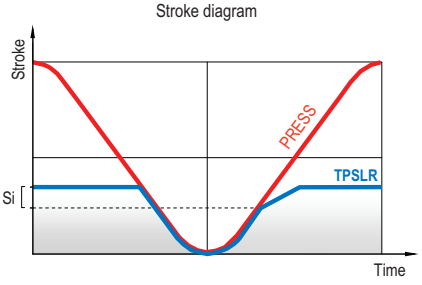
The stem is an extra 15mm long to facilitate attachment to the lifting structure.



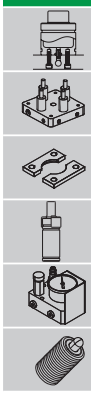
Special cushioning feature

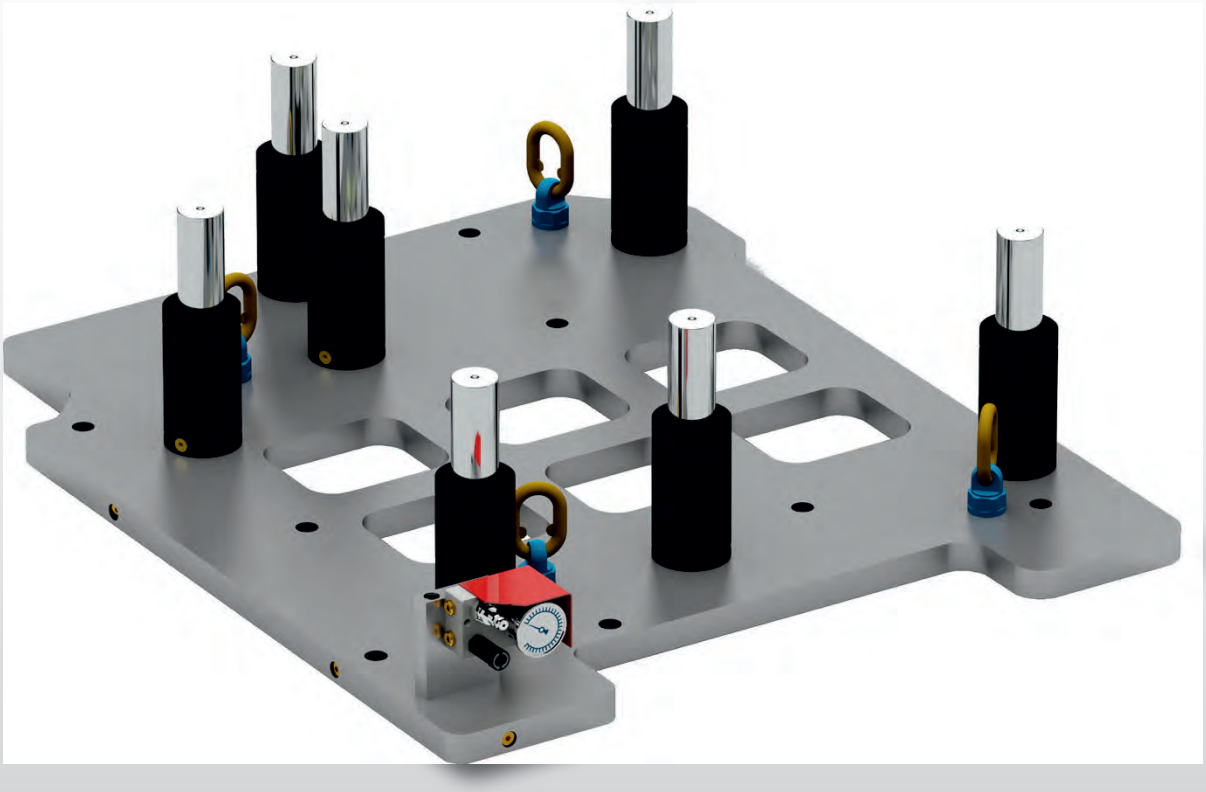
TPSLR 250 gas springs are equipped with a final 15mm cushion stroke, for shock absorption purposes.

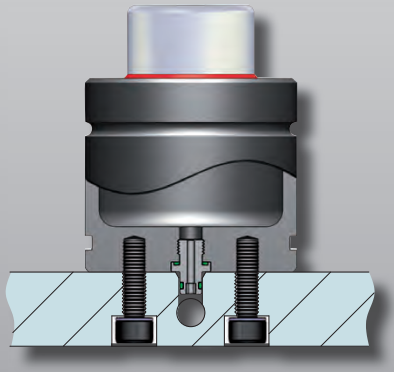
Stroke diagram



TPSL







Eco manifold system with standard gas springs

The ECO MANIFOLD system is an advantageous alternative to the traditional standard manifold systems and to gas springs interconnected by means of hoses and connectors. It is an extraordinary solution to connect gas springs while bringing about considerable savings.

Thanks to the control panel, pressure modification is carried out easily.

In this system, the gas springs are fixed with screws to the base plate and they are all intercommunicated by means of the connection holes bored into the plate. Sealing between gas spring and plate may be obtained by means of a racord-connector or a specific seal.

There is a wide variety of combinations of models, forces and strokes thanks to the fact that standard gas springs are used.
ECO MANIFOLD systems guarantee sealing to a considerable extent, and have easy maintenance (just like that of standard gas springs) as well as a longer durability without maintenance.
The simple construction of the plates makes them easily manufacturable by the customer.





ECO MANIFOLD ADVANTAGES

✓ Good alternative to standard manifold systems

✓ Maximum saving

✓ Maximum sealing guarantee

✓ Makes hoses and racords unnecesary

✓ Very short manufacturing deadlines

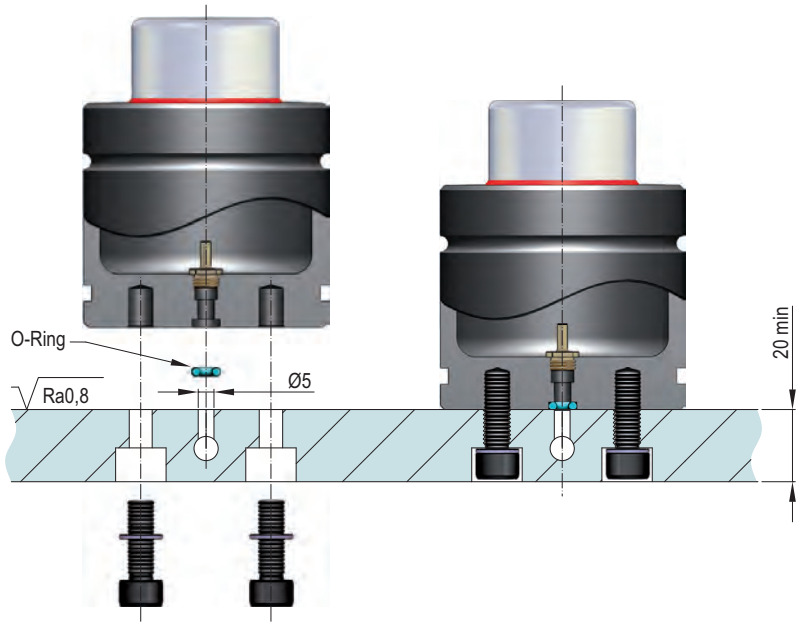
✓ Easy maintenance

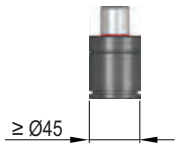
✓ Very compact plate dimensions

✓ Use of standard gas springs in acordance with 97/23/EC

✓ Same force in all contact points

ECO MANIFOLD CA



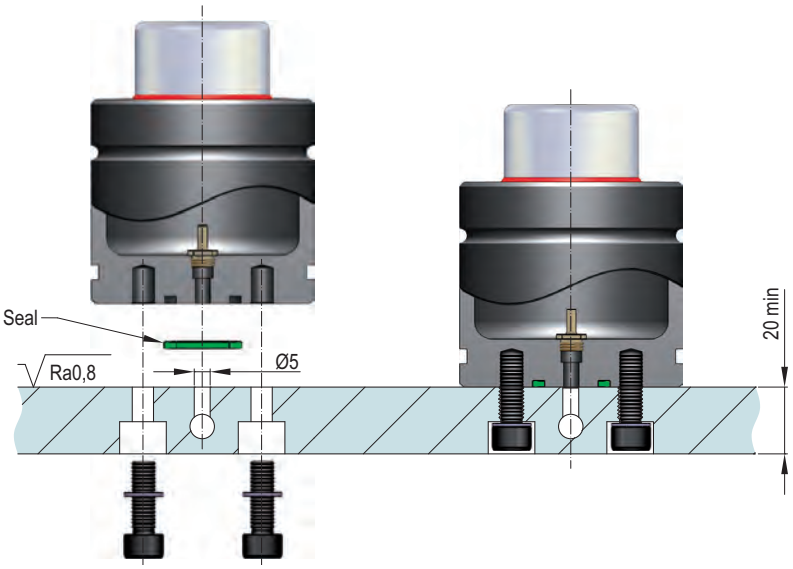


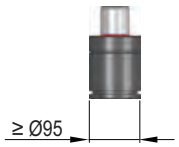
Available series:

MICRO
TITAN
TPK
TPC
TPCT
TPS

Use safety washers or anaerobic thread fixtures

ECO MANIFOLD CB





Available series:

MICRO
TPK
TPC
TPCT
TPS

Use safety washers or anaerobic thread fixtures

How to order

ECO MANIFOLD CA ➜ Cylinder reference + CA

ECO MANIFOLD CB ➜ Cylinder reference + CB

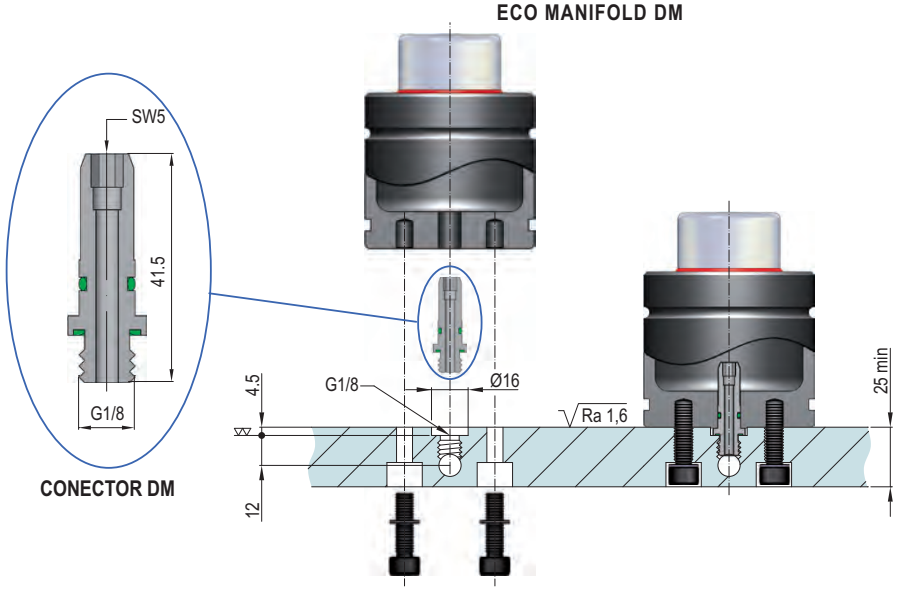
Please consult our Technical Department

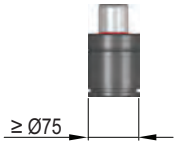
MICRO 75 x 80 - CB

Model | Stroke | Eco-manifold type (DA / DB)



ECO MANIFOLD DM



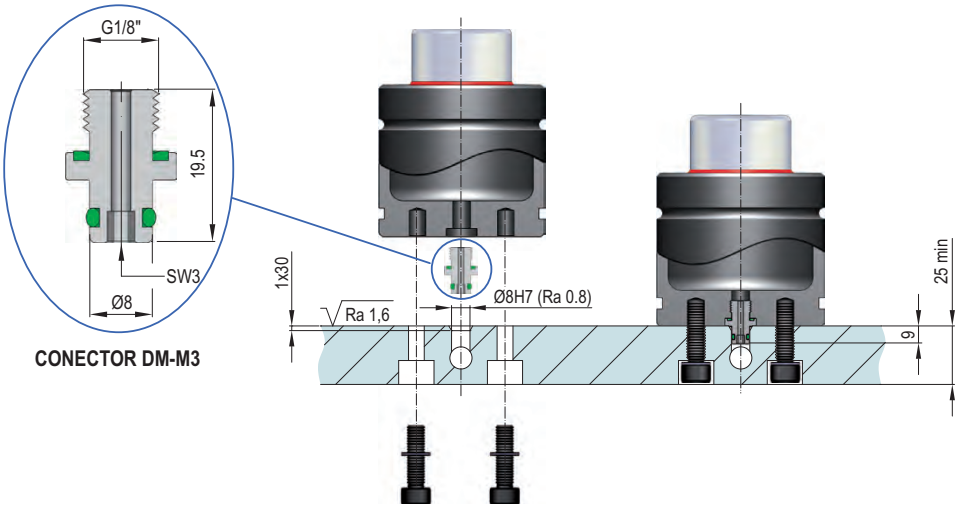


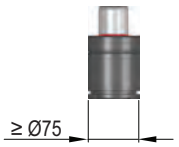
Available series:

MICRO
TITAN
TPH
TPK
TPC
TPCT
TPF
TPS

Use safety washers or anaerobic thread fixtures

ECO MANIFOLD DM-M3



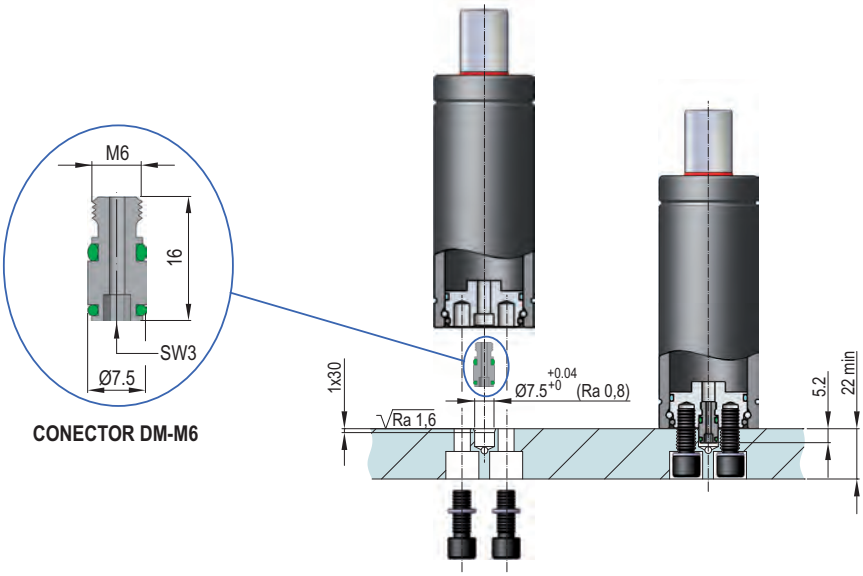


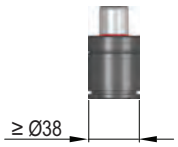
Available series:

MICRO
TITAN
TPH
TPK
TPC
TPCT
TPF
TPS

Use safety washers or anaerobic thread fixtures

ECO MANIFOLD DM-M6



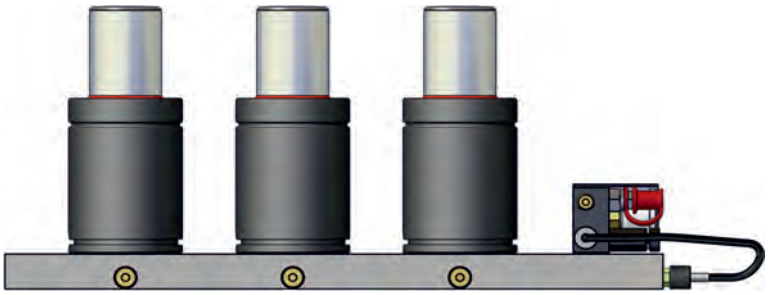


Available series:

TPF
TPH

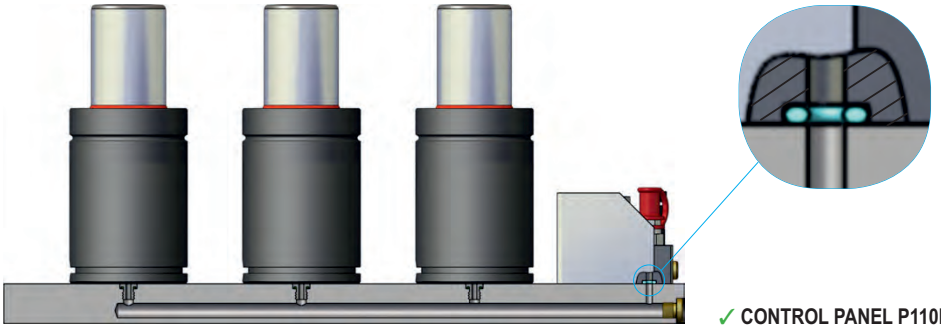
Use safety washers or anaerobic thread fixtures

ECO MANIFOLD SAMPLE



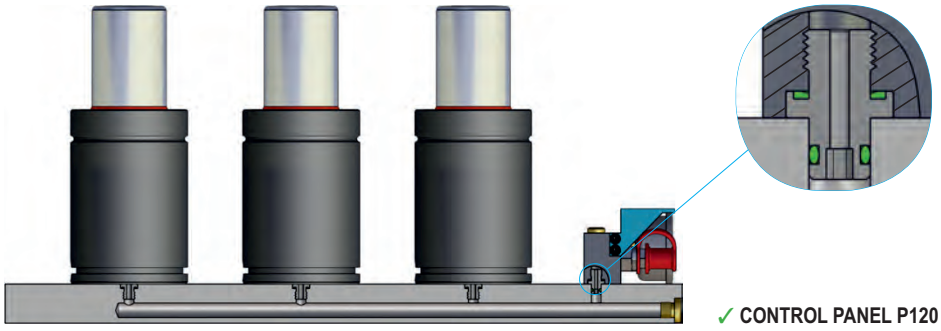
✓ CONTROL PANEL P110 · P120 + HOSE

ECO MANIFOLD SAMPLE



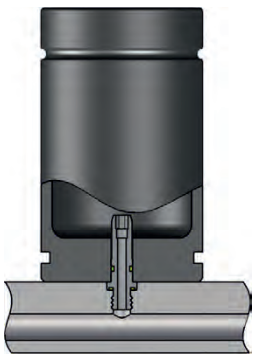
✓ CONTROL PANEL P110M · P110EC (SEAL)

ECO MANIFOLD SAMPLE



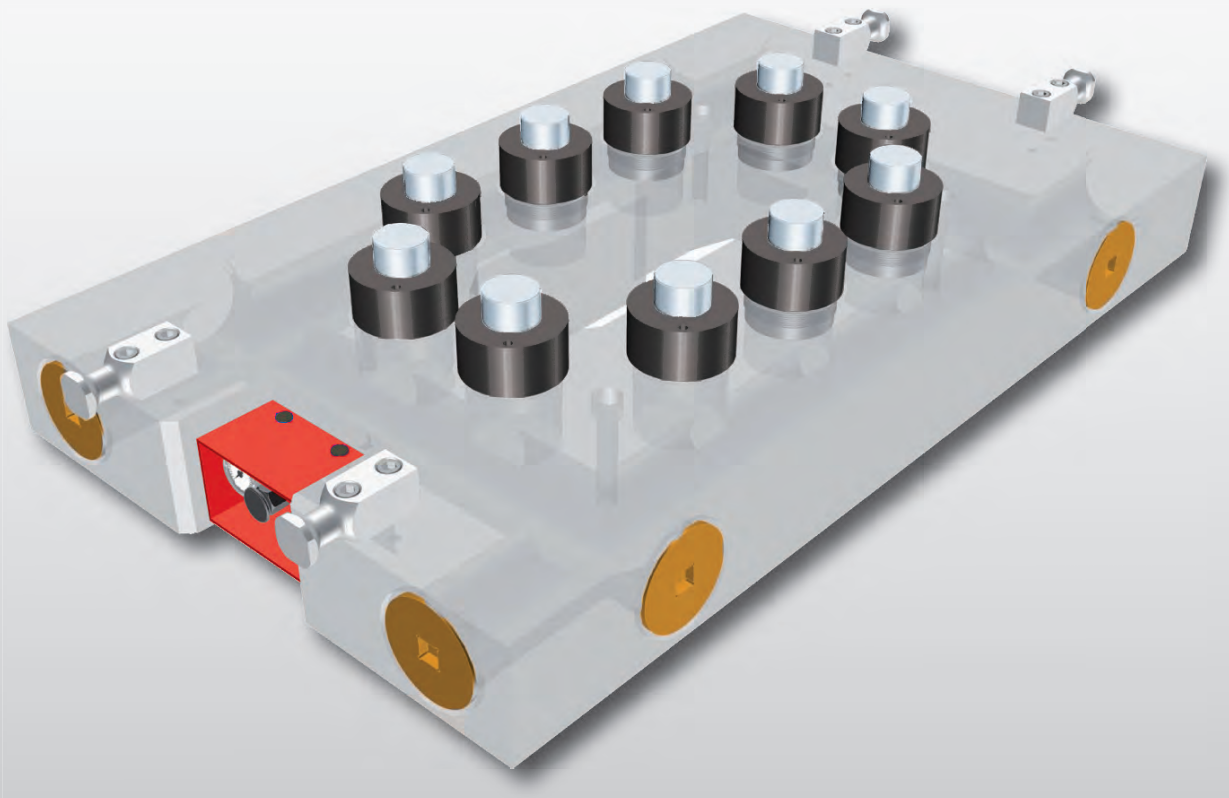
✓ CONTROL PANEL P120 + ADAPTER

ECO MANIFOLD TANK



Thanks to compensation tanks, the compression of the eco-manifold system is reduced to a low values than they usually have in a standard work.

Please consult our Technical Department



Standard Manifold systems

Code	ØBody mm	Strokes mm	Fa daN
TPM 1000	42	25 - 100	1000
TPM 2000	54	25 - 100	2000
TPM 4500	78	25 - 100	4500
TPM 7500	100	25 - 100	7500
TPMS 1000	42	25 - 100	1000
TPMS 2000	54	25 - 100	2000
TPMS 4500	78	25 - 100	4500
TPMS 7500	100	25 - 100	7500



The TPM and TPMS series gas springs presented in this section solve problems that can appear during the transmission of force to an elastic organ needing a lot of power and working stroke.

The gas springs are screwed directly onto the manifold plate by means of collector holes and will thus transmit a considerable push. The pressure of the system can easily be regulated by means of a control panel adapted to the plate.

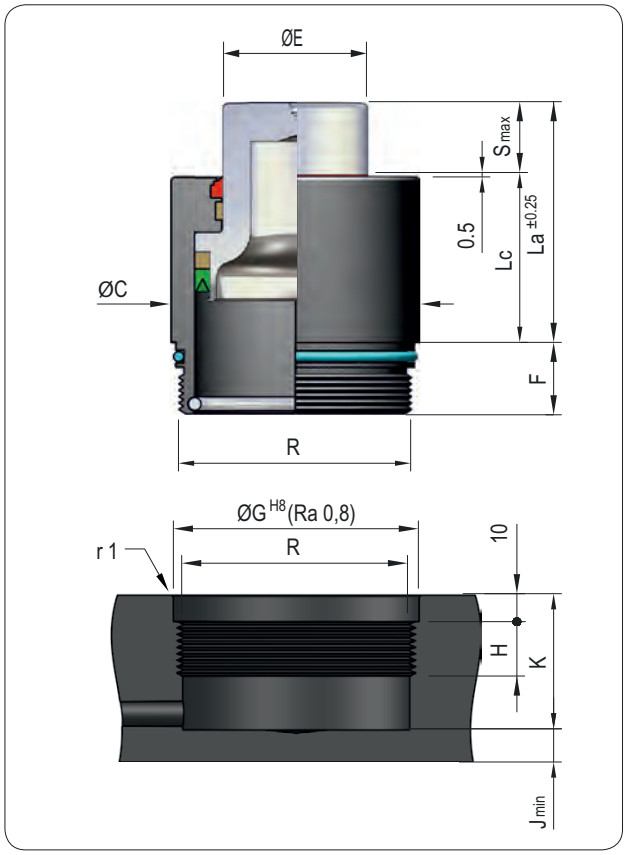
The execution of the various mutually interconnected holes within the plate will depend on the calculation of the necessary gas volume to avoid overpressures while guaranteeing good functioning with the objective of obtaining minimum variations of force during the working stroke of the stem.

The plate should work as a gas lung-type deposit in order to obtain a slight (10%-20%) increase in pressure and force.

For the manufacturing of the plate it is necessary to use nonporous materials devoid of any kind of cracks, which are to be subjected to ultrasonic testing.

If necessary, TECAPRES can supply the manifold plate as per the customer's drawings and in accordance with the specifications of the European Directive 97/23/EC on pressure devices.





Pressure medium	Nitrogen gas (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	20 m/min
Recommended max. strokes / min	20 - 40 spm
Maintenance kit **TPM 1000**	Kit M1000
Maintenance kit **TPM 2000**	Kit M2000
Maintenance kit **TPM 4500**	Kit M4500
Maintenance kit **TPM 7500**	Kit M7500

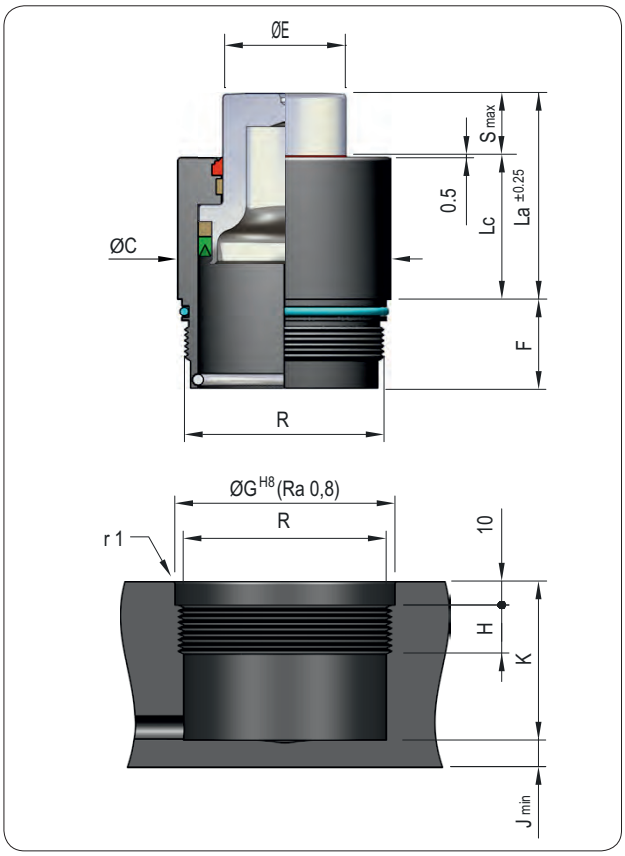
PED 2014/68/UE



- Other models and strokes available under order
- Manifold plate design according to customer specifications possible
- Homologued according to European Norm 97/23/EC
- Extremely short delivery deadlines

Code	Smax mm	La mm	Lc mm	Fa daN	P Bar	Piston seal area cm^2	Ø E mm	Ø C mm	Ø G mm	F mm	H mm	J mm	K mm	R
TPM 1000x25	25	78	53	1000 ±5% (20ºC)	150 (20ºC)	7,07	18	42	39	22	17	10	32	M36x2
TPM 1000x38	38	104	66											
TPM 1000x50	50	128	78											
TPM 1000x75	75	178	103											
TPM 1000x100	100	228	128											
TPM 2000x25	25	78	53	2000 ±5% (20ºC)	150 (20ºC)	12,57	30	54	51	22	17	10	32	M48x2
TPM 2000x38	38	104	66											
TPM 2000x50	50	128	78											
TPM 2000x75	75	178	103											
TPM 2000x100	100	228	128											
TPM 4500x25	25	78	53	4500 ±5% (20ºC)	150 (20ºC)	31,17	45	78	75	22	17	10	32	M74x2
TPM 4500x38	38	104	66											
TPM 4500x50	50	128	78											
TPM 4500x75	75	178	103											
TPM 4500x100	100	228	128											
TPM 7500x25	25	82	57	7500 ±5% (20ºC)	150 (20ºC)	50,26	60	100	97	30	26	15	42	M94x2
TPM 7500x38	38	108	70											
TPM 7500x50	50	132	82											
TPM 7500x75	75	182	107											
TPM 7500x100	100	232	132											





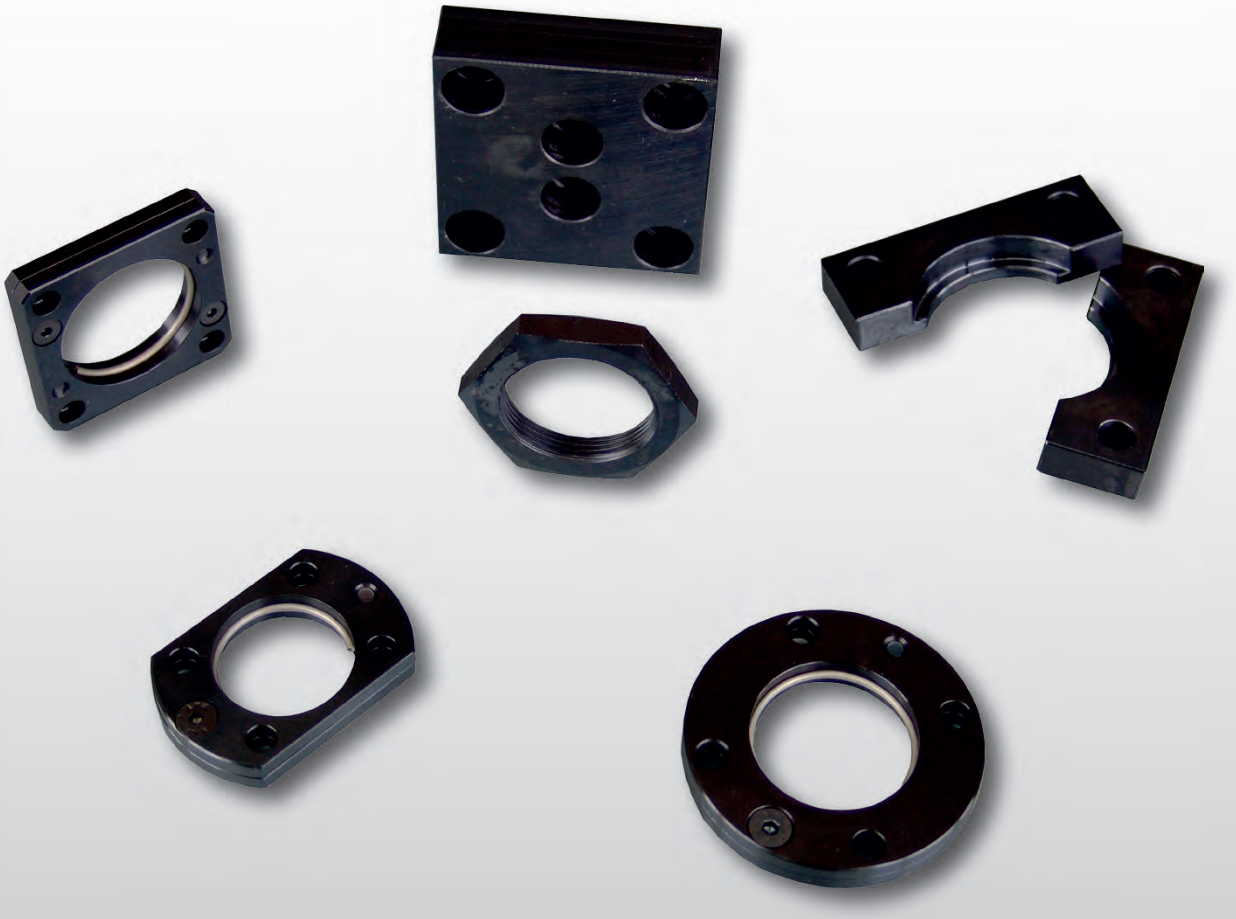
Pressure medium	Nitrogen gas (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	20 m/min
Recommended max. strokes / min	20 - 40 spm
Maintenance kit **TPMS 1000**	Kit MS1000
Maintenance kit **TPMS 2000**	Kit MS2000
Maintenance kit **TPMS 4500**	Kit MS4500
Maintenance kit **TPMS 7500**	Kit MS7500

PED 2014/68/UE



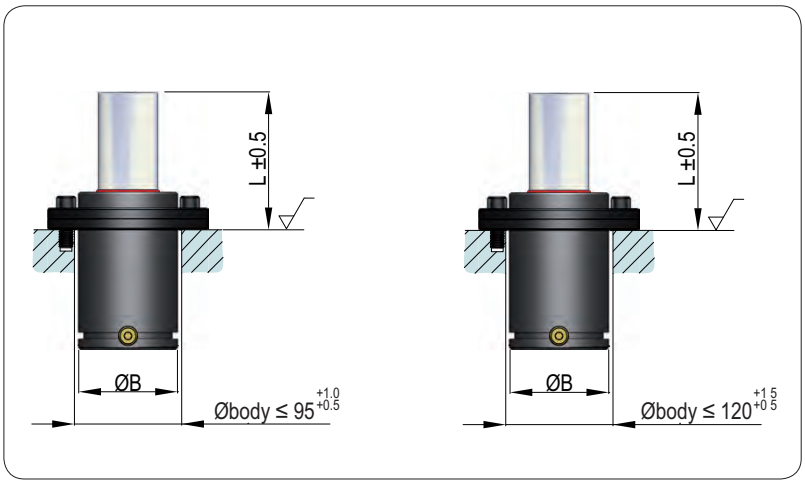
- Other models and strokes available under order
- Manifold plate design according to customer specifications possible
- Homologued according to European Norm 97/23/EC
- Extremely short delivery deadlines

Code	Smax mm	La mm	Lc mm	Fa daN	P Bar	Piston seal area cm^2	Ø E mm	Ø C mm	Ø G mm	F mm	H mm	J mm	K mm	R
TPMS 1000x25	25	60	35	1000 ±5% (20ºC)	150 (20ºC)	7,07	18	42	39	40	17	10	43	M36x2
TPMS 1000x38	38	73								53			56	
TPMS 1000x50	50	85								65			68	
TPMS 1000x75	75	110								90			93	
TPMS 1000x100	100	135								115			118	
TPMS 2000x25	25	65	40	2000 ±5% (20ºC)	150 (20ºC)	12,57	30	54	51	35	17	10	38	M48x2
TPMS 2000x38	38	78								48			51	
TPMS 2000x50	50	90								60			63	
TPMS 2000x75	75	115								85			88	
TPMS 2000x100	100	140								110			113	
TPMS 4500x25	25	65	40	4500 ±5% (20ºC)	150 (20ºC)	31,17	45	78	75	35	17	10	38	M74x2
TPMS 4500x38	38	78								48			51	
TPMS 4500x50	50	90								60			63	
TPMS 4500x75	75	115								85			88	
TPMS 4500x100	100	140								110			113	
TPMS 7500x25	25	70	45	7500 ±5% (20ºC)	150 (20ºC)	50,26	60	100	97	42	26	15	45	M94x2
TPMS 7500x38	38	83								55			58	
TPMS 7500x50	50	95								67			70	
TPMS 7500x75	75	120								92			95	
TPMS 7500x100	100	145								117			120	



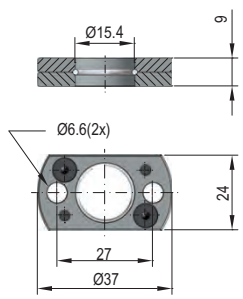
Flanges for attaching gas springs to tools

Code	Type
FS	
FSC	
FP	
FPR	
FB	
FI	
FR	
FRS	

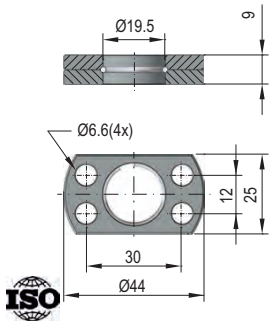




FS 15

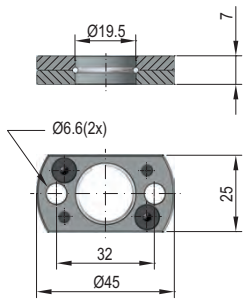


FS 19

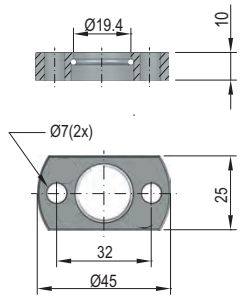


ISO
VDI

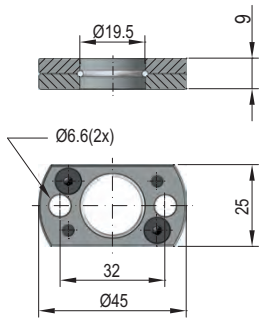
FS 19/1



FS 19/2

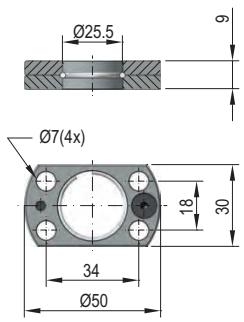


FS 19/3



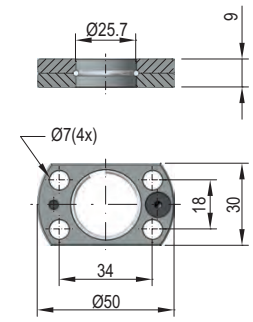
VDI

FS 25



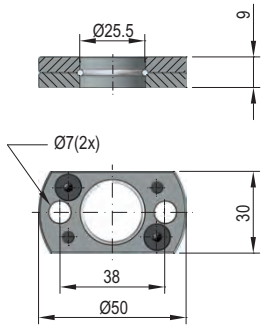
ISO

FS 25/1



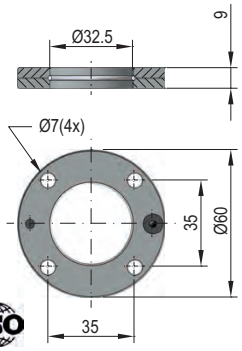
ISO

FS 25/2



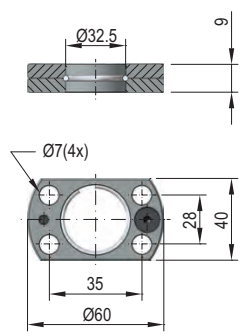
VDI

FS 32

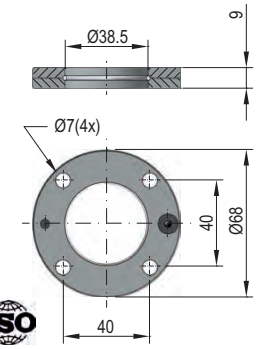


ISO
VDI

FS 32/1

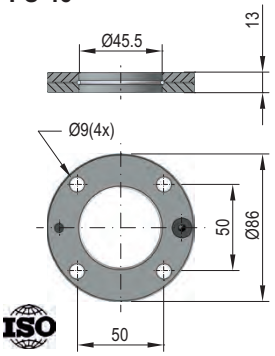


FS 38

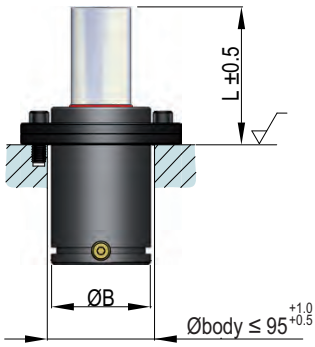


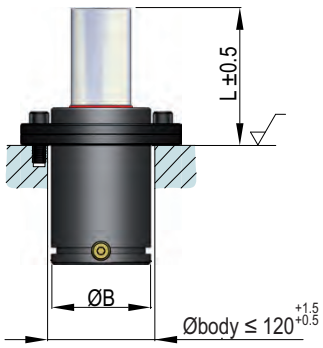
ISO
VDI

FS 45



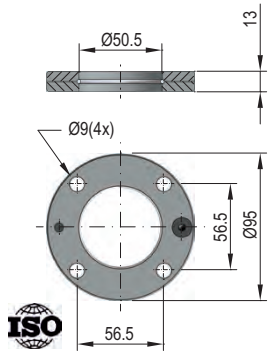
ISO
VDI



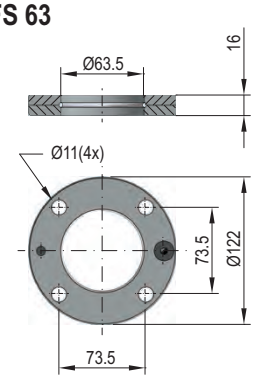




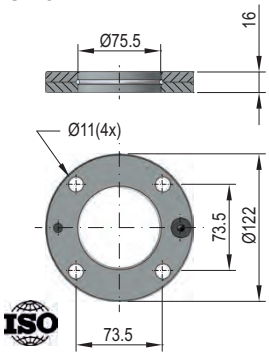
FS 50



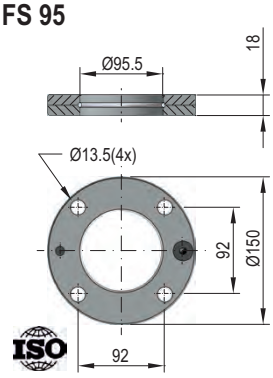
FS 63



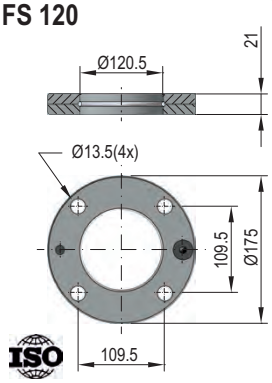
FS 75



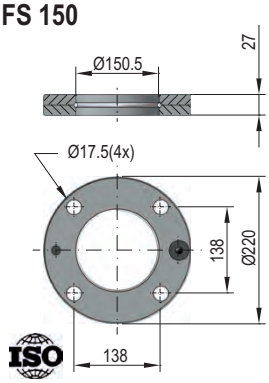
FS 95



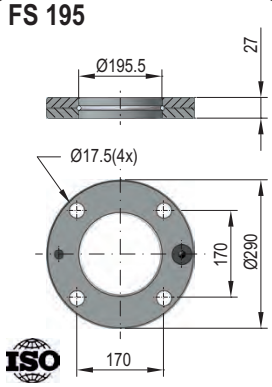
FS 120

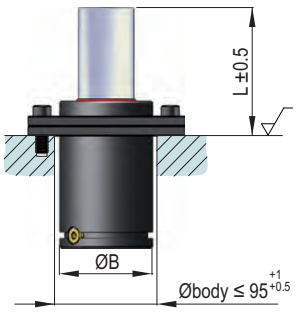


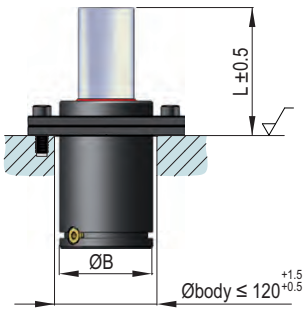
FS 150

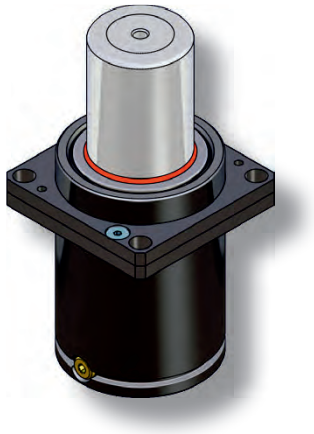


FS 195

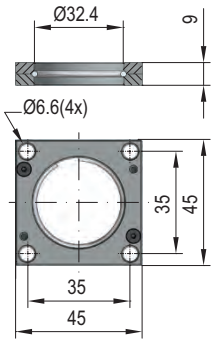






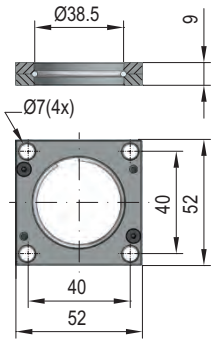


FSC 32



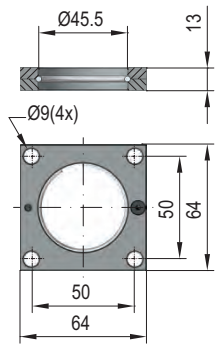
VDI

FSC 38



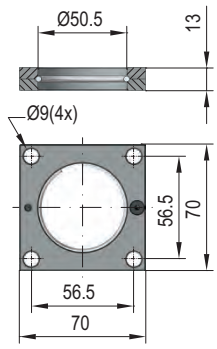
ISO VDI

FSC 45



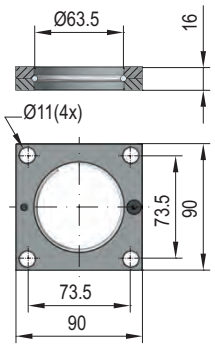
ISO VDI

FSC 50



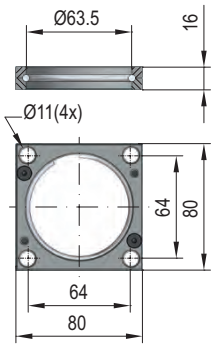
ISO VDI

FSC 63



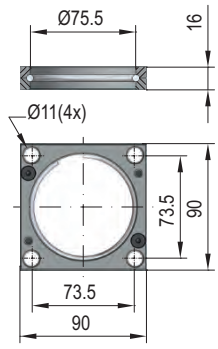
VDI

FSC 63/1



VDI

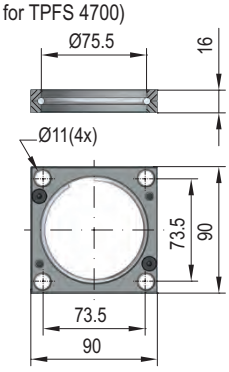
FSC 75



ISO VDI

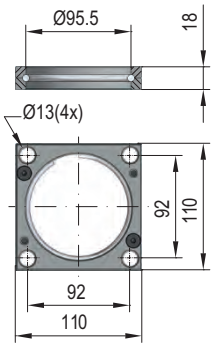
FSCS 75

(only for TPFS 4700)



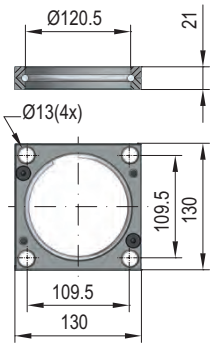
ISO VDI

FSC 95



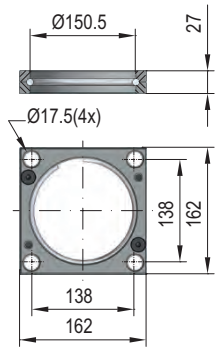
ISO VDI

FSC 120



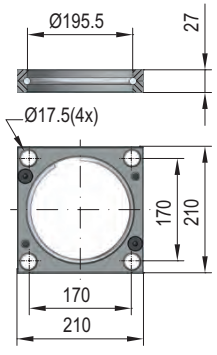
ISO VDI

FSC 150

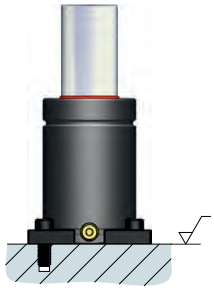


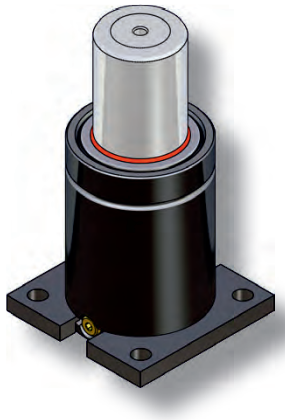
ISO VDI

FSC 195

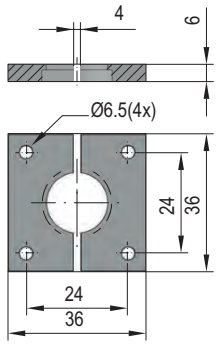


ISO VDI

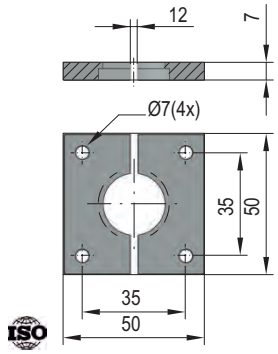




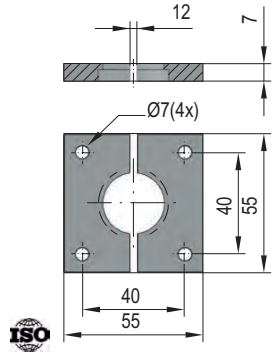
FP 20



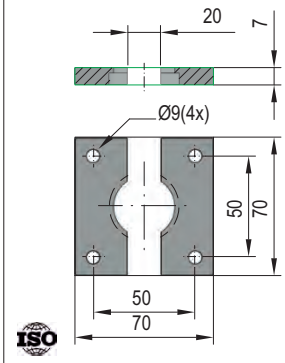
FP 32



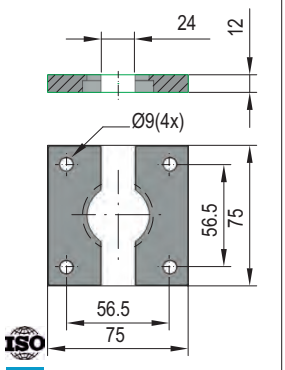
FP 38



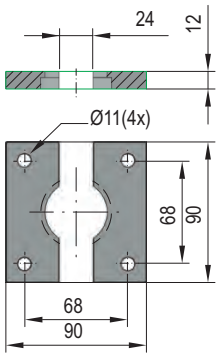
FP 45



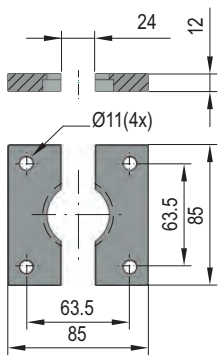
FP 50



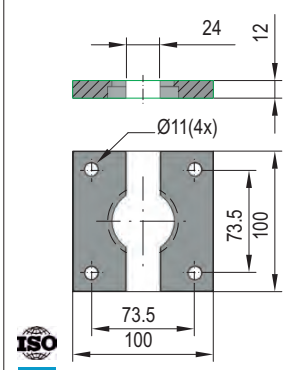
FP 63



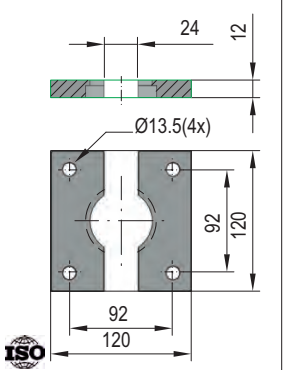
FP 63/1



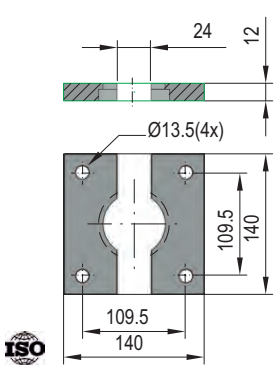
FP 75



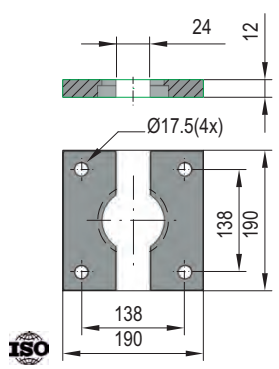
FP 95



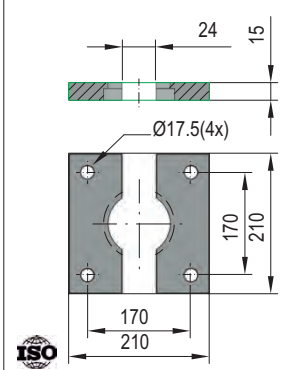
FP 120

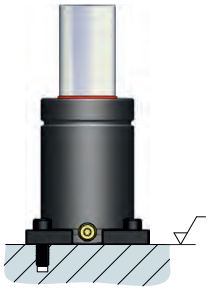


FP 150



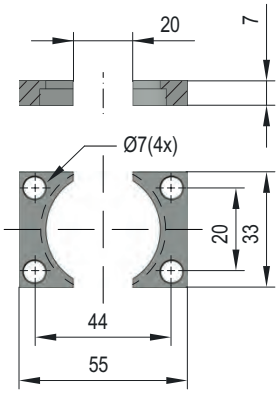
FP 195



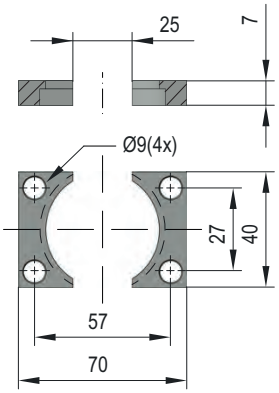




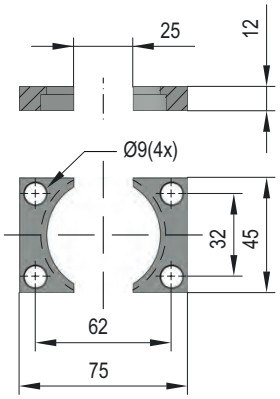
FPR 38



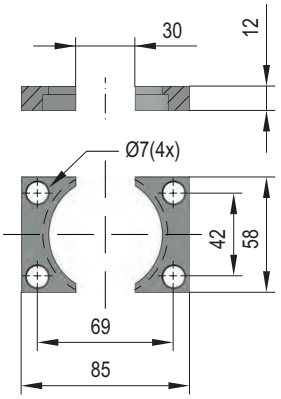
FPR 45



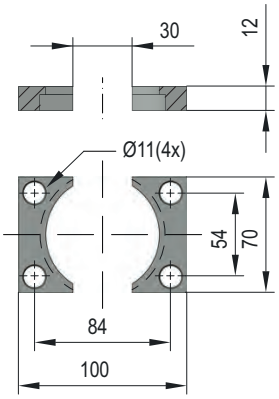
FPR 50



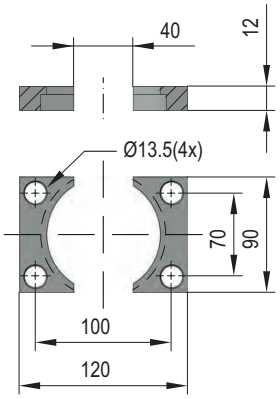
FPR 63



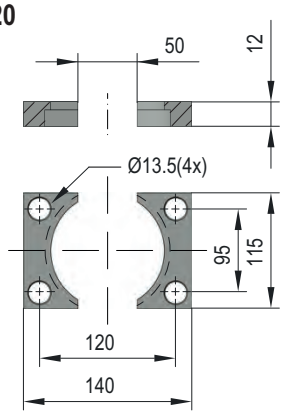
FPR 75



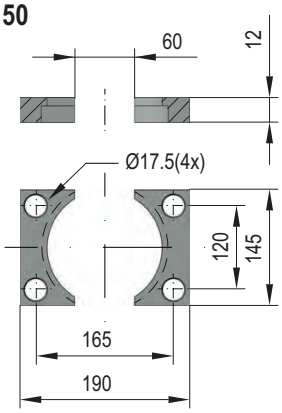
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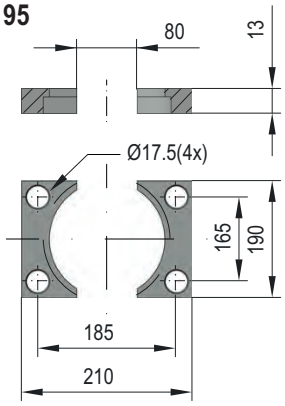
FPR 120



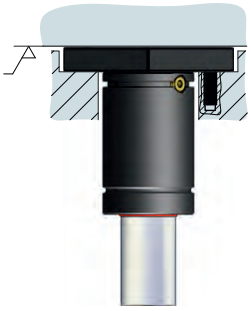
FPR 150



FPR 195

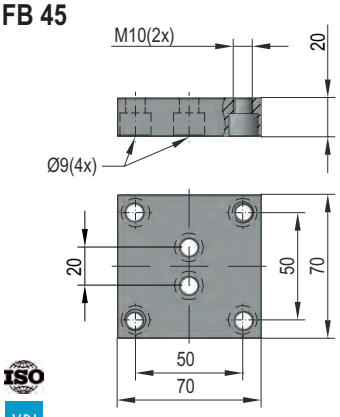




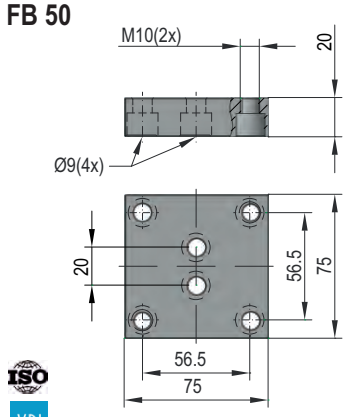




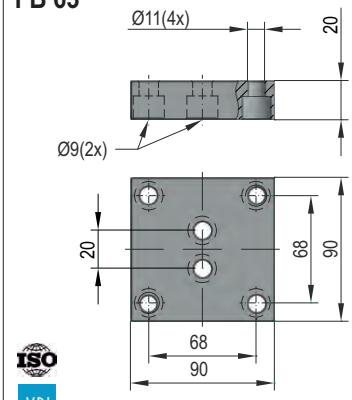
FB 45



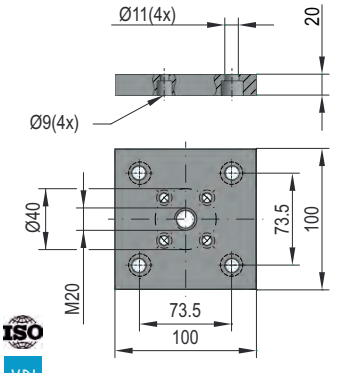
FB 50



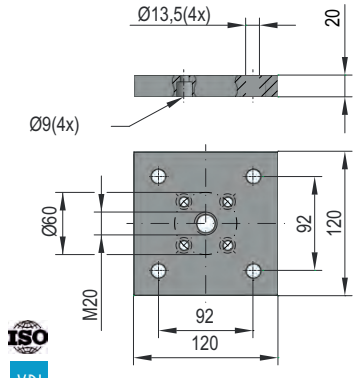
FB 63



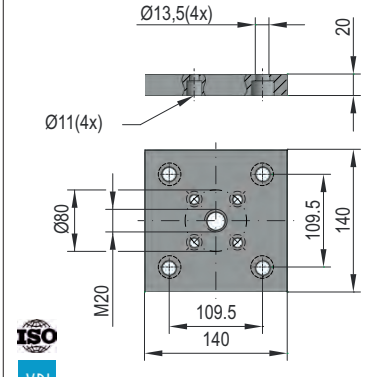
FB 75



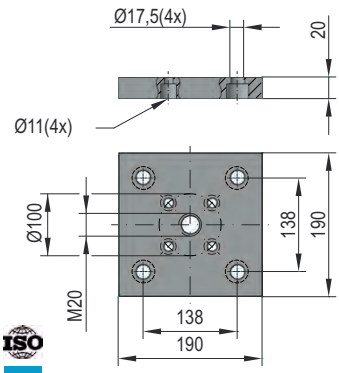
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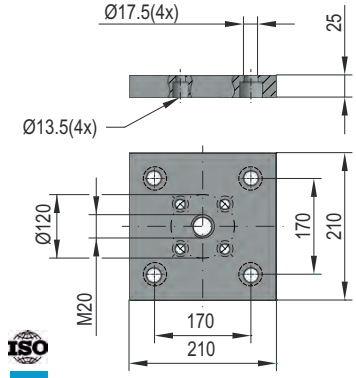
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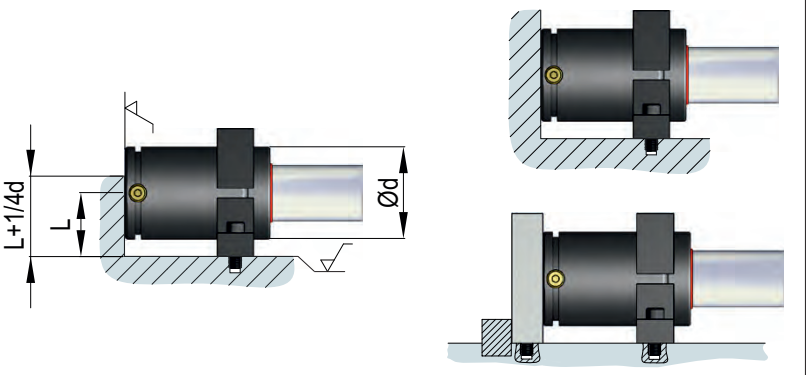


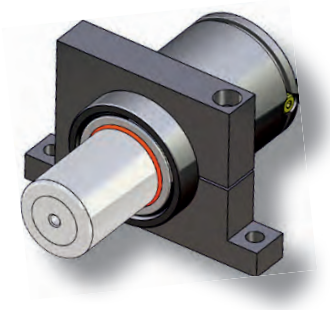
FB 150



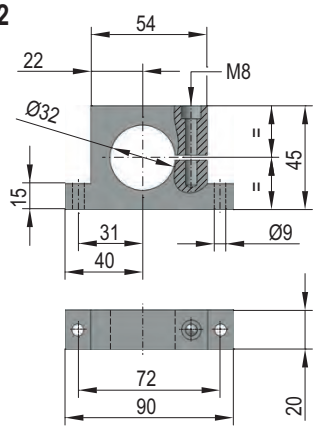
FB 195



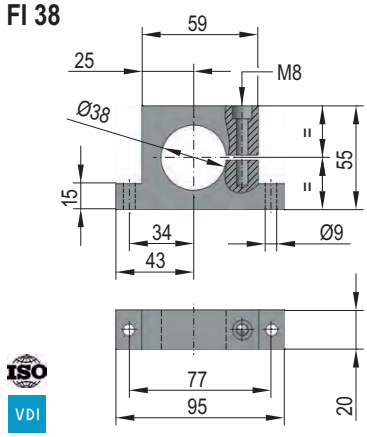




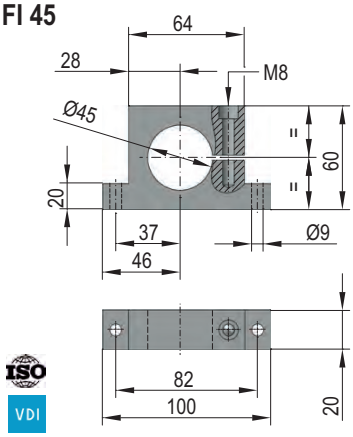
FI 32



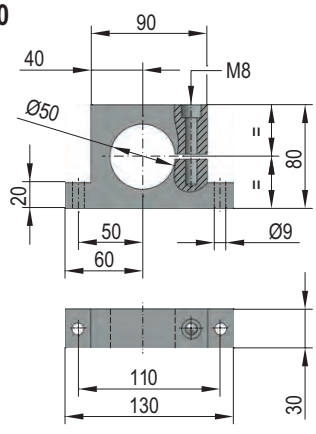
FI 38



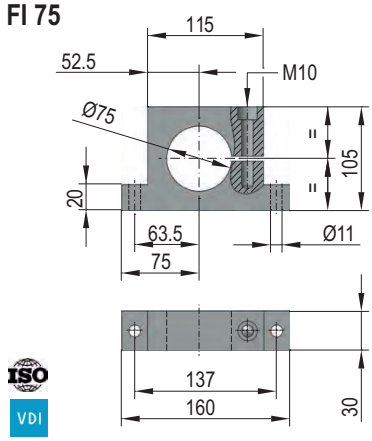
FI 45



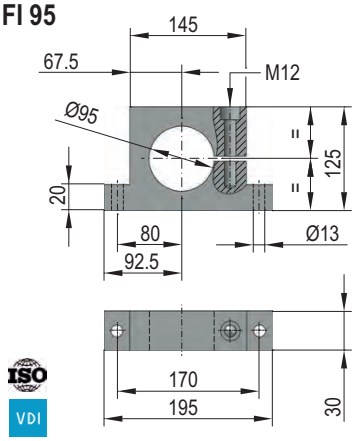
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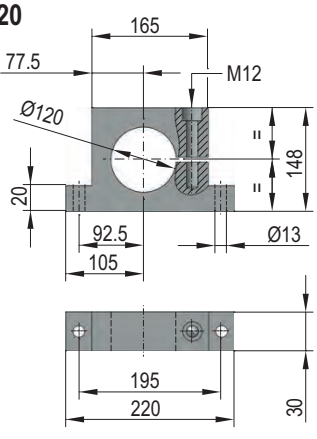
FI 75



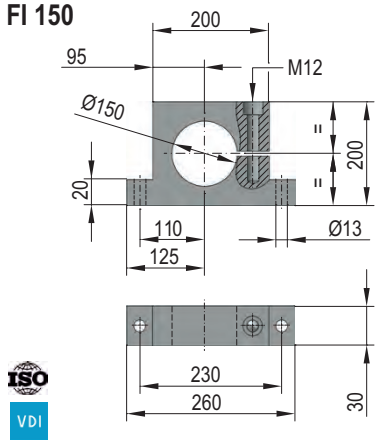
FI 95

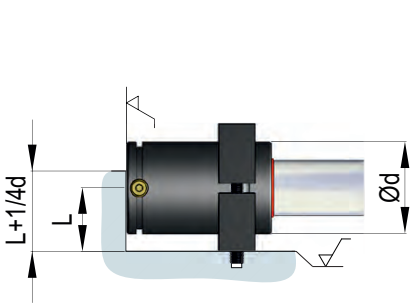


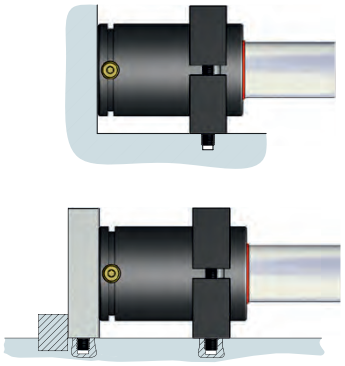
FI 120

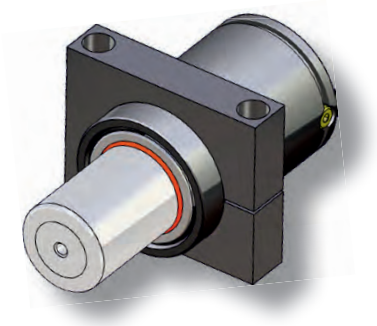


FI 150

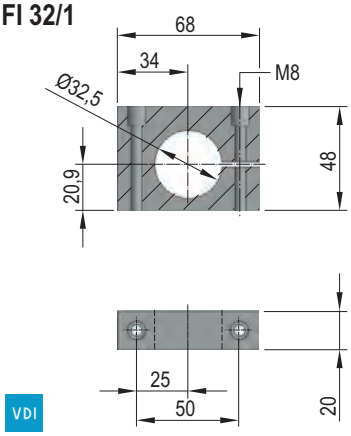




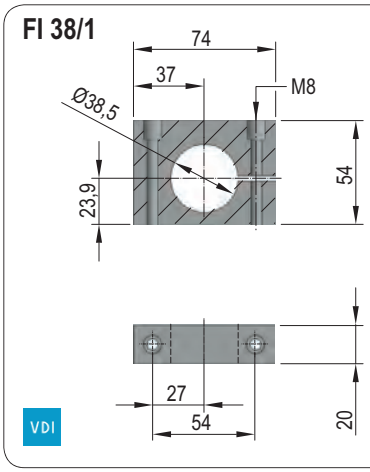




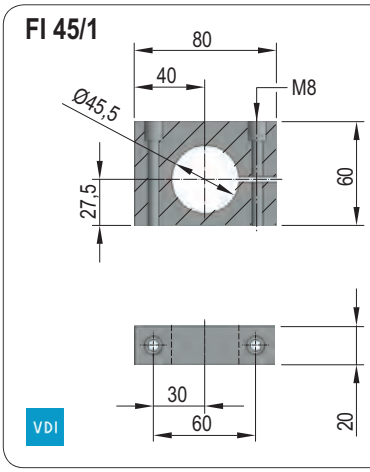
FI 32/1



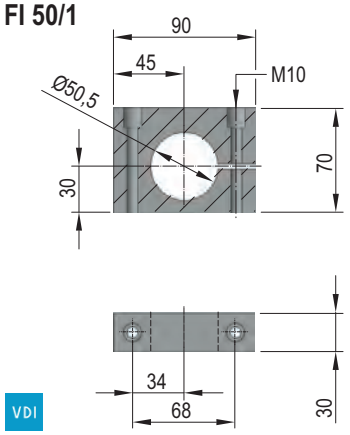
FI 38/1



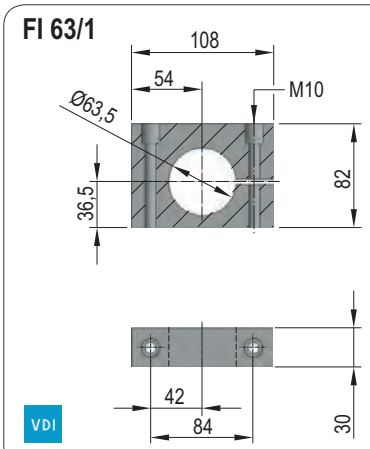
FI 45/1



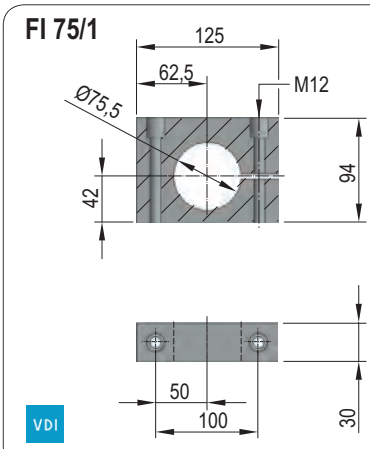
FI 50/1



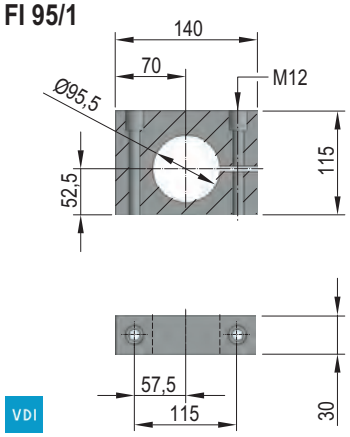
FI 63/1



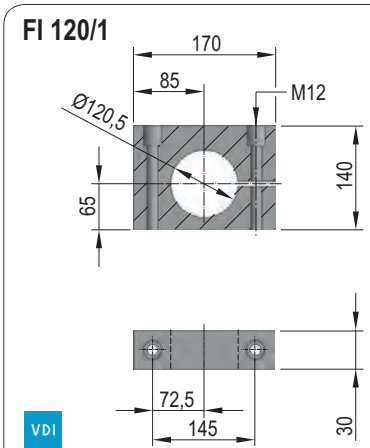
FI 75/1



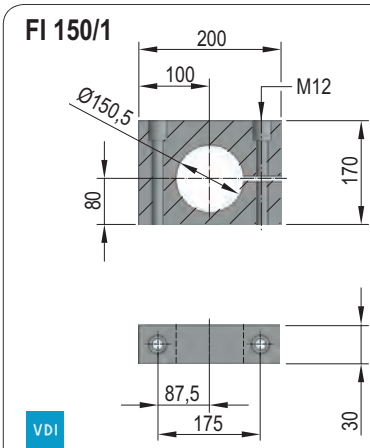
FI 95/1

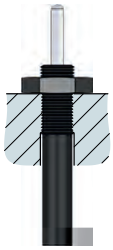


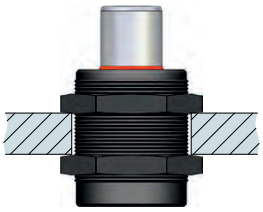
FI 120/1

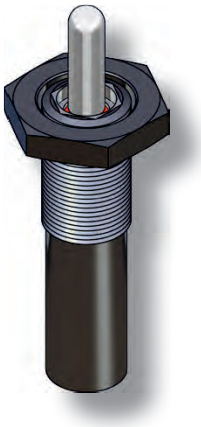


FI 150/1

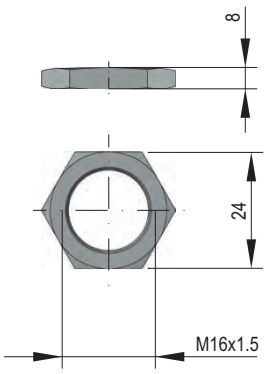




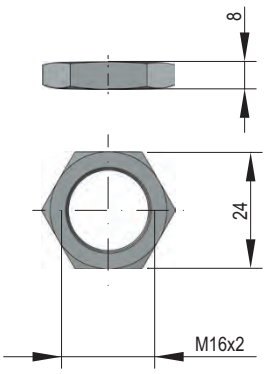




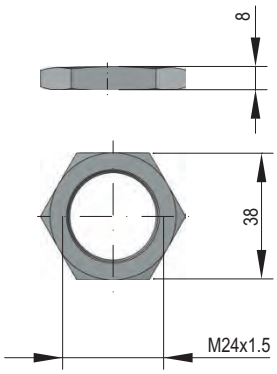
FR 16



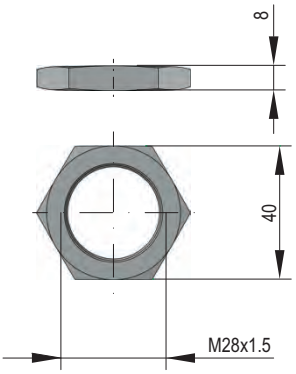
FRC 16.1



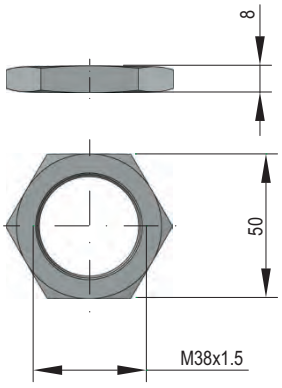
FR 24



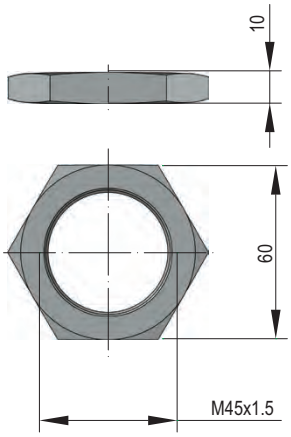
FR 28



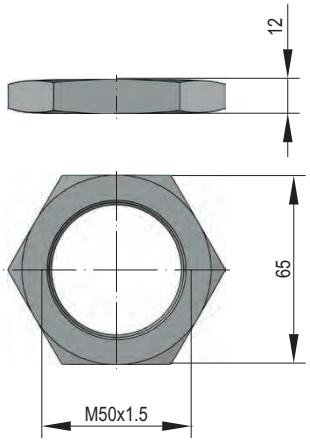
FR 38



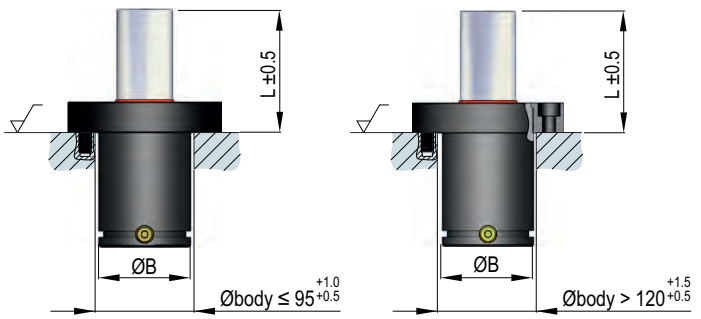
FR 45



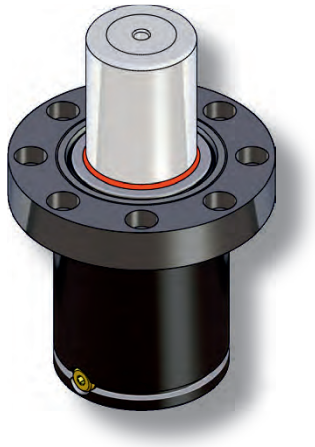
FR 50



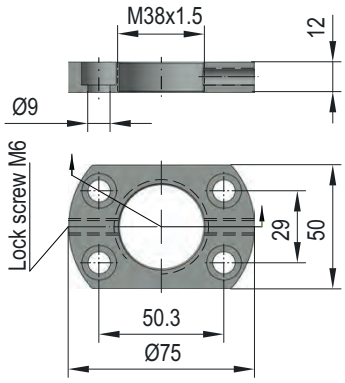
FRS FLANGE



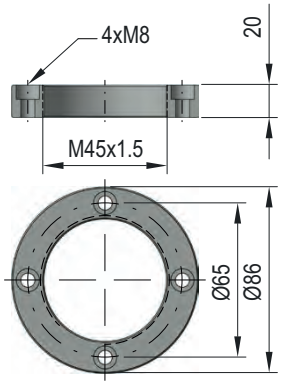
It should be assembled only at factory: no removable flange



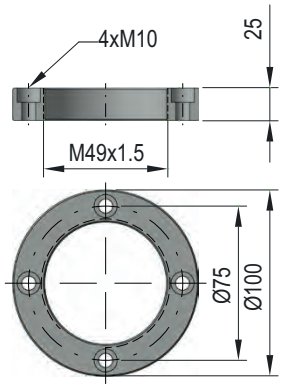
FRS 38



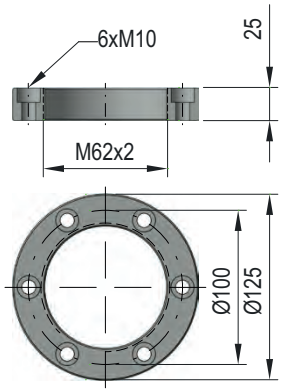
FRS 45



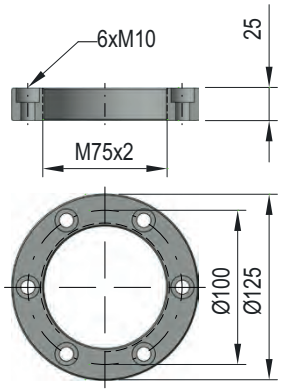
FRS 50



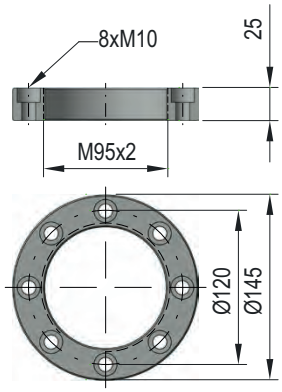
FRS 63



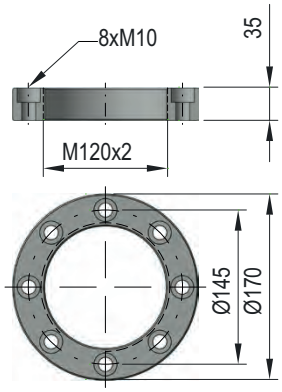
FRS 75



FRS 95



FRS 120



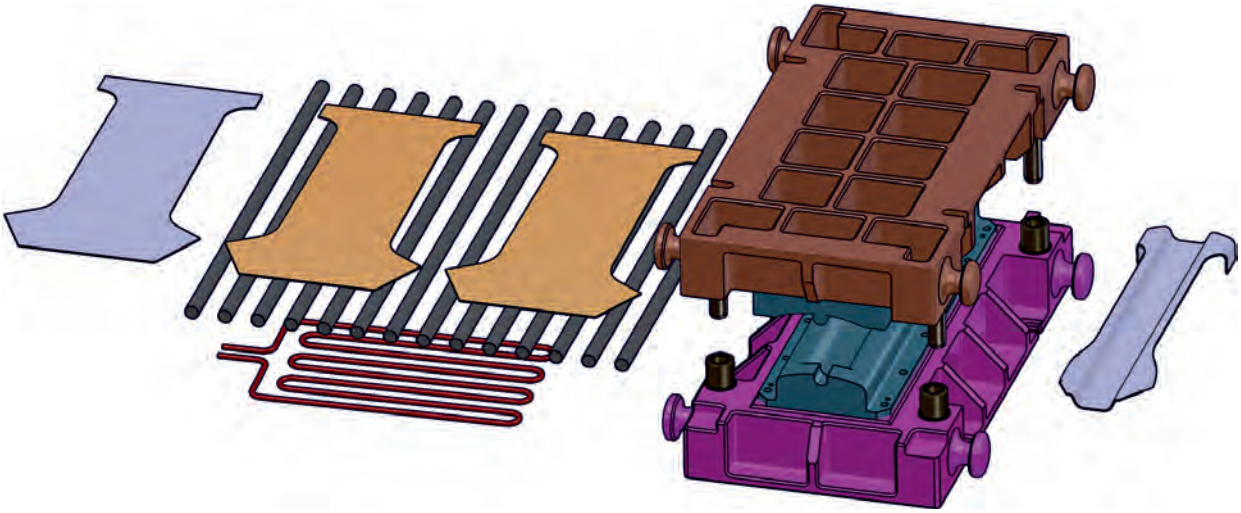


- ► Excellent protection against both liquid and solid pollution
- ► Facilitates having gas springs working in any position
- ► Cost savings

Due to the increasingly frequent use of high-elastic-limit steels in hot forming processes in the automobile industry, and to the consequent increase in demand for gas springs working under adverse enviromental conditions, the **TECAPRES** research team has studied, designed and subsequently developed a range of specific products for both liquid and solid extreme pollution mechanic enviromental conditions.









- ✓ **Sealed rod protection cup**
- ✓ **Surfaces protected against corrosion in metal components**
- ✓ **Designed to work in any position**
- ✓ **Safety features**

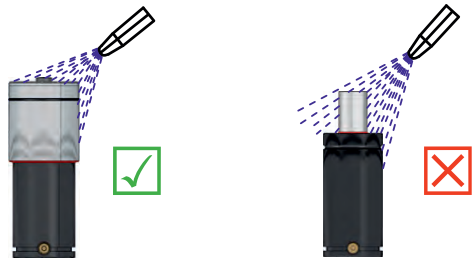


ROD-PROTECTION CAP

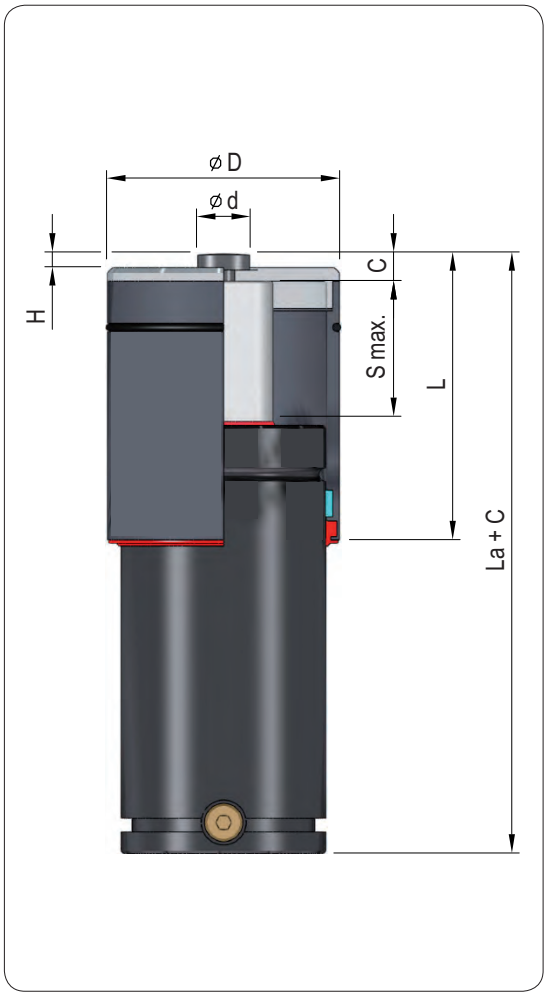
TECAPRES offers the possibility of incorporating this device onto TPS and MICRO series gas springs in order to protect rods.

This is particularly recommendable in those cases in which where there are extreme pollution conditions, in order to ensure proper functioning of gas springs, thus guaranteeing a longer service life.

- ✓ Excellent protection against both liquid and solid pollution
- ✓ It facilitates having the gas spring working in any position
- ✓ Cost savings.
- ✓ Surface protection against corrosion in metal components.



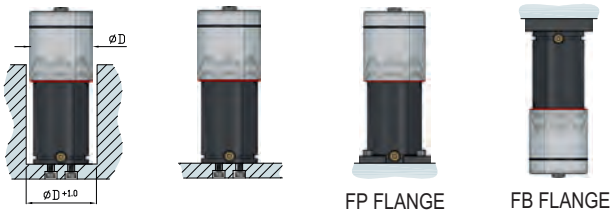




Gas spring	Smax mm	ØD mm	Ød mm	L mm	C mm	H mm
TPS 750	100% Smax	60	22.5	44 + S	10	5
MICRO 50VS	Smax (-4)	60	22.5	36 + S	10	5
MICRO 63V	Smax (-4)	74	22.5	43 + S	10	5
TPS 1500	100% Smax	86	22.5	53 + S	11	5
MICRO 75	100% Smax	86	22.5	42 + S	11	5
TPS 3000	100% Smax	106	22.5	58 + S	12	5
MICRO 95	Smax (-4)	106	22.5	56 + S	12	5
TPS 5000	100% Smax	136	22.5	65 + S	15	5
MICRO 120V	Smax (-4)	136	22.5	61.5 + S	15	5

Please check the Smax specification for each model in the catalogue
(Other models under order)

Assembly possibilities



How to order

TPS 1500 x **100** **RP**

Model | Stroke | With rod-protection

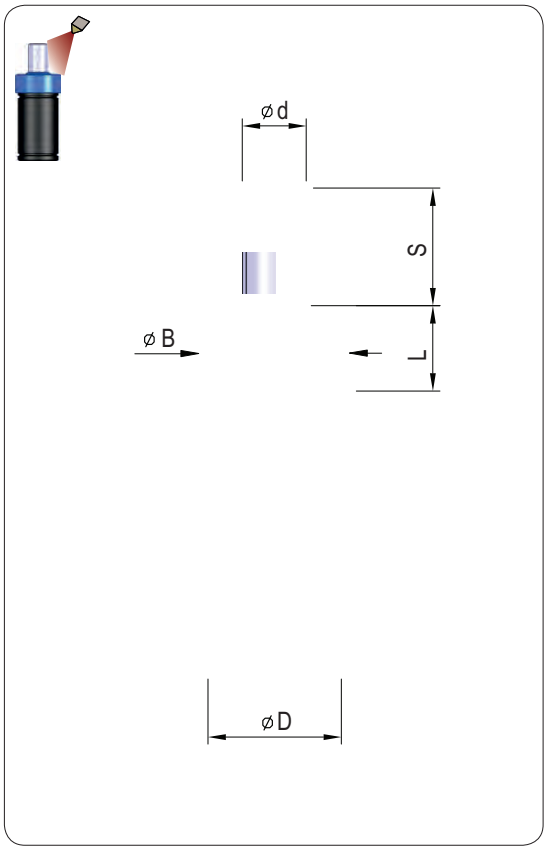
The function of the shield-scraper is to avoid penetration of particles and substances inside the cylinder, like liquids, metal specks, impurities, etc, thus significantly lengthening gas spring useful life when it is working in highly-polluted conditions.

This cleaning function is attained thanks to an over-dimensioning of diameters, which ensures a tight fit of the scraper onto the cylinder wall.

This polyurethane shield-scraper provides a technically clean tight fit on the stem. Besides, the cleaning lip allows for excess lubricant to seep out from the inside of the gas spring.



- ✓ Excellent protection against both liquid and solid pollution
- ✓ Simple assembly in the gas spring
- ✓ It facilitates having the gas spring working in any position
- ✓ Cost savings.



Code	Gas spring code	Ød mm	ØD mm	S mm	L mm	ØB mm
RE-6-12	TPC 12	6	12	Smax (-3)	13	14,8
RE-6-14	TPC 14	6	14	Smax (-3)	13	16,8
RE-8-15	MICRO 15	8	15	Smax (-3)	13	17,8
RE-8-19	TPC 19	8	19	Smax (-3)	13	21,9
RE-11-19	MICRO 19V.1	11	19	Smax (-3)	13	21,9
RE-12-25	TPF 420	12	25	Smax (-2,5)	16,5	28,8
	TPC 25			Smax (-2,5)	16,5	28,8
	TPCT 25			Smax (-2,5)	16,5	28,8
	TPA 25			Smax (-2,5)	16,5	28,8
	TPG 25			Smax (-4,5)	16,5	28,8
RE-14-25	MICRO 25	14	25	Smax (-2,5)	16,5	29,0
	MICRO 25H			Smax (-2,5)	16,5	29,0
	MICRO 25R			Smax (-2,5)	16,5	29,0
RE-16-32	MICRO 32VS	16	32	Smax (-4,0)	16,0	36,4
	MICRO 32V			Smax (-4,0)	16,0	36,4
	MICRO 32C			Smax (-4,0)	16,0	36,4
	TPSP 300.1			Smax (-4,0)	16,0	36,4
	TPKR 32			Smax (-3,0)	16,0	36,4
	TPKN 32			Smax (-3,0)	16,0	36,4
	TPCT 300			Smax (-3,0)	16,0	36,4
	TPG 32			Smax (-4,0)	16,0	36,4
RE-18-32	MICRO 32	18	32	Smax (-4,0)	18,0	36,4
	MICRO 32R			Smax (-4,0)	18,0	36,4
	MICRO 32H			Smax (-4,0)	18,0	36,4
	TITAN 32			Smax (-4,0)	18,0	36,4
	TPF 750			Smax (-3,0)	18,0	36,4
	TPK 32			Smax (-3,0)	18,0	36,4
	TPC 350			Smax (-3,0)	18,0	36,4
	TPGP 32			Smax (-4,0)	18,0	36,4

How to order

TPC 25 x **50** **RE** **BL**

Model | Stroke | With Shield-scraper | Color code

GAS SPRING WITH SHIELD SCRAPER

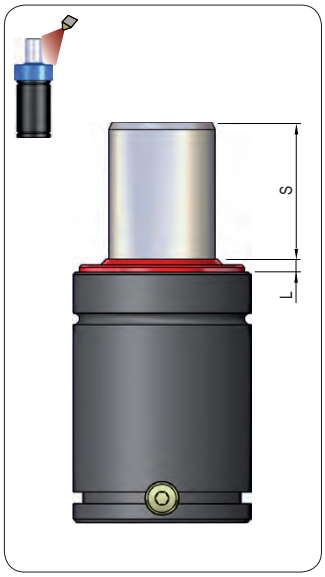
RE-12-25

Code

ONLY SHIELD SCRAPER

Please check the Smax specification for each model in the catalogue (Other models under order)

SHIELD-SCRAPER



How to order

MICRO 63V x 75 RE

- MICRO 63V: Model
- 75: Stroke
- RE: With Shield-scraper

GAS SPRING WITH SHIELD-SCRAPER

RE-36-50

- RE-36-50: Code

ONLY SHIELD-SCRAPER

MICRO 75 x 50 CR RE

- MICRO 75: Model
- 50: Stroke
- CR: With chromed stem
- RE: With Shield-scraper

GAS SPRING WITH SHIELD-SCRAPER AND CHROMED STEM TO PROTECT AGAINST CORROSION

Please check the Smax specification for each model in the catalogue (Other models under order)

- ✓Excellent protection against both liquid and solid pollution
- ✓ Simple assembly in the gas spring
- ✓ It makes it possible to have gas springs working in any position
- ✓ Cost savings.
- ✓ Usable with all kinds of larges.
- ✓ (CR) optional chromed stem.



Code	Gas spring code	L mm	S mm
RE-20-32	MICRO 38V	4,5	Smax (-4,5)
	MICRO 38VS		
	MICRO 38C		
	TPS 500.1		
	TPSP 500.1		
	TPR 38.1		
RE-20-35	TPS 500.2	4,5	Smax (-4,5)
	TPKF 500		
RE-22-32	MICRO 38	4,5	Smax (-4,5)
	MICRO 38R		
	MICRO 38H		
	TITAN 38		
	TPK 600		
	TPC 500		
	TPCR 500		
	TPCT 500		
	TPG 500		
RE-25-35	MICRO 45	5,0	Smax (-5,0)
	MICRO 45V		
	MICRO 45C		
	MICRO 45CF		
	TPSP 750		
	TPK 750		
	TPKS 750		
	TPR 45		
RE-25-40	TPS 750	5,0	Smax (-5,0)
	TPKF 750		
RE-28-40	MICRO 50VS	5,0	Smax (-5,0)
	MICRO 50.1		
	MICRO 50CS		
	MICRO 50CF		
	TPS 1000x13.1		
	TPS1000x125.1		
RE-30-40	TPK 1000	5,0	Smax (-5,0)
	TPKS 1000		
	TPC 1000		
	TPSP 1000x160.1		
	TPSP 1000x300.1		
	TPR 50		
	MICRO 50V		
	MICRO 50C.1		
RE-32-43	TITAN 50	5,5	Smax (-5,5)

Code	Gas spring code	L mm	S mm
RE-36-50	MICRO 63V	6,0	Smax (-6,0)
	MICRO 63CF		
	MICRO 63CS		
	TPK 1500.1		
	TPKN 1500		
	TPC 1500		
	TPSP 1500		
	TPMCA 1500		
	TPMCSB 1500.1		
RE-36-63	TPS1500.1	6,0	Smax (-6,0)
RE-40-55	MICRO 63	5,5	Smax (-5,5)
RE-42-55	TITAN 63	5,5	Smax (-5,5)
RE-45-63	TPSP2400	6,0	Smax (-6,0)
RE-45-65	MICRO 75	7,5	Smax (-7,5)
	MICRO 75CF		
	MICRO 75CS		
	TPK 2500		
	TPC 2500		
	TPMCS 1500		
	TPMCSB 1500		
	TPMCS 2400		
	TPMCSB 2400		
RE-50-65	TPK 3000	7,5	Smax (-7,5)
	TITAN 75		
	TPC 3000		
	TPCT 2500		
	TPCT 3000		
	TPMCA 3000		
	TPMCB 3000.1		
RE-50-80	TPS 3000	7,5	Smax (-7,5)
	TPKF 3000		
RE-60-80	MICRO 95	7,5	Smax (-7,5)
	TPK 4250		
	TPC 4000		
	TPCT 5000		
	TPSP 4200		
	TPMCS 3000		
	TPMCSB 3000		
	TPMCA 4500		
	TPMCB 4500.1		
RE-65-100	TPS 5000	6,0	Smax (-6,0)
RE-75-100	MICRO 120V	6,0	Smax (-6,0)
	MICRO 120.1		
	TPC 6500		
	TPSP 6600		
	TPMCA 6500		
	TPMCB 6500.1		
RE-80-125	TPS 7500	7,5	Smax (-7,5)
RE-90-125	MICRO 150	7,5	Smax (-7,5)
	TPC 10000		

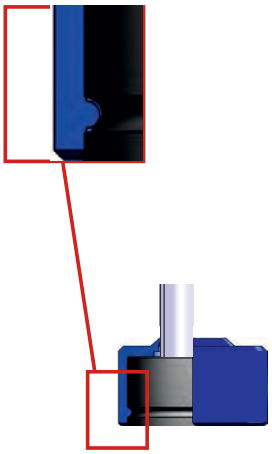
ASSEMBLY ILUSTRATIONS ILUSTRACIONES DEL MONTAJE



Select the correct gas spring and the SHIELD-SCRAPER model.



Introduce the SHIELD-SCRAPER into the stem.

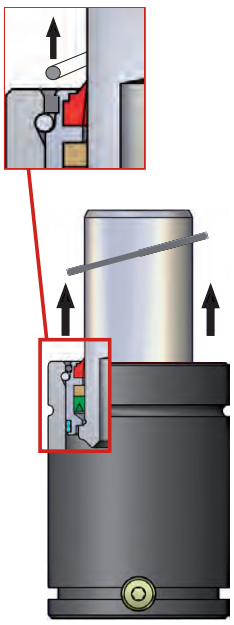


Press the SHIELD-SCRAPER into the correct position.

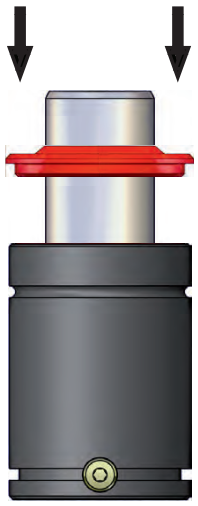
ASSEMBLY ILUSTRATIONS ILUSTRACIONES DEL MONTAJE



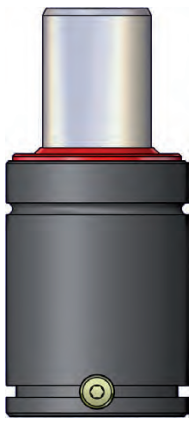
Select the correct gas spring and the SHIELD-SCRAPER model.



Remove the pollution project O-ring.



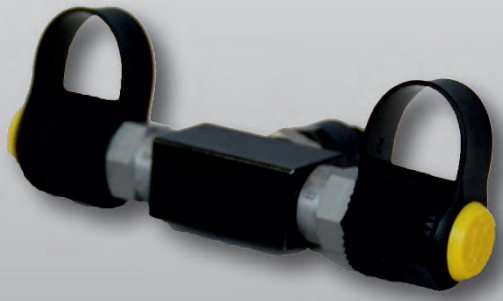
Introduce the SHIELD-SCRAPER into the stem.



Press the SHIELD-SCRAPER to the correct position.


OPEN
CLOSED
EN 837-1
100
200
300
400
0
bar
CL 2.5
WIKA

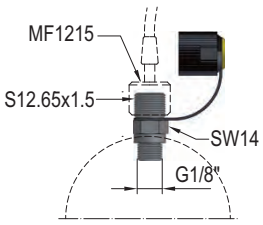




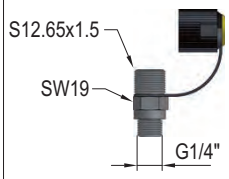




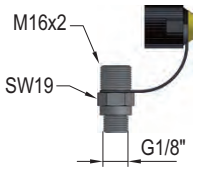
RMF-D1



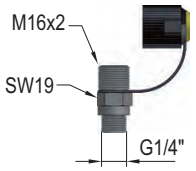
RMF-D2



RMF-D3

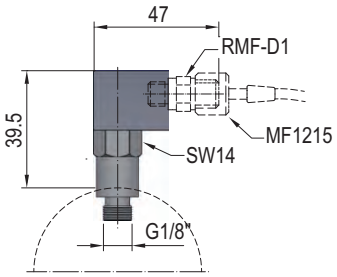


RMF-D4

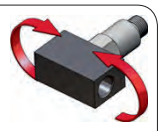


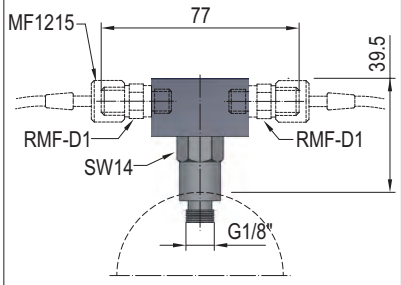
RMF-C





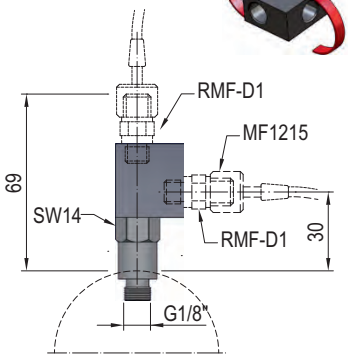
RMF-T





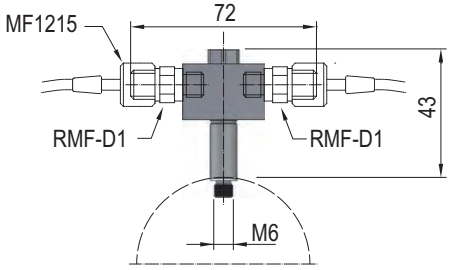
RMF-L





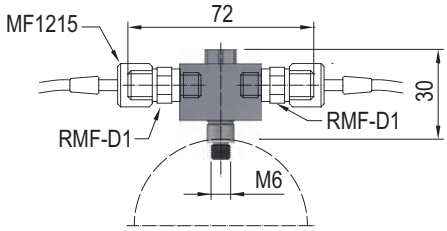
RMF-T-M6L



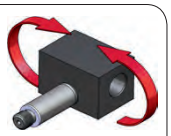


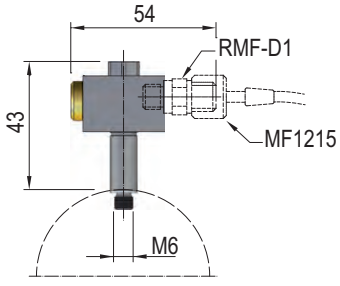
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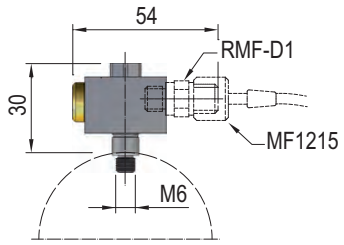
RMF-C-M6L



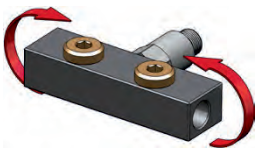


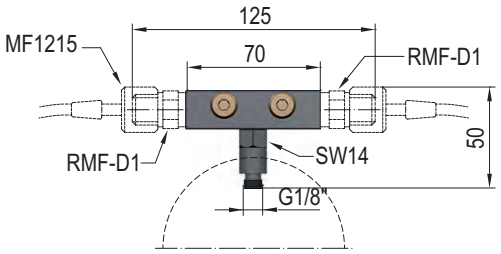
RMF-C-M6C



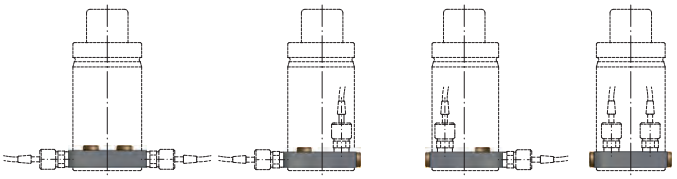


RMF-M



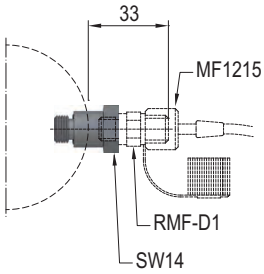


How to order



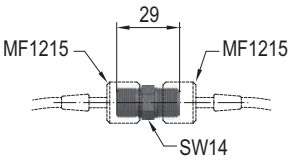
RMF-M1 RMF-M2 RMF-M3 RMF-M4

RMF-R

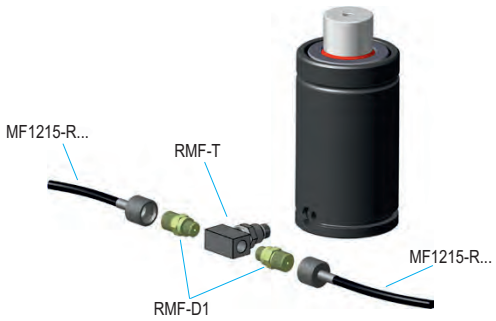


G1/8 male - G1/8 female

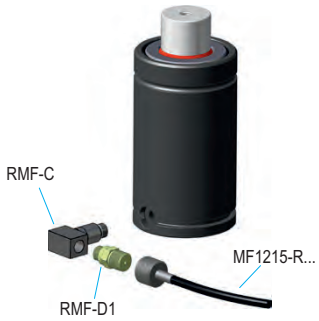
RMF-FH



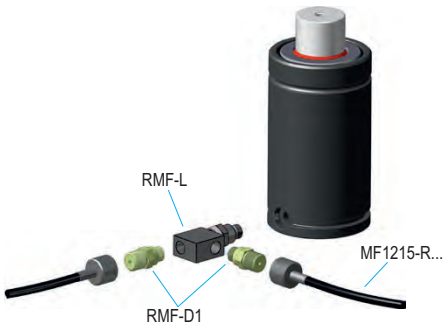
Installation sample
Gas spring (linked) + RMF-T



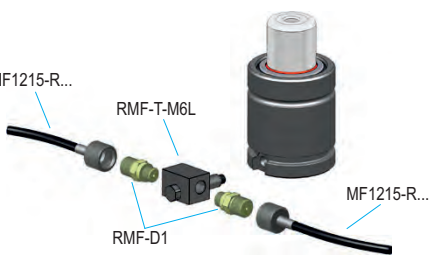
Installation sample
Gas spring (linked) + RMF-C



Installation sample
Gas spring (linked) + RMF-L



Installation sample
Gas spring (linked) + RMF-T-M6L



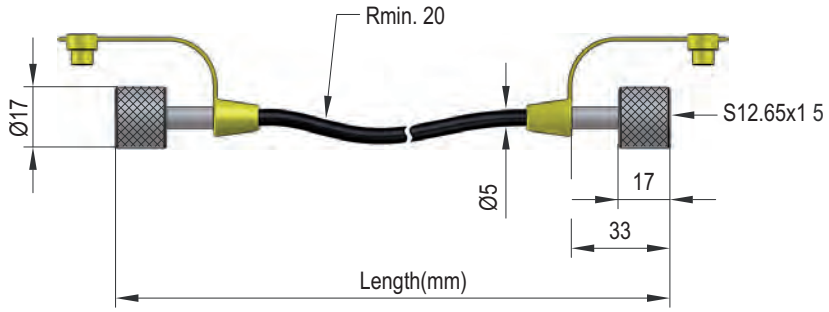
FLEXIBLE HOSE
MF 1215-RR



How to order

MF1215-RR - 500

Code | Length



TECHNICAL INFORMATION	
Max. working pressure	630 Bar
Max. working temperature	100 ºC
Minimum length	75 mm

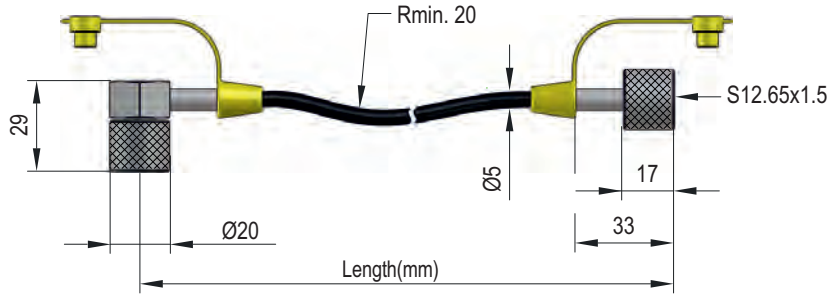
FLEXIBLE HOSE
MF 1215-RC



How to order

MF1215-RC - 350

Code | Length



TECHNICAL INFORMATION	
Max. working pressure	630 Bar
Max. working temperature	100 ºC
Minimum length	90 mm

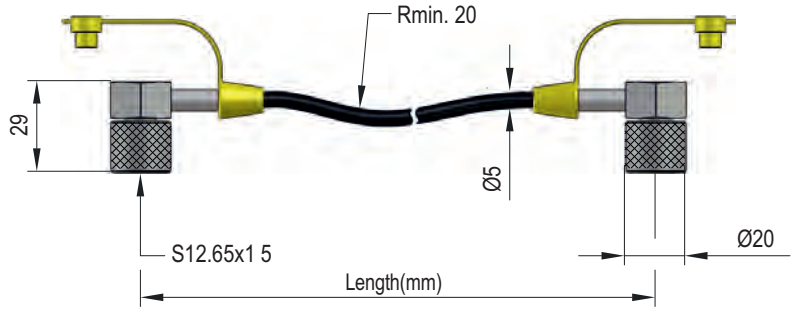
FLEXIBLE HOSE
MF 1215-CC



How to order

MF1215-CC - 250

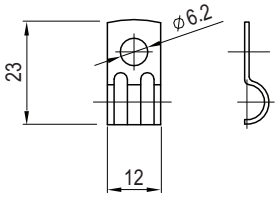
Code | Length



TECHNICAL INFORMATION	
Max. working pressure	630 Bar
Max. working temperature	100 ºC
Minimum length	100 mm

FLANGE FOR HOSE FIXTURE
BL-1



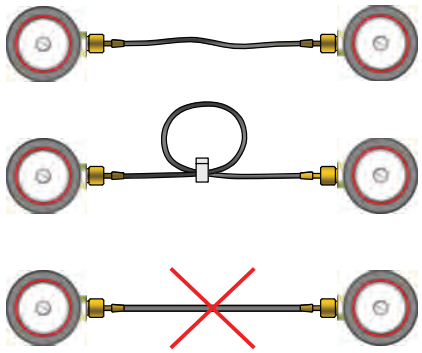


FLANGE FOR HOSE FIXTURE
BL-2

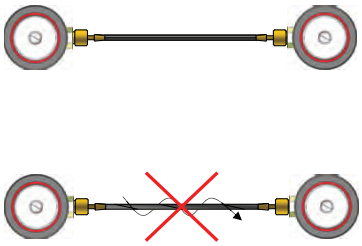


HOSE INSTALLATION GUIDELINES

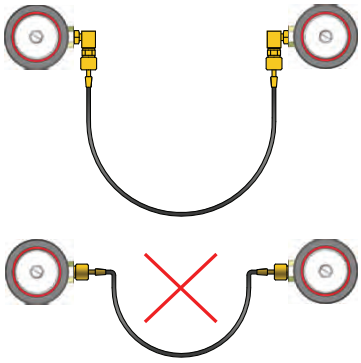
In order to avoid pressure losses during the interconnected gas spring connection process, the two ends of the hose are to be screwed in simultaneously.



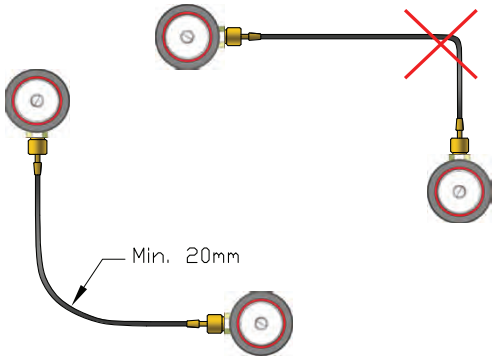
Hose length should be a little more than the exact length (10 or 20% more)



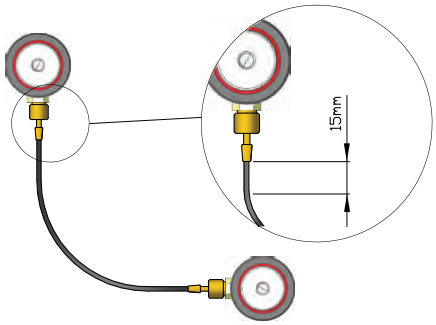
The hose must not be twisted during the installation process



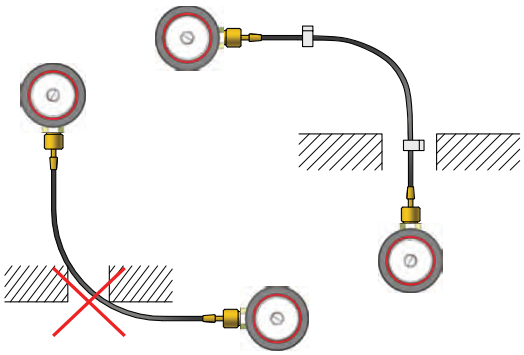
Select hose racords that avoid sharp bends in the hose



During the installation a minimum curve radius (20mm)should be respected.



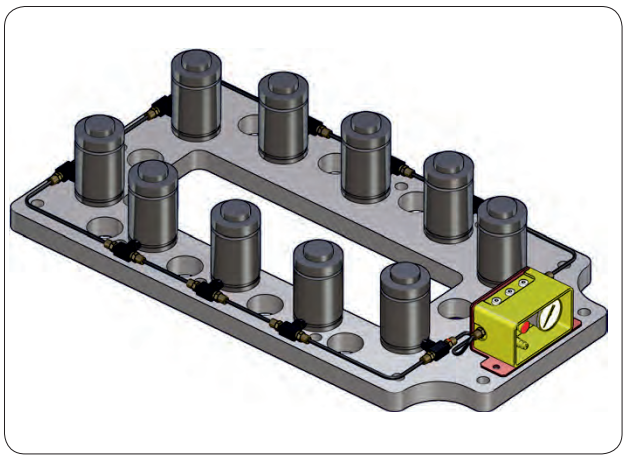
There should be at least an initial straight 15mm, to avoid damage in the connection



Flange the hose so as to avoid mechanical damage due to vibration, with a BL-1 or BL-2 flange

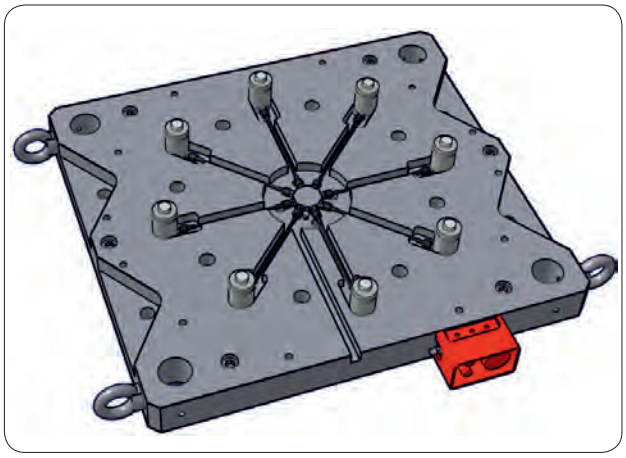
EXAMPLES OF INTERCONNECTED GAS SPRINGS

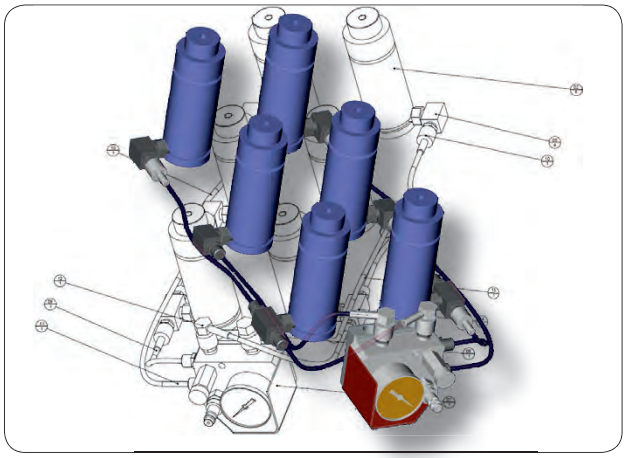






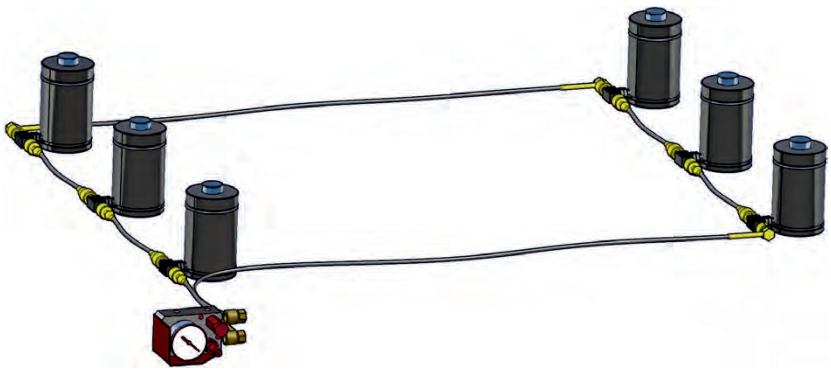




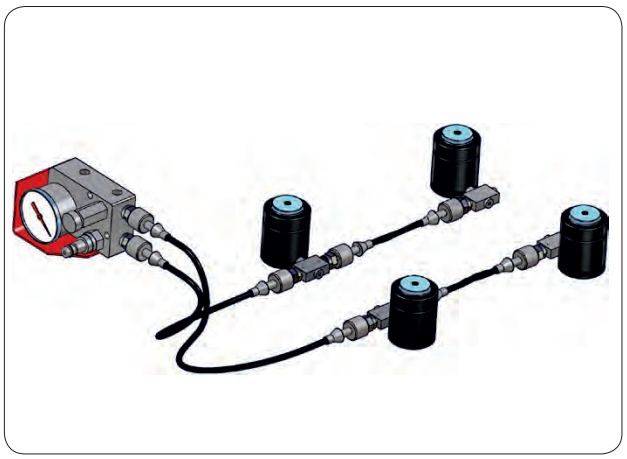


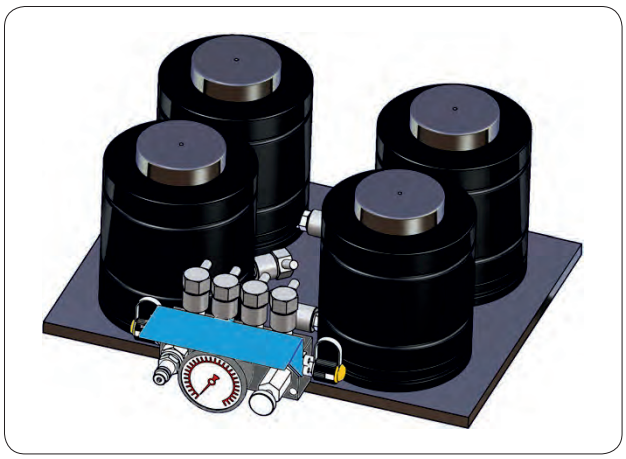
PARTS LIST:

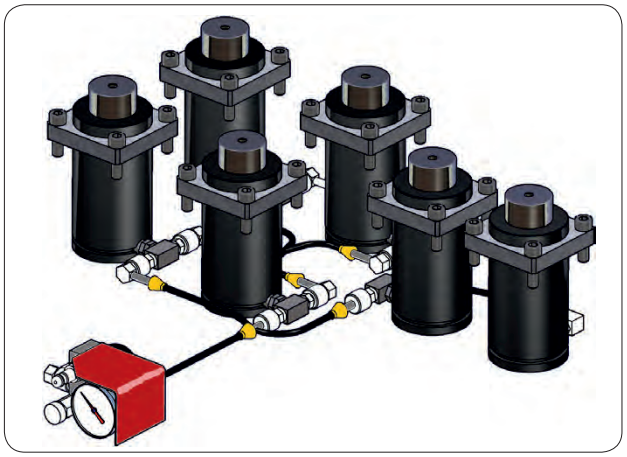
- 6 off GAS SPRING TPS series
- 6 off racord RMF-T
- 12 off racord RMF-D1
- 1 off control panel P110
- 4 off MF1215-RR-200
- 1 off MF1215-RC-180
- 1 off MF1215-CC-600
- 1 off MF1215-CC-780

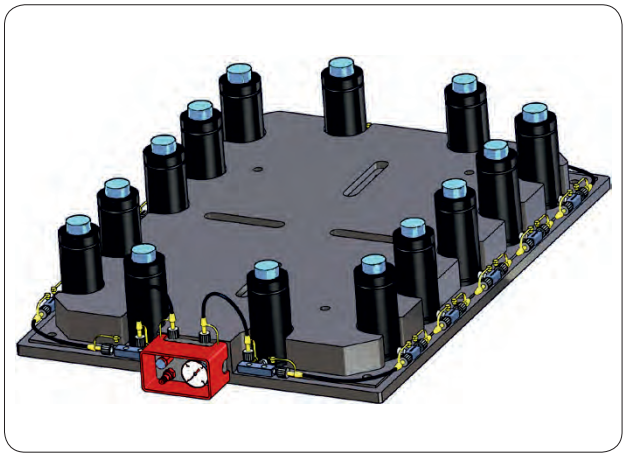


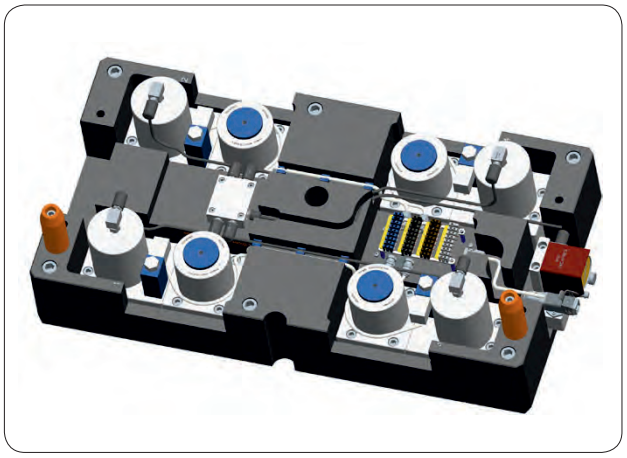
EXAMPLES OF INTERCONNECTED GAS SPRINGS

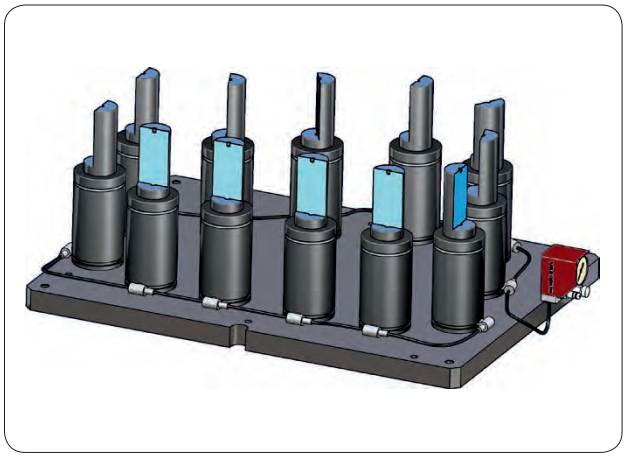


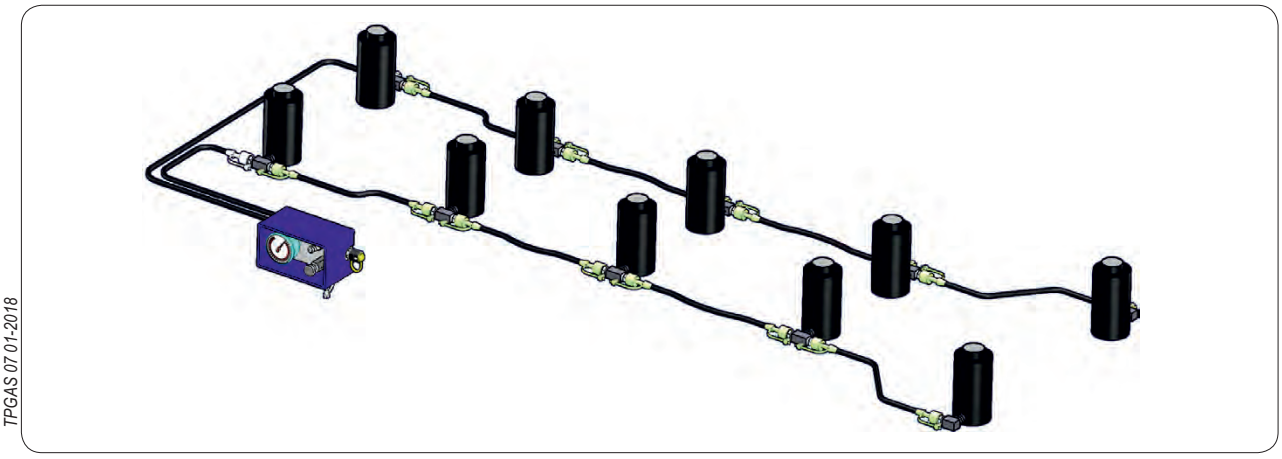




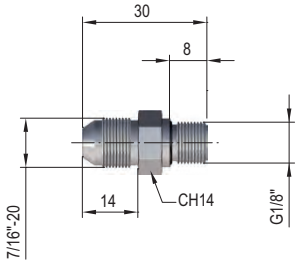




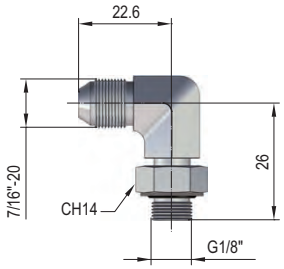




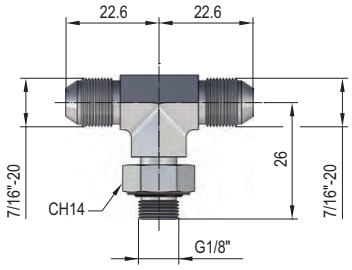
RCF-1



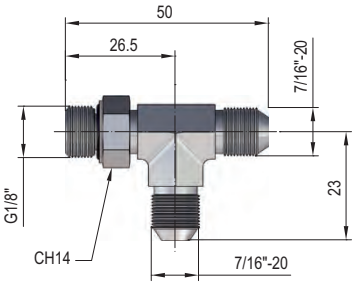
RCF-2



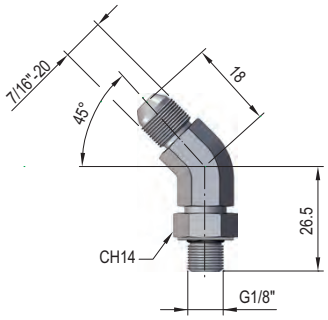
RCF-3



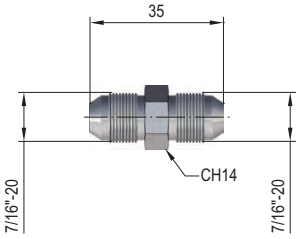
RCF-4



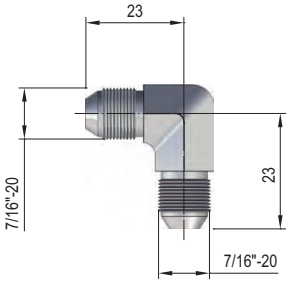
RCF-5



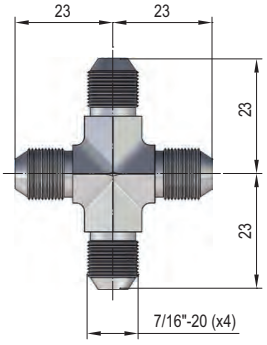
RCF-6



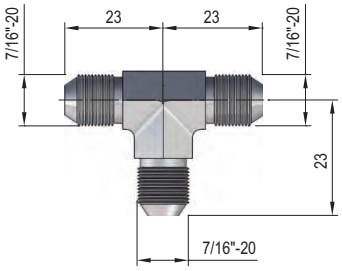
RCF-7



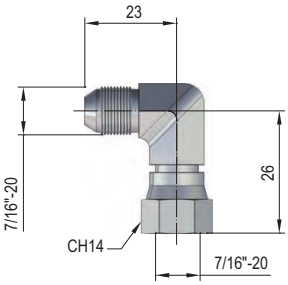
RCF-8



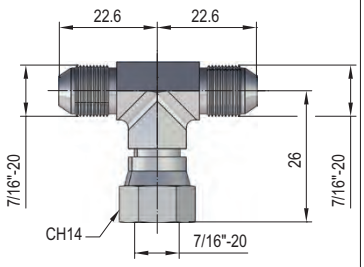
RCF-9



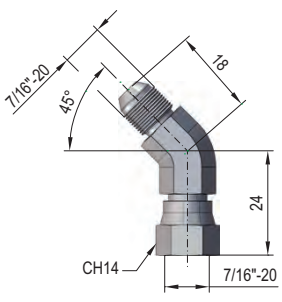
RCF-10



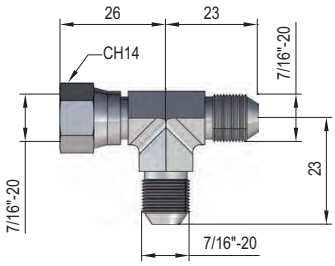
RCF-11



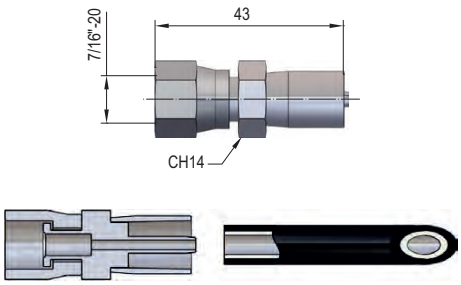
RCF-12



RCF-13



RCF-14



MPF HOSE SPECIFICATIONS



3,6 mm

8,1 mm

400 bar

12,7 mm



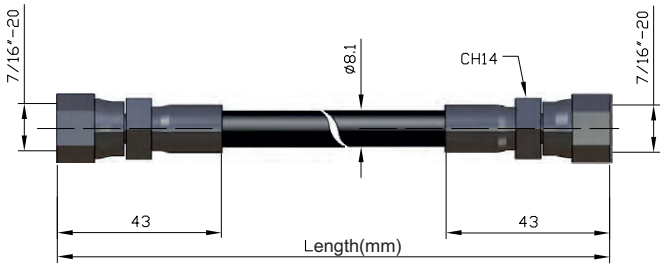
MP HOSE



How to order

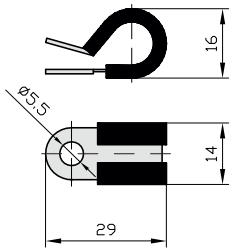
MP-RR - 500

Code | Length



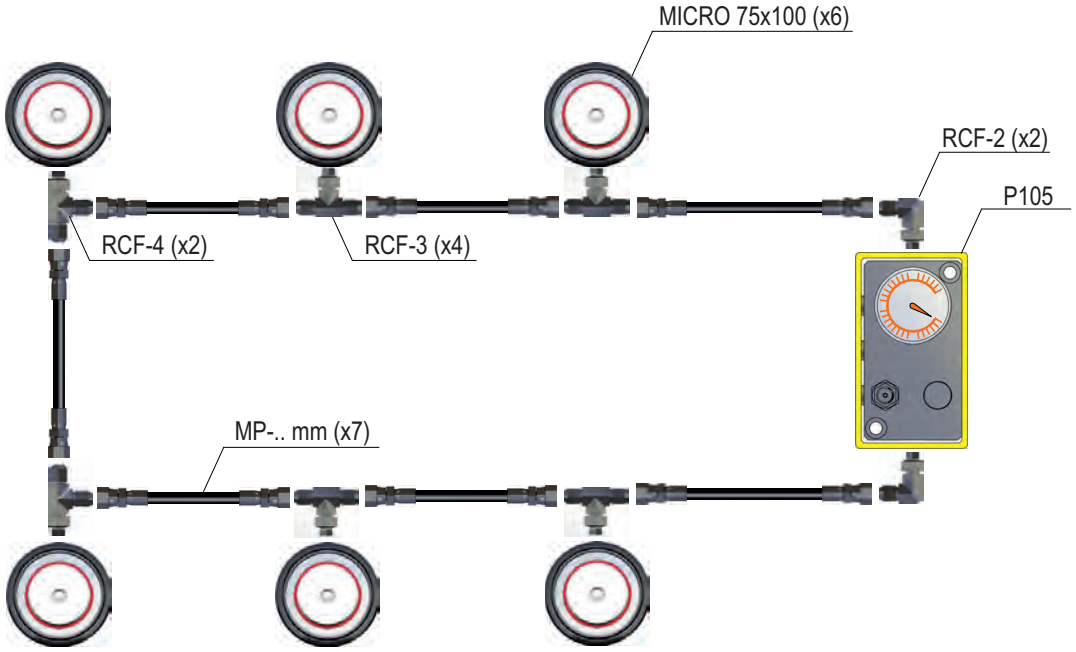
FLANGE FOR HOSE FIXTURE **BMP**

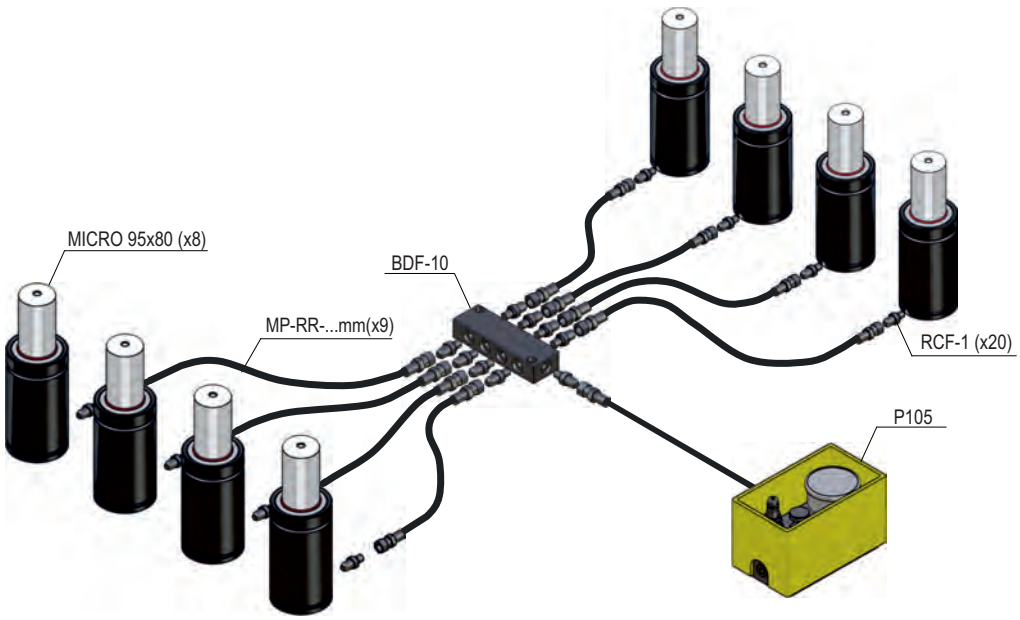




EXAMPLES OF INTERCONNECTED GAS SPRINGS

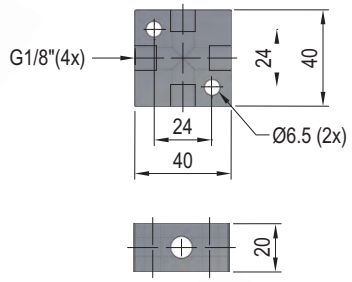
JIC 37º SYSTEMS



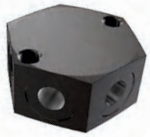


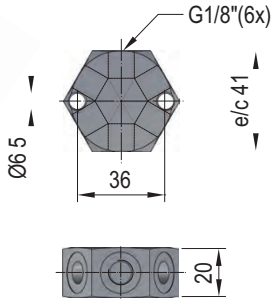
DISTRIBUTION BLOCK
BD 4





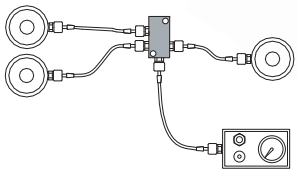
DISTRIBUTION BLOCK
BD 6 HEX

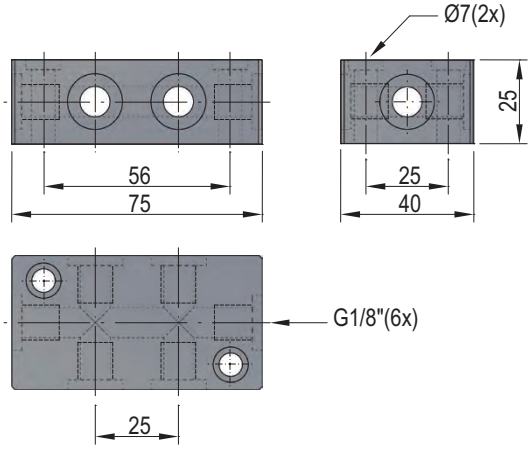




DISTRIBUTION BLOCK
BDF 6

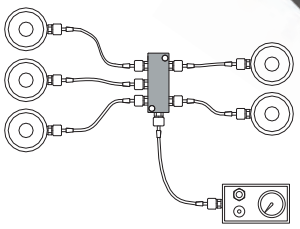


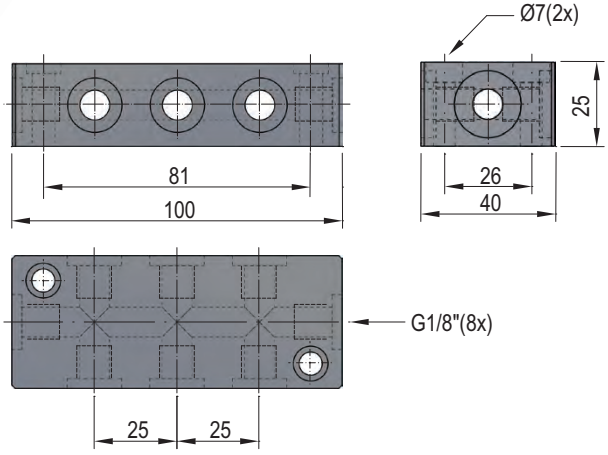




DISTRIBUTION BLOCK
BDF 8

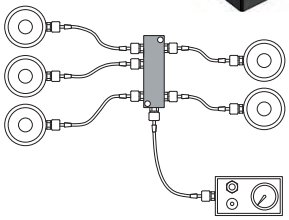


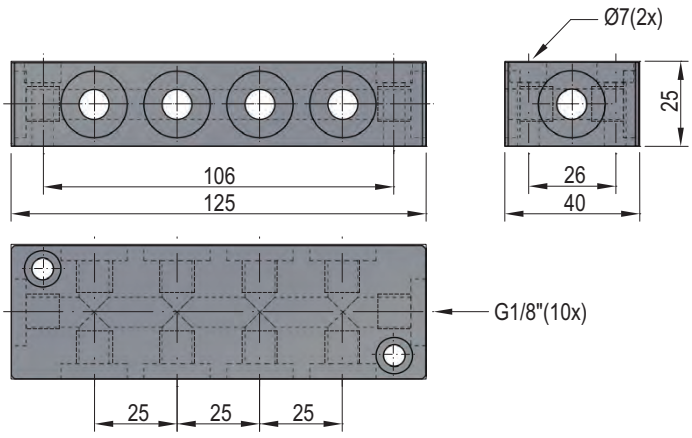




DISTRIBUTION BLOCK
BDF 10

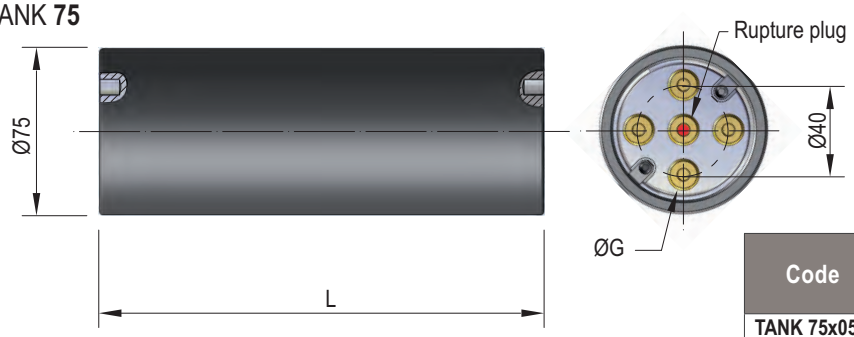






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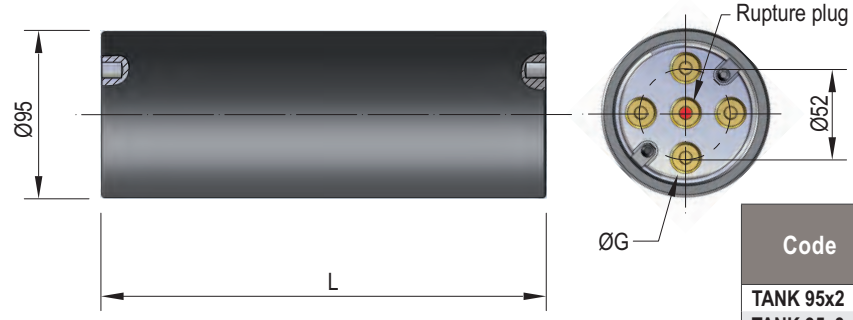
TANK **75**



Code	Vol l	L mm	P Bar	ØG
TANK 75x05	0,5	40	150	G1/8"
TANK 75x1	1,0	56		
TANK 75x05-1	0,5	40		G1/4"
TANK 75x1-1	1,0	56		

Use only with racords and hoses JIC 37º

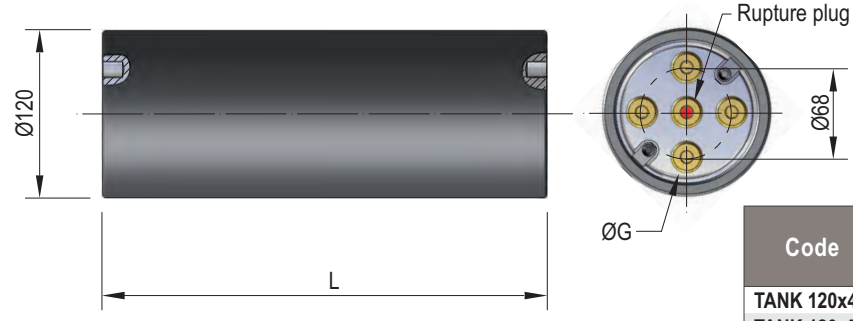
TANK **95**



Code	Vol l	L mm	P Bar	ØG
TANK 95x2	2,0	410	150	G1/8"
TANK 95x3	3,0	650		
TANK 95x2-1	2,0	410		G1/4"
TANK 95X3-1	3,0	650		

Use only with racords and hoses JIC 37º

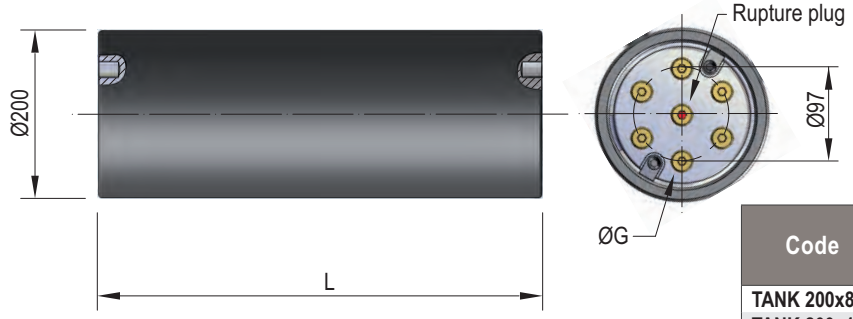
TANK **120**



Code	Vol l	L mm	P Bar	ØG
TANK 120x4	4,0	560	150	G1/8"
TANK 120x5	5,0	690		
TANK 120x4-1	4,0	560		G1/4"
TANK 120x5-1	5,0	690		

Use only with racords and hoses JIC 37º

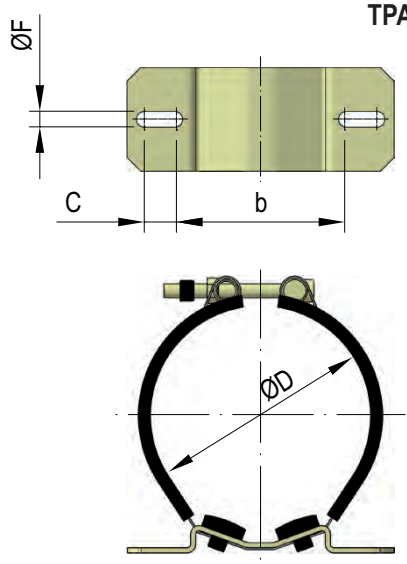
TANK **200**



Code	Vol l	L mm	P Bar	ØG
TANK 200x8	2,0	410	150	G1/8"
TANK 200x10	3,0	650		
TANK 200x8-1	2,0	410		G1/4"
TANK 200x10-1	3,0	650		

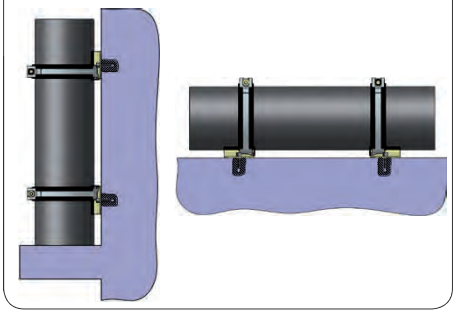
Use only with racords and hoses JIC 37º

TANK CLAMPS
TPAT





Assembly possibilities



Code	Tank model	ØD mm	b mm	C mm	ØF mm
TPAT 75	TANK 75	75	85	8	9
TPAT 95	TANK 95	95	85	8	9
TPAT 120	TANK 120	120	100	18	9
TPAT 200	TANK 200	200	152	32	9

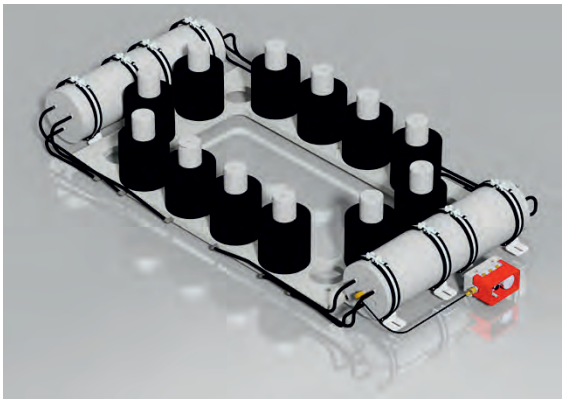
Examples of application





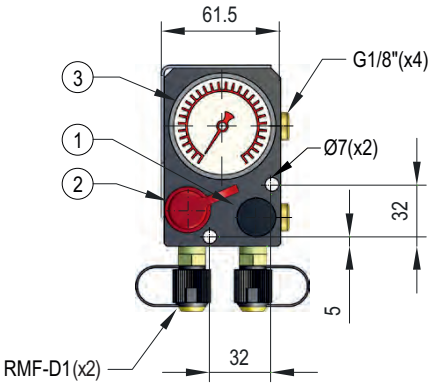
Design, manufacture and machining.

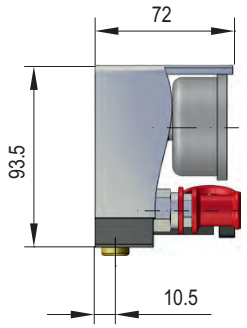


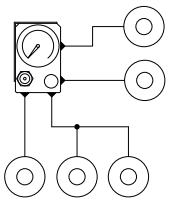


MINI CONTROL PANEL
P110









Max. 4 connectors

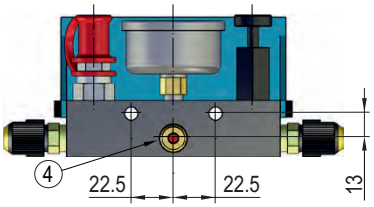
1. Discharge **VD-1** valve
2. Quick coupling for charging **ERM**
3. Pressure **MP-1** gauge

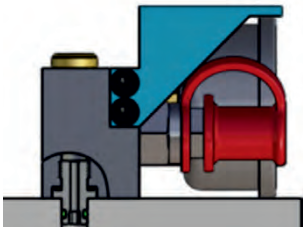
Mini-control panel: this small-sized device is used for the permanent control of gas-spring pressure. It is equipped with a quick-fit socket for gas charging and a discharging valve for decompression. P110 control panels have up to 4 G1/8" outlets for a gas spring interconnection. Pressure gauge range is from 0 to 400 Bar.

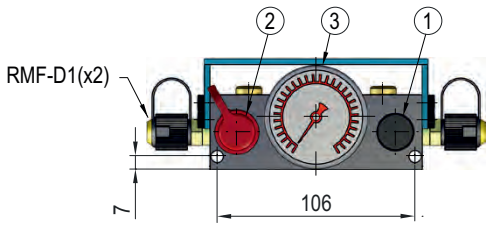
COMPACT CONTROL PANEL
P120

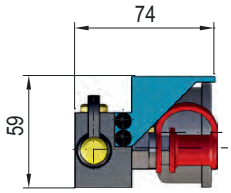


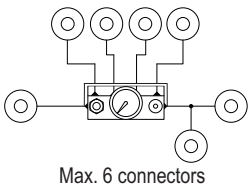
✓ **EASY WAY TO USE WITH ECO-MANIFOLD SYSTEM!**



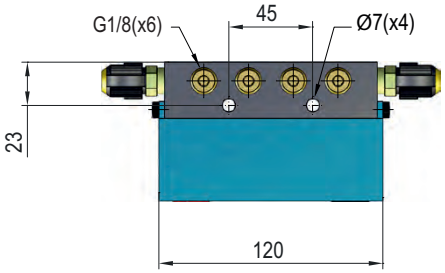








Max. 6 connectors

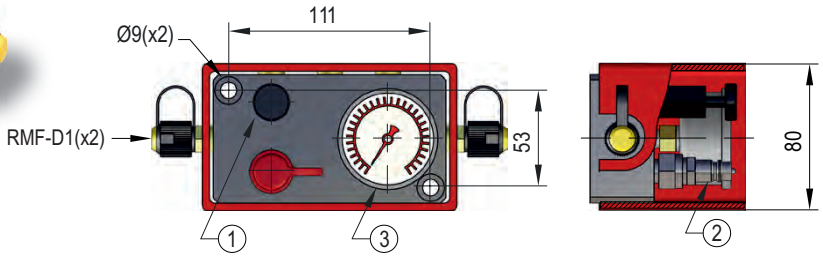


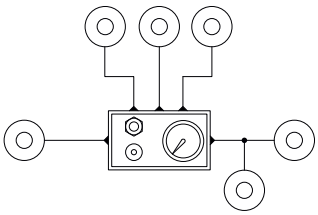
1. Discharge **MP-1** valve
2. Quick coupling for charging **ERM**
3. Pressure **MP-1** gauge
4. Eco-manifold port

Compact control panel: this compact-sized device is used for the permanent control of gas-spring pressure. It is equipped with a quick-fit socket for gas charging and a discharging valve for decompression. P120 control panels have up to 7 G1/8" outlets for a gas spring interconnection. Pressure gauge range is from 0 to 400 Bar.

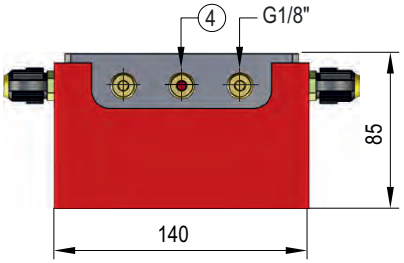
CONTROL PANEL
P100







Max. 5 connectors

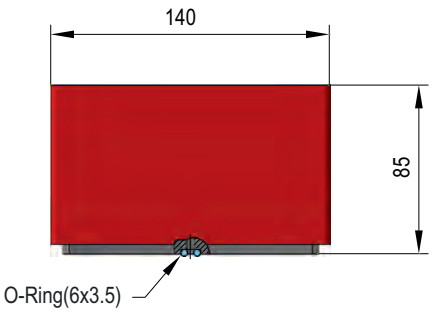


1. Discharge **VD-1** valve
2. Quick coupling for charging **ERM**
3. Pressure **MP-1** gauge
4. Over-pressure safety plug

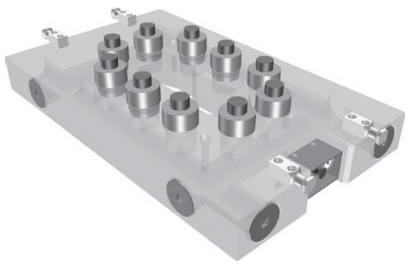
Standard control panel. This device is used for permanently controlling gas spring pressure. It is equipped with a quick-fit socket and discharging valve for decompression. The P100 control panel has up to 5 G1/8 outlets for interconnecting gas springs. Pressure gauge range is from 0 to 400 Bar.

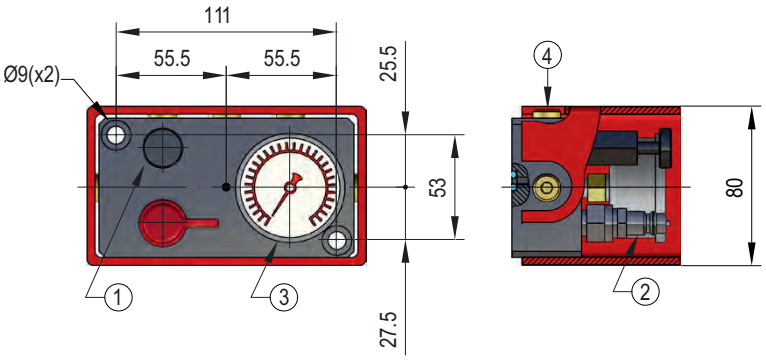
CONTROL PANEL FOR MANIFOLD PLATES
P100M





1. Discharge **VD-1** valve
2. Quick coupling for charging **ERM**
3. Pressure **MP-1** gauge
4. Over-pressure safety plug

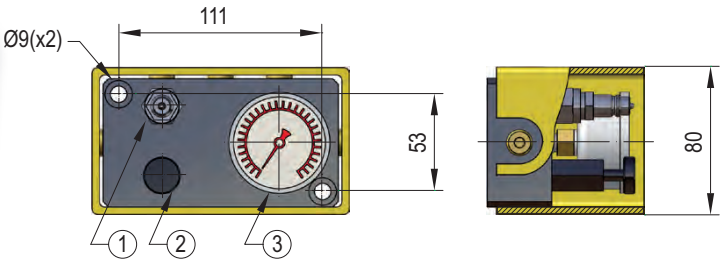


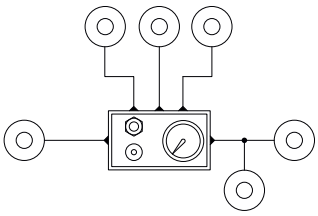


Standard control panel with a rear outlet for manifold plates: this device is used for the permanent control of gas springs interconnected by means of a manifold plate. It is equipped with a quick-fit socket for gas charging and a discharging valve for decompression. Pressure gauge range is from 0 to 400 Bar.

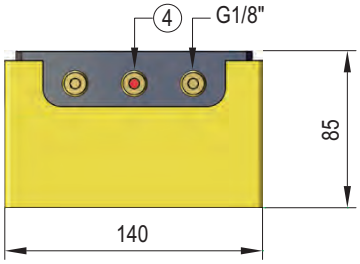
CONTROL PANEL
P105







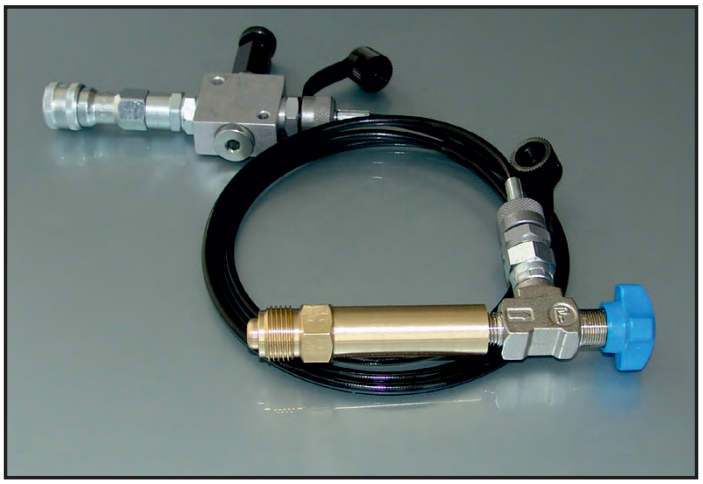
Max. 5 connectors

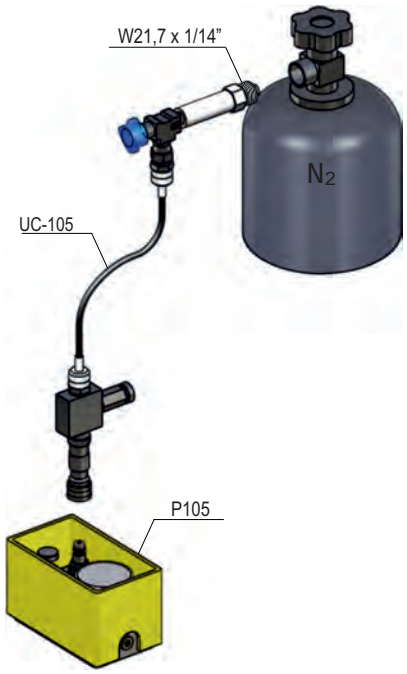


1. Quick coupling for charging **ERMF**
2. Discharging **VD-1** valve
3. Pressure **MP-1** gauge
4. Over-pressure safety plug

Standard control panel. This device is used for permanently controlling gas spring pressure. It is equipped with a quick-fit socket and discharging valve for decompression. The P105 control panel has up to 5 G1/8 outlets for interconnecting gas springs. Pressure gauge range is from 0 to 400 Bar.

CHARGING UNIT FOR P105 CONTROL PANEL
UC-105





The UC-105 charging unit is a charging device for gas springs that are interconnected through P105 or PM201-F control panels.

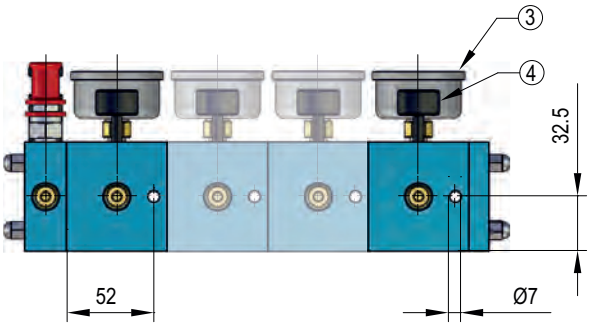
MULTIPLE CONTROL PANEL
PM201



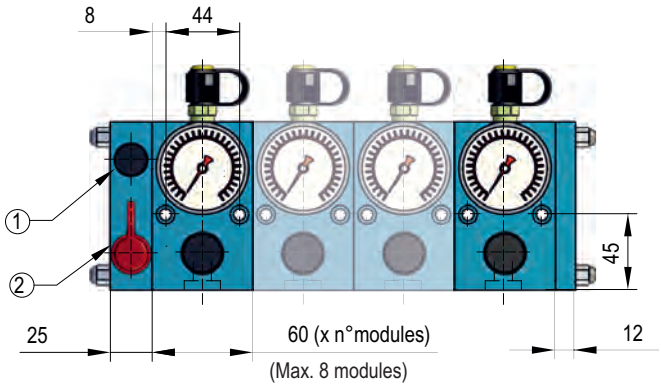
This is the PM201 modular multiple control panel, for controlling linked systems or single gas springs with different working pressure in the same tool, or only to check the pressure individually, for better control.

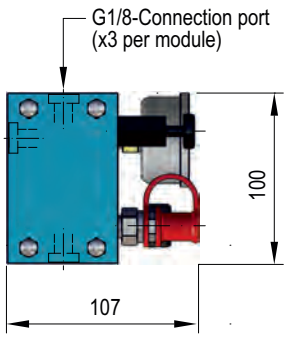
Each module is manufactured in aluminium and includes pressure gauge and open-closed valve.

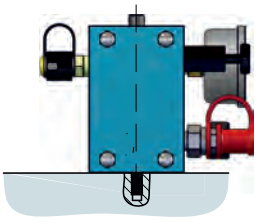
A maximum of 8 modules can be connected together with a common filling quick coupling.



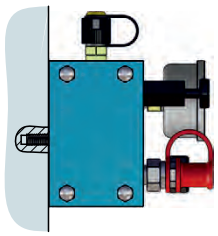
1. Discharge **VD-1** valve
2. Quick coupling for charging **ERM / ERMF**
3. Pressure **MP-1** gauge
4. 2 position modular valve







Horizontal mounting



Vertical mounting

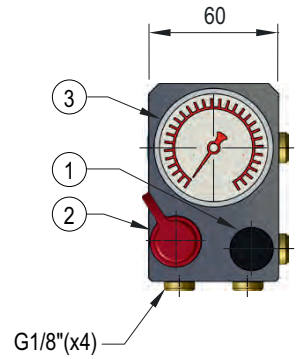
How to order

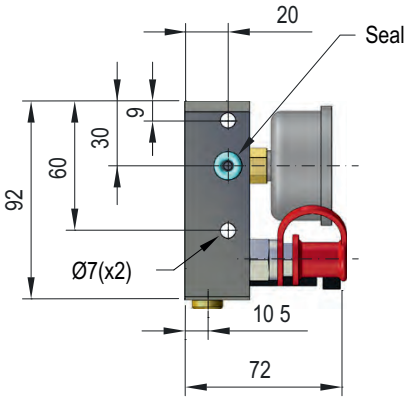
PM201	-	3	C
Code		Number of modules (Max. 8)	Filling valve

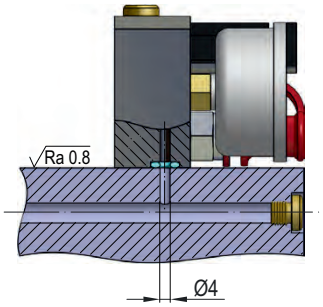
Filling valve type:
PM201 - ... - C ERM quick coupling
PM201 - ... - F ERMF quick coupling

CHARACTERISTICS: each module has three G1/8 outlets for interconnection. The control panel can be assembled on its lower base or on its back. Each model has pressure gauge with a range from 0 to 400 Bar.

CONTROL PANEL FOR ECO-MANIFOLD PLATES
P110 M



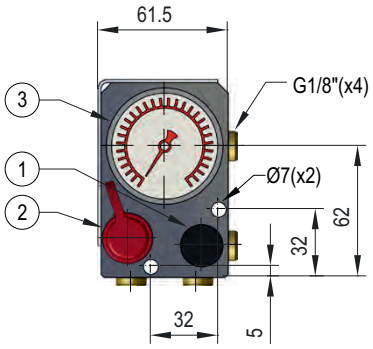


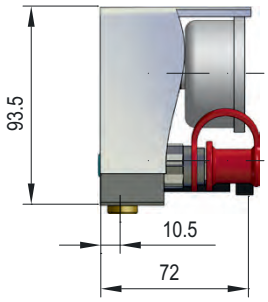


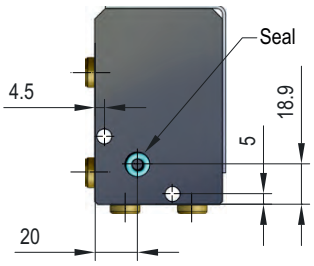
1. Discharge **VD-1** valve
2. Quick coupling for charging **ERM**
3. Pressure **MP-1** gauge

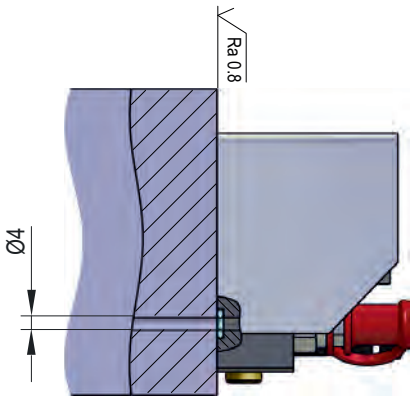
Mini control panel with a side outlet for manifold plates: this device is used for the permanent control of gas springs interconnected by means of a manifold plate. It is equipped with a quick-fit socket for gas charging and a discharging valve for decompression. Pressure gauge range is from 0 to 400 Bar

CONTROL PANEL FOR ECO-MANIFOLD PLATES
P110 CE





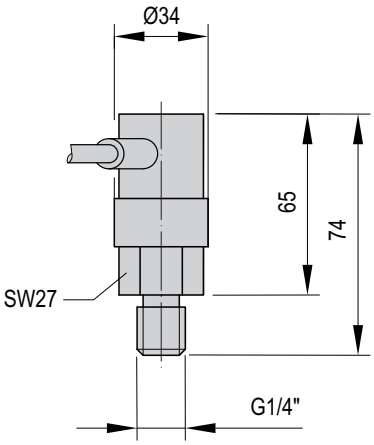




1. Discharge **VD-1** valve
2. Quick coupling for charging **ERM**
3. Pressure **MP-1** gauge

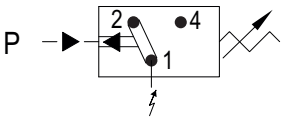
Mini control panel with a rear outlet for manifold plates: this device is used for the permanent control of gas springs interconnected by means of a manifold plate. It is equipped with a quick-fit socket for gas charging and a discharging valve for decompression. Pressure gauge range is from 0 to 400 Bar.

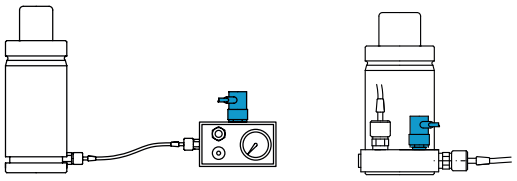
PRESSURE SWITCH
PS-1





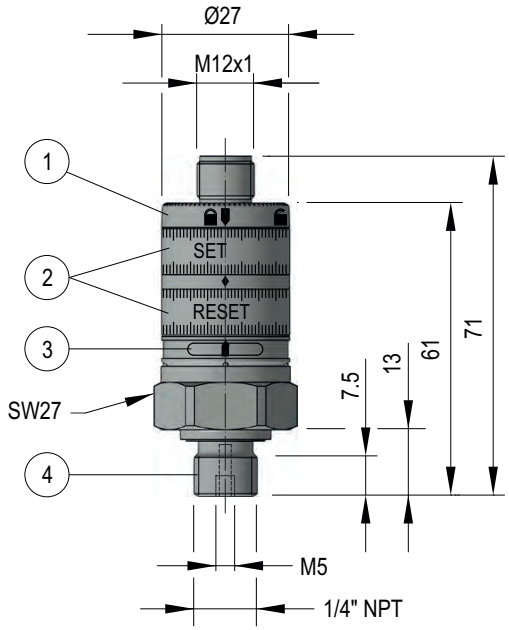
✓ **LOWEST COST PRESSURE SWITCH**





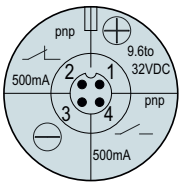
TECHNICAL INFORMATION	
Work field	50 - 200 Bar
Working temperature	-30ºC +100ºC
Operation voltage	4A / 250V
Operating frecuency	< 200min^{-1}
Mechanical life	10^6 operating cycles
IP protection	IP 65

PRESSURE SWITCH
PS-2



① Locking ring
② Setting ring (manually adjustable after unlocking)
③ Green LED: supply voltage OK
Yellow LED: Set1 value reached, output = ON
④ Tightening torque 25Nm

NOTE: protective cover and angled electrical connector (5m cable) included





✓ **LOW COST PRESSURE SWITCH FOR PRESSURE CONTROL IN LINKED GAS SPRINGS SYSTEM**

✓ **EASY TO CONNECT TO THE CONTROL PANEL**

TECHNICAL INFORMATION	
Work field	0 - 400 Bar
Working temperature	-25ºC +80ºC
Operation voltage	9.6 to 32 VDC, <25mA
Operating frecuency	< 100Hz
Mechanical life	50^6 operating cycles
IP protection	IP 67
Wiring terminations	4 pin M12 electrical connector

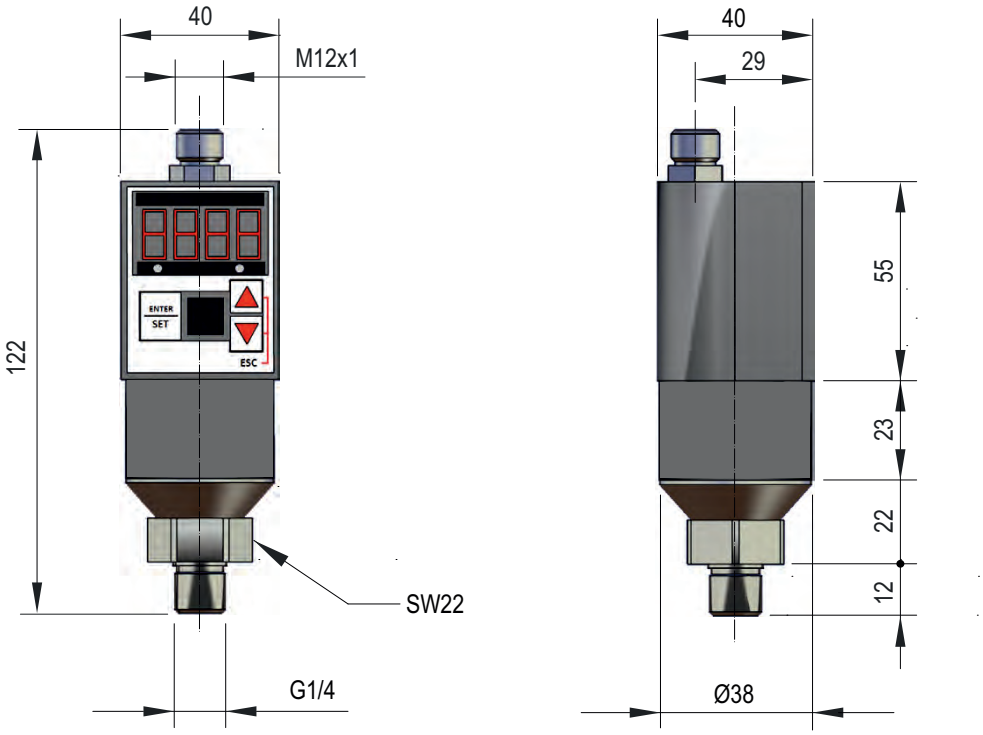


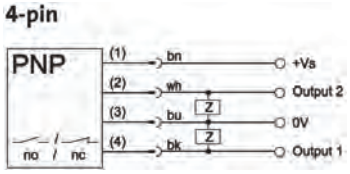
ELECTRONIC PRESSURE MONITOR
PS-4

PS-4 pressure monitors offer a high level of operating comfort.
Their distiguishing characteristic is a different sensing element connection. It is equipped with a 1/4 inch connection with an outside thread and it can also use a UP to +600bar. The media touching parts are also made of stainless steel.

Among other things, the switching points, realease positions, output logic and time delay can be programmed via the membrane keyboard.
Following installation, the sensor body can be rotated by 350º and the sensor display can be rotated 180º by means of software.
All adjustment parameters can be set an changed via a PC or notebook via the optical interface of the pressure monitor

Its software offers the opportunity to write measured values in an Excel table. Data logging can be triggered when necessary or set to determined readings.





Output 2, selectable between switching, analog and alarm output

Socket M12 connector, 4-pin



Straight Angle

TECHNICAL INFORMATION	
Output signal	PNP/analog (current output) /alarm output
Switching outputs	OUT1 / OUT2
Preassure range	400 Bar
Operating voltage	12 - 32V DC, <60 mA
Voltage drop (max. load)	< 2.0V DC
Output current (max. load)	1A
Switching frecuency	max. 125Hz
Repeat accuracy	≤ ± 0.1% of the final value
Operating temperature	-20ºC - +80ºC
IP protection	IP 65
Connection	M12-connector, 4-pin

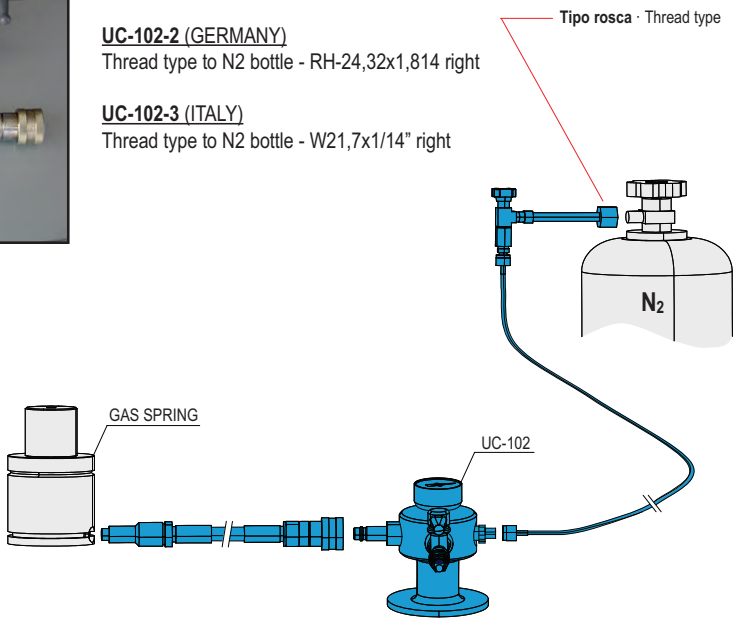
CHARGING UNIT FOR AUTONOMOUS GAS SPRINGS
UC-102



UC-102-1 (SPAIN)
Thread type to N2 bottle - M21,7x1,814 right

UC-102-2 (GERMANY)
Thread type to N2 bottle - RH-24,32x1,814 right

UC-102-3 (ITALY)
Thread type to N2 bottle - W21,7x1/14" right

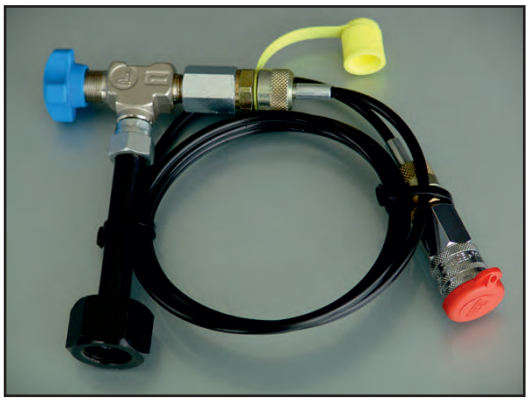


How to order

UC-102	-	2
Code		Thread type

The UC-102 charging unit is a charging device for autonomous gas springs. It is supplied with G1/8, M6A, M6-C and M8 hoses and charging couplings.

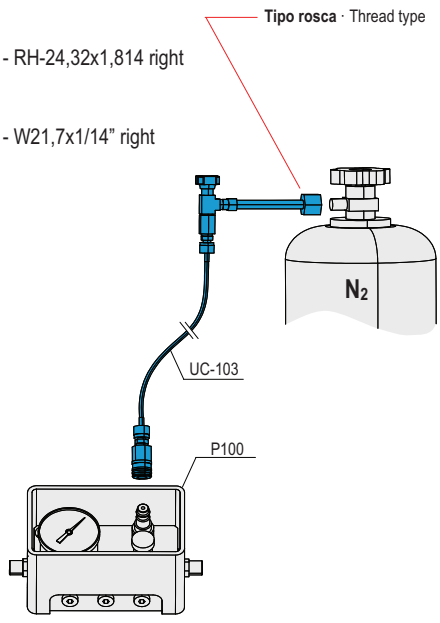
CHARGING UNIT FOR CONTROL PANEL
UC-103



UC-103-1 (SPAIN)
Thread type to N2 bottle - M21,7x1,814 right

UC-103-2 (GERMANY)
Thread type to N2 bottle - RH-24,32x1,814 right

UC-103-3 (ITALY)
Thread type to N2 bottle - W21,7x1/14" right



How to order

UC-103	-	1
Code		Thread type

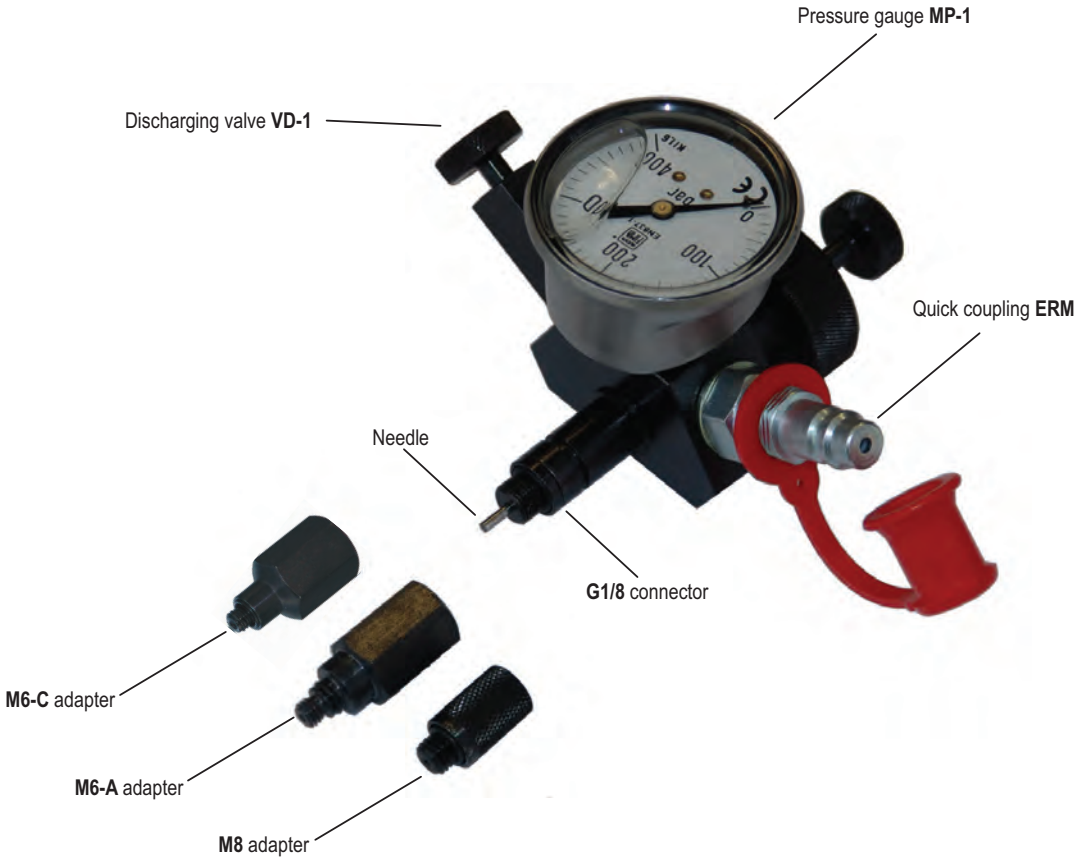
The UC-103 charging unit is a charging device for gas springs that are interconnected through a control panel.

CONTROL UNIT FOR AUTONOMOUS GAS SPRINGS
UC-101.1

The UC 101.1 control unit will allow for charging for all gas springs and also pressure control for gas springs by means of a G1/8 charging port. During pressure-checking operations, there is an approximate 10% gas loss.

✓ **FOR GAS SPRING PRESSURE MONITORING BY MEANS OF A G1/8 CHARGING PORT**

✓ **FOR ALL GAS SPRINGS (UC-103 NECESSARY)**



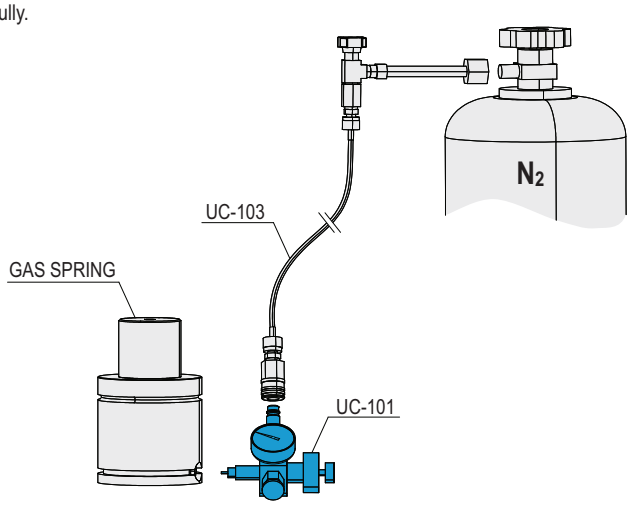
INSTRUCTIONS FOR USE OF UC-101.1 AS A CHARGING UNIT

For gas springs with a G1/8" charging port

- Step 1: Unscrew the G1/8"spindle half-way until the needle goes in fully.
- Step 2: Screw the gas spring on to the G1/8"connector.

For gas springs with a M6 or M8 thread

- Step 1: Screw an M6-A or M8 adaptor (as necessary) onto the G1/8" connector thread. If necessary, also screw in a M6-B or M6-C adaptor to the M6-A adaptor.
- Step 2: Screw the gas spring in the charging tool on to the M6-A or M6-B or M6-C or M8 connector (as necessary).
- Step 3: Plug the UC-103 charging hose into the quick coupling fitting.
- Step 4: Slowly open the valve in the UC-103 charging hose until the desired pressure is attained in the pressure gauge. Close the valve.
- Step 5: The gas spring valve closes automatically. In order to evacuate remaining pressure in the charging unit, turn the screw of the waste valve slowly until the remaining pressure is released (when the pressure gauge shows 0 bar). Turn the waste valve screw back to its initial position.
- Step 6: Take the gas spring out of the tool.

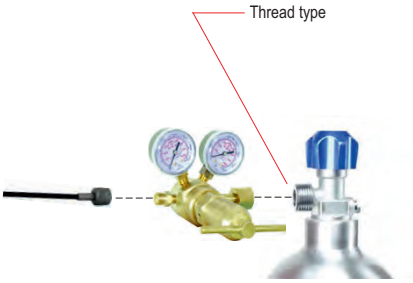


HIGH PRESSURE NITROGEN REGULATOR
PR-1



✓ Single stage construction with 2 gauges

✓ The nitrogen regulator with safety relief valve is set for safe operation



How to order

PR-1	-	2
Code		Thread type

PR-1 (SPAIN)
Thread type to N2 bottle - M21,7x1,814 right

PR-2 (GERMANY)
Thread type to N2 bottle - RH-24,32x1,814 right

TECHNICAL INFORMATION	
Max. Inlet pressure	315 Bar
Max. delivery pressure	210 Bar
Weight	2 Kg

CHARGING & CHECKING STAND SAMPLE



For further information, do not hesitate to get in touch with our technical department

+34 945 121 845
+34 945 250 827
support@tecapres.com

UM-102 PRESS (TABLETOP VERSION)

This is a specific small-sized tool for measuring gas spring force. It is quick and simple to use, and reliable.



TECHNICAL INFORMATION	
Power AC	85V - 265V AC 50/60 Hz
Measuring capacity	0 - 10Ton
Resolution	5 daN
Maximum gas spring height	380 mm

UM-103 PRESS (STANDING VERSION)

This is a specific large-sized tool for measuring gas spring force. It is quick and simple to use, and reliable.



TECHNICAL INFORMATION	
Power AC	85V - 265V AC 50/60 Hz
Measuring capacity	0 - 10Ton
Resolution	5 daN
Maximum gas spring height	800 mm

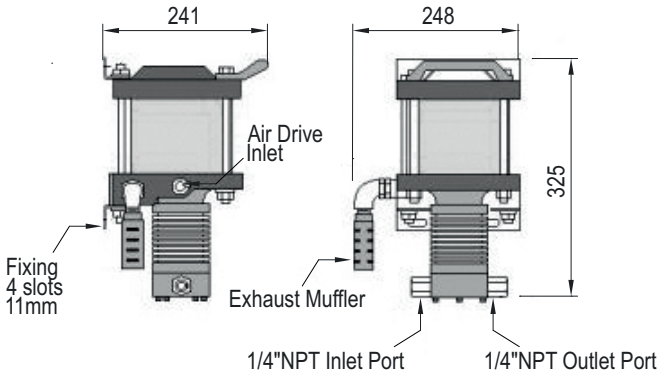
NITROGEN GAS BOOSTER
TPN2-AA30

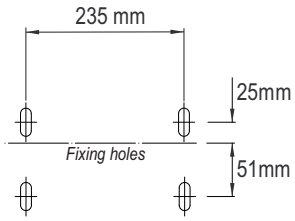
The TPN2-AA30 nitrogen gas charger allows for an optimum use of nitrogen bottles until a residual pressure of 20 bar is reached. Simple and safe to use, it has been designed to charge or complete gas charging for gas springs or manifold systems.

The TPN2-AA30 charger uses pressurised air (max. 7 bar) and is composed of a hydro-mechanic pump, the piston accumulator for the compression of nitrogen, inlet and release decompression valves.

The system is assembled on a base with handles for easy transportation.



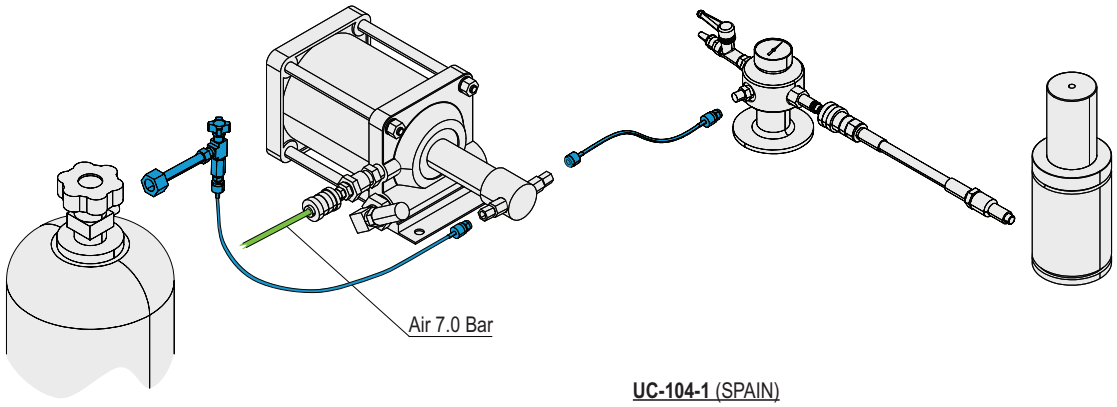




- ✓ **Control of maximum pressure by means of inexpensive air drive pressure regulators**
- ✓ **Single acting, single stage air pressure amplifier with pressure outputs up to 4500 psi (310 bar).**
- ✓ **Maximum Po ("Stall")=Pa x Ratio**

TECHNICAL INFORMATION	
Min air drive pressure	2,8 Bar
Max air drive pressure	10,3 Bar
Min inlet gas pressure	6,9 Bar
Max inlet gas pressure	310,3 Bar
Max outlet pressure	200 Bar
Max compression ratio	25:1
Weight	12 Kg

CHARGING EQUIPMENT FOR TPN2-AA30 BOOSTER
UC-104



How to order

UC-104 - 2

Code | Thread type

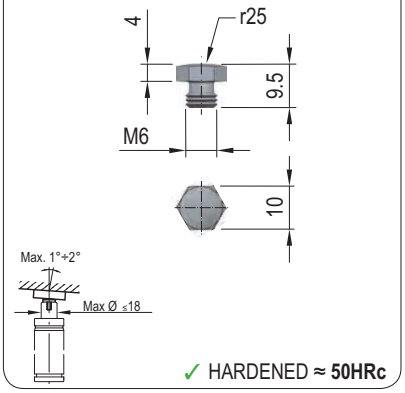
UC-104-1 (SPAIN)
Thread type to N2 bottle - M21,7x1,814 right

UC-104-2 (GERMANY)
Thread type to N2 bottle - RH-24,32x1,814 right

UC-104-3 (ITALY)
Thread type to N2 bottle - W21,7x1/14" right

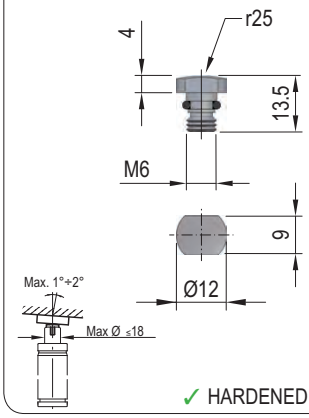
UC-104 charging equipment is made up of different connection lines and fittings with which to Connect the nitrogen cylinder tank bottle to the TPN2-AA30 booster, and this, in turn, is connected to the UC-102 charging unit.

THRUST PLATE **TPSC-M6**



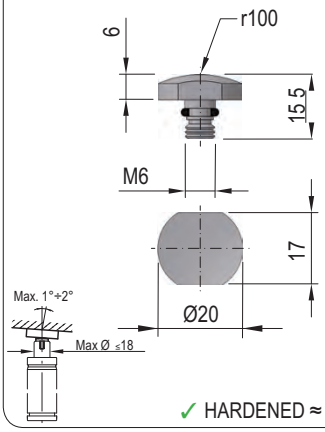
✓ HARDENED ≈ **50HRc**

THRUST PLATE **TPSC-M6OR**



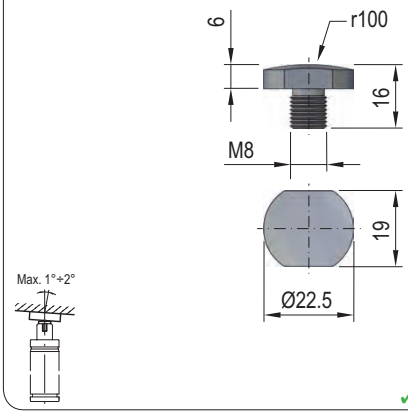
✓ HARDENED ≈ **50HRc**

THRUST PLATE **TPSC-M6OR-2**



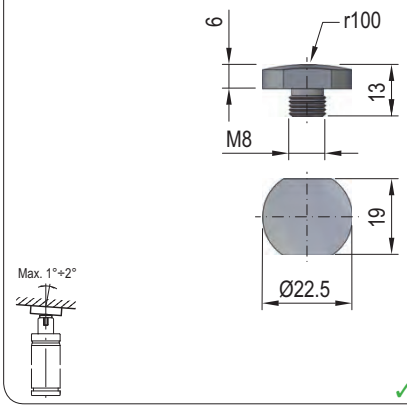
✓ HARDENED ≈ **50HRc**

THRUST PLATE **TPSC-M8L**



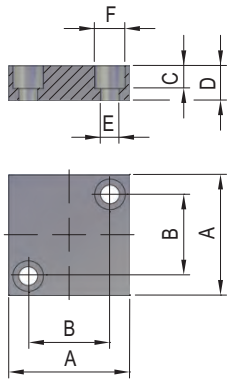
✓ HARDENED ≈ **50HRc**

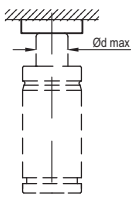
THRUST PLATE **TPSC-M8C**



✓ HARDENED ≈ **50HRc**

PRESS PLATE **TPSP**

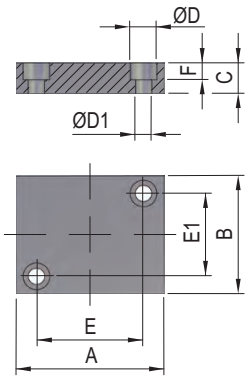


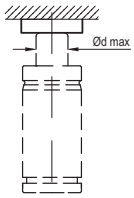


Code	Ød mm	A mm	B mm	C mm	D mm	E mm	F mm
TPSP 22	22	40	21	10	15	9	15
TPSP 36	36	56	32	13	20	11	18
TPSP 65	65	71	48	13	20	11	18
TPSP 95	95	84	60	13	25	11	18

✓ HARDENED ≈ **50HRc**

PRESS PLATE **TPSPR**

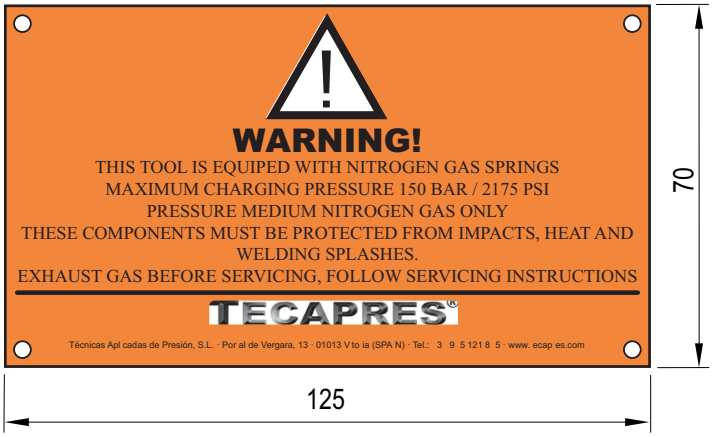




Code	Ød mm	A mm	B mm	C mm	ØD1 mm	ØD mm	E mm	E1 mm	F mm
TPSPR-1	15	50	25	12	7	11	32	8	7
TPSPR-2	20	55	30	12	7	11	40	14	7
TPSPR-3	25	70	35	15	9	15	48	14	9
TPSPR-4	36	75	50	15	9	15	56	30	9
TPSPR-5	50	85	60	15	9	15	66	40	9
TPSPR-6	65	100	80	20	11	18	72	56	11
TPSPR-7	80	110	100	20	11	18	85	75	11

✓ HARDENED ≈ **50HRc**

TIP-1 IDENTIFICATION PLATE



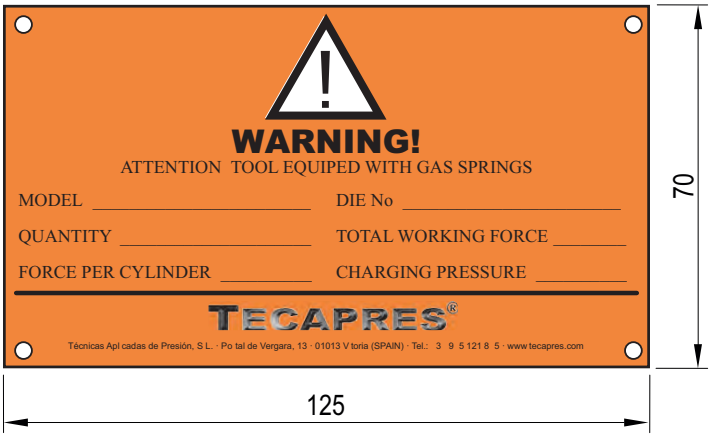
How to order

TIP-1 - **DE**

Code | Language

ES - Spanish	**PT** - Portuguese	**CH** - Chinese
EN - English	**SK** - Slovakian	**KR** - Korean
DE - German	**DK** - Danish	**PL** - Polish
FR - French	**SE** - Sweden	**HU** - Hungarian
IT - Italian	**CZ** - Czech	

TIP-2 IDENTIFICATION PLATE



How to order

TIP-2 - **EN**

Code | Language

ES - Spanish	**PT** - Portuguese	**CH** - Chinese
EN - English	**SK** - Slovakian	**KR** - Korean
DE - German	**DK** - Danish	**PL** - Polish
FR - French	**SE** - Sweden	**HU** - Hungarian
IT - Italian	**CZ** - Czech	

FILLING VALVE **TPFV1**



FILLING VALVE **TPFV2**



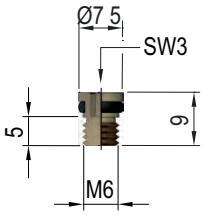
FILLING VALVE **TPFV3**



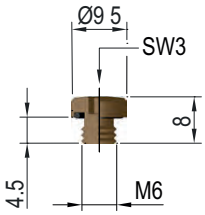
FILLING VALVE **TPFV4**



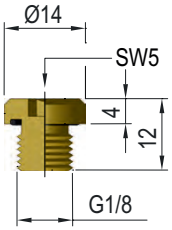
SECURITY SCREW **M6-1**



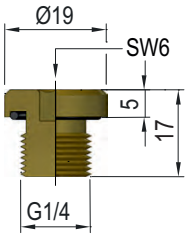
SECURITY SCREW **M6-2**



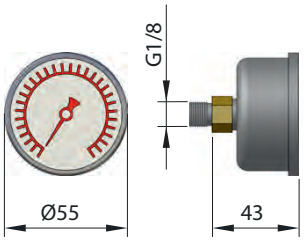
SECURITY SCREW **G1/8**



SECURITY SCREW **G1/4**

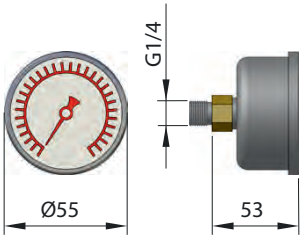


PRESSURE GAUGE **MP-1**



TECHNICAL INFORMATION	
Scale	0 - 400 Bar
Resolution	5 Bar
Maximum pressure	400 Bar

PRESSURE GAUGE **MP-2**



TECHNICAL INFORMATION	
Scale	0 - 400 Bar
Resolution	5 Bar
Maximum pressure	400 Bar

MALE QUICK-COUPLING FOR CONTROL PANEL



ERM **ERMF**

FEMALE QUICK-COUPLING FOR CONTROL PANEL



ERH **ERHF**

DISCHARGING VALVE FOR CONTROL PANEL



VD-1

EXTRACTOR KEY
E-M6



EXTRACTOR KEY
E-M8



VALVE DEVICE
DV-M6



VALVE DEVICE
DV-M6B



VALVE DEVICE
DV-G1/8



LEAK DETECTOR SPRAY



MAINTENANCE KIT



There is a complete maintenance kit for every model. Please see the code in the technical information of each model

CHARGING ADAPTER
G1/8



CHARGING ADAPTER
M8



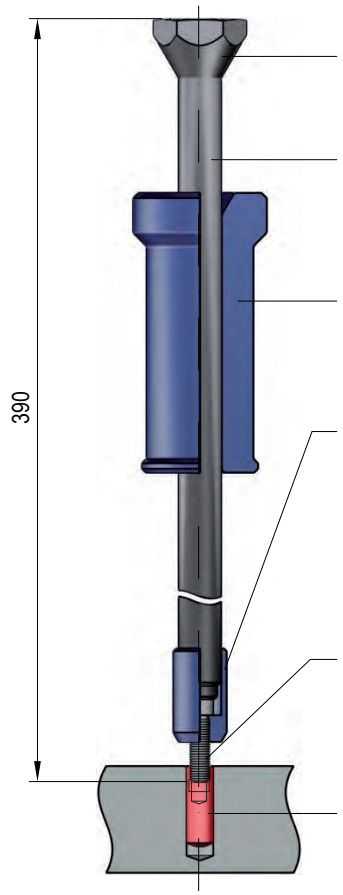
CHARGING ADAPTER
M6-A



CHARGING ADAPTER
M6-C



DOWEL PIN EXTRACTOR
EXP-01





Content:
- 355 mm draw bar
- Sliding impact sleeve
- Adaptor with interchangeable screw M3 (DIN ISO 4762)
- Adaptor with interchangeable screw M4 (DIN ISO 4762)
- Adaptor with interchangeable screw M5 y M6 (DIN ISO 4762)
- Adaptor with interchangeable screw M8 y M10 (DIN ISO 4762)
- M12 adaptor
- M16 adaptor

CRIMPING PRESS
PMES-01

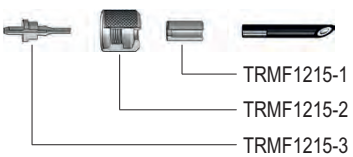


✓ **Transportable compact hydraulic manual pump for flexible hoses MF1215**

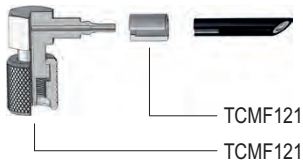
✓ **Indicator of measuring for maximum pressure**

INFORMATION	
Dimensions	25x28x25 cm
Weight	12,3 Kg

STRAIGHT CONNECTION
TRMF1215



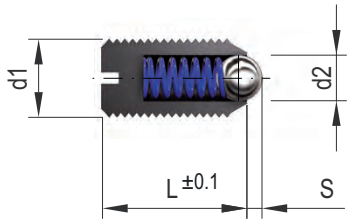
ANGLE CONNECTION
TCMF1215



HOSE
HMF1215









Material
Body: free cutting black oxide steel
Ball:stainless steel, hardened to 62Hrc

d1	d2 mm	L mm	S mm
M4	2,5	9	0,8
M5	3	12	0,9
M6	3,5	14	1
M8	4,5	16	1,5
M10	6	19	2
M12	8	22	2,5
M16	10	24	3,5
M20	12	30	4,5
M24	15	34	5,5

ER-20L

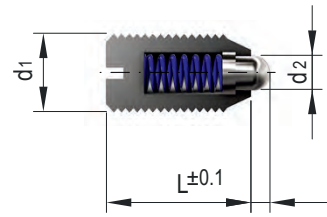
Standard spring load

Code	Spring force	
	Initial (N)	Final (N)
ER-20L-M4	6	12
ER-20L-M5	7	13
ER-20L-M6	9	15
ER-20L-M8	20	35
ER-20L-M10	25	45
ER-20L-M12	35	60
ER-20L-M16	65	110
ER-20L-M20	80	120
ER-20L-M24	100	150

ER-20F

Heavy spring load

Code	Spring force	
	Initial (N)	Final (N)
-	-	-
ER-20F-M5	13	30
ER-20F-M6	40	40
ER-20F-M8	40	60
ER-20F-M10	60	90
ER-20F-M12	75	115
ER-20F-M16	115	190
ER-20F-M20	115	210
ER-20F-M24	125	240





Material
Body: free cutting black oxide steel
Bolt: free cutting hardened, black oxide steel

d1	d2 mm	L mm	S mm
M4	1,8	9	1,5
M5	2,4	12	2
M6	2,7	14	2
M8	4	16	2
M10	4,5	19	2,5
M12	6	22	3,5
M16	8,5	24	4,5
M20	10	30	6,5
M24	13	34	8

ER-21L

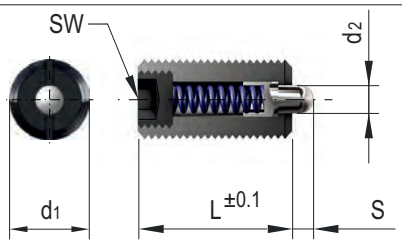
Standard spring load

Code	Spring force	
	Initial (N)	Final (N)
ER-21L-M4	6	16
ER-21L-M5	6	17
ER-21L-M6	7	18
ER-21L-M8	20	35
ER-21L-M10	20	45
ER-21L-M12	25	60
ER-21L-M16	50	95
ER-21L-M20	80	140
ER-21L-M24	80	160

ER-21F

Heavy spring load

Code	Spring force	
	Initial (N)	Final (N)
-	-	-
-	-	-
ER-21F-M6	13	40
ER-21F-M8	40	70
ER-21F-M10	40	80
ER-21F-M12	60	115
ER-21F-M16	60	150
ER-21F-M20	100	200
ER-21F-M24	110	230





Material
Body: free cutting black oxide steel
Bolt: free cutting, hardened, black oxide steel

d1	d2 mm	L mm	S mm	SW mm
M4	1,5	15	1,5	1,3
M5	2,4	18	2,3	1,5
M6	2,7	20	2,5	2
M8	3,5	22	3	2,5
M10	4	22	3	3
M12	6	28	4	4
M16	7,5	32	5	5
M20	10	40	7	6

ER-40L

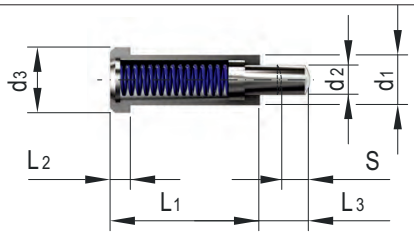
Standard spring load

Code	Spring force	
	Initial (N)	Final (N)
ER-40L-M4	5	15
ER-40L-M5	7	20
ER-40L-M6	7	20
ER-40L-M8	9	35
ER-40L-M10	9	35
ER-40L-M12	15	55
ER-40L-M16	45	100
ER-40L-M20	70	140

ER-40F

Heavy spring load

Code	Spring force	
	Initial (N)	Final (N)
-	-	-
ER-40F-M5	13	45
ER-40F-M6	18	50
ER-40F-M8	25	70
ER-40F-M10	25	70
ER-40F-M12	45	110
ER-40F-M16	60	160
ER-40F-M20	90	200

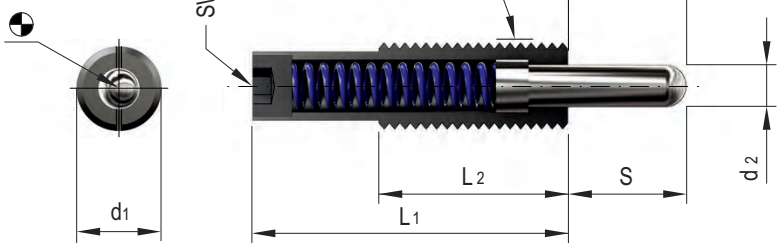




Material
Body: free cutting black oxide steel
Ball:stainless steel, hardened to 62Hrc

ER-60

Code	d_1 mm	d_2 mm	d_3 mm	L_1	L_2 mm	L3 mm	S mm	Spring force Initial (N)	Spring force Final (N)
ER-60-06	6	2,6	8	20	3,2	6	3,5	10	22
ER-60-08	8	3,8	10	24	3,2	8	4,5	30	90
ER-60-10	10	5,9	13	30	4	10	5,5	42	110
ER-60-12	12	7,8	16	36	5	12	6,5	50	130





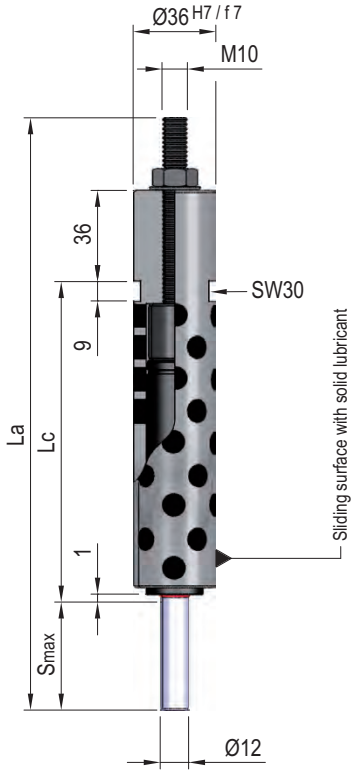
Material
Body: free cutting black oxide steel
Bolt: free cutting steel, case-hardened

ER-L Standard spring load

Code	d_1	S mm	d_2 mm	L_1 mm	L_2 mm	SW mm	Spring force F_1 Initial (N)	Spring force F_2 Final (N)
ER 12-10L	M12 x 1,75	10	5,5	43	35	4	4	20
ER 16-10LS	M16 x 2	10	8	50	35	5	10	50
ER 16-10L	M16 x 2	10	8	60	35	5	13	40
ER 16-15L	M16 x 2	15	8	60	35	5	10	40
ER 16-20L	M16 x 2	20	8	60	35	5	13	40
ER 16-30L	M16 x 2	30	8	125	35	5	18	40
ER 16-40L	M16 x 2	40	8	125	35	5	18	40
ER 16-50L	M16 x 2	50	8	155	35	5	20	50
ER 16-60L	M16 x 2	60	8	159	35	5	18	40
ER 16-70L	M16 x 2	70	8	185	35	5	20	50
ER 16-80L	M16 x 2	80	8	185	35	5	20	50
ER 24-15L	M24 x 3	15	10	60	45	8	20	10
ER 30-20L	M30 x 3,5	20	15	70	45	12	30	15

ER-H Heavy spring load

Code	d_1	S mm	d_2 mm	L_1 mm	L_2 mm	SW mm	Spring force F_1 Initial (N)	Spring force F_2 Final (N)
ER 12-10H	M12 x 1,75	10	5,5	43	35	4	7	40
ER 16-10HS	M16 x 2	10	8	50	35	5	20	100
ER 16-10H	M16 x 2	10	8	60	35	5	27	80
ER 16-15H	M16 x 2	15	8	60	35	5	15	80
ER 16-20H	M16 x 2	20	8	85	35	5	17	80
ER 16-30H	M16 x 2	30	8	125	35	5	20	80
ER 16-40H	M16 x 2	40	8	125	35	5	20	80
ER 16-50H	M16 x 2	50	8	155	35	5	30	100
ER 16-60H	M16 x 2	60	8	159	35	5	20	80
ER 16-70H	M16 x 2	70	8	185	35	5	30	150
ER 16-80H	M16 x 2	80	8	185	35	5	30	150
ER 24-15H	M24 x 3	15	10	60	45	8	40	200
ER 30-20H	M30 x 3,5	20	15	70	45	12	50	300

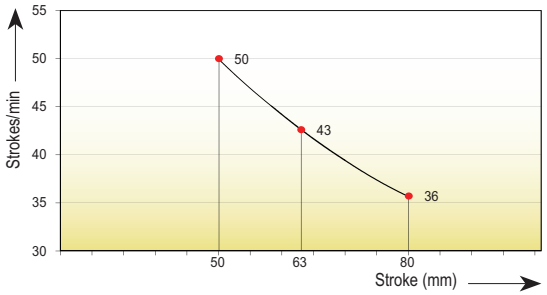


Pressure medium	Gas Nitrógeno (N_2)
Max. charging pressure	90 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm^2
Operating temperature	0ºC - 80ºC
Force increase by temperature	0,33 %/ºC
Max. stem speed	1,2 m/s
Maintenance kit	Kit G25

PED 2014/68/UE

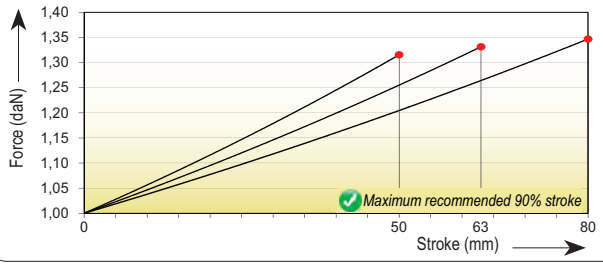
Bolt material: C45 induction hardened to 58Hrc steel
Hardness penetration 0,8 0 4

Maximum strokes / minute

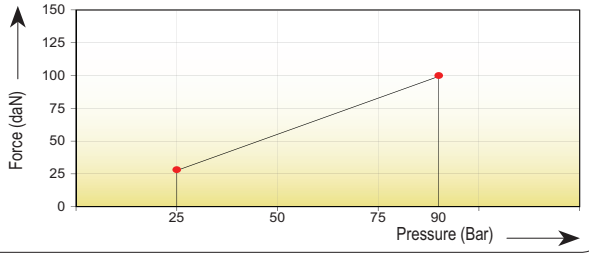


Code	Smax mm	La mm	Lc mm	Fa daN (±5%)	Fc daN (±5%)	P Bar (20ºC)	Gas spring code
TPEL 50x50	50	257	147	50	65	45	TPG 25x50 GR
TPEL 100x50	50	257	147	100	135	90	TPG 25x50 BL
TPEL 50x63	63	310,5	185,5	50	65	45	TPG 25x63 GR
TPEL 100x63	63	310,5	185,5	100	135	90	TPG 25x63 BL
TPEL 50x80	80	359,5	219,5	50	70	45	TPG 25x80 GR
TPEL 100x80	80	359,5	219,5	100	135	90	TPG 25x80 BL

Force/stroke ratio



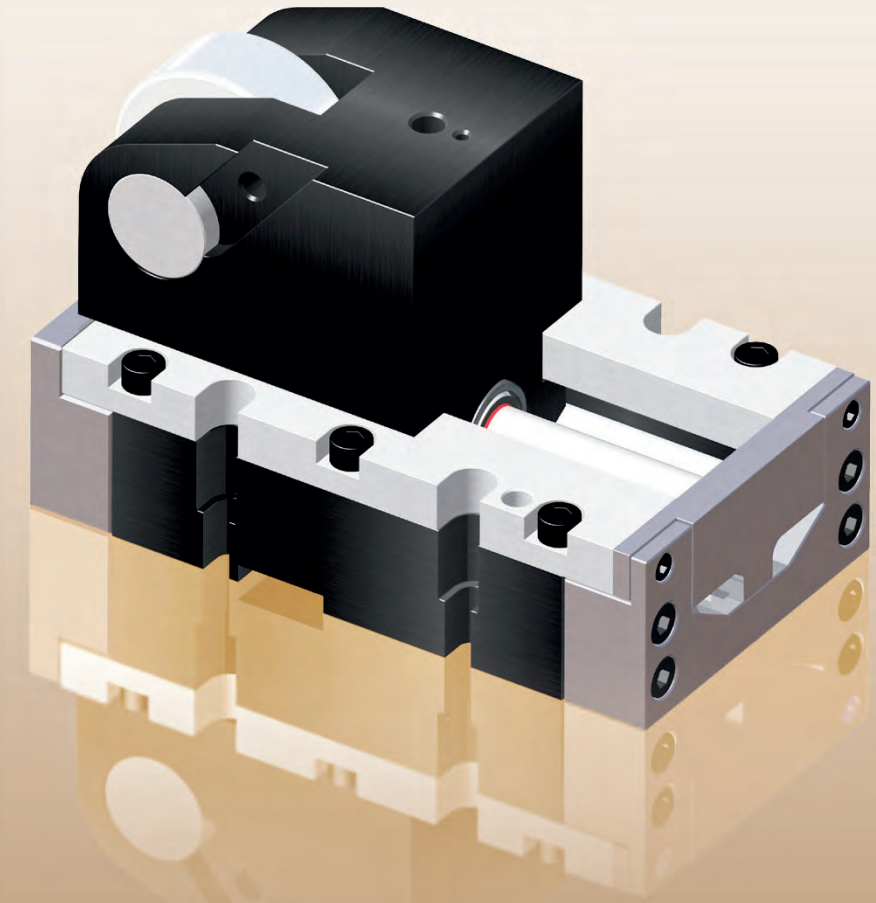
Initial force/charging pressure ratio



How to order

TPEL	100	x	50
Model	Force		Stroke

TPGAS 07 01-2018



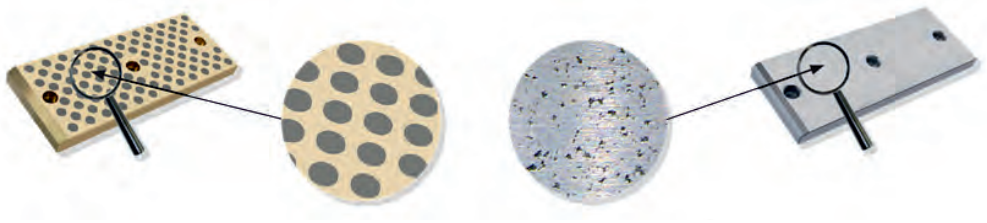
Roller cams

Code	Working punch stroke mm	Max. punching force daN
TPRC 2000	50	2000
TPRC 3000	50, 80	3000
TPRCS 3000	50, 80	3000
TPRC 5000	50, 80, 100	5000
TPRCS 5000	50, 80, 100	5000
TPRCS 15000	50, 80, 100	15000

Sintered metal sliding elements

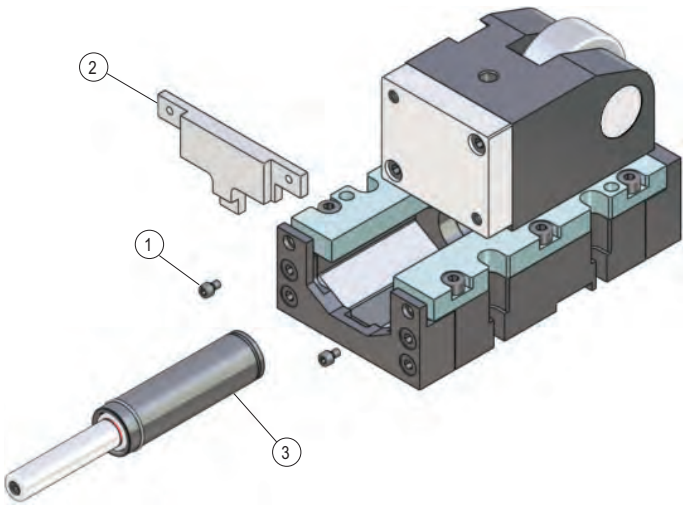
In order to satisfy demand for modern tools a new sintered steel material has been developed that combines lower rates of wear and tear in sliding plates with a long useful life and less maintenance.

This new generation of sliding elements is made of an iron-based porous sintered metal which provides a sliding element with a higher degree of solidity. This material is characterised by its solidity in medium-to-high speeds.



Characteristics	Bronze	Sintered metal
Maximum sliding speed	15 m/min	70 m/min
Frictional coefficient	0,05 - 0,15	0,05 - 0,15
Surface pressure normal	35 N/mm^2	70 N/mm^2
Brinell hardness HB 10	190 - 220 HB S10/3000	-
Hardness of the sliding film	-	HRB60 - HRC20
Hardness of the base material	-	HRB80 - HRC40
Operating temperature	< 150 ºC	< 250 ºC
Maximal unlubricated operating time	1000	3000
Integrated lubricant	Graphit	Fe + Cu + Graphit + MoS2
Portion of lubricant	20 - 35%	15 - 20%

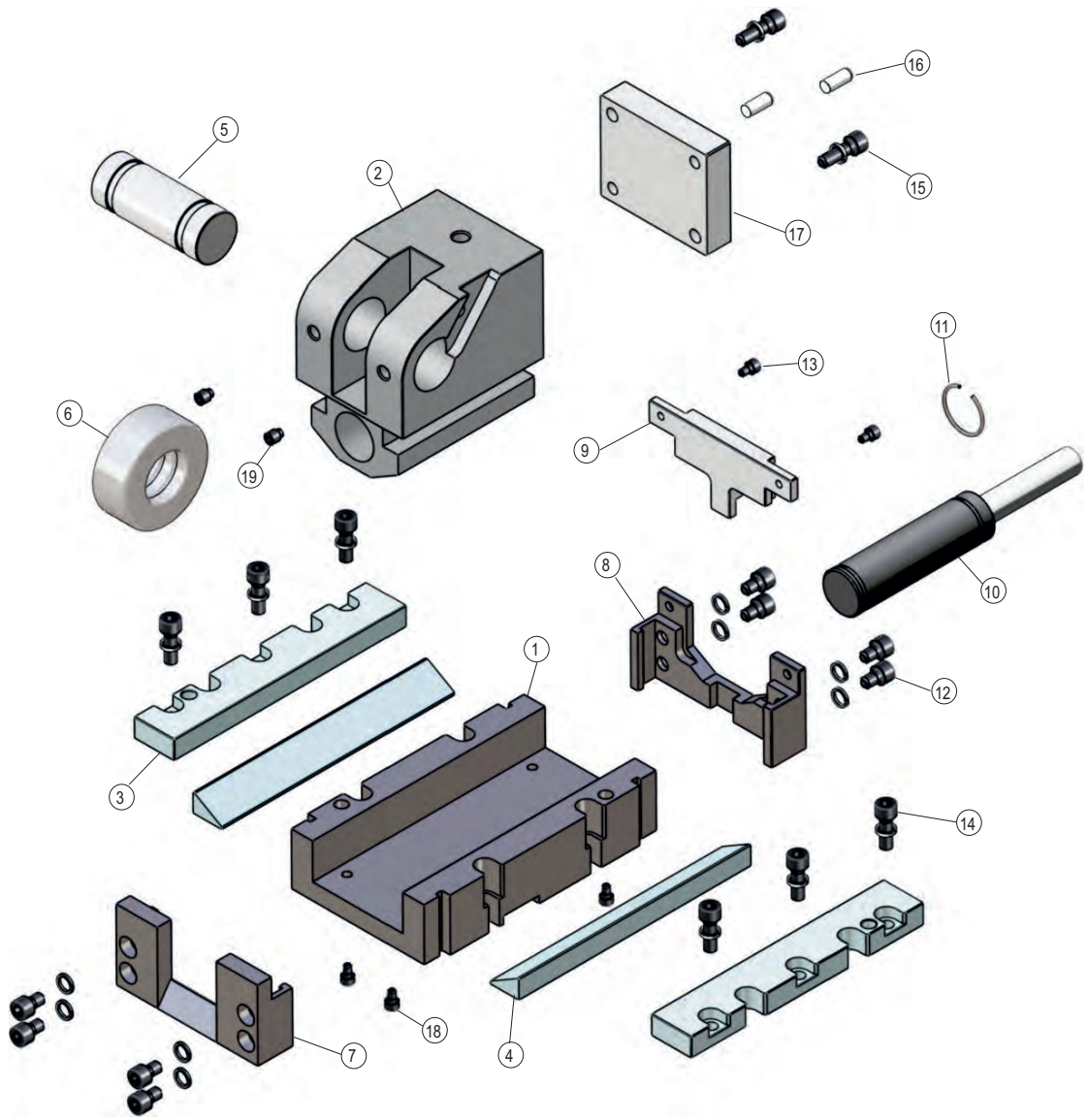
Cylinder extraction - Punch adjustement operation



Remove the screws (1) of the front plate and remove the gas spring stopper plate (2). The gas spring (3) is now free and can be removed from the cam.

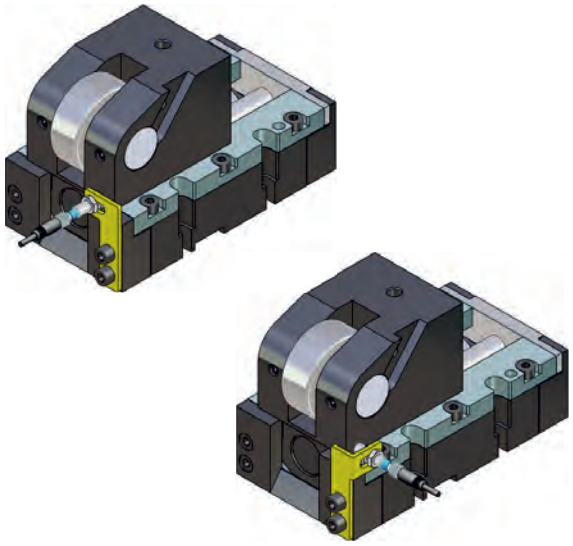
Once the gas spring has been extracted, the cam slide can be manually operated for adjustment operations. The slide will provide a sliding resistance on the baseplate of 20-40 daN.

NOTE: The dismounting of the gas spring allows an easier movement of the cam slide at the adjustement of the Roller cam units.

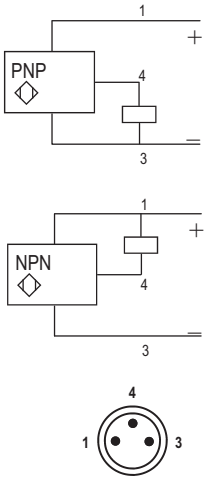


Part no.	Description	Quantity
1	Baseplate	1
2	Cam slide	1
3	Cover bar	2
4	Prismatic bar	2
5	Rod	1
6	Roll	1
7	Back limit plate	1
8	Limit plate in front	1
9	Insert pressure plate	1
10	Gas spring	1
11	Retainer ring	1
12	Screw ISO 4762	8
13	Screw ISO 7984	2
14	Screw ISO 4762	6
15	Screw ISO 4762	2
16	Dowel pin	2
17	Punch holder (C45)	1
18	Screw ISO 4762	4 / 6
19	Screw ISO 4028	2

Pasive return device
DRP







In order to better detect that the Roller Cam has returned to its initial position, TECAPRES recommends the use of a DRP inductive sensor as a passive return device. Thus, in case the slider does not return when the press goes back up due to gas spring failure, an alarm, or a press shutdown, can be activated.

How to order

DRP-1 - R

Code | Connector

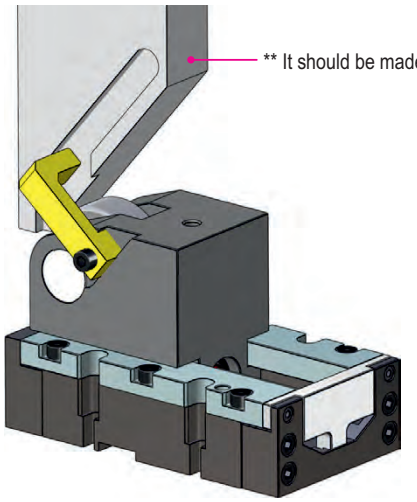


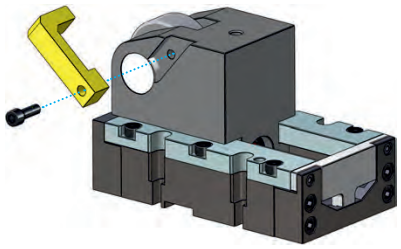
Connectors

Length of the cable 2m, 5m, 10m

Reference	Type	Function	Nominal sensing distance	Supply voltage	Switching capacity
DRP-1	PNP	NO	2 mm	12 ... 24 VDC	200 mA
DRP-2		NC			
DRP-3	NPN	NO			
DRP-4		NC			

Active return device
DRA

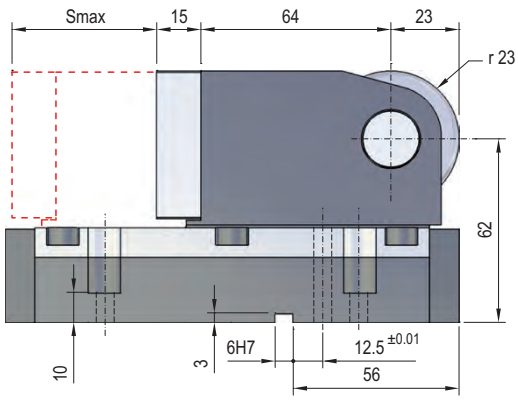


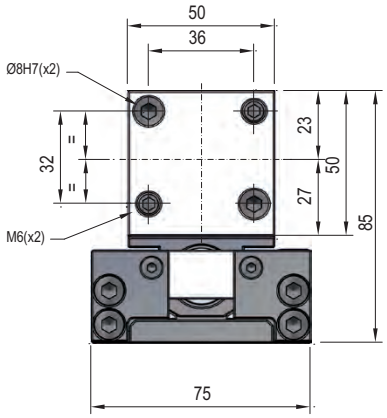


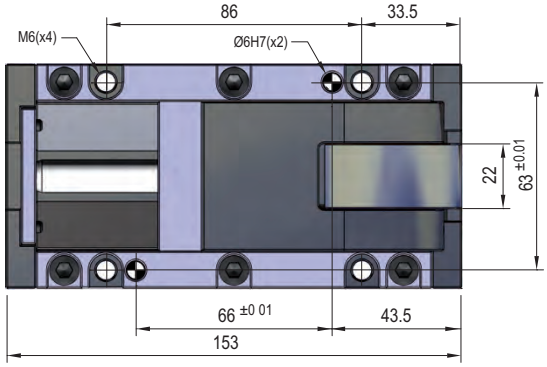
Reference	Type
DRA-3-1	TPRC 3000 / TPRCS 3000
DRA-5-1	TPRC 5000 / TPRCS 5000
DRA-15-1	TPRCS 15000

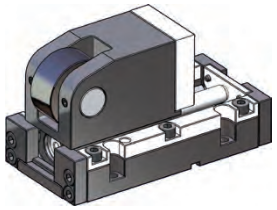
A gas spring is used to achieve cam retraction. The force is adjusted in such a way that it is sufficient to be able to slide the carriage back to its starting position. Depending on the operation, preparing an active return can contribute to a higher degree of safety. For this purpose, cams already have an opening in the slide, which has been introduced to accommodate an extractor hook for the active return, with which the cam slider is pulled backwards with higher separating forces, coming into operation in case of gas spring failure.

For this purpose, the extractor hook is fitted into its housing and secured with a screw, as shown. Active return execution is only a proposal which may be constructed differently. The customer is responsible for the construction of the pusher support. The extractor hook is available as an accessory at TECAPRES.



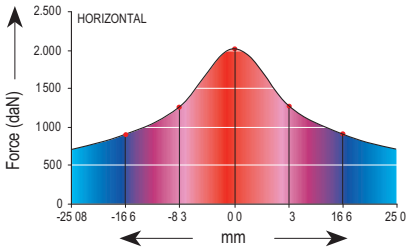


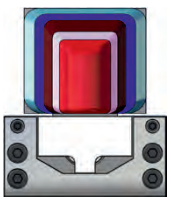


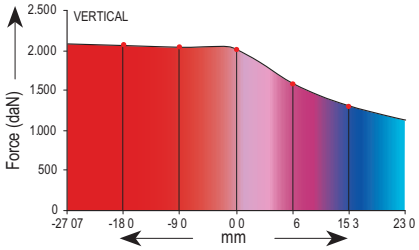


Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRC 2000x50	50	2000 daN	170	≈ 300	MICRO 19V1x50 YW	✓	0,5 m/s	35 spm	25 mm	3,95

Working force distribution







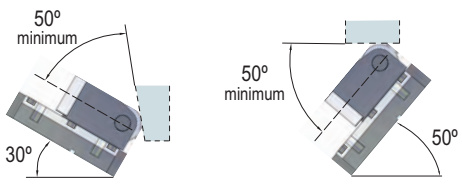
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

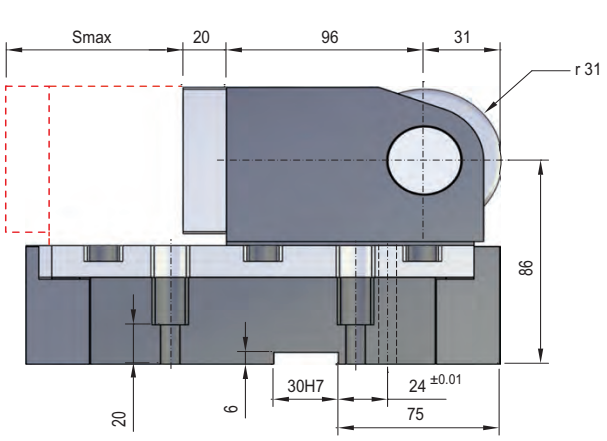
How to order

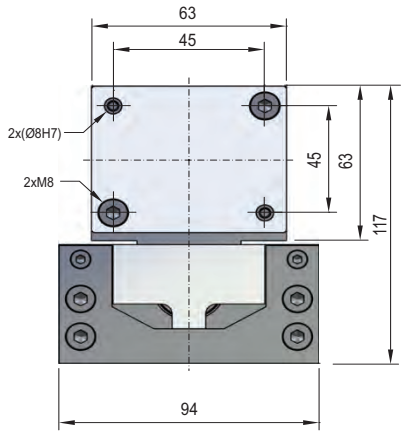
TPRC 2000 x 50

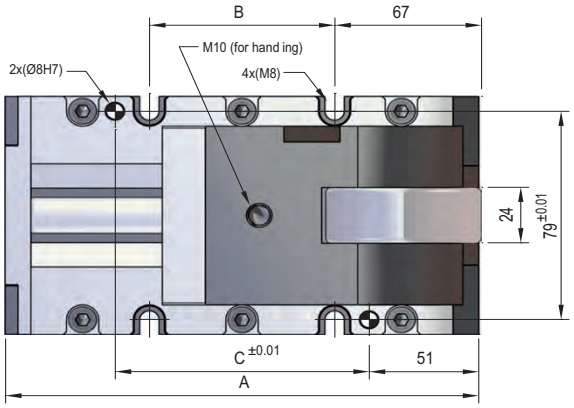
Code | Stroke

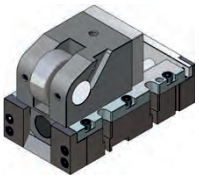
Maximum inclination







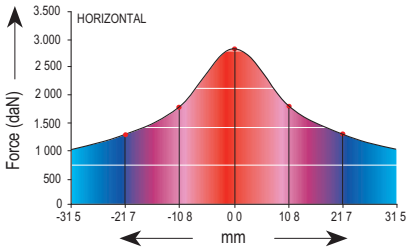


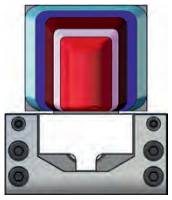


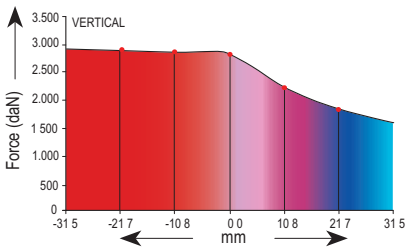
Code	A mm	B mm	C mm
TPRC 3000x50	190	56	88
TPRC 3000x80	220	86	118

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRC 3000x50-1	50	3000 daN	400	≈ 600	TPK 32x50 YW		0,5 m/s	40 spm	35 mm	9,2
TPRC 3000x50-2			200	≈ 270	TPS 32x50 YW	✓				
TPRC 3000x50-3			350	≈ 520	MICRO32VSx50 YW	✓				
TPRC 3000x80-1	80		400	≈ 600	TPK 32x80 YW			35 spm		10,0
TPRC 3000x80-2			200	≈ 270	TPS 32x80 YW	✓				
TPRC 3000x80-3			350	≈ 520	MICRO32VSx80 YW	✓				

Working force distribution







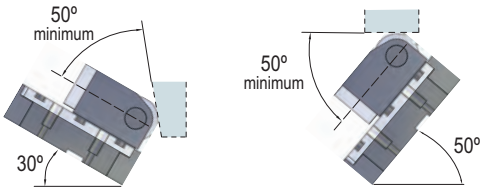
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

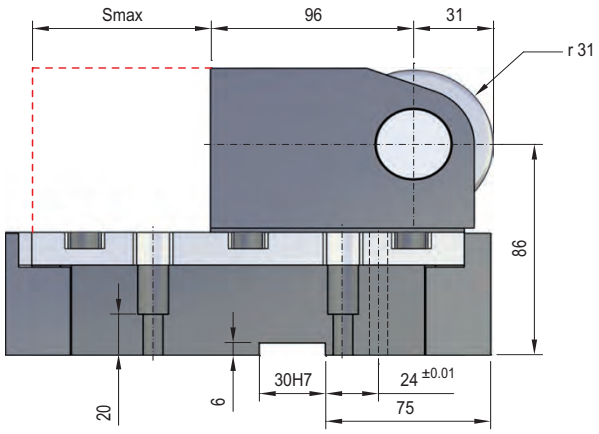
TPRC 3000 x 80 - 1

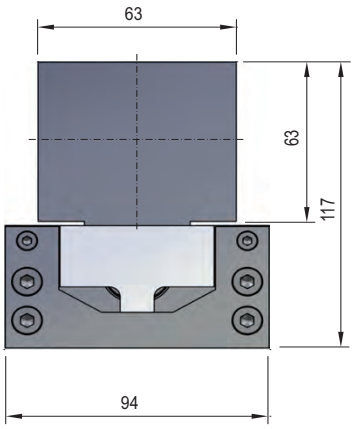
Code | Stroke | Gas spring model (TPK 32, TPS 32.1, MICRO 32VS)

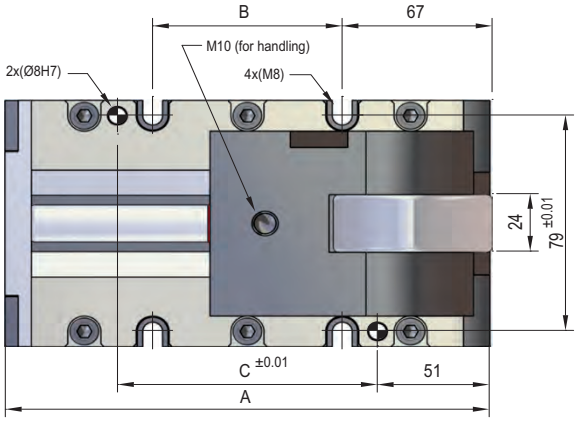
Maximum inclination

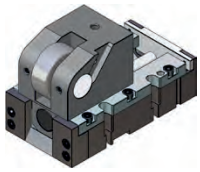


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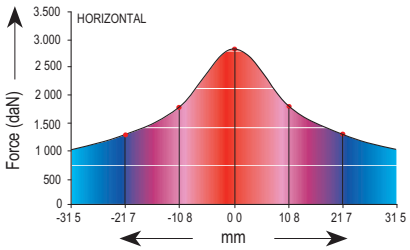


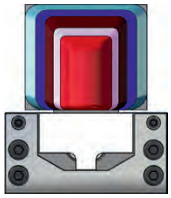


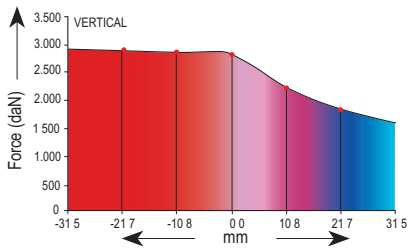
Code	A mm	B mm	C mm
TPRCS 3000x50	190	56	88
TPRCS 3000x80	220	86	118

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRC 3000x50-1	50	3000 daN	400	≈ 600	TPK 32x50 YW		0,5 m/s	40 spm	35 mm	9,2
TPRC 3000x50-2			200	≈ 270	TPS 32x50 YW	✓				
TPRC 3000x50-3			350	≈ 520	MICRO32VSx50 YW	✓				
TPRC 3000x80-1	80		400	≈ 600	TPK 32x80 YW			35 spm		10,0
TPRC 3000x80-2			200	≈ 270	TPS 32x80 YW	✓				
TPRC 3000x80-3			350	≈ 520	MICRO32VSx80 YW	✓				

Working force distribution







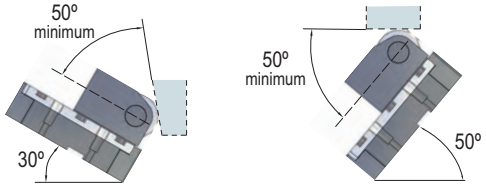
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

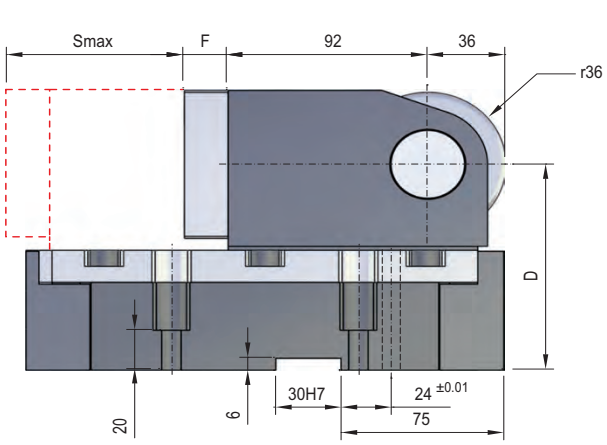
How to order

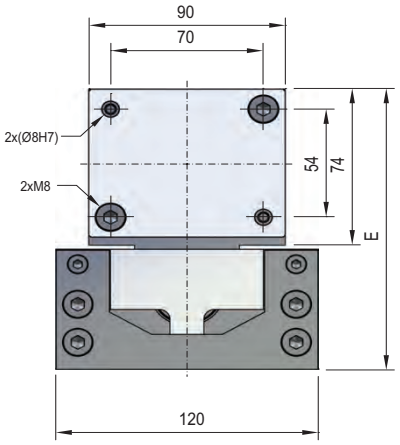
TPRCS 3000 x 50 - 1

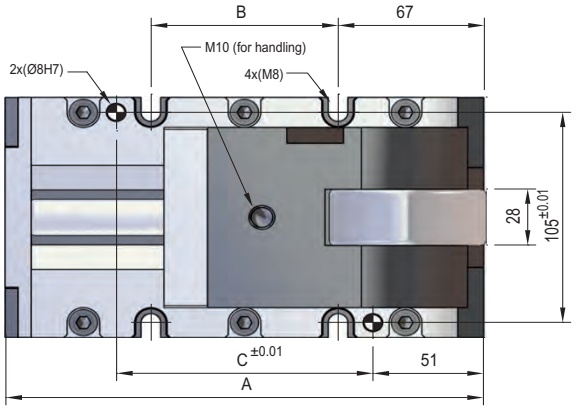
Code | Stroke | Gas spring model (TPK 32, TPS 32.1, M CRO 32VS)

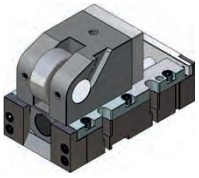
Maximum inclination







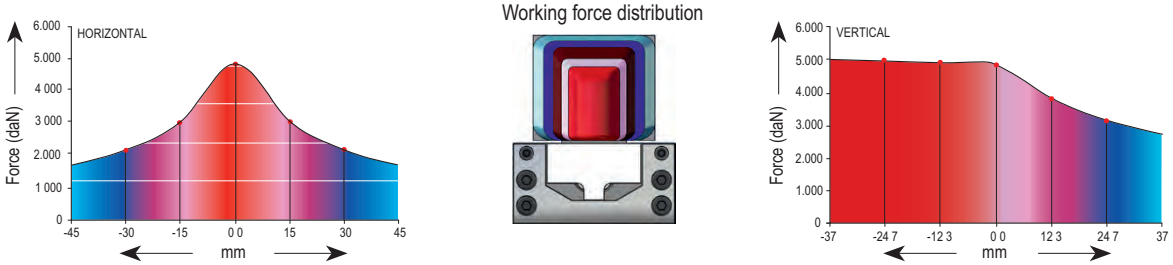




Code	A mm	B mm	C mm	D mm	E mm	F mm
TPRC 5000x50	190	56	88	103	140	20
TPRC 5000x80	220	86	118	103	140	20
TPRC 5000x100	260	126	158	120	157	30

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRC 5000x50-1	50	5000 daN	400	≈ 600	TPK 32x50 YW		0,5 m/s	40 spm	40 mm	14,2
TPRC 5000x50-2			200	≈ 270	TPS 32x50 YW	✓				
TPRC 5000x50-3			350	≈ 520	MICRO32VSx50 YW	✓				
TPRC 5000x80-1	80		400	≈ 600	TPK 32x80 YW			35 spm		15,0
TPRC 5000x80-2			200	≈ 270	TPS 32x80 YW	✓				
TPRC 5000x80-3			350	≈ 520	MICRO32VSx80 YW	✓				
TPRC 5000x100-1	100		400	≈ 600	TPK 32x100 YW			25 spm		21,0
TPRC 5000x100-2			200	≈ 270	TPS 32x100 YW	✓				
TPRC 5000x100-3			350	≈ 520	MICRO32VSx100 YW	✓				

Working force distribution



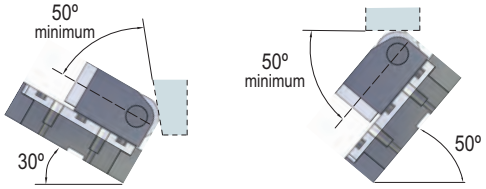
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

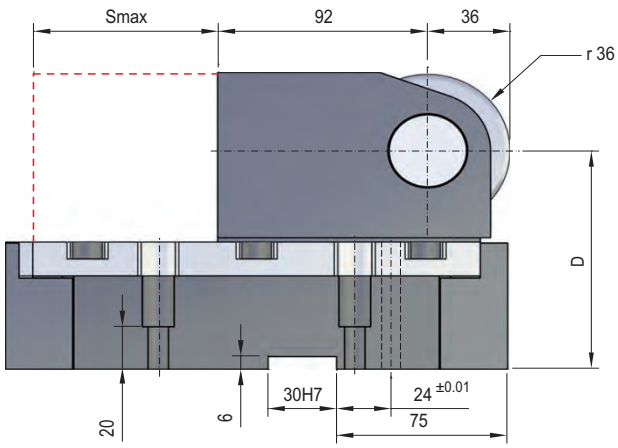
TPRC 5000 x 100 - 1

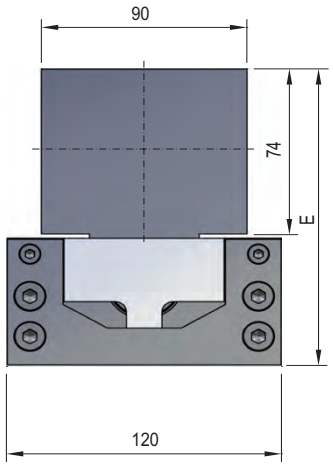
Code | Stroke | Gas spring model (TPK 32, TPS 32.1, M CRO 32VS)

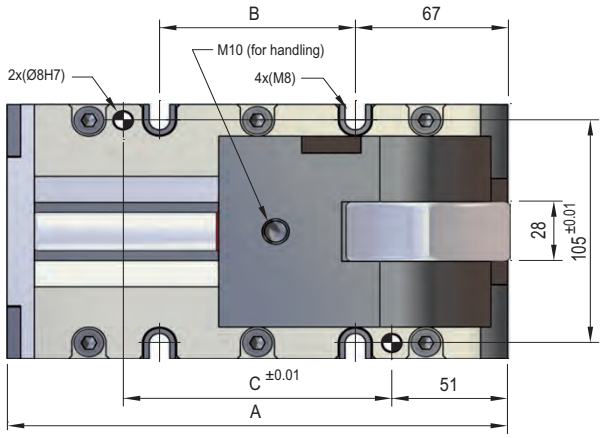
Maximum inclination

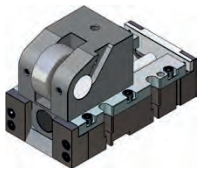


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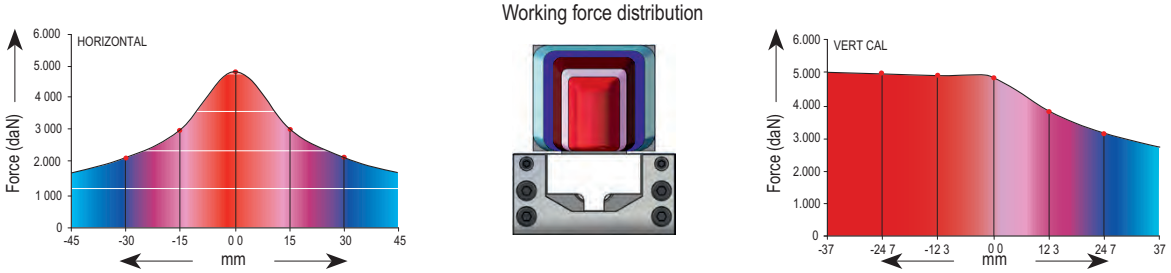




Code	A mm	B mm	C mm	D mm	E mm	F mm
TPRCS 5000x50	190	56	88	103	140	20
TPRCS 5000x80	220	86	118	103	140	20
TPRCS 5000x100	260	126	158	120	157	30

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRCS 5000x50-1	50	5000 daN	400	≈ 600	TPK 32x50 YW		0,5 m/s	40 spm	40 mm	14,2
TPRCS 5000x50-2			200	≈ 270	TPS 32x50 YW	✓				
TPRCS 5000x50-3			350	≈ 520	MICRO32VSx50 YW	✓				
TPRCS 5000x80-1	80		400	≈ 600	TPK 32x80 YW			35 spm		15,0
TPRCS 5000x80-2			200	≈ 270	TPS 32x80 YW	✓				
TPRCS 5000x80-3			350	≈ 520	MICRO32VSx80 YW	✓				
TPRCS 5000x100-1	100		400	≈ 600	TPK 32x100 YW			25 spm		21,0
TPRCS 5000x100-2			200	≈ 270	TPS 32x100 YW	✓				
TPRCS 5000x100-3			350	≈ 520	MICRO32VSx100 YW	✓				

Working force distribution



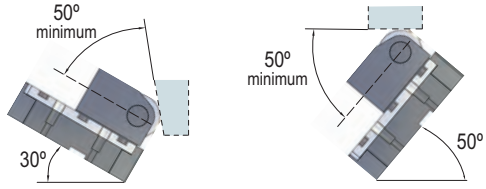
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

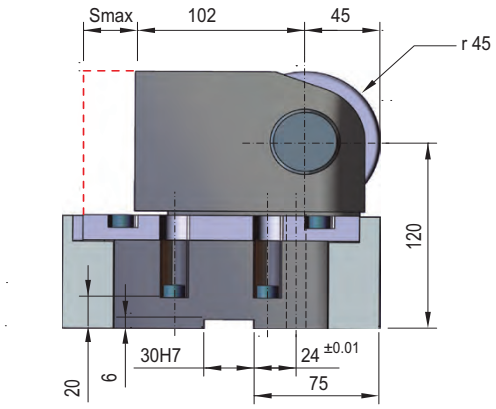
How to order

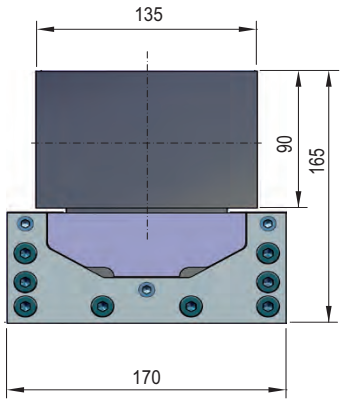
TPRCS 5000 x 80 - 2

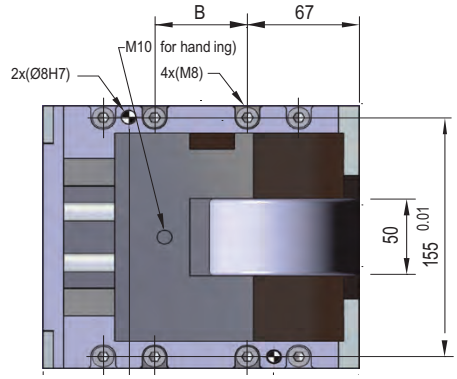
Code | Stroke | Gas spring model (TPK 32, TPS 32.1, M CRO 32VS)

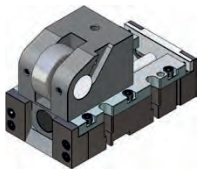
Maximum inclination







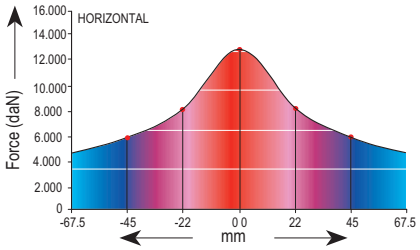


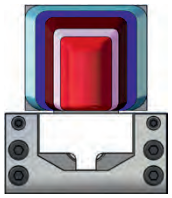


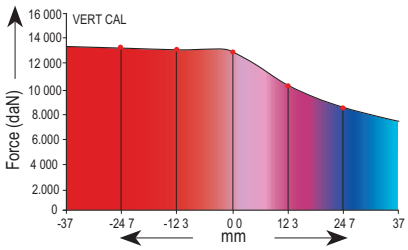
Code	A mm	B mm	C mm
TPRCS 15000x50	190	56	88
TPRCS 15000x80	220	86	118
TPRCS 15000x100	260	126	158

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of	Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRCS 15000x50	50	15000 daN	400	≈ 580	2x TPC 25x50 YW	✓	0,5 m/s	35 spm	65 mm	26,3
TPRCS 15000x80	80				2x TPC 25x80 YW	✓		25 spm		27,6
TPRCS 5000x100	100				2x TPC 25x100 YW	✓		20 spm		30,8

Working force distribution







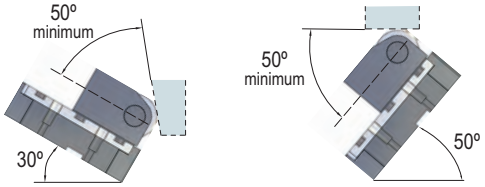
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

TPRCS 15000 x 100

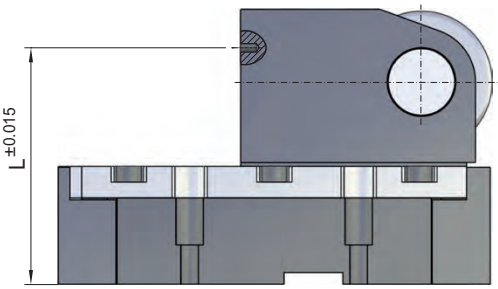
Code | Stroke

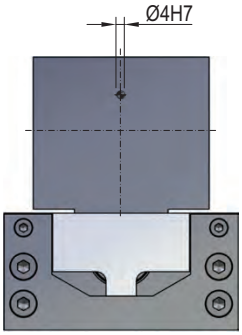
Maximum inclination

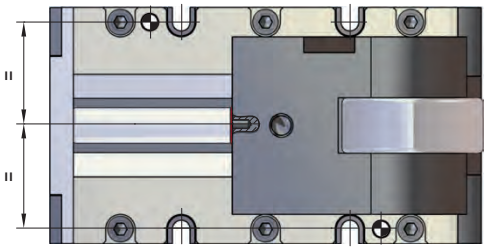


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Program zero
TPRCS - Type P1







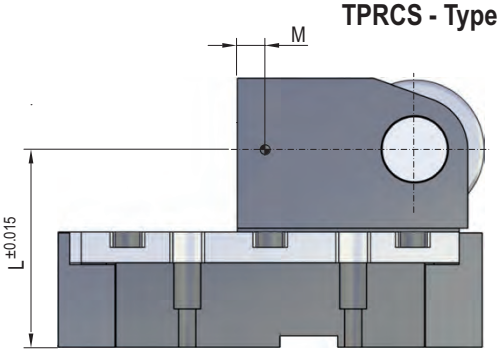
How to order

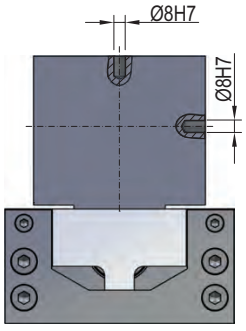
TPRCS 3000 x 50 - P1

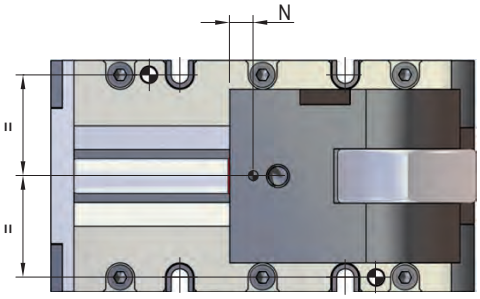
Code | Stroke | Type

Reference	L mm
TPRCS 3000x50	107
TPRCS 3000x80	107
TPRCS 5000x50	130
TPRCS 5000x80	130
TPRCS 5000x100	147
TPRCS 15000x50	155
TPRCS 15000x80	155
TPRCS 15000x100	155

Program zero
TPRCS - Type P2







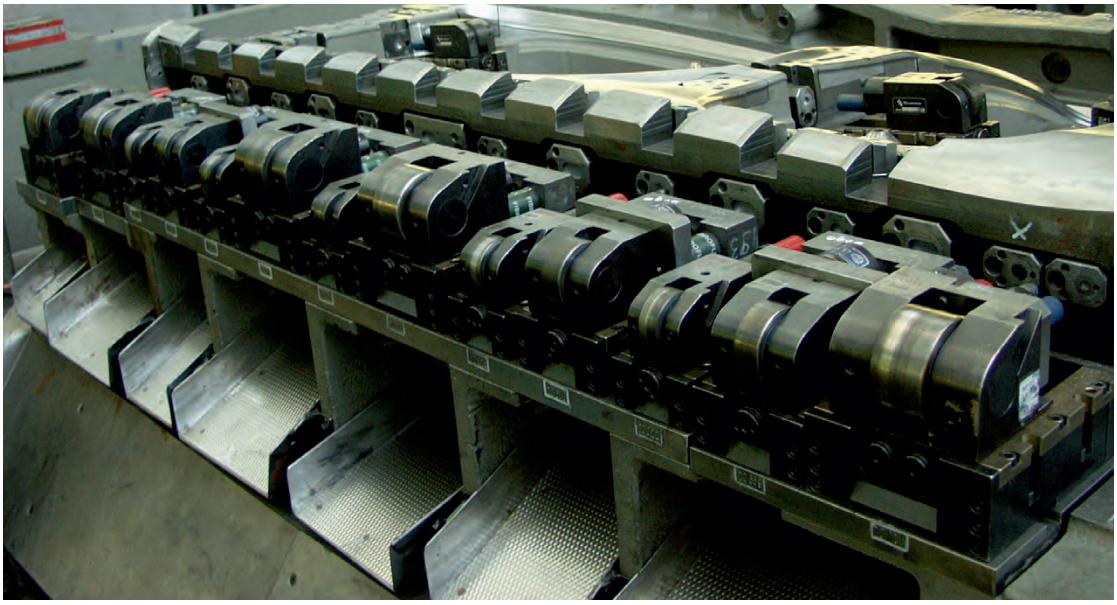
How to order

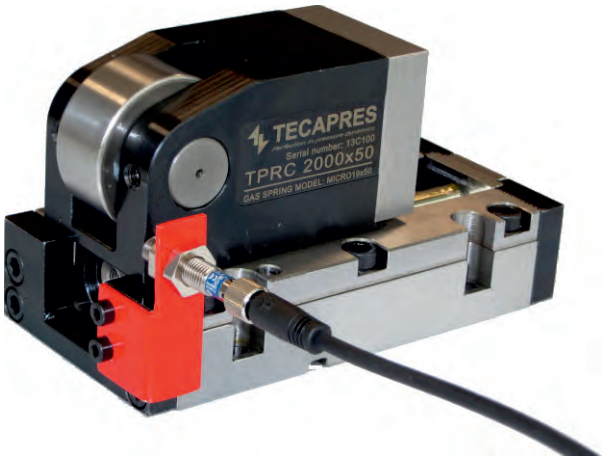
TPRCS 5000 x 80 - P2

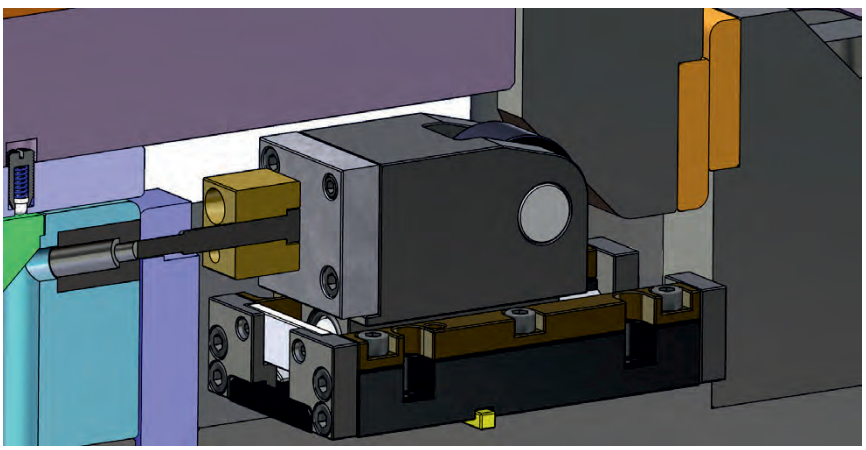
Code | Stroke | Type

Reference	L mm	M mm	N mm
TPRCS 3000x50	86	15	15
TPRCS 3000x80	86	15	15
TPRCS 5000x50	103	10	10
TPRCS 5000x80	103	10	10
TPRCS 5000x100	120	10	10
TPRCS 15000x50	120	15	15
TPRCS 15000x80	120	15	15
TPRCS 15000x100	120	15	15

MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS
STOP CYLINDER
HOT FORMING
TPHT
TPSL





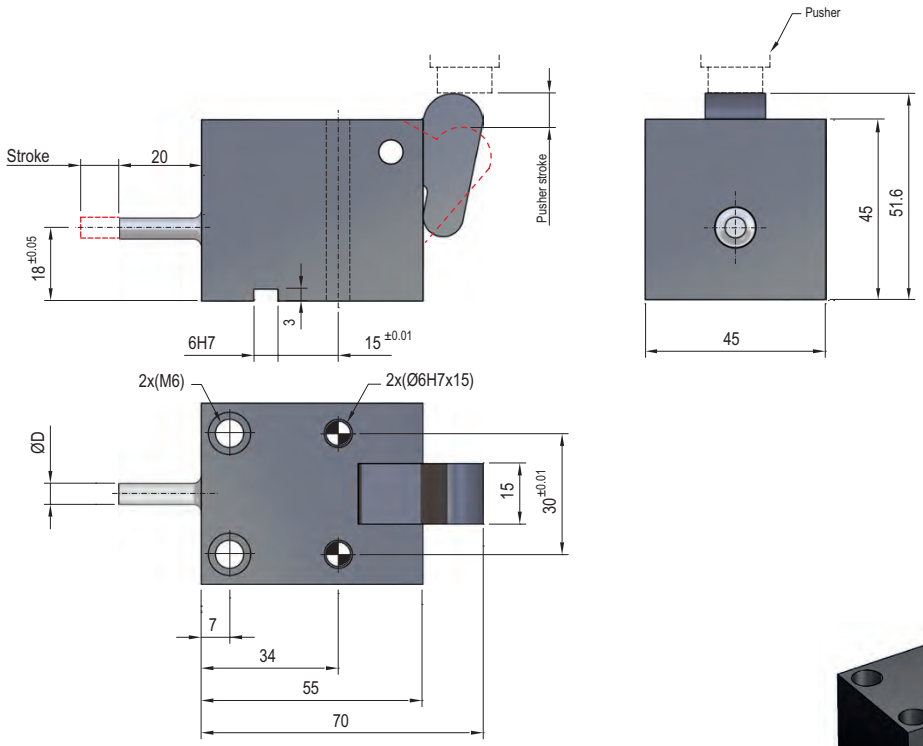


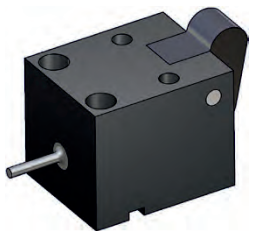


- ► Compact cams
- ► Eco-series
- ► Long life service

Lateral punching units with lever cam system

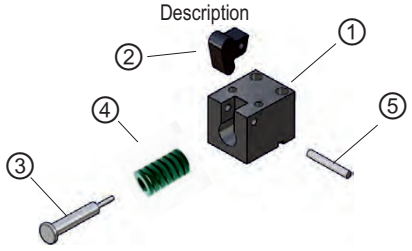
Code	Working punch stroke mm	Max. punching force daN
TPUL 7,5	9	750
TPUL 1500x15	15	1500
TPUL 3500x25	25	3500
TPUD 3500x25	25	3500
TPUL 5000x38	38	5000
TPUD 5000x38	38	5000
TPUL 7000x50	50	7000
TPUD 7000x50	50	7000
TPUL 10000x63	63	10000
TPUD 10000x63	63	10000





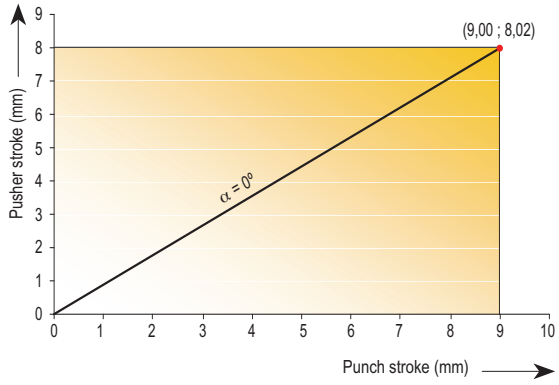
Code	Smax mm	Max. punching force	Punch diameter		Spring return force	Punch characteristics		Kg
			ØD min	ØD max		Hardness	Punch shape	
TPUL 7,5	9	750 daN	3,5 mm	7 mm	≈ 50daN	62 ± 2 HRc	Round	0,8

Description



Part no.	Description
1	Body
2	Cam
3	Punch
4	Return spring
5	Rod

Punch / pusher stroke rate



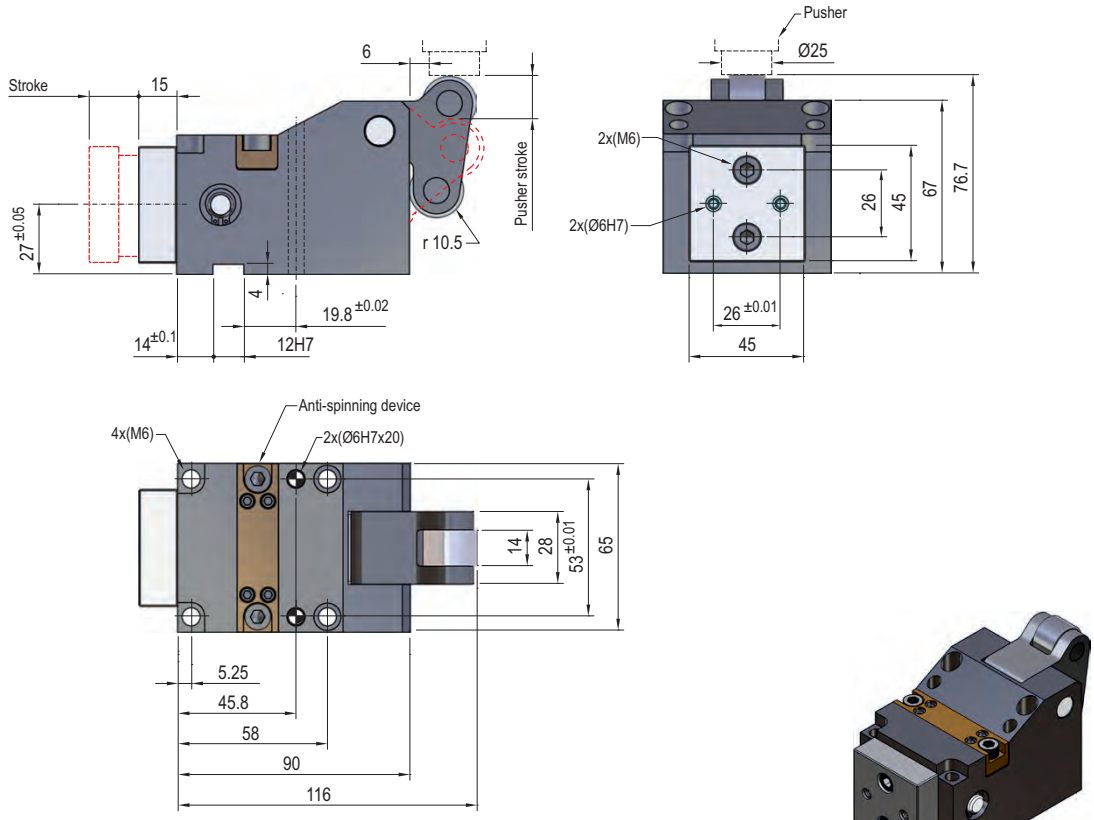
Assembly possibilities

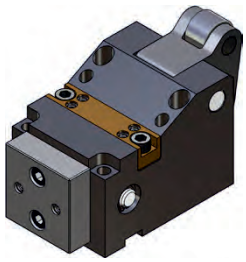


How to order

TPUL 7,5 x **5,2**

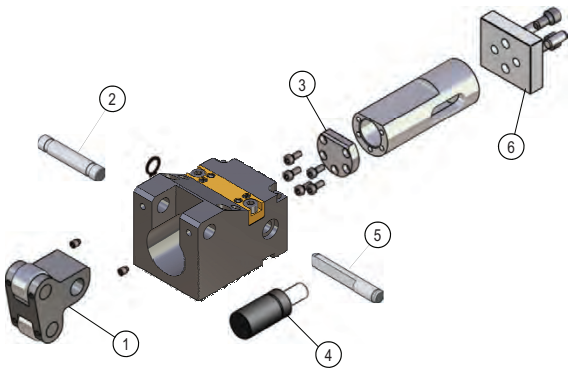
Code | Ø Punch





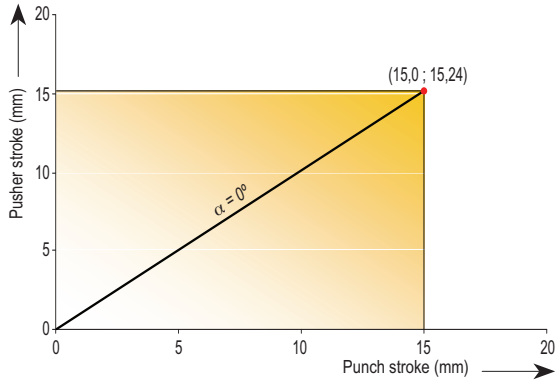
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 1500x15	15	1500 daN	170 daN	≈ 270 daN	MICRO 19V1x15 YW	0,5 m/s	40 spm	Round and shaped	2,8

Spare parts



Part no.	Description	Part code
1	**Cam**	TPUL1500-1
2	**Rod**	TPUL1500-2
3	**End cap**	TPUL1500-3
4	**Gas spring**	MICRO 19V1x15 YW
5	**Rod pin**	TPUL1500-5
6	**Punch holder (C45)**	TPUL1500-6

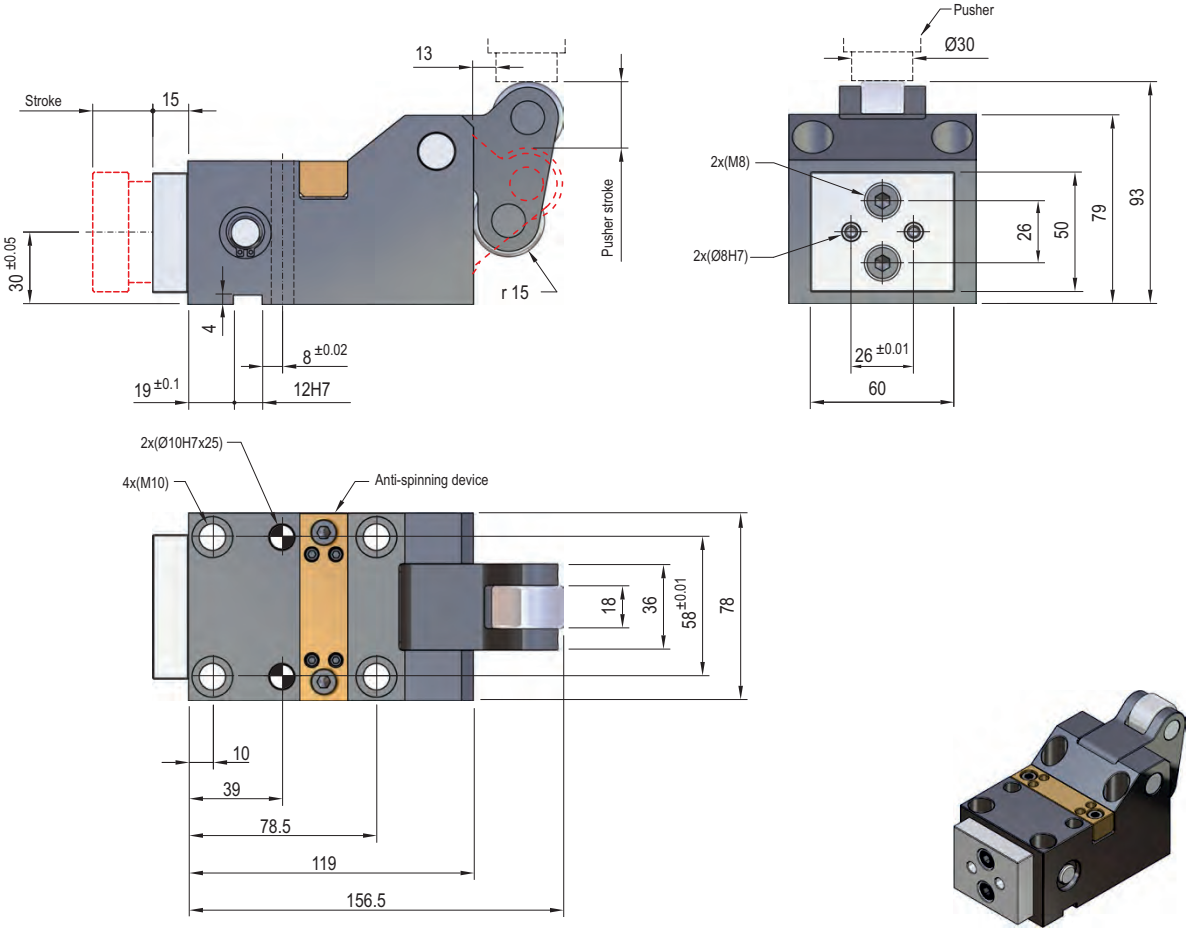
Punch / pusher stroke rate



Maximum inclination

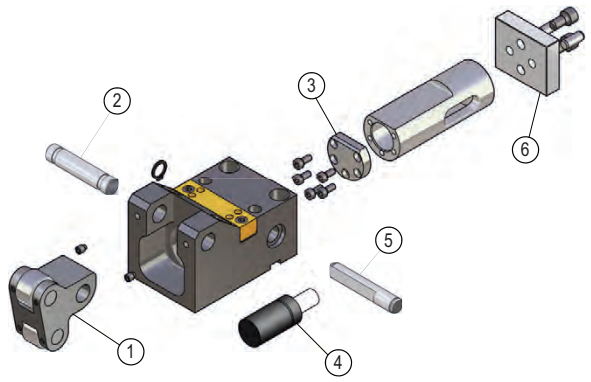


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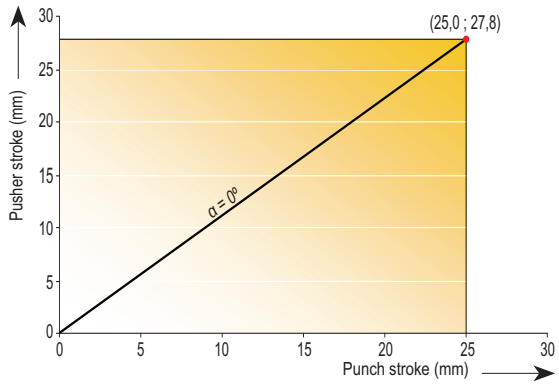
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 3500x25	25	3500 daN	200 daN	≈ 275 daN	TPK 25x25 YW	0,5 m/s	45 spm	Round and shaped	5,1

Spare parts

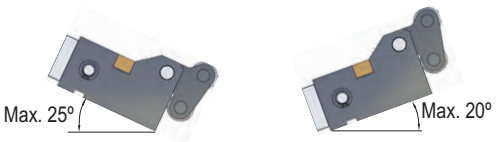


Part no.	Description	Part code
1	**Cam**	TPUL3500-1
2	**Rod**	TPUL3500-2
3	**End cap**	TPUL3500-3
4	**Gas spring**	TPK 25x25 YW
5	**Rod pin**	TPUL3500-5
6	**Punch holder (C45)**	TPUL3500-6

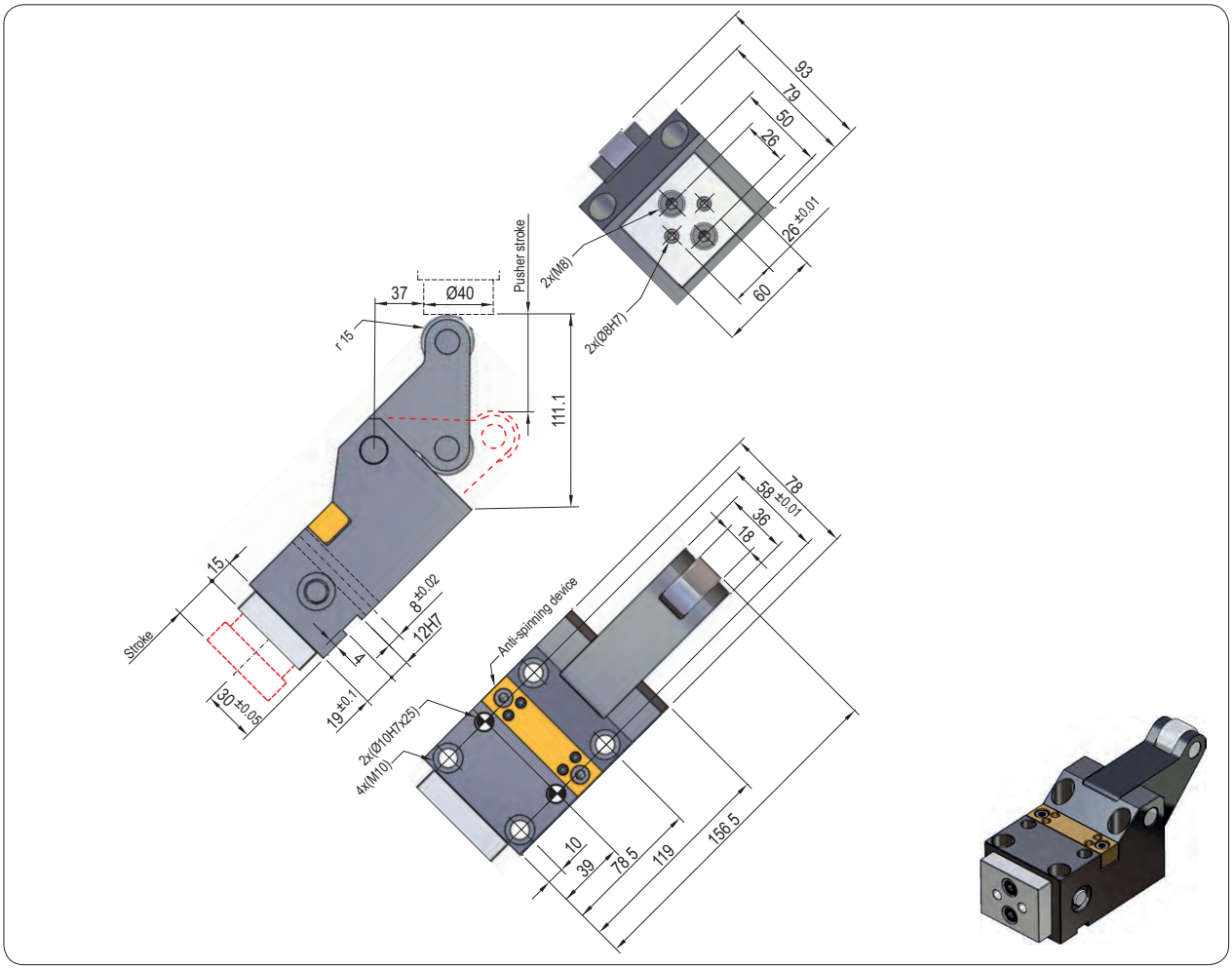
Punch / pusher stroke rate



Maximum inclination

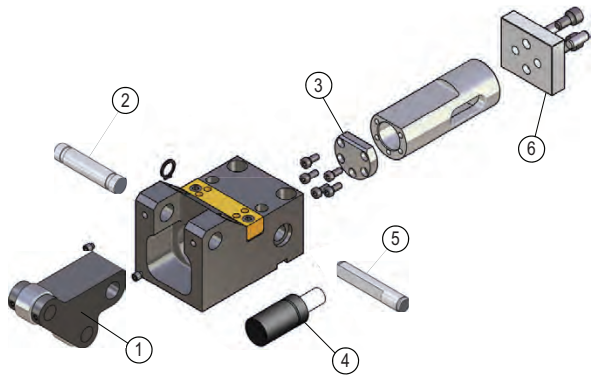


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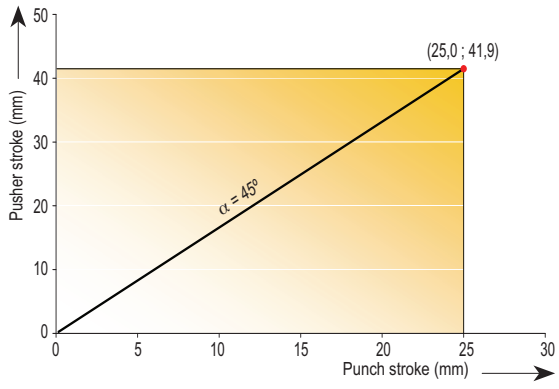
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUD 3500x25	25	3500 daN	200 daN	≈ 275 daN	TPK 25x25 YW	0,5 m/s	45 spm	Round and shaped	5,2

Spare parts

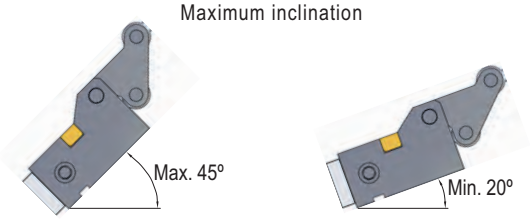


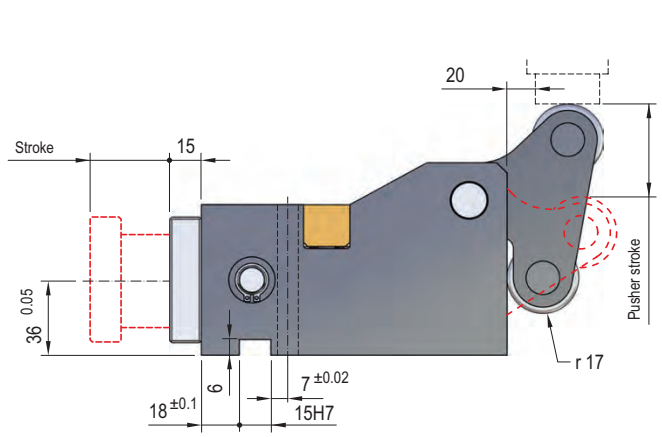
Part no.	Description	Part code
1	**Cam**	TPUD3500-1
2	**Rod**	TPUL3500-2
3	**End cap**	TPUL3500-3
4	**Gas spring**	TPK 25x25 YW
5	**Rod pin**	TPUL3500-5
6	**Punch holder (C45)**	TPUL3500-6

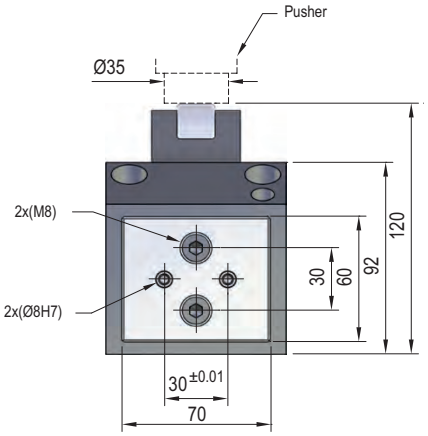
Punch / pusher stroke rate

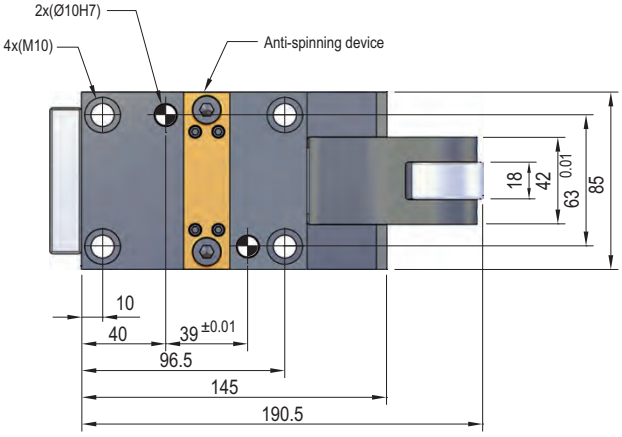


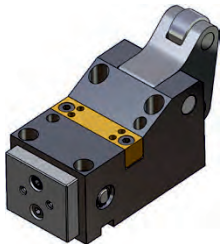
Maximum inclination





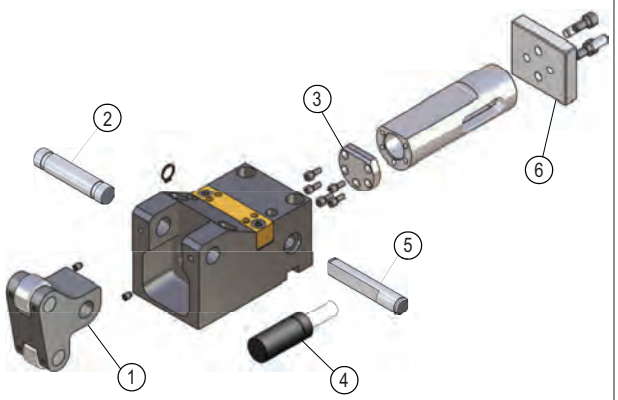






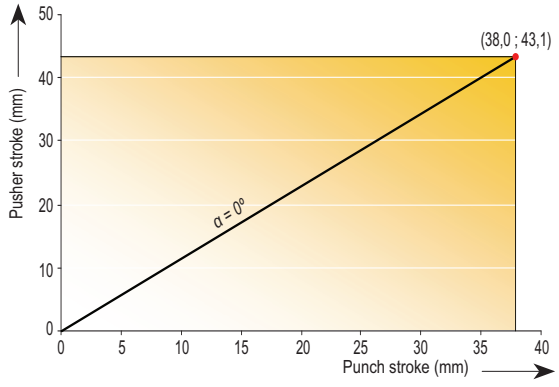
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 5000x38	38	5000 daN	200 daN	≈ 275 daN	TPK 25x38 YW	0,5 m/s	40 spm	Round and shaped	7,2

Spare parts

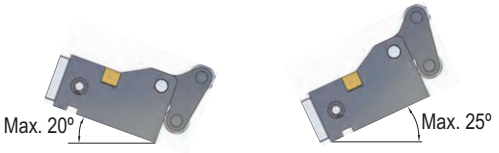


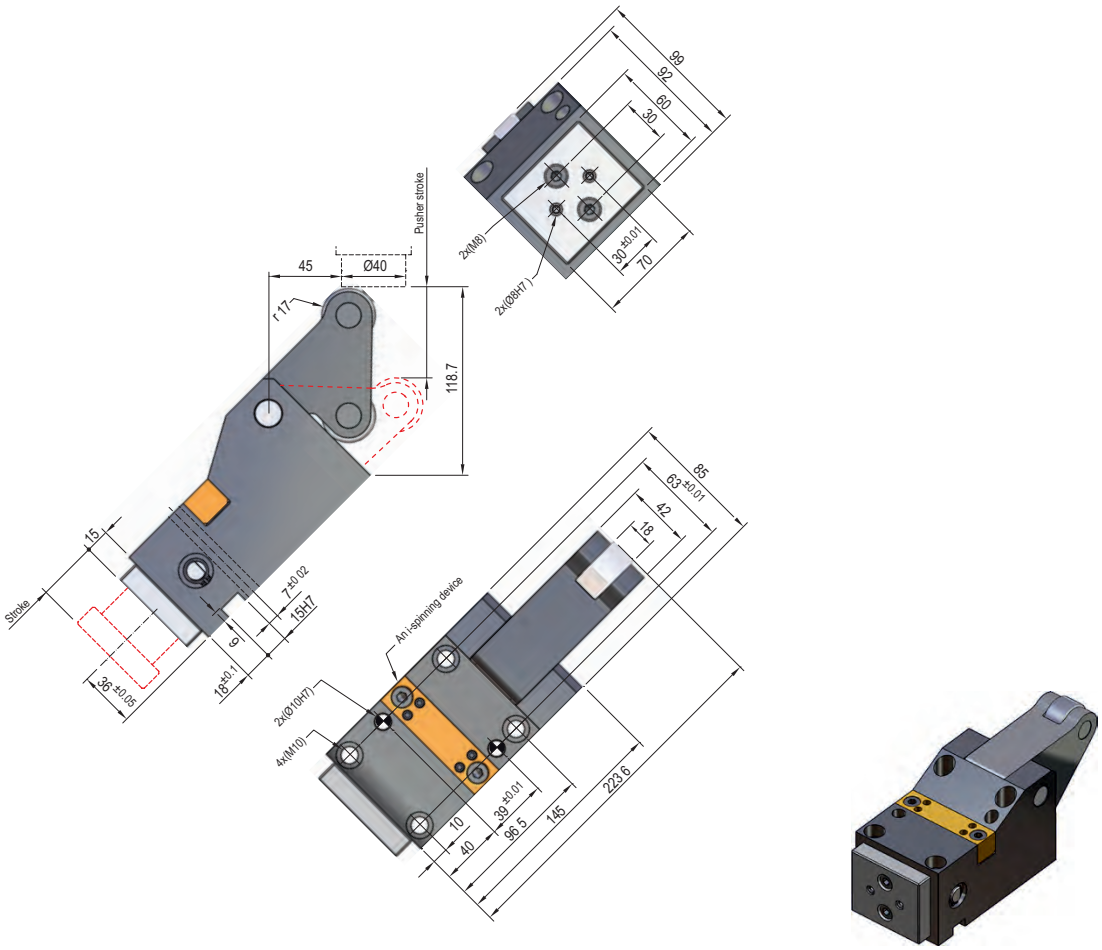
Part no.	Description	Part code
1	**Cam**	TPUL5000-1
2	**Rod**	TPUL5000-2
3	**End cap**	TPUL5000-3
4	**Gas spring**	TPK 25x38 YW
5	**Rod pin**	TPUL5000-5
6	**Punch holder (C45)**	TPUL5000-6

Punch / pusher stroke rate



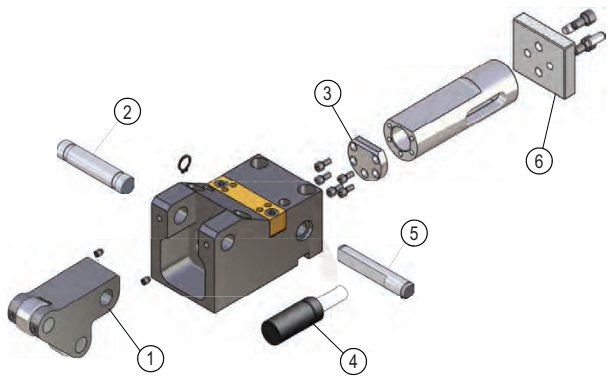
Maximum inclination





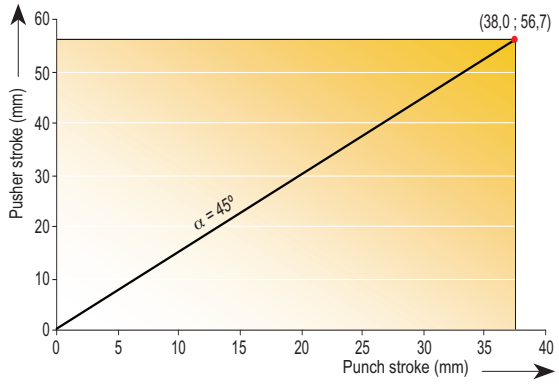
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUD 5000x38	38	5000 daN	200 daN	≈ 275 daN	TPK 25x38 YW	0,5 m/s	40 spm	Round and shaped	7,4

Spare parts

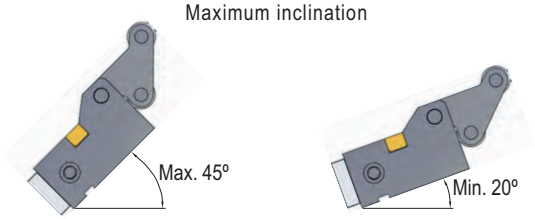


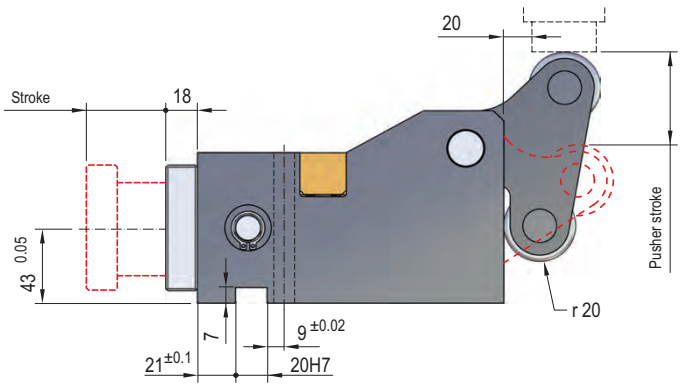
Part no.	Description	Part code
1	**Cam**	TPUD5000-1
2	**Rod**	TPUL5000-2
3	**End cap**	TPUL5000-3
4	**Gas spring**	TPK 25x38 YW
5	**Rod pin**	TPUL5000-5
6	**Punch holder (C45)**	TPUL5000-6

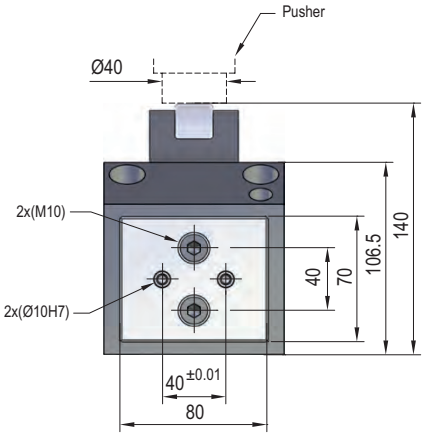
Punch / pusher stroke rate

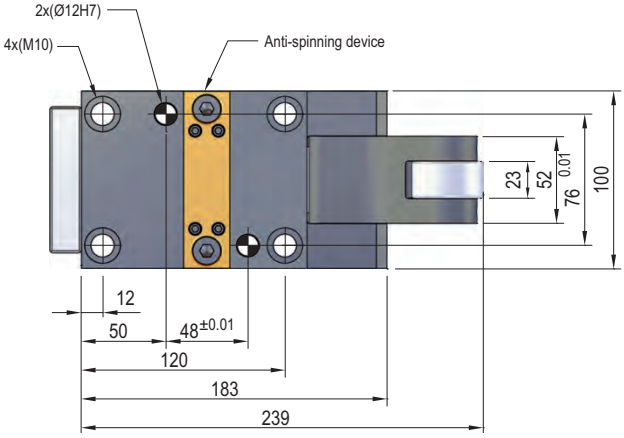


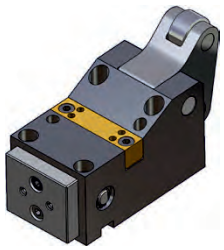
Maximum inclination





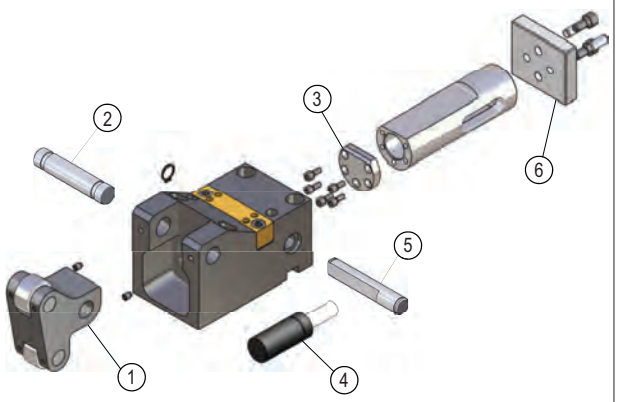






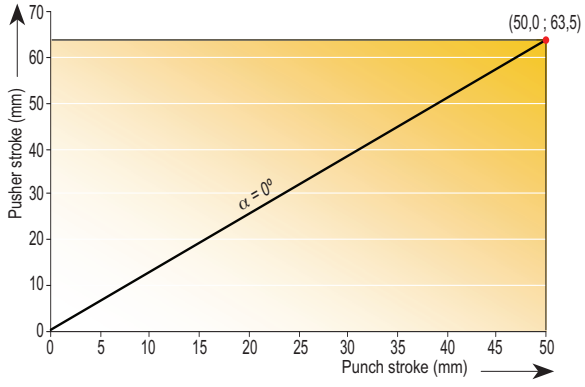
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 7000x50	50	7000 daN	400 daN	≈ 620 daN	TPK 32x50 YW	0,5 m/s	35 spm	Round and shaped	13,3

Spare parts

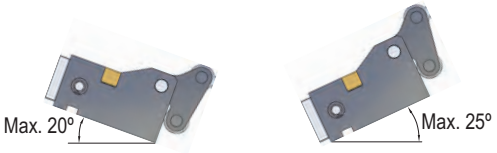


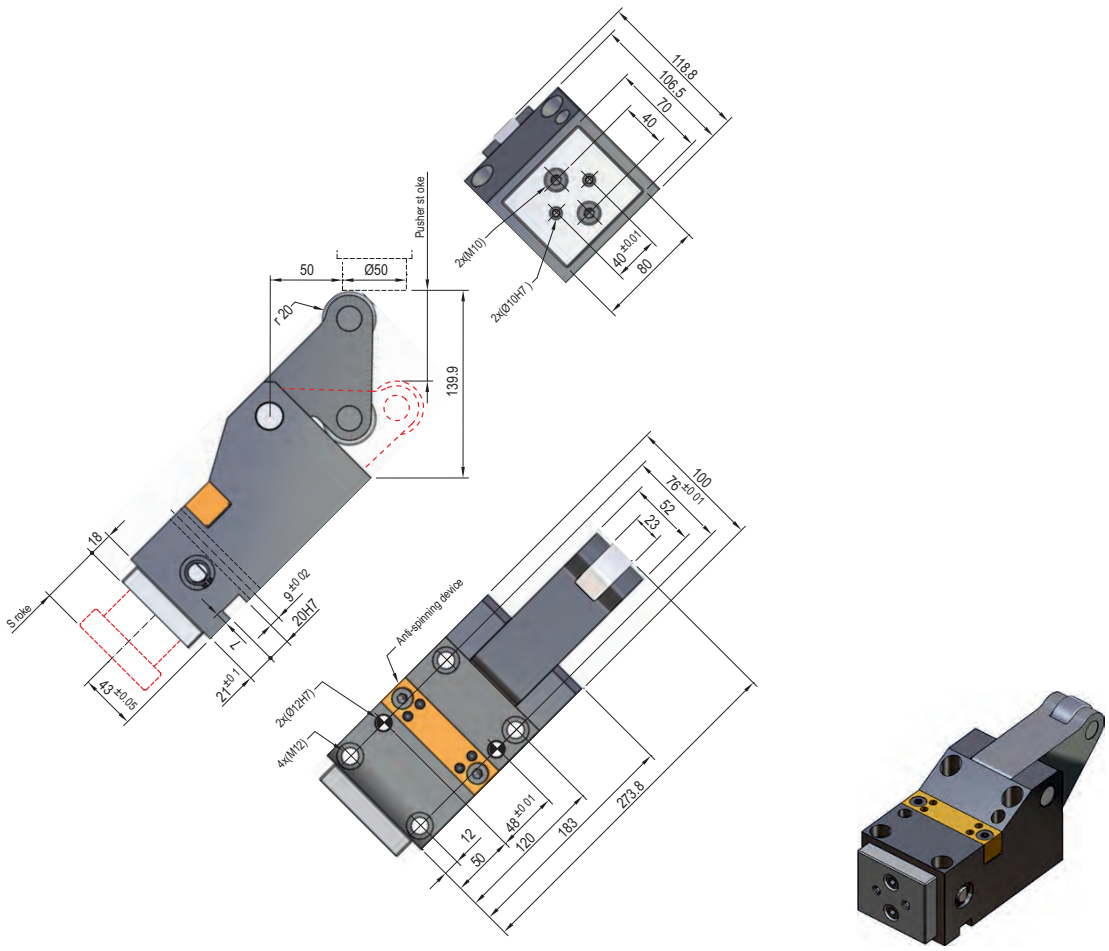
Part no.	Description	Part code
1	**Cam**	TPUL7000-1
2	**Rod**	TPUL7000-2
3	**End cap**	TPUL7000-3
4	**Gas spring**	TPK 32x50 YW
5	**Rod pin**	TPUL7000-5
6	**Punch holder (C45)**	TPUL7000-6

Punch / pusher stroke rate



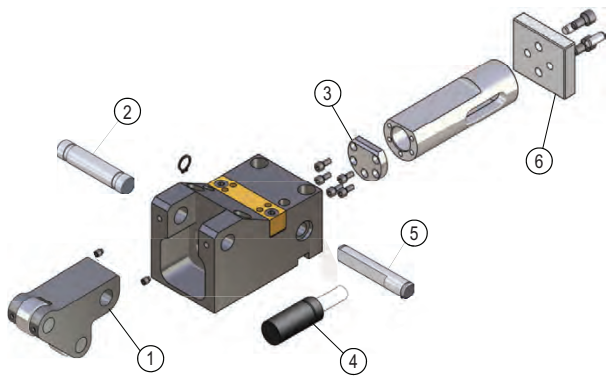
Maximum inclination





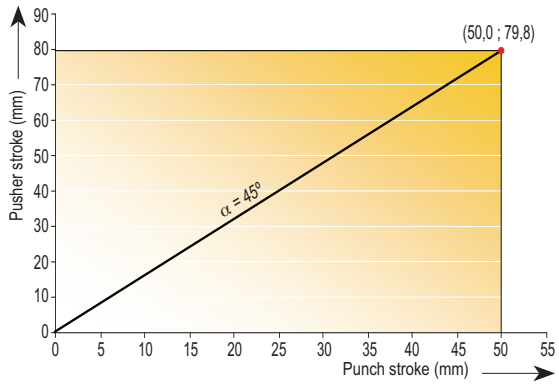
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUD 7000x50	50	7000 daN	400 daN	≈ 620 daN	TPK 32x50 YW	0,5 m/s	35 spm	Round and shaped	13,5

Spare parts

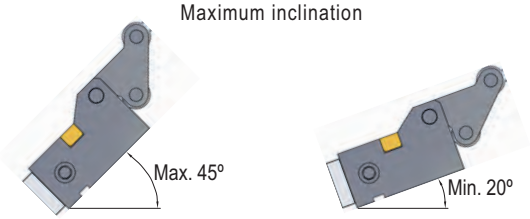


Part no.	Description	Part code
1	**Cam**	TPUD7000-1
2	**Rod**	TPUL7000-2
3	**End cap**	TPUL7000-3
4	**Gas spring**	TPK 32x50 YW
5	**Rod pin**	TPUL7000-5
6	**Punch holder (C45)**	TPUL5000-6

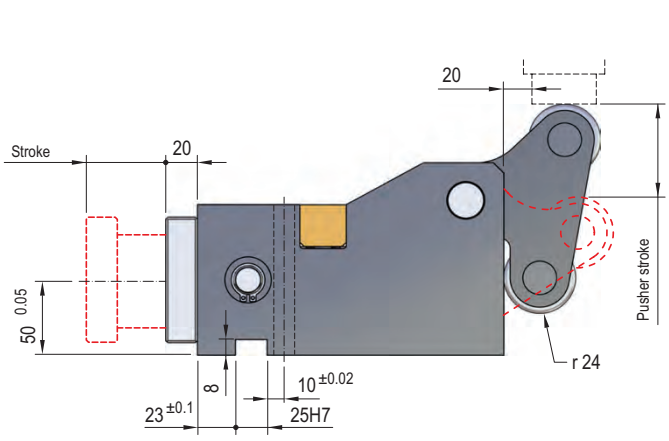
Punch / pusher stroke rate

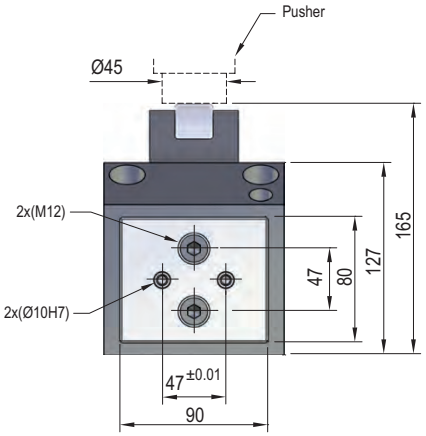


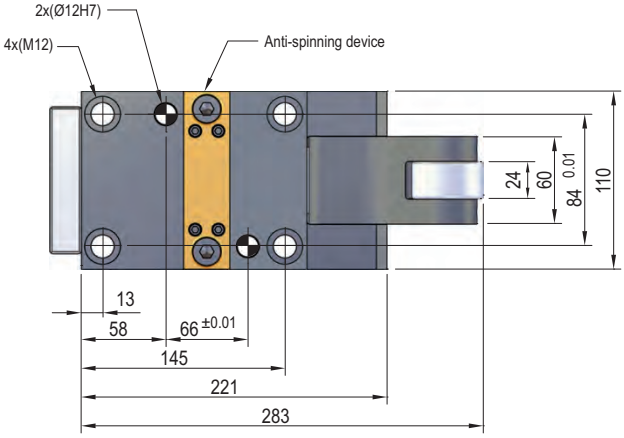
Maximum inclination

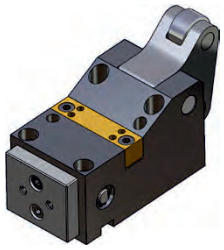


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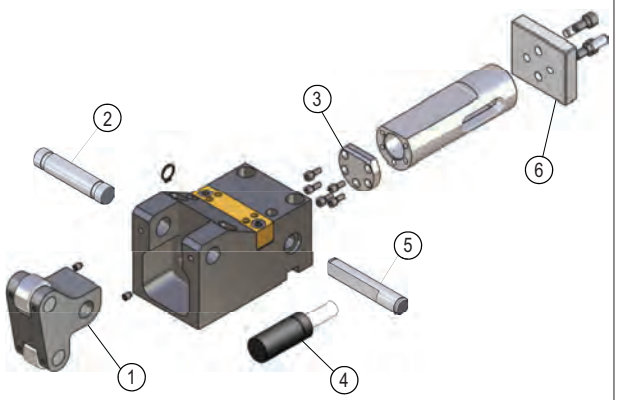






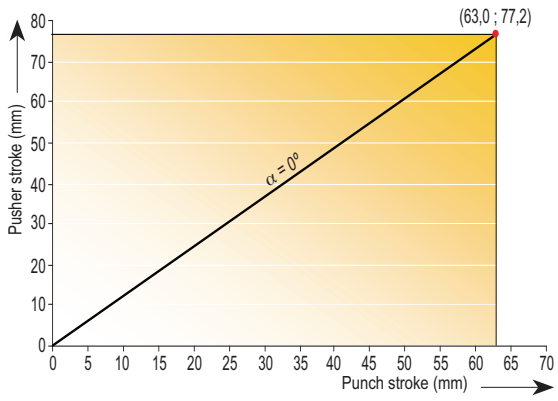
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 10000x63	63	10000 daN	600 daN	≈ 880 daN	TPK 600x63	0,5 m/s	30 spm	Round and shaped	20,5

Spare parts

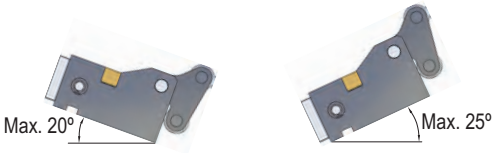


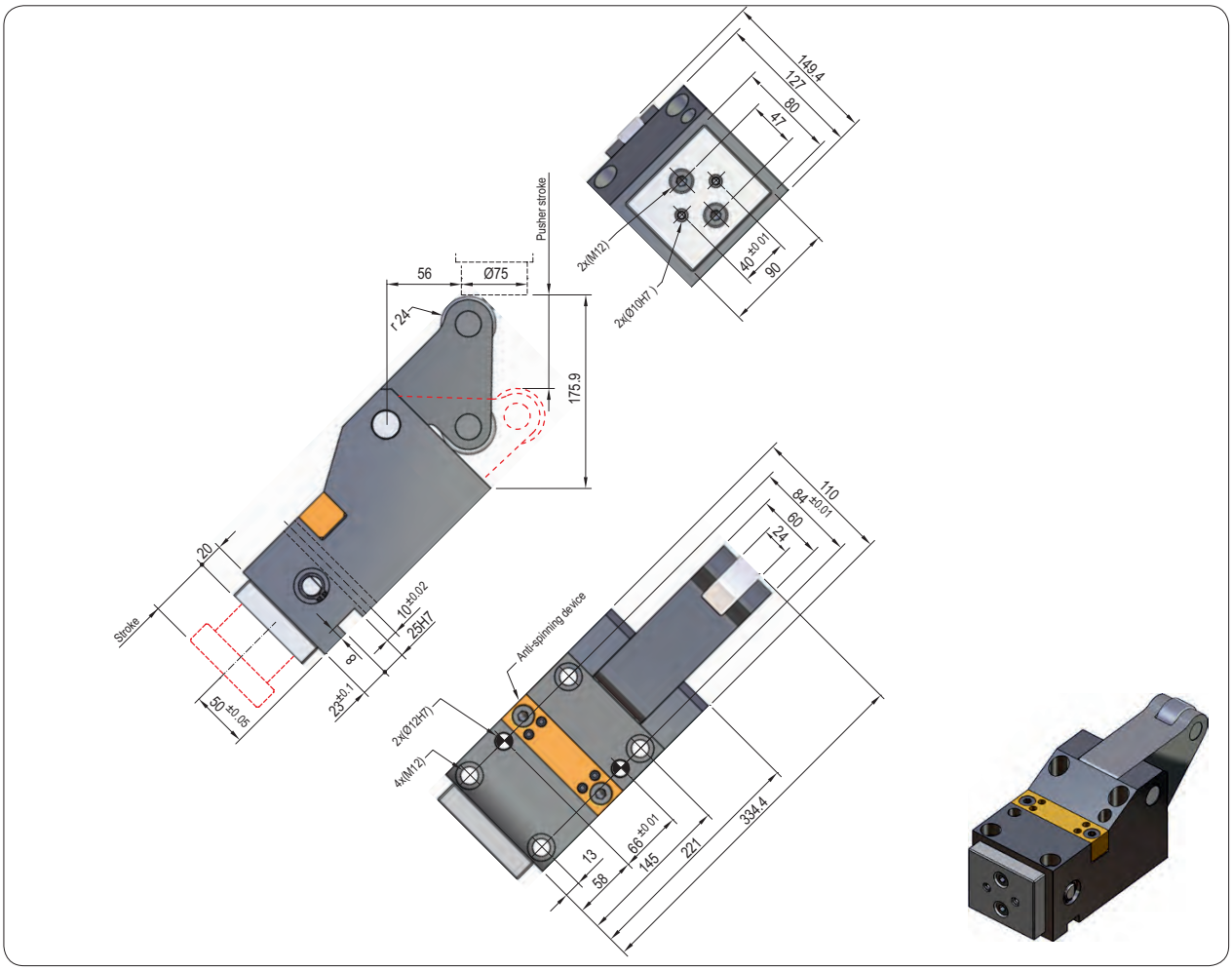
Part no.	Description	Part code
1	**Cam**	TPUL10000-1
2	**Rod**	TPUL10000-2
3	**End cap**	TPUL10000-3
4	**Gas spring**	TPK 600x63
5	**Rod pin**	TPUL10000-5
6	**Punch holder (C45)**	TPUL10000-6

Punch / pusher stroke rate



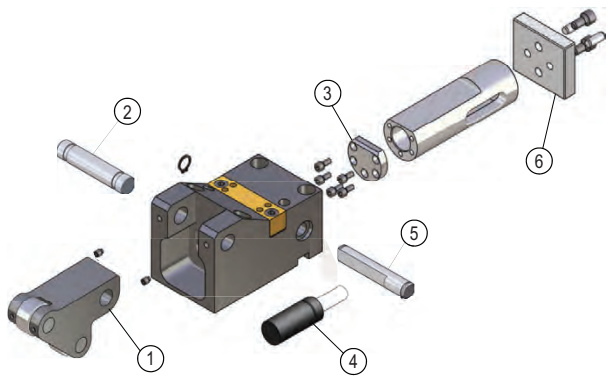
Maximum inclination





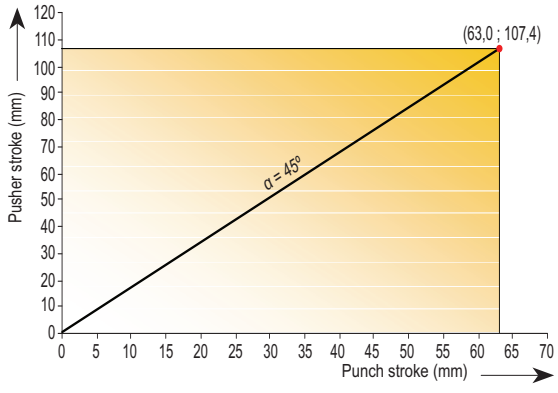
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUD 10000x63	63	10000 daN	600 daN	≈ 880 daN	TPK 600x63	0,5 m/s	30 spm	Round and shaped	20,7

Spare parts

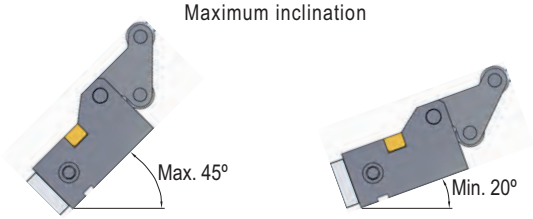


Part no.	Description	Part code
1	**Cam**	TPUD10000-1
2	**Rod**	TPUL10000-2
3	**End cap**	TPUL10000-3
4	**Gas spring**	TPK 600x63
5	**Rod pin**	TPUL10000-5
6	**Punch holder (C45)**	TPUL10000-6

Punch / pusher stroke rate

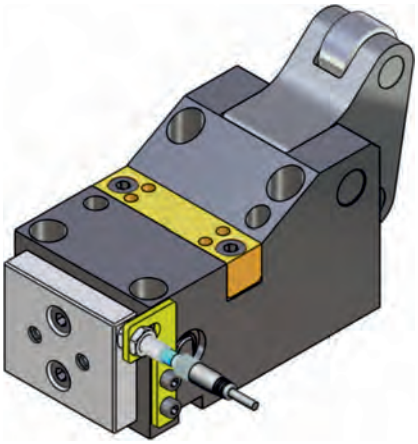


Maximum inclination

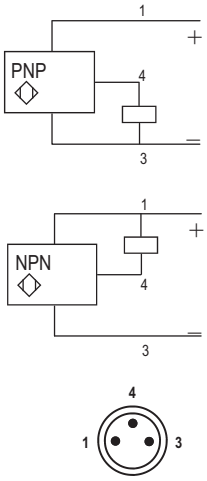


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Pasive return device
DRP







In order to better detect that the punching unit has returned to its initial position, TECAPRES recommends the use of a DRP inductive sensor as a passive return device. Thus, in the case that the cam does not return when the press goes back up due to a gas spring failure, a signal is activated, which can be used with an alarm, or cause a press shutdown, etc.

How to order

DRP-1 - R

Code | Connector

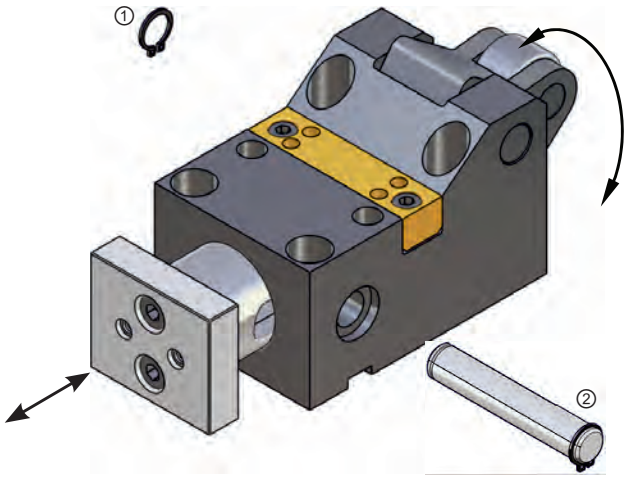


Connectors

Length of the cable 2m, 5m, 10m

Reference	Type	Function	Nominal sensing distance	Supply voltage	Switching capacity
DRP-1	PNP	NO	2 mm	12 ... 24 VDC	200 mA
DRP-2		NC			
DRP-3	NPN	NO			
DRP-4		NC			

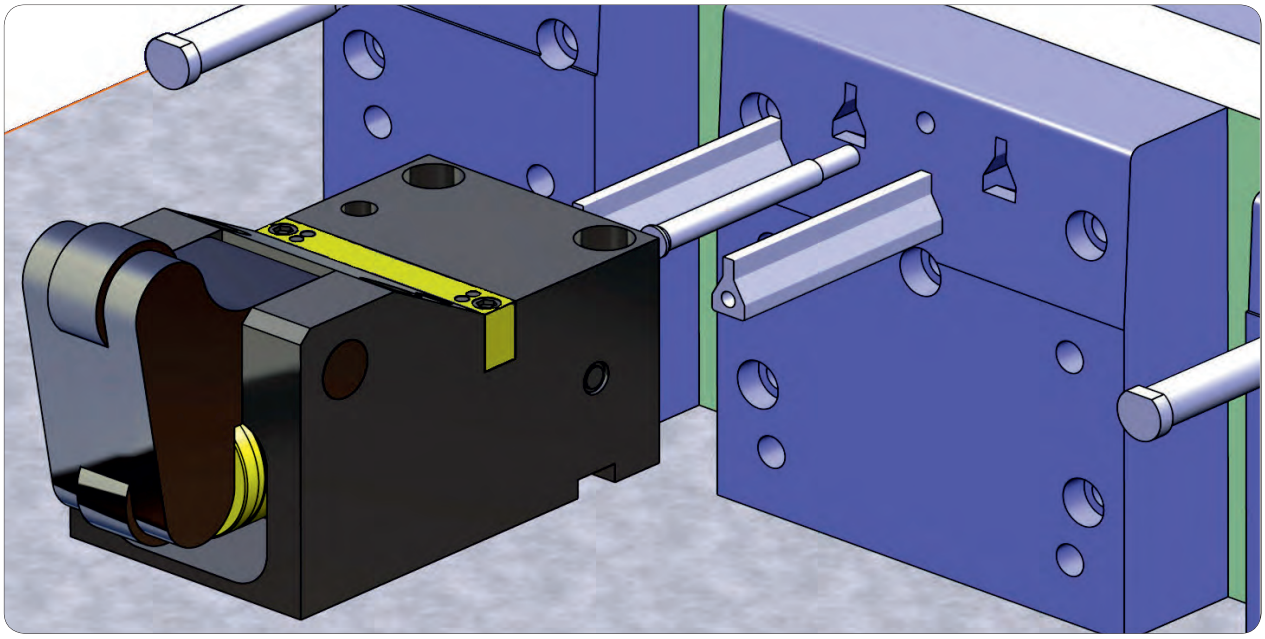
Punch adjustement operation

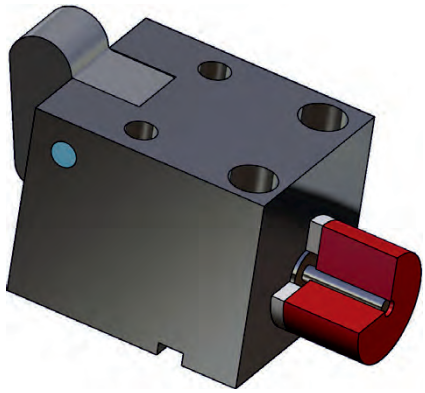


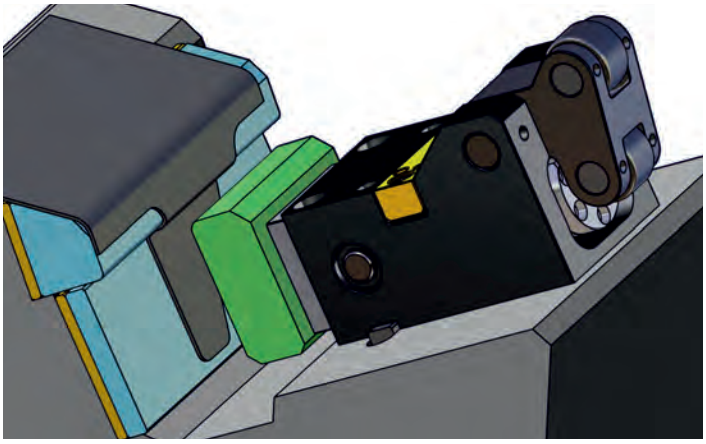
For punch adjustment operations, the punching unit can be manually operated as illustrated in the diagram.

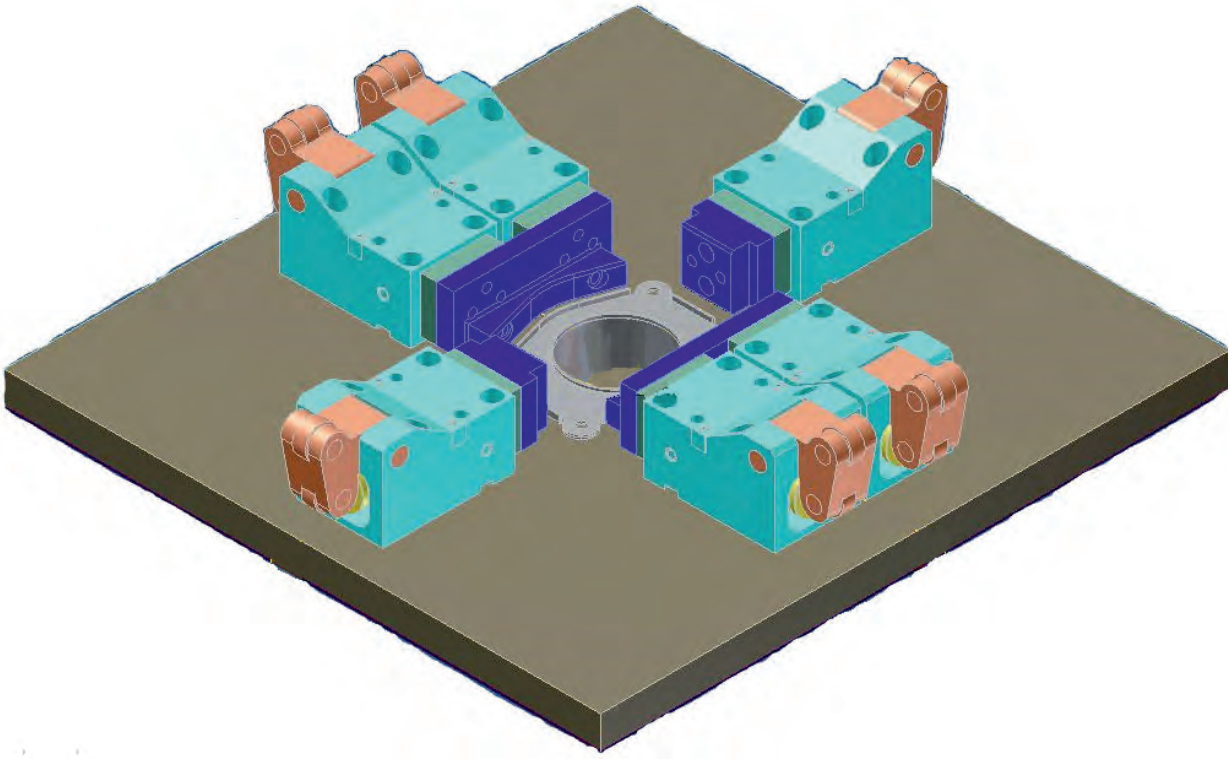
To do this one must first remove the bolt circlip (1).
It is then necessary to remove the cylinder stop bolt (2).

In this way it is now possible to freely move the stem.









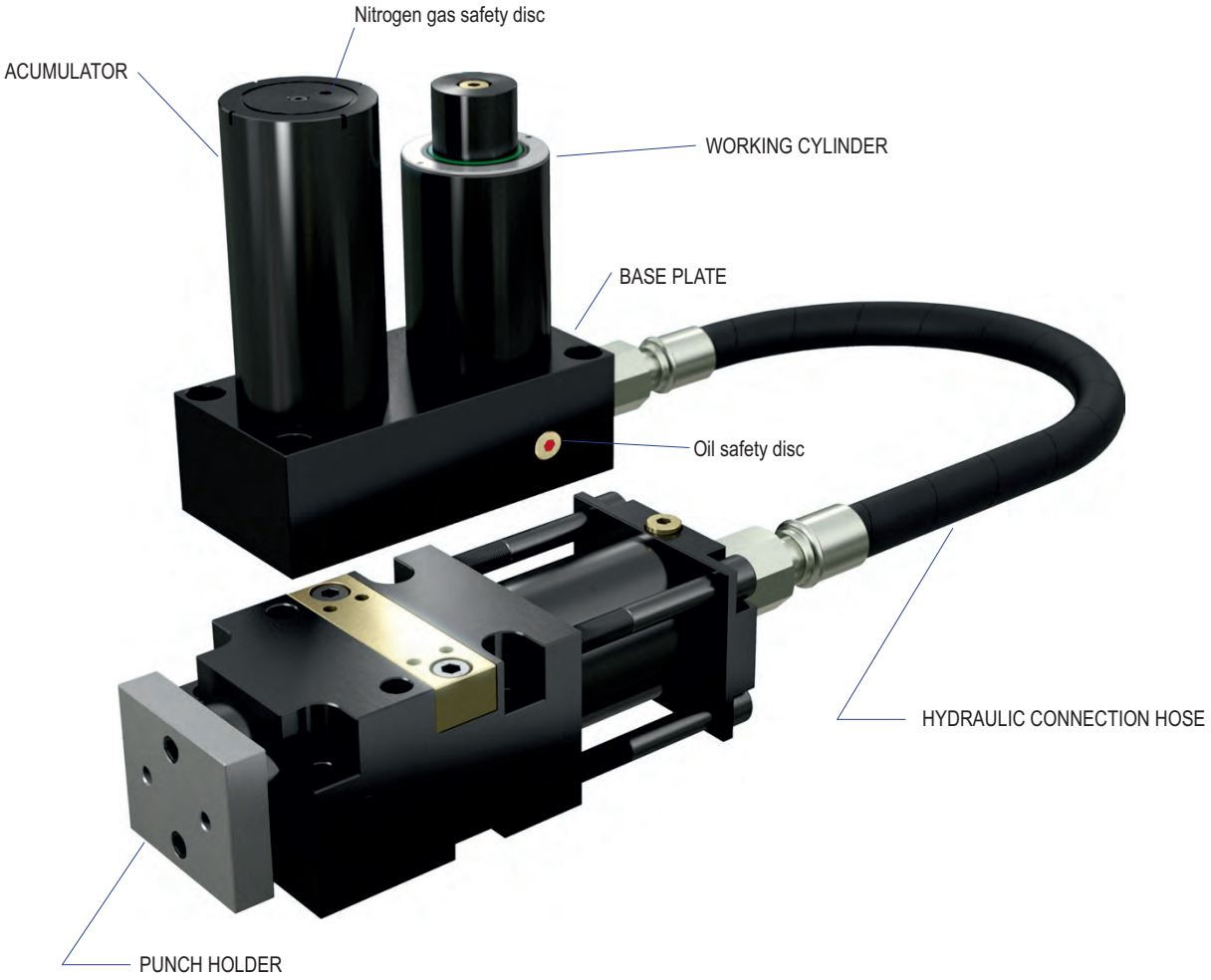


Hydraulic cams

Code	Working punch stroke mm	Max. punching force daN
TPCH 3000	25, 50, 80	3000
TPCH 7500	25, 50, 80	7500
TPCH 12000	25, 50, 63	12000

Description

Hydraulic cams can freely operate in any position and at any angle in space for stamping, folding, punching operations, etc.. thanks to the flexible distribution of forces.



DRIVE UNIT

The drive unit supplies the working pressure by means of oil. It consists of the following elements:

- Working cylinder
- Pressure accumulator
- Manifold plate

The accumulator is capable of absorbing all the volume displaced by the working cylinder if the cam stroke is blocked.

WORKING CAM

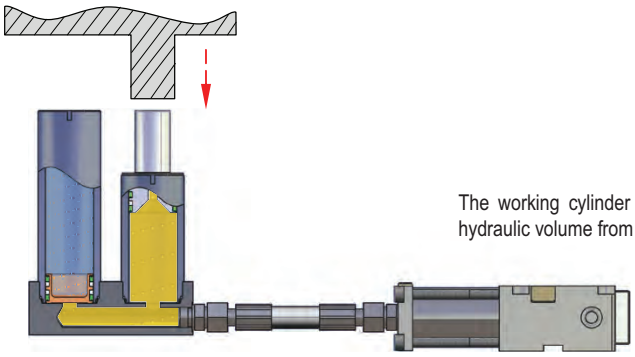
The working cam is controlled through the drive unit. It has a gas spring that produces the recoil force.

It is suitable for working applications with both round punches and punches with other shapes, thanks to its anti-turning device.

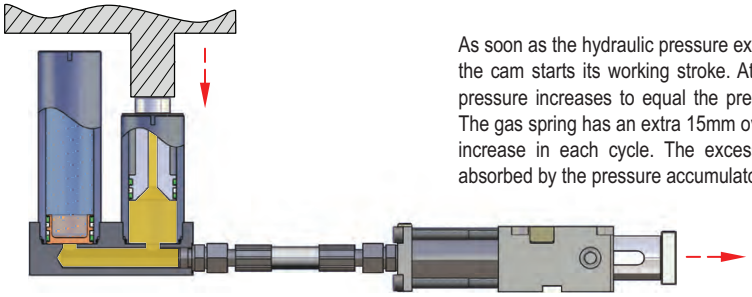
HYDRAULIC CONNECTION HOSE

There is a high pressure hose that connects the drive unit with the working cam. Fittings with O-rings are used to guarantee a perfect fix of the elements to avoid leaking.

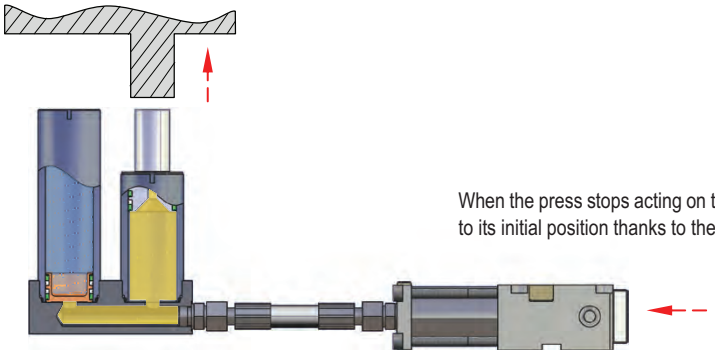
Operation



The working cylinder is made to work by the movement of the press, moving the hydraulic volume from the drive unit to the working cam through the hoses.

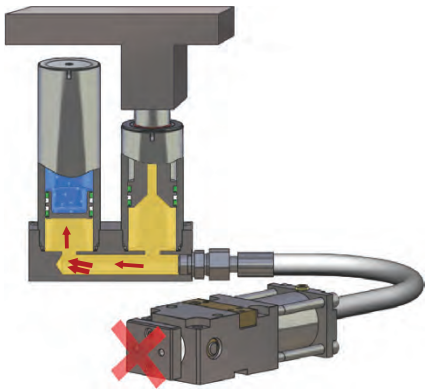


As soon as the hydraulic pressure exceeds the counterforce exerted by the gas spring, the cam starts its working stroke. At the end of the cam working stroke, the system pressure increases to equal the pressure of the nitrogen gas pressure accumulator. The gas spring has an extra 15mm overstroke capacity to ensure an identical pressure increase in each cycle. The excess volume of oil produced by the overstroke is absorbed by the pressure accumulator.



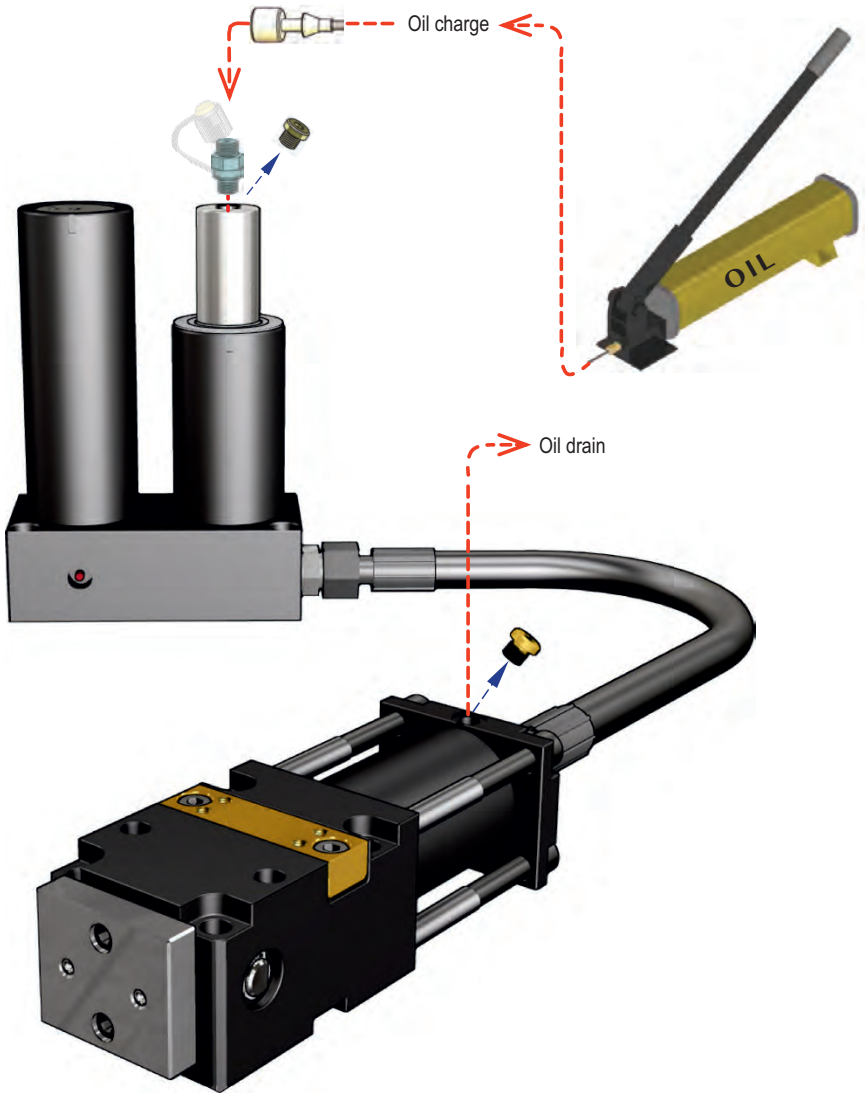
When the press stops acting on the working gas spring of the drive unit, the cam returns to its initial position thanks to the recoil of the gas spring.

Safety function



In the event that the cam working stroke is partially or completely hindered, the accumulator can completely absorb the displaced oil thereby avoiding any risk of breakage or explosion.

Oil refilling instructions



Installation instructions

Once the assembly of all components has been completed, proceed as follows:

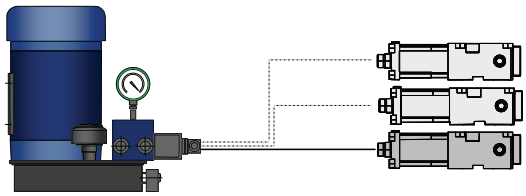
1 - Remove the cap from the oil filler hole
2 - Remove the cap from the oil drain hole
3 - Connect the oil pump minimess hose terminal to the oil filling hole
4 - Charge with oil by making it circulate throughout the system, until it is free of air bubbles, by purging such air bubbles through the outlet.
5 - Remove the oil filler items and close the oil charging and oil draining holes with the corresponding safety screws.
6 - The system is now ready for operation

How to order

TPCH 3000 x **50**

Code	TPCH 3000 TPCH 7500 TPCH 12000	Stroke	25mm 50mm 63mm(only TPCH 12000) 80mm(only TPCH 3000 & TPCH 7500)

Alternative driver



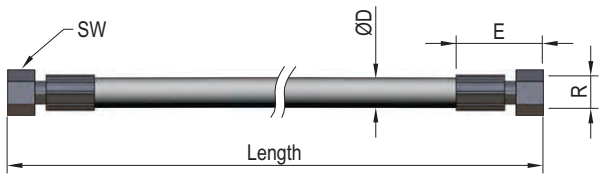
As an alternative to normal operation in presses, working cams also can be made to work by means of a hydraulic group that sends pressurized oil to the cams.

CONNECTION HOSE
TFRR

How to order

TFRR.01 - **500**

Code — Length



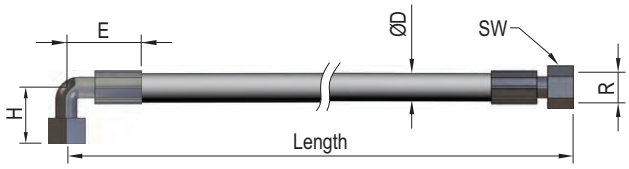
Code	TPCH model	ØD mm	E mm	R	SW mm
TFRR.01	TPCH 3000	21,2	≈ 63,5	M24x1,5	30
TFRR.02	TPCH 7500	28,2	≈ 76,5	M30x2	36
TFRR.03	TPCH 12000	36,1	≈ 100,5	M36x2	41

CONNECTION HOSE
TFRC

How to order

TFRC.03 - **750**

Code — Length



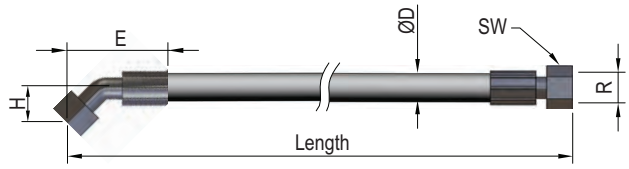
Code	TPCH model	ØD mm	H mm	E mm	R	SW mm
TFRC.01	TPCH 3000	21,2	≈ 45	≈ 69	M24x1,5	30
TFRC.02	TPCH 7500	28,2	≈ 55	≈ 94	M30x2	36
TFRC.03	TPCH 12000	36,1	≈ 67	≈ 128	M36x2	41

CONNECTION HOSE
TFCC

How to order

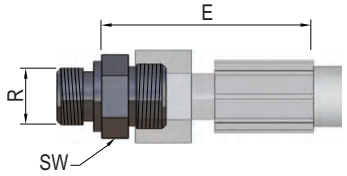
TFCC.02 - **325**

Code — Length



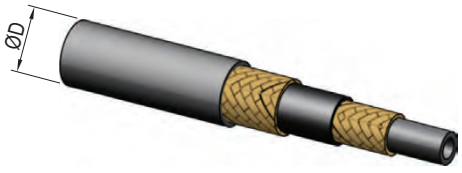
Code	TPCH model	ØD mm	H mm	E mm	R	SW mm
TFCC.01	TPCH 3000	21,2	≈ 29	≈ 85	M24x1,5	30
TFCC.02	TPCH 7500	28,2	≈ 36	≈ 125	M30x2	36
TFCC.03	TPCH 12000	36,1	≈ 40	≈ 130	M36x2	41

CONNECTION RACORD
RMTF

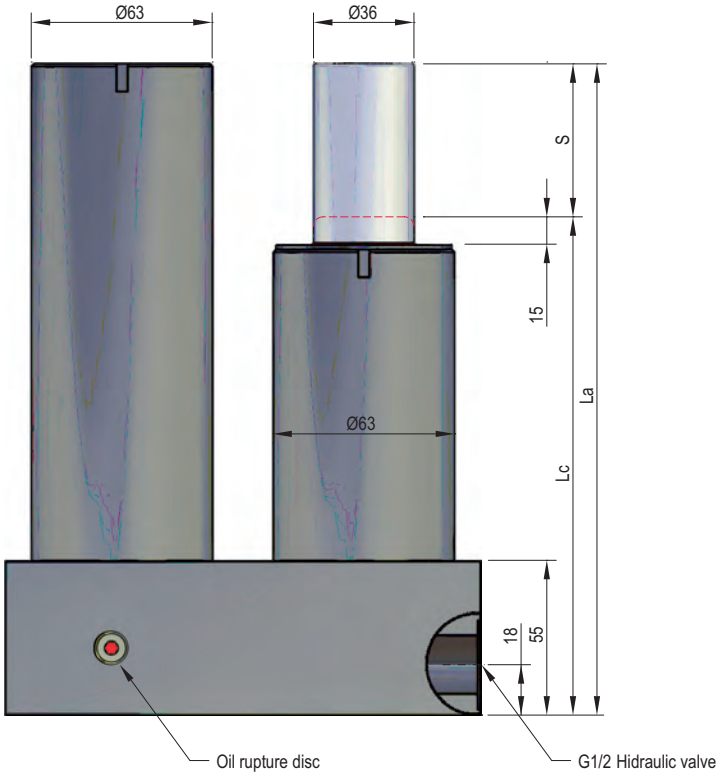


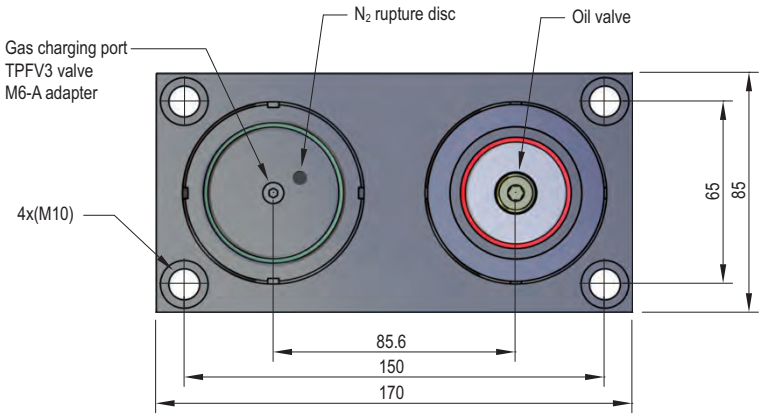
Code	TPCH model	E mm	R	SW mm
RMTF.01	TPCH 3000	≈ 85	1/2"	27
RMTF.02	TPCH 7500	≈ 90	3/4"	32
RMTF.03	TPCH 12000	≈ 108	1"	41

TF HOSE



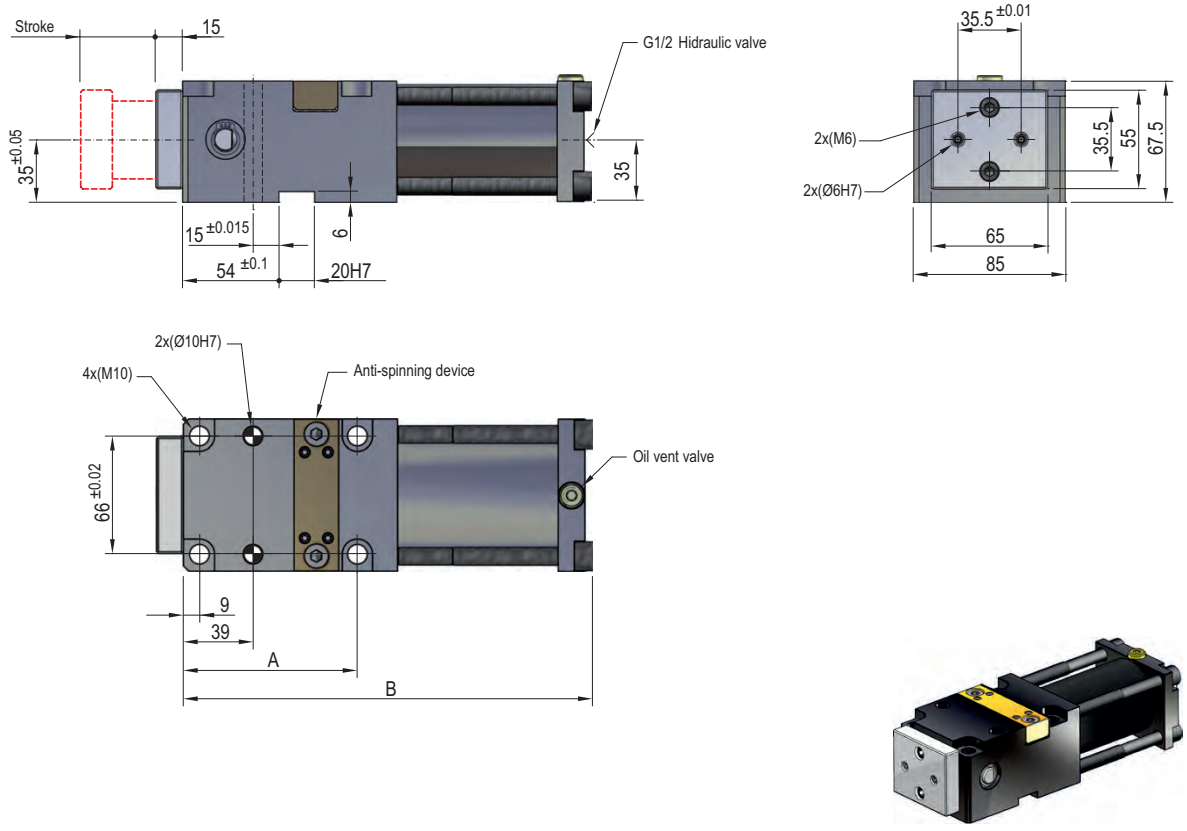
Code	TPCH model	ØD mm	Min. curvature radius mm	Working pressure Bar	Breakage pressure Bar
TF... .01	TPCH 3000	21,2	90	345	1380
TF... .02	TPCH 7500	28,2	160	280	1120
TF... .03	TPCH 12000	36,1	210	200	950





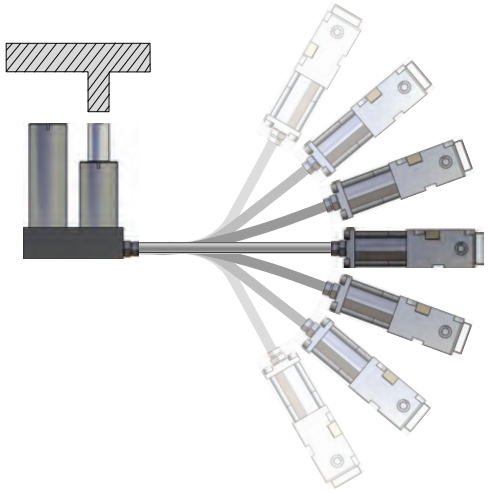


Code	Smax mm	La mm	Lc mm	Max. operation force	Charging N_2 pressure		Max. working specifications		Max. working temperature
					Min.	Max.	Velocity	Strokes / min	
TPCH 3000x25	25	183	158	3000 daN	50 Bar	150 Bar	20 m/min	40 spm	60 ºC
TPCH 3000x50	50	233	183					30 spm	
TPCH 3000x80	80	293	213					20 spm	



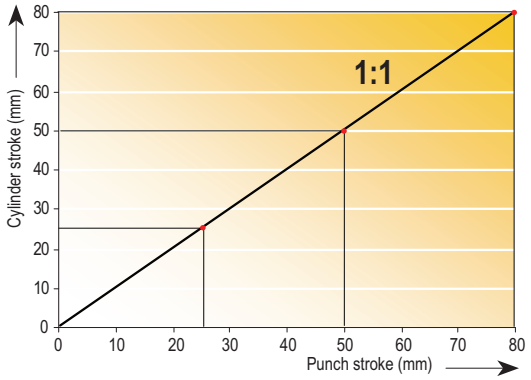
Code	Smax mm	A mm	B mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application
					Initial	Final		Velocity	Strokes / min	
TPCH 3000x25	25	83,5	187	3000 daN	200 daN	≈ 270 daN	TPK 25x25 YW	20 m/min	40 spm	Round and shaped
TPCH 3000x50	50	97,5	225				TPK 25x50 YW		30 spm	
TPCH 3000x80	80	125,5	285				TPK 25x80 YW		20 spm	

Working angle



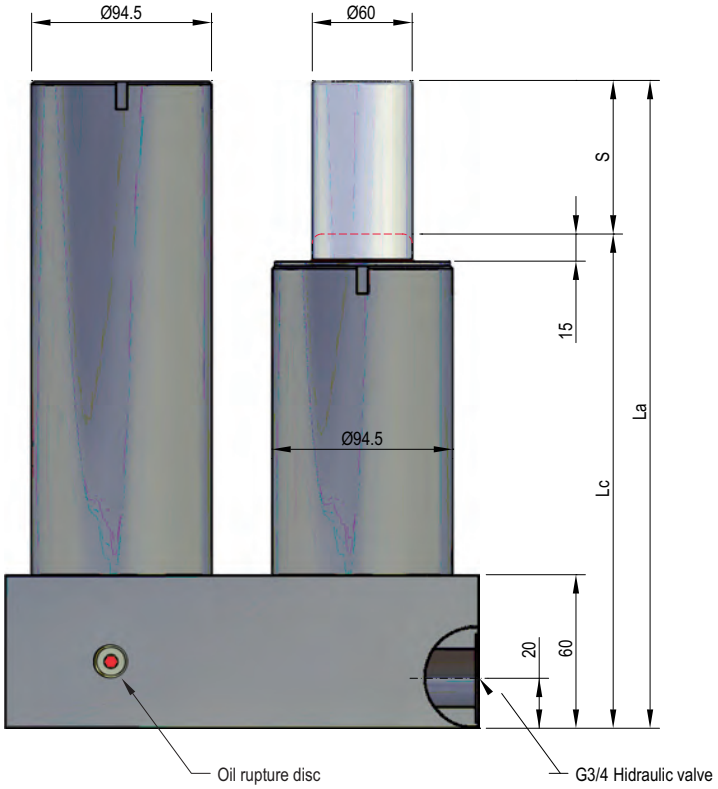
The working cam can work freely in space, at any angle and in any position.

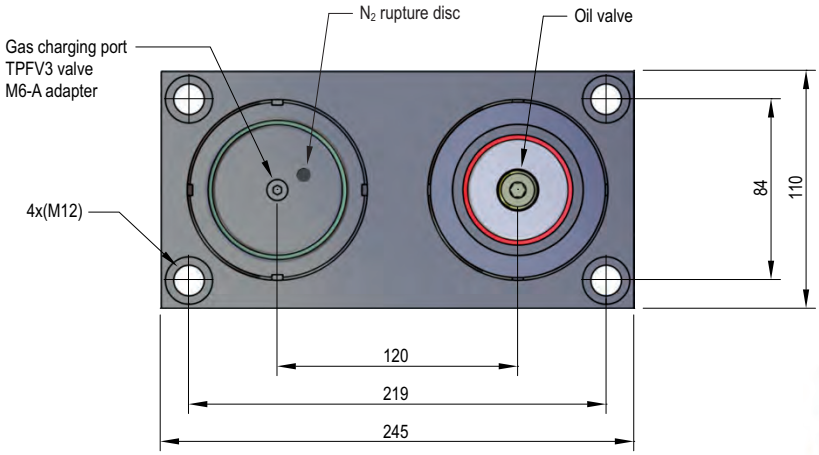
Working cam / drive unit cylinder stroke ratio





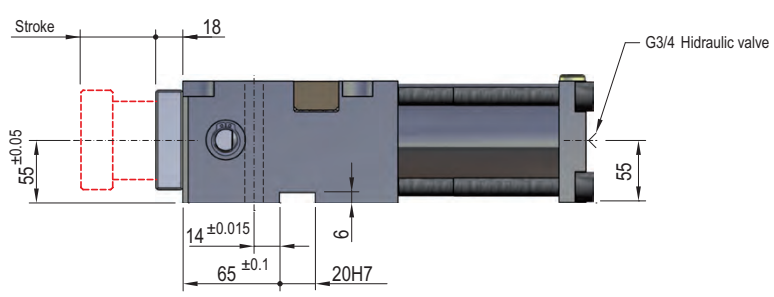
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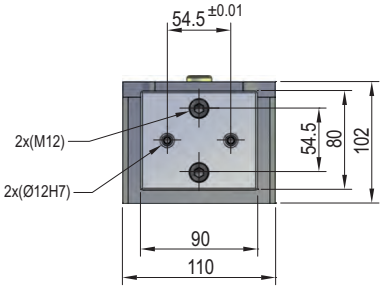


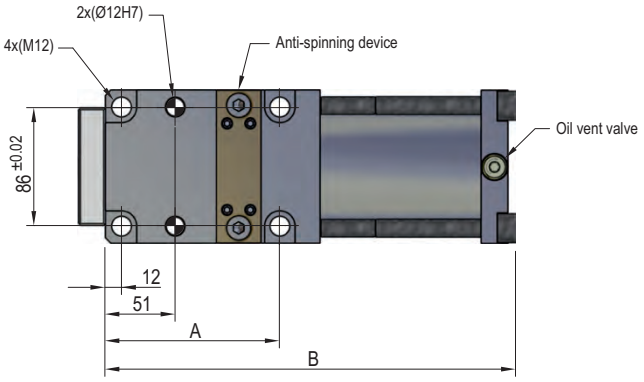


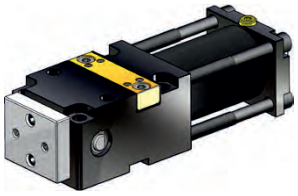


Code	Smax mm	La mm	Lc mm	Max. operation force	Charging N_2 pressure		Max. working specifications		Max. working temperature
					Min.	Max.	Velocity	Strokes / min	
TPCH 7500x25	25	205	180	7500 daN	50 Bar	150 Bar	20 m/min	40 spm	60 ºC
TPCH 7500x50	50	255	205					30 spm	
TPCH 7500x80	80	315	235					20 spm	



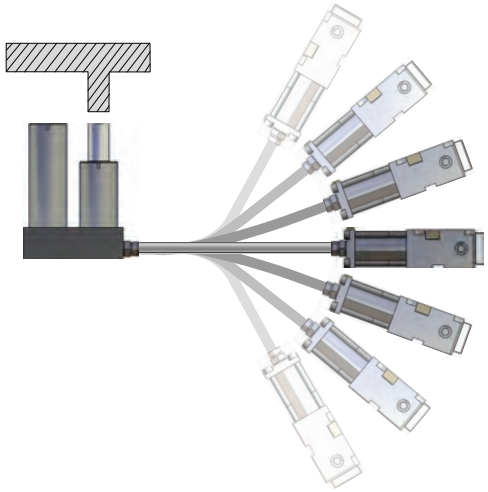






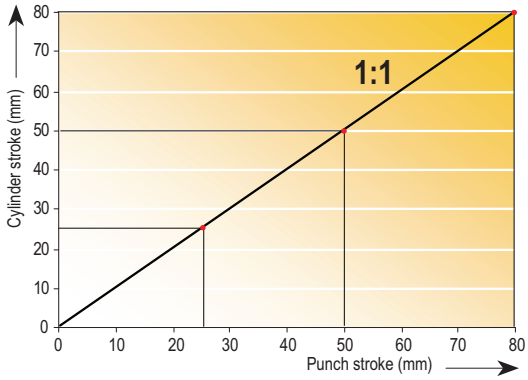
Code	Smax mm	A mm	B mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application
					Initial	Final		Velocity	Strokes / min	
TPCH 7500x25	25	110	230	7500 daN	600 daN	≈ 860 daN	TPK 600x25	20 m/min	40 spm	Round and shaped
TPCH 7500x50	50	110	255				TPK 600x50		30 spm	
TPCH 7500x80	80	140	315				TPK 600x80		20 spm	

Working angle

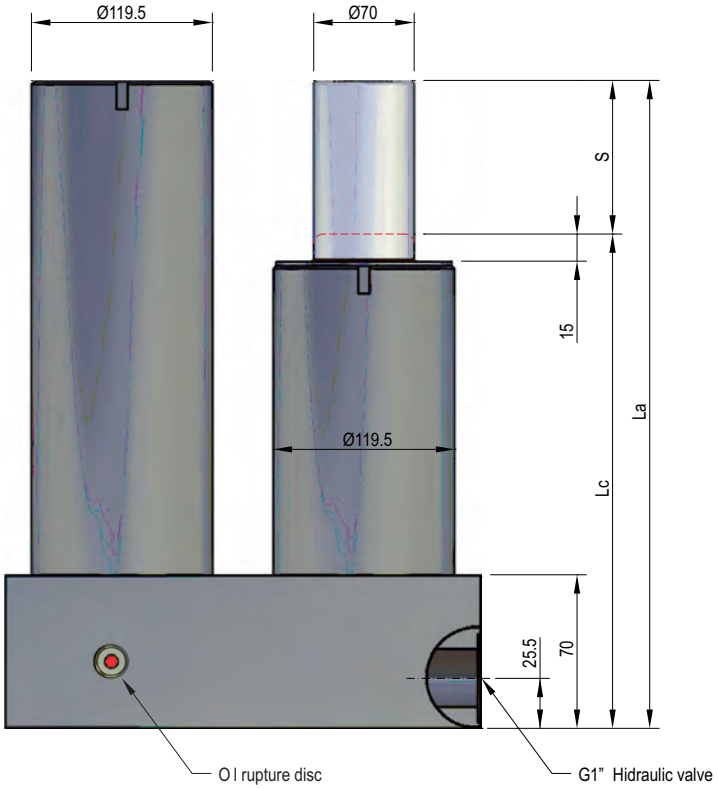


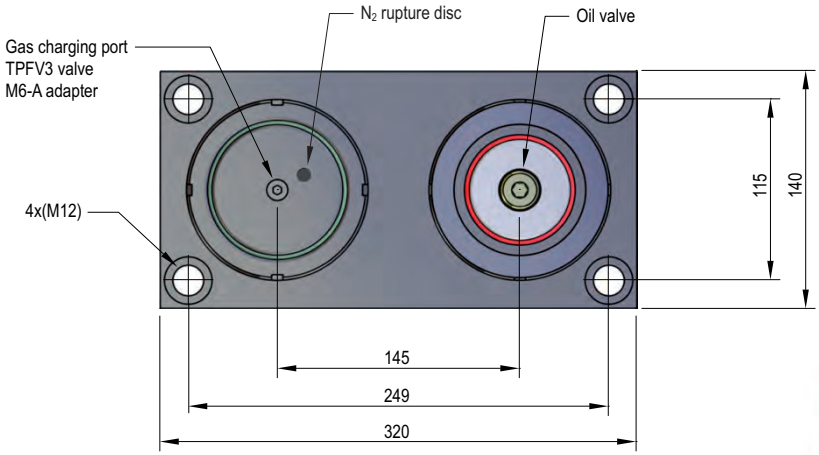
The working cam can work freely in space, at any angle and in any position.

Working cam / drive unit cylinder stroke ratio



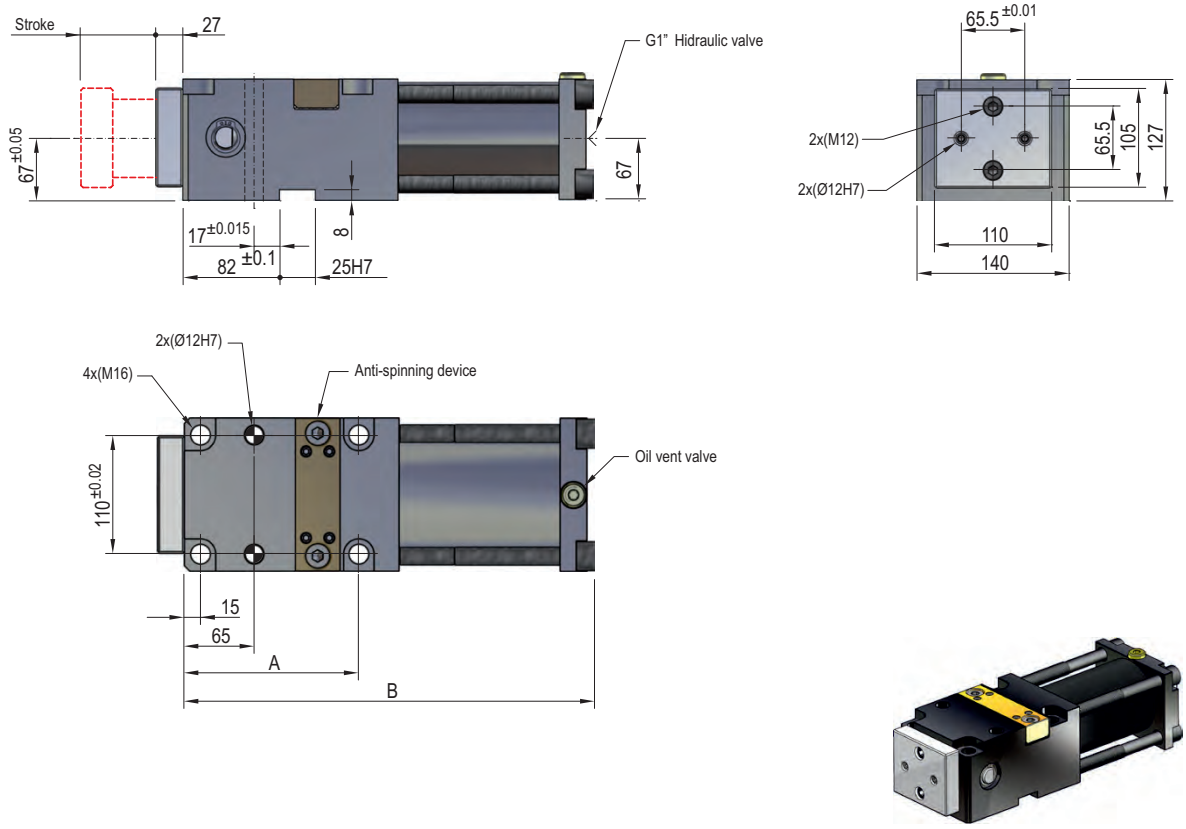






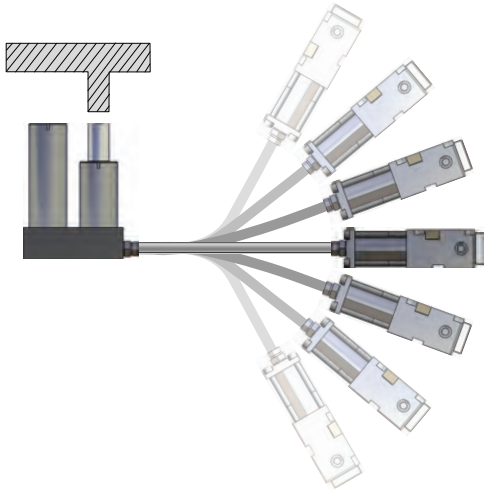


Code	Smax mm	La mm	Lc mm	Max. operation force	Charging N_2 pressure		Max. working specifications		Max. working temperature
					Min.	Max.	Velocity	Strokes / min	
TPCH 12000x25	25	216	191	1200 daN	50 Bar	150 Bar	20 m/min	40 spm	60 ºC
TPCH 12000x50	50	266	216					30 spm	
TPCH 12000x63	63	292	229					20 spm	



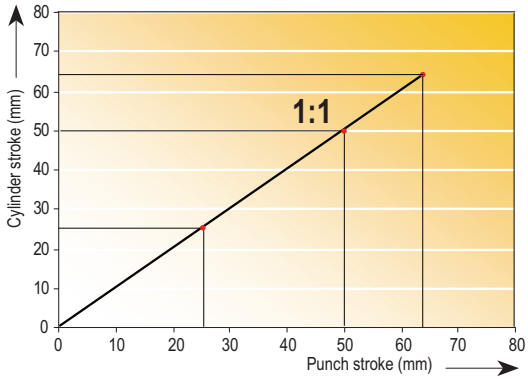
Code	Smax mm	A mm	B mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application
					Initial	Final		Velocity	Strokes / min	
TPCH 12000x25	25	132	263	12000 daN	750 daN	≈ 1190 daN	MICRO 45x25	20 m/min	40 spm	Round and shaped
TPCH 12000x50	50	132	288				MICRO 45x50		30 spm	
TPCH 12000x63	63	132	314				MICRO 45x63		20 spm	

Working angle

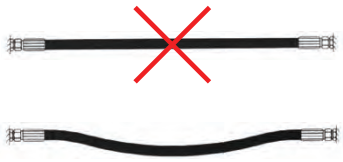


The working cam can work freely in space, at any angle and in any position.

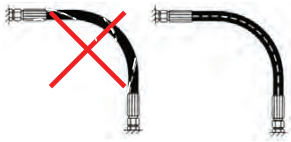
Working cam / drive unit cylinder stroke ratio



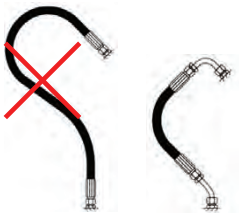




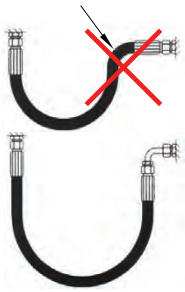
The length of the hose should have a certain amount of slack (10 or 20% excess)



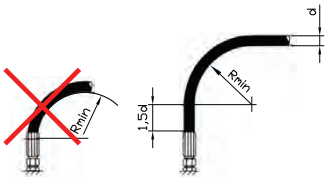
Make sure the hose is not twisted during the installation process.



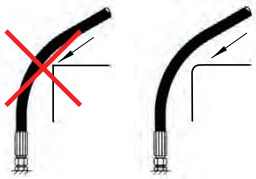
Select the appropriate fittings so that the hoses are not forced. A proper use of fittings prevents excessive hose length



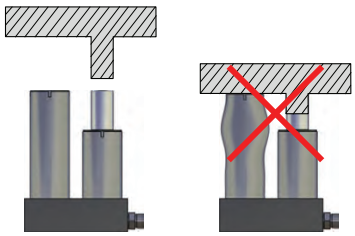
The installation process must comply with the minimum hose curvature radius.



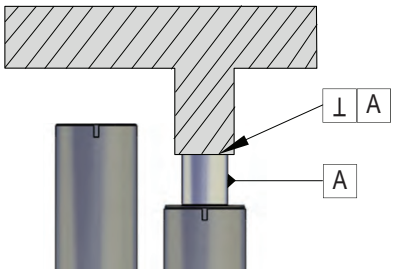
Before starting a curvature, a minimum straight length must be respected to avoid damage to the joint.



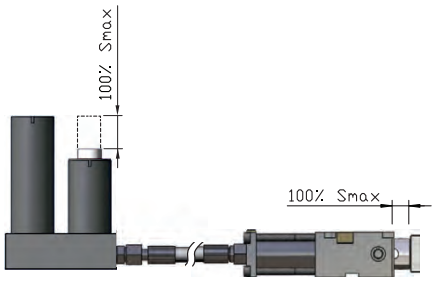
External mechanical influence on the hose should be avoided, even the rubbing against a nearby element. It is recommendable to use clamps for this process



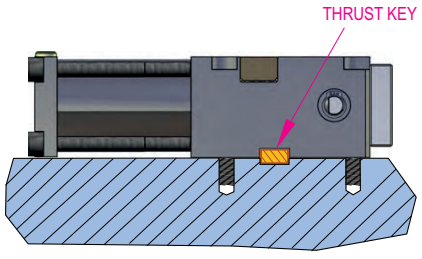
To avoid accidents or serious damage to the pressure accumulator, the press ram should have the necessary adequate dimensions.



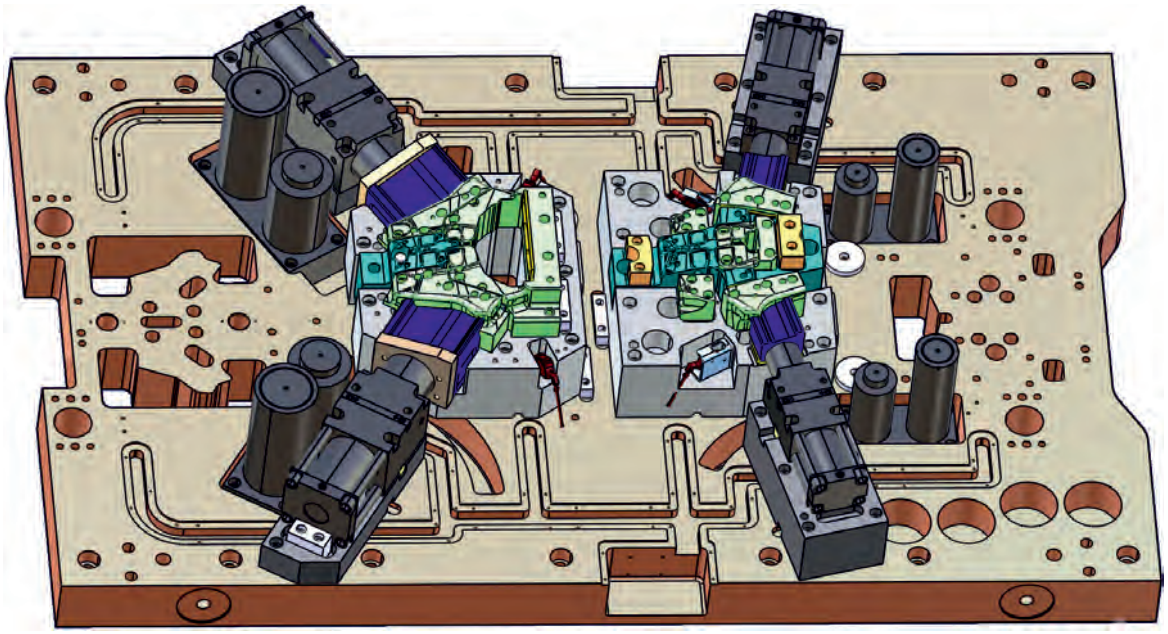
The working gas spring should be completely perpendicular to the working surface

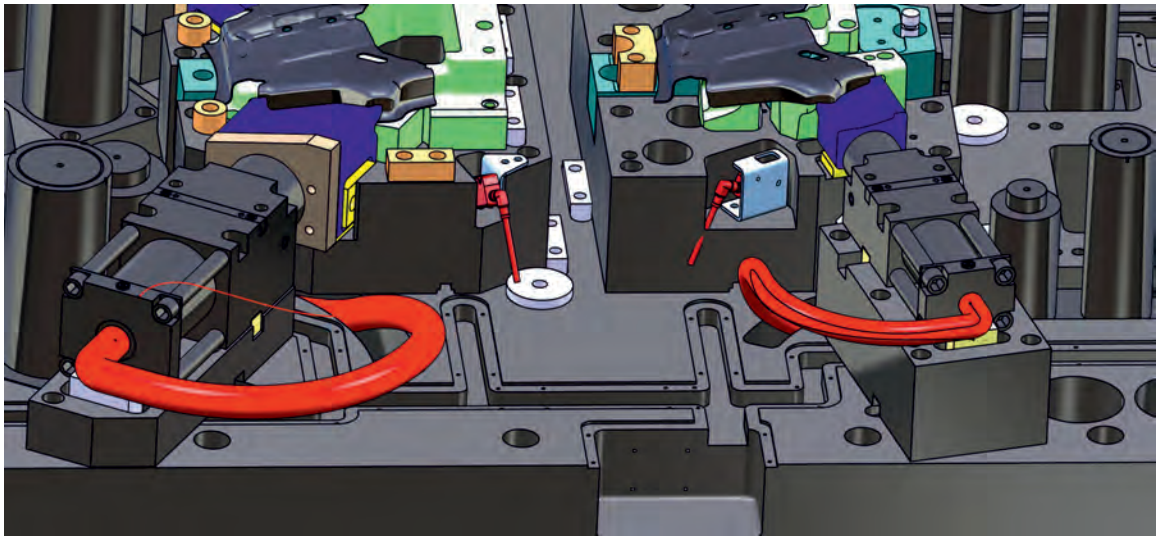


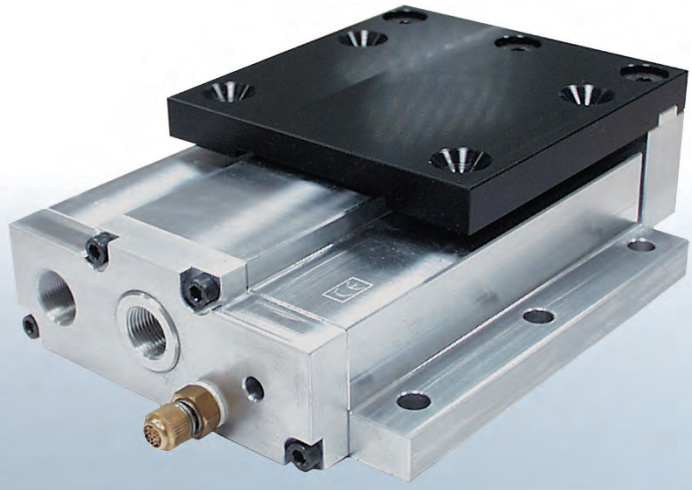
All models are prepared to work at 100% of their specified stroke. There is also a 15mm safety reserve stroke.

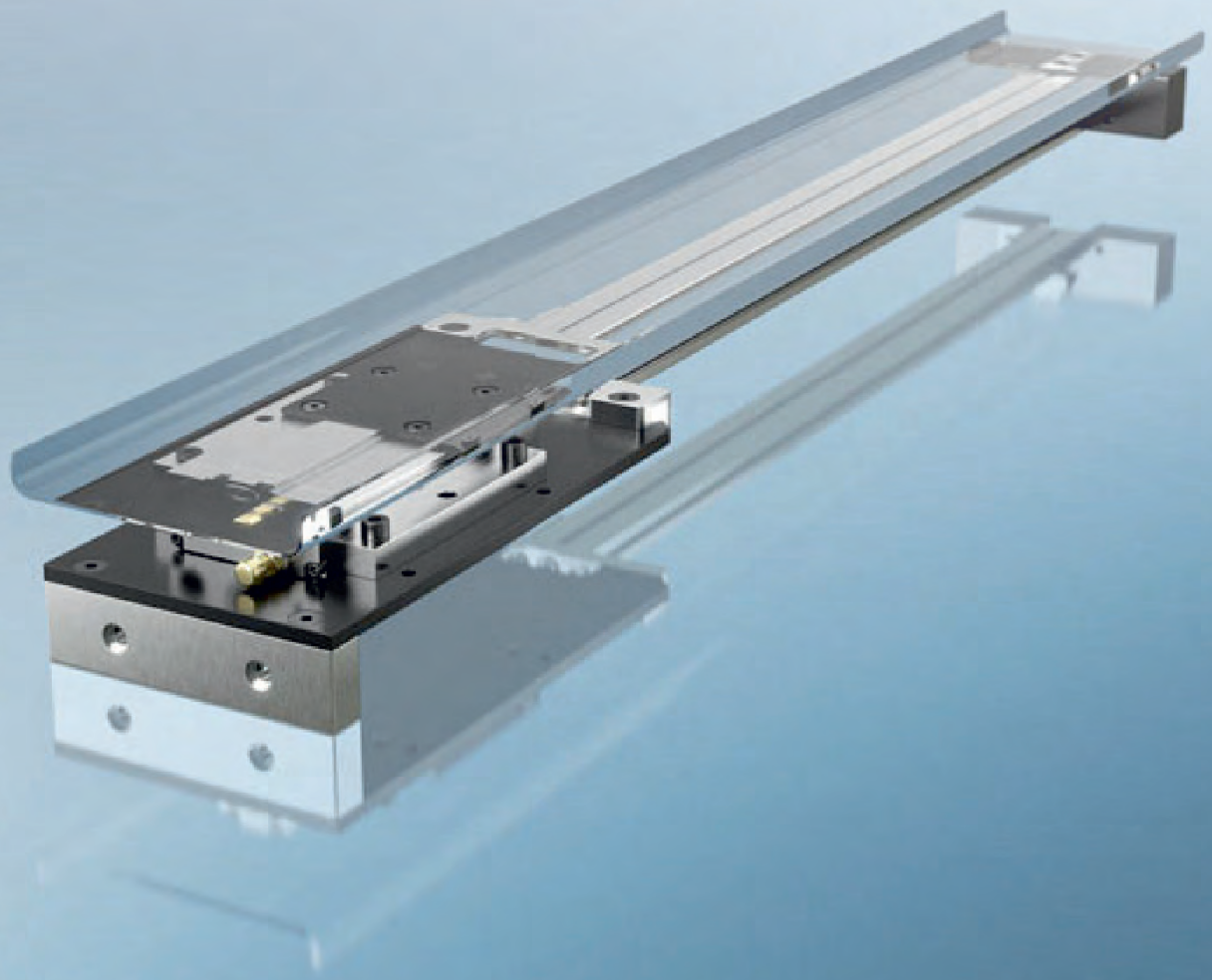


It is necessary to choose conveniently the length of fixing screws. All working cams have a groove for the mounting of a positioning pin.









Pneumatic part conveyors

Code	Maximum load N	Maximum parts load Kg
TPTN-18	180	15
TPTN-25	250	22
TPTN-35	350	30
TPTN-65	650	53



Application and use

This pneumatic part conveyor is a linear conveyor, which transports stampings of all kinds and shapes even out of extremely narrowed waste disposers.

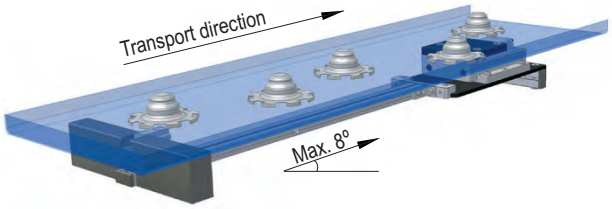
The simple handling of the conveyors allows for rapid and trouble-free operation both in the series as in the large-quantity production. The conveyor is robust and needs little maintenance.

Operation

Linear conveyors work according to the principle of the relation between velocity and frictional resistance. Thereby different front or back acceleration values are used to transport a part on a groove made of steel sheet. It even allow us to transport parts with a negative inclination (max. 8º).

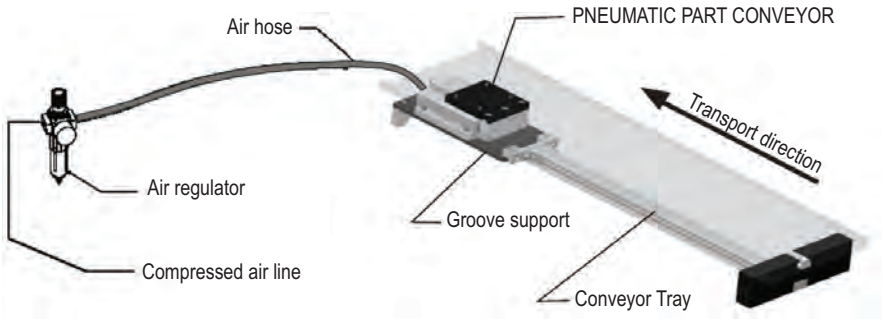
By adjusting stroke frequency, the transport velocity can optimally be accommodated to the conditions on the spot.

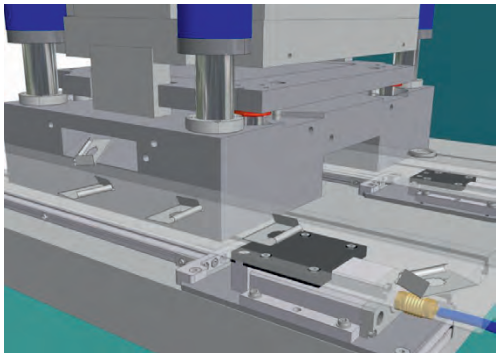
The transport groove can be arranged individually and a high wear of the conveyor band is avoided. Stampings which are fouled by oil can optionally be carried away on a corrugated transportation steel sheet.



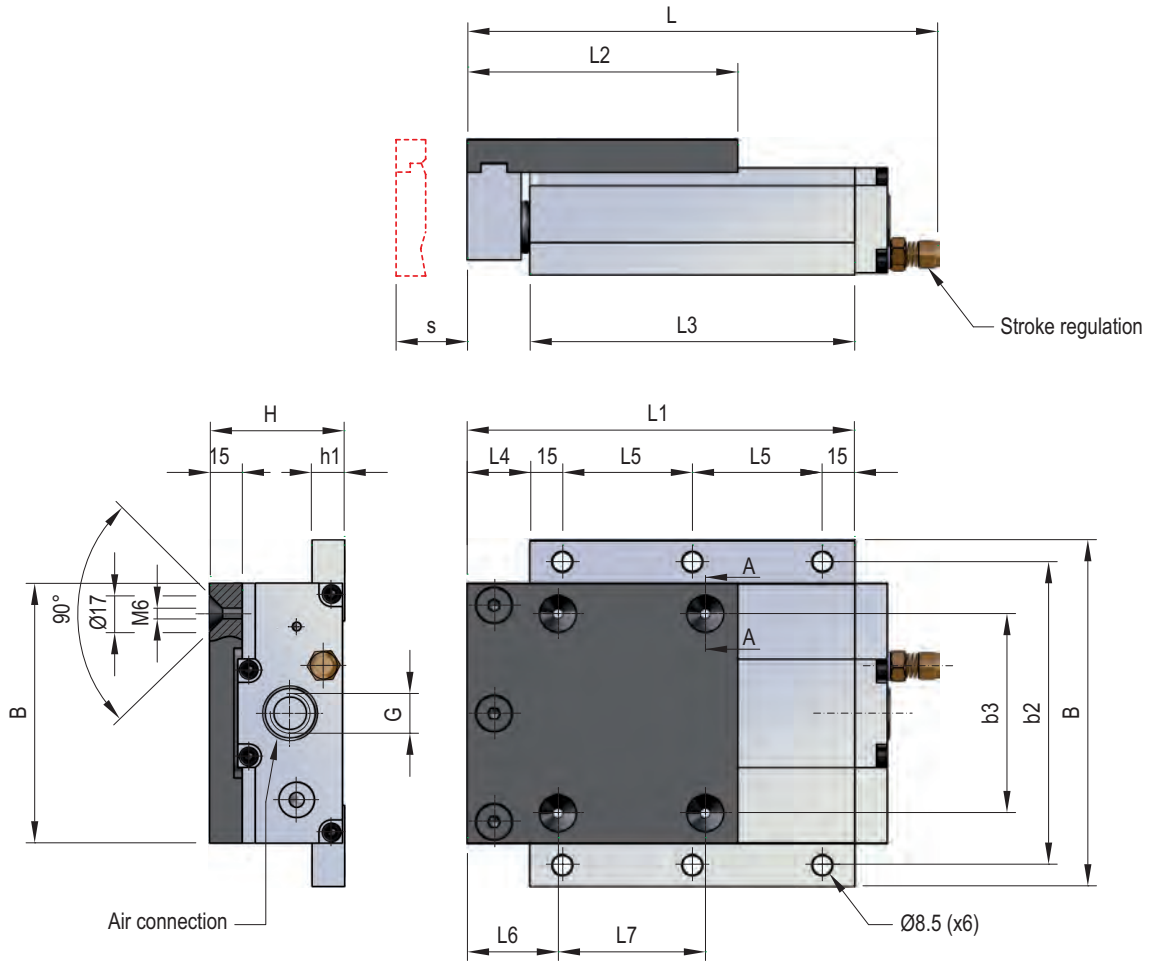
The conveyors work with oiled air pressure which is supplied by means of the maintenance unit and the oiler. The stroke frequency adjustment rate lies, depending on the type of the conveyor, between 10–180 strokes/minute.

The vibrations of the transport groove have to be secured by groove supports. Transport velocity can be increased by a slight incline of the transport groove.





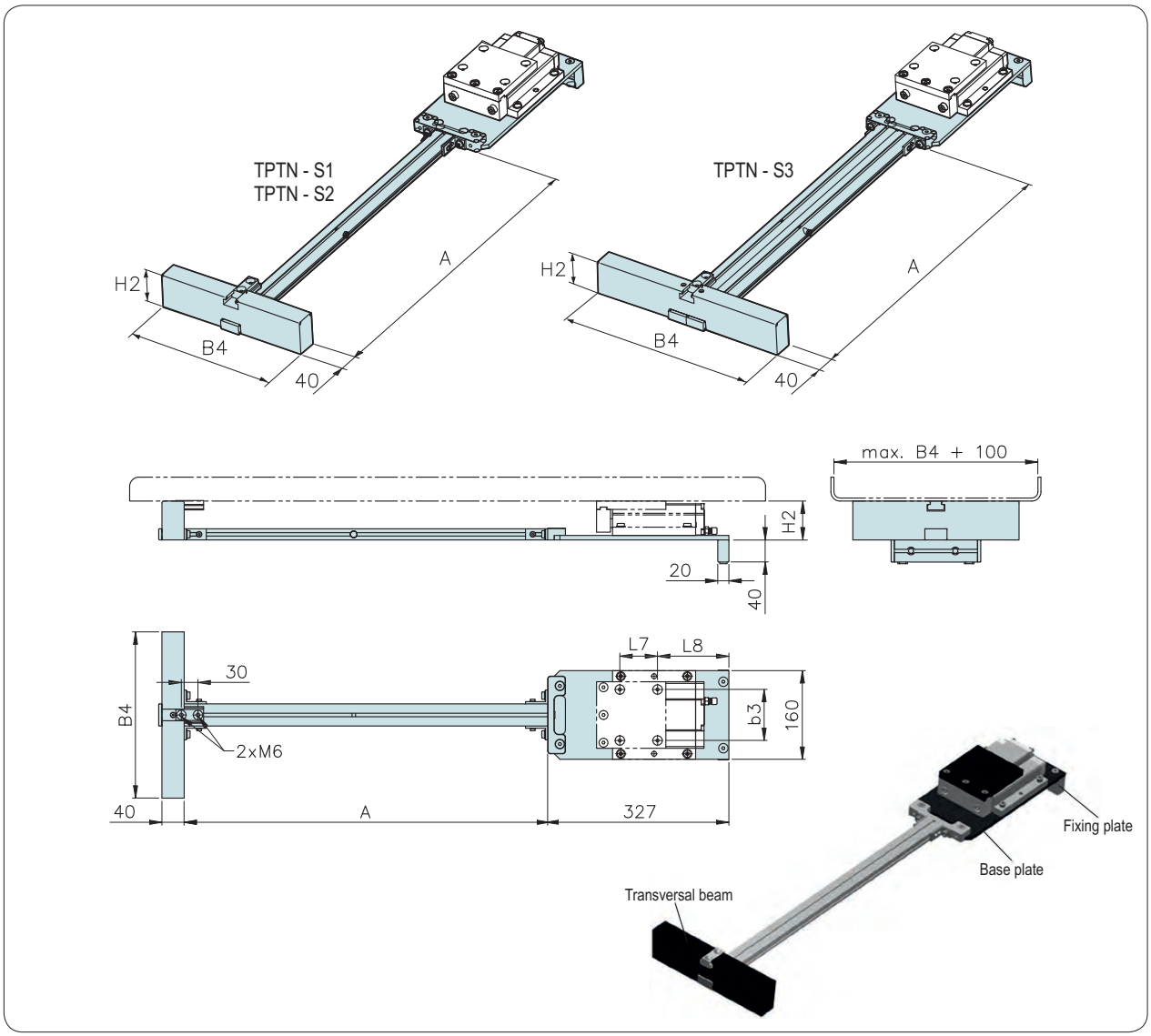




Code	L mm	L1 mm	L2 mm	L3 mm	L4 mm	L5 mm	L6 mm	L7 mm	B mm	B1 mm	b2 mm	b3 mm	H mm	h1 mm	G mm	s mm	Kg
TPTN - 18	211	188	100	150	23	60	30	60	125	85	105	60	40	10	R 3/8"	27	2,1
TPTN - 25															R 3/8"		2,1
TPTN - 35	218	194	125	150	29	60	42	68	160	120	140	92	62	15	R 3/8"	30	4,3
TPTN - 65															R 1/2"		4,5

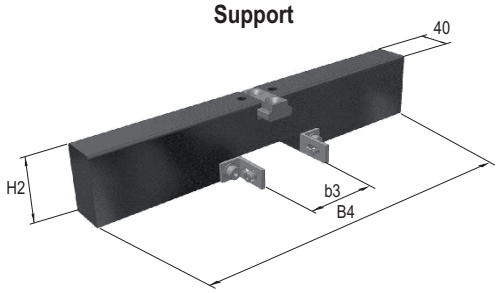
Code	Maximum load with support N	Maximum incline of the transport groove	Maximum weight of support Kg
TPTN - 18	180	8º	3
TPTN - 25	250	8º	3
TPTN - 35	350	8º	5
TPTN - 65	650	8º	7

Code	Working pressure Bar	Min internal diam. hose mm	Air consumption l/min	Rate of feed m/min	Noise level dB(A)
TPTN - 18	3,9 - 4,5	6	1 - 2	0,8 - 4	< 70
TPTN - 25	3,9 - 4,6	6	1,5 - 2,5	0,8 - 4	< 70
TPTN - 35	4,2 - 4,7	8	2 - 5	0,8 - 3	< 70
TPTN - 65	4,2 - 4,7	8	3 - 7	0,8 - 3	< 70



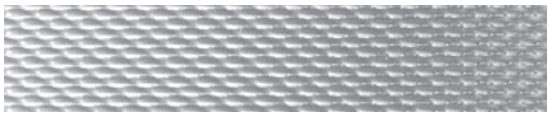
Code	A mm	B4 mm	H2 mm	L7 mm	L8 mm	b3 mm	Pneumatic part conveyor model
TPTN-S1	700	160	48	60	148	60	TPTN-18 / TPTN-25
		200					
		300					
	1000	160	48	60	148	60	TPTN-18 / TPTN-25
		200					
		300					
TPTN-S2	700	160	70	68	134	92	TPTN-35 / TPTN-65
		300					
		500					
	1000	160	70	68	134	92	TPTN-35 / TPTN-65
		300					
		500					
TPTN-S3	700	300	70	68	134	92	TPTN-35 / TPTN-65
		400					
		500					
	1000	300	70	68	134	92	TPTN-35 / TPTN-65
		400					
		500					

Support



Code	B4 mm	H2 mm	b3 mm
TPTN-S1-S	160 200 300	48	40
TPTN-S2-S	160 300 500	70	40
TPTN-S3-S	300 400 500	70	80

Transport groove



For transport grooves we recommend, particularly for badly oiled/ greased parts, the using of structured sheet steel of the SM-5WL (1.4301) type.

The transport groove has to be made by the customer.

Safety

In principle, conveyor capacity depends on the surface of the parts that are to be conveyed, on the tray surface and on the adjusted stroke frequency. Conveyor transport capacity with the conveyor tray is indicated in catalogue specifications.

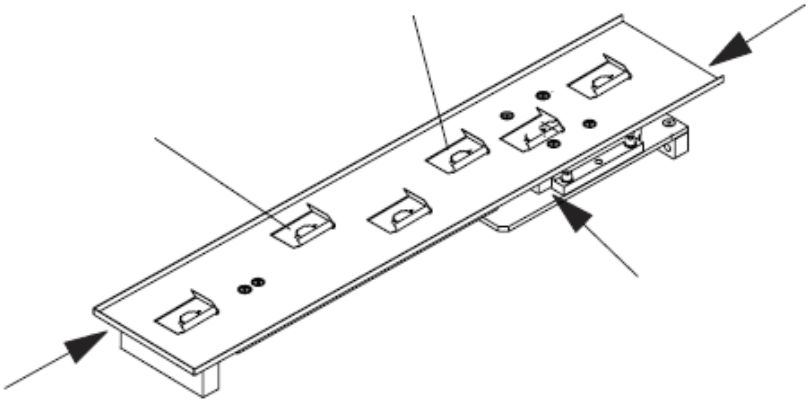
In order to prevent tool breakage and other defects due to a pneumatic conveyor stop during the automatic manufacturing process, a control device has to be foreseen that transmits a signal that initiates a tool emergency stop in case of unit malfunction or stoppage.

In order to obtain a long service life without breakdowns, the unit has to be properly handled and all the assembly instructions described in this manual are to be observed. Pay attention to the following safety indications, as an inadequate use may cause injury to people and damage to the equipment among other things.

Conveyors are to be fixed on to the tool in such a way they are protected by safety devices such as protection grids.

Do not convey parts that could

Caution! Danger of blows and crushing.
Do not stay in front or behind the tray



hing.
eyor while it is working

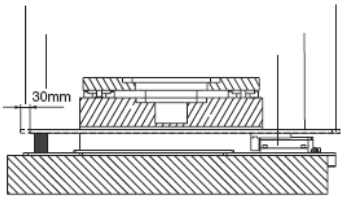
Beware! Dar
Always guarantee sufficient safety distance between the ends and sides of the conveyor tray. (Respect safety distances especially during maintenance work!)

Safety distances as shown in the figure imply the corresponding safety installations that exclude the possibility of blows or crushing.
Henceforward safety distances in accordance with DIN EN 349 should be respected.

Stroke distance should be taken into account when carrying out conveyor assembly. It is for this reason that the tray should not be placed too near possible obstacles. Stroke distance may increase due to the weight of the tray - be especially careful with this.

Safety distance stroke + 15 mm.

Safety distance stroke + 15 mm

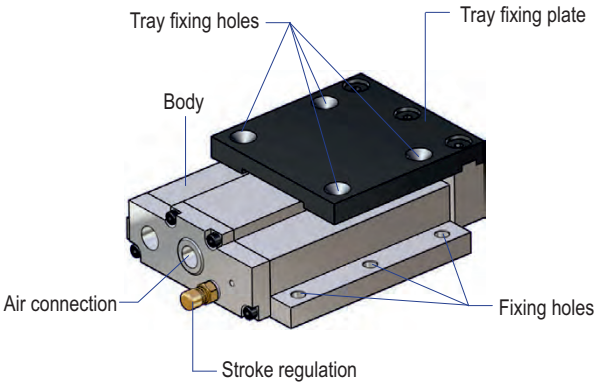


Installation

The pneumatic part conveyor is composed of a moving plate, on which the conveyor tray is fixed. The conveyor is connected to the air mains (maximum 4.7 bar) through a R3/8" or R1/2" connection that can be regulated by a pressure regulator with a lubricator . The interior diameter of the connection hose is to be kept at 10 mm, otherwise the unit will malfunction because of insufficient air flow.

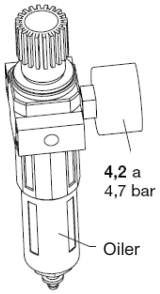
There can only be one conveyor per pressure regulator.
Upon initial functioning add some drops of oil to the air connection. Fix the conveyor with at least 4xM8 screws to the substructure (tool base plate). The screws are to be equipped with a safety washer.

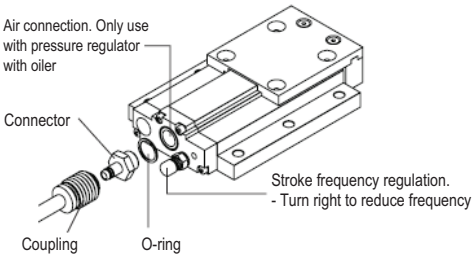
The construction of the substructure is to be dimensioned in such a way that the support surface is flat and without misalignments.
Fix the conveyor tray with four countersunk screws on the tray support plate. Make sure the length of the screws, depending on the thickness of the tray plate plus that of the base plate, have adequate dimensions so that the screw ends do not stick out over the tray.
The longer the conveyor tray plate is, the more wear and tear the equipment will have to undergo.
By holding the edges, plates with thicknesses below 1mm can have a higher rigidity.



Use supports in the front and back areas to project the conveyor tray from vibrations or leaning. Only extremely short trays (length of the device + 150 mm), which are very light, do not require supports.
The groove support assembly must avoid interfering with the conveyor guide. The conveyor groove must not become bulged.

Connect the air mains to the necessary connection elements.
Adjust the pressure regulator to an adequate pressure and fill it with oil.
Use only appropriate oil for the compressed air. We recommend approximately 1 drop of oil per minute for 60 strokes.

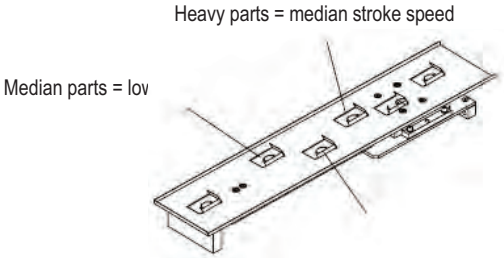


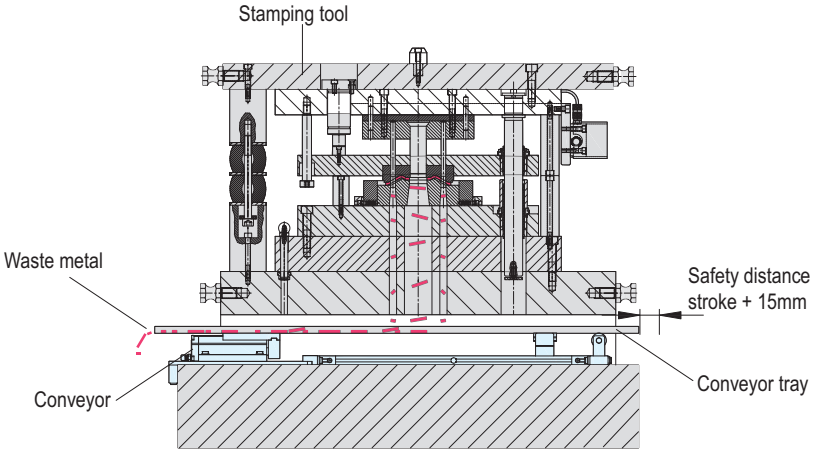


Conveyor speed will depend on stroke frequency. The conveyor can be regulated from 10 strokes/min. up to 180 strokes/min. approximately. Depending on the form of the pieces to be conveyed, optimal transport speed may be determined by trying out different stroke frequencies.

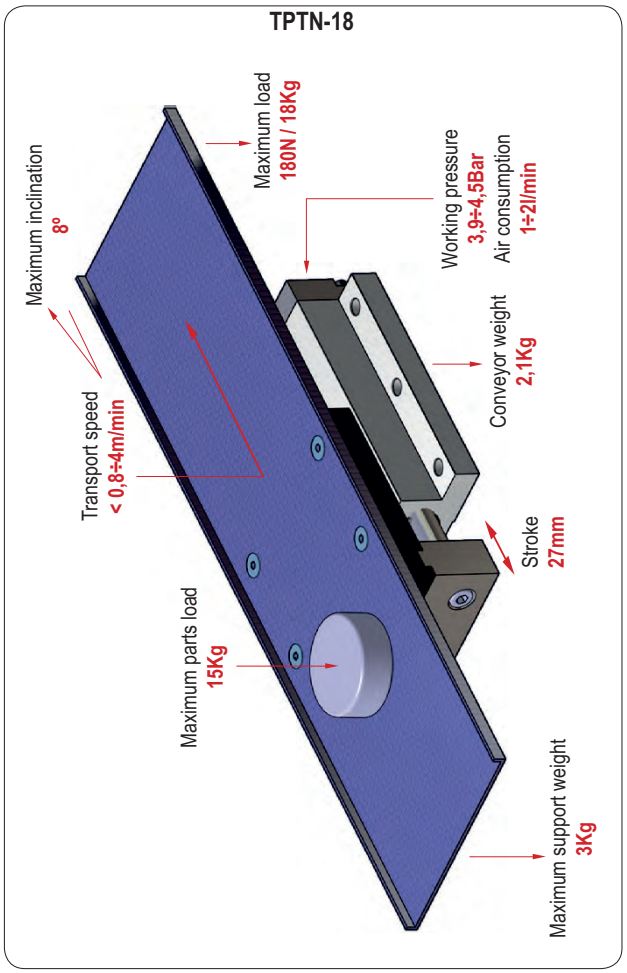
High stroke frequency does not necessarily produce a higher transport speed. An excessively high stroke frequency may even lead to the cancellation of transport, with the pieces simply vibrating on the tray.

Stroke frequency regulation is carried out by means of the adjustment screw placed at the front of the conveyor.

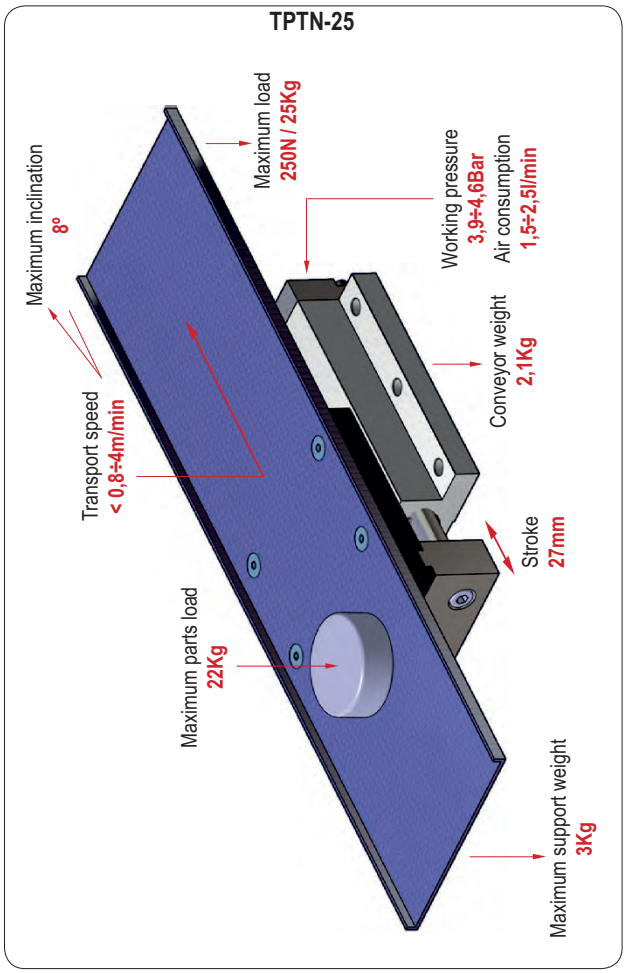




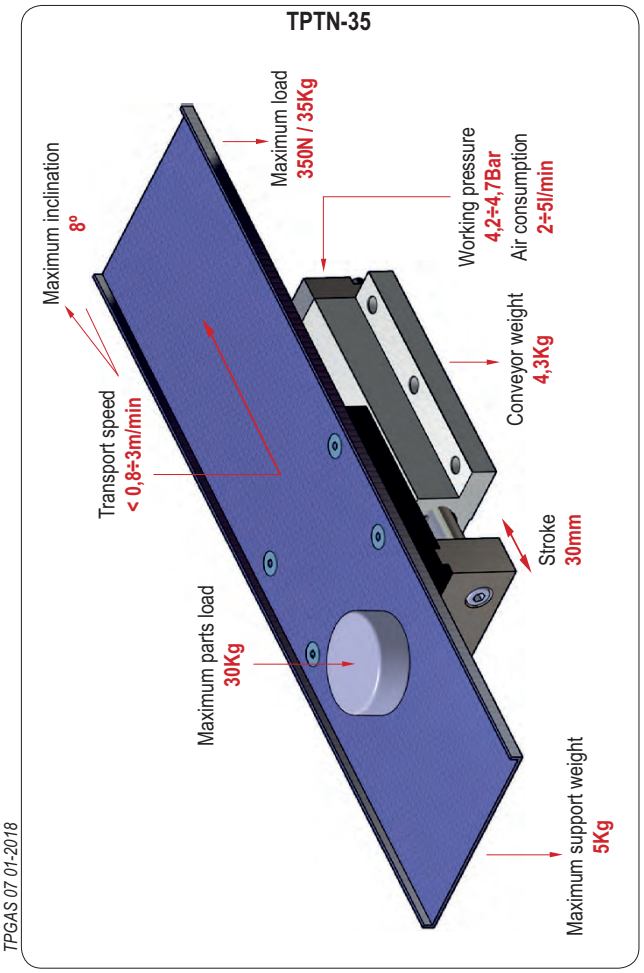
TPTN-18



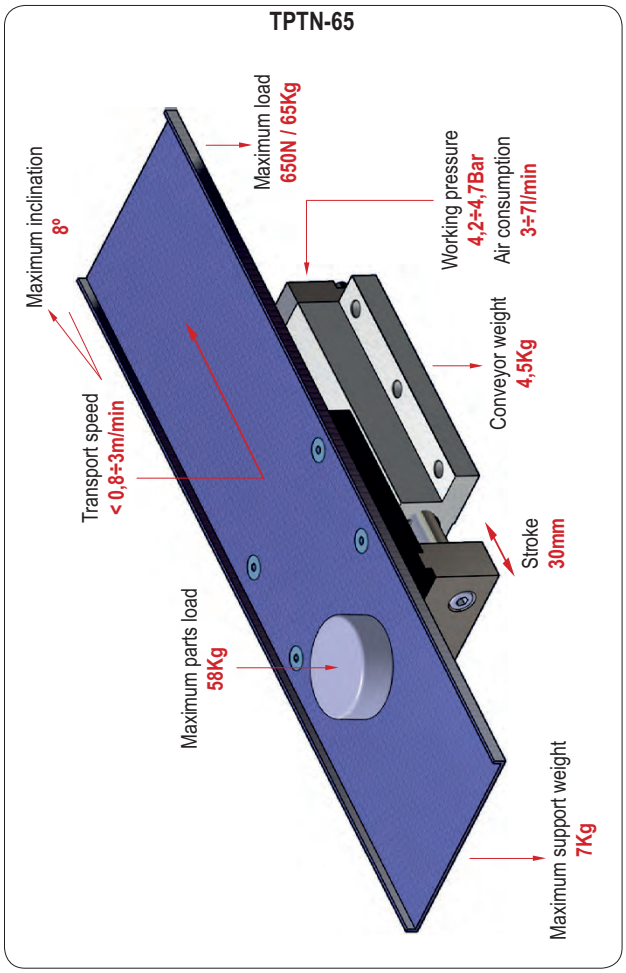
TPTN-25



TPTN-35



TPTN-65



Incorrect functioning

The conveyor plate does not move:

☑ Check air supply and check that the pressure is correct

☑ Check the inside diameter of the air hose

☑ Check the oiler of the pressure regulator (if necessary apply a drop of oil on the air connection)

☑ Check that the conveyor tray moves freely or if it is blocked or lopsided.

Stroke frequency cannot be regulated correctly:

☑ If the conveyor has not been used for some time, we recommend an empty running period of about 10 minutes.

The conveyor stops alter some time in use:

☑ Lubrication is not sufficient (check the oiler). Before starting the conveyor apply a little oil in the air connection.

Maintenance

Operate the conveyor only with the pressure regulator and oiler!

Optimum oiling is to be guaranteed by the pressure regulator.
Adjust necessary lubrication according to the stroke frequency used.

Amount guidance:

1 DROP OF OIL PER MINUTE
for 60 strokes per minute.

☑ Use emulsified and very fluid oil to guarantee optimum oiling.

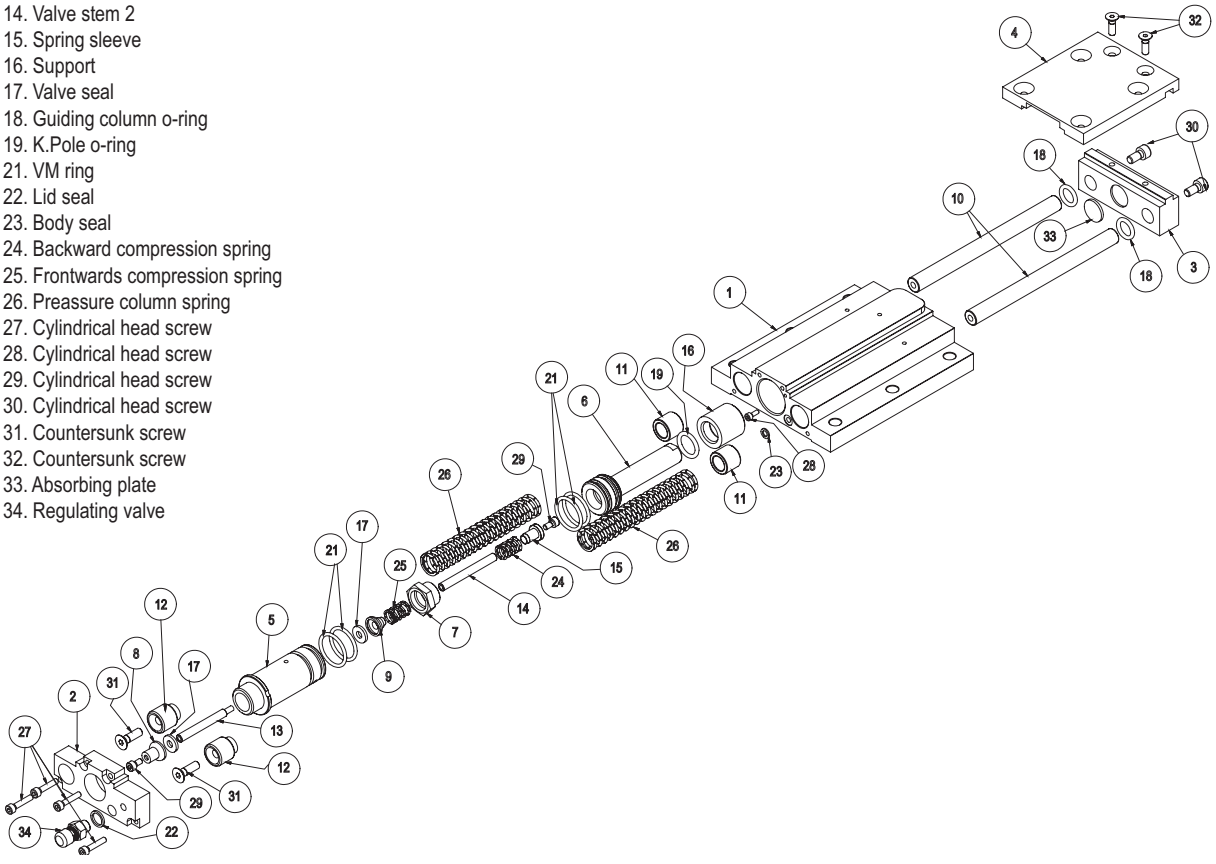
☑ Clean the pressure regulator water separator every day.

☑ Do not use the pneumatic part conveyor subjecting it to high temperatures, as this can alter lubrication and damage the closing seals.

The conveyor has been adjusted by the manufacturer, for this reason it should not be opened.

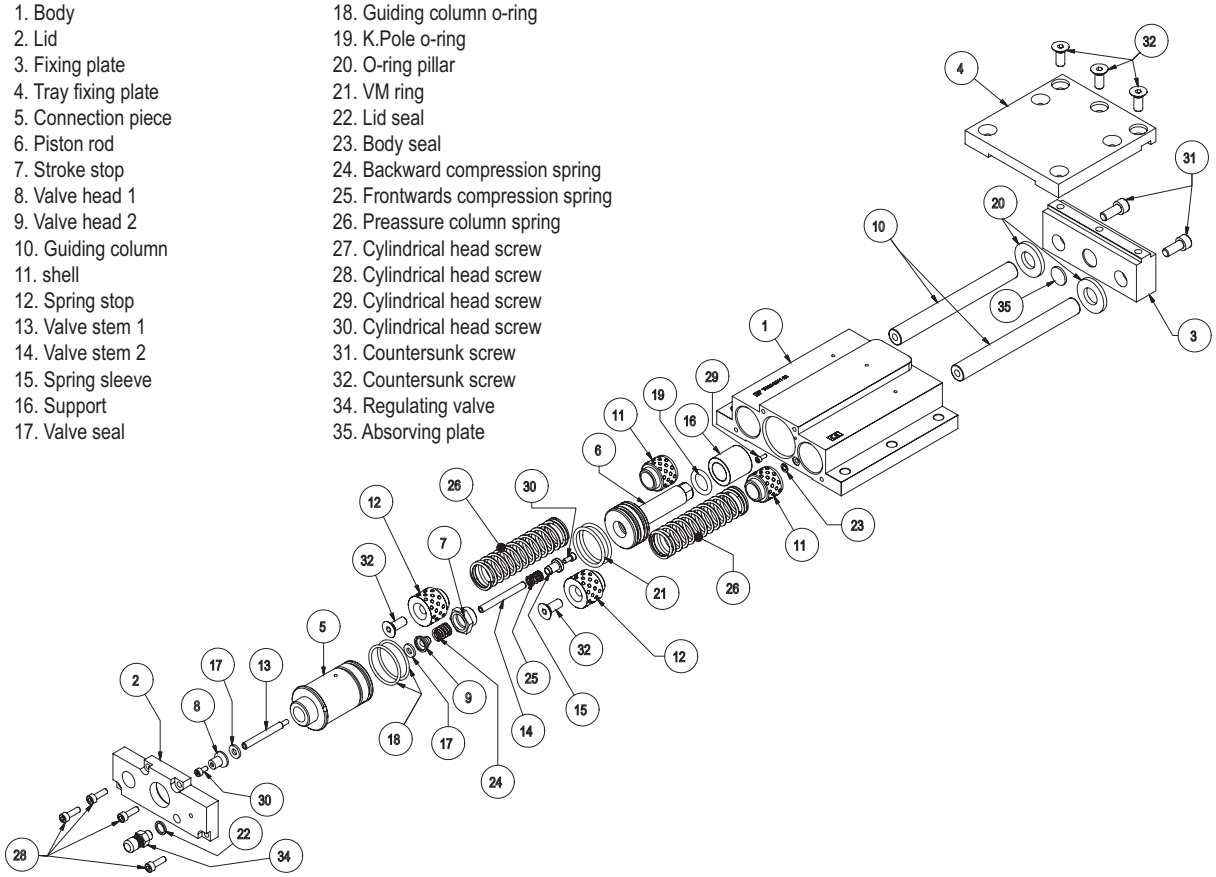
Spare parts TPTN-18 / TPTN-25

1. Body
2. Lid
3. Fixing plate
4. Tray fixing plate
5. Connection piece
6. Piston rod
7. Stroke stop
8. Valve head 1
9. Valve head 2
10. Guiding column
11. shell
12. Spring stop
13. Valve stem 1
14. Valve stem 2
15. Spring sleeve
16. Support
17. Valve seal
18. Guiding column o-ring
19. K.Pole o-ring
21. VM ring
22. Lid seal
23. Body seal
24. Backward compression spring
25. Frontwards compression spring
26. Preassure column spring
27. Cylindrical head screw
28. Cylindrical head screw
29. Cylindrical head screw
30. Cylindrical head screw
31. Countersunk screw
32. Countersunk screw
33. Absorbing plate
34. Regulating valve



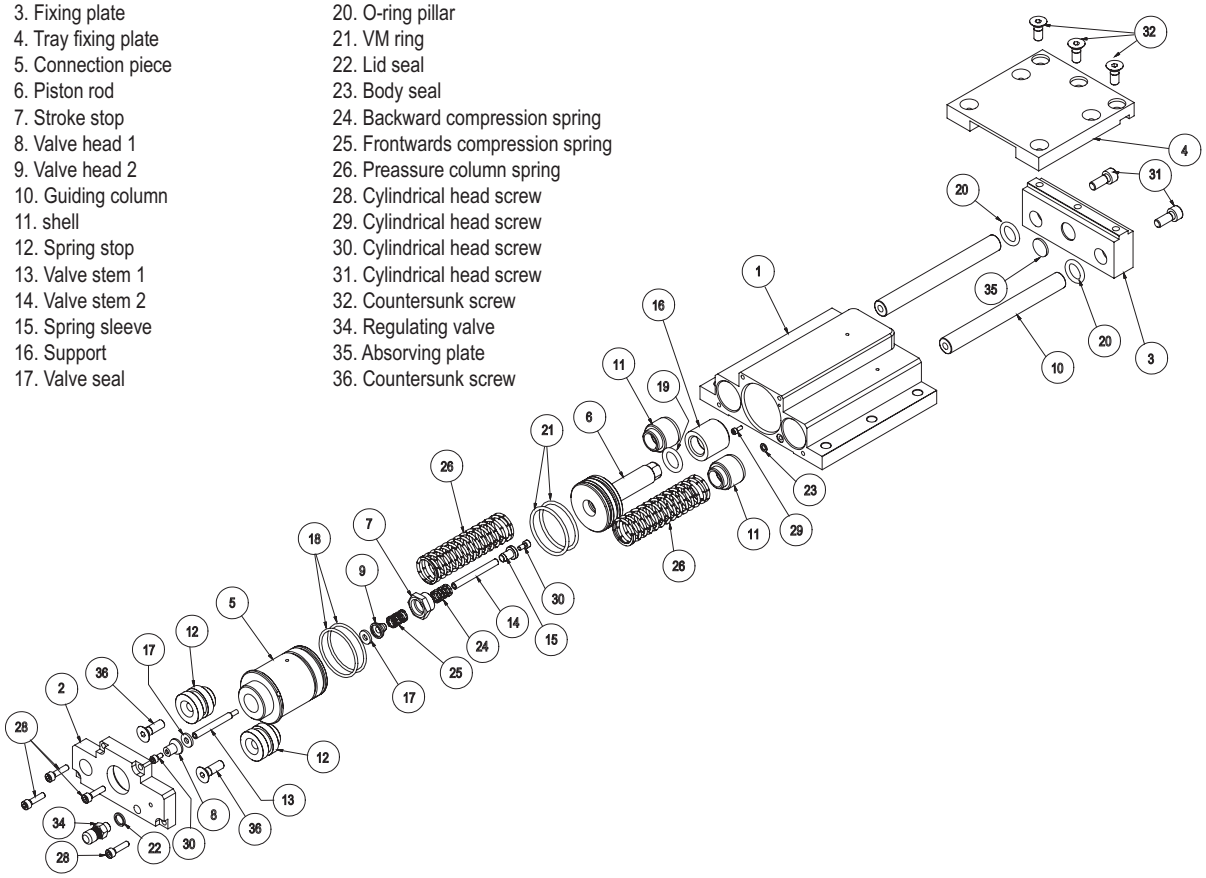
Spare parts TPTN-35

1. Body
2. Lid
3. Fixing plate
4. Tray fixing plate
5. Connection piece
6. Piston rod
7. Stroke stop
8. Valve head 1
9. Valve head 2
10. Guiding column
11. shell
12. Spring stop
13. Valve stem 1
14. Valve stem 2
15. Spring sleeve
16. Support
17. Valve seal
18. Guiding column o-ring
19. K.Pole o-ring
20. O-ring pillar
21. VM ring
22. Lid seal
23. Body seal
24. Backward compression spring
25. Frontwards compression spring
26. Preassure column spring
27. Cylindrical head screw
28. Cylindrical head screw
29. Cylindrical head screw
30. Cylindrical head screw
31. Countersunk screw
32. Countersunk screw
34. Regulating valve
35. Absorving plate

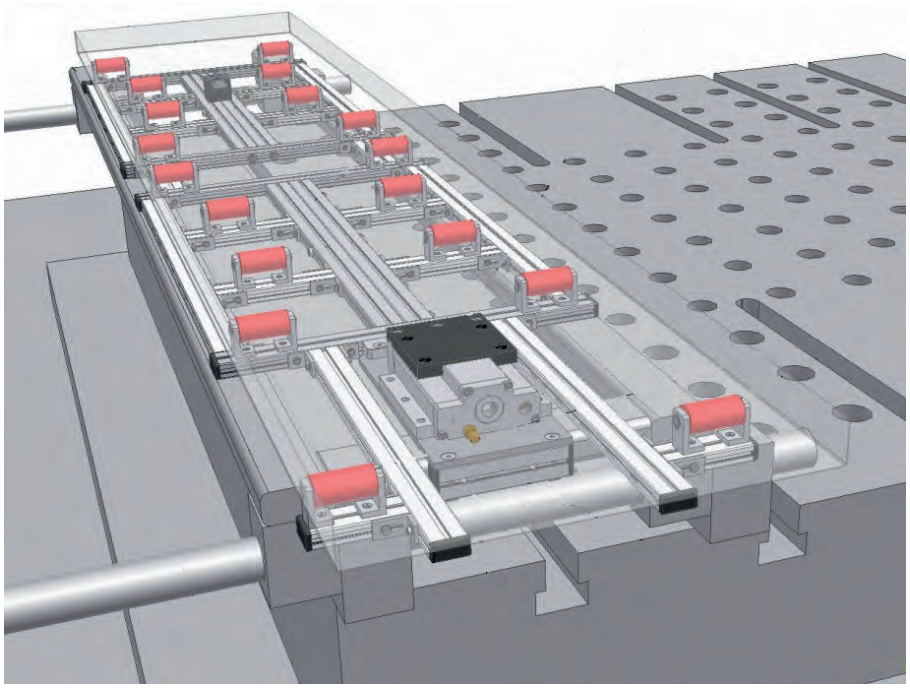


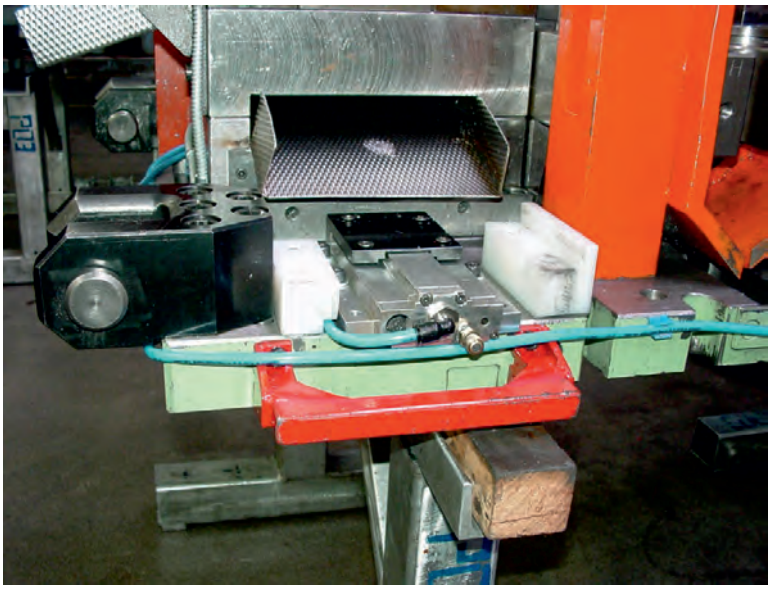
Spare parts TPTN-65

1. Body
2. Lid
3. Fixing plate
4. Tray fixing plate
5. Connection piece
6. Piston rod
7. Stroke stop
8. Valve head 1
9. Valve head 2
10. Guiding column
11. shell
12. Spring stop
13. Valve stem 1
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29. Cylindrical head screw
30. Cylindrical head screw
31. Cylindrical head screw
32. Countersunk screw
34. Regulating valve
35. Absorving plate
36. Countersunk screw



Design and real applications







PRESSURE UNITS · UNIDADES DE PRESION

	kgf/cm²	Pa	PSI	bar
1 kgf/cm²		9,81 x 10^{4}	14,223	0,981
1 Pa	1,01 x 10^{-5}		14,49 x 10^{-5}	10
1 PSI	0,0703	689,27		0,0689
1 bar	1,0196	10^{5}	14,503	

FORCE UNITS · UNIDADES DE FUERZA

	kgf	N	daN
1 kgf		9,81	0,98
1 N	0,98		0,1
1 daN	1,019	10	