

GENERAL CATALOGUE



TECAPRES

PERFECTION IN PRESSURE DYNAMICS







INFORMATION

i

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TPH · TPH C

TPS · TPSC

TPSP

TPF · TPFS · TPF B · TPF C

TPK · TPKF · TPKN · TPKR · TPKS

TPC · TPCR

TPCT

TPB

TPR · TPRB · TPRC · TPRT

TPA · TPG · TPGP

TPSR · TPSRC

SLOW RETURN CYLINDER

TPSRS

STORAGE CYLINDER

TPNS · TPNSR

CYLINDER
WITH IMPACT DAMPENING

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TECAPRES®



SIMBOLOGY SIMBOLOGIA



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 SAFETY



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

VDI SAFETY



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

VDI SAFETY



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



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



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 20°C
Fuerza inicial a cilindro abierto en daN, a 20°C



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



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



Charging pressure in Bar at 20°C
Presión de carga a 20°C



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



MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP CYLINDER

HOT FORMING

TPHT

TPSL



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.

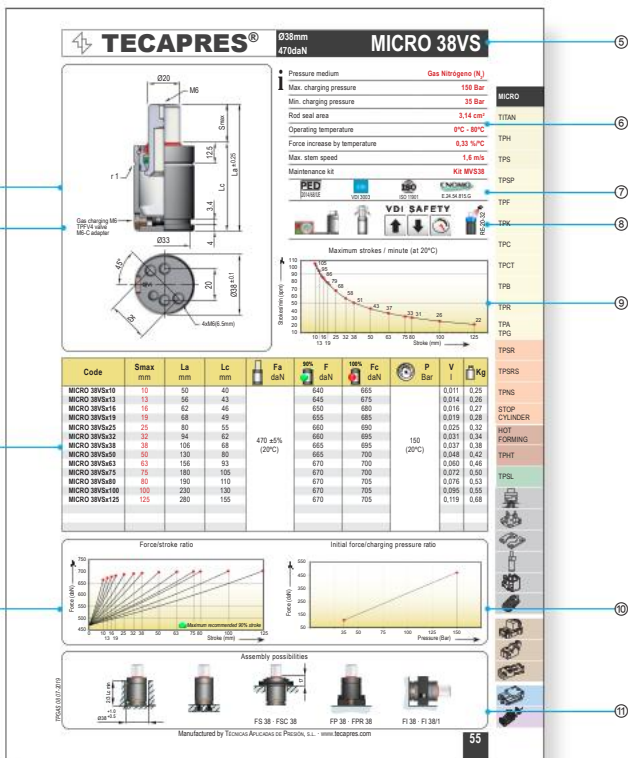
Todas las medidas son en mm. En Tecapres estamos inmersos en una política de mejora y evolución continua del producto a través de la investigación y desarrollo. Por ello, queda reservado el derecho a modificar cualquier especificación de este catálogo sin previo aviso.



TECAPRES®



TECHNICAL DATASHEET FICHA TÉCNICA

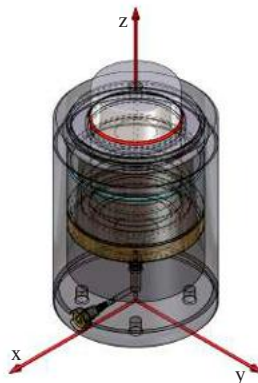


- Sketch ① Croquis modelo
- Charging port · Valve code · Charging adapter ② Puerto de carga · Código válvula · Adaptador de carga
- Datasheet ③ Tabla de datos
- Force / stroke graph ④ Gráfica fuerza en función de la carrera
- Gas spring model ⑤ Modelo
- Technical data ⑥ Información técnica
- Gas spring 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
- Initial force / charging pressure graph ⑩ Gráfica fuerza inicial / presión de carga
- Fixing element assembly possibilities 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 · GARANTÍA 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).

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.

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).

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.

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL





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

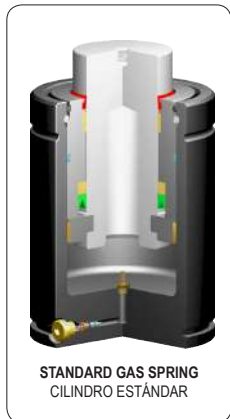
Desarrollado en una sola pieza hasta carreras de 160 mm. En carreras superiores se presenta una construcción de tubo con fondo soldado. A diferencia de otras marcas, TECAPRES incorpora una unión roscada entre los dos elementos que elimina el factor de la fatiga en el cordón de soldadura.

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.



Hardness · Dureza

> 64HRC

Rugosity · Rugosidad

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 rascador, 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)



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

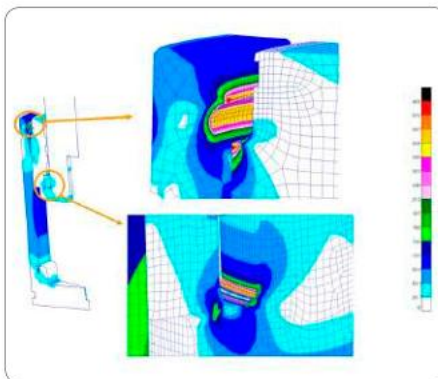
◇ Models · Modelos:

- 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.

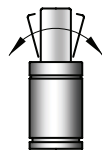


The technology used in TECAPRES gas springs incorporates a flexible guiding system that makes it possible to absorb deviations in vertical movement, thus considerably reducing gas spring damage due to lateral forces.

See model options to check for availability.

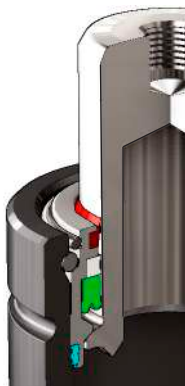
La tecnología utilizada en los cilindros TECAPRES incorpora un sistema de guiado flexible que posibilita la absorción de desviaciones en el movimiento vertical, reduciendo considerablemente los daños en el cilindro por fuerzas laterales.

Ver opciones de modelo para comprobar disponibilidad.



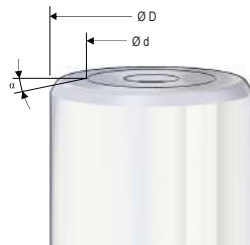
Movement allowed with no damage

Movimiento permitido sin daños



Absence of metal-to-metal contact

Ausencia contacto metal-metal

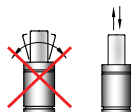


Special stem design in order to centralize contact

Diseño especial en eje para centrar contacto

Standard Gas Springs

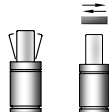
Classical design



$\perp \leq 0.2^\circ$



Floating guide



$\perp \leq 2^\circ$



max 2°



OVERSTROKE PROTECTION · PROTECCIÓN CONTRA SOBRECARRERA

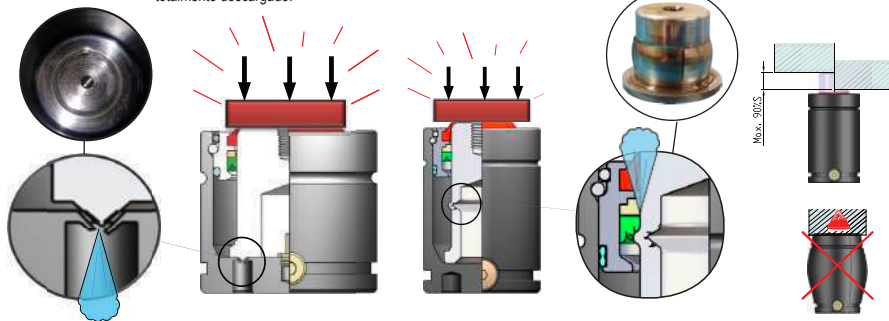
VDI SAFETY



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, asegurándose que esté totalmente descargado.



FREE RELEASE PROTECTION · PROTECCIÓN CONTRA LIBERACION DESCONTROLADA

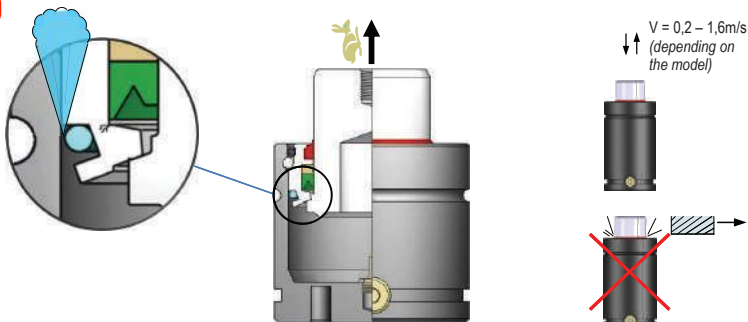
VDI SAFETY



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, asegurándose que esté totalmente descargado.



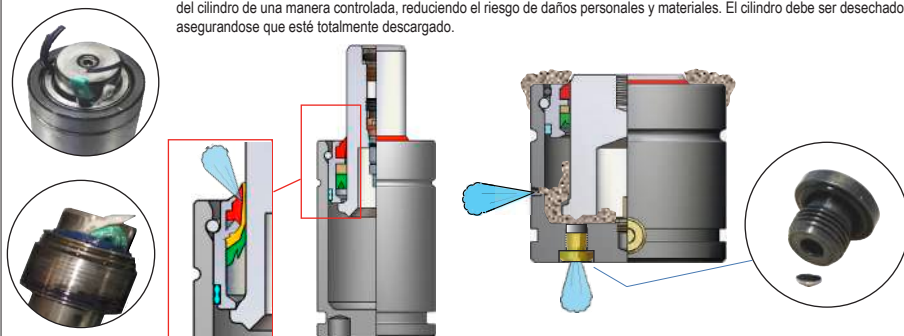
OVERPRESSURE PROTECTION · PROTECCIÓN CONTRA SOBREPRESIÓN

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, asegurándose que esté totalmente descargado.





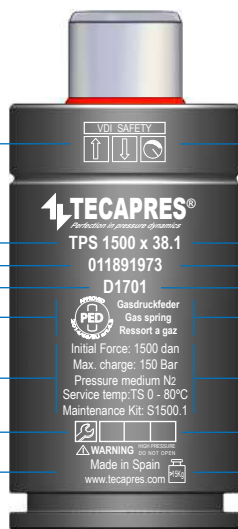
TECAPRES®



GENERAL INFORMATION INFORMACIÓN GENERAL

- Safety for free release
- Safety for overstroke
- Safety for overpressure

VDI SAFETY



- Seguridad libre expansión
- Seguridad sobrecarrera
- Seguridad sobrepresión

VDI SAFETY

- Cylinder model **TPS 1500 x 38.1**
- Serial number **011891973**
- Manufacture date (DYMM) **D1701**
- Applicable norms 2014/68/EU (Engraved **CE** if applicable)
- General information
- Number of seals replacements
- [>15Kg] symbol (if applicable)
- Modelo cilindro
- Nº de serie
- Fecha fabricación (DAAMM)
- Normativa de aplicación 2014/68/UE (Grabación **CE** si procede)
- Información general
- Nº cambio de juntas
- Símbolo [>15Kg] (si procede)

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 mínima 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. 80°C / 176°F!



La temperatura máxima de trabajo es de 80°C. 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.

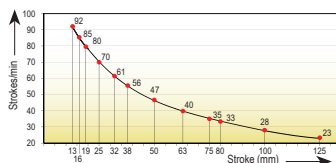
Existe la posibilidad de montar los cilindros con juntas especiales que permiten aumentar la temperatura máxima de trabajo hasta 180°C. Consultar con nuestro departamento técnico.

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.

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.



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.

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.

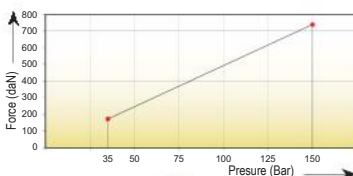


Se define como velocidad de trabajo, la velocidad lineal del vástago. No se debe superar el valor indicado en la ficha de cada modelo.

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.

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

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

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

$$F_i = A \times P$$

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

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

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

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:

F_i : 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.

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.

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

$$P = P_i \times F / F_i$$

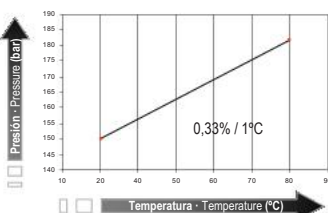
$$P = F / A$$

P = Presión buscada (Bar)
 P_i = Presión de carga nominal (Bar)
 F = Fuerza inicial deseada (daN)
 F_i = 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 20°C.

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



TECAPRES®



RISK ANALYSIS ANÁLISIS DE RIESGOS

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 installation.

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 responsibility 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.

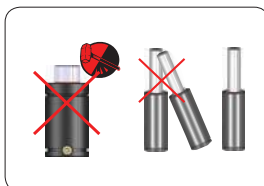
Cualquier operación realizada no autorizada puede ocasionar graves daños materiales y personales. Es esencial manipular los elementos con atención y respetando las indicaciones. Los cilindros han sido diseñados para su uso en estampación y troquelaría, por lo que un uso fuera de aquel para el cual se han diseñado será bajo la responsabilidad del usuario, TECAPRES queda excluido de toda responsabilidad.

Gas springs must only be charged with nitrogen gas (N₂). The use of any other medium is expressly forbidden.



Los cilindros se deben cargar únicamente con Gas Nitrógeno (N₂). 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.



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.

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

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.



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

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

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.

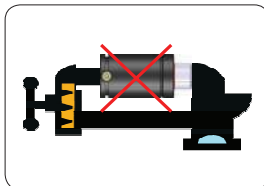


Cualquier operación mecánica (mecanizado, taladrado, soldaduras... etc.) en el cilindro queda totalmente prohibida.

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

No acercar ninguna llama o fuente de calor.

There are specific tools to measure gas spring force.



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

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.

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.



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

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

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



MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP CYLINDER

HOT FORMING

TPHT

TPSL



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

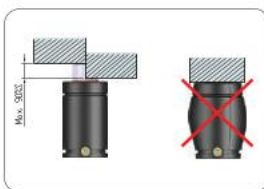
If checking the tool or gas springs a broken or loosen screw is found, could indicate that there has been a free release, please replace and correct the cause.



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 cilindro 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. Once the active system has been activated, gas spring should be discarded.



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. Una vez activadas las medidas de seguridad, el cilindro debe ser desechado.

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.



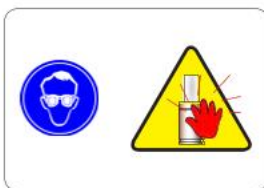
Todos los cilindros **TECAPRES** pueden ser reparados. Cualquier operación de manipulación o mantenimiento debe realizarse por personal autorizado, ya que debe estar especialmente formado para ello.

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



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.



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

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



Cuidado al tocar un cilindro después de trabajar. Puede quemar

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



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

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



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.



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.

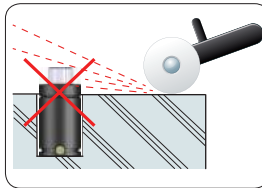
Maximum and minimum charging pressures should be respected, as indicated in the specifications for each gas spring model.



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

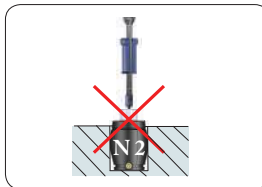


The cylinder must be fully protected during modifications or repairs to the die, and maintenance and cleaning operations.



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.

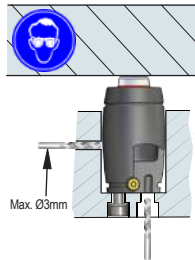


Antes de extraer un cilindro dañado de su caja, descargar completamente el gas nitrógeno del interior.

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, 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 safely. 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 taladrando 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.

GAS SPRINGS STORAGE · ALMACENAJE CILINDROS

It is important that the storage conditions are appropriate so as to prevent any damage to the gas springs.

- Please handle gas springs with special care: they should never be knocked about. A strong blow can damage working surfaces and make a gas spring unusable. It could even cause structural damage compromising the safety of people and property.
- A gas spring should never be exposed to any blows whatsoever.
- Provide shelves that are adequate to their size and weight. It is recommended to avoid leaving gas springs at ground level to prevent possible blows.
- Protect gas springs from dust and polluted environments. It is also highly recommended to conveniently lubricate gas springs to prevent possible rust. A small spot of rust on working areas in contact with seals can cause a rapid loss of gas when the gas spring starts to work.
- If it is anticipated that the gas spring will be a long time without use (> 3months), we recommend you discharge it and leave it with a small preload (25-50bar) so as to extend the service life of the seals.
- Never store a gas spring with structural damage. In such cases, fully discharge the gas spring and discard it.

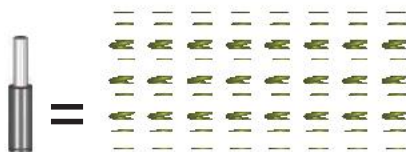
Es muy importante que las condiciones de almacenaje sean las adecuadas para evitar daños en los cilindros.

- Manipular los cilindros con especial atención, nunca deben ser golpeados. un golpe intenso puede desde dañar la superficie de trabajo y dejarlo inservible hasta causar daños estructurales que afecten a la seguridad de las personas y los bienes.
- El cilindro nunca debe estar expuesto a posibles golpes.
- Proveer de estanterías adecuadas a su tamaño y peso. Se recomienda evitar dejar los cilindros a la altura del suelo.
- Proteger de ambientes polucionados. Es muy importante también lubricar convenientemente el cilindro para prevenir posibles oxidaciones. Cualquier pequeño punto de oxidación en la zona de trabajo de las juntas puede provocar una rápida pérdida de gas cuando el cilindro comience a trabajar.
- Si se prevé que el cilindro va a estar un largo tiempo sin usar (>3 meses), se recomienda descargar y dejarlo con una pequeña recarga (25-50Bar), con el fin de alargar la vida de servicio de las juntas.
- Nunca almacenar un cilindro con daños estructurales.

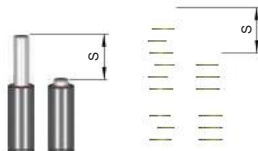




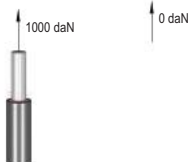
MORE FORCE IN LESS SPACE · MAS FUERZA EN MENOS ESPACIO



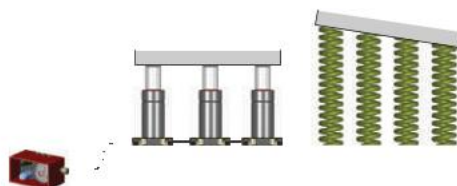
LESS LENGTH FOR THE SAME WORKING STROKE AND FORCE · MENOR LONGITUD A IGUALDAD DE CARRERA DE TRABAJO Y FUERZA



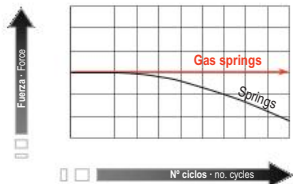
THE WHOLE OF THE FORCE AT THE BEGINNING OF THE STROKE · TOTALIDAD DE LA FUERZA AL INICIO DE LA CARRERA



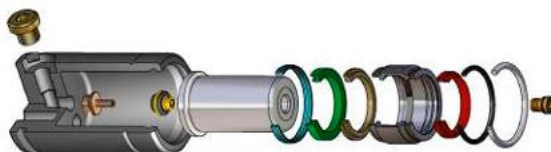
THE SAME FORCE AT ALL CONTACT POINTS · FUERZA EQUILIBRADA EN TODOS LOS PUNTOS DE LA CARRERA



INVARIABLE FORCE DURING USEFUL LIFE · FUERZA INVARIABLE EN EL USO



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





TECAPRES®

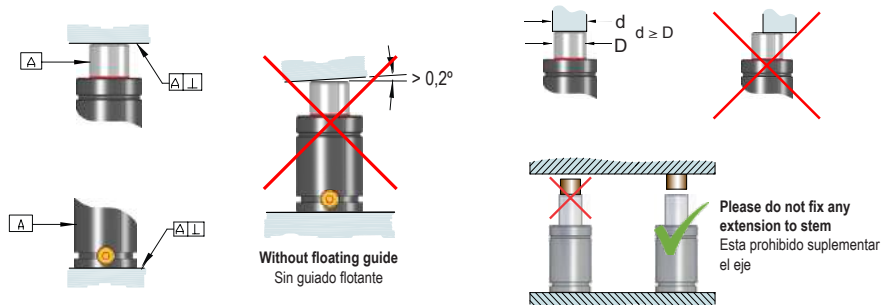


ASSEMBLY ON THE TOOL MONTAJE EN EL ÚTIL

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.

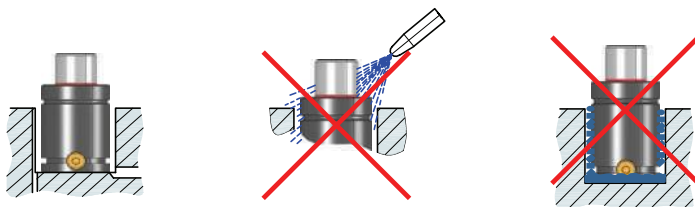


PROTECTION FROM POLLUTANTS · PROTEGER DE CONTAMINACIONES



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 cajas 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.

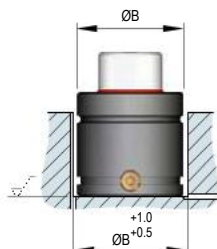




PRELIMINARY CONSIDERATIONS. FLAT SUPPORT · CONSIDERACION PREVIA. APOYO PLANO

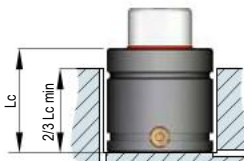
A flat surface is to be guaranteed for the base of the cylinder. Inadequate fixtures produce structural damage or reduce gas spring useful life. This type of installation is not possible for interconnected gas springs.

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



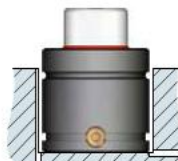
The hole is to have the dimensions as indicated

La caja debe tener las dimensiones indicadas



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

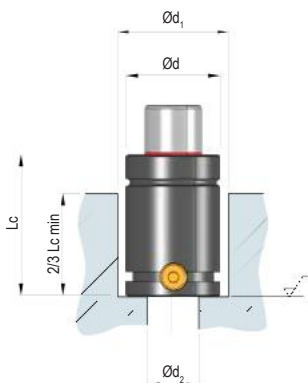
La profundidad de la caja debe tener la dimensión adecuada, y nunca por debajo de 2/3 Lc.



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

Las cajas deben 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 caja en posición invertida



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

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

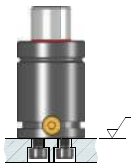
ASSEMBLY WITH SCREWS · MONTAJE CON TORNILLOS

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:

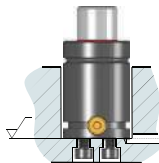
Fijar el cilindro al útil sólidamente. Si es posible, se recomienda usar los agujeros de amarre del cilindro para fijarlo con tornillos. Esta fijación de los cilindros es la más recomendable para cilindros intercomunicados, ya que evitan vibraciones y daños en los elementos de conexión.

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



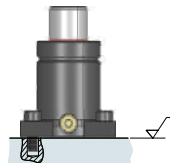
Make sure screw length is adequate

Asegurarse que la longitud de los tornillos es la adecuada



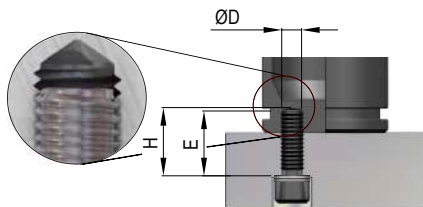
The use of screws is recommended even in the assembly of a gas spring in a hole.

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



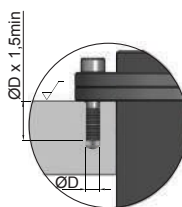
In fixtures with flanges, make sure the screws have the indicated torque.

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



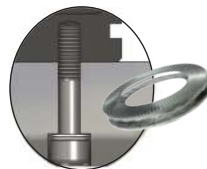
Use the maximum gas spring threaded length in order to ensure the best possible fixture

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 $\mu = 0,14$

Diameter Diámetro	Torque (Nm)
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 $\mu = 0,14$

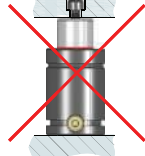


Only for maintenance and transport
Usar solo para mantenimiento y transporte

COMMON MISTAKES · ERRORES COMUNES



Screws should have the adequate length
Los tornillos deben tener la longitud adecuada

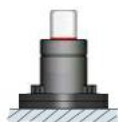


Fixing the gas spring by the stem is forbidden
Está prohibido fijar el cilindro por el eje





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



FS · FSC



FP



FB



FB



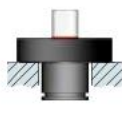
All the forces is to be supported by the contact surfaces of the flanges.
Not by the fixing screws.

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

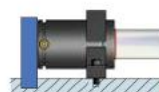
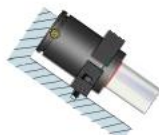
TOLERANCE	TOLERANCIA
$d \leq 95$	$\varnothing A^{+1.0}_{-0.5}$
$d > 120$	$\varnothing A^{+1.5}_{-0.5}$



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 cilindros con el cuerpo roscado.



TPR · TPRB · TPRC



FR



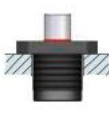
TPRT 24



FR



FR



FRS



MICRO ···· R · TPKR

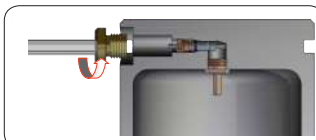


The use of thread chemical fasteners is recommended to make sure that the gas spring is completely secured. This also prevents the gas spring from getting loose due to vibrations or shocks.

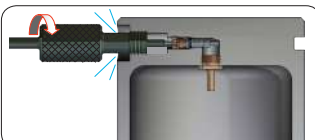
Se recomienda la utilización de fijadores de rosca químicos para garantizar que el cilindro de gas esté completamente asegurado. Esto evita también que el cilindro de gas se pueda soltar debido a vibraciones o golpes.

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GAS SPRING DISCHARGING WITH TPFV1 VALVE · DESCARGA DEL CILINDRO VÁLVULA TPFV1



Withdraw the safety plug.
Retirar el tapón de seguridad.



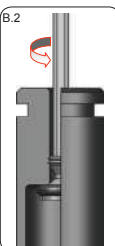
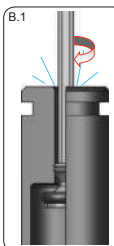
Softly screw in discharging tool DV-M6 or DV-G1/8 until the gas spring starts to discharge.
Roscar suavemente el útil de descarga DV-M6 ó DV-G1/8 hasta que el cilindro comience a descargarse.

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.

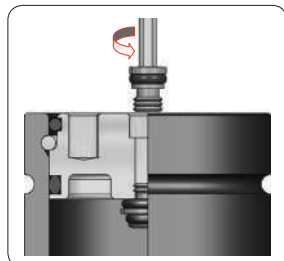


Alojar la válvula utilizando una llave Allen de 3mm girando a derechas hasta que el cilindro comience a descargarse (2-3 vueltas) (B.1).

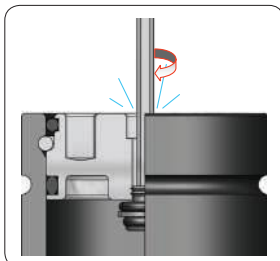
Descargado el cilindro posicionar la válvula girándola a izquierdas hasta que comience a hacer presión la tórica de cierre sin hacer bloque. Cilindro listo para la recarga (B.2).

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

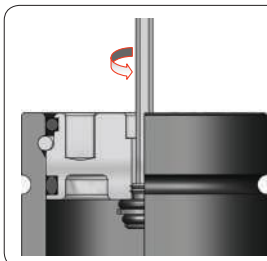


Withdraw the safety plug, if necessary.
Retirar el tapón de seguridad, si procede.



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

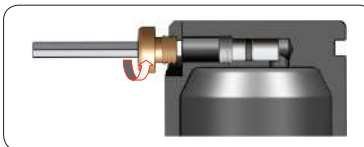
Alojar la válvula utilizando una llave Allen de 3mm girando a derechas hasta que el cilindro comience a descargarse (1/2 vuelta).



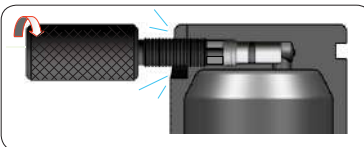
Once the gas spring has been discharged, place the valve by turning it left until it reaches its initial position. Valve is ready for charging.

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.



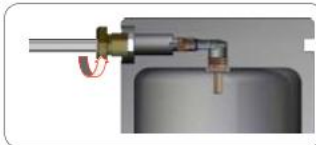
Softly screw in discharging tool DV-M6B until the gas spring start to discharge.

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.



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HOT FORMING

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TPSL





TECAPRES®



I + D
R + D

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 cualificación nos permite diseñar y fabricar muelles de gas a medida según las necesidades de nuestros clientes en un tiempo récord.



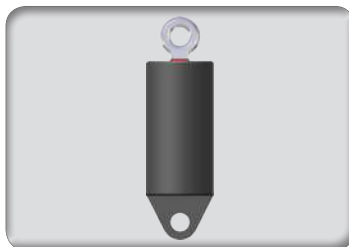
Customised gas springs
Cilindros a medida del cliente



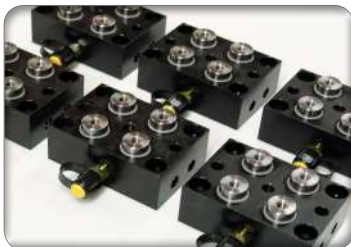
Hollow gas springs
Cilindros huecos



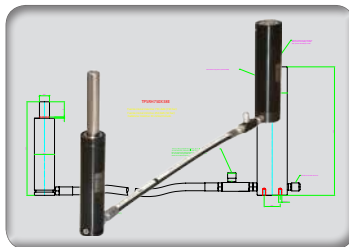
Spring pack



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

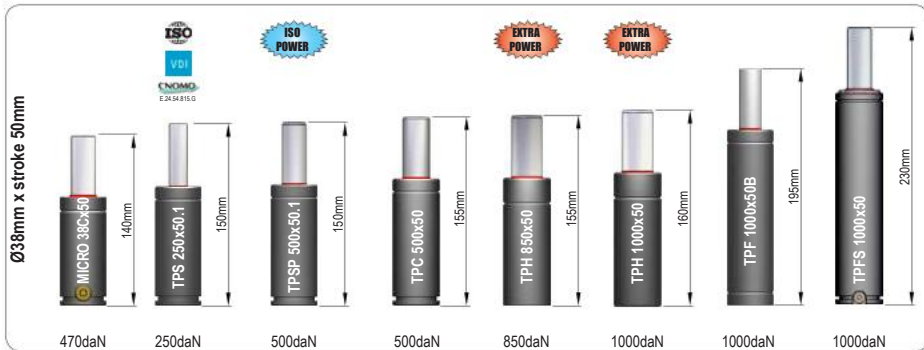
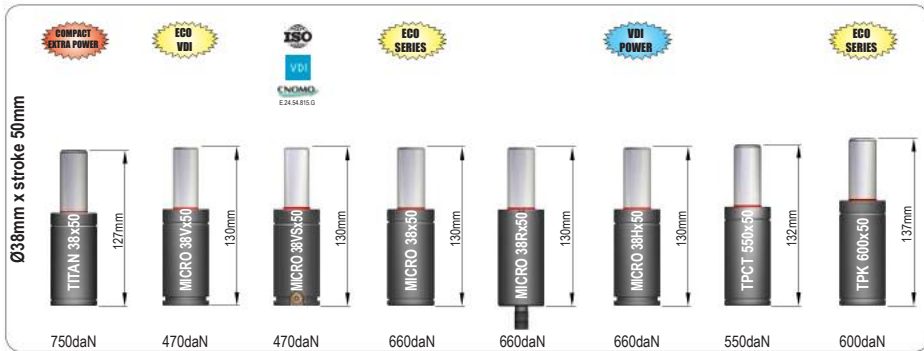
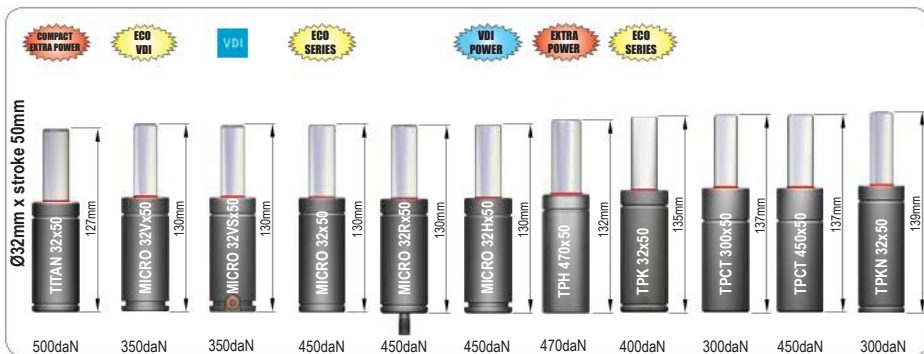


Flange stripper
Extractor de chapa



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





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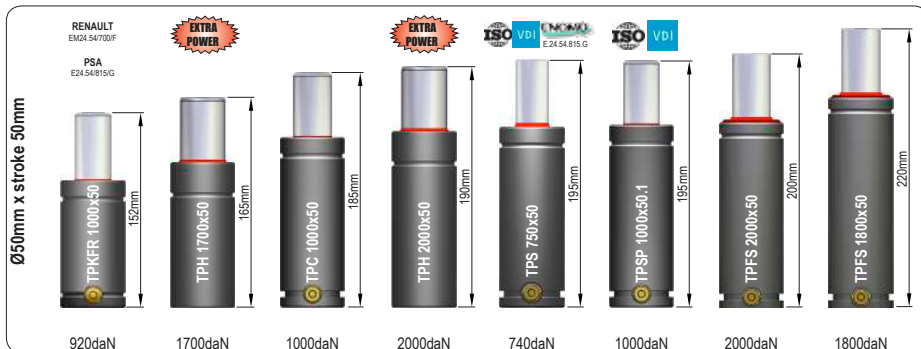
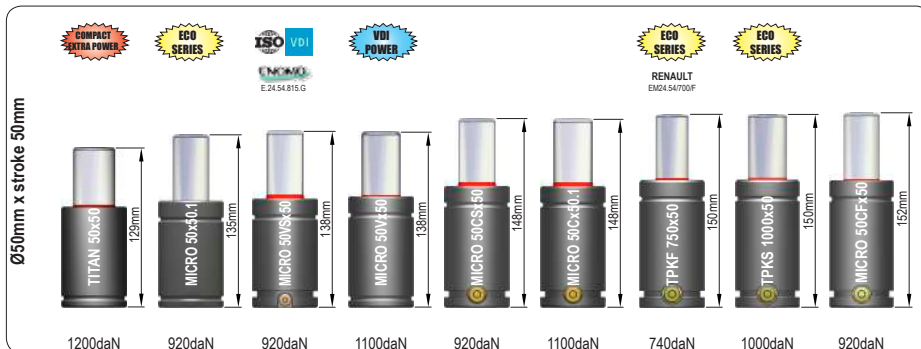
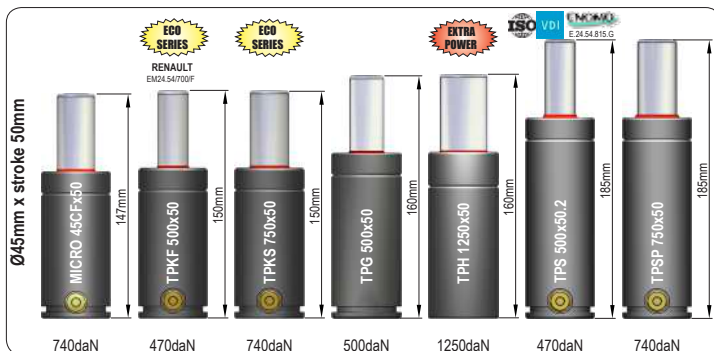
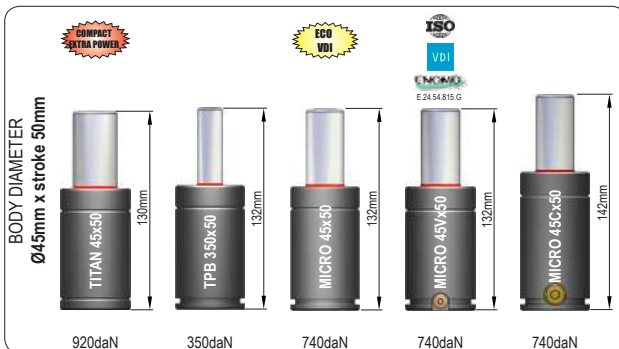
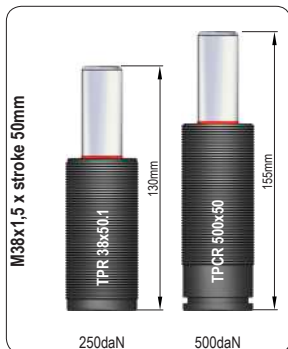
STOP CYLINDER

HOT FORMING

TPHT

TPSL







Ø75mm x stroke 50mm



2500daN



3000daN



1500daN



2400daN



4700daN

Ø95mm x stroke 50mm



1800daN



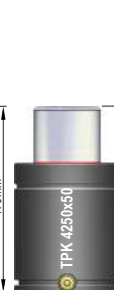
4200daN



4200daN



3000daN



4250daN



4000daN

Ø95mm x stroke 50mm



1500daN



7000daN



3000daN



4200daN



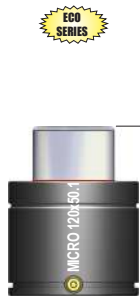
7500daN

Ø105mm x stroke 50mm



5000daN

Ø120mm x stroke 50mm



7500daN



2800daN



6600daN



TECAPRES®



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TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

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

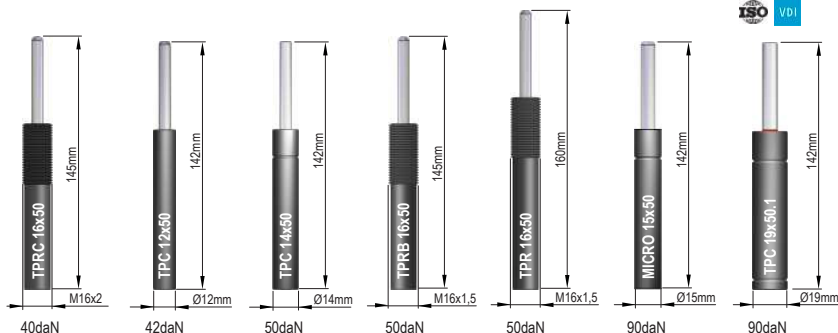


20000daN

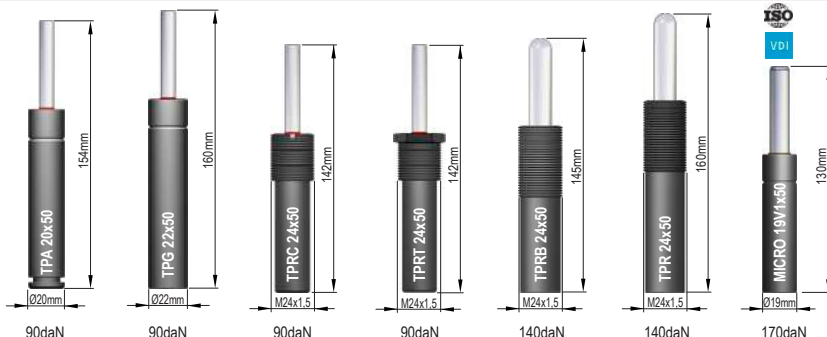
Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. - www.tecapres.com



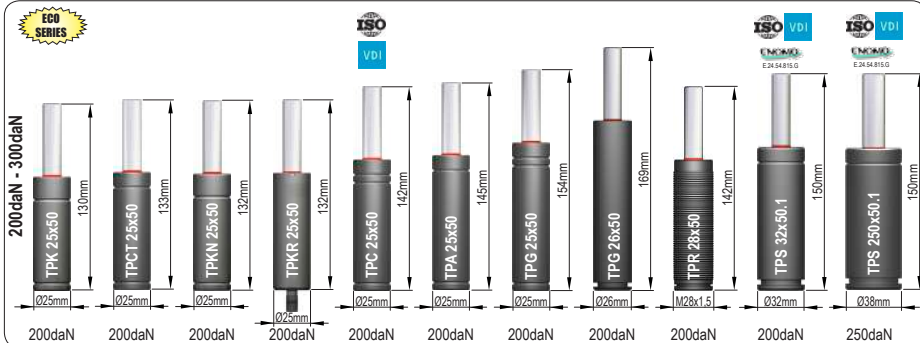
0daN - 170 daN



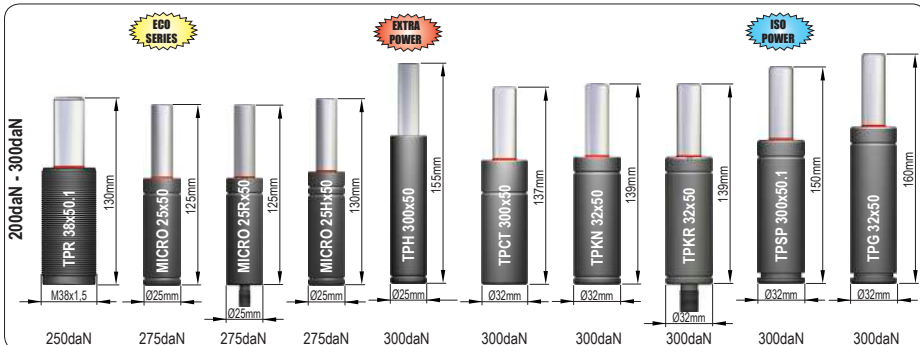
0daN - 170 daN



200daN - 300daN



200daN - 300daN





TECAPRES®



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INDEX BY INITIAL FORCE



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TPSRS

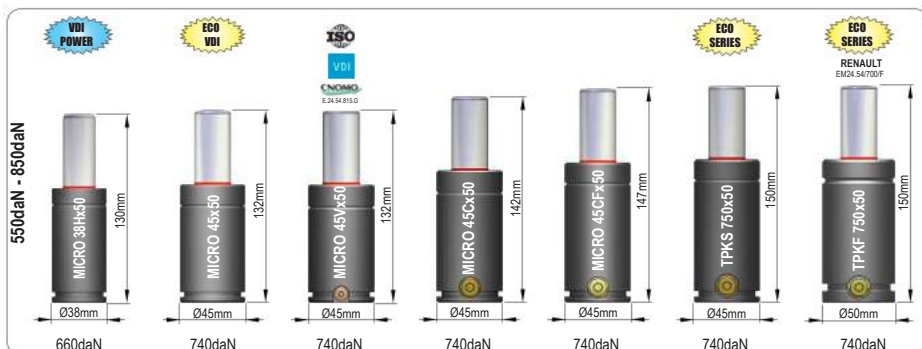
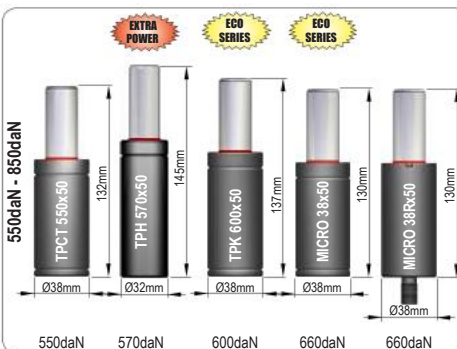
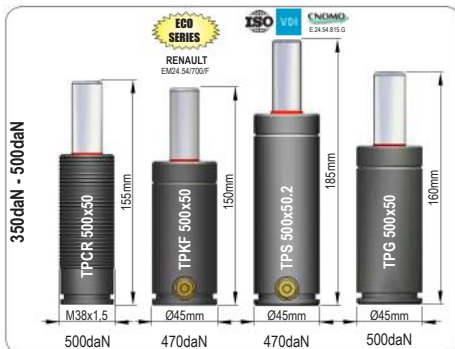
TPNS

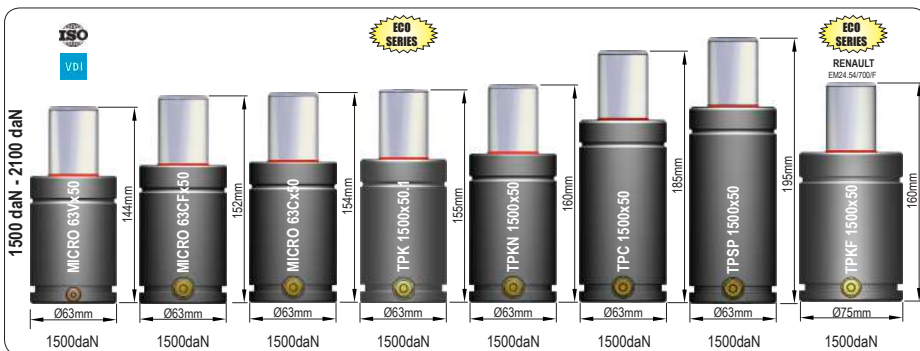
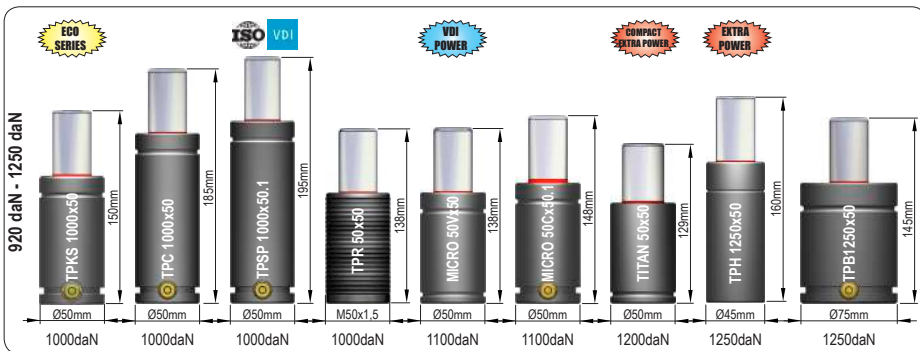
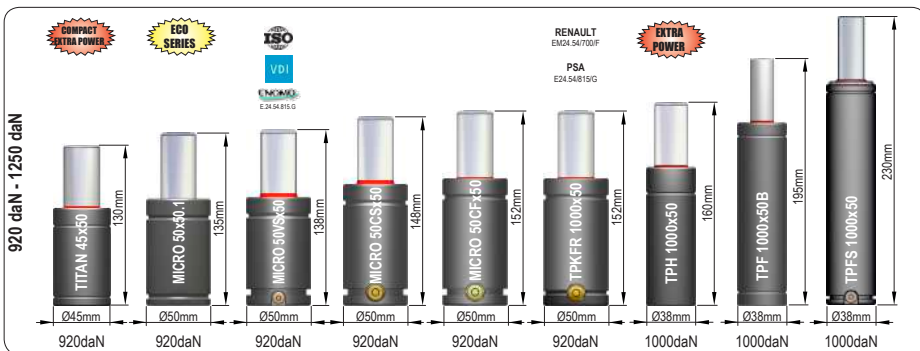
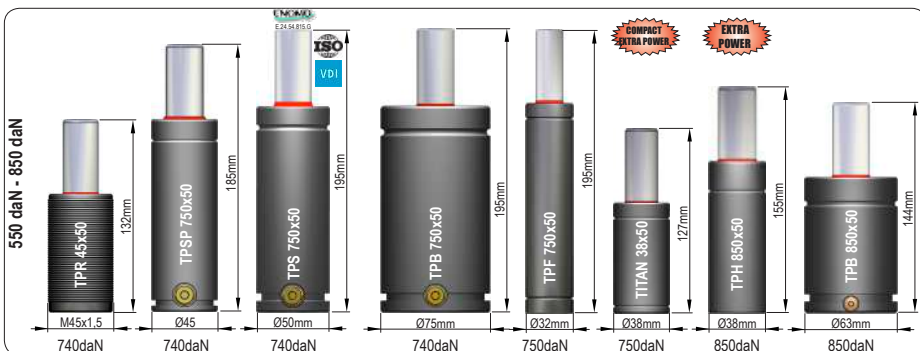
STOP CYLINDER

HOT FORMING

TPHT

TPSL







MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

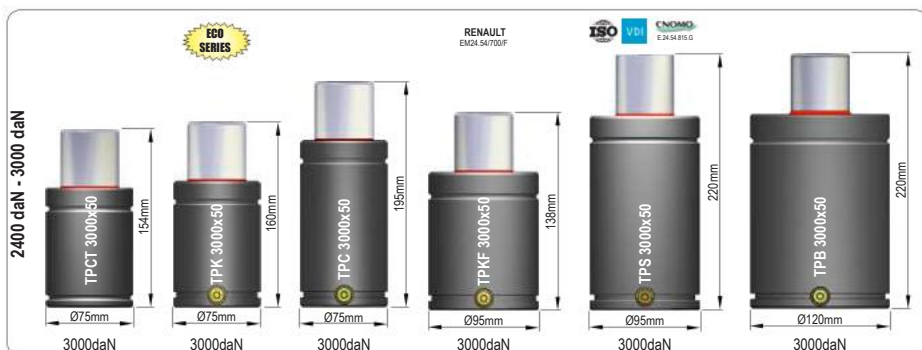
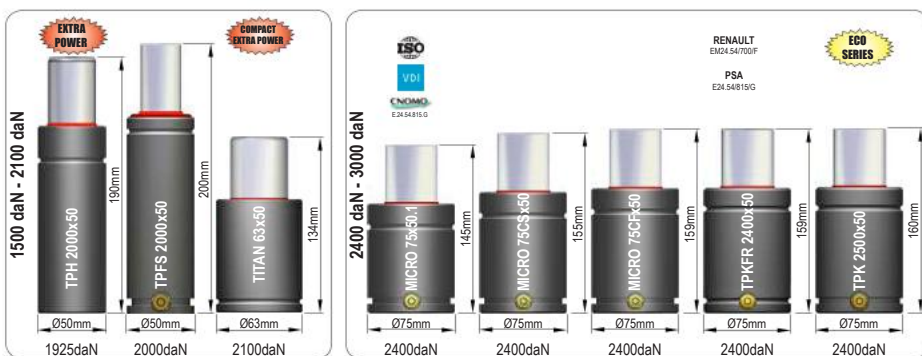
CYLINDER

HOT

FORMING

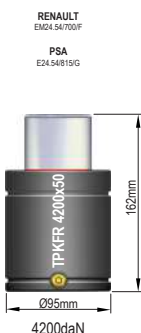
TPHT

TPSL

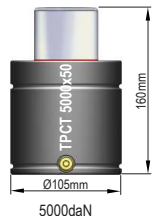




4000 daN - 5000 daN



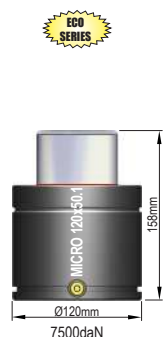
4000 daN - 5000 daN



6500 daN - 7500 daN



6500 daN - 7500 daN





MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

9500 daN - 11800 daN



9500 daN - 11800 daN



18300 daN - 20000 daN



**TECAPRES®****MICRO SERIES****PED**
2014/68/UE

VDI gas springs

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

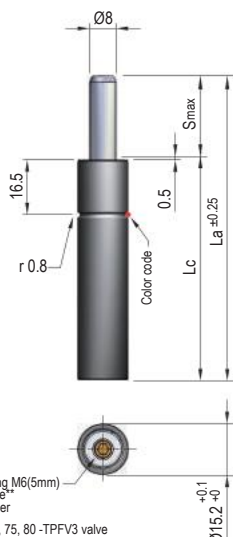
TPHT

TPSL



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 75.1	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	✓	✓	✓	✓	

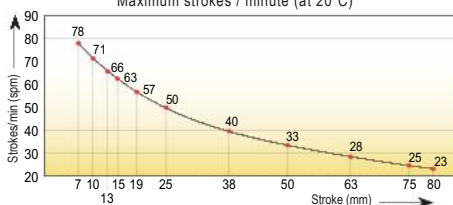
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**TECAPRES®**Ø15mm
90daN**MICRO 15**i
MICRO

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	0,50 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit M15

PED
2014/68/UE

Maximum strokes / minute (at 20°C)



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

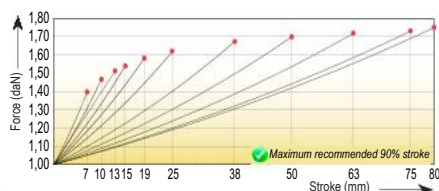
MICRO 15 x 50 YW

Model

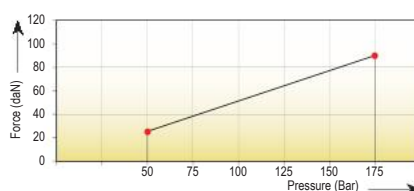
Stroke

Color code

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 15

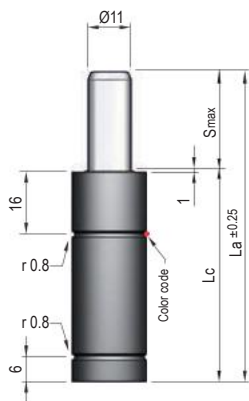
TPGAS 08.07.2019



TECAPRES®

Ø19mm
170daN

MICRO 19V1



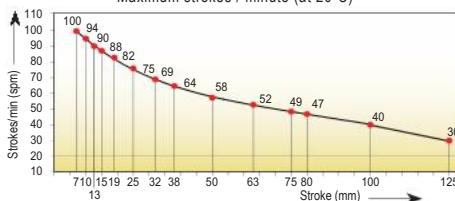
Gas charging M6(4,5mm)
TPFV3 valve
M6-C adapter



i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,95 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M19V1



Maximum strokes / minute (at 20°C)



Code	Smax mm	La mm	Lc mm	V	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 (25sBar) and the maximum charging pressure (175sBar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

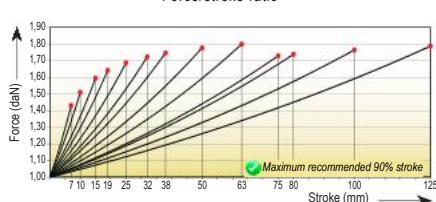
MICRO 19V1 x 75 GR

Model

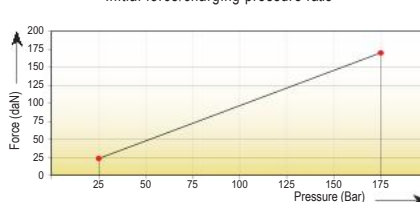
Stroke

Color code

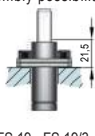
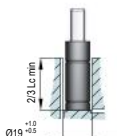
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 19 - FS 19/3

FS 19/1

FS 19/2

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MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

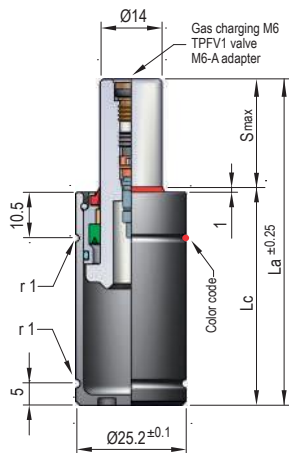
TPSL

TPSL

TPSL



**ECO
SERIES**



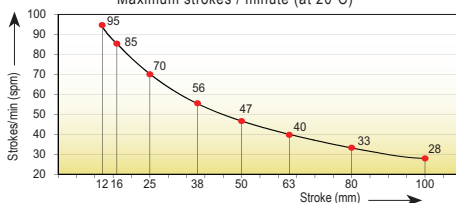
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	50 Bar
Rod seal area	1,54 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit M25.1



VDI SAFETY



Maximum strokes / minute (at 20°C)



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**

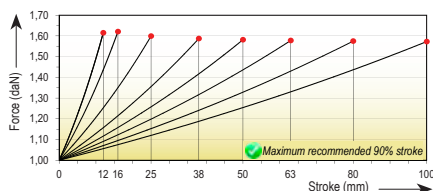
RD

Model

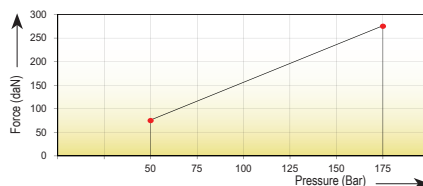
Stroke

Color code

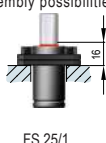
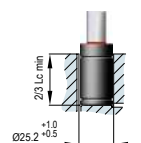
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 25/1



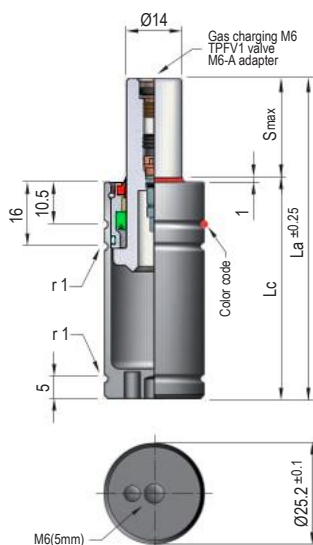
FS 25/1



TECAPRES®

Ø25mm
275daN

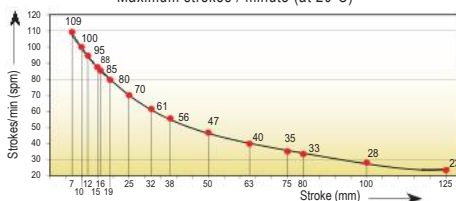
MICRO 25H



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



Maximum strokes / minute (at 20°C)



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

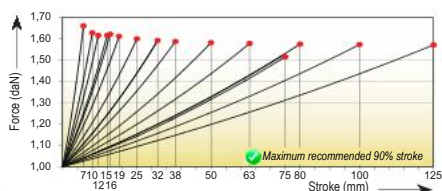
Color code	Fa daN	Fc daN	P Bar
GR (Green)	100 (±10)	≈ 160	65
BL (Blue)	150 (±10)	≈ 245	100
RD (Red)	200 (±15)	≈ 315	130
YW (Yellow)	275 (±20)	≈ 425	175
(Other forces)	75 - 275	≈ 120 - 425	50 - 175

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.

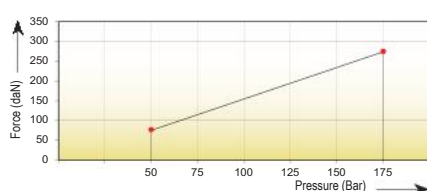
How to order

MICRO 25H x 50	RD
Model	Stroke
	Color code

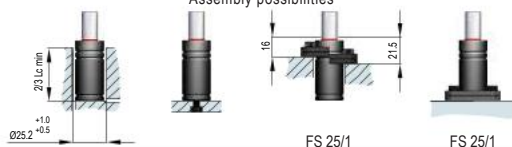
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



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MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP CYLINDER

HOT FORMING

TPHT

TPSL

TPSL

TPSL

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TPSL

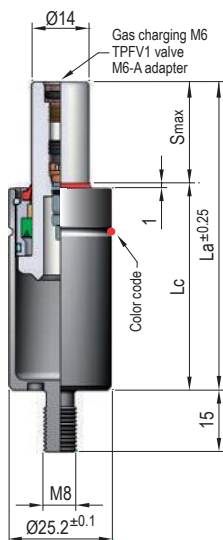


TECAPRES®

Ø25mm
275daN

MICRO 25R

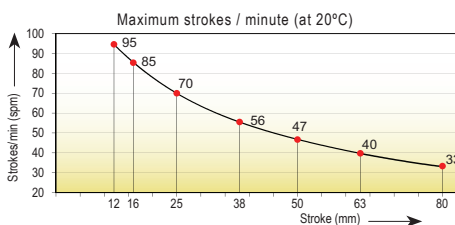
i
MICRO



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



VDI SAFETY



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

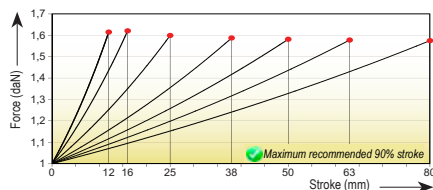
MICRO 25R x 80 BL

Model

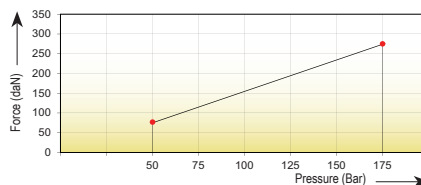
Stroke

Color code

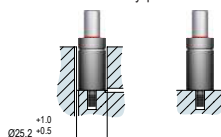
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



TPGAS 08 07-2019

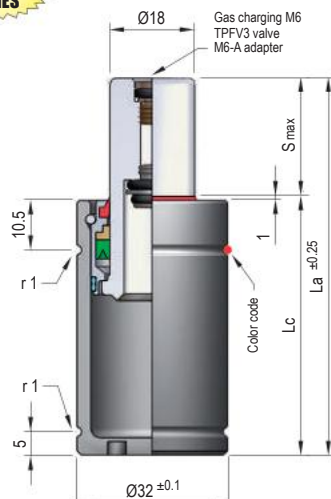


TECAPRES®

Ø32mm
450daN

MICRO 32

ECO
SERIES

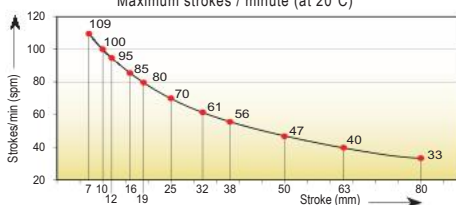


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit M32

PED
2014/68/UE



Maximum strokes / minute (at 20°C)



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

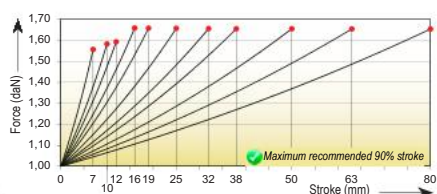
Color code	Fa daN	Fc daN	P Bar
GR (Green)	100 (±10)	≈ 165	40
BL (Blue)	200 (±15)	≈ 330	80
RD (Red)	300 (±20)	≈ 495	120
YW (Yellow)	450 (±20)	≈ 725	175
(Other forces)	60 - 450	≈ 100 - 725	25 - 175

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.

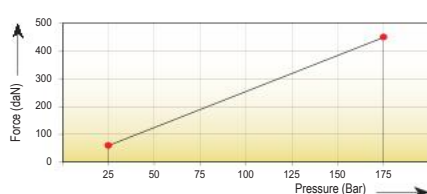
How to order

MICRO 32 x 19 RD
Model Stroke Color code

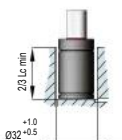
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

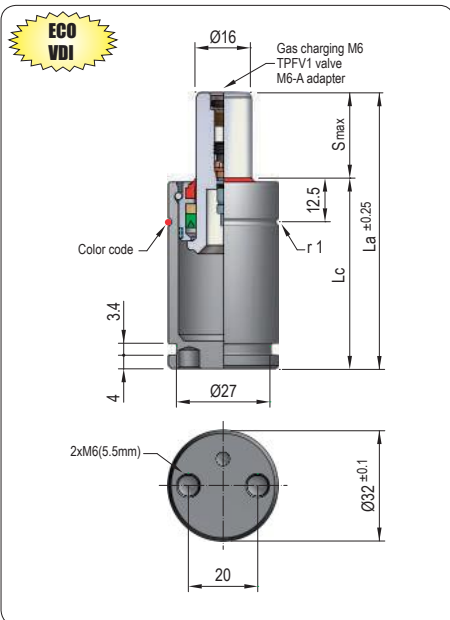


FS 32 · FS 32/1 · FSC 32

FS 32 · FS 32/1 · FSC 32

FI 32 · FI 32/1

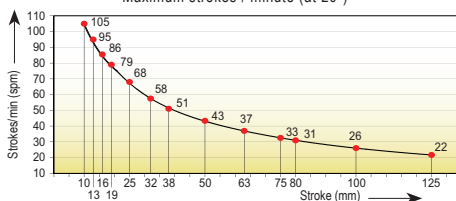
Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

**TECAPRES®****Ø32mm
350daN****MICRO 32V****i
MICRO**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MV32



Maximum strokes / minute (at 20°)



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

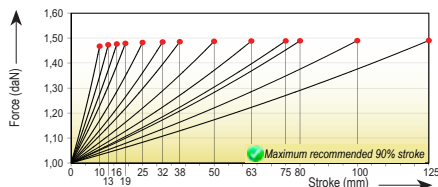
MICRO 32V x 19 YW

Model

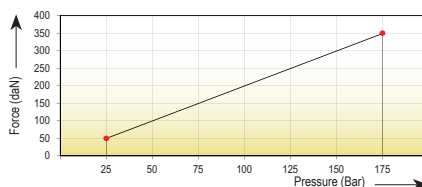
Stroke

Color code

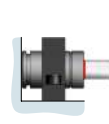
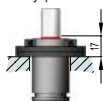
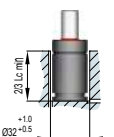
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



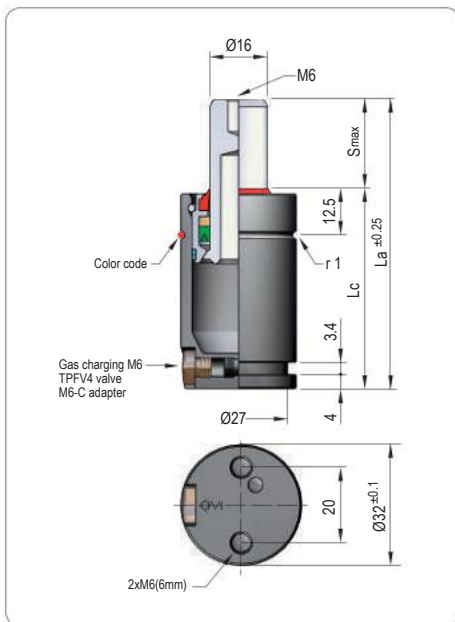
FS 32 · FS 32/1 · FSC 32

FP 32 · FPR 32

FI 32 · FI 32/1

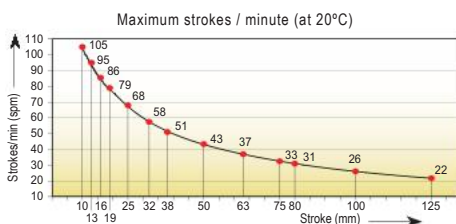
TPGAS 08.07.2019

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**TECAPRES®**Ø32mm
350daN**MICRO 32VS**

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

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MVS32



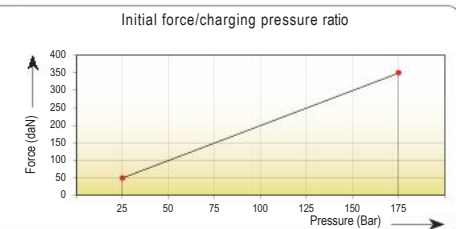
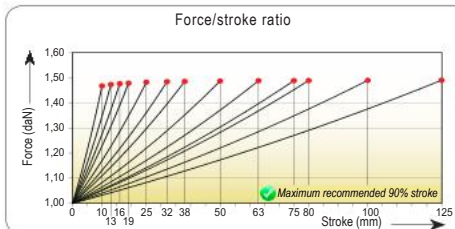
Color code	Fa daN	Fc daN	P Bar
GR (Green)	50 (±5)	≈ 75	25
BL (Blue)	150 (±15)	≈ 225	75
RD (Red)	250 (±20)	≈ 370	125
YW (Yellow)	350 (±20)	≈ 520	175
(Other forces)	50 - 350	≈ 75 - 520	25 - 175

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

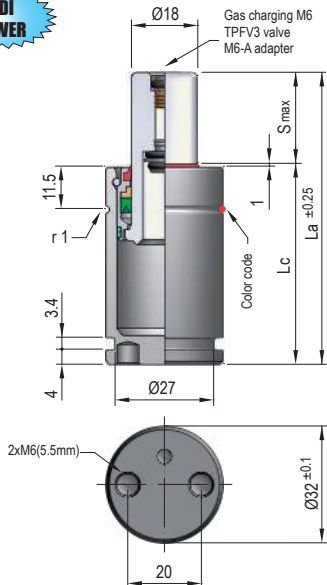
Model Stroke Color code



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**VDI
POWER**



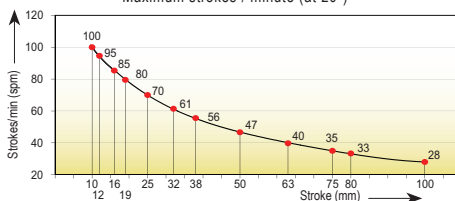
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit MH32



VDI SAFETY



Maximum strokes / minute (at 20°)



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

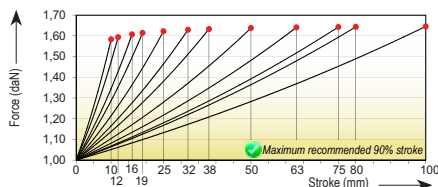
MICRO 32H x 50 RD

Model

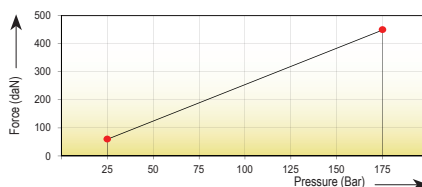
Stroke

Color code

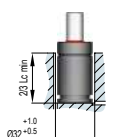
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 32 - FS 32/1 - FSC 32

FP 32 - FPR 32

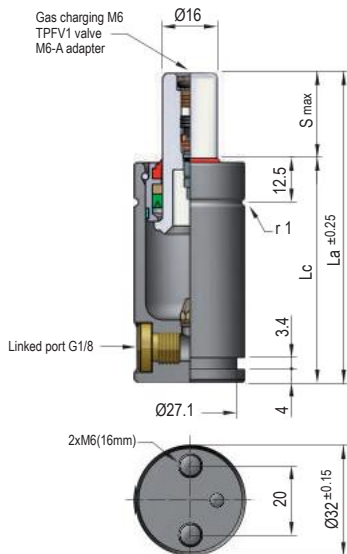
FI 32 - FI 32/1



TECAPRES®

Ø32mm · G1/8 connectable
350daN

MICRO 32C

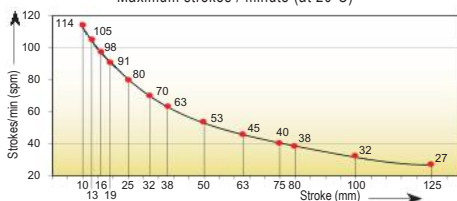


i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MC32

PED
2014/68/UE

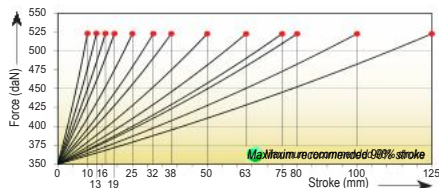


Maximum strokes / minute (at 20°C)

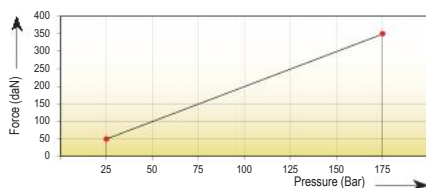


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 32Cx10	10	60	50	350 ±5% (20°C)	500	525	175 (20°C)	0,006	0,20
MICRO 32Cx13	13	66	53		500	525		0,008	0,22
MICRO 32Cx16	16	72	56		500	525		0,010	0,24
MICRO 32Cx19	19	78	59		500	525		0,012	0,25
MICRO 32Cx25	25	90	65		500	525		0,015	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



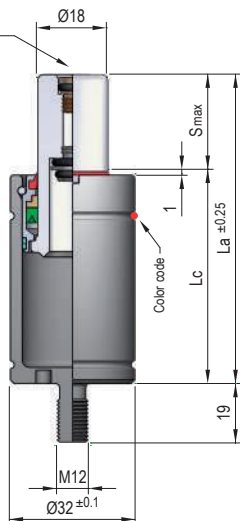
Assembly possibilities



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Gas charging M6
TPFV3 valve
M6-A adapter



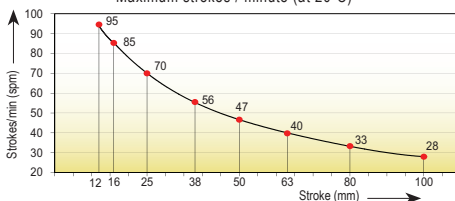
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit MR32



VDI SAFETY



Maximum strokes / minute (at 20°C)



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

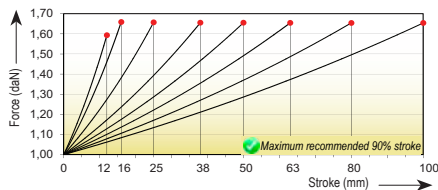
MICRO 32R x 63 RD

Model

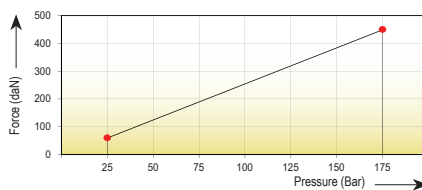
Stroke

Color code

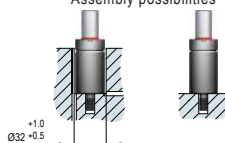
Force/stroke ratio

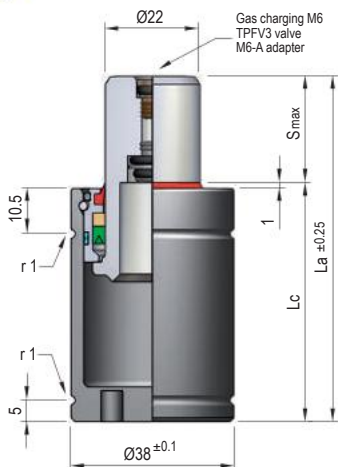


Initial force/charging pressure ratio

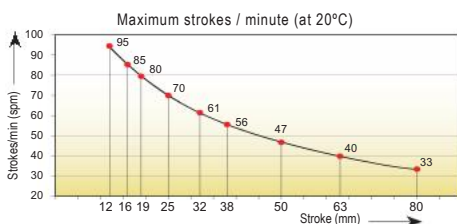
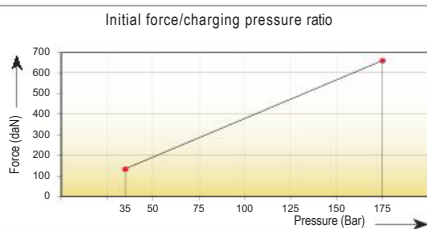
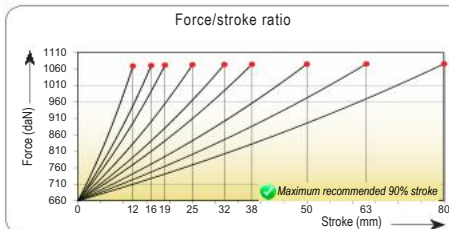


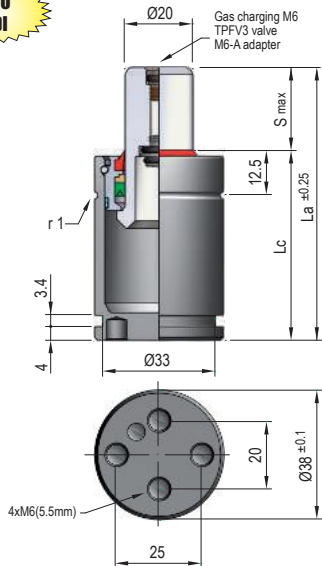
Assembly possibilities



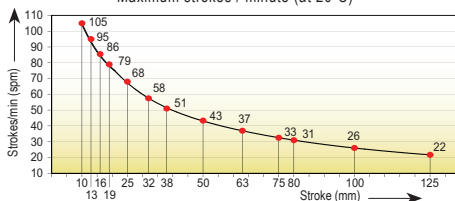


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit M38

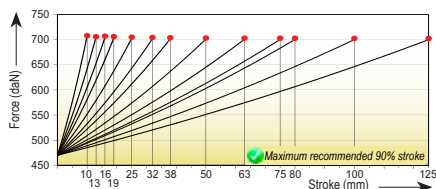
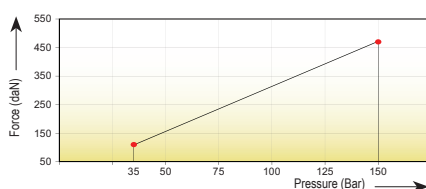
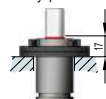
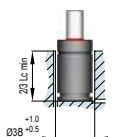
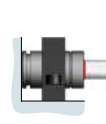
[illegible]

**TECAPRES®****Ø38mm
470daN****MICRO 38V****i
MICRO**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MV38

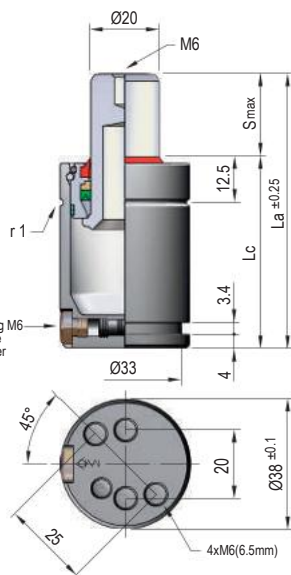
**VDI SAFETY****Maximum strokes / minute (at 20°C)**

Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
MICRO 38Vx10	10	50	40		470 ±5% (20°C)		675		710		150 (20°C)		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

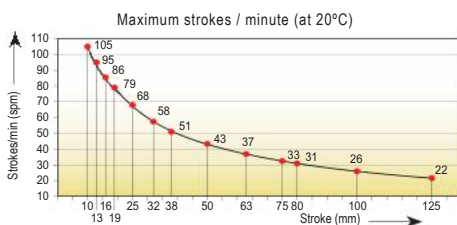
Force/stroke ratio**Initial force/charging pressure ratio****Assembly possibilities****FS 38 · FSC 38****FP 38 · FPR 38****FI 38 · FI 38/1**

TPGAS 08-07-2019

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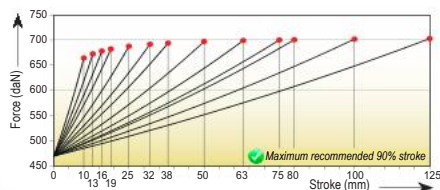
**TECAPRES®**Ø38mm
470daN**MICRO 38VS**

i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MVS38

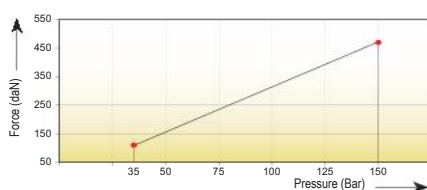
PED
2014/68/UEVDI
VDI 3003ISO
ISO 11901CNOM
E.24.54.815.G

Code	S _{max} 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

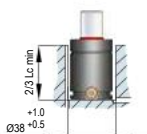
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 38 · FSC 38

FP 38 · FPR 38

FI 38 · FI 38/1

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MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

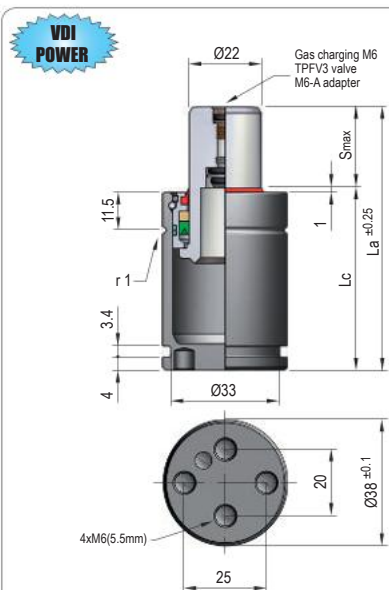
TPSL

TPSL

TPSL

TPSL

TPSL



- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

3,80 cm²

Operating temperature

°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,2 m/s

Maintenance k

Kit MH38

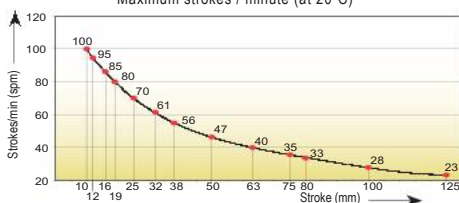


VDI SAFETY

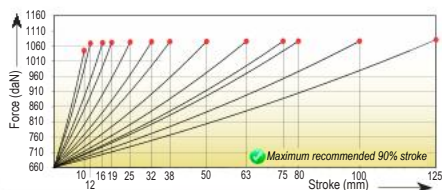


3F-22-32

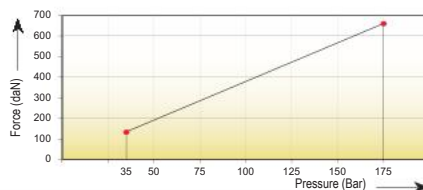
Maximum strokes / minute (at 20°C)

[illegible]

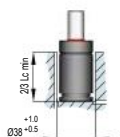
Force/stroke ratio



Initial force/charging pressure ratio



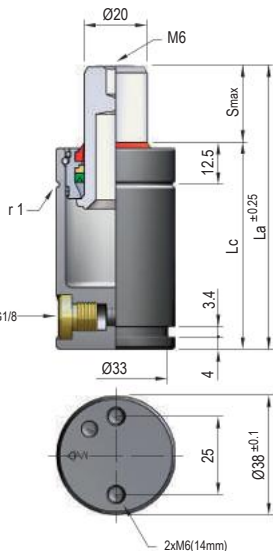
Assembly possibilities



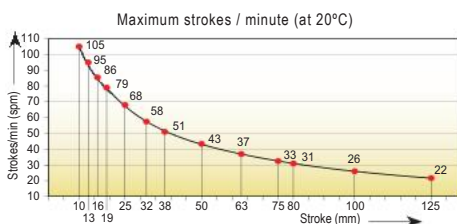
FS 38 · FSC 38

FP 38 · FPR 38

FI 38 - FI 38/1

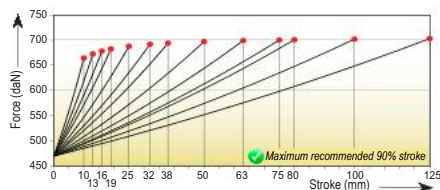
**TECAPRES®**Ø38mm · G1/8 connectable
470daN**MICRO 38C**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MC38

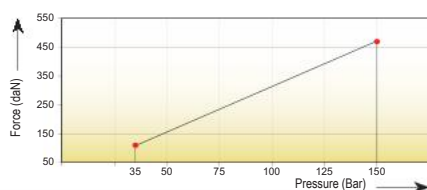


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 38Cx10	10	60	50	470 ±5% (20°C)	640	665	150 (20°C)	0,011	0,33
MICRO 38Cx13	13	66	53		645	675		0,014	0,34
MICRO 38Cx16	16	72	56		650	680		0,016	0,35
MICRO 38Cx19	19	78	59		655	685		0,019	0,37
MICRO 38Cx25	25	90	65		660	690		0,025	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



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MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

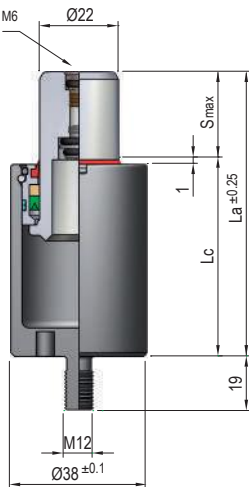
TPSL

TPSL



MICRO 38R

Gas charging
TPFV3 valve
M6-A adapter



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

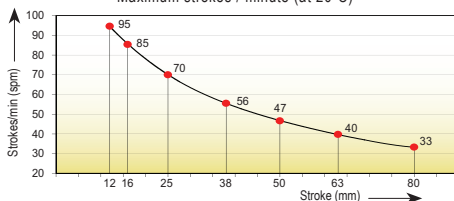


VDI SAFETY

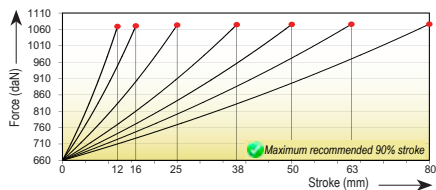


RF-22-32

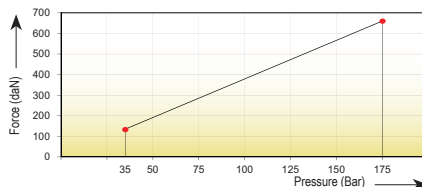
Maximum strokes / minute (at 20°C)

[illegible]

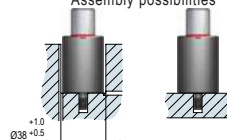
Force/stroke ratio

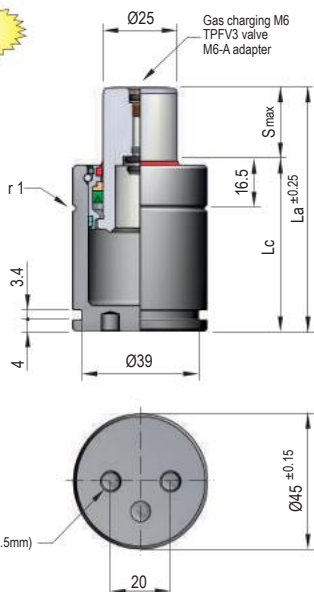


Initial force/charging pressure ratio



Assembly possibilities



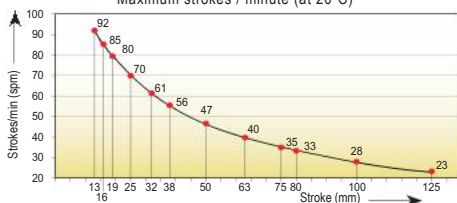
**TECAPRES®**Ø45mm
740daN**MICRO 45****ECO
VDI**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M45

PED
2014/68/UE**VDI SAFETY**

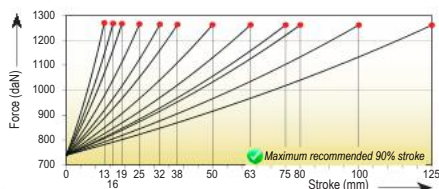
RE-25-35

Maximum strokes / minute (at 20°C)

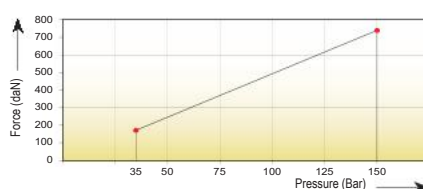


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
MICRO 45x13	13	58	45	740 ±5% (20°C)			1180		1265		150 (20°C)		0,015		0,35
MICRO 45x16	16	64	48				1180		1260				0,019		0,39
MICRO 45x19	19	70	51				1175		1260				0,022		0,40
MICRO 45x25	25	82	57				1175		1260				0,030		0,44
MICRO 45x32	32	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

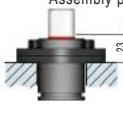
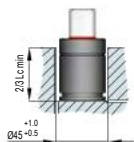
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



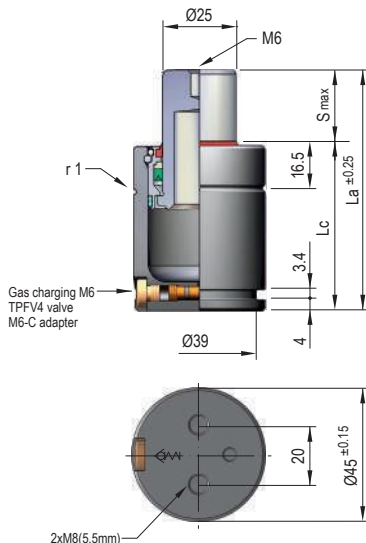
FS 45 · FSC 45

FP 45 · FPR 45

FB 45

FI 45 · FI 45/1

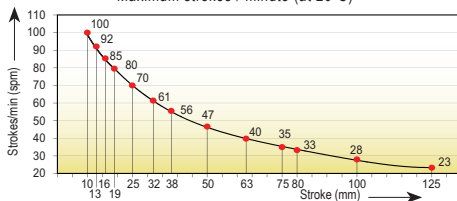
Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

**TECAPRES®**Ø45mm
740daN**MICRO 45V****i**
MICRO

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MV45

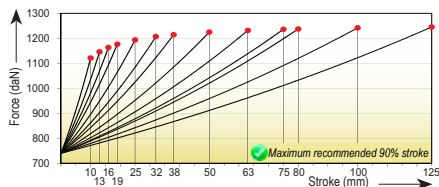
**VDI SAFETY**

Maximum strokes / minute (at 20°C)

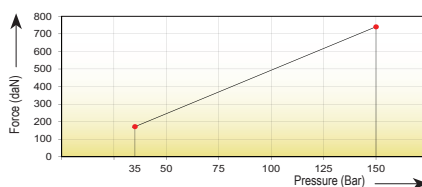


Code	S _{max} mm	La mm	Lc mm	Fa daN	F daN	Fc daN	P Bar	V l	Kg
MICRO 45Vx10	10	52	42	740 ±5% (20°C)	1060	1115	150 (20°C)	0,014	0,32
MICRO 45Vx13	13	58	45		1080	1140		0,018	0,35
MICRO 45Vx16	16	64	48		1095	1160		0,022	0,39
MICRO 45Vx19	19	70	51		1105	1170		0,025	0,40
MICRO 45Vx25	25	82	57		1120	1190		0,032	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

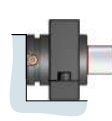
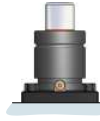
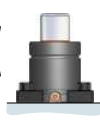
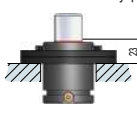
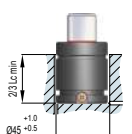
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 45 · FSC 45

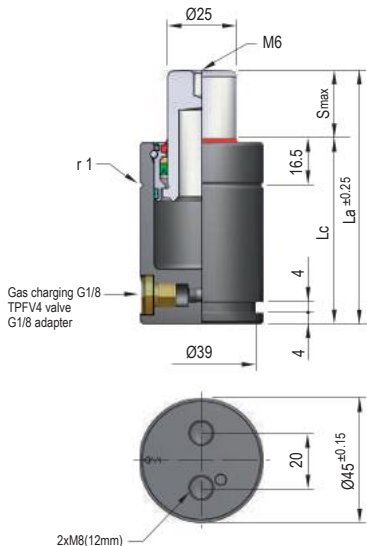
FP 45 · FPR 45

FB 45

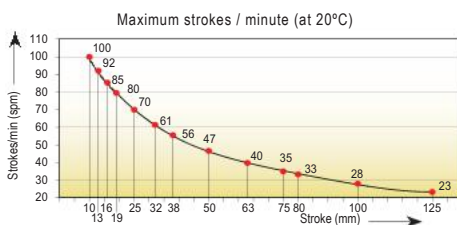
FI 45 · FI 45/1

TPGAS 08.07.2019

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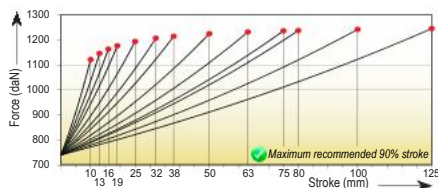
**TECAPRES®**Ø45mm · G1/8 connectable
740daN**MICRO 45C**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MC45

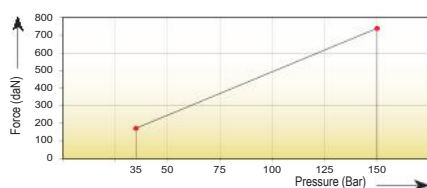
PED
2014/68/UE

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% (20°C)	1060	1115	150 (20°C)	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

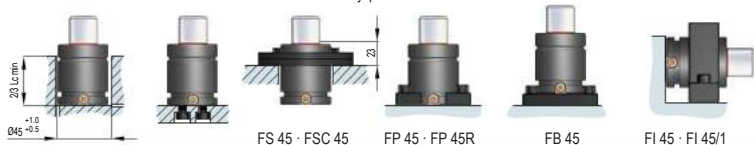
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

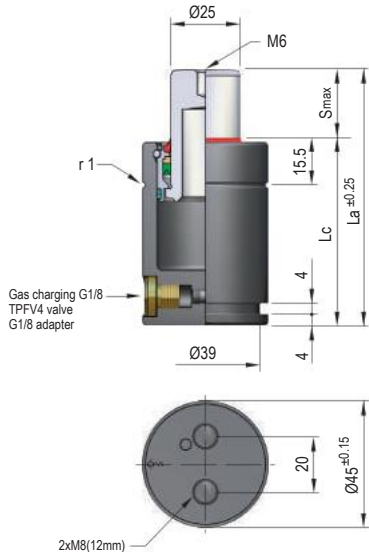
TPSL

TPSL

TPSL

TPSL

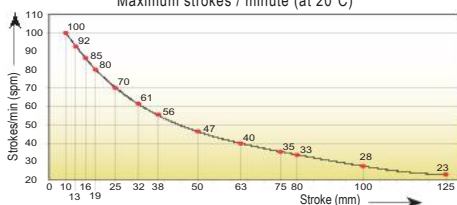
TPSL

**TECAPRES®**Ø45mm · G1/8 connectable
740daN**MICRO 45CF****i**
MICROGas charging G1/8
TPFV4 valve
G1/8 adapter

i 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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M45CF

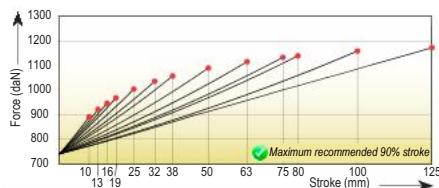
PED
2014/68/UE

Maximum strokes / minute (at 20°C)

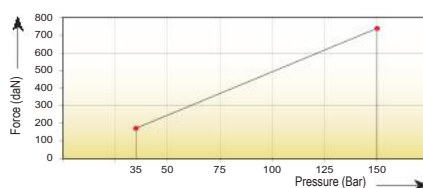


Code	S _{max} mm	L _a mm	L _c mm	F _a daN	90% F daN	100% F _c daN	P Bar	V l	Kg
MICRO 45CFx10	10	67	57	740 ±5% (20°C)	870	885	150 (20°C)	0,029	0,37
MICRO 45CFx13	13	73	60		895	915		0,032	0,40
MICRO 45CFx16	16	79	63		915	940		0,036	0,44
MICRO 45CFx19	19	85	66		935	965		0,040	0,45
MICRO 45CFx25	25	97	72		965	1000		0,047	0,49
MICRO 45CFx32	32	111	79		990	1030		0,055	0,54
MICRO 45CFx38	38	123	85		1010	1050		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



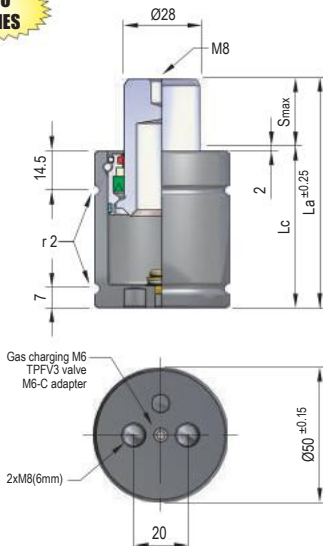
Initial force/charging pressure ratio



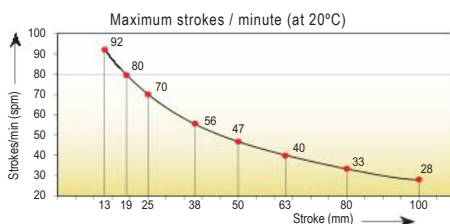
Assembly possibilities



TPGAS 08.07.2019

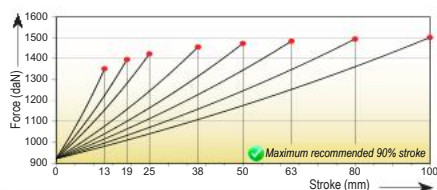
**TECAPRES®**Ø50mm
920daN**MICRO 50.1****ECO
SERIES**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M50.1

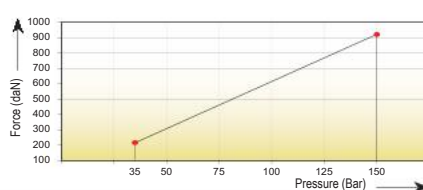
PED
2014/68/UE**VDI SAFETY**

Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
MICRO 50x13.1	13	61	48	920 ±5% (20°C)			1295		1355		150 (20°C)		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



MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

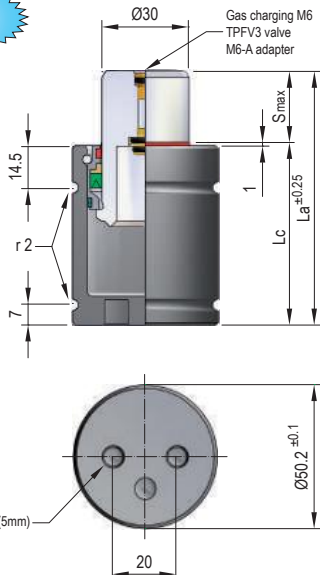
CYLINDER

HOT

FORMING

TPHT

TPSL

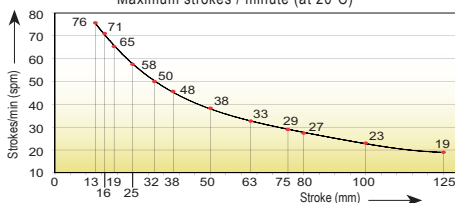
**TECAPRES®**Ø50mm
1100daN**MICRO 50V****i**
MICRO**VDI
POWER**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1 m/s
Maintenance kit	Kit M50V

**VDI SAFETY**

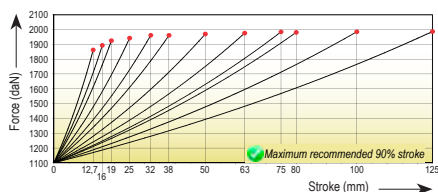
RE-30-40

Maximum strokes / minute (at 20°C)

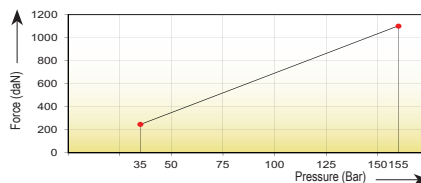


Code	S _{max} mm	La mm	Lc mm		F _a daN		F daN		F _c daN		P Bar		V l		Kg
MICRO 50Vx13	12,7	63,4	50,7		1100 ±5% (20°C)		1760		1885		155 (20°C)		0,022		0,59
MICRO 50Vx16	16	70	54				1775		1905				0,027		0,60
MICRO 50Vx19	19	76	57				1785		1917				0,031		0,62
MICRO 50Vx25	25	88	63				1795		1935				0,041		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

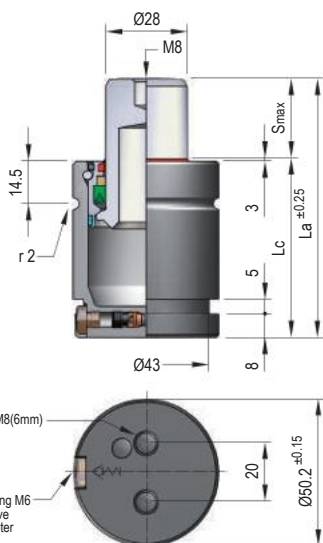


Assembly possibilities

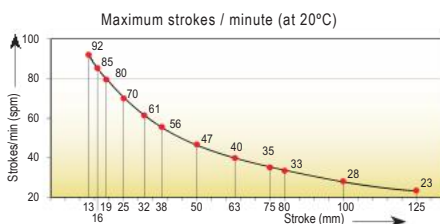


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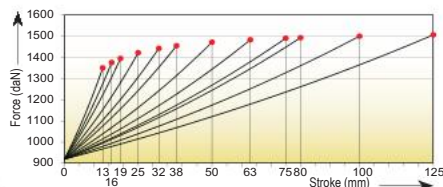
**TECAPRES®**Ø50mm
920daN**MICRO 50VS**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M50VS

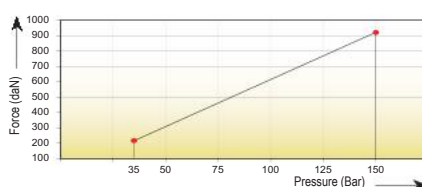


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
MICRO 50VSx13	13	64	51	920 ±5% (20°C)			1295		1355		150 (20°C)		0,025		0,53
MICRO 50VSx16	16	70	54				1315		1380				0,030		0,55
MICRO 50VSx19	19	76	57				1330		1400				0,034		0,58
MICRO 50VSx25	25	88	63				1355		1430				0,044		0,62
MICRO 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



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MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

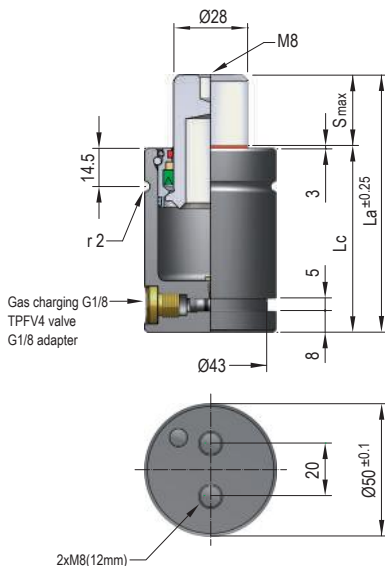
TPSL

TPSL

TPSL

TPSL

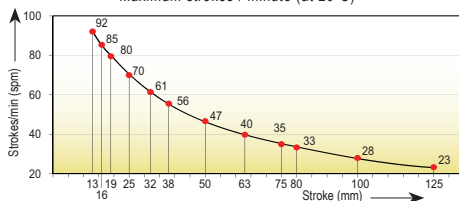
TPSL

**TECAPRES®**Ø50mm · G1/8 connectable
920daN**MICRO 50CS****i**
MICRO

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit MCS50

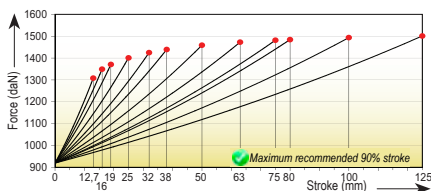
**VDI SAFETY**

Maximum strokes / minute (at 20°C)

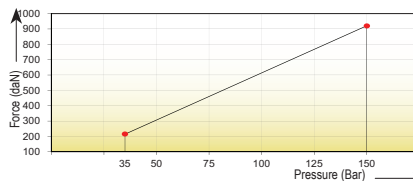


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50CSx13	13	74	61	920 ±5% (20°C)	1270	1325	150 (20°C)	0,026	0,60
MICRO 50CSx16	16	80	64		1295	1355		0,031	0,63
MICRO 50CSx19	19	86	67		1310	1375		0,036	0,68
MICRO 50CSx25	25	98	73		1335	1405		0,045	0,79
MICRO 50CSx32	32	112	80		1355	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

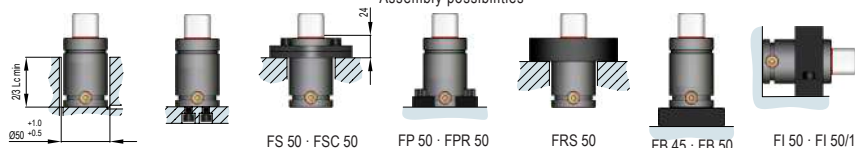
Force/stroke ratio



Initial force/charging pressure ratio

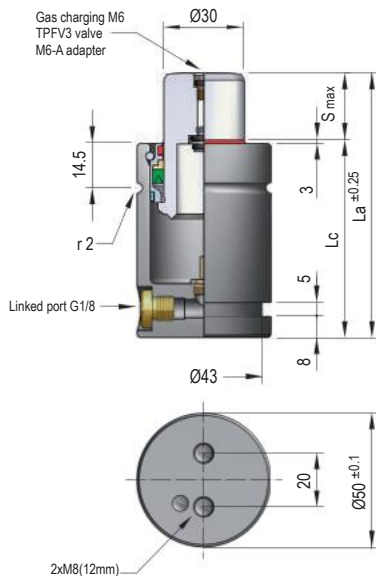


Assembly possibilities

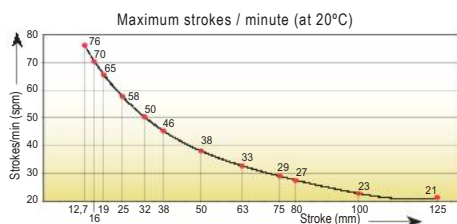


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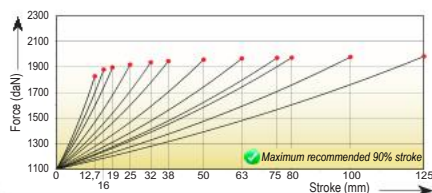
**TECAPRES®**Ø50mm · G1/8 connectable
1100daN**MICRO 50C.1**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit MC50.1

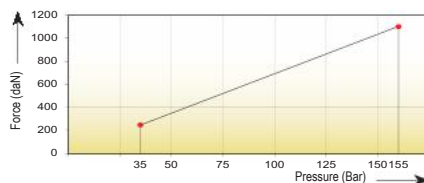


Code	S _{max} mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 50Cx13.1	12,7	74	61,3	1100 ±5% (20°C)	1740	1860	155 (20°C)	0,023	0,70
MICRO 50Cx16.1	16	80	64		1760	1885		0,027	0,73
MICRO 50Cx19.1	19	86	67		1775	1900		0,032	0,78
MICRO 50Cx25.1	25	98	73		1790	1925		0,041	0,89
MICRO 50Cx32.1	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



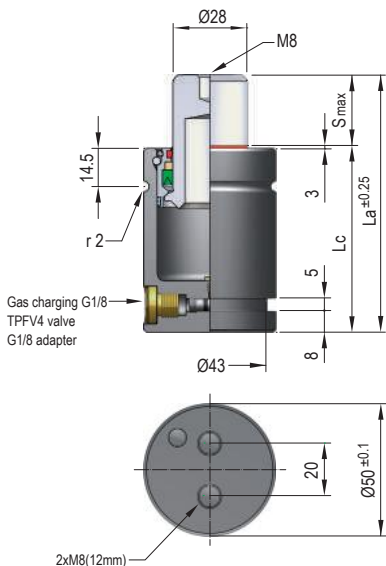
Initial force/charging pressure ratio



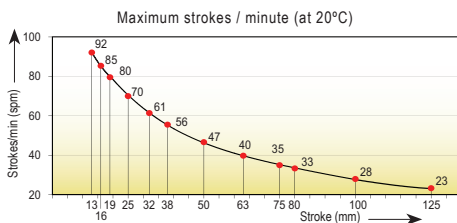
Assembly possibilities



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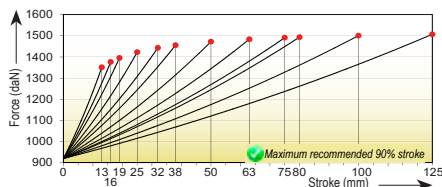
**TECAPRES®**Ø50mm · G1/8 connectable
920daN**MICRO 50CF****i**
MICRO

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M50CF

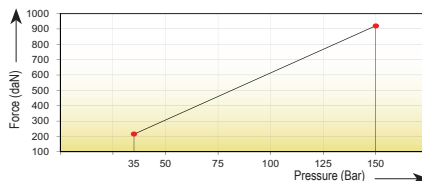


Code	S _{max} mm	L _a mm	L _c mm		F _a daN		F daN		F _c daN		P Bar		V l		Kg
MICRO 50CFx13	13	78	65	920 ±5% (20°C)			1295		1355		150 (20°C)		0,025		0,64
MICRO 50CFx16	16	84	68				1315		1380				0,030		0,67
MICRO 50CFx19	19	90	71				1330		1400				0,034		0,72
MICRO 50CFx25	25	102	77				1355		1430				0,044		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

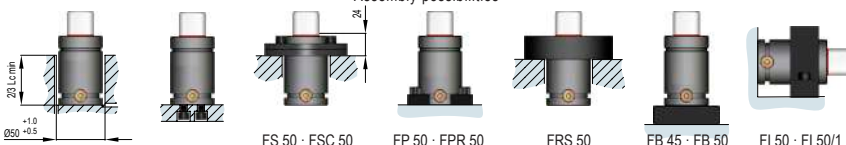
Force/stroke ratio



Initial force/charging pressure ratio

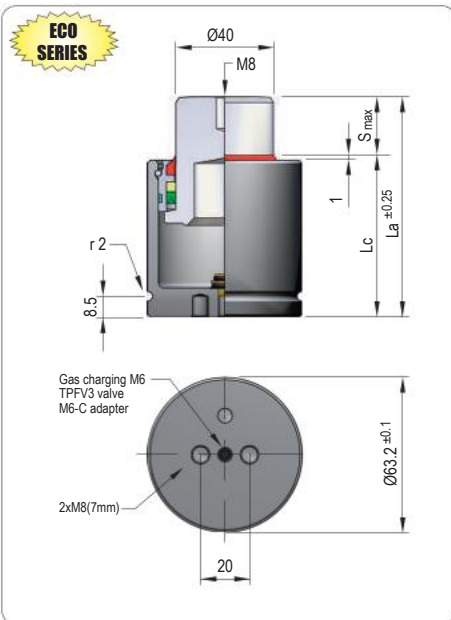


Assembly possibilities



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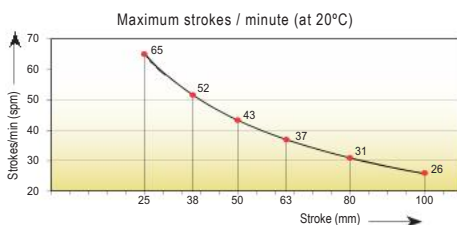
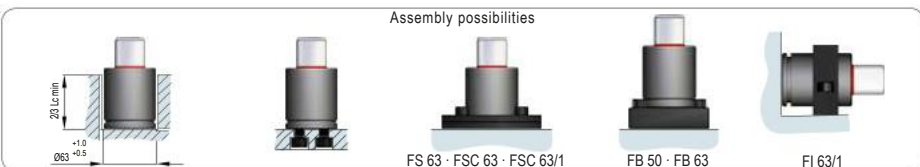
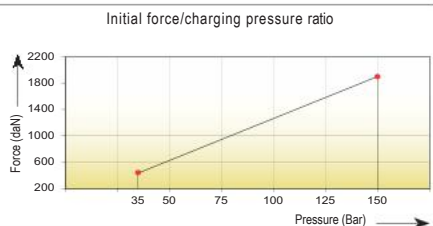
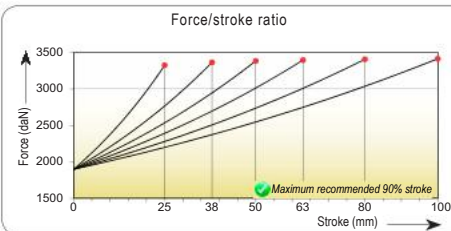
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	12,57 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,6 m/s
Maintenance kit	Kit M63

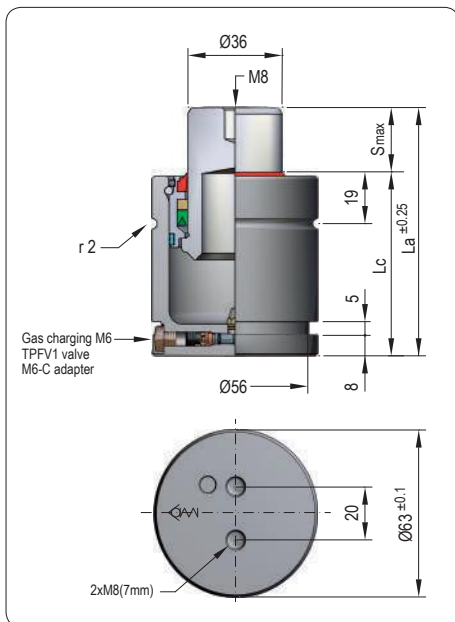


VDI SAFETY



RE-40-55

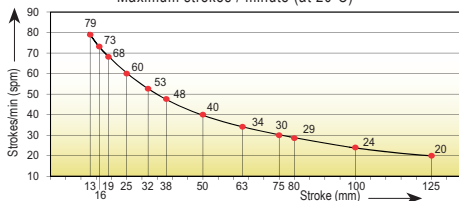
[illegible]

**TECAPRES®****Ø63mm
1500daN****MICRO 63V****i**
MICRO

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M63V

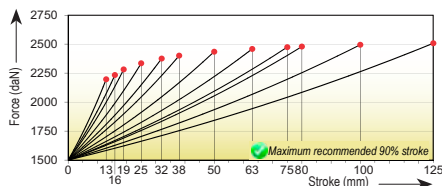


Maximum strokes / minute (at 20°C)

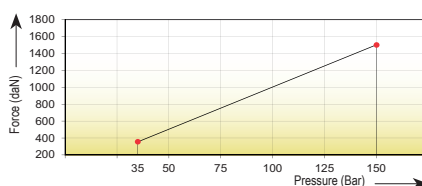


Code	Smax mm	La mm	Lc mm	Fa daN	F daN	Fc daN	P Bar	V l	Kg
MICRO 63Vx13	13	70	57	1500 ±5% (20°C)	2135	2245	150 (20°C)	0,040	0,95
MICRO 63Vx16	16	76	60		2165	2275		0,048	0,97
MICRO 63Vx19	19	82	63		2200	2320		0,054	1,15
MICRO 63Vx25	25	94	69		2235	2365		0,069	1,27
MICRO 63Vx32	32	108	76		2265	2405		0,086	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

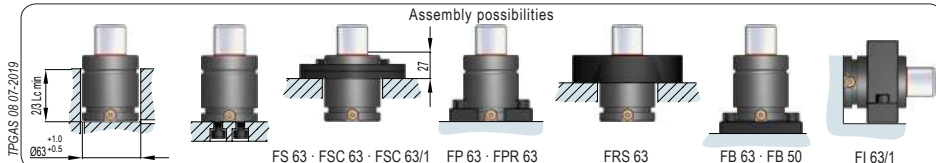
Force/stroke ratio



Initial force/charging pressure ratio

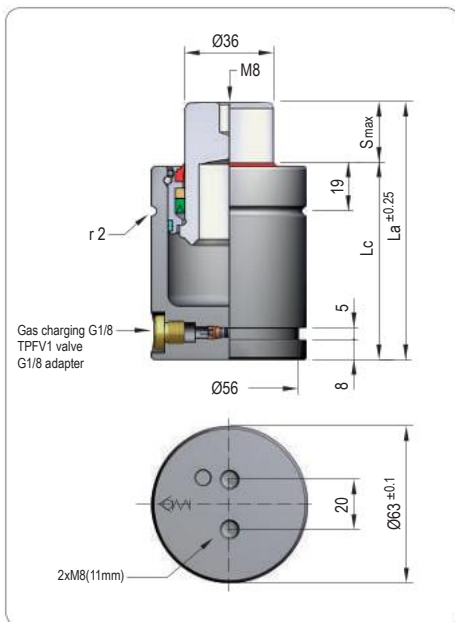


Assembly possibilities

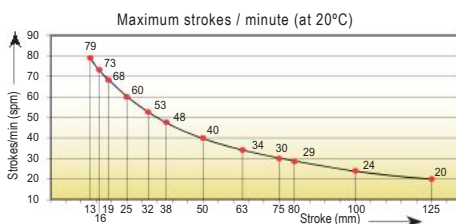


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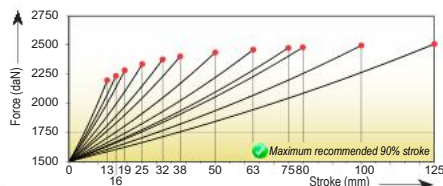
**TECAPRES®**Ø63mm · G1/8 connectable
1500daN**MICRO 63CF**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M63CF

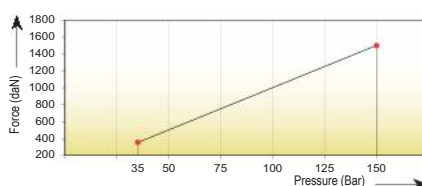
PED
2014/68/UE

Code	S _{max} 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% (20°C)	2135	2245	150 (20°C)	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

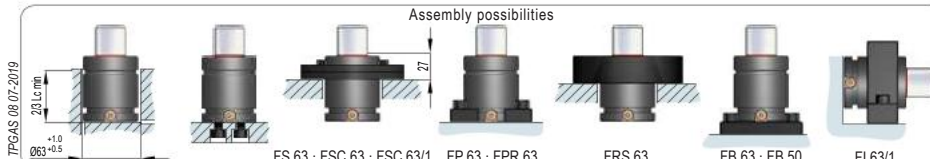
Force/stroke ratio



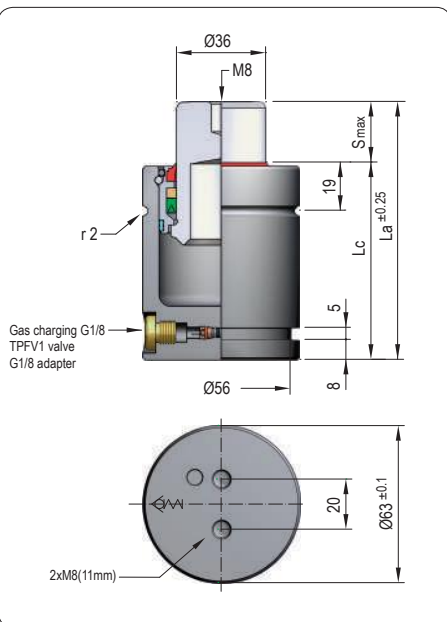
Initial force/charging pressure ratio



Assembly possibilities



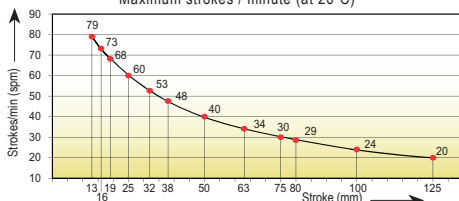
Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

**TECAPRES®**Ø63mm · G1/8 connectable
1500daN**MICRO 63C****i**
MICRO

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M63C

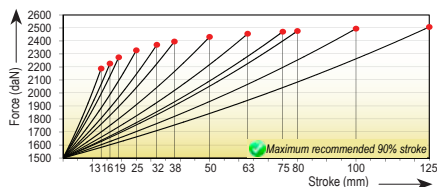


Maximum strokes / minute (at 20°C)

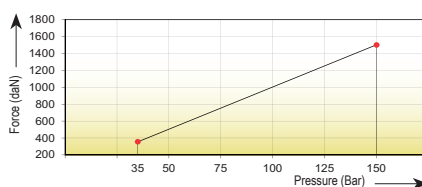


Code	S _{max} mm	La mm	Lc mm	Fa daN	F daN	Fc daN	P Bar	V l	Kg
MICRO 63Cx13	13	80	67	1500 ±5% (20°C)	2085	2185	150 (20°C)	0,042	1,18
MICRO 63Cx16	16	86	70		2120	2220		0,050	1,22
MICRO 63Cx19	19	92	73		2155	2270		0,057	1,36
MICRO 63Cx25	25	104	79		2200	2325		0,072	1,41
MICRO 63Cx32	32	118	86		2235	2365		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

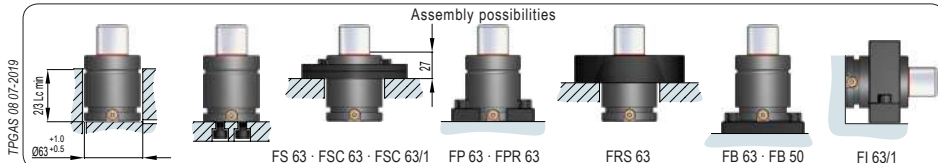
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 63 · FSC 63 · FSC 63/1 FP 63 · FPR 63 FRS 63 FB 63 · FB 50 FI 63/1

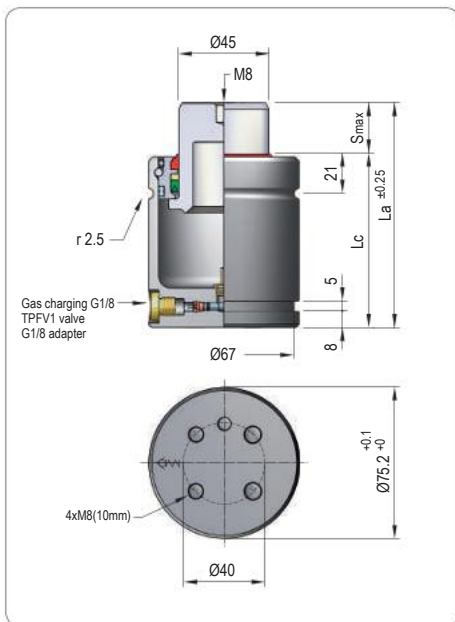
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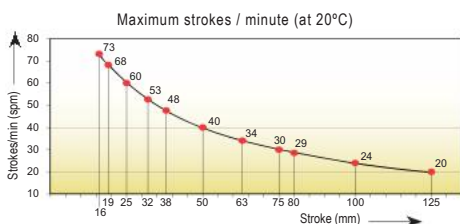
TECAPRES®

Ø75mm · G1/8 connectable
2400daN

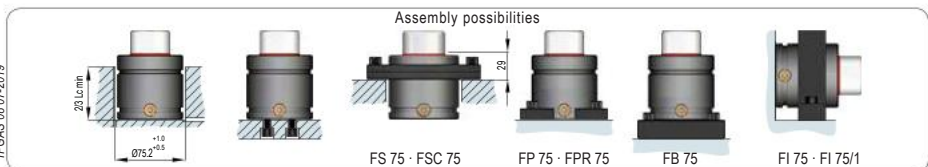
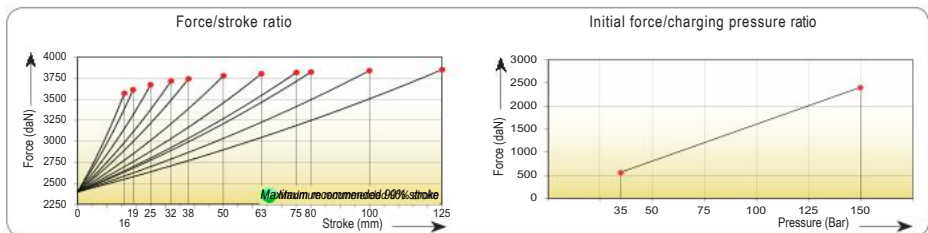
MICRO 75.1



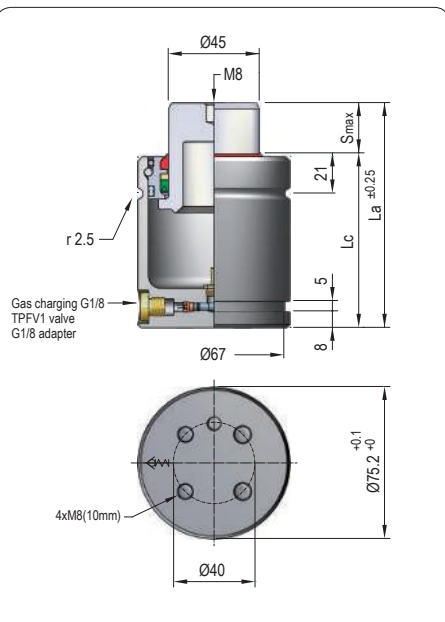
i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M75.1



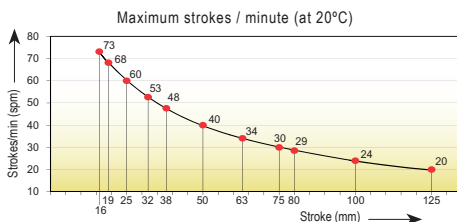
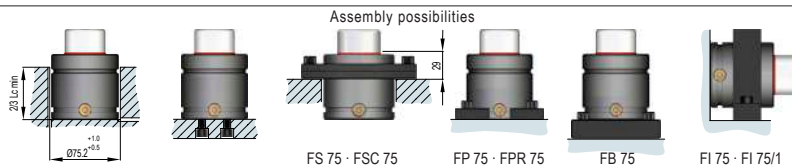
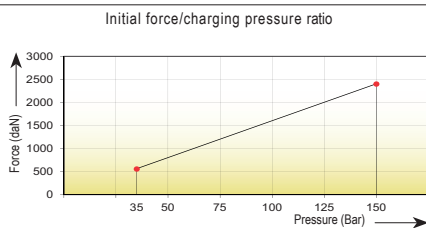
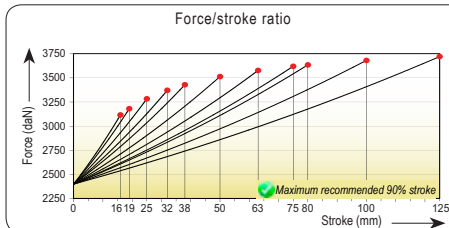
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 75x16.1	16	77	61	2400 ±5% (20°C)	3385	3550	150 (20°C)	0,078	1,40
MICRO 75x19.1	19	83	64		3420	3595		0,090	1,43
MICRO 75x25.1	25	95	70		3470	3650		0,115	1,45
MICRO 75x32.1	32	109	77		3505	3695		0,144	1,65
MICRO 75x38.1	38	121	83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

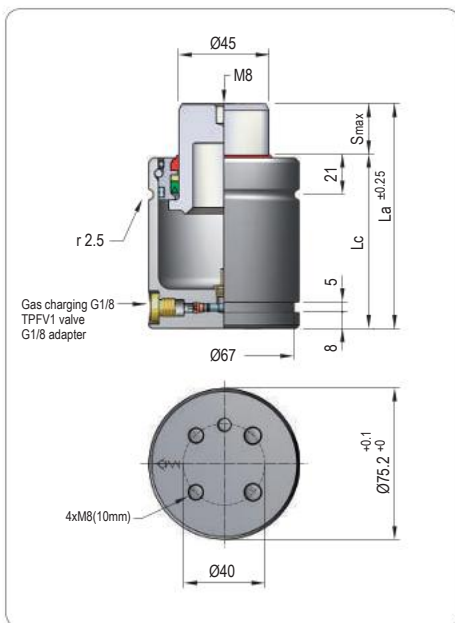


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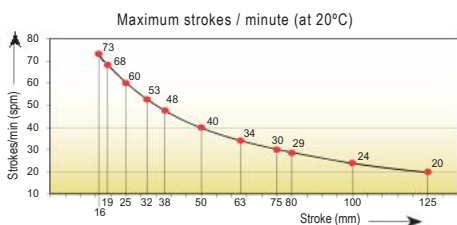


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M75CS

[illegible]

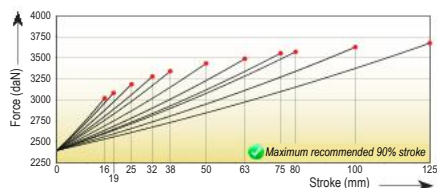
**TECAPRES®**Ø75mm · G1/8 connectable
2400daN**MICRO 75CF**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M75CF

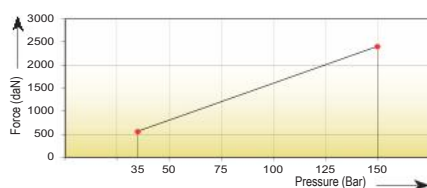
PED
2014/68/EU

Code	S _{max} mm	L _a mm	L _c mm	Fa daN	F daN	Fc daN	P Bar	V	Kg
MICRO 75CFx16	16	91	75	2400 ±5% (20°C)	2925	3000	150 (20°C)	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



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MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

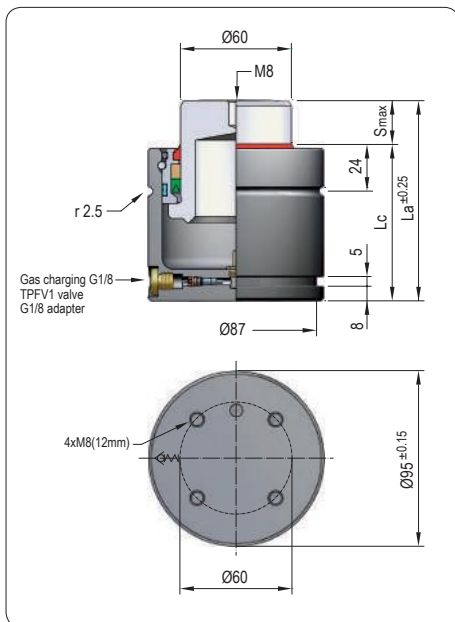
TPSL

TPSL

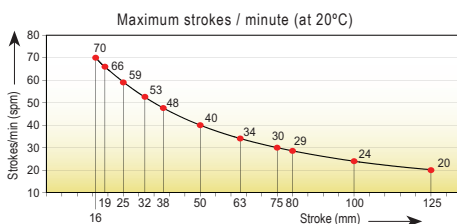
TPSL

TPSL

TPSL

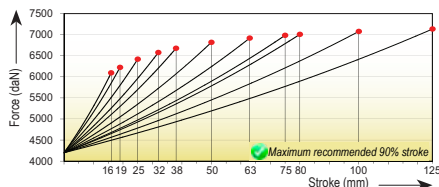
**TECAPRES®**Ø95mm
4200daN**MICRO 95****i**
MICRO

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M95

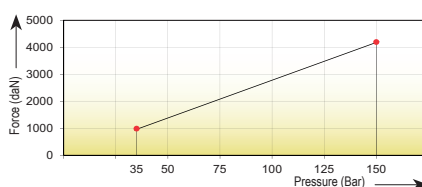


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 95x16	16	90	74	4200 ±5% (20°C)	5890	6155	150 (20°C)	0,146	2,80
MICRO 95x19	19	96	77		6000	6285		0,165	2,90
MICRO 95x25	25	108	83		6160	6485		0,204	3,10
MICRO 95x32	32	122	90		6285	6645		0,250	3,25
MICRO 95x38	38	134	96		6370	6745		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

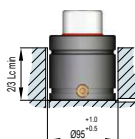
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 95 - FSC 95

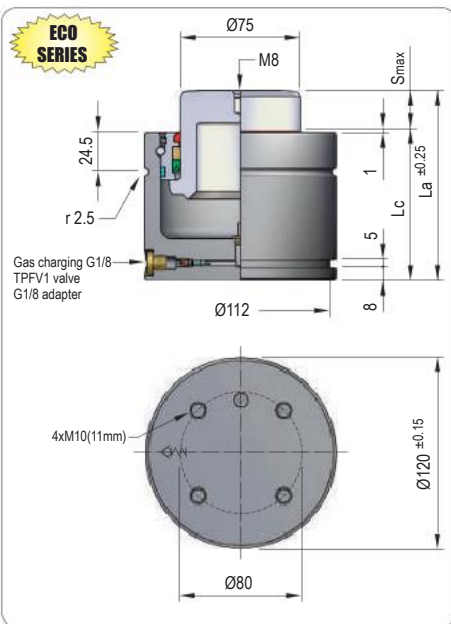
FP 95 - FPR 95

FB 95

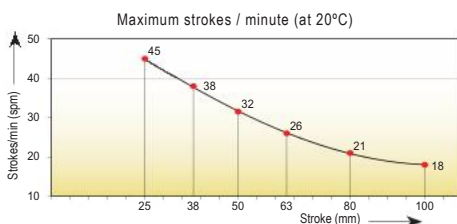
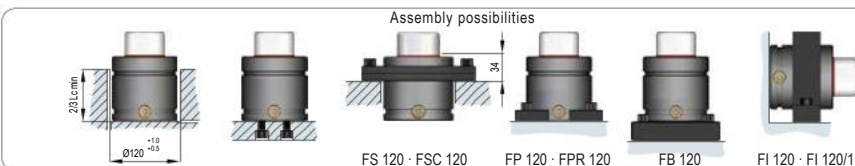
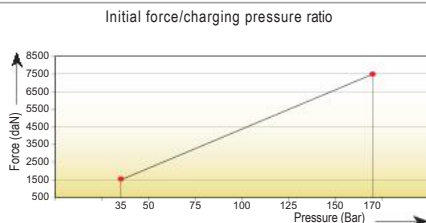
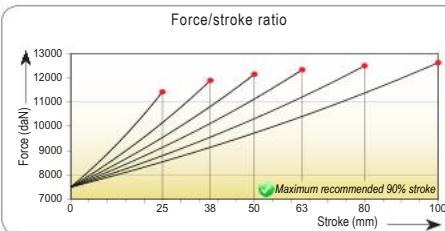
FI 95 - FI95/1

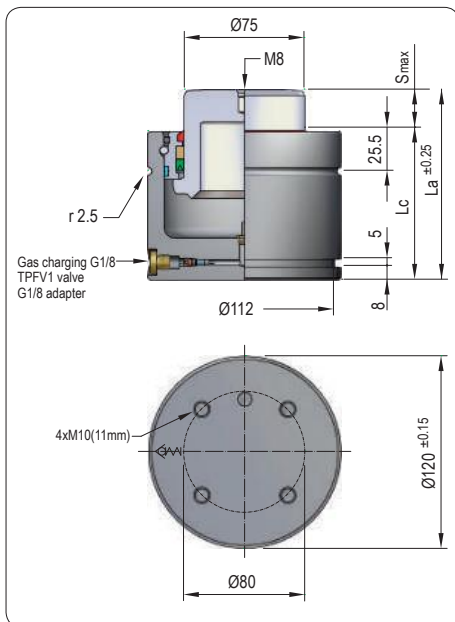
TFGAS 08.07.2019

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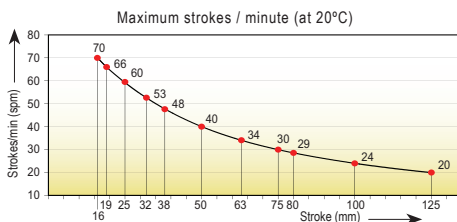


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	170 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit M120.1

[illegible]

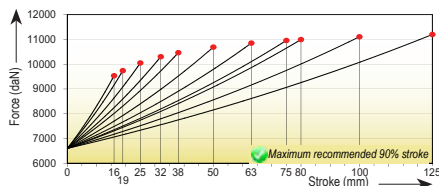
**TECAPRES®**Ø120mm
6600daN**MICRO 120V****i**
MICRO

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M120V

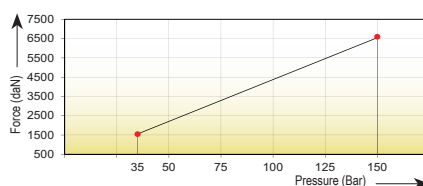


Code	S _{max} mm	La mm	Lc mm		F _a daN		F _{90%} daN		F _c daN		P Bar		V l		Kg
MICRO 120Vx16	16	100	84	6600 ±5% (20°C)			9165		9575		150 (20°C)		0,230		5,20
MICRO 120Vx19	19	106	87				9335		9780				0,260		5,35
MICRO 120Vx25	25	118	93				9590		10090				0,322		5,40
MICRO 120Vx32	32	132	100				9795		10345				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

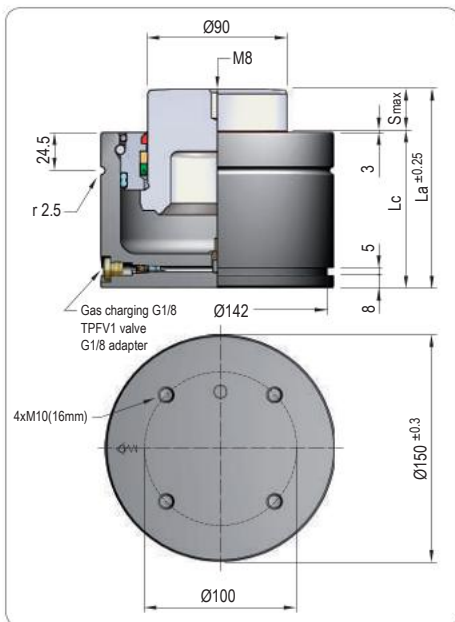


Assembly possibilities

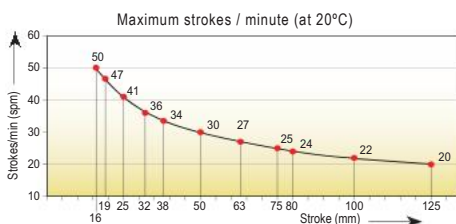


TPGAS 08.07.2019

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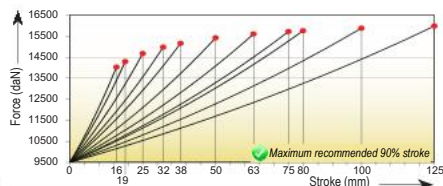
**TECAPRES®**Ø150mm
9500daN**MICRO 150**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	63,62 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M150

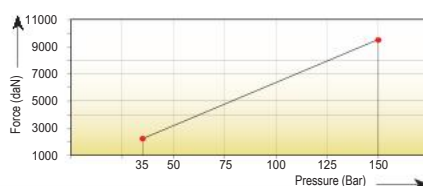


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
MICRO 150x16	16	110	94	9500 ±5% (20°C)	13455	14095	150 (20°C)	0,315	9,50
MICRO 150x19	19	116	97		13665	14355		0,361	9,60
MICRO 150x25	25	128	103		13980	14740		0,451	9,85
MICRO 150x32	32	142	110		14225	15045		0,557	10,50
MICRO 150x38	38	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



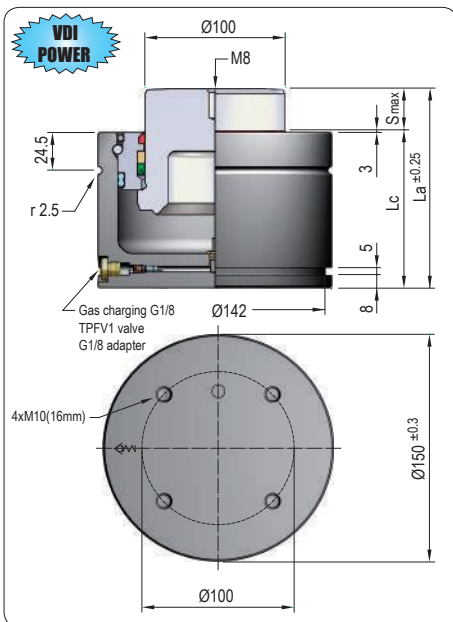
Initial force/charging pressure ratio



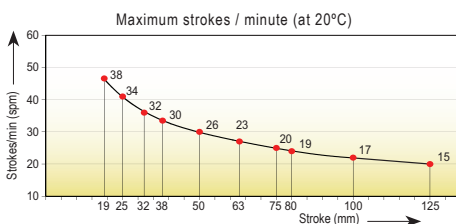
Assembly possibilities



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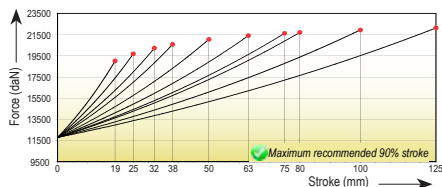
**TECAPRES®**Ø150mm
11800daN**MICRO 150H****i**
MICRO

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	78,54 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit M150H

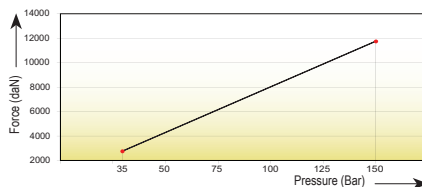


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
MICRO 150Hx19	19	116	97	11800 ±5% (20°C)			17895		18990		150 (20°C)		0,393		9,70
MICRO 150Hx25	25	128	103				18430		19660				0,490		9,95
MICRO 150Hx32	32	142	110				18860		20210				0,603		10,60
MICRO 150Hx38	38	154	116				19125		20550				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

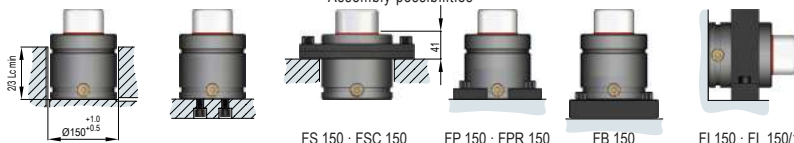
Force/stroke ratio



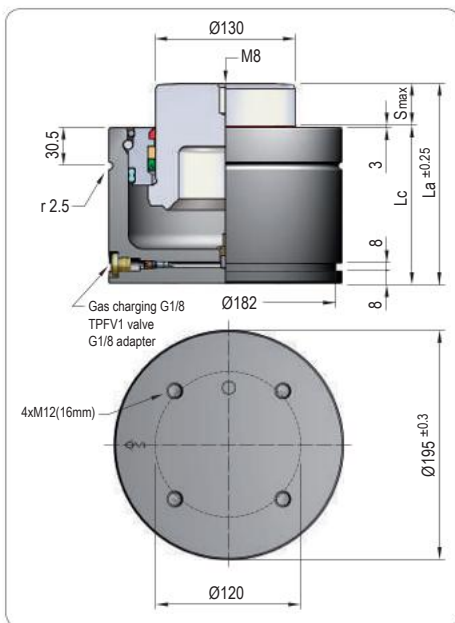
Initial force/charging pressure ratio



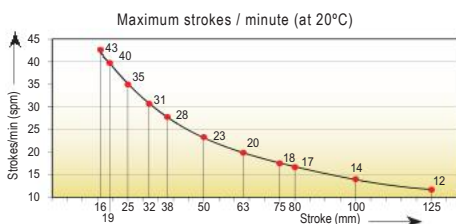
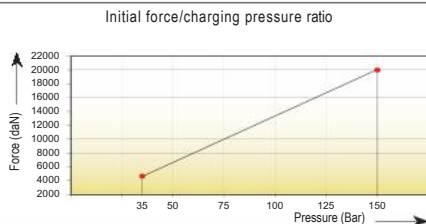
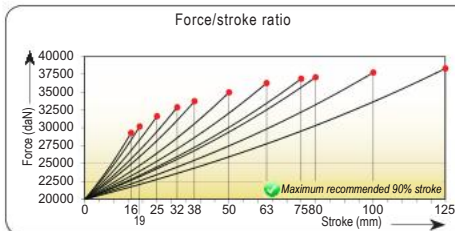
Assembly possibilities



TPGAS 08.07.2019



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	132,73 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1 m/s
Maintenance kit	Kit M195

[illegible]



TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

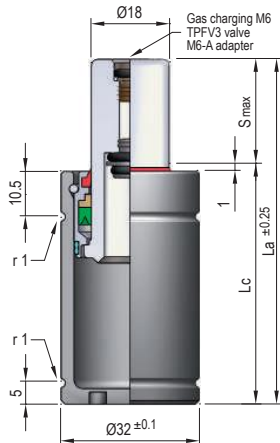
TPHT

TPSL



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 45	45	12 - 80	920	✓	✓			✓
TITAN 50	50	13 - 80	1200	✓	✓			✓
TITAN 63	63	13 - 80	2100	✓	✓			✓
TITAN 75	75	12 - 80	3000	✓	✓			✓



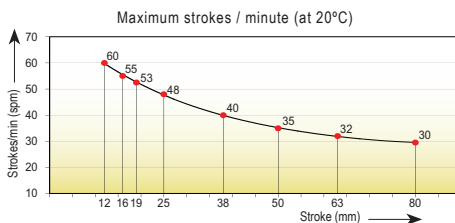
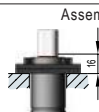
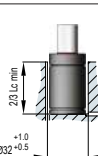
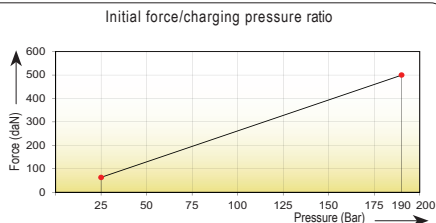
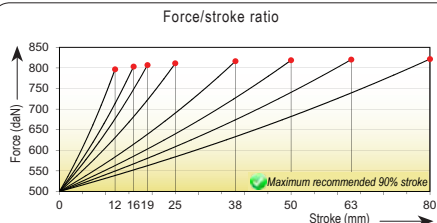
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	190 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit T32



VDI SAFETY



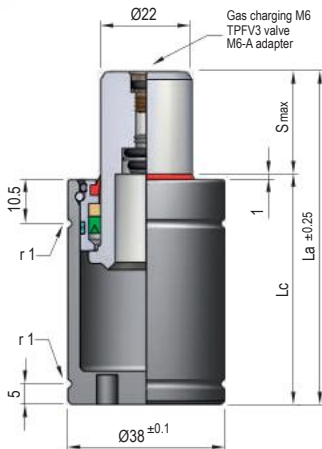
RE-18-32

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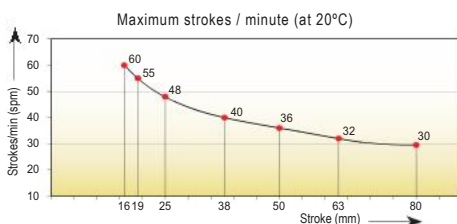
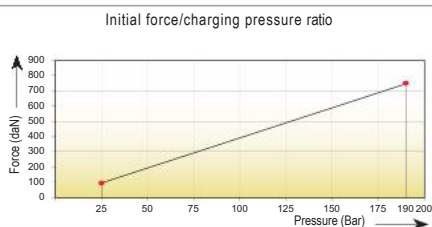
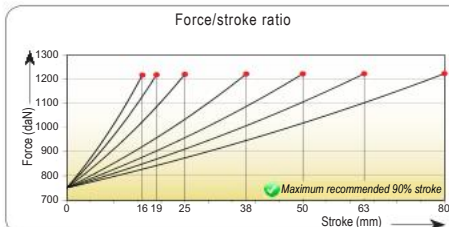
FS 32 · FS 32/1 · FSC 32

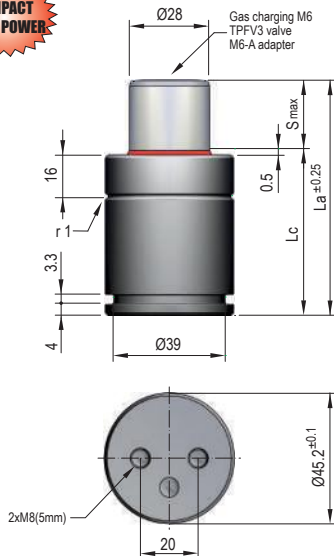
FS 32 · FS 32/1 · FSC 32

FI 32 -FI 32/1



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

[illegible]



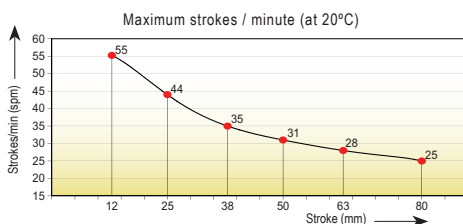
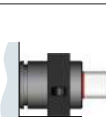
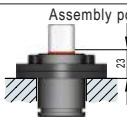
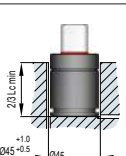
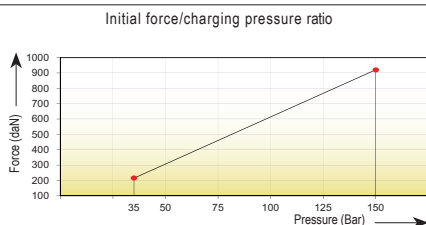
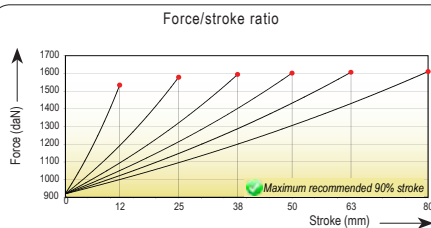
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit T45



VDI SAFETY



RF-28-38

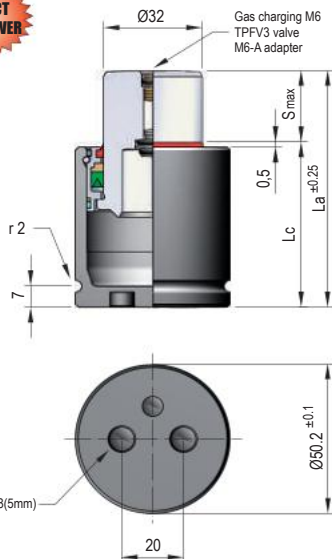
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FS 45 · FSC 45

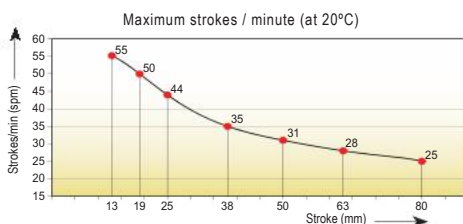
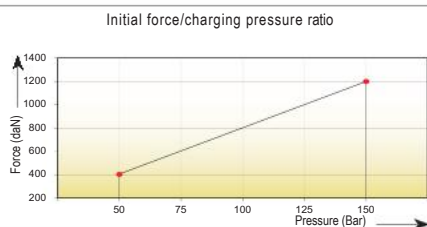
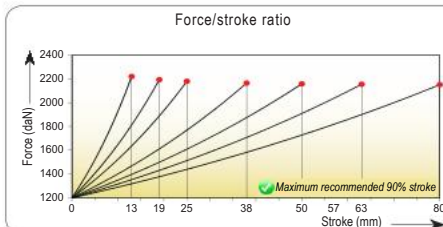
FP 45 · FPR 45

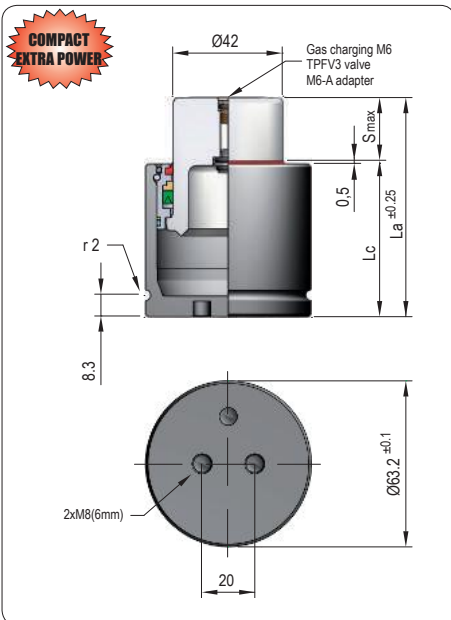
FB 45

FI 45 · FI 45/1



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	8,04 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit T50

[illegible]



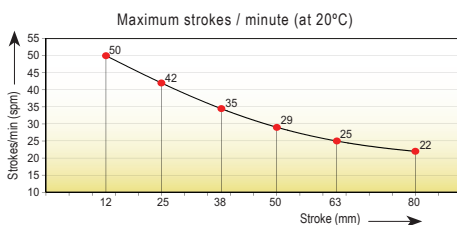
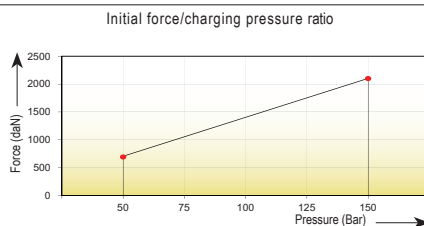
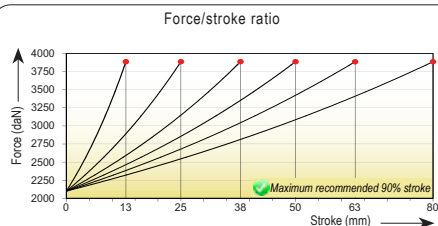
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	13,85 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit T63

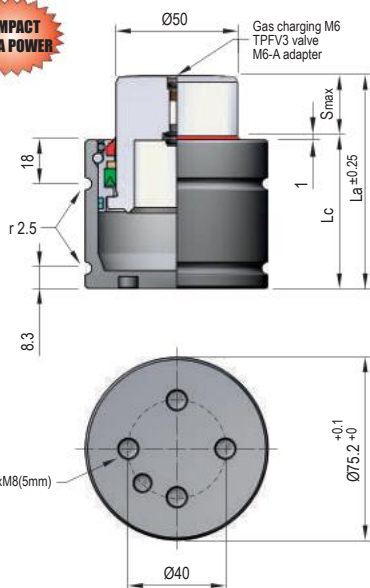


VDI SAFETY

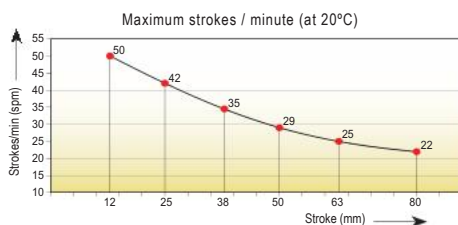
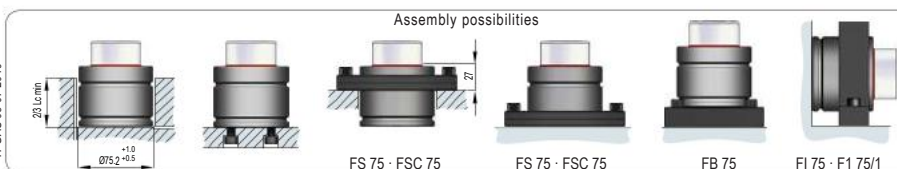
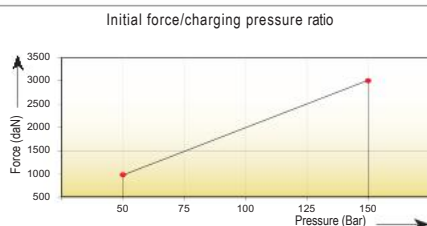
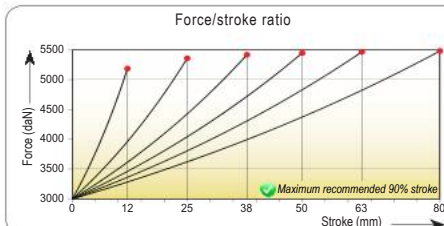


RE-42-55

[illegible]



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	19,63 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit T75

[illegible]



**EXTRA
POWER**

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

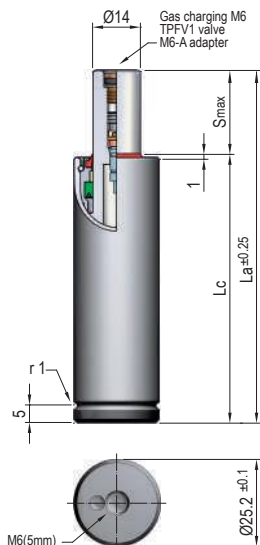
TPHT

TPSL



Maximum force gas springs. Gas-tight rod

Code	ØBody mm	Strokes mm	 Fa daN		 ACTIVE SAFETY	
TPH 300	25	10 - 80	300	✓	✓	
TPH 470	32	13 - 50	470	✓	✓	
TPH 500	32	10 - 80	500	✓	✓	
TPH 570	32	13 - 50	570	✓	✓	
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		✓	✓



i

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

190 Bar

Min. charging pressure

50 Bar

Rod seal area

1,54 cm²

Operating temperature

°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1.2 m/s

Maintenance kit

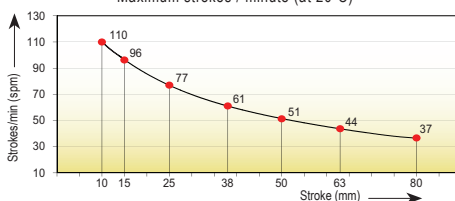
Kit M25.1



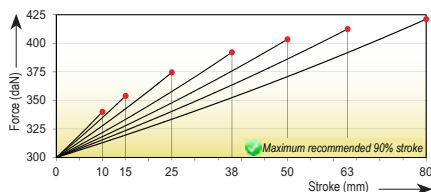
VDI SAFETY



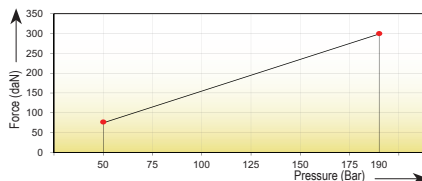
Maximum strokes / minute (at 20°C)

[illegible]

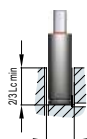
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



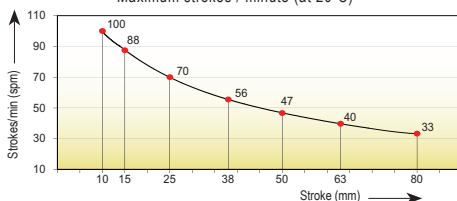
FS 25/1

**TECAPRES®**Ø32mm
500daN**TPH 500****EXTRA
POWER**

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

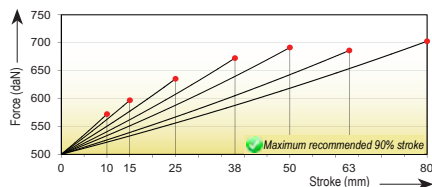
**VDI SAFETY**

Maximum strokes / minute (at 20°C)

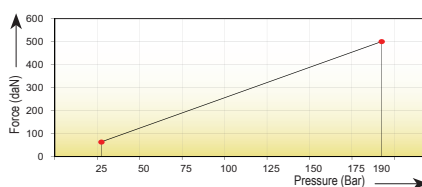


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPH 500x10	10	75	65	500 ±5% (20°C)			565		570		190 (20°C)		0,020		0,18
TPH 500x15	15	85	70				585		595				0,024		0,20
TPH 500x25	25	105	80				615		635				0,030		0,25
TPH 500x38	38	130	92				650		670				0,038		0,28
TPH 500x38B	38	135	97				635		655				0,040		0,30
TPH 500x50	50	155	105				665		690				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

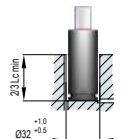
Force/stroke ratio



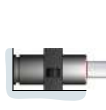
Initial force/charging pressure ratio



Assembly possibilities



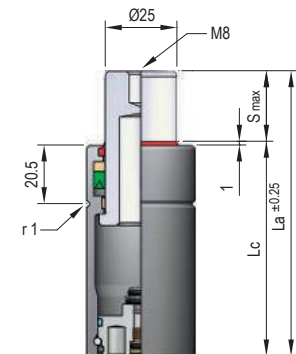
FP 32 · FP 32R



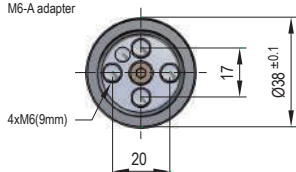
FI 32 · FI 32/1

TPCAS 08 07-2019

Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com



Gas charging M6
TPFV3 valve
M6-A adapter



- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

4.91 cm²

Operating tem

0°C - 80°C

Force increase by temp

0.33 %/°C

Max stem speed

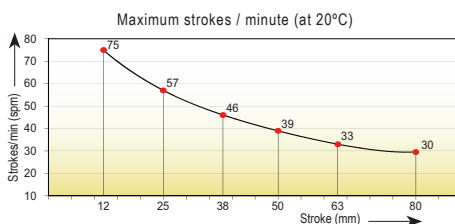
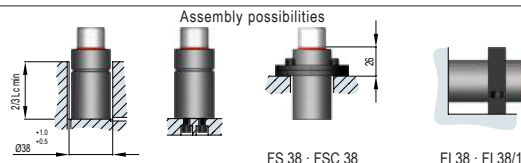
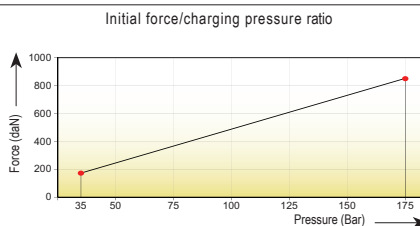
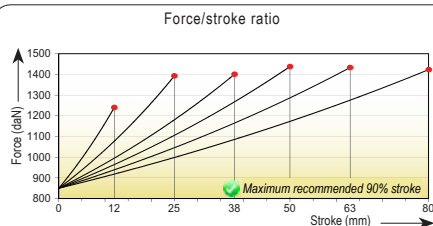
25 m/min

Maintenance kit

Kit H850



VDI SAFETY

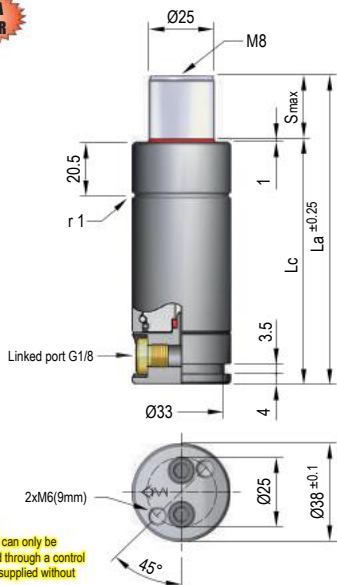
[illegible]



TECAPRES®

Ø38mm · G1/8 connectable
850daN

TPH 850C



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

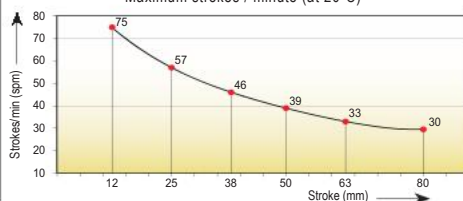
i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit HC850

PED
2014/68/EU

VDI SAFETY

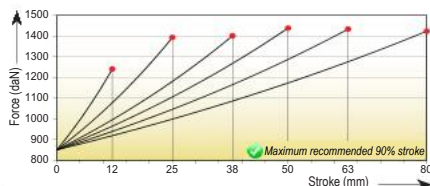


Maximum strokes / minute (at 20°C)

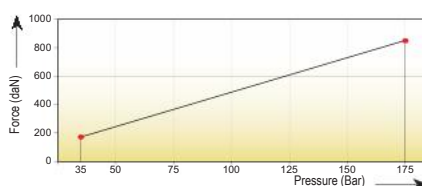


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPH 850x12C	12	94	82	850 ±5% (20°C)			1200		1255		175 (20°C)		0,019		0,60
TPH 850x25C	25	120	95				1325		1405				0,031		0,65
TPH 850x38C	38	150	112				1330		1415				0,047		0,72
TPH 850x50C	50	175	125				1360		1455				0,060		0,84
TPH 850x63C	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



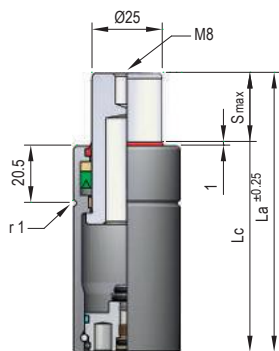
Assembly possibilities



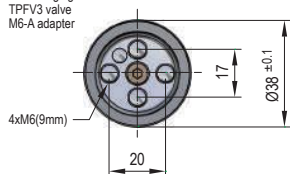
Connection alternatives



Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com



Gas charging
TPFV3 valve
M6-A adapter



- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

190 Bar

Min. charging pressure

35 Bar

Rod seal area

4,91 cm²

Operating temperature

°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

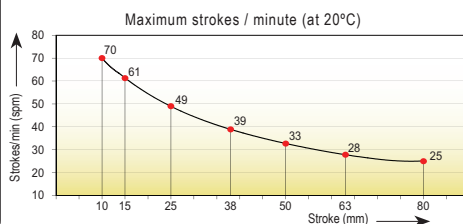
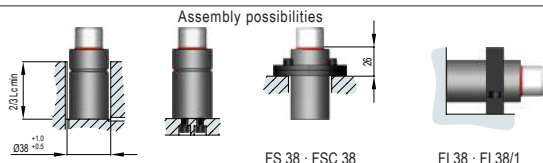
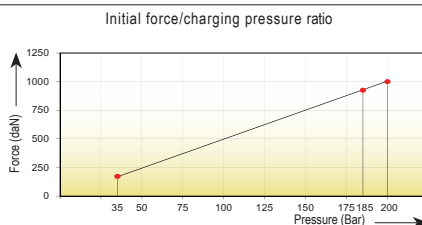
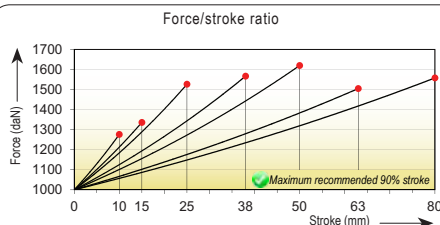
25 m/min

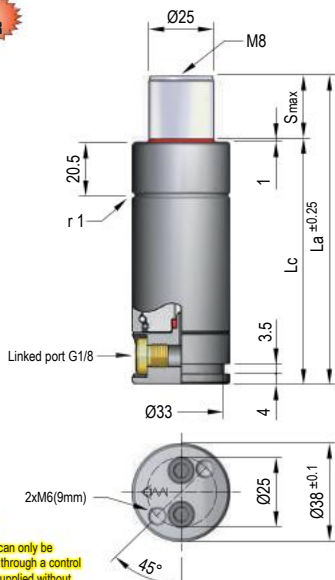
Maintenance kit

Kit H1000



VDI SAFETY

[illegible]



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

- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

190 Bar

Min. charging pressure

35 Bar

Rod seal area

4,91 cm²

Operating temperature

°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

25 m/min

Maintenance ki

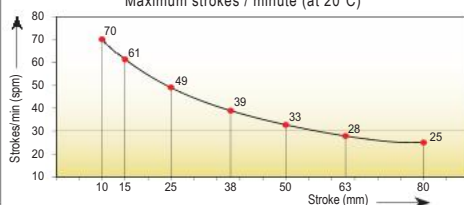
t HC1000



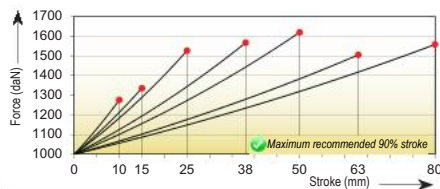
2014/68/UE



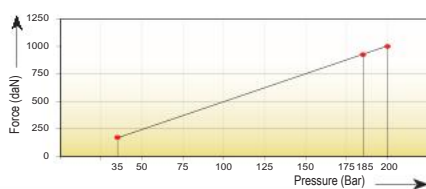
Maximum strokes / minute (at 20°C)

[illegible]

Force/stroke ratio



Initial force/charging pressure ratio

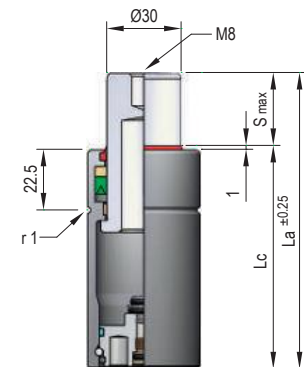


Assembly possibilities

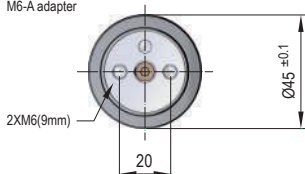


Connection alternatives





Gas charging M
TPFV3 valve
M6-A adapter



- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

7,07 cm²

Operating tem

°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

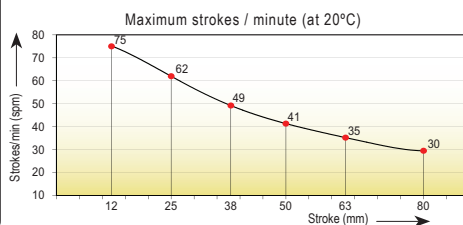
25 m/min

Maintenance kit

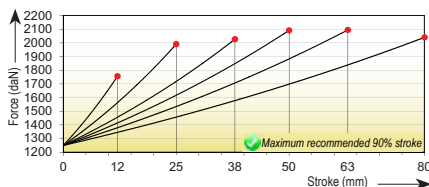
Kit H1250



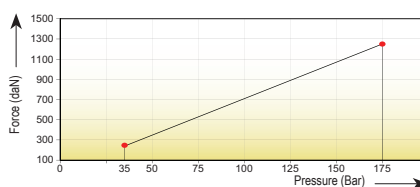
VDI SAFETY

[illegible]

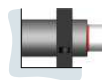
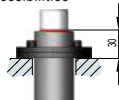
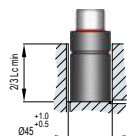
Force/stroke ratio



Initial force/charging pressure ratio

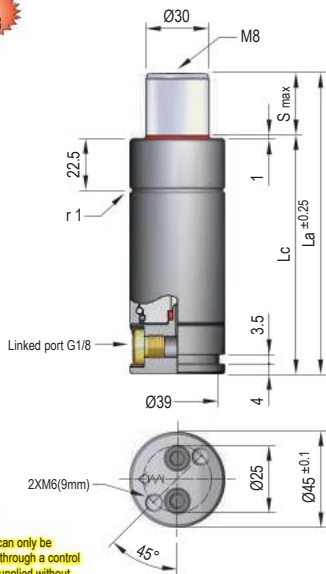


Assembly possibilities



FS 45 · FSC 45

FI 45 · FI 45/1



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

- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

7,07 cm²

Operating temperature

°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

25 m/min

Maintenance kit

t HC1250

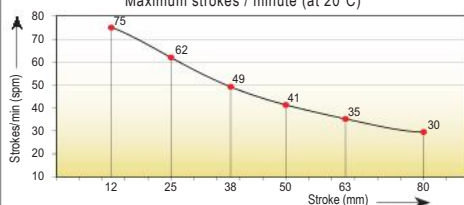
PED

2014/68/UE

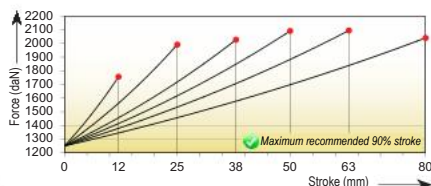
VDI SAFETY



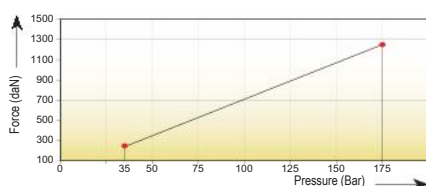
Maximum strokes / minute (at 20°C)

[illegible]

Force/stroke ratio



Initial force/charging pressure ratio

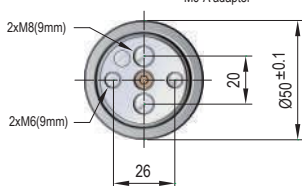
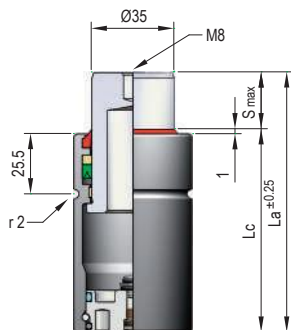


Assembly possibilities



Connection alternatives





- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

9,62 cm²

Operating temperature

1°C - 80°C

Force increase by temperature

0,33 %/°C

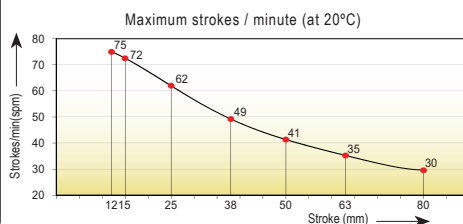
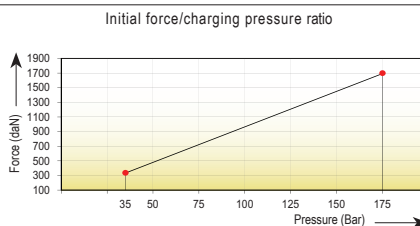
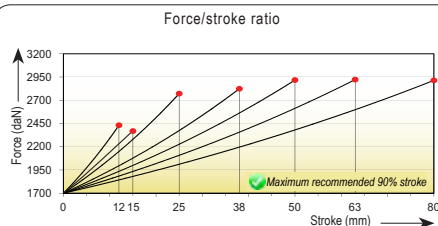
Max. stem speed

25 m/min

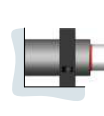
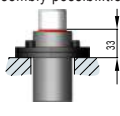
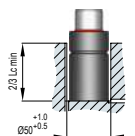
Maintenance kit

Kit H1700

VDI SAFETY

[illegible]

Assembly possibilities



FS 50 · FSC 50

FB 45 · FB 50

FI 50 · FI 50/1

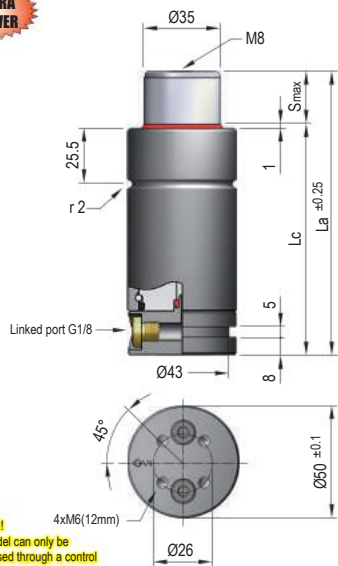


TECAPRES®

Ø50mm · G1/8 connectable
1700daN

TPH 1700 C

**EXTRA
POWER**



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

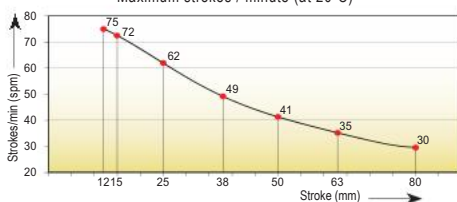
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	9,62 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit HC1700

PED
2014/68/UE

VDI SAFETY



Maximum strokes / minute (at 20°C)



TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

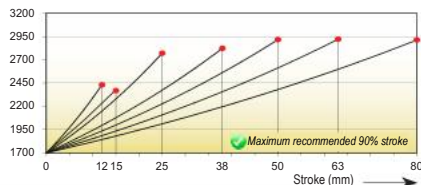
TPSL

TPSL

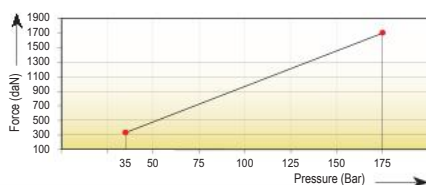
TPSL

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% (20°C)	2310	2410	175 (20°C)	0,039	1,12
TPH 1700x15C	15	115	100		2255	2345		0,051	1,16
TPH 1700x25C	25	130	105		2580	2745		0,062	1,21
TPH 1700x25BC	25	135	110		2445	2575		0,069	1,30
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

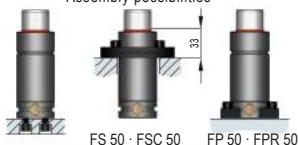
Force/stroke ratio



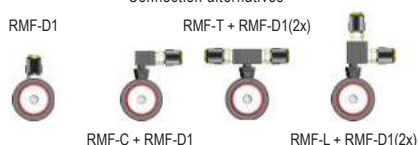
Initial force/charging pressure ratio



Assembly possibilities



Connection alternatives



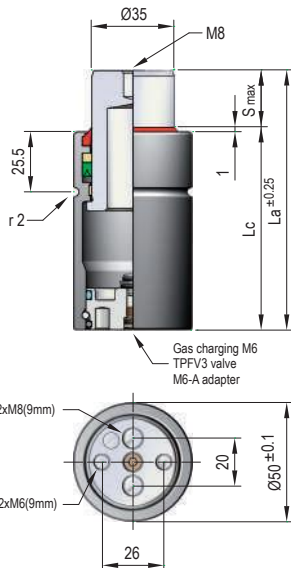
Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com



MICRO

TITAN

TPH



- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

195 Bar

Min. charging pressure

35 Bar

Rod seal area

9,62 cm²

Operating tem

°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

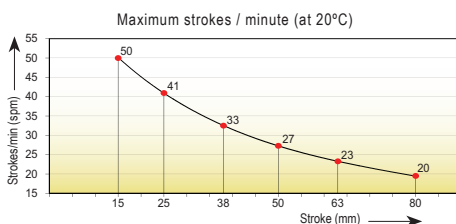
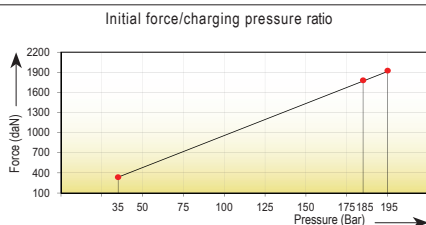
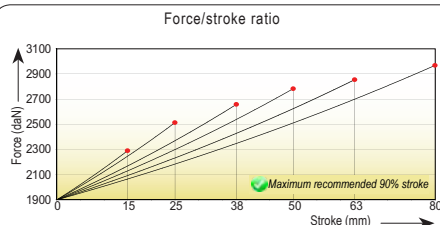
25 m/min

Maintenance kit

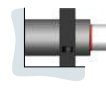
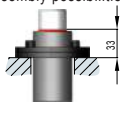
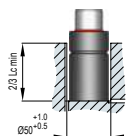
Kit H2000



VDI SAFETY

[illegible]

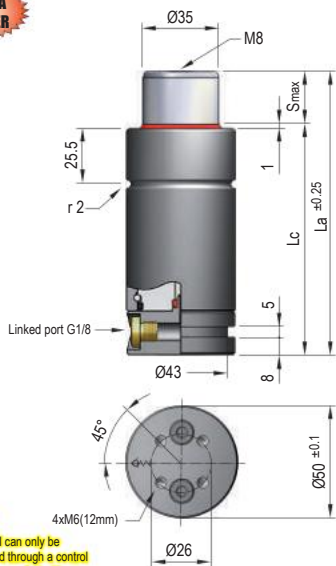
Assembly possibilities



FS 50 · FSC 50

FB 45 · FB 50

FI 50 · FI 50/1



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

- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

195 Bar

Min. charging pressure

35 Bar

Rod seal area

9,62 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

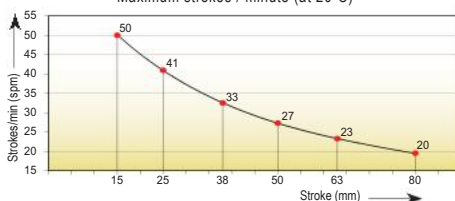
25 m/min

Maintenance ki

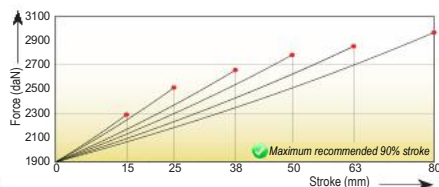
Kit HC2000



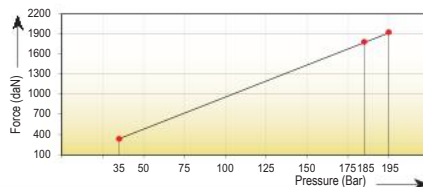
Maximum strokes / minute (at 20°C)

[illegible]

Force/stroke ratio



Initial force/charging pressure ratio

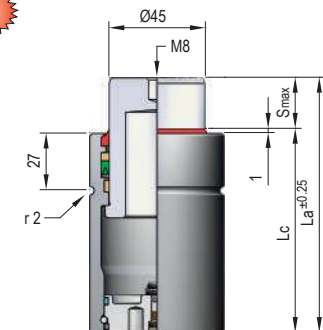


Assembly possibilities

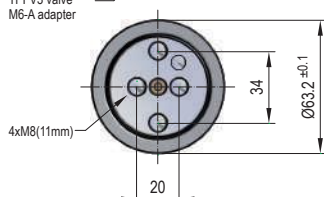


Connection alternatives





Gas charging
TPFV3 valve
M6-A adapter



- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

15,90 cm²

Operating tem

0°C - 80°C

Force increase by temperature

0,33 %/°C

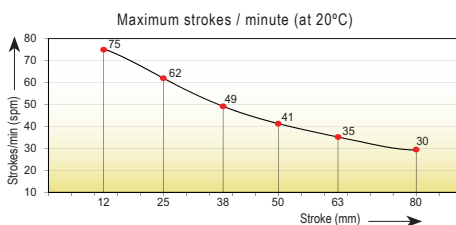
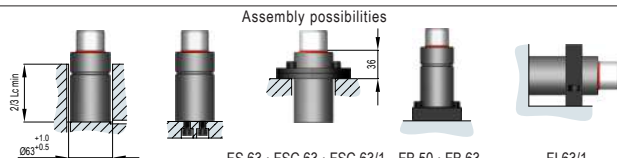
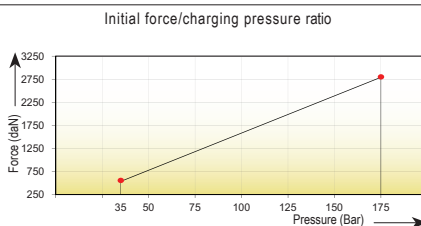
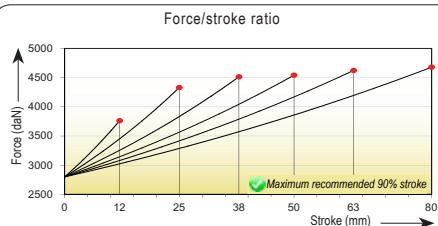
Max. stem speed

25 m/min

Maintenance kit

Kit H2800

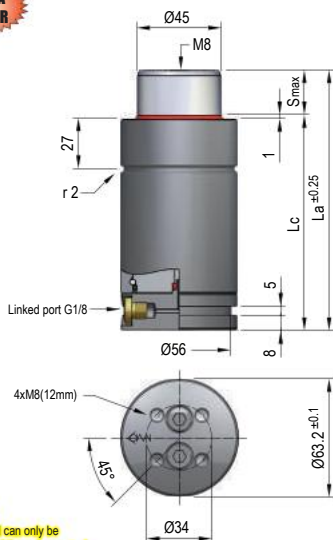
VDI SAFETY

[illegible]

FS 63 · FSC 63 · FSC 63/1 FB 50 · FB 63

FI 63/1

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

- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

15,90 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

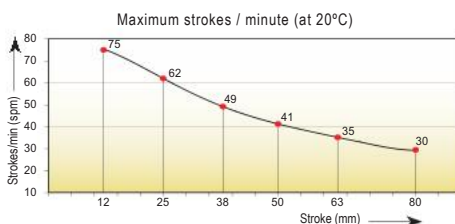
0,33 %/°C

Max. stem speed

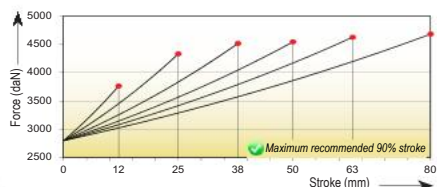
25 m/min

Maintenance kit

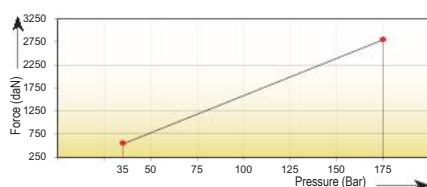
Kit HC2800

[illegible]

Force/stroke ratio



Initial force/charging pressure ratio

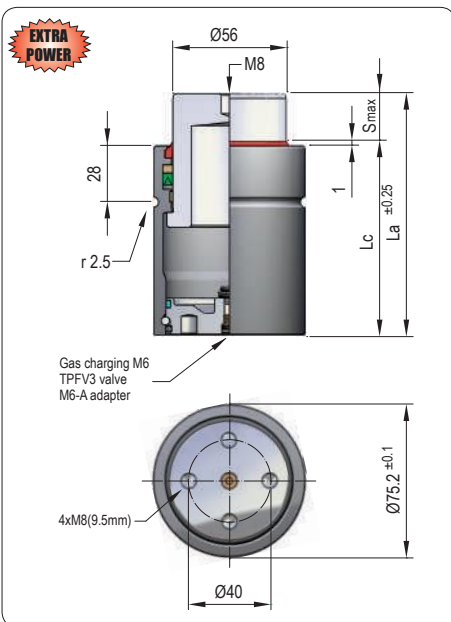


Assembly possibilities



Connection alternatives

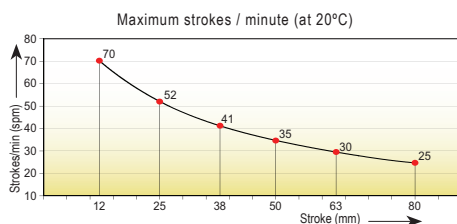
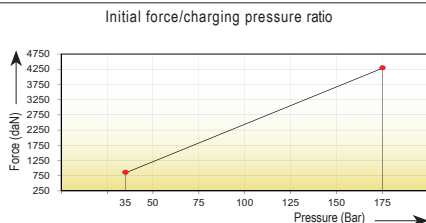
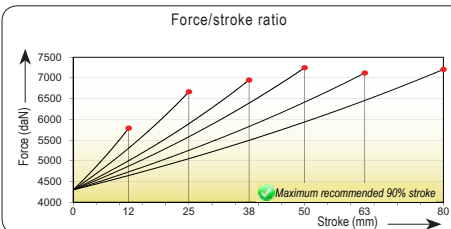


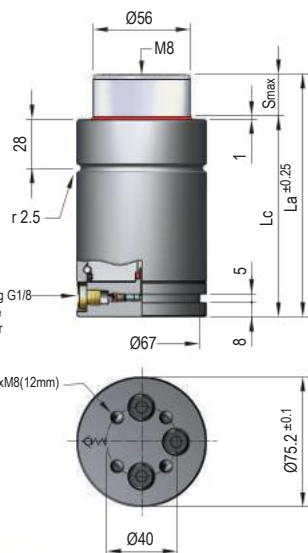


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	24,63 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit H4300



VDI SAFETY

[illegible]



Attention!
This model is designed to work in a hose system.

- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

35 Bar

Rod seal area

24,63 cm²

Operating temperature

1°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

25 m/min

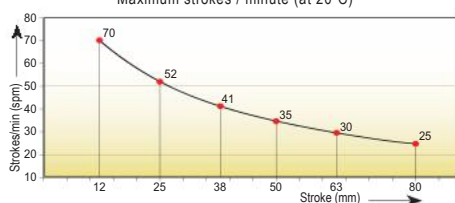
Maintenance kit

HC4300

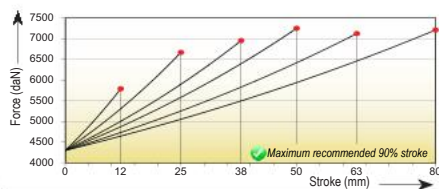
Maintenance kit	Kit HC4300
-----------------	-------------------



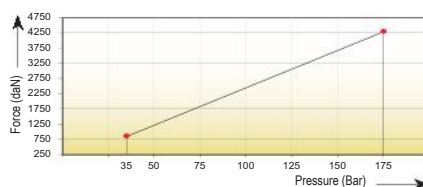
Maximum strokes / minute (at 20°C)

[illegible]

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



Connection alternatives





PED
2014/68/UE



TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL



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	✓	✓	✓		✓

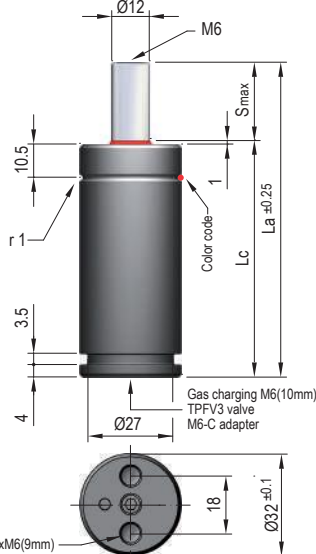


TECAPRES®

Ø32mm
200daN

TPS 32.1

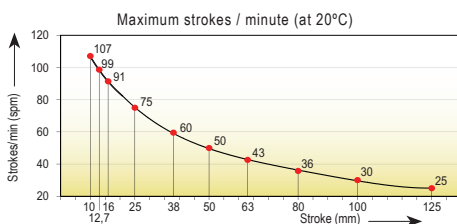
i
MICRO
TITAN
TPH
TPS



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S32.1



VDI SAFETY



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

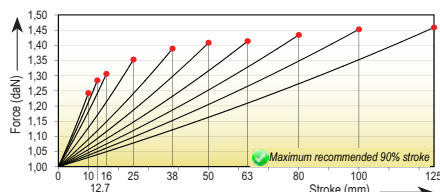
RD

Model

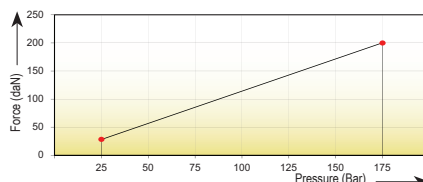
Stroke

Color code

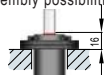
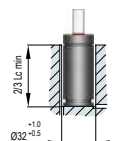
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

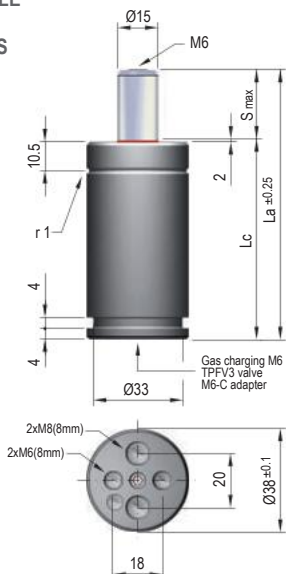


FS 32 · FS 32/1 · FSC 32

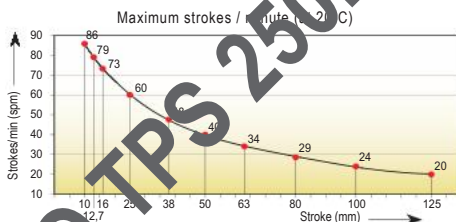
FP 32 · FPR 32

FI 32 · FI 32/1

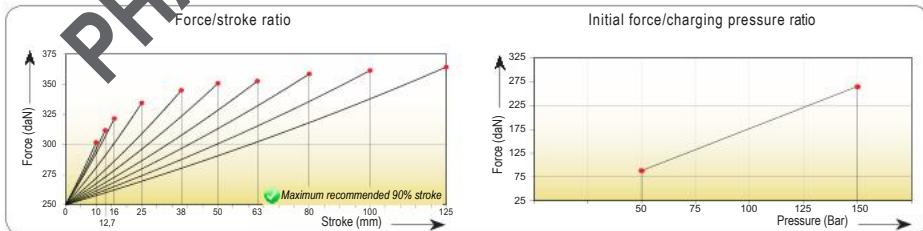
TPGAS 08.07.2019

**TECAPRES®**Ø38mm
250daN**TPS 250****AVAILABLE
WHILE
STOCKS
LAST**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	1,77 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1 m/s
Maintenance kit	Kit S250



Code	Smax mm	La mm	Lc mm	F daN	Fc daN	P Bar	V l	Kg
TPS 250x10	10	70	60	295	300		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	142 (20°C)	0,025	0,59
TPS 250x50	50	150	100	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	250	150	345	360		0,058	0,96
TPS 250x125	125	300	175	350	365		0,071	1,05



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TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

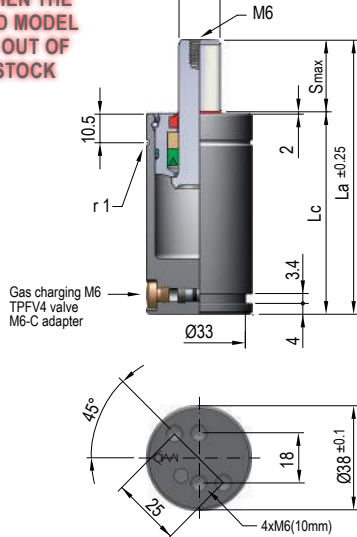
**TECAPRES®**Ø38mm
250daN**TPS 250.1****i**

MICRO

TITAN

TPH

TPS

**AVAILABLE
WHEN THE
OLD MODEL
IS OUT OF
STOCK****i**

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

150 Bar

Min. charging pressure

50 Bar

Rod seal area

1,77 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

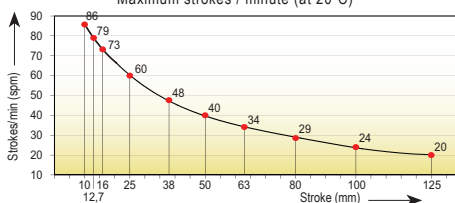
Max. stem speed

1,6 m/s

Maintenance kit

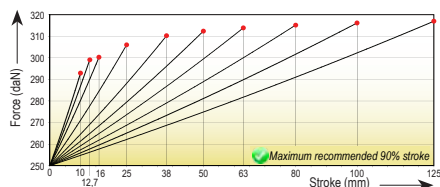
Kit S250.1**VDI SAFETY**

Maximum strokes / minute (at 20°C)

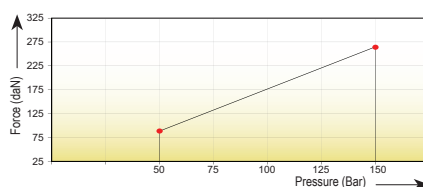


Code	Smax mm	La mm	Lc mm	Fa daN	F daN	Fc daN	P Bar	V l	Kg
TPS 250x10.1	10	70	60	250 ±5% (20°C)	290	295	142 (20°C)	0,012	0,43
TPS 250x12.7	12,7	75,4	62,7		295	300		0,014	0,44
TPS 250x16.1	16	82	66		295	300		0,017	0,46
TPS 250x25.1	25	100	75		300	305		0,024	0,51
TPS 250x38.1	38	126	88		305	310		0,035	0,59
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

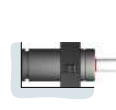
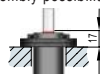
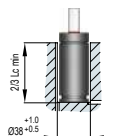
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 38 · FSC 38

FP 38 · FPR 38

FI 38 · FI 38/1

TPGAS 08.07.2019

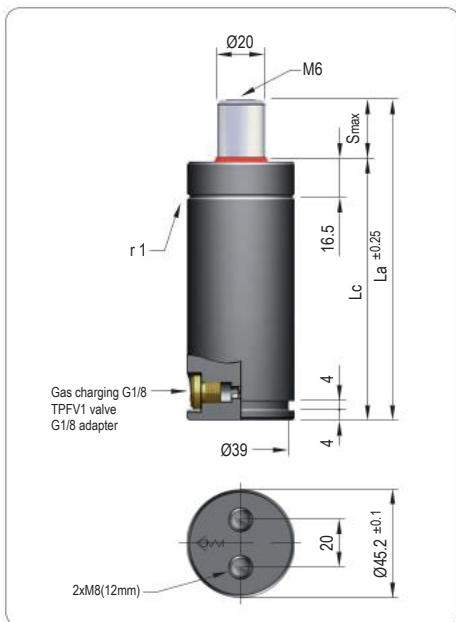
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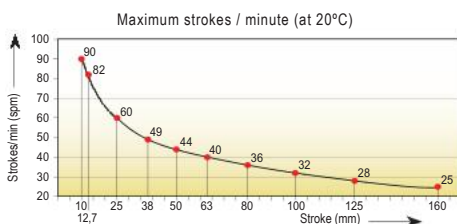
TECAPRES®

Ø45mm
470daN

TPS 500.2



i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S500.2



TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

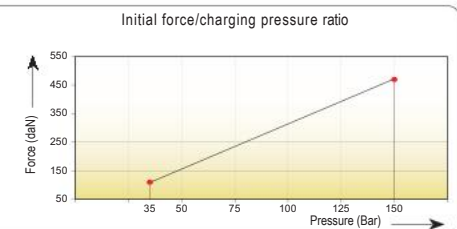
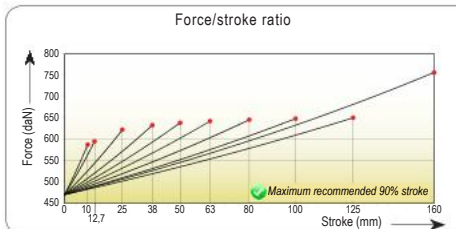
FORMING

TPHT

TPSL



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% (20°C)		575	590	150 (20°C)	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



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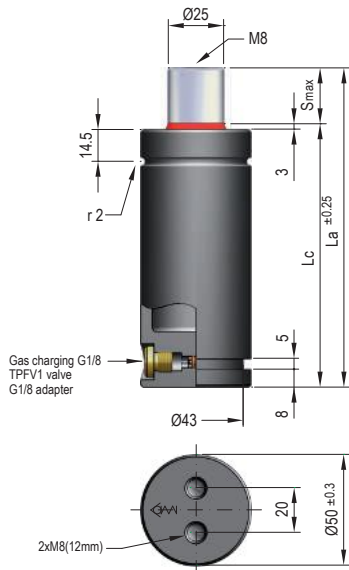


TECAPRES®

Ø50mm
740daN

TPS 750

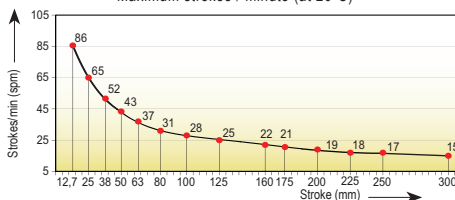
i
MICRO
TITAN
TPH
TPS



i 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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S750

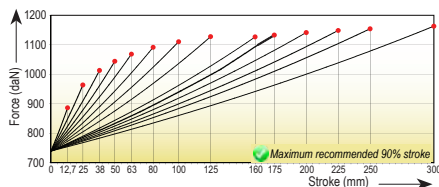


Maximum strokes / minute (at 20°C)

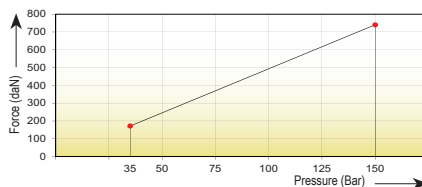


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPS 750x13	12,7	120,4	107,7	740 ±5% (20°C)			865		880		150 (20°C)		0,037		1,20
TPS 750x25	25	145	120				930		960				0,053		1,35
TPS 750x38	38	171	133				975		1010				0,069		1,40
TPS 750x50	50	195	145				1000		1040				0,084		1,52
TPS 750x63	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



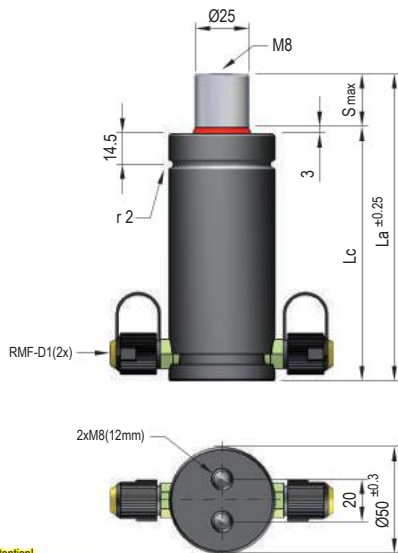
Initial force/charging pressure ratio



Assembly possibilities

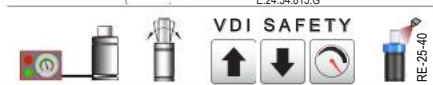


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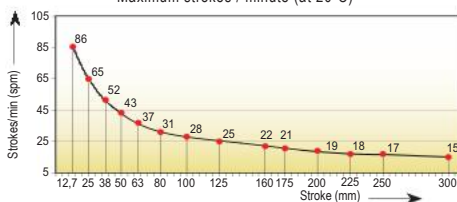
**TECAPRES®**Ø50mm
740daN**TPSC 750**

Attention!
This model is designed to
work in a hose system.

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC750

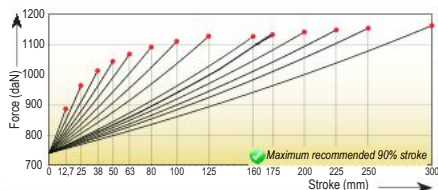
PED
2014/68/UECNOMO
E 24.54.815.G

Maximum strokes / minute (at 20°C)

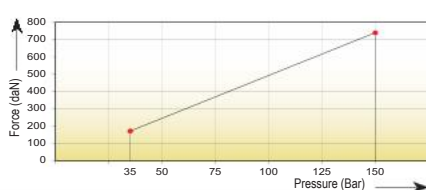


Code	Smax mm	La mm	Lc mm		Fa daN	90% F daN	100% Fc daN		P Bar	V l		Kg
TPSC 750x13	12,7	120,4	107,7	740 ±5% (20°C)	865	865	880	150 (20°C)		0,037	1,20	
TPSC 750x25	25	145	120			930	960			0,053		
TPSC 750x38	38	171	133			975	1010			0,069		
TPSC 750x50	50	195	145			1000	1040			0,084		
TPSC 750x63	63	222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

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FP 50 · FPR 50



FB 45 · FB 50



FS 50 · FSC 50

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TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL



**TECAPRES®****Ø75mm
1500daN****TPS 1500.1**

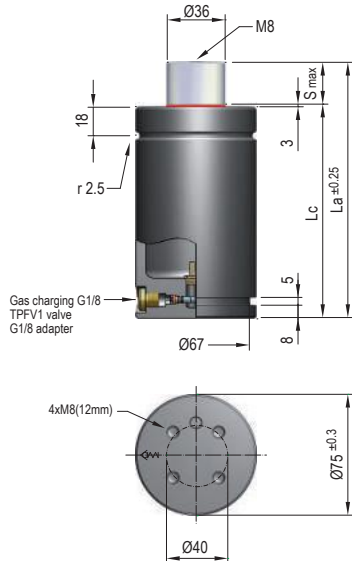
i

MICRO

TITAN

TPH

TPS

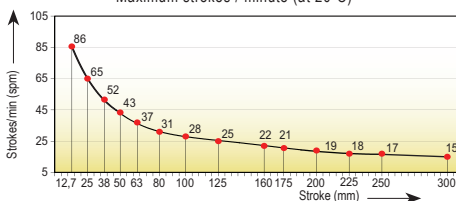


Gas charging G1/8
TPFV1 valve
G1/8 adapter

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S1500.1

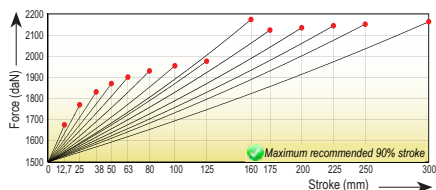


Maximum strokes / minute (at 20°C)

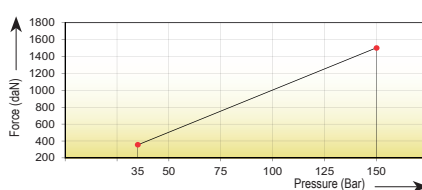


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 1500x13.1	12,7	135,4	122,7	1500 ±5% (20°C)	1665	1685	148 (20°C)	0,123	3,15
TPS 1500x25.1	25	160	135		1745	1780		0,167	3,30
TPS 1500x38.1	38	186	148		1800	1840		0,214	3,50
TPS 1500x50.1	50	210	160		1835	1880		0,257	3,65
TPS 1500x63.1	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

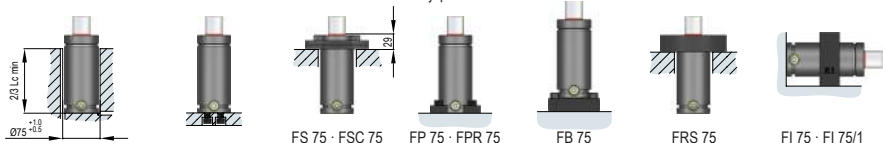
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 75 · FSC 75

FP 75 · FPR 75

FB 75

FRS 75

FI 75 · FI 75/1

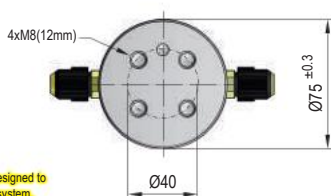
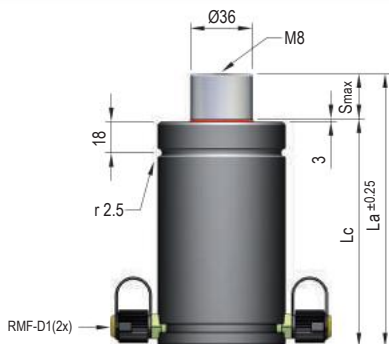
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TECAPRES®

Ø75mm
1500daN

TPSC 1500.1

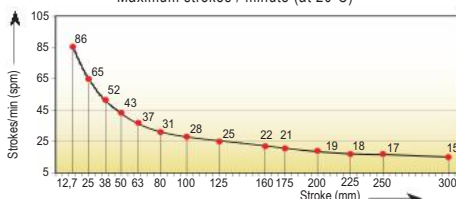


Attention!
This model is designed to work in a hose system.

i 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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC1500.1

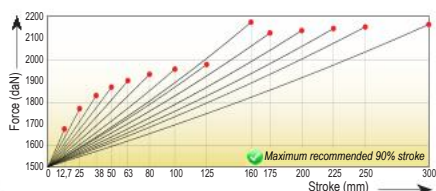


Maximum strokes / minute (at 20°C)

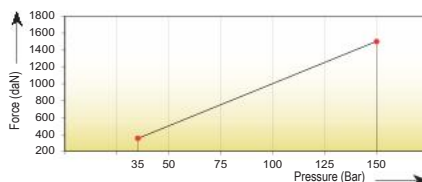


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSC 1500x13.1	12,7	135,4	122,7	1500 ±5% (20°C)	1665	1685	148 (20°C)	0,123	3,15
TPSC 1500x25.1	25	160	135		1745	1780		0,167	3,30
TPSC 1500x38.1	38	186	148		1800	1840		0,214	3,50
TPSC 1500x50.1	50	210	160		1835	1880		0,257	3,65
TPSC 1500x63.1	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



FP 75 · FPR 75



FB 75



FS 75 · FSC 75

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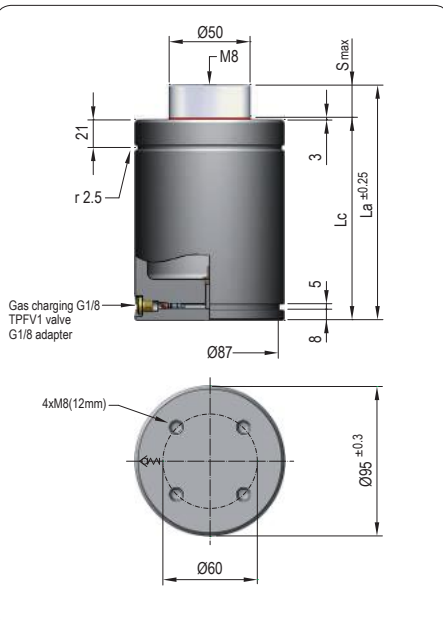


TECAPRES®

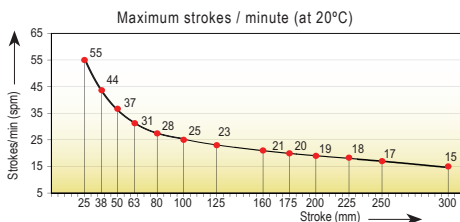
Ø95mm
3000daN

TPS 3000

i
MICRO
TITAN
TPH
TPS

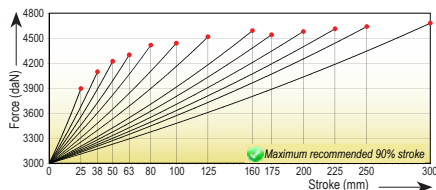


i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S3000

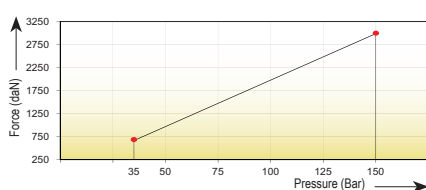


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPS 3000x25	25	170	145	3000 ±5% (20°C)			3790		3900		150 (20°C)		0,213		5,75
TPS 3000x38	38	196	158				3960		4105				0,279		6,15
TPS 3000x50	50	220	170				4065		4230				0,339		6,53
TPS 3000x63	63	247	184				4045		4220				0,409		6,91
TPS 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



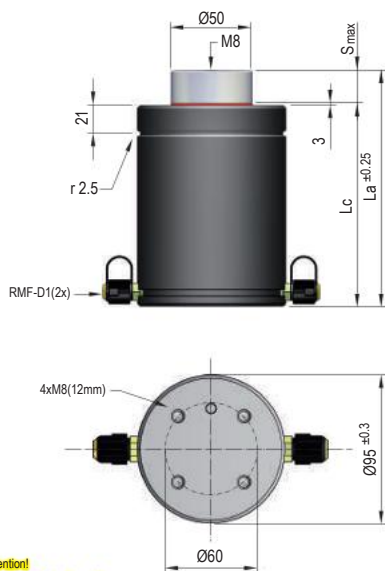
Initial force/charging pressure ratio



Assembly possibilities

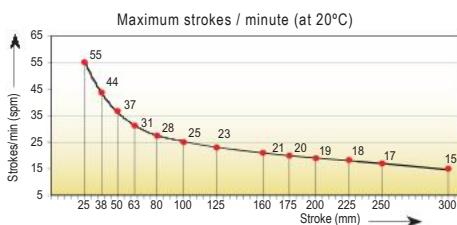


TPGAS 08.07.2019

**TECAPRES®**Ø95mm
3000daN**TPSC 3000**

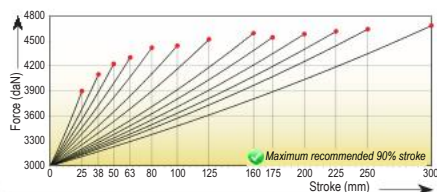
Attention!
This model is designed to
work in a hose system.

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC3000

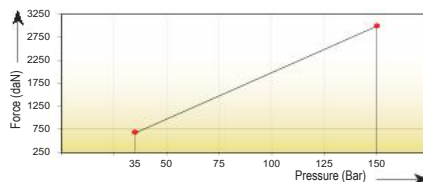
PED
2014/68/UECNOMO
E 24.54.815.G

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% (20°C)		3790	3900	150 (20°C)	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



FP 95 · FPR 95



FB 95



FS 95 · FSC 95

TPGAS 08.07.2019

Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

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TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDERHOT
FORMING

TPHT

TPSL



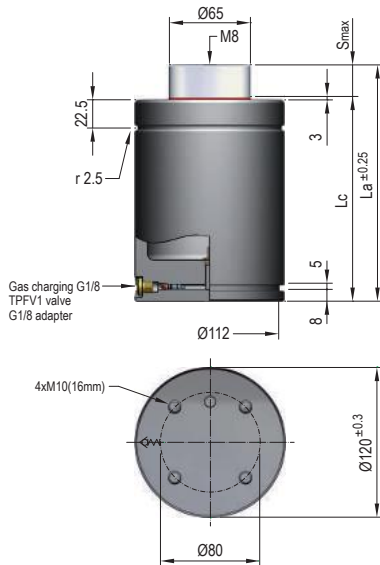


TECAPRES®

Ø120mm
5000daN

TPS 5000

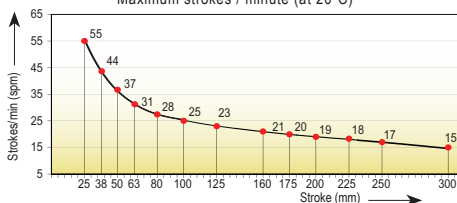
i
MICRO
TITAN
TPH
TPS



i 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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S5000

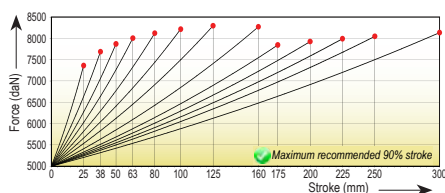


Maximum strokes / minute (at 20°C)

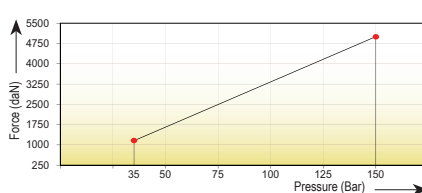


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPS 5000x25	25	190	165	5000 ±5% (20°C)			7000		7330		150 (20°C)		0,258		12,01
TPS 5000x38	38	216	178				7265		7655				0,361		12,85
TPS 5000x50	50	240	190				7410		7835				0,455		13,60
TPS 5000x63	63	267	204				7515		7970				0,557		14,50
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

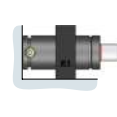
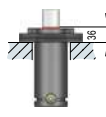
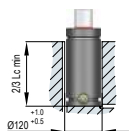
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 120 · FSC 120

FP 120 · FPR 120

FB 120

FRS 120

FI 120 · FI 120/1

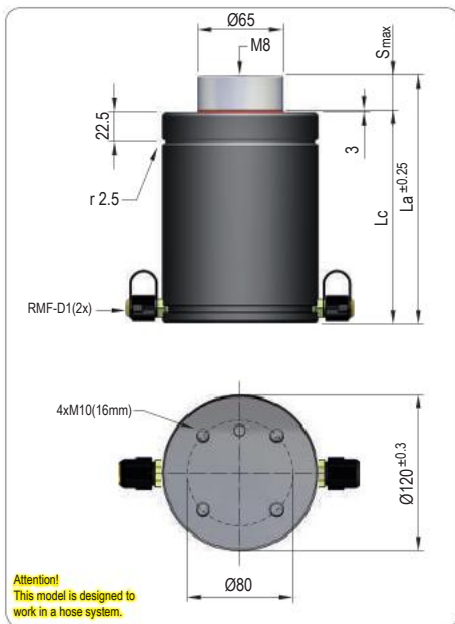
TPGAS 08.07.2019



TECAPRES®

Ø120mm
5000daN

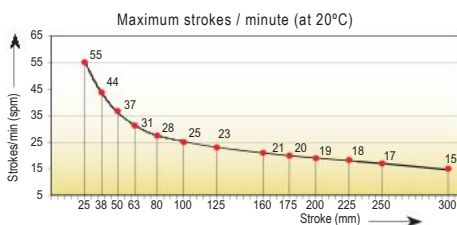
TPSC 5000



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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC5000

PED
2014/68/UE

CNOMO
E 24.54.815.G



TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

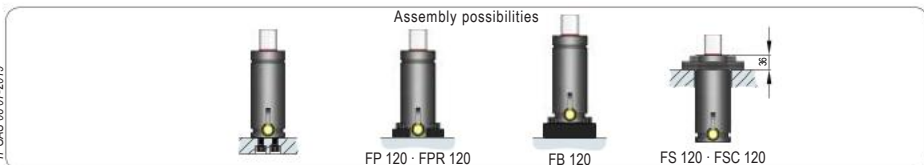
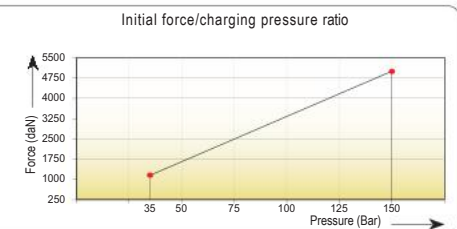
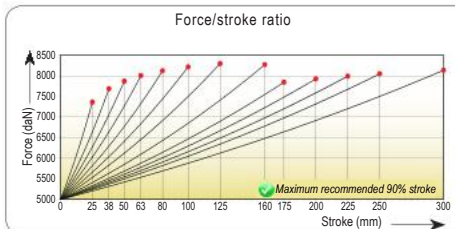
FORMING

TPHT

TPSL



Code	S _{max} mm	L _a mm	L _c mm	F _a daN	90% F daN	100% F _c daN	P Bar	V l	Kg
TPSC 5000x25	25	190	165	5000 ±5% (20°C)	7000	7330	150 (20°C)	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



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123

**TECAPRES®**Ø150mm
7500daN**TPS 7500**

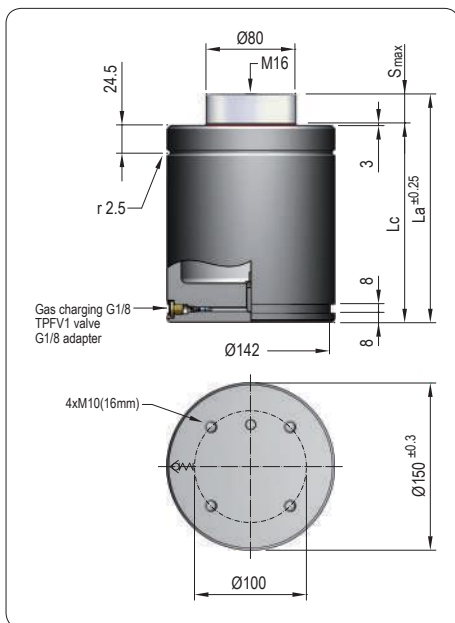
i

MICRO

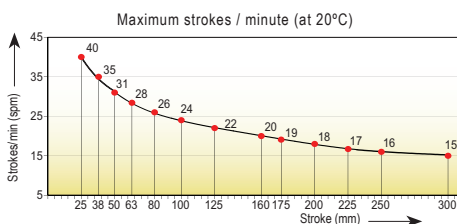
TITAN

TPH

TPS

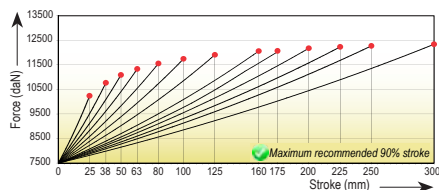


i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	50,27 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S7500

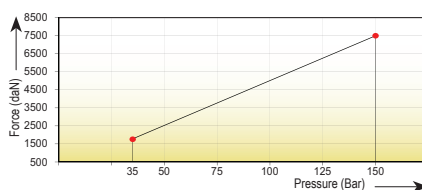


Code	S _{max} mm	L _a mm	L _c mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPS 7500x25	25	205	180	7500 ± 5% (20°C)	9935	10295	150 (20°C)	0,469	19,50
TPS 7500x38	38	231	193		10375	10830		0,629	20,60
TPS 7500x50	50	255	205		10640	11150		0,776	21,50
TPS 7500x63	63	282	219		10845	11400		0,936	22,30
TPS 7500x80	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

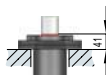
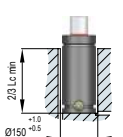
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



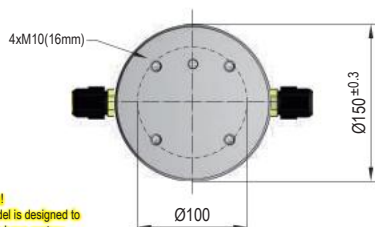
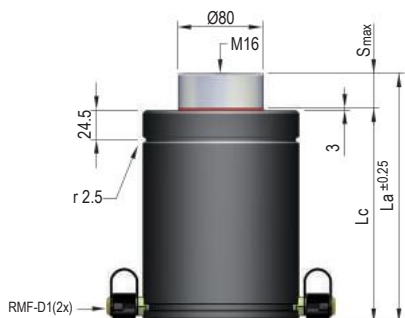
FS 150 · FSC 150

FP 150

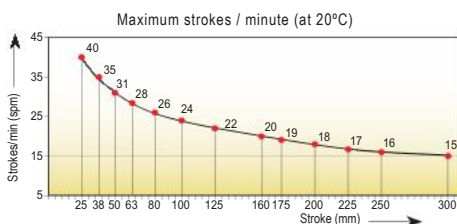
FB 150

FI 150 · FI 150/1

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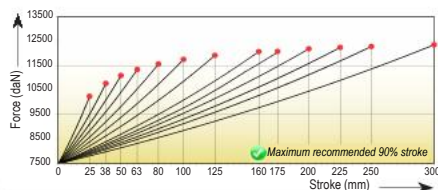
**TECAPRES®**Ø150mm
7500daN**TPSC 7500****Attention!**
This model is designed to work in a hose system.

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	50,27 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC7500

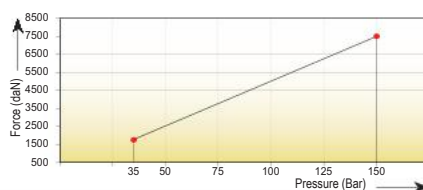
PED
2014/68/UECNOMO
E 24.54.815.G

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% (20°C)	9935	10295	150 (20°C)	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



FP 150



FB 150



FS 150 · FSC 150

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125

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

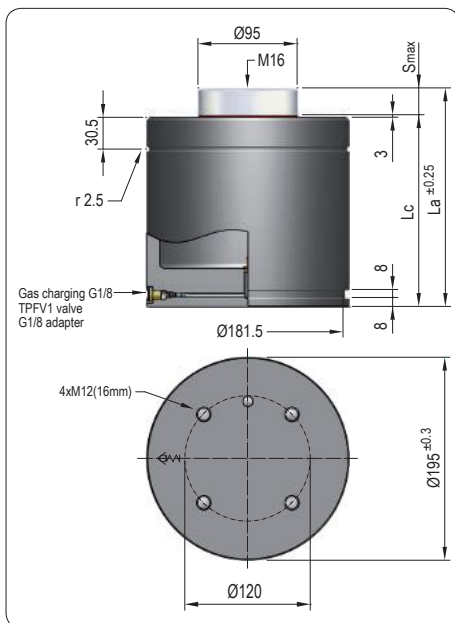
HOT

FORMING

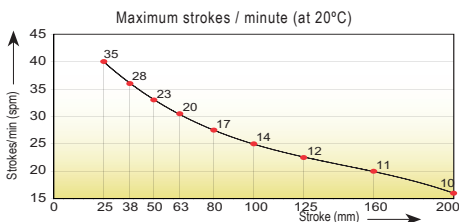
TPHT

TPSL



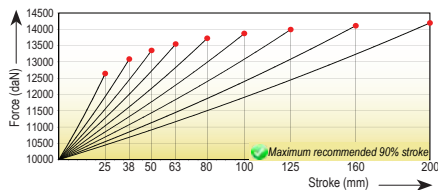
**TECAPRES®**Ø195mm
10000daN**TPS 10000**i
MICRO
TITAN
TPH
TPS

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	70,88 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit S10000

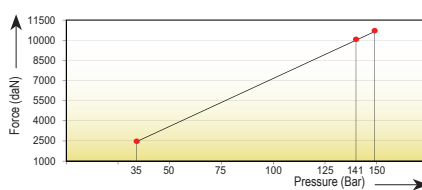


Code	S _{max} mm	L _a mm	L _c mm	F _a daN	90% F daN	100% F _c daN	P Bar	V l	Kg
TPS 10000x25	25	210	185	10000 ±5% (20°C)	12310	12635	141 (20°C)	0,848	35,60
TPS 10000x38	38	236	198		12690	13085		1,141	37,30
TPS 10000x50	50	260	210		12910	13345		1,412	39,10
TPS 10000x63	63	287	224		13075	13540		1,705	41,20
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)									

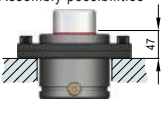
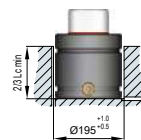
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

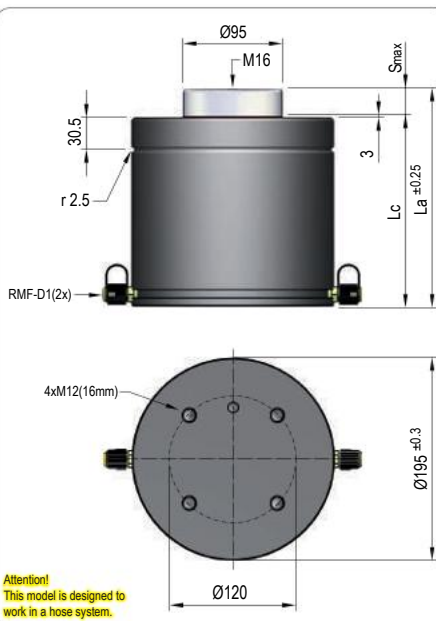


FSC 195

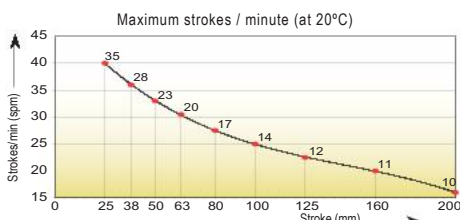
FP 195

FB 195

TPGAS 08.07.2019

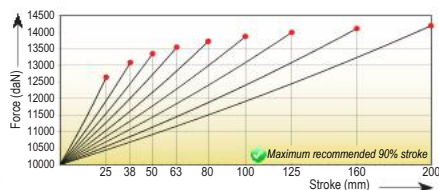
**TECAPRES®**Ø195mm
10000daN**TPSC 10000**

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	70,88 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SC10000

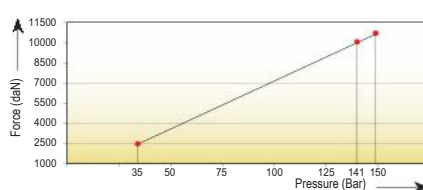
PED
2014/68/UECNOMO
E 24.54.815.G

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	10000 ±5% (20°C)	12310	12635	141 (20°C)	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		13075	13540		1,705	41,20
TPSC 10000x80	80	320	240		13225	13720		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



FP 195

FB 195

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127

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL





VDI

**ISO
POWER**

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA
TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

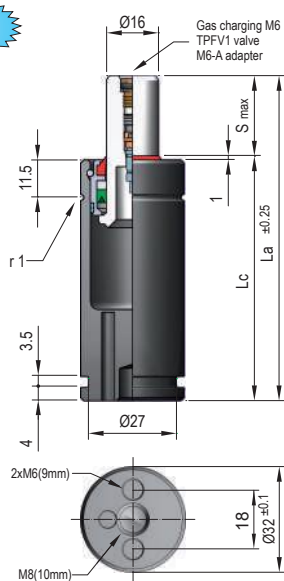
TPHT

TPSL



Powered ISO gas springs

Code	ØBody mm	Strokes mm	Fa daN					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	✓	✓	✓	✓	✓

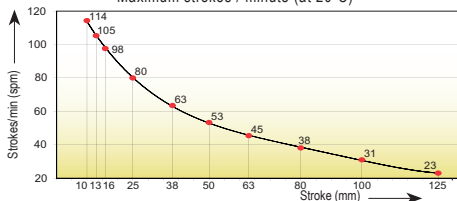
**TECAPRES®**Ø32mm
300daN**TPSP 300.1****ISO
POWER**

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

**VDI SAFETY**

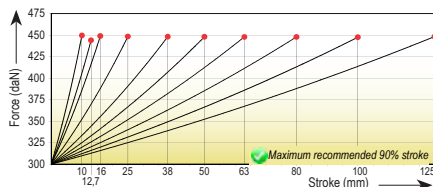
RE-16-32

Maximum strokes / minute (at 20°C)

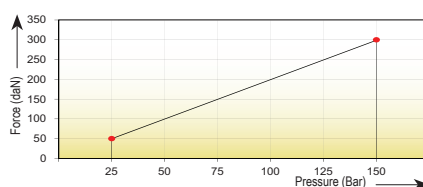


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPSP 300x10.1	10	70	60	300 ±5% (20°C)			430		450		150 (20°C)		0,006		0,31
TPSP 300x13.1	13	75.4	62.7				425		445				0,008		0,33
TPSP 300x16.1	16	82	66				430		450				0,010		0,34
TPSP 300x25.1	25	100	75				430		450				0,015		0,38
TPSP 300x38.1	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

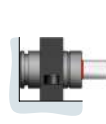
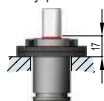
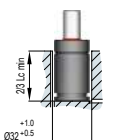
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



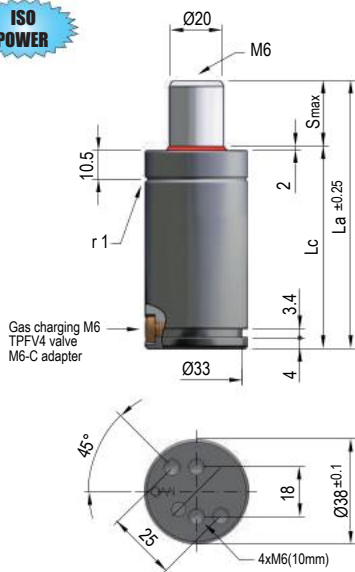
FSC 32/1 · FS 32 · FS 32/1

FP 32 · FPR 32

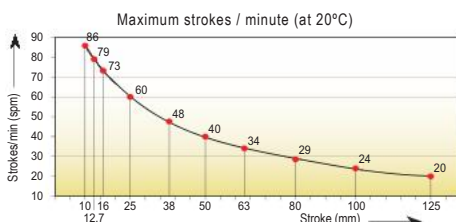
FI 32 · FI 32/1

TPGAS 08.07.2019

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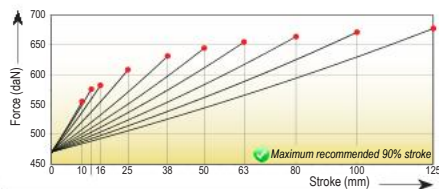
**TECAPRES®**Ø38mm
500daN**TPSP 500.1****ISO
POWER**

i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP500.1

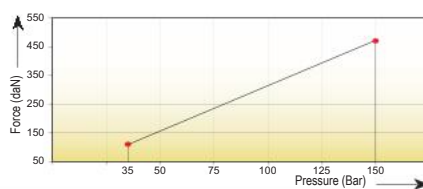
PED
2014/68/UE

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	470 ±5% (20°C)	545	555	150 (20°C)	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		610	635		0,047	0,59
TPSP 500x50.1	50	150	100		625	645		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



TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL



**TECAPRES®**Ø45mm
470daN**TPSP 750****ISO
POWER**

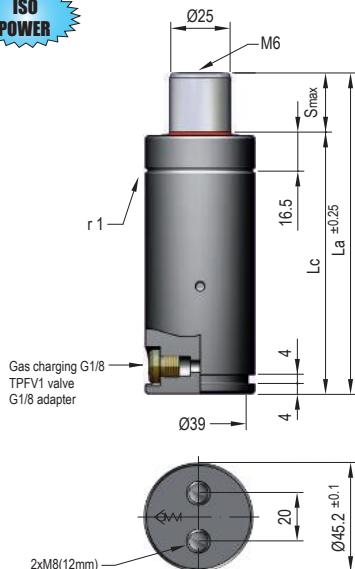
MICRO

TITAN

TPH

TPS

TPSP

**i** Pressure medium**Gas Nitrógeno (N₂)**

Max. charging pressure

150 Bar

Min. charging pressure

35 Bar

Rod seal area

3,14 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

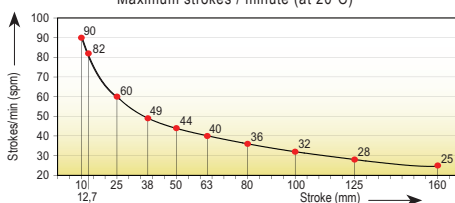
1,6 m/s

Maintenance kit

Kit SP750**VDI SAFETY**

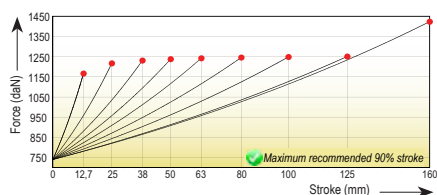
RE-25-35

Maximum strokes / minute (at 20°C)

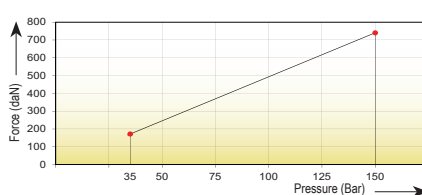


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPSP 750x13	12,7	110,4	97,7	740 ±5% (20°C)			1105		1170		150 (20°C)		0,017		0,90
TPSP 750x25	25	135	110				1145		1220				0,031		0,98
TPSP 750x38	38	161	123				1155		1235				0,047		1,02
TPSP 750x50	50	185	135				1160		1240				0,061		1,15
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

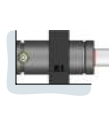
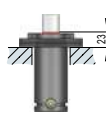
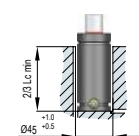
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 45 · FSC 45

FP 45 · FPR 45

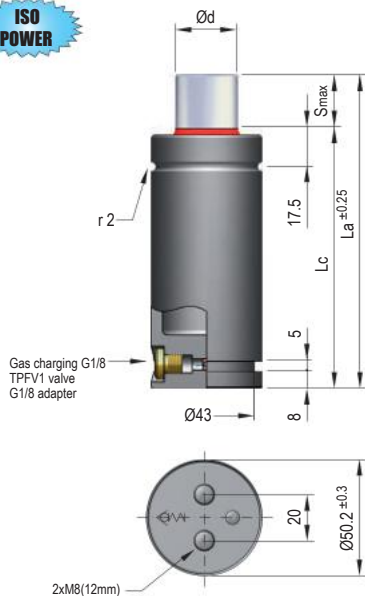
FB 45

FRS 45

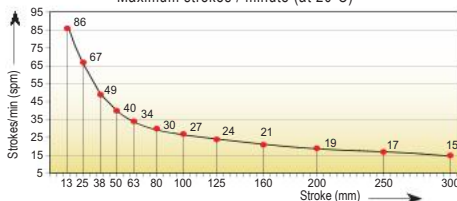
FI 45 · FI 45/1

TPGAS 08.07.2019

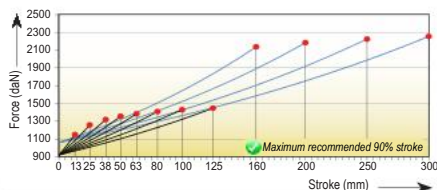
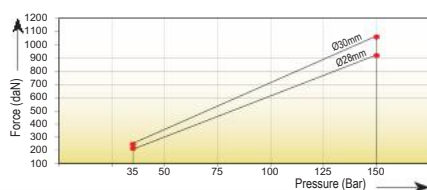
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**TECAPRES®****Ø50mm
1000daN****TPSP 1000.1****ISO
POWER**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	Ø28mm - 6.16 cm² Ø30mm - 7.07 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Ø28mm-Kit SP1000/28 Ø30mm-Kit SP1000/30

**Maximum strokes / minute (at 20°C)**

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	920 ±5% (20°C)	1120	1145	150 (20°C)	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		1300	1360		0,096	1,57
TPSP 1000x63.1	63	222	159	28		1320	1390		0,116	1,75
TPSP 1000x80.1	80	255	175	28	1060 ±5% (20°C)	1340	1415	150 (20°C)	0,142	1,87
TPSP 1000x100.1	100	295	195	28		1360	1435		0,173	1,90
TPSP 1000x125.1	125	345	220	28		1375	1450		0,211	2,25
TPSP 1000x160.1	160	415	255	30		1924	2140		0,224	2,35
TPSP 1000x200.1	200	495	295	30		1975	2185		0,275	2,50
TPSP 1000x250.1	250	595	345	30		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**

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**TECAPRES®**Ø63mm
1500daN**TPSP 1500**

i

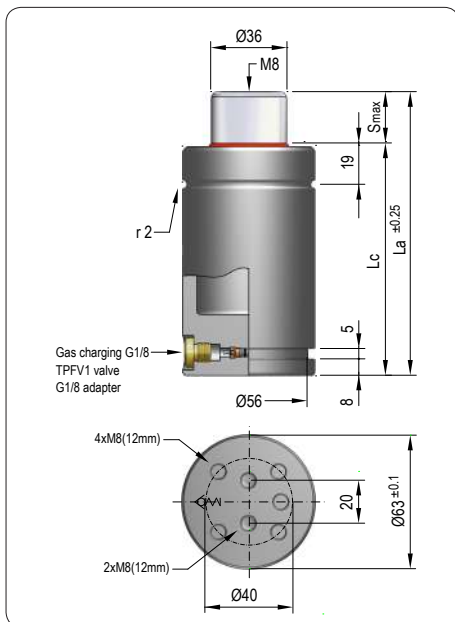
MICRO

TITAN

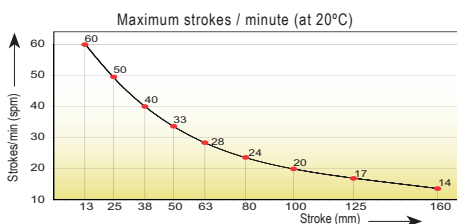
TPH

TPS

TPSP

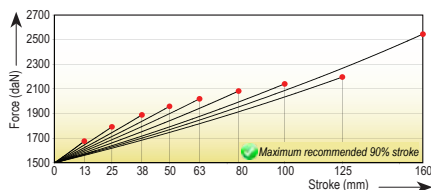


i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP1500

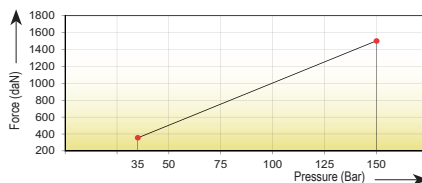


Code	S _{max} mm	L _a mm	L _c mm		F _a daN		F daN		F _c daN		P Bar		V l		Kg
TPSP 1500x13	13	121	108		1500 ±5% (20°C)		1660		1680		148 (20°C)		0,126		1,96
TPSP 1500x25	25	145	120				1765		1800				0,156		2,20
TPSP 1500x38	38	171	133				1850		1895				0,188		2,36
TPSP 1500x50	50	195	145				1910		1965				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

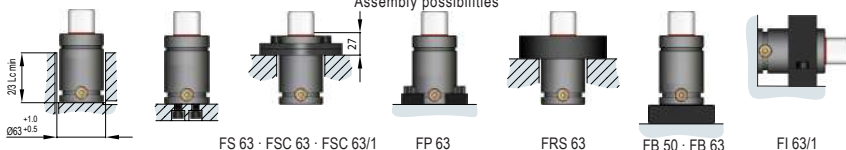
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 63 · FSC 63 · FSC 63/1

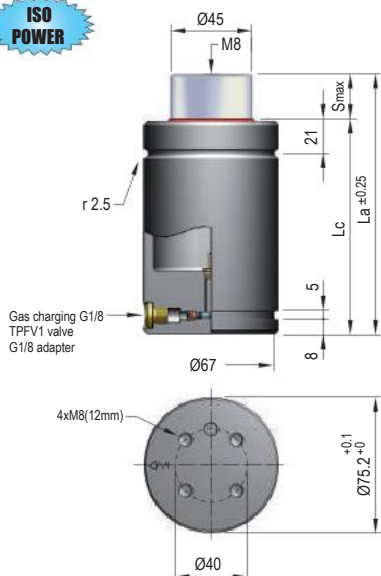
FP 63

FRS 63

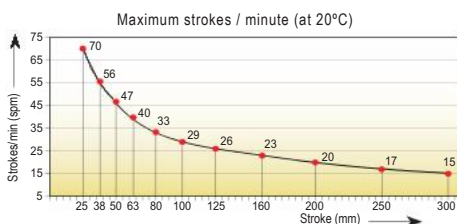
FB 50 · FB 63

FI 63/1

Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

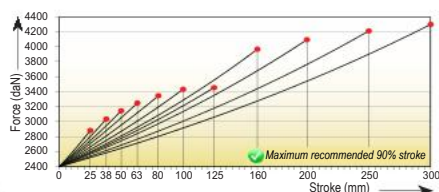
**TECAPRES®**Ø75mm
2400daN**TPSP 2400****ISO
POWER**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP2400

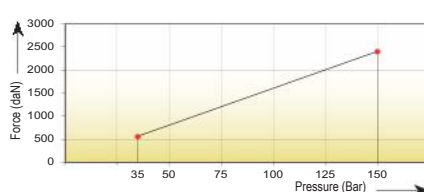


Code	S _{max} mm	La mm	L _c mm		F _a daN		F daN		F _c daN		P Bar		V l		Kg
TPSP 2400x25	25	160	135	2400 ±5% (20°C)			2810		2865		150 (20°C)		0,238		3,50
TPSP 2400x38	38	186	148				2940		3015				0,289		3,70
TPSP 2400x50	50	210	160				3030		3125				0,336		3,85
TPSP 2400x63	63	237	174				3120		3230				0,384		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

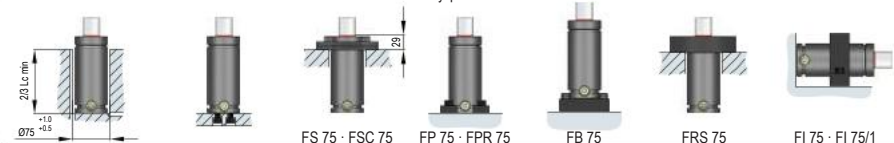
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

135

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

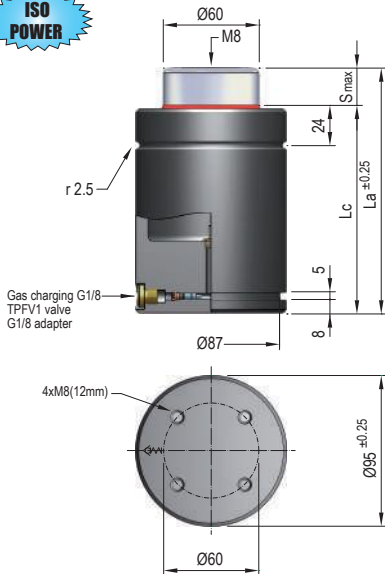
CYLINDER

HOT

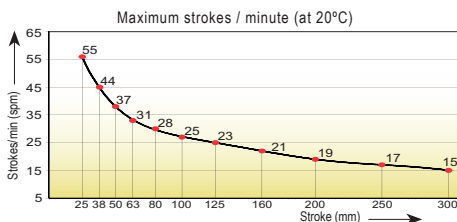
FORMING

TPHT

TPSL

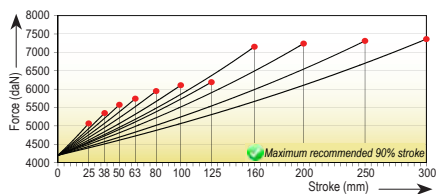
**TECAPRES®**Ø95mm
4200daN**TPSP 4200****ISO
POWER**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP4200

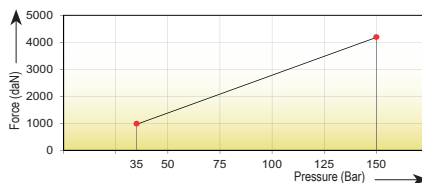


Code	S _{max} mm	L _a mm	L _c mm	F _a daN	90% F daN	100% F _c daN	P Bar	V l	Kg
TPSP 4200x25	25	170	145	4200 ±5% (20°C)	5010	5115	150 (20°C)	0,413	6,25
TPSP 4200x38	38	196	158		5260	5400		0,500	6,75
TPSP 4200x50	50	220	170		5450	5630		0,574	7,05
TPSP 4200x63	63	247	184		5590	5795		0,664	7,54
TPSP 4200x80	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

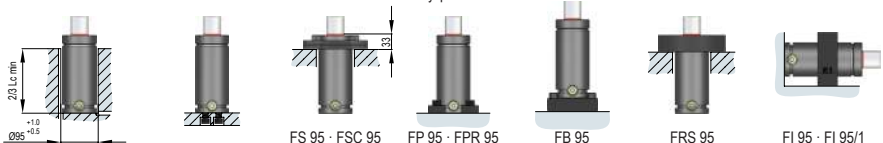
Force/stroke ratio



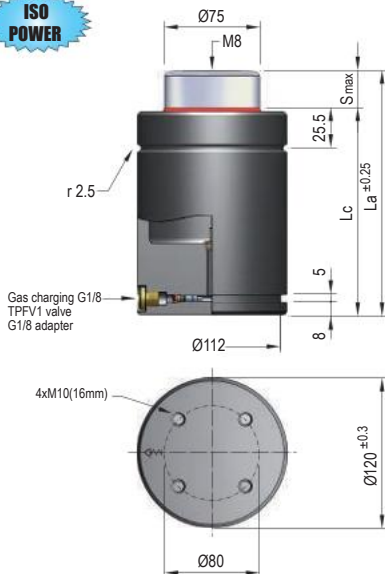
Initial force/charging pressure ratio



Assembly possibilities



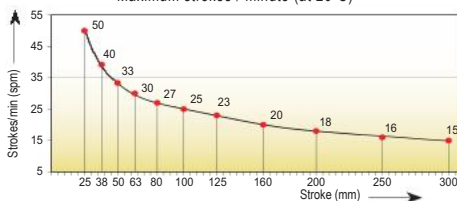
TPGAS 08.07.2019

**TECAPRES®**Ø120mm
6600daN**TPSP 6600****ISO
POWER**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP6600

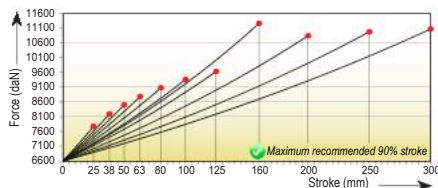
PED
2014/68/EUISO
11901VDI
3003

Maximum strokes / minute (at 20°C)

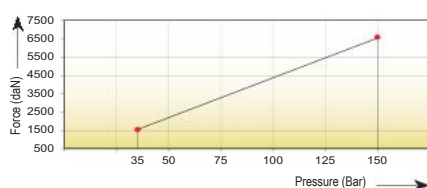


Code	S _{max} mm	L _a mm	L _c mm		F _a daN		F daN		F _c daN		P Bar		V l		Kg
TPSP 6600x25	25	190	165		6600 ±5% (20°C)		7620		7755		147 (20°C)		0,730		12,47
TPSP 6600x38	38	216	178				7980		8170				0,863		13,75
TPSP 6600x50	50	240	190				8245		8485				0,986		14,09
TPSP 6600x63	63	267	204				8480		8760				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



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TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

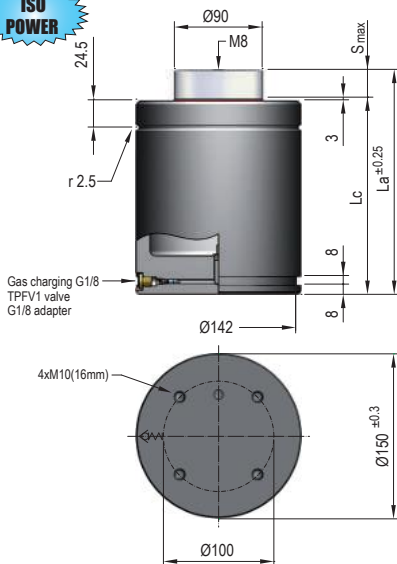
HOT

FORMING

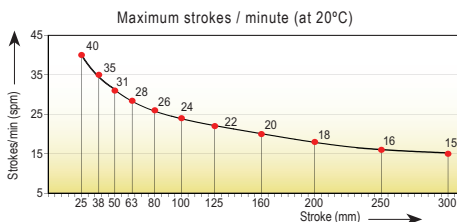
TPHT

TPSL



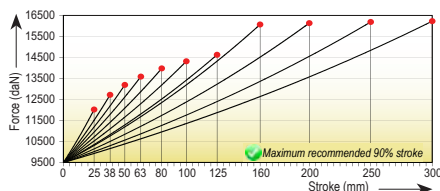
**TECAPRES®**Ø150mm
9500daN**TPSP 9500****ISO
POWER**

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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SP9500

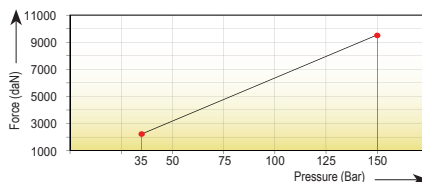


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPSP 9500x25	25	205	180	9500 ± 5% (20°C)	11765	12075	150 (20°C)	0,758	20,61
TPSP 9500x38	38	231	193		12360	12780		0,954	21,72
TPSP 9500x50	50	255	205		12760	13255		1,135	22,62
TPSP 9500x63	63	282	219		13090	13650		1,332	23,93
TPSP 9500x80	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



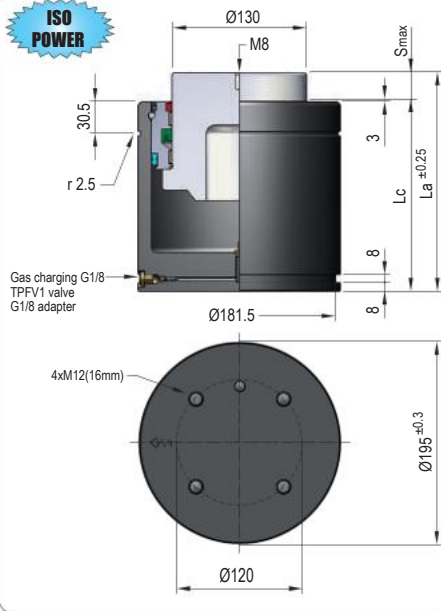
Initial force/charging pressure ratio



Assembly possibilities



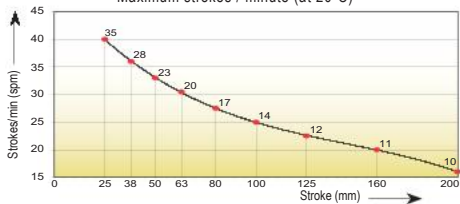
TPGAS 08 07-2019

**TECAPRES®**Ø195mm
20000daN**TPSP 20000****ISO
POWER**

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	132,73 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1 m/s
Maintenance kit	Kit SP20000

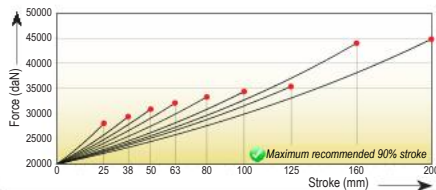
PED
2014/68/UE

Maximum strokes / minute (at 20°C)

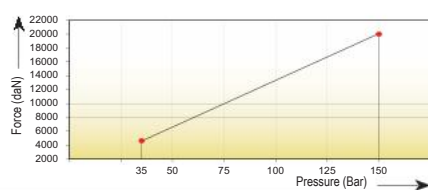


Code	Smax mm	La mm	Lc mm	 Fa daN	 90% F daN	 100% Fc daN	 P Bar	V l	 Kg
TPSP 20000x25	25	210	185	20000 ±5% (20°C)	26865	27950	150 (20°C)	1,154	31,8
TPSP 20000x38	38	236	198		27990	29310		1,573	32,3
TPSP 20000x50	50	260	210		29165	30755		1,882	34,25
TPSP 20000x63	63	286	223		30140	31965		2,217	35,37
TPSP 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



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TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

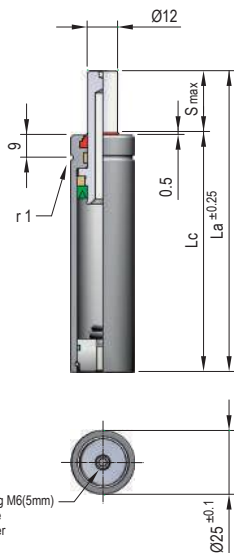
TPHT

TPSL



Maximum force gas springs. Gas-tight piston

Code	ØBody mm	Strokes mm	Fa daN				
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	✓	✓	✓	✓
TPFS 2000	50	15 - 50	2000	✓	✓	✓	✓
TPFS 3000	63	10 - 65	3000	✓	✓	✓	✓
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	✓	✓	✓	



Gas charging M6(5mm)
TPFV3 valve
M6-C adapter

- Pressure medium

Gas Nitrógeno (N₂)

I Max. charging pressure

150 Bar

Min. charging pressure

50 Bar

Rod seal area

3,14 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

25 m/min

Maintenance kit

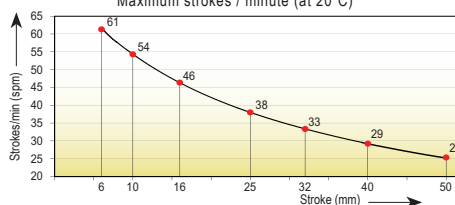
Kit F420



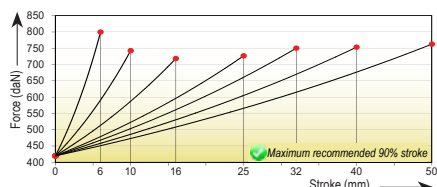
VDI SAFETY



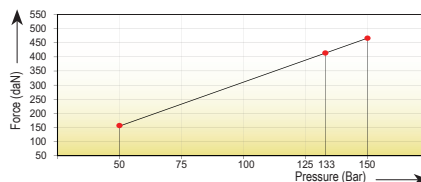
Maximum strokes / minute (at 20°C)

[illegible]

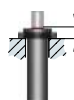
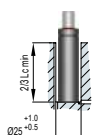
Force/stroke ratio



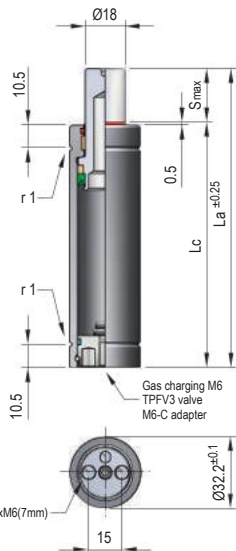
Initial force/charging pressure ratio



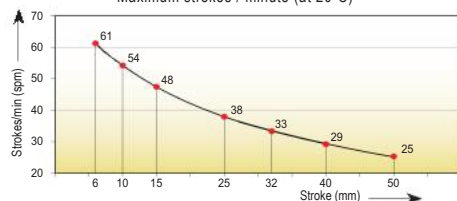
Assembly possibilities



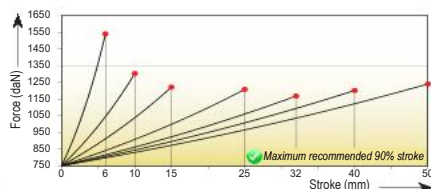
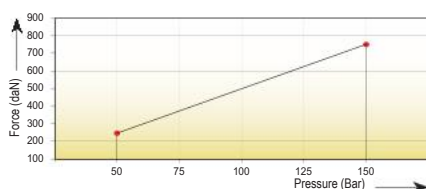
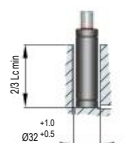
FS 25 · FS 25/2

**TECAPRES®****Ø32mm
750daN****TPF 750**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit F750

PED
 2014/68/UE
**Maximum strokes / minute (at 20°C)**

Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPF 750x6	6	63	57	750 ±5% (20°C)			1395		1540		150 (20°C)		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				1150		1225				0,019		0,42
TPF 750x25B	25	120	95				1345		1475				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**

FS 32 · FS 32/1

FS 32 · FS 32/1

FI 32 · FI 32/1

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143**TPF**

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

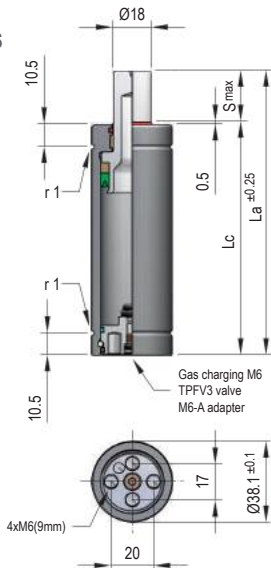
HOT

FORMING

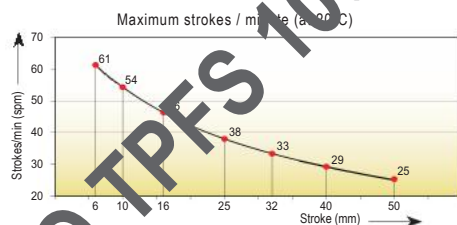
TPHT

TPSL



**TECAPRES®**Ø38mm
1000daN**TPF 1000****AVAILABLE
WHILE
STOCKS
LAST**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	7,07 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit F1000

PED
2014/68/EUVDI SAFET
↑

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

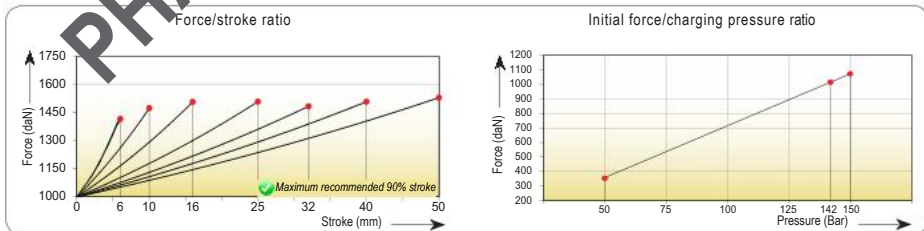
STOP
CYLINDERHOT
FORMING

TPHT

TPSL

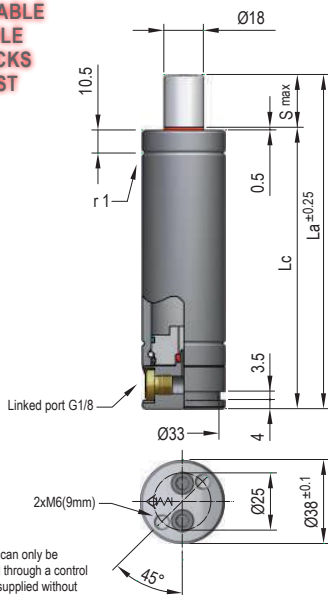


Code	S _{max} mm	L _a mm	L _c mm	F _a daN	F _{100%} daN	F _c daN	P Bar	V l	Kg
TPF 1000x6	6	61	55	1570	1680	1570	142 (20°C)	0,010	0,35
TPF 1000x10	10	78	68	1390	1460	1390	142 (20°C)	0,022	0,40
TPF 1000x16	16	100	84	1420	1490	1420	142 (20°C)	0,034	0,48
TPF 1000x25	25	135	115	1420	1490	1420	142 (20°C)	0,053	0,56
TPF 1000x32	32	167	135	1400	1470	1400	142 (20°C)	0,069	0,63
TPF 1000x40	40	195	155	1420	1490	1420	142 (20°C)	0,084	0,75
TPF 1000x50	50	230	180	1435	1515	1435	142 (20°C)	0,102	0,90



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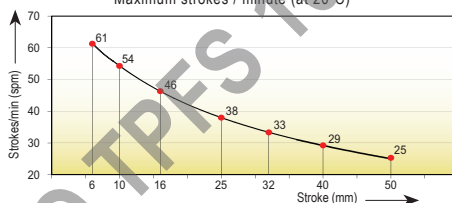
**TECAPRES®****Ø38mm
1000daN****TPF 1000 C****AVAILABLE
WHILE
STOCKS
LAST**

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 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit F1000C

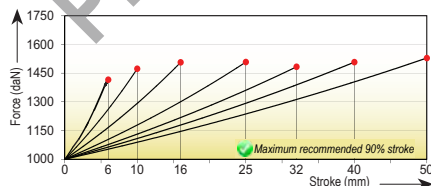
**VDI SAFETY**

Maximum strokes / minute (at 20°C)

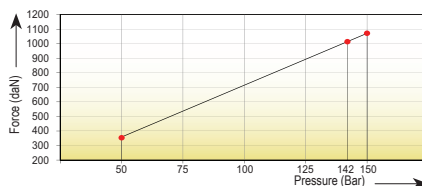


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPF 1000x6C	6	81	75	1000 ±5% (20°C)	1570	1680	142 (20°C)	0,010	0,35
TPF 1000x10C	10	98	88		1390	1460		0,022	0,40
TPF 1000x16C	16	120	104		1420	1490		0,034	0,48
TPF 1000x25C	25	155	130		1420	1490		0,053	0,56
TPF 1000x32C	32	187	155		1400	1470		0,069	0,63
TPF 1000x40C	40	215	175		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



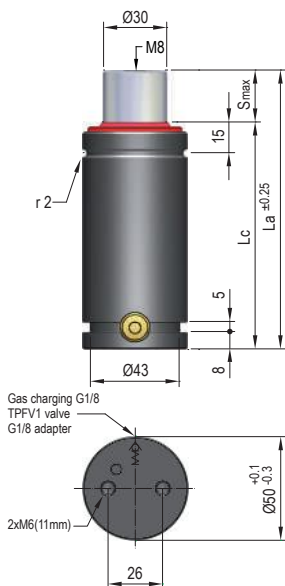
Assembly possibilities



Connection alternatives



TPGAS 08.07.2019



● Pressure medium

Gas Nitrógeno (N₂)

I Max. charging pressure

150 Bar

Min. charging pressure

50 Bar

Piston seal area

12,57 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

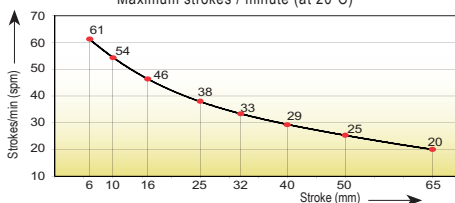
25 m/min

Maintenance kit

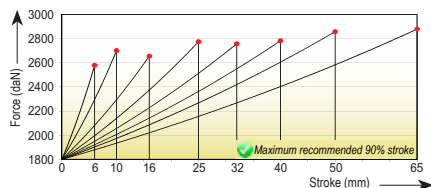
Kit FS1800



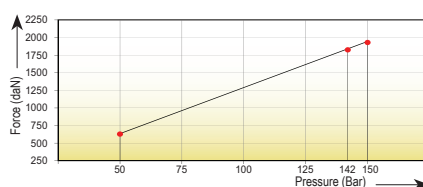
Maximum strokes / minute (at 20°C)

[illegible]

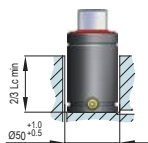
Force/stroke ratio



Initial force/charging pressure ratio



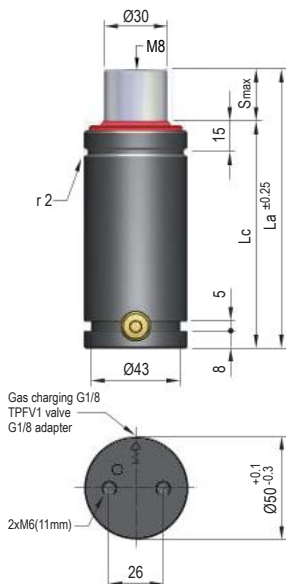
Assembly possibilities



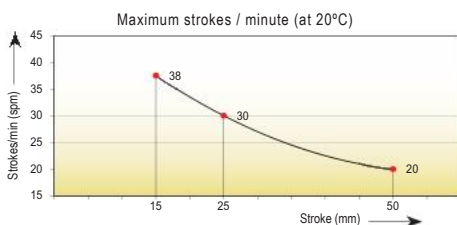
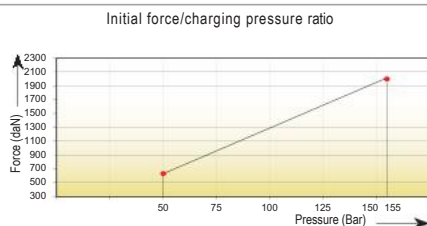
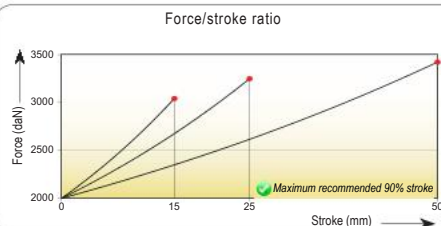
FS 50 · FSC 50

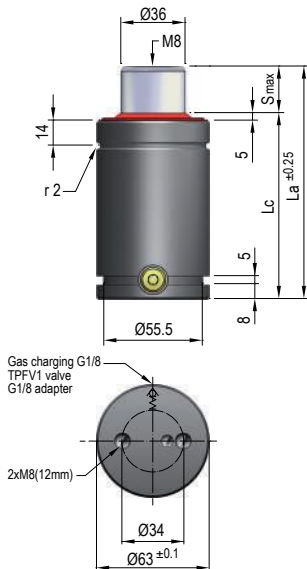
FP 50 · FPR 50

FI 50 · FI 50/1

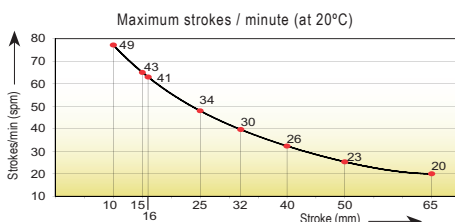


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	155 Bar
Min. charging pressure	50 Bar
Piston seal area	12,57 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit FS2000

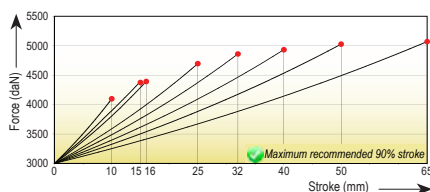
[illegible]



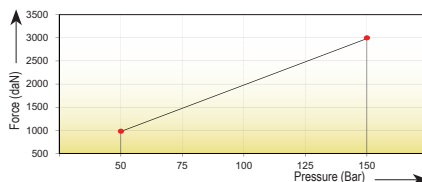
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	19,63 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit FS3000

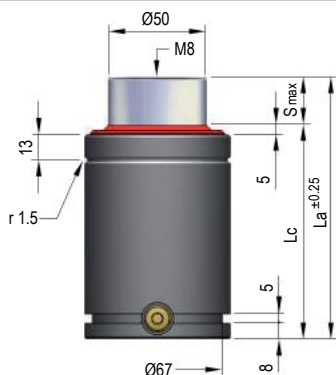
[illegible]

Force/stroke ratio

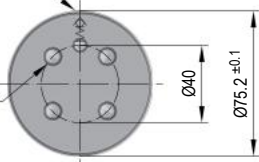


Initial force/charging pressure ratio



**TECAPRES®**Ø75mm
4700daN**TPFS 4700**Gas charging G1/8
TPFV1 valve
G1/8 adapter

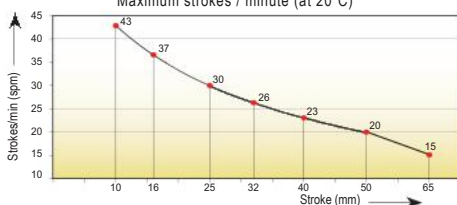
4xM8(13mm)



i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	31,17 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit FS4700

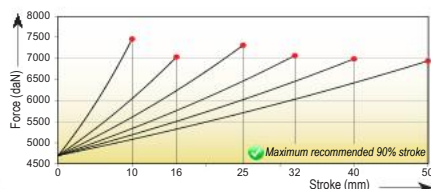
PED
2014/68/EU

Maximum strokes / minute (at 20°C)

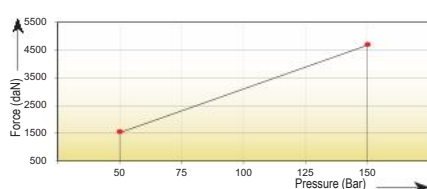


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPFS 4700x10	10	80	70	4700 ±5% (20°C)			6770		7120		150 (20°C)		0,091		1,55
TPFS 4700x16	16	106	90				6550		6860				0,157		1,83
TPFS 4700x25	25	135	110				6770		7125				0,227		2,15
TPFS 4700x32	32	167	135				6585		6900				0,310		2,37
TPFS 4700x40	40	200	160				6540		6845				0,394		2,70
TPFS 4700x50	50	240	190				6525		6825				0,495		3,10
TPFS 4700x65	65	273	208				6905		7290				0,565		3,65

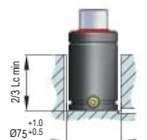
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FSCS 75



FP 75 · FPR 75



FI 75 · FI 75/1

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TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

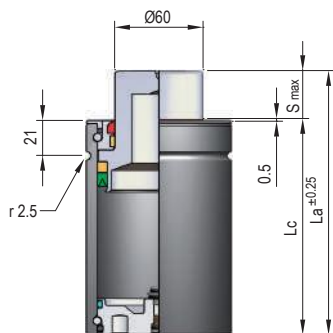
TPHT

TPSL

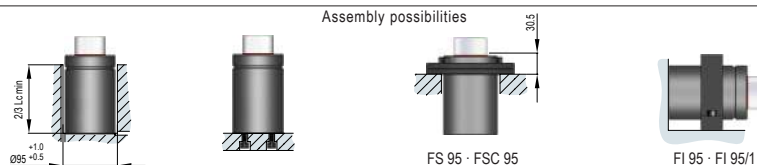
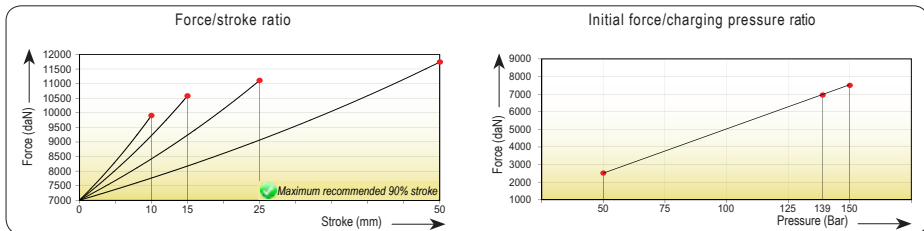
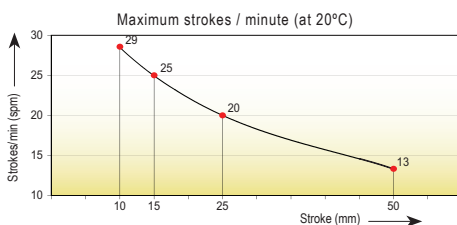


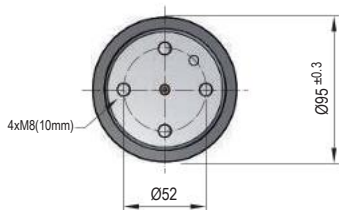
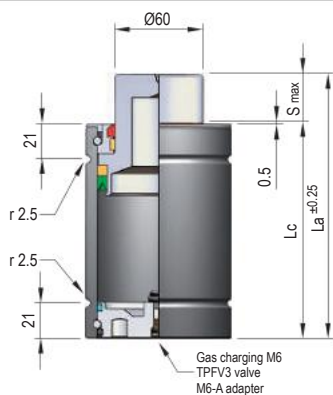


Ø95mm
7000daN



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	50,27 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit F7000

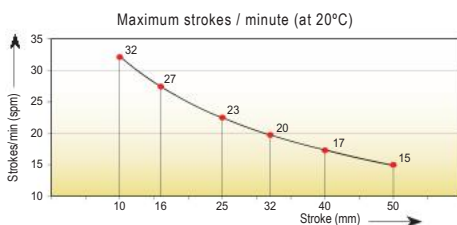
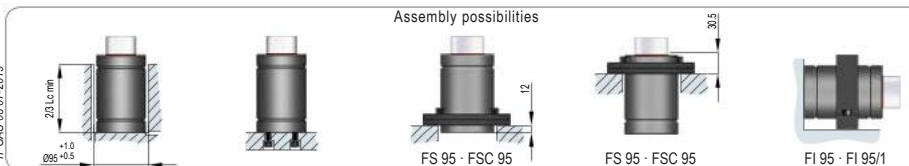
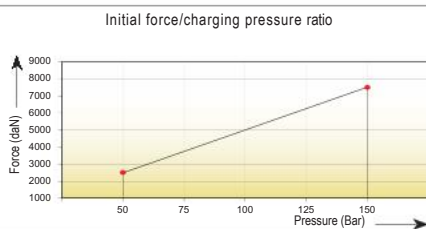
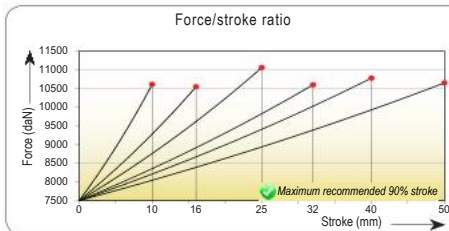


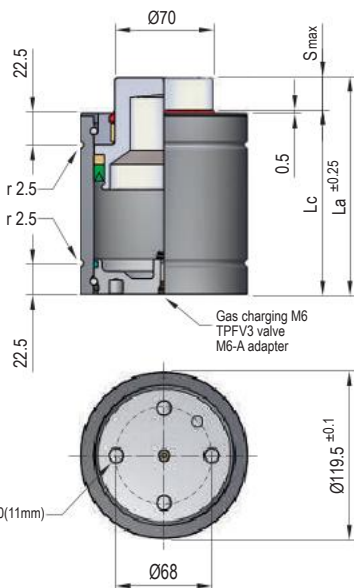


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	50,27 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	23 m/min
Maintenance kit	Kit F7500

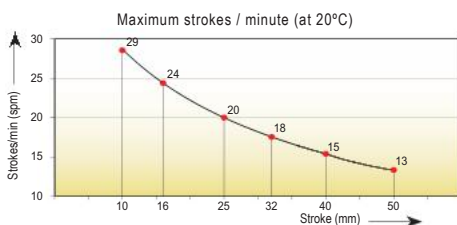


VDI SAFETY

[illegible]

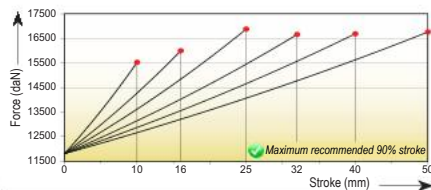
**TECAPRES®**Ø120mm
11800daN**TPF 11800**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	78,54 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit F11800

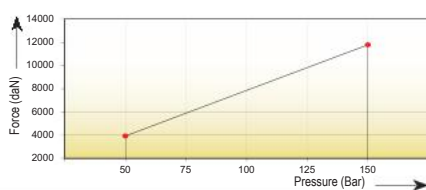
PED
2014/68/UE**VDI SAFETY**

Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPF 11800x10	10	100	90	11800 ±5% (20°C)			15030		15505		150 (20°C)		0,327		5,60
TPF 11800x16	16	126	110				15425		15975				0,479		6,39
TPF 11800x25	25	155	130				16160		16860				0,652		7,15
TPF 11800x32	32	187	155				15980		16640				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

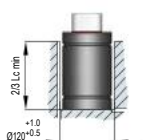
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



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TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

i

MICRO

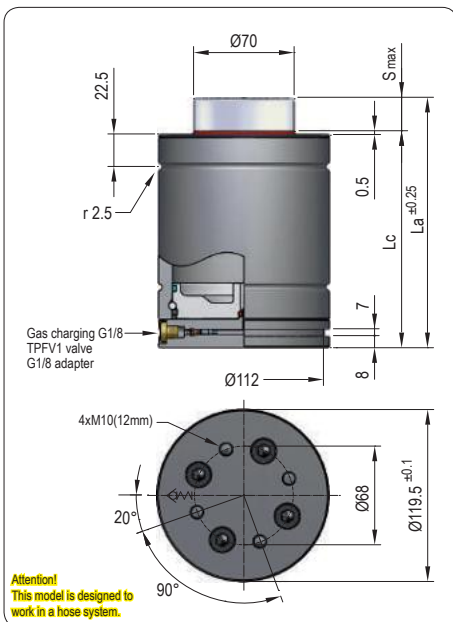
TITAN

TPH

TPS

TPSP

TPF



- Pressure medium

Gas Nitrógeno (N₂)

I Max. charging pressure

150 Bar

Min. charging pressure

50 Bar

Piston seal area

78,54 cm²

Operating temperature

0°C - 80°C

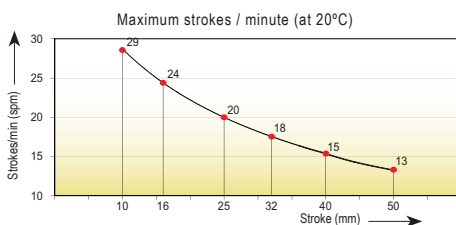
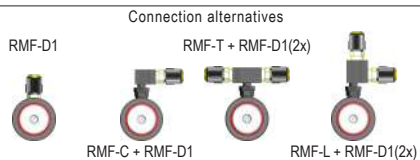
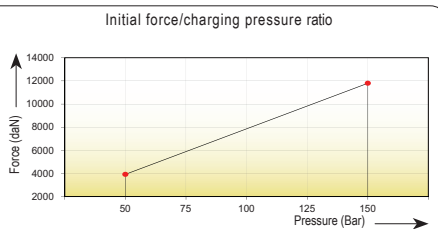
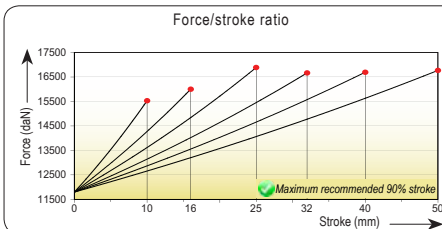
Force increase by temperature

0,33 %/°C

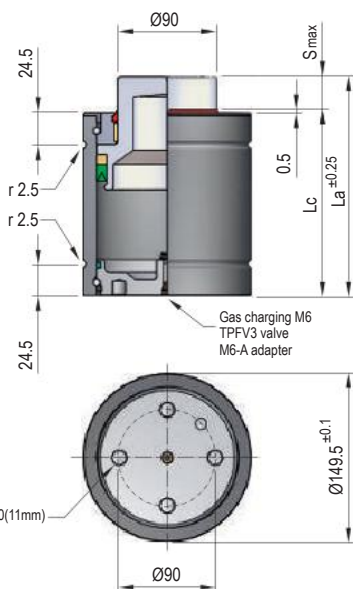
Max. stem speed

25 m/min

Maintenance kit

Kit F11800C[illegible]

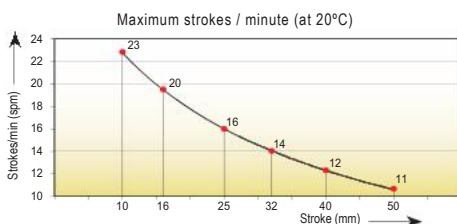
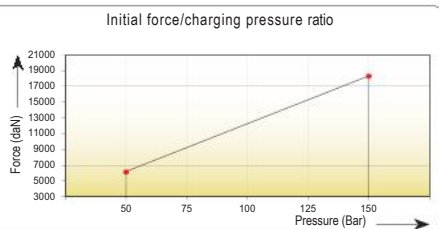
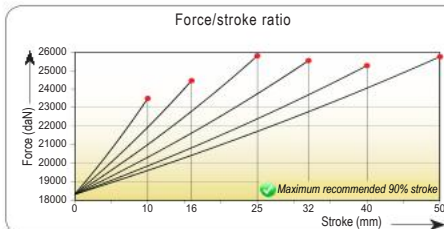
TPGAS 08 07-2019

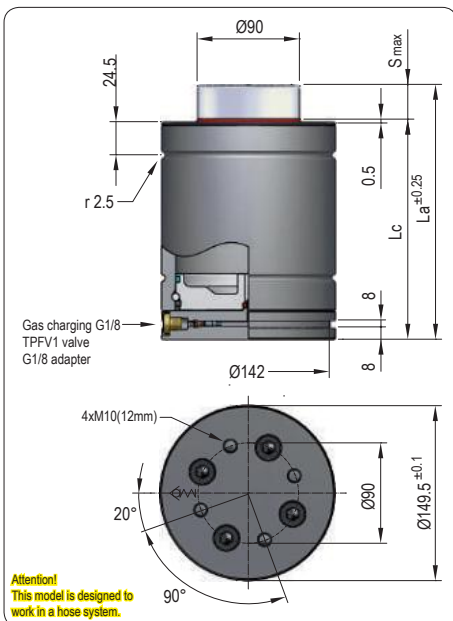


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	122.72 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit F18300

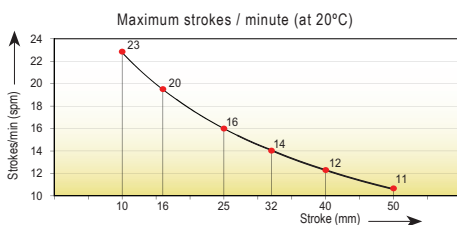
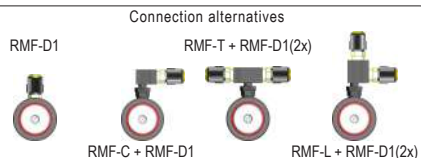
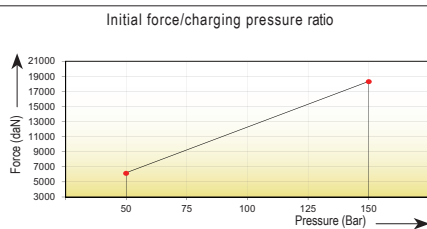
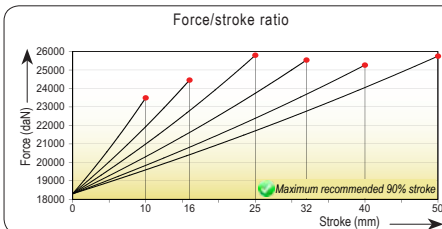


VDI SAFETY

[illegible]



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Piston seal area	122.72 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Maintenance kit	Kit F18300C

[illegible]



TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

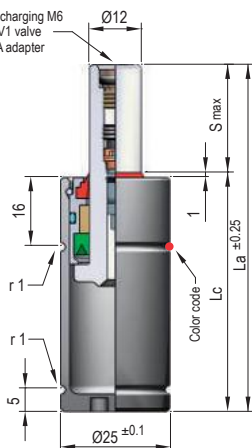
FORMING

TPHT

TPSL

Medium compact gas springs

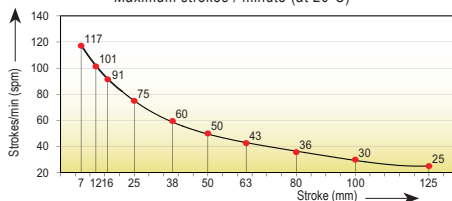
Code	ØBody mm	Strokes mm	Fa daN		 ACTIVE SAFETY			RENAULT STANDARD
TPK 25	25	7 - 125	200	✓	✓			
TPKN 25	25	12 - 80	200	✓	✓			
TPKR 25	25	7 - 63	200	✓	✓			
TPK 32	32	7 - 100	400	✓	✓		✓	
TPKN 32	32	7 - 80	300	✓	✓		✓	
TPKR 32	32	7 - 80	300	✓	✓		✓	
TPK 600	38	12 - 125	600	✓	✓		✓	
TPKF 500	45	13 - 125	470	✓	✓	✓	✓	✓
TPK 750	45	13 - 100	740	✓	✓		✓	
TPKS 750	45	13 - 125	740	✓	✓	✓	✓	
TPKF 750	50	13 - 125	740	✓	✓	✓	✓	✓
TPKS 1000	50	13 - 125	1000	✓	✓	✓	✓	
TPKFR 1000	50	25 - 125	920	✓	✓	✓	✓	✓
TPK 1500.1	63	12 - 100	1500	✓	✓	✓	✓	
TPKN 1500	63	12 - 80	1500	✓	✓	✓	✓	
TPKF 1500	75	25 - 100	1500	✓	✓	✓	✓	✓
TPKFR 2400	75	25 - 125	2400	✓	✓	✓	✓	✓
TPK 2500	75	25 - 125	2400	✓	✓	✓	✓	
TPK 3000	75	12 - 100	3000	✓	✓	✓	✓	
TPKF 3000	95	25 - 100	3000	✓	✓	✓	✓	✓
TPKFR 4200	95	25 - 125	4200	✓	✓	✓	✓	✓
TPK 4250	95	25 - 125	4250	✓	✓	✓	✓	

**TECAPRES®**Ø25mm
200daN**TPK 25****ECO
SERIES**Gas charging M6
TPFV1 valve
M6-A adapter

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit K25

**VDI SAFETY**

Maximum strokes / minute (at 20°C)



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

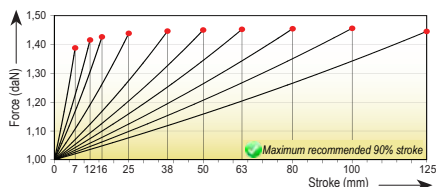
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

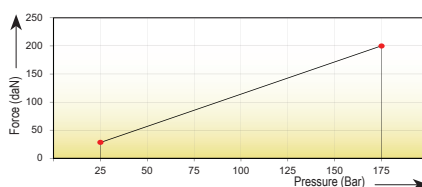
TPK 25 x 38 YW

Model Stroke Color code

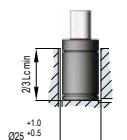
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



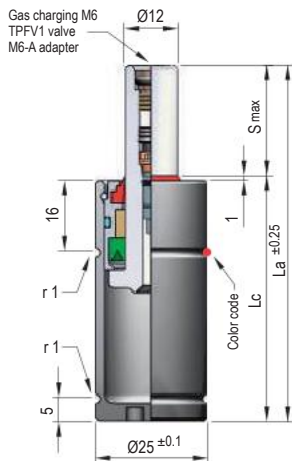
FS 25 · FS 25/2



FS 25 · FS 25/2

TPGAS 08.07.2019

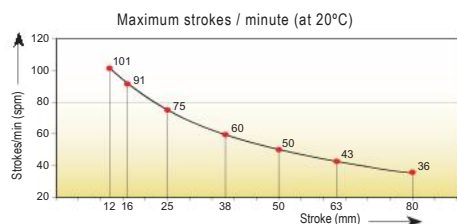
Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

[illegible]

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KN25



VDI SAFETY



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

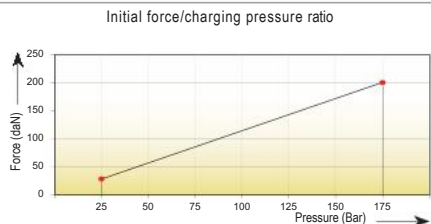
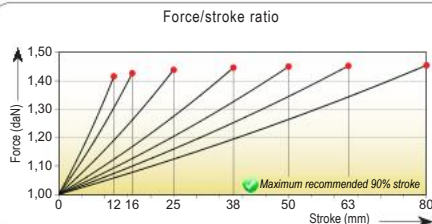
TPKN 25 x 50 YW

YW

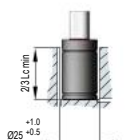
Model

Stroke

Color code



Assembly possibilities



FS 25 · FS 25/2

FS 25 · FS 25/2

**TECAPRES®**Ø25mm
200daN**TPKR 25**

MICRO

TITAN

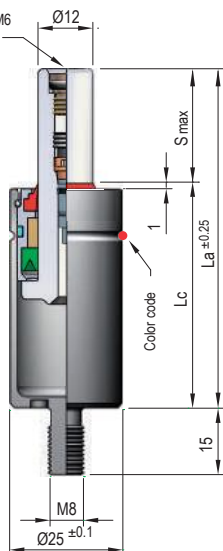
TPH

TPS

TPSP

TPF

TPK

Gas charging M6
TPFV1 valve
M6-A adapter**i** Pressure medium**Gas Nitrógeno (N₂)**

Max. charging pressure

175 Bar

Min. charging pressure

25 Bar

Rod seal area

1,13 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

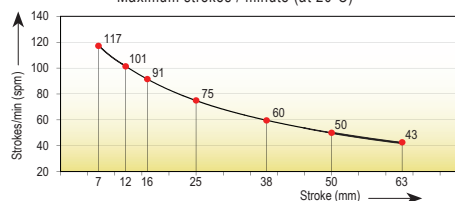
Max. stem speed

1,6 m/s

Maintenance kit

Kit KR25**VDI SAFETY**

Maximum strokes / minute (at 20°C)



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

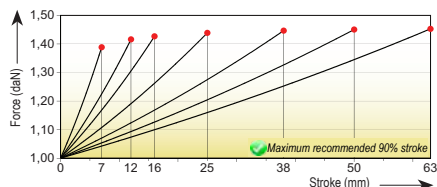
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

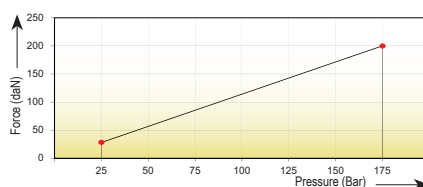
TPKR 25 x **12** **GR**

Model Stroke Color code

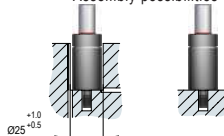
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



TPGAS 08.07.2019

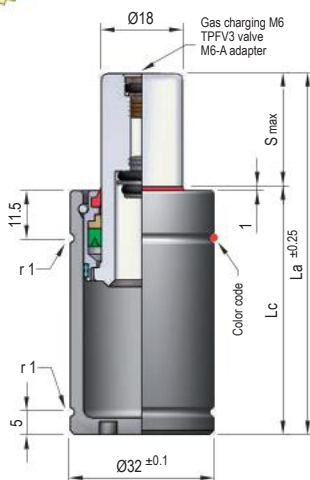


TECAPRES®

Ø32mm
400daN

TPK 32

ECO
SERIES

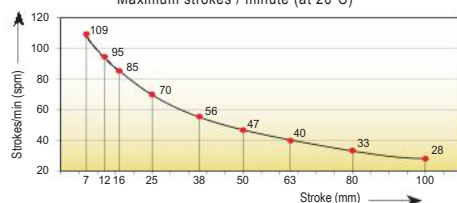


i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	155 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit K32

PED
2014/68/UE



Maximum strokes / minute (at 20°C)



TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



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

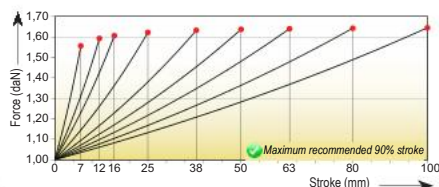
The black color code denotes a different pressure from that which the customer could choose when ordering the minimum charging pressure (25Bar) and the maximum charging pressure (155Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

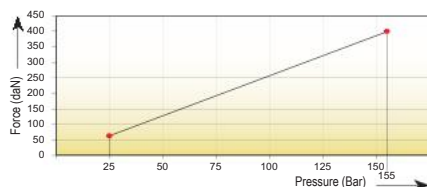
TPK 32 x 38 YW

Model Stroke Color code

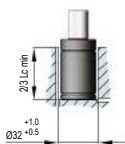
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 32 · FS 32/1 · FSC 32

FS 32 · FS 32/1 · FSC 32

FI 32 · FI 32/1

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**TECAPRES®****Ø32mm
300daN****TPKN 32**

i

MICRO

TITAN

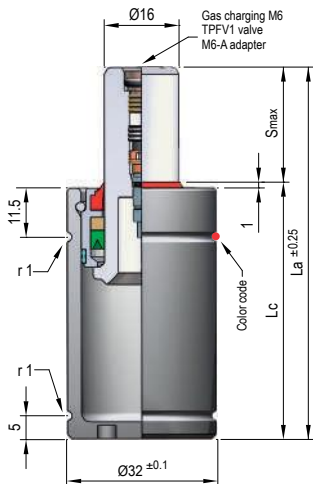
TPH

TPS

TPSP

TPF

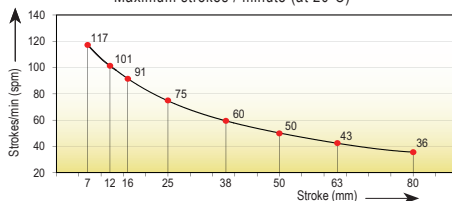
TPK



i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KN32



Maximum strokes / minute (at 20°C)



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.

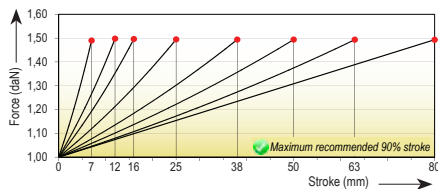
How to order**TPKN 32 x 63****BL**

Model

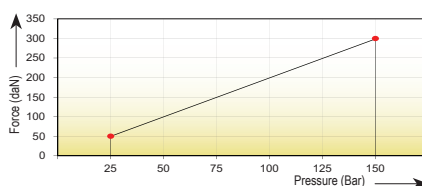
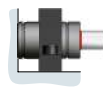
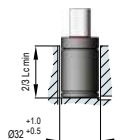
Stroke

Color code

Force/stroke ratio



Initial force/charging pressure ratio

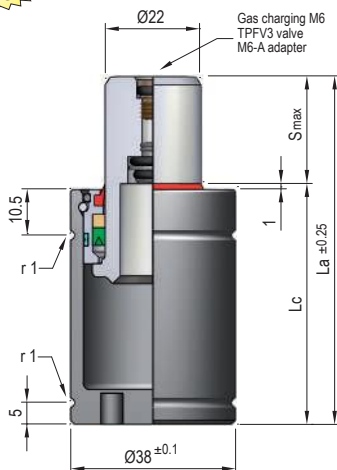
**Assembly possibilities**

FS 32 · FS 32/1 · FSC 32

FS 32 · FS 32/1 · FSC 32

FI 32 · FI 32/1

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● Pressure medium

Gas Nitrógeno (N₂)

I Max. charging pressure

155 Bar

Min. charging pressure

35 Bar

Rod seal area

3,80 cm²

Operating temperature

1°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1.2 m/s

Maintenance kit

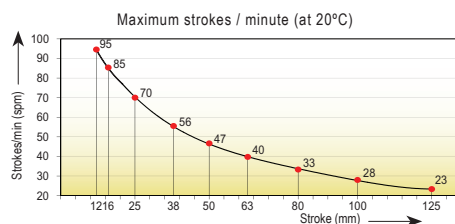
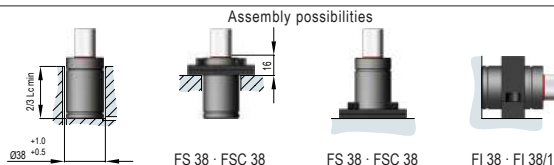
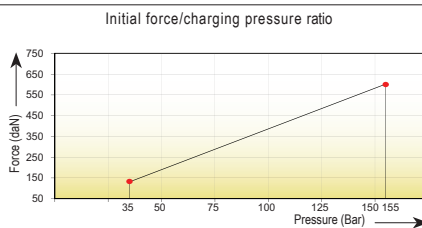
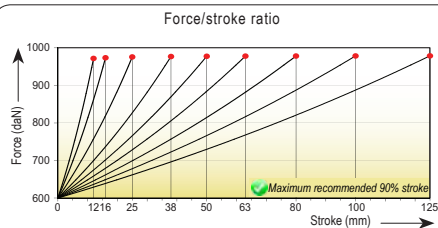
Kit K600

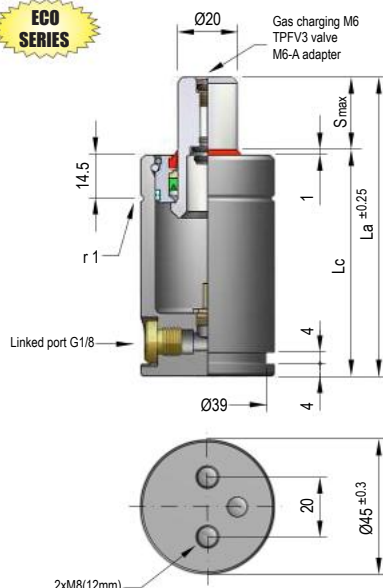


VDI SAFETY



8F-2

[illegible]



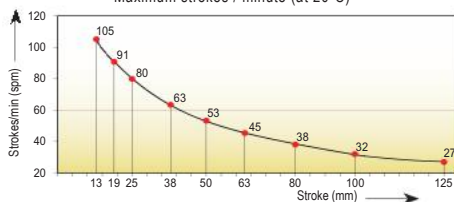
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,14 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KF500



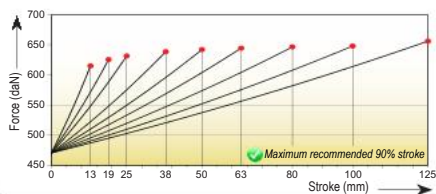
RENAULT
EM24.54/700/F



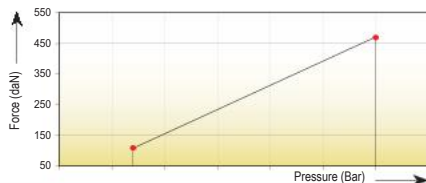
Maximum strokes / minute (at 20°C)

[illegible]

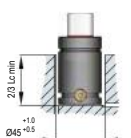
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



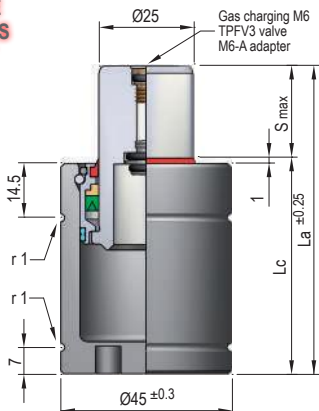
FS 45 · FSC 45

FP 45 · FPR 45

FRS 45

FB 45

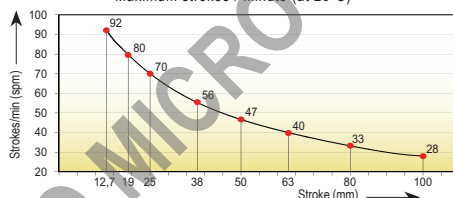
FI 45 · FI 45/1

**TECAPRES®**Ø45mm
750daN**TPK 750****ECO
SERIES****AVAILABLE
WHILE
STOCKS
LAST**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit K750

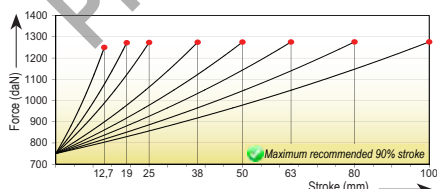


Maximum strokes / minute (at 20°C)

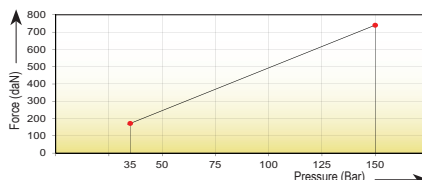


Code	S _{max} mm	La mm	L _c mm	F _a daN	F daN	F _c daN	P Bar	V l	Kg
TPK 750x13	12,7	57,4	44,7	740 ±5% (20°C)	1150	1225	150 (20°C)	0,016	0,43
TPK 750x19	19	70	51		1170	1250		0,023	0,48
TPK 750x25	25	82	57		1170	1250		0,030	0,52
TPK 750x38	38	108	70		1170	1250		0,045	0,62
TPK 750x50	50	132	82		1170	1250		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

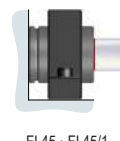
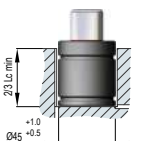
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



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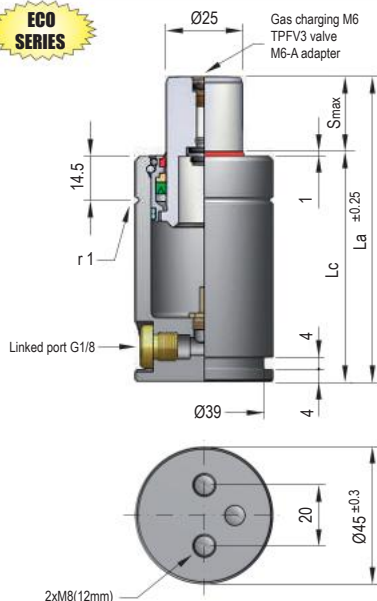


TECAPRES®

Ø45mm
740daN

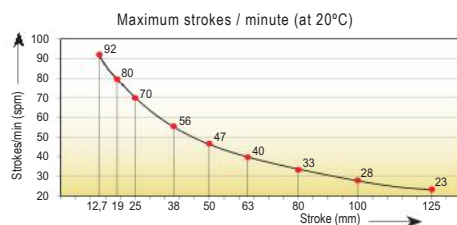
TPKS 750

**ECO
SERIES**

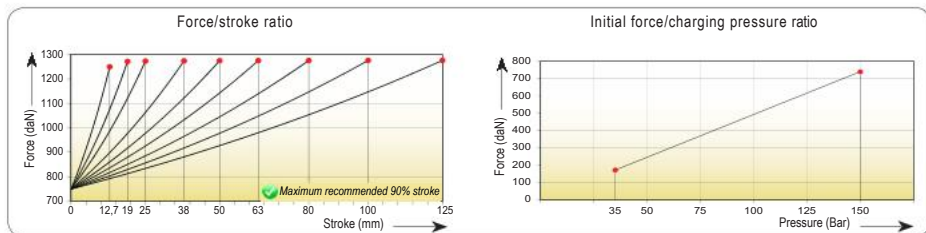


i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KS750

PED
2014/68/UE



Code	S _{max} 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% (20°C)	1150	1225	150 (20°C)	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



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**TECAPRES®**Ø50mm
740daN**TPKF 750**

MICRO

TITAN

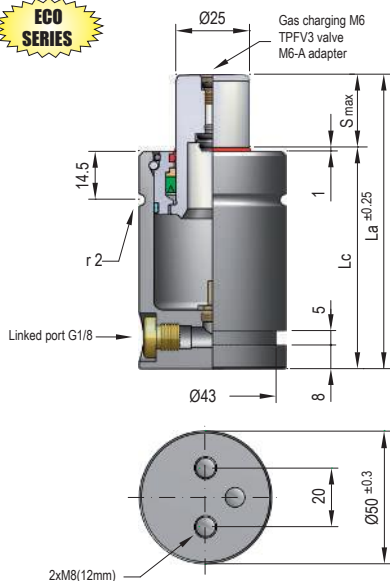
TPH

TPS

TPSP

TPF

TPK

**ECO
SERIES****i** Pressure medium**Gas Nitrógeno (N₂)**

Max. charging pressure

150 Bar

Min. charging pressure

35 Bar

Rod seal area

4,91 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

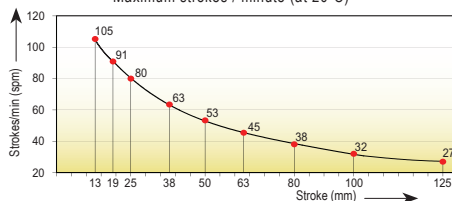
Max. stem speed

1,6 m/s

Maintenance kit

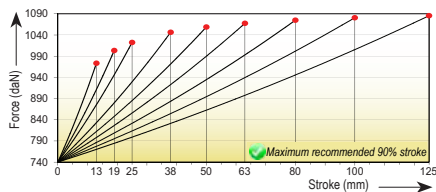
Kit KF750RENAULT
EM24.54700IF**VDI SAFETY**

Maximum strokes / minute (at 20°C)

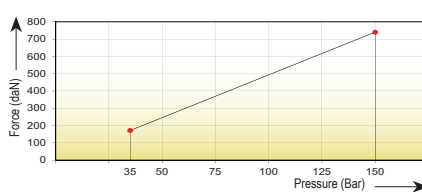


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPKF 750x13	13	75,7	62,7	740 ±5% (20°C)			935		960		150 (20°C)		0,027		0,72
TPKF 750x19	19	88	69				965		1000				0,036		0,75
TPKF 750x25	25	100	75				980		1015				0,044		0,80
TPKF 750x38	38	126	88				1000		1040				0,064		0,92
TPKF 750x50	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

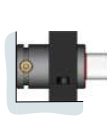
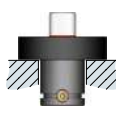
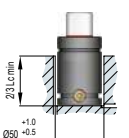
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 50 - FSC 50

FP 50 - FPR 50

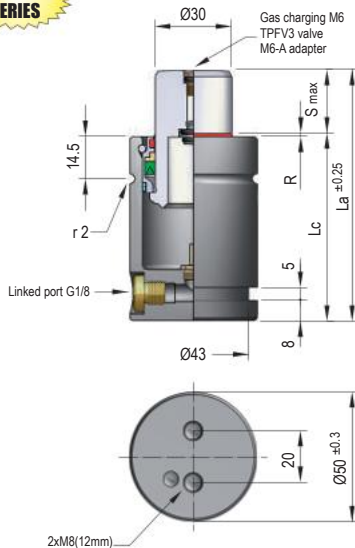
FRS 50

FB 45 - FB 50

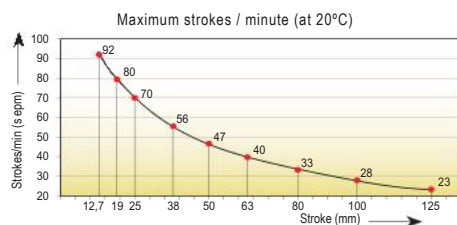
FI 50 - FI 50/1

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**TECAPRES®**Ø50mm
1000daN**TPKS 1000****ECO
SERIES**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit KS1000

PED
2014/68/UE

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDERHOT
FORMING

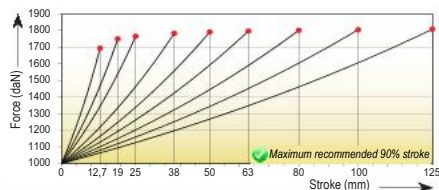
TPHT

TPSL

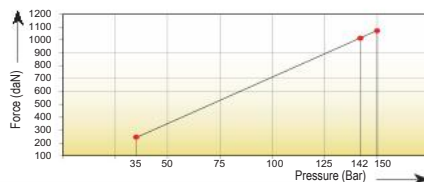


Code	Smax mm	La mm	Lc mm	R mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKS 1000x13	12,7	75,4	62,7	1	1000 ±5% (20°C)	1590	1700	142 (20°C)	0,022	0,59
TPKS 1000x19	19	88	69	1		1635	1755		0,031	0,62
TPKS 1000x25	25	100	75	1		1645	1770		0,041	0,69
TPKS 1000x38	38	126	88	1		1660	1790		0,061	0,81
TPKS 1000x50	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

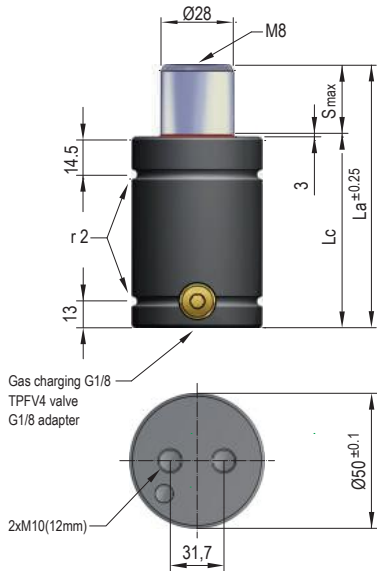


Assembly possibilities



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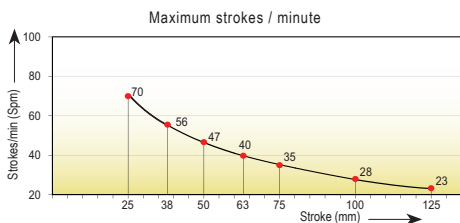
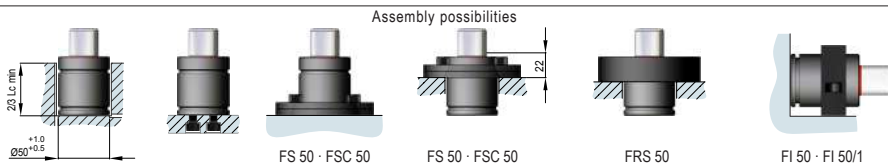
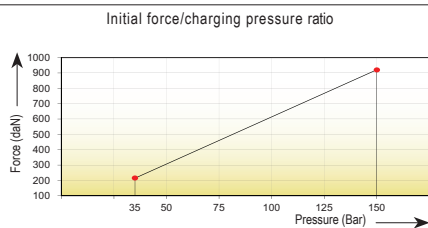
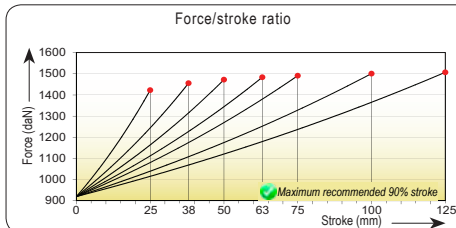
171

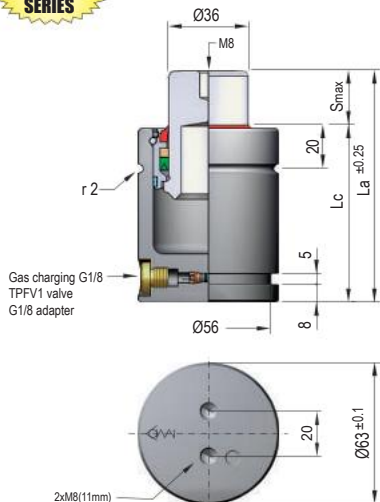


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KFR1000



RENAULT
EM24.54/700/F

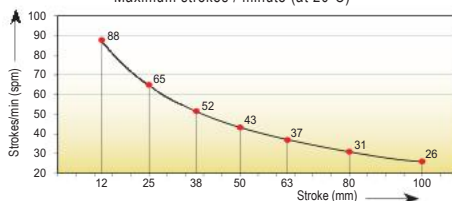
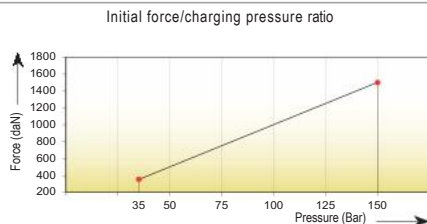
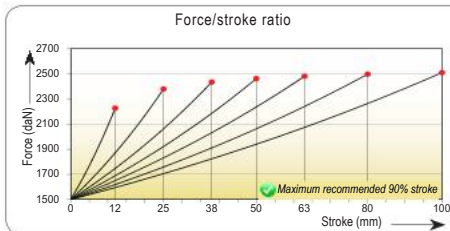
PSA
E24.54/815/G[illegible]

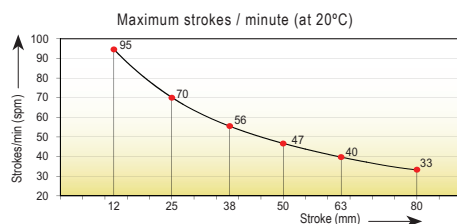
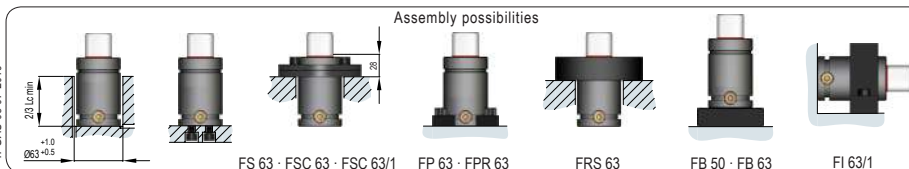
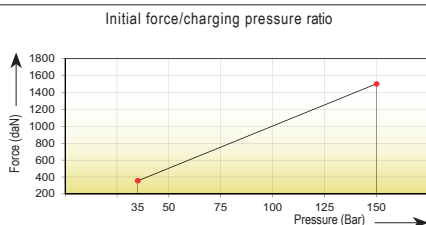
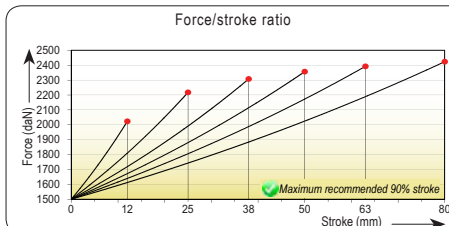


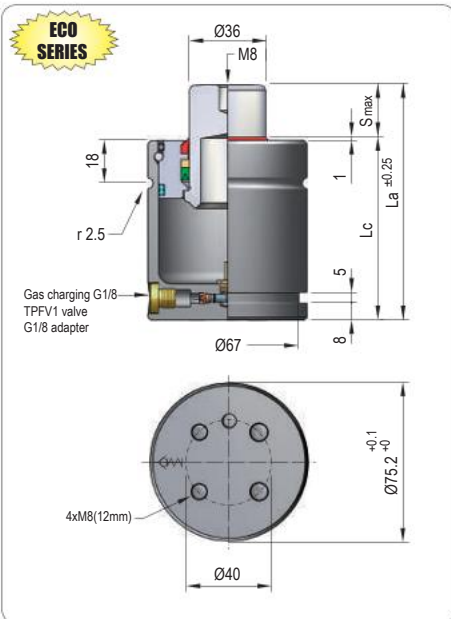
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit K1500.1



Maximum strokes / minute (at 20°C)

[illegible]

[illegible]



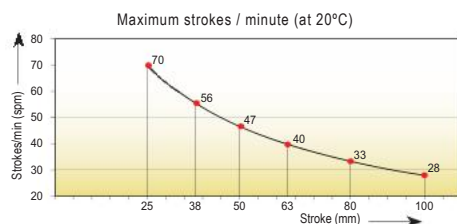
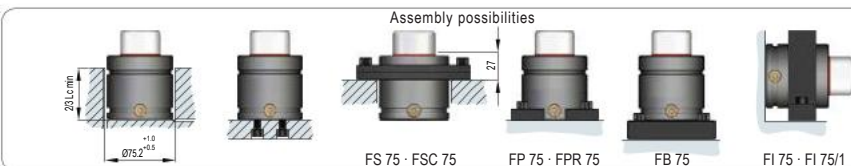
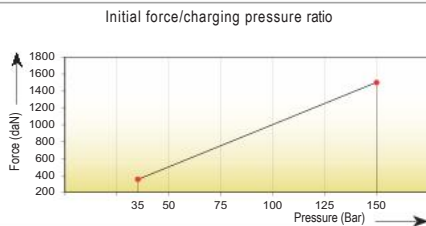
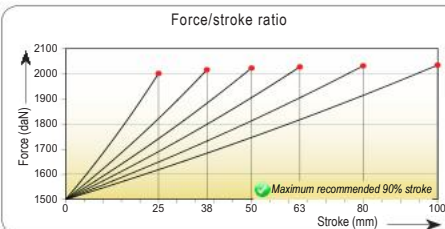
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KF1500



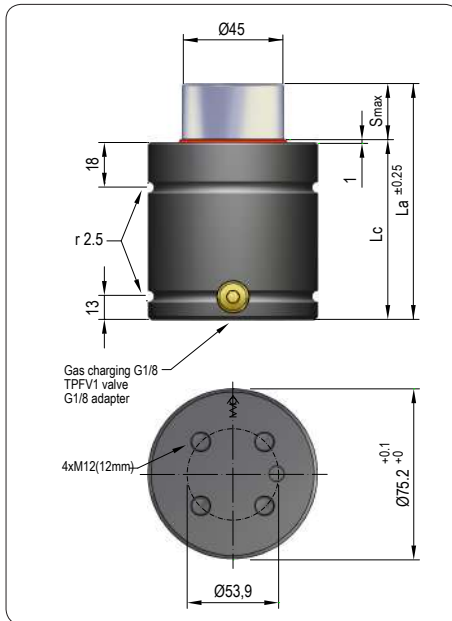
RENAULT
FM24 54/700/E



VDI SAFETY

[illegible]

i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK

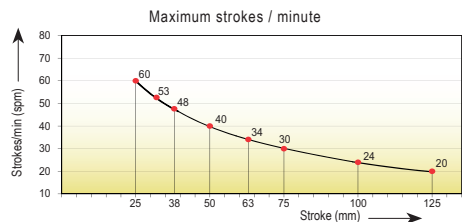


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KFR2400

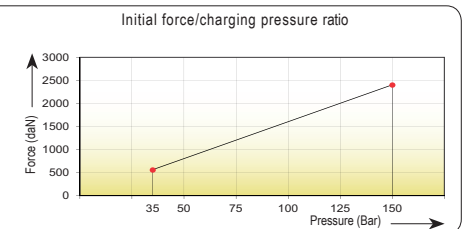
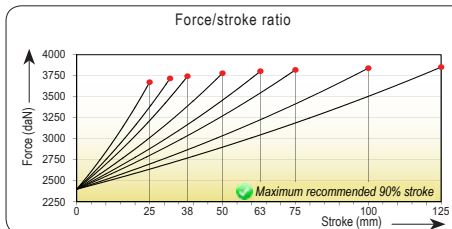


RENAULT
EM24.54/700/F

PSA
E24.54/815/G



Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPKFR 2400x25	12	109	84	2400 ±5% (20°C)	3470	3650	150 (20°C)	0,115	1,74
TPKFR 2400x38	25	135	97		3525	3725		0,168	1,99
TPKFR 2400x50	38	159	109		3555	3760		0,218	2,09
TPKFR 2400x63	50	185	122		3575	3785		0,271	2,39
TPKFR 2400x75	63	209	134		3585	3800		0,321	1,44
TPKFR 2400x100	80	259	159		3600	3820		0,424	2,89
TPKFR 2400x125	100	309	184		3610	3830		0,527	3,39



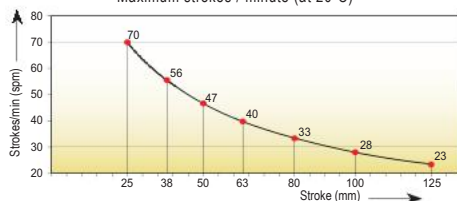


TPK 2500

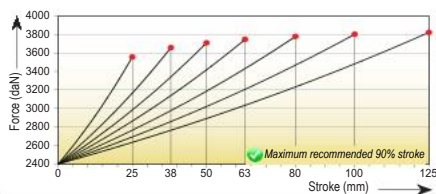
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	15,90 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit K2500



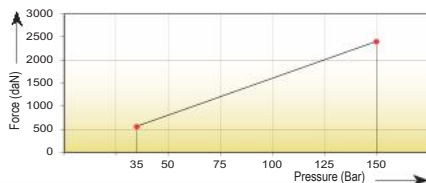
Maximum strokes / minute (at 20°C)

[illegible]

Force/stroke ratio



Initial force/charging pressure ratio



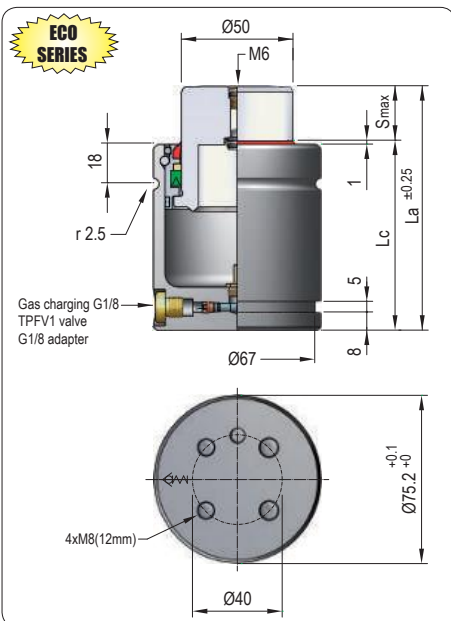
Assembly possibilities



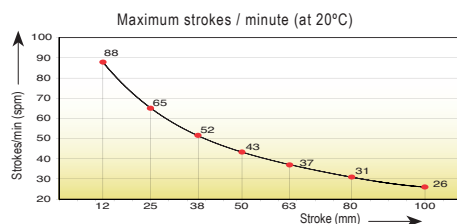
Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

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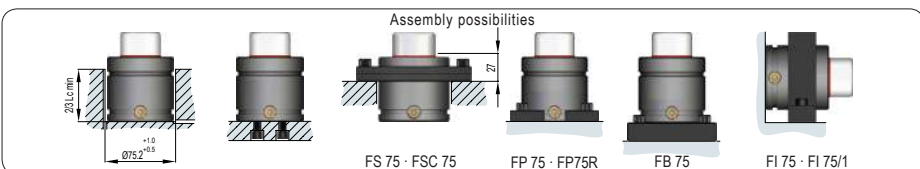
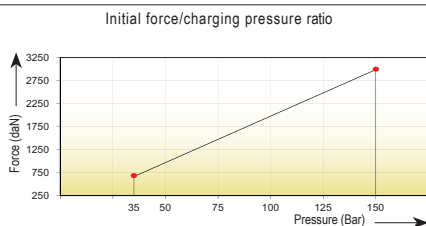
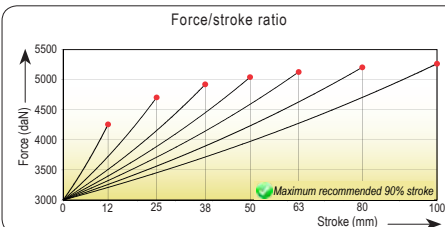
TPGAS 08 07-2019

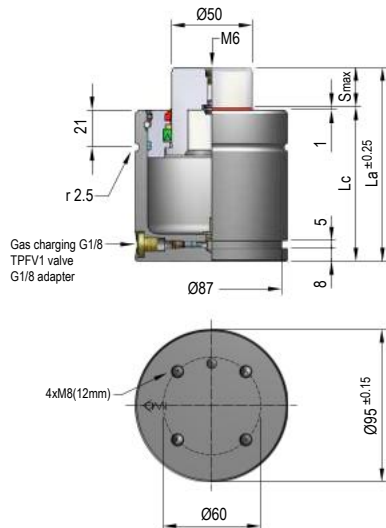


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit K3000



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% (20°C)	4090	4265	150 (20°C)	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





Gas charging G1/8
TPFV1 valve
G1/8 adapter

4xM8(12mm)

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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KF3000

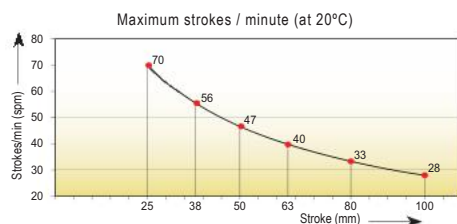
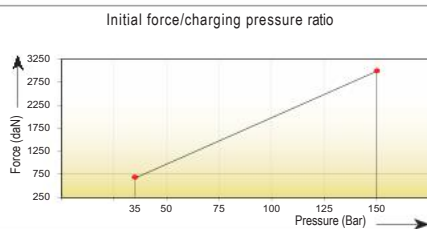
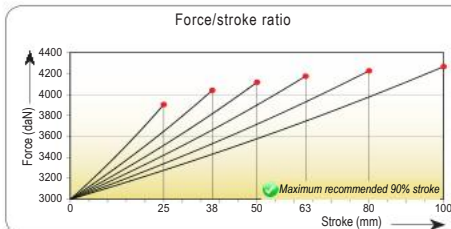


RENAULT
FM24 54/700/E



VDI SAFETY

08-05-90

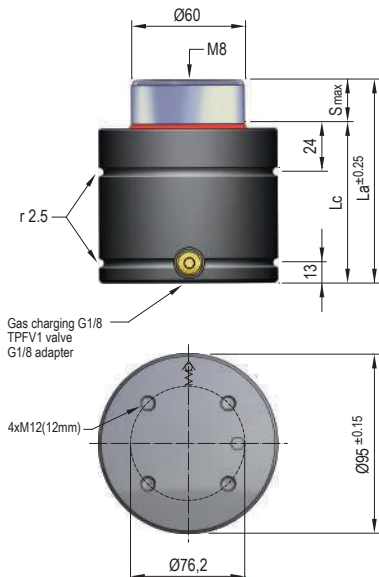
[illegible]

FS 95 · FSC 95

FP 95 · FP95R

FB 95

FI 95 -FI 95/1



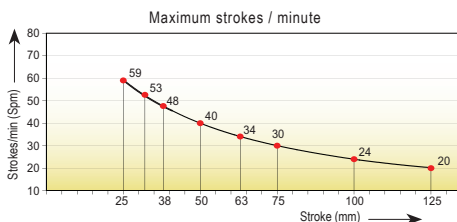
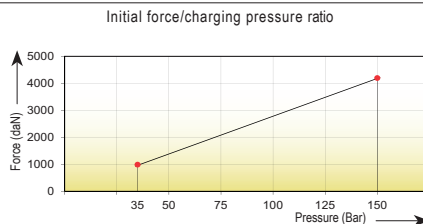
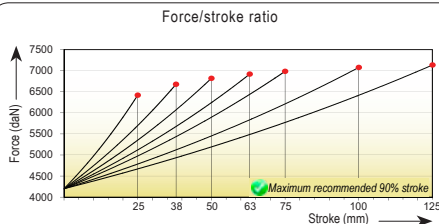
Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit KFR4200

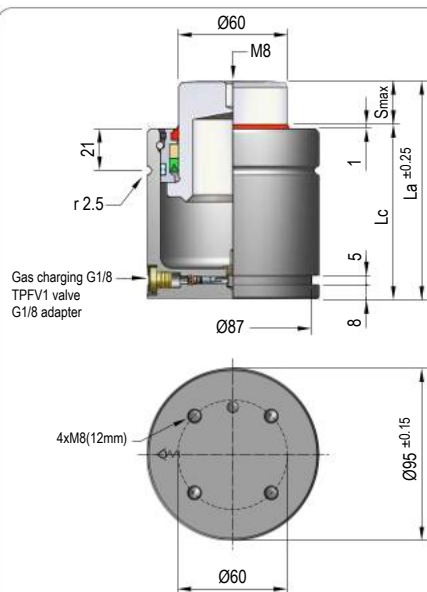


RENAULT
EM24.54/700/F

PSA
E24.54/815/G

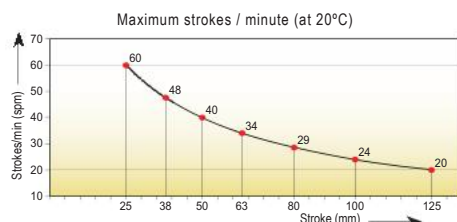
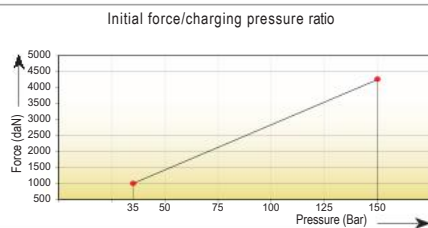
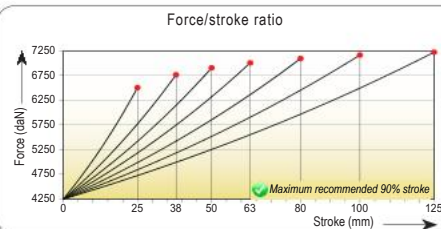
VDI SAFETY

[illegible]



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit K4250

PED
2014/68/UE

[illegible]



TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

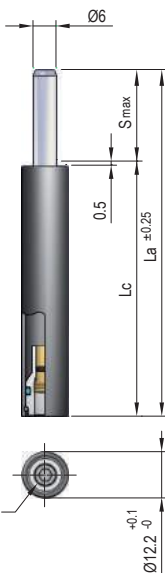
TPHT

TPSL



Medium compact gas springs

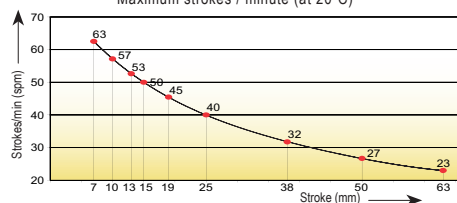
Code	ØBody mm	Strokes mm	 Fa daN		 ACTIVE SAFETY		
TPC 12	12	7 - 63	42	✓	✓		✓
TPC 14	14	15 - 80	50	✓	✓		✓
TPC 19.1	19	7 - 125	90	✓	✓		✓
TPC 25	25	7 - 125	200	✓	✓		✓
TPC 350	32	10 - 125	350	✓	✓		✓
TPC 500	38	10 - 80	500	✓	✓		✓
TPCR 500	M38x1,5	10 - 80	500	✓	✓		✓
TPC 1000	50	25 - 100	1000	✓	✓	✓	✓
TPC 1500	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	✓	✓	✓	✓



i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	20 Bar
Rod seal area	0,28 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit C12



Maximum strokes / minute (at 20°C)



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

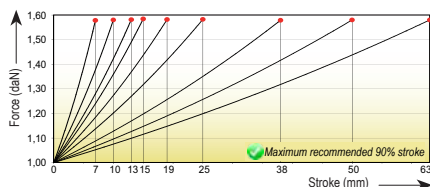
Color code	Fa daN	Fc daN	P Bar
GR (Green)	13 (±5%)	≈ 20	45
BL (Blue)	25 (±5%)	≈ 40	90
RD (Red)	38 (±5%)	≈ 60	135
YW (Yellow)	42 (±5%)	≈ 65	150
(Other forces)	6 - 42	≈ 10 - 65	20 - 150

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.

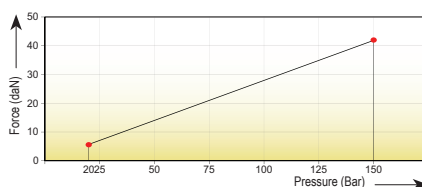
How to order

TPC 12 x 7 YW
Model Stroke Color code

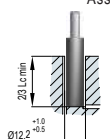
Force/stroke ratio

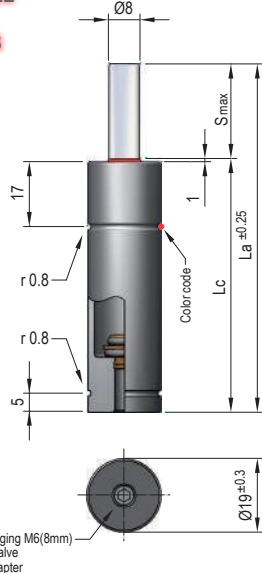


Initial force/charging pressure ratio

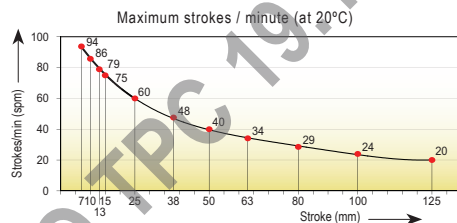


Assembly possibilities



**TECAPRES®**Ø19mm
90daN**TPC 19****AVAILABLE
WHILE
STOCKS
LAST**Gas charging M6(8mm)
TPFV3 valve
M6-C adapter

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,50 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit C19



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

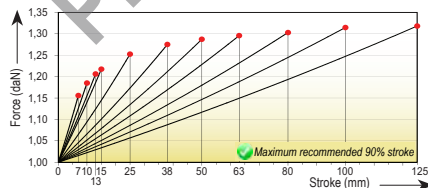
YW

Model

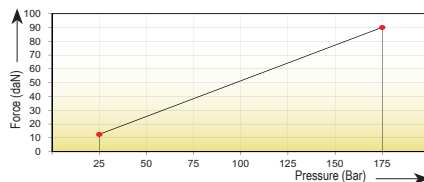
Stroke

Color code

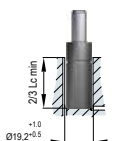
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 19 - FS 19/2

FS 19/1

FS 19 - FS 19/2

TPGAS 08.07.2019

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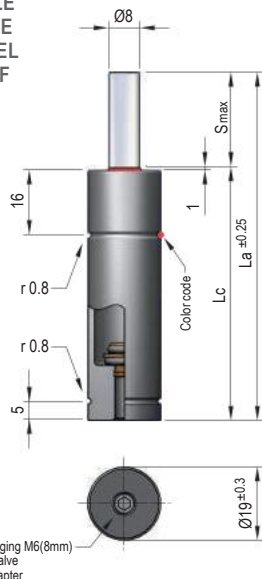


TECAPRES®

Ø19mm
90daN

TPC 19.1

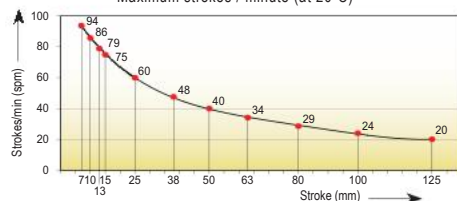
AVAILABLE
WHEN THE
OLD MODEL
IS OUT OF
STOCK



i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,50 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit C.19.1



Maximum strokes / minute (at 20°C)



TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPSL



Code	Smax mm	La mm	Lc mm	V l	Kg
TPC 19x7.1	7	56	49	0,002	0,08
TPC 19x10.1	10	62	52	0,003	0,08
TPC 19x13.1	13	67,4	54,4	0,003	0,08
TPC 19x15.1	15	72	57	0,004	0,09
TPC 19x25.1	25	92	67	0,006	0,10
TPC 19x38.1	38	118	80	0,008	0,12
TPC 19x50.1	50	142	92	0,011	0,13
TPC 19x63A.1	63	168	105	0,013	0,15
TPC 19x63.1	63	172	109	0,014	0,15
TPC 19x80A.1	80	202	122	0,016	0,16
TPC 19x80.1	80	205	125	0,017	0,17
TPC 19x100.1	100	245	145	0,021	0,18
TPC 19x125.1	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

125.1

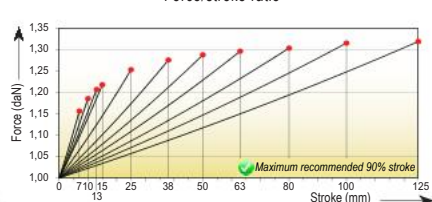
YW

Model

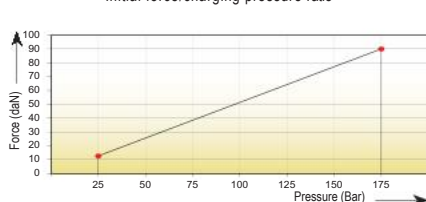
Stroke

Color code

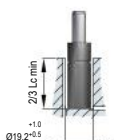
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 19 - FS 19/2

FS 19/1

FS 19 - FS 19/2

Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. - www.tecapres.com

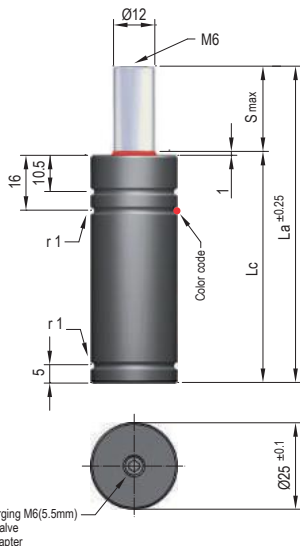


TECAPRES®

Ø25mm
200daN

TPC 25

i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC

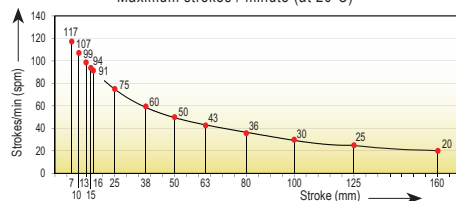


Gas charging M6(5.5mm)
TPFV3 valve
M6-C adapter

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit C25



Maximum strokes / minute (at 20°C)



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	0,006	0,15
TPC 25x16	16	74,3	58,3	0,007	0,15
TPC 25x25	25	92	67	0,010	0,16
TPC 25x38	38	118	80	0,014	0,19
TPC 25x50	50	142	92	0,019	0,21
TPC 25x63	63	172	109	0,022	0,25
TPC 25x80	80	205	125	0,028	0,26
TPC 25x100	100	245	145	0,035	0,29
TPC 25x125	125	295	170	0,046	0,33
TPC 25x160	160	373	213	0,063	0,33

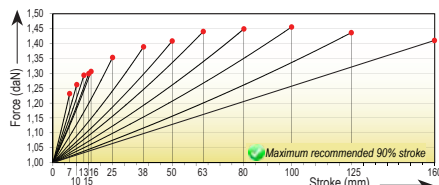
Color code	Fa daN	Fc daN	P Bar
GR (Green)	50 (±5)	≈ 71	45
BL (Blue)	100 (±10)	≈ 143	90
RD (Red)	150 (±15)	≈ 214	135
YW (Yellow)	200 (±20)	≈ 277	175
(Other forces)	28 - 200	≈ 40 - 277	25 - 175

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.

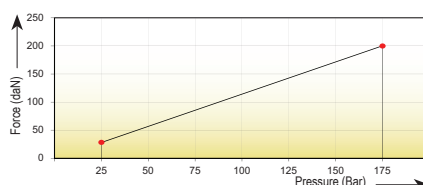
How to order

TPC 25	x	50	BL
Model		Stroke	Color code

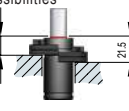
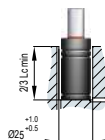
Force/stroke ratio



Initial force/charging pressure ratio



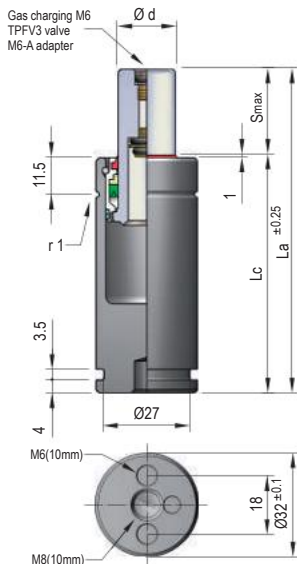
Assembly possibilities



FS 25 · FS 25/2

FS 25 · FS 25/2

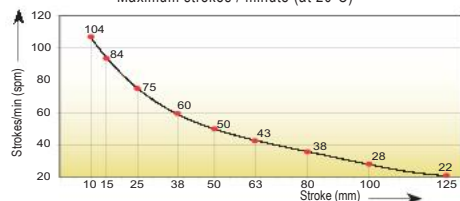
TPGAS 08.07.2019

**TECAPRES®**Ø32mm
350daN**TPC 350.1**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	Ø18mm - 2,54 cm ² Ø16mm - 2,01 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Ø18mm - KIT C350/18 Ø16mm - KIT C350/16

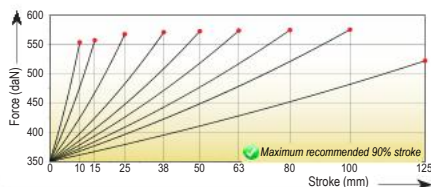


Maximum strokes / minute (at 20°C)

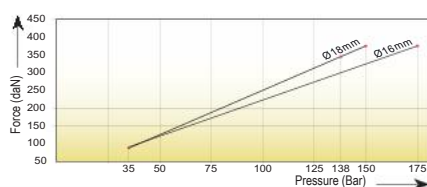


Code	Smax mm	La mm	Lc mm	d mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 350x10.1	10	70	60	18	350 ±5% (20°C)	520	550	138 (20°C)	0,007	0,28
TPC 350x15.1	15	80	65	18		525	555		0,010	0,30
TPC 350x25.1	25	100	75	18		535	565		0,017	0,32
TPC 350x38.1	38	126	88	18		535	570		0,025	0,36
TPC 350x50.1	50	150	100	18		537	570	175 (20°C)	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		0,076	0,65

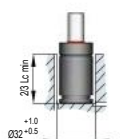
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 32 - FS 32/1



FP 32 - FPR 32



FI 32 - FI 32/1

TPGAS 08.07.2019

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189

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

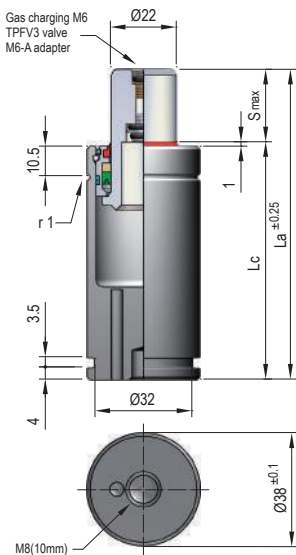
TPHT

TPSL

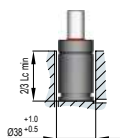
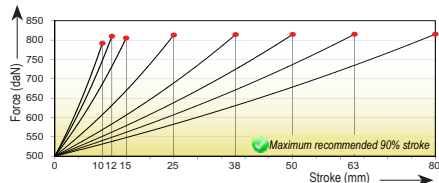




Ø38mm
500daN

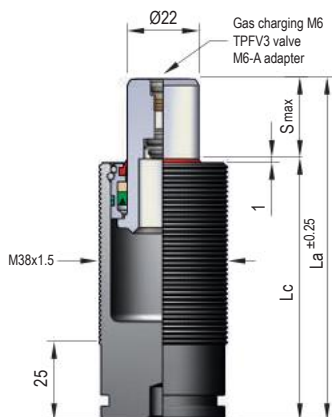


VDI SAFETY

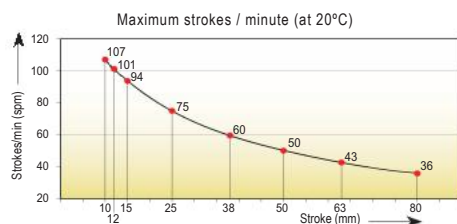
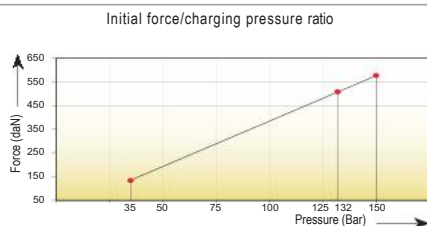
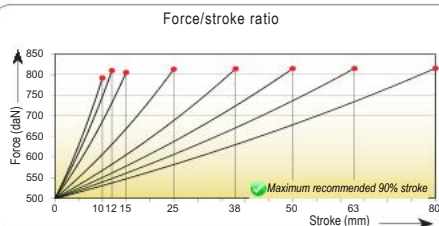
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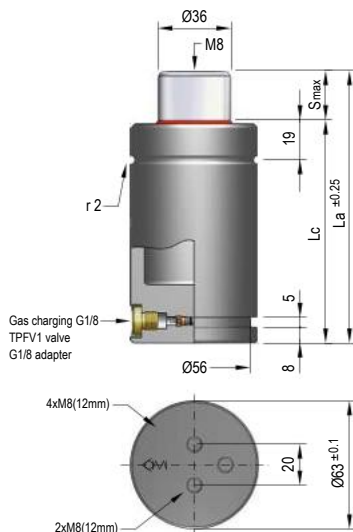
FS 38 · FSC 38

FI 38 - FI 38/1

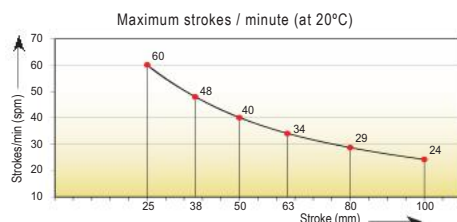


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit CR500

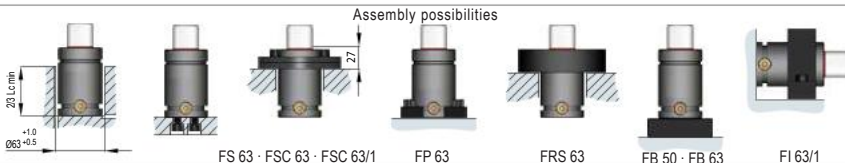
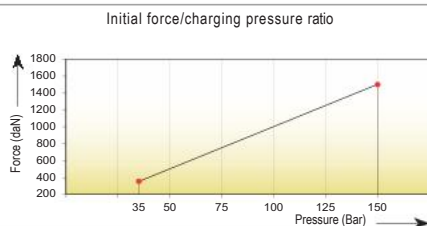
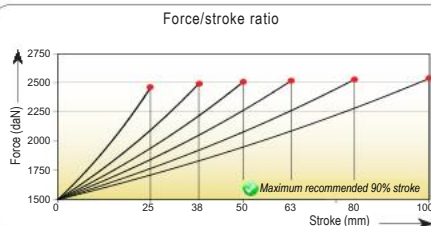
[illegible]

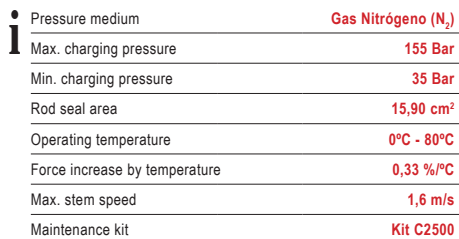


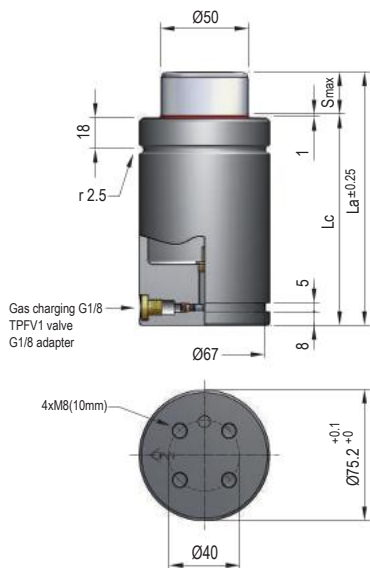
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit C1500



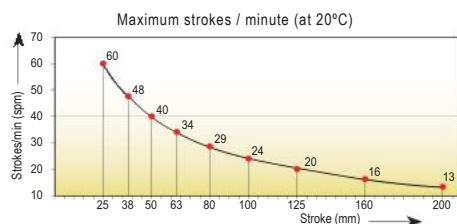
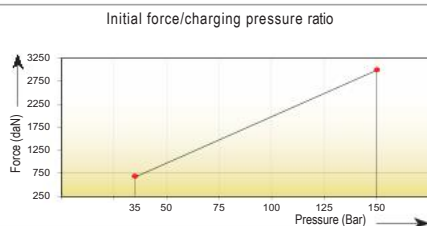
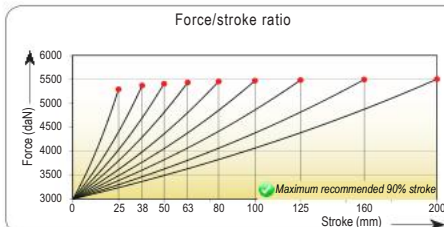
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPC 1500x25	25	135	110	1500 ±5% (20°C)	2275	2420	148 (20°C)	0,065	1,86
TPC 1500x38	38	161	123		2300	2450		0,097	2,10
TPC 1500x50	50	185	135		2310	2470		0,127	2,25
TPC 1500x63	63	211	148		2320	2480		0,159	2,30
TPC 1500x80	80	245	165		2330	2485		0,200	2,55
TPC 1500x100	100	285	185		2335	2495		0,249	3,15
Old reference	New reference	Catalogue							
TPC 1500x125	TPSP 1500x125								
TPC 1500x160	TPSP 1500x160	Pag. 134							

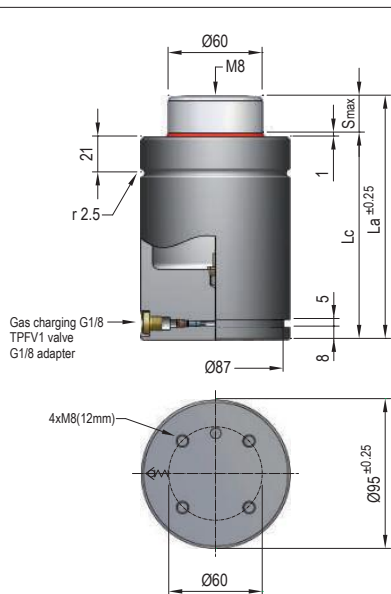






Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,8 m/s
Maintenance kit	Kit C3000

[illegible]



i

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

150 Bar

Min. charging pressure

35 Bar

Rod seal area

28,27 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

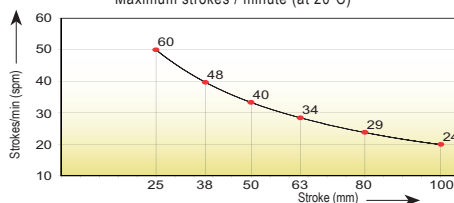
Max. stem speed

1,6 m/s

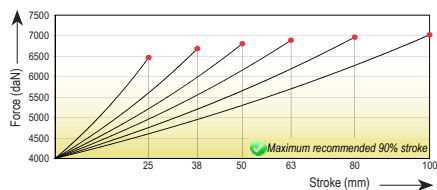
Maintenance I

Kit C4000

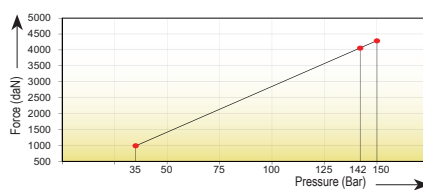
Maximum strokes / minute (at 20°C)

[illegible]

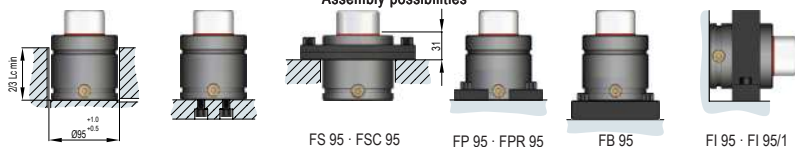
Force/stroke ratio

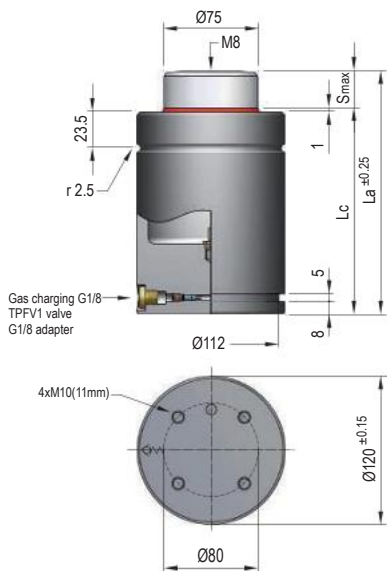


Initial force/charging pressure ratio

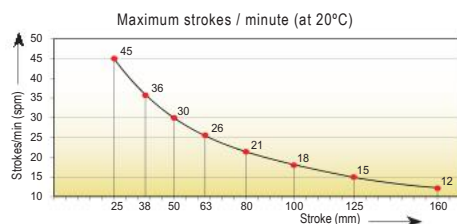
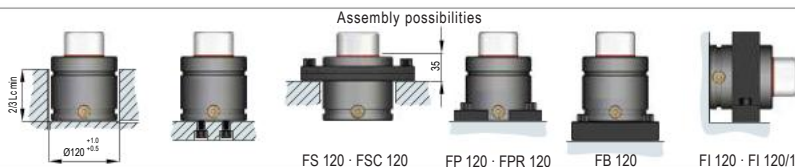
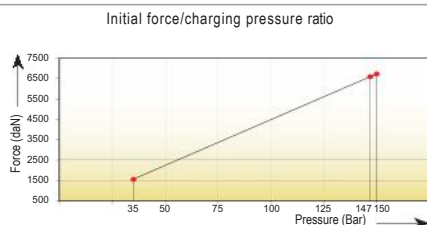
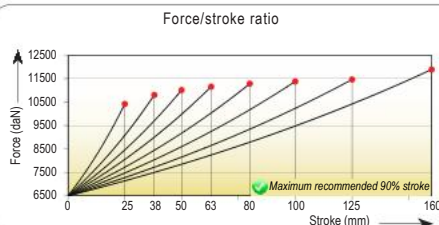


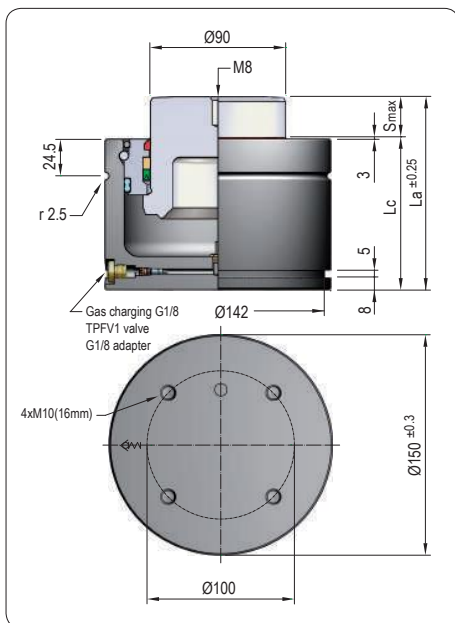
Assembly possibilities



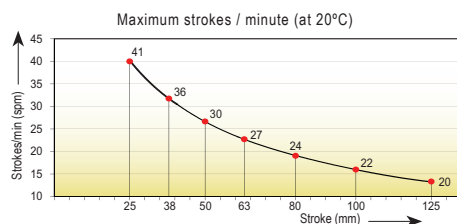
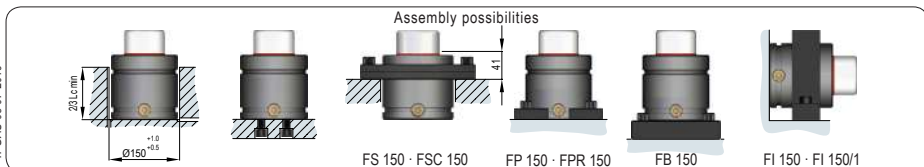
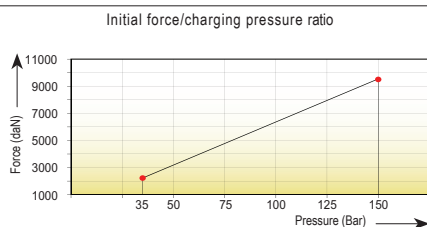
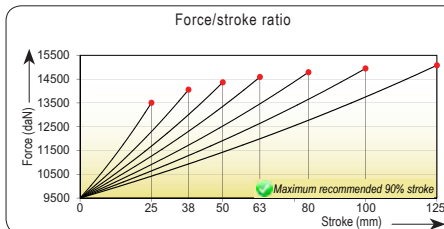


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	44,18 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit C6500

[illegible]



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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit C10000

[illegible]



TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

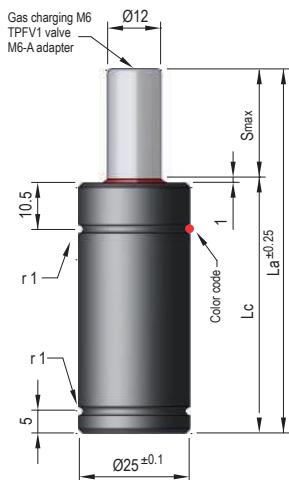
TPHT

TPSL



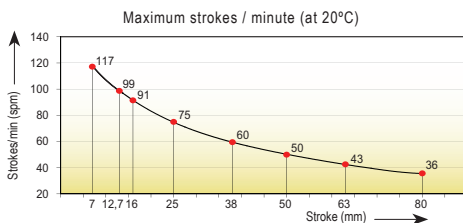
Medium compact gas springs

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	✓	✓	✓	✓



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

Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit CT25



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

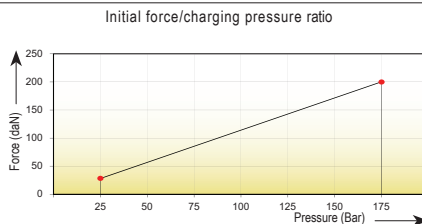
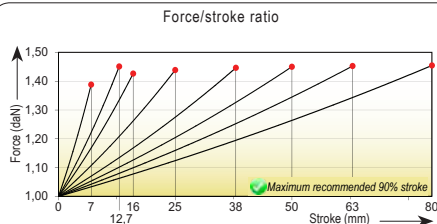
TPCT 25 x 38 YW

YW

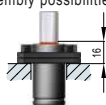
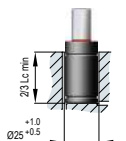
Model

Stroke

Color code

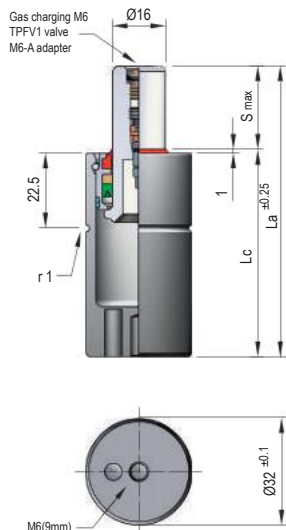


Assembly possibilities



FS 25 · FS 25/2

FS 25 · FS 25/2



- Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

150 Bar

Min. charging pressure

25 Bar

Rod seal area

2,01 cm²

Operating temperature

°C - 80°C

Force increase by temperature

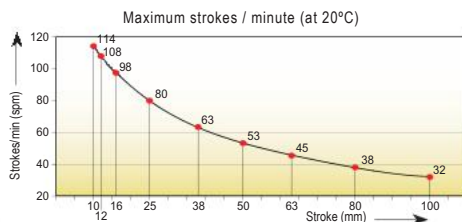
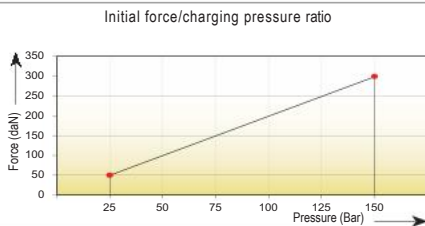
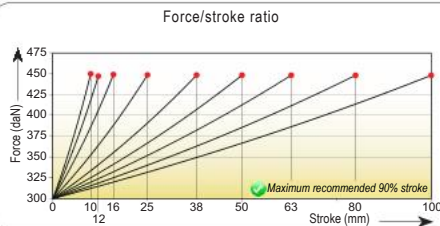
0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

Kit CT300

[illegible]

Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

**TECAPRES®**Ø32mm
450daN**TPCT 450**

MICRO

TITAN

TPH

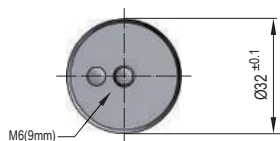
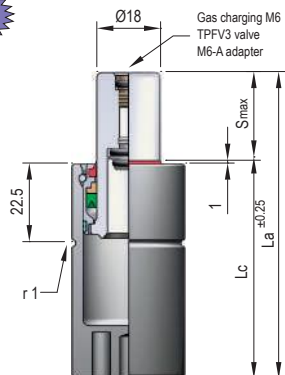
TPS

TPSP

TPF

TPK

TPC

TPCT**POWER**

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

25 Bar

Rod seal area

2,54 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

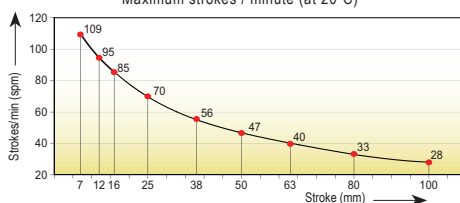
Max. stem speed

1,2 m/s

Maintenance kit

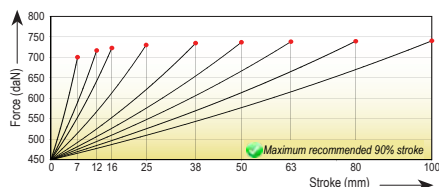
Kit CT450**VDI SAFETY**

Maximum strokes / minute (at 20°C)

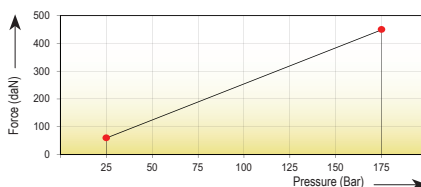


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPCT 450x7	7	51	44	450 ±5% (20°C)			655		695		175 (20°C)		0,005		0,16
TPCT 450x12	12	61	49				670		710				0,008		0,17
TPCT 450x16	16	69	53				675		715				0,011		0,18
TPCT 450x25	25	87	62				680		725				0,017		0,20
TPCT 450x38	38	113	75				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

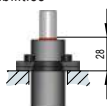
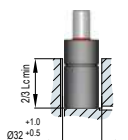
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



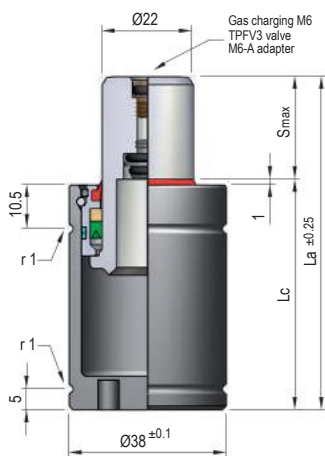
FS 32 · FS 32/1 · FSC 32

FI 32 · FI 32/1

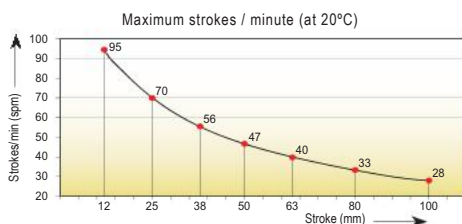
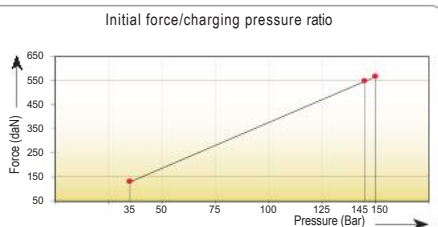
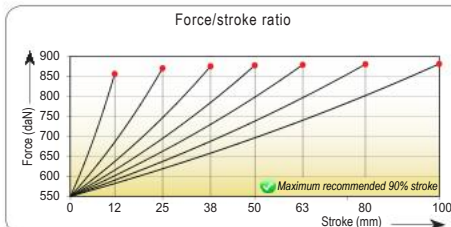
TPGAS 08.07.2019

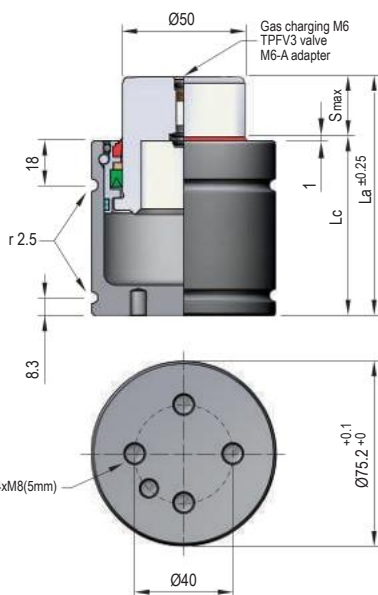
202

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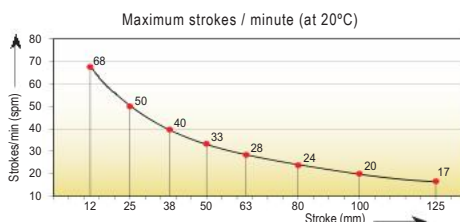
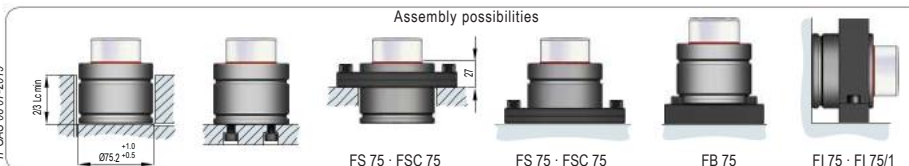
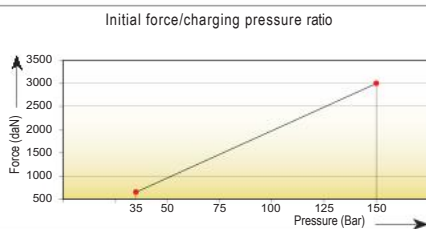
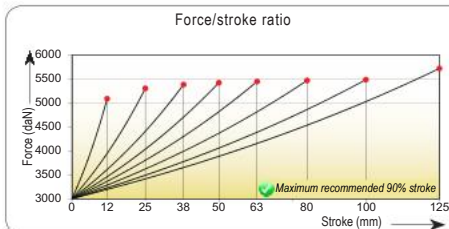


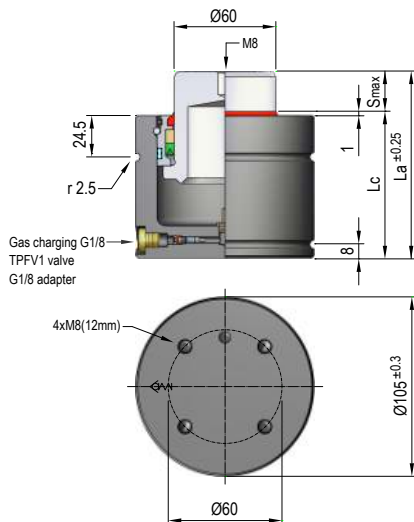
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit CT550

[illegible]

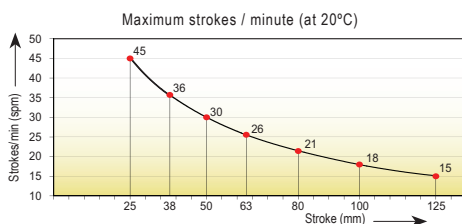
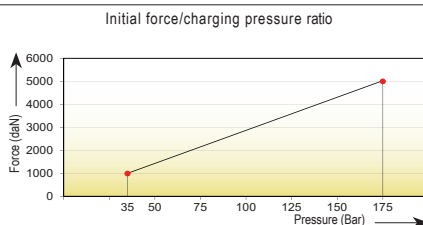
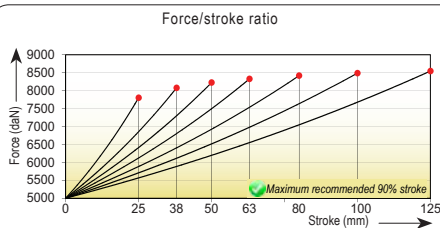


Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,6 m/s
Maintenance kit	Kit CT3000

[illegible]



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	28,27 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit CT5000

[illegible]

Assembly possibilities



FB 95



TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

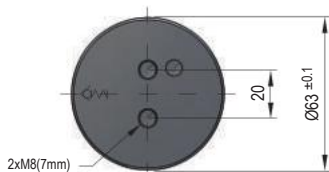
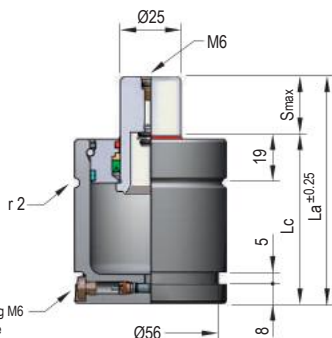
TPHT

TPSL

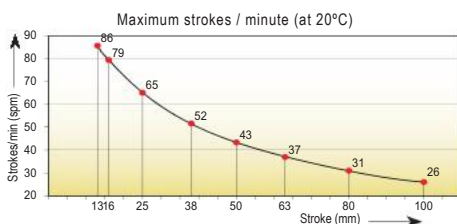


Low compression gas springs

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	✓	✓	✓

**TECAPRES®**Ø63mm · Low compression
850daN**TPB 850**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit B850



Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPB 850x13	13	70	57	850 ±5% (20°C)			980		995		175 (20°C)		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

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

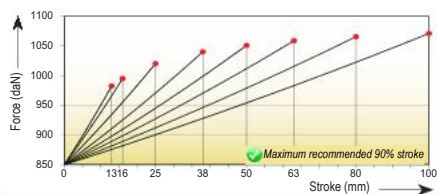
STOP
CYLINDERHOT
FORMING

TPHT

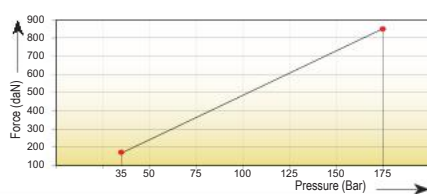
TPSL



Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 63 · FSC 63 · FSC 63/1

FP 63 · FPR 63

FB 50 · FB 63

FRS 63

FI 63/1

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**TECAPRES®**Ø75mm · Low compression
740daN**TPB 750**

MICRO

TITAN

TPH

TPS

TPSP

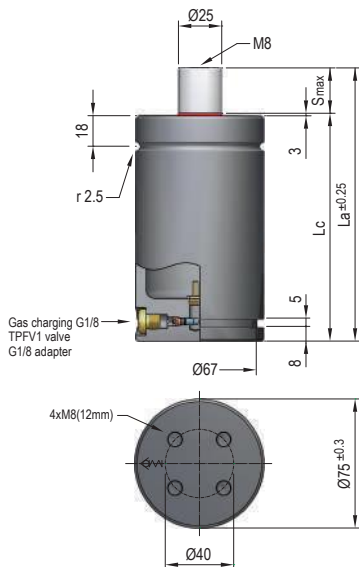
TPF

TPK

TPC

TPCT

TPB



Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

150 Bar

Min. charging pressure

35 Bar

Rod seal area

4,91 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

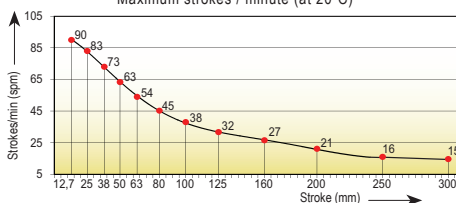
Kit B750



VDI SAFETY

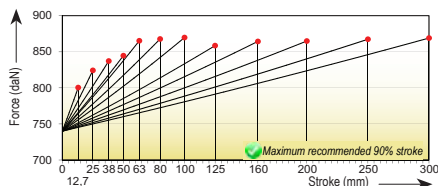


Maximum strokes / minute (at 20°C)

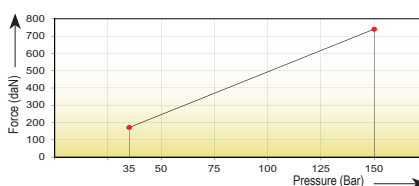


Code	Smm mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V	Kg
TPB 750x13	12,7	120,4	107,7	740 ±5% (20°C)	790	795	150 (20°C)	0,083	3,00
TPB 750x25	25	145	120		810	820		0,120	3,15
TPB 750x38	38	171	133		820	835		0,161	3,35
TPB 750x50	50	195	145		830	840		0,198	3,50
TPB 750x63	63	222	159		845	860		0,214	3,75
TPB 750x80	80	255	175		850	865		0,267	4,30
TPB 750x100	100	295	195		850	865		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

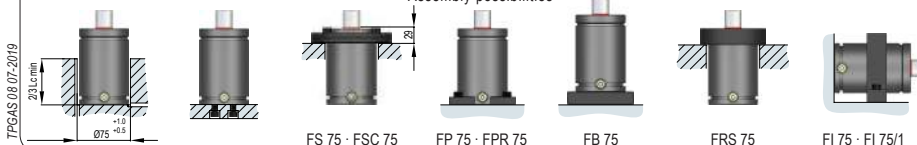
Force/stroke ratio



Initial force/charging pressure ratio

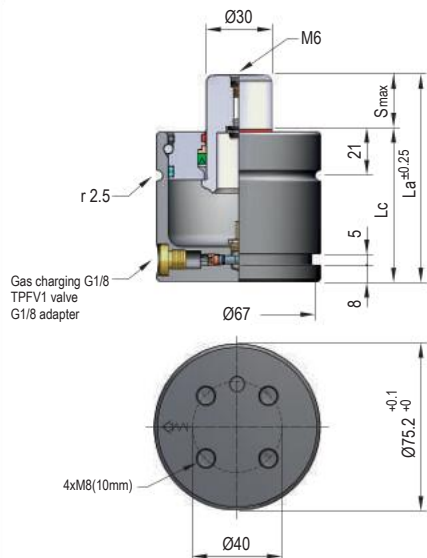


Assembly possibilities



TPGAS 08.07.2019

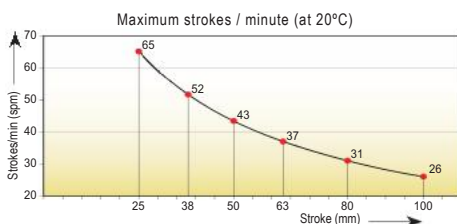
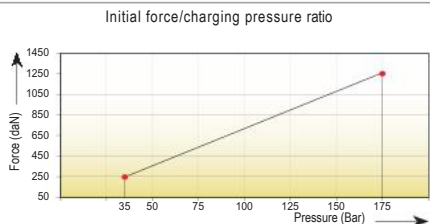
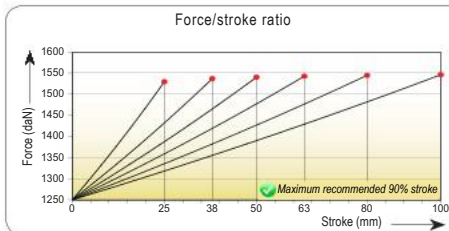
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Gas charging G1/8
TPFV1 valve
G1/8 adapter

4xM8(10mm)

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

[illegible]

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**TECAPRES®**Ø95mm · Low compression
1500daN**TPB 1500**

MICRO

TITAN

TPH

TPS

TPSP

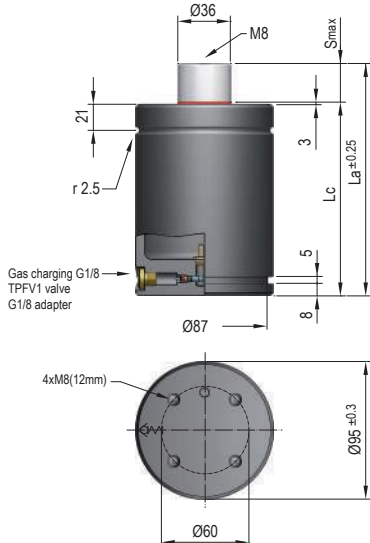
TPF

TPK

TPC

TPCT

TPB



Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

150 Bar

Min. charging pressure

35 Bar

Rod seal area

10,18 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

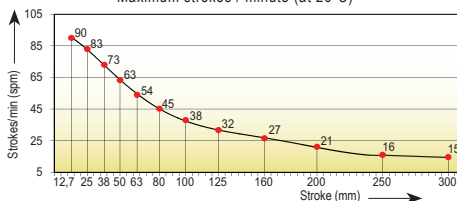
Kit B1500



VDI SAFETY

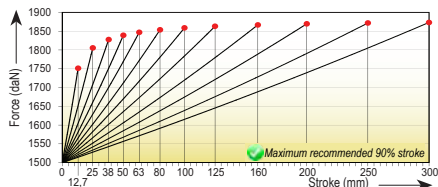


Maximum strokes / minute (at 20°C)

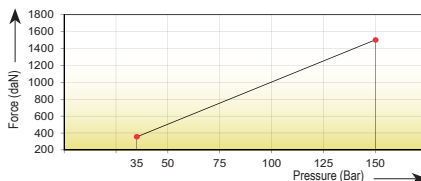


Code	S _{max} mm	L _a mm	L _c mm	F _a daN	90% F daN	100% F _c daN	P Bar	V l	Kg
TPB 1500x13	12,7	135,4	122,7	1500 ±5% (20°C)	1730	1760	148 (20°C)	0,090	5,25
TPB 1500x25	25	160	135		1775	1815		0,150	5,50
TPB 1500x38	38	186	148		1795	1835		0,216	5,90
TPB 1500x50	50	210	160		1805	1845		0,276	6,28
TPB 1500x63	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

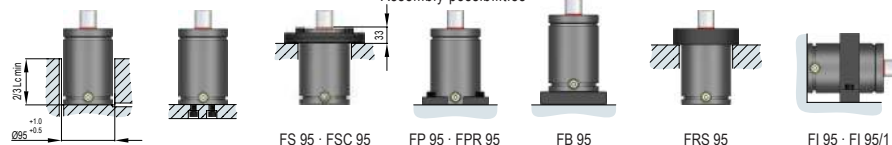
Force/stroke ratio



Initial force/charging pressure ratio

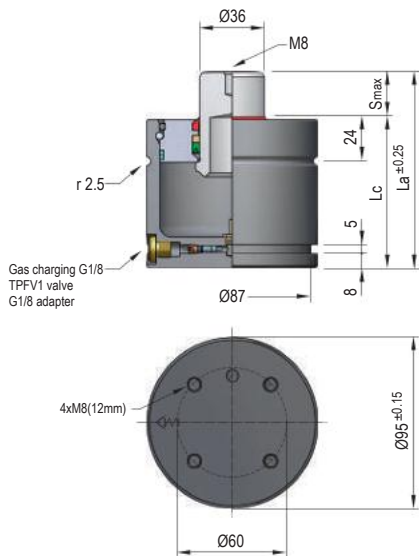


Assembly possibilities

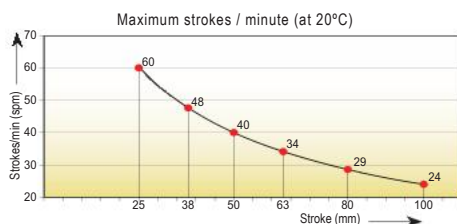
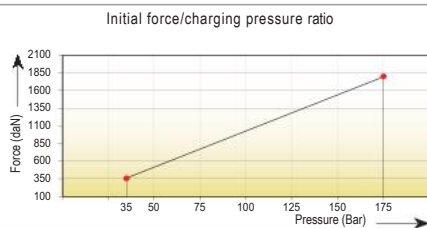
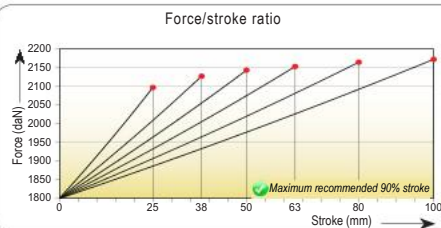


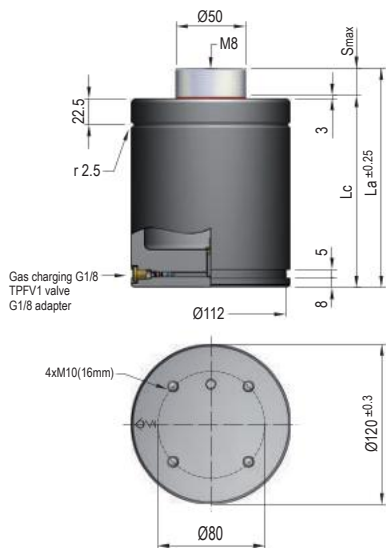
TPGAS 08 07-2019

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

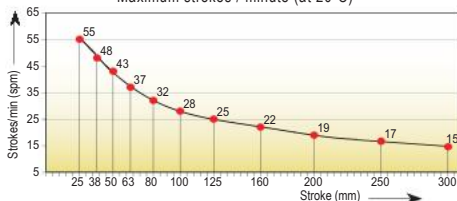
[illegible]

**TECAPRES®**Ø120mm · Low compression
3000daN**TPB 3000**Gas charging G1/8
TPPV1 valve
G1/8 adapter

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit B3000

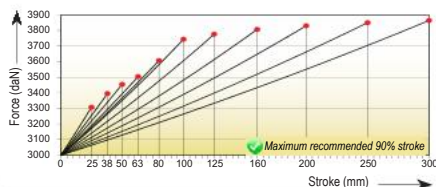
PED
2014/68/UE

Maximum strokes / minute (at 20°C)

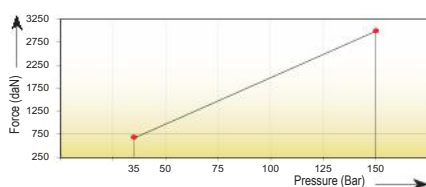


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 3000x25	25	170	145	3000 ±5% (20°C)	3280	3315	150 (20°C)	0,527	11,75
TPB 3000x38	38	196	158		3275	3310		0,641	12,70
TPB 3000x50	50	220	170		3410	3460		0,746	13,45
TPB 3000x63	63	247	184		3450	3510		0,860	14,25
TPB 3000x80	80	280	200		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



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TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL



**TECAPRES®**Ø150mm · Low compression
5000daN**TPB 5000**

MICRO

TITAN

TPH

TPS

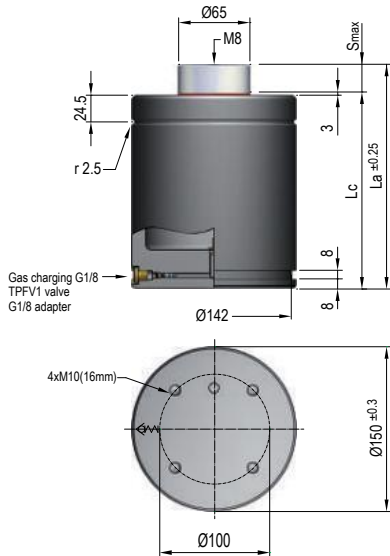
TPSP

TPF

TPK

TPC

TPCT

TPB

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

150 Bar

Min. charging pressure

35 Bar

Rod seal area

33,18 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

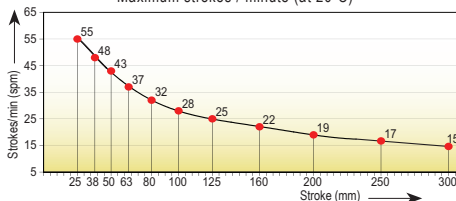
Max. stem speed

1,6 m/s

Maintenance kit

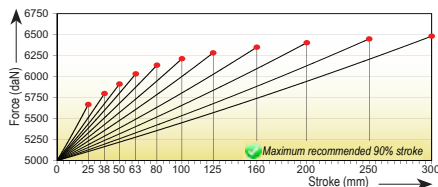
Kit B5000**VDI SAFETY**

Maximum strokes / minute (at 20°C)

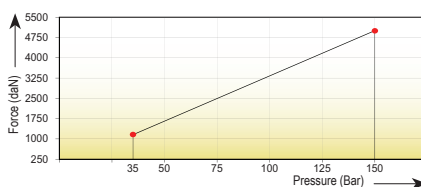


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPB 5000x25	25	190	165	5000 ±5% (20°C)	5570	5645	150 (20°C)	0,702	18,50
TPB 5000x38	38	216	178		5685	5585		0,915	19,30
TPB 5000x50	50	240	190		5780	5885		1,074	20,10
TPB 5000x63	63	267	204		5885	6005		1,220	21,00
TPB 5000x80	80	300	220		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

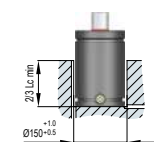
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



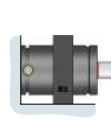
FS 150 · FSC 150



FP 150



FB 150



FI 150 · FI 150/1

TPGAS 08.07.2019



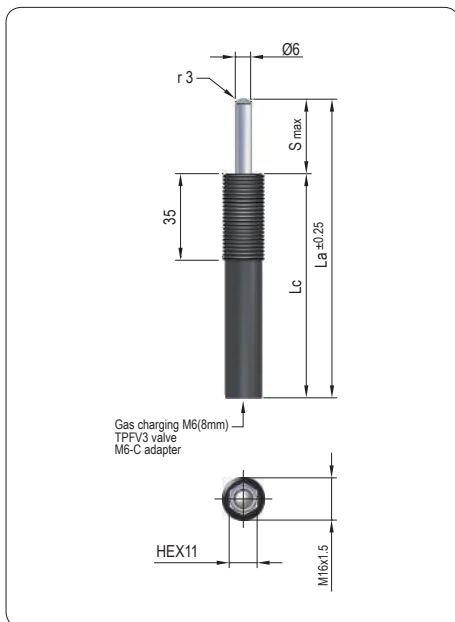
Threaded body gas springs

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 - 125	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 38.1	M38 x 1,5	13 - 80	250	✓	✓	✓
TPR 45	M45 x 1,5	13 - 100	740	✓	✓	✓
TPR 50	M50 x 1,5	13 - 100	1000	✓	✓	✓





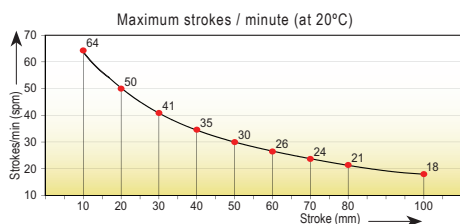
i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	0,28 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit R16



VDI SAFETY



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

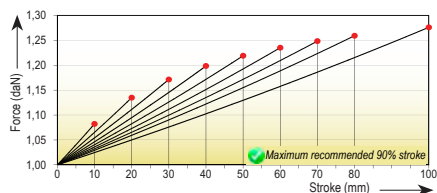
TPR 16 x 20 F50

Model

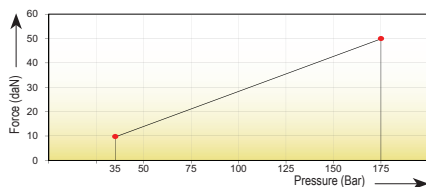
Stroke

Force

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FR 16

FR 16

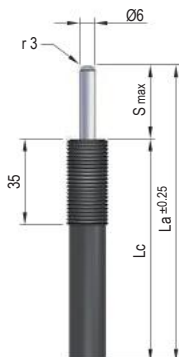
TPR 16 KEY



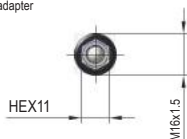
TECAPRES®

M16x1,5
50daN

TPRB 16



Gas charging M6(8mm)
TPFV3 valve
M6-C adapter



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	35 Bar
Rod seal area	0,28 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit RB16

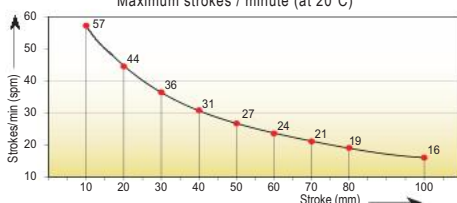
PED
2014/68/UE



VDI SAFETY



Maximum strokes / minute (at 20°C)



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

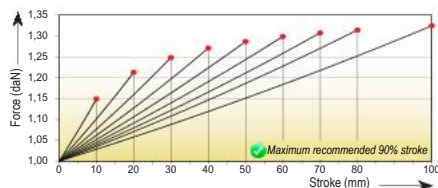
TPRB 16 x 40 F30

Model

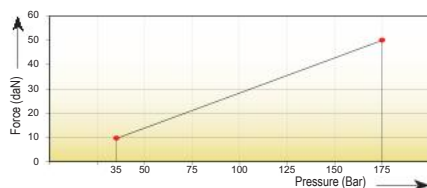
Stroke

Force

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FR 16

FR 16

TPR 16 KEY

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219

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

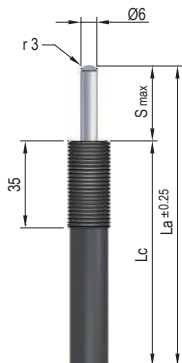
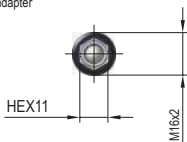
HOT

FORMING

TPHT

TPSL

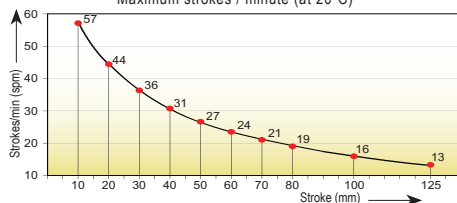


**TECAPRES®****M16x2
40daN****TPRC 16**Gas charging M6(8mm)
TPFV3 valve
M6-C adapter

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	140 Bar
Min. charging pressure	20 Bar
Rod seal area	0,28 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit RC16

**VDI SAFETY**

Maximum strokes / minute (at 20°C)



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

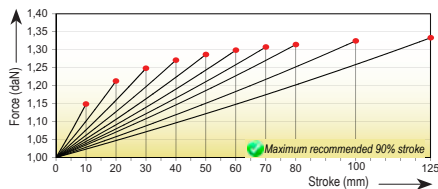
Code	Fa daN	Fc daN	P Bar
TPRC 16x ... F6	6 (±5%)	≈ 7	20
TPRC 16x ... F10	10 (±5%)	≈ 13	35
TPRC 16x ... F15	15 (±5%)	≈ 18	50
TPRC 16x ... F20	20 (±5%)	≈ 25	70
TPRC 16x ... F25	25 (±5%)	≈ 32	90
TPRC 16x ... F30	30 (±5%)	≈ 40	110
TPRC 16x ... F35	35 (±5%)	≈ 45	125
TPRC 16x ... F40	40 (±5%)	≈ 50	140

How to order

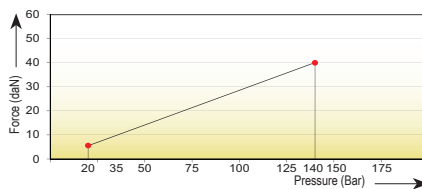
TPRC 16 x **60** **F6**

Model Stroke Force

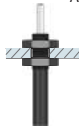
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FRC 16

FRC 16

TPR 16 KEY

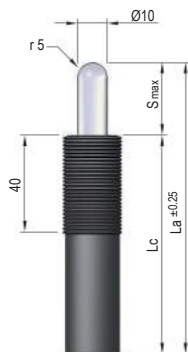
TPGAS 08.07.2019



TECAPRES®

M24x1,5
140daN

TPR 24



Gas charging M6(8mm)
TPR24 valve
M6-C adapter



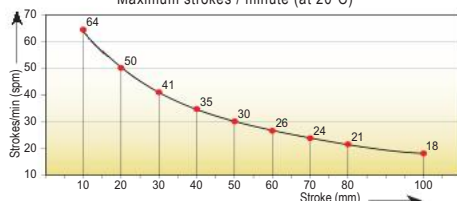
i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,78 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit R24



VDI SAFETY



Maximum strokes / minute (at 20°C)



Code	Smax mm	La mm	Lc mm	V l	Kg
TPR 24x10	10	80	70	0,009	0,20
TPR 24x20	20	100	80	0,012	0,22
TPR 24x30	30	120	90	0,015	0,24
TPR 24x40	40	140	100	0,017	0,25
TPR 24x50	50	160	110	0,020	0,27
TPR 24x60	60	180	120	0,022	0,30
TPR 24x70	70	200	130	0,025	0,35
TPR 24x80	80	220	140	0,027	0,41
TPR 24x100	100	260	160	0,032	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

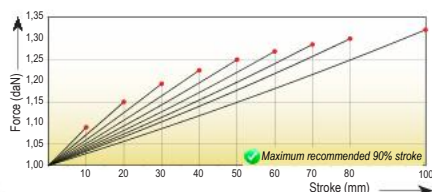
TPR 24 x 60 F140

Model

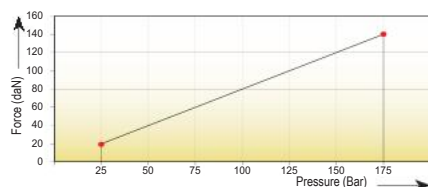
Stroke

Force

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FR 24

FR 24

TPR 24 KEY

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TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

TPSL

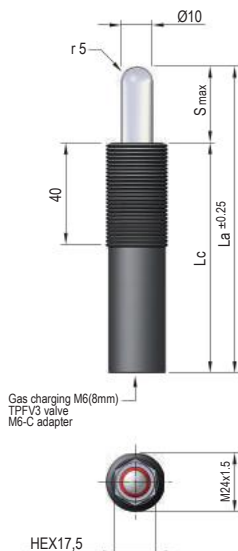
TPSL

TPSL

TPSL



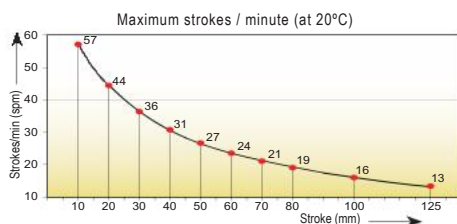
i
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR



Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,78 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit RB24



VDI SAFETY



Code	Smax mm	La mm	Lc mm	V l	Kg
TPRB 24x10	10	65	55	0,006	0,18
TPRB 24x20	20	85	65	0,008	0,20
TPRB 24x30	30	105	75	0,011	0,22
TPRB 24x40	40	125	85	0,013	0,23
TPRB 24x50	50	145	95	0,016	0,25
TPRB 24x60	60	165	105	0,018	0,28
TPRB 24x70	70	185	115	0,021	0,32
TPRB 24x80	80	205	125	0,024	0,38
TPRB 24x100	100	245	145	0,029	0,48
TPRB 24x125	125	295	170	0,035	0,61

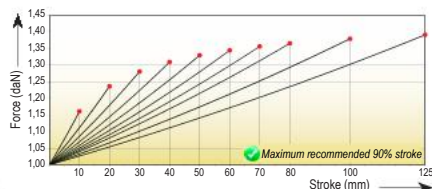
Code	Fa daN	Fc daN	P Bar
TPRB 24x ... F20	20 (±5%)	≈ 25	25
TPRB 24x ... F40	40 (±5%)	≈ 55	50
TPRB 24x ... F60	60 (±5%)	≈ 80	75
TPRB 24x ... F80	80 (±5%)	≈ 105	100
TPRB 24x ... F100	100 (±5%)	≈ 135	125
TPRB 24x ... F120	120 (±5%)	≈ 160	150
TPRB 24x ... F140	140 (±5%)	≈ 185	175

How to order

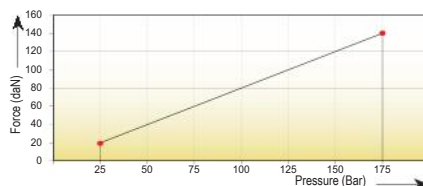
TPRB 24 x 30 F80

Model Stroke Force

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FR 24

FR 24

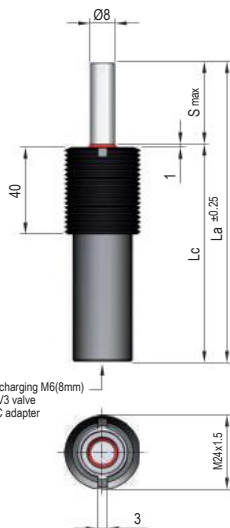
TPR 24 KEY



TECAPRES®

M24x1,5
90daN

TPRC 24



Gas charging M6(8mm)
TPFV3 valve
M6-C adapter

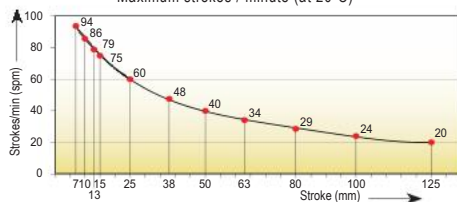
i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	20 Bar
Rod seal area	0,50 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit RC24



VDI SAFETY



Maximum strokes / minute (at 20°C)



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

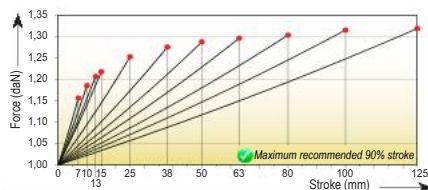
TPRC 24 x 100 F50

Model

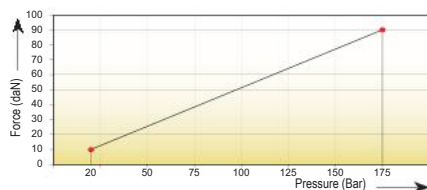
Stroke

Force

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FR 24

FR 24

TPGAS 08.07.2019

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TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL





MICRO

TITAN

TPH

TPS

TPSP

TPF

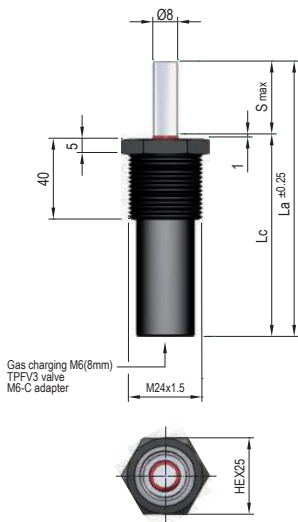
TPK

TPC

TPCT

TPB

TPR



Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

20 Bar

Rod seal area

0,50 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

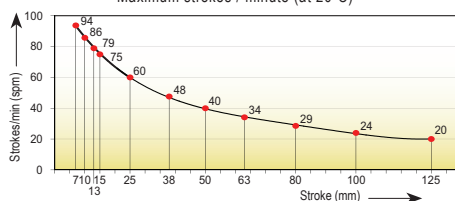
Kit RT24



VDI SAFETY



Maximum strokes / minute (at 20°C)



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

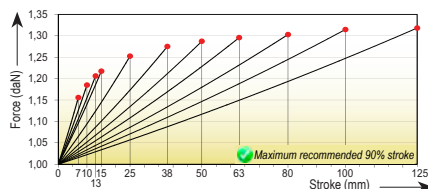
TPRT 24 x 10 F40

Model

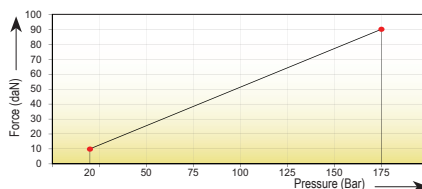
Stroke

Force

Force/stroke ratio

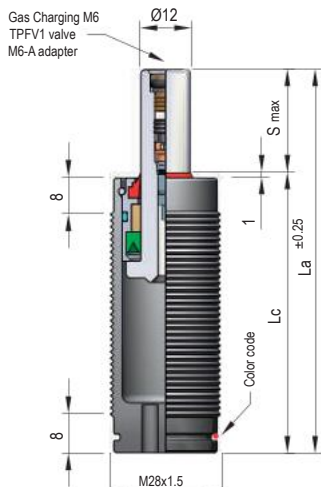


Initial force/charging pressure ratio

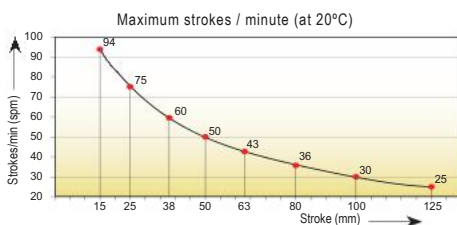


Assembly possibilities





i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit R28

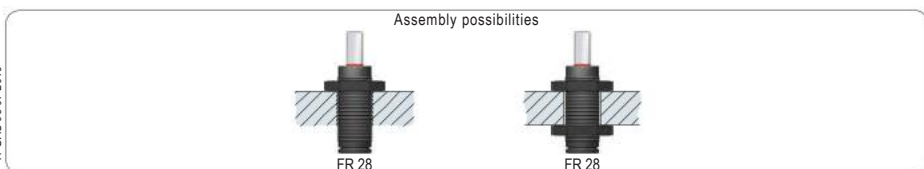
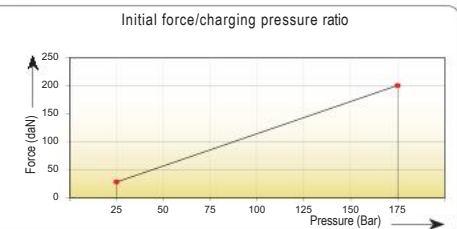
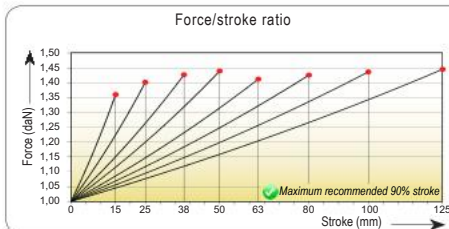


Code	Smax mm	La mm	Lc mm	V I	Kg
TPR 28x15	15	72	57	0,006	0,15
TPR 28x25	25	92	67	0,010	0,17
TPR 28x38	38	118	80	0,014	0,20
TPR 28x50	50	142	92	0,019	0,22
TPR 28x63	63	172	109	0,024	0,25
TPR 28x80	80	205	125	0,030	0,30
TPR 28x100	100	242	142	0,037	0,35
TPR 28x125	125	292	167	0,046	0,38

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
Model	Stroke	Color code
		RD





TECAPRES®

M38x1,5
250daN

TPR 38.1

MICRO

TITAN

TPH

TPS

TPSP

TPF

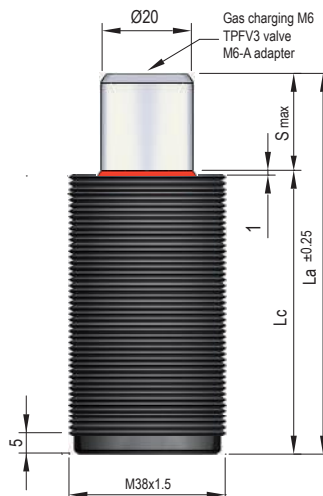
TPK

TPC

TPCT

TPB

TPR



Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

100 Bar

Min. charging pressure

35 Bar

Rod seal area

3,14 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

Kit R38.1

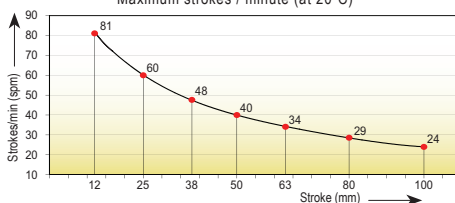


VDI SAFETY



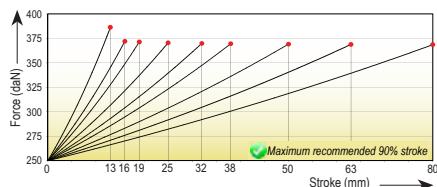
RE-20-32

Maximum strokes / minute (at 20°C)

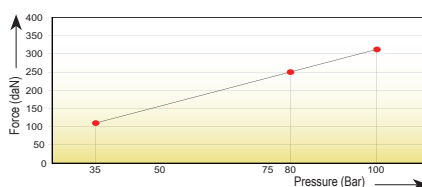


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPR 38x13.1	13	56	43	250 ±5% (20°C)	370		370		390		80 (20°C)		0,012		0,28
TPR 38x16.1	16	62	46				355		375				0,015		0,30
TPR 38x19.1	19	68	49				355		375				0,018		0,32
TPR 38x25.1	25	80	55				355		370				0,024		0,33
TPR 38x32.1	32	94	62				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



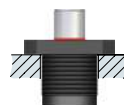
Assembly possibilities



FR 38

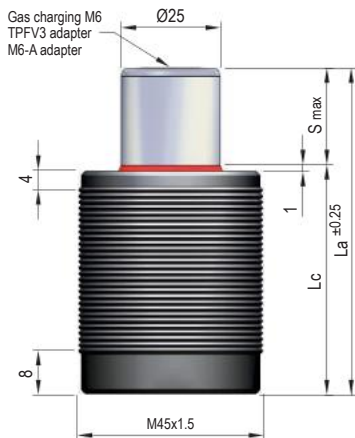


FR 38

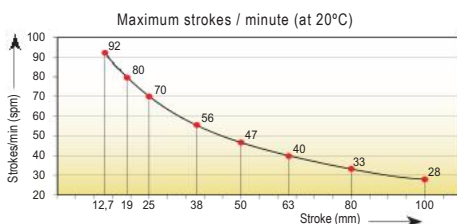
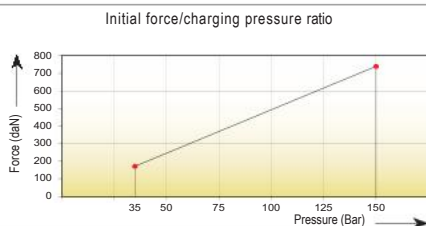
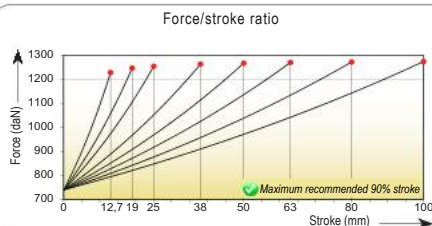


FRS 38

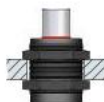
TPCAS 08 07 2019



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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit R45

[illegible]

Assembly possibilities



FR 45

FR 45

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TPR

TPA

TPG

TPSR

11.000

TPNS

STOP

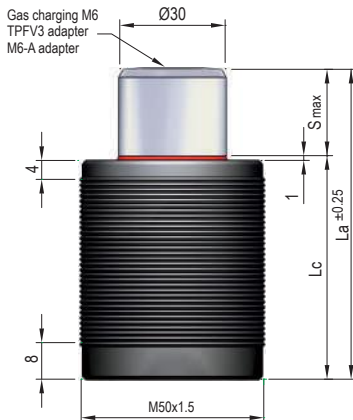
CYLINDER

FORMING

TPHT

TPSI





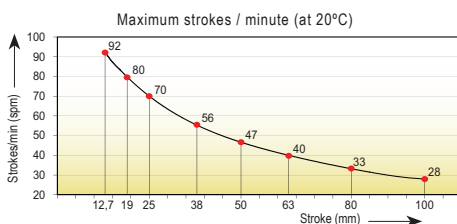
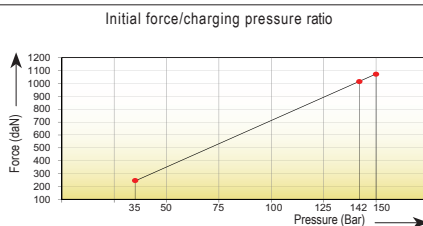
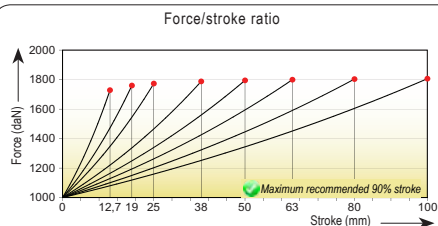
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	7,07 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit R50



VDI SAFETY



3F-3

[illegible]

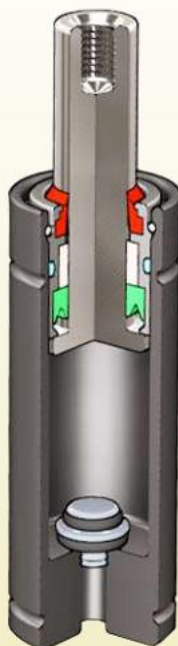
Assembly possibilities



FR 50



FR 50



TPA
TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



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	✓	✓		✓





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

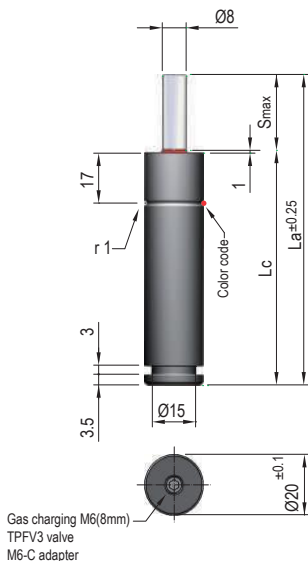
TPCT

TPB

TPR

TPA

TPG



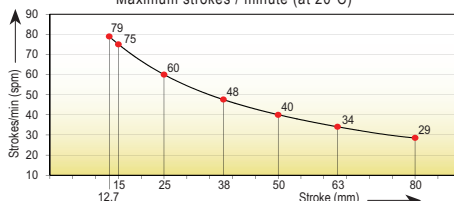
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	0,50 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit A20



VDI SAFETY



Maximum strokes / minute (at 20°C)



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

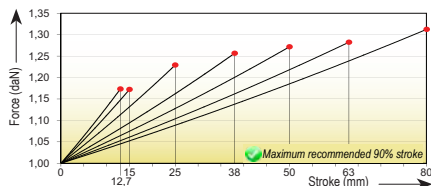
Color code	Fa daN	Fc daN	P Bar
GR (Green)	25 (±5%)	≈ 32	50
BL (Blue)	50 (±5%)	≈ 65	100
RD (Red)	75 (±5%)	≈ 96	150
YW (Yellow)	90 (±5%)	≈ 116	175
(Other forces)	13 - 90	≈ 16 - 116	25 - 175

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.

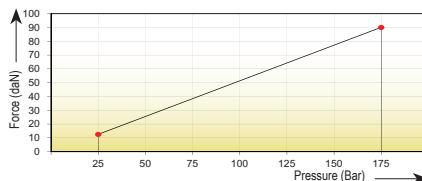
How to order

TPA 20 x 15 GR
Model Stroke Color code

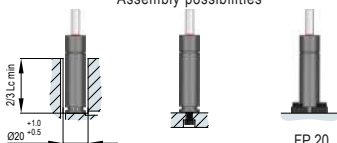
Force/stroke ratio



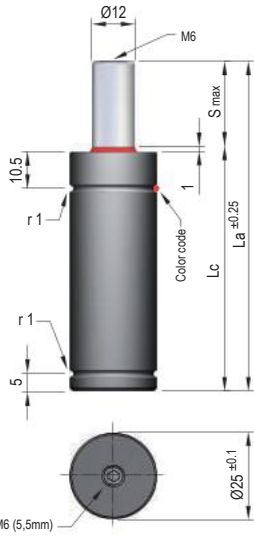
Initial force/charging pressure ratio



Assembly possibilities



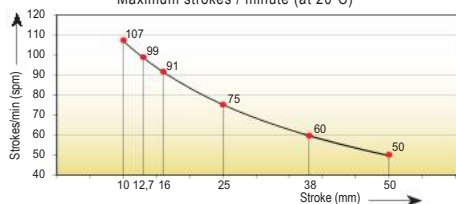
TPGAS 08.07.2019

**TECAPRES®**Ø25mm
200daN**TPA 25**

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit A25

PED
2014/68/UE

Maximum strokes / minute (at 20°C)

TPA
TPG

TPSR

TPSRS

TPNS

STOP
CYLINDERHOT
FORMING

TPHT

TPSL



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

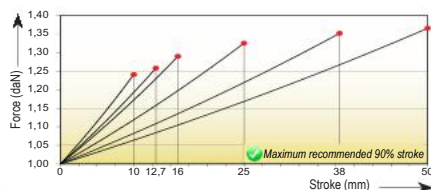
Color code	Fa daN	Fc daN	P Bar
GR (Green)	50 (±5%)	≈ 70	45
BL (Blue)	100 (±5%)	≈ 140	90
RD (Red)	150 (±5%)	≈ 210	135
YW (Yellow)	200 (±5%)	≈ 280	175
(Other forces)	28 - 200	≈ 40 - 280	25 - 175

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.

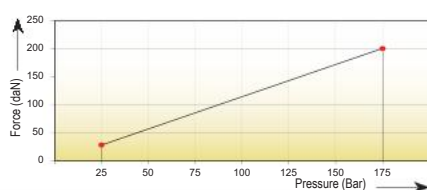
How to order

TPA 25 x 25 BL
Model Stroke Color code

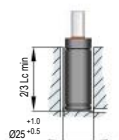
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 25 · FS 25/2

FS 25 · FS 25/2

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i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

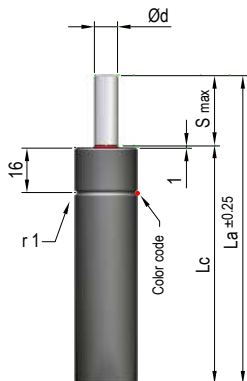
TPCT

TPB

TPR

TPA

TPG



Gas charging M6(8mm)
TPFV3 valve
M6-C adapter



Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

50 Bar

Rod seal area

Ø8mm - 0.50 cm²
Ø10mm - 0.78 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

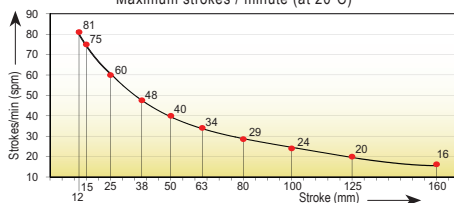
Kit G22



VDI SAFETY



Maximum strokes / minute (at 20°C)



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

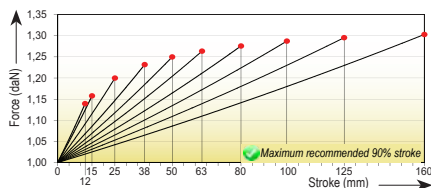
* TPG22x160: YW - 130Bar / RD - 90Bar / BL - 65Bar / GR - 40Bar

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.

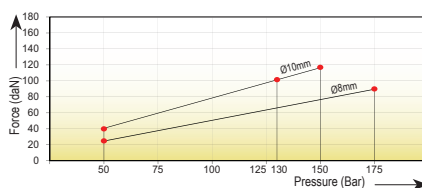
How to order

TPG 22 x 100 YW
Model Stroke Color code

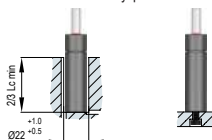
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



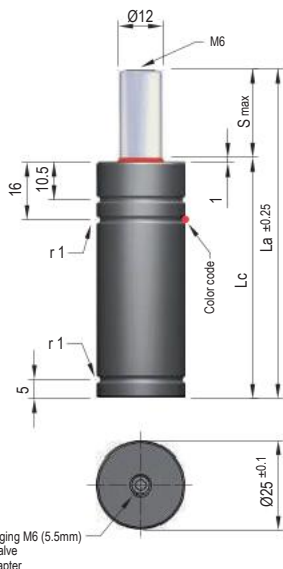
TPGAS 06-07-2019



TECAPRES®

Ø25mm
200daN

TPG 25

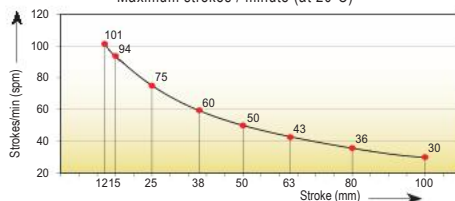


i Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	175 Bar
Min. charging pressure	25 Bar
Rod seal area	1,13 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit G25

PED
2014/68/UE



Maximum strokes / minute (at 20°C)



TPA
TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



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

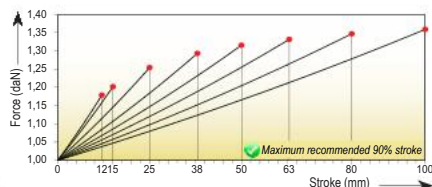
Color code	Fa daN	Fc daN	P Bar
GR (Green)	50 (±5%)	≈ 70	45
BL (Blue)	100 (±5%)	≈ 140	90
RD (Red)	150 (±5%)	≈ 210	135
YW (Yellow)	200 (±5%)	≈ 270	175
(Other forces)	28 - 200	≈ 40 - 270	25 - 175

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.

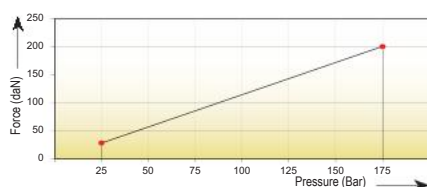
How to order

TPG 25 x 63 RD
Model Stroke Color code

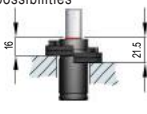
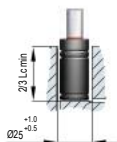
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 25 · FS 25/2

FS 25 · FS 25/2

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i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

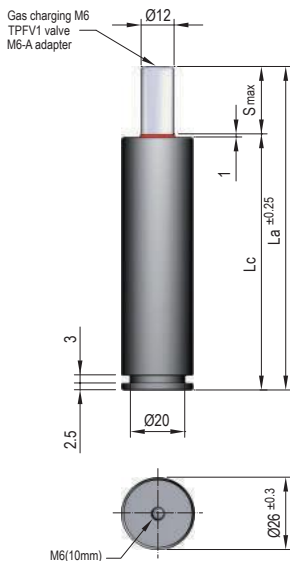
TPCT

TPB

TPR

TPA

TPG



Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

175 Bar

Min. charging pressure

25 Bar

Rod seal area

1,13 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

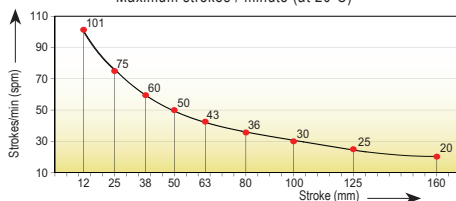
Kit G26



VDI SAFETY



Maximum strokes / minute (at 20°C)



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

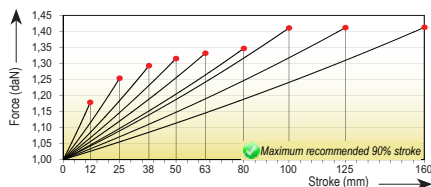
The black color code denotes a different pressure that the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (175Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

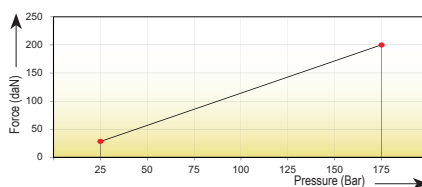
TPG 26 x 100 RD

Model Stroke Color code

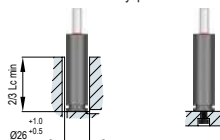
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



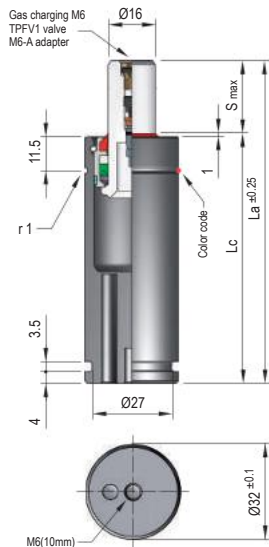
TPGAS 06 07-2019



TECAPRES®

Ø32mm
300daN

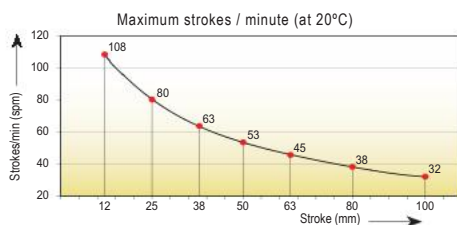
TPG 32



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

i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	150 Bar
Min. charging pressure	25 Bar
Rod seal area	2,01 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit G32

PED
2014/68/UE



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

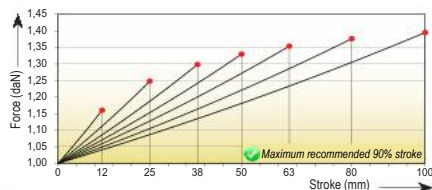
The black color code denotes a different pressure from that which the customer could choose when ordering between the minimum charging pressure (25Bar) and the maximum charging pressure (150Bar). If not otherwise specified, the gas spring will be supplied in the yellow code version.

How to order

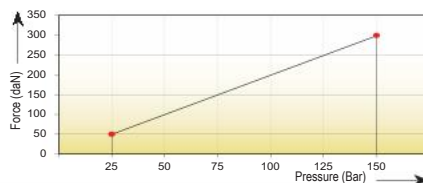
TPG 32 x **50** YW

Model Stroke Color code

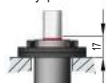
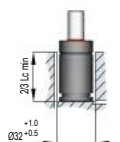
Force/stroke ratio



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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235

TPA
TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



**TECAPRES®**Ø32mm
450daN**TPGP 32**

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

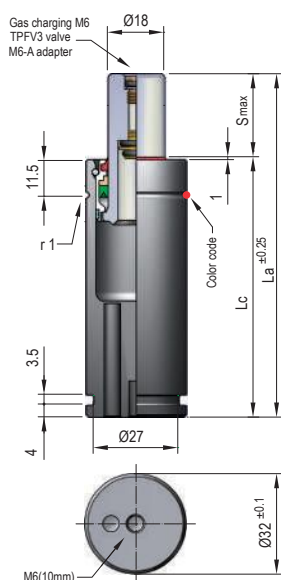
TPCT

TPB

TPR

TPA

TPG

**i** Pressure medium**Gas Nitrógeno (N₂)**

Max. charging pressure

175 Bar

Min. charging pressure

25 Bar

Rod seal area

2,54 cm²

Operating temperature

0°C - 80°C

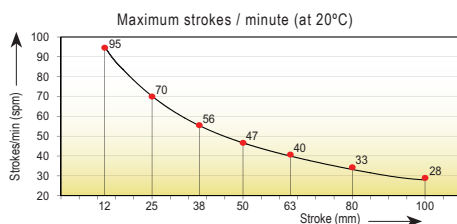
Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

Kit GP32

Code	S _{max} mm	L _a mm	L _c 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	F _a daN	F _c 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

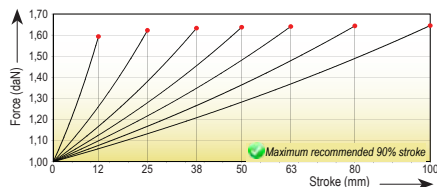
GR

Model

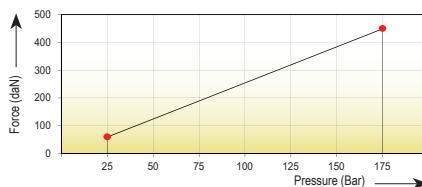
Stroke

Color code

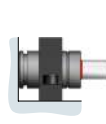
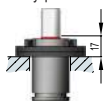
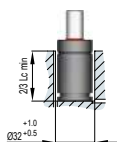
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities

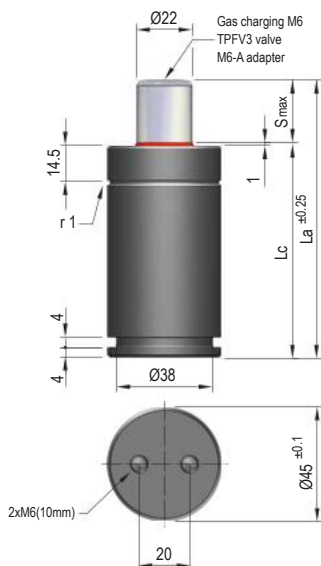


FS 32 - FS 32/1 - FSC 32

FP 32 - FPR 32

FI 32 - FI 32/1

TPGAS 06.07-2019



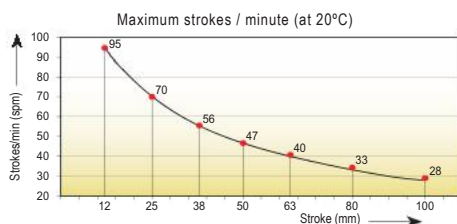
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	155 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit G500



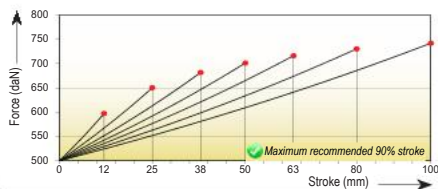
VDI SAFETY



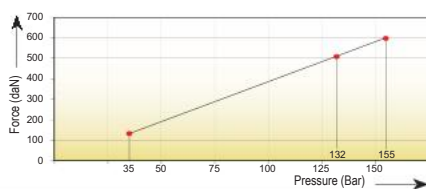
38

[illegible]

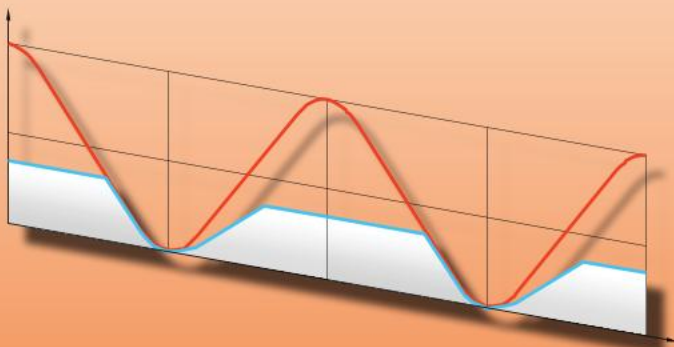
Force/stroke ratio



Initial force/charging pressure ratio



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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	✓

TPSR

TPSRs

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL





i

Gas springs of the TPSR and TPSRC series make it possible to control stem recovery speed when the gas spring opens after its compression.

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

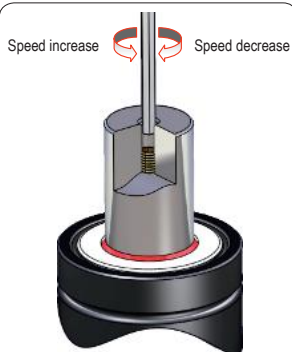
TPG

TPSR

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.

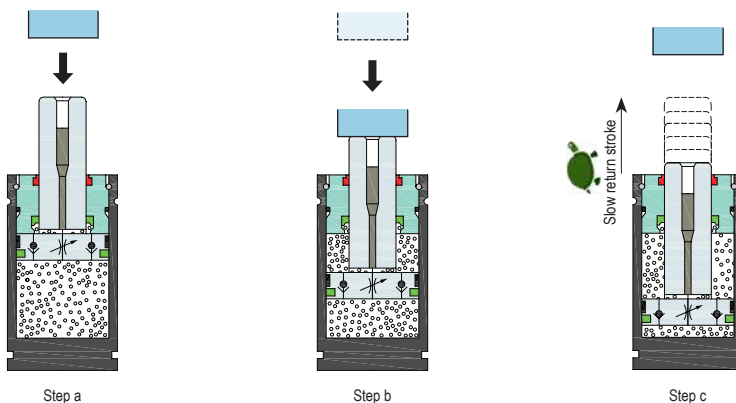
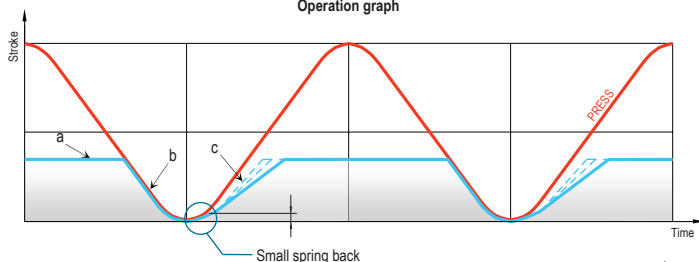


In order to avoid damage in the sealing system due to an increase in temperature, the gas spring stroke rate should be limited. The temperature should not be allowed to go above 80°C. In order to use this product correctly the customer is to provide data as requested.

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

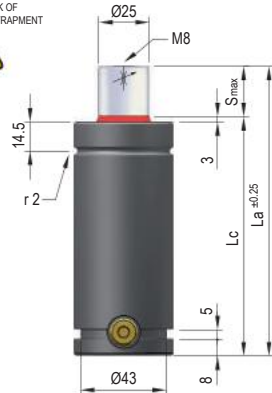




TECAPRES®

Cylinders with adjustable
slow-speed return

TPSR 750



Gas charging G1/8
TPFV1 valve
G1/8 adapter

2xM8(12mm)

20

Ø50 ±0.3

i 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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	12 m/min
Maintenance kit	Kit SR750
Recommended max. strokes/min	5 - 20 spm

PED
2014/68/UE

ISO
STANDARD
DIMENSIONS

VDI SAFETY

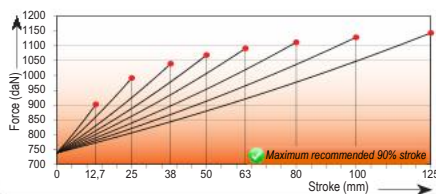


Required data

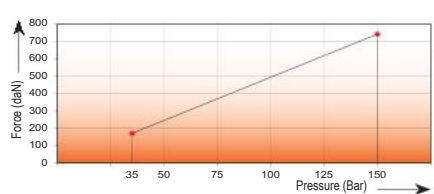
Working stroke	(mm)
Press speed	(m/min)
Maximum press rate	(spm)
Gas spring expansion speed	(m/min)

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% (20°C)	880	900	150 (20°C)	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

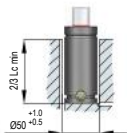
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 50 · FSC 50

FP 50 · FPR 50

FB 50

FRS 50

FI 50 · FI 50/1

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241

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

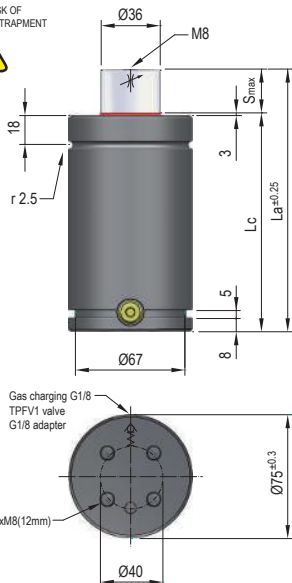
TPSL





TECAPRES®

Cylinders with adjustable
slow-speed return **TPSR 1500**



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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	15 m/min
Maintenance kit	Kit SR1500
Recommended max. strokes/min	5 - 20 spm



VDI SAFETY

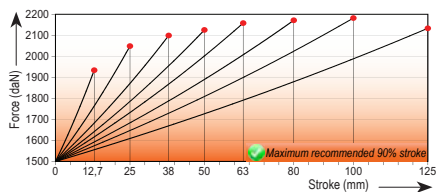


Required data

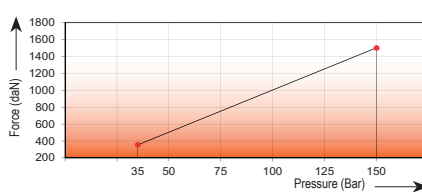
Working stroke	(mm)
Press speed	(m/min)
Maximum press rate	(spm)
Gas spring expansion speed	(m/min)

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	1500 ±5% (20°C)	1890	1940	150 (20°C)	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		2050	2135		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

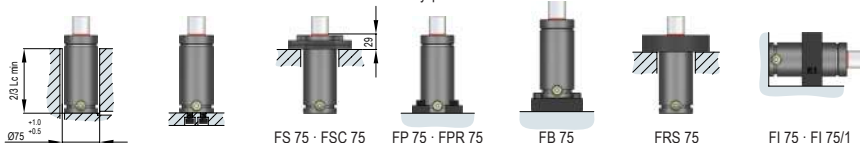
Force/stroke ratio



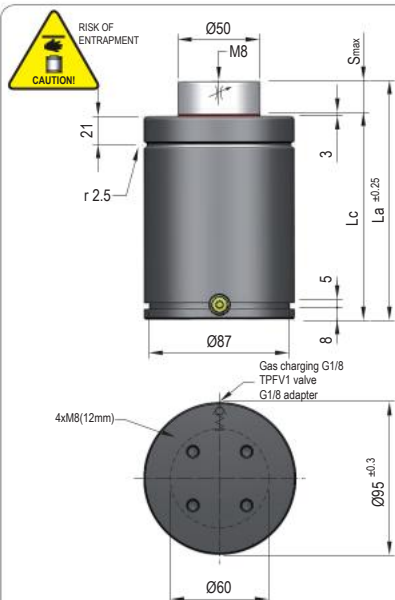
Initial force/charging pressure ratio



Assembly possibilities



TPSR 06 07-2019



	Gas Nitrógeno (N ₂)
Pressure medium	
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	20 m/min
Maintenance kit	Kit SR3000
Recommended max. strokes/min	5 - 20 spm

PED
2014/68/UE

ISO
STANDARD
DIMENSIONS



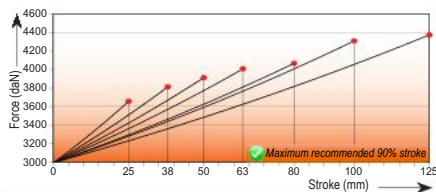
Required data

Working stroke	(mm)
Press speed	(m/min)
Maximum press rate	(spm)
Gas spring expansion speed	(m/min)

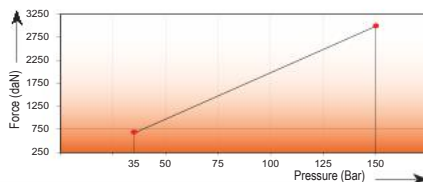
[illegible]

(Other strokes under order)

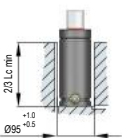
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 95 · FSC 95

FP 95 · FPR 95

FB 95

FRS 95

FI 95 · FI 95/1

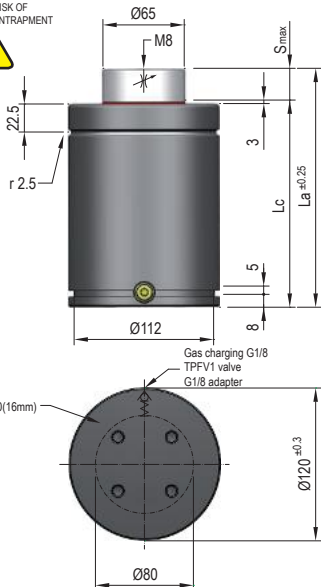


TECAPRES®

Cylinders with adjustable slow-speed return **TPSR 5000**



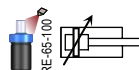
RISK OF
ENTRAPMENT



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	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	20 m/min
Maintenance kit	Kit SR5000
Recommended max. strokes/min	5 - 20 spm



VDI SAFETY

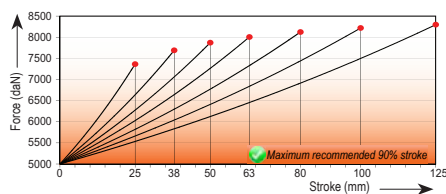


Required data

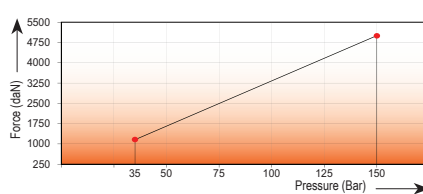
Working stroke	(mm)
Press speed	(m/min)
Maximum press rate	(spm)
Gas spring expansion speed	(m/min)

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% (20°C)	7000	7330	150 (20°C)	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
						</			

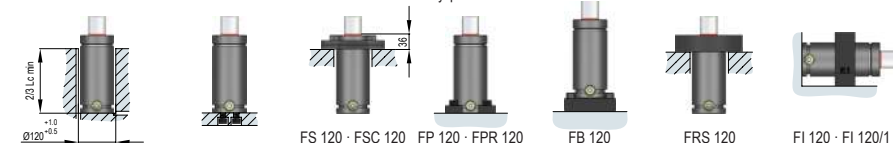
Force/stroke ratio



Initial force/charging pressure ratio

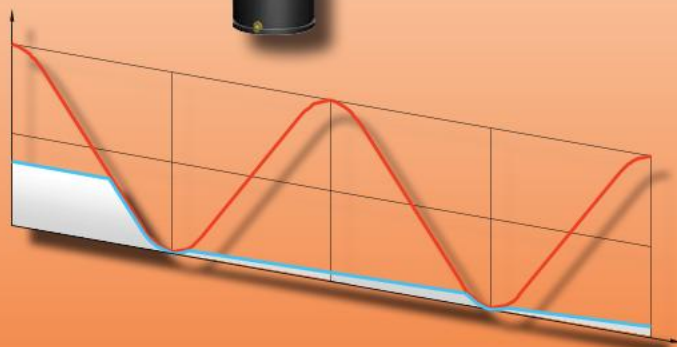
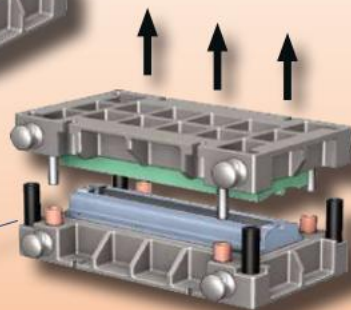
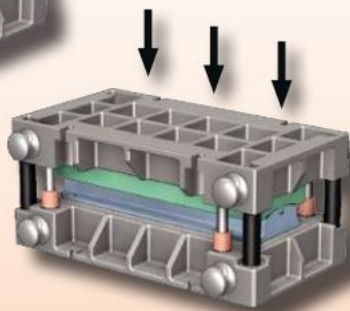
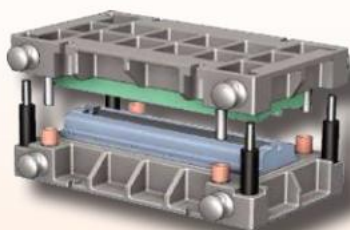


Assembly possibilities



TPGAS 06 07-2019

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TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



Storage cylinders

Code	Strokes mm	Fa daN	
TPSRS 3000	100 - 300	3000	✓
TPSRS 5000	100 - 300	5000	✓
TPSRS 7500	100 - 300	7500	✓



i

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).

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

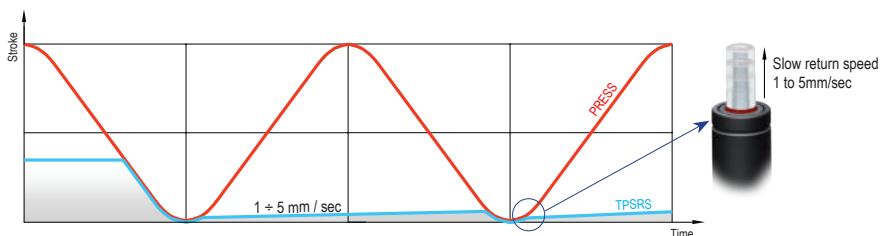
TPA

TPG

TPSR

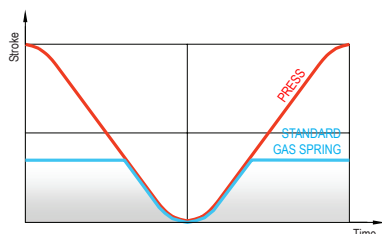
TPSRS

Operation graph
TPSRS series

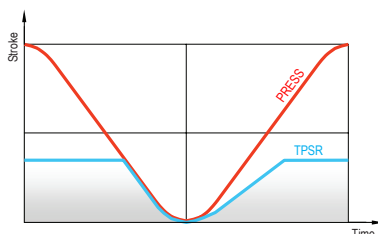


NOTE: please take into a consideration that the return could be not sincronized between the different gas springs in the same tool

Operation graph
STANDARD GAS SPRING



Operation graph
TPSR series



ADVANTAGES

- ▶ Exceptionally 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

i

Pressure medium

Gas Nitrógeno (N₂)

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

1,6 m/s



VDI SAFETY



Maintenance kit TPSRS 3000

Kit SRS3000

Maintenance kit TPSRS 5000

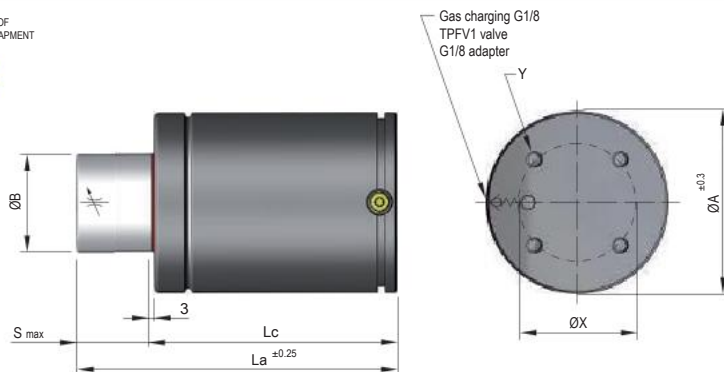
Kit SRS5000

Maintenance kit TPSRS 7500

Kit SRS7500

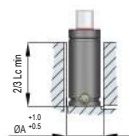


Code	Smax mm	La mm	Lc mm	Fa daN	Fc daN	P Bar	Ø A mm	Ø B mm	Ø X mm	Y
TPSRS 3000x100.1	100	320	220	3000 ±5% (20°C)	≈ 4340	150 (20°C)	95	50	60	4 x M8
TPSRS 3000x125.1	125	370	245							
TPSRS 3000x160.1	160	440	280							
TPSRS 3000x200.1	200	520	320							
TPSRS 3000x250.1	250	620	370							
TPSRS 3000x300.1	300	720	420							
TPSRS 5000x100.1	100	340	240	5000 ±5% (20°C)	≈ 8115	150 (20°C)	120	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 (20°C)	150	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 synchronized return speed.

Assembly possibilities



FS · FSC

FP · FPR

FB

FI · FI/1

TPSRS

TPNS

STOP

CYLINDER

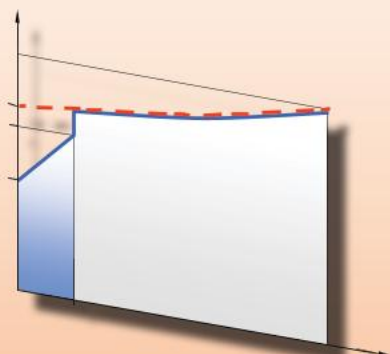
HOT

FORMING

TPHT

TPSL





- ▶ Noise reduction
- ▶ Vibration reduction
- ▶ Low contact force
- ▶ More efficient working environment



TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



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	✓

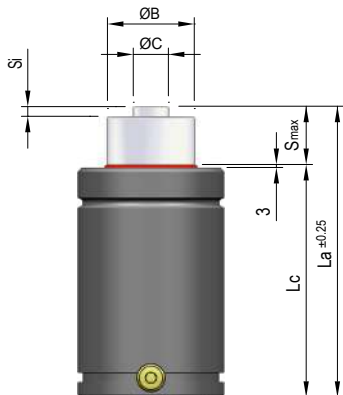
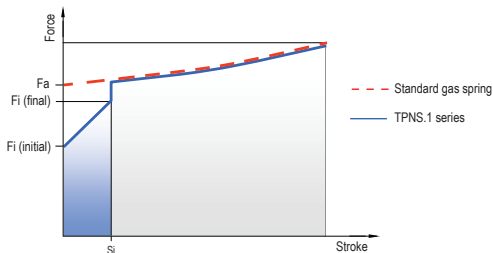


i

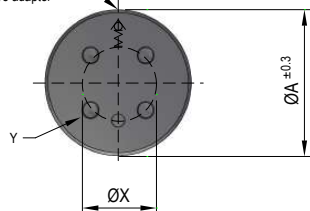
All TPNS.1 gas springs are characterised by the fact that they reduce the impact force at the beginning of their working stroke. This series gradually increases force in such a way that in the first few millimetres of working stroke, the force is practically null.

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



Gas charging G1/8
TPFV1 valve
G1/8 adapter



• 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



Advantages

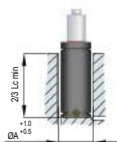
- ✓ Noise reduction
- ✓ Vibration reduction
- ✓ Progressive increase of force
- ✓ Interchangeability with ISO-standard gas springs
- ✓ Possibility of interconnection to a control panel
- ✓ Decrease in maintenance costs
- ✓ More efficient working environment



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 Final 430	750 ±5% (20°C)	≈ 1000	6	50	30	14	20	2 x M8	105 (20°C)	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											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 Final 700	1500 ±5% (20°C)	≈ 2000	5	75	45	18	40	4 x M8	95 (20°C)	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											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 Final 1200	3000 ±5% (20°C)	≈ 4000	5	95	60	22	60	4 x M8	105 (20°C)	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											12
TPNS 3000x250.1	250	620	370											10
TPNS 3000x300.1	300	720	420											8
TPNS 5000x25.1	25	190	165	Initial 1200 Final 2000	5000 ±5% (20°C)	≈ 7000	5	120	75	32	80	4 x M10	110 (20°C)	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											12
TPNS 5000x250.1	250	640	390											10
TPNS 5000x300.1	300	740	440											8

(Other models under order)

Assembly possibilities



TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

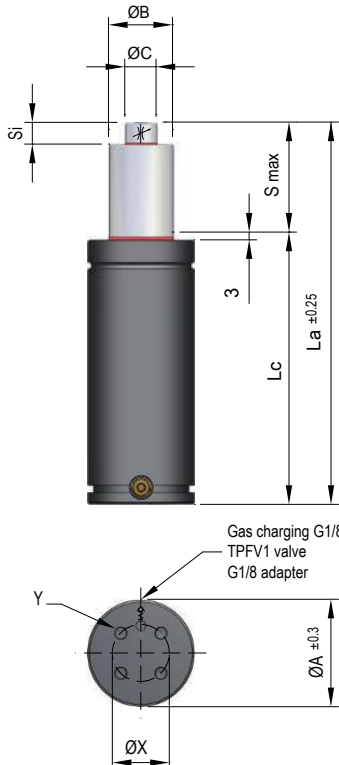
TPSL



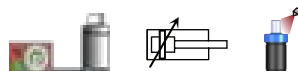


TPNSR gas springs are characterised by two functions:

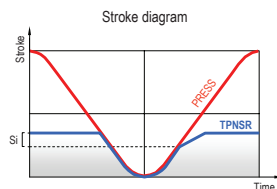
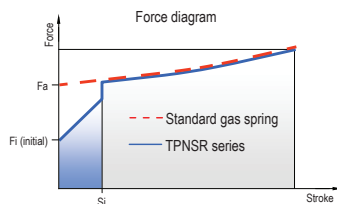
- Reduction of initial working stroke force
- Reduction of stem speed during the expansion in the final stroke phase (Si)



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

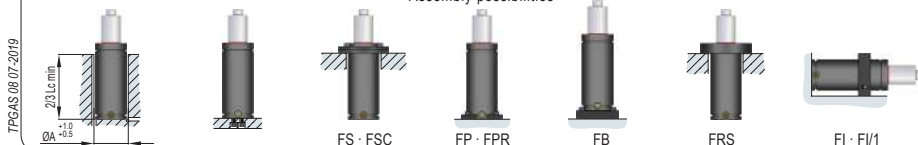


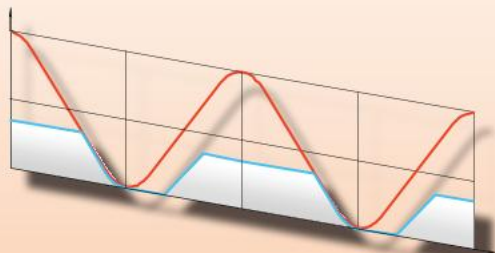
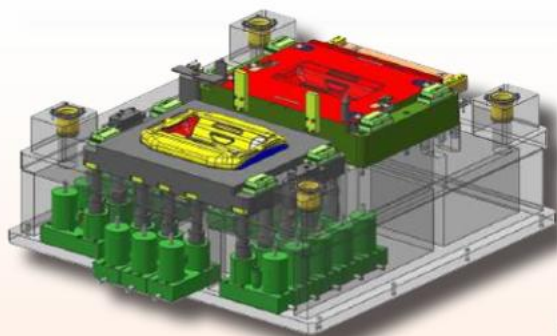
Operation graph



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	
TPMCS 1500	12 - 125	1500	✓
TPMCS 2400	12 - 125	2400	✓
TPMCS 3000	12 - 125	3000	✓
TPMCA 4500	12 - 125	4500	✓
TPMCA 6500	12 - 125	6500	✓
TPMCA 12000	15	12000	✓
TPMCSB 1500	12 - 125	1500	✓
TPMCSB 2400	12 - 125	2400	✓
TPMCSB 3000	12 - 125	3000	✓
TPMCA 4500.1	12 - 125	4500	✓
TPMCA 6500.1	12 - 125	6500	✓
TPSB 1500	12 - 125	1500	✓
TPSB 2400	12 - 125	2400	✓
TPSB 3000	12 - 125	3000	✓
TPSB 4000	12 - 125	4000	✓
TPSB 6000	12 - 125	6000	✓

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

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TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

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:

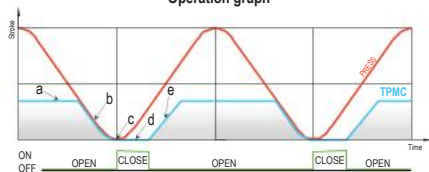
VDI SAFETY



- ✓ 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



Electro-valve operation

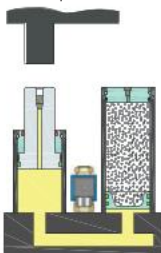


Figure a

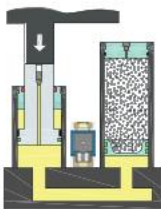


Figure b

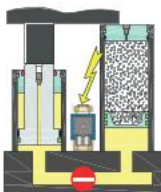


Figure c

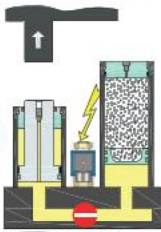


Figure d

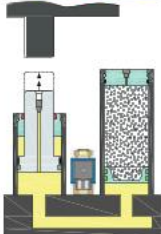
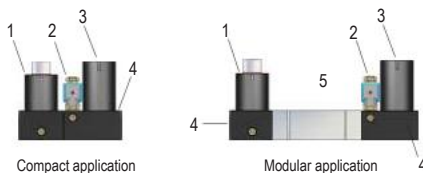


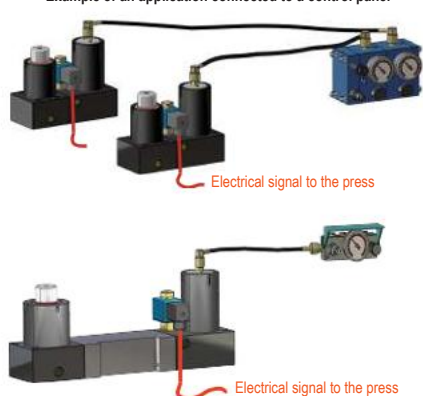
Figure e

Components description



- ① Working cylinder
- ② Hydraulic valve
- ③ Pressure accumulation cylinder
- ④ Adaptation plate
- ⑤ Aluminium Block

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	20w	20w	20w





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MICRO
TITAN
TPH
TPS
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TPG
TPSR
TPSRS
TPNS

**STOP
CYLINDER**

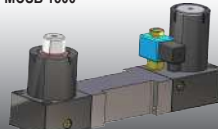
TPMCS 1500

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



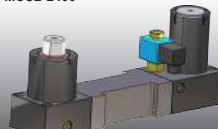
TPMCS 2400

Fa. initial: 2400 daN
Stem speed: 15 m/min
Press rate: 10 - 30 spm



TPMCSB 2400

Fa. initial: 2400 daN
Stem speed: 8 - 13 m/min
Press rate: 10 - 25 spm



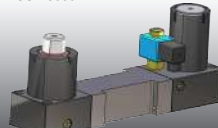
TPMCS 3000

Fa. initial: 3000 daN
Stem speed: 14 m/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 - 10 m/min
Press rate: 10 - 20 spm



TPMCA 12000

Fa. initial: 12000 daN
Stem speed: 12 m/min
Press rate: 15 spm



TPSB 1500

Fa. initial: 1500 daN
Stem speed: 27 m/min
Press rate: 10 - 40 spm



**HIGH
SPEED!**

TPSB 2400

Fa. initial: 2400 daN
Stem speed: 25 m/min
Press rate: 10 - 30 spm



**HIGH
SPEED!**

TPSB 3000

Fa. initial: 3000 daN
Stem speed: 30 m/min
Press rate: 10 - 35 spm



**HIGH
SPEED!**

TPSB 4000

Fa. initial: 4000 daN
Stem speed: 30 m/min
Press rate: 10 - 40 spm



**HIGH
SPEED!**

TPSB 6000

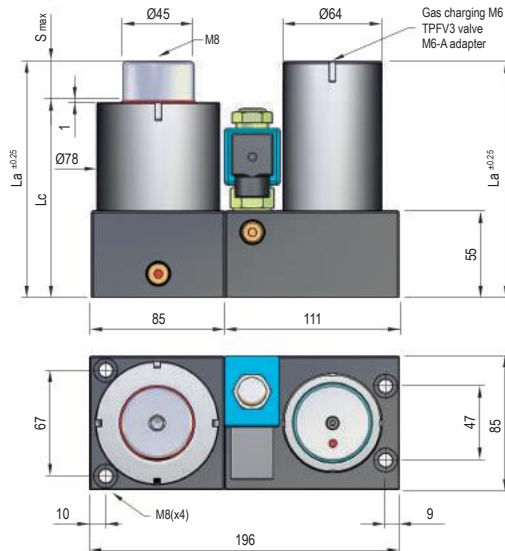
Fa. initial: 6000 daN
Stem speed: 30 m/min
Press rate: 10 - 35 spm



**HIGH
SPEED!**

**TECAPRES®****STOP - CYLINDER****TPMCS 1500**RISK OF
ENTRAPMENT

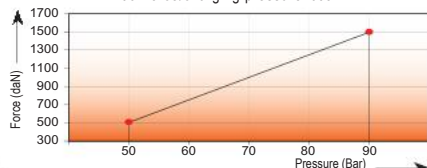
The TPMCS 1500 model is also
available equipped with RMF-D1.
(TPMCS 1500.....C-Linked)



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

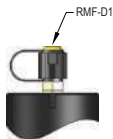
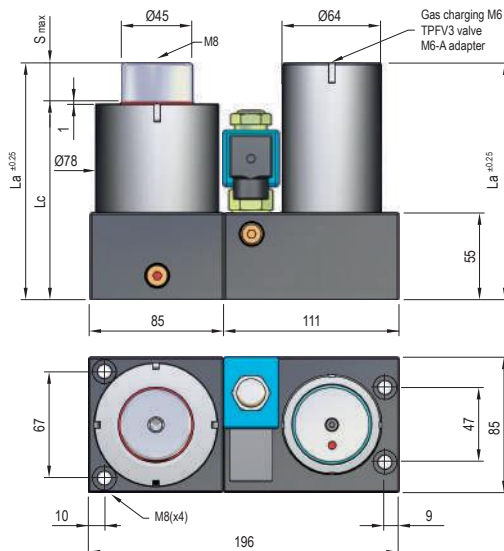
Pressure medium **Gas Nitrógeno (N₂) / Oil**Max. charging pressure **90 Bar**Min. charging pressure **50 Bar**Rod seal area **15,90 cm²**Operating temperature **0°C - 60°C**Force increase by temperature **0,33 %/°C**Max. stem speed **15 m/min**Max. recommended strokes/min **10 - 40* spm****Initial force/charging pressure ratio****How to order****TPMCS 1500 x 12 - E24 - C**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained
-------	--------	-----------------	--

**STOP
CYLINDER****HOT
FORMING****TPHT****TPSL**



RISK OF
ENTRAPMENT



The TPMCS 2400 model is also
available equipped with RMF-D1.
(TPMCS 2400.....C-Linked)

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

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 (N₂) / 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

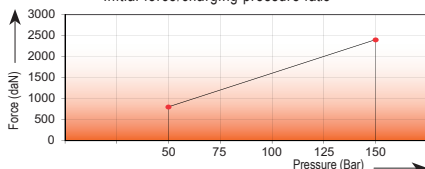
Max. recommended strokes/min 10 - 30* spm



VDI SAFETY



Initial force/charging pressure ratio



How to order

TPMCS 2400 x 38 - E24 - C

Model

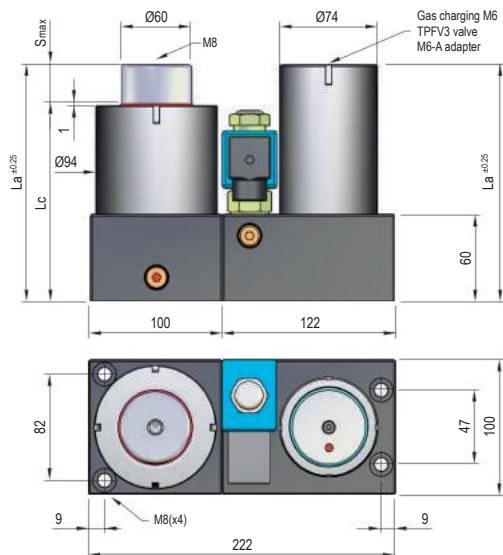
Stroke

Hydraulic valve

C - Linked system
NC - Self contained

**TECAPRES®****STOP - CYLINDER****TPMCS 3000**RISK OF
ENTRAPMENT

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	

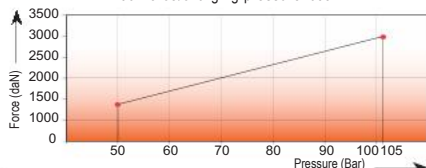
Required information**Working stroke** (mm)**Press speed** (m/min)**Maximum press rate** (spm)

* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N₂) / 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



Initial force/charging pressure ratio

**How to order****TPMCS 3000 x 38 - E24 - C**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained
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**STOP
CYLINDER**HOT
FORMING

TPHT

TPSL





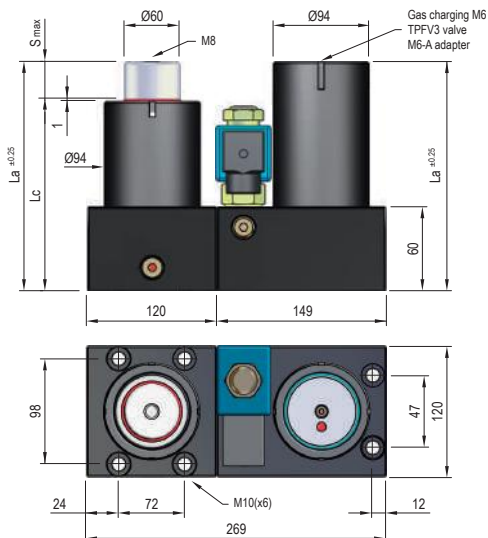
TECAPRES®

STOP - CLYINDER

TPMCA 4500



RISK OF
ENTRAPMENT



RMF-D1



The TPMCA 4500 model is also
available equipped with RMF-D1
(TPMCA 4500...C - Linked system)

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP
CYLINDER

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 (N₂) / 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 18 m/min

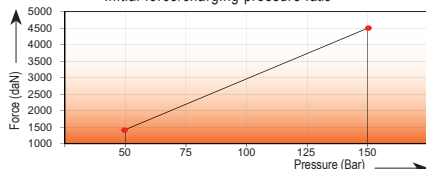
Max. recommended strokes/min 10 - 40* spm



VDI SAFETY



Initial force/charging pressure ratio

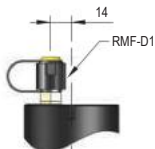


How to order

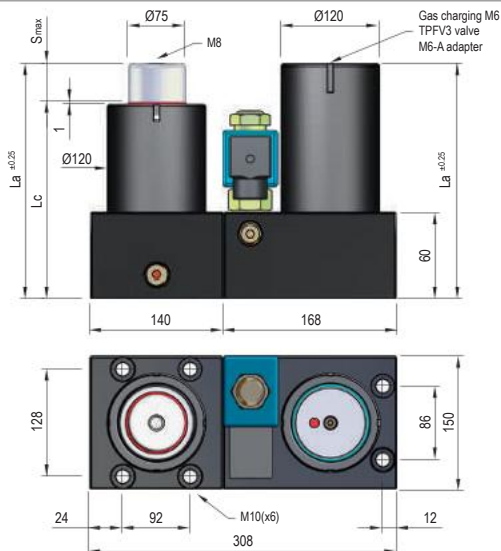
TPMCA 4500 x 125 - E24 - NC

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained
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TPGAS 08.07.2019

**TECAPRES®****STOP - CYLINDER****TPMCA 6500**RISK OF
ENTRAPMENT

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)

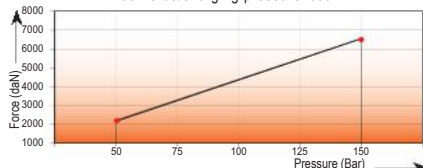
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N₂) / 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

**VDI SAFETY**

RE-75-100

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****HOT
FORMING**

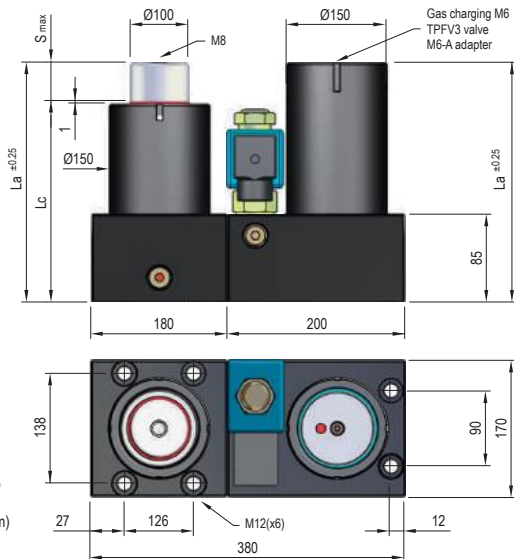
TPHT

TPSL





RISK OF
ENTRAPMENT



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 (N₂) / 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**

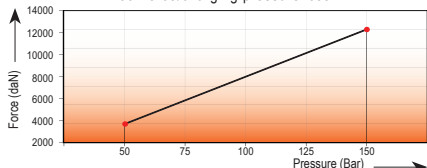
Max. recommended strokes/min **15 spm**



VDI SAFETY



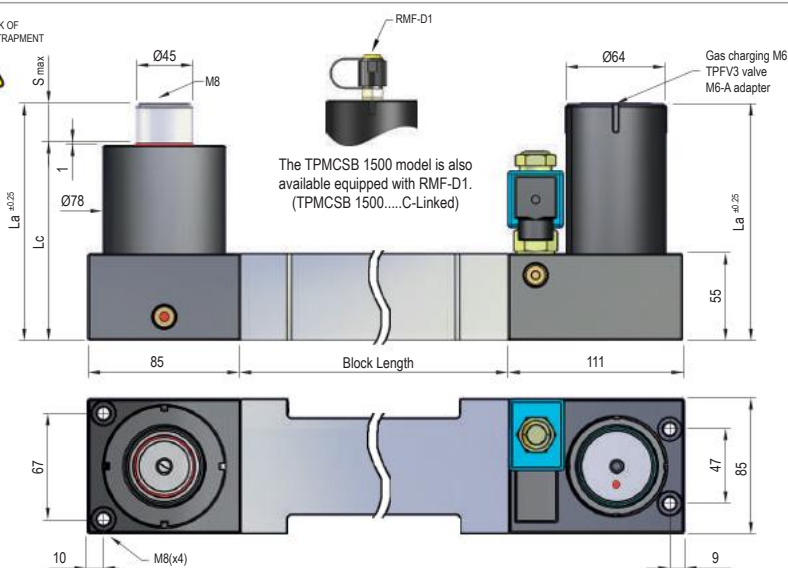
Initial force/charging pressure ratio



How to order - Ejemplo de pedido

TPMCA 12000 x 15 - E24 - C

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained
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**TECAPRES®****STOP CYLINDER TPMCSB 1500**

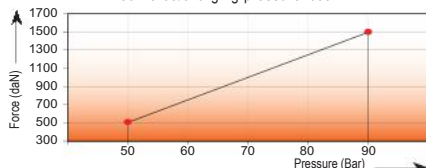
Code	S_{max} mm	L_a mm	L_c mm	F_a daN	F daN	F_c daN	P Bar
TPMCSB 1500x12	12	124	112	1500 $\pm 5\%$ (20°C)	1545	1555	90 (20°C)
TPMCSB 1500x25	25	150	125		1610	1630	
TPMCSB 1500x38	38	176	138		1650	1675	
TPMCSB 1500x50	50	200	150		1675	1705	
TPMCSB 1500x63	63	226	163		1690	1725	
TPMCSB 1500x80	80	260	180		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

i Pressure medium **Gas Nitrógeno (N₂) / 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**

Initial force/charging pressure ratio

**How to order****TPMCSB 1500 x 12 - E24 - C - L=250**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Block Length
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STOP CYLINDER

HOT FORMING

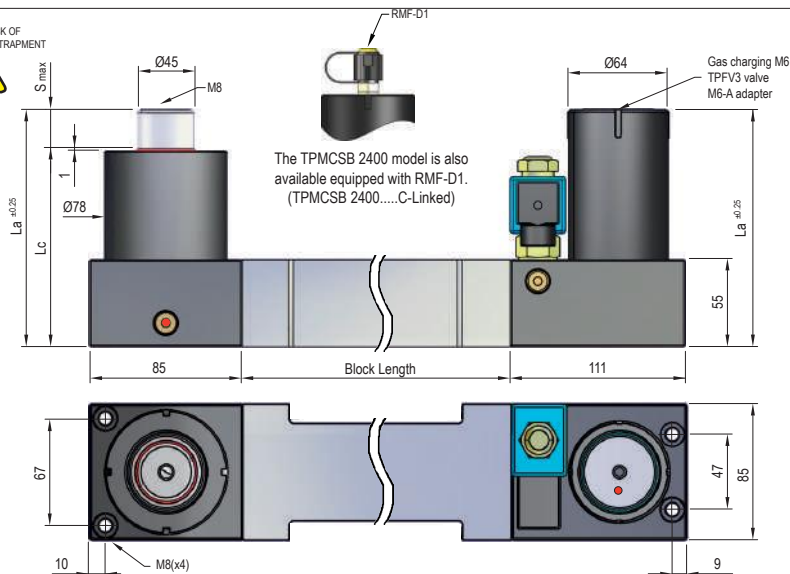
TPHT

TPSL





RISK OF
ENTRAPMENT



Code	S _{max} mm	La mm	Lc mm	F _a daN	90% F daN	100% F _c 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 (N₂) / 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

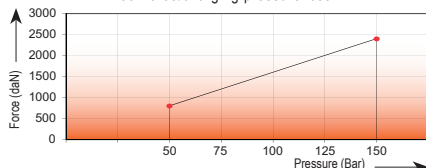
Max. recommended strokes/min 10 - 25* spm



VDI SAFETY



Initial force/charging pressure ratio



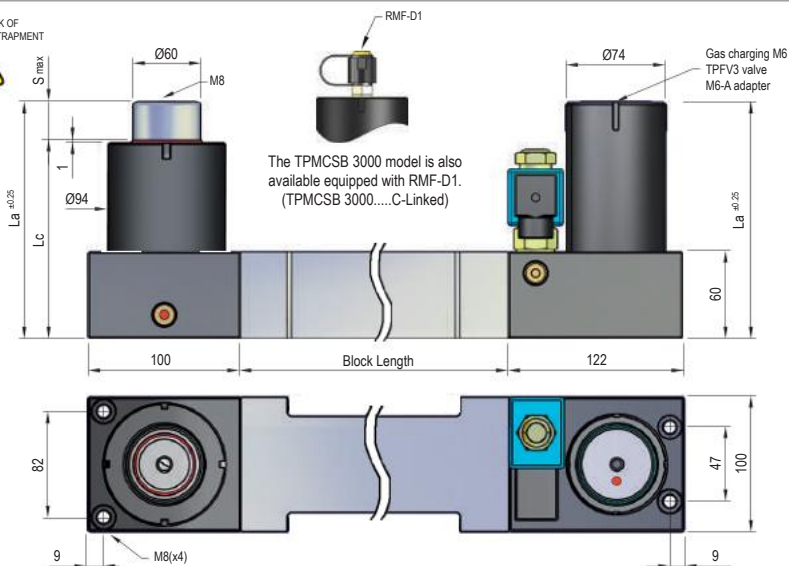
How to order

TPMCSB 2400 x 38 - E24 - C - L=150

Model Stroke Hydraulic valve C-Linked system NC - Self contained Block Length



RISK OF ENTRAPMENT



The TPMCSB 3000 model is also available equipped with RMF-D1.
(TPMCSB 3000.....C-Linked)

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 (N₂) / Oil

Max. charging pressure	105 Bar
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Min. charging pressure 50 Bar

Rod seal area	28,27 cm ²
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Operating temperature	0°C - 60°C
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Force increase by temperature **0,33 %/°C**

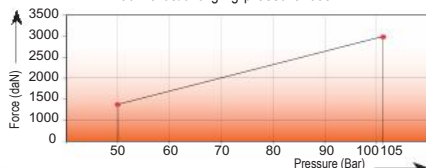
Max. stem speed	8 - 13 m/min
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Max. recommended strokes/min	10 - 25* spm
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PED



Initial force/charging pressure ratio



How to order

TPMCSB 3000 x 38 - E24 - C - L=300

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Block Length
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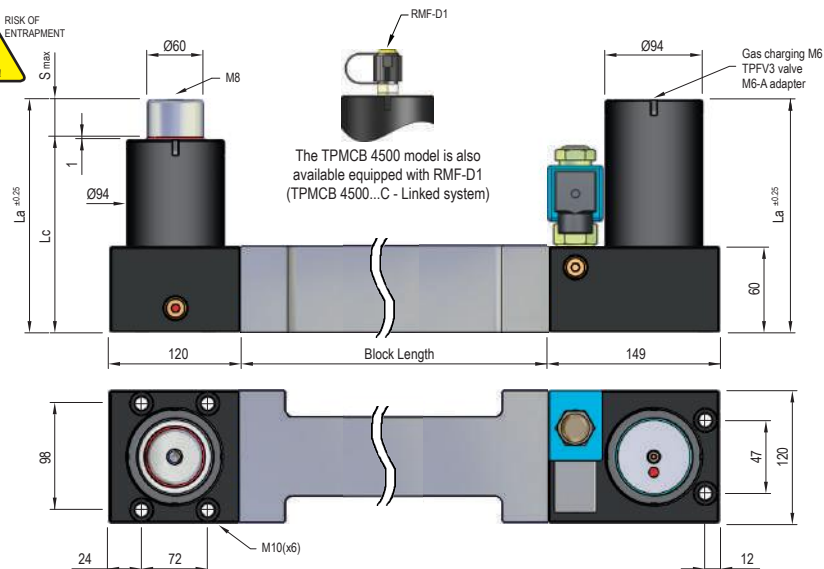
**STOP
CYLINDER**

HOT FORMING

TPHT

TPSL

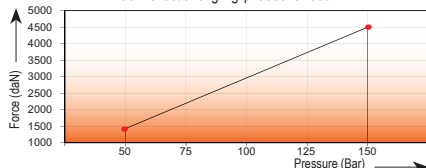


**TECAPRES®****STOP - CYLINDER****TPMCB 4500.1**

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	

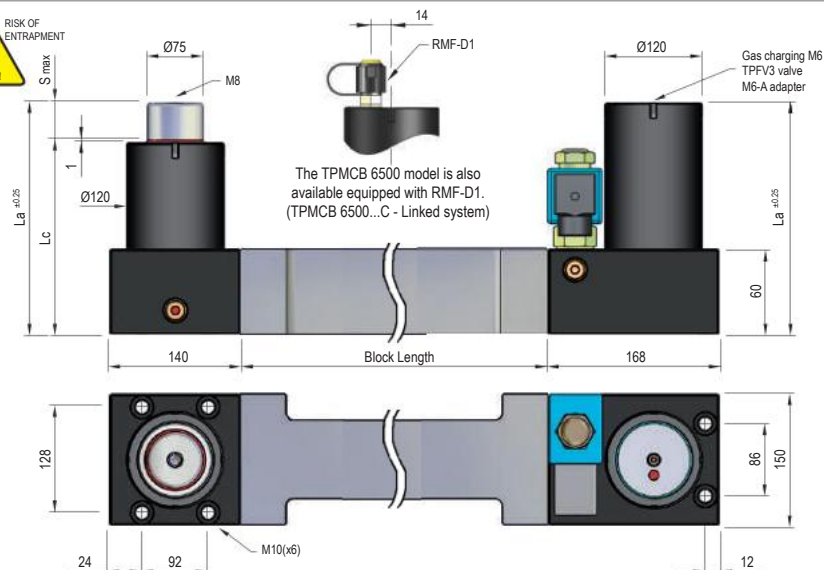
Required information**Working stroke** (mm)**Press speed** (m/min)**Maximum press rate** (spm)

* Maximum rate will depend on working parameters

Pressure medium Gas Nitrógeno (N₂) / OilMax. 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****VDI SAFETY****Initial force/charging pressure ratio****How to order****TPMCB 4500 x 80.1 - E220 - NC - L=500**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Block Length

TPGAS 08.07.2019

**TECAPRES®****STOP - CYLINDER****TPMCB 6500.1**

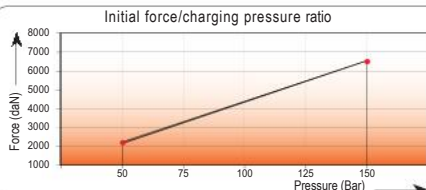
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPMCB 6500x12.1	12	152	140	6500 ±5% (20°C)	7125	7185	150 (20°C)
TPMCB 6500x25.1	25	178	153		7465	7570	
TPMCB 6500x38.1	38	204	166		7690	7830	
TPMCB 6500x50.1	50	228	178		7845	8010	
TPMCB 6500x63.1	63	254	191		7970	8155	
TPMCB 6500x80.1	80	288	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 (N₂) / OilMax. 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****How to order****TPMCB 6500 x125.1 - E24 - C - L=275**

Model Stroke Hydraulic valve C - Linked system NC - Self contained Block Length



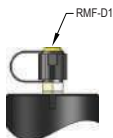
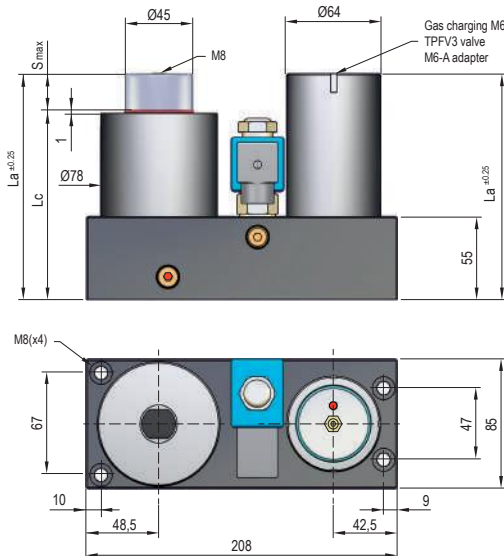
TPGAS 08 07-2019

**STOP
CYLINDER****HOT
FORMING**

TPHT

TPSL



**TECAPRES®****HIGH SPEED
STOP - CYLINDER****TPSB 1500**RISK OF
ENTRAPMENT

The TPSB 1500 model is also
available equipped with RMF-D1.
(TPSB 1500.....C-Linked)

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

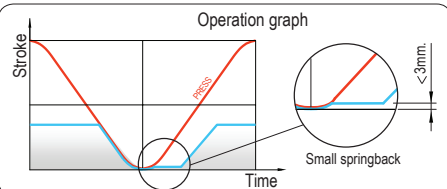
TPSR

TPSRS

TPNS

**STOP
CYLINDER**

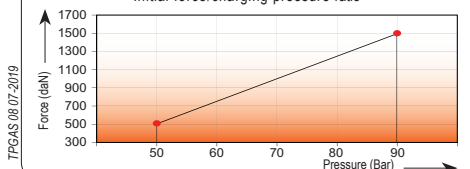
Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPSB 1500x12	12	124	112	1500 ±5% (20°C)	1545	1555	90 (20°C)
TPSB 1500x25	25	150	125		1610	1630	
TPSB 1500x38	38	176	138		1650	1675	
TPSB 1500x50	50	200	150		1675	1705	
TPSB 1500x63	63	226	163		1690	1725	
TPSB 1500x80	80	260	180		1710	1750	
TPSB 1500x100	100	300	200		1725	1765	
TPSB 1500x125	125	350	225		1740	1785	

**Required information***Working stroke* (mm)*Press speed* (m/min)*Maximum press rate* (spm)

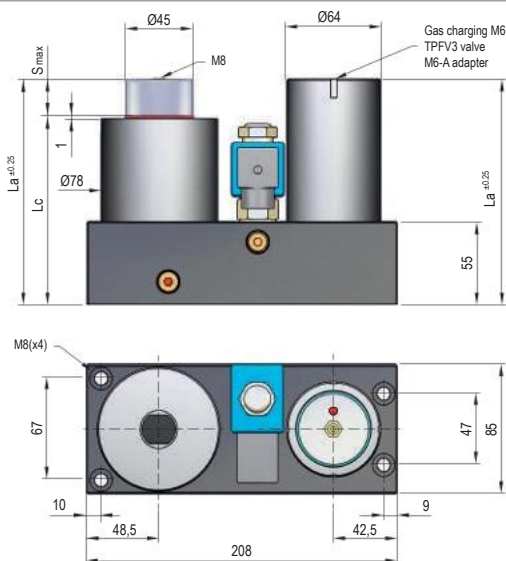
* Maximum rate will depend on working parameters

i Pressure medium **Gas Nitrógeno (N₂) / 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 **27 m/min**Max. recommended strokes/min **10 - 40* spm****VDI SAFETY**

RE-45-65

Initial force/charging pressure ratio**How to order****TPSB 1500 x 50 - E24 - C**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained
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**TECAPRES®****HIGH SPEED
STOP - CYLINDER****TPSB 2400**RISK OF
ENTRAPMENT

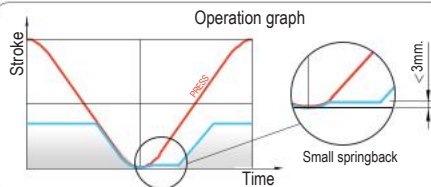
The TPSB 2400 model is also
available equipped with RMF-D1.
(TPSB 2400.....C-Linked)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPSB 2400x12	12	124	112	2400 ±5% (20°C)	2575	2595	150 (20°C)
TPSB 2400x25	25	150	125		2680	2720	
TPSB 2400x38	38	176	138		2745	2795	
TPSB 2400x50	50	200	150		2790	2840	
TPSB 2400x63	63	226	163		2820	2880	
TPSB 2400x80	80	260	180		2850	2915	
TPSB 2400x100	100	300	200		2875	2945	
TPSB 2400x125	125	350	225		2900	2970	

**STOP
CYLINDER**HOT
FORMING

TPHT

TPSL

**Required information**

Working stroke (mm)

Press speed (m/min)

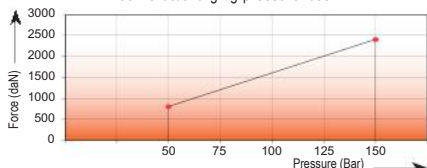
Maximum press rate (spm)

* 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 cm ²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	25 m/min
Max. recommended strokes/min	10 - 30* spm

PED
2014/68/EU

RE-45-65

Initial force/charging pressure ratio**How to order**

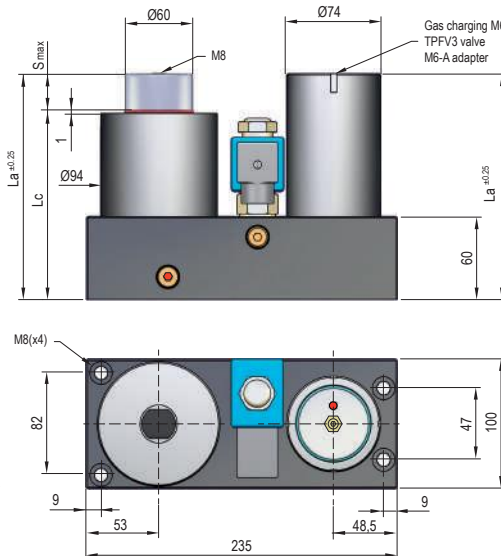
TPSB 2400 x 100 - E24 - C

Model

Stroke

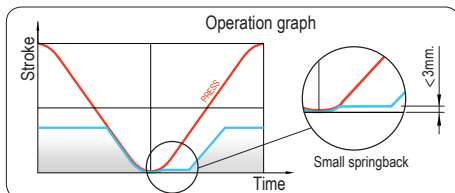
Hydraulic valve

C - Linked system
NC - Self contained

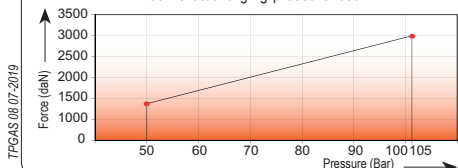
**TECAPRES®****HIGH SPEED
STOP - CYLINDER****TPSB 3000**RISK OF
ENTRAPMENT

The TPSB 3000 model is also
available equipped with RMF-D1.
(TPSB 3000.....C-Linked)

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPSB 3000x12	12	140	128	3000 ±5% (20°C)	3215	3240	105 (20°C)
TPSB 3000x25	25	166	141		3370	3425	
TPSB 3000x38	38	192	154		3475	3540	
TPSB 3000x50	50	216	166		3545	3620	
TPSB 3000x63	63	242	179		3600	3685	
TPSB 3000x80	80	276	196		3655	3750	
TPSB 3000x100	100	316	216		3700	3805	
TPSB 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

i Pressure medium **Gas Nitrógeno (N₂) / 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 **30 m/min**Max. recommended strokes/min **10 - 35* spm****VDI SAFETY****Initial force/charging pressure ratio****How to order****TPSB 3000 x 38 - E24 - C**

Model

Stroke

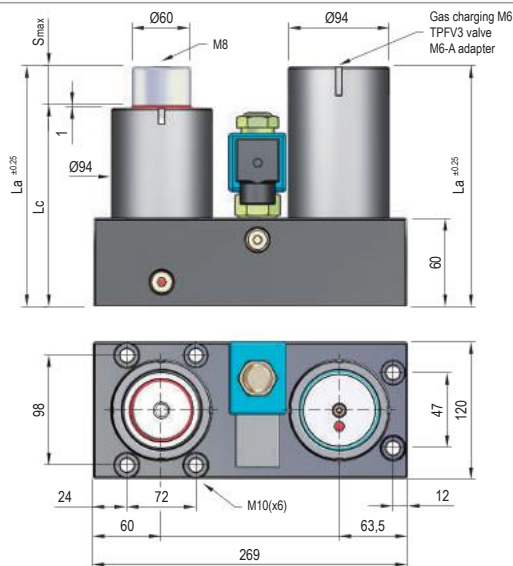
Hydraulic valve

C - Linked system
NC - Self contained

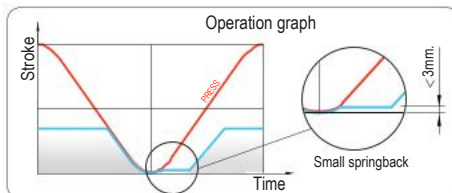
TPCAS 06 07-2019

**TECAPRES®****HIGH SPEED
STOP - CYLINDER****TPSB 4000**RISK OF
ENTRAPMENT

The TPSB 4000 model is also
available equipped with RMF-D1.
(TPSB 4000.....C-Linked)

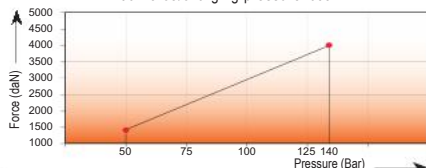


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPSB 4000x12	12	140	128	4000 ±5% (20°C)	4285	4325	140 (20°C)
TPSB 4000x25	25	166	141		4495	4565	
TPSB 4000x38	38	192	154		4635	4725	
TPSB 4000x50	50	216	166		4725	4830	
TPSB 4000x63	63	242	179		4800	4915	
TPSB 4000x80	80	276	196		4870	5000	
TPSB 4000x100	100	316	216		4935	5075	
TPSB 4000x125	125	366	241		4990	5140	

**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	140 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	30 m/min
Max. recommended strokes/min	10 - 40* spm

**Initial force/charging pressure ratio****How to order****TPSB 4000 x 63 - E24 - NC**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained
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**STOP
CYLINDER**HOT
FORMING

TPHT

TPSL





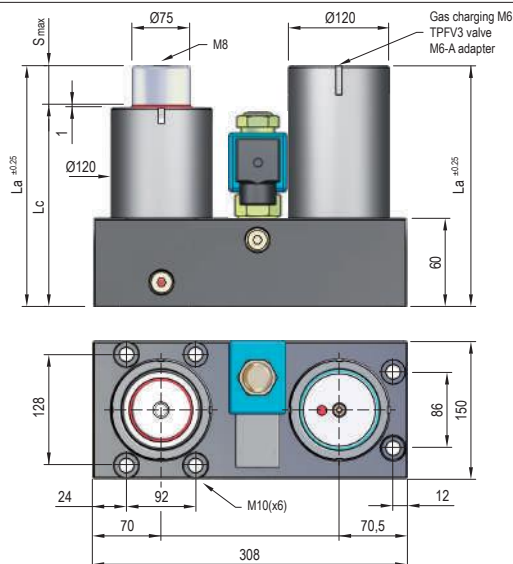
TECAPRES®

HIGH SPEED STOP - CYLINDER

TPSB 6000



RISK OF
ENTRAPMENT



The TPSB 6000 model is also
available equipped with RMF-D1.
(TPSB 6000.....C-Linked)

MICRO

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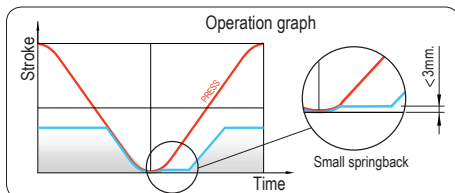
TPSRS

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STOP

CYLINDER

Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar
TPSB 6000x12	12	152	140	6000 ±5% (20°C)	6410	6465	135 (20°C)
TPSB 6000x25	25	178	153		6715	6810	
TPSB 6000x38	38	204	166		6920	7050	
TPSB 6000x50	50	228	178		7060	7210	
TPSB 6000x63	63	254	191		7175	7340	
TPSB 6000x80	80	288	208		7290	7470	
TPSB 6000x100	100	328	228		7385	7585	
TPSB 6000x125	125	378	253		7475	7690	



Required information

Working stroke (mm)

Press speed (m/min)

Maximum press rate (spm)

* Maximum rate will depend on working parameters

Pressure medium **Gas Nitrógeno (N₂) / Oil**

Max. charging pressure **135 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 **30 m/min**

Max. recommended strokes/min **10 - 35* spm**

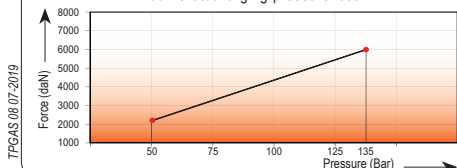


VDI SAFETY



RE-75-100

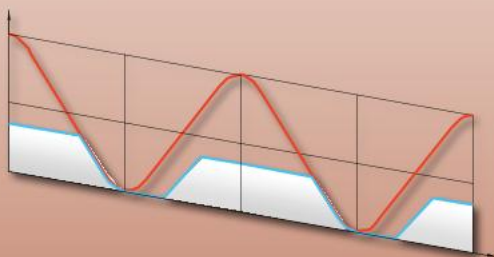
Initial force/charging pressure ratio



How to order

TPSB 6000 x 25 - E24 - C

Model	Stroke	Hydraulic valve	C-Linked system NC - Self contained
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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	✓

HOT FORMING

TPHT

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i

MICRO

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STOP
CYLINDER

HOT
FORMING

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:

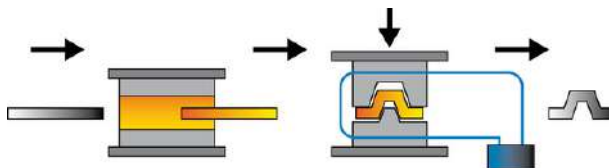
- Parts with the required safety characteristics.
- Significant weight reduction in comparison with the traditional cold forming process, which directly brings about low fuel consumption.

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 900-950°)
- Produce parts by means of deep drawing.
- Quickly cool the part in the tool. The tool is equipped with cooling systems.



Hot-forming environment:

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 special 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.



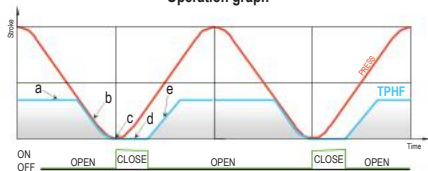
- ✓ Sealed rod protection cap
- ✓ Chromed stem
- ✓ Designed to work in any position
- ✓ Compact system (reduced space for installation)
- ✓ Slow return stroke
- ✓ Variable stroke stop, between 1 to 90% of stop-cylinder working stroke
- ✓ No cooling system required
- ✓ Easy installation, BUY and MOUNT
- ✓ 110V AC, 220V AC and 24VDC operation
- ✓ Safety features

VDI SAFETY





Operation graph



Electro-valve operation

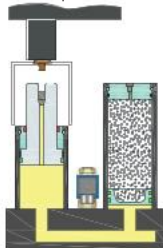


Figure a

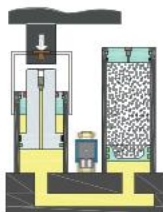


Figure b

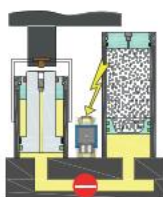


Figure c

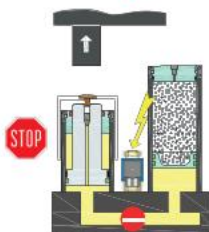


Figure d

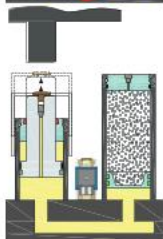
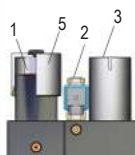
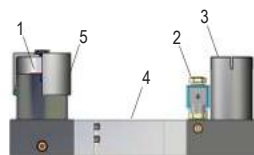


Figure e

Components description



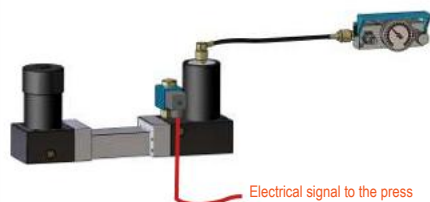
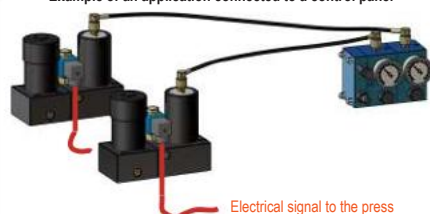
Compact application



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





i

MICRO

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STOP
CYLINDER

HOT
FORMING





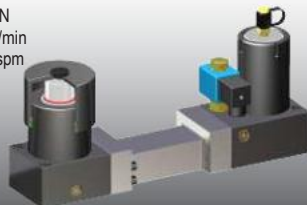
TPHFA 1500

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: 4 - 10 spm



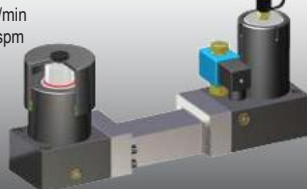
TPHFA 3000

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



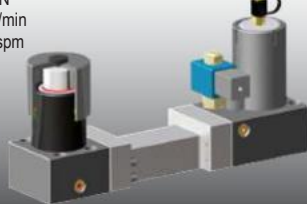
TPHFA 4500

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



HOT FORMING

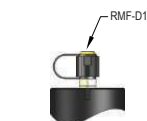
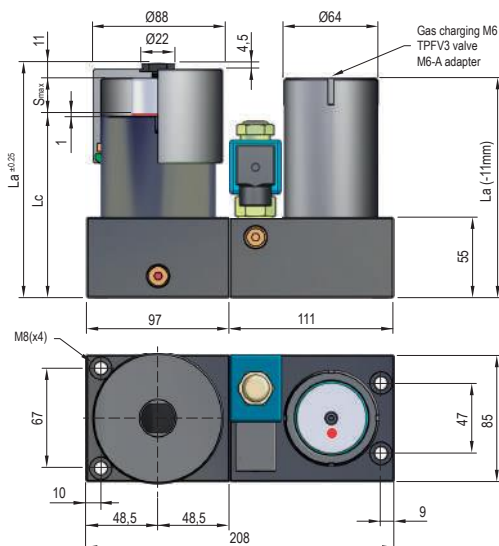
TPHT

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RISK OF
ENTRAPMENT



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% (20°C)	1610	1630	90 (20°C)
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 (N₂) / 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

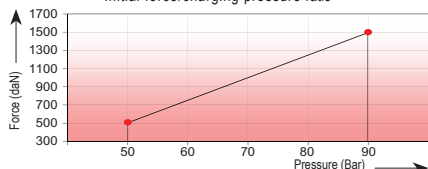
Max. recommended strokes/min 10* spm



VDI SAFETY



Initial force/charging pressure ratio



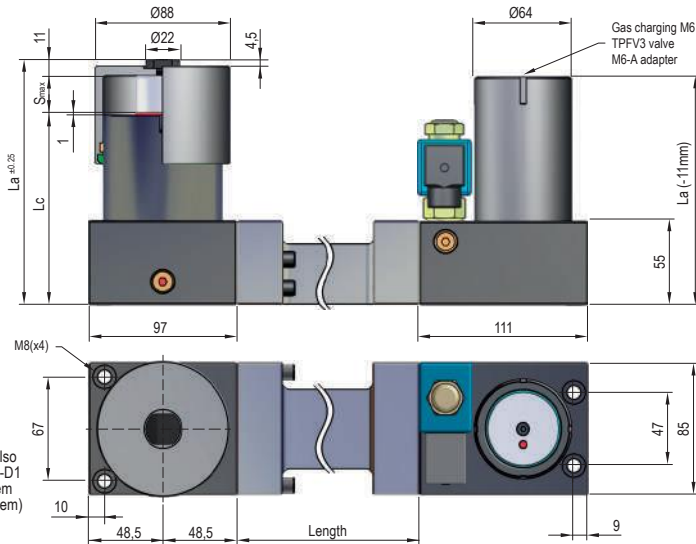
How to order

TPHFA 1500 x 12 - E24 - C

Model Stroke Hydraulic valve C - Linked system
NC - Self contained

**TECAPRES®**Hot forming tool
Stop-cylinders**TPHFB 1500**RISK OF
ENTRAPMENT
CAUTION!

The TPHFB 1500 model is also available equipped with RMF-D1 for working in a linked system (TPHFB 1500...C Linked system)



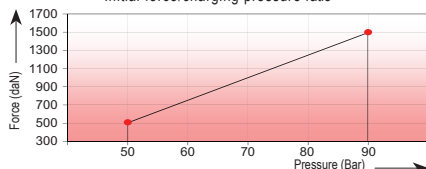
Code	Smax mm	La mm	Lc mm	 Fa daN	 90% F daN	 100% Fc daN	 P Bar
TPHFB 1500x25	25	161	125	1500 ±5% (20°C)	1610	1630	90 (20°C)
TPHFB 1500x50	50	211	150		1675	1705	
TPHFB 1500x80	80	271	180		1710	1750	
TPHFB 1500x100	100	311	200		1725	1765	
TPHFB 1500x125	125	361	225		1740	1785	
(Other strokes under order)							

Required information**Working stroke** (mm)**Press speed** (m/min)**Maximum press rate** (spm)

* Maximum rate will depend on working parameters

i Pressure medium**Gas Nitrógeno (N₂) / 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 **10 - 15 m/min**Max. recommended strokes/min **4 - 10* spm****VDI SAFETY**

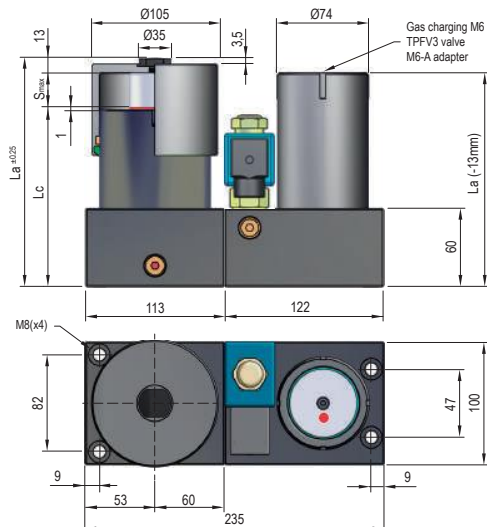
Initial force/charging pressure ratio

**How to order****TPHFB 1500 x 80 - E24 - C - L=275**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained	Length
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RISK OF
ENTRAPMENT



The TPHFA 3000 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 3000...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% (20°C)	3370	3425	105 (20°C)
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 (N₂) / 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

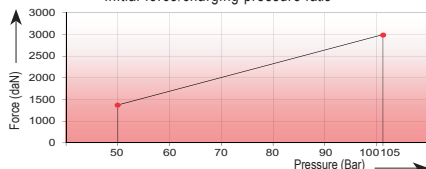
Max. recommended strokes/min 10* spm



VDI SAFETY



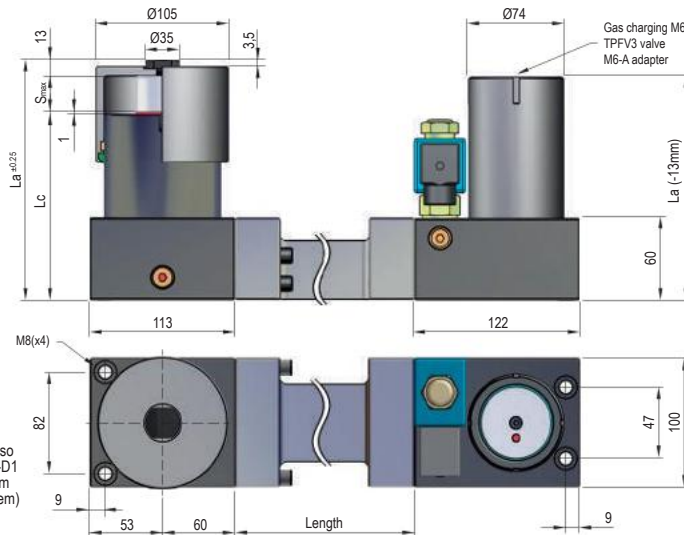
Initial force/charging pressure ratio



How to order

TPHFA 3000 x 38 - E24 - C

Model Stroke Hydraulic valve C-Linked system
NC - Self contained

**TECAPRES®**Hot forming tool
Stop-cylinders**TPHFB 3000**RISK OF
ENTRAPMENT
CAUTION!

The TPHFB 3000 model is also available equipped with RMF-D1 for working in a linked system (TPHFB 3000...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% (20°C)	3370	3425	105 (20°C)
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)							

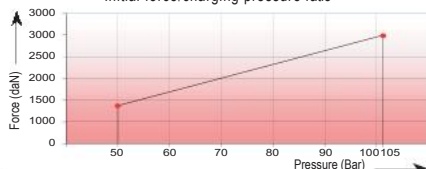
Required information**Working stroke** (mm)**Press speed** (m/min)**Maximum press rate** (spm)

* 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 cm ²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	10 - 14 m/min
Max. recommended strokes/min	6 - 10* spm

**VDI SAFETY**

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
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HOT FORMING

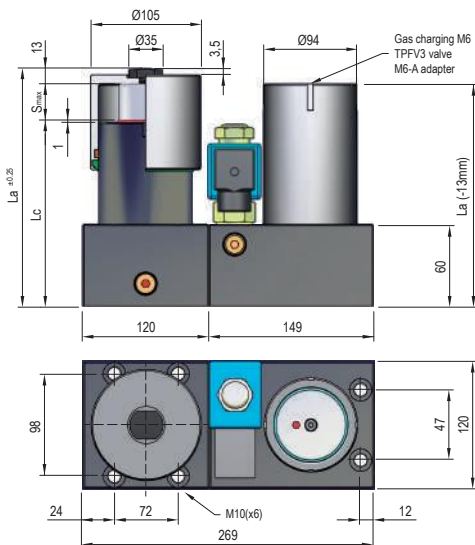
TPHT

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RISK OF
ENTRAPMENT



The TPHFA 4500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 4500...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% (20°C)	4815	4890	150 (20°C)
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 (N₂) / 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 18 m/min

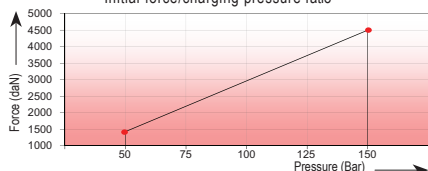
Max. recommended strokes/min 10* spm



VDI SAFETY



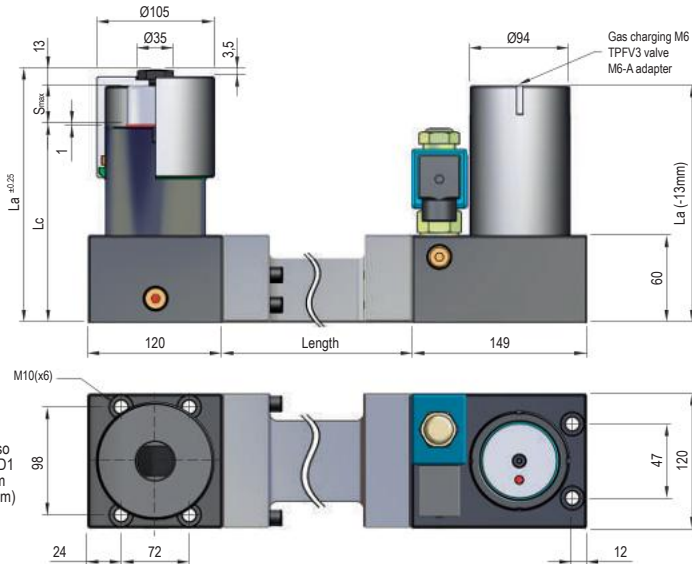
Initial force/charging pressure ratio



How to order

TPHFA 4500 x 125 - E24 - NC

Model Stroke Hydraulic valve C - Linked system
NC - Self contained

**TECAPRES®**Hot forming tool
Stop-cylinders**TPHFB 4500**RISK OF
ENTRAPMENT
CAUTION!

The TPHFB 4500 model is also available equipped with RMF-D1 for working in a linked system (TPHFB 4500...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% (20°C)	4815	4890	150 (20°C)
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)

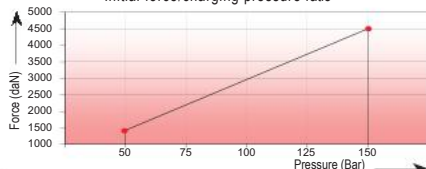
* Maximum rate will depend on working parameters

Pressure medium	Gas Nitrógeno (N ₂) / Oil
Max. charging pressure	150 Bar
Min. charging pressure	50 Bar
Rod seal area	28,27 cm ²
Operating temperature	0°C - 60°C
Force increase by temperature	0,33 %/°C
Max. stem speed	10 - 18 m/min
Max. recommended strokes/min	6 - 10* spm

**VDI SAFETY****How to order****TPHFB 4500 x 25 - E24 - NC - L=250**

Model Stroke Hydraulic valve C - Linked system NC - Self contained Length

Initial force/charging pressure ratio



TPGAS 06.07-2019

HOT FORMING

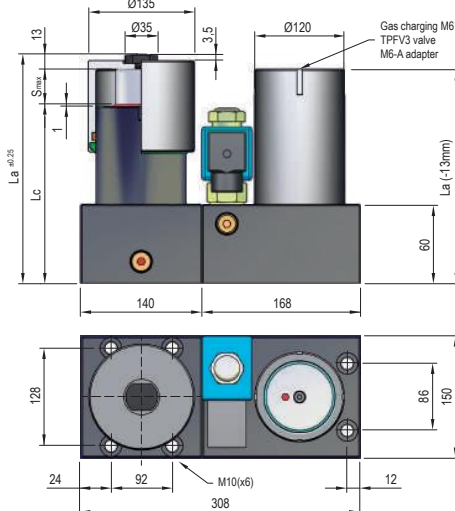
TPHT

TPSL





RISK OF
ENTRAPMENT



The TPHFA 6500 model is also available equipped with RMF-D1 for working in a linked system (TPHFA 6500...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% (20°C)	7465	7570	150 (20°C)
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 (N₂) / 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**

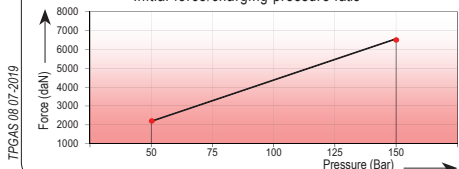
Max. recommended strokes/min **10* spm**



VDI SAFETY



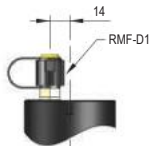
Initial force/charging pressure ratio



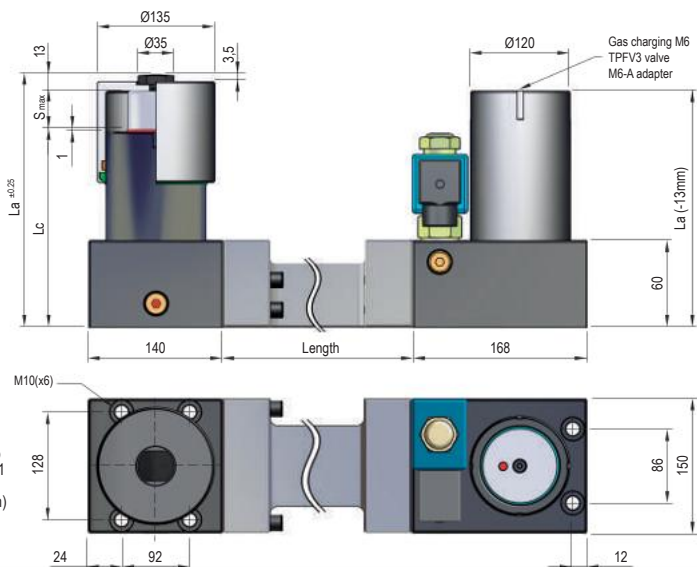
How to order - Ejemplo de pedido

TPHFA 6500 x **38** - **E110** - **C**

Model	Stroke	Hydraulic valve	C - Linked system NC - Self contained
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**TECAPRES®**Hot forming tool
Stop-cylinders**TPHFB 6500**RISK OF
ENTRAPMENT
CAUTION!

The TPHFB 6500 model is also available equipped with RMF-D1 for working in a linked system (TPHFB 6500...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 (N₂) / OilMax. 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 **8 - 12 m/min**Max. recommended strokes/min **6 - 10* spm**PED
2014/68/UE

VDI SAFETY



How to order - Ejemplo de pedido

TPHFB 6500 x 125 - E24 - NC - L=300

Model

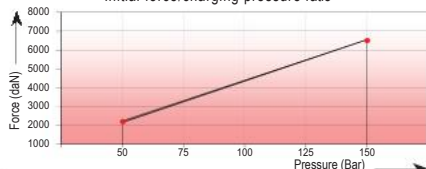
Stroke

Hydraulic valve

C - Linked system
NC - Self contained

Length

Initial force/charging pressure ratio



TPGAS 06.07-2019

**HOT
FORMING**

TPHT

TPSL





**FOR HIGH
Temperature**

Up to 120°C



- ▶ Maximum operating temperature: 120°C / 248°F
- ▶ Product in stock
- ▶ Adjustable range of forces

Gas springs for high temperature applications

Code	ØBody mm	Strokes mm	 Fa daN		 ACTIVE SAFETY	 Up to 120°C
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	✓	✓	✓

TPHT

TPSL





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRs

TPNS

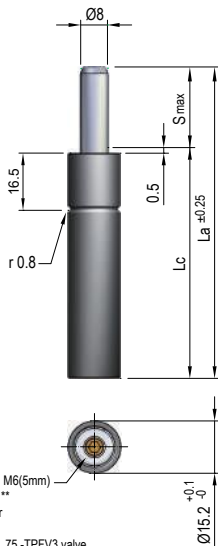
STOP

CYLINDER

HOT

FORMING

TPHT



Gas charging M6(5mm)
TPFV2 valve **
M6-C adapter

** Strokes 63, 75 - TPFV3 valve

i

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

80 Bar

Min. charging pressure

20 Bar

Rod seal area

0,50 cm²

Operating temperature

0°C - 120°C

Force increase by temperature

0,33 %/°C

Max. stem speed

0,5 m/s

Maintenance kit

Kit HT15

Max. strokes / min

10 - 15 spm

Life service

300.000 ÷ 500.000 strokes



Up to 120°C

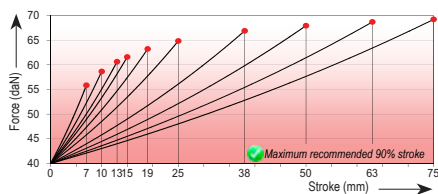


FOR HIGH Temperature
Up to 120°C

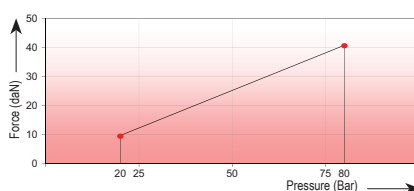
Designed to work up to a maximum of 120°C, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

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	40 ±5% (20°C)	55	55	80 (20°C)	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		60	65		0,003	0,09
TPHT 15x25	25	92	67		60	65		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

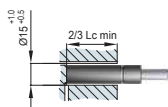
Force/stroke ratio

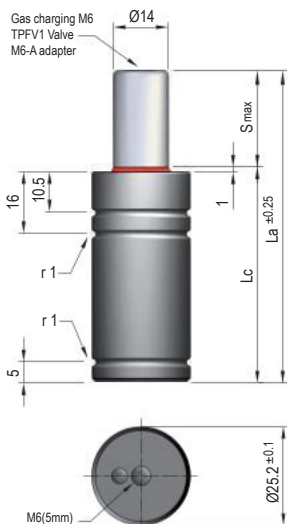


Initial force/charging pressure ratio



Assembly possibilities





i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	80 Bar
Min. charging pressure	25 Bar
Rod seal area	1,54 cm²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT25
Max. strokes / min	10 - 25 spm
Life service	300.000 ÷ 500.000 strokes



VDI SAFETY

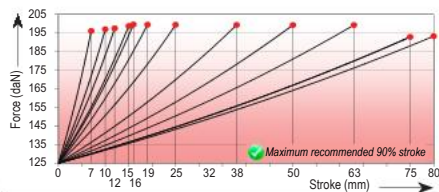


FOR HIGH Temperature
Up to 120°C

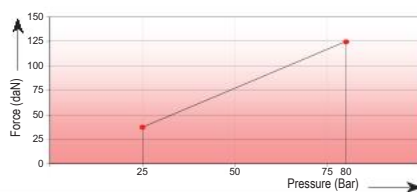
Designed to work up to a maximum of 120°C, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

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% (20°C)		185		195		80 (20°C)		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

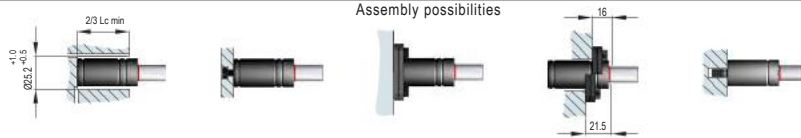
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 25/1

FS 25/1

TPHT 25R





MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

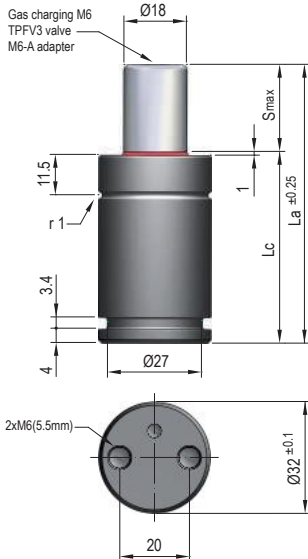
TPSRs

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT



Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

80 Bar

Min. charging pressure

25 Bar

Rod seal area

2,54 cm²

Operating temperature

0°C - 120°C

Force increase by temperature

0,33 %/°C

Max. stem speed

0,5 m/s

Maintenance kit

Kit HT32

Max. strokes / min

10 - 20 spm

Life service

300.000 + 500.000 strokes



VDI SAFETY

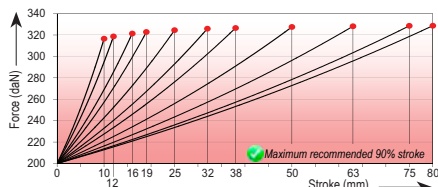


FOR HIGH Temperature
Up to 120°C

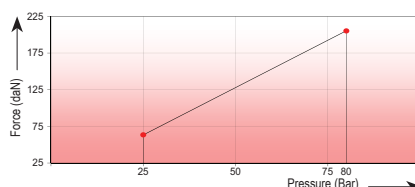
Designed to work up to a maximum of 120°C, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

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% (20°C)	305	320	80 (20°C)	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

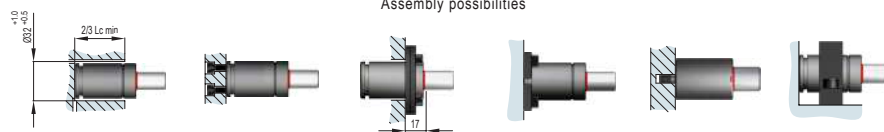
Force/stroke ratio



Initial force/charging pressure ratio



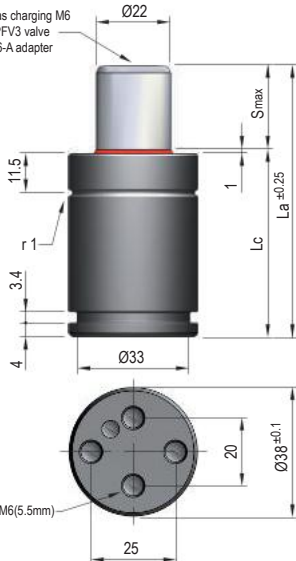
Assembly possibilities



TPGAS 08 07-2019



Gas charging M6
TPFV3 valve
M6-A adapter



i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT38
Max. strokes / min	10 - 20 spm
Life service	300.000 + 500.000 strokes



VDI SAFETY

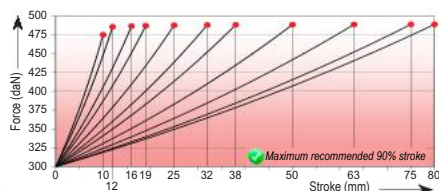


FOR HIGH Temperature
Up to 120°C

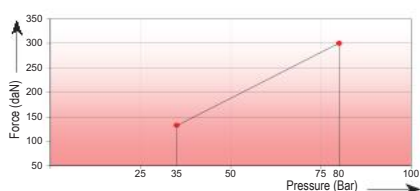
Designed to work up to a maximum of 120°C, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

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% (20°C)	455	480	80 (20°C)	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

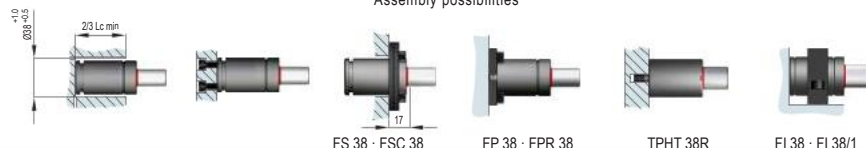
Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



FS 38 · FSC 38

FP 38 · FPR 38

TPHT 38R

FI 38 · FI 38/1



i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRs

TPNS

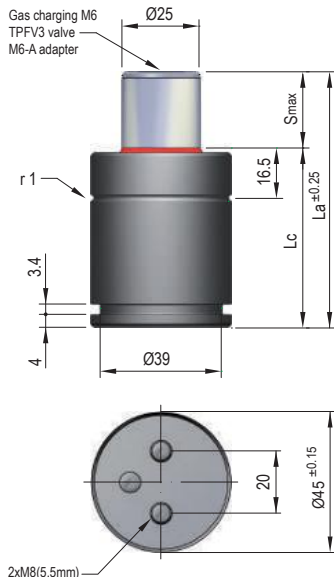
STOP

CYLINDER

HOT

FORMING

TPHT



i

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

80 Bar

Min. charging pressure

35 Bar

Rod seal area

4,91 cm²

Operating temperature

0°C - 120°C

Force increase by temperature

0,33 %/°C

Max. stem speed

0,5 m/s

Maintenance kit

Kit HT45

Max. strokes / min

10 - 25 spm

Life service

300.000 ÷ 500.000 strokes



VDI SAFETY

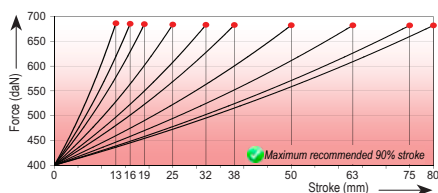


FOR HIGH Temperature
Up to 120°C

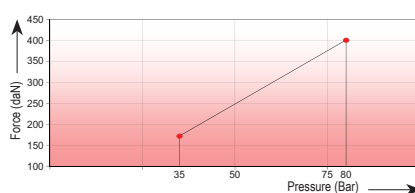
Designed to work up to a maximum of 120°C, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

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% (20°C)	630	675	80 (20°C)	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

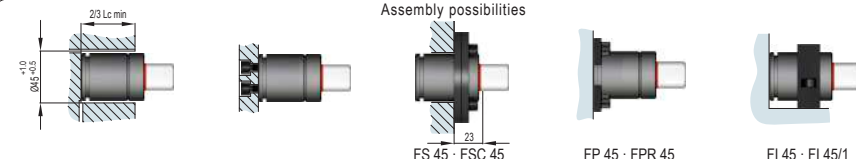
Force/stroke ratio



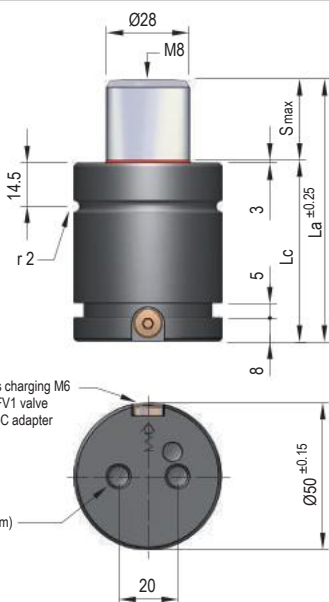
Initial force/charging pressure ratio



Assembly possibilities



TPGAS 08 07 2019

**TECAPRES®****TPHT 50**

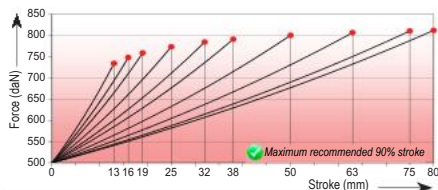
i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT50
Max. strokes / min	10 - 25 spm
Life service	300.000 ÷ 500.000 strokes

**VDI SAFETY****FOR HIGH Temperature**
Up to 120°C

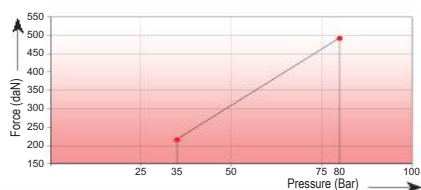
Designed to work up to a maximum of 120°C, the TPHT series is especially recommendable for application where the temperature exceeds standard operating temperature

Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPHT 50x13	13	64	51	500 ±5% (20°C)			690		725		80 (20°C)		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



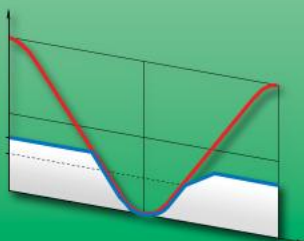
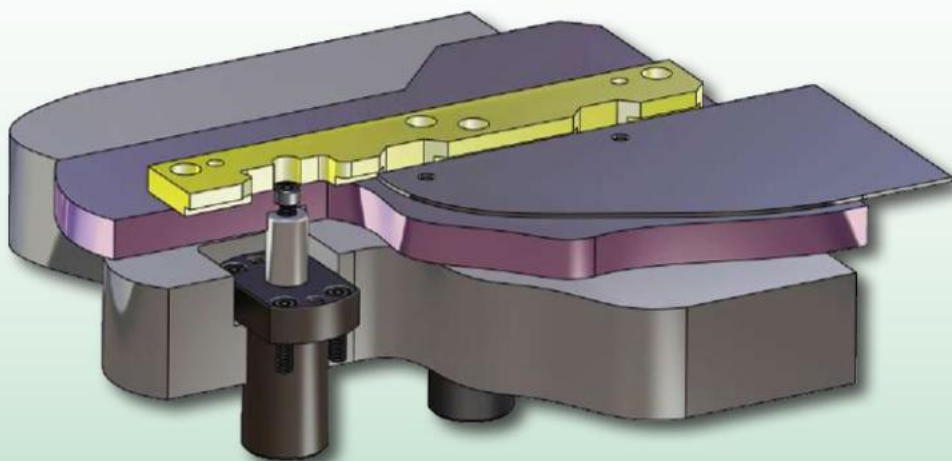
FP 50 · FPR 50

FS 50 · FSC 50

FI 50 · FI 50/1

Manufactured by TÉCNICAS APLICADAS DE PRESIÓN, S.L. · www.tecapres.com

297**TPHT****TPSL**



► Special cushioning feature

Gas spring lifters

Code	ØBody mm	Strokes mm	 Fa daN	
TPSL 100	38	25 - 125	100	
TPSL 250	50	25 - 200	250	
TPSLR 250	50	25 - 200	250	✓

TPSL





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRs

TPNS

STOP

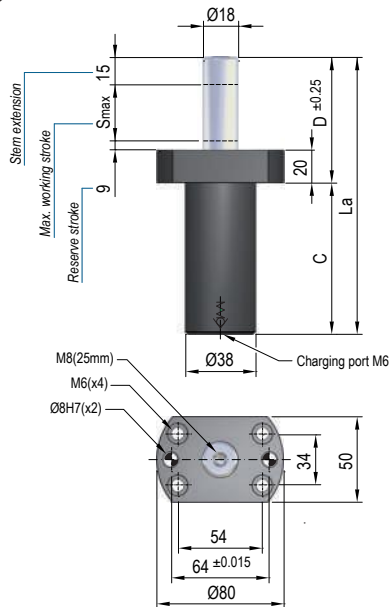
CYLINDER

HOT

FORMING

TPHT

TPSL



i

Pressure medium

Gas Nitrógeno (N₂)

Max. charging pressure

50 Bar

Min. charging pressure

25 Bar

Rod seal area

2,54 cm²

Operating temperature

0°C - 80°C

Force increase by temperature

0,33 %/°C

Max. stem speed

1,6 m/s

Maintenance kit

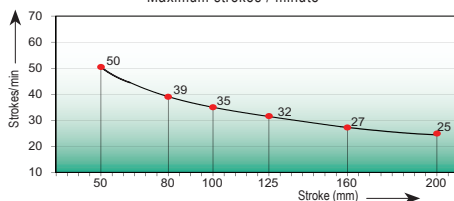
Kit SL100



VDI SAFETY

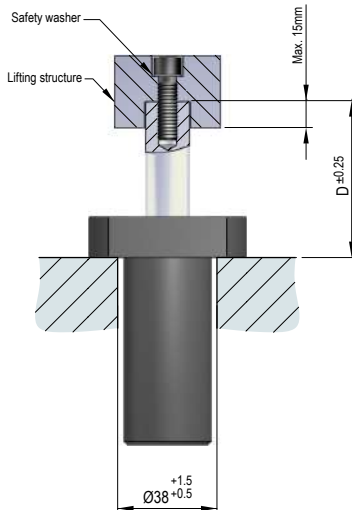


Maximum strokes / minute

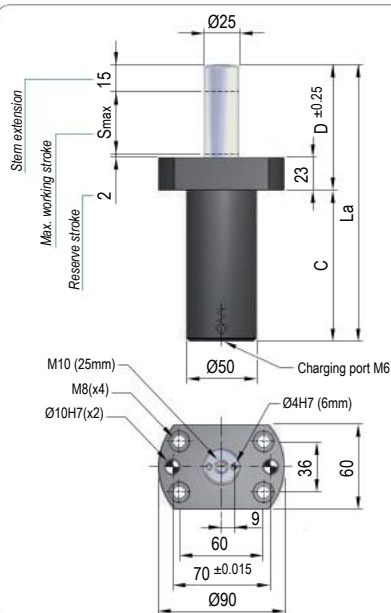


Code	Smax mm	La mm	C mm	D mm	 Fa daN	 90% F daN	 100% Fc daN	 P Bar	V l
TPSL 100x25	25	135	66	69	100 ±5% (20°C)	140	150	40 (20°C)	0,020
TPSL 100x50	50	185	91	94		130	135		0,040
TPSL 100x63	63	211	104	107		130	135		0,051
TPSL 100x80	80	245	121	124		130	135		0,064
TPSL 100x125	125	335	166	169		125	130		0,101
(Other strokes under order)									

Mounting example



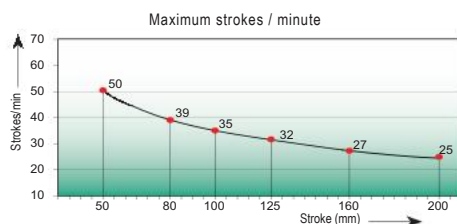
The stem is an extra 15mm long to facilitate attachment to the lifting structure.



i Pressure medium	Gas Nitrógeno (N₂)
Max. charging pressure	50 Bar
Min. charging pressure	25 Bar
Rod seal area	4,91 cm²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,6 m/s
Maintenance kit	Kit SL250

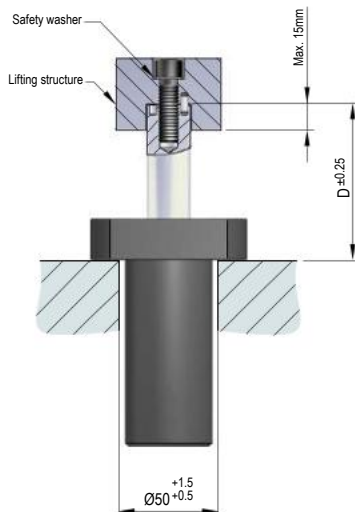


VDI SAFETY



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	250 ±5% (20°C)	370	395	50 (20°C)	0,065
TPSL 250x80	80	257	137	120		375	395		0,103
TPSL 250x100	100	297	157	140		375	400		0,128
TPSL 250x125	125	347	182	165		375	400		0,160
TPSL 250x160	160	417	217	200		375	400		0,204
TPSL 250x200	200	497	257	240		375	400		0,254
(Other strokes under order)									

Mounting example



The stem is an extra 15mm long to facilitate attachment to the lifting structure.





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

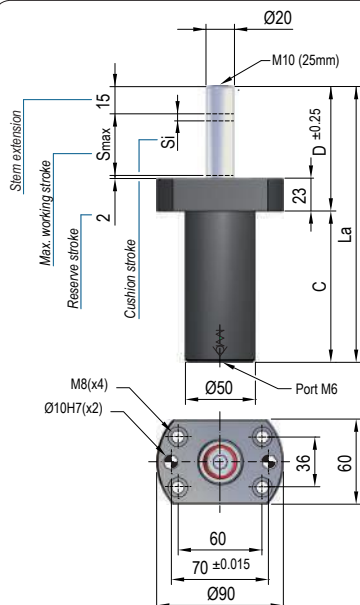
CYLINDER

HOT

FORMING

TPHT

TPSL



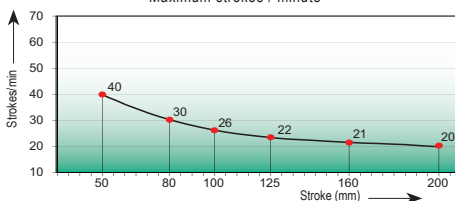
Pressure medium	Gas Nitrógeno (N ₂)
Max. charging pressure	80 Bar
Min. charging pressure	25 Bar
Rod seal area	3,14 cm ²
Operating temperature	0°C - 80°C
Force increase by temperature	0,33 %/°C
Max. stem speed	1,2 m/s
Maintenance kit	Kit SLR250



VDI SAFETY

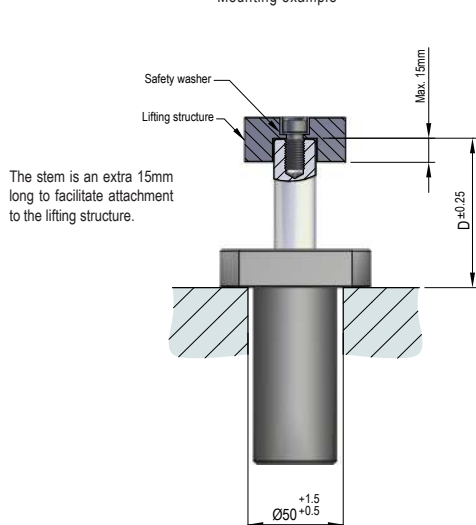


Maximum strokes / minute



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% (20°C)	320	330	80 (20°C)	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)										

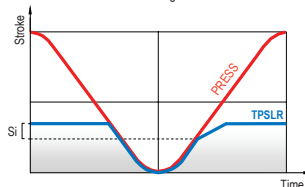
Mounting example

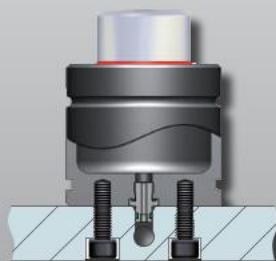
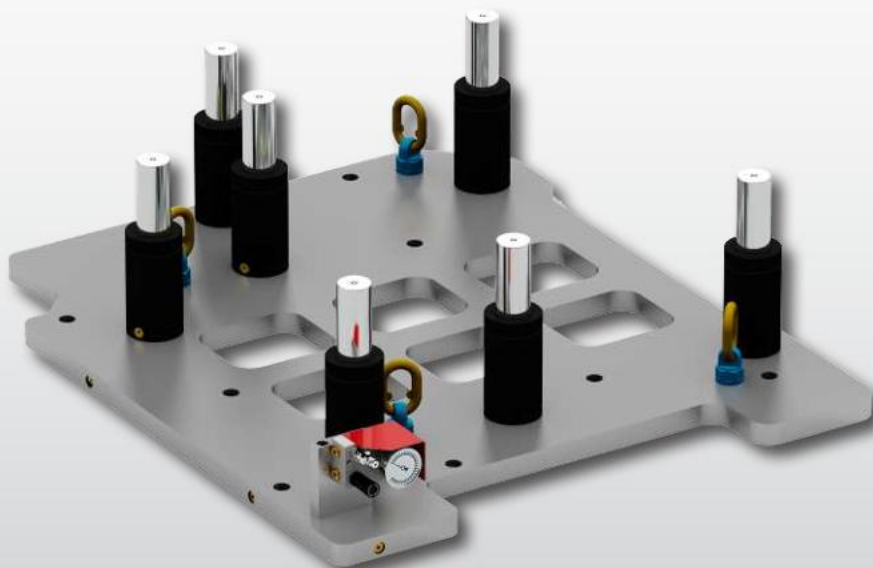


Special cushioning feature

TPSLR 250 gas springs are equipped with a final 15mm cushion stroke, for shock absorption purposes.

Stroke diagram





Eco manifold system with standard gas springs





i

MICRO

TITAN

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TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



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 record-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.

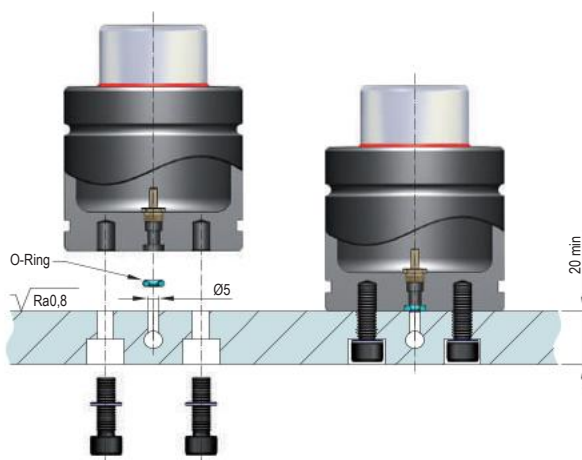


ECO MANIFOLD ADVANTAGES

- ✓ Good alternative to standard manifold systems
 - ✓ Maximum saving
 - ✓ Maximum sealing guarantee
- ✓ Makes hoses and records unnecessary
- ✓ Very short manufacturing deadlines
 - ✓ Easy maintenance
- ✓ Very compact plate dimensions
- ✓ Use of standard gas springs in accordance with 97/23/EC
- ✓ Same force in all contact points



ECO MANIFOLD CA

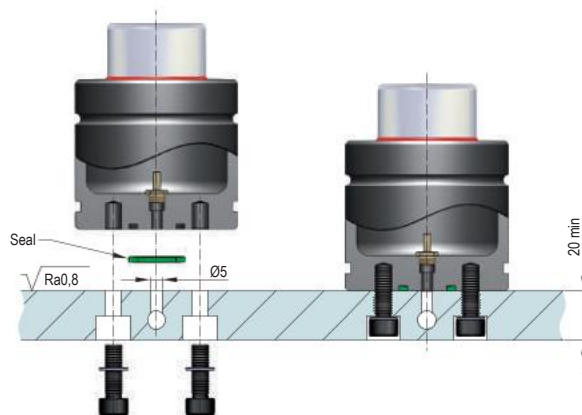


Available series:

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

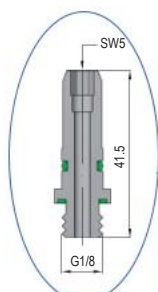
MICRO 75 x 80 - CB

Model	Stroke	Eco-manifold type	DA DB

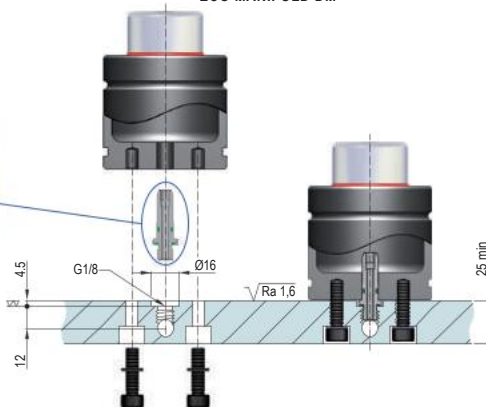




ECO MANIFOLD DM



CONECTOR DM



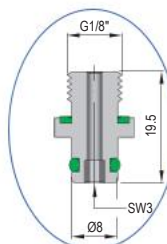
Use safety washers or anaerobic thread fixtures



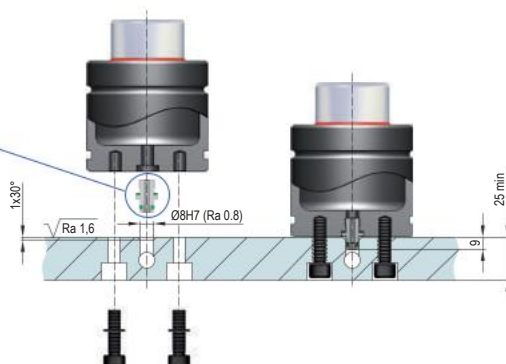
Available series:

MICRO
TITAN
TPH
TPK
TPC
TPCT
TPF
TPS

ECO MANIFOLD DM-M3



CONECTOR DM-M3



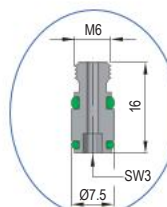
Use safety washers or anaerobic thread fixtures



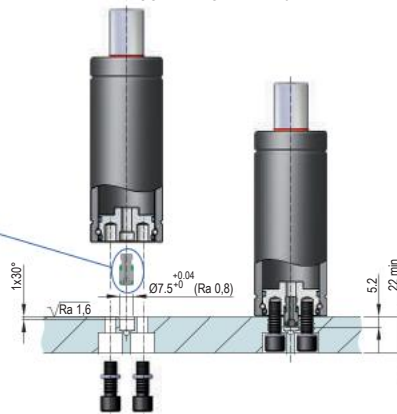
Available series:

MICRO
TITAN
TPH
TPK
TPC
TPCT
TPF
TPS

ECO MANIFOLD DM-M6



CONECTOR DM-M6



Use safety washers or anaerobic thread fixtures

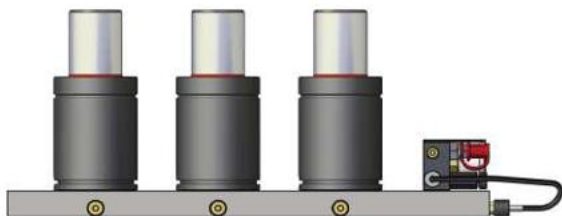


Available series:

TPF
TPH

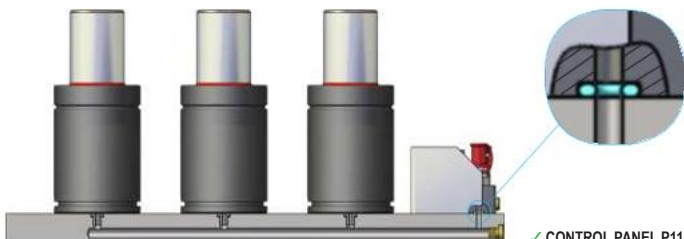


ECO MANIFOLD SAMPLE



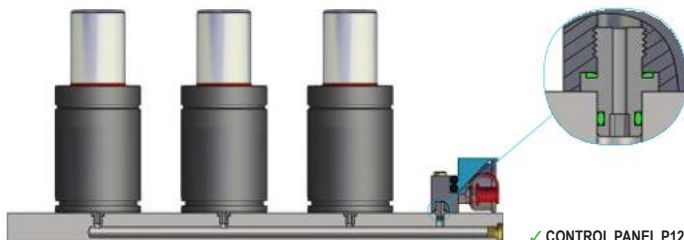
✓ CONTROL PANEL P110 · P120 + HOSE

ECO MANIFOLD SAMPLE



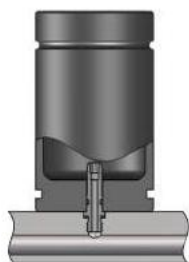
✓ CONTROL PANEL P110M · P110EC (SEAL)

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





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MICRO

TITAN

TPH

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TPCT

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TPG

TPSR

TPSRS

TPNS

STOP

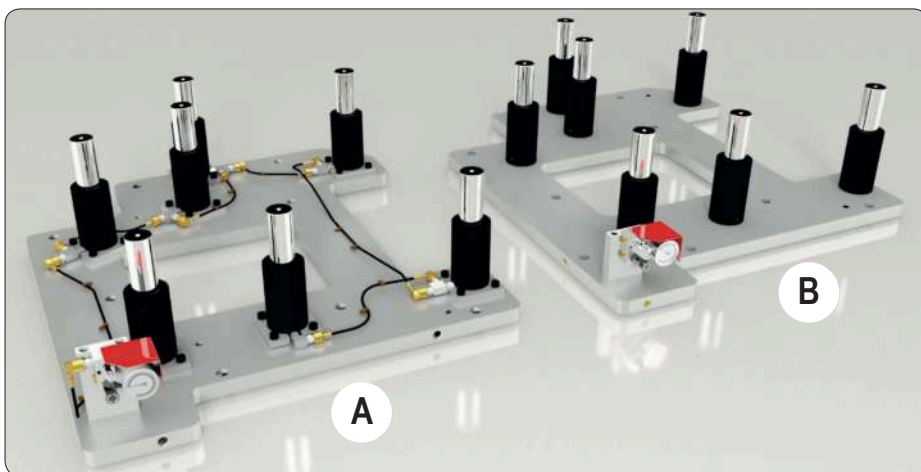
CYLINDER

HOT

FORMING

TPHT

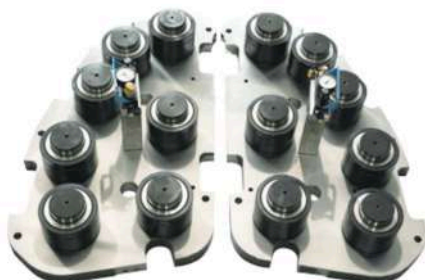
TPSL

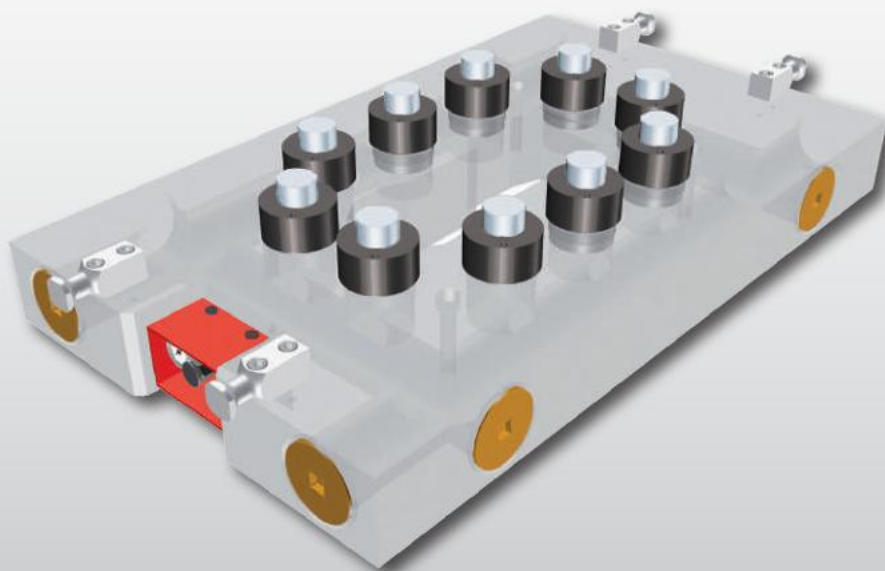


ECO MANIFOLD ADVANTAGES

Comparison between gas springs linked by hoses **A** and with eco-manifold plate system **B**

- ✓ Compact design
- ✓ Cost-efficient
- ✓ Lower machining operation is required
- ✓ Production according to the current legal requirements and technical regulations
- ✓ Easy installation





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





i

MICRO

TITAN

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.

TPH

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.

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

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.

TPA

TPG

The plate should work as a gas lung-type deposit in order to obtain a slight (10%-20%) increase in pressure and force.

TPSR

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.

TPSRs

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.

TPNS

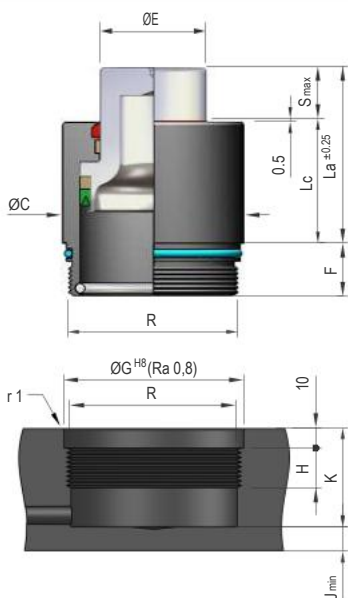
STOP
CYLINDER

HOT
FORMING

TPHT

TPSL





• Pressure medium	Nitrogen gas (N₂)
I 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	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



- 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% (20°C)	150 (20°C)	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% (20°C)	150 (20°C)	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% (20°C)	150 (20°C)	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% (20°C)	150 (20°C)	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											

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i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRs

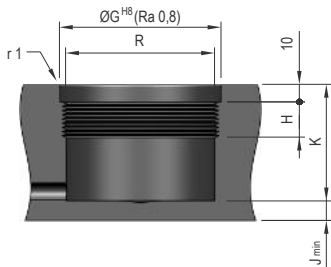
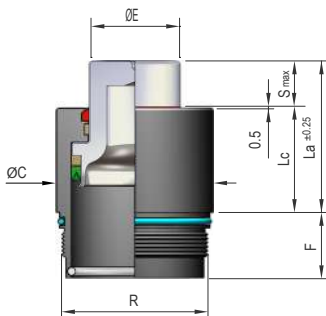
TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



Pressure medium	Nitrogen gas (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	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



- 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 cm²	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% (20°C)	150 (20°C)	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% (20°C)	150 (20°C)	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% (20°C)	150 (20°C)	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% (20°C)	150 (20°C)	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	

TPGAS 06.07.2019



Flanges for attaching gas springs to tools

Code	Type
FS	 
FSC	
FP	
FPR	
FB	
FI	
FI / 1	
FR	
FRS	





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MICRO

TITAN

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TPK

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TPCT

TPB

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TPA

TPG

TPSR

TPSRS

TPNS

STOP

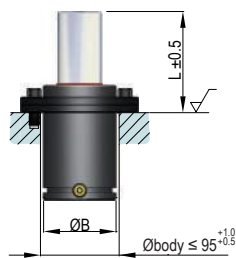
CYLINDER

HOT

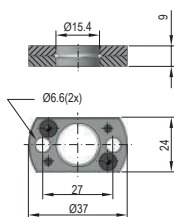
FORMING

TPHT

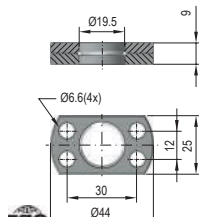
TPSL



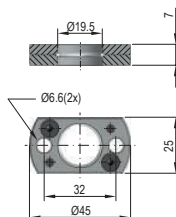
FS 15



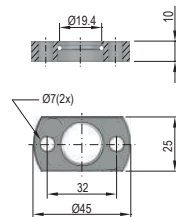
FS 19



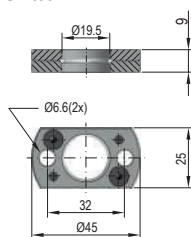
FS 19/1



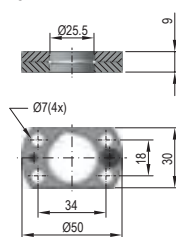
FS 19/2



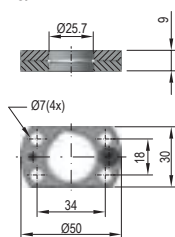
FS 19/3



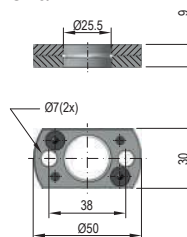
FS 25



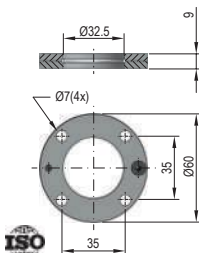
FS 25/1



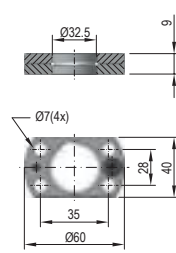
FS 25/2



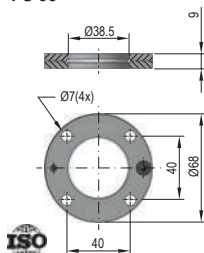
FS 32



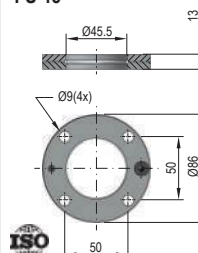
FS 32/1



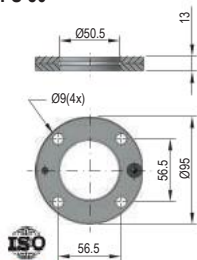
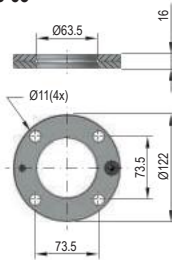
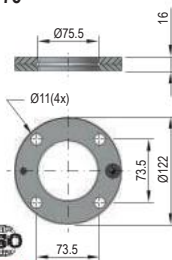
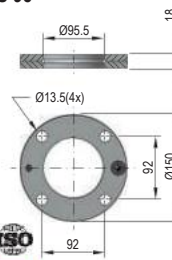
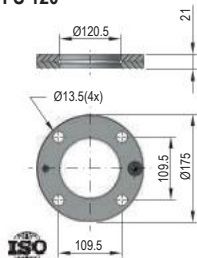
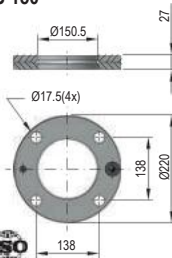
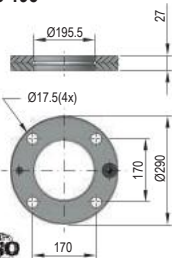
FS 38



FS 45



TPCAS 06.07-2019


FS 50

FS 63

FS 75

FS 95

FS 120

FS 150

FS 195




i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

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TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

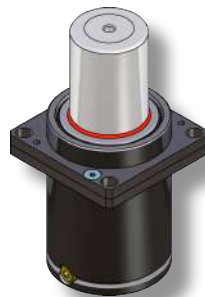
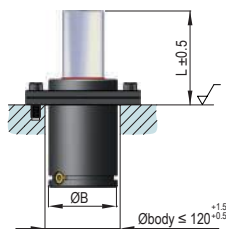
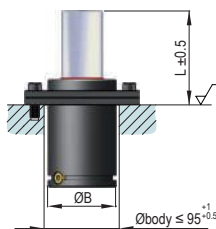
CYLINDER

HOT

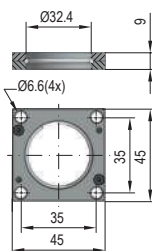
FORMING

TPHT

TPSL

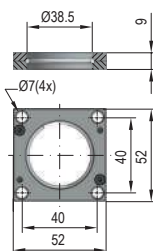


FSC 32

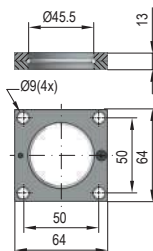


VDI

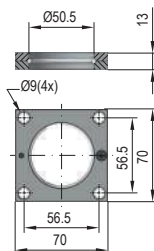
FSC 38



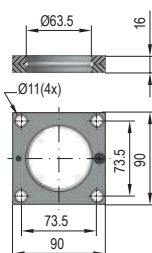
FSC 45



FSC 50

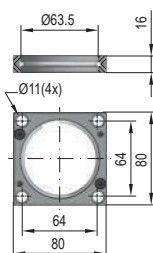


FSC 63



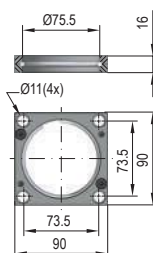
VDI

FSC 63/1



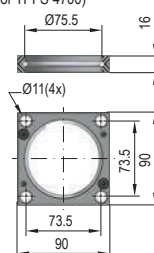
VDI

FSC 75



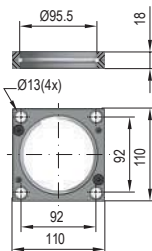
FSCS 75

(only for TPFS 4700)

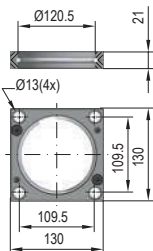


VDI

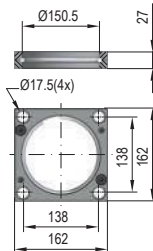
FSC 95



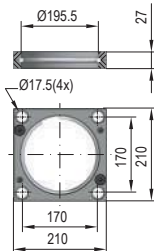
FSC 120



FSC 150



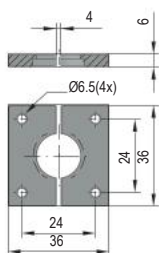
FSC 195



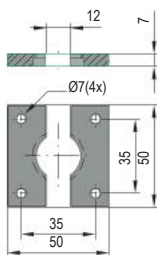
TPCAS 06.07.2019



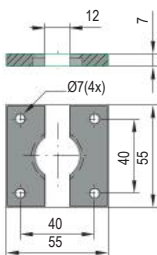
FP 20



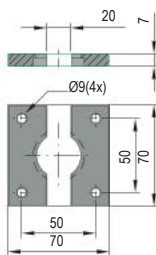
FP 32



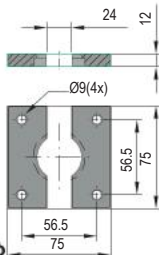
FP 38



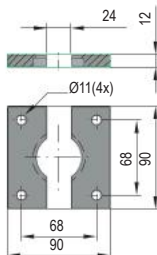
FP 45



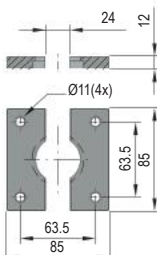
FP 50



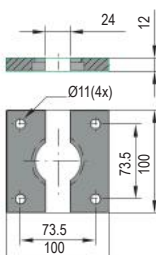
FP 63



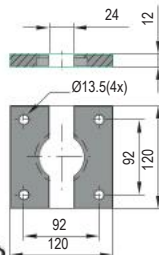
FP 63/1



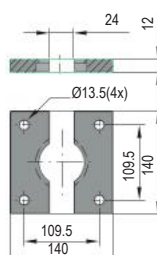
FP 75



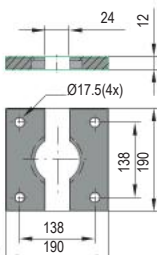
FP 95



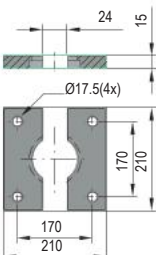
FP 120



FP 150



FP 195





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

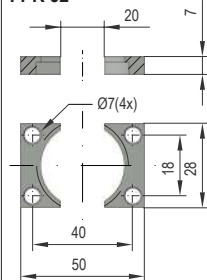
FORMING

TPHT

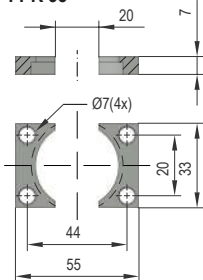
TPSL



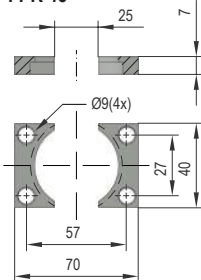
FPR 32



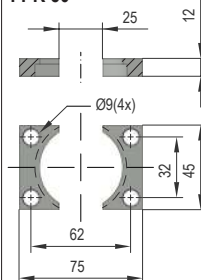
FPR 38



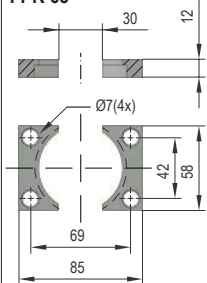
FPR 45



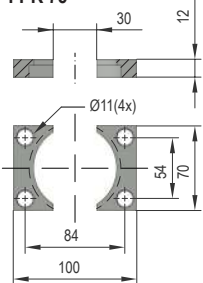
FPR 50



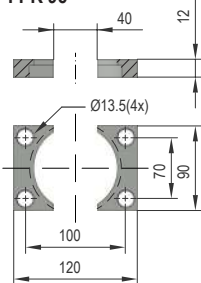
FPR 63



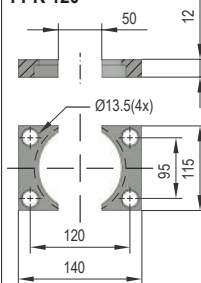
FPR 75



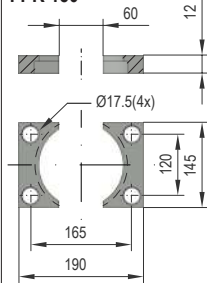
FPR 95



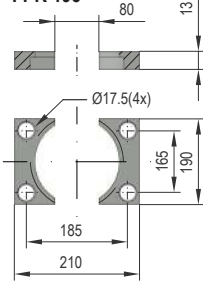
FPR 120



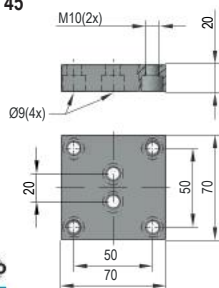
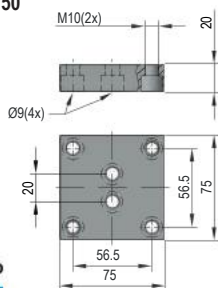
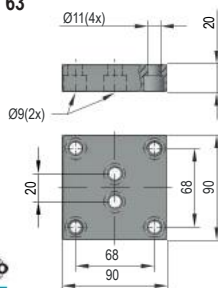
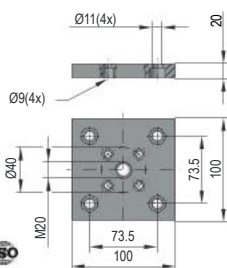
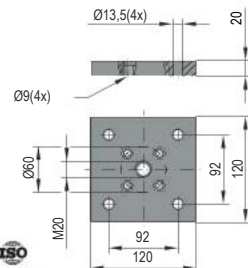
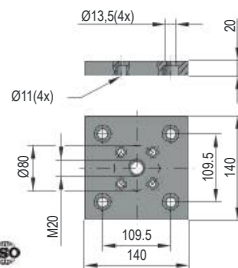
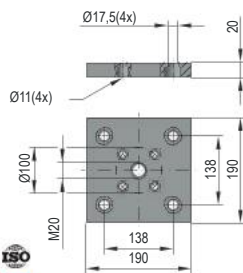
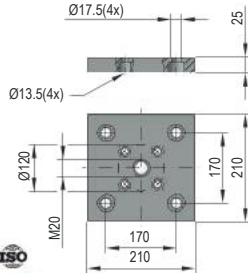
FPR 150



FPR 195



TPCAS 06/07-2019


FB 45

FB 50

FB 63

FB 75

FB 95

FB 120

FB 150

FB 195




i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSR

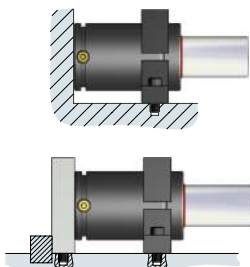
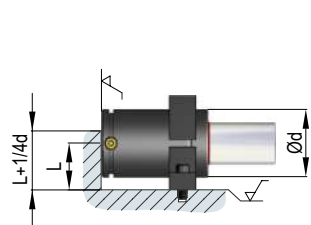
TPNS

STOP
CYLINDER

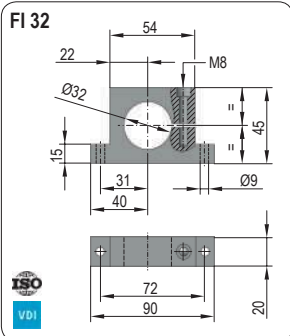
HOT
FORMING

TPHT

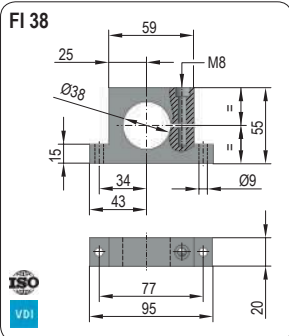
TPSL



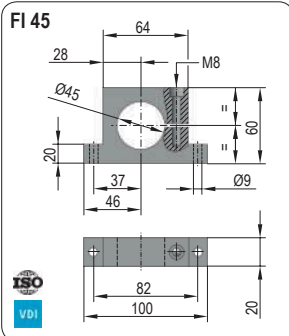
FI 32



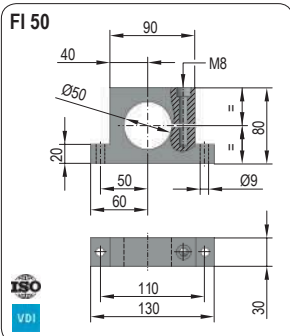
FI 38



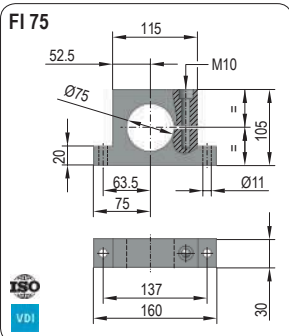
FI 45



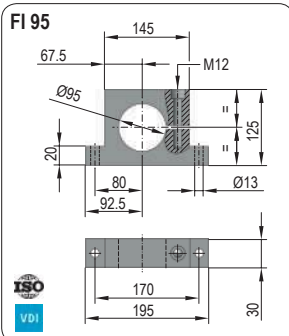
FI 50



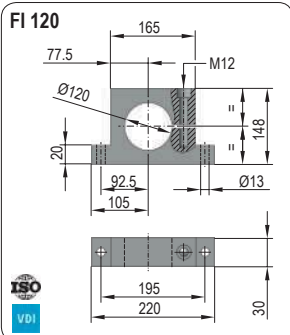
FI 75



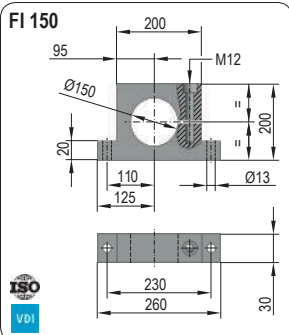
FI 95



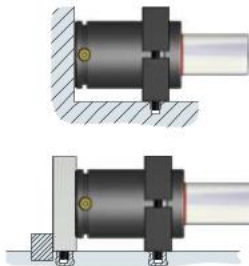
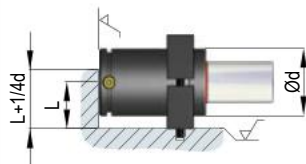
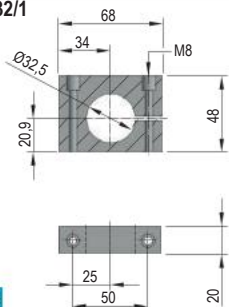
FI 120



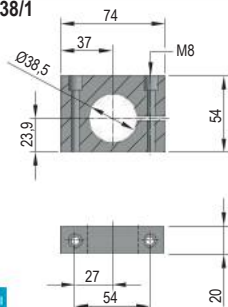
FI 150



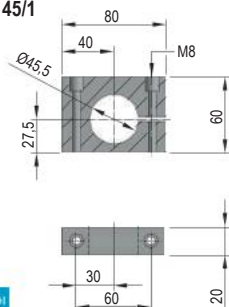
TPCAS 06-07-2019

**FI 32/1**

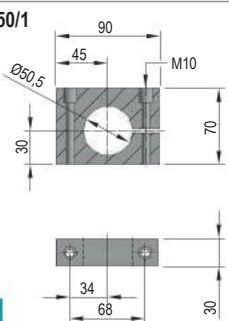
VDI

FI 38/1

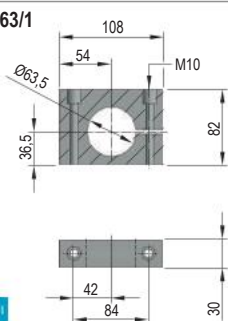
VDI

FI 45/1

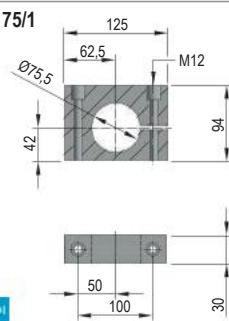
VDI

FI 50/1

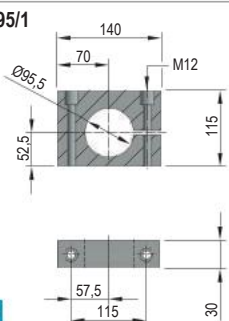
VDI

FI 63/1

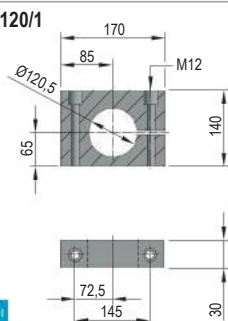
VDI

FI 75/1

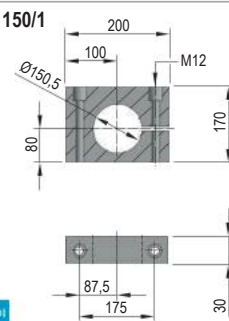
VDI

FI 95/1

VDI

FI 120/1

VDI

FI 150/1

VDI





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

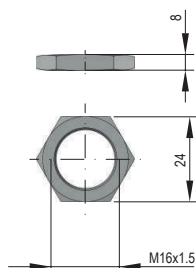
FORMING

TPHT

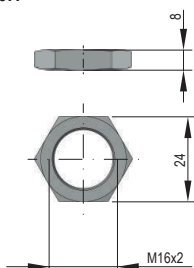
TPSL



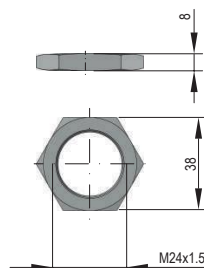
FR 16



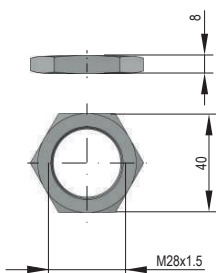
FRC 16.1



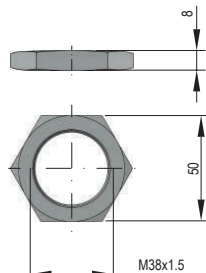
FR 24



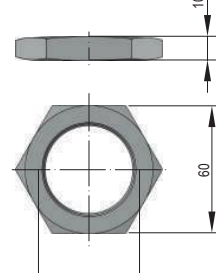
FR 28



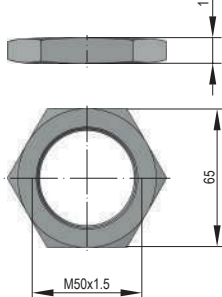
FR 38



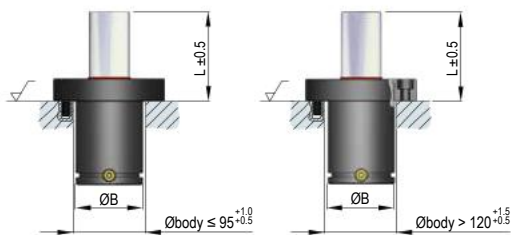
FR 45



FR 50



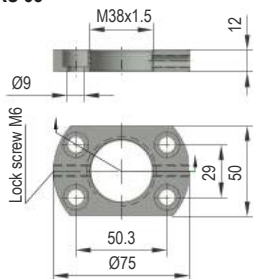
TPGAS 06-07-2019



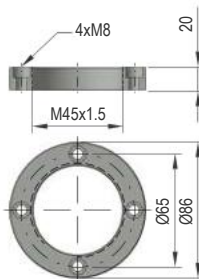
It should be assembled only at factory: no removable flange



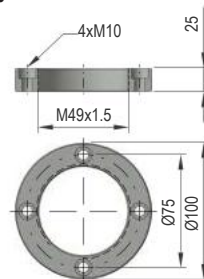
FRS 38



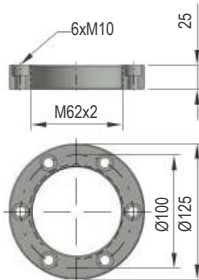
FRS 45



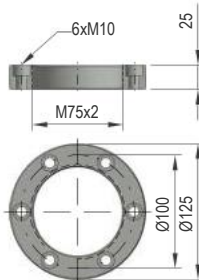
FRS 50



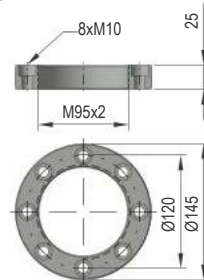
FRS 63



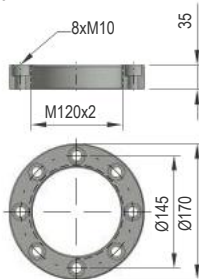
FRS 75



FRS 95



FRS 120



TPGAS 06.07.2019





- ▶ Excellent protection against both liquid and solid pollution
- ▶ Facilitates having gas springs working in any position
- ▶ Cost savings





i

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 environmental conditions, the **TECAPRES** research team has studied, designed and subsequently developed a range of specific products for both liquid and solid extreme pollution mechanic environmental conditions.

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

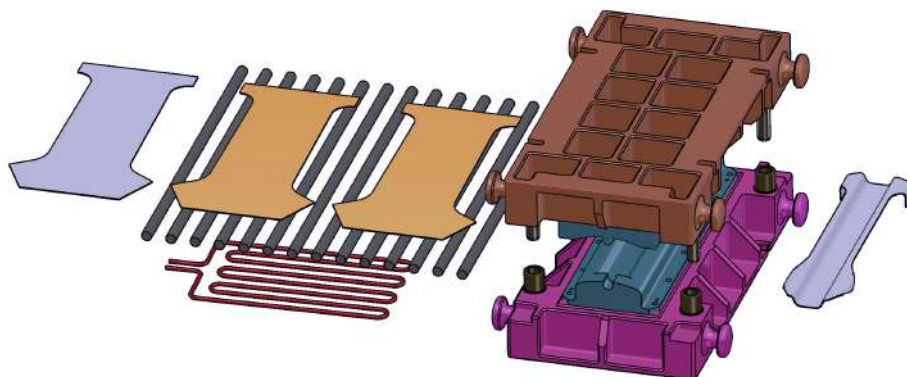
CYLINDER

HOT

FORMING

TPHT

TPSL



✓ Sealed rod protection cup

✓ Surfaces protected against corrosion in metal components

✓ Designed to work in any position

✓ Safety features

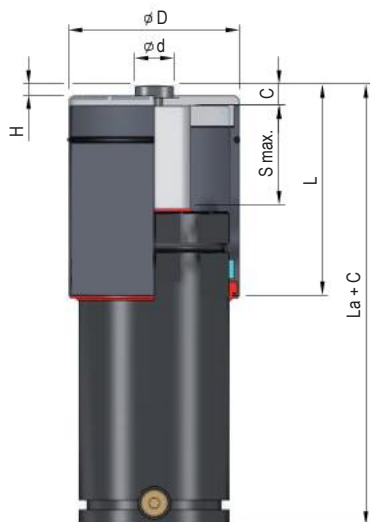




TECAPRES offers the possibility of incorporating this device onto TPS and MICRO series gas springs in order to protect rods.

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 1500.1	100% Smax	86	22.5	53 + S	11	5
MICRO 75.1	100% Smax	86	22.5	42 + S	11	5
TPS 3000	100% Smax	106	22.5	58 + S	13	3
MICRO 95	Smax (-4)	106	22.5	56 + S	13	3
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



FP FLANGE

FB FLANGE

How to order

TPS 3000 x 100 **RP**

Model

Stroke

With rod-protection





i

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

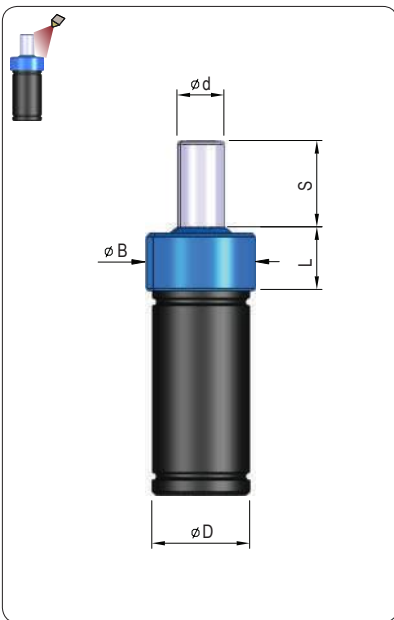
✓ Simple assembly in the gas spring (page 330)

✓ It facilitates having the gas spring working in any position

✓ Cost savings

✓ Minimal loss of working stroke length

✓ Compatible with all kind of flanges



How to order

TPC 25 x 50 RE BL
Model Stroke With Shield-scraper Color code

GAS SPRING WITH SHIELD SCRAPER

RE-12-25

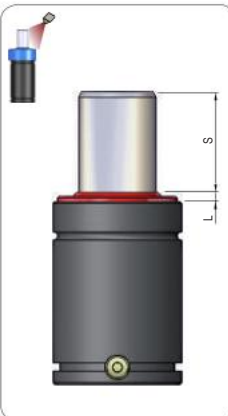
Code

ONLY SHIELD SCRAPER

Please check the Smax specification for each model in the catalogue
(Other models under order)

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 19.1	8	19	Smax (-3)	13	21,9
RE-11-19	MICRO 19V1	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
	MICRO 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
RE-18-32	TPF 750	18	32	Smax (-3,0)	18,0	36,4
	TPK 32			Smax (-3,0)	18,0	36,4
	TPC 350.1			Smax (-3,0)	18,0	36,4
	TPGP 32			Smax (-4,0)	18,0	36,4
				Smax (-4,0)	18,0	36,4

TPCAS 06 07-2019



How to order

MICRO 63V x 75 RE

Model Stroke With Shield-scraper
GAS SPRING WITH SHIELD-SCRAPER

RE-36-50

Code
ONLY SHIELD-SCRAPER

MICRO 95 x 50 CR RE

Model Stroke With chromed stem 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 (page 330)
- ✓ It makes it possible to have gas springs working in any position
- ✓ Cost savings.
- ✓ Compatible with all kinds of flanges
- ✓ (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		
	TPSP 500.1		
RE-20-35	TPR 38.1	4,5	Smax (-4,5)
	TPS 500.2		
	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		
RE-25-35	TPG 500	5,0	Smax (-5,0)
	MICRO 45		
	MICRO 45V		
	MICRO 45C		
	MICRO 45CF		
	TPSP 750		
RE-25-40	TPKS 750	5,0	Smax (-5,0)
	TPR 45		
	TPS 750		
RE-28-38	TPKF 750	5,0	Smax (-5,0)
RE-28-40	TITAN 45	5,0	Smax (-5,0)
	MICRO 50VS		
	MICRO 50.1		
	MICRO 50CS		
	MICRO 50CF		
	TPSP 1000.1		
RE-30-40	TPKFR 1000	5,0	Smax (-5,0)
	TPKS 1000		
	TPC 1000		
	TPSP 1000.1		
	TPR 50		
	MICRO 50V		
RE-32-43	MICRO 50C.1	5,5	Smax (-5,5)
RE-36-50	TITAN 50	6,0	Smax (-6,0)
	MICRO 63V		
	MICRO 63CF		
	MICRO 63C		
	TPK 1500.1		
	TPKN 1500		
	TPC 1500		
	TPSP 1500		

Code	Gas spring code	L mm	S mm
RE-36-63	TPS 1500.1	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	MICRO 75.1	6,0	Smax (-6,0)
	TPSP 2400		
	TPKFR 2400		
	MICRO 75CF		
RE-45-65	MICRO 75CS	7,5	Smax (-7,5)
	TPK 2500		
	TPC 2500		
	TPMCS 1500		
	TPSB 1500		
	TPMCS 2400		
	TPSB 2400		
	TPK 3000		
RE-50-65	TITAN 75	7,5	Smax (-7,5)
	TPC 3000		
	TPCT 2500		
	TPCT 3000		
RE-50-80	TPS 3000	7,5	Smax (-7,5)
	TPKF 3000		
	MICRO 95		
	TPKFR 4200		
RE-60-80	TPK 4250	7,5	Smax (-7,5)
	TPC 4000		
	TPCT 5000		
	TPSP 4200		
	TPMCS 3000		
	TPSB 3000		
	TPMCA 4500		
	TPSB 4000		
RE-65-100	TPS 5000	6,0	Smax (-6,0)
	MICRO 120V		
	MICRO 120.1		
	TPC 6500		
RE-75-100	TPSP 6600	6,0	Smax (-6,0)
	TPMCA 6500		
	TPSB 6000		
	TPS 7500		
RE-80-125	MICRO 150	7,5	Smax (-7,5)
RE-90-125	TPC 10000	7,5	Smax (-7,5)



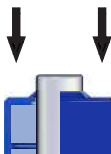


ASSEMBLY ILLUSTRATIONS · ILUSTRACIONES DEL MONTAJE

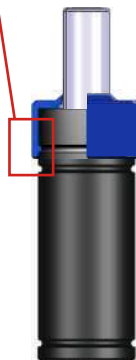
MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG



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.

TPSR
TPSRS

TPNS

STOP
CYLINDER

HOT
FORMING

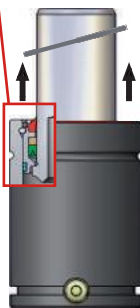
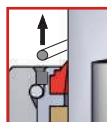
TPHT

TPSL

ASSEMBLY ILLUSTRATIONS · 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.





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

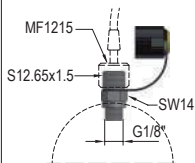
FORMING

TPHT

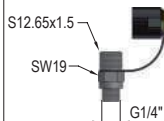
TPSL



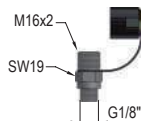
RMF-D1



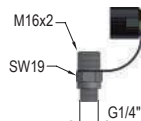
RMF-D2



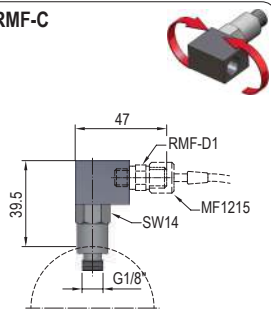
RMF-D3



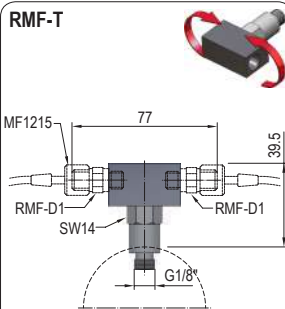
RMF-D4



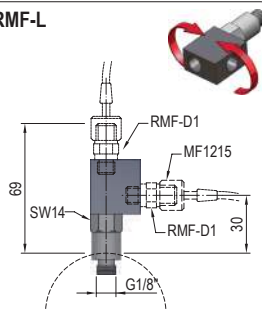
RMF-C



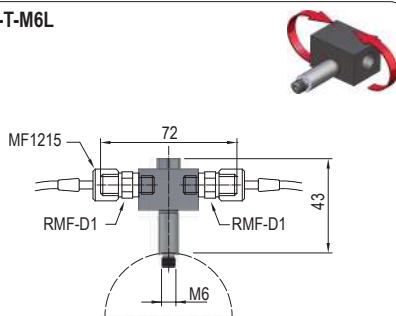
RMF-T



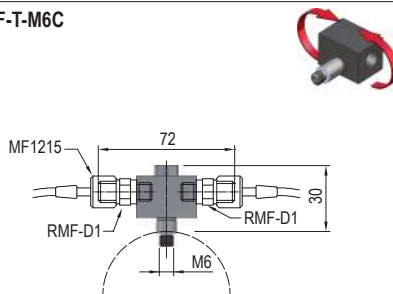
RMF-L



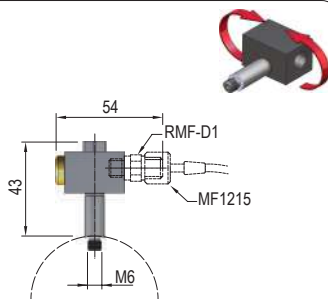
RMF-T-M6L



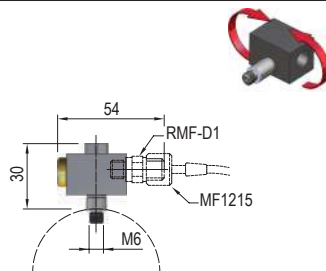
RMF-T-M6C



RMF-C-M6L

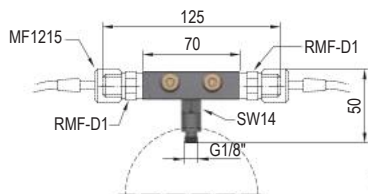


RMF-C-M6C

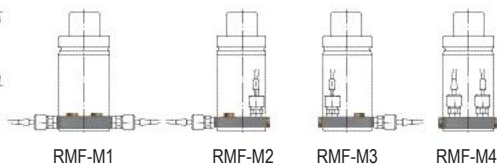




RMF-M

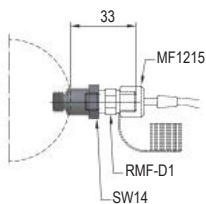


How to order



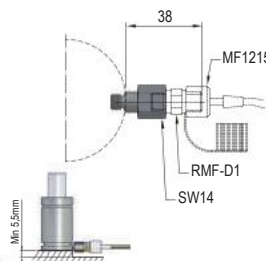
RMF-R

G1/8 male - G1/8 female

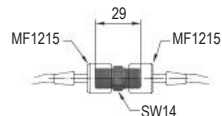


RMF-R-M6

M6 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





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL

TPGAS

TPGAS

TPGAS

TPGAS

TPGAS

TPGAS

TPGAS

TPGAS

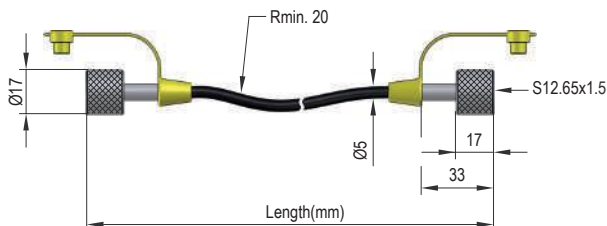
FLEXIBLE HOSE MF 1215-RR



How to order

MF1215-RR - 500

Code Length



TECHNICAL INFORMATION

Max. working pressure	630 Bar
Max. working temperature	100 °C
Minimum length	75 mm

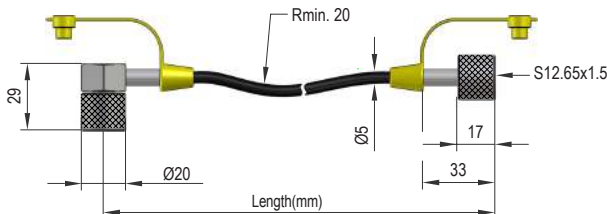
FLEXIBLE HOSE MF 1215-RC



How to order

MF1215-RC - 350

Code Length



TECHNICAL INFORMATION

Max. working pressure	630 Bar
Max. working temperature	100 °C
Minimum length	90 mm

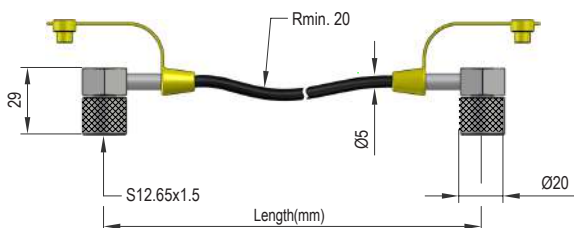
FLEXIBLE HOSE MF 1215-CC



How to order

MF1215-CC - 250

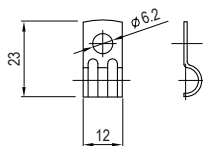
Code Length



TECHNICAL INFORMATION

Max. working pressure	630 Bar
Max. working temperature	100 °C
Minimum length	100 mm

FLANGE FOR HOSE FIXTURE BL-1

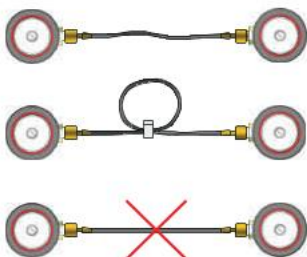


TPGAS 06/07/2019

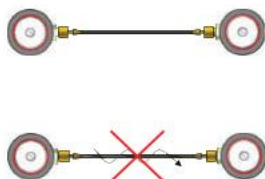


HOSE INSTALLATION GUIDELINES

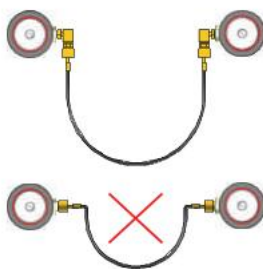
In order to avoid pressure losses during the interconnected gas spring connection process, the two ends of the hose are to be screwed in simultaneously.



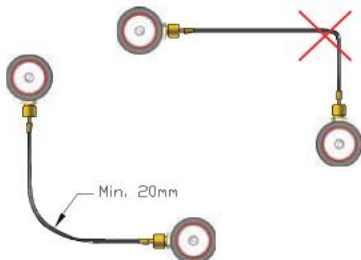
Hose length should be a little more than the exact length (10 or 20% more)



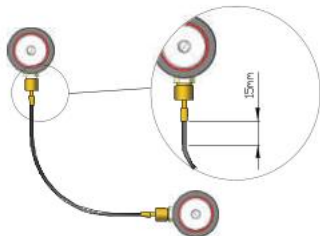
The hose must not be twisted during the installation process



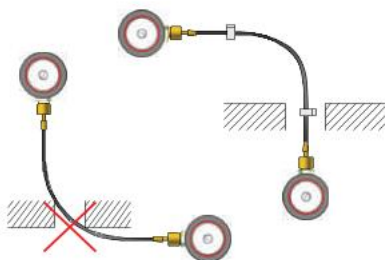
Select hose records that avoid sharp bends in the hose



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 flange





EXAMPLES OF INTERCONNECTED GAS SPRINGS

i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

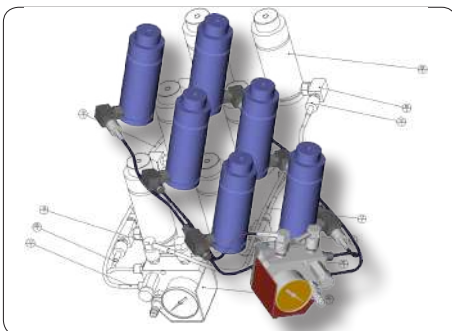
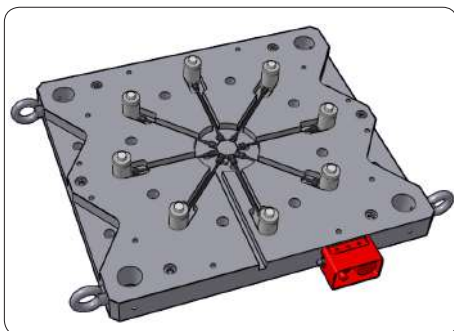
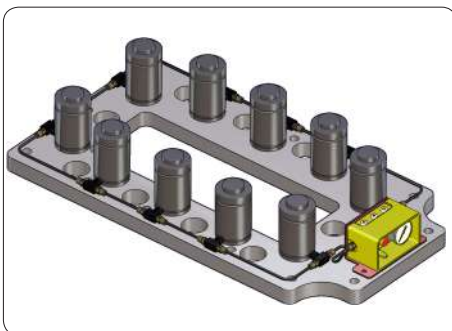
CYLINDER

HOT

FORMING

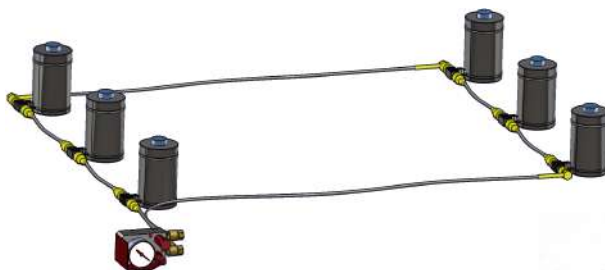
TPHT

TPSL



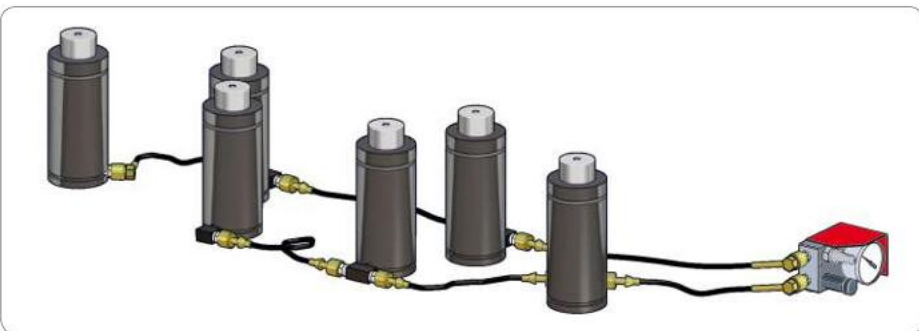
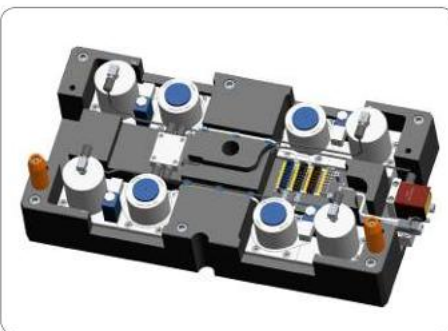
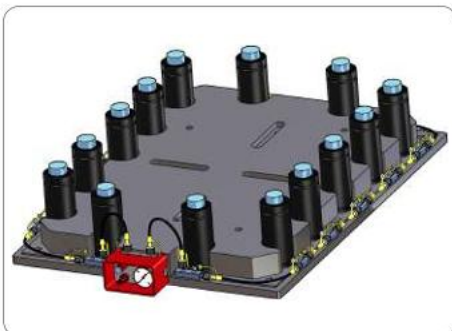
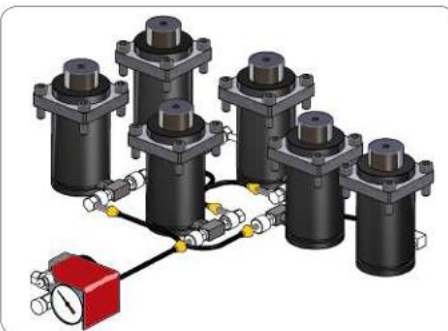
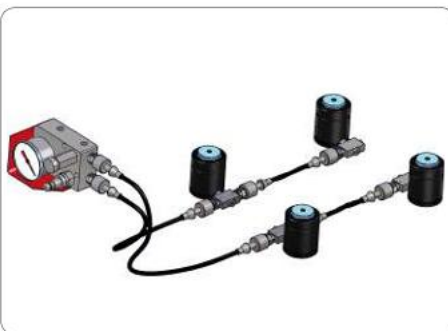
PARTS LIST:

- ▶ 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





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRs

TPNS

STOP

CYLINDER

HOT

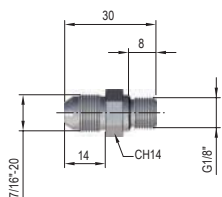
FORMING

TPHT

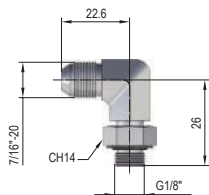
TPSL



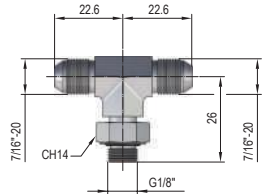
RCF-1



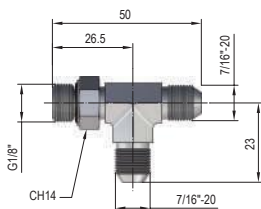
RCF-2



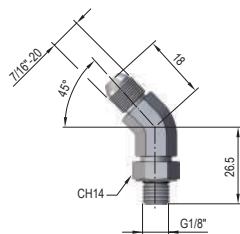
RCF-3



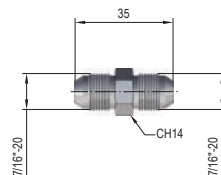
RCF-4



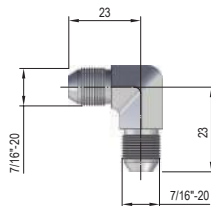
RCF-5



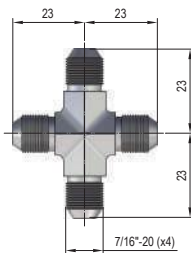
RCF-6



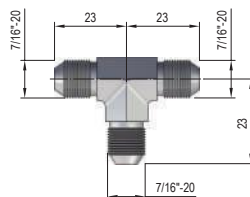
RCF-7



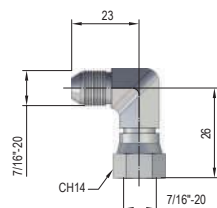
RCF-8



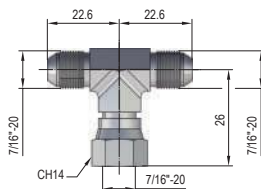
RCF-9



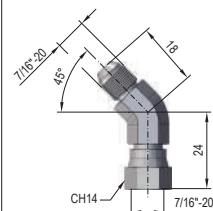
RCF-10



RCF-11



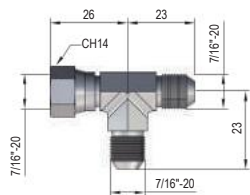
RCF-12



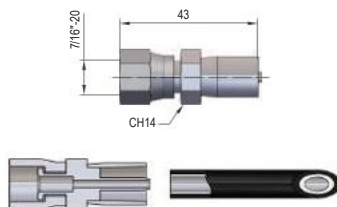
TPGAS 06.07.2019



RCF-13



RCF-14



MPF HOSE SPECIFICATIONS



3,6 mm



8,1 mm



400 bar



12,7 mm



MP HOSE

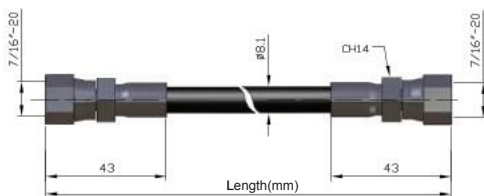


How to order

MP-RR - 500

Code

Length



FLANGE FOR HOSE FIXTURE BMP

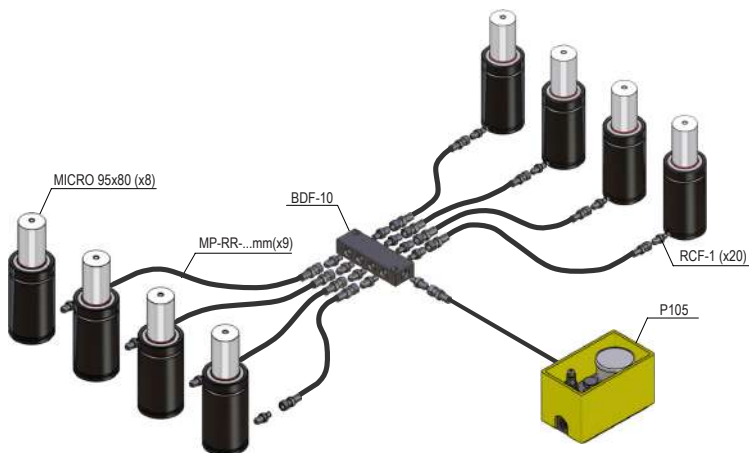
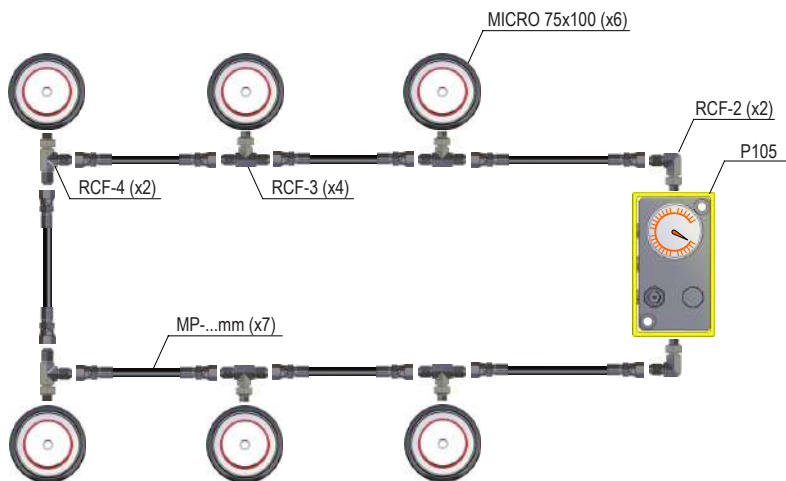


TPCAS 06.07-2019



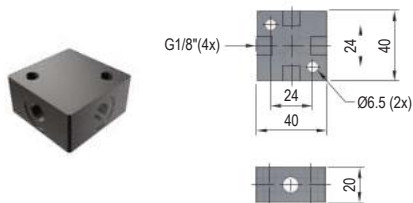


EXAMPLES OF INTERCONNECTED GAS SPRINGS JIC 37° SYSTEMS

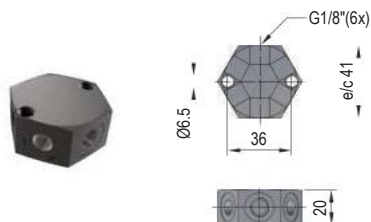




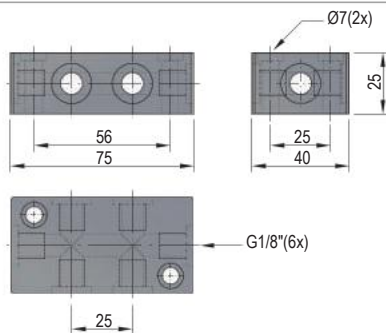
DISTRIBUTION BLOCK
BD 4



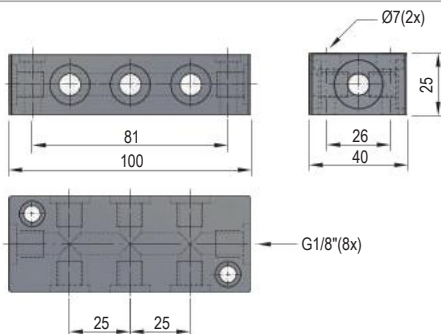
DISTRIBUTION BLOCK
BD 6 HEX



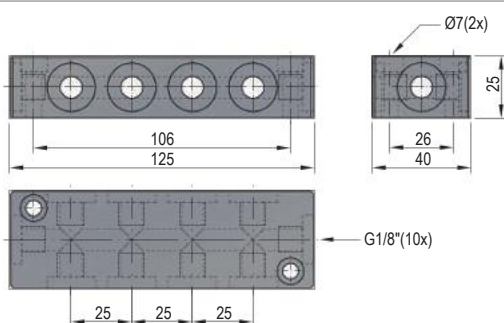
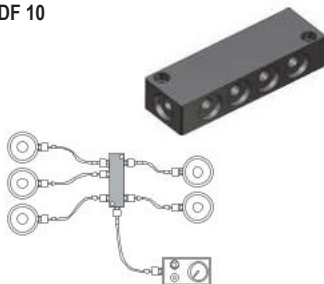
DISTRIBUTION BLOCK
BDF 6



DISTRIBUTION BLOCK
BDF 8

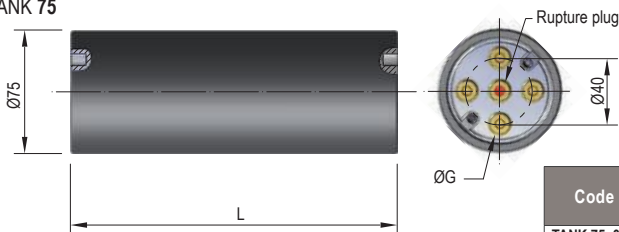


DISTRIBUTION BLOCK
BDF 10





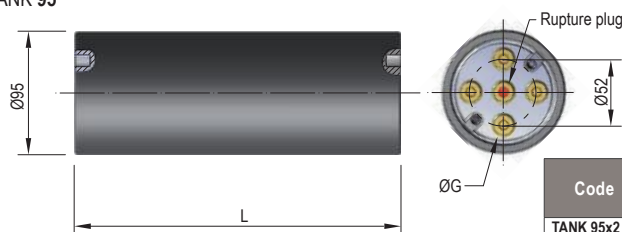
TANK 75



Code	Vol l	L mm	P Bar	ØG
TANK 75x05	0,5	400	150	G1/8"
TANK 75x1	1,0	560		G1/4"
TANK 75x05-1	0,5	400		
TANK 75x1-1	1,0	560		

Use only with records and hoses JIC 37°

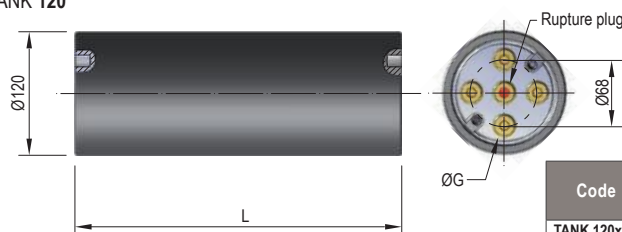
TANK 95



Code	Vol l	L mm	P Bar	ØG
TANK 95x2	2,0	410	150	G1/8"
TANK 95x3	3,0	650		G1/4"
TANK 95x2-1	2,0	410		
TANK 95x3-1	3,0	650		

Use only with records and hoses JIC 37°

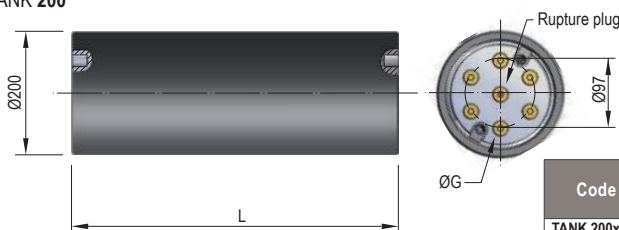
TANK 120



Code	Vol l	L mm	P Bar	ØG
TANK 120x4	4,0	560	150	G1/8"
TANK 120x5	5,0	690		G1/4"
TANK 120x4-1	4,0	560		
TANK 120x5-1	5,0	690		

Use only with records and hoses JIC 37°

TANK 200

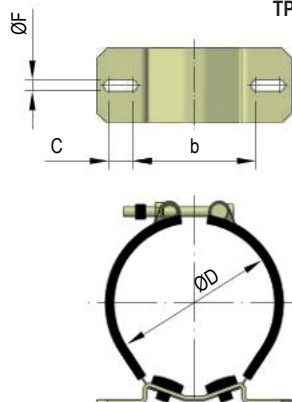


Code	Vol l	L mm	P Bar	ØG
TANK 200x8	2,0	410	150	G1/8"
TANK 200x10	3,0	650		G1/4"
TANK 200x8-1	2,0	410		
TANK 200x10-1	3,0	650		

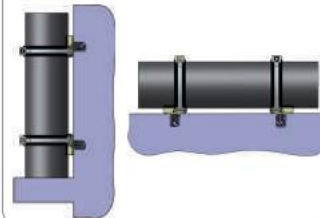
Use only with records and hoses JIC 37°



TANK CLAMPS TPAT

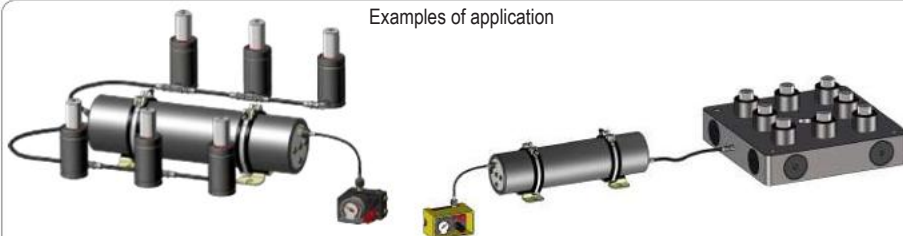


Assembly possibilities

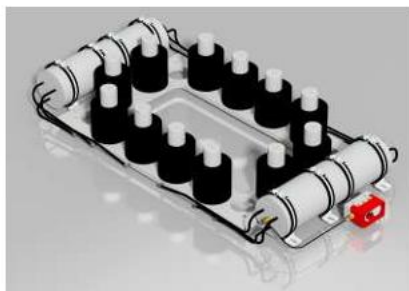


Code	Tank model	ØD mm	b mm	C mm	ØF mm
TPAT 75	TANK 75	75	85	8	9
TPAT 95	TANK 95	95	85	8	9
TPAT 120	TANK 120	120	100	18	9
TPAT 200	TANK 200	200	152	32	9

Examples of application

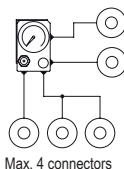
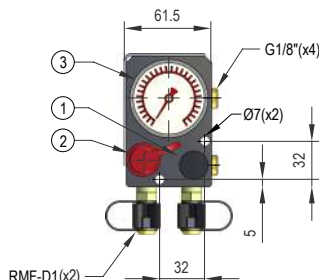


Design, manufacture and machining.





MINI CONTROL PANEL P110



Max. 4 connectors

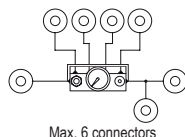
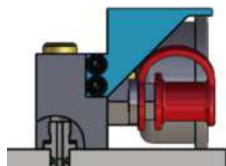
1. Discharge VD-1 valve
2. Quick coupling for charging ERM
3. Pressure MP-1 gauge

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.

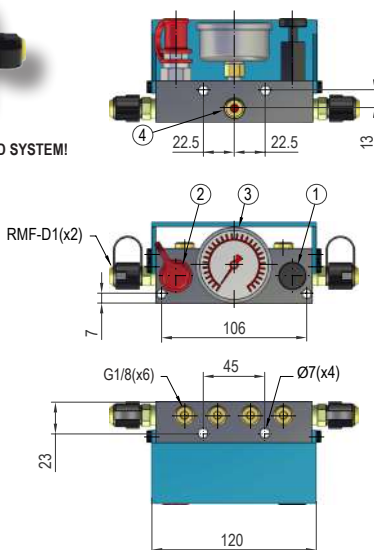
COMPACT CONTROL PANEL P120



✓ EASY WAY TO USE WITH ECO-MANIFOLD SYSTEM!



Max. 6 connectors

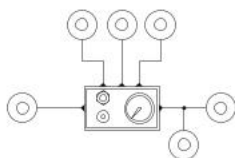
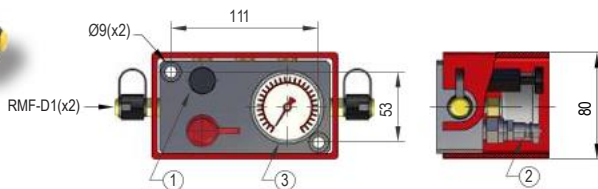


1. Discharge MP-1 valve
2. Quick coupling for charging ERM
3. Pressure MP-1 gauge
4. Eco-manifold port

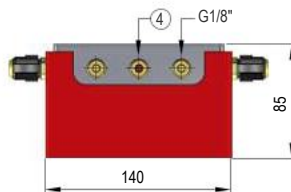
Compact control panel: this compact-sized device is used for the permanent control of gas-spring pressure. It is equipped with a quick-fit socket for gas charging and a discharging valve for decompression. P120 control panels have up to 7 G1/8" outlets for a gas spring interconnection. Pressure gauge range is from 0 to 400 Bar.



CONTROL PANEL P100



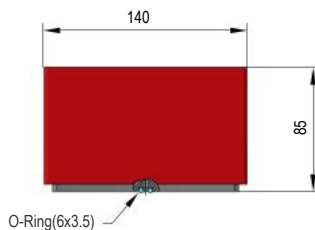
Max. 5 connectors



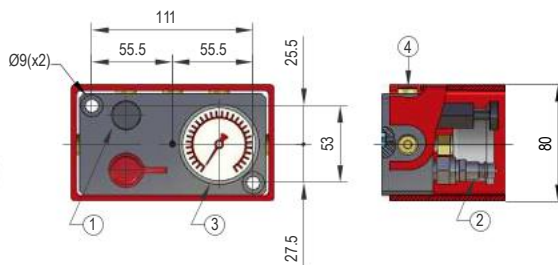
1. Discharge **VD-1** valve
2. Quick coupling for charging **ERM**
3. Pressure **MP-1** gauge
4. Over-pressure safety plug

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.





MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

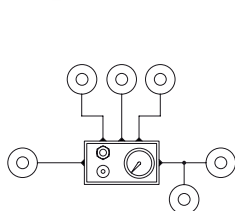
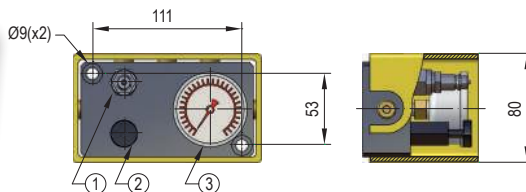
FORMING

TPHT

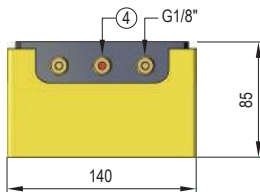
TPSL



CONTROL PANEL P105



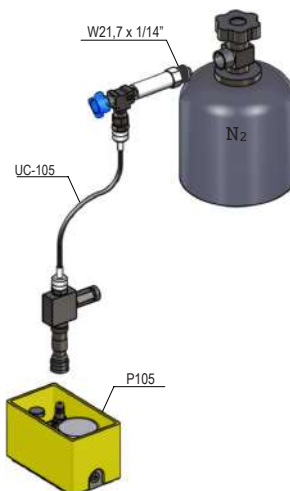
Max. 5 connectors



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.



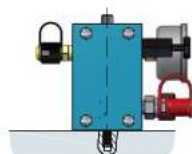
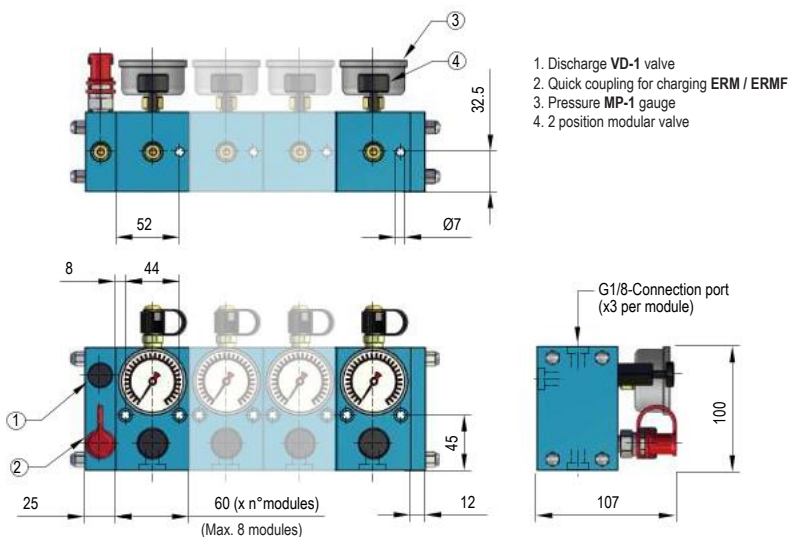
MULTIPLE CONTROL PANEL PM201



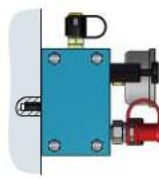
This is the PM201 modular multiple control panel, for controlling linked systems or single gas springs with different working pressure in the same tool, or only to check the pressure individually, for better control.

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.



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

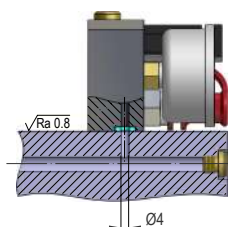
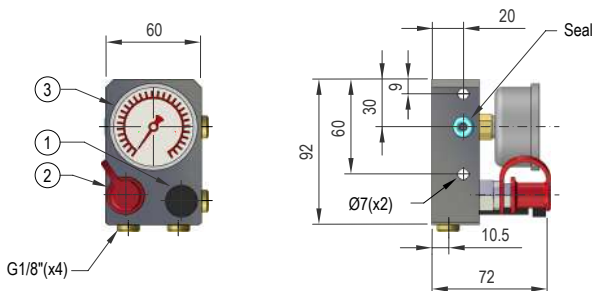
PM201 - ... - F ERMF quick coupling

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.





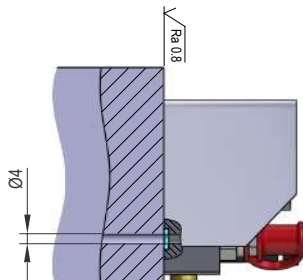
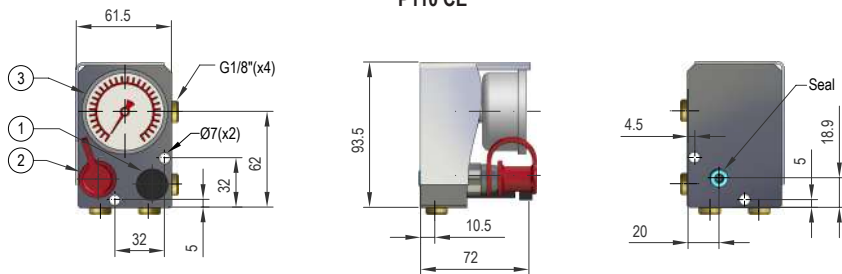
CONTROL PANEL FOR ECO-MANIFOLD PLATES P110 M



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

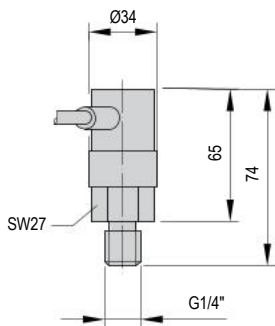


1. Discharge VD-1 valve
2. Quick coupling for charging ERM
3. Pressure MP-1 gauge

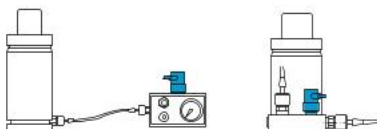
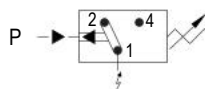
Mini control panel with a rear outlet for manifold plates: this device is used for the permanent control of gas springs interconnected by means of a manifold plate. It is equipped with a quick-fit socket for gas charging and a discharging valve for decompression. Pressure gauge range is from 0 to 400 Bar.



PRESSURE SWITCH PS-1



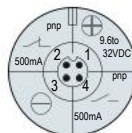
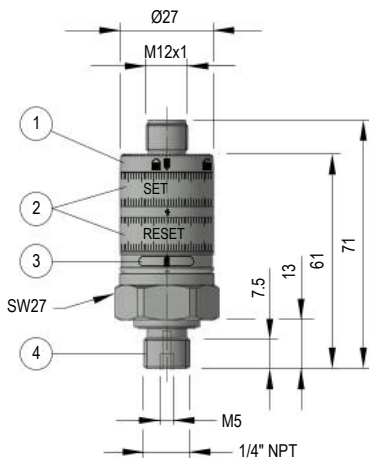
✓ LOWEST COST PRESSURE SWITCH



TECHNICAL INFORMATION

Work field	50 - 200 Bar
Working temperature	-30°C · +100°C
Operation voltage	4A / 250V
Operating frequency	< 200min ⁻¹
Mechanical life	10 ⁶ operating cycles
IP protection	IP 65

PRESSURE SWITCH PS-2



✓ LOW COST PRESSURE SWITCH FOR PRESSURE CONTROL IN LINKED GAS SPRINGS SYSTEM

✓ EASY TO CONNECT TO THE CONTROL PANEL

- 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

TECHNICAL INFORMATION

Work field	0 - 400 Bar
Working temperature	-25°C · +80°C
Operation voltage	9.6 to 32 VDC, <25mA
Operating frequency	< 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.

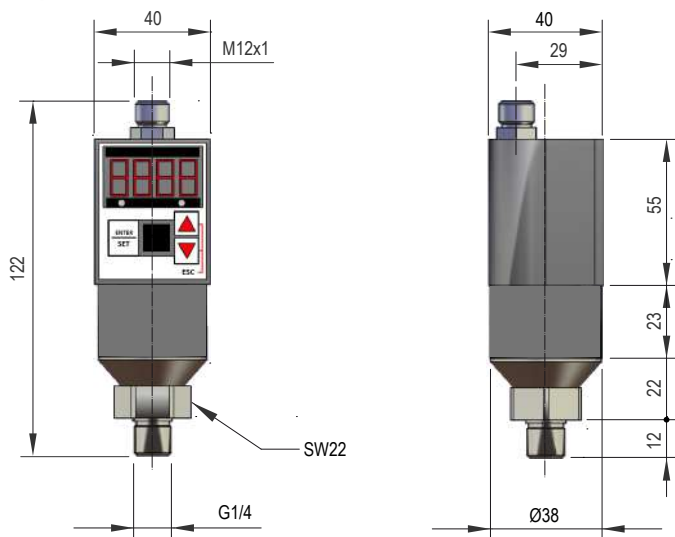
Their distinguishing characteristic is a different sensing element connection. It is equipped with a 1/4 inch connection with an outside thread and it can also use a UP to +600bar. The media touching parts are also made of stainless steel.

Among other things, the switching points, release positions, output logic and time delay can be programmed via the membrane keyboard.

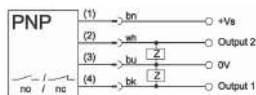
Following installation, the sensor body can be rotated by 350° and the sensor display can be rotated 180° by means of software.

All adjustment parameters can be set and 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.



4-pin



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
Pressure range	400 Bar
Operating voltage	12 - 32V DC, <60 mA
Voltage drop (max. load)	< 2.0V DC
Output current (max. load)	1A
Switching frequency	max. 125Hz
Repeat accuracy	≤ ± 0.1% of the final value
Operating temperature	-20°C - +80°C
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

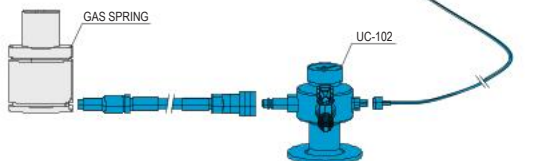
Tipo rosca - Thread type

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

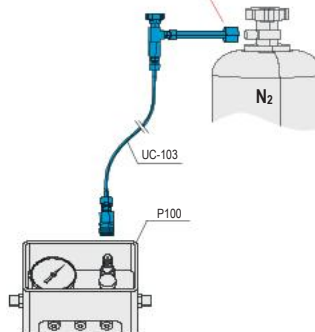
Tipo rosca - Thread type

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)



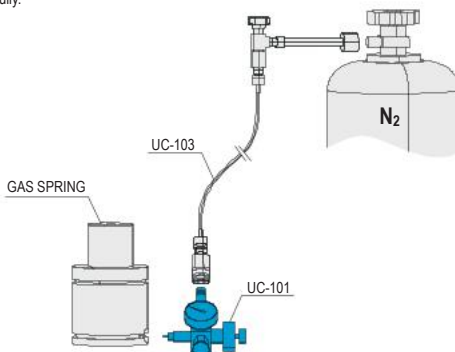
INSTRUCTIONS FOR USE OF UC-101.1 AS A CHARGING UNIT

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.

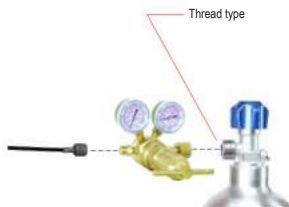




HIGH PRESSURE NITROGEN REGULATOR PR-1



- ✓ 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



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+34 945 250 827

support@tecapres.com





i

MICRO

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FORMING

TPHT

TPSL



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 an specific large-sized tool for measuring gas spring force. It is quick and simple to use, and reliable. Available in two versions, to measure up to 10Ton, and up to 23Ton.



TECHNICAL INFORMATION

Power AC	85V - 265V AC 50/60 Hz
Resolution	5 daN
Maximum gas spring height	800 mm

MODEL

MEASURING CAPACITY

UM-103-10

0 - 10Ton

UM-103-23

0 - 23Ton

How to order

UM-103 - 10

Code

Capacity

TPGAS 06-07-2019

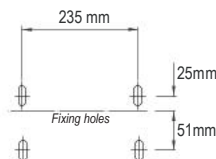
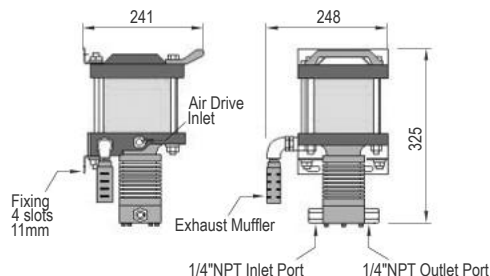


NITROGEN GAS BOOSTER TPN2-AA30

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 (nominal working pressure 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.

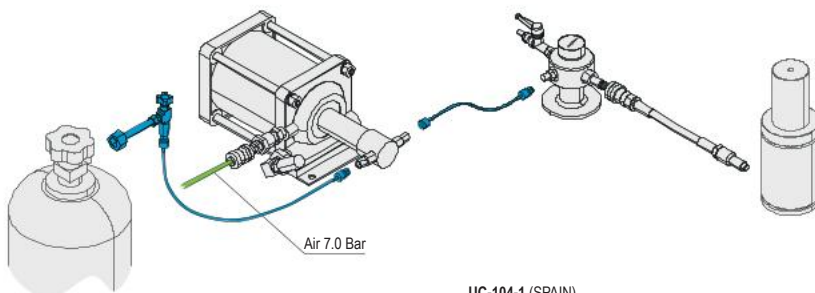


TECHNICAL INFORMATION

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	30:1
Weight	12 Kg

- ✓ 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

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.





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STOP

CYLINDER

HOT

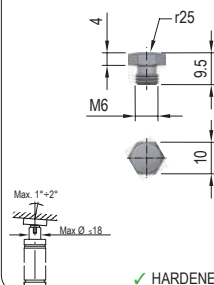
FORMING

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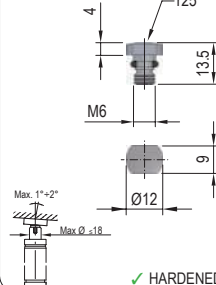
TPSL



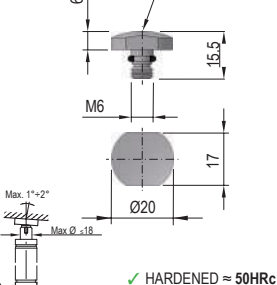
THRUST PLATE TPSC-M6



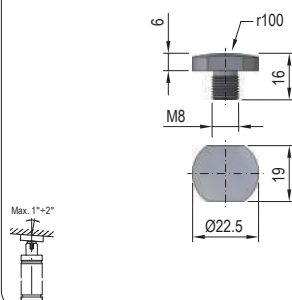
THRUST PLATE TPSC-M6OR



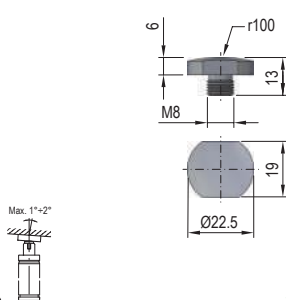
THRUST PLATE TPSC-M6OR-2



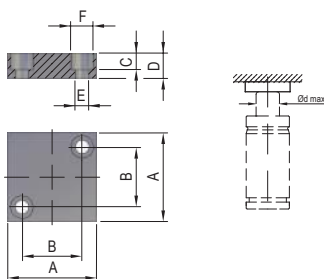
THRUST PLATE TPSC-M8L



THRUST PLATE TPSC-M8C

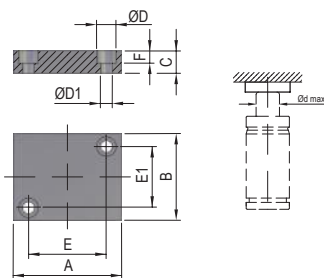


PRESS PLATE TPSP



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

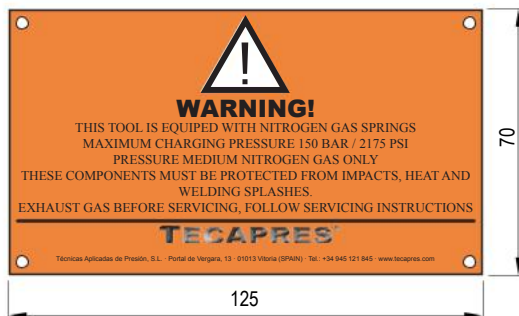
PRESS PLATE TPSPR



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



TIP-1 IDENTIFICATION PLATE



How to order

TIP-1

- **DE**

Code

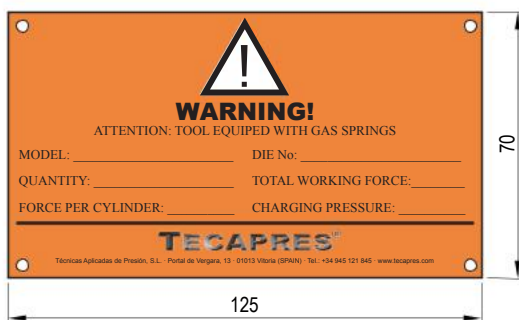
Language

ES - Spanish
EN - English
DE - German
FR - French
IT - Italian

PT - Portuguese
SK - Slovakian
DK - Danish
SE - Sweden
CZ - Czech

CH - Chinese
KR - Korean
PL - Polish
HU - Hungarian

TIP-2 IDENTIFICATION PLATE



How to order

TIP-2

- **EN**

Code

Language

ES - Spanish
EN - English
DE - German
FR - French
IT - Italian

PT - Portuguese
SK - Slovakian
DK - Danish
SE - Sweden
CZ - Czech

CH - Chinese
KR - Korean
PL - Polish
HU - Hungarian





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STOP

CYLINDER

HOT

FORMING

TPHT

TPSL



**FILLING VALVE
TPFV1**



**FILLING VALVE
TPFV2**



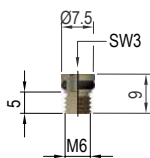
**FILLING VALVE
TPFV3**



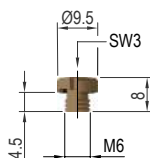
**FILLING VALVE
TPFV4**



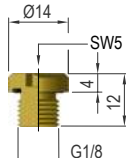
**SECURITY SCREW
M6-1**



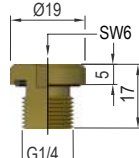
**SECURITY SCREW
M6-2**



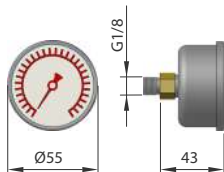
**SECURITY SCREW
G1/8**



**SECURITY SCREW
G1/4**

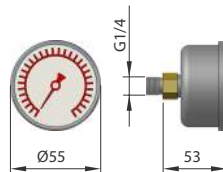


**PRESSURE GAUGE
MP-1**



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

TPCAS 06-07-2019



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

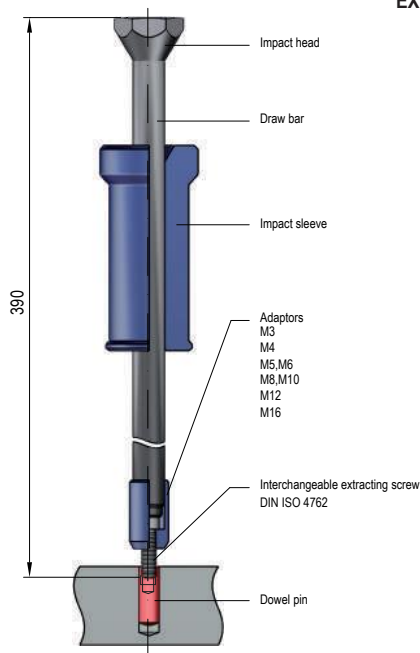


CHARGING ADAPTER
M6-C





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

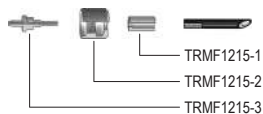


- ✓ Transportable compact hydraulic manual pump for flexible hoses MF1215
- ✓ Indicator of measuring for maximum pressure

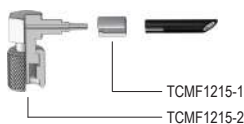
INFORMATION

Dimensions	25x28x25 cm
Weight	12,3 Kg

STRAIGHT CONNECTION TRMF1215



ANGLE CONNECTION TCMF1215



HOSE HMF1215







MICRO

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STOP

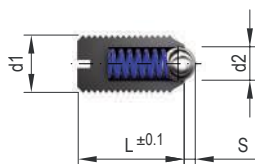
CYLINDER

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Material

Body: free cutting black oxide steel

Bolt: stainless steel, hardened to 62Hrc

ER-20L

Standard spring load

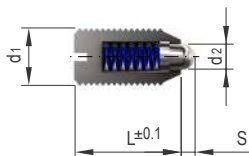
d1	d2 mm	L mm	S mm
M4	2,5	9	0,8
M5	3	12	0,9
M6	3,5	14	1
M8	4,5	16	1,5
M10	6	19	2
M12	8	22	2,5
M16	10	24	3,5
M20	12	30	4,5
M24	15	34	5,5

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

ER-21L

Standard spring load

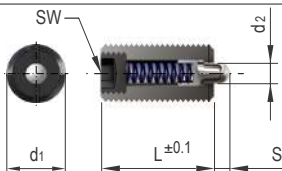
d1	d2 mm	L mm	S mm
M4	1,8	9	1,5
M5	2,4	12	2
M6	2,7	14	2
M8	4	16	2
M10	4,5	19	2,5
M12	6	22	3,5
M16	8,5	24	4,5
M20	10	30	6,5
M24	13	34	8

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

ER-40L

Standard spring load

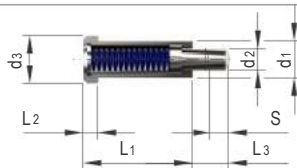
d1	d2 mm	L mm	S mm	SW mm
M4	1,5	15	1,5	1,3
M5	2,4	18	2,3	1,5
M6	2,7	20	2,5	2
M8	3,5	22	3	2,5
M10	4	22	3	3
M12	6	28	4	4
M16	7,5	32	5	5
M20	10	40	7	6

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

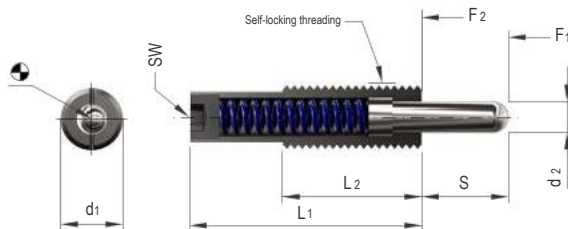
Code	Spring force	
	Initial (N)	Final (N)
-	-	-
ER-40F-M5	13	45
ER-40F-M6	18	50
ER-40F-M8	25	70
ER-40F-M10	25	70
ER-40F-M12	45	110
ER-40F-M16	60	160
ER-40F-M20	90	200



Material
Body: free cutting black oxide steel
Bolt: stainless steel, hardened to 62Hrc

ER-60

Code	d ₁ mm	d ₂ mm	d ₃ mm	L ₁ mm	L ₂ mm	L ₃ mm	S mm	Spring force	
								Initial (N)	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)	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	100
ER 30-20L	M30 x 3,5	20	15	70	45	12	30	150

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)	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





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STOP

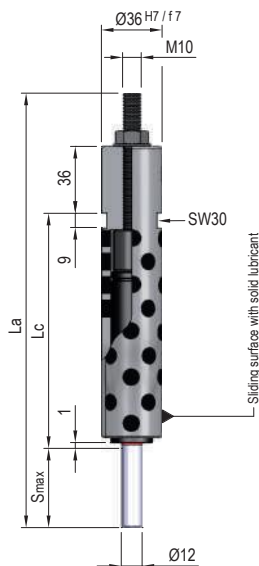
CYLINDER

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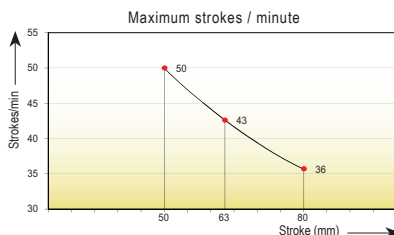
TPSL



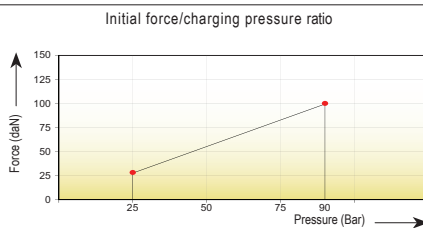
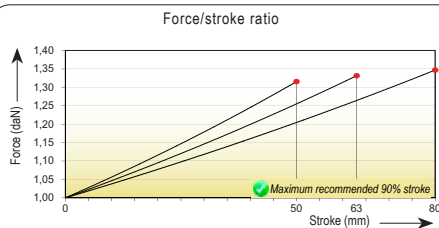
i	Pressure medium	Gas Nitrógeno (N ₂)
	Max. charging pressure	90 Bar
	Min. charging pressure	25 Bar
	Rod seal area	1,13 cm ²
	Operating temperature	0°C - 80°C
	Force increase by temperature	0,33 %/°C
	Max. stem speed	1,2 m/s
	Maintenance kit	Kit G25



Bolt material: C45 induction hardened to 58Hrc steel
Hardness penetration 0,8⁴⁴



Code	Smax mm	La mm	Lc mm	Fa daN (±5%)	Fc daN (±5%)	P Bar (20°C)	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



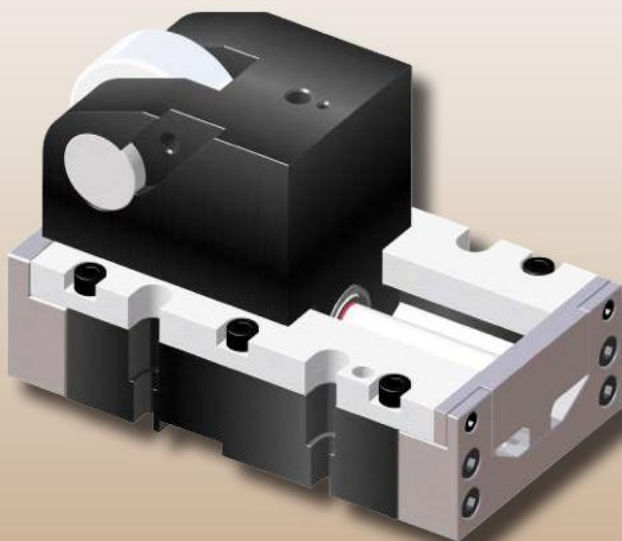
How to order

TPEL 100 x 50

Model

Force

Stroke



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

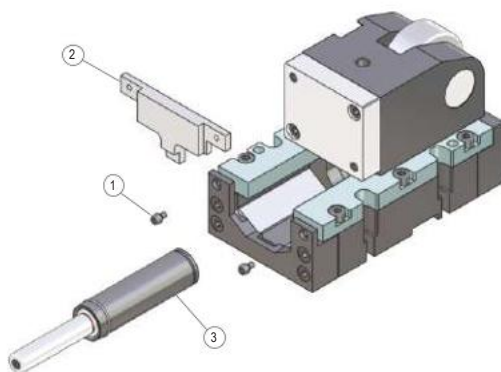
In order to satisfy demand for modern tools a new sintered steel material has been developed that combines lower rates of wear and tear in sliding plates with a long useful life and less maintenance.

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 °C	< 250 °C
Maximal unlubricated operating time	1000	3000
Integrated lubricant	Graphit	Fe + Cu + Graphit + MoS ₂
Portion of lubricant	20 - 35%	15 - 20%

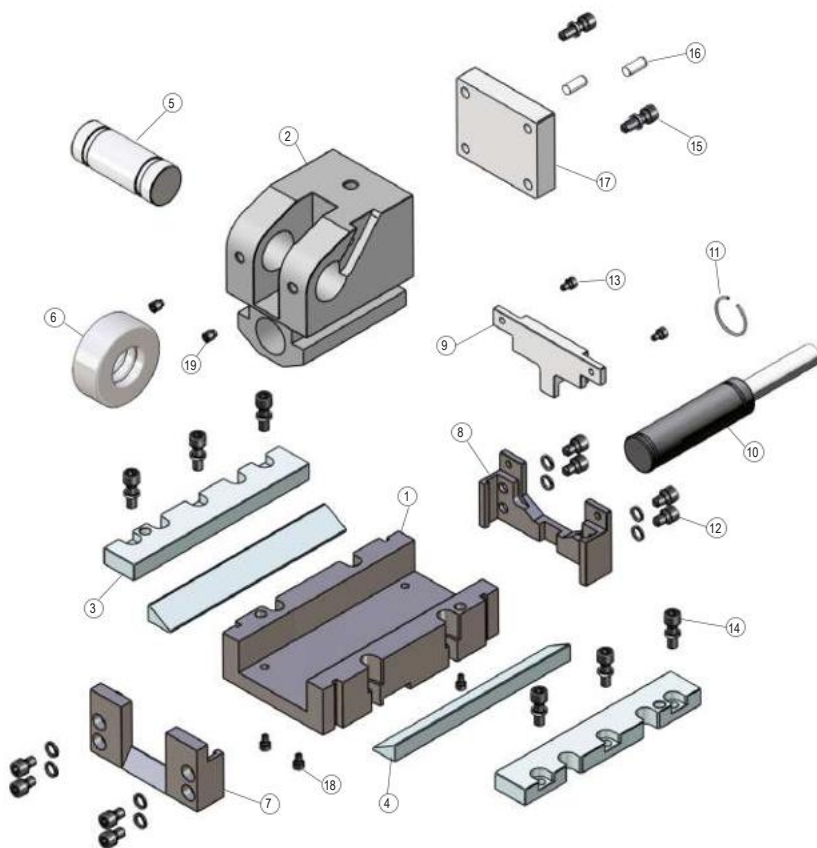
Cylinder extraction - Punch adjustment operation



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 adjustment of the Roller cam units.

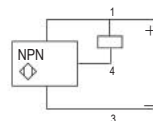
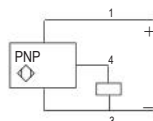
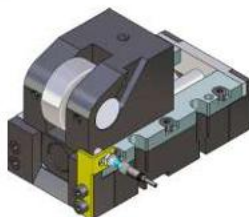
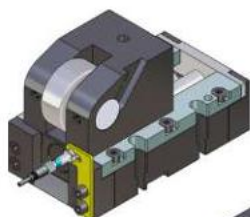


Part no.	Description	Quantity
1	Baseplate	1
2	Cam slide	1
3	Cover bar	2
4	Prismatic bar	2
5	Rod	1
6	Roll	1
7	Back limit plate	1
8	Limit plate in front	1
9	Insert pressure plate	1
10	Gas spring	1
11	Retainer ring	1
12	Screw ISO 4762	8
13	Screw ISO 7984	2
14	Screw ISO 4762	6
15	Screw ISO 4762	2
16	Dowel pin	2
17	Punch holder (C45)	1
18	Screw ISO 4762	4 / 6
19	Screw ISO 4028	2





Passive return device DRP



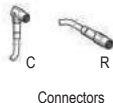
In order to better detect that the Roller Cam has returned to its initial position, TECAPRES recommends the use of a DRP inductive sensor as a passive return device. Thus, in case the slider does not return when the press goes back up due to gas spring failure, an alarm, or a press shutdown, can be activated.

How to order

DRP-1 - **R**

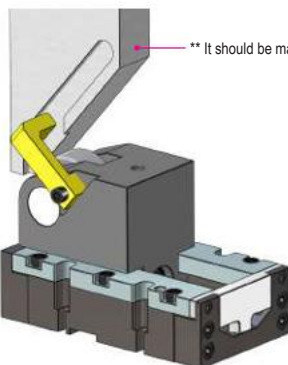
Code Connector

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



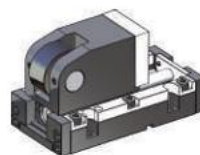
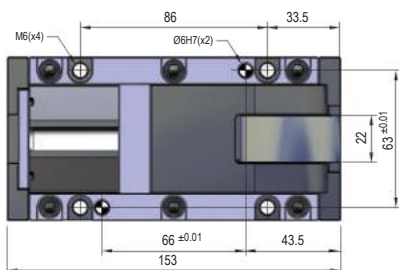
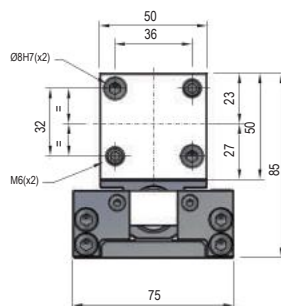
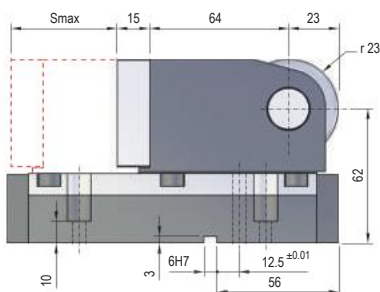
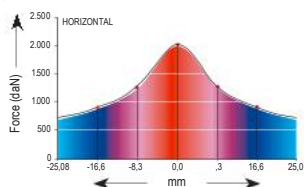
** It should be made by customer



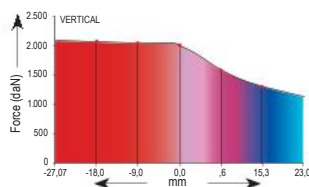
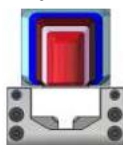
Reference	Type
DRA-3-1	TPRC 3000 / TPRCS 3000
DRA-5-1	TPRC 5000 / TPRCS 5000
DRA-15-1	TPRC 15000

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.

[illegible]

Working force distribution



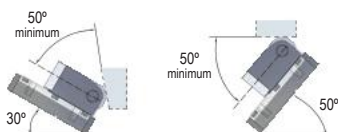
Maximum force that can be applied to the punch depending on eccentricity, so that the stress in the assembly is the same as it was when the punch was completely centred.

How to order

TPRC 2000 x 50

Code	Stroke
------	--------

Maximum inclination



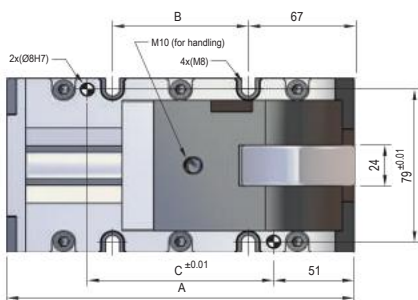
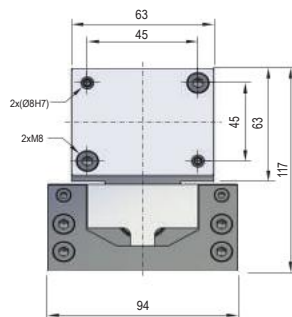
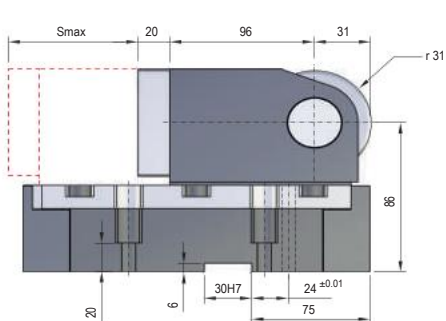


TECAPRES®

3000daN
50, 80mm

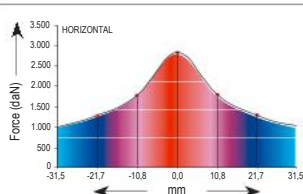
TPRC 3000

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

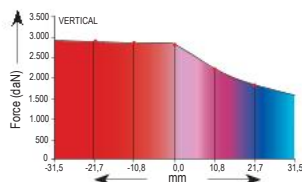
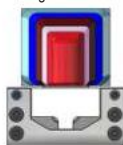


Code	A mm	B mm	C mm
TPRC 3000x50	190	56	88
TPRC 3000x80	220	86	118

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	 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

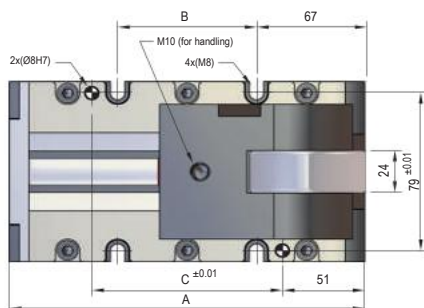
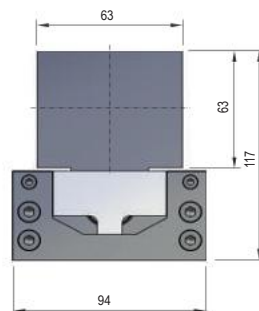
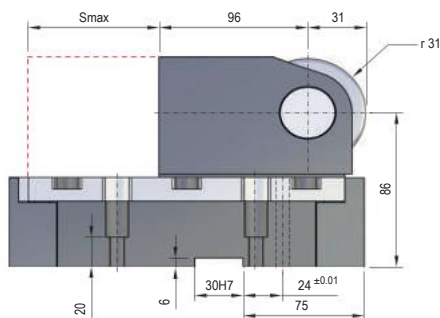
Code Stroke Gas spring model

TPK 32
TPS 32.1
MICRO 32VS

Maximum inclination

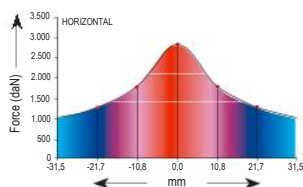


TPGAS 08.07.2019

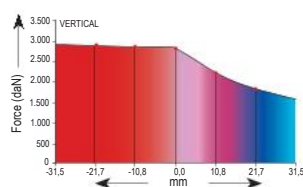
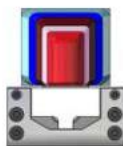
**TECAPRES®****3000daN
50, 80mm****TPRCS 3000**

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 driver	 Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRCS 3000x50-1	50	3000 daN	400	≈ 600	TPK 32x50 YW		0,5 m/s	40 spm	35 mm	9,2
TPRCS 3000x50-2			200	≈ 270	TPS 32x50 YW	✓				
TPRCS 3000x50-3			350	≈ 520	MICRO32V/Sx50 YW	✓				
TPRCS 3000x80-1	80		400	≈ 600	TPK 32x80 YW			35 spm		10,0
TPRCS 3000x80-2			200	≈ 270	TPS 32x80 YW	✓				
TPRCS 3000x80-3			350	≈ 520	MICRO32V/Sx80 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

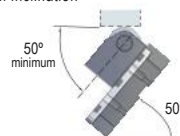
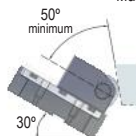
Code

Stroke

Gas spring model

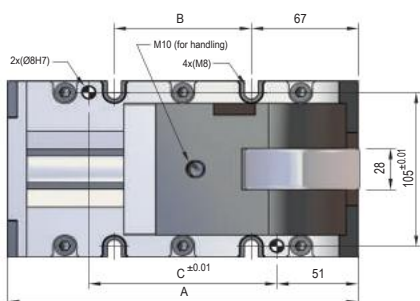
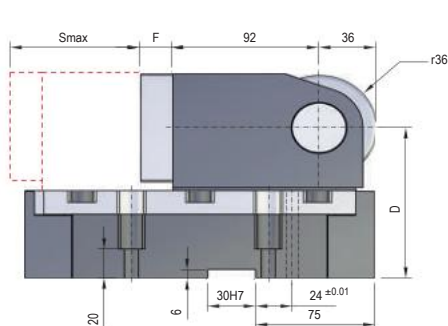


Maximum inclination



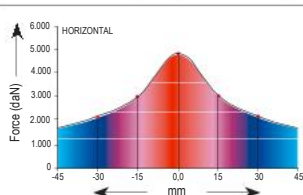
**TECAPRES®****5000daN**
50, 80, 100mm**TPRC 5000**

MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS

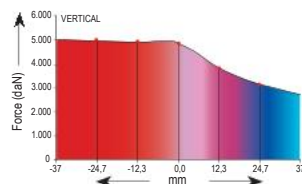
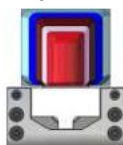


Code	A mm	B mm	C mm	D mm	E mm	F mm
TPRC 5000x50	190	56	88	103	140	20
TPRC 5000x80	220	86	118	103	140	20
TPRC 5000x100	260	126	158	120	157	30

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	 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	MICRO32V/Sx50 YW	✓					
TPRC 5000x80-1	80		400	≈ 600	TPK 32x80 YW			35 spm	40 mm	15,0	
TPRC 5000x80-2			200	≈ 270	TPS 32x80 YW	✓					
TPRC 5000x80-3			350	≈ 520	MICRO32V/Sx80 YW	✓					
TPRC 5000x100-1	100		400	≈ 600	TPK 32x100 YW		25 spm	25 spm	21,0		
TPRC 5000x100-2			200	≈ 270	TPS 32x100 YW	✓					
TPRC 5000x100-3			350	≈ 520	MICRO32V/Sx100 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**

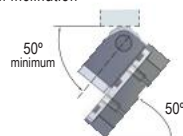
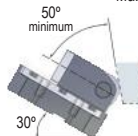
Code

Stroke

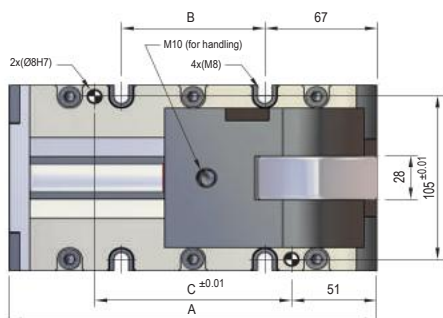
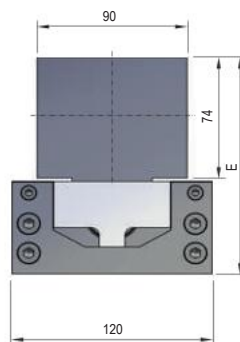
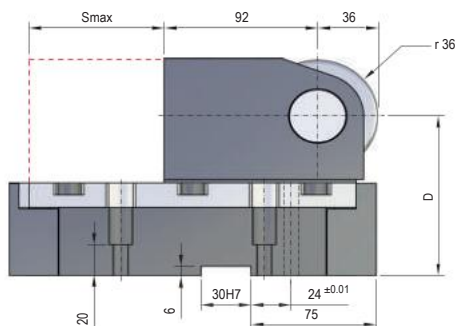
Gas spring model

TPK 32
TPS 32.1
MICRO 32VS

Maximum inclination



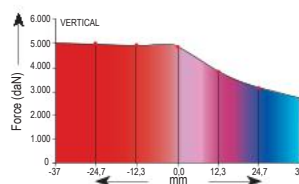
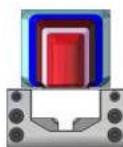
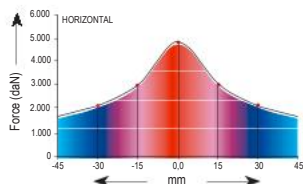
TPGAS 08.07.2019

**TECAPRES®****5000daN**
50, 80, 100mm**TPRCS 5000**

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 driver	 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	MICRO32V/Sx50 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	MICRO32V/Sx80 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	MICRO32V/Sx100 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

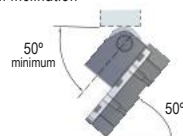
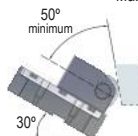
Code

Stroke

Gas spring model



Maximum inclination



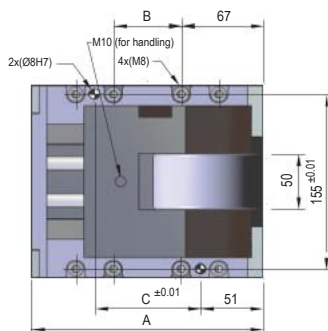
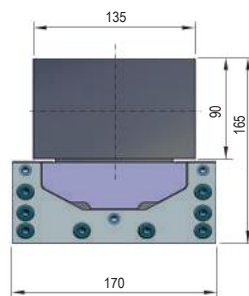
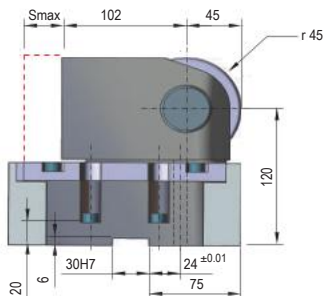


MICRO
TITAN
TPH
TPS
TPSP
TPF
TPK
TPC
TPCT
TPB
TPR
TPA
TPG
TPSR
TPSRS
TPNS

STOP
CYLINDER
HOT
FORMING

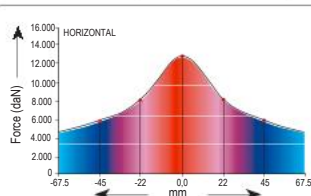
TPHT

TPSL

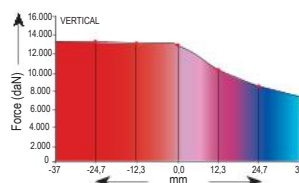
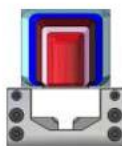


Code	A mm	B mm	C mm
TPRCS 15000x50	190	56	88
TPRCS 15000x80	220	86	118
TPRCS 15000x100	260	126	158

Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	ISO VDI	Max. working specs		Max. width of driver	 Kg
			Initial daN	Final daN			Velocity	Strokes / min		
TPRCS 15000x50-1	50	15000 daN	400	≈ 580	2x TPC 25x50 YW		0,5 m/s	35 spm	65 mm	26,3
TPRCS 15000x50-2			550	≈ 850	2x MICRO25Hx50YW					
TPRCS 15000x80-1	80		400	≈ 580	2x TPC 25x80 YW					
TPRCS 15000x80-2			550	≈ 850	2x MICRO25Hx80YW					
TPRCS 15000x100-2	100		400	≈ 580	2x TPC 25x100 YW					
TPRCS 15000x100-2			550	≈ 850	2x MICRO25Hx100YW					



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 50 - 1

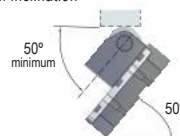
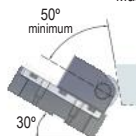
Code

Stroke

Gas spring model

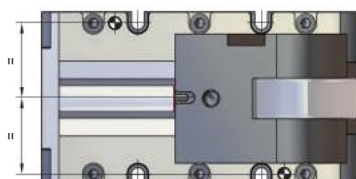
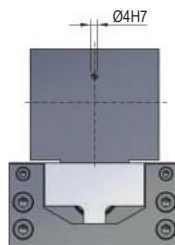
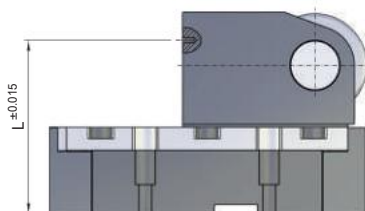


Maximum inclination





Program zero TPRCS - Type P1



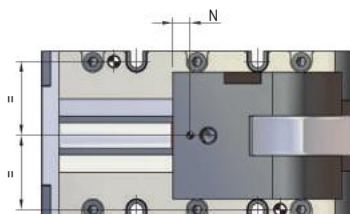
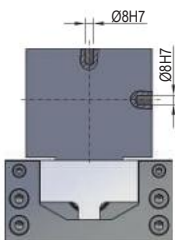
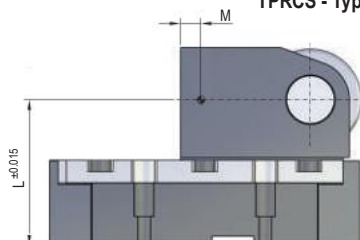
How to order

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





i

MICRO

TITAN

TPH

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TPNS

STOP

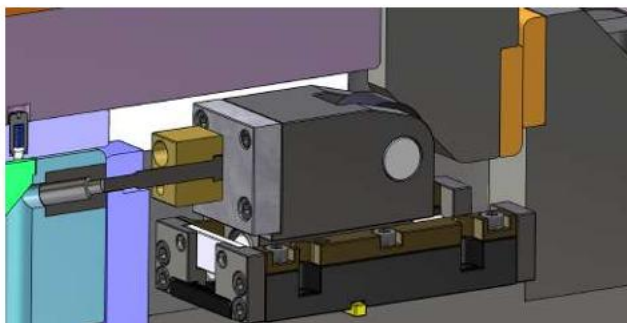
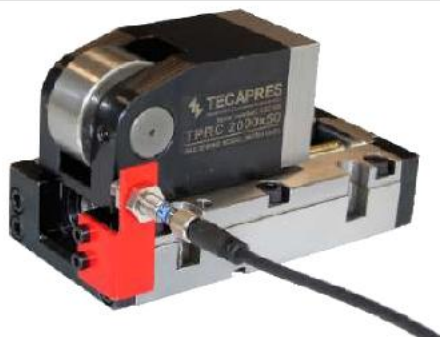
CYLINDER

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





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TPSRS

TPNS

STOP

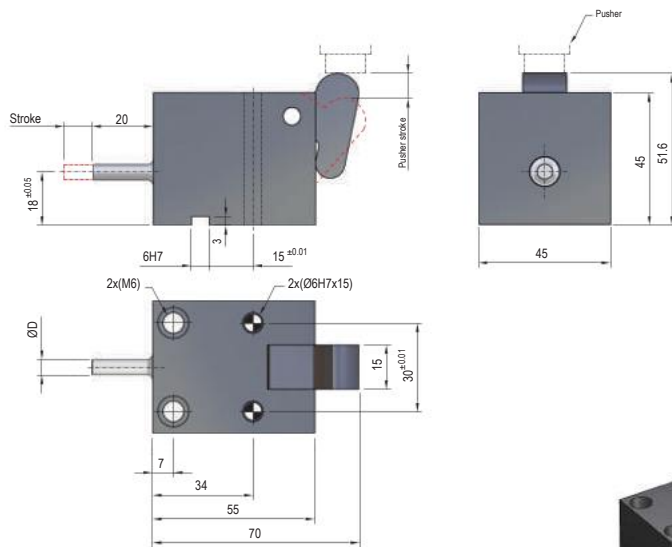
CYLINDER

HOT

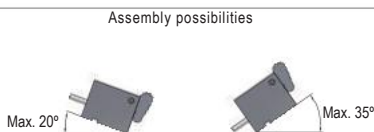
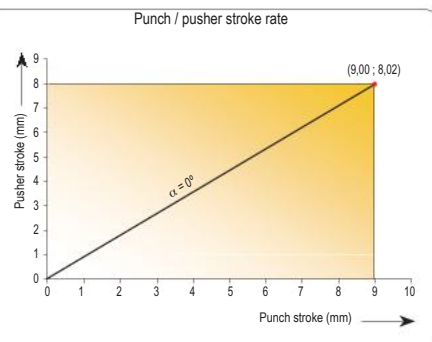
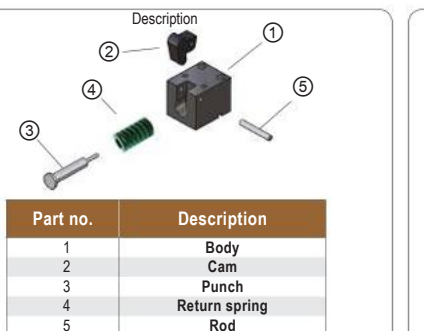
FORMING

TPHT

TPSL



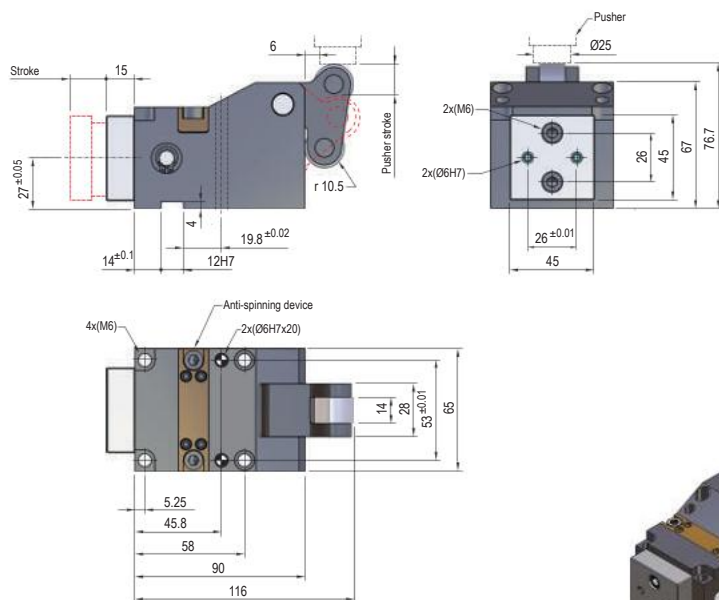
Code	Smax mm	Max. punching force	Punch diameter		Spring return force	Punch characteristics		Kg
			ØD min	ØD max		Hardness	Punch shape	
TPUL 7,5	9	750 daN	3,5 mm	7 mm	≈ 50daN	62 ± 2 HRc	Round	0,8



How to order

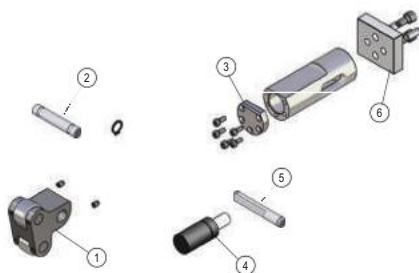
TPUL 7,5 x 5,2

Code Ø Punch



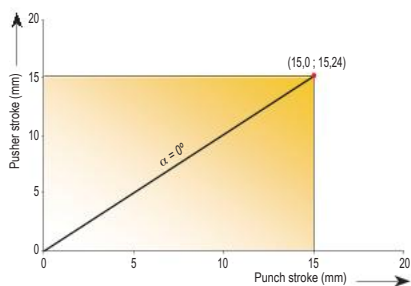
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 1500x15	15	1500 daN	170 daN	≈ 270 daN	MICRO 19V1x15 YW	0,5 m/s	40 spm	Round and shaped	2,8

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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TPNS

STOP

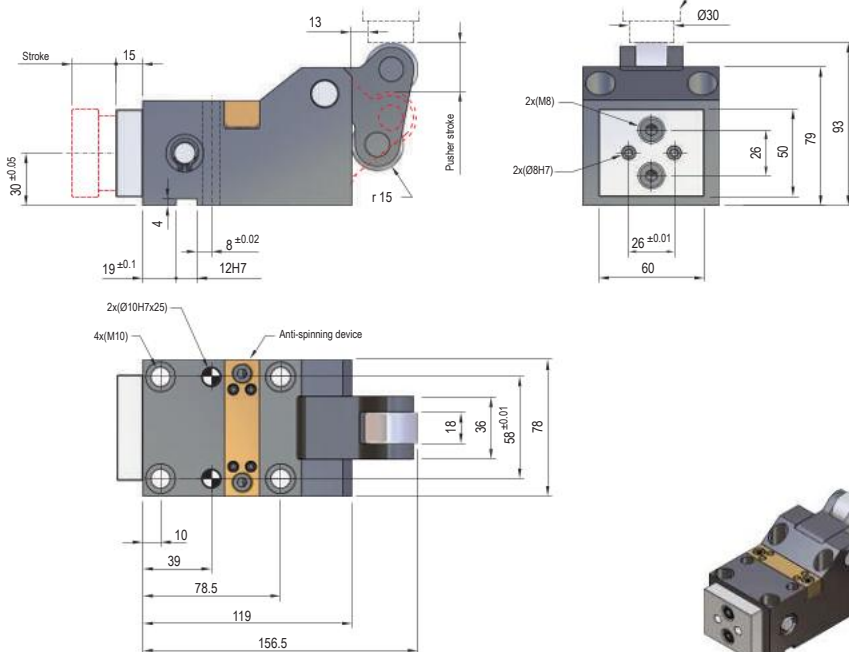
CYLINDER

HOT

FORMING

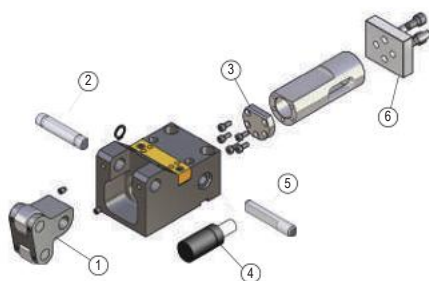
TPHT

TPSL



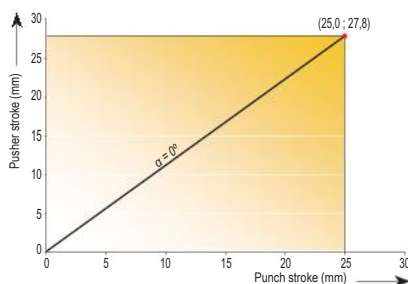
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 3500x25	25	3500 daN	200 daN	≈ 275 daN	TPK 25x25 YW	0,5 m/s	45 spm	Round and shaped	5,1

Spare parts



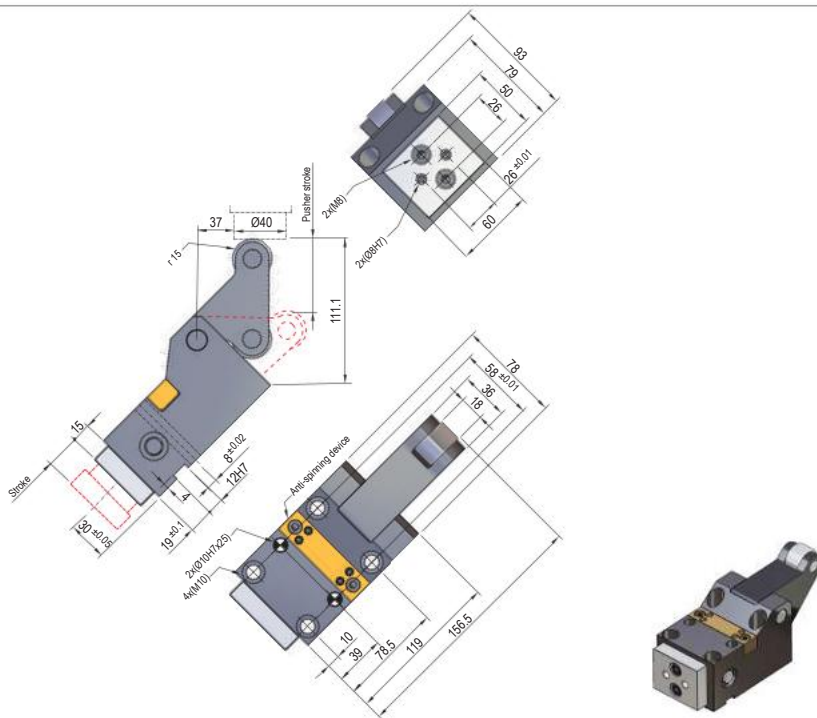
Part no.	Description	Part code
1	Cam	TPUL3500-1
2	Rod	TPUL3500-2
3	End cap	TPUL3500-3
4	Gas spring	TPK 25x25 YW
5	Rod pin	TPUL3500-5
6	Punch holder (C45)	TPUL3500-6

Punch / pusher stroke rate



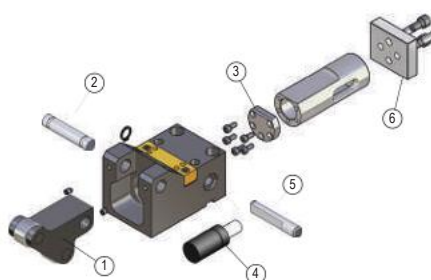
Maximum inclination





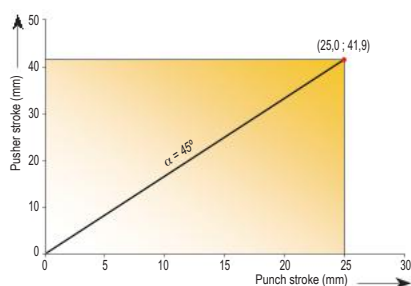
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUD 3500x25	25	3500 daN	200 daN	≈ 275 daN	TPK 25x25 YW	0.5 m/s	45 spm	Round and shaped	5,2

Spare parts

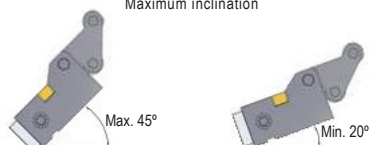


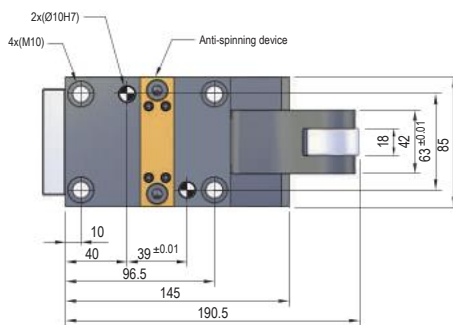
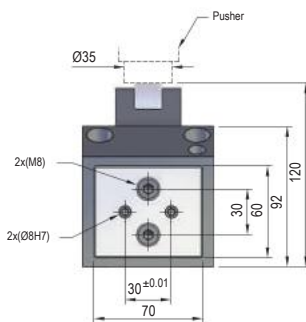
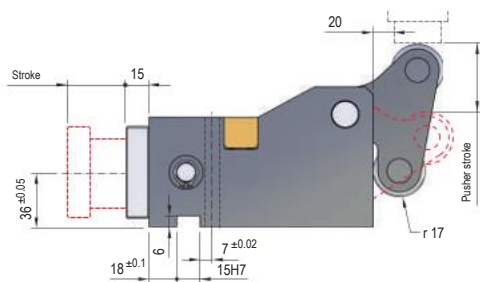
Part no.	Description	Part code
1	Cam	TPUD3500-1
2	Rod	TPUL3500-2
3	End cap	TPUL3500-3
4	Gas spring	TPK 25x25 YW
5	Rod pin	TPUL3500-5
6	Punch holder (C45)	TPUL3500-6

Punch / pusher stroke rate

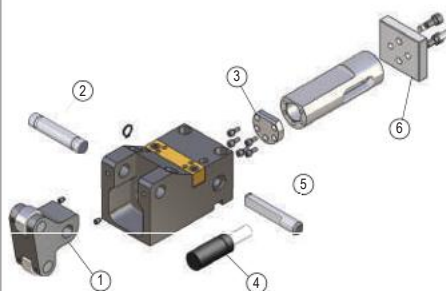


Maximum inclination



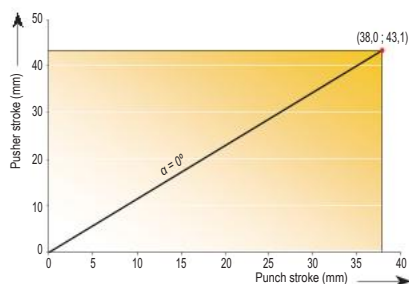
[illegible]

Spare parts



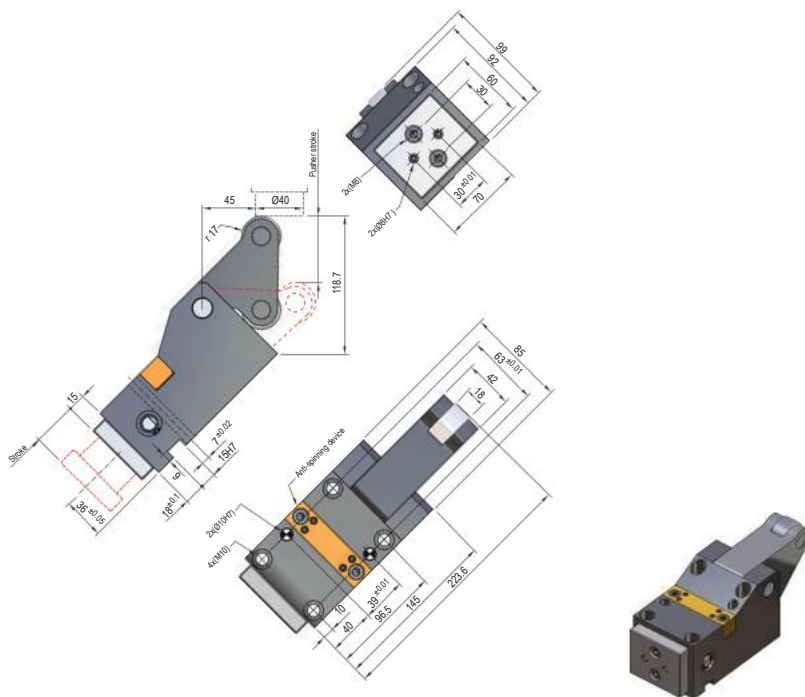
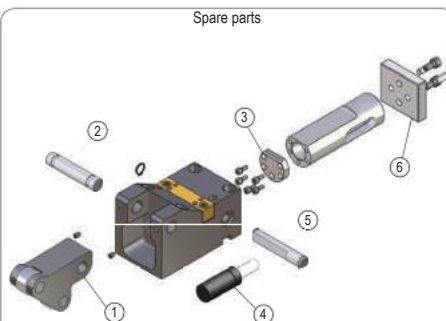
Part no.	Description	Part code
1	Cam	TPUL5000-1
2	Rod	TPUL5000-2
3	End cap	TPUL5000-3
4	Gas spring	TPK 25x38 YW
5	Rod pin	TPUL5000-5
6	Punch holder (C45)	TPUL5000-6

Punch / pusher stroke rate

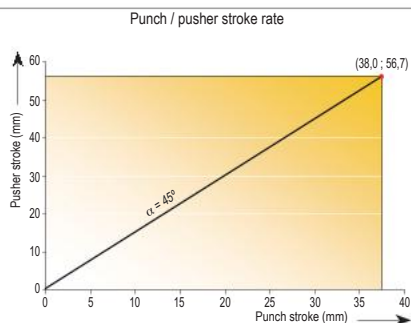


Maximum inclination



[illegible]

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





i

MICRO

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TPSRS

TPNS

STOP

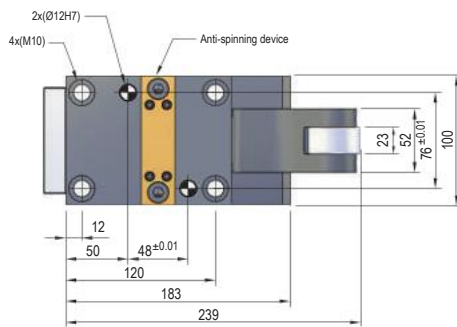
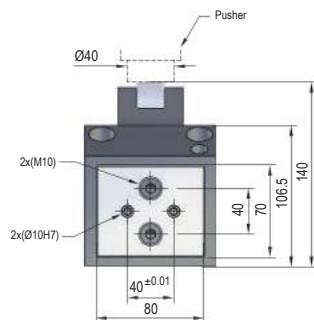
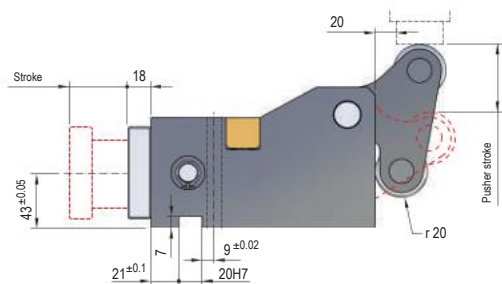
CYLINDER

HOT

FORMING

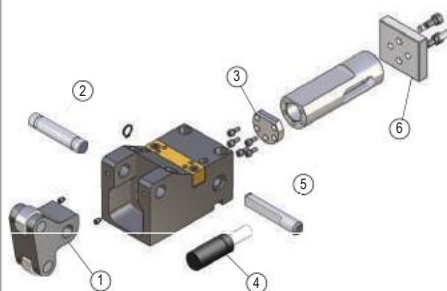
TPHT

TPSL



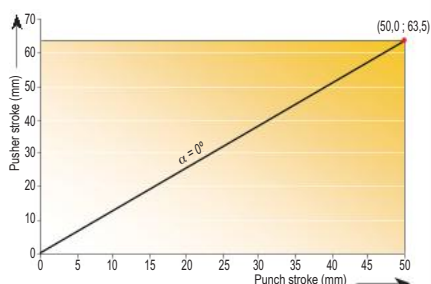
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 7000x50	50	7000 daN	400 daN	≈ 620 daN	TPK 32x50 YW	0,5 m/s	35 spm	Round and shaped	13,3

Spare parts



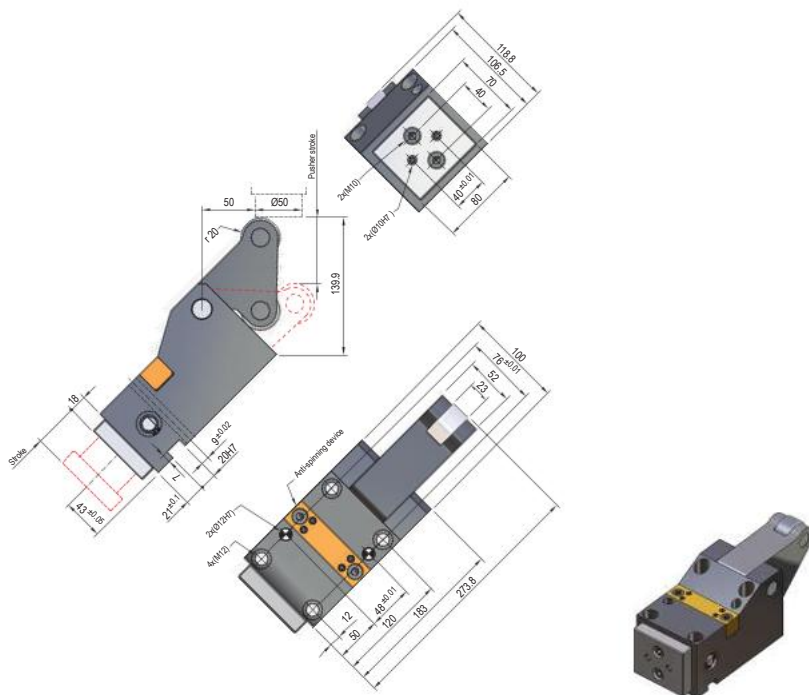
Part no.	Description	Part code
1	Cam	TPUL7000-1
2	Rod	TPUL7000-2
3	End cap	TPUL7000-3
4	Gas spring	TPK 32x50 YW
5	Rod pin	TPUL7000-5
6	Punch holder (C45)	TPUL7000-6

Punch / pusher stroke rate



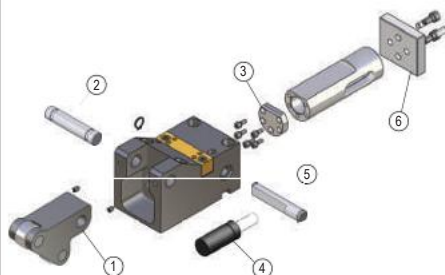
Maximum inclination





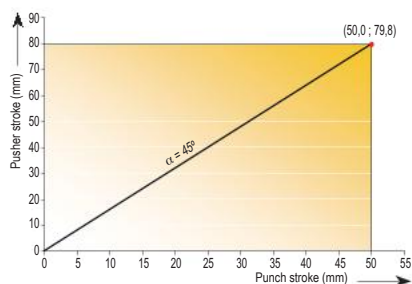
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUD 7000x50	50	7000 daN	400 daN	≈ 620 daN	TPK 32x50 YW	0,5 m/s	35 spm	Round and shaped	13,5

Spare parts

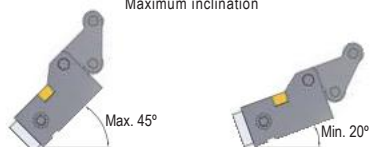


Part no.	Description	Part code
1	Cam	TPUD7000-1
2	Rod	TPUL7000-2
3	End cap	TPUL7000-3
4	Gas spring	TPK 32x50 YW
5	Rod pin	TPUL7000-5
6	Punch holder (C45)	TPUL5000-6

Punch / pusher stroke rate



Maximum inclination





i

MICRO

TITAN

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TPG

TPSR

TPSRS

TPNS

STOP

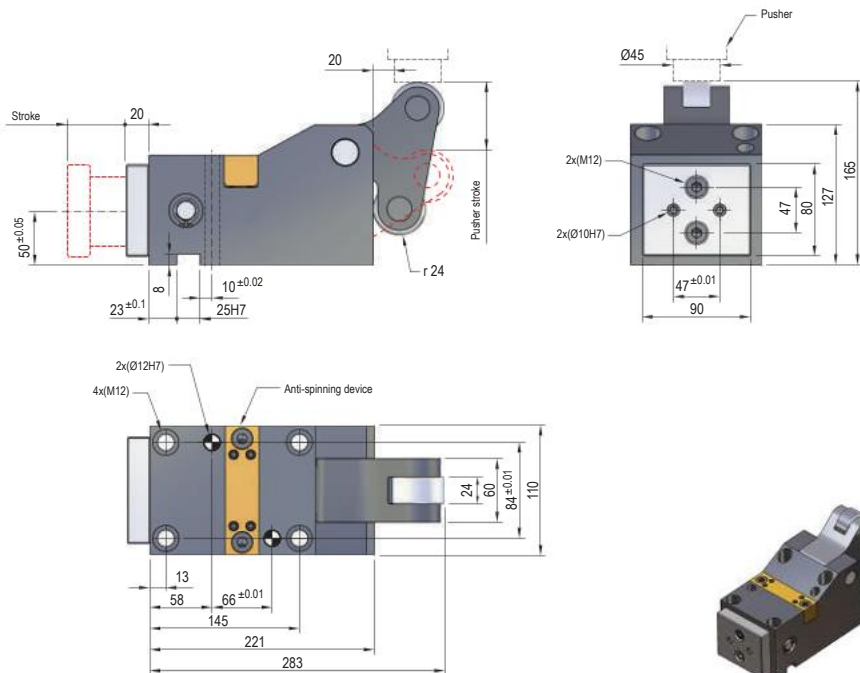
CYLINDER

HOT

FORMING

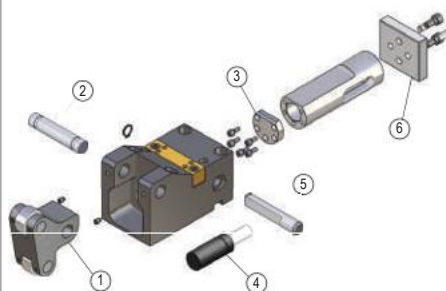
TPHT

TPSL



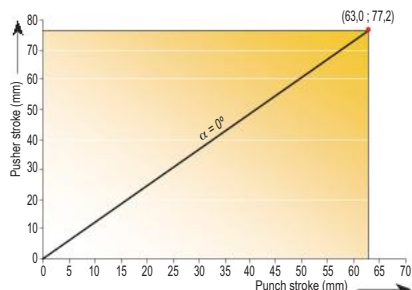
Code	Smax mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application	Kg
			Initial	Final		Velocity	Strokes / min		
TPUL 10000x63	63	10000 daN	600 daN	≈ 880 daN	TPK 600x63	0,5 m/s	30 spm	Round and shaped	20,5

Spare parts



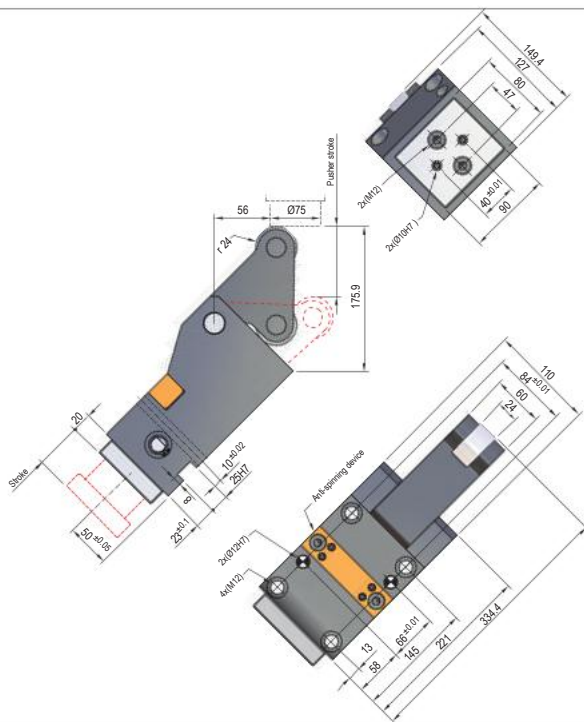
Part no.	Description	Part code
1	Cam	TPUL10000-1
2	Rod	TPUL10000-2
3	End cap	TPUL10000-3
4	Gas spring	TPK 600x63
5	Rod pin	TPUL10000-5
6	Punch holder (C45)	TPUL10000-6

Punch / pusher stroke rate

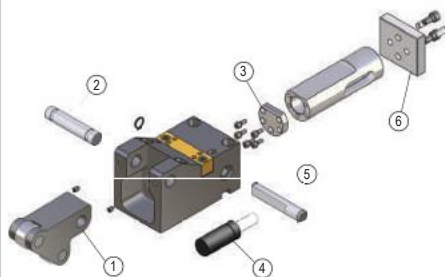


Maximum inclination



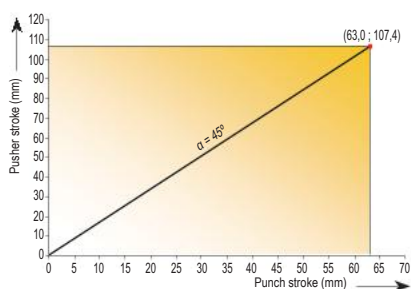
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Spare parts

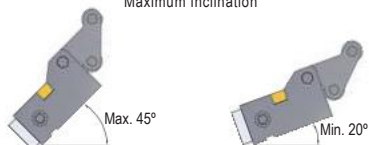


Part no.	Description	Part code
1	Cam	TPUD10000-1
2	Rod	TPUL10000-2
3	End cap	TPUL10000-3
4	Gas spring	TPK 600x63
5	Rod pin	TPUL10000-5
6	Punch holder (C45)	TPUL10000-6

Punch / pusher stroke rate



Maximum inclination





i

Passive return device DRP

MICRO

TITAN

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TPS

TPSP

TPF

TPK

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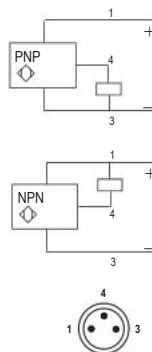
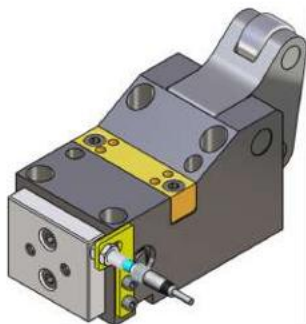
TPNS

STOP
CYLINDER

HOT
FORMING

TPHT

TPSL



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

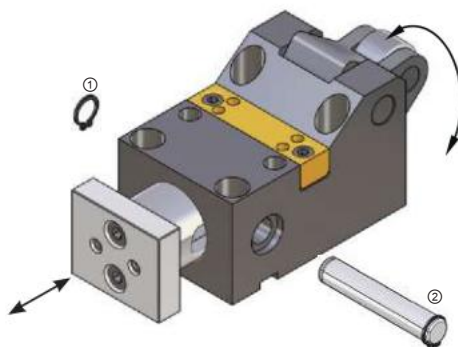


Connectors

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			

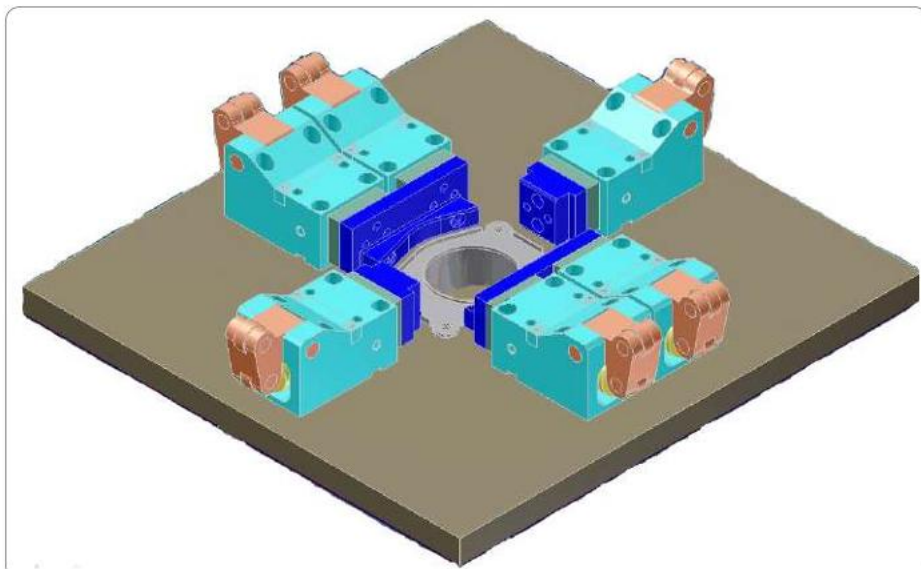
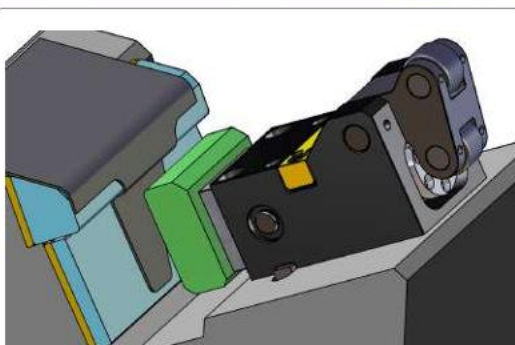
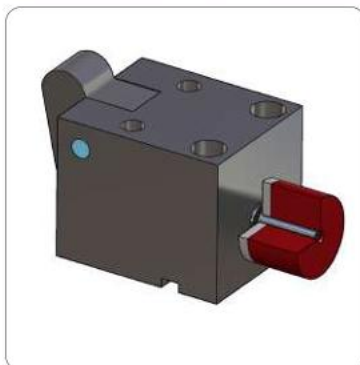
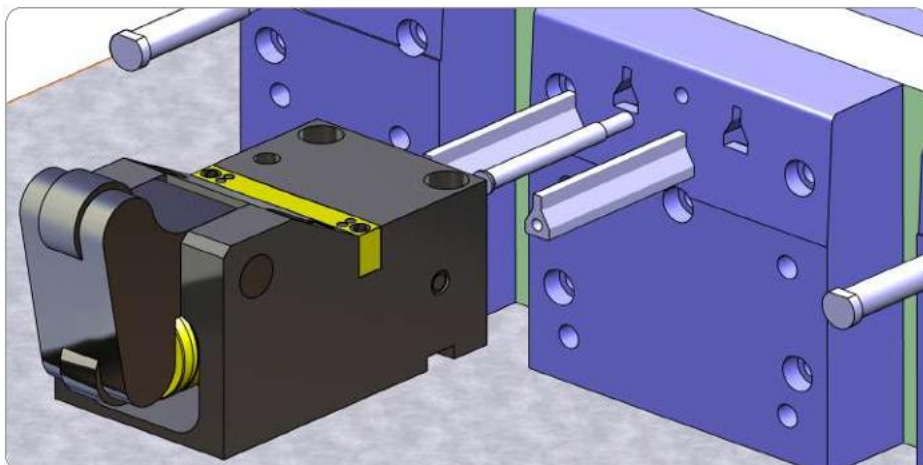
Punch adjustment operation

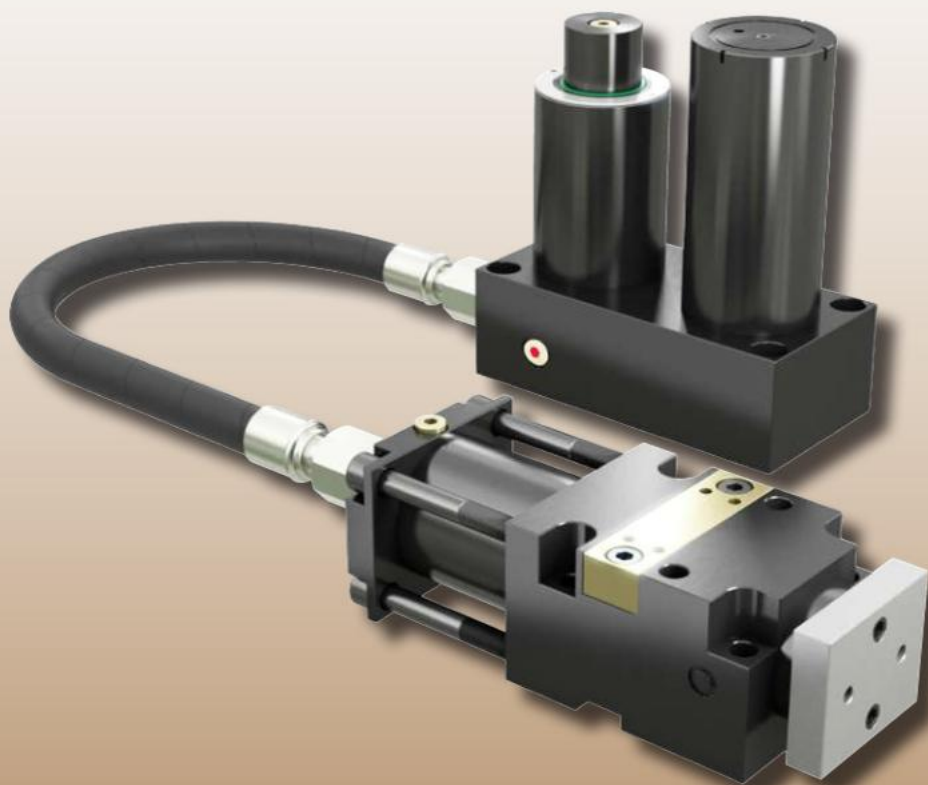


For punch adjustment operations, the punching unit can be manually operated as illustrated in the diagram.

To do this one must first remove the bolt clip (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

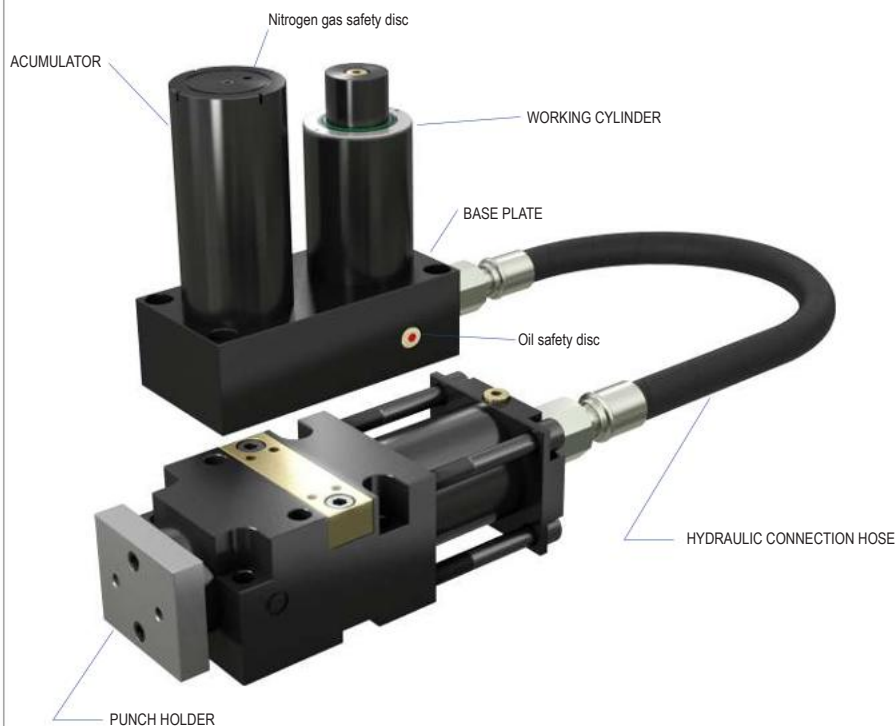
Code	Working punch stroke mm	Max. punching force daN
TPCH 3000	25, 50, 80	3000
TPCH 7500	25, 50, 80	7500
TPCH 12000	25, 50, 63	12000





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.

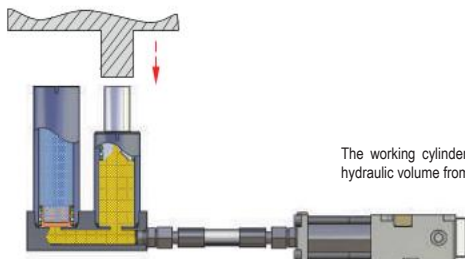
It is suitable for working applications with both round punches and punches with other shapes, thanks to its anti-turning device.

HYDRAULIC CONNECTION HOSE

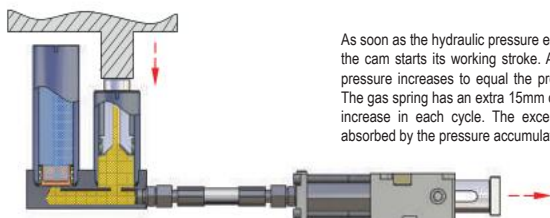
There is a high pressure hose that connects the drive unit with the working cam. Fittings with O-rings are used to guarantee a perfect fix of the elements to avoid leaking.



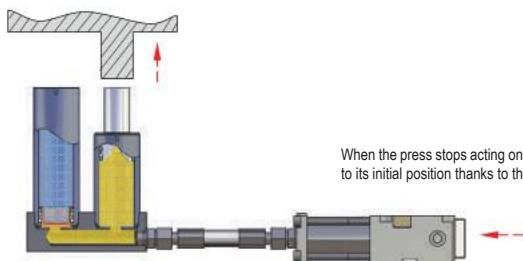
Operation



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.

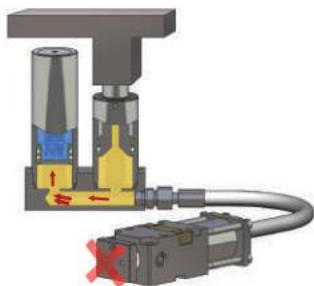


As soon as the hydraulic pressure exceeds the counterforce exerted by the gas spring, the cam starts its working stroke. At the end of the cam working stroke, the system pressure increases to equal the pressure of the nitrogen gas pressure accumulator. The gas spring has an extra 15mm overstroke capacity 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.





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CYLINDER

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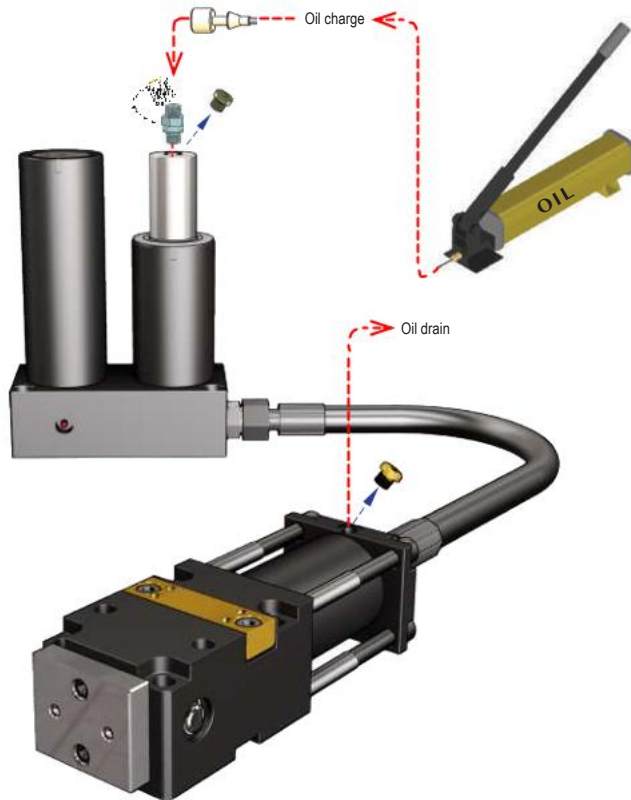
FORMING

TPHT

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Oil refilling instructions



Installation instructions

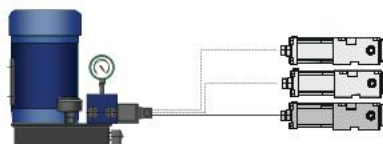
Once the assembly of all components has been completed, proceed as follows:

- 1 - Remove the cap from the oil filler hole
- 2 - Remove the cap from the oil drain hole
- 3 - Connect the oil pump minimesse 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	Stroke	25mm		
	TPCH 7500		50mm		
	TPCH 12000		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.



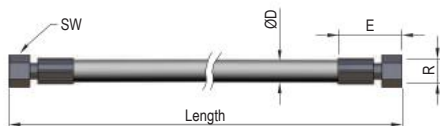
CONNECTION HOSE TFRR

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



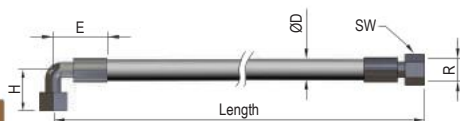
CONNECTION HOSE TFRC

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



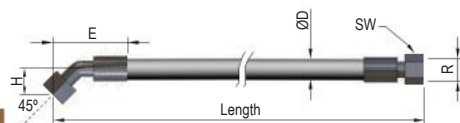
CONNECTION HOSE TFCC

How to order

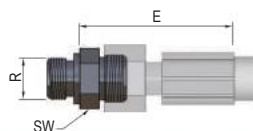
TFCC.02 - 325

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





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STOP

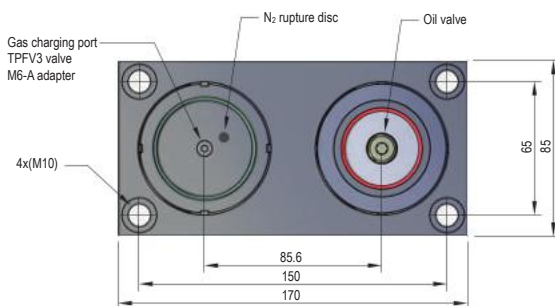
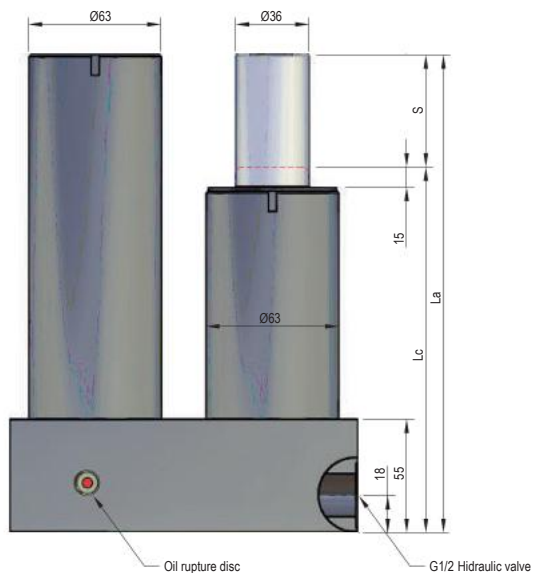
CYLINDER

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FORMING

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TPCH 3000 08.07.2019

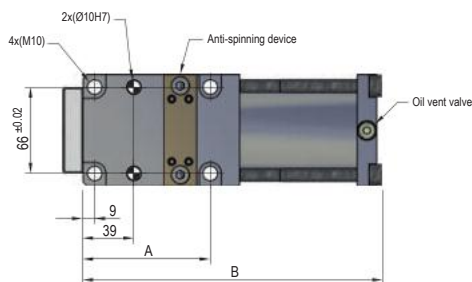
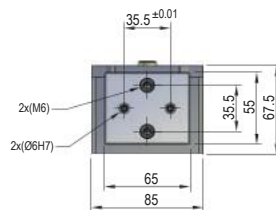
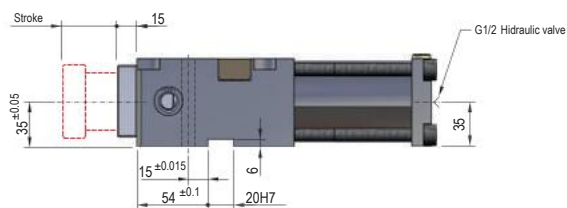
Code	Smax mm	La mm	Lc mm	Max. operation force	Charging N ₂ pressure		Max. working specifications		Max. working temperature
					Min.	Max.	Velocity	Strokes / min	
TPCH 3000x25	25	183	158	3000 daN	50 Bar	150 Bar	20 m/min	40 spm	60 °C
TPCH 3000x50	50	233	183					30 spm	
TPCH 3000x80	80	293	213					20 spm	



TECAPRES®

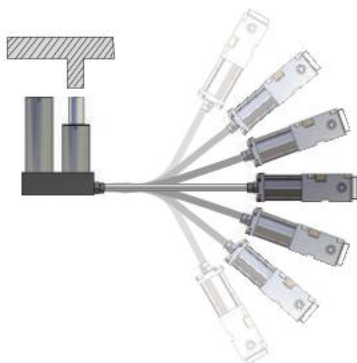
3000daN
25, 50, 80mm

TPCH 3000 WORKING CAM



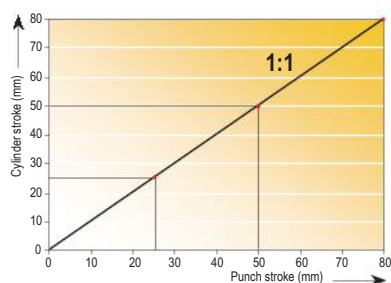
Code	Smax mm	A mm	B mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application
					Initial	Final		Velocity	Strokes / min	
TPCH 3000x25	25	83,5	187	3000 daN	200 daN	≈ 270 daN	TPK 25x25 YW	20 m/min	40 spm	Round and shaped
TPCH 3000x50	50	97,5	225				TPK 25x50 YW		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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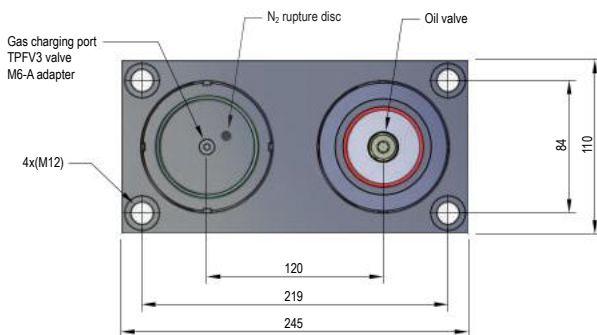
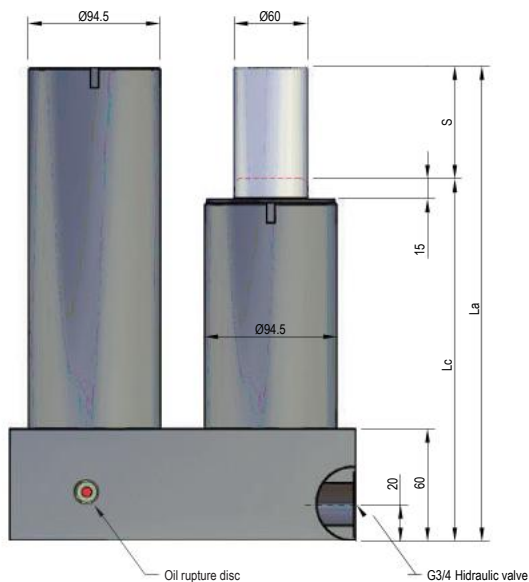
CYLINDER

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TPCH 7500 08.07.2019

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 °C
TPCH 7500x50	50	255	205					30 spm	
TPCH 7500x80	80	315	235					20 spm	

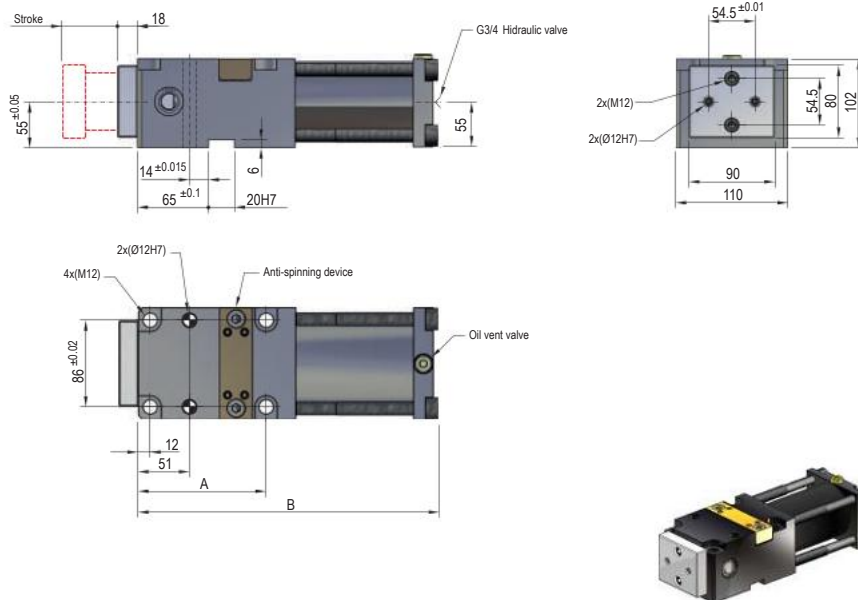


TECAPRES®

7500daN
25, 50, 80mm

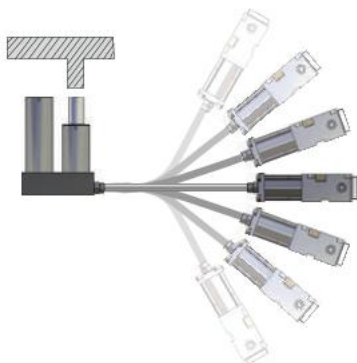
TPCH 7500

WORKING
CAM



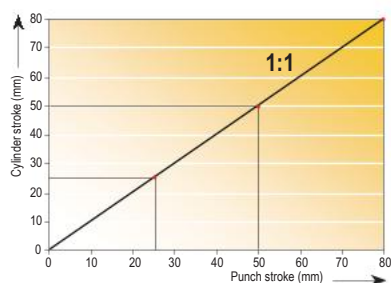
Code	Smax mm	A mm	B mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application
					Initial	Final		Velocity	Strokes / min	
TPCH 7500x25	25	110	230	7500 daN	600 daN	≈ 860 daN	TPK 600x25	20 m/min	40 spm	Round and shaped
TPCH 7500x50	50	110	255				TPK 600x50		30 spm	
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



**TECAPRES®**12000daN
25, 50, 63mm**TPCH 12000** DRIVE UNIT**i**

MICRO

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STOP

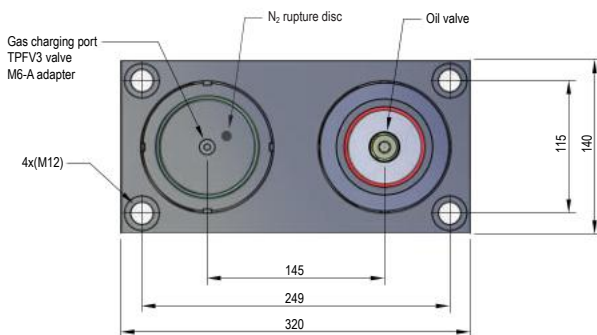
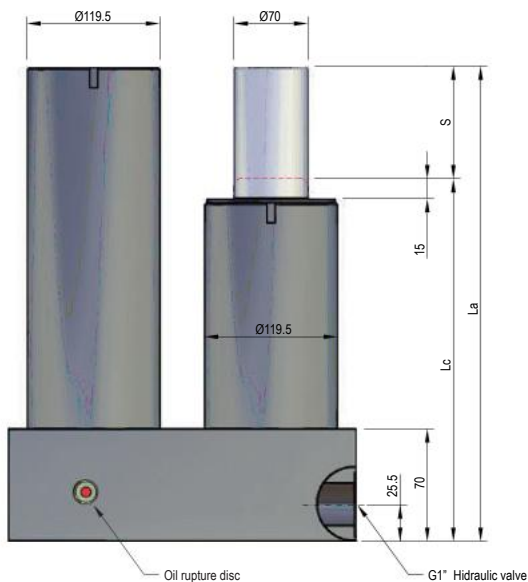
CYLINDER

HOT

FORMING

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TPGAS 08/07/2019

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	12000 daN	50 Bar	150 Bar	20 m/min	40 spm	60 °C
TPCH 12000x50	50	266	216					30 spm	
TPCH 12000x63	63	292	229					20 spm	

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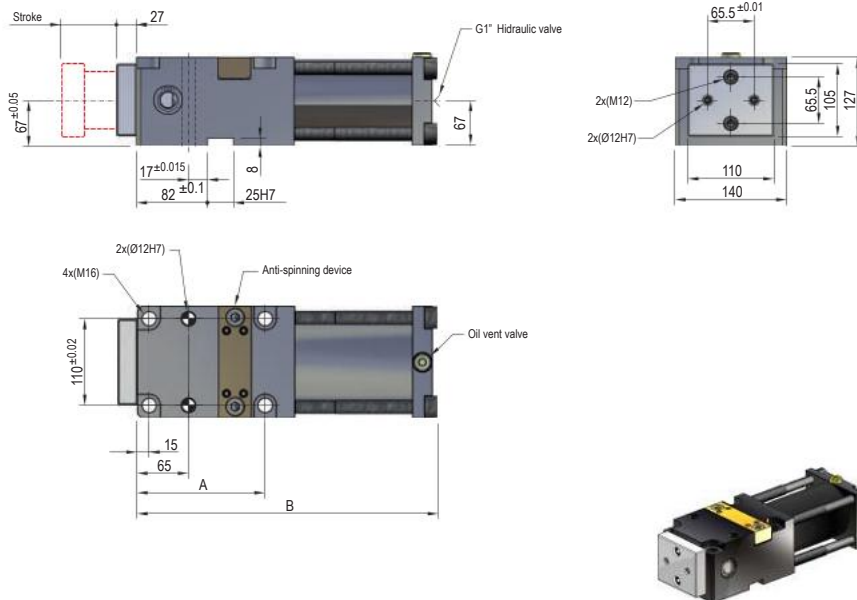
TECAPRES®

12000daN

25, 50, 63mm

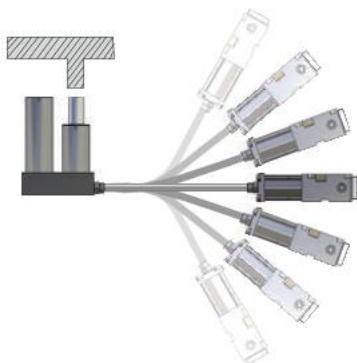
TPCH 12000

WORKING
CAM



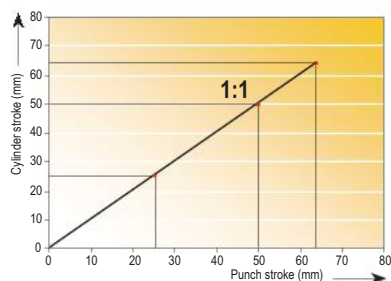
Code	Smax mm	A mm	B mm	Max. punching force	Gas spring force		Gas spring model	Max. working specifications		Application
					Initial	Final		Velocity	Strokes / min	
TPCH 12000x25	25	132	263	12000 daN	750 daN	≈ 1190 daN	MICRO 45x25	20 m/min	40 spm	Round and shaped
TPCH 12000x50	50	132	288				MICRO 45x50		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

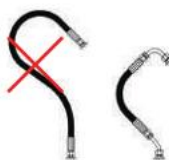




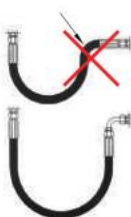
The length of the hose should have a certain amount of slack (10 or 20% excess)



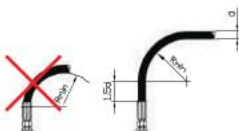
Make sure the hose is not twisted during the installation process.



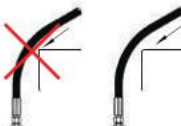
Select the appropriate fittings so that the hoses are not forced. A proper use of fittings prevents excessive hose length



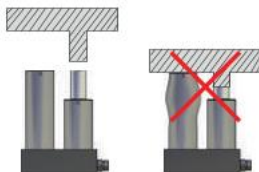
The installation process must comply with the minimum hose curvature radius.



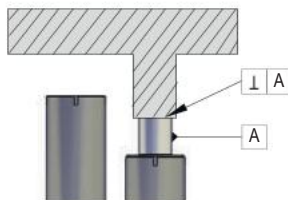
Before starting a curvature, a minimum straight length must be respected to avoid damage to the joint.



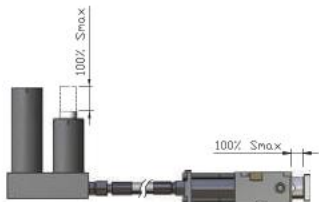
External mechanical influence on the hose should be avoided, even the rubbing against a nearby element. It is recommendable to use clamps for this process



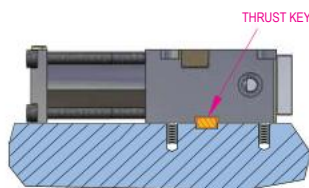
To avoid accidents or serious damage to the pressure accumulator, the press ram should have the necessary adequate dimensions.



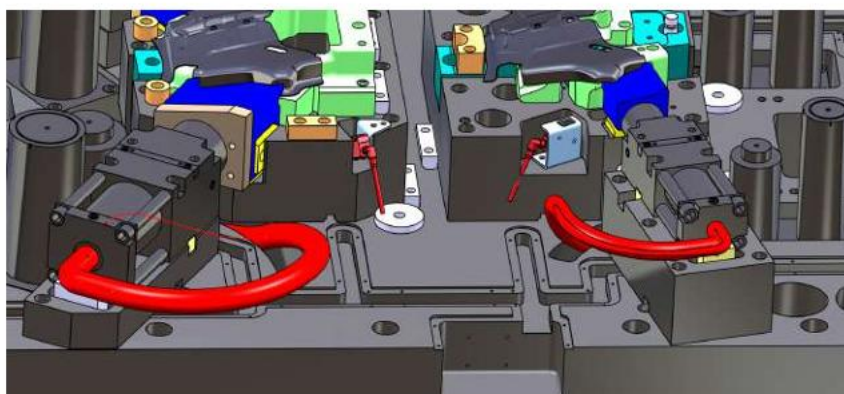
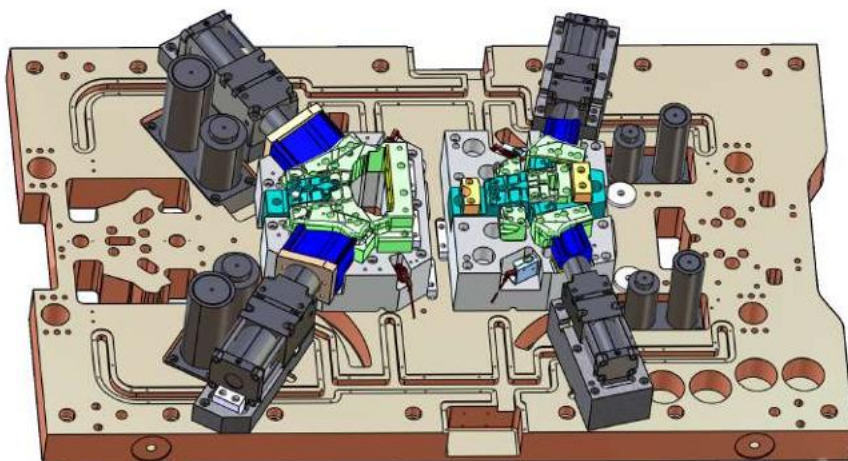
The working gas spring should be completely perpendicular to the working surface



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.

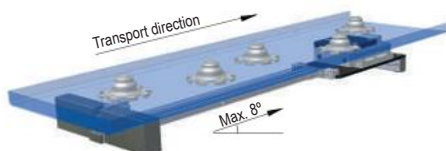


Operation

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. 8°).

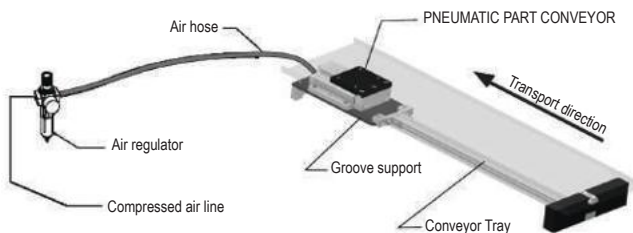
By adjusting stroke frequency, the transport velocity can optimally be accommodated to the conditions on the spot.

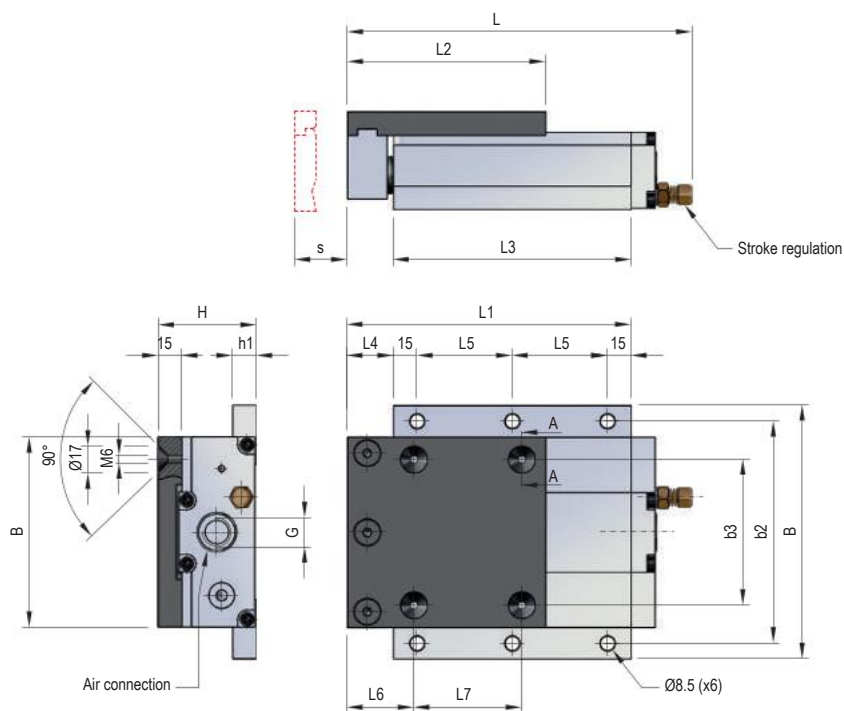
The transport groove can be arranged individually and a high wear of the conveyor band is avoided. Stampings which are fouled by oil can optionally be carried away on a corrugated transportation steel sheet.



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	8°	3
TPTN - 25	250	8°	3
TPTN - 35	350	8°	5
TPTN - 65	650	8°	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





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STOP

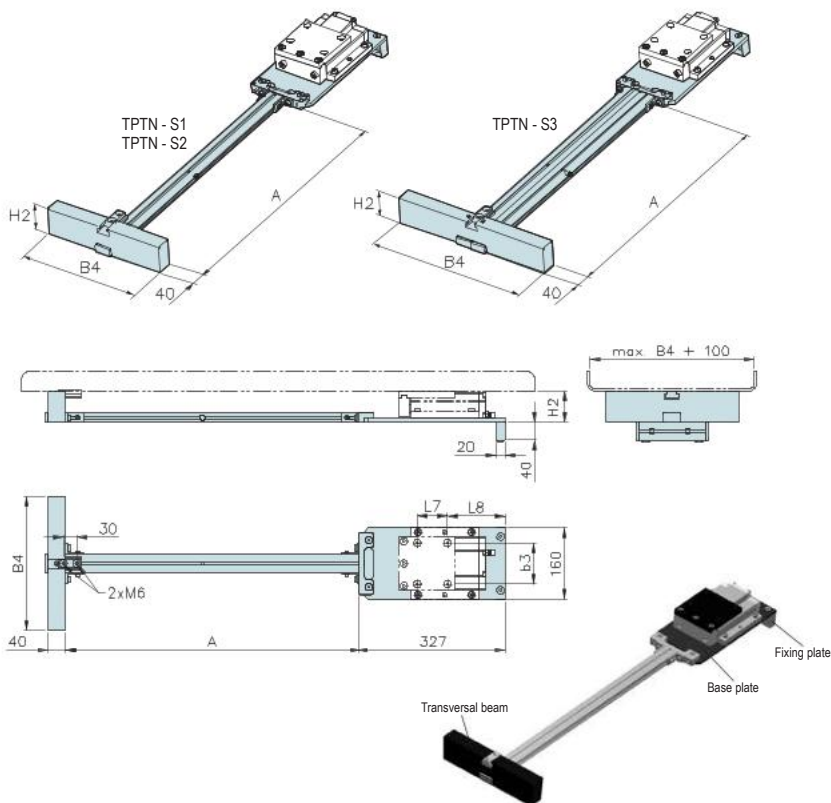
CYLINDER

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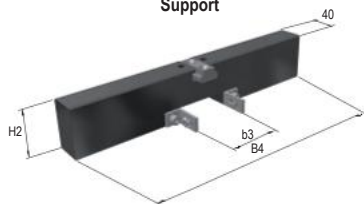


Code	A mm	B4 mm	H2 mm	L7 mm	L8 mm	b3 mm	Pneumatic part conveyor model
TPTN-S1	700	160	48	60	148	60	TPTN-18 / TPTN-25
		200					
		300					
	1000	160	48	60	148	60	TPTN-18 / TPTN-25
		200					
		300					
TPTN-S2	700	160	70	68	134	92	TPTN-35 / TPTN-65
		300					
		500					
	1000	160	70	68	134	92	TPTN-35 / 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					

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Support



Code	B4 mm	H2 mm	b3 mm
TPTN-S1-S	160	48	40
	200		
	300		
TPTN-S2-S	160	70	40
	300		
	500		
TPTN-S3-S	300	70	80
	400		
	500		

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.

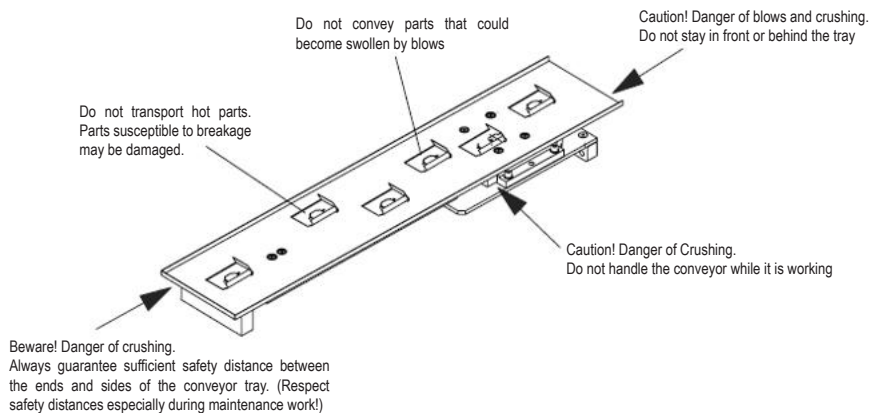
Safety

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.

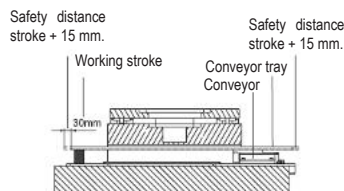
Conveyors are to be fixed on to the tool in such a way they are protected by safety devices such as protection grids.



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.





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.

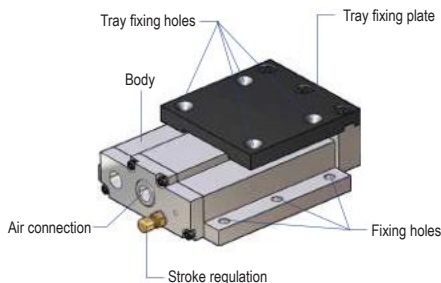
Fix the conveyor tray with four countersunk screws on the tray support plate. Make sure the length of the screws, depending on the thickness of the tray plate plus that of the base plate, have adequate dimensions so that the screw ends do not stick out over the tray.

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.

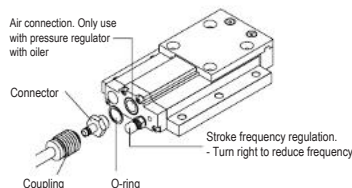
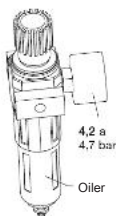
The groove support assembly must avoid interfering with the conveyor guide. The conveyor groove must not become bulged.



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.

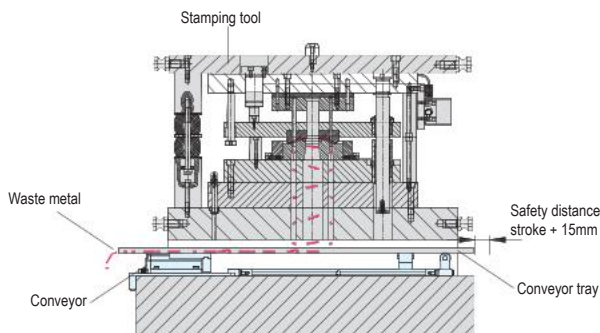
High stroke frequency does not necessarily produce a higher transport speed. An excessively high stroke frequency may even lead to the cancellation of transport, with the pieces simply vibrating on the tray.

Stroke frequency regulation is carried out by means of the adjustment screw placed at the front of the conveyor.

Heavy parts = median stroke speed

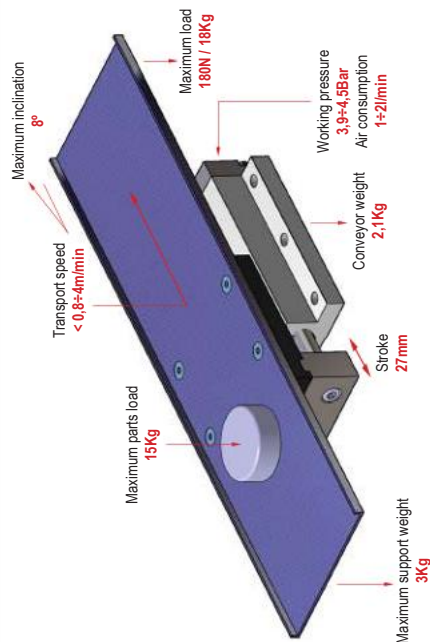
Median parts = low stroke speed

Light parts = high stroke speed

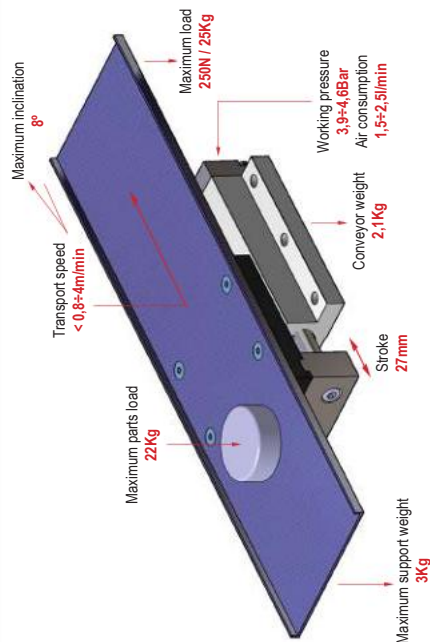




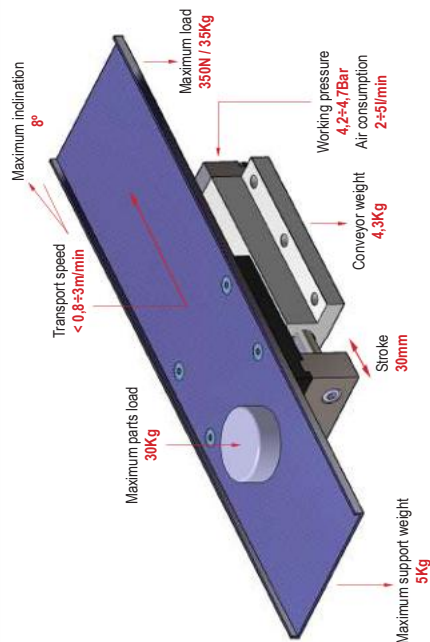
TPTN-18



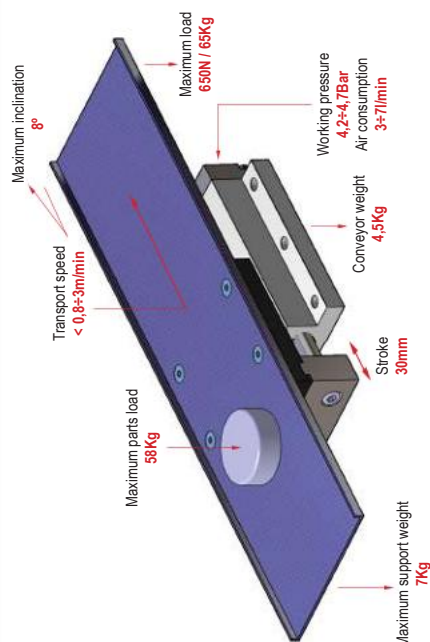
TPTN-25



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 after 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:

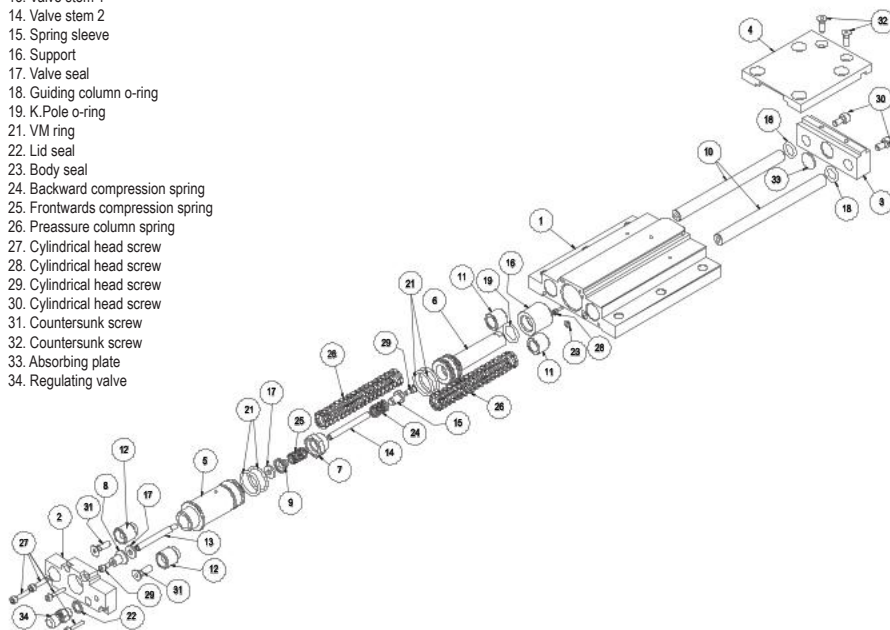
**1 DROP OF OIL PER MINUTE
for 60 strokes per minute.**

- ☒ 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

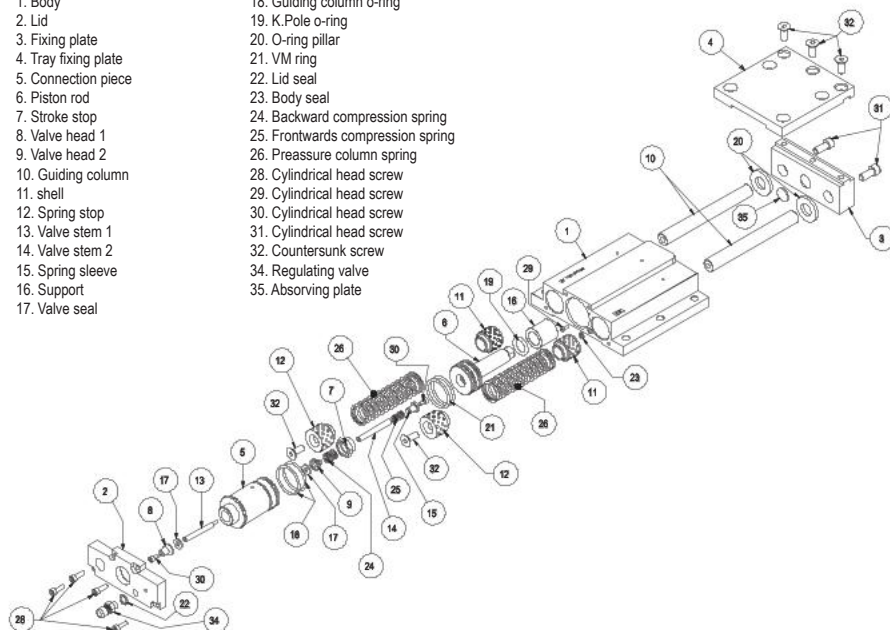
1. Body
2. Lid
3. Fixing plate
4. Tray fixing plate
5. Connection piece
6. Piston rod
7. Stroke stop
8. Valve head 1
9. Valve head 2
10. Guiding column
11. shell
12. Spring stop
13. Valve stem 1
14. Valve stem 2
15. Spring sleeve
16. Support
17. Valve seal
18. Guiding column o-ring
19. K. Pole o-ring
21. VM ring
22. Lid seal
23. Body seal
24. Backward compression spring
25. Frontwards compression spring
26. Preasure 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





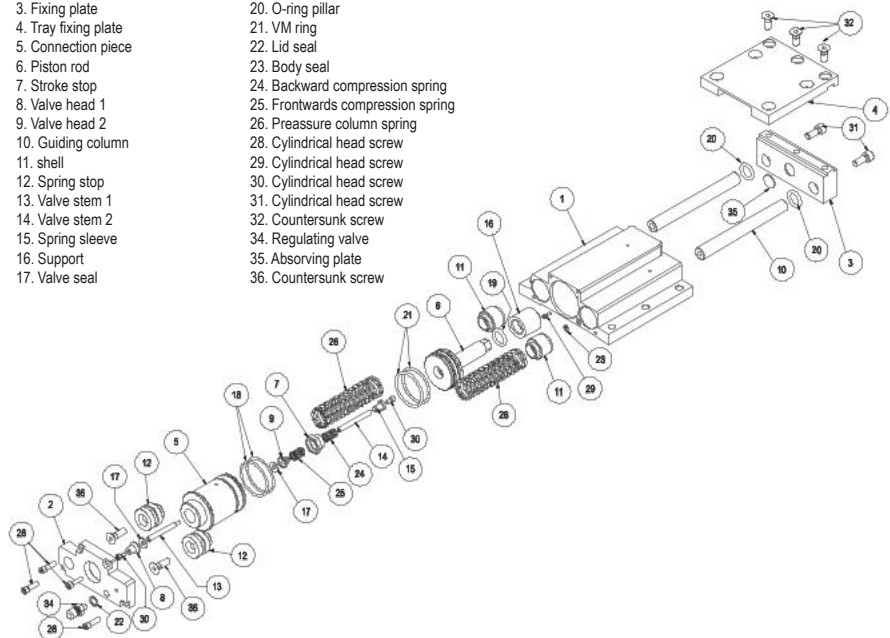
Spare parts TPTN-35

- | | |
|----------------------|-----------------------------------|
| 1. Body | 18. Guiding column o-ring |
| 2. Lid | 19. K.Pole o-ring |
| 3. Fixing plate | 20. O-ring pillar |
| 4. Tray fixing plate | 21. VM ring |
| 5. Connection piece | 22. Lid seal |
| 6. Piston rod | 23. Body seal |
| 7. Stroke stop | 24. Backward compression spring |
| 8. Valve head 1 | 25. Frontwards compression spring |
| 9. Valve head 2 | 26. Preassure column spring |
| 10. Guiding column | 28. Cylindrical head screw |
| 11. shell | 29. Cylindrical head screw |
| 12. Spring stop | 30. Cylindrical head screw |
| 13. Valve stem 1 | 31. Cylindrical head screw |
| 14. Valve stem 2 | 32. Countersunk screw |
| 15. Spring sleeve | 34. Regulating valve |
| 16. Support | 35. Absorbing plate |
| 17. Valve seal | |



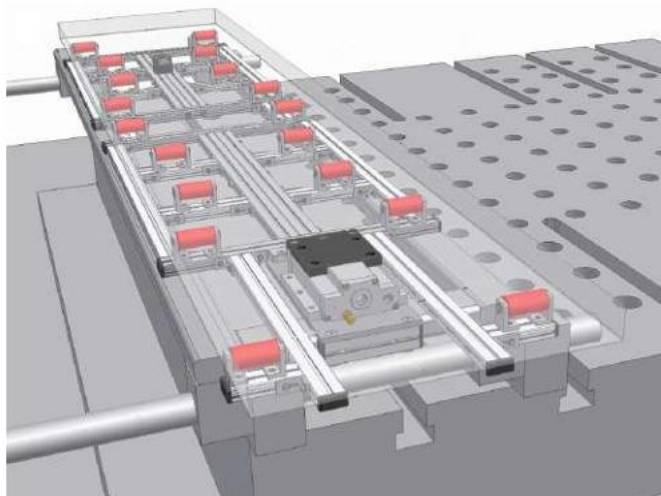
Spare parts TPTN-65

- | | |
|----------------------|-----------------------------------|
| 1. Body | 18. Guiding column o-ring |
| 2. Lid | 19. K.Pole o-ring |
| 3. Fixing plate | 20. O-ring pillar |
| 4. Tray fixing plate | 21. VM ring |
| 5. Connection piece | 22. Lid seal |
| 6. Piston rod | 23. Body seal |
| 7. Stroke stop | 24. Backward compression spring |
| 8. Valve head 1 | 25. Frontwards compression spring |
| 9. Valve head 2 | 26. Preassure column spring |
| 10. Guiding column | 28. Cylindrical head screw |
| 11. shell | 29. Cylindrical head screw |
| 12. Spring stop | 30. Cylindrical head screw |
| 13. Valve stem 1 | 31. Cylindrical head screw |
| 14. Valve stem 2 | 32. Countersunk screw |
| 15. Spring sleeve | 34. Regulating valve |
| 16. Support | 35. Absorbing plate |
| 17. Valve seal | 36. Countersunk screw |





Design and real applications



MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

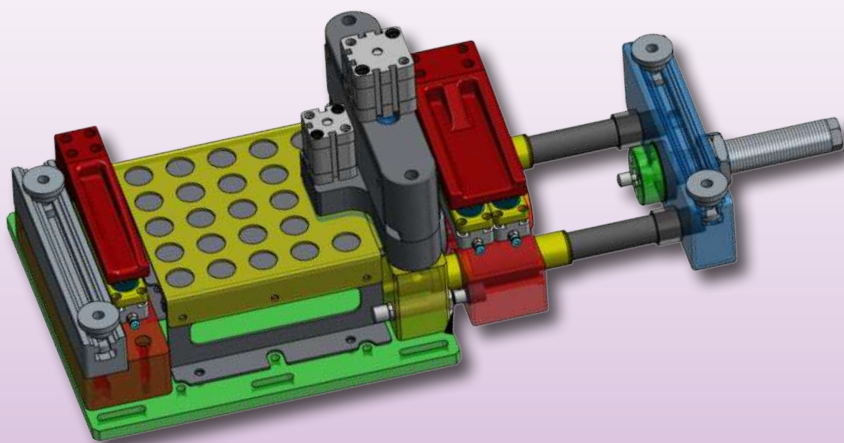
HOT

FORMING

TPHT

TPSL





- ▶ Long service life
- ▶ Thickness control unit
- ▶ Dumping movement system

Metal band feeder

Code	Maximum band width mm	Maximum machine step mm
TPAB 160	160	100
TPAB 550	550	200





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

FORMING

TPHT

TPSL



Pneumatic linear feeder, developed, manufactured and tested by "Estampaciones Garces", a corporation with 50 years of experience in the field of excentric press metal part stamping.

There are two standard models, capable of handling metal band from 0.25mm to 3mm thick and up to 550mm in width, with a maximum of up to 100 cycles per minute (depending on conditions).

With a maximum machine step of up to 200mm, which can be modified, by means of setting steps with calibrated reference pieces. The machine step may be set over 200mm on request.

Recognized and high quality brand in pneumatic elements, linear cylinder, pneumatic clamp and shock absorbers.

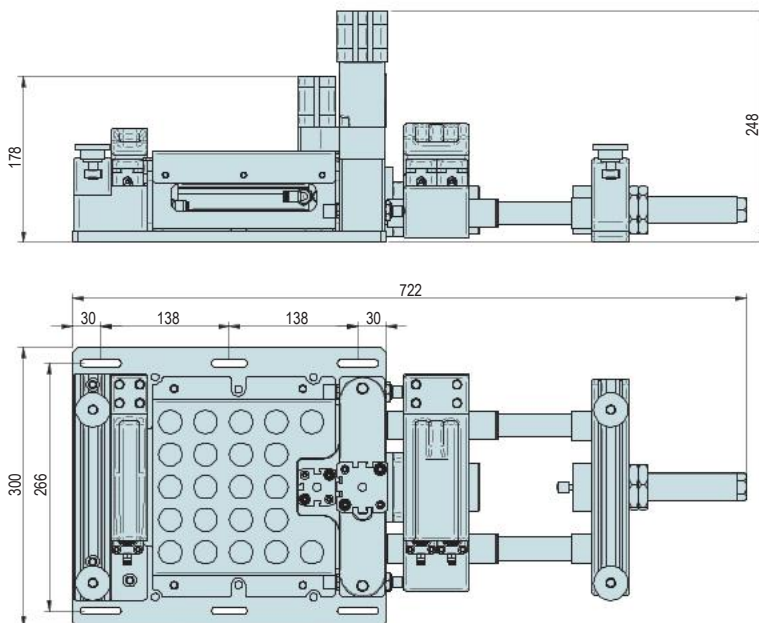
Control panel, with solenoid valves that control movement, by means of signals from the press or other elements.

The simplicity of the feeder makes it possible for the user to be self-sufficient in terms of maintenance and replacement of parts.



- ✓ We manufacture customized dimensional feeders on request.
- ✓ Optional thickness control unit, preventive band thickness control in every machine step.
- ✓ Possibility of integrating the feeder into the die set accompanying the vertical movement of the band.
- ✓ Manufacture of tailor-made adjusted cushions on demand. Personalized design



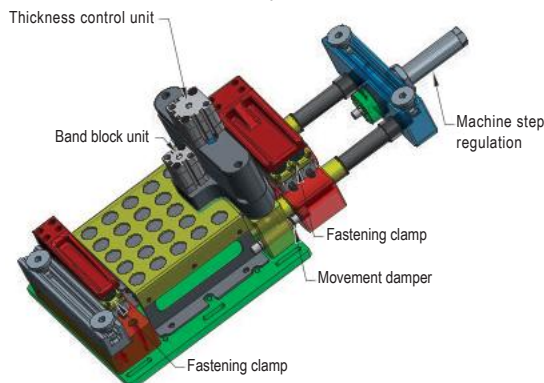


i Max. band width	160 mm
Max. machine step	100 mm
Max. band thickness	3 mm
Cylinder thrust	Ø50 mm
Thrust force	118 Kg
Drag clamp force	2 x 110 Kg
Fastening clamp force	110 Kg
Max. air drive pressure	6 Bar
Dimensions	722 x 300 x 248 mm

Options

- ✓ Thickness control unit
- ✓ Dumping movement system
- ✓ Solenoid valve control
- ✓ Metal band release
- ✓ Manual band fastening

Description





i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPCT

TPB

TPR

TPA

TPG

TPSR

TPSRS

TPNS

STOP

CYLINDER

HOT

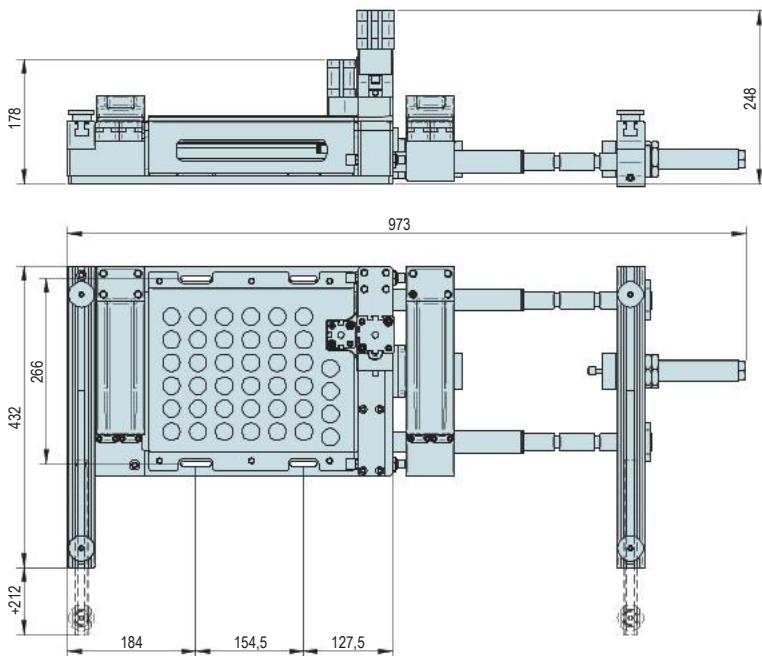
FORMING

TPHT

TPSL



TPGAS 08.07.2019



i	Max. band width	550 mm
i	Max. machine step	200 mm
	Max. band thickness	3 mm
	Cylinder thrust	Ø50 mm
	Thrust force	118 Kg
	Drag clamp force	2 x 170 Kg
	Fastening clamp force	2 x 170 Kg
	Max. air drive pressure	6 Bar
	Dimensions	973 x 432(+212) x 248 mm

Options

- ✓ Thickness control unit
- ✓ Dumping movement system
- ✓ Solenoid valve control
- ✓ Metal band release
- ✓ Manual band fastening

Description

