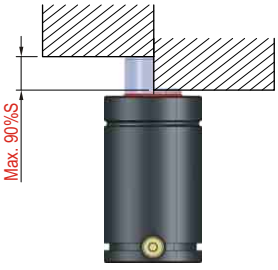
INFORMATION RELATED TO GAS SPRING

IDENTIFICATION

All gas springs are unmistakably identified in accordance to European norm 97/23/EC on the body and with the following information permanently engraved on it:

- Serial Lumber and year of manufacture
- Manufacturer identification
- Gas spring reference
- Maximum charging pressure
- Applicable norms 97/23/EC (engraved CE if applicable)
- Medium pressure

WORKING STROKE



The working stroke is the gas spring length that can be compressed. This is invariable throughout its use. All gas springs have an additional stroke reserve. This means that the working stroke can be used in its entirety without compromising safety.

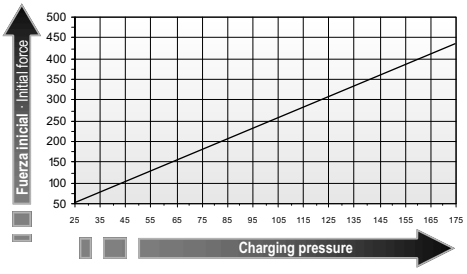
However, in order to obtain maximum service life, it is recommended to design always bearing in mind an additional safety reserve. It is recommended a two reserve 10% of the stroke for this purpose

WORKING TEMPERATURE

MAX. 80ºC!

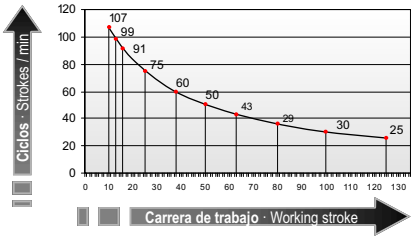
Maximum working temperature is 80°C. Higher temperatures can damage the sealing elements, thus seriously affecting gas spring service life. Gas spring working temperature is mainly altered by the working environment and the gas spring work rate. There is the possibility of assembling gas springs with special seals, to be able to work at higher temperatures if necessary. Please consult our technical department.

CHARGING PRESSURE



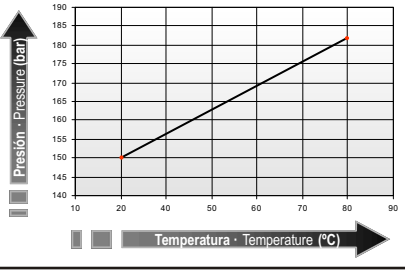
In order to guarantee maximum sealing, respect the maximum and minimum loading pressures for each model, as indicated in the technical specifications. Also, the pressure for each gas spring is variable, thus modifying its force. These values are indicated in the diagram corresponding to each model.

MAXIMUM RATE



The working rate is the number of strokes or cycles per minute that a gas spring works at. It is important to respect and maximum rate is 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.

FORCE VARIATION DEPENDING ON TEMPERATURE



Gas temperature affects the pressure of gas springs and therefore also 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.

INITIAL FORCE

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:

Fa = A x P

Fa: Initial force (daN)
A: Working surface (cm^2)
P: Charging pressure (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.

WORKING SPEED

Working speed is defined as the stem lineal speed. It must not go above the speed indicated in the specifications of each model. Higher speeds may rapidly deteriorated sealing elements.

TECHNICAL ADVICE

Both the TECAPRES technical department and BEP commercial network in India is directly at your disposal to answer any questions, provide additional information and help you choose the most adequate product depending on its application.

GUARANTEE AND DURATION

The guarantee that TECAPRES offers in gas springs is for one year as from the date of acquisition, or the equivalent to a stem lineal displacement of 100.000 metres in gas springs with stroke equal to or over 25 mm whereas in gas springs with shorter strokes, the guarantee is of 2.000.000 cycles. The guarantee (which covers parts and labour costs) is applicable if and when the following conditions are met:

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

Their application and use has been strictly within the limits of the technical conditions specified, and of the various applicable recommendations.

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

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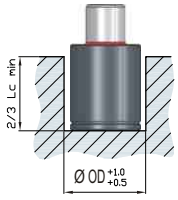
Assembly Possibilities



FS · FSC

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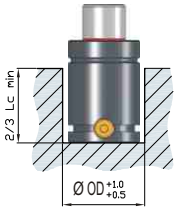
Assembly Possibilities for Connecting Type



FS · FSC

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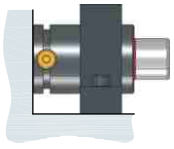
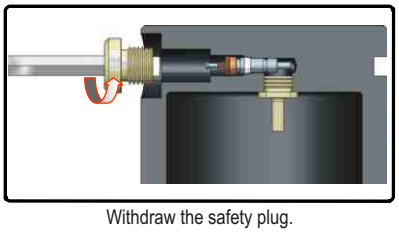
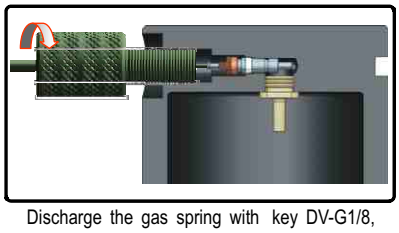


FI

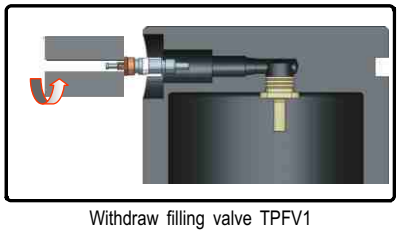
CONVERSION FROM AUTONOMOUS GAS SPRING WITH CHARGING PORT G1/8 TO INTERCONNECTED GAS SPRING



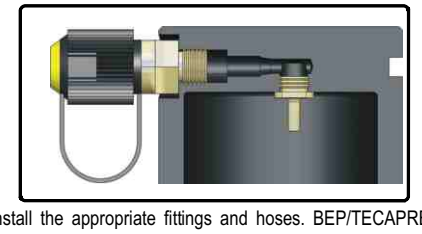
Withdraw the safety plug.



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

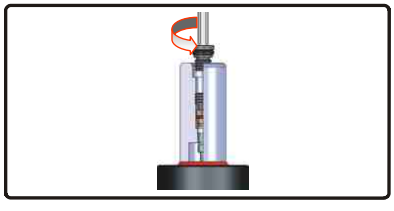


Withdraw filling valve TPFV1 by unscrewing it with key DV-G1/8.

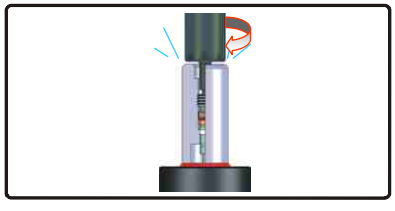


Install the appropriate fittings and hoses. BEP/TECAPRES offers a wide variety of connection fitting options.

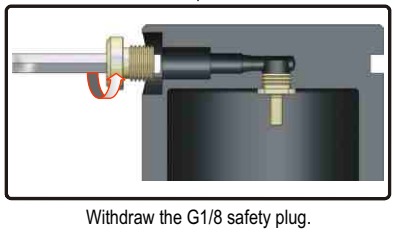
CONVERSION FROM AUTONOMOUS GAS SPRING WITH CHARGING PORT M6 TO INTERCONNECTED GAS SPRINGS



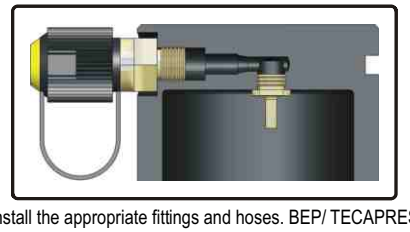
Withdraw the M6 safety plug.



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



Withdraw the G1/8 safety plug.

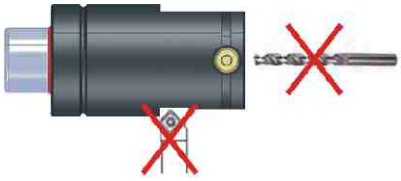


Install the appropriate fittings and hoses. BEP/ TECAPRES offers a wide variety of connection fitting options.

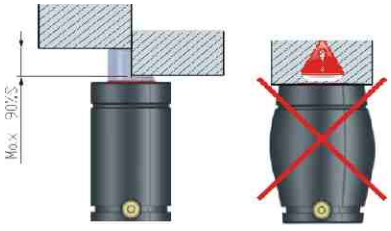
PRECAUTIONS FOR GAS SPRING

Protect the gas spring body or stem from blows. Any resulting imperfection could bring about the loss of pressure and affect the useful life of the gas spring. If the gas spring has been dented in its structure, unload it completely before carrying out its revision or handling.

Carry and keep the gas spring in a way that it does not hit other gas springs.

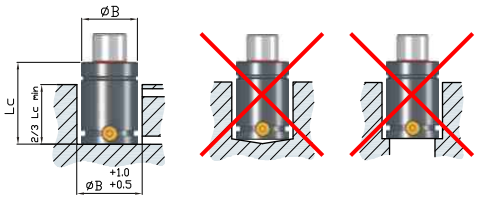


Any mechanical operation (machining, drilling, welding...) on the gas spring is strictly prohibited.



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 nugget, 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.

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. Each model's maximum and minimum charging pressures should be respected, as indicated in the specifications for each gas spring model.

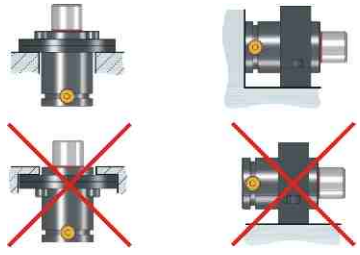


ASSEMBLY ON THE TOOL: FLAT SUPPORT

There should be a flat surface under the gas spring base. Inadequate lodgings cause structural damage or reduce gas spring useful life.

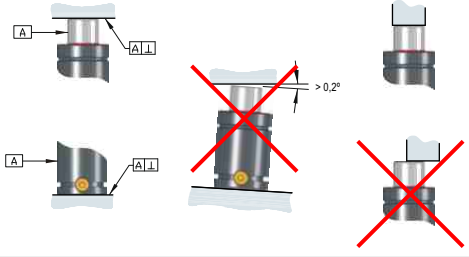
ASSEMBLY ON THE TOOL: CORRECT FIXTURE

Fix the gas spring solidly onto the tool. If possible, fix the gas spring onto the tool using the fixing threaded holes at the bottom of the body or fixing accessories. Do not use the threaded hole on the stem for fixing onto the tool. This hole is only to be used in maintenance operations. Make sure the length of the screws is such that the base of the gas spring sits flatly on the tool.



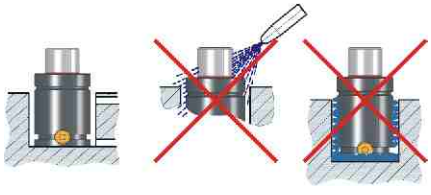
ASSEMBLY ON THE TOOL: FIXING ELEMENTS

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



ASSEMBLY ON THE TOOL: ASSEMBLY MUST BE PERPENDICULAR TO THE WORKING AXIS

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



ASSEMBLY ON THE TOOL: PROTECTION FROM POLLUTANTS

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.

Connection alternatives for Gas Springs with C

RMF-D

RMF-C + RMF-D

RMF-T + RMF-D (2x)

RMF-L + RMF-D (2x)