

# GAS SPRINGS



## PED 2014/68 EU

- Operating instructions
- Safety on use
- PED regulation
- Manufacturer's specifications
- End user's specifications



## REGULATION

### **What is the PED 2014/68 EU Directive?**

It is a European Directive harmonizing in the whole European Union the regulation of pressure vessels manufactured or sold in the European Union. Additionally each country has its own transposition regulation of the mentioned Directive.

### **PED 2014/68 EU Directive regulation is related to all the gas springs?**

All the gas springs manufactured or sold in the European Union, as pressure equipment devices are submitted to the Directive PED 2014/68 EU.

Depending on the product of the pressure x volume, Directive PED 2014/68 EU classify the pressure equipment devices, the main categories for gas springs are:

- Category I volume > 1 liter and product of pressure x volume > 50 < 200 bar x liter
- Category II volume > 1 liter and product of pressure x volume > 200 bar x liter
- Category III volume > 1 liter and product of pressure x volume > 1000 bar x liter

Those gas springs below the mentioned categories are submitted to the Article 4.3., Directive PED 2014/68 EU.

### **What PED 2014/68 EU Directive involves to the manufacturer of pressure vessels?**

Directive PED 2014/68 EU regulation affects the design, the manufacturing and the evaluation of conformity of the pressure equipment devices (i.e. gas springs).

As a summary:

- Design the pressure devices to make sure its safety during its life expectancy scheduled.
- Make sure the material used meet the specifications required in the Directive PED 2014/68 EU.
- Manufacture the pressure devices according to specifications detailed when designed.
- Mark the pressure devices following the Directive PED 2014/68 EU guidelines.
- Submit the pressure devices to the process of conformity evaluation required.
- Provide to the user documentation about the safety operating instructions of pressure devices.
- Supply the Declaration of Conformity to the Directive when required.

### **What PED 2014/68 EU Directive involves to the end user of pressure vessels?**

The end user of gas springs is responsible to fulfill the regulation of the country where used. The legal framework usually contains the following questions:

- Acknowledge receipt of documentation from manufacturer.
- Get ready for inspection the documentation while the devices are on use.
- Servicing the pressure devices according to manufacturer's operating instructions.
- Make regular inspections to the devices (visual inspection and requalification).

**OPERATING INSTRUCTIONS****WARNING!**

Gas springs are containers loaded with Nitrogen gas at a high pressure (max. 150-210 bar). Never handle a gas spring without being sure that it is completely discharged and you know how to proceed to drain it.

Before whatever manipulation on the gas spring, it is absolutely necessary to unload it completely. To make sure the gas spring is totally discharged it should be possible to insert the piston rod by hand and stand in this position.

Before load or drain whatever gas spring you must protect yourself by using protective glasses.

Whatever wrong manipulation may cause safety risks or reduced life of the gas springs.

Gas springs maintenance must be carried out only by skilled personnel, with the appropriate training, and always following the operating and service instructions from AZOLGAS.

AZOLGAS provides with training courses on safety, repair and maintenance of gas springs.

Consult the safety data sheet.



**USE  
SAFETY  
SHOES**



**USE  
SAFETY  
GLOVES**



**USE  
SAFETY  
GLASSES**



**NEVER MANIPULATE  
WITHOUT  
APPROPRIATE  
TRAINING**





# OPERATING INSTRUCTIONS

Charge only with NITROGEN (N<sub>2</sub>).

Never fill a gas spring when the piston rod is not fully extended.

Charge the gas spring between the minimum and the maximum allowable pressure, at a 20°C temperature.

When discharging a gas spring point the gas flow away from operator or anybody else.

Use the appropriate tools and equipment when handling gas springs.

Maximum recommended stroke 90%. Minimum stroke reserve: up to stroke 50mm (10%), over stroke 50 mm (5 mm). Overstroke >100% would cause damages to the cylinder and serious risks.

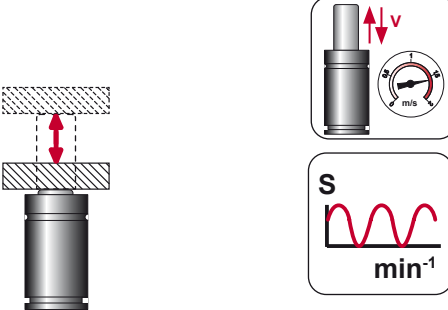
Respect the limits of the operating temperature.

When operating, gas springs become heated.

Always wear safety gloves to handle gas springs.

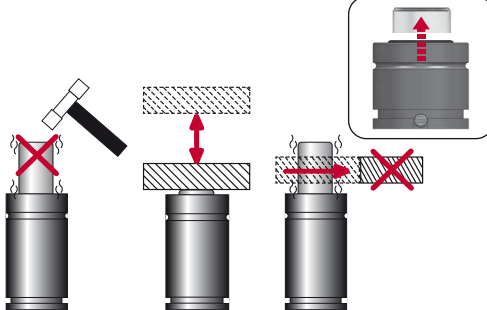
# OPERATING INSTRUCTIONS

**AZOL  
GAS**

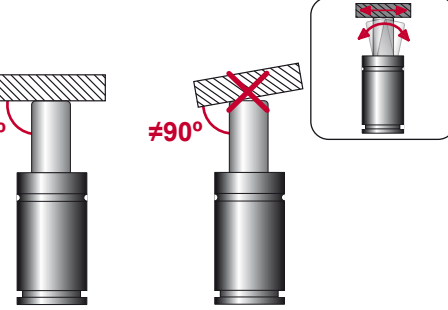


Do not exceed the maximum allowed stroke speed.

Maximum allowed cycles per minute should never be exceeded.

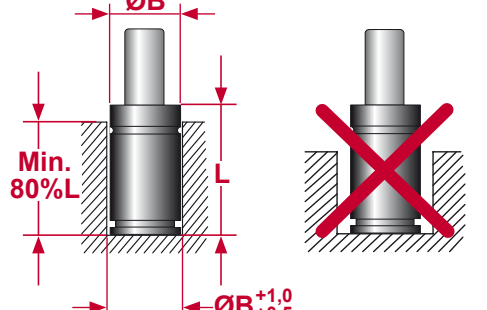


Avoid freely release of the piston rod, this would cause damages to the gas spring. Do not check the force of gas springs by using whatever impact on piston rod.

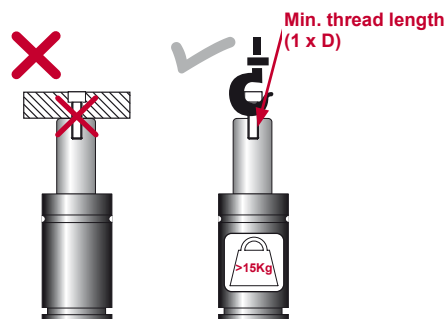


Gas springs must always work completely perpendicular to the contact surface.

Side loads increase wearing and reduce life expectancy.

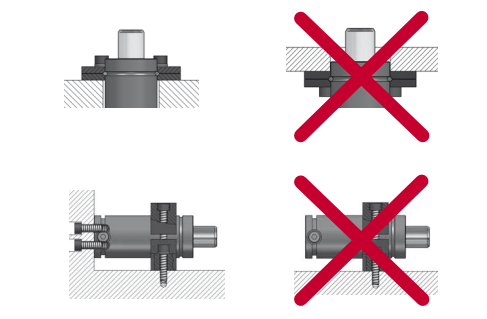


When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1mm larger than the gas spring body diameter. And the bore pocket depth must be minimum 80% of L.



Do not use the rod threaded hole for fixing the gas spring into the tool.

This hole is only to be used for maintenance operations or transport. (Gas springs heavier than 15 kgs are marked according to VDI).

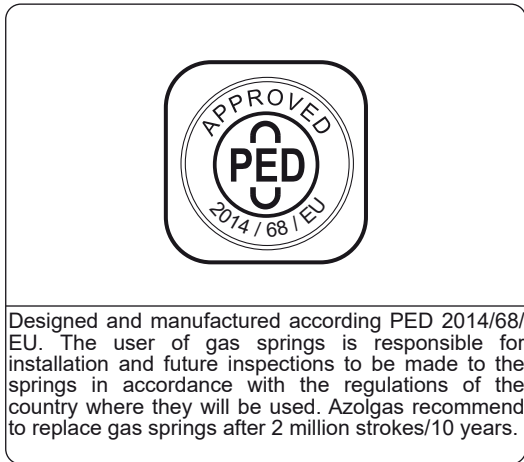
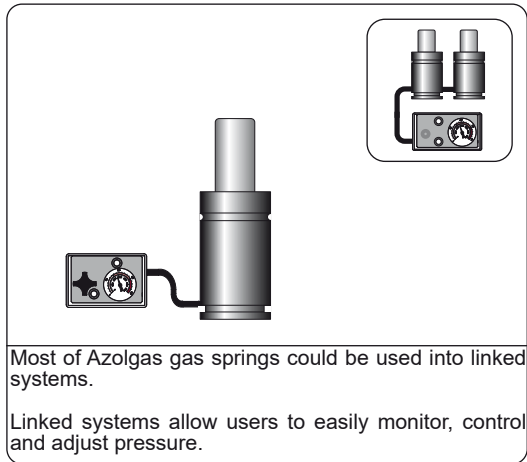
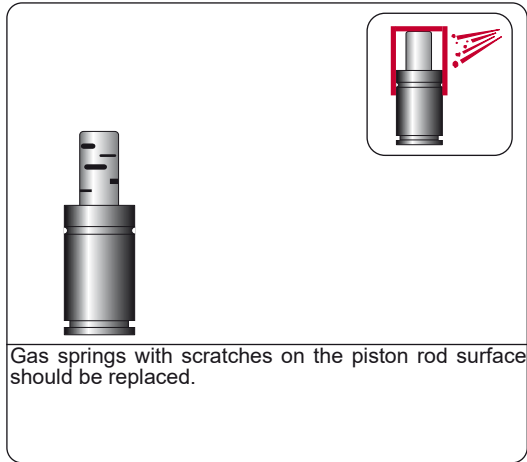
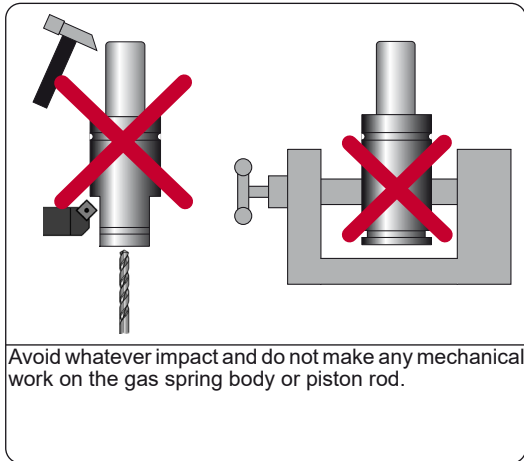
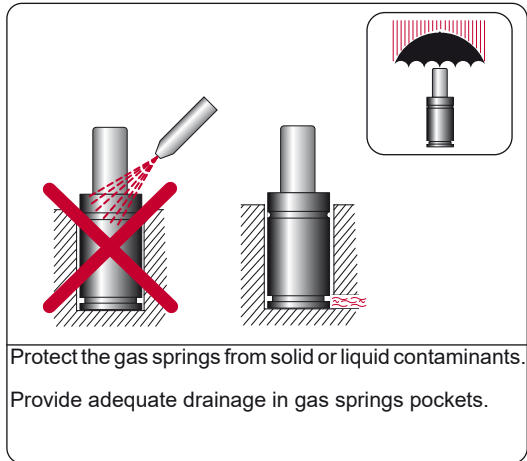


Fix the gas spring into the tool through the appropriate mount.

The base should be supported at all the times.

A flat surface against the base is always required.

## OPERATING INSTRUCTIONS





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