



## Recommendations-Information-Safety

**In applications where damage or injury could occur caused by a broken gas spring due to wear, damage or improper use, additional preventive safety precautions should be taken by the client.** It is the responsibility of the client to observe possible safety issues. Gas springs are for lifting and supporting objects and may not be used as a safety device.

It is recommended that gas compression springs and gas traction springs be stored piston rod downwards. After a long period of storage it is possible that a slip-stick effect may take place after the first time you compress the gas spring, which may require a higher initial compression force the first time.

Gas springs contain pressurized nitrogen gas as well as hydraulic oil for damping at the end of the stroke and to lubricate the seals. On request we can supply gas springs with food grade oil. Nitrogen is an inert gas environmentally friendly does not burn and is not a danger to public health.

When using a gas spring it is possible that a small residue of hydraulic oil is visible. In practice this is a normal phenomenon.

To ensure a constant lubrication of the seals and a proper damping, gas springs should always be installed with the piston rod downwards. Drying out of the piston rod seal will result in a decreased number of cycles and lifetime of the gas spring. Special types can be supplied that allows installation in other directional installations

The piston rod should never be damaged, painted, exposed to pollution or scratched. Remains of paint or pollution will lead to a loss of pressure and a broken gas spring.

Gas springs are maintenance free, do not grease or oil the piston rod.

A rigid installation of the gas spring should be avoided. Gas springs should not be exposed to any tilting or side load forces.

Connecting parts must be in line and able to swivel freely during operation. Use ball joints in order to help avoiding side load forces.

Connecting parts should be fully fastened for support. If the connecting parts loosen due to vibration you should lock them with an industrial adhesive. Vibrations should be avoided they can have an impact on the number of cycles of the gas spring.

Gas springs can be used as a limit stop with the restriction that the force should not exceed the force as marked on the gas spring +30%. If possible it is recommended to use a separate end stop in any application.

Standard gas springs work at temperatures of -30°C up to +80°C/-22°F up to +176°F. Any fluctuation in temperature will have an affect to the force of the gas spring.

On request we supply gas springs which are suitable for temperature range -50°C up to +200°C/-58°F up to +392°F.

Prior to choosing a gas spring, one should always take into account length, diameter and bending moment therefore consult the graph in advance in the general information section. All lengths outside this graph are at the risk of the customer. Gemini Gas Springs Inc. will not be liable for any errors or omissions in the graph. The responsibility lies entirely by the customer and it is to be deemed that the customer has examined whether the chosen gas spring is suitable for the application.

Gas springs may only be used for an axial motion and are subject to wear. Depending on the number of cycles they should be replaced on a regular base. Ensure that the end fittings match with your gas spring. Details are available on request.

Gas springs are under high pressure up to 300 BAR/4351.14 Psi and may under no circumstances be opened exposed to heat or fire, be drilled or subject to any other improper use or modification.

Each gas spring is labelled with the year of production, description and the text "Danger do not open and damage High pressure / Danger ! Ne pas ouvrir ou de dommages Haute pression". Warranty will be void if this label wholly or partially has been removed or erased.