6. Neutralization

To neutralize a gas spring, it is necessary to release the pressure contained in its body.
This operation is necessary before scrapping it or before extracting it when the rod is blocked into the body, please proceed in the following way : (wear safety glasses)

- Block the application if the gas spring is still in position.
- Lightly clamp the gas spring in a vice if it has been removed from the application.
- Use a hand hacksaw for metal to gently saw the body of the gas spring in an area between 20mm and 30mm from the bottom of the tube (opposite side of the spring rod).
- Cover the saw blade with a duster to prevent any projection of metal or oil.
- When you hear the gas coming out (hissing sound) stop the operation and wait for the gas to be completely evacuated from the body.
- The degassing will be completed when the rod can be moved without constraint by hand. If this is not the case, make a second cut at the front of the tube (40mm from the front, or less for short strokes).
- Dispose of the gas spring in a suitable container (the components are mainly metallic). The nitrogen used in gas springs is inert and environmentally safe. The internal oil should be emptied into an oil change container (we use mineral oil).

7. Warranty

2 years from deliver date of the gas spring. Example of marking: 1021 (10th week of 2021).
In order to obtain the warranty, in case the unit needs to be repainted, the marking of the manufacturing date and the serial number must remain clearly visible.

8. Recycling

BM gas springs cannot be disposed of in the household waste. All materials used to manufacture the gas spring can be recycled. Please go to a specialised recycling center. The oil inside the tube must be drained. Please refer to the "neutralization procedure".

9. Contact us - Customer service

Postal address : **BERTHOLD MARX**
1 rue de la gravière
67116 REICHSTETT

Mail : **info@bertholdmarx.com**
Website : **www.bertholdmarx.com**

BERTHOLD MARX

D96EN V6

USER MANUAL

Equipment designed to be installed by a professional

Reminder: Gas springs contain nitrogen and oil under pressure.
This pressure can reach 160 bars when rod is out, and 250 bars when rod is inside.

Our gas springs can replace original parts from other brands in many cases. However, you can sometimes feel a difference between the original gas spring and ours. Mostly because each producer has its own production characteristics.

Always replace both gas springs for optimum performance and to prevent twisting due to force differentials.

On an application equipped with a hatch under which the public may be present, we strongly recommend that you install a system for locking the hatch in the open position (e.g. locking tube, or similar).

The gas spring is not a safety component. This product is strictly for adults and not suitable for individuals under 18 years old.

Summary

1. Precautions
2. Storage and transport before use
3. Assembly
4. Conditions of use
5. Maintenance
6. Neutralization
7. Warranty
8. Recycling
9. Contact us - Customer service

1. Precautions

- Do not expose the gas spring to shock, vibration, electric or magnetic fields.
- Do not expose gas springs to temperatures exceeding 80°C.
- Keep the piston rod free of dirt, spatter, paint, adhesives, solvents, or corrosive materials.
- Do not force a gas spring whose rod is blocked (see paragraph Neutralization).
- Above 150 N, the gas spring can be difficult to compress by hand.
- Do not damage the tube of the gas spring (cuts, abrasion, blows) which could reduce the strength from the tube or an internal component.
- Do not remove the gas spring from the application as long as the rod is engaged in the tube, without first neutralizing it (unless it is completely open, rod out).
- Used gas spring must be neutralized before being recycled (see neutralization procedure on the following document "safety protocol").
- Do not expose the gas spring excessively to the salt spray, except for the stainless-steel products. The resistance (h) to salt spray is as follows:
    - Chrome rod = 150 h
    - Nitride rod (QPQ) = 190 to 200 h
    - Stainless-steel rod = more than 1000 h

2. Storage and transport before use

For a maximum period of **3 months**, the gas spring can be **stored horizontally** in a room at ambient temperature.

For a maximum storage period of **6 months**, we recommend to **store them vertically** with rod downwards.

For a storage period **longer than 6 months** we recommend to operate the gas spring at least once before the 6th month in order to lubricate the rod and the internal equipment.

Do not transport gas springs in a mess. Make sure that the gas springs are free of protective films or adhesive tapes. **The rod must be free of any impurities.**

3. Assembly

If you're replacing both gas springs on a hatch, first secure your hatch in the open position, then dismantle the 2 old gas springs before fitting the new ones.

Compression gas springs **must be mounted with the rod downwards** at a minimum angle of 15°. If you have a traction spring, mount the rods upwards.

Let a clearance of 0.5 to 1mm between the gas spring end fittings and the mounting pin of the application, in order to allow the end fittings rotate on their pins when in operation.

End fittings should be screwed in to the stop without overtightening. If lateral forces cannot be eliminated, we recommend fitting the gas spring with ball joint.

If the rod end is not in line with the axis of your support, hold the cylinder body firmly and use your other hand to turn the rod end clockwise until the desired angle is reached. You can use a screwdriver or flat-nose pliers covered with a cloth, taking care not to damage or mark the cylinder rod.

Check that the gas spring is not subject to lateral forces.

In case of particles projection and/or in dusty environments, the rod must be protected. We propose wiper rings or protection tubes available on our website www.bertholdmarx.com

4. Conditions of use

Number of cycles per minute: 5 maximums. For higher cycle rates, please consult us.

Endurance level: 30,000 cycles on average. Loss of characteristics after endurance: 15% maximum (the level of endurance varies according to the stroke and the setting).

Operating temperature: - 30° C to + 80° C.
Reference temperature: +20°C.
Force variation due to temperature: 1% for 3°C.

5. Maintenance

Our gas springs do not require any maintenance. Please do not grease the rod.