High-Performance Gas Springs

Main Functions and Use

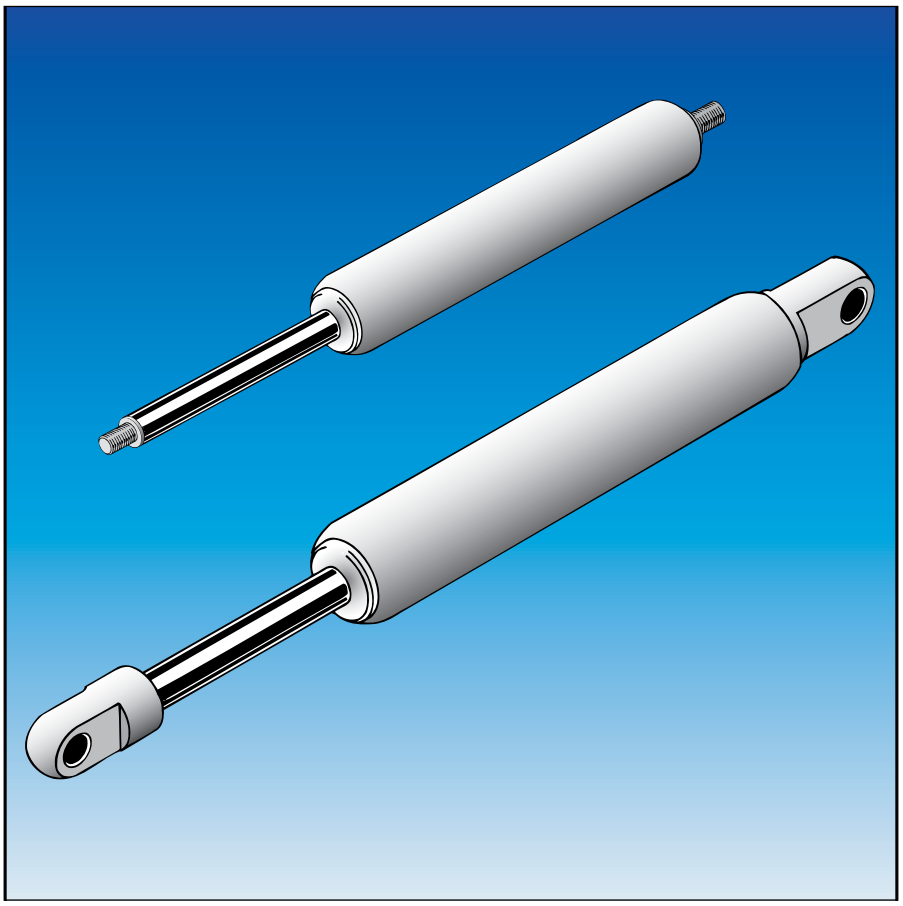
DICTATOR high-performance gas springs lift your loads - always smoothly and effortlessly, without jolt. The variety of applications is as numerous as our models. For that reason DICTATOR has no fix table of types and only some frequently ordered gas springs are available from stock.

We manufacture **your gas spring for your particular application** - **also single units** or small quantities.

As a counterweight, or to assist movement DICTATOR high-performance gas springs are ideally suited to a wide variety of applications. They give controlled movement smoothly and effortlessly.

In gas springs a pressurised **nitrogen gas** acts upon the piston rod. In addition oil dampens hard movements and the final positions. Special low friction seals give very long life and an exceptional performance.

You have the application. **We** have the gas springs. Over the next pages, we'll explain the different types of DICTATOR gas springs available, their capabilities and range of applications.



Technical Data

Force	nitrogen (N) non-flammable (up to 10 000 N)
Damping fluid	hydraulic fluid (mineral oil or silicon oil), biological oil
Operating temperatures	-10 °C (with special oil -30 °C) to +80 °C
Number of strokes)	max. 6 strokes per minute
Cylinder (Ø 10 to 65 mm)	steel tube (zinc-plated, lacquered, stainless steel)
Piston rod (Ø 3 to 30 mm)	hard chrome plated steel or burnished stainless steel
Force range	depending on diameter and length (up to 10 000 N)
Length of stroke / Tolerance	from 10 mm to 1000 mm (tolerance ± 2 mm)

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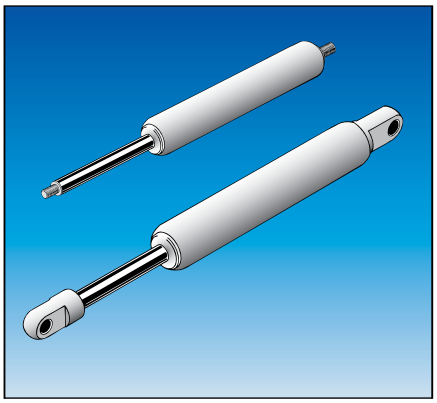
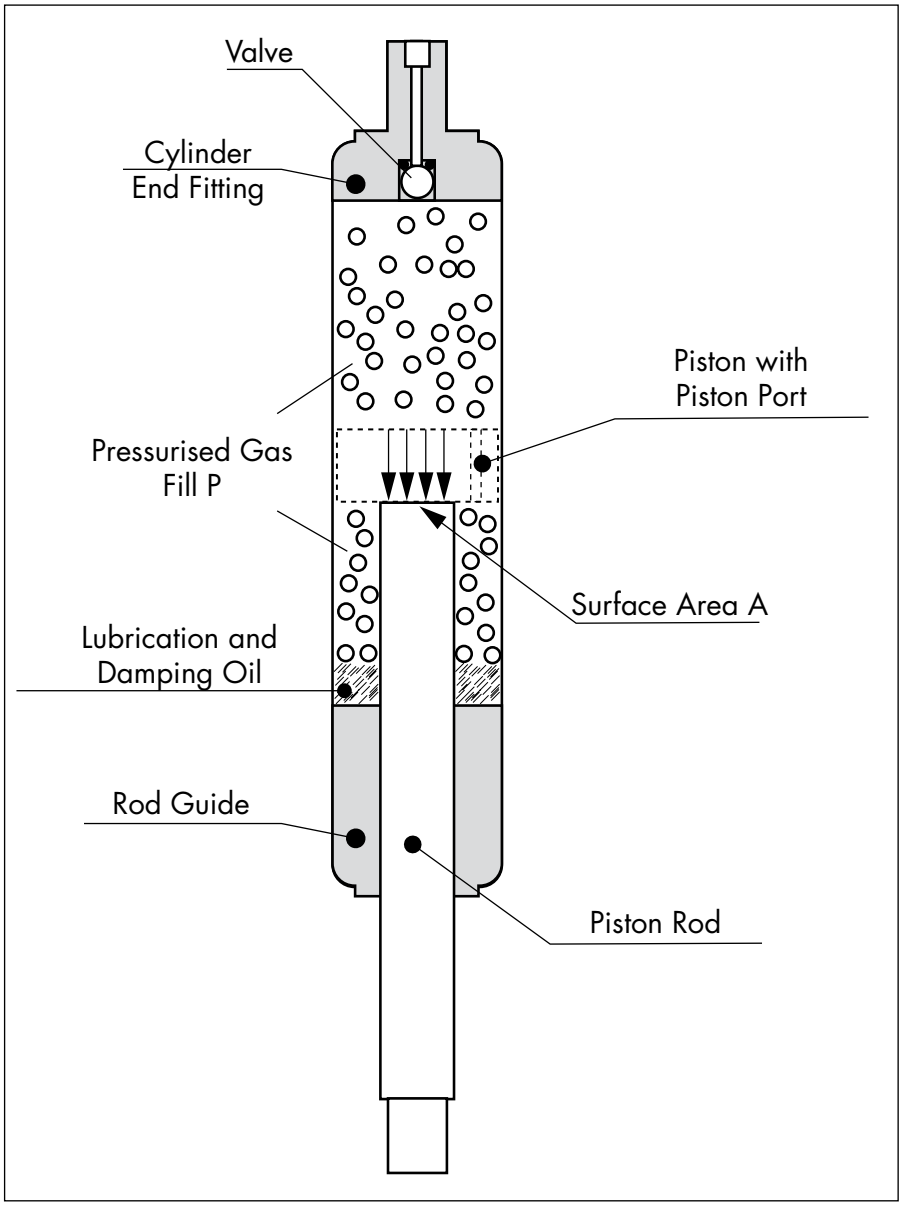


Basic Principle

In this section you will find a detailed explanation concerning the functioning of the different types of gas springs. All gas springs work on the same basic principle:

Gas springs are filled with nitrogen gas to a suitable pressure. This pressure is equal on both sides of the piston. The piston rod always extends because the surface area of the piston with the piston rod attached is smaller than the surface area of the other side of the piston with no piston rod attached.

The resultant force F in Newtons [N] can be calculated by multiplying the gas pressure P [bar] by the surface area A of the piston rod [mm^2]: F = P x A



Further details concerning the functioning and variety of uses of push type gas springs, pull type gas springs, locking gas springs, adjustable gas springs and double cylinder gas springs can be found on the following pages.

Please observe the safety precautions on page 06.013.00!