

GAS SPRINGS: THE SERVICE PACKAGE OF STRACK

Hergestellt von Manufactured by Fabriqué par

TECAPRES®



Service und Vertrieb in den
Ländern D, A und CH durch

Service and distribution in
countries D, A and CH by

Service et distribution dans
les pays D, A et CH par

STRACK®
NORMALIEN

STRACK gas springs = *robust, long-lasting, reliable*



Gas springs of STRACK NORMA particularly characterize by their robust and long-living design. Piston and piston rod consist of one piece. In addition the gas springs are partly provided with double seals and an integrated self-lubrication and are thus designed for maintenance-free continuous operation. A mechanical stop guarantees a completely constant stroke. Due to the long self-centering guide bushes the gas springs of STRACK achieve an exact guidance accuracy of the piston rod. Everywhere, where in tools, devices and mechanical engineering pressure springs, disc springs or elastomer springs don't have enough force or cannot be installed due to space reasons, the gas springs are an alternative.

The components

Precision machining
of the surfaces

Piston rod- and
piston head guidance

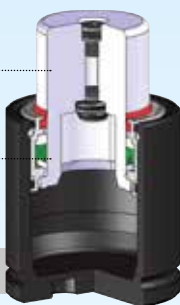
Standard-gas spring



Precision machining
of the surfaces

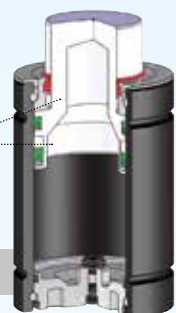
Piston rod guidance

Compact-gas spring



Piston rod- and
piston head guidance

One-chamber gas spring



Body

- Produced out of one piece up to strokes of 160 mm
- At strokes > 160 mm the cylinder tube and the bottom are screwed in addition to a welding. This avoids a possible fatigue break in the weld seam

Piston rod

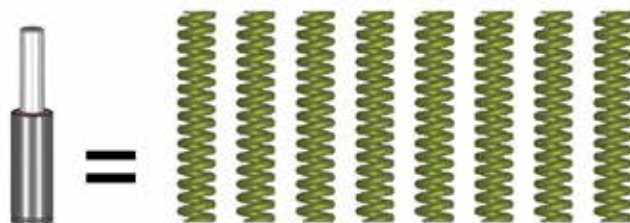
- By using fatigue-resistant steels with a hardness of > 64 HRC, as well as by using super-finished surfaces with $R_a > 0,05 \mu\text{m}$ a highest degree of working life due to friction is ensured

Bush

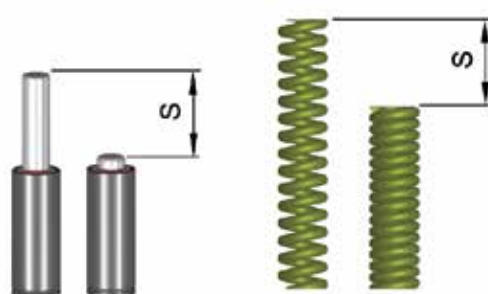
- Integrated stripper avoids the penetration of dirt and liquids
- All bushes are designed in a way that they avoid a metal-to-metal contact
- Seals in accordance with the latest technological standards allow a secure and stable process also at utilization limits

Advantages of gas springs compared to system pressure springs

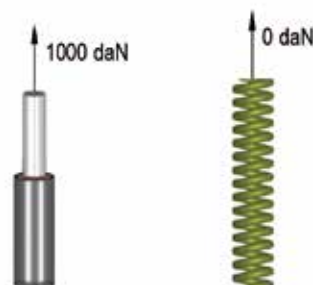
Higher force with little
space requirement



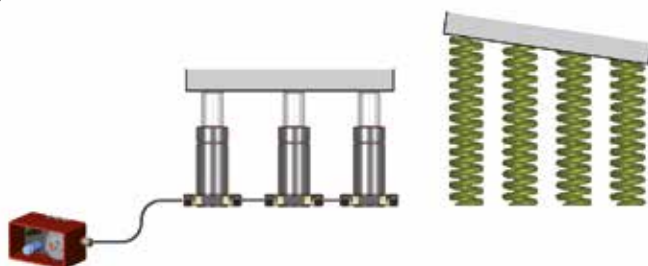
Reduced construction height with the
same working stroke and the same force



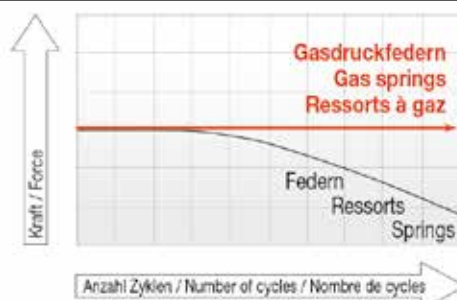
Already at the beginning of the
stroke the whole force is available



The same force at all contact points



Constant force during
the whole service life



Size overview and types

Type	Ø [mm]	F [daN]	Design
SN 2800	12 - 25	13 - 200	small dimensions, VDI, ISO
SN 2803	20 - 25	25 - 200	small dimensions
SN 2805	22 - 45	30 - 500	small dimensions
SN 2807	32 - 75	500 - 3000	TITANseries
SN 2808	15 - 195	30 - 20000	MICROseries + VDI
SN 2809	25 - 95	50 - 4250	low installation height
SN 2811	38 - 75	-	low installation height
SN 2820	32 - 195	50 - 10000	Standard, ISO, VDI, CNOMO
SN 2825	75 - 150	740 - 5000	with reduced pressure rise
SN 2830	32 - 120	350 - 6500	reduced installation height
SN 2900	25 - 150	420 - 18300	compact construction type
SN 2901	38 - 150	1000 18300	compact construction type, for connecting system
SN 2910	M16 - M50	10 - 1000	with male thread
SN 2828 / SN 2829	42 - 100	1000 - 7500	for tank plates
SN 2870	50 - 120	750 - 5000	with retarded backstroke
SN 2872	95 - 150	3000 - 7500	with impact damping
SN 2875	64 - 120	1500 - 6500	controlled gas spring systems

For a more detailed list, please ask for our catalogue



Gas spring types

Type 1	green	light load
Type 2	blue	medium load
Type 3	red	high load
Type 4	yellow	very high load

The customer can order gas springs with small diameters and forces with different predefined filling pressures. These springs are equipped with a coloured ring for the classification of the force in conformity with the colour definition for screwed pressure springs according to ISO 10243.

Quality



- Finished surfaces of the piston rod for a long lifetime
Ra < 0,05 µm
 - ▶ Improved lapping processes for highly finished surfaces
- Hardness of the piston rod > 64 HRC
 - ▶ Special steels for special heat treatments
- Seals on the latest state of technology
- Flexible guide systems at bad working conditions (lateral forces)
- The functional construction of the gas spring allows a quick and easy maintenance
- A majority of the gas springs of STRACK NORMA are produced out of one piece which eliminates the risk of breaks due to material fatigue

Warranty - Lifetime - Durability



The gas springs are produced and developed according to the latest production techniques. Here the Pressure Equipment Directive PED 97/23 EG is taken as a basis and is considered.

Due to the high quality standard, we give a worldwide warranty on gas springs of:

- **2.000.000 strokes up to a stroke of 50 mm**
- **200.000 stroke meters for gas springs with a stroke of > 50 mm**
- **2 years**
- **Maximum service life - 10 years (required by law)**

However, it is distinguished between warranty and lifetime of a gas spring. The lifetime is considerably higher:

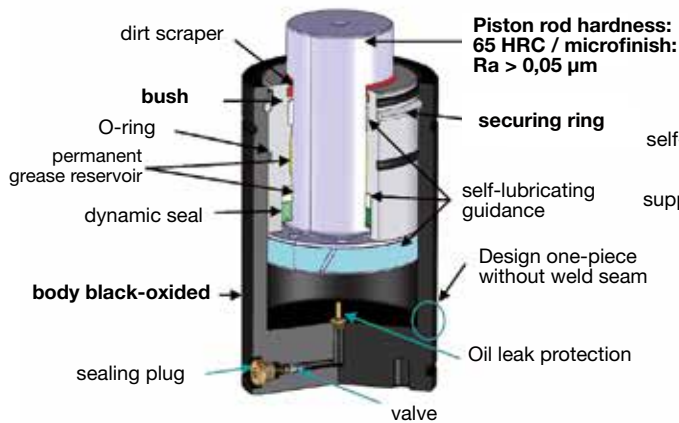
Component	Lifetime
Seals	100.000 stroke meters
Piston rod	5.000.000 strokes
Bushes	5.000.000 strokes
Cylinder body one-piece	5.000.000 strokes
Cylinder body two-pieces	3.400.000 strokes

Warranty conditions

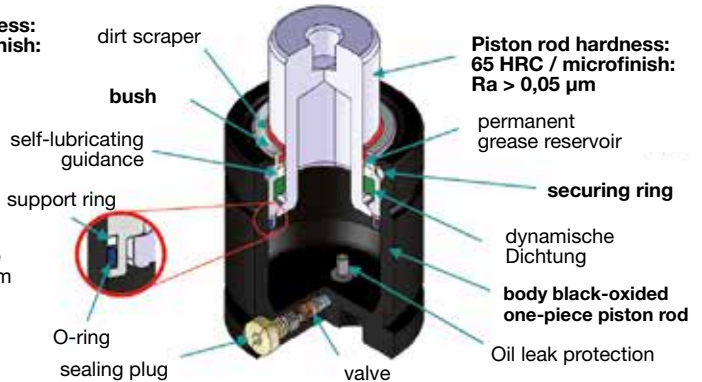
The warranty is valid, taking into account, that the gas spring is used under the prescribed technical conditions without manipulation or damaging. Opening of the gas spring will result in loss of warranty.

Active safety systems

Classic



Compact



One-piece piston rod:

- Reduced risk of breakage because of one-piston rod
- One-piece body up to a stroke of 160 mm, from a stroke of 160 mm in addition screwed and welded bottoms
- Minimum wall thickness calculated by FEM

Safety features



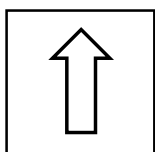
Work safety takes always priority. But it can't always be avoided that there are damages of the gas springs due to lack of knowledge or incorrect handling. Here it is important to release the high pressure of the gas spring rapidly to avoid personal damage.

For this case STRACK NORMA developed safety features which are used in the different construction types.

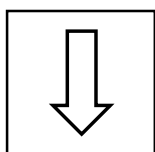
You can find information which safety features are used in the gas spring installed by you on the indicated imagery.

For the development of the safety features, the potential dangers have been examined and the following active safety features have been designed:

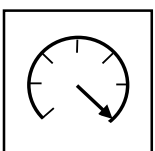
Safety features



- Safety against too fast extending of the piston rod e.g. at sudden release of the gas spring.



- Safety against overstroke e.g. if due to a stroke, greater than the defined stroke of the gas spring, a compression of the body by components of the tool is caused or if the piston rod runs deeper and it will come to a collision with the bottom of the cylinder.



- Safety against overpressure, e.g. penetrating impurities in the gas spring can't be compressed, they reduce the volume.



- Avoids the penetration of substances as liquid, metal particles and other impurities in the cylinder
 - ▶ Considerable prolongation of the service life
- The shield scraper is placed on the cylinder body and is retained with a lip in a groove on the body. It seals the piston rod around the cylinder tightly and avoids the penetration of impurities
- A cleaning lip avoids the seeping-out of excess lubricant from the interior of the gas spring

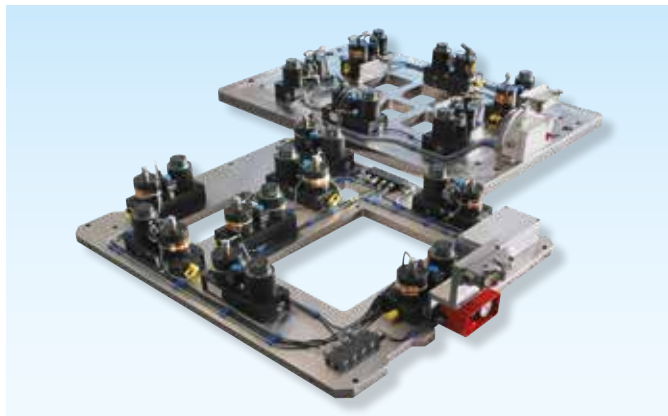


- This device protects the piston rods of the gas spring series SN 2808 and SN 2820
- Excellent protection against liquid and impurities
- Highly recommended in case in which extreme pollution conditions prevail
- Protects the piston rod against mechanical damages
- ▶ Ensures a longer service life



- Gas springs can be connected with each other with high-pressure hoses. By a control panel which is attached at the tool all gas springs can be filled or drained at the same time. For this different construction types are available which allow a visual check on the pressure gauge
- Optimal pressure switches additionally allow the control of signal units or a direct control of the press
- Numerous mounting possibilities as direct screw connection or flanges are available for the fixing of the gas spring in the tool

Controlled gas spring systems



Controlled gas spring systems

- Controlled gas spring systems with motion control can be locked in any position of the back stroke. As a result no deformation of components
- Compact design with working cylinder, accumulator and solenoid valve
- Can be controlled and used individually or in connection
- Full stroke or only a part of the stroke can be used
- Low spring back of maximal 0,1 mm
- Long lifetime
- Low heat development. No additional cooling required
- Contruction support free of charge
- Mounting plates for easy and quick installation of the tool and maintainance
- Round version also possible in a connected system

Connecting systems



Connecting systems

- Space-saving solution to connect gas springs with each other
- Close distances between gas springs possible
- Same force in all gas springs
- Adjustable via central control panel
- Due to the omission of connecting hoses the number of possible leaks is reduced

Reliability is our standard

- More than 90 % of all models available from stock
- All components are extensively tested prior to assembly / delivery
- Very wide product range (18 series and more than 2100 dimensions)
- The functional construction of our gas springs allows a quick and easy maintenance
- Special dimensions according to customer requirements
- Construction support free of charge
- A majority of the gas springs from our product range are made out of one piece which eliminates the risk of breaks due to material fatigue
- Repair service
- High safety for users and tools due to new active safety systems

Services



- Construction support free of charge at:
 - Connecting systems
 - Special gas springs according to customer requirements
 - Gas springs with special functions as for example controlled gas spring systems
 - Gas springs with impact damping
- Recoding of competitor drawings

Repair

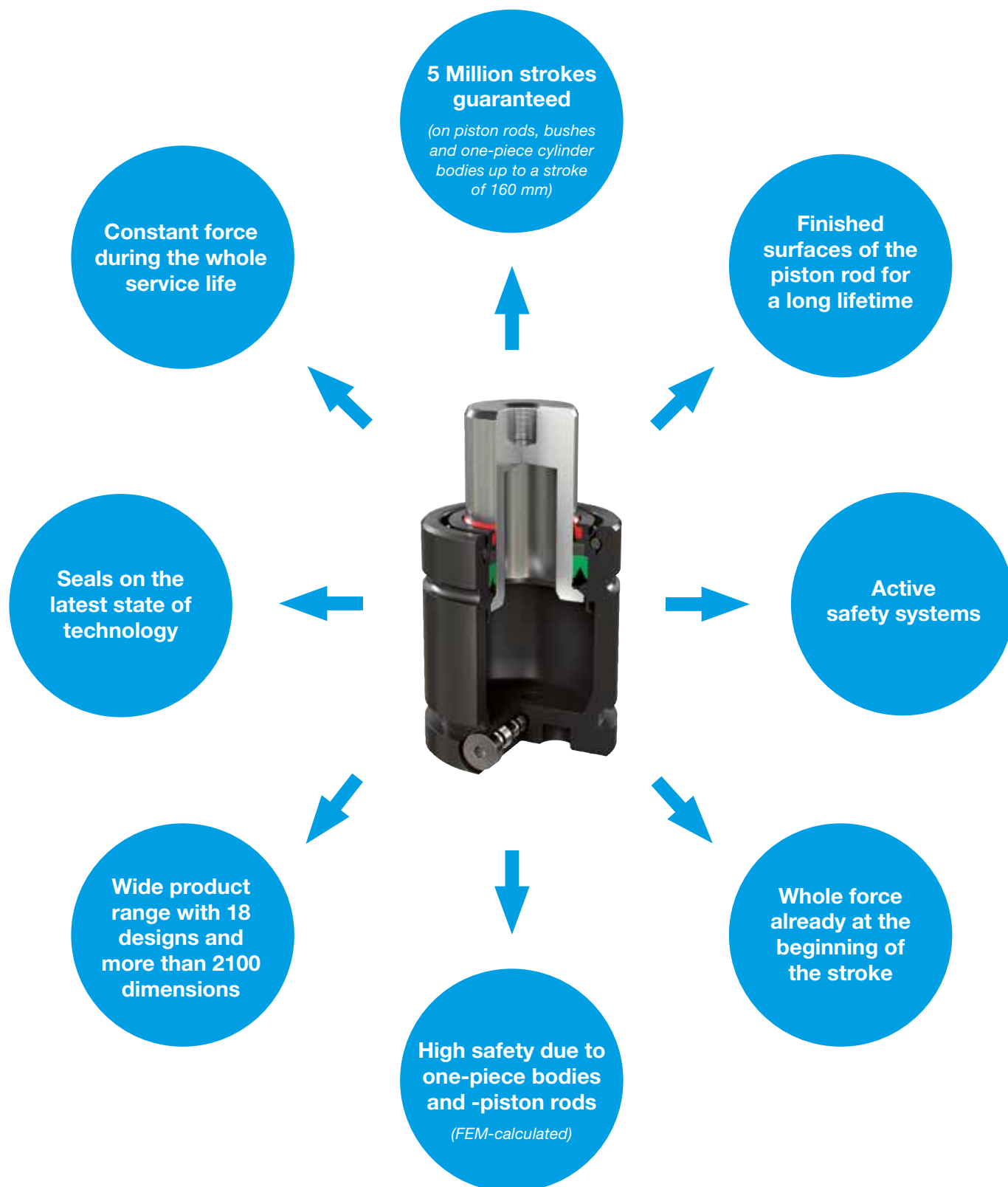


- At all gas types / sizes components and seal kits can be changed
- Exchange of seal kit also possible at external products
- Repair service in the company STRACK NORMA
- Filling service free of charge
- On-site training for maintenance and repair

We are here for you!



At a glance



STRACK®

NORMALIEN

5 Million strokes guaranteed

on piston rods, bushes and one-piece cylinder bodies up to a stroke of 160 mm

5 Million good reasons

to buy gas springs at STRACK NORMA

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***Best quality
at a low price***

Service



Quality



Safety

