



User's Guide



PED APPROVAL FOR 2 MILLION STROKES

PED Approval for 2 million strokes. OMCR Gas Springs are developed, manufactured and tested for a minimum of 2 million* full strokes in accordance with PED 2014/68/EU. The springs deliver this full performance at the maximum permissible limits in terms of filling pressure and operating temperature - even when combined with any of the various mounting types available.

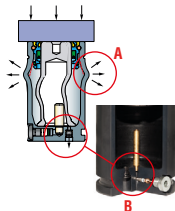


OVERSTROKE PROTECTION

Conventional gas springs may burst in the event of an over-extended stroke. Components may come loose and be ejected.

OMCR GAS SPRINGS ARE DIFFERENT:

in the event of an overstroke and depending on the spring type the patented protection system will ensure that either the cylinder wall of the gas spring is deformed in a predefined manner (A) or the piston rod destroys a rupture bolt in the floor of the cylinder (B), thereby allowing the gas to escape into the atmosphere.

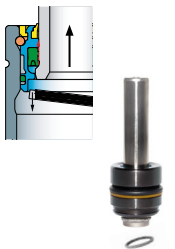


RETURN STROKE PROTECTION

If, for any reason, tool components should get stuck and the piston rod should be freely released from its compressed position, conventional gas springs may pose a safety risk as the piston may not be retained in the gas spring.

OMCR GAS SPRINGS ARE DIFFERENT:

Special guides and a patented safety stop in the piston rods ensure your safety. If the speed is too high during the return stroke, the collar on the piston rod will automatically break. The integrated safety stop then destroys the seal, which allows the gas to escape into the atmosphere and the gas spring to become depressurised.

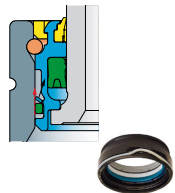


OVERPRESSURE PROTECTION

Conventional gas springs can burst if the internal pressure rises above a maximum permitted value. This may pose a safety risk for operators and tools.

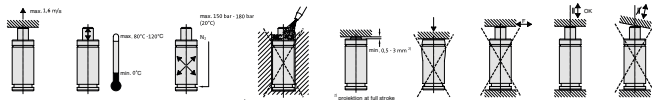
OMCR GAS SPRINGS ARE DIFFERENT:

if the pressure rises above the maximum permitted value, the safety collar on the sealing set is automatically destroyed. The gas then escapes into the atmosphere and the gas spring is depressurised.



MOUNTING INSTRUCTIONS

To achieve the best possible service life and safety from the gas spring, the instructions below must be followed. The gas spring is intended for use in tool and machine applications.



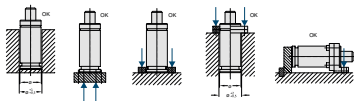
- Secure the gas spring to the tool/machine whenever possible, using the threaded hole(s) in the base of the gas spring or a suitable flange.
- The threaded hole in the piston rod top should not be used for mounting purposes. It is only to be used when carrying and servicing the gas spring.
- Do not use the gas spring in such a way that the piston rod is realised freely from its compressed position, as this could cause internal damage to the gas spring.
- Make sure the gas spring is mounted parallel to the direction of the compression stroke.
- Ensure the contact surface of the piston rod top is perpendicular to the direction of the compression stroke and is sufficiently hardened.
- The gas spring should not be subjected to the side loads.
- Protect the piston rod against mechanical damage and contact with fluids.
- We recommend providing a stroke reserve of 10% of the nominal stroke length or 5 mm.
- The maximum charging pressure as a function of the working temperature must not be exceeded as it may effect the safety of the product.
- Exceeding the gas spring's recommended operating temperature will shorten the service-life of the gas spring.
- The entire contact surface of the piston rod / piston should be used.

EXAMPLES OF INSTALLATION

NOTE:

If correctly installed and used, the following minimum gas spring working life can be expected. Stroke lengths up to and including 50 mm: 1 million strokes. Stroke lengths above 50 mm: 100,000 stroke metres. We recommend the gas spring to be replaced after 2 million strokes.

Gas springs must be checked for secure fitting every time there is maintenance work.



CAUTION: Only specially trained personnel with a good knowledge of the products should manage the gas spring. Mistakes made during assembly and charging may damage the gas spring. Do not modify the product in any way

OMCR is not liable if fittings that are not original OMCR fittings or fastening, accessory, and attachment parts that are not released by OMCR are used. For more information see the OMCR Gas spring catalogue.

Basic information (Exact values of the gas spring types please see the OMCR Standard Parts catalogue, chapter „G“)

Pressure medium: nitrogen N₂. Charging pressure 20 - 180 bar at 20°C. Force increase by temp. ±0.3%/°C Operating temp. 0 +80°C. Max. allowable piston rod velocity 1.6 m/s

EU DECLARATION OF CONFORMITY

GAS SPRINGS PRESSURE RESERVOIR

Issued in accordance with the:
Pressure Equipment Directive (PED) 2014/68/EU, AFS 2016:1

We hereby declare that in the compliance with the above Directive, the products detailed in Annex 1 have been designed and manufactured in accordance with EN 13445 and conformity assessment.

Module B "EU-Type Examination - Design Type" and Module D "Production Quality Assurance" as approved by KIWA SWEDEN AB (Notified Body No. 0409), Box 7178, 170 07 SOLNA (Sweden). M o d u l e D1 "Production Quality Assurance" as approved by KIWA SWEDEN AB (Notified Body No. 0409), Box 7178, 170 07 SOLNA (Sweden).

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SERIES	OMCR ORDER CODE	MIN CHARGING PRESSURE AT 20°	MAX CHARGING PRESSURE AT 20°	WORKING TEMPERATURE	MAX SPRING FORCE	PS-DESIGN PRESSURE FOR GAS SPRING	MAX ALLOWABLE PISTON ROD SPEED	STROKES MIN/MAX	GAS VOLUME	MAX STROKE (MIN (APPROX))	MODULE (EU CONFORMITY DECLARATION)	
MICRO	G01.10.XXXXX.YYYY	20 BAR	180 BAR	0 - 80 °C	50 daN	-	1.6 m/s	07 - 125 mm	-	40 - 100	-	
	G01.11.XXXXX.YYYY	20 BAR	180 BAR	0 - 80 °C	70 daN	-	1.6 m/s	07 - 125 mm	-	100 - 150	-	
	G01.12.XXXXX.YYYY	45 BAR	180 BAR	0 - 80 °C	90 daN	-	1.6 m/s	07 - 125 mm	-	100 - 150	-	
	G01.13.XXXXX.YYYY	25 BAR	180 BAR	0 - 80 °C	200 daN	-	1.6 m/s	10 - 125 mm	-	80 - 100	-	
POWERLINE	G01.14.XXXXX.YYYY	25 BAR	180 BAR	0 - 80 °C	300 daN	-	1.6 m/s	10 - 125 mm	-	80 - 100	-	
	G01.20.00170.YYYY	25 BAR	180 BAR	0 - 80 °C	170 daN	-	1.6 m/s	07 - 125 mm	-	40 - 100	-	
	G01.20.00320.YYYY	25 BAR	180 BAR	0 - 80 °C	320 daN	-	1.6 m/s	07 - 125 mm	-	40 - 100	-	
	G01.20.00350.YYYY	25 BAR	180 BAR	0 - 80 °C	350 daN	-	1.6 m/s	10 - 125 mm	-	20 - 100	-	
	G01.20.00500.YYYY	25 BAR	150 BAR	0 - 80 °C	500 daN	-	1.6 m/s	10 - 125 mm	-	20 - 100	-	
	G01.20.00750.YYYY	25 BAR	150 BAR	0 - 80 °C	750 daN	-	1.6 m/s	10 - 125 mm	-	20 - 100	-	
	G01.20.01000.YYYY	25 BAR	150 BAR	0 - 80 °C	1000 daN	-	1.6 m/s	13 - 125 mm	-	20 - 100	-	
	G01.20.01500.YYYY	25 BAR	150 BAR	0 - 80 °C	1500 daN	-	1.6 m/s	13 - 125 mm	-	50 - 100	-	
	G01.20.02400.YYYY	25 BAR	150 BAR	0 - 80 °C	2400 daN	-	1.6 m/s	16 - 125 mm	-	20 - 100	-	
	G01.20.04200.YYYY	25 BAR	150 BAR	0 - 80 °C	4200 daN	-	1.6 m/s	16 - 125 mm	-	20 - 100	-	
	G01.20.06600.YYYY	25 BAR	150 BAR	0 - 80 °C	6600 daN	361	1.6 m/s	16 - 125 mm 0.3 - 1.5 ft	20 - 100	D1	D1	
	G01.20.09500.YYYY	25 BAR	150 BAR	0 - 80 °C	9500 daN	364	1.6 m/s	19 - 125 mm 0.2 - 2.2 ft	20 - 100	D1	D1	
	G01.20.20000.YYYY	25 BAR	150 BAR	0 - 80 °C	20000 daN	364	1.6 m/s	19 - 125 mm 1.2 - 4.3 ft	10 - 100	D1	D1	
	ISO	G01.30.00250.YYYY	50 BAR	150 BAR	0 - 80 °C	250 daN	-	1.6 m/s	10 - 125 mm	-	80 - 100	-
		G01.30.00500.YYYY	50 BAR	150 BAR	0 - 80 °C	500 daN	-	1.6 m/s	10 - 160 mm	-	40 - 80	-
		G01.30.00750.YYYY	25 BAR	150 BAR	0 - 80 °C	750 daN	-	1.6 m/s	13 - 300 mm	-	15 - 40	-
G01.30.01500.YYYY		25 BAR	150 BAR	0 - 80 °C	1500 daN	-	1.6 m/s	13 - 300 mm	-	15 - 40	-	
G01.30.03000.YYYY		25 BAR	150 BAR	0 - 80 °C	3000 daN	374	1.6 m/s	13 - 300 mm 0.2 - 1.9 ft	15 - 40	D1	D1	
G01.30.05000.YYYY		25 BAR	150 BAR	0 - 80 °C	5000 daN	393	1.6 m/s	25 - 300 mm 0.2 - 3.3 ft	15 - 40	D1	D1	
G01.30.07500.YYYY		25 BAR	150 BAR	0 - 80 °C	7500 daN	377	1.6 m/s	25 - 300 mm 0.4 - 3.9 ft	15 - 40	D1	D1	
G01.30.10000.YYYY		25 BAR	150 BAR	0 - 80 °C	10000 daN	343	1.6 m/s	25 - 300 mm 0.8 - 6.1 ft	15 - 40	B + D	B + D	

The safety features mentioned here have been implemented - with few exceptions - on all gas springs.

AFTER A PROTECTION FUNCTION IS TRIGGERED, THE SPRING CANNOT BE REPAIRED AND CAN NO LONGER BE USED. IT MUST BE REPLACED COMPLETELY.

For the safe handling of gas springs and other nitrogen products, the safety regulations must be observed. Maintenance work on the product may only be done, if nitrogen gas is no longer contained in the gas spring.