



GAS SPRING WITH BALLPOINT PEN PRINCIPLE

In steel and stainless steel

SERIES
GK 04-12, GK 08-22, GK 08-23
AND GK 10-28





EXAMPLE APPLICATIONS
FOR SERIES GK 04-12, GK 08-22,
GK 08-23 AND GK 10-28



GAS SPRING WITH BALLPOINT PEN PRINCIPLE

Low pressure, huge effect – in steel and stainless steel

- **No release system needed**
- **Soft and even extension**
- **Hidden installation possible**
- **Simple handling**
- **Large and small series available**

APPLICATIONS

HAHN gas springs with the ballpoint pen principle are hydraulically damped springs that can also be mechanically locked in the retracted or extended position. They are used to balance weight, work against the weight force of the cover, and replace the manual force when opening the cover. Gas springs with the ballpoint pen principle are used wherever elements have to be moved without a complex release system. They are therefore used as a supporting opening and holding device in the furniture industry, in mechanical engineering, in medical technology, and in many other areas of the industrial and private sector.

HAHN Gasfedern excels at small series, and is therefore considered the leading manufacturer for many applications.

OPERATION

Gas springs with the ballpoint pen principle are hydropneumatic, self-contained, maintenance-free adjusting elements. They are filled with compressed gas (nitrogen), which is used to provide the spring tension. The spring tension results from the internal pressure in the cylinder, which is generated by the filling medium nitrogen. In the case of gas springs, this pressure acts on the cross-sectional surface of the piston rod. When no load is applied, the piston rod is always extended. By pushing in the piston rod, the volume in the cylinder is reduced and the gas is compressed. This results in an increase of the gas spring force (progression) depending on the diameter of the piston rod and the volume of the cylinder.

In addition, gas springs with the ballpoint pen principle can be mechanically locked with the piston rod retracted. Similar to the ballpoint pen principle, the locking mechanism can be released by lightly pressing it in, which causes the gas spring to extend automatically. A wide range of suitable connections and fittings ensure that the gas spring is optimally attached to your application.

GK 04-12

Steel and folding variant – can be used concealed in small and light applications

TECHNICAL DATA

Series: 04-12 (piston rod: Ø 4 mm / tube: Ø 12 mm)

Stroke: 10 mm to 180 mm (special length – upon request)

Total length: 2 x stroke + 75 mm (max. 435 mm)

Extension force: 10 N to 200 N

Release distance locking: 8 mm

Thread piston rod: Standard

Thread bottom piece: Standard, with valve

Temperature range: -20°C to 60°C

Maximum locking cycles: 30,000

Locking force: 400 N

Extras: Grease chamber (4), valve (5)

APPLICATION AREAS

- Rinse trays of washing machine
- Retractable socket elements
- Extractor fans in kitchen worktops
- Raising and lowering sockets, monitors, showcases, faucets
- Positioning sliding elements, e.g. sliding shutters



Length schematic: Standard and grease chamber configuration

Stroke	Piston rod overhang		Total length without threaded studs		Piston rod length	Tube length	
	Standard	Grease chamber	Standard	Grease chamber		Standard	Grease chamber
Special lengths mm	Stroke+12 mm	Stroke+10 mm	2 x stroke+75 mm	2 x stroke+75 mm	Stroke+60 mm	Stroke+63 mm	Stroke+65 mm
20	32	30	115	115	80	83	85
30	42	40	135	135	90	93	95
40	52	50	155	155	100	103	105
50	62	60	175	175	110	113	115
60	72	70	195	195	120	123	125
70	82	80	215	215	130	133	135
80	92	90	235	235	140	143	145
90	102	100	255	255	150	153	155
100	112	110	275	275	160	163	165
110	122	120	295	295	170	173	175
120	132	130	315	315	180	183	185
130	142	140	335	335	190	193	195
140	152	150	355	355	200	203	205
150	162	160	375	375	210	213	215
160	172	170	395	395	220	223	225
170	182	180	415	415	230	233	235
180	192	190	435	435	240	243	245

Travel path for locking: 8 mm

Standard Piston rod overhang after locking: 10 mm
 Grease chamber Piston rod overhang after locking: 12 mm

Min. nominal force = 10 N
 Max. nominal force = 200 N

GK 08-22 | GK 08-23

Steel and crimped variant – can be used in small and light applications

TECHNICAL DATA

Series: 08-22 (piston rod: Ø 8 mm / tube: Ø 22 mm)

08-23 (piston rod: Ø 8 mm / tube: Ø 23 mm)

Stroke: 100 mm to 800 mm (special length – upon request)

Total length: 2 x stroke + max. 95 mm

Extension force: 35 N to 800 N (check risk of buckling!)

Release distance locking: 8 mm

Thread piston rod: Standard

Thread bottom piece: With valve

Temperature range: -15 °C to 60 °C

Maximum locking cycles: 30,000

Locking force: 1,000 N

Extras: Grease chamber (4), valve (5)

APPLICATION AREAS

- Outdoor boundary posts
- Height-adjustable wind and privacy screens
- Changing the position of monitors
- Adjusting headrests of sofas or relaxing armchairs



Length schematic: Standard configuration

Stroke	Piston rod overhang	Total length without threaded studs	Piston rod length	Tube length
Special lengths mm	Stroke+10 mm	2 x stroke+95 mm	Stroke+86 mm	Stroke+85 mm
100	110	295	186	185
200	210	495	286	285
300	310	695	386	385
400	410	895	486	485
500	510	1,095	586	585
600	610	1,295	686	685
700	710	1,495	786	785
800	810	1,695	886	885

Note: The maximum values were determined based on an estimate without any validation being carried out!

Travel path for locking: 8 mm

Piston rod overhang after locking: 10 mm

Min. nominal force = 35 N

Min. nominal force = 800 N

GK 10-28

Steel, stainless steel, and crimped variant – can be used in any environment

TECHNICAL DATA

Series: 10-28 (piston rod: Ø 10 mm / tube: Ø 28 mm)

Version: Steel & V2a, crimped

Stroke: 100 mm to 1,000 mm
(special length – upon request)

Total length: 2 x stroke + 104 mm (standard version)
2 x stroke + 108 mm (smooth running guide)

Extension force: 80 N to 800 N (check risk of buckling!)

Release distance locking: 8 mm

Thread piston rod: Standard

Thread bottom piece: With valve

Temperature range: -15 °C to 60 °C

Maximum locking cycles: 30,000

Locking force: 1,000 N

Extras: Grease chamber (4), valve (5)

APPLICATION AREAS

- Height-adjustable wind and privacy screens
- Lowerable elements with heavy weight
- Opening and holding equipment in the furniture industry, in mechanical engineering, or in medical technology



Length schematic: Standard and smooth-running configuration

Stroke	Piston rod overhang	Total length without threaded studs		Piston rod length		Tube length	
		Standard	Smooth-running (with socket)	Standard	Smooth-running (with socket)	Standard	Smooth-running (with socket)
Special lengths mm	Stroke+10 mm	2 x stroke+104 mm	2 x stroke+108 mm	Stroke+89 mm	Stroke+97 mm	Stroke+94 mm	Stroke+97 mm
100	110	304	308	192	193	195	197
200	210	504	508	292	293	295	297
300	310	704	708	392	393	395	397
400	410	904	908	492	493	495	497
500	510	1,104	1,108	592	593	595	597
600	610	1,304	1,308	692	693	695	697
700	710	1,504	1,508	792	793	795	797
800	810	1,704	1,708	892	893	895	897
900	910	1,904	1,908	992	993	995	997
1,000	1,010	2,104	2,108	1,092	1,093	1,095	1,097

Note: The maximum values were determined based on an estimate without any validation being carried out!

Travel path for locking: 8 mm

Piston rod overhang after locking: 10 mm

Min. nominal force = 80 N

Max. nominal force = 800 N = (check risk of buckling!)

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