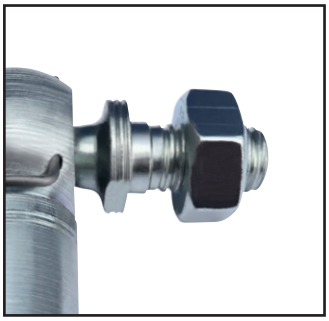
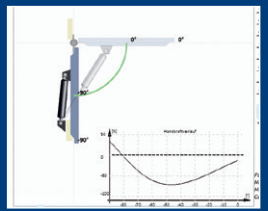


Gas Springs

ONLINE
Calculation +
2D / 3D CAD Download



www.weforma.com

WM-G

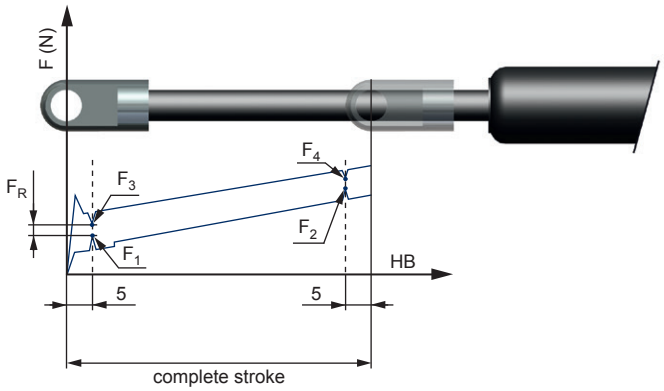
- **High corrosion resistance**
  - Housing: powder coated (WM-G 8: brass)
  - Piston rod: ceramic coated (WM-G 8 - 40)
  - Piston rod hard chrome-plated (WM-G 70)
- **Minimal friction coefficient to achieve the lowest extension forces**
- **Integrated grease chamber and sliding bearing**

- Lower breakaway force
- Installation position: any
- Maintenance-free and ready for installation
- Temperature: -30°C – +80°C (-22°F – +176°F), optional: -45°C – +200°C (-49°F – +392°F)
- RoHS compliant Directive 2002/95/EC
- Extension force must be stated on ordering.

FORCE DIAGRAM

The theoretical extension force is the result of the filling pressure multiplied by the cross-sectional area of the piston rod. Weforma gas springs are filled to a pressure determined in accordance with the customer's requirements (extension force F_1). The extension force always refers to the value F_1, measured at 20°C ± 2°C and with a downwards facing piston rod.

F_1 = extension force with extended piston rod
F_2 = extension force with compressed piston rod
F_3 = insertion force with extended piston rod
F_4 = insertion force with compressed piston rod
F_R = frictional force

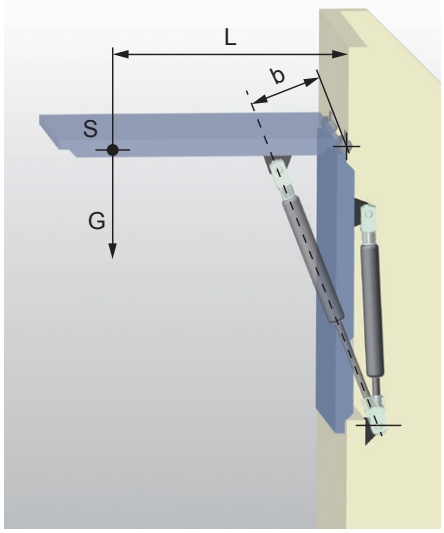


PROGRESSION

Linear force increase during extension or compression, measured by the nominal force over the entire stroke. The listed values can be influenced.

	Progression approx. %		Progression approx. %		Progression approx. %		Progression approx. %
WM-G-8	28	WM-G-15	27	WM-G-28	52	WM-GZ-19	20
WM-G-10	20	WM-G-19	33	WM-G-40	45	WM-GZ-28	65
WM-G-12	21	WM-G-22	39	WM-G-70	25		

SELECTION



For the selection and/or order the following information is required:

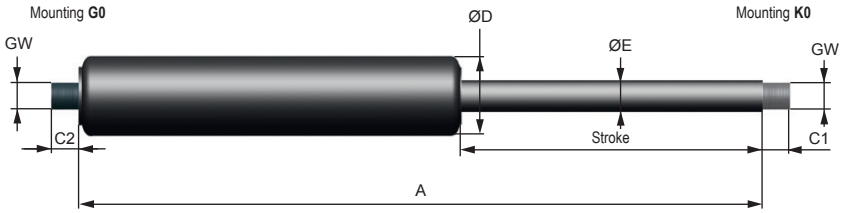
S	Centre of gravity
G	Weight of the lid in N (ca. Kp x 10)
b	Lever arm of a force (correlates to approx. 85% of the required stroke)
X	Number of springs (as a rule 2 pieces, one spring each side of the lid)
L	Radius

Note
In general the permitted extended force tolerances are +40N - 20N or ± 5-7%.
The force of a gas spring is physically dependant on temperature. It varies by approx. 3.3% (basis +20°C) per 10°C.

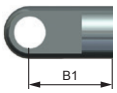
ORDERING INFORMATION

WM-G-19-100-K2G4-XXXXX-XXXX

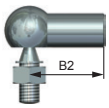
WM-G	Gas Springs
WM-GZ	Gas traction springs
WM-GVA	Stainless Steel Gas Springs
19	19mm diameter
100	Stroke
K0G0	Thread
K2	Piston rod - Angle joint
G4	Housing - Spherical end bearing
Code	Code is assigned by Weforma



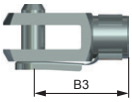
1 Male rod clevis



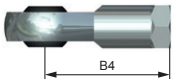
2 Angle joint



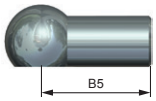
3 Female rod clevis



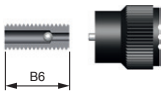
4 Spherical end bearing



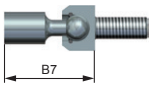
5 Ball joint housing



6 Release screw
only G



7 Ball joints

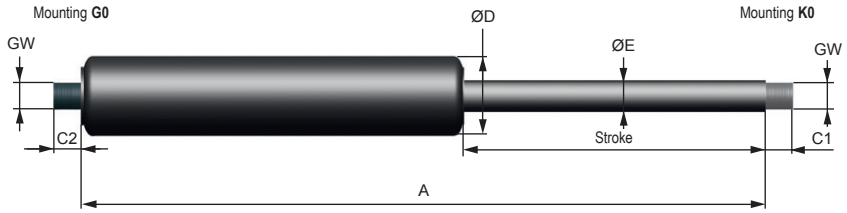


8 Protection tube

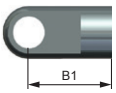
Ordering Information: Page 134

DIMENSIONS / PERFORMANCE

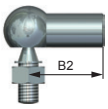
	ø D	Stroke	Force		Force with compressed piston rod	A	B1	B2	B3	B4	B5	B6	B7	C1	C2	ø E	GW
	mm (inch)		N min. (lbs)	N max. (lbs)	N max. (lbs)	mm (inch)											
WM-G-8-20	8 (0.31)	20 (0.79)	10 (2.25)	100 (22.48)	128 (28.78)	72 (2.83)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-8-30	8 (0.31)	30 (1.18)	10 (2.25)	100 (22.48)	128 (28.78)	92 (3.62)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-8-40	8 (0.31)	40 (1.57)	10 (2.25)	100 (22.48)	128 (28.78)	112 (4.41)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-8-50	8 (0.31)	50 (1.97)	10 (2.25)	100 (22.48)	128 (28.78)	132 (5.2)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-8-60	8 (0.31)	60 (2.36)	10 (2.25)	100 (22.48)	128 (28.78)	152 (5.98)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-8-80	8 (0.31)	80 (3.15)	10 (2.25)	100 (22.48)	128 (28.78)	192 (7.56)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-10-20	10 (0.39)	20 (0.79)	10 (2.25)	100 (22.48)	120 (26.98)	72 (2.83)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-10-30	10 (0.39)	30 (1.18)	10 (2.25)	100 (22.48)	120 (26.98)	92 (3.62)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-10-40	10 (0.39)	40 (1.57)	10 (2.25)	100 (22.48)	120 (26.98)	112 (4.41)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-10-50	10 (0.39)	50 (1.97)	10 (2.25)	100 (22.48)	120 (26.98)	132 (5.2)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-10-60	10 (0.39)	60 (2.36)	10 (2.25)	100 (22.48)	120 (26.98)	152 (5.98)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-10-80	10 (0.39)	80 (3.15)	10 (2.25)	100 (22.48)	120 (26.98)	192 (7.56)	11 (0.43)	18 (0.71)	16 (0.63)	21 (0.83)	18 (0.71)	-	-	4 (0.16)	4 (0.16)	3 (0.12)	M3
WM-G-12-20	12 (0.47)	20 (0.79)	10 (2.25)	180 (40.47)	218 (49.01)	72 (2.83)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-30	12 (0.47)	30 (1.18)	10 (2.25)	180 (40.47)	218 (49.01)	92 (3.62)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-40	12 (0.47)	40 (1.57)	10 (2.25)	180 (40.47)	218 (49.01)	112 (4.41)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-50	12 (0.47)	50 (1.97)	10 (2.25)	180 (40.47)	218 (49.01)	132 (5.2)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-60	12 (0.47)	60 (2.36)	10 (2.25)	180 (40.47)	218 (49.01)	152 (5.98)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-80	12 (0.47)	80 (3.15)	10 (2.25)	180 (40.47)	218 (49.01)	192 (7.56)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-100	12 (0.47)	100 (3.94)	10 (2.25)	180 (40.47)	218 (49.01)	232 (9.13)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-120	12 (0.47)	120 (4.72)	10 (2.25)	180 (40.47)	218 (49.01)	272 (10.71)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-12-150	12 (0.47)	150 (5.91)	10 (2.25)	180 (40.47)	218 (49.01)	332 (13.07)	12 (0.47)	18 (0.71)	16 (0.63)	12 (0.47)	18 (0.71)	5 (0.2)	-	5 (0.2)	5 (0.2)	4 (0.16)	M4
WM-G-15-20	15 (0.59)	20 (0.79)	20 (4.5)	400 (89.92)	508 (114.2)	67 (2.64)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-40	15 (0.59)	40 (1.57)	20 (4.5)	400 (89.92)	508 (114.2)	107 (4.21)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-50	15 (0.59)	50 (1.97)	20 (4.5)	400 (89.92)	508 (114.2)	127 (5)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-60	15 (0.59)	60 (2.36)	20 (4.5)	400 (89.92)	508 (114.2)	147 (5.79)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-80	15 (0.59)	80 (3.15)	20 (4.5)	400 (89.92)	508 (114.2)	187 (7.36)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-100	15 (0.59)	100 (3.94)	20 (4.5)	400 (89.92)	508 (114.2)	227 (8.94)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-120	15 (0.59)	120 (4.72)	20 (4.5)	400 (89.92)	508 (114.2)	267 (10.51)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-150	15 (0.59)	150 (5.91)	20 (4.5)	400 (89.92)	508 (114.2)	327 (12.87)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-G-15-200	15 (0.59)	200 (7.87)	20 (4.5)	400 (89.92)	508 (114.2)	427 (16.81)	16 (0.63)	22 (0.87)	20 (0.79)	30 (1.18)	22 (0.87)	5 (0.2)	28 (1.1)	5 (0.2)	5 (0.2)	6 (0.24)	M5



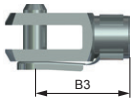
1 Male rod clevis



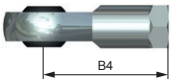
2 Angle joint



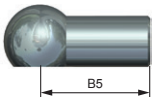
3 Female rod clevis



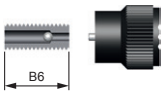
4 Spherical end bearing



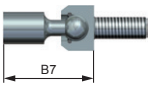
5 Ball joint housing



6 Release screw **only G**



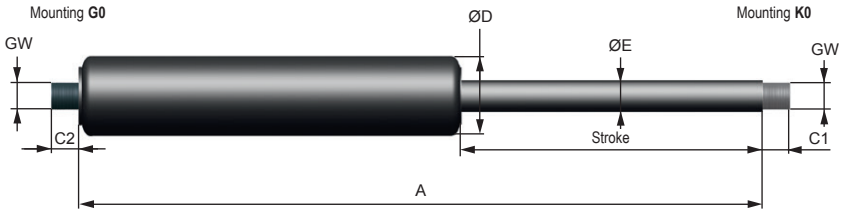
7 Ball joints



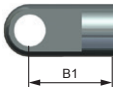
8 Protection tube

DIMENSIONS / PERFORMANCE

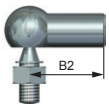
	ø D	Stroke	Force		Force with compressed piston rod	A	B1	B2	B3	B4	B5	B6	B7	C1	C2	ø E	GW
	mm (inch)		N min. (lbs)	N max. (lbs)	N max. (lbs)	mm (inch)											
WM-G-19-50	19 (0.75)	50 (1.97)	50 (11.24)	700 (157.37)	931 (209.3)	164 (6.46)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-G-19-100	19 (0.75)	100 (3.94)	50 (11.24)	700 (157.37)	931 (209.3)	264 (10.39)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-G-19-150	19 (0.75)	150 (5.91)	50 (11.24)	700 (157.37)	931 (209.3)	364 (14.33)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-G-19-200	19 (0.75)	200 (7.87)	50 (11.24)	700 (157.37)	931 (209.3)	464 (18.27)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-G-19-250	19 (0.75)	250 (9.84)	50 (11.24)	700 (157.37)	931 (209.3)	564 (22.2)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-G-19-300	19 (0.75)	300 (11.81)	50 (11.24)	700 (157.37)	931 (209.3)	664 (26.14)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-G-22-50	22 (0.87)	50 (1.97)	80 (17.98)	1300 (292.25)	1807 (406.23)	164 (6.46)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-100	22 (0.87)	100 (3.94)	80 (17.98)	1300 (292.25)	1807 (406.23)	264 (10.39)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-150	22 (0.87)	150 (5.91)	80 (17.98)	1300 (292.25)	1807 (406.23)	364 (14.33)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-200	22 (0.87)	200 (7.87)	80 (17.98)	1300 (292.25)	1807 (406.23)	464 (18.27)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-250	22 (0.87)	250 (9.84)	80 (17.98)	1300 (292.25)	1807 (406.23)	564 (22.2)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-300	22 (0.87)	300 (11.81)	80 (17.98)	1300 (292.25)	1807 (406.23)	664 (26.14)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-350	22 (0.87)	350 (13.78)	80 (17.98)	1300 (292.25)	1807 (406.23)	764 (30.08)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-400	22 (0.87)	400 (15.75)	80 (17.98)	1300 (292.25)	1807 (406.23)	864 (34.02)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-450	22 (0.87)	450 (17.72)	80 (17.98)	1300 (292.25)	1807 (406.23)	964 (37.95)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-500	22 (0.87)	500 (19.69)	80 (17.98)	1300 (292.25)	1807 (406.23)	1064 (41.89)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-550	22 (0.87)	550 (21.65)	80 (17.98)	1300 (292.25)	1807 (406.23)	1164 (45.83)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-600	22 (0.87)	600 (23.62)	80 (17.98)	1300 (292.25)	1807 (406.23)	1264 (49.76)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-650	22 (0.87)	650 (25.59)	80 (17.98)	1300 (292.25)	1807 (406.23)	1364 (53.7)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-22-700	22 (0.87)	700 (27.56)	80 (17.98)	1300 (292.25)	1807 (406.23)	1464 (57.64)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	31 (1.22)	9 (0.35)	8 (0.31)	10 (0.39)	M8
WM-G-28-100	28 (1.1)	100 (3.94)	150 (33.72)	2500 (562.03)	3800 (854.28)	262 (10.31)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-150	28 (1.1)	150 (5.91)	150 (33.72)	2500 (562.03)	3800 (854.28)	362 (14.25)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-200	28 (1.1)	200 (7.87)	150 (33.72)	2500 (562.03)	3800 (854.28)	462 (18.19)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-250	28 (1.1)	250 (9.84)	150 (33.72)	2500 (562.03)	3800 (854.28)	562 (22.13)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-300	28 (1.1)	300 (11.81)	150 (33.72)	2500 (562.03)	3800 (854.28)	662 (26.06)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-350	28 (1.1)	350 (13.78)	150 (33.72)	2500 (562.03)	3800 (854.28)	762 (30)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-400	28 (1.1)	400 (15.75)	150 (33.72)	2500 (562.03)	3800 (854.28)	862 (33.94)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-450	28 (1.1)	450 (17.72)	150 (33.72)	2500 (562.03)	3800 (854.28)	962 (37.87)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-500	28 (1.1)	500 (19.69)	150 (33.72)	2500 (562.03)	3800 (854.28)	1062 (41.81)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-550	28 (1.1)	550 (21.65)	150 (33.72)	2500 (562.03)	3800 (854.28)	1162 (45.75)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-600	28 (1.1)	600 (23.62)	150 (33.72)	2500 (562.03)	3800 (854.28)	1262 (49.69)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-650	28 (1.1)	650 (25.59)	150 (33.72)	2500 (562.03)	3800 (854.28)	1362 (53.62)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-700	28 (1.1)	700 (27.56)	150 (33.72)	2500 (562.03)	3800 (854.28)	1462 (57.56)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-G-28-750	28 (1.1)	750 (29.53)	150 (33.72)	2500 (562.03)	3800 (854.28)	1562 (61.5)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	13 (0.51)	-	9 (0.35)	13 (0.51)	14 (0.55)	M10



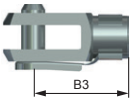
1 Male rod clevis



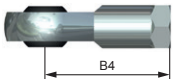
2 Angle joint



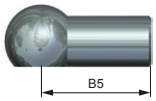
3 Female rod clevis



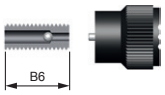
4 Spherical end bearing



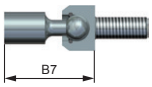
5 Ball joint housing



6 Release screw **only G**



7 Ball joints



8 Protection tube

DIMENSIONS / PERFORMANCE

	ø D	Stroke	Force		Force with compressed piston rod	A	B1	B2	B3	B4	B6	B7	C1	C2	ø E	GW
	mm (inch)		N min. (lbs)	N max. (lbs)	N max. (lbs)	mm (inch)										
WM-G-40-100	40 (1.57)	100 (3.94)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	317 (12.48)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-150	40 (1.57)	150 (5.91)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	417 (16.42)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-200	40 (1.57)	200 (7.87)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	517 (20.35)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-300	40 (1.57)	300 (11.81)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	717 (28.23)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-400	40 (1.57)	400 (15.75)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	917 (36.1)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-500	40 (1.57)	500 (19.69)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	1117 (43.98)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-600	40 (1.57)	600 (23.62)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	1317 (51.85)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-800	40 (1.57)	800 (31.5)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	1717 (67.6)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-40-1000	40 (1.57)	1000 (39.37)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	2117 (83.35)	40 (1.57)	45 (1.77)	56 (2.2)	57 (2.24)	15 (0.59)	-	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-G-70-100	70 (2.76)	100 (3.94)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	320 (12.6)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0
WM-G-70-200	70 (2.76)	200 (7.87)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	520 (20.47)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0
WM-G-70-300	70 (2.76)	300 (11.81)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	720 (28.35)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0
WM-G-70-400	70 (2.76)	400 (15.75)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	920 (36.22)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0
WM-G-70-500	70 (2.76)	500 (19.69)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	1120 (44.09)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0
WM-G-70-600	70 (2.76)	600 (23.62)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	1320 (51.97)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0
WM-G-70-700	70 (2.76)	700 (27.56)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	1520 (59.84)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0
WM-G-70-800	70 (2.76)	800 (31.5)	2000 (449,62)	12000 (2697,72)	15000 (3372,15)	1720 (67.72)	-	-	100 (3.94)	94 (3.7)	-	-	35 (1.38)	35 (1.38)	30 (1.18)	M24x2,0

Ordering Information: Page 134

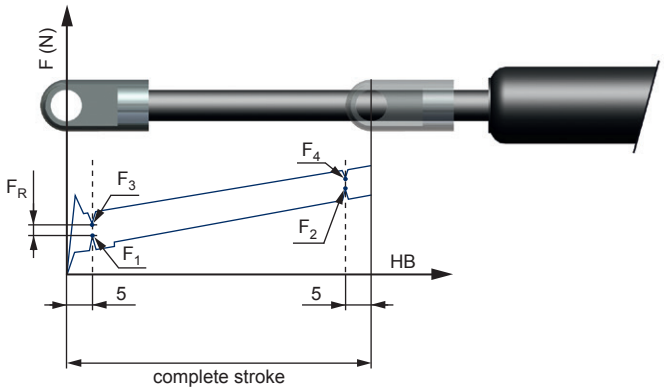
WM - GVA

Material	**Housing, Piston rod high-quality stainless steel (V4A, AISI No. 316L)**
Installation position	Recommendation: piston rod downwards
Filling medium	Nitrogen oil
Temperature	-30°C – +80°C (-22°F – +176°F)
RoHS compliant	Directive 2002/95/EC
Applications	**Food industry, Chemicals, Seawater**

FORCE DIAGRAM

The theoretical extension force is the result of the filling pressure multiplied by the cross-sectional area of the piston rod. Weforma gas springs are filled to a pressure determined in accordance with the customer's requirements (extension force F_1). The extension force always refers to the value F_1, measured at 20°C ± 2°C and with a downwards facing piston rod.

F_1 = extension force with extended piston rod
F_2 = extension force with compressed piston rod
F_3 = insertion force with extended piston rod
F_4 = insertion force with compressed piston rod
F_R = frictional force

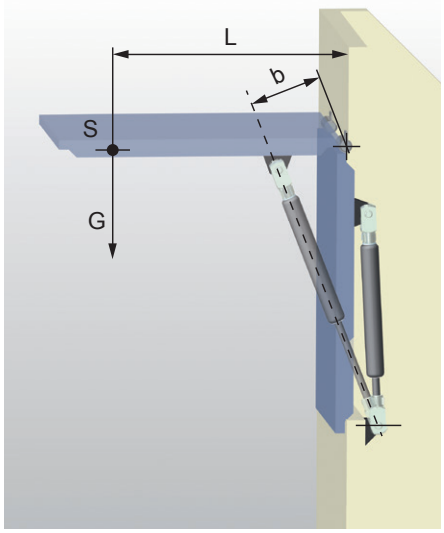


PROGRESSION

Linear force increase during extension or compression, measured by the nominal force over the entire stroke. The listed values can be influenced.

	Progression approx. %		Progression approx. %		Progression approx. %		Progression approx. %
WM-G-8	28	WM-G-15	27	WM-G-28	52	WM-GZ-19	20
WM-G-10	20	WM-G-19	33	WM-G-40	45	WM-GZ-28	65
WM-G-12	21	WM-G-22	39	WM-G-70	25		

SELECTION



For the selection and/or order the following information is required:

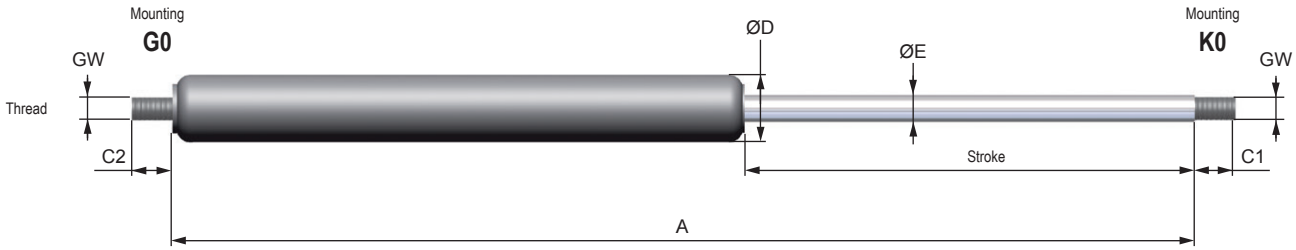
S	Centre of gravity
G	Weight of the lid in N (ca. Kp x 10)
b	Lever arm of a force (correlates to approx. 85% of the required stroke)
X	Number of springs (as a rule 2 pieces, one spring each side of the lid)
L	Radius

Note
In general the permitted extended force tolerances are +40N - 20N or ± 5-7%.
The force of a gas spring is physically dependant on temperature. It varies by approx. 3.3% (basis +20°C) per 10°C.

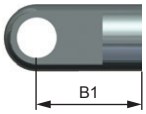
ORDERING INFORMATION

WM-G-19-100-K2G4-XXXXX-XXXX

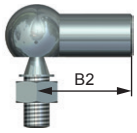
WM-G	Gas Springs
WM-GZ	Gas traction springs
WM-GVA	Stainless Steel Gas Springs
19	19mm diameter
100	Stroke
K0G0	Thread
K2	Piston rod - Angle joint
G4	Housing - Spherical end bearing
Code	Code is assigned by Weforma



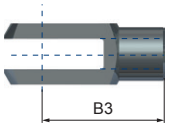
1 Male rod clevis



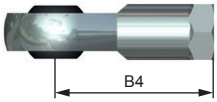
2 Angle joint



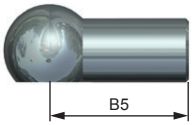
3 Female rod clevis



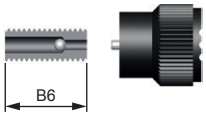
4 Spherical end bearing



5 Ball joint housing



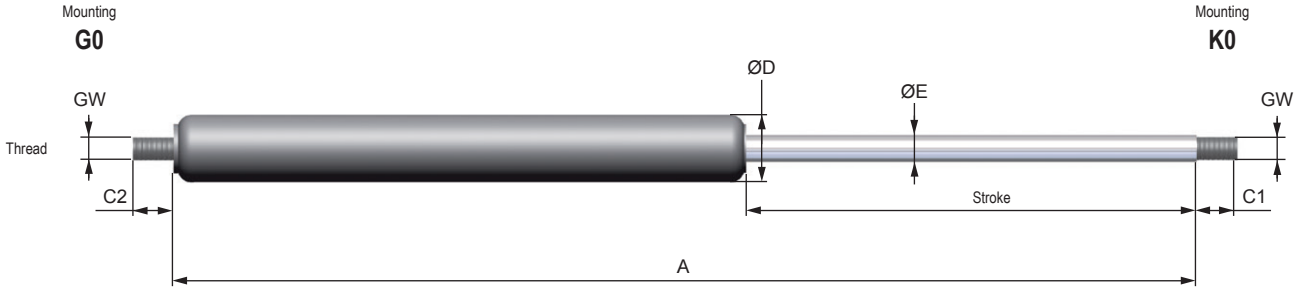
6 Release screw
only G



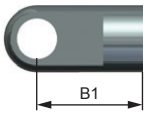
DIMENSIONS / PERFORMANCE

	ø D	Stroke	Force		Force with compressed piston rod*	A	B1	B2	B3	B4	B5	B6	C1	C2	ø E	GW
	mm (inch)		N min. (lbs)	N max. (lbs)	N max. (lbs)	mm (inch)										
WM-GVA-15-20	15 (0.59)	20 (0.79)	40 (8.99)	400 (89.92)	508 (114.2)	74 (2.91)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-15-40	15 (0.59)	40 (1.57)	40 (8.99)	400 (89.92)	508 (114.2)	114 (4.49)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-15-50	15 (0.59)	50 (1.97)	40 (8.99)	400 (89.92)	508 (114.2)	134 (5.28)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-15-60	15 (0.59)	60 (2.36)	40 (8.99)	400 (89.92)	508 (114.2)	154 (6.06)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-15-80	15 (0.59)	80 (3.15)	40 (8.99)	400 (89.92)	508 (114.2)	194 (7.64)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-15-100	15 (0.59)	100 (3.94)	40 (8.99)	400 (89.92)	508 (114.2)	234 (9.21)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-15-120	15 (0.59)	120 (4.72)	40 (8.99)	400 (89.92)	508 (114.2)	274 (10.79)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-15-150	15 (0.59)	150 (5.91)	40 (8.99)	400 (89.92)	508 (114.2)	334 (13.15)	16 (0.63)	-	-	-	-	5 (0.2)	5 (0.2)	5 (0.2)	6 (0.24)	M5
WM-GVA-19-50	19 (0.75)	50 (1.97)	50 (11.24)	700 (157.37)	931 (209.3)	164 (6.46)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-GVA-19-100	19 (0.75)	100 (3.94)	50 (11.24)	700 (157.37)	931 (209.3)	264 (10.39)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-GVA-19-150	19 (0.75)	150 (5.91)	50 (11.24)	700 (157.37)	931 (209.3)	364 (14.33)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-GVA-19-200	19 (0.75)	200 (7.87)	50 (11.24)	700 (157.37)	931 (209.3)	464 (18.27)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-GVA-19-250	19 (0.75)	250 (9.84)	50 (11.24)	700 (157.37)	931 (209.3)	564 (22.2)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-GVA-19-300	19 (0.75)	300 (11.81)	50 (11.24)	700 (157.37)	931 (209.3)	664 (26.14)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	8 (0.31)	9 (0.35)	8 (0.31)	8 (0.31)	M8
WM-GVA-22-50	22 (0.87)	50 (1.97)	100 (22.48)	1200 (269.77)	1807 (406.23)	164 (6.46)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-100	22 (0.87)	100 (3.94)	100 (22.48)	1200 (269.77)	1807 (406.23)	264 (10.39)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-150	22 (0.87)	150 (5.91)	100 (22.48)	1200 (269.77)	1807 (406.23)	364 (14.33)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-200	22 (0.87)	200 (7.87)	100 (22.48)	1200 (269.77)	1807 (406.23)	464 (18.27)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-250	22 (0.87)	250 (9.84)	100 (22.48)	1200 (269.77)	1807 (406.23)	564 (22.2)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-300	22 (0.87)	300 (11.81)	100 (22.48)	1200 (269.77)	1807 (406.23)	664 (26.14)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-350	22 (0.87)	350 (13.78)	100 (22.48)	1200 (269.77)	1807 (406.23)	764 (30.08)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-400	22 (0.87)	400 (15.75)	100 (22.48)	1200 (269.77)	1807 (406.23)	864 (34.02)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-450	22 (0.87)	450 (17.72)	100 (22.48)	1200 (269.77)	1807 (406.23)	964 (37.95)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-500	22 (0.87)	500 (19.69)	100 (22.48)	1200 (269.77)	1807 (406.23)	1064 (41.89)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-550	22 (0.87)	550 (21.65)	100 (22.48)	1200 (269.77)	1807 (406.23)	1164 (45.83)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-600	22 (0.87)	600 (23.62)	100 (22.48)	1200 (269.77)	1807 (406.23)	1264 (49.76)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-650	22 (0.87)	650 (25.59)	100 (22.48)	1200 (269.77)	1807 (406.23)	1364 (53.7)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8
WM-GVA-22-700	22 (0.87)	700 (27.56)	100 (22.48)	1200 (269.77)	1807 (406.23)	1464 (57.64)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	10 (0.39)	9 (0.35)	9 (0.35)	10 (0.39)	M8

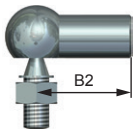
WM-GVA



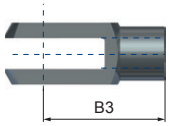
1 Male rod clevis



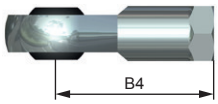
2 Angle joint



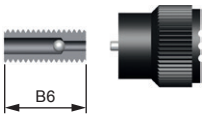
3 Female rod clevis



4 Spherical end bearing



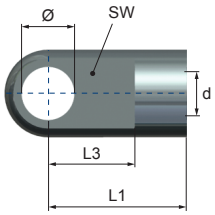
6 Release screw
only G



DIMENSIONS / PERFORMANCE

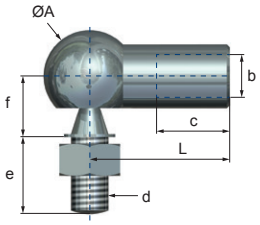
	ø D	Stroke	Force		Force with compressed piston rod*	A	B1	B2	B3	B4	B6	C1	C2	ø E	GW
	mm (inch)		N min. (lbs)	N max. (lbs)	N max. (lbs)	mm (inch)									
WM-GVA-28-100	28 (1.1)	100 (3.94)	150 (33,72)	2500 (562,03)	3800 (854,28)	262 (10.31)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-150	28 (1.1)	150 (5.91)	150 (33,72)	2500 (562,03)	3800 (854,28)	362 (14.25)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-200	28 (1.1)	200 (7.87)	150 (33,72)	2500 (562,03)	3800 (854,28)	462 (18.19)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-250	28 (1.1)	250 (9.84)	150 (33,72)	2500 (562,03)	3800 (854,28)	562 (22.13)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-300	28 (1.1)	300 (11.81)	150 (33,72)	2500 (562,03)	3800 (854,28)	662 (26.06)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-350	28 (1.1)	350 (13.78)	150 (33,72)	2500 (562,03)	3800 (854,28)	762 (30)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-400	28 (1.1)	400 (15.75)	150 (33,72)	2500 (562,03)	3800 (854,28)	862 (33.94)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-450	28 (1.1)	450 (17.72)	150 (33,72)	2500 (562,03)	3800 (854,28)	962 (37.87)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-500	28 (1.1)	500 (19.69)	150 (33,72)	2500 (562,03)	3800 (854,28)	1062 (41.81)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-550	28 (1.1)	550 (21.65)	150 (33,72)	2500 (562,03)	3800 (854,28)	1162 (45.75)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-600	28 (1.1)	600 (23.62)	150 (33,72)	2500 (562,03)	3800 (854,28)	1262 (49.69)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-28-650	28 (1.1)	650 (25.59)	150 (33,72)	2500 (562,03)	3800 (854,28)	1362 (53.62)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	13 (0.51)	9 (0.35)	13 (0.51)	14 (0.55)	M10
WM-GVA-40-100	40 (1.57)	100 (3.94)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	317 (12.48)	40 (1.57)	45 (1.77)	-	-	15 (0.59)	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-GVA-40-150	40 (1.57)	150 (5.91)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	417 (16.42)	40 (1.57)	45 (1.77)	-	-	15 (0.59)	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-GVA-40-200	40 (1.57)	200 (7.87)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	517 (20.35)	40 (1.57)	45 (1.77)	-	-	15 (0.59)	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-GVA-40-300	40 (1.57)	300 (11.81)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	717 (28.23)	40 (1.57)	45 (1.77)	-	-	15 (0.59)	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-GVA-40-400	40 (1.57)	400 (15.75)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	917 (36.1)	40 (1.57)	45 (1.77)	-	-	15 (0.59)	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-GVA-40-500	40 (1.57)	500 (19.69)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	1117 (43.98)	40 (1.57)	45 (1.77)	-	-	15 (0.59)	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5
WM-GVA-40-600	40 (1.57)	600 (23.62)	500 (112,41)	5000 (1124,05)	7250 (1629,87)	1317 (51.85)	40 (1.57)	45 (1.77)	-	-	15 (0.59)	15 (0.59)	15 (0.59)	20 (0.79)	M14x1,5

1 Male rod clevis



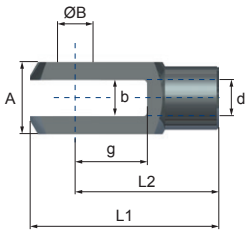
SW	Ø	L1	L3	d	Code	max. N (lbs)
mm (inch)						
3 (0.12)	6,2 (0.24)	16 (0.63)	9 (0.35)	M5	1-M5-VA	490 (110.16)
10 (0.39)	8,2 (0.32)	20 (0.79)	20 (0.79)	M8	1-M8-VA	1560 (350.7)
12 (0.47)	8,2 (0.32)	25 (0.98)	12 (0.47)	M10	1-M10-VA	3800 (854.28)
14 (0.55)	14,2 (0.56)	40 (1.57)	20 (0.79)	M14x1,5	1-M14-VA	7000 (1573.67)

2 Angle joint



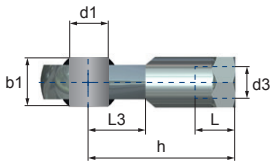
AØ	L	b	c	d	e	f	Code	max. N (lbs)
mm (inch)			mm (inch)		mm (inch)			
13 (0.51)	30 (1.18)	M8	14,5 (0.57)	M8	16,5 (0.65)	13 (0.51)	2-M8-VA	1140 (256.28)
16 (0.63)	35 (1.38)	M10	15,5 (0.61)	M10	20 (0.79)	16 (0.63)	2-M10-VA	1750 (393.42)
19 (0.75)	45 (1.77)	M14x1,5	20 (0.79)	M14x1,5	28 (1.1)	20 (0.79)	2-M14-VA	3200 (719.39)

3 Female rod clevis



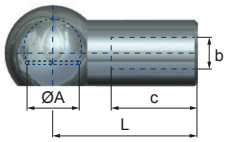
A	ØB	b	g	L1	L2	d	Code	max. N (lbs)
mm (inch)								
16 (0.63)	8 (0.31)	8 (0.31)	16 (0.63)	42 (1.65)	32 (1.26)	M8	3-M8-VA	1560 (350.7)
20 (0.79)	10 (0.39)	10 (0.39)	20 (0.79)	52 (2.05)	40 (1.57)	M10	3-M10-VA	3800 (854.28)

4 Spherical end bearing



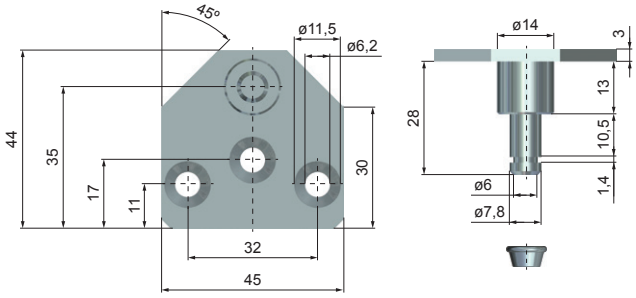
b1	d1	d3	L	L3	h	Code	max. N
mm (inch)			mm (inch)				
8 (0.31)	8 (0.31)	M8	16 (0.63)	12 (0.47)	36 (1.42)	4-M8-VA	1560 (350.7)
9 (0.35)	10 (0.39)	M10	20 (0.79)	13 (0.51)	43 (1.69)	4-M10-VA	3800 (854.28)

5 Ball joint housing

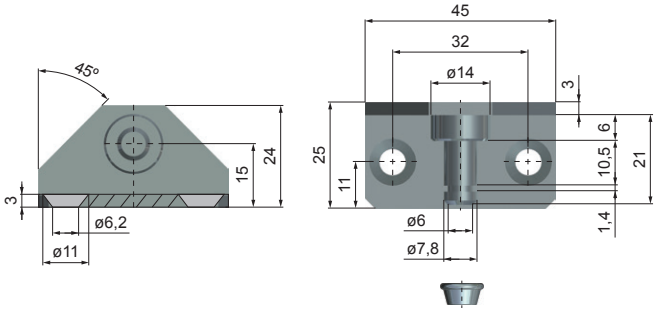


A	L	b	c	Code	max. N (lbs)
mm (inch)			mm (inch)		
10 (0.39)	19 (0.75)	M8	10 (0.39)	5-M8-2-VA	1140 (256.28)
13 (0.51)	30 (1.18)	M8	14 (0.55)	5-M8-VA	1140 (256.28)

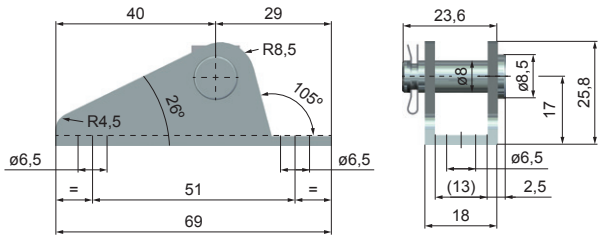
20-VA (for 1-M8-VA, 4-M8-VA)



21-VA (für / for 1-M8-VA, 4-M8-VA)



25-VA (für / for 1-M8-VA, 1-M10-VA, 4-M8-VA)



WM - GZ

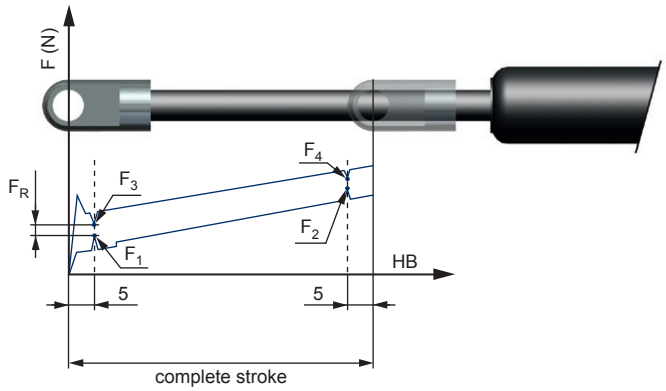
- **High corrosion resistance**
  - Housing: powder coated
  - Piston rod: ceramic coated
- **Minimal friction coefficient to achieve the lowest extension forces**
- **Integrated grease chamber and sliding bearing**

- Lower breakaway force
- Installation position: any
- Maintenance-free and ready for installation
- Temperature: -30°C – +80°C (-22°F – +176°F), optional: -45°C – +200°C (-49°F – +392°F)
- RoHS compliant Directive 2002/95/EC
- Pull-in force must be stated on ordering.

FORCE DIAGRAM

The theoretical extension force is the result of the filling pressure multiplied by the cross-sectional area of the piston rod. Weforma gas springs are filled to a pressure determined in accordance with the customer's requirements (extension force F_1). The extension force always refers to the value F_1, measured at 20°C ± 2°C and with a downwards facing piston rod.

F_1 = extension force with extended piston rod
F_2 = extension force with compressed piston rod
F_3 = insertion force with extended piston rod
F_4 = insertion force with compressed piston rod
F_R = frictional force

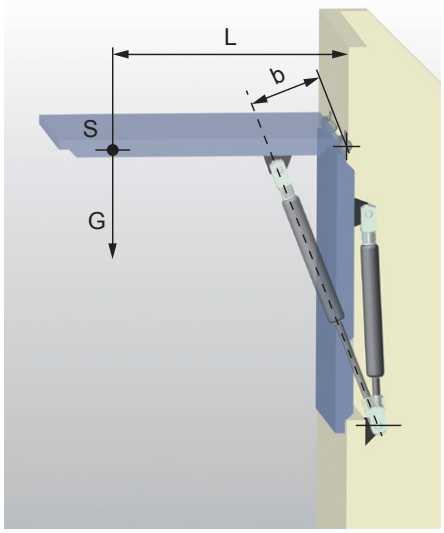


PROGRESSION

Linear force increase during extension or compression, measured by the nominal force over the entire stroke. The listed values can be influenced.

	Progression approx. %
WM-GZ-19	20
WM-GZ-28	65

SELECTION



For the selection and/or order the following information is required:

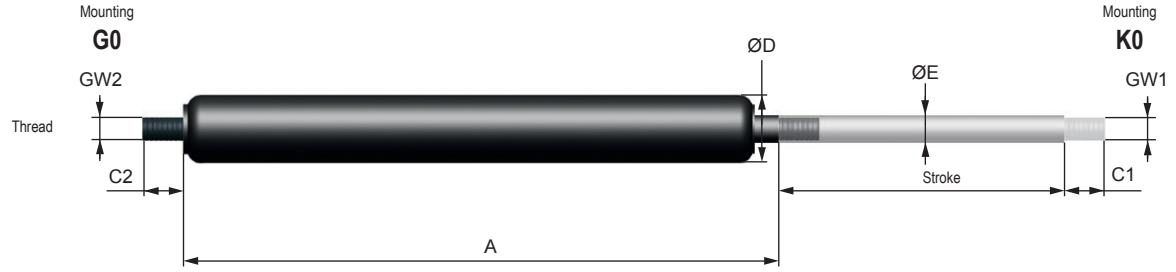
S	Centre of gravity
G	Weight of the lid in N (ca. Kp x 10)
b	Lever arm of a force (correlates to approx. 85% of the required stroke)
X	Number of springs (as a rule 2 pieces, one spring each side of the lid)
L	Radius

Note
In general the permitted extended force tolerances are +40N - 20N or ± 5-7%.
The force of a gas spring is physically dependant on temperature. It varies by approx. 3.3% (basis +20°C) per 10°C.

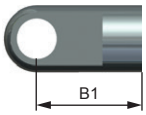
ORDERING INFORMATION

WM-G-19-100-K2G4-XXXXX-XXXX

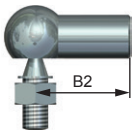
WM-G	Gas Springs
WM-GZ	Gas traction springs
WM-GVA	Stainless Steel Gas Springs
19	19mm diameter
100	Stroke
K0G0	Thread
K2	Piston rod - Angle joint
G4	Housing - Spherical end bearing
Code	Code is assigned by Weforma



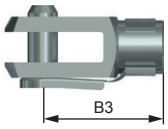
1 Male rod clevis



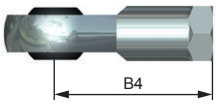
2 Angle joint



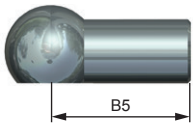
3 Female rod clevis



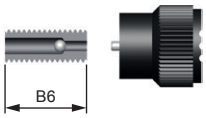
4 Spherical end bearing



5 Ball joint housing



6 Release screw
only G



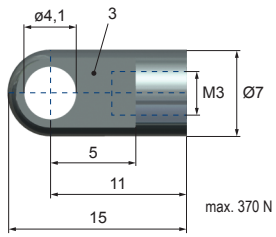
8 Protection tube

DIMENSIONS / PERFORMANCE

	ø D	Stroke	Force		Force with extended piston rod	A	B1	B2	B3	B4	B5	B6	C1	C2	ø E	GW1	GW2
	mm (inch)		N min. (lbs)	N max. (lbs)	N max. (lbs)	mm (inch)											
WM-GZ-19-30	19 (0.75)	30 (1.18)	30 (6.74)	300 (67.44)	360 (80.93)	112 (4.41)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	5 (0.2)	10 (0.39)	8 (0.31)	6 (0.24)	M8	M8
WM-GZ-19-50	19 (0.75)	50 (1.97)	30 (6.74)	300 (67.44)	360 (80.93)	132 (5.2)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	5 (0.2)	10 (0.39)	8 (0.31)	6 (0.24)	M8	M8
WM-GZ-19-100	19 (0.75)	100 (3.94)	30 (6.74)	300 (67.44)	360 (80.93)	182 (7.17)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	5 (0.2)	10 (0.39)	8 (0.31)	6 (0.24)	M8	M8
WM-GZ-19-150	19 (0.75)	150 (5.91)	30 (6.74)	300 (67.44)	360 (80.93)	232 (9.13)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	5 (0.2)	10 (0.39)	8 (0.31)	6 (0.24)	M8	M8
WM-GZ-19-200	19 (0.75)	200 (7.87)	30 (6.74)	300 (67.44)	360 (80.93)	282 (11.1)	20 (0.79)	30 (1.18)	32 (1.26)	36 (1.42)	30 (1.18)	5 (0.2)	10 (0.39)	8 (0.31)	6 (0.24)	M8	M8
WM-GZ-28-30	28 (1.1)	30 (1.18)	150 (33.72)	1200 (269.77)	1980 (445.12)	130 (5.12)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-50	28 (1.1)	50 (1.97)	150 (33.72)	1200 (269.77)	1980 (445.12)	150 (5.91)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-100	28 (1.1)	100 (3.94)	150 (33.72)	1200 (269.77)	1980 (445.12)	200 (7.87)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-150	28 (1.1)	150 (5.91)	150 (33.72)	1200 (269.77)	1980 (445.12)	250 (9.84)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-200	28 (1.1)	200 (7.87)	150 (33.72)	1200 (269.77)	1980 (445.12)	300 (11.81)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-250	28 (1.1)	250 (9.84)	150 (33.72)	1200 (269.77)	1980 (445.12)	350 (13.78)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-300	28 (1.1)	300 (11.81)	150 (33.72)	1200 (269.77)	1980 (445.12)	400 (15.75)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-350	28 (1.1)	350 (13.78)	150 (33.72)	1200 (269.77)	1980 (445.12)	450 (17.72)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-400	28 (1.1)	400 (15.75)	150 (33.72)	1200 (269.77)	1980 (445.12)	500 (19.69)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-450	28 (1.1)	450 (17.72)	150 (33.72)	1200 (269.77)	1980 (445.12)	550 (21.65)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-500	28 (1.1)	500 (19.69)	150 (33.72)	1200 (269.77)	1980 (445.12)	600 (23.62)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-550	28 (1.1)	550 (21.65)	150 (33.72)	1200 (269.77)	1980 (445.12)	650 (25.59)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-600	28 (1.1)	600 (23.62)	150 (33.72)	1200 (269.77)	1980 (445.12)	700 (27.56)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10
WM-GZ-28-650	28 (1.1)	650 (25.59)	150 (33.72)	1200 (269.77)	1980 (445.12)	750 (29.53)	25 (0.98)	35 (1.38)	40 (1.57)	43 (1.69)	35 (1.38)	12 (0.47)	9 (0.35)	9 (0.35)	10 (0.39)	M10	M10

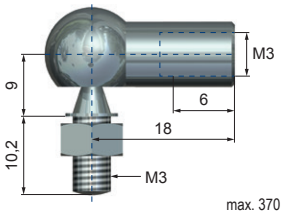
M3

1-M3 Male rod clevis



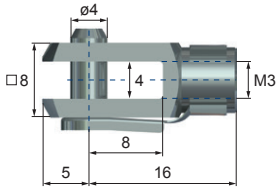
max. 370 N

2-M3 Angle joint



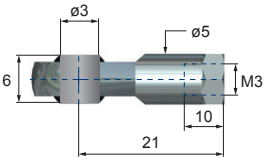
max. 370 N

3-M3 Female rod clevis



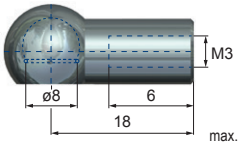
max. 370 N

4-M3 Spherical end bearing



max. 370 N

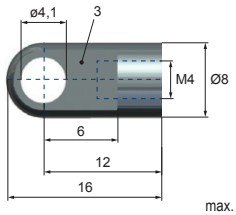
5-M3 Ball joint housing



max. 370 N

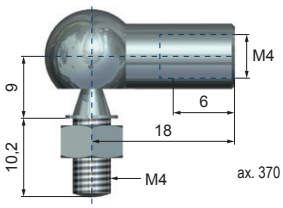
M4

1-M4 Male rod clevis



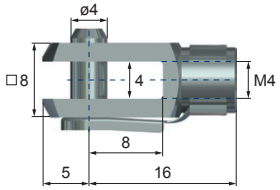
max. 370 N

2-M4 Angle joint



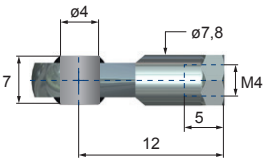
ax. 370 N

3-M4 Female rod clevis



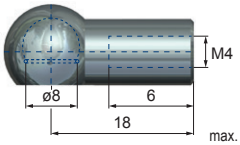
max. 370 N

4-M4 Spherical end bearing



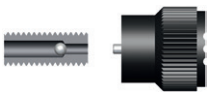
max. 370 N

5-M4 Ball joint housing



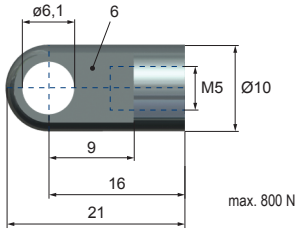
max. 370 N

6-M4 Release screw

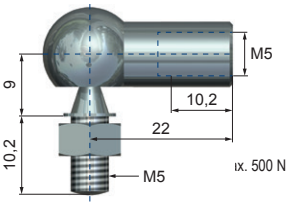


M5

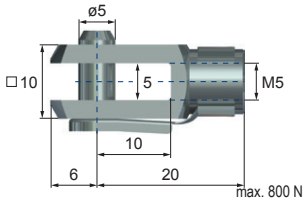
1-M5 Male rod clevis



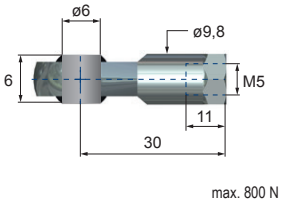
2-M5 Angle joint



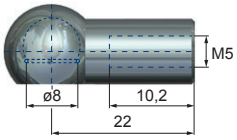
3-M5 Female rod clevis



4-M5 Spherical end bearing

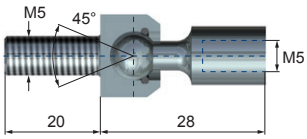


5-M5 Ball joint housing



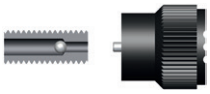
max. 500 N

7-M5 Ball joints

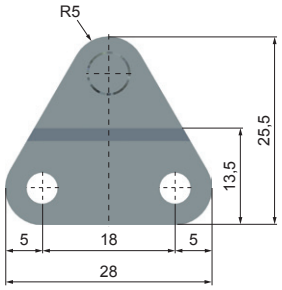


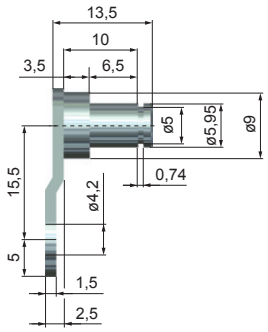
max. 500 N

6-15-M5 Release screw

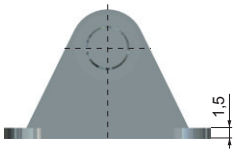


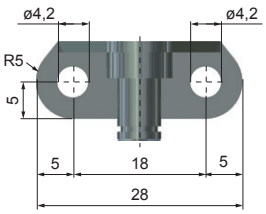
26 (for 1-M5, 4-M5)

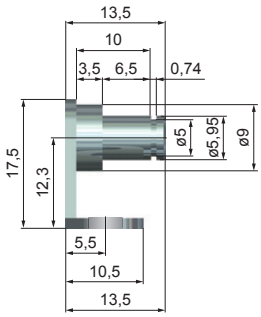




29 (for 1-M5, 4-M5)

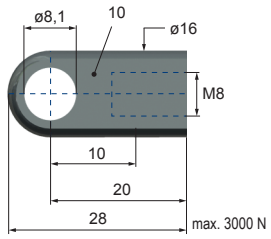




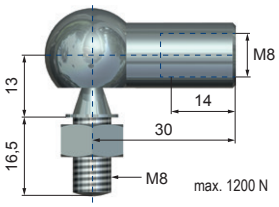


M8

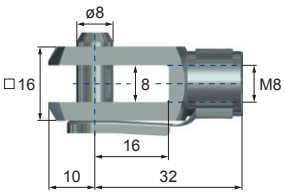
1-M8 Male rod clevis



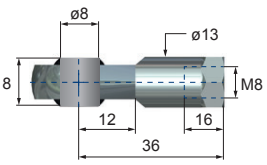
2-M8 Angle joint



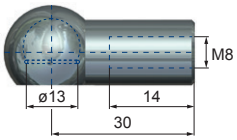
3-M8 Female rod clevis



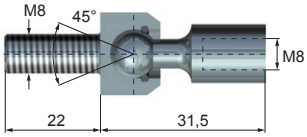
4-M8 Spherical end bearing



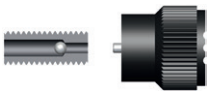
5-M8 Ball joint housing



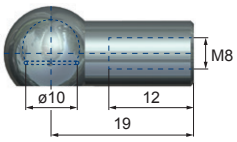
7-M8 Ball joints



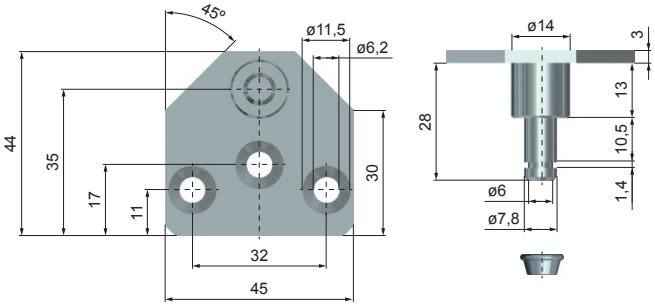
6-22-M8 Release screw



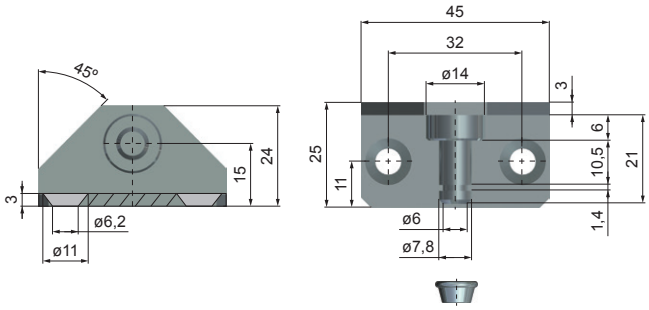
5-2-M8 Ball joint housing



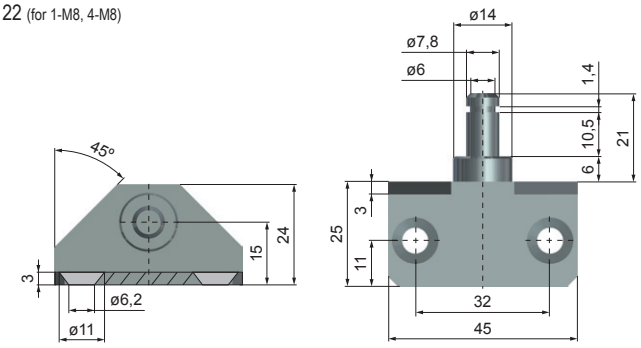
20 (for 1-M8, 4-M8)



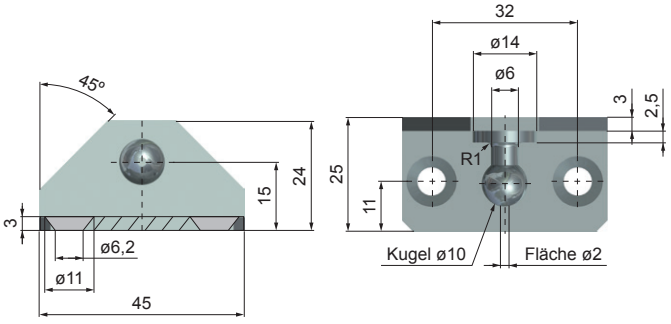
21 (for 1-M8, 4-M8)



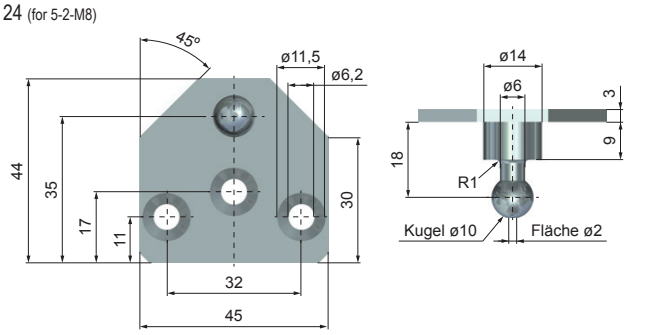
22 (for 1-M8, 4-M8)



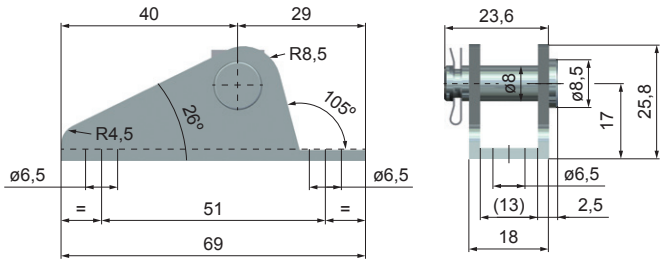
23 (for 5-2-M8)



24 (for 5-2-M8)

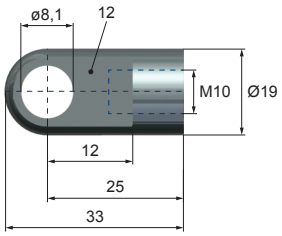


25 (for 1-M8, 4-M8)



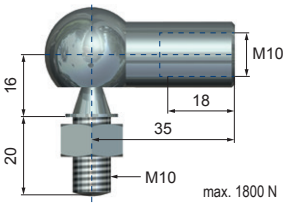
M10

1-M10 Male rod clevis



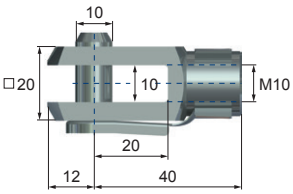
max. 10000 N

2-M10 Angle joint



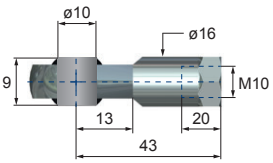
max. 1800 N

3-M10 Female rod clevis



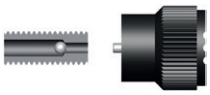
max. 10000 N

4-M10 Spherical end bearing

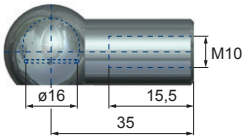


max. 10000 N

6-28-M10 Release screw

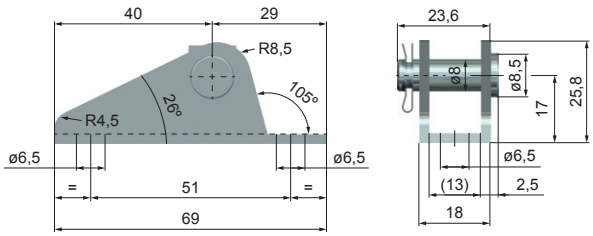


5-M10 Ball joint housing



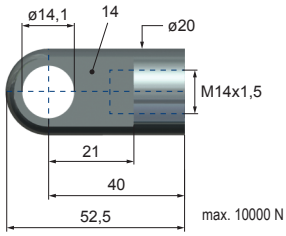
max. 10000 N

25 (for 1-M10)



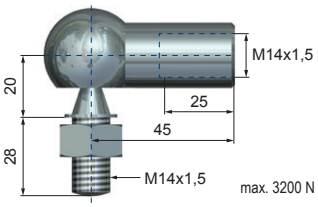
M14x1,5

1-M14 Male rod clevis



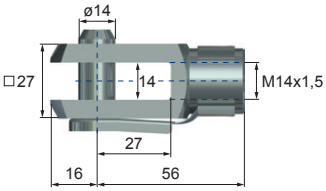
max. 10000 N

2-M14 Angle joint



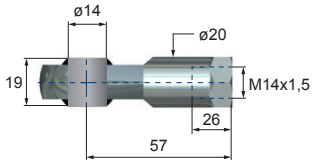
max. 3200 N

3-M14 Female rod clevis



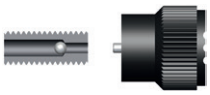
max. 10000 N

4-M14 Spherical end bearing



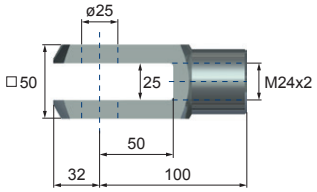
max. 10000 N

6-40-M14 Release screw

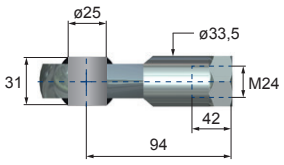


M24x2

3-M24 Female rod clevis



4-M24 Spherical end bearing

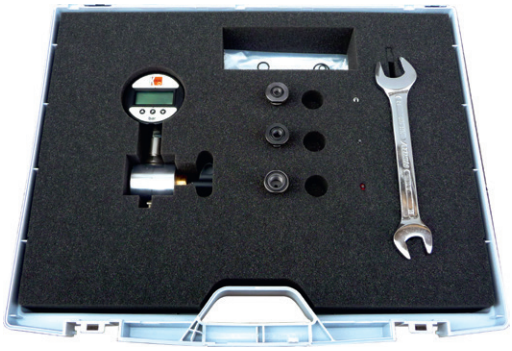


max. 50000 N

Gas spring Refilling Kit

The gas spring refilling kit allows to fill or adjust gas springs on site. The kit contains all necessary filling bells and release screws for our product range. The refilling kit is equipped for 200 bar nitrogen bottles with thread W24,32x1/14"
Nitrogen is not included.

Gas Spring Release Kit



Gas spring release kit for controlled discharge of nitrogen in gas springs. The kit contains all necessary release screws and a pressure gauge to control the remaining pressure in the gas spring.

Gas Spring Filling Station

Gas spring filling station to fill gas springs (except WM-G-70).
All necessary filling adapters are included.
Nitrogen is not included.

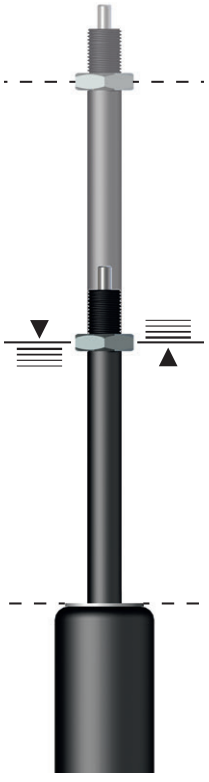
WM - GB

- **High corrosion resistance**
  - Housing: powder coated
  - Piston rod: ceramic coated
- **Freely lockable over the complete stroke**
- **Minimal friction coefficient to achieve the lowest extension forces**

- Integrated grease chamber and sliding bearing
- Lower breakaway force
- Installation position: any
- Maintenance-free and ready for installation
- Temperature: -30°C – +80°C (-22°F – +176°F), optional: -45°C – +200°C (-49°F – +392°F)
- RoHS compliant Directive 2002/95/EC
- Extension force must be stated on ordering.

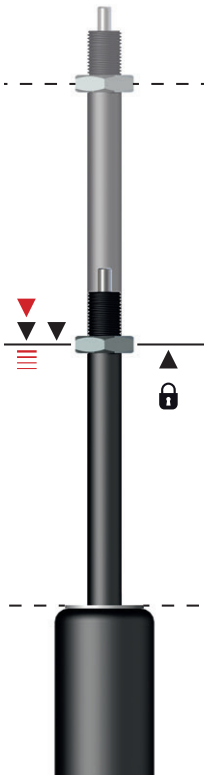
Type 1

- Blockable in both directions
- Spring travel possible in spite of being blocked
- Comfortable shock absorption
- Application: seat height adjustment



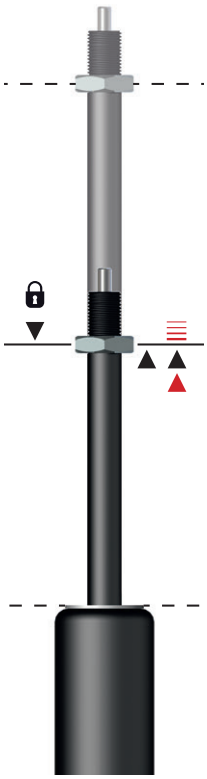
Type 2

- Fixed blocking when load is placed on the pull
- Blocking under pressure remains fixed until the force of the filling pressure on the separating piston is exceeded.
- Application: adjustable inclinations



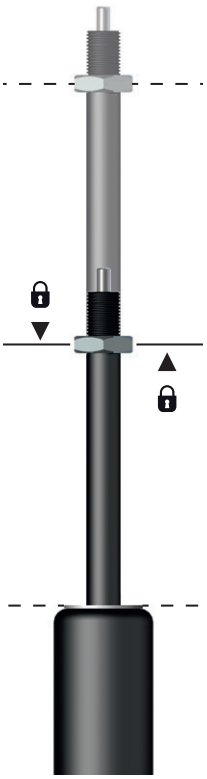
Type 3

- Functional application as in type 2
- Oil and gas are reversed
- Application: adjusting

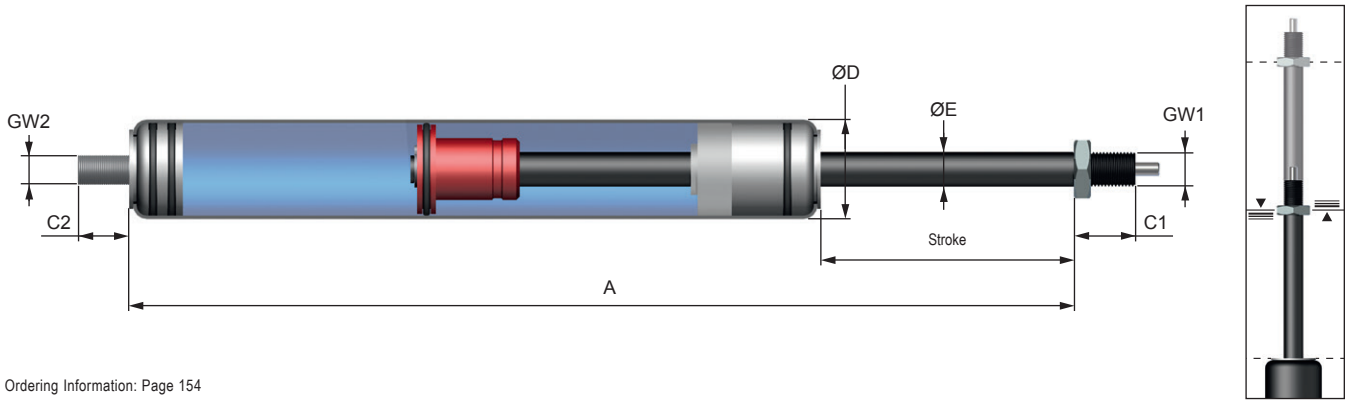


Type 4

- Combination of type 2 and type 3
- Fixed blocking in both directions
- Application: rocker mechanisms, medical couches



WM-GB Type 1

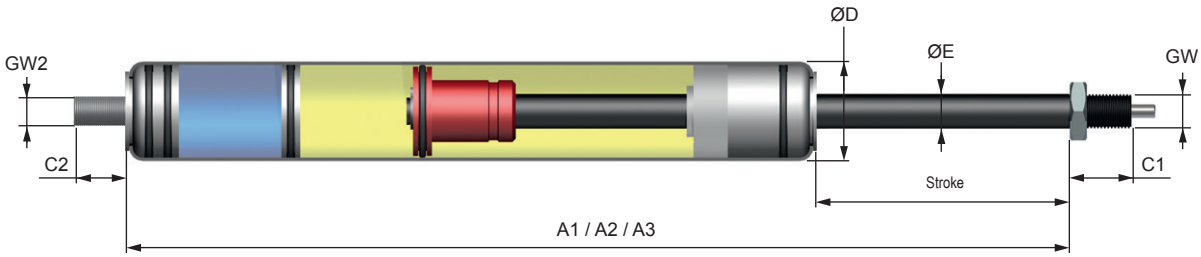


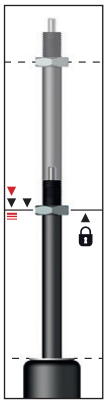
Ordering Information: Page 154

DIMENSIONS / PERFORMANCE

	ø D	Stroke	Force		Progression	A	E	C1	C2	GW1	GW2
	mm (inch)		N min. (lbs)	N max. (lbs)	%	mm (inch)					
WM-GB-22-050-1	22 (0.87)	50 (1.97)	40 (8.99)	700 (157.37)	23	175 (6.89)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-22-100-1	22 (0.87)	100 (3.94)	40 (8.99)	700 (157.37)	23	275 (10.83)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-22-150-1	22 (0.87)	150 (5.91)	40 (8.99)	700 (157.37)	23	375 (14.76)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-22-200-1	22 (0.87)	200 (7.87)	40 (8.99)	700 (157.37)	23	475 (18.7)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-22-250-1	22 (0.87)	250 (9.84)	40 (8.99)	700 (157.37)	23	575 (22.64)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-22-300-1	22 (0.87)	300 (11.81)	40 (8.99)	700 (157.37)	23	675 (26.57)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-22K-050-1	22 (0.87)	50 (1.97)	50 (11.24)	1300 (292.25)	39	181 (7.13)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-22K-100-1	22 (0.87)	100 (3.94)	50 (11.24)	1300 (292.25)	39	281 (11.06)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-22K-150-1	22 (0.87)	150 (5.91)	50 (11.24)	1300 (292.25)	39	381 (15)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-22K-200-1	22 (0.87)	200 (7.87)	50 (11.24)	1300 (292.25)	39	481 (18.94)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-22K-250-1	22 (0.87)	250 (9.84)	50 (11.24)	1300 (292.25)	39	581 (22.87)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-22K-300-1	22 (0.87)	300 (11.81)	50 (11.24)	1300 (292.25)	39	681 (26.81)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-28-050-1	28 (1.1)	50 (1.97)	40 (8.99)	700 (157.37)	13	187 (7.36)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-28-100-1	28 (1.1)	100 (3.94)	40 (8.99)	700 (157.37)	13	287 (11.3)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-28-150-1	28 (1.1)	150 (5.91)	40 (8.99)	700 (157.37)	13	387 (15.24)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-28-200-1	28 (1.1)	200 (7.87)	40 (8.99)	700 (157.37)	13	487 (19.17)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-28-250-1	28 (1.1)	250 (9.84)	40 (8.99)	700 (157.37)	13	587 (23.11)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-28-300-1	28 (1.1)	300 (11.81)	40 (8.99)	700 (157.37)	13	687 (27.05)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M8
WM-GB-28K-050-1	28 (1.1)	50 (1.97)	50 (11.24)	1300 (292.25)	21	194 (7.64)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-28K-100-1	28 (1.1)	100 (3.94)	50 (11.24)	1300 (292.25)	21	294 (11.57)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-28K-150-1	28 (1.1)	150 (5.91)	50 (11.24)	1300 (292.25)	21	394 (15.51)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-28K-200-1	28 (1.1)	200 (7.87)	50 (11.24)	1300 (292.25)	21	494 (19.45)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-28K-250-1	28 (1.1)	250 (9.84)	50 (11.24)	1300 (292.25)	21	594 (23.39)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-28K-300-1	28 (1.1)	300 (11.81)	50 (11.24)	1300 (292.25)	21	694 (27.32)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M10
WM-GB-40-050-1	40 (1.57)	50 (1.97)	150 (33.72)	2600 (584.51)	18	201 (7.91)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M14x1,5
WM-GB-40-100-1	40 (1.57)	100 (3.94)	150 (33.72)	2600 (584.51)	18	301 (11.85)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M14x1,5
WM-GB-40-150-1	40 (1.57)	150 (5.91)	150 (33.72)	2600 (584.51)	18	401 (15.79)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M14x1,5
WM-GB-40-200-1	40 (1.57)	200 (7.87)	150 (33.72)	2600 (584.51)	18	501 (19.72)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M14x1,5
WM-GB-40-300-1	40 (1.57)	300 (11.81)	150 (33.72)	2600 (584.51)	18	701 (27.6)	14 (0.55)	20 (0.79)	20 (0.79)	M 14x1,5	M14x1,5
WM-GB-40-400-1	40 (1.57)	400 (15.75)	150 (33.72)	2600 (584.51)	18	901 (35.47)	14 (0.55)	20 (0.79)	20 (0.79)	M 14x1,5	M14x1,5
WM-GB-40-500-1	40 (1.57)	500 (19.69)	150 (33.72)	2600 (584.51)	18	1101 (43.35)	14 (0.55)	20 (0.79)	20 (0.79)	M 14x1,5	M14x1,5
WM-GB-40-600-1	40 (1.57)	600 (23.62)	150 (33.72)	2600 (584.51)	18	1301 (51.22)	14 (0.55)	20 (0.79)	20 (0.79)	M 14x1,5	M14x1,5
WM-GB-40-700-1	40 (1.57)	700 (27.56)	150 (33.72)	2600 (584.51)	18	1501 (59.09)	14 (0.55)	20 (0.79)	20 (0.79)	M 14x1,5	M14x1,5

WM-GB Type 2





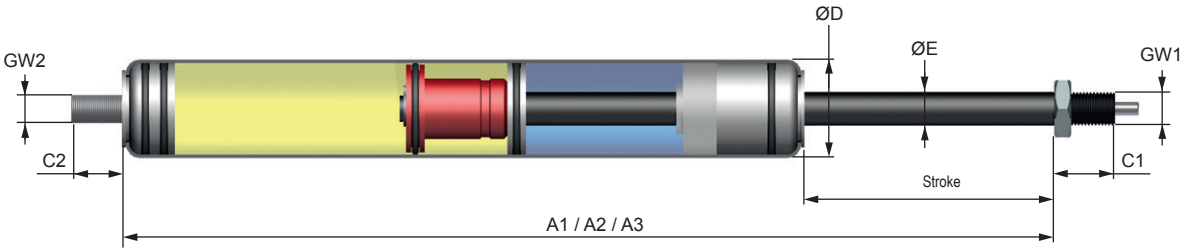
Ordering Information: Page 154

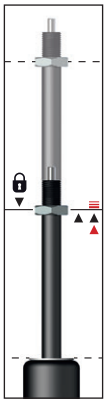
DIMENSIONS / PERFORMANCE

	ø D	Stroke	Force		A1 Progression 35%	A2 Progression 50%	A3 Progression 100%	E	C1	C2	GW1	GW2	Locking force push*	Locking force pull
	mm (inch)		N min. (lbs)	N max. (lbs)	mm (inch)								N max. (lbs)	
WM-GB-22-050-2	22 (0.87)	50 (1.97)	40 (8.99)	700 (157.37)	194 (7.64)	187 (7.36)	178 (7.01)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	3920 (881.26)	-
WM-GB-22-100-2	22 (0.87)	100 (3.94)	40 (8.99)	700 (157.37)	320 (12.6)	305 (12.01)	287 (11.3)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	3920 (881.26)	-
WM-GB-22-150-2	22 (0.87)	150 (5.91)	40 (8.99)	700 (157.37)	446 (17.56)	424 (16.69)	397 (15.63)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	3920 (881.26)	-
WM-GB-22-200-2	22 (0.87)	200 (7.87)	40 (8.99)	700 (157.37)	572 (22.52)	542 (21.34)	506 (19.92)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	3920 (881.26)	-
WM-GB-22-250-2	22 (0.87)	250 (9.84)	40 (8.99)	700 (157.37)	698 (27.48)	661 (26.02)	616 (24.25)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	3920 (881.26)	-
WM-GB-22-300-2	22 (0.87)	300 (11.81)	40 (8.99)	700 (157.37)	824 (32.44)	779 (30.67)	725 (28.54)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	3920 (881.26)	-
WM-GB-22K-050-2	22 (0.87)	50 (1.97)	40 (8.99)	1300 (292.25)	214 (8.43)	202 (7.95)	188 (7.4)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	3920 (881.26)	7000 (1573.67)
WM-GB-22K-100-2	22 (0.87)	100 (3.94)	40 (8.99)	1300 (292.25)	354 (13.94)	331 (13.03)	303 (11.93)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	3920 (881.26)	7000 (1573.67)
WM-GB-22K-150-2	22 (0.87)	150 (5.91)	40 (8.99)	1300 (292.25)	495 (19.49)	460 (18.11)	418 (16.46)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	3920 (881.26)	7000 (1573.67)
WM-GB-22K-200-2	22 (0.87)	200 (7.87)	40 (8.99)	1300 (292.25)	635 (25)	589 (23.19)	533 (20.98)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	3920 (881.26)	7000 (1573.67)
WM-GB-22K-250-2	22 (0.87)	250 (9.84)	40 (8.99)	1300 (292.25)	776 (30.55)	718 (28.27)	648 (25.51)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	3920 (881.26)	7000 (1573.67)
WM-GB-22K-300-2	22 (0.87)	300 (11.81)	40 (8.99)	1300 (292.25)	916 (36.06)	847 (33.35)	763 (30.04)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	3920 (881.26)	7000 (1573.67)
WM-GB-28-050-2	28 (1.1)	50 (1.97)	50 (11.24)	700 (157.37)	189 (7.44)	184 (7.24)	179 (7.05)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	7000 (1573.67)	-
WM-GB-28-100-2	28 (1.1)	100 (3.94)	50 (11.24)	700 (157.37)	305 (12.01)	296 (11.65)	285 (11.22)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	7000 (1573.67)	-
WM-GB-28-150-2	28 (1.1)	150 (5.91)	50 (11.24)	700 (157.37)	422 (16.61)	408 (16.06)	392 (15.43)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	7000 (1573.67)	-
WM-GB-28-200-2	28 (1.1)	200 (7.87)	50 (11.24)	700 (157.37)	538 (21.18)	520 (20.47)	498 (19.61)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	7000 (1573.67)	-
WM-GB-28-250-2	28 (1.1)	250 (9.84)	50 (11.24)	700 (157.37)	655 (25.79)	632 (24.88)	605 (23.82)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	7000 (1573.67)	-
WM-GB-28-300-2	28 (1.1)	300 (11.81)	50 (11.24)	700 (157.37)	771 (30.35)	744 (29.29)	711 (27.99)	8 (0.31)	16 (0.63)	8 (0.31)	M 8x1	M 8	7000 (1573.67)	-
WM-GB-28K-050-2	28 (1.1)	50 (1.97)	50 (11.24)	1300 (292.25)	203 (7.99)	195 (7.68)	187 (7.36)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-100-2	28 (1.1)	100 (3.94)	50 (11.24)	1300 (292.25)	329 (12.95)	313 (12.32)	296 (11.65)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-150-2	28 (1.1)	150 (5.91)	50 (11.24)	1300 (292.25)	455 (17.91)	431 (16.97)	406 (15.98)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-200-2	28 (1.1)	200 (7.87)	50 (11.24)	1300 (292.25)	581 (22.87)	549 (21.61)	515 (20.28)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-250-2	28 (1.1)	250 (9.84)	50 (11.24)	1300 (292.25)	707 (27.83)	667 (26.26)	625 (24.61)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-300-2	28 (1.1)	300 (11.81)	50 (11.24)	1300 (292.25)	833 (32.8)	744 (29.29)	734 (28.9)	10 (0.39)	18 (0.71)	13 (0.51)	M 10x1	M 10	10000 (2248.1)	10000 (2248.1)
WM-GB-40-100-2	40 (1.57)	100 (3.94)	150 (33.72)	2600 (584.51)	342 (13.46)	330 (12.99)	314 (12.36)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-150-2	40 (1.57)	150 (5.91)	150 (33.72)	2600 (584.51)	464 (18.27)	446 (17.56)	422 (16.61)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-200-2	40 (1.57)	200 (7.87)	150 (33.72)	2600 (584.51)	585 (23.03)	561 (22.09)	529 (20.83)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-300-2	40 (1.57)	300 (11.81)	150 (33.72)	2600 (584.51)	828 (32.6)	792 (31.18)	744 (29.29)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-400-2	40 (1.57)	400 (15.75)	150 (33.72)	2600 (584.51)	1071 (42.17)	1023 (40.28)	959 (37.76)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-500-2	40 (1.57)	500 (19.69)	150 (33.72)	2600 (584.51)	1314 (51.73)	1254 (49.37)	1174 (46.22)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-600-2	40 (1.57)	600 (23.62)	150 (33.72)	2600 (584.51)	1557 (61.3)	1485 (58.46)	1389 (54.69)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-700-2	40 (1.57)	700 (27.56)	150 (33.72)	2600 (584.51)	1800 (70.87)	1716 (67.56)	1604 (63.15)	14 (0.55)	20 (0.79)	15 (0.59)	M 14x1,5	M 14x1,5	10000 (2248.1)	10000 (2248.1)

*Data are approximate - depending on the extension force "F1"

WM-GB Type 3





! without valve

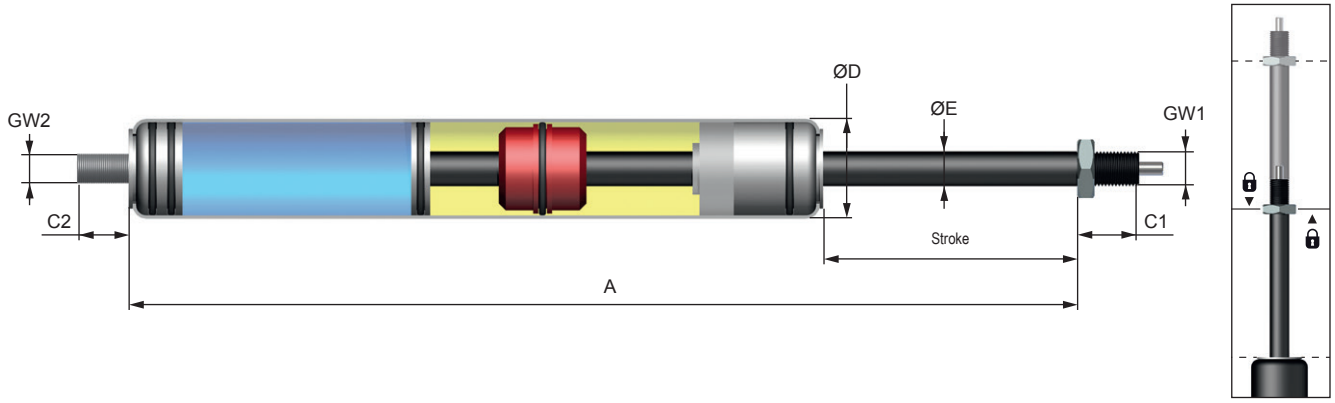
Ordering Information: Page 154

DIMENSIONS / PERFORMANCE

	ø D	Stroke	Force		A1 - Progression 35%	A2 - Progression 50%	A3 - Progression 100%	E	C1	C2	GW1	GW2	Locking force push*	Locking force pull*
	mm (inch)		N min. (lbs)	N max. (lbs)	mm (inch)								N max. (lbs	
WM-GB-22-050-3	22 (0.87)	50 (1.97)	40 (8.99)	700 (157.37)	216 (8.5)	206 (8.11)	196 (7.72)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	-
WM-GB-22-100-3	22 (0.87)	100 (3.94)	40 (8.99)	700 (157.37)	357 (14.06)	338 (13.31)	317 (12.48)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	-
WM-GB-22-150-3	22 (0.87)	150 (5.91)	40 (8.99)	700 (157.37)	499 (19.65)	470 (18.5)	439 (17.28)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	-
WM-GB-22-200-3	22 (0.87)	200 (7.87)	40 (8.99)	700 (157.37)	640 (25.2)	602 (23.7)	560 (22.05)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	-
WM-GB-22K-050-3	22 (0.87)	50 (1.97)	50 (11.24)	1300 (292.25)	254 (10)	239 (9.41)	219 (8.62)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	3380 (759.86)
WM-GB-22K-100-3	22 (0.87)	100 (3.94)	50 (11.24)	1300 (292.25)	427 (16.81)	396 (15.59)	357 (14.06)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	3380 (759.86)
WM-GB-22K-150-3	22 (0.87)	150 (5.91)	50 (11.24)	1300 (292.25)	600 (23.62)	554 (21.81)	495 (19.49)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	3380 (759.86)
WM-GB-22K-200-3	22 (0.87)	200 (7.87)	50 (11.24)	1300 (292.25)	773 (30.43)	711 (27.99)	633 (24.92)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	3380 (759.86)
WM-GB-22K-250-3	22 (0.87)	250 (9.84)	50 (11.24)	1300 (292.25)	946 (37.24)	869 (34.21)	771 (30.35)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	3380 (759.86)
WM-GB-22K-300-3	22 (0.87)	300 (11.81)	50 (11.24)	1300 (292.25)	1119 (44.06)	1026 (40.39)	909 (35.79)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	3380 (759.86)
WM-GB-28-050-3	28 (1.1)	50 (1.97)	50 (11.24)	700 (157.37)	202 (7.95)	196 (7.72)	191 (7.52)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	7000 (1573.67)
WM-GB-28-100-3	28 (1.1)	100 (3.94)	50 (11.24)	700 (157.37)	326 (12.83)	313 (12.32)	303 (11.93)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	7000 (1573.67)
WM-GB-28-150-3	28 (1.1)	150 (5.91)	50 (11.24)	700 (157.37)	450 (17.72)	431 (16.97)	416 (16.38)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	7000 (1573.67)
WM-GB-28-200-3	28 (1.1)	200 (7.87)	50 (11.24)	700 (157.37)	574 (22.6)	548 (21.57)	528 (20.79)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	7000 (1573.67)
WM-GB-28-250-3	28 (1.1)	250 (9.84)	50 (11.24)	700 (157.37)	698 (27.48)	666 (26.22)	641 (25.24)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	7000 (1573.67)
WM-GB-28-300-3	28 (1.1)	300 (11.81)	50 (11.24)	700 (157.37)	822 (32.36)	783 (30.83)	753 (29.65)	8 (0.31)	16 (0.63)	8 (0.31)	M8x1	M8	7000 (1573.67)	7000 (1573.67)
WM-GB-28K-050-3	28 (1.1)	50 (1.97)	50 (11.24)	1300 (292.25)	226 (8.9)	217 (8.54)	206 (8.11)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	7000 (1573.67)
WM-GB-28K-100-3	28 (1.1)	100 (3.94)	50 (11.24)	1300 (292.25)	366 (14.41)	348 (13.7)	327 (12.87)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	7000 (1573.67)
WM-GB-28K-150-3	28 (1.1)	150 (5.91)	50 (11.24)	1300 (292.25)	507 (19.96)	480 (18.9)	448 (17.64)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	7000 (1573.67)
WM-GB-28K-200-3	28 (1.1)	200 (7.87)	50 (11.24)	1300 (292.25)	647 (25.47)	611 (24.06)	569 (22.4)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	7000 (1573.67)
WM-GB-28K-250-3	28 (1.1)	250 (9.84)	50 (11.24)	1300 (292.25)	788 (31.02)	743 (29.25)	690 (27.17)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	7000 (1573.67)
WM-GB-28K-300-3	28 (1.1)	300 (11.81)	50 (11.24)	1300 (292.25)	928 (36.54)	874 (34.41)	811 (31.93)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	7000 (1573.67)
WM-GB-40-050-3	40 (1.57)	50 (1.97)	150 (33.72)	2600 (584.51)	227 (8.94)	220 (8.66)	211 (8.31)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-100-3	40 (1.57)	100 (3.94)	150 (33.72)	2600 (584.51)	361 (14.21)	346 (13.62)	328 (12.91)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-150-3	40 (1.57)	150 (5.91)	150 (33.72)	2600 (584.51)	495 (19.49)	473 (18.62)	446 (17.56)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-200-3	40 (1.57)	200 (7.87)	150 (33.72)	2600 (584.51)	629 (24.76)	599 (23.58)	563 (22.17)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-300-3	40 (1.57)	300 (11.81)	150 (33.72)	2600 (584.51)	897 (35.31)	852 (33.54)	798 (31.42)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-400-3	40 (1.57)	400 (15.75)	150 (33.72)	2600 (584.51)	1165 (45.87)	1105 (43.5)	1033 (40.67)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-500-3	40 (1.57)	500 (19.69)	150 (33.72)	2600 (584.51)	1433 (56.42)	1356 (53.39)	1268 (49.92)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)
WM-GB-40-600-3	40 (1.57)	600 (23.62)	150 (33.72)	2600 (584.51)	1701 (66.97)	1611 (63.43)	1503 (59.17)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	10000 (2248.1)	10000 (2248.1)

*Data are approximate - depending on the extension force "F1"

WM-GB Type 4



DIMENSIONS / PERFORMANCE

	ø D	Stroke	Force		A	E	C1	C2	GW1	GW2	Locking force push*	Locking force pull*
	mm (inch)		N min. (lbs)	N max. (lbs)	mm (inch)						N max (lbs)	
WM-GB-22K-050-4	22 (0.87)	50 (1.97)	50 (11.24)	1300 (292.25)	233 (9.17)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	7000 (1573.67)
WM-GB-22K-100-4	22 (0.87)	100 (3.94)	50 (11.24)	1300 (292.25)	383 (15.08)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	7000 (1573.67)
WM-GB-22K-150-4	22 (0.87)	150 (5.91)	50 (11.24)	1300 (292.25)	533 (20.98)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	7000 (1573.67)
WM-GB-22K-200-4	22 (0.87)	200 (7.87)	50 (11.24)	1300 (292.25)	683 (26.89)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	7000 (1573.67)
WM-GB-22K-250-4	22 (0.87)	250 (9.84)	50 (11.24)	1300 (292.25)	833 (32.8)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	7000 (1573.67)	7000 (1573.67)
WM-GB-28K-50-4	28 (1.1)	50 (1.97)	50 (11.24)	1300 (292.25)	237 (9.33)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-100-4	28 (1.1)	100 (3.94)	50 (11.24)	1300 (292.25)	387 (15.24)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-150-4	28 (1.1)	150 (5.91)	50 (11.24)	1300 (292.25)	537 (21.14)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-200-4	28 (1.1)	200 (7.87)	50 (11.24)	1300 (292.25)	687 (27.05)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	10000 (2248.1)
WM-GB-28K-250-4	28 (1.1)	250 (9.84)	50 (11.24)	1300 (292.25)	837 (32.95)	10 (0.39)	18 (0.71)	13 (0.51)	M10x1	M10	10000 (2248.1)	10000 (2248.1)
WM-GB-40-050-4	40 (1.57)	50 (1.97)	150 (33.72)	2600 (584.51)	239 (9.41)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	12000 (2697.72)	12000 (2697.72)
WM-GB-40-100-4	40 (1.57)	100 (3.94)	150 (33.72)	2600 (584.51)	389 (15.31)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	12000 (2697.72)	12000 (2697.72)
WM-GB-40-150-4	40 (1.57)	150 (5.91)	150 (33.72)	2600 (584.51)	539 (21.22)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	12000 (2697.72)	12000 (2697.72)
WM-GB-40-200-4	40 (1.57)	200 (7.87)	150 (33.72)	2600 (584.51)	689 (27.13)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	12000 (2697.72)	12000 (2697.72)
WM-GB-40-250-4	40 (1.57)	250 (9.84)	150 (33.72)	2600 (584.51)	989 (38.94)	14 (0.55)	20 (0.79)	15 (0.59)	M14x1,5	M14x1,5	12000 (2697.72)	12000 (2697.72)

! Due to the size, there may be a slip of 2mm. If this is not allowed, you have to order the gas spring with **-EL**.

Ordering Information

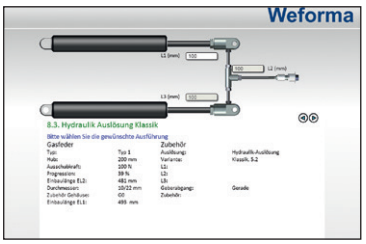
WM-GB-22-100-2-K0G1-XXXXX-XXXX

WM-GB	Lockable Gas Springs
22	22 mm diameter
100	Stroke
-2	Type

-EL only Type 4	Type 4 without slip
K0G1	Piston rod - only thread Gehäuse - Gelenkauge
Code	Code is assigned by Weforma

Release Systems

Gas Spring Configurator
www.weforma.com (Button: Service/Calculation)

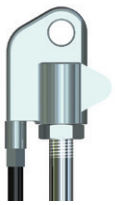


BOWDEN WIRE RELEASE SYSTEM

A

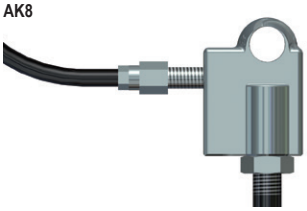
Release head (Standard, Zinc die cast)

AK7



Release head (Horizontal, Zinc die cast)

AK8



B

BO-1000

Bowden wire

C

T1
Push button plastic with spring

T2
Push button plastic without spring

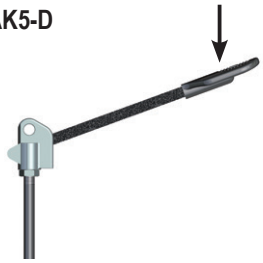
T3
Push button alu with spring

T4
Push button alu without spring

T5
Push button with long bushing, aluminium, without spring

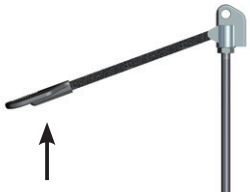
RELEASE SYSTEM WITH LEVER

AK5-D



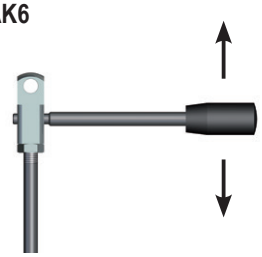
Release System with Lever
(release dir. towards gas spring)
Release head, Release lever
Flat grip for release lever

AK5-U



Release System with Lever
(release dir. away from gas spring)
Release head, Release lever
Flat grip for release lever

AK6



Variable release lever
Release head, Release lever
Cone grip for release lever

HYDRAULIC RELEASE SYSTEM

Short release system
with / without push button

AK10

TH1

Plastic bushing +
Plastic push button

TH3

Aluminium bushing +
Plastic push button

TH5

Aluminium bushing +
Aluminium push button