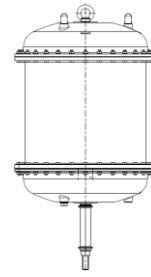


Technical Data Sheet

pneum. Diaphragm Actuator



TD_MA60

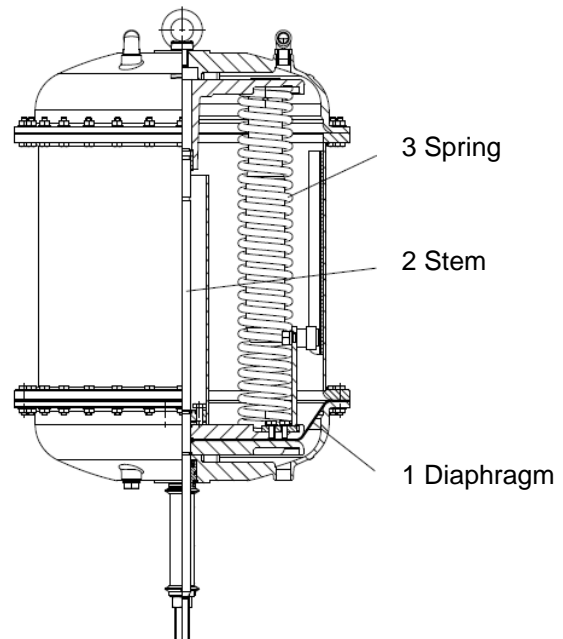
Technical data

Series	MA60
Diaphragm effective area	1510 – 2185 cm ² (depending on actual stroke)
Stroke	60 - 136 mm
Air supply	6 bar max.
Materials	Actuator housing and diaphragm plate: 0.7040/0.7033
	Stem: 1.4122 (option: 1.4462)
	Diaphragm: NBR, fabric-reinforced (moulded) Sealing element: high quality special Polyurethane
Operating temperature	-20 to +80°C (option: -40 to + 80°C)
Stem bushing	Straight-through actuator stem with roller burnished surface, top and bottom guided in Polymer slide bearings.
Control force	6 - 86 kN

Functional description

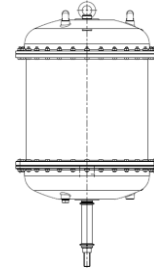
The actuator series MA60 is a pneumatic diaphragm actuator with spring return (fail safe) and is used to actuate reciprocating valves. The actuator positions the valve plug in the valve body depending on the control pressure acting upon the actuator diaphragm, which in turn is controlled by a pneumatic or electro-pneumatic positioner. These actuators can be operated in the "air to open" function or with the reverse action "air to close".

- This actuator is a compact design with a low overall height in relation to the achievable stroke. Different strokes as well as spring sets with different ranges allow a good adaption possibility to the respective valve.
- A fabric-reinforced diaphragm ensures smooth conversion of the pneumatic application of pressure into the linear motion of the actuator stem. The diaphragm (1), supported by the diaphragm disc, is connected to the actuator stem (2) and divides the actuator housing into pressure and spring chambers. If the force of the compressed air control signal exceeds the opposing spring force, the actuator stem (2) moves and actuates the valve.



Technical Data Sheet

pneum. Diaphragm Actuator



TD_MA60

Control forces and control ranges – Opening function (air to open – spring to close)

Actuator size	Stroke (mm)	Spring-No.	0% Stroke Control pressure (bar)	0% Stroke Control force (KN)	100% Stroke Control pressure (bar)	100% Stroke Control force (KN)	0% Stroke Diaphragm surface (cm ²)	100% Stroke Diaphragm surface (cm ²)
MA 60 G6	60	4B	0,55	12,18	1,42	24,13	2150	1700
		6B	0,83	18,28	2,13	35,32		
		8B	1,13	24,37	2,84	48,27		
		12B	1,38	28,47	3,54	58,37		
		16B	1,56	32,33	4,26	68,72		
MA 60 A6	83	2G	0,37	7,79	0,93	15,34	2185	1715
		4G	0,74	15,57	1,86	30,67		
		6G	1,11	23,36	2,79	46,02		
		8G	1,48	31,15	3,72	61,37		
MA 60 D6	125	2S	0,30	6,03	1,31	19,45	2060	1500
		4S	0,60	12,08	2,62	38,92		
		6S	0,90	18,11	3,93	58,38		
		8S	1,20	24,15	5,34	77,83		
MA 60 C6	136	2R	0,51	10,6	1,06	16,00	2070	1510
		4R	1,02	21,2	2,12	32,00		
		6R	1,54	31,88	3,18	48,00		
		8R	2,05	42,4	4,24	64,00		

Control forces – Closing function (air to close – spring to open)

Actuator size	Stroke (mm)	Spring-No.	Control pressure min (bar)	Control force (kN) at control pressure				
				2,0 bar	3,0 bar	4,0 bar	5,0 bar	6,0 bar
MA 60 G6	60	4B	1,5	9,19	25,03	40,88	56,72	72,56
		6B	2,2	-	13,78	29,63	45,47	61,31
		8B	2,9	-	2,53	18,38	34,22	50,06
		12B	3,6	-	-	7,29	23,13	38,97
		16B	4,3	-	-	-	11,72	27,57
MA 60 A6	83	2G	1,0	17,10	33,08	49,07	65,05	81,03
		4G	1,9	2,24	18,22	34,20	50,19	66,17
		6G	2,8	-	3,36	19,34	35,32	51,31
		8G	3,8	-	-	4,48	20,46	36,44
MA 60 D6	125	2S	1,4	9,65	23,62	37,60	51,58	65,56
		4S	2,7	-	5,31	19,29	33,27	47,25
		6S	4,0	-	-	0,98	14,96	28,94
		8S	5,4	-	-	-	-	9,23
MA 60 C6	136	2R	1,1	13,23	27,30	41,37	55,45	69,52
		4R	2,2	-	12,38	26,46	40,53	54,60
		6R	3,2	-	-	11,54	25,61	39,68
		8R	4,3	-	-	-	10,70	24,77

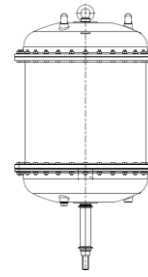
Caution: The actuator forces and spring ranges listed above are for actuator without valve at nominal stroke only



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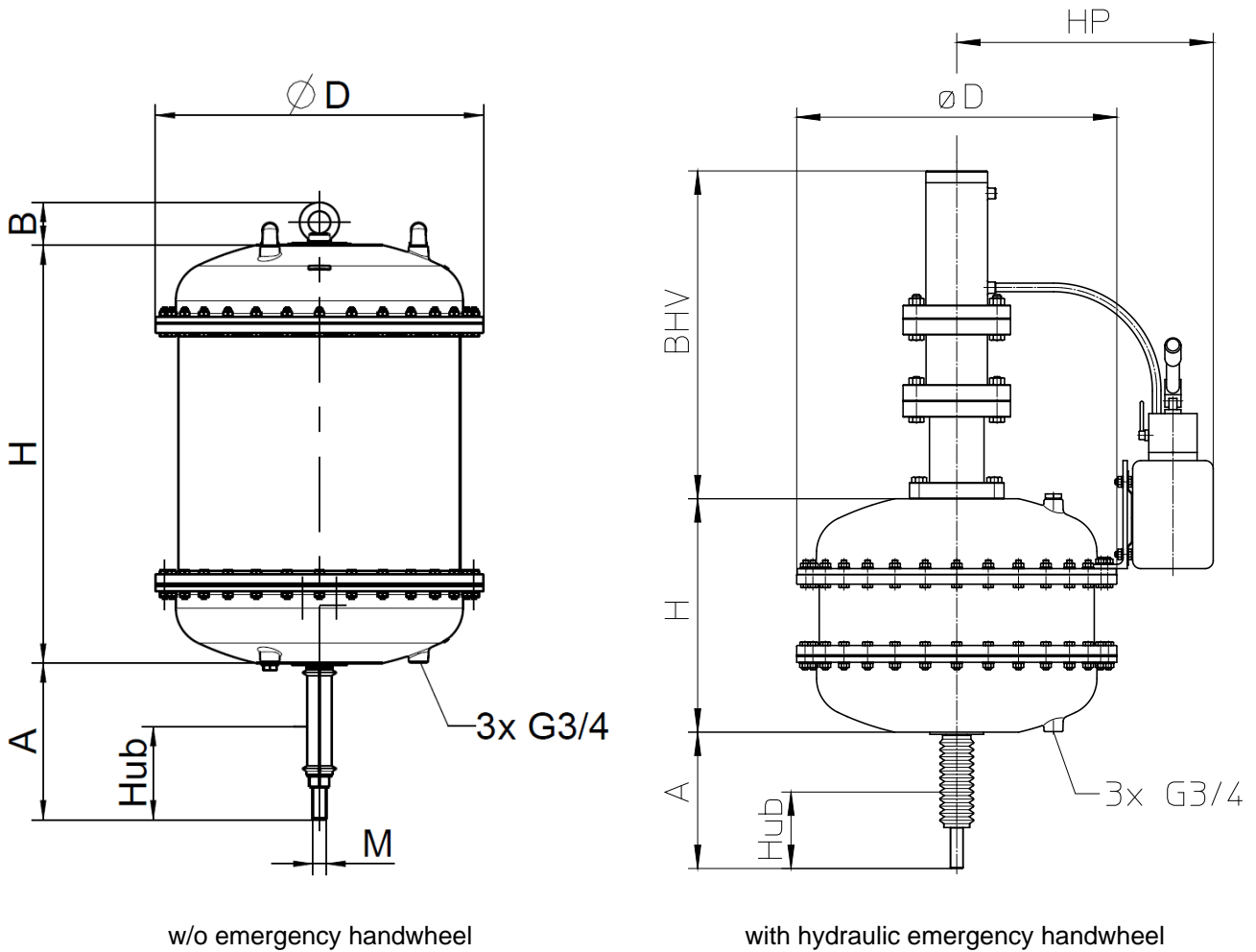
Technical Data Sheet

pneum. Diaphragm Actuator



TD_MA60

Dimensions and weights

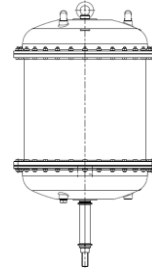


Actuator size	Stroke (mm)	M	ØD (mm)	H (mm)	A (mm)	B (mm)	BHV (mm)	HP (mm)	Weight* (kg)
MA 60 G6	60	M24x2	596	284	184	80	610	480	160
MA 60 A6	83			434	212				190
MA 60 D6	125			434	254				190
MA 60 C6	136			757	284				270

*) Weight w/o handwheel

Technical Data Sheet

pneum. Diaphragm Actuator



TD_MA60

Type code

MA 60 A6 6G O HVH S0 T

Series

Actuator size

60 Diaphragm surface 1500 – 2185 cm²

Actuator type (stroke)

G6 = stroke 60 mm

A6 = stroke 83 mm

D6 = stroke 125 mm

C6 = stroke 136 mm

Spring set

4B 6B 8B 12B 16B = 4, 6, 8, 12, 16 blue springs (G6)

2G 4G 6G 8G = 2, 4, 6, 8 green springs (A6)

2S 4S 6S 8S = 2, 4, 6, 8 silver springs (D6)

2R 4R 6R 8R = 2, 4, 6, 8 red springs (C6)

Function

O = springs move the stem downwards (air to open)

S = springs move the stem upwards (air to close)

Extra equipment

EX = explosion proof design

HB = stroke limitation

HVH= emergency handwheel hydraulic

HVS= prepared for emergency handwheel

S0 = w/o yoke ring, w/o pillars

S6 = with yoke ring, w/o pillars

S7 = with yoke ring, with pillar (length of pillar shall be specified)

SD = actuator stem Duplex (1.4462)

T = low temperature design (-40°C)

VA = outside screws stainless steel