



Badger Meter Europa

PNEUMATIC ACTUATOR

Direction „Air to open-ATO“

Data Sheet
AC-OS

USA-Type 754ATO

DESCRIPTION

Pneumatic diaphragm actuators have proved as low-maintenance, reliable and economical actuator type for control valves. With accessories like i/p-converters or i/p-positioners they can easily be connected to electrical controllers or microprocessor-based control systems with a 4-20 mA output. Another advantage results in the short and precise floating times.

- ? Two sizes for 1/4" and 1/2"-1" Research Control® valves.
- ? Direct air to open – on air fail valve is closed.
- ? Standard spring range 0.2 – 1.0 bar, continuously adjustable with a spring range of 0.8 bar.

FUNCTION

The instrument signal 0.2 – 1.0 bar generates a force at the diaphragm (11) that is balanced by the spring (20) placed in the actuator. The strength of the preload determines the signal range as well as the rated travel, adjustable with spring nut (16).

OPTIONS

- ?? Spring ranges 0.2 - 1.8 bar, 0.4 - 2.0 bar
- ?? Manual handwheel for operation without air; that can also be used as a down travel stop.
- ?? Manual handwheel for use as an up travel stop.
- ?? Side mounted positioner of various types.
- ?? Additional accessories like e.g. limit switches, solenoid valves, i/p-converter, gauges, positioner response.
- ?? Silicone diaphragm.

MATERIALS

- Body: Die cast aluminium with Epoxy coating, or stainless steel (316L) only for 1/2" actuators.
- Spring: Spring steel (painted)
- O-Ring: Silicone rubber
- Diaphragm: Buna on Nylon fabric
- Diaphragm plate: Zinc plated steel
- Small parts: Stainless steel

TECHNICAL DATA

Preload: The required preload force for the closed position of the valve (=safety position) can be seen on the chart below.

Diaphragm effective area:

1/4" actuators: 47 cm² 1/2" actuators: 73 cm²

Maximum allowable air pressure: 4 bar

Shut off force at standard setting (0.2 bar):

1/4" actuators: 18 N 1/2" actuators: 29 N

Shut off force unpressurised

1/4" actuators: 112 N 1/2" actuators: 175 N

Maximum shut off force:

Actuators:	1/4"	1/2"
Spring (black)	289 N	445 N
Spring (red)	--	800 N

Ambient temperature:

Buna diaphragm: -30°C to 70°C

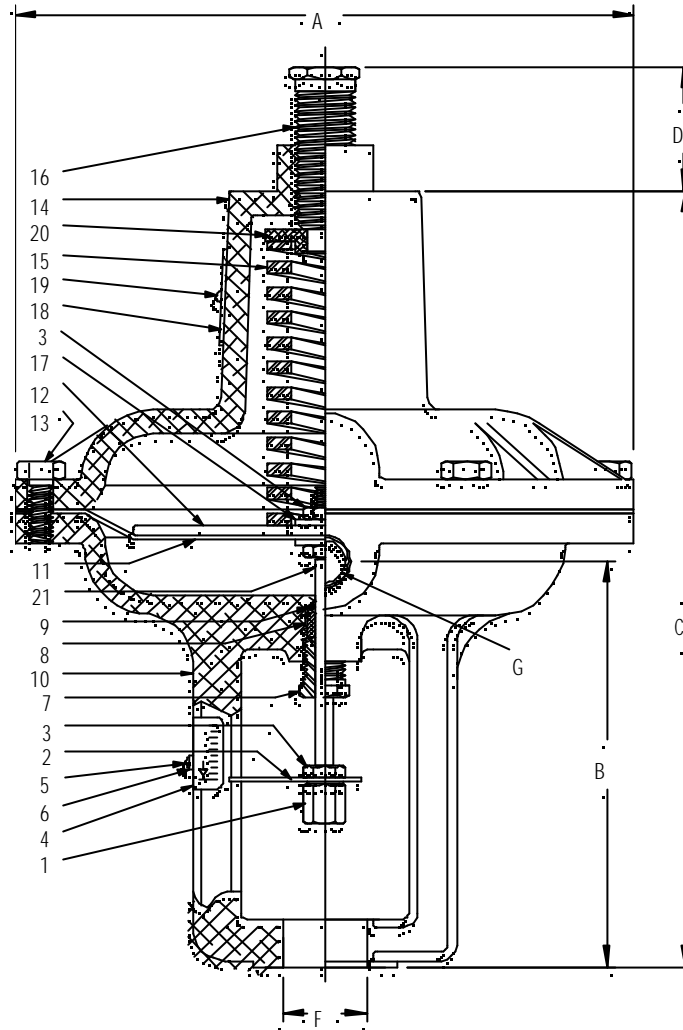
Silicone diaphragm: -30°C to 150°C

Signal range: Standard: 0.2 - 1 bar Optional: 0.4 - 2 bar

Air failure: Spring to close

Weight: 1/4" actuators: 0.9 kg 1/2" actuators: 1.7 kg

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|----------------------------------|------------------------------|
| Description of items | Description of items |
| 1 Stem connector, 300 SS | 12 Diaphragm plate, V. Steel |
| 2 Travel pointer, SS | 13 Screw, 300 SS |
| 3 Stem nut, 300 SS | 14 Pressure case, Aluminium |
| 4 Travel scale, SS | 15 Spring, Steel |
| 5 Screw, 300 SS | 16 Spring adjuster, 300 SS |
| 6 Washer, Aluminium | 17 Washer (stem), 300 SS |
| 7 Gland, 300 SS | 18 Nameplate, 300 SS |
| 8 Follower-"O" ring, PTFE | 19 Drive screw, 300 SS |
| 9 "O" ring, Silicone | 20 Spring seat, Aluminium |
| 10 Pressure case yoke, Aluminium | 21 Stem (actuator), 300 SS |
| 11 Diaphragm, Buna | |



RCV	A	B	C	D	F	G	stroke
1/4" NPT	130	85	167	4-8	16	1/8"	11,1
1/2" NPT	163	109	217	6-10	22	1/4"	14,3

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