



## Pneumatic actuator with positioner type AC-CP / USA-Type 759-TLDA

### Direction „Air to close–ATC“

#### Description

The type AC-CP is an actuator with an integrated pneumatic positioner TLDA especially constructed as a compact extension for the Research Control® valves. The positioner TLDA (Top Loaded Direct Action) ensures a fast and precise regulation by its high positioning precision that can be kept independent of the changing media pressures. This actuator should be used if higher shut off forces are required at same input signal of 0.2 – 1.0 bar, due to influences like e.g. friction of the packing or media pressure.

#### Function

The TLDA positioner is based on the force compensation method. Every position of the valve equates to a definite force on the spring (22). In an unbalanced state, the supply air is directed behind the diaphragm (7), until a balanced state is reached. The positioner ensures that the valve position is always directly related to the instrument signal. This is obtained by constantly comparing the control signal 0.2 – 1.0 bar with the travel of the valve.

#### Features

- High precision
- For compact installations

#### Options

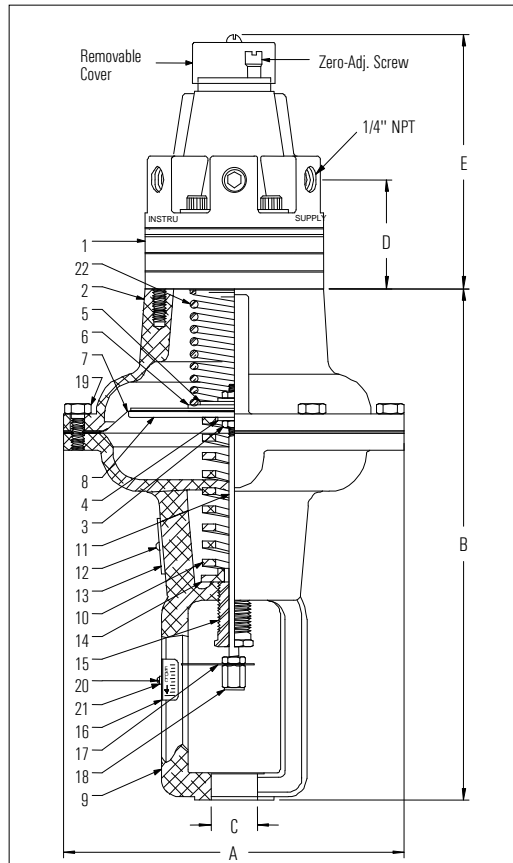
- Split range operation 0.4 bar. Equals e.g. a signal range of 0.2 - 0.6 bar or 0.6 - 1.0 bar. Other ranges upon request.
- Additional accessories (limit switches, solenoid valves, i/p-converter, gauges, position response).
- Silicone diaphragm.

#### Materials

Body	Die cast aluminium with Epoxy coating
Spring	Spring steel (painted)
O-Ring	Silicone rubber
Diaphragm	Buna on Nylon fabric
Diaphragm plate	Zinc plated steel
Small parts	Stainless steel, brass

#### Technical data

Preload	The calculation of the required preload resp. force for the closed position of the valve (= safety position) is described in the "Selection guide for standard applications"	
Diaphragm effective area	1/4" actuators: 47 cm <sup>2</sup> 1/2" actuators: 73 cm <sup>2</sup>	
Maximum supply pressure	4 bar	
Maximum shut of force (at 4 bar)	Actuators:	1/4"    1/2"
	Spring (black)	1504 N    2304 N
Ambient temperature	Buna diaphragm: -30°C to 70°C Silicone diaphragm: -30°C to 150°C	
Air consumption at 1 bar supply pressure	1.0 m <sup>3</sup> /h in regulation	0.4 m <sup>3</sup> /h in open position
Response level at signal change	≤0.1% of maximum travel	
Signal range	Standard: 0.2 - 1 bar	Optional: 0.2 - 0.6 bar Optional: 0.6 - 1.0 bar
Air failure	Spring to open	
Weight	1/4" actuators: 2.4 kg 1/2" actuators: 3.2 kg	



### Description of items

1. Positioner TLDA
2. Body, Aluminium
3. Stem nut, 300 SS
4. Washer, Steel
5. Spring loc. plate, Aluminium
6. Washer, Aluminium
7. Diaphragm, Buna
8. Diaphragm plate, Steel
9. Pressure case yoke, Aluminium
10. Spring, Steel
11. Stem, 316 SS
12. Drive screw, SS
13. Nameplate, SS
14. Spring seat, Aluminium
15. Spring adjuster, 300SS
16. Travel scale, SS
17. Travel pointer, SS
18. Stem connector, 300 SS
19. Screw, 300 SS
20. Screw
21. Washer
22. Range spring, Steel

RCV	A	B	C	D	E	stroke
1/4" NPT	130	201	16	51	118	11,1
1/2" NPT	163	239	22	51	118	14,3