

EQ-DA-Series

Diaphragm Actuator

- Pressure range: -1 to 200 bar gauge
- High precision & accuracy
- Minimal pressurized gas consumption in steady state
- Minimal dead volume
- Open & closed-loop control options
- External sensors for multiple process parameters

Equilibar dome-loaded control valves are known for their flexibility. Their elegant design offers unsurpassed turndown-ratio, enabling a wide variety of applications. These valves are available to control fluids from -253°C to 650°C, at pressures ranging from 1 mbar abs to 1400 bar gauge. The EQ-DA pneumatic diaphragm actuator operates with clean reference gas like N₂ or dry Air. Therefore, it doesn't see the harsh conditions that the dome-loaded valve needs to withstand.



The EQ-DA is a state-of-the-art pneumatic controller, designed by PCS and built for high-precision control of Equilibar® dome-loaded control valves up to 200 bar. It delivers an uncompromising, high-end performance in the control of process parameters such as pressure, flow, level and delta-P. The EQ-DA solves the most demanding process control challenges, while optimizing control stability, rangeability, chemical compatibility, temperature and accuracy.



PRESSURE CONTROL
SOLUTIONS

EQ-DA Series

- Available in a 200-bar version (SS316) and a 70-bar version (aluminum)
- Strong powder-coated aluminum extrusion housing with IP-65 rated seals
- Internal pressure sensor that is highly-accurate, digital, with temperature compensation; communication of measured value over I2C to the main PCB
- PCB equipped with a powerful 500 MHz processor, that allows to perform ≤ 2 ms PID-control based on multiple process inputs
- Monochrome and multi-color LED's indicate control status, supplying the user with real-time data on the control behavior of the instrument
- USB-C connection on top of the instrument, facilitating the user to configure and monitor all process information through a designated GUI
- 2 analog inputs for high-speed sampling of process variables.
- Control algorithms for:
Flow control | Back pressure control | Forward pressure control | Delta-P control | Level control

FEATURE	DETAILS
Control stability	0.02% of Full Scale (max 0.01%)
Repeatability	$< \pm 0.01\%$ (2 sigma 98%)
Internal pressure sensor accuracy	0.25 %
Available pressure ranges	-1...3 barg -1...10 barg -1...30 barg 0...70 barg 0...200 barg and all intermediate values
Temperature range	-10...50°C
Power supply	+24 Vdc (300 mA)
Fail safe (Dual valve)	Pressure Hold (both valves are normally closed)
Seals	Viton
Tube fitting sizes	1/8" 1/4" 6 mm OD compression type more options available on request
Cv values	2.0E-6 up to 0.06
Analog communication	0...5(10) Vdc 0(4)...20 mA (sourcing output)
Simultaneous digital communication	ModBus RTU (RS-485 or USB)
Optional digital communication	ProfiNet Ethercat EtherNet ModBus TCP/IP more options available on request
Weight	1.2 kg (SS316 body)

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