



The M16 precision pressure regulator is a direct acting proportional regulator for vacuum and overpressure with regulation range limits from -0,9 bar and +0,15 up to +10,0 bar.

- Precision Regulator for Vacuum and Overpressure
- Pressure Control Ranges from -0,9 (Vacuum) to 10 bar
- Response Sensitivity better 0,9 % F.S.
- Input Pressure Dependency better 0,1 % F.S./bar
- Open Pressure Regulator with Relief Valve

Technical Description

The precision pressure regulator can be used for both operation modes: inline to regulate mixed pressures out of vacuum and overpressure and by-pass operation as pure vacuum regulator versus atmosphere.

Between the spring-diaphragm-system and the counteracting output pressure arises a force balance, which keeps the outlet pressure almost constant for large input pressure changes. This is supported by the continuous bleeding of a small amount of air through a relief valve, which prevents the regulator from friction caused pausing. In addition to small pressure dependency the regulator therefore shows high control sensitivity and fast response behaviour.

Specifications

Pressure Control Ranges

Upper Limits of Output or Set Point Pressure: -0,9 to +0,15 / 0,7 / 2,0 / 7,0 / 10,0 bar
Input or Primary Pressure: > 150 % F.S. (max. 17 bar)

Response Behaviour

Response Sensitivity: < 0,9 % F.S.
Input Pressure Dependency: < 0,1 % F.S./bar

Operating Conditions

Input Pressure: -0,9 bar vacuum and up to 17 bar over pressure
Temperature: -40 ... +93 °C
Humidity: 0 ... 90 % r.H. (non-condensing)
Medium: Air

Media Compatibility

Clean, dry, oil-free air; humidity non-condensing.

Flow Behaviour

Air Mass Flow at 7 bar Primary Pressure and 1,4 bar Set Point Pressure: 1100 Sl/min
Air Mass Flow for By-pass Operation, Atmosphere versus Vacuum: 70 Sl/min
Air Mass Flow for Inline Operation, Atmosphere versus Vacuum: 1 Sl/min
Air Consumption (Constant Bleed): < 5,5 Sl/min
Approximated flows with fully opened valve for standard conditions (1013 mbar abs., 0 °C, 0 % r.H.).

Enclosure

Dimensions Knob Height: 77 x 210 mm (ØxH)
Material Housing: Aluminium, anodised
Control Knob: Plastic
Valve: Stainless steel, brass and zinc-plated steel
Assembly: Nitrile on Dacron
Diaphragm: Total: ≈ 940 g

Process Connections

Pressure Standard: 1/4" f NPT (2 x)
Optional: 3/8" f NPT (2 x)
Manometer: 1/4" f NPT **oder** BSPT (2 x)

Special Features

Manometer Connection

Pressure Display: two outlets for standard manometers are available.

Mounting

Options: pipe- or panel mounting.

Ordering Information

Part No. Structure: M16-16aab-cde

aa	Control Range	aa	Control Range
21	- 0,9...+ 0,15 bar	25	- 0,9...+ 7,0 bar
22	- 0,9...+ 0,7 bar	26	- 0,9...+ 10,0 bar
23	- 0,9...+ 2,0 bar		

b Pressure Connection

2 1/4" f NPT (std.)
3 3/8" f NPT (std.)

c,d,e Respectively single chooseable options

A Silicone elastomers
H BSPP (Parallel) instead of NPT thread inline
I Tamper proof
J Fluorocarbon elastomers
L Controller with low flow
U BSPT (Tapered) instead of NPT thread inline

By ordering multiple options (max.3) please specify in alphabetic order

Part No.

Accessories

M16-L091-2120	Mounting bracket for panel mounting
M16-NPT14-VZ	Spare plug 1/4" NPT for manometer port
M16-BSPT14-VZ	Spare plug 1/4" BSPT for manometer port
M16-L342.0002	Manometer port 1/4"m BSPT- 1/4" f BSPP, stainless steel)
M16-L342.0003	Manometer port 1/4"m NPT- 1/4" f BSPP stainless steel
M10-L138-0540	O-ring 5x3 mm NBR for manometer

Compatible manometers on demand.