E/P pressure regulator, Series ED02

► compressed air connection output: G 1/8, 1/8 NPTF ► Electr. connection: via signal connection ► Signal connection: input and output, Plug, M12, 5-pin



00123883

Version Poppet valve
Control Analog

Certificates CE declaration of conformity

Ambient temperature min./max. +0 °C / +50 °C Medium temperature min./max. +0 °C / +50 °C Medium Compressed air

Max. particle size 50 μ m Max. oil content of compressed air 1 mg/m³

Mounting orientation $\pm \alpha = 0 - 90^{\circ} \pm \beta = 0 - 90^{\circ}$

Operating pressure See table below

DC operating voltage 24 V

Voltage tolerance DC -20% / +20%

Permissible ripple 5%

Max. power consumption 0.3 A

Protection class with electrical connector/ IP 65

plug

Compressed air connection input G 1/8, 1/8 NPTF Compressed air connection output G 1/8, 1/8 NPTF

Exhaust type Unrestricted, with silencer

Weight 0.32 kg

Materials:

Housing Die-cast aluminum; Steel

Seal Hydrogenated acrylonitrile butadiene rubber

Technical Remarks

- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter "Technical information".
- With oil-free, dry air, other installation positions are possible on request.
- ED02 series valves can be assembled into blocks using tie rods (see accessories).
- The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.
- The compressed air connection threads fit both G 1/8 and 1/8 NPTF.

	Operating pressure Max.	Pressure set- ting range min./max.	Nominal input value		Actual output value		Hysteresis	Fig.	Note	Part No.
	[bar]	[bar]								
1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8	0/6	0 - 20	mA	0 - 20	mA	< 0,05 bar	Fig. 1	-	R414002400
	8	0/6	4 - 20	mA	4 - 20	mA		Fig. 1	-	R414002401
	8	0/6	0 - 10	V	-	-		Fig. 3	1)	R414002402
	8	0/6	0 - 10	V	0 - 10	V		Fig. 2	-	R414002403
	12	0 / 10	0 - 20	mA	0 - 20	mA		Fig. 1	-	R414002410
MITTIES W	12	0 / 10	4 - 20	mA	4 - 20	mA		Fig. 1	-	R414002411
31 1	12	0 / 10	0 - 10	V	-	-		Fig. 3	1)	R414002412
	12	0 / 10	0 - 10	V	0 - 10	V		Fig. 2	-	R414002413

¹⁾ Output 10V constant to supply a potentiometer

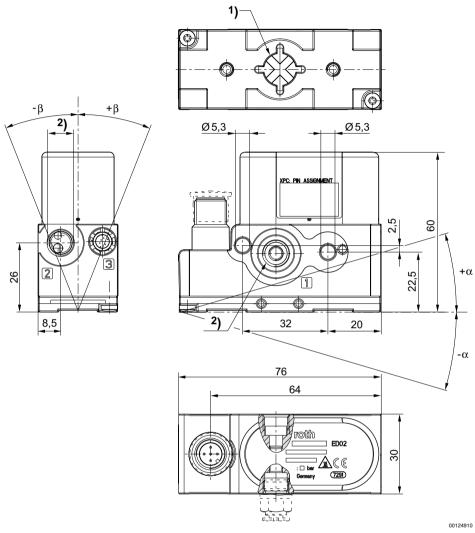
Minimum working pressure = 0.5 bar + max. required secondary pressure

Additional pressure setting ranges available on request

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Dimensions

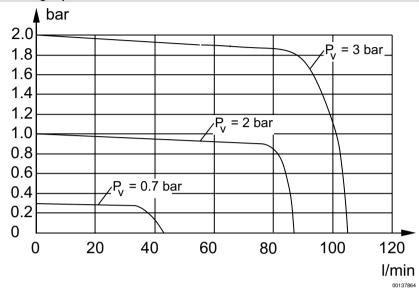


- 1) Housing exhaust
- 2) Universal threaded connection, suitable for G1/8 according to ISO 228/1:2000 and 1/8-27 NPTF

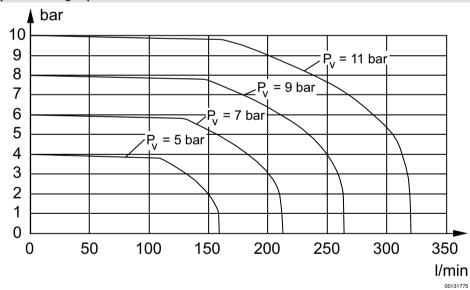
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Flow diagram for pressure range up to 2 bar



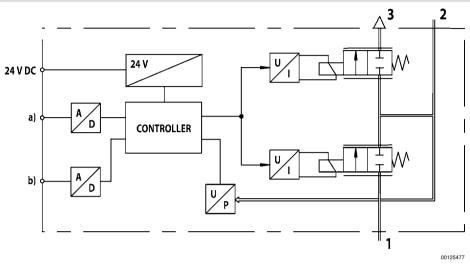
Flow diagram for pressure range up to 10 bar



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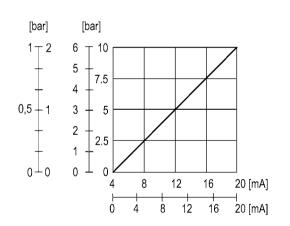
Functional diagram

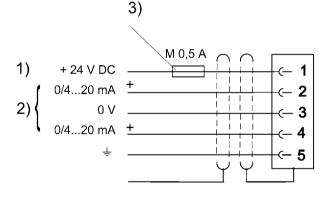


a) Nominal input value b) Actual output value

The E/P pressure control valve modulates the pressure corresponding to an analog electrical nominal input value.

Fig. 1, Characteristic and pin assignment for current control with actual output value





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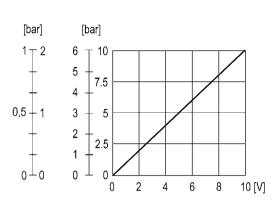
- 1) Operating voltage
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V.
- Current control (ohmic load 100 Ω). Actual value output (max. total resistance of downstream devices $< 500 \Omega$).
- 3) The operating voltage must be protected by an external M 0.5 A fuse.

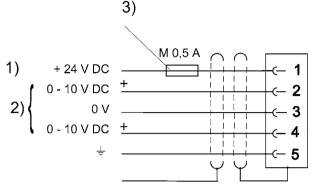
Connect the plug via a shielded cable to ensure EMC.

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Fig. 2, Characteristic and pin assignment for voltage control with actual output value



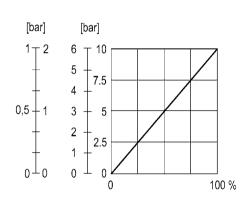


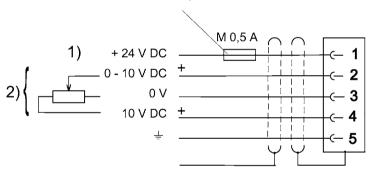
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- 1) Operating voltage 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (voltage control). Min. load resistance of nominal value output = 1 k Ω .
- 3) The operating voltage must be protected by an external M 0.5 A fuse.

Connect the plug via a shielded cable to ensure EMC.

Fig. 3, Characteristic and pin assignment for potentiometer control without actual output value





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- 1) Operating voltage 2) Potentiometer control (pin 4) and nominal value (pin 2) are related to 0 V. Load resistance of potentiometer min. 0-2 k Ω , max. 0-10 k Ω .
- 3) The operating voltage must be protected by an external M 0.5 A fuse.

Connect the plug via a shielded cable to ensure EMC.