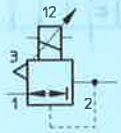
Proportional pressure regulator

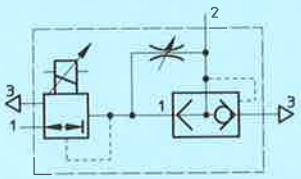
Output pressure range 0 to 10 bar
Type MPP-3-1/8

Output pressure range 0 to 2.5 bar
Type MPP-3-1/4-2.5

Output pressure range 0 to 10 bar
Type MPP-3-1/4-10



Output pressure range 0 to 10 bar with integrated quick exhaust
Type MPP-3-1/4-10-SE



1 (P) = Supply port
2 (A) = Working or outlet line
3 (R) = Exhaust

...-1/8 ...-1/4-2.5 ...-1/4-10 ...-1/4-10-SE

This valve will give a pressure at the output port which is proportional to the current input at the proportional control solenoid. The current regulator, type MPZ, is used for the electrical activation of the control solenoid.

With this pressure regulator, you can:
- set pneumatic pressures variably in accordance with a specified electrical reference value.

Applications include:
- Variable clamping force for clamping cylinders
- Weight compensation for robot arms
- Generations of counter pressure for cylinders

Accessories:
Current regulator, type MPZ-... for the electrical activation of proportional solenoids
Current regulators, see sheet 9.201 and 9.202
Reference value module, see sheet 9.203

Order code	Part No./Type	13 828 MPP-3-1/8	26 246 MPP-3-1/4-2.5	15 236 MPP-3-1/4-10	15 247 MPP-3-1/4-10-SE
Medium		Compressed air, filtered (lubricated or unlubricated) inert gases			
Design		Double-poppet valve with mech. pressure balance			
Mounting		2 through-holes			
Connection	pneumatic	G 1/8	G 1/4	G 1/4	G 1/4, G 3/8
	electrical	Standard plug socket to DIN 43650			
		Standard plug sleeves to DIN 46247			
Nominal bore	air supply/exhaust mm	4.2/2.0	7.7/4.5	5.5/2.2	5.5/11
Max. standard nominal flow rate		See diagram, sheet 9.200-3			
Supply pressure range		1.5 to 10 bar	1 to 6 bar	2.5 to 10.5 bar	
Output pressure range (P2)		0 to 10 bar	0 to 2.5 bar	0 to 10 bar	
Switching time at 6 bar		On: 25 ms; Off: 30 ms	On: 15 ms; Off: 45 ms		
Operating voltage V_{op} of the prop. solenoid		18 V DC			
Nominal current		0.95 A			
Power consumption		17.4 W			
Hysteresis		< 5% of P2 max.			
Reproducibility		< 1% of P2 max.	< 0.5 % of P2 max.		
Response sensitivity in conjunction with MPZ-...		< 0.3% of V_{ref} max.	< 0.7% of V_{ref} max.	< 0.3% of V_{ref} max.	
Degree of protection	Plug socket to DIN 43650	IP 65			
	Plug sleeves to DIN 46247	IP 00			
Duty cycle		100%			
Ambient temperature range		0 to +50 °C			
Materials		Housing: Anodised Al; seals: Perbunan; Components: Brass, Al			
Weight		0.950 kg	0.930 kg	0.830 kg	0.970 kg

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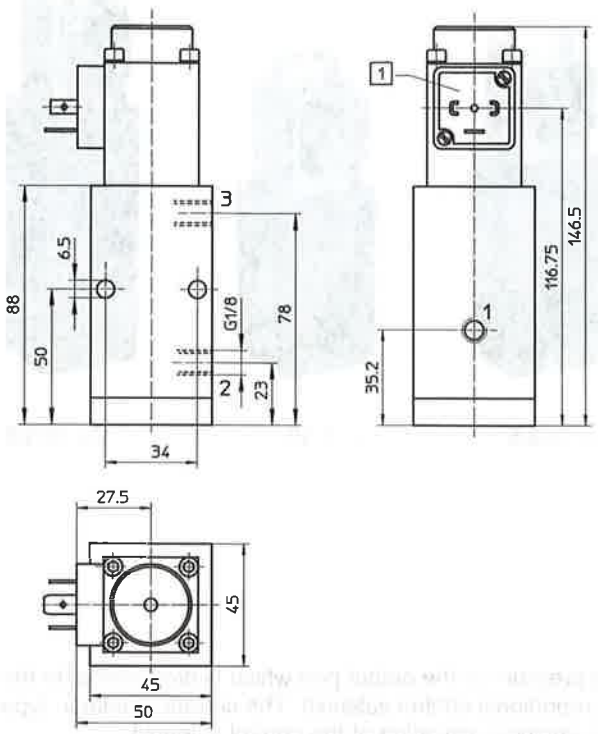
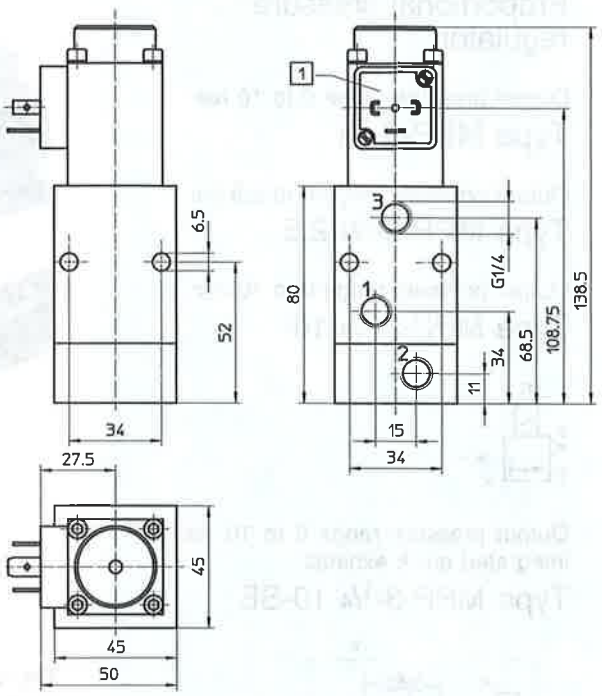
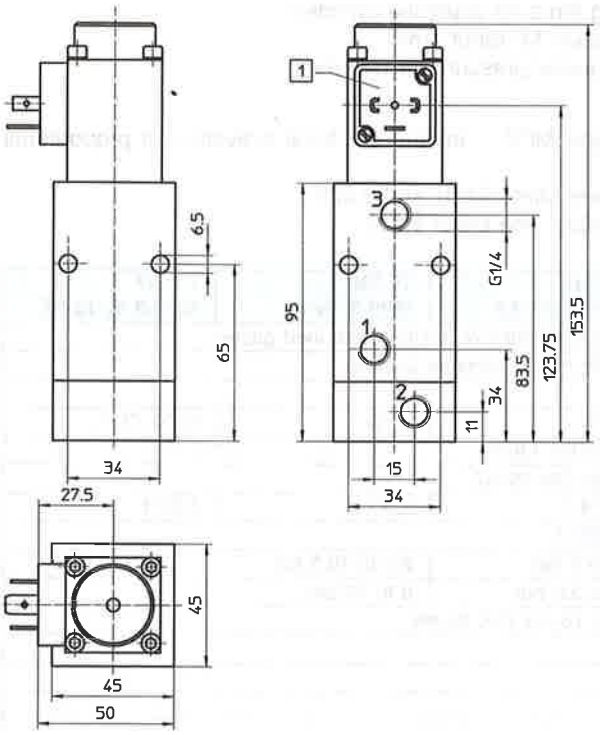
Type MPP-3-1/8



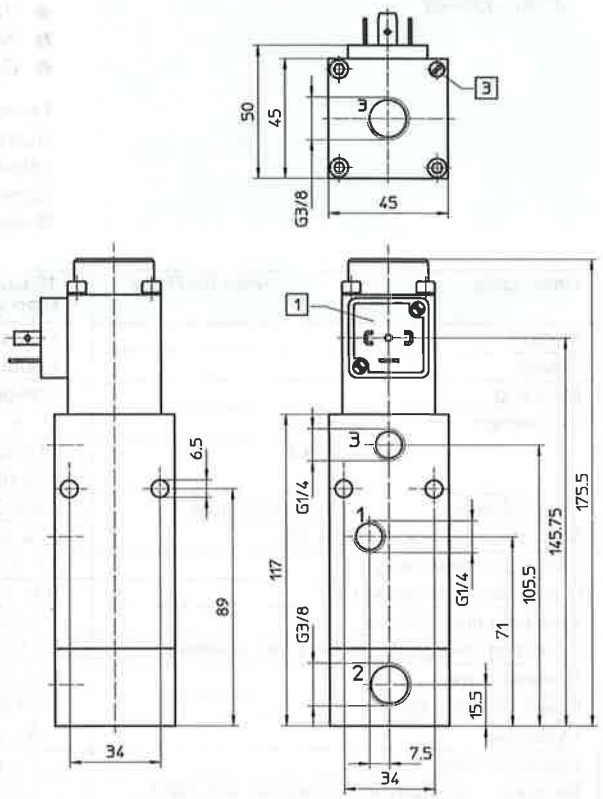
Type MPP-3-1/4-2.5



Type MPP-3-1/4-10



Type MPP-3-1/4-10-SE



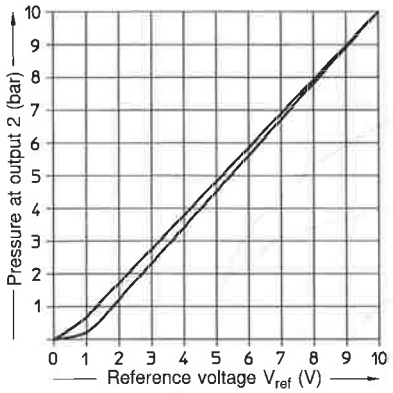
1 (P) = Supply port
2 (A) = Working or outlet line
3 (R) = Exhaust

1 Connection for standard plug socket to DIN 43650
3 Bypass setting

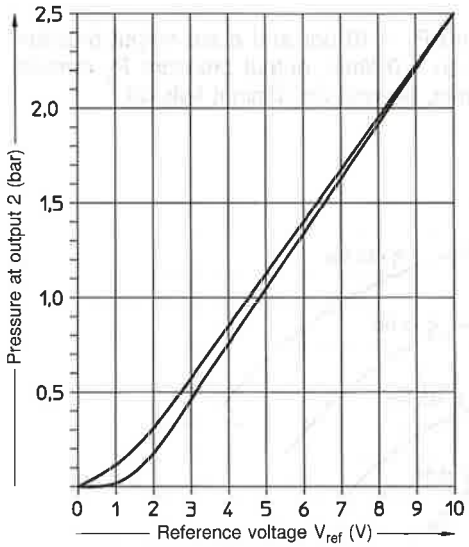
Regulation control characteristic

Pressure at output 2 as a function of reference voltage V_{ref}

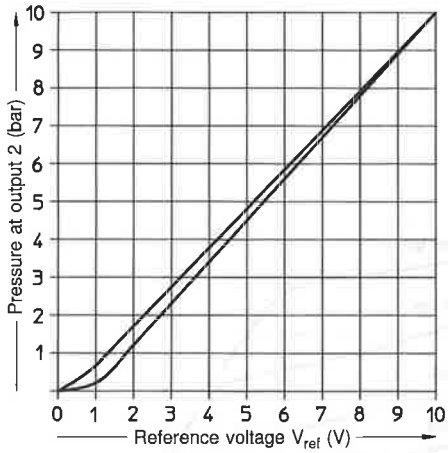
Type MPP-3-$^{1}/_{8}$



Type MPP-3-$^{1}/_{8}$-2.5



Type MPP-3-$^{1}/_{4}$-10
MPP-3-$^{1}/_{4}$-10-SE

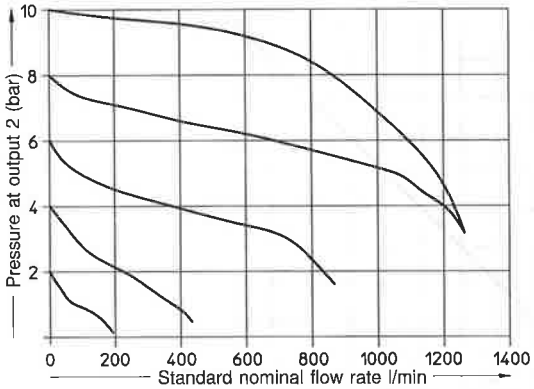


Reference value input signal at current regulator MPZ
V_{ref} = 0 to 10 V
I_{ref} 0 to 20 mA

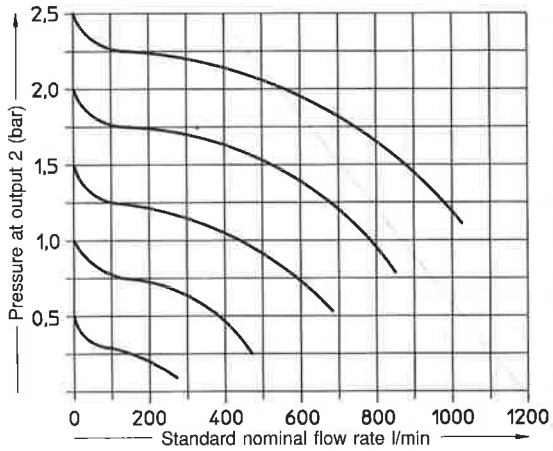
Flow characteristic curve from 1 to 2 (p2 set at qn = 0 l/min)

Pressure at output 2 as a function of standard nominal flow rate qn

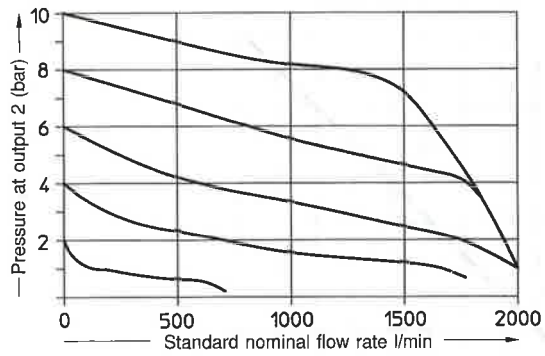
Supply pressure 10 bar



Supply pressure 6 bar



Supply pressure 10.5 bar



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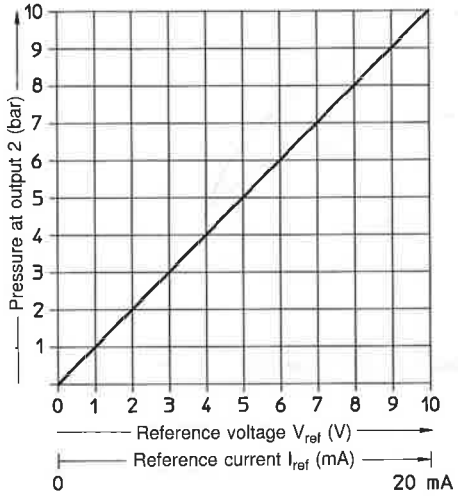
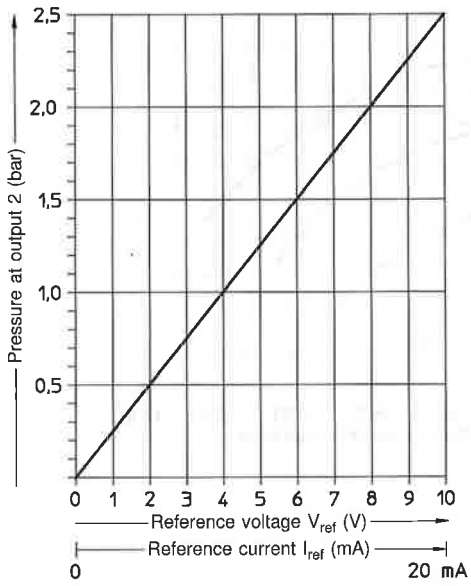
Regulation control characteristic

Pressure at output 2 as a function of reference voltage V_{ref}

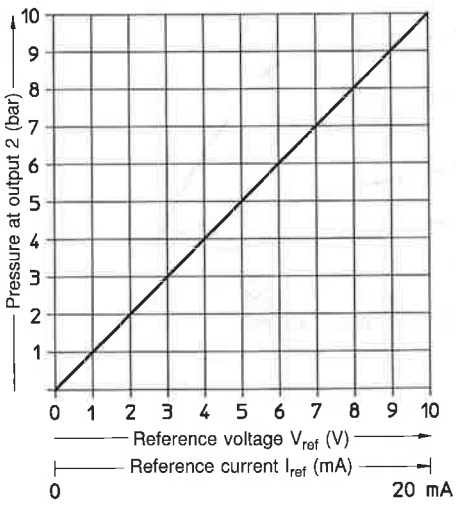
Type MPP-3-$^1/_8$



Type MPP-3-$^1/_4$-2.5

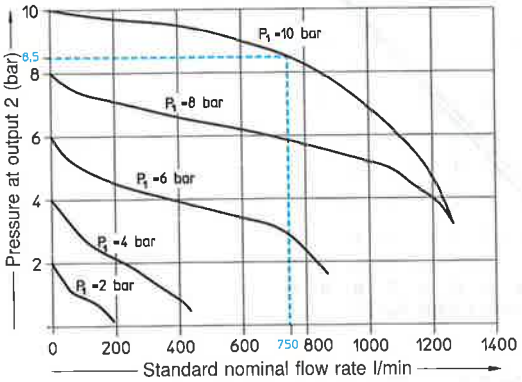


Type MPP-3-$^1/_4$-10
MPP-3-$^1/_4$-10-SE



Flow characteristic curve from 1 to 2 (p2 set at qn = 0 l/min)

Pressure at output 2 as a function of standard nominal flow rate qn



Example:
At a supply pressure P_1 = 10 bar and a set output pressure P_2 = 8.5 bar, with qn = 0 l/min, output pressure P_2 remains stable up to 750 l/min, beyond 750 l/min it falls off.