

PILOT OPERATED PRESSURE RELIEF VALVE

PMO*-78/*

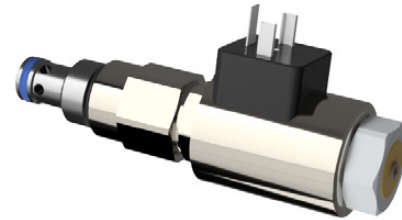
60 l/min 35 MPa (350 bar)

1 DESCRIPTION

Proportional pressure relief valve in cavity 7/8" 14 UNF.

The valve is available in two configurations: standard, where with no current there is no pressure in the system, and positive where with no current you have the desired pressure in the system.

Valves are normally supplied with coils with integrated quenching diode in order to protect the electronics connected with the valve.



2 ORDERING CODE

(1)	(2)	(3)	(4)	(5)	(6)
PMO	*	- 78 /		-	-

(1) PMO : Proportional pressure relief valve

(2) Function:

no designation : Standard (relief 0 bar with 0 current)
P: Positive (relief 180 bar with 0 current)

(3) 78: cavity SAE10 (7/8" 14 UNF)

(4) Pressure range:

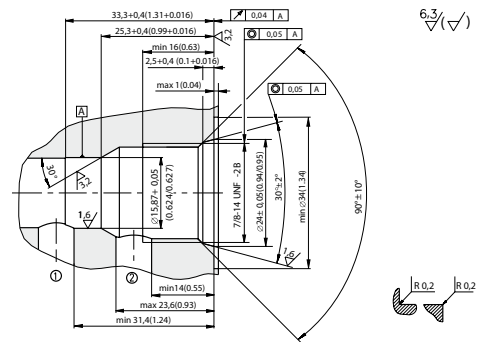
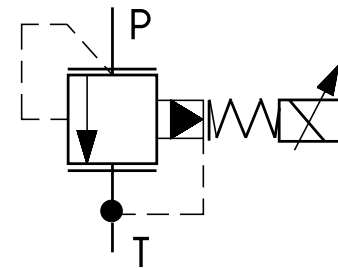
12: up to 120 bar (1740 PSI)
21: up to 210 bar (3046 PSI)
35: up to 350 bar (5076 PSI)

(5) Electric voltage and solenoid coils

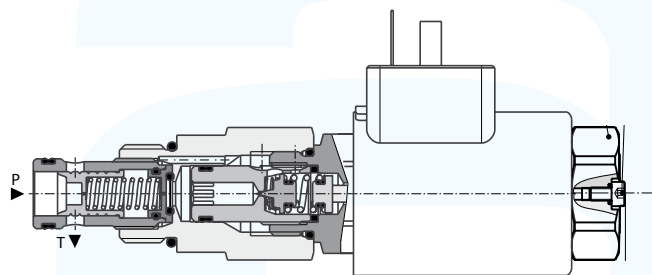
012CDR: coil(s) for V12DC with quenching diode
024CDR: coil(s) for V24DC with quenching diode
012C: coil(s) for V12DC
024C: coil(s) for V24DC

(6) Coil connection

no designation : DIN 43650-A ISO 4400
AMP: Amp Junior Timer
D: Deutsch DT04-2P
DR: quenching diode
DRD: quenching diode, deutsch connector



The valve is designed for continuous regulation of pressure in the circuit. It is pilot operated from a pilot stage. The increase/decrease of the pressure P in the system is proportional to the energizing current at solenoid. For a self bleeding of the valve it is recommended to install the valve in vertical position with coil on the bottom. If it is not possible, it is necessary to act on the bleeding screw in order to assure a proper function of the valve.



3 TECHNICAL DATA

Nominal flow	50 l/min	Electric characters: Valve type PMO*.78 are operated by solenoid that are energized from a D.C. voltage supply: V 12 DC = 012C V 24 DC = 024C With an appropriate electrical driver in order to control the input current at the valve Coils have an integrated quenching diode and their characteristics are: V 12 DC - limit current 1,0 A - 6,5 Ohm V 24 DC - limit current 0,6 A - 20,8 Ohm
Maximum rec. flow rate	50 l/min	
Maximum nominal pressure	35 MPa (350 bar)	
Optimal dither control	250 Hz	
Valve Hysteresis	<5 %	
Protection	IP 67	
Duty cycle	100%	
Installation and dimension	(see [5])	
Valve Body	Steel	
Mass	0,58 kg	
Note: pressure in T line influences valve performances		

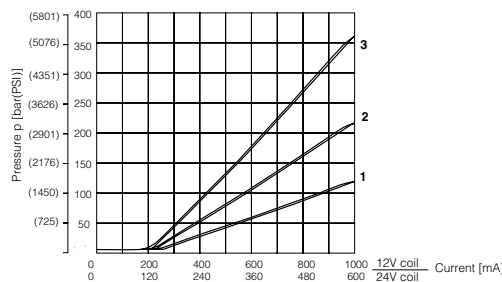
4 TYPICAL DIAGRAMS

Typical P-Q curves for valves PMO*.78 in standard configuration, with mineral oil at $v=32 \text{ mm}^2/\text{s}$ and at $T=40^\circ\text{C}$.

p-I Chart

Measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS)

$p = f(I)$, $Q = 5 \text{ L/min}$ (1.321 GPM)



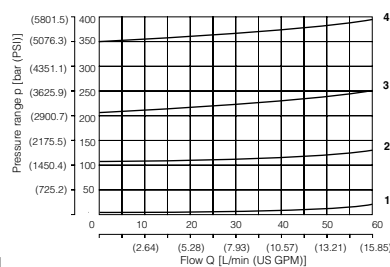
3	Pressure range 35
2	Pressure range 21
1	Pressure range 12

Attention:

The proportional pressure relief valve is not mechanically protected and it does not perform the relief valve function.

p-Q Chart

Measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS)

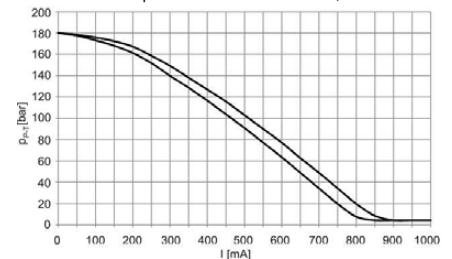


4	Pressure range 35
3	Pressure range 21
2	Pressure range 12
1	Min. pressure (range 35)

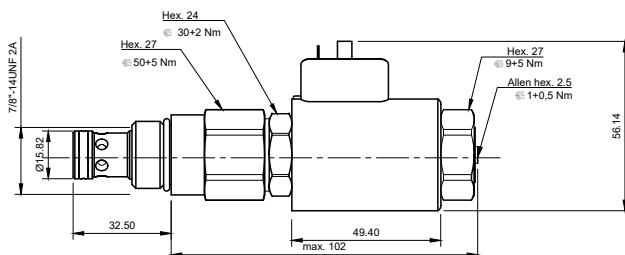
PMOP.78 pressure setting

p-I Characteristics

Valve performance flow 5 dm³/min, direction P-T



5 INSTALLATION DIMENSIONS (mm)



6 HYDRAULIC FLUIDS

Seals and materials used on standard valves PMO*.78 are fully compatible with hydraulics fluids of mineral base, upgraded with antifoaming and anti oxidizing agents. The hydraulic fluid must be kept clean and filtered to ISO 4406 class 19/17/14, or better, and used in a recommended viscosity range from 10 cSt to 60 cSt.