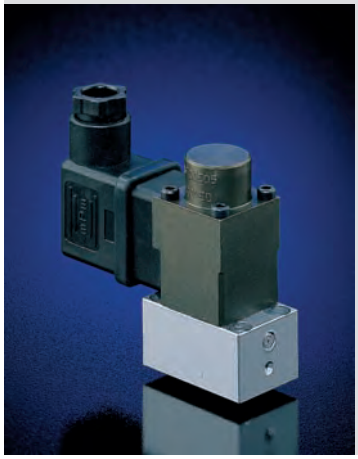
Miniature proportional pressure reducing valves type PM

These proportional pressure reducing valves are used for circuits, where other devices i.e. directional spool valves should be controlled with a low flow and varying pressure. The pressure on the secondary side (port A) can be adjusted, independently from the pressure on the primary side, according to an electrical signal.
The reduced pressure at port A will change proportional to alternation of the electrical input signal.
There is a design related permanent leakage flow apparent at R, which has to be led back to the tank via a depressurized line. These pressure reducing valves feature a override compensation i.e. acting like a pressure limiting valve, if the pressure on the secondary side exceeds the set pressure e.g. due to external forces.



Nomenclature:	Prop. pressure reducing valve
Design:	Assembly kit Individual valve Manifold mounting
Adjustability:	Electro-proportional
$p_{max\ P}$:	40 bar
$p_{max\ A}$:	19 bar
Q_{max}:	approx. 2 lpm

Basic types and general parameters

Basic type	**PM 1**	**PMZ 1**	**PM 11**	**PM 12**
Design	**Assembly kit**		**Manifold mounting valve**	
	Single valve	Twin valve	Single valve	Twin valve
Pressure range (prop. adjustable nom. pressure difference $\Delta p = p_A - p_R$)	0 ... 9 bar	0 ... 4.5 bar 0 ... 11.5 bar	0 ... 5.5 bar 0 ... 14 bar	0 ... 7.5 bar 0 ... 19 bar

Additional versions

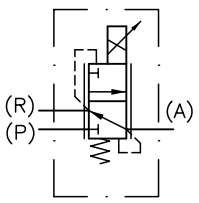
- Type PM 11 and PM 12, with orifices ∅ 0.6 mm in port A and B to dampen oscillations and/or return pressure stop in port R
- Valve bank type PMZ 1-A5, up to 10 prop. pressure reducing valve sections
- Type PMZ is also available conforming ATEX

Solenoid voltage

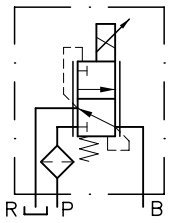
- 12V DC and 24V DC (control current 0 ... 0.63 A (24V DC); 0 ... 1.2 A (12V DC))
- Control via proportional amplifier (see also “Additional information”)

Symbol

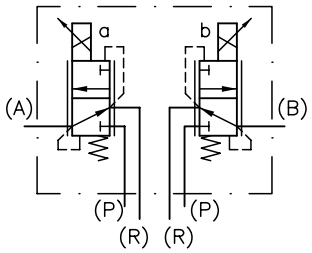
PM 1



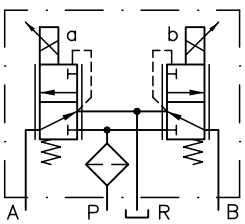
PM 11



PMZ 1



PM 12



Order examples

PM 1 - 11 - G24

Proportional pressure reducing valve (assembly kit) type PM 1, max. controllable pressure difference 11.5 bar, solenoid voltage 24V DC

PM 12 - 7 - G24

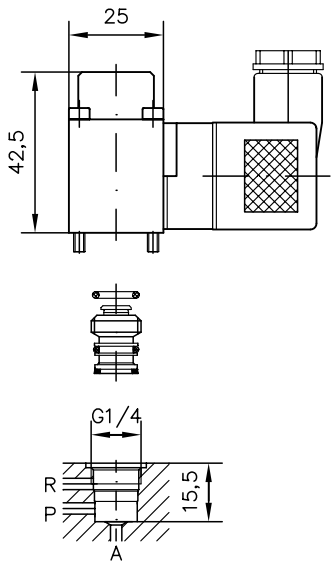
Twin proportional pressure reducing valve (manifold mounting valve) type PM 12, max. controllable pressure difference 7.5 bar, solenoid voltage 24V DC

PMZ 1 - 19 - G12

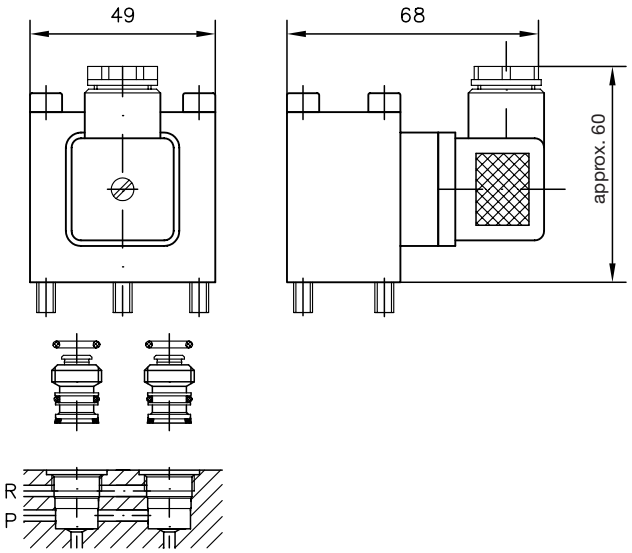
Twin proportional pressure reducing valve (assembly kit) type PMZ 1, max. controllable pressure difference 19 bar, solenoid voltage 12V DC

Dimensions

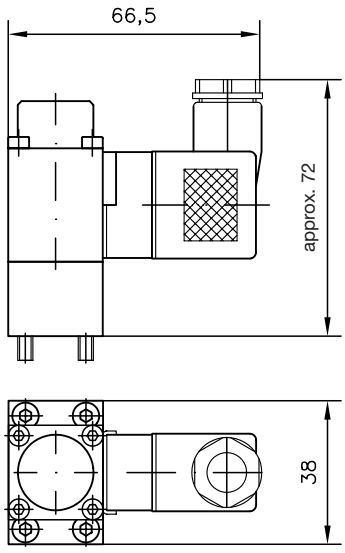
Type PM 1



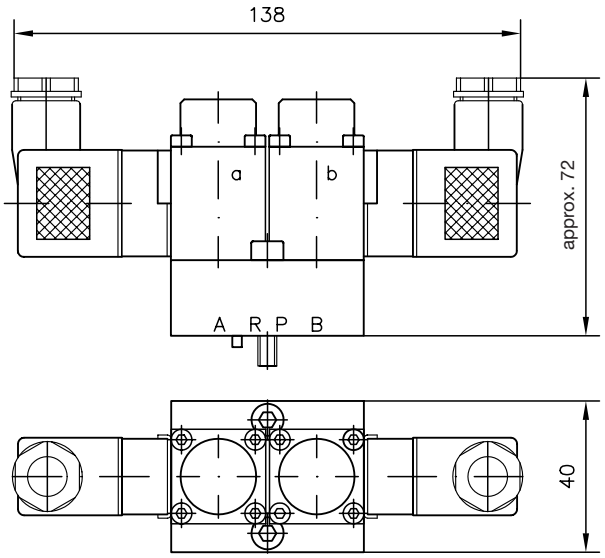
Type PMZ 1



Type PM 11



Type PM 12



All dimensions in mm, subject to change without notice!

Additional information

- Miniature prop. pressure reducing valves type PM, PMZ — D 7625
- Prop. pressure reducing valves type PDM — D 7486, D 7584/1
- Prop. amplifier type EV1M (module) — D 7831/1
  type EV1G (module) — D 7837
  type EV22K (card version) — D 7817/1
- Programmable logical valve control type PLVC — D 7845 ++
- See also section “Devices for special applications” (Proportional valves)

For page and section of the devices additionally listed, see type index