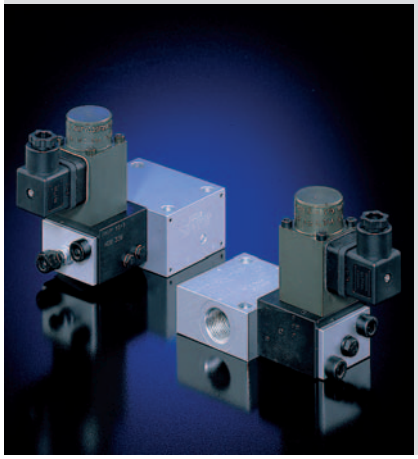
Proportional pressure reducing valves type PDM

The task of pressure reducing valves in a hydraulic circuit is to maintain a rather constant outlet pressure despite a higher and changing inlet pressure. They are used when an hydraulic circuit with a higher pressure level (primary side) is to supply another circuit with a lower pressure level (secondary side), without affecting the higher pressure in the primary circuit.

There is a design related permanent leakage flow apparent at L, which has to be led back to the tank via a de-pressurized line. A reversal of the direction of flow is possible up to approx. 50% of Q_{max} . A by-pass check valve has to be provided for higher reversed flow. The pressure reducing valves size 11 and 21/22 feature an 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 (directly controlled or piloted)
Design:	Individual valve for pipe connection Individual valve, Manifold mounting
Adjustability:	Electro-proportional
$p_{max\ P}$: **$p_{max\ A}$:**	400 bar 5 ... 350 bar
Q_{max}	120 lpm

Basic types and general parameters

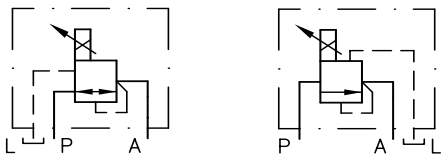
Basic type	**PDM**				
and Function	Directly controlled			Piloted	
Size	**11**	**21/22**	**3**	**4**	**5**
Flow Q_{max} (lpm)	12	20	40	70	120
Pressure range: $p_{max\ A}$ (bar)	41: 80 42: 130 43: 200 44: 320	41: 45 42: 70 43: 110 44: 180		N: 130 M: 200 H: 350	
Tapped ports [1] **(BSPP)**	G 1/4	G 1/4 G 3/8	G 1/2	G 3/4	G 1
Leakage flow Q_{leak} (lpm)	< 0.5	< 0.5		< 0.8	

Symbol

Directly controlled Piloted

Valve for pipe connection

Manifold mounting valve



[1] Version for pipe connection

Solenoid voltage

- 12V DC, 24V DC
- Control via proportional amplifier (see also “Additional information ”)

Order examples

PDMP 11 - 43/24

Prop. pressure reducing valve, manifold mounting (coding P), size 1, adjustable pressure range 5 ... 200 bar (coding 43), solenoid voltage 24V DC

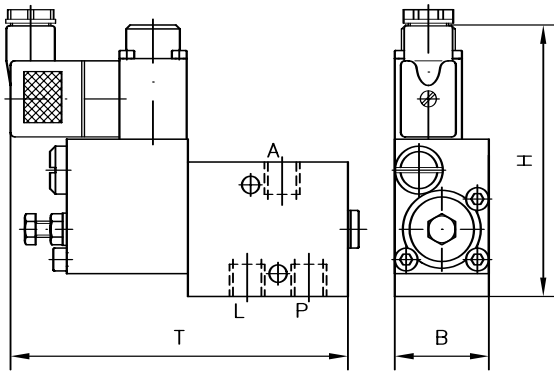
PDM 4G H - 12

Prop. pressure reducing valve, version for pipe connection (coding G), size 4, adjustable pressure range 15 ... 350 bar (coding H), solenoid voltage 12V DC

Dimensions

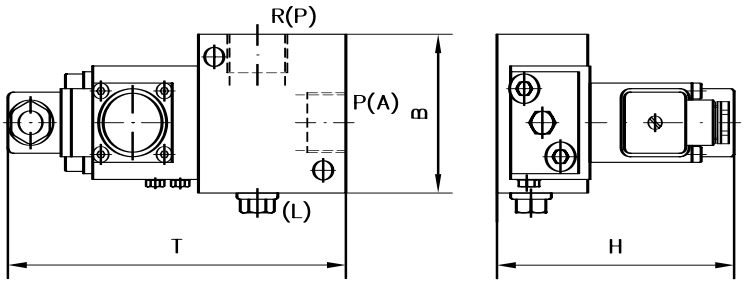
Version for pipe connection

Type PDM 11, PDM 21 and PDM 22



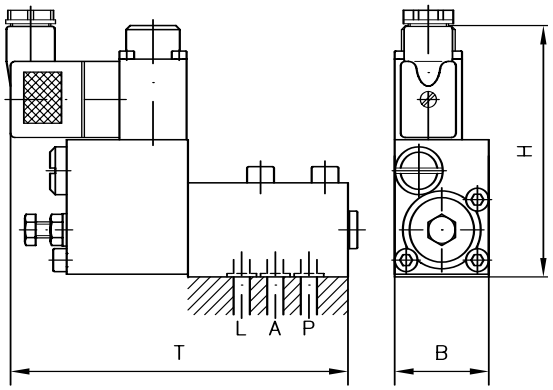
Version for pipe connection

Type PDM 3 to 5



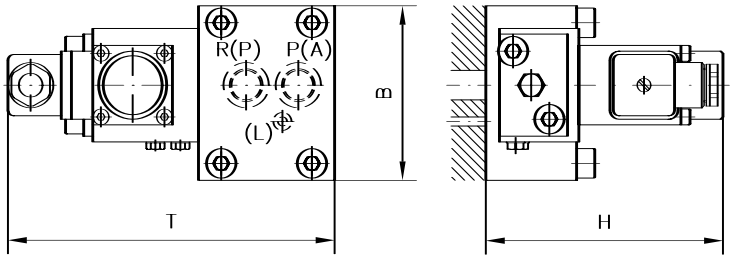
Version for manifold mounting

Type PDM 11P and PDM 22P



Version for manifold mounting

Type PDM 4P and PDM 5P



All dimensions in mm, subject to change without notice!

Basic type	H	B	T	m (kg)
PDM 11	113	35	135	1.5
PDM 21/22	113	35	142	1.6
PDMP 11	108	35	135	1.4
PDMP 22	108	40	142	1.3

Basic type	H	B	T	m (kg)
PDM 3	96	66	150	1.8
PDM 4	99.5	71	155	2.2
PDM 5	104.5	73	170	2.7
PDM 4 P	99.5	78	150	2.7
PDM 5 P	104.5	81	178	3.2

Additional information

- Prop. pressure reducing valves type PDM — D 7486, D 7584/1
- Miniature prop. pressure reducing valves type PM, PMZ — D 7625
- Prop. amplifier type EV1M (module) — D 7831/1
  type EV1G (module) — D 7837
  type EV22K (card version) — D 7817/1
- Programable 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