

Proportional pressure reducing valves type PDM

The task of proportional pressure reducing valves in a hydraulic circuit is to maintain a rather constant outlet pressure (port A) despite a higher and changing inlet pressure (port P). 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.

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

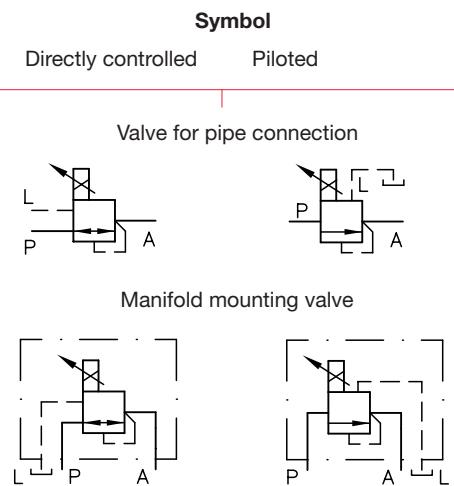
$P_{max P}$: 400 bar

$P_{max A}$: 5 ... 350 bar

Q_{max} : 120 lpm

Basic types and general parameters

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



1) Version for pipe connection

Solenoid voltage

- 12V DC, 24V DC

- Control via proportional amplifier (see also "Additional information")

Order examples

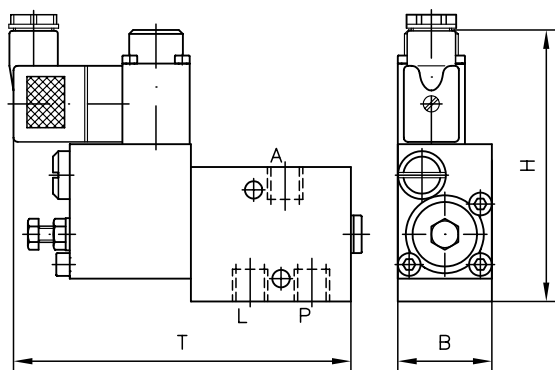
PDMP 11 - 43/24

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

Dimensions

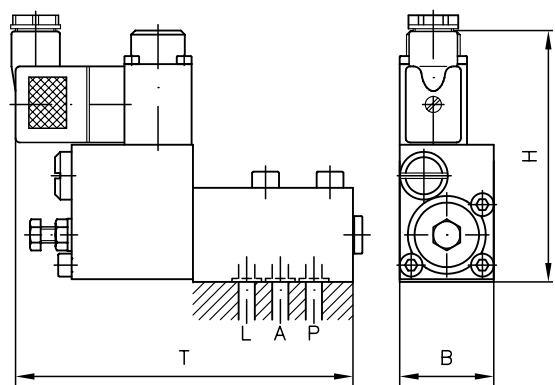
Version for pipe connection

Type PDM 11, PDM 21 and PDM 22



Version for manifold mounting

Type PDM 11P and PDM 22P

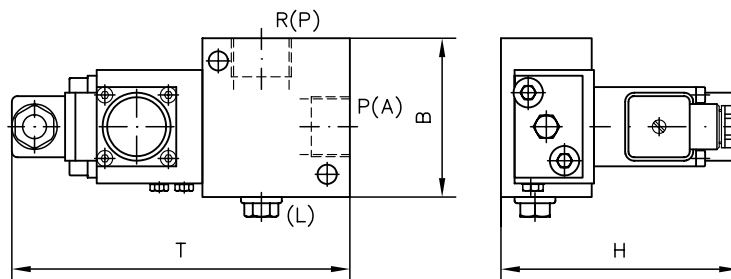


PDM 4G H - 12

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

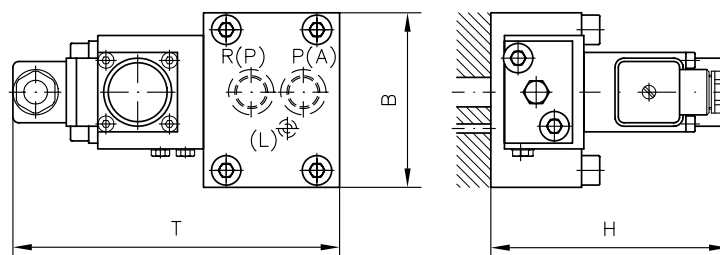
Version for pipe connection

Type PDM 3 to 5



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
type PDM (conform Atex) Sk 7584 350
- Miniature prop. pressure reducing valves D 7625
type PM, PMZ
- 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