Pressure reducing valves type ADM and VDM

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. These valves are usually used when a secondary circuit has to be fed with a lower but constant pressure level by a main (primary) circuit with a higher and varying pressure level.
These valves are either directly controlled (type ADM) or hydraulically piloted (type VDM).
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 type ADM 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:	Pressure reducing valve (directly controlled or piloted)
Design:	Individual valve for pipe connection Individual valve Manifold mounting
Adjustability:	Tool adjustable Manually adjustable
$p_{max\ P}$:	300 ... 400 bar
$p_{max\ A}$:	250 ... 400 bar
Q_{max}:	120 lpm

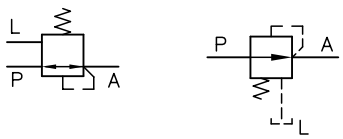
Basic types and general parameters

Basic type	ADM			VDM		
Function	Directly controlled			Hydraulically piloted		
Size	1	2	3	3	4	5
Flow Q_{max} (lpm)	12	25	60	40	70	120
Pressure $p_{max\ P}$ (bar)	300	300	300	400		
Pressure range:	F: 30	F: 30	F: 25	N: 100		
$p_{max\ A}$ (bar)	D: 120	D: 120	D: 100	H: 400 [1]		
	C: 160	C: 160	C: 160			
	A: 250	A: 250	A: 250			
Tapped ports (BSPP) [2]	G 1/4	G 1/4, G 3/8	G 3/8, G 1/2	G 1/2	G 3/4	G 1
Leakage flow	approx.	approx.	approx.		approx.	
Q_{leak} (lpm)	< 0.05	< 0.05	< 0.07		< 0.4	

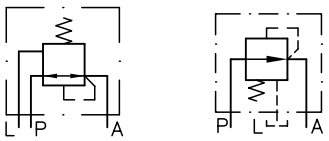
Symbol

ADM... **VDM...**

Valve for pipe connection



Manifold mounting valve



[1] Max. pressure difference is 300 bar between inlet and outlet
[2] Design for pipe connection

Additional versions

- Hydraulically piloted pressure reducing valve type VDX (pressure limiting valve at port L) (see also “Additional information”)
- Type ADM is also available with self-locking turn knob or turn knob with lock

Order examples

ADM 22 DR

Directly controlled pressure reducing valve type ADM size 2, for pipe connection (tapped ports G 3/8 (BSPP), coding 2), pressure range 30 to 120 bar (coding D), pressure manually adjustable (coding R)

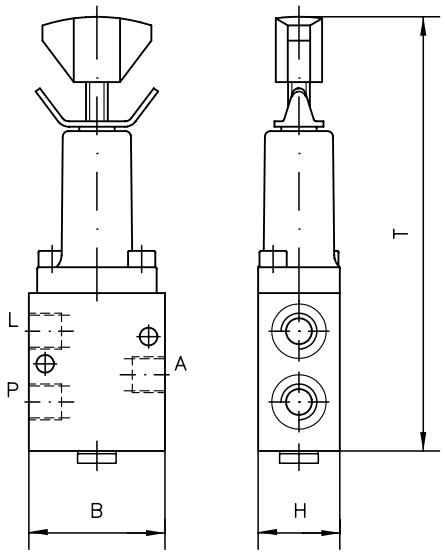
VDM 5 PH - 250

Piloted pressure reducing valve type VDM size 5, manifold mounting (coding P), pressure range 10 to 400 bar (coding H), pressure tool adjustable to 250 bar

Dimensions

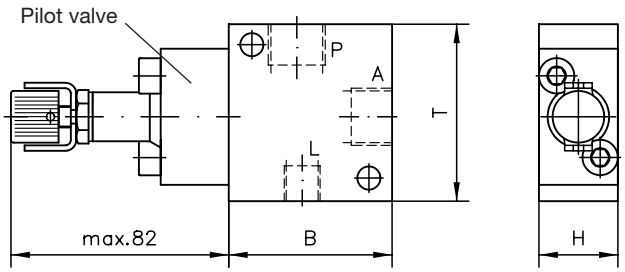
Version for pipe connection (see order example)

Type ADM



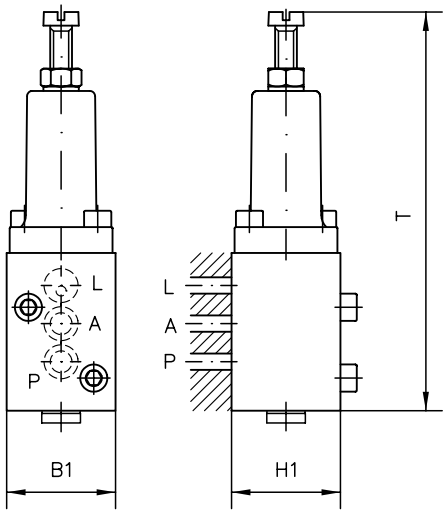
Version for pipe connection

Type VDM..G



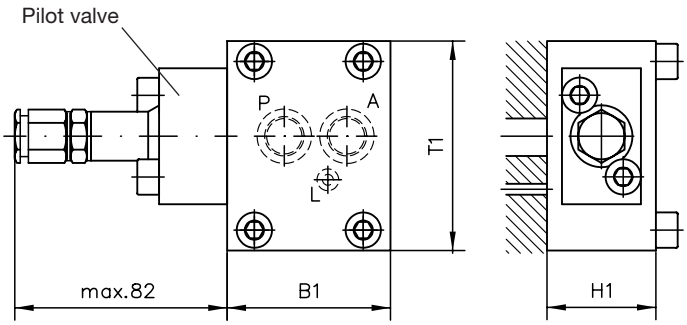
Version for manifold mounting

Type ADM..P



Version for manifold mounting (see order example)

Type VDM..P



Basic type	H	H1	B	B1	T	m (kg) [3]
ADM 1..	30	35	45	35	141	0.6 / 0.6
ADM 2..	30	40	50	40	162	0.7 / 0.85
ADM 3..	30	40	50	40	174	1.0 / 1.1

Basic type	H	H1	B	B1	T	T1	m (kg) [3]
VDM 3..	30	--	60	--	66	--	1.1 / --
VDM 4..	40	40	65	60	71	78	1.5 / 2.0
VDM 5..	50	50	80	88	73	81	2.0 / 2.5

[3] Version for pipe connection / manifold mounting

All dimensions in mm, subject to change without notice!

Additional information

- Pressure reducing valves type ADM D 7120
  type VDM, VDX D 5579
- Miniature pressure reducing valves type ADC etc. D 7458
- Miniature prop. pressure reducing valves type PM, PMZ D 7625
- Pressure reducing valves type CDK D 7745
- Prop. pressure reducing valves type PDM D 7584/1, D 7486

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