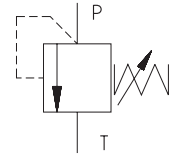


- Screw-in cartridge, modular and in-line design
- Six pressure ranges
- Four pressure adjustment options
- Subplates - see catalogue HA 0002

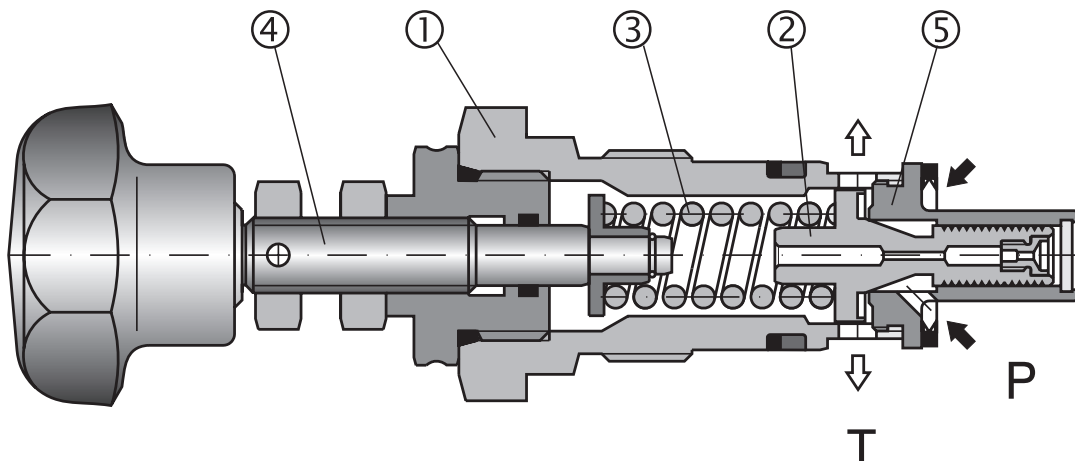


Functional Description

Pressure relief valves VPP1 were designed for applications requiring a safety valve or a pressure regulating valve working over a wide range of pressures and flow rates.

The valve basically consists of the valve body (1), poppet with damping spool (2) and compression spring (3). Pressure is manually set by an adjustment screw (4). The spring pushes the poppet into the seat (5) holding the valve in its normally closed position. When the force, caused by the pressure acting on the exposed surface area of the poppet, exceeds the spring force, the valve

opens and the flow passes from port P to port T. To optimize the valve performance, five pressure ranges are available. Choosing the closest range is recommended. The design enables the valve to be used as a screw-in cartridge for manifold mounting, built into a threaded housing or in a subplate mounted housing. Both the threaded and the subplate mounted housings can be delivered either with metric or pipe threads. The basic surface treatment of the valve body and the adjustment screw are zinc coated.



Ordering Code

VPP1-□-□□/□□

Direct Operated Relief Pressure Valve

without designation

Seals
NBR

Nominal size

Size 06 **06**
 Size 08 - only models M and G **08**
 Size 10 **10**

Pressure range in bar

2,5 up to 25
6,3 up to 63
10 up to 100
16 up to 160
25 up to 250
32 up to 320

Adjustment option

Screw with internal hexagon **S**
 Adjustable handknob **R**
 Lockable cylindrical handknob **O**
 Non-lockable cylindrical handknob **Z**

V
M
G
P

Model

screw-in cartridge valve
 cartridge in threaded housing - with metric threads
 cartridge in threaded housing - with BSP threads
 cartridge in subplate mounted housing

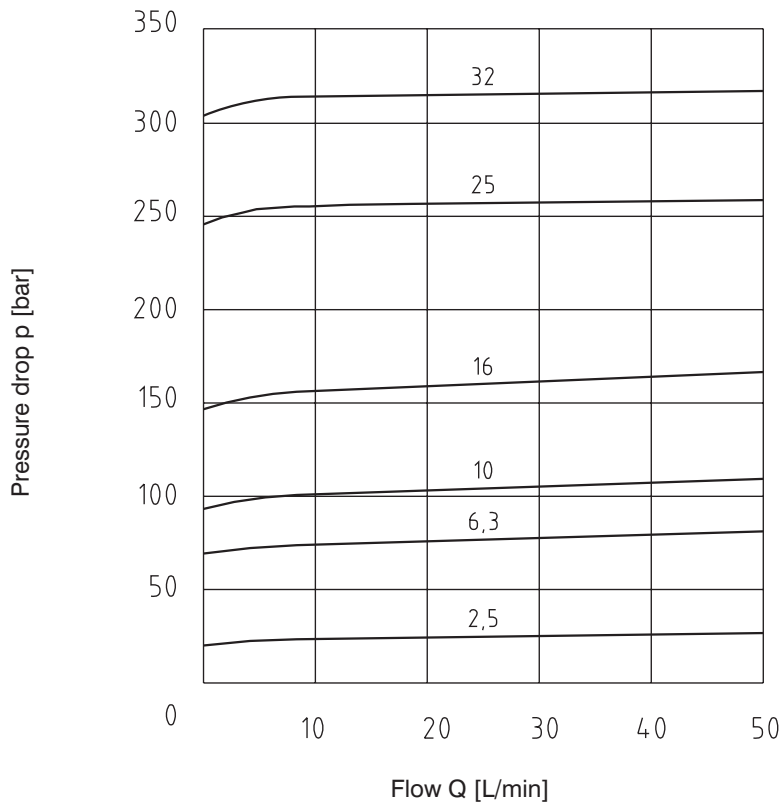
Technical Data

Nominal size	mm	06	10
Maximum flow	L/min	50	120
Max. service pressure ports (P, T, A, B)	bar	350	
Working pressure related to flow	bar	see p-Q characteristics	
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524	
Fluid temperature range for standard sealing (NBR)	(°C)	-30 ... +100	
Viscosity range	(mm ² /s)	20 ... 400	
Maximum degree of fluid contamination		Class 21/18/15 to ISO 4406 (1999)	
Weight - screw-in cartridge valve other models	kg	0,4 1,5	0,5 3,7
Mounting position		optional	

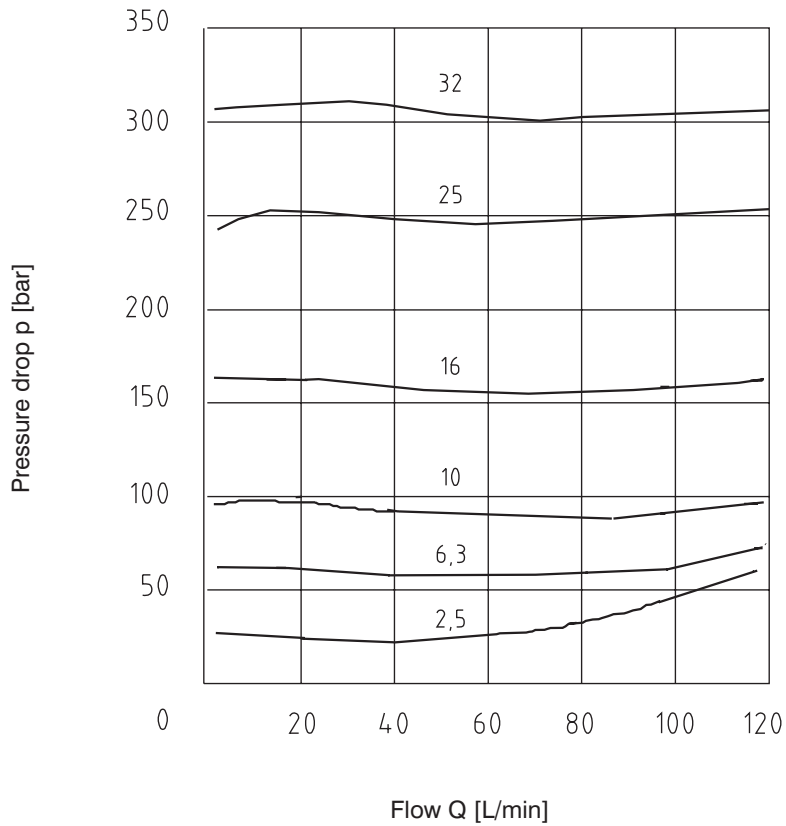
p-Q Characteristics

Measured at $v = 32 \text{ mm}^2/\text{s}$

Size 06



Size 10

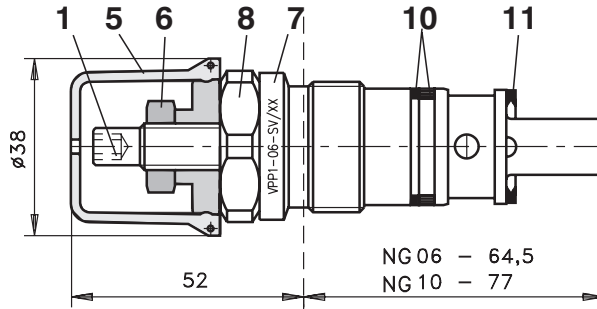


Valve Dimensions

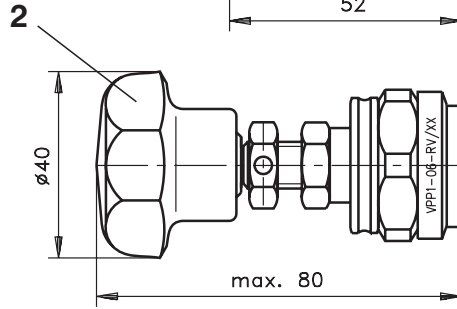
Dimensions in millimeters

Cartridge valve - model „V“

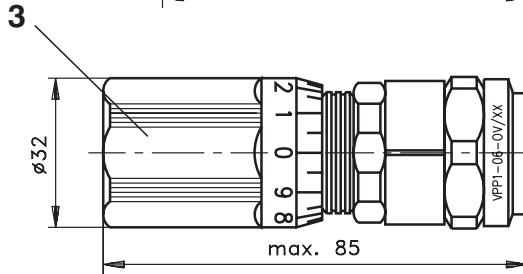
S



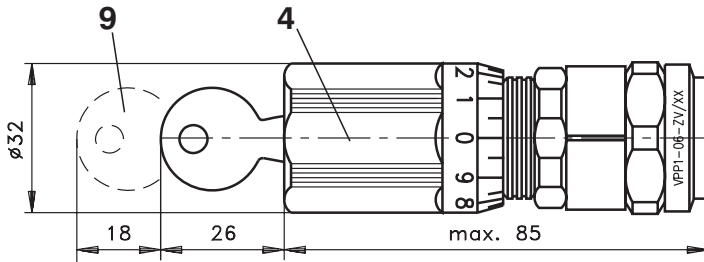
R



O

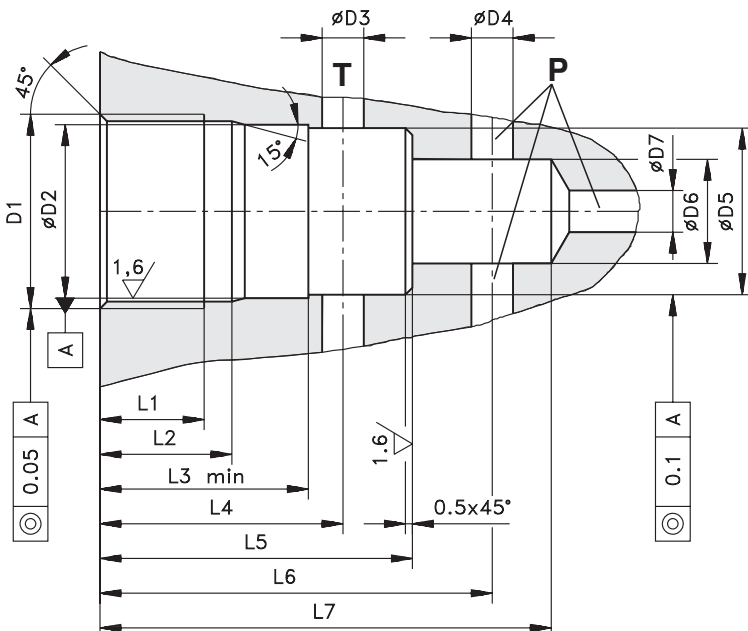


Z



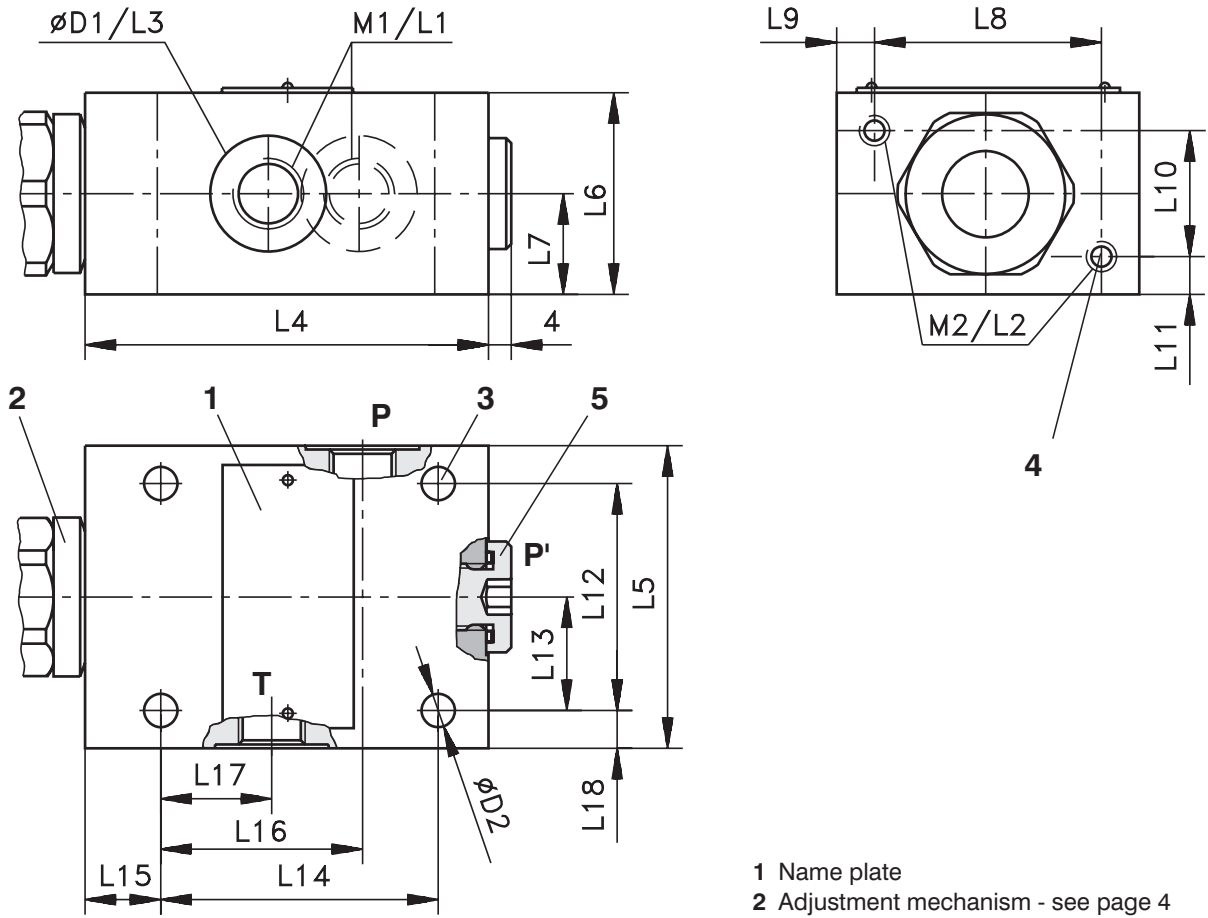
- 1 Screw adjustment model „S“ [inside HEX 5]
 - 2 Adjustable handknob model „R“
 - 3 Non-lockable cylindrical handknob model „O“
 - 4 Lockable cylindrical handknob model „Z“
- With all adjustment mechanisms:**
 rotation = pressure decrease
 rotation = pressure increase
- 5 Protective cap
 - 6 Locknut HEX 16
 - 7 Valve model code engraved
 - 8 Wrench flats HEX 32
Tightening torque 80 Nm for Size 06
Wrench flats HEX 36
Tightening torque 140 Nm for Size 10
 - 9 Distance to remove the key
 - 10 Seal:
Size 06: Back-up ring M8-116 (1 pc.)
O-ring 20x2.65 NBR70 (1 pc.)
Size 10: Back-up ring BBP80-B121-N9 (1 pc.)
O-ring 26.64x2.62 NBR70 (1 pc.)
 - 11 Seal:
Size 06: D 17.4x24x1.5-NSA (1 pc.)
Size 10: D 24.7x32x2 (adapted) (1pc.)

Cavity



	Size 06	Size 10
	(mm)	(mm)
D1	M28 x 1,5	M35 x 1,5
∅D2	25 H9	32 H9
∅D3	6	10
∅D4	6	10
∅D5	24,9	31,9
∅D6	15	18,5
∅D7	6	10
L1	15	18
L2	19	23
L3	32	35
L4	35	41
L5	45	52
L6	56,5±5,5	67,5±7,5
L7	65	80

Cartridge in threaded housing - models „M“ and „G“

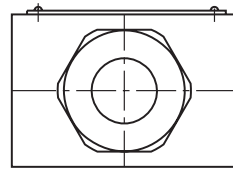
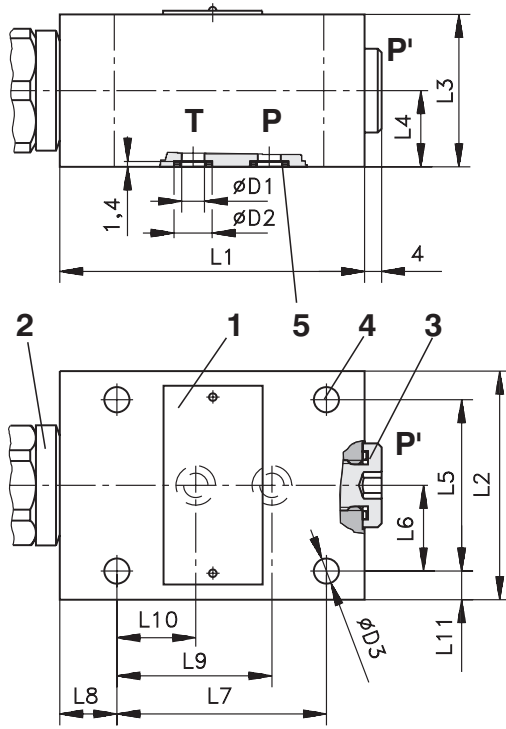


- 1 Name plate
- 2 Adjustment mechanism - see page 4
- 3 4 mounting holes
- 4 2 threaded holes (other mounting possibility)
- 5 Port P' (as input can be used P or P')
thread M1/L1

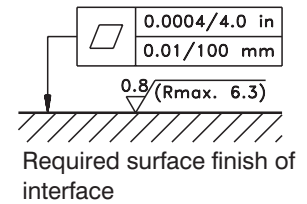
Model	M1	M2	$\varnothing D1$	$\varnothing D2$	L1	L2	L3	L4	L5	L6	L7
VPP1-06-xM/x	M14 x 1,5	M6	25	6,6	12	10	0,5	80	60	40	20
VPP1-06-xG/x	G 1/4										
VPP1-08-xM/x	M18 x 1,5	M8	30	9	16	20	100	80	60	30	
VPP1-08-xG/x	G 3/8		28								
VPP1-10-xM/x	M22 x 1,5		34								
VPP1-10-xG/x	G 1/2										

Model	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18
VPP1-06-xM/x	45	7.5	25	7.5	45	22,5	55	15	40	20	7,5
VPP1-06-xG/x											
VPP1-08-xM/x	60	10	40	10	60	30	70	20	49	21	10
VPP1-08-xG/x											
VPP1-10-xM/x											
VPP1-10-xG/x											

Cartridge in subplate mounted housing - model „P“



- 1 Name plate
- 2 Adjustment mechanism - see page 4
- 3 Port P', thread M1/H1 can be used as input pressure or for measuring
- 4 4 mounting holes
- 5 Square ring:
size 06 - DKAR 00011 [7.65x1.68 (2 pcs.)]
size 10 - DKAR 00014 [12.42x1.68 (2 pcs.)]



Note: Subplates - see catalog HA 0002

Model	M1	H1	ØD1	ØD2	ØD3	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
VPP1-06-xP/x	G 1/4	12	6	10,8	6,6	80	60	40	20	45	22,5	55	15	40	20	7,5
VPP1-10-xP/x			10	15,6	9	100	80	60	30	60	30	70	20	45	21	10

Spare Parts

Accessories (delivered with subplate model „P“)

	Bolt kit	Square ringe
Size 06	M6x50 DIN 912-10.9 (4 pcs.) Tightening torque 8.9 Nm	DKAR 00011 7,65 x 1,68 (2 pcs.)
Size 10	M8x70 DIN 912-10.9 (4 pcs.) Tightening torque 15 Nm	DKAR 00014 12,42 x 1,68 (2 pcs.)

Seak kit for cartridge valve

Type	Dimensions, quantity			Ordering number
	O-ring	Back-up ring	U-Seal	
Size 06 Standard NBR	8 x 1.8 (1 pc.)	19.43 x 23.79 x 1.14 (1 pc.)	17.4 x 24 x 1.5 (1 pc.)	551-0091
	20 x 2.65 (1 pc.)	-	-	
	20 x 2 (1 pc.)	-	-	
Size 10 Standard NBR	8 x 1.8 (1 pc.)	BBP 80-B121-N9 (1 pc.)	24.7 x 32 x 2 (1 pc.)	551-0092
	20 x 2 (1 pc.)	-	-	
	26.64 x 2.62 (1 pc.)	-	-	

Caution!

- The packing foil is recyclable.
- The protecting plate can be returned to the manufacturer.
- For applications outside these parameters, please consult the manufacturer.
- The technical information regarding the product presented in this catalogue is for descriptive purposes only. It should not be construed in any case as a guaranteed representation of the product properties in the sense of the law.

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