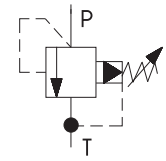


- Screw in cartridge design
- Five pressure ranges
- Two pressure adjustment options:
 - screw with internal hexagon
 - hand knob with arrestment
- Installation dimensions to ISO 4401 and DIN 24 340-A10



Functional Description

Pressure relief valves VPN2 are pilot operated pressure valves designed for system pressure limitation.

The pressure adjustment is controlled by the adjustment screw (4). In its basic state, the valve is closed. The pressure acts on the face area of the control spool (1) and at the same time through orifice (2) on the control spool rear side, which is preloaded by a spring and further on through orifice (3) on the pilot valve ball (6).

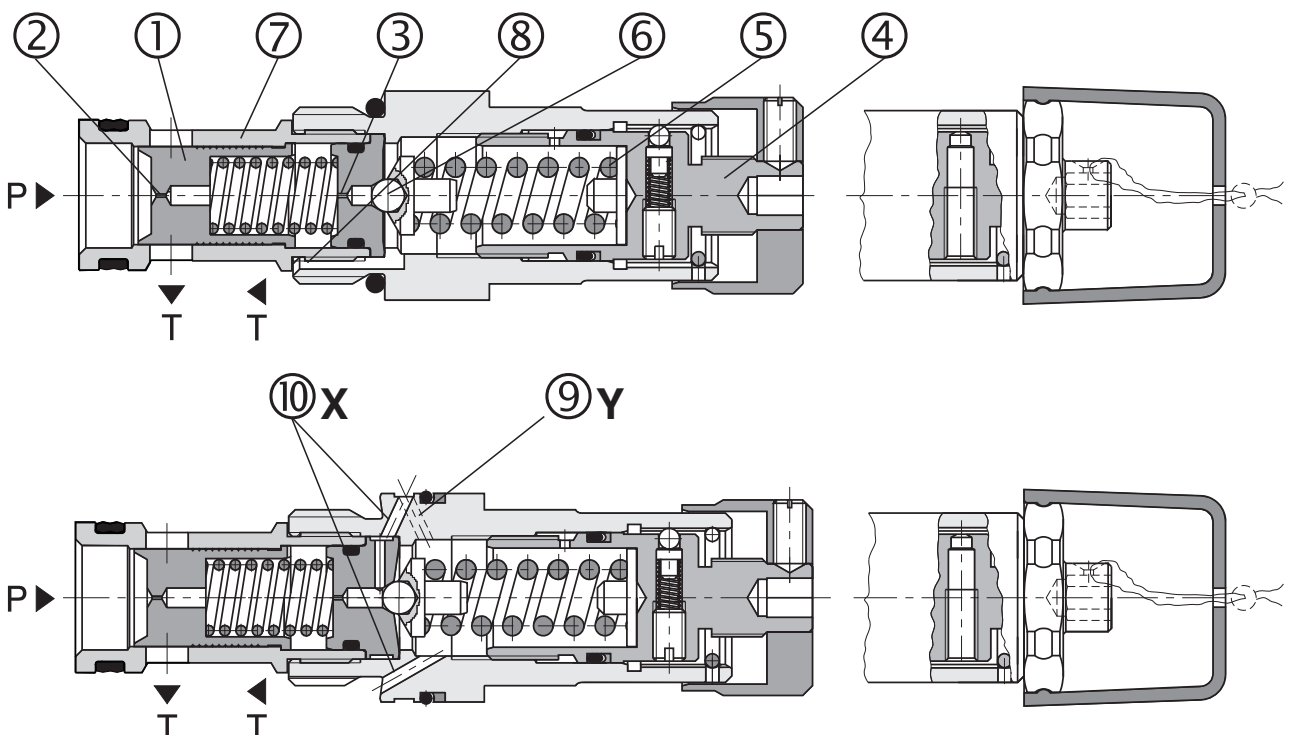
When the increasing system pressure reaches the value, which is preset by spring (5), the valve opens and the control flow passes through the pilot valve. The spool area which is preloaded by spring becomes relieved, the spool

control edge opens the radial bores in bushing (7) and the fluid passes from port P to T. The control flow is routed through slot (8) to port T.

When an accurate pressure control, which does not depend on pressure variations in port T, is required, the model "Y" with external port for pilot flow is to be used.

If a relieving of the valve on a lower pressure as that set up by the spring (5) is needed, the model with port "X" (10) is to be used.

The basic surface treatment of the valve body and the adjustment screw are zinc coated.



Ordering Code

VPN2-10/ -

Pilot Operated Pressure Relief Valve

Nominal size

Model

screw in cartridge - internally piloted, internally drained
 screw in cartridge - externally piloted, internally drained
 screw in cartridge - internally piloted, externally drained

S
SX
SY

without designation
V

Seals
 NBR
 FPM (Viton)

S
R

Adjustment element
 screw with internal hexagon
 hand knob

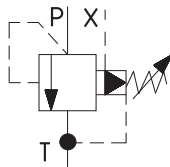
6
10
16
21
32

Pressure range
 up to 63 bar
 up to 100 bar
 up to 160 bar
 up to 210 bar
 up to 350 bar

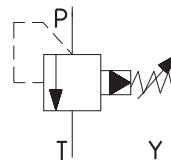
**FOR PREFERRED TYPES SEE BOLD TYPING IN ORDERING CODE
 AND TABLE OF PREFERRED TYPES ON PAGE 6**

Functional Symbols

Model X



Model Y



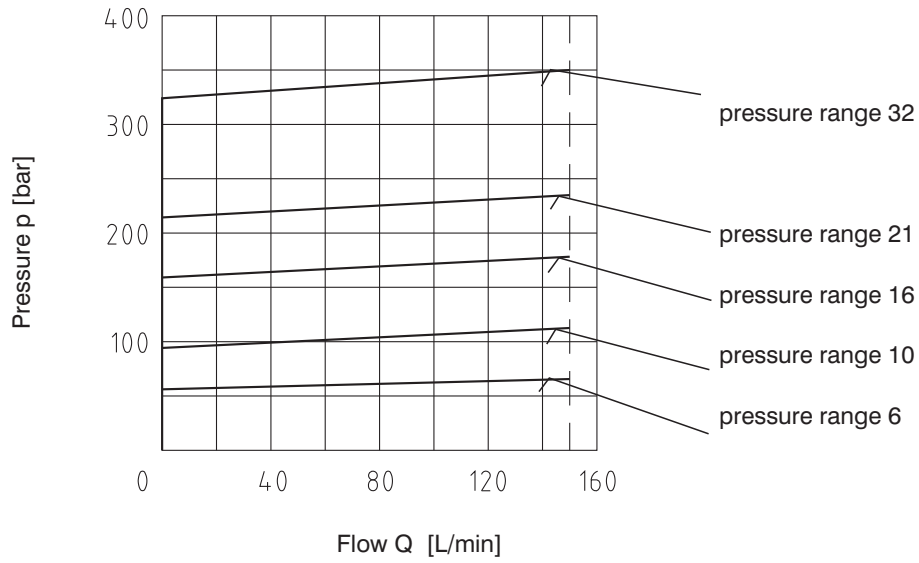
Technical Data

Nominal size	mm	10
Max. flow rate	L/min	150
Max. control flow	L/min	0,5
Max. service pressure ports (P, T, X, Y)	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
Fluid temperature range for Viton sealing (FPM)	°C	-20 ... +120
Viscosity range	mm ² /s	20 ... 400
Max. degree of fluid contamination		Class 21/18/15 according to ISO 4406 (1999)
Weight	kg	0.3
Mounting position		optional

p-Q Characteristics

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

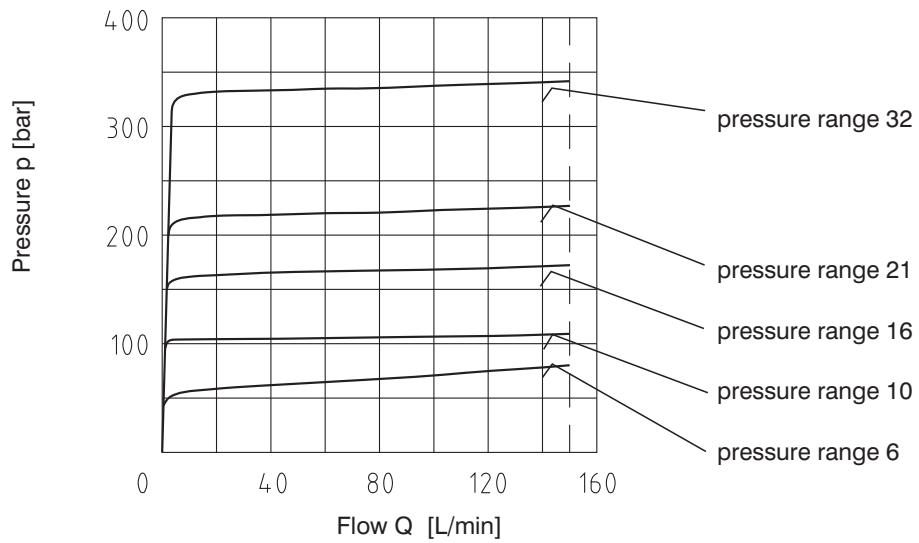
Model S, SX



p-Q Characteristics

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

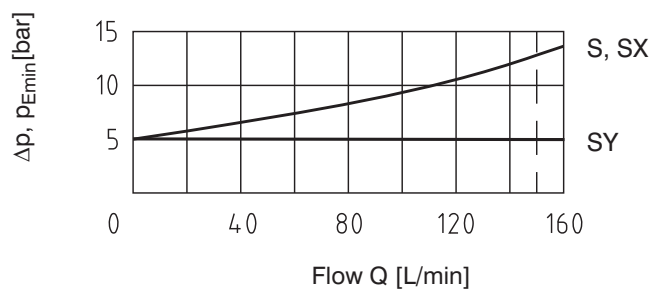
Model SY



Δp -Q Characteristics

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

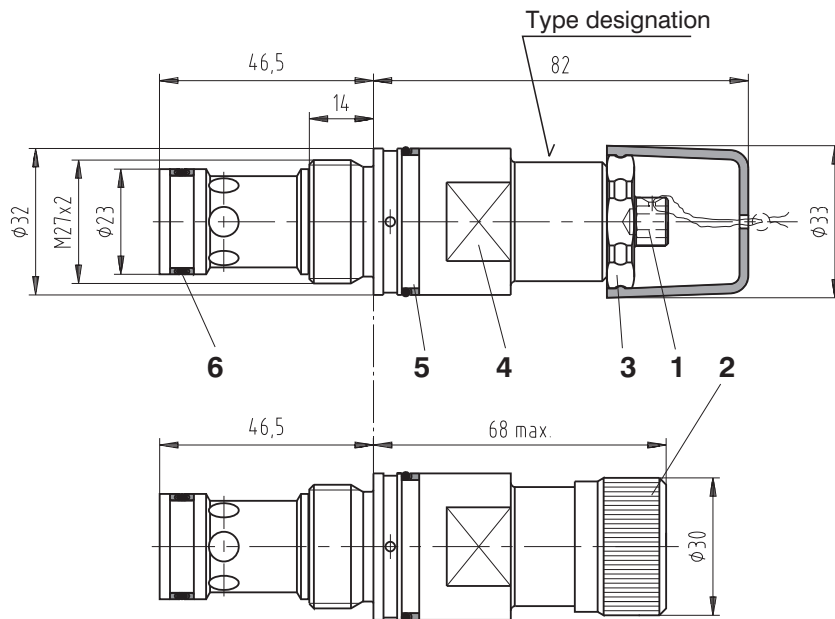
Model S, SX, SY



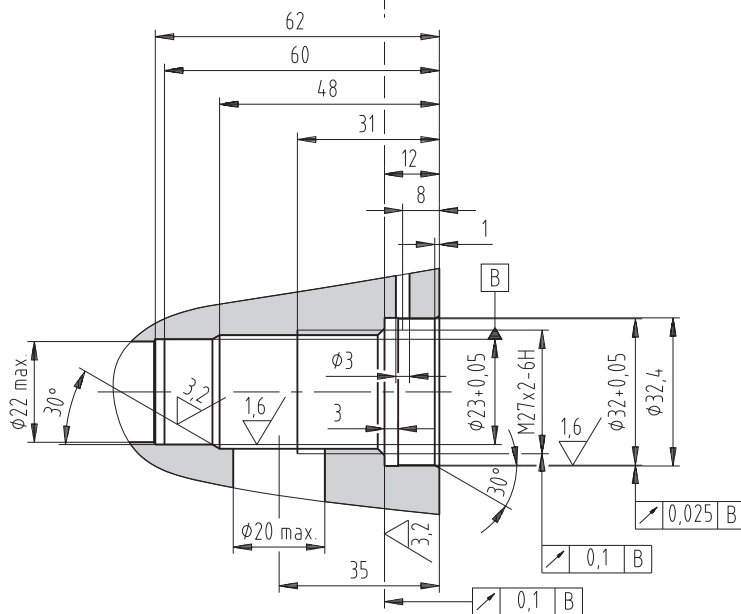
Valve Dimensions

Dimensions millimetres

Model SX, SY



Cavity



- 1 Adjustment element (screw with internal HEX 6)
- 2 Adjustment element R (hand knob)
With all adjustment elements:
- clockwise rotation - pressure increase
- anticlockwise rotation - pressure decrease
- 3 Locknut HEX 27
- 4 Wrench flats s=27
- tightening torque 60 Nm
- 5 Combined sealing:
O-ring 28.3 x 1.78 (1 pc.)
Back-up ring BBP80B024 29.03 x 31.73 x 1.14 (1 pc.)
supplied with each valve
- 6 Combined sealing:
DUAL DU0100230-Z20 19,6 x 23 x 4,4 (1 pcs.)
supplied with each valve

Spare Parts

Model	Dimensions, number	Ordering number
S - NBR	O-ring 17 x 1.8 NBR 70 (1 pc.)	556-0380
	O-ring 12.42 x 1.78 NBR 90 (1 pc.)	
	O-ring 23.47 x 2.62 NBR 70 (1 pc.)	
	Back-up ring BH14HJ0200-PTGB 17,1 x 20 x 1,2 (1 pc.)	
	DUAL DU0100230-Z20 19,6 x 23 x 4,4 (1 pcs.)	
S - Viton	O-ring 17.17 x 1.78 (1 pc.)	556-0381
	O-ring 23.47 x 2.62 (1 pc.)	
	O-ring 12.42 x 1.78 (1 pc.)	
	Back-up ring BH14HJ0200-PTGB 17,1 x 20 x 1,2 (1 pcs.)	
	DUAL DU0100230-Z20 19,6 x 23 x 4,4 (1 pcs.)	
Model	Dimensions, number	Ordering number
SX, SY - NBR	O-ring 17 x 1.8 NBR 70 (1 pc.)	556-0382
	O-ring 12.42 x 1.78 NBR 90 (1 pc.)	
	O-ring 23.47 x 2.62 NBR 70 (1 pc.)	
	O-ring 28.3 x 1.78 ORAR 00 024 (1 pc.)	
	Back-up ring BH14HJ0200-PTGB 17,1 x 20 x 1,2 (1 pc.)	
	DUAL DU0100230-Z20 19,6 x 23 x 4,4 (1 pcs.)	
	Back-up ring BBP80B024 29.03 x 31.73 x 1.14 (1 pc.)	
SX, SY - Viton	O-ring 17.17 x 1.78 (1 pc.)	556-0383
	O-ring 23.47 x 2.62 (1 pc.)	
	O-ring 12.42 x 1.78 (1 pc.)	
	O-ring 28.3 x 1.78 (1 pc.)	
	Back-up ring BH14HJ0200-PTGB 17,1 x 20 x 1,2 (1 pc.)	
	DUAL DU0100230-Z20 19,6 x 23 x 4,4 (1 pcs.)	
	Back-up ring BBP80B024-V96 29.03 x 31.73 x 1.14 (1 pc.)	

Preferred Types of Valves

Type	Ordering Number
VPN2-10/S-10S	556-0351
VPN2-10/S-21S	556-0353
VPN2-10/S-32S	556-0354

Caution!

- The packing foil is recyclable.
- 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.

ARGO-HYTOS s.r.o. CZ - 543 15 Vrchlabí
 Tel.: +420-499-403111, Fax: +420-499-403421
 E-mail: sales.cz@argo-hytos.com
 www.argo-hytos.com