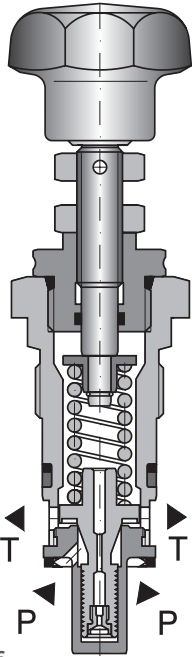


Pressure Relief Valve, Poppet-Type, Direct-Acting

VPP1-06/08/10

M28x1.5 / M35x1.5 • Q_{max} 50 l/min (13 GPM) / 120 l/min (32 GPM) • p_{max} 320 bar (4600 PSI)



Size 06



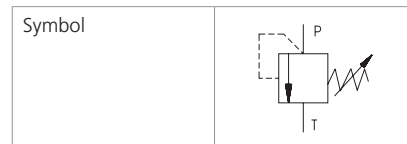
Size 10

Technical Features

- › Excellent stability throughout flow range with rapid response to dynamic pressure changes
- › Low hysteresis, accurate pressure control and low pressure drop
- › Wide pressure range up to 320 bar
- › Hardened precision parts
- › Sharp-edged steel seats for dirt-tolerant performance
- › Leak-free closing, suitable for fast cycling with long life
- › Adjustable by allen key or hand screw
- › In the standard version, the cartridge valve is black oxide coated and the valve body is phosphated

Functional Description

A poppet-type, direct-acting hydraulic relief valve in the form of a screw-in cartridge intended for use as a pressure limiting device for common hydraulic circuit protection. The spring acts on the poppet and presses it onto the valve seat. If the hydraulic pressure is below the pre-set value, the valve is closed. If the hydraulic force exceeds the pre-set value the valve opens and flow passes to the tank port until the system pressure falls below the spring pre-set value and the valve closes again.



Technical Data

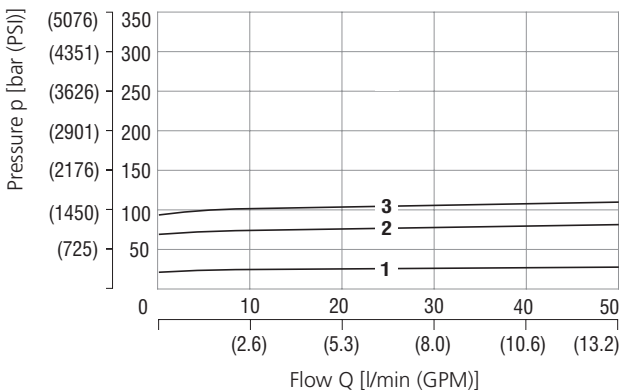
| Valve size / Cartridge cavity | | M28x1.5 / QP2 | M35x1.5 / QT2 |
|-------------------------------|-------------|-------------------------|---------------|
| Max. flow | l/min (GPM) | 50 (13.2) | 120 (31.7) |
| Max. operating pressure | bar (PSI) | 320 (4640) | |
| Fluid temperature range (NBR) | °C (°F) | -30...+100 (-22 ...212) | |
| Fluid temperature range (FPM) | °C (°F) | -20...+120 (-4...248) | |
| Mass | kg (lbs) | 0.4 (0.88) | 0.5 (1.10) |

| | | Datasheet | Type | |
|---------------------|-----------------|-----------|-----------------------------------|----------|
| General information | | GI_0060 | Products and operating conditions | |
| Valve bodies | In-line mounted | SB_0018 | SB-QP2* | SB-QT2* |
| Cavity details | | SMT_0019 | SMT-QP2* | SMT-QT2* |
| Spare parts | | SP_8010 | | |

Characteristics measured at v = 32 mm²/s (156 SUS)

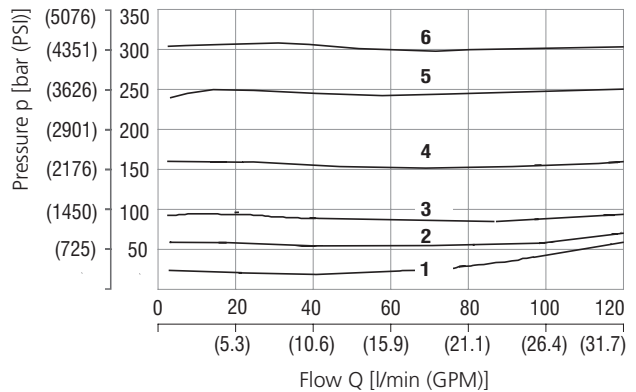
Relief pressure related to flow rate

Size 06



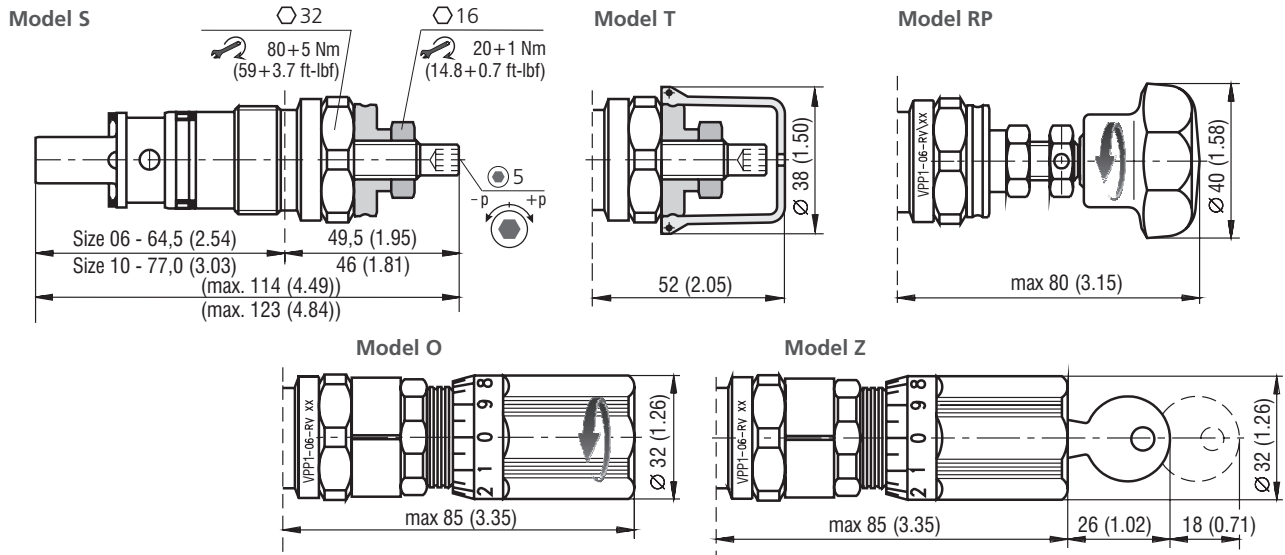
| | Pressure range |
|---|----------------|
| 3 | 10 |
| 2 | 6.3 |
| 1 | 2.5 |

Size 10



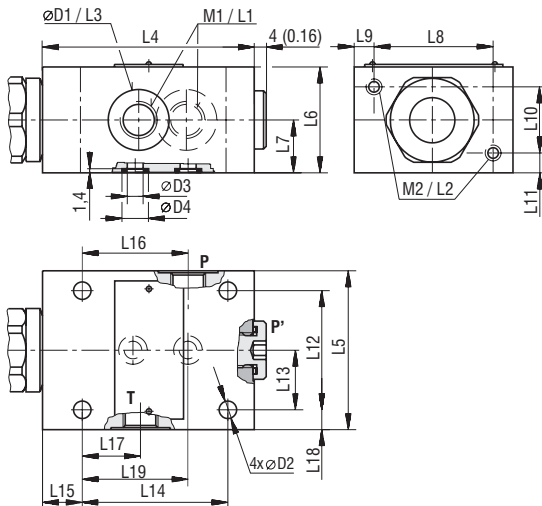
| | Pressure range |
|---|----------------|
| 6 | 32 |
| 5 | 25 |
| 4 | 16 |
| 3 | 10 |
| 2 | 6.3 |
| 1 | 2.5 |

Dimensions in millimeters (inches)



Dimensions in millimeters (inches)

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



Port P' (as input can be used P or P') thread M1/L1

| Model | 06-xM/x | 06-xG/x | 06-xP/x | 08-xM/x | 08-xG/x | 10-xM/x | 10-xG/x | 10-xP/x |
|-------|------------|---------|------------|-----------|----------|----------|---------|------------|
| M1 | M14x1.5 | G1/4 | G1/4 | M18x1.5 | G3/8 | M22x1.5 | G1/2 | G1/4 |
| M2 | M6 | | | M8 | | | | |
| ØD1 | 25(0.98) | | | 30(1.18) | 28(1.10) | 34(1.34) | | |
| ØD2 | 6.6(0.26) | | | 9(0.35) | | | | |
| ØD3 | | | 6(0.24) | | | | | 10(0.39) |
| ØD4 | | | 10.8(0.43) | | | | | 15.6(0.61) |
| L1 | 12(0.47) | | | 16(0.63) | | | | |
| L2 | 10(0.39) | | | 20(0.79) | | | | |
| L3 | 0.5(0.02) | | | 0.5(0.02) | | | | |
| L4 | 80(3.15) | | | 100(3.94) | | | | |
| L5 | 60(2.36) | | | 80(3.15) | | | | |
| L6 | 40(1.57) | | | 60(2.36) | | | | |
| L7 | 20(0.79) | | | 30(1.18) | | | | |
| L8 | 45(1.77) | | | 60(2.36) | | | | |
| L9 | 7.5(0.30) | | | 10(0.39) | | | | |
| L10 | 25(0.98) | | | 40(1.57) | | | | |
| L11 | 7.5(0.30) | | | 10(0.39) | | | | |
| L12 | 45(1.77) | | | 60(2.36) | | | | |
| L13 | 22.5(0.89) | | | 30(1.18) | | | | |
| L14 | 55(2.17) | | | 70(2.76) | | | | |
| L15 | 15(0.59) | | | 20(0.79) | | | | |
| L16 | 40(1.57) | | | 49(1.93) | | | | |
| L17 | 20(0.79) | | | 21(0.83) | | | | |
| L18 | 7.5(0.30) | | | 10(0.39) | | | | |
| L19 | | | 40(1.57) | | | | | 45(1.77) |

Ordering Code

VPP1- [] - [] / [] - []

Pressure relief valve, poppet-type, direct-acting M28x1.5 / M35x1.5

Nominal size

size 06 06*

size 08 - only models M and G 08

size 10 10

* VPP1-06 only available for pressure range 2,5; 6,3 and 10

Adjustment option

allen key (hex. 5), without protective cap S

allen key (hex. 5), with protective cap T

hand screw, plastic RP

non-lockable cylindrical hand screw O

lockable cylindrical hand screw Z

Model

screw-in cartridge V

cartridge in threaded housing - with metric threads M

cartridge in threaded housing - with BSP threads G

cartridge in subplate mounted housing P

Surface treatment (cartridge valve only)

No designation black oxide coating

A zinc-coated (ZnCr-3), ISO 9227 (240 h)

B zinc-coated (ZnNi), ISO 9227 (520 h)

Seals

No designation NBR

V FPM (Viton)

Pressure range

2.5 up to 25 bar (360 PSI)

6.3 up to 63 bar (910 PSI)

10 up to 100 bar (1450 PSI)

16 up to 160 bar (2320 PSI)

25 up to 250 bar (3630 PSI)

32 up to 320 bar (4600 PSI)