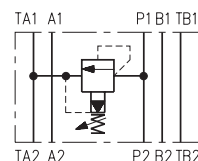


- ☐ Modular and in-line design
- ☐ Five pressure ranges
- ☐ Two pressure adjustment options:
 - screw with internal hexagon
 - hand knob with arrestment
- ☐ Installation dimensions to ISO 4401, DIN 24 340-A10, NFPA T3.5.1M R1 and ANSI B 93.7 D 05



Functional Description

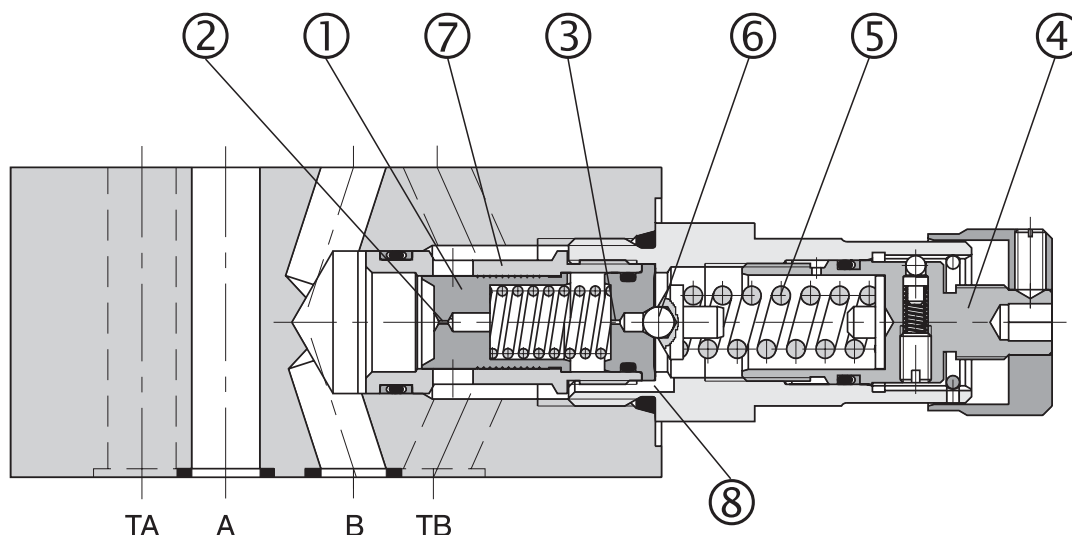
Pressure relief valves VPN2 are pilot operated pressure valves designed for system pressure limitation.

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 B 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 (only for models RC2 and RC3, see Functional Symbols), 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" is to be used.

The valve body and the adjustment screw are zinc coated. With models M and R the valve bodies are phosphate coated.



Order Code

VPN2-10/ -

Pilot operated pressure relief valves

without designation
V

Seals
NBR
FPM (Viton)

Valve size **3/8 (10)**

S
R

Adjustment element
screw with internal hexagon
hand knob

Model

modular valve, flow from A to TA
modular valve, flow from B to TB
modular valve, flow from P to TA
modular valve, flow from A to B and B to A
modular valve, flow from A to TA and B to TB
in-line valve, thread P1, P2 - SAE-12; T - SAE-16
in-line valve, thread P - SAE-12; T - SAE-16
in-line valve, thread P - SAE-12; T - SAE-16; X
in-line valve, thread P - SAE-12; T - SAE-16; Y

MA
MB
MP
MC
MD
RA3
RB3
RC4
RC5

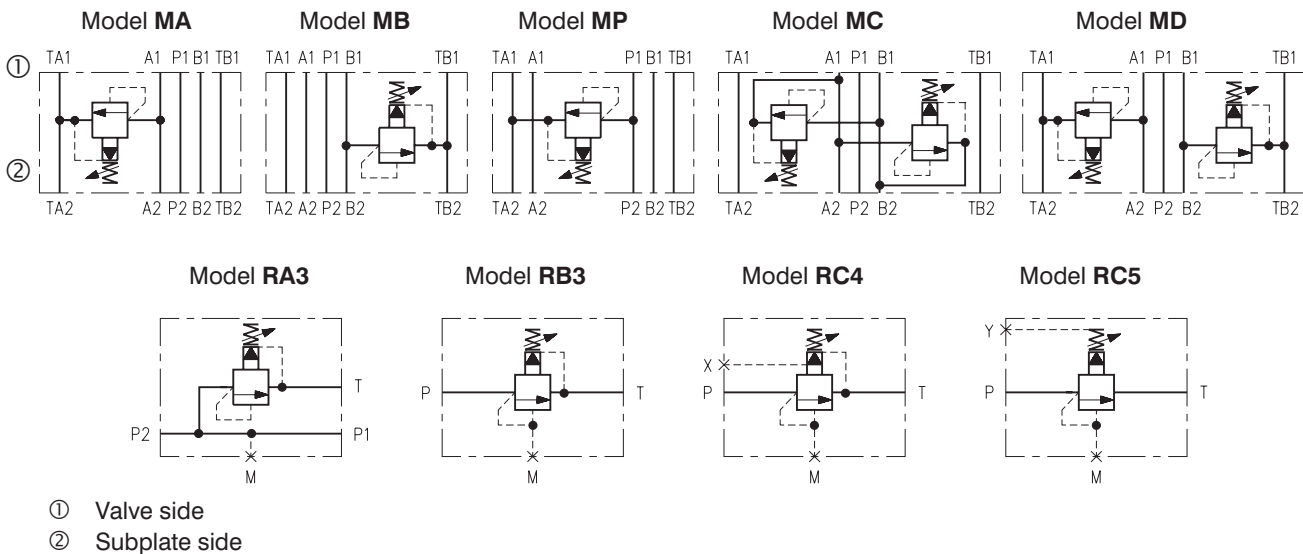
6
10
16
21
32

Pressure range

up to 910 PSI (63 bar)
up to 1450 PSI (100 bar)
up to 2300 PSI (160 bar)
up to 3000 PSI (210 bar)
up to 5076 PSI (350 bar)

Model with two pressure relief cartridges
32/10 pressure setting 5076 PSI (350 bar)
in port A and 1450 PSI (100 bar) in port B, etc.

Functional Symbols



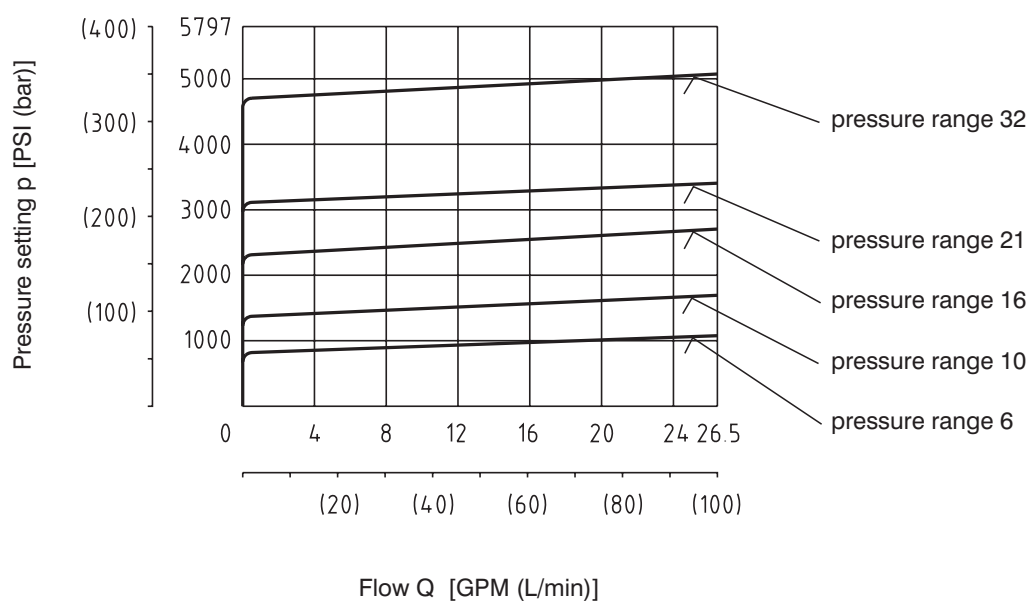
Order Numbers of Sandwich / Valve Bodies (without screw-in cartridge)

Valve body for modular valve - NBR	Order number	Valve body for modular valve - Viton	Order number
MA10-VP	556-0670	MA10-VP/V	556-0675
MB10-VP	556-0671	MB10-VP/V	556-0676
MP10-VP	556-0672	MP10-VP/V	556-0677
MC10-VP	556-0673	MC10-VP/V	556-0678
MD10-VP	556-0674	MD10-VP/V	556-0679
Valve body for in-line valve - NBR	Order number	Valve body for in-line valve - Viton	Order number
RA3-10-VP	556-0730	RA3-10-VP/V	556-0733
RB3-10-VP	556-0731	RB3-10-VP/V	556-0734
RC4-10-VP (RC5-10-VP)	556-0732	RC4-10-VP/V (RC5-10-VP/V)	556-0735

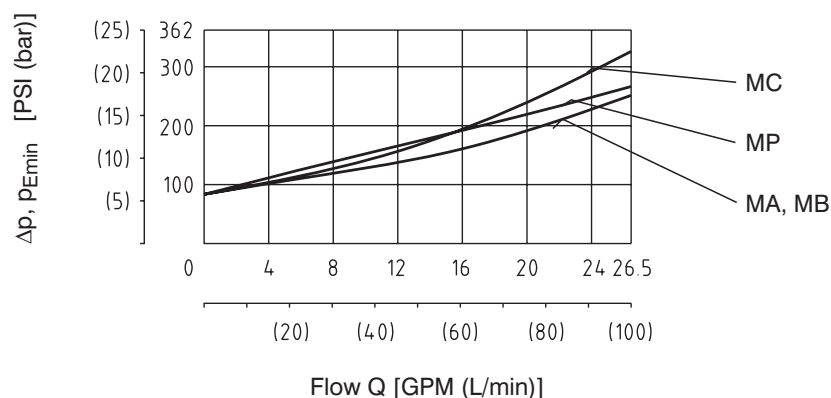
Technical Data

Valve size	mm	10
Max. flow rate	GPM (L/min)	40 (150)
Max. control flow	GPM (L/min)	0.132 (0.5)
Max. service pressure ports (P, T, A, B)	PSI (bar)	5076 (350)
Working pressure related to flow	PSI (bar)	see p-Q characteristics
Hydraulic fluid		Petroleum oils (HM, HL, HLP) Phosphate ester fluids (HFD-R)
Fluid temperature range for standard sealing (NBR)	°F (°C)	-22 ... 212 (-30 ... +100)
Fluid temperature range for Viton sealing (FPM)	°F (°C)	-4 ... 248 (-20 ... +80)
Viscosity range	SUS (mm ² /s)	98 ... 1840 (20 ... 400)
Max. degree of fluid contamination		Class 21/18/15 according to ISO 4406 (1999).
Weight - models MA, MB, MP - models MC, MD - models RA3, RB3, RC4, RC5	lbs (kg)	5.714 (2.6) 6.593 (3.0) 5.934 (2.7)
Mounting position		any

p-Q Characteristics

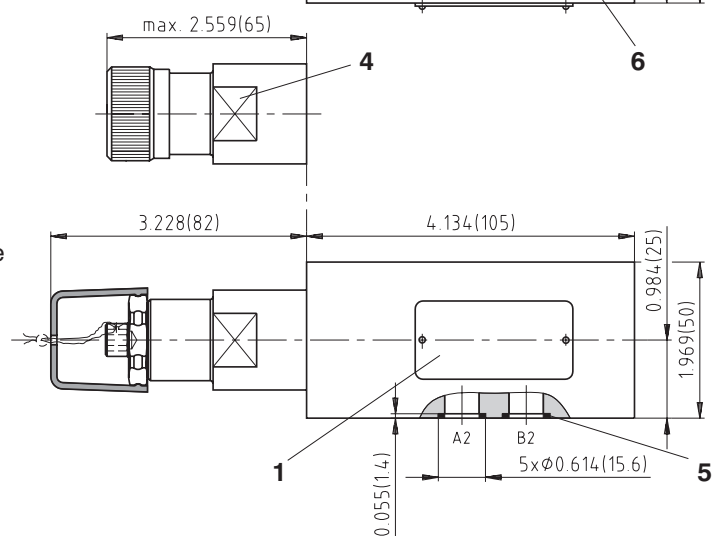
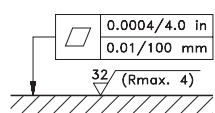
Measured at $\nu = 156$ SUS (32 mm²/s)

Δp -Q Characteristics

Measured at $\nu = 156$ SUS (32 mm²/s)

[illegible]

- 1** Name plate
- 2** Adjustment element (screw with internal HEX 6)
- 3** Locknut HEX (27)
- 4** Wrench flats s=1.063 inch (27mm)
- tightening torque 22.11 ft-lbs (60 Nm)
- 5** 4 through mounting holes
- 6** Square rings
12.42 x 1.68 (5 pcs.) supplied with valve

[illegible]

ARGO 
HYTOS

[illegible]

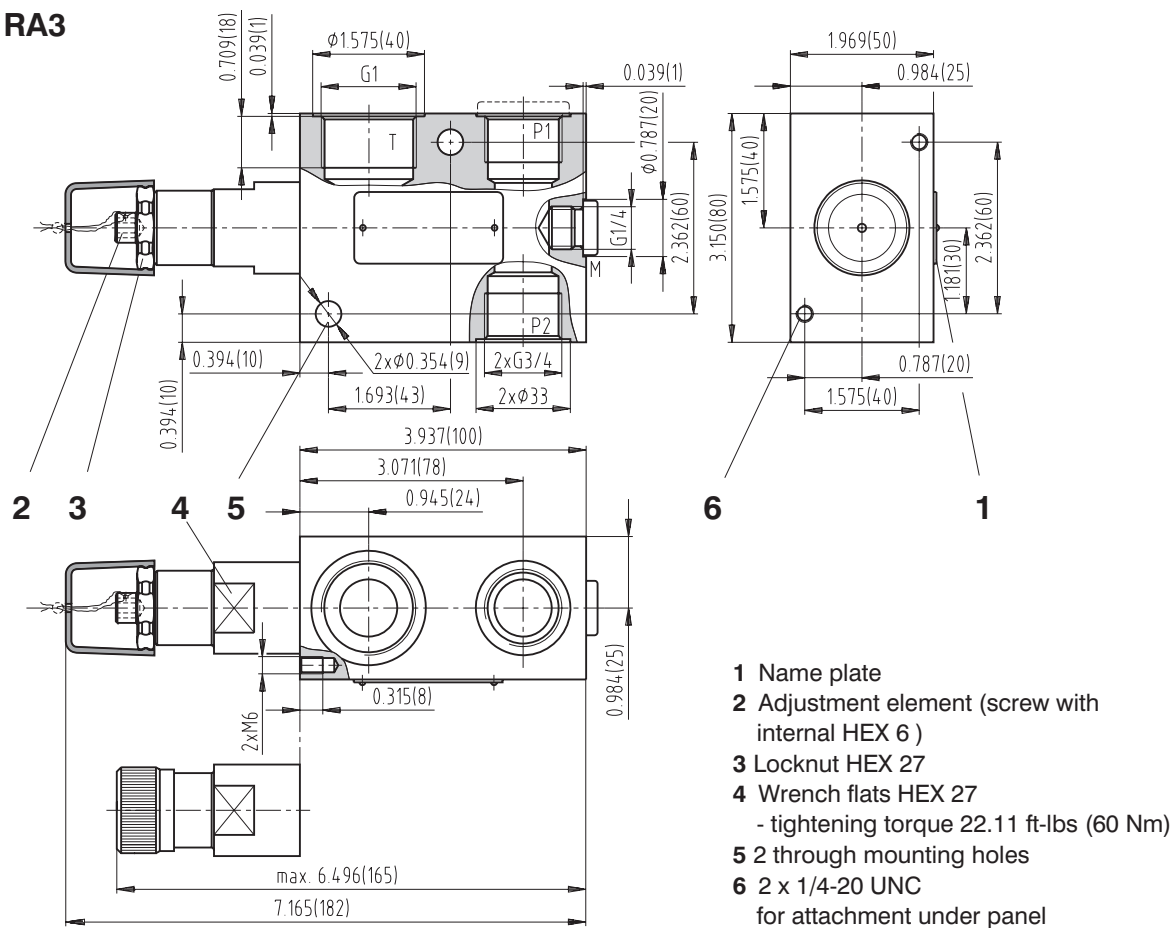
- 1** Name plate
- 2** Adjusting element (screw with internal HEX 6)
- 3** Locknut HEX 27
- 4** Wrench flats HEX 27
 - tightening torque 22.11 ft-lbs (60 Nm)
- 5** 4 through mounting holes
- 6** Square rings
12.42 x 1.68 (5 pcs.)
supplied with valve

[illegible]

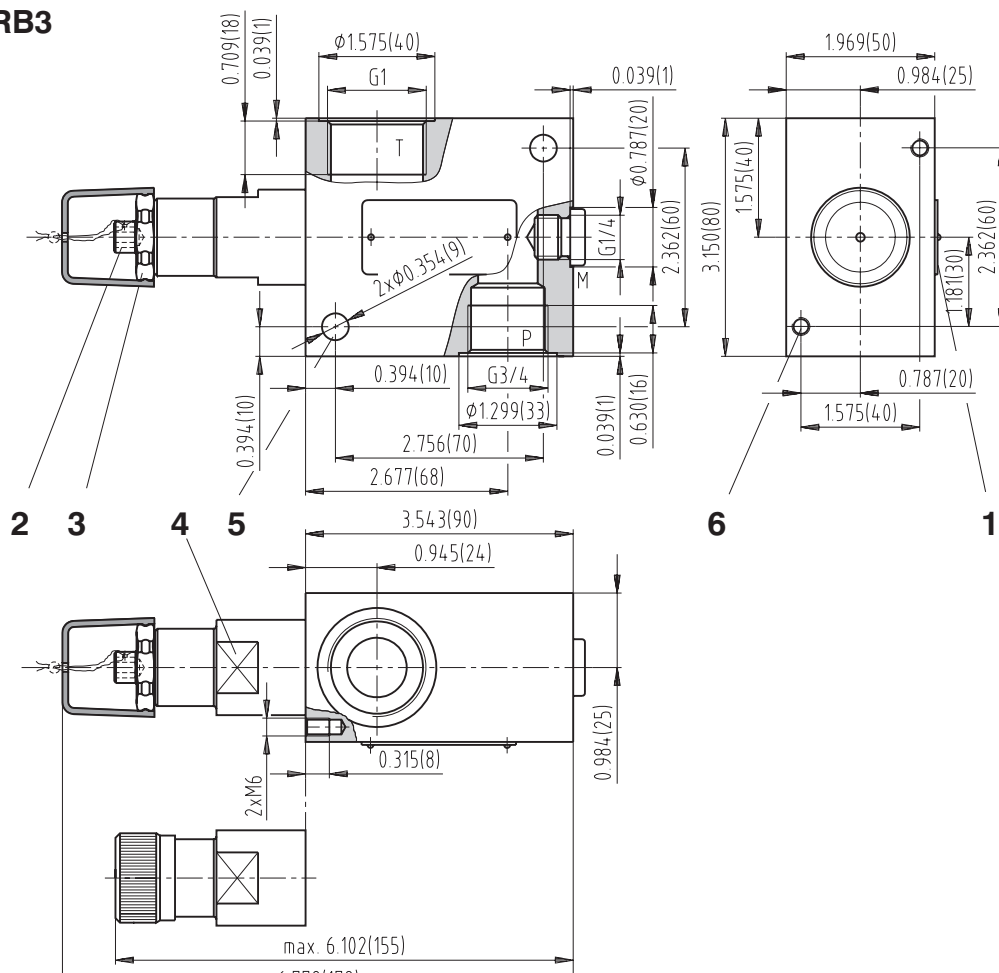
Valve Dimensions

Dimensions in inches and millimeters (in brackets)

Model RA3



Model RB3



[illegible]

- 1** Name plate
- 2** Adjustment element (screw with internal HEX 6)
- 3** Locknut HEX 27
- 4** Wrench flats HEX 27
 - tightening torque 22.11 ft-lbs (60 Nm)
- 5** 2 through mounting holes
- 6** 2 x 1/4-20 UNC
 - for attachment under panel

Model	Dimensions, quantity	Order number
Modular valve - Viton	O-ring 12.42 x 1.78 (5 pcs.)	556-0385
Model	Typ, quantity	Order number
In-line valve RA3 - Viton	Plug SAE-4 - Viton (1 pc.) Plug SAE-12 - Viton (1 pc.)	556-0660
In-line valve RB3, RC4, RC5 - Viton	Plug SAE-4 - Viton (1 pc.)	

Caution!

- The packing foil is recyclable.
- Certified documentation is available per request.

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