

- Cartridge, modular and in-line design
- Five pressure ranges
- Two pressure adjustment options:
 - screw with internal hexagon
 - hand knob with arrestment

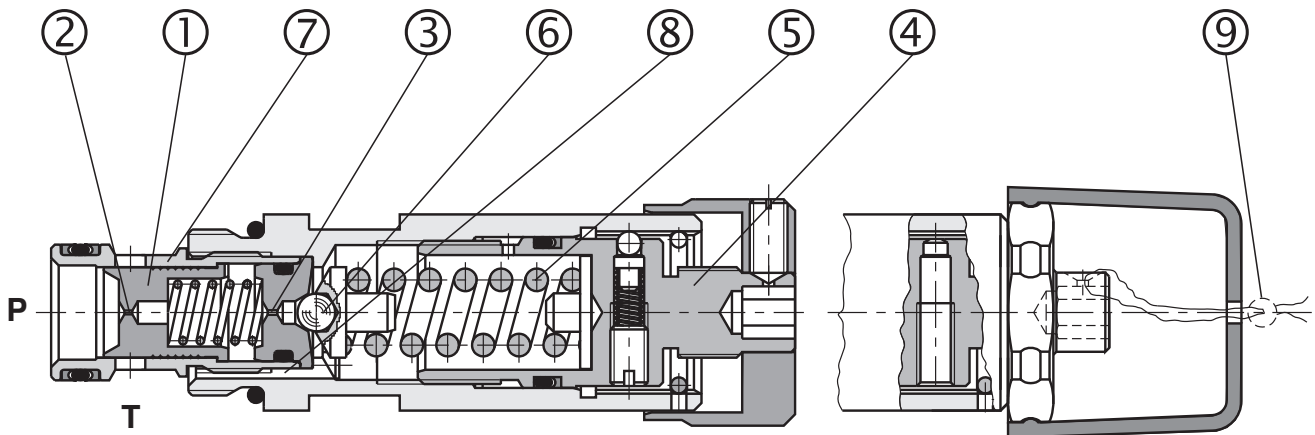


Functional Description

Pressure relief valves VPN1 are pilot operated pressure valves designed for system pressure limitation. The pressure adjustment provides 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 valves. The spool area which is preloaded by the 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 groove (8) to channel T. Valve adjustment can be lockwired (9).

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



Ordering Code

VPN1-06/ -

Pilot Operated Pressure Relief Valve

Nominal size

Model

- screw in cartridge
- modular valve, flow from A to T
- modular valve, flow from B to T
- modular valve, flow from P to T
- modular valve, flow from A to B and B to A
- modular valve, flow from A and B to T
- in-line valve, thread G3/8
- in-line valve, thread G1/2
- in-line valve, thread G3/8
- in-line valve, thread G1/2

- S**
- MA**
- MB**
- MP**
- MC**
- MD**
- RA1**
- RA2**
- RB1**
- RB2**

without designation
V

Sealing
NBR
FPM (Viton)

S
R

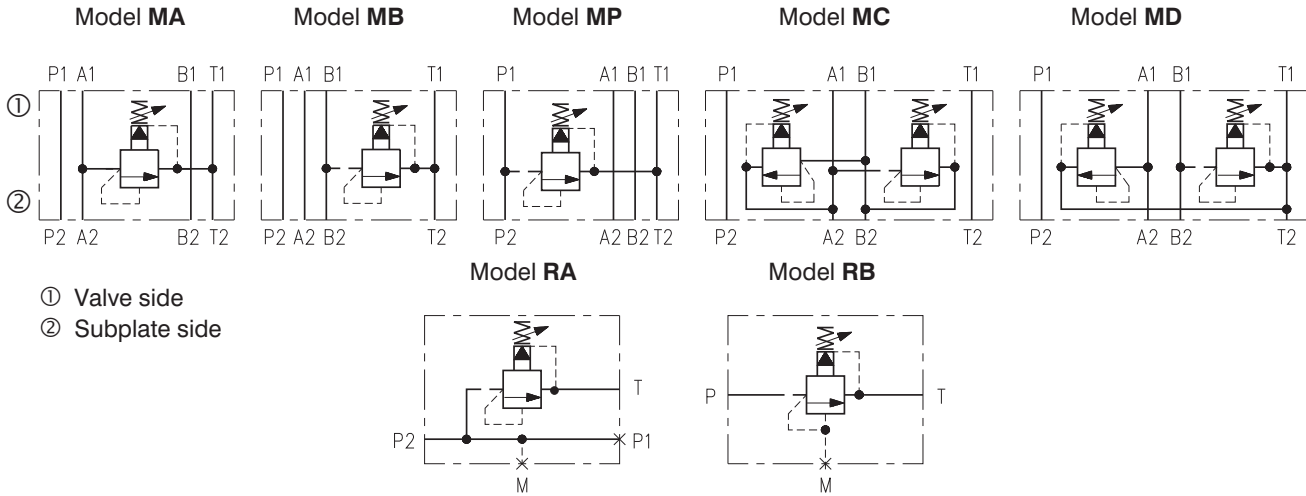
Adjustment element
screw with internal hexagon
hand knob

Pressure range

- 6 up to 63 bar
- 10** up to 100 bar
- 16** up to 160 bar
- 21** up to 210 bar
- 32** up to 320 bar

FOR PREFERRED TYPES SEE BOLD TYPING IN ORDERING CODE AND TABLE OF PREFERRED TYPES ON PAGE 10

Functional Symbols



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

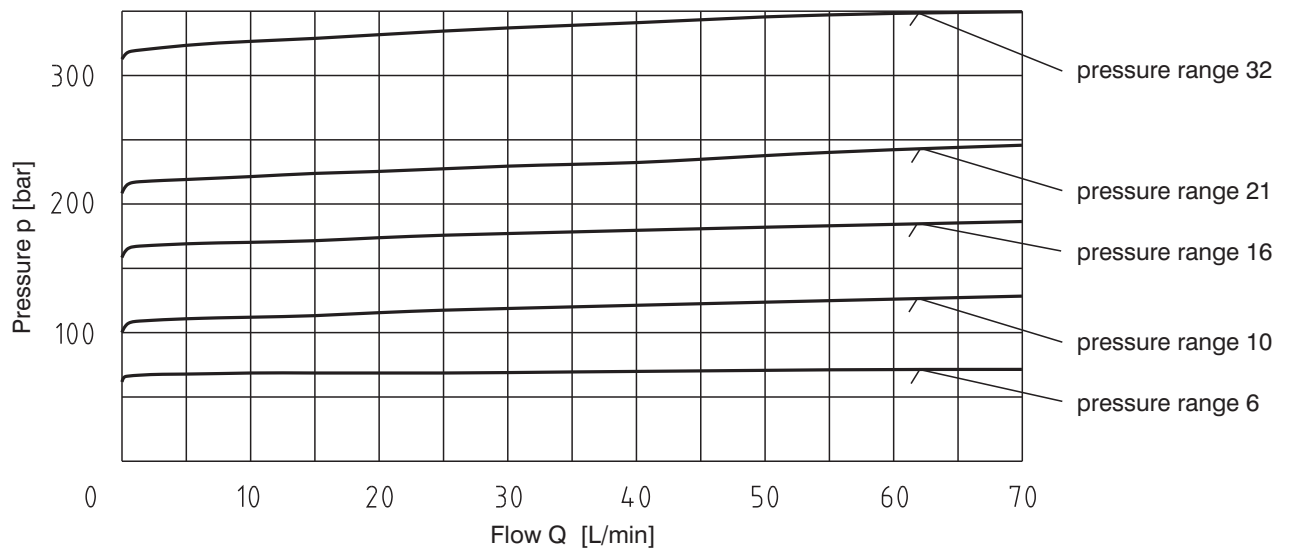
Valve body for modular valve - NBR	Ordering number	Valve body for modular valve - Viton	Ordering number
MA06-VP	556-0330	MA06-VP/V	556-0430
MB06-VP	556-0331	MB06-VP/V	556-0431
MP06-VP	556-0332	MP06-VP/V	556-0432
MC06-VP	556-0333	MC06-VP/V	556-0433
MD06-VP	556-0334	MD06-VP/V	556-0434
Valve body for in-line valve - NBR	Ordering number	Valve body for in-line valve - Viton	Ordering number
RA1-06-VP	556-0336	RA1-06-VP/V	556-0436
RA2-06-VP	556-0337	RA2-06-VP/V	556-0437
RB1-06-VP	556-0338	RB1-06-VP/V	556-0438
RB2-06-VP	556-0339	RB2-06-VP/V	556-0439

Technical Data

Nominal size	mm	06
Max. flow rate	L/min	70
Max. control flow	L/min	0.35
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
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	0.25
Weight - models MA, MB, MP		1.2
- models MC, MD	kg	1.5
- models RA1, RA2, RB1, RB2		1.25
Mounting position		optional

p-Q Characteristics for Model S

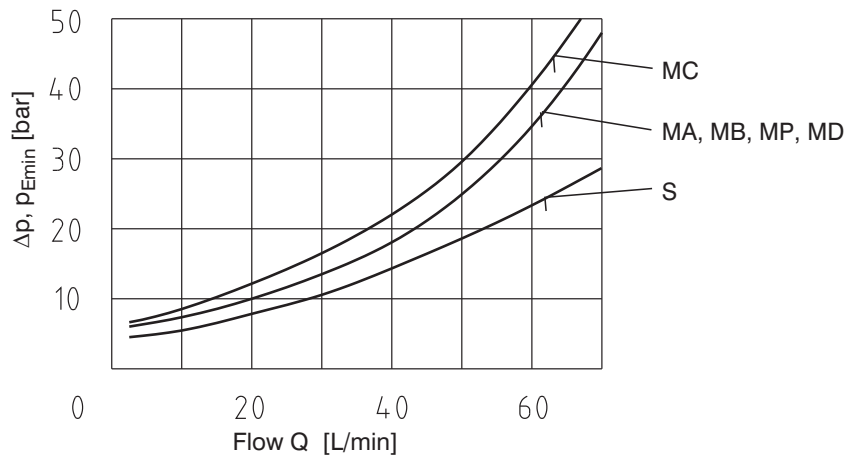
Measured at $v = 32 \text{ mm}^2/\text{s}$



Δp-Q Characteristics

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

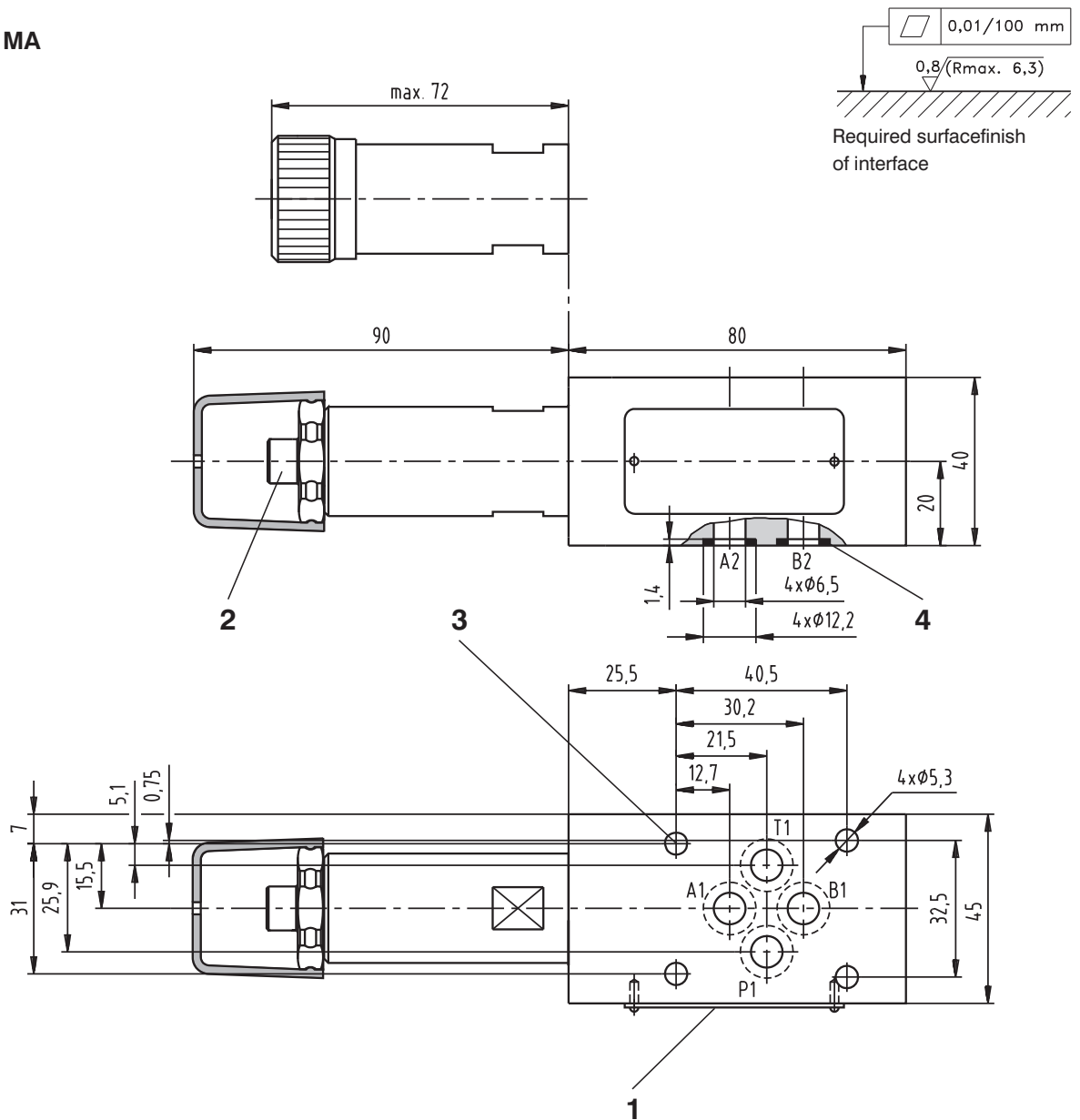
Pressure drop Δp related to flow rate.



Valve Dimensions

Dimensions in millimetres

Model MA

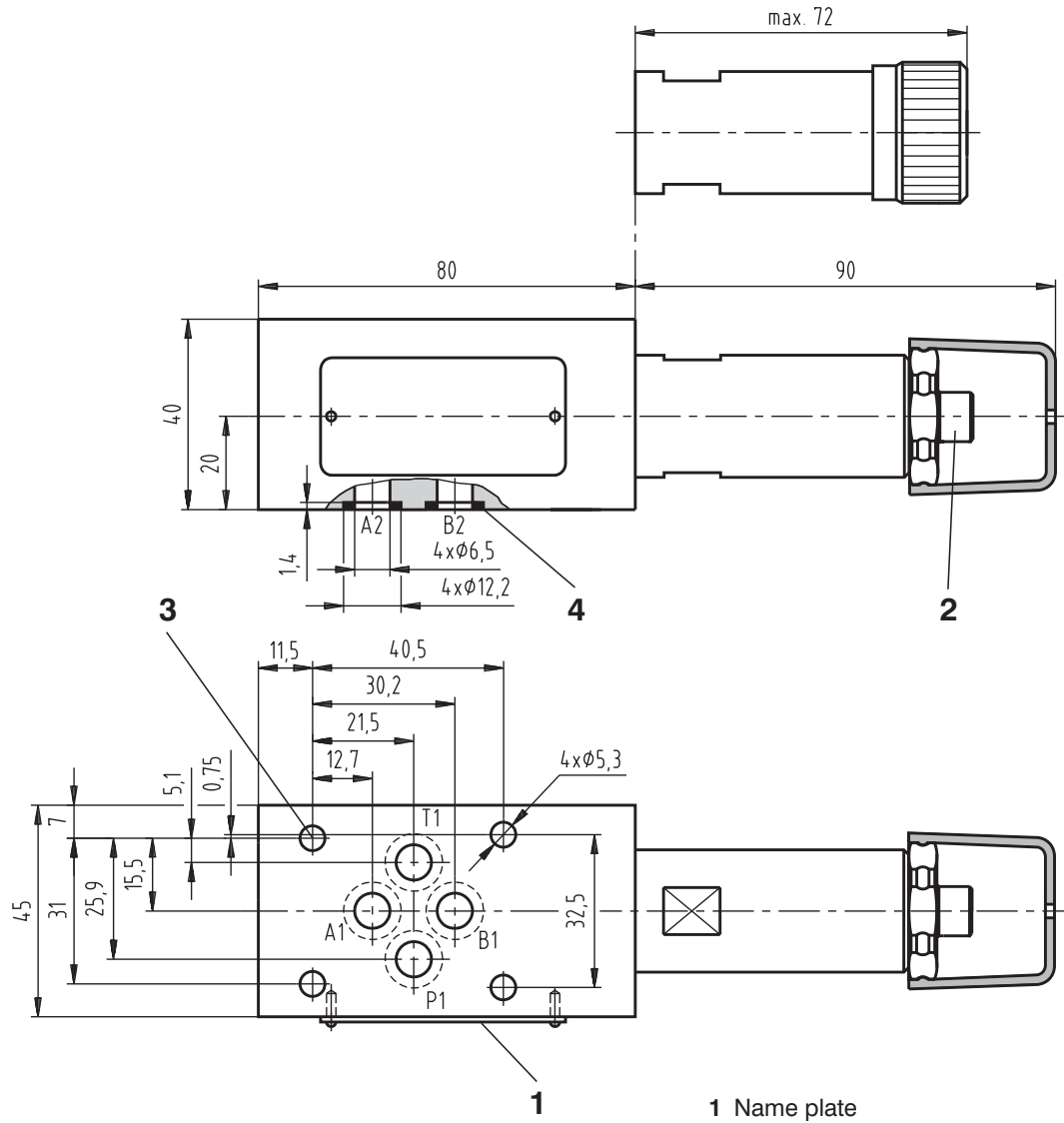
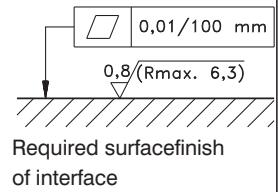


- 1 Name plate
- 2 Adjustment element for pressure setting
- 3 4 through mounting holes
- 4 Square rings 9.25 x 1.68 (4 pcs.) supplied with valve

Valve Dimensions

Dimensions in millimetres

Models MB and MP

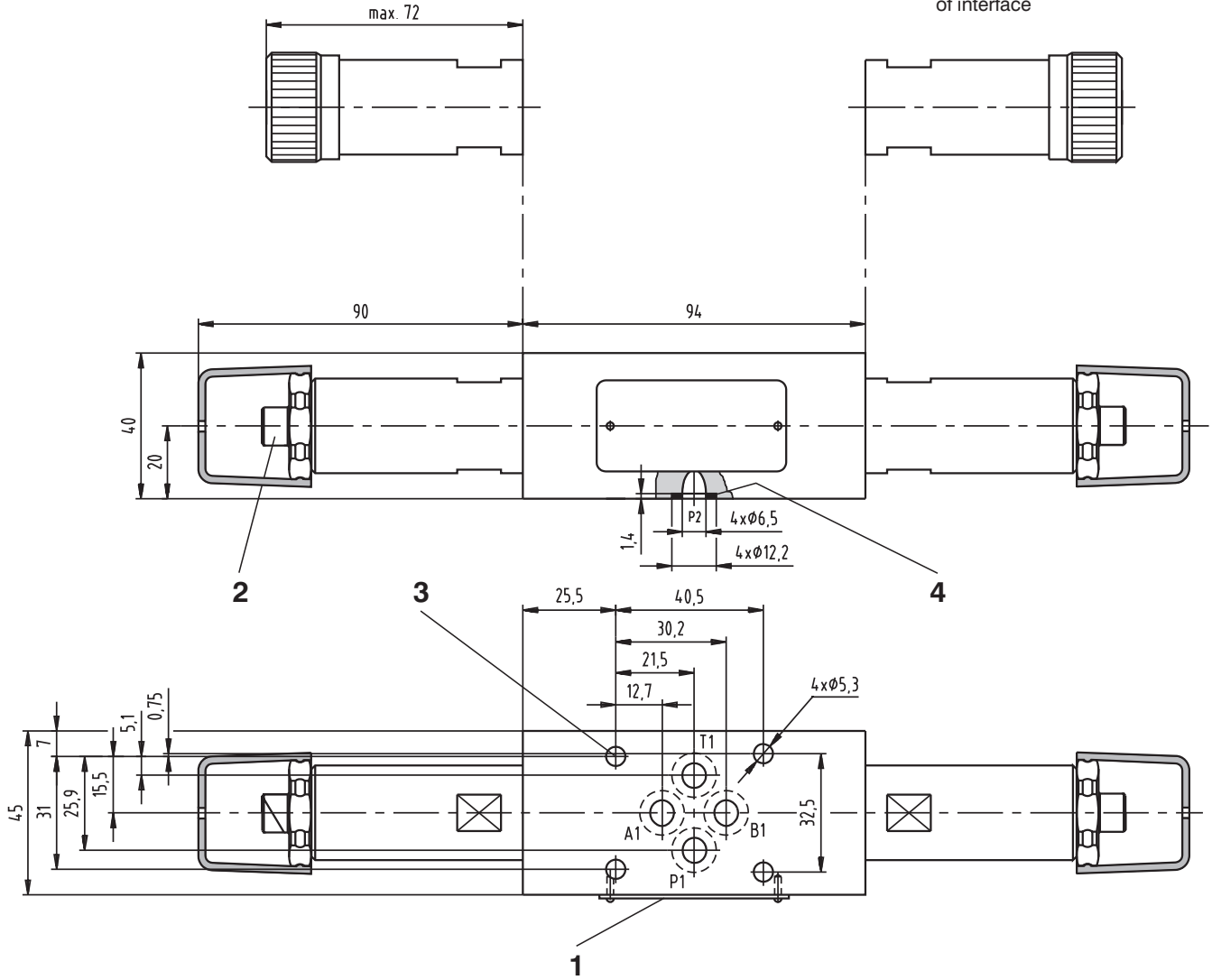
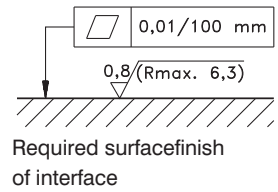


- 1 Name plate
- 2 Adjustment element for pressure setting
- 3 4 through mounting holes
- 4 Square rings 9.25 x 1.68 (4 pcs.) supplied with valve

Valve Dimensions

Dimensions in millimetres

Models MC and MD

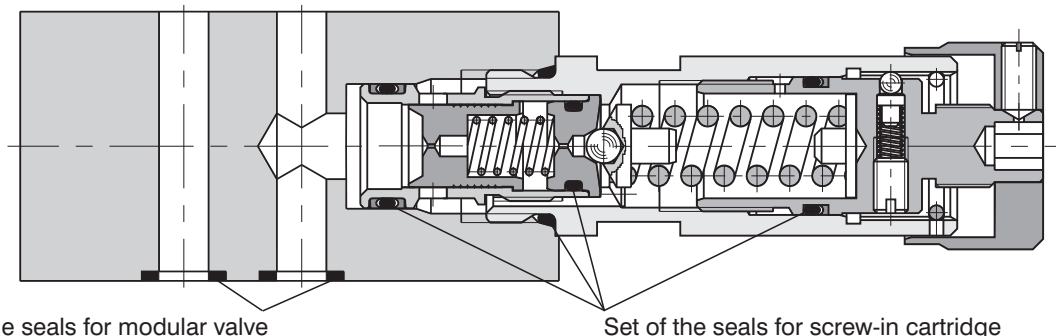


- 1 Name plate
- 2 Adjustment element for pressure setting
- 3 4 through mounting holes
- 4 Square rings 9.25 x 1.68 (4 pcs.) supplied with valve

Caution!

- The packing foil is recyclable.
- The protecting plate can be returned to the manufacturer.
- Mounting studs must be ordered separately. Tightening torque is 8.9 Nm.
- 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

Spare Parts



Model	Dimensions, number	Ordering number
Screw-in cartridge - NBR	O-ring 14 x 1.78 NBR 90 (1 pc.)	556-0399
	O-ring 17 x 1.8 NBR 70 (1 pc.)	
	O-ring 19.4 x 2.1 NBR 80 (1 pc.)	
	O-ring 9.25 x 1.78 NBR 90 (1 pc.)	
	Back-up ring BBP80B015-N9 14.73 x 17.43 x 1.14 (2 pc.)	
	Back-up ring BBP80B016-N9 16.33 x 19.03 x 1.14 (1 pc.)	
Screw-in cartridge - Viton	O-ring 14 x 1.78 (1 pc.)	556-0398
	O-ring 17 x 1.8 (1 pc.)	
	O-ring 19.4 x 2.1 (1 pc.)	
	O-ring 9.25 x 1.78 (1 pc.)	
	Back-up ring BBP80B015 14.73 x 17.43 x 1.14 (2 pc.)	
	Back-up ring BBP80B016 16.33 x 19.03 x 1.14 (1 pc.)	
Model	Dimensions, number	Ordering number
Modular valve - NBR	Square-Ring 9.25 x 1.68 (4 pcs.)	556-0397
Modular valve - Viton	O-ring 9.25 x 1.78 (4 pcs.)	556-0396
Model	Typ, number	Ordering number
In-line valve RA1 - NBR	VSTI R1/4-ED (1 pc.)	556-0391
	VSTI R3/8-ED (1 pc.)	
In-line valve RA2 - NBR	VSTI R1/4-ED (1 pc.)	556-0393
	VSTI R1/2-ED (1 pc.)	
In-line valve RB1 - NBR	VSTI R1/4-ED (1 pc.)	556-0395
In-line valve RB2 - NBR		
In-line valve RA1 - Viton	VSTI R1/4-ED - Viton (1 pc.)	556-0390
	VSTI R3/8-ED - Viton (1 pc.)	
In-line valve RA2 - Viton	VSTI R1/4-ED - Viton (1 pc.)	556-0392
	VSTI R1/2-ED - Viton (1 pc.)	
In-line valve RB1 - Viton	VSTI R1/4-ED - Viton (1 pc.)	556-0394
In-line valve RB2 - Viton		

Preferred Types of Valves

Type	Ordering number	Type	Ordering number
VPN1-06/S-10S	556-0301	VPN1-06/MP-32S	556-0424
VPN1-06/S-21S	556-0303	VPN1-06/RA2-10S	556-0561
VPN1-06/S-32S	556-0304	VPN1-06/RA2-21S	556-0563
VPN1-06/MP-10S	556-0421	VPN1-06/RA2-32S	556-0564
VPN1-06/MP-21S	556-0423		

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