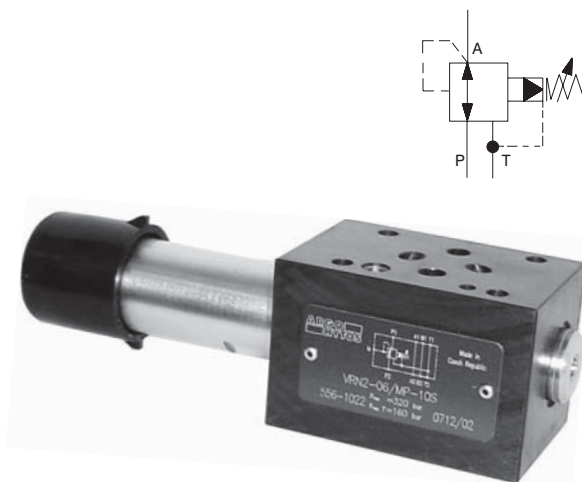


- ☐ Screw-in cartridge valve for manifold mounting and stacking assemblies
- ☐ 4 pressure ranges
- ☐ Two pressure adjustment options
- ☐ Pressure reduction in ports A or P
- ☐ Model MA with check valve
- ☐ Installation dimensions to ISO 4401-AB-03-4-A and DIN 24 340-A6



Functional Description

The pressure valves VRN2 are pilot operated screw-in cartridge pressure reducing valves designed as 3 way valves, i.e. with pressure protection of the secondary circuit. For the use in vertical stacking assemblies, two models of valve bodies are available, with pressure reduction in ports A and P. Incorporated into the valve bodies MA are the check valves which enable the reverse flow to pass through the valve.

The reducing valve consists of a cartridge (1) with thread M22x1.5, control spool (2), spring (3) and the adjustment element (4). With the models for stacking assemblies also the respective valve body (5) and alternatively a check valve (6) complete the valve.

Screw-in cartridge valve

The flow from the primary circuit flows to the first metering edge, where its pressure is reduced. The reduced pressure corresponds with the adjustment of the control spring of the ball pilot valve. The reduced pressure is continuously controlled and compared with the pressure preset. If any control error appears, the respective control action takes place and the reduced pressure returns to its preset value. After the pressure reduction, the fluid flows through the spool bore and is

then routed to the output port of the module valve body. If pressure behind the valve increases due to the effect of external load acting on the user, the control spool shifts further against the spring, the reducing metering edge closes and the second metering edge opens. The fluid passes through the „third way“ to port T. The control flow of the pilot valve (from the spring room) is also routed to port T.

Model MA

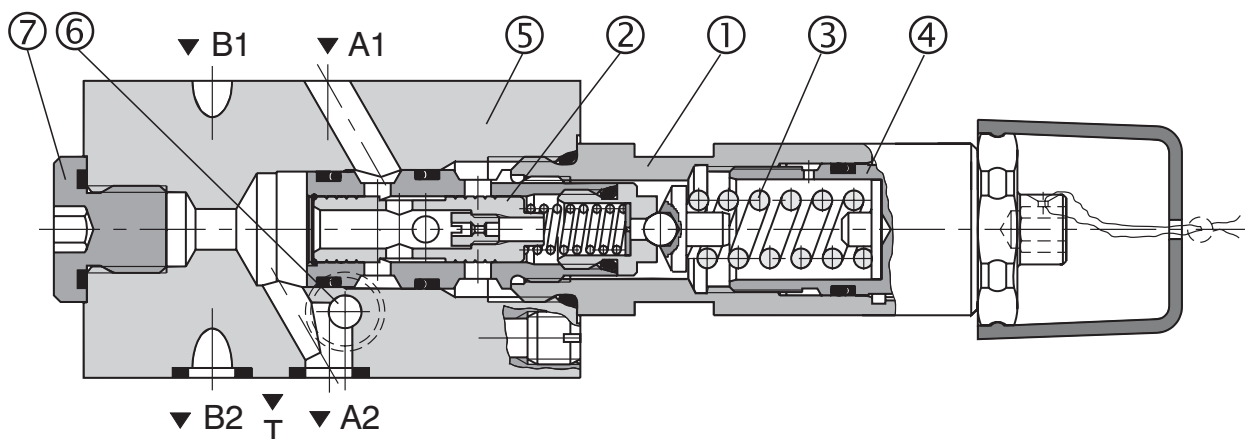
With this model, the flow enters into the valve body through port A1. The input pressure is reduced, routed to port A2 and further to the user. The reverse flow passes through a check valve which is connected parallel to the metering edge.

Model MP

With the model MP, the pressure is reduced from port P2 to port P1.

With all models, a control pressure gauge can be connected to port G 1/4 (7).

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

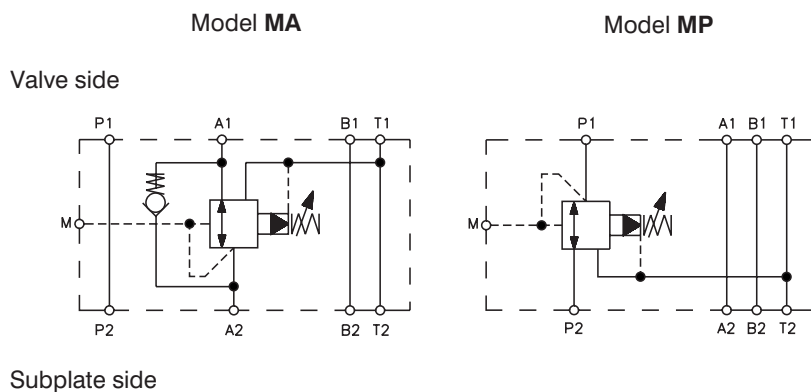


Ordering Code

VRN2-06/ <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/>			
Pilot Operated Pressure Reducing Valve		without designation V	Sealing NBR Viton
Nominal size		S R	Adjustment element screw with internal hexagon 6 mm hand knob
Model screw in cartridge modular valve, pressure reduction in port A modular valve, pressure reduction in port P	S MA MP	6 10 16 21	Pressure range up to 63 bar up to 100 bar up to 160 bar up to 210 bar

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

Functional Symbols

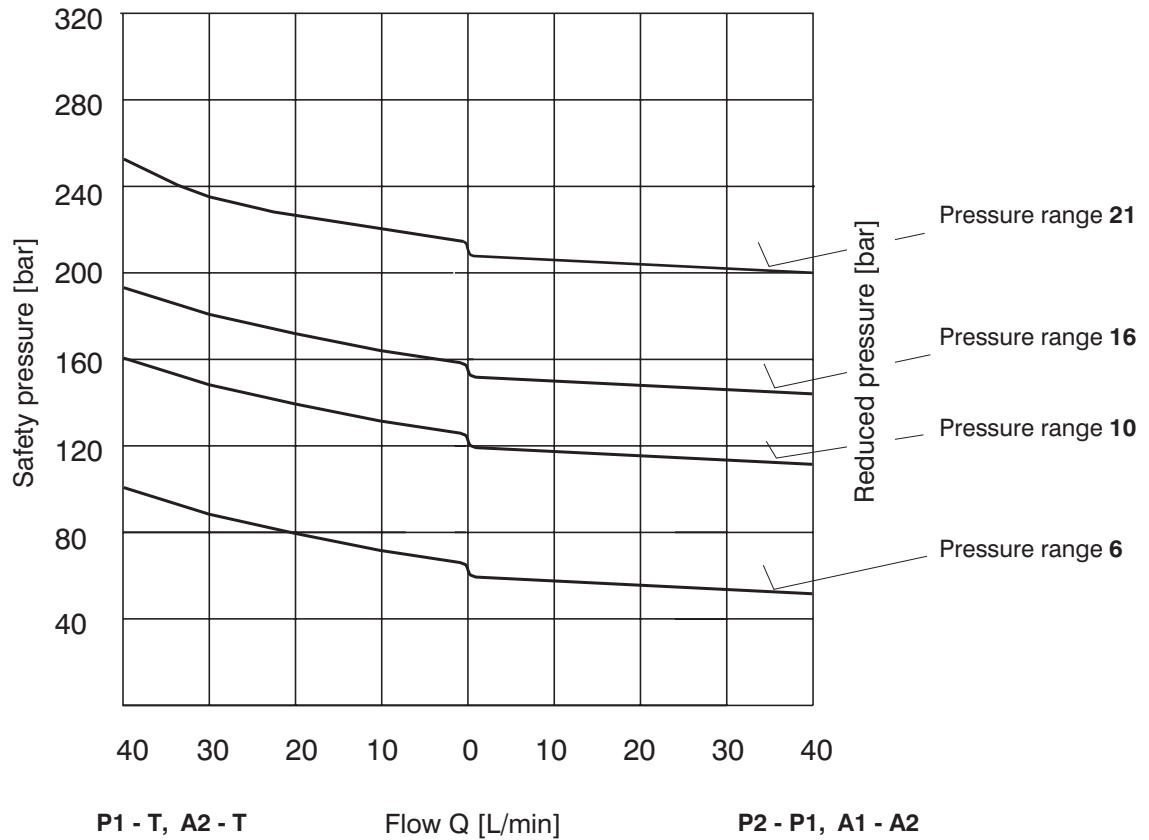
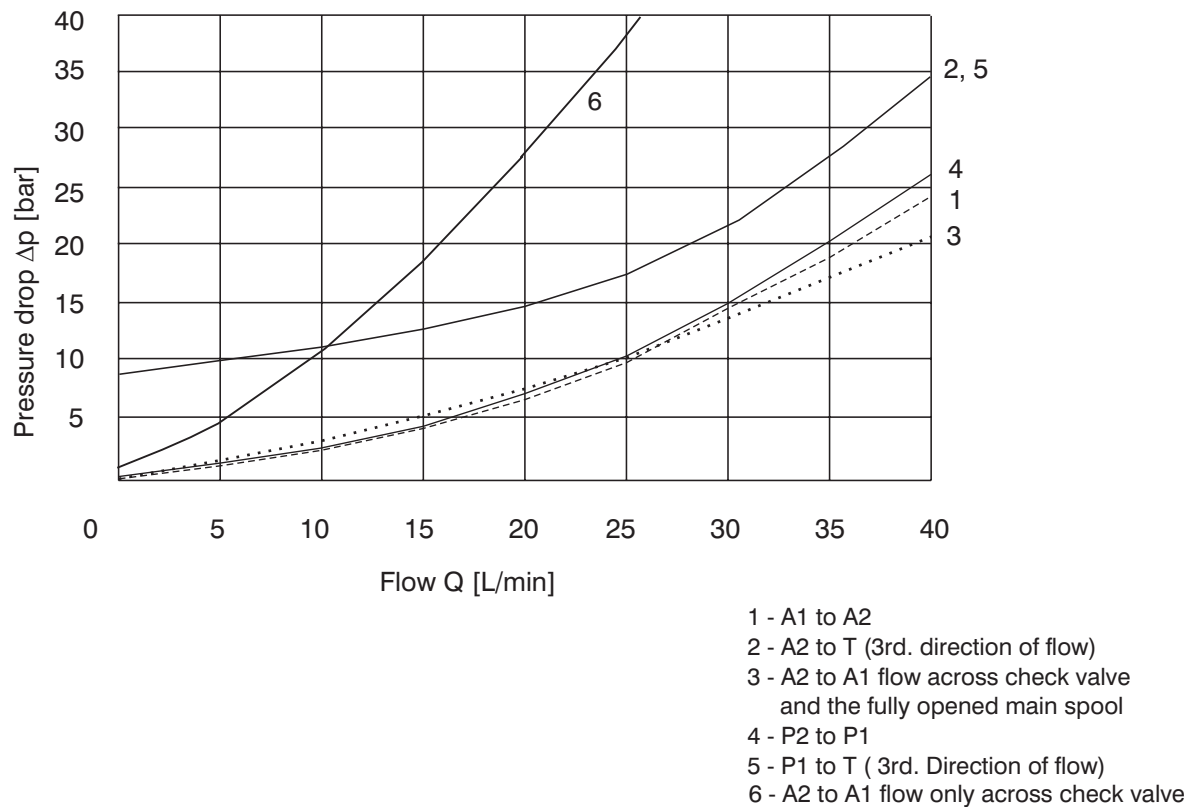


Ordering Numbers of Sandwich / Valve Bodies (without screw-in cartridge)

Valve body for modular valve - NBR	Ordering number	Valve body for modular valve - Viton	Ordering number
MA06-VRN2	16002400	MA06-VRN2/V	22995500
MP06-VRN2	16002200	MP06-VRN2/V	22995000

Technical Data

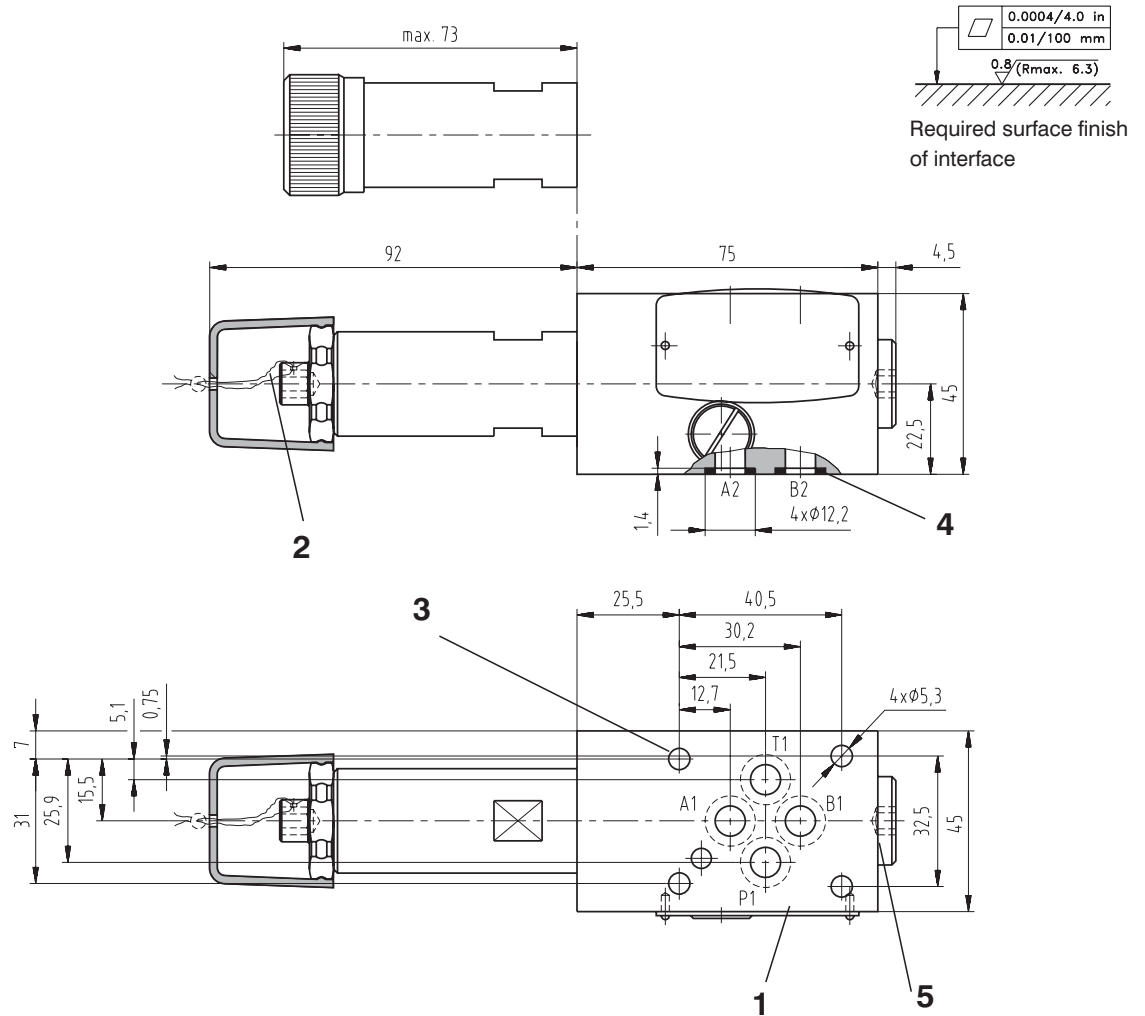
Nominal size	mm	06
Maximal flow rate	L/min	40
Maximum pilot flow	L/min	0.25
Max. input pressure (port P)	bar	320
Max. output pressure (port T)	bar	160
Working pressure related to flow	bar	see p-Q characteristics
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Fluid temperature range (NBR / Viton)	°C	-30 ... +100 / -20 ... +120
Viscosity range	mm ² /s	20 ... 400
Maximum degree of fluid contamination		Class 21/18/15 according to ISO 4406 (1999)
Weight: model S model MA model MP	kg	0,22 1,20 1,10
Mounting position		optional

p-Q CharacteristicsMeasured at $v = 32 \text{ mm}^2/\text{s}$  **Δp -Q Characteristics**Measured at $v = 32 \text{ mm}^2/\text{s}$ 

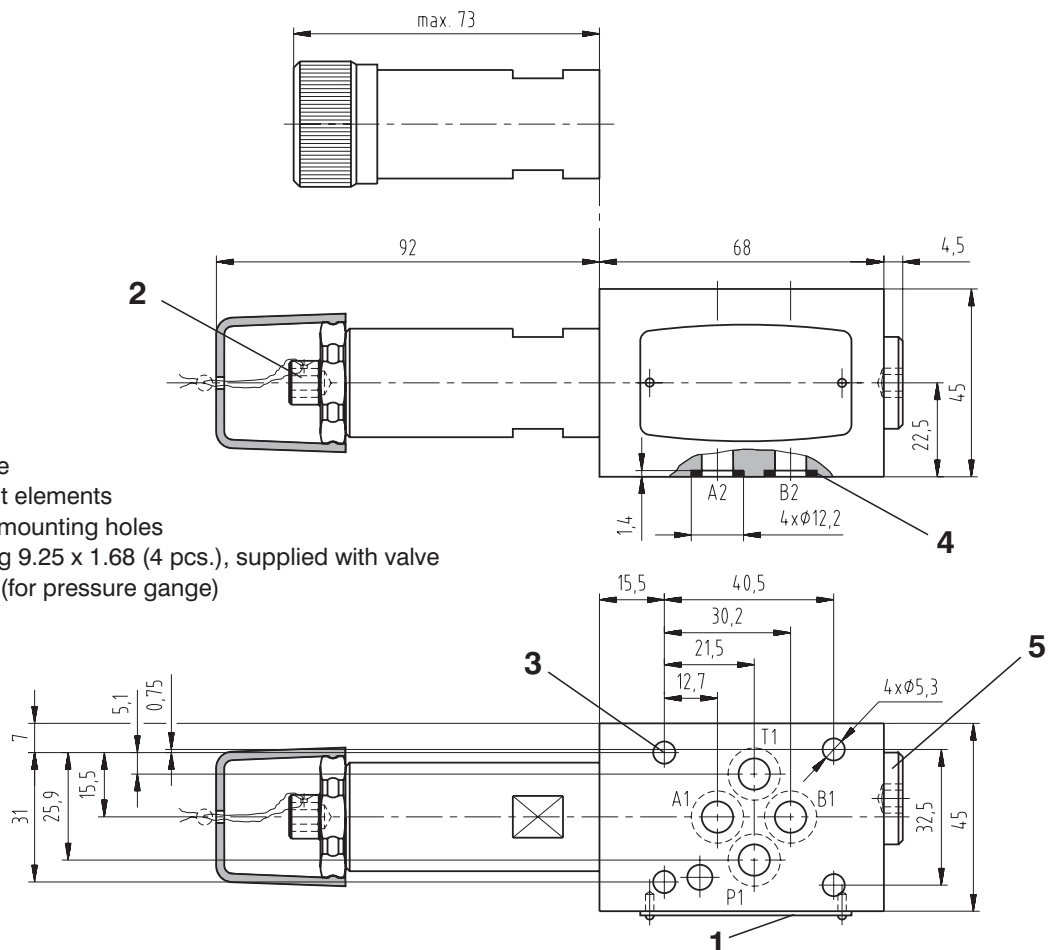
Valve Dimensions

Dimensions in millimeters

Model MA



Model MP



- 1 Name plate
- 2 Adjustment elements
- 3 4 through mounting holes
- 4 Square ring 9.25 x 1.68 (4 pcs.), supplied with valve
- 5 Plug G1/4 (for pressure gauge)

Spare Parts

Model	Dimensions, quantity	Ordering number
Screw-in cartridge - NBR	O-ring 9 x 1,8 NBR 70 (1 pc.)	17363800
	O-ring 14 x 1,78 NBR 90 (2 pc.)	
	O-ring 17 x 1,8 NBR 70 (1 pc.)	
	O-ring 19,4 x 2,1 NBR 80 (1 pc.)	
	Back-up ring BBP80B015-N9 14,73 x 17,43 x 1,14 (2 pcs.)	
	Back-up ring BBP80-B-016-N9 16,33 x 19,03 x 1,14 (1 pc.)	
Screw-in cartridge - Viton	O-ring 9,25 x 1,78 (1 pc.)	22925500
	O-ring 14 x 1,78 (2 pcs.)	
	O-ring 17,17 x 1,78 (1 pc.)	
	O-ring 19,4 x 2,1 (1 pc.)	
	Back-up ring 14,73 x 17,43 x 1,14 (2 pcs.)	
Model	Dimensions, quantity	Ordering number
Modular valve - NBR	O-ring 9 x 1,8 (1 pc.)	15987200
	O-ring 14 x 1,78 (2 pcs.)	
	O-ring 17 x 1,8 (1 pc.)	
	O-ring 9,75 x 1,78 (1 pc.)	
	O-ring 19,4 x 2,1 (1 pc.)	
	Back-up ring 14,73 x 17,43 x 1,14 (2 pcs.)	
	Back-up ring 16,33 x 19,03 x 1,14 (1 pc.)	
	Square ring 9,25 x 1,68 (4 pcs.)	
Modular valve - Viton	O-ring 9,25 x 1,78 (5 pcs.)	22925600
	O-ring 14 x 1,78 (2 pcs.)	
	O-ring 17,17 x 1,78 1 pc.)	
	O-ring 19,4 x 2,1 (1 pc.)	
	Back-up ring 14,73 x 17,43 x 1,14 (2 pcs.)	
	Back-up ring 17,4 x 1,3 (1 pc.)	

Preferred Types of Valves

Type	Ordering Number
VRN2-06/S-10S	15997200
VRN2-06/S-21S	15997500
VRN2-06/MP-10S	15998400
VRN2-06/MP-21S	15999000

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.

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