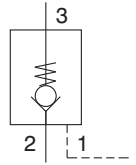


- Cartridge valve for manifold mounting
- Model with subplate - enables direct mounting on the hydraulic actuator by means of a hollow bolt
- The use of a hollow bolt with a built-in throttle VSV1 and check valve possible VSVJ1 and VSVJ2



Functional Description

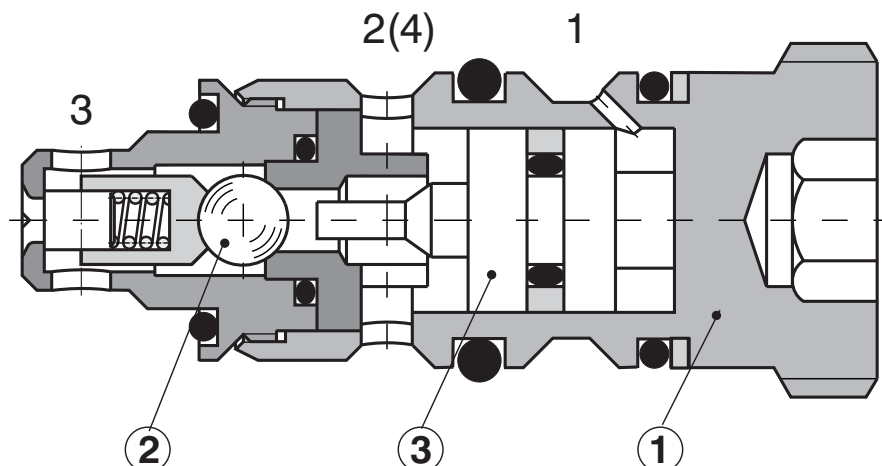
Model RJV1-05 are pilot operated check valves in cartridge design used to give leakfree closure of a hydraulic actuator port under pressure, even during long idle periods.

They basically consist of housing (1), check valve (2), and pilot piston (3). The cartridge is available already assembled into a subplate for direct mounting onto the actuator (page 4 of this data sheet).

When fluid flows from port 2 → 3, it opens the check valve automatically. When the pressure in port 2 drops (e.g. after shifting the directional valve into its middle

position), the spring pushes the ball (2) onto the seat and the circuit between the check valve and the actuator is closed. The control pressure (port 1) acting on the pilot piston (3) moves the ball (2) from the seat and makes the flow passage 3 → 2 free. An additional port 4 is available for use in double acting applications using two pilot operated check valves-see typical circuits (page 3) and drawings (page 5).

The valve body is blackened. The hollow bolt and the surface of the subplate are phosphate coated.



Ordering Code

RJV1-05- /

Seals
NBR
Viton

no designation
V

Pilot Operated Cartridge Check Valve

Nominal size

Hollow bolt

no designation without throttle valve
S with flow throttle valve VSV1
J1 with flow throttle VSVJ1
J2 with flow throttle VSVJ2
 (fill in just with the model with subplate)

Model

With pilot piston seal
 Without pilot piston seal

no designation
0

Threads of hollow bolt

B M18x1,5
C M22x1,5
D G1/2
E G3/8
 (fill in just with the model with subplate)

Model

Cartridge valve
 With subplate - connecting threads
 3x M12x1,5 und 1x M18x1,5

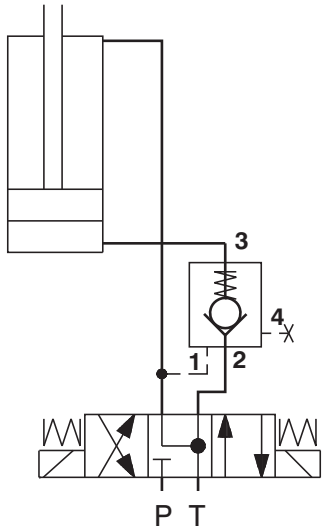
no designation
M

Technical Data

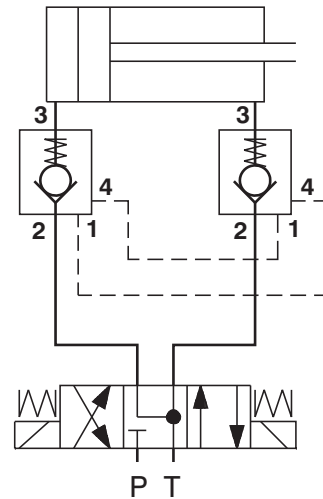
Nominal size	mm	05
Maximum flow	L/min	20
Maximum operating pressure	bar	250
Cracking pressure	bar	see Δp-Q characteristics
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Fluid temperature range (NBR)	°C	-30 ... +100
Fluid temperature range (Viton)	°C	-20 ... +120
Viscosity range	mm ² /s	20 ... 400
Maximum degree of fluid contamination		Class 21/18/15 to ISO 4406 (1999)
Area ration (pilot piston / seat)		5.76
Weight of the cartridge valve	kg	0.08
Mounting position		optional

Hydraulic Circuits

Use of the pilot operated check valve for one direction only (lowering). Port 4 is plugged.



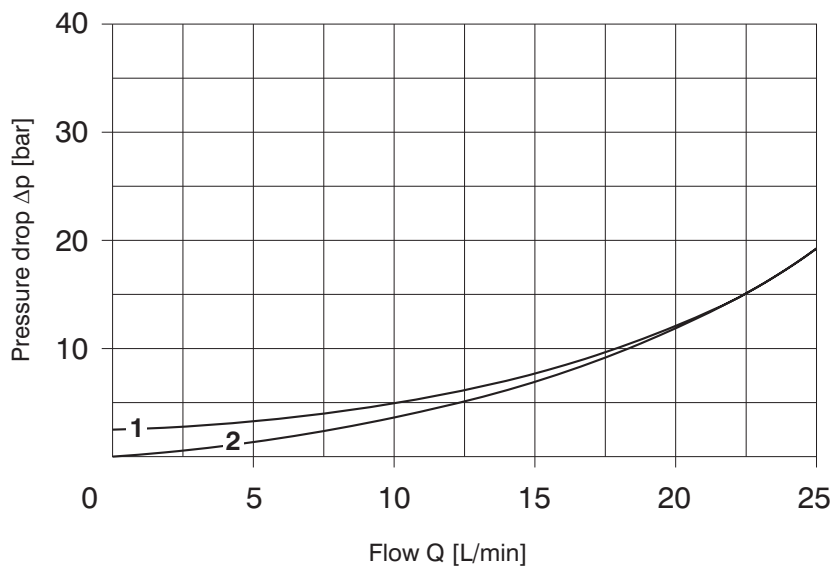
Hydraulic circuit with two pilot operated check valves enabling movement in both directions. The use of a directional valve with Y-functional symbol ensures perfect seating of the ball, thus ensuring tight closure of the actuator.



Δp-Q Characteristics

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

Pressure drop Δp related to flow rate.

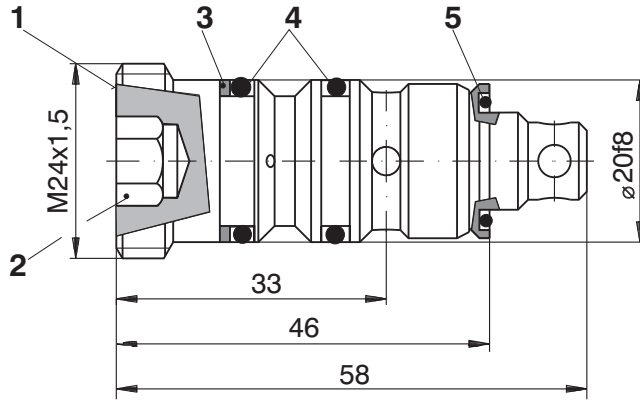


	Flow in direction
1	2 → 3
2	3 → 2

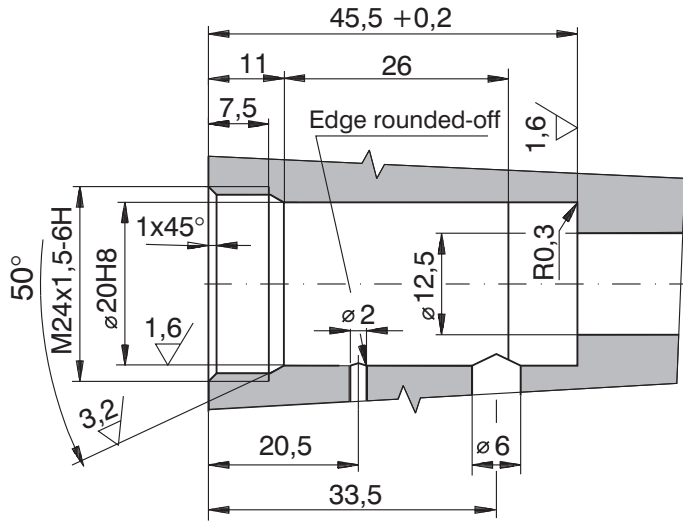
Valve Dimensions

Dimensions in millimeters

Cartridge valve RJV1-05



Cavity



- 1 Type code stamped on the face (RJV1-05)
- 2 Inside HEX 10 (Tightening torque is 10+2 Nm)
- 3 OPKR - BBP80B 113-N9 (14.66 x 19.02 x 1.14)
- 4 O-ring 15.08 x 2.62 (15.54 x 2.62)
- 5 O-ring 12.42 x 1.78

Spare Parts

Seal kit

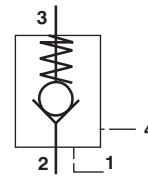
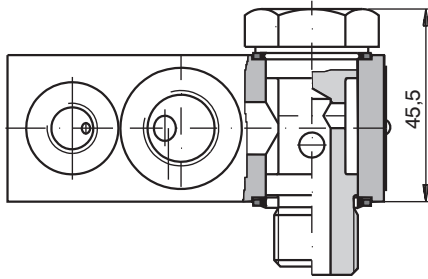
Type	Dimensions, quantity			Ordering number
	O-ring	Back-up ring	Squar ring	
Standard NBR70	9 x 1.8 (1 pc.)	14.66 x 19.02 x 1.14 (1 pc.)	S-50119-1741-19061(1 pc)	535-0125
	6.07 x 1.78 (1 pc.)	-	-	
	12.42 x 1.78 (1 pc.)	-	-	
	15.08 x 2.62 (2 pcs.)	-	-	
Viton	9.25 x 1.78 (1 pc.)	14.66 x 19.02 x 1.14 (1 pc.)	S-50119-1741-19061(1 pc)	535-0126
	6.07 x 1.78 (1 pc.)	-	-	
	12.42 x 1.78 (1 pc.)	-	-	
	15.54 x 2.62 (2 pcs.)	-	-	

Valve Dimensions

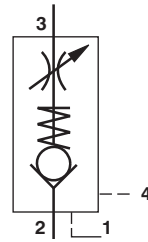
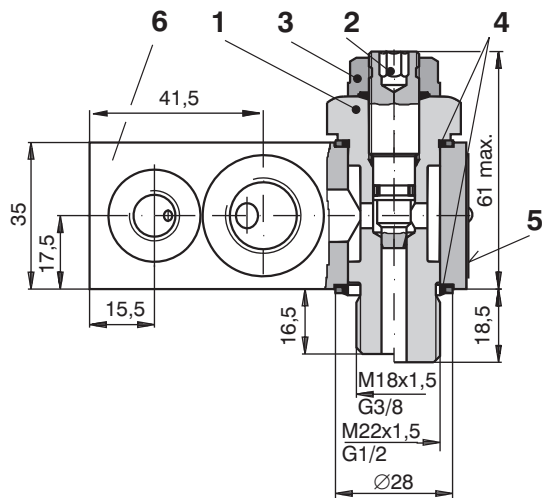
Dimensions in millimeters

Model with subplate

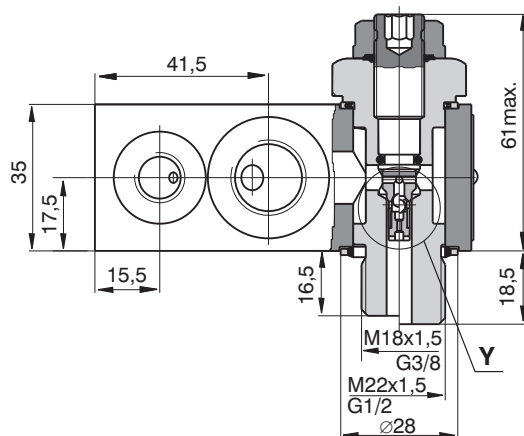
- Hollow bolt without throttle valve



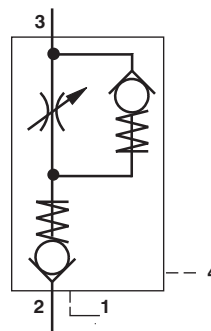
- Hollow bolt with throttle valve VSV1



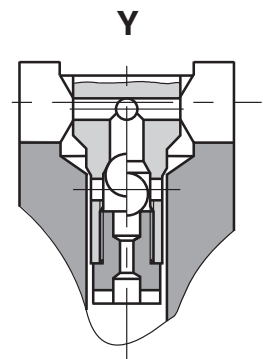
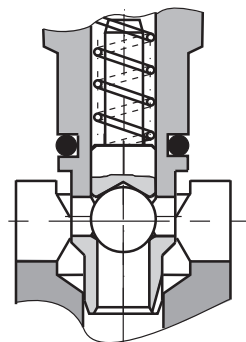
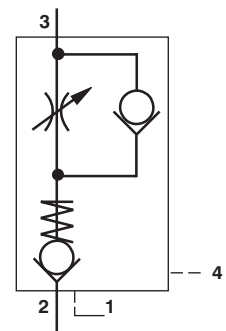
- Hollow bolt with flow throttle and check valve
VSVJ1 and VSVJ2



VSVJ1

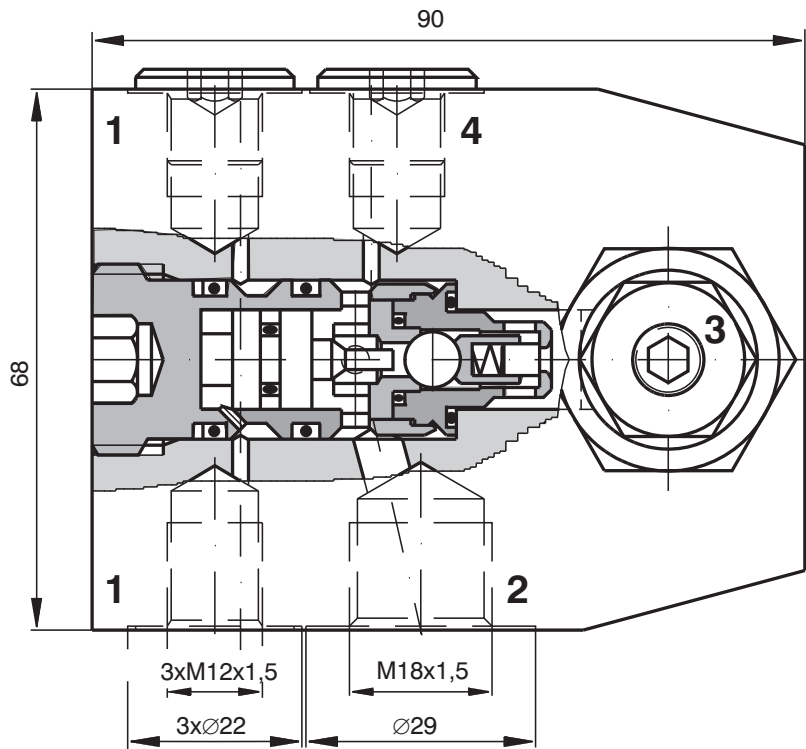


VSVJ2

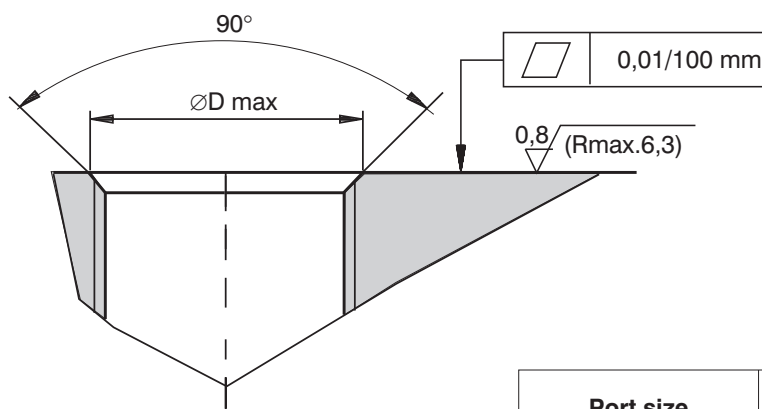


- 1 Hollow bolt (HEX 27)
- 2 Throttle valve VSV1, VSVJ1, VSVJ2 (Inside HEX 6)
- 3 Sealing nut SEAL-LOCK 12 x 1,5 (HEX 19)
- 4 Seal D 22.5 x 28 x 1.5 - NSA
- 5 Type plate
- 6 For optimum positioning the subplate can be turned be 180° (around the check valve axis)

- Dimension scheme of subplate with outlet 1 - 4



Connecting threads of hollow bolt



Port size	Ø D max	Tightening torque (Nm)
M18 x 1.5	18 ^{+0.2}	30+3
M22 x 1.5	22 ^{+0.2}	70+5
G 1/2	21 ^{+0.2}	70+5
G 3/8	16.6 ^{+0.2}	25+3

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.

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