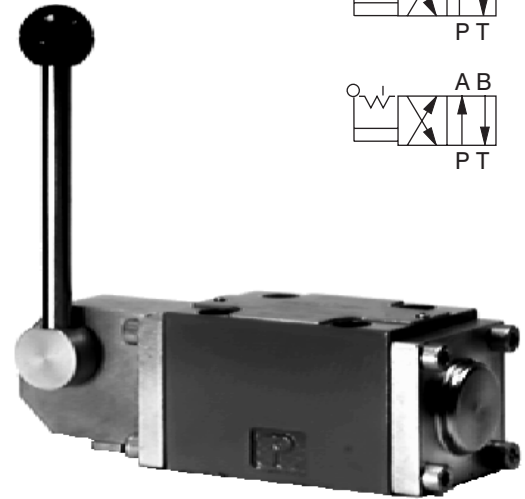
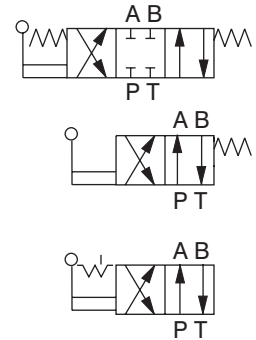


- 4/3 and 4/2 - way spool type directional control valves
- Hand-lever operated
- Actuating section can be rotated in four positions 90° apart
- Installation dimensions to DIN 24 340 / ISO 4401 / CETOP RP121-H

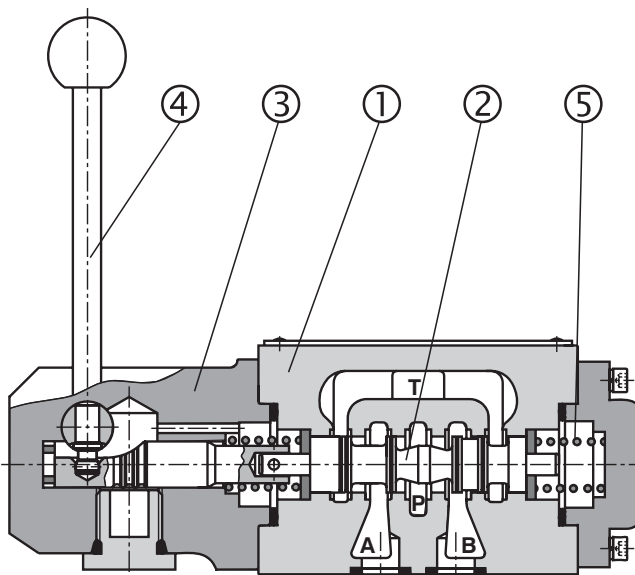


Functional Description

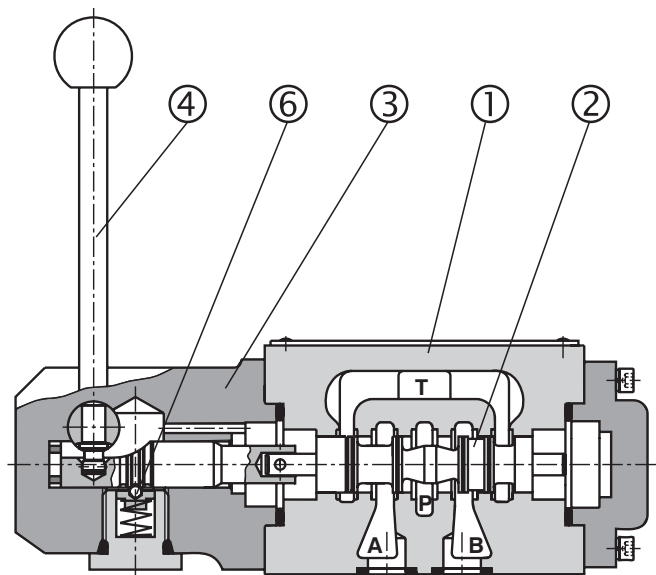
The hand operated directional control valves are used mainly to control start, stop and direction of fluid. The valves consist of housing (1) with control spool (2) and the actuating section (3). The actuating section consists either of the hand lever (4) and of one or two return spring (5), or of the hand lever (4) and the detent assembly (6). The detent assembly holds the spool in its last shifted position.

The directional control valves are being manufactured as two-position and three-position valves (see table with functional symbols).

The valve housing (1) is phosphate coated, the components of the actuating section (3) are zinc coated.



Type with return springs

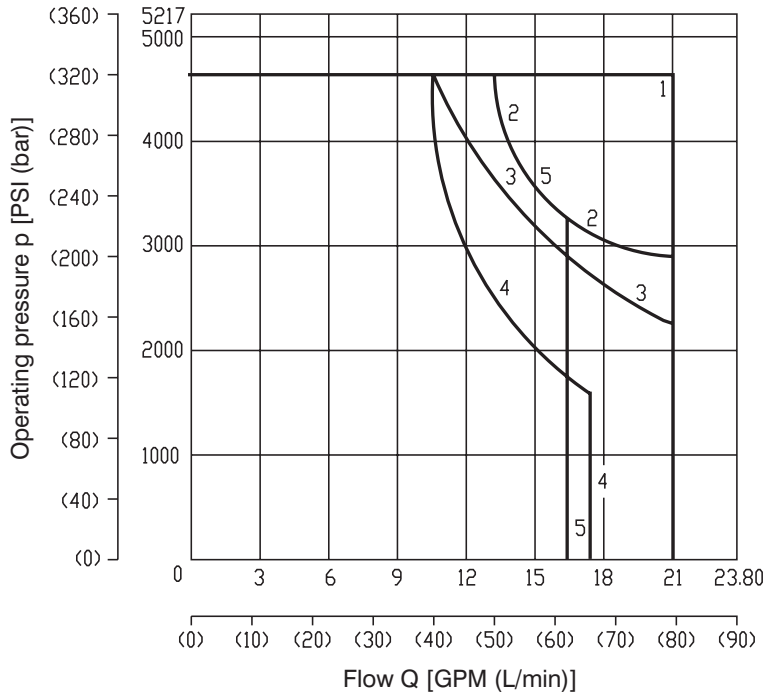


Type with detent assembly

p-Q Characteristic

Measured at $v = 156 \text{ SUS (32 mm}^2/\text{s)}$

Operating limits for maximum hydraulic power transferred by the directional valve. For respective spool type - see spool symbols.

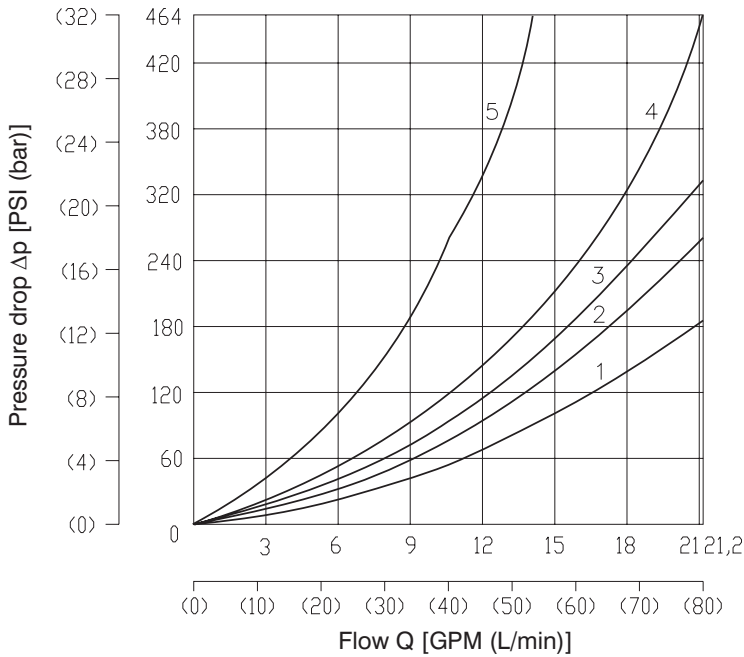


Z11	1	Z15	1
C11	4	C15	1
H11	3	H15	1
P11	1	P15	1
Y11	2	Y15	1
B11	5	B15	1
R11	1	J15	1
A51	3	J75	1

Δp-Q Characteristic

Measured at $v = 156 \text{ SUS (32 mm}^2/\text{s)}$

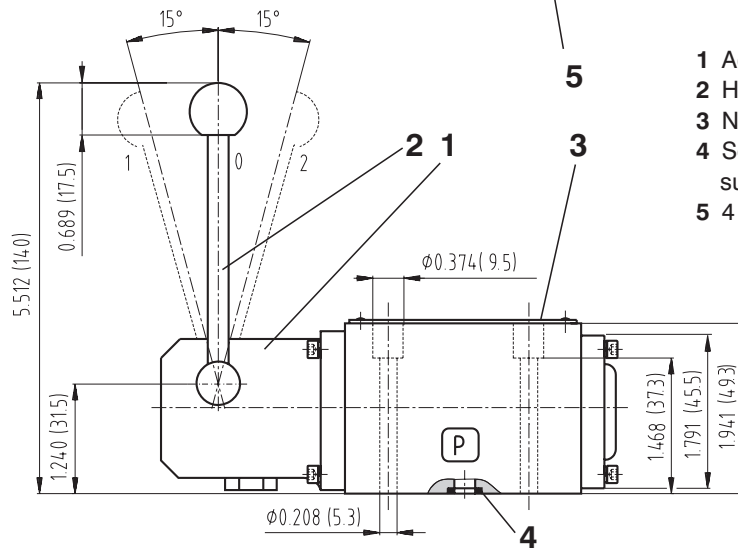
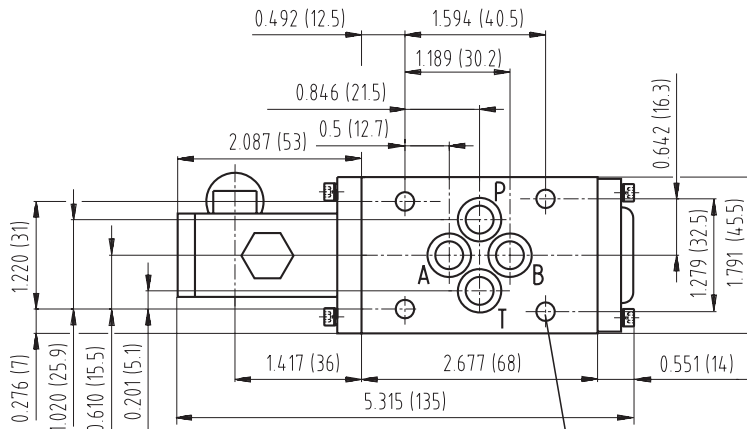
Pressure drop Δp related to flow rate.



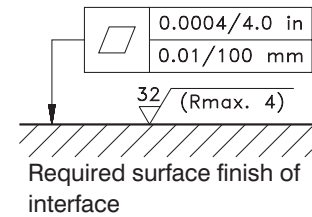
	P-A	P-B	A-T	B-T	P-T
Z11, Z15	2	2	3	3	
C11, C15	3	3	4	3	5
H11, H15	2	2	2	2	3
P11, P15	1	1	3	3	
Y11, Y15	2	2	2	2	
B11, B15	2	2	3	3	
R11, J15	2	2	3	3	
A51, J75	2	2			

Valve Dimensions

Dimensions in inches and millimeters (in brackets)



- 1 Actuating section
- 2 Hand lever
- 3 Name plate
- 4 Square ring (4 pcs.) 9.25 x 1.68 supplied with valve
- 5 4 mounting holes



Spare Parts

Dimensions in millimeters

Seal kit

Type	Dimensions, quantity	Order number
O-ring - NBR90	22 x 2 (2 pcs.)	483-9000
Square ring - NBR70	9.25 x 1.68 (4 pcs.)	
O-ring - NBR70	11 x 1.5 (2 pcs.)	
O-ring - NBR70	11.3 x 2.4 (1 pc.)	

Bolt kit (for studs see HU 0030)

Dimensions, quantity	Bolt torque	Order number
M5 x 45 DIN 912-10.9 (4 pcs.)	6.6 ft-lbs (8.9 Nm)	484-9958
10-24 UNCx1.75 (4 pcs.)		2 000 107

Caution!

- Directional valves with other functional symbols as those shown in the table above can be delivered on request.
- The plastic packaging is recyclable.
- Mounting bolts or studs must be ordered separately.
- Certified documentation is available per request.

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