Direct Operated Pressure Reducing Valve

Model: DR5DP...1X

- Size 5
- Maximum working pressure 315 bar
- Maximum working flow 15 L/min

Contents

Features

- Mounting surface according to DIN 24340 form C
- Subplate mounting
- Panel mounting
- 5 pressure ratings
- 3 adjustment elements
- Check valve, optional

Function description, sectional drawing

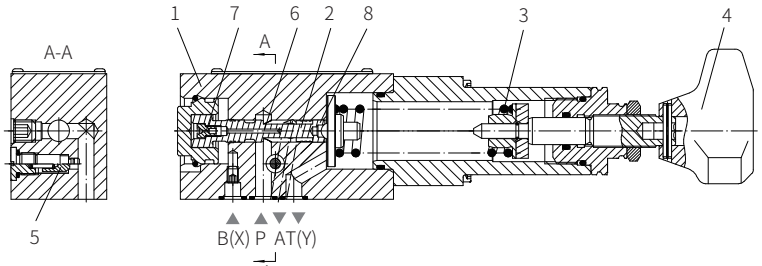
The DR5DP valve is a 3-way direct operated pressure reducing valve and used to reduce the pressure of circuit.

It is composed of valve body (1), control spool (2), compression spring (3), adjusting element (4) , and an optional check valve(5). The secondary pressure is set via the adjusting element (4).

At rest, the valve is normally open, the fluid can flow freely from port P to port A. The pressure at port A acts on the spool face of compression spring(3) via control line (6) and orifice(7). When the pressure at port A exceeds the setting value of the compression spring (3), the control spool (2) moves into the control position and the pressure at ports A remains constant. The control oil are supplied internally from port A, and also can be supplied externally via the port X.

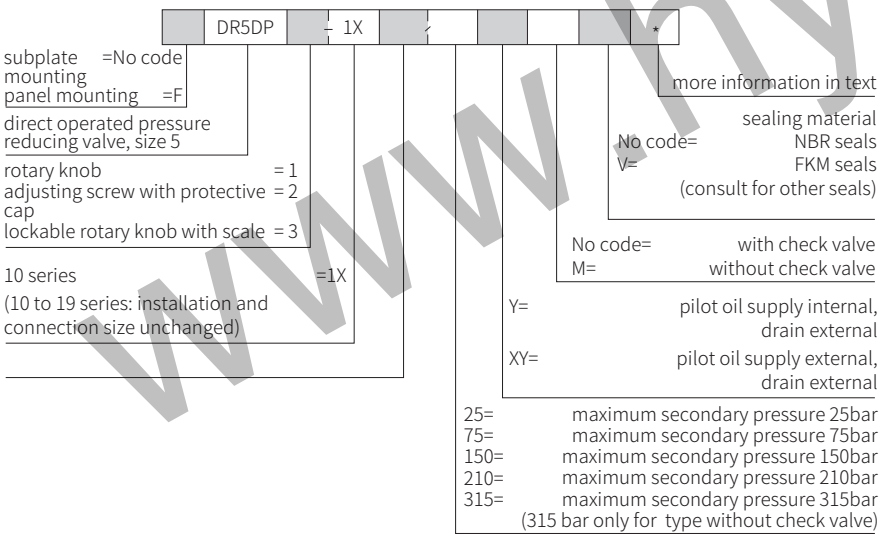
If the pressure at port A continues to increase due to external force, the control spool (2) will still move towards the compression spring (3), then the port A is drained to the oil tank via the shoulder (8) to prevent further pressure increase. The control oil in the spring chamber is drained external to the oil tank through the port Y(T).

An optional check valve (5) allows the fluid to flow freely from port A to port P.

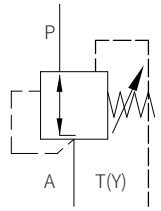


Model DR5DP-1-1XJ/

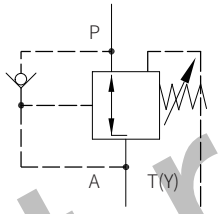
Models and specifications



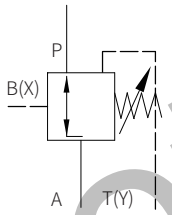
Functional symbols



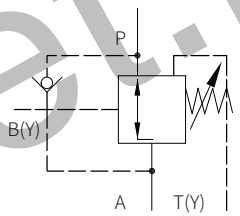
YM type
Without check valve
Pilot oil supply internal
Pilot oil drain external



Y type
With check valve
Pilot oil supply internal
Pilot oil drain external



XYM type
Without check valve
Pilot oil supply external
Pilot oil drain external



XY type
With check valve
Pilot oil supply external
Pilot oil drain external

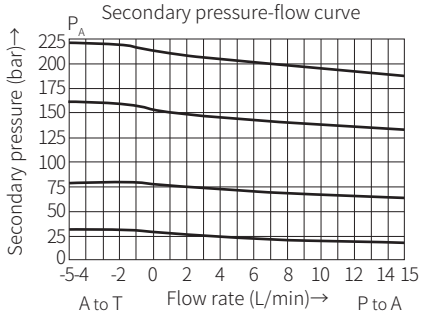
Technical parameters

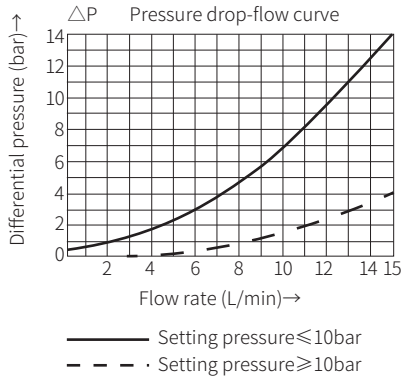
Hydraulic oil			Mineral oil(HL, HLP) according to DIN 51 524; Phosphate oil(HFD-R)
Hydraulic oil temperature range		°C	-30 to +80 (NBR seal)
			-20 to +80 (FKM seal)
Viscosity range		mm^2/s	10 to 800
Cleanliness of oil			The maximum allowable pollution level of oil is ISO4406 Class 20/18/15
Working pressure	port P	bar	to 315
Secondary pressure	port A	bar	to 25; to 75; to 150; to 210; to 315 (without check valve)
Backpressure	port T(Y)	bar	to 60
Maximum flow		L/min	to 15
Weight		Kg	about 1.2

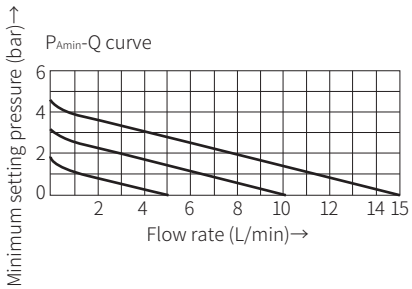
02

Characteristic curve

(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)







The P_{Amin}-Q curve represents the relationship between the minimum setting pressure and the flow-rate from P to A .
For example: when pressure is 25 bar and flow-rate is 10L/min, the pressure at port A is set 20 bar, when the secondary pressure increase to 23 bar, the flow-rate decreases to near zero.

Component size

Size unit: mm

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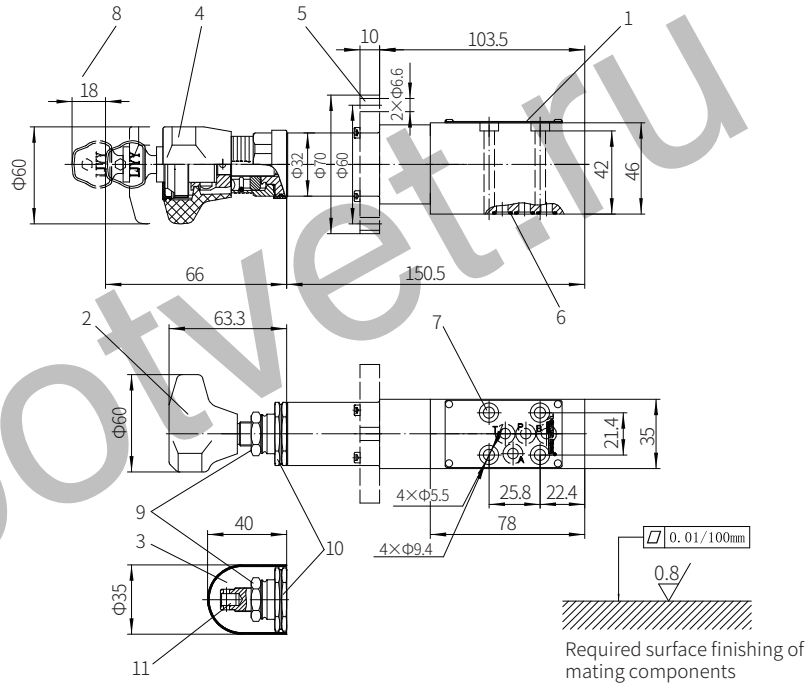
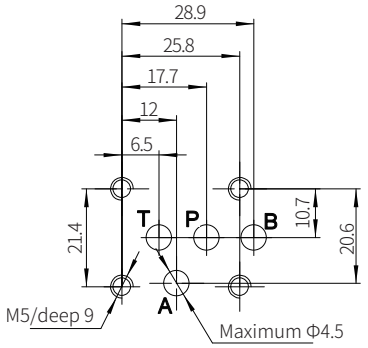


1 Name plate
2 Adjustment unit"1"
3 Adjustment unit"2"
4 Adjustment unit"3"
5 Panel mounting flange
6 O ring 7x1.5 (for oil port P, A, B, T)
7 Valve fixing screw hole
8 Space required to remove the key
9 Locknut S=24
10 Hexagon S=10
11 Internal hexagon adjusting screw S=6

Valve fixing screw
M5x50-10.9 grade GB/T70.1-2000
Tightening torque M_A=13.7Nm



It must be ordered separately if connection subplate is needed.
Subplate model:
G115/01 (G1/4") ; G115/02 (M14x1.5)