02

3-Way Pressure Reducing Valve

Model: 3DR10P…6XJ/

- Size 10
- Maximum working pressure 315 bar
- Maximum working flow 120 L/min

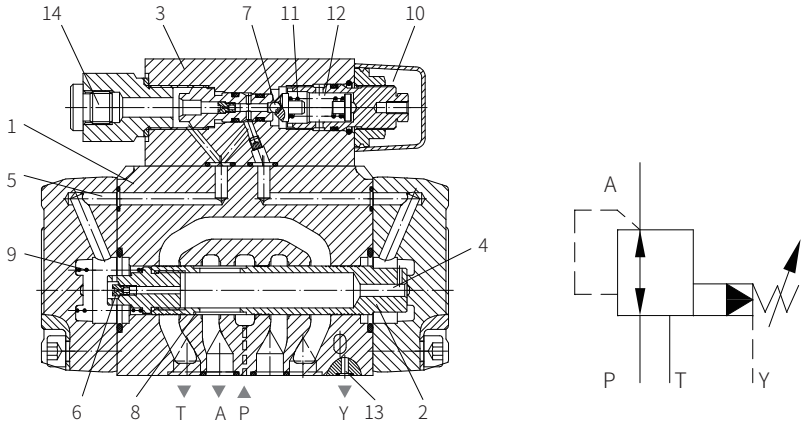
Contents

Features

- Mounting surface according to DIN 24340 form A and ISO4401
- 4 pressure ratings
- 2 adjusting elements
  Rotary knob
  Adjusting screw with protective cap
- With pressure gauge connection

Function description, sectional drawing

The 3DR10P valve is 3-way pressure reducing valve with pressure limitation in the secondary circuit to ensure that the secondary pressure is stable. It is used to reduce the pressure in the hydraulic system.
The valve is composed of valve body(1), control spool (2) and pilot valve (3) with adjusting element (10). At rest, the valve is normally open, the fluid can flow freely from P to A. The pressure at port A acts to the spool area opposite to the compression spring (9) via control channel(4). Meanwhile, the fluid acts on the ball valve(7) of the pilot valve(3) via throttle (6) and channel (5). Based on the setting value of the spring (11), the pressure builds up in front of the ball (7) and in channel (5) to hold the control spool in the opening position. The oil can flow freely from port P to port A via control spool(2) until the pressure at port A exceeds the setting value of spring (11) and opens the ball valve (7). The control spool (2) moves to the close position. The required reduced pressure is achieved when a balance between the pressure at port A and the pressure setting value of spring (11) is reached.
If the pressure at port A continuously increases due to external forces, the control spool(2) is still moved towards to the compression spring (9). Thus port A is connected to port T via the control lands (8) of the control spool (2). Enough oil flows to tank to ensure that the pressure does not rise any further.
The pilot oil in the spring chamber (12) returns external via control line(13) to port Y, and then flow at zero pressure to tank. The pressure gauge connection (14) is used for the reduced pressure monitoring in port A.



Model 3DR10P5-6XJ/

Models and specifications

3DR | 10 | P | – | 6X | J | / | Y | / | *

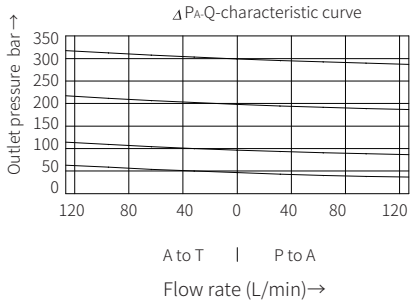
- 3-way pressure reducing valve
- size 10 =10
- subplate mounting =P
- rotary knob =4
- hexagon screw with sleeve and protective cap =5
- 60 to 69 series =6X
  (60 to 69 series: installation and connection size unchanged)
- J= Rektih
- 50= maximum secondary pressure 50 bar
- 100= maximum secondary pressure 100 bar
- 200= maximum secondary pressure 200 bar
- 315= maximum secondary pressure 315 bar
- Y= pilot oil drain external
- No code= NBR seals
- V= FKM seals
- (consult for other seals)
- sealing material
- more information in text

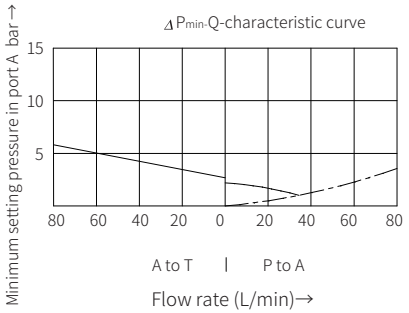
Technical parameters

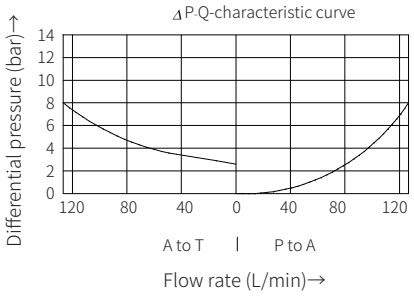
Medium			Mineral oil -used for NBR seals and FKM seals
			Phosphate -used for FKM seals
Hydraulic oil temperature range		°C	–30 to +80 (NBR seal)
			–20 to +80 (FKM seal)
Viscosity range		mm^2/s	10 to 800
Cleanliness of oil			The maximum allowable pollution level of oil is ISO4406 Class 20/18/15
Nominal pressure			315
Maximum working pressure	port P	bar	315
Maximum working pressure	port A	bar	315
Maximum working pressure	port Y	bar	Separate and at zero pressure to tank
Setting pressure	Min.	bar	Depends on flow (see curves)
	Max.	bar	50; 100; 200; 315
Maximum flow		L/min	120
Weight		kg	about 6.5

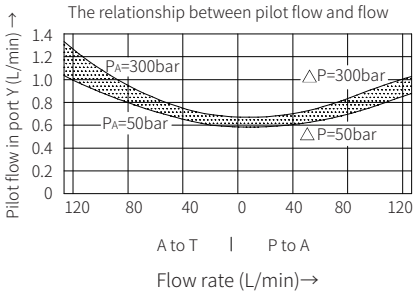
Characteristic curve

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



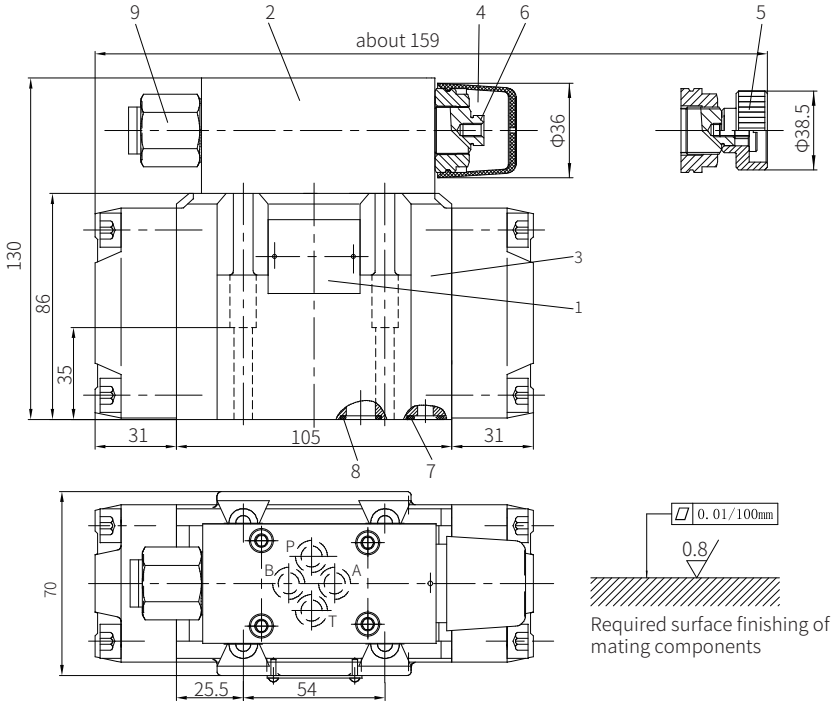






Component size

Size unit: mm



1 Name plate
2 Pilot valve body
3 Main valve body
4 Adjusting form "5"
5 Adjusting form "4"
6 Internal hexagon adjusting screw S=10
7 O ring 10.82x1.78 (X, Y)
8 O ring 12X2
(A2、B2、P2、TA2、TB2)
9 Pressure gauge connection G1/4

It must be ordered separately
if connection subplate is needed.

Model: G535/01(G3/4) G535/02 (M27x2)
G536/01(G1) G536/02 (M33x2)

Valve fixing screw:
4 pcs M6x45, GB/T70.1-10.9 grade
Tightening torque M_A=13.7Nm