Modular Hydraulic Control Check Valve

Model: Z2S22...5X

- Size 22
- Maximum working pressure 315 bar
- Maximum working flow 450 L/min

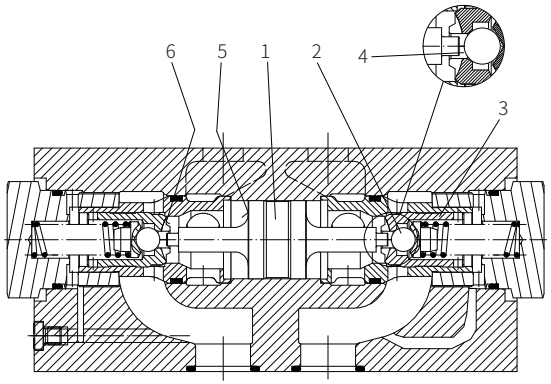
Contents

Features

- Modular valve
- One or two working oil ports blocked for leakage-free as required
- For vertical stacking installation
- 4 cracking pressures, optional

Function description, sectional drawing

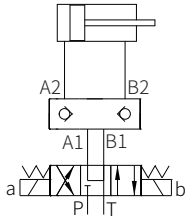
The Z2S type is a superimposed structure hydraulically controlled check valve. This type of valve can keep one or two working oil ports leakage-free even if it is shut down for a long time.
There is a free flow in the direction A1 to A2 or B1 to B2 but closed in the opposite direction. When the oil flows from A1 to A2, the spool (1) is pushed to the right under pressure, opens the ball valve core (2) and then opens the sleeve valve core (3).
In order to ensure that the valve is closed correctly in the center position, the working oil port of the directional valve must be connected to the tank when it is in the neutral position (see circuit example).



Model Z2S22...-5XJ/

4 ball, area A1
5 control spool, area A2
6 Valve spool, area A3

Circuit example



Models and specifications

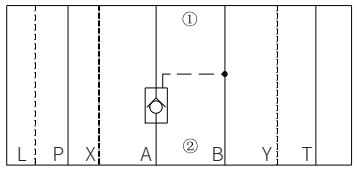
Z2S	22			5X		*

- modular hydraulic control check valve
- size 22 =22
- leakage-free blocking in
  - oil ports A and B =-
  - oil port A =A
  - oil port B =B
- cracking pressure 3 bar =1
- cracking pressure 5bar =2
- cracking pressure 7.5bar =3
- cracking pressure 10bar =4
- 5X= 50 to 59 series (50 to 59 series installation and connection size unchanged)
- sealing material
  - No code= NBR seals
  - V= FKM seals (consult for other seals)
- more information in text

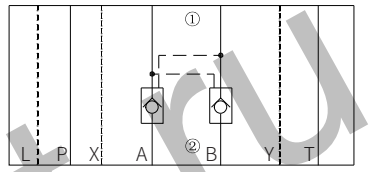
Functional symbols

(①= Valve side, ②= Subplate side)

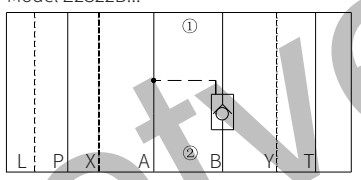
Model Z2S22A-...



Model Z2S22-...



Model Z2S22B...



Technical parameters

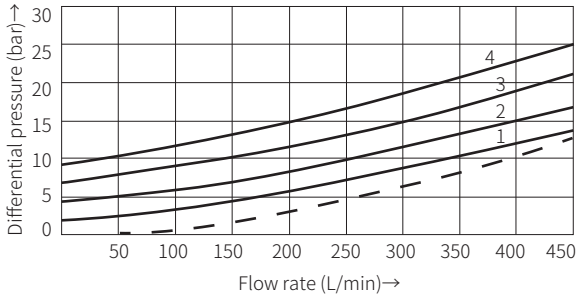
Overview		
Installation position		Optional
Environmental temperature range	°C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)
weight	kg	About 12
Hydraulic		
Maximum working pressure	bar	315
Maximum flow	L/min	450
Flow direction		See the symbol
Cracking pressure in free flow direction		See characteristic curve
Area ratio		A1/A2=1/13.6; A3/A2=1/2.8; (See section view above)
Pressure medium		Mineral oil (HL, HLP)[1] in accordance with DIN 51524; Fast living organisms degraded oil according to VDMA 24568; HETG (Rapeseed oil)[1]; HEPG(Polyethyleneglycol)[2] ; HEES (Synthetic Fats)[2]
Viscosity range	mm^2/s	2.8 to 500
Cleanliness of oil		The maximum allowable pollution level of oil is ISO4406 level 20/18/15

1) For NBR seal and FKM seal.
2) Only for FKM seal.
3) The oil must meet the cleanliness degree requested by the components in the hydraulic system. Effective oil filtration can prevent failure and increase the service life of the components.

Characteristic curve

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

△p-q_V Characteristic curve



A1 to A2
B1 to B2

1 Cracking pressure 3 bar
2 Cracking pressure 5 bar
3 Cracking pressure 7.5 bar
4 Cracking pressure 10 bar

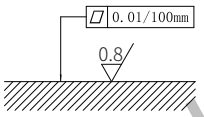
A2 to A1
B2 to B1

01

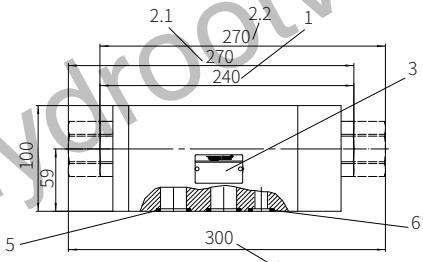
Component size

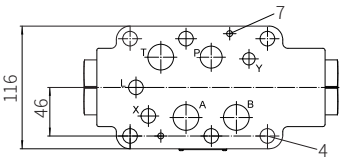
Size unit: mm

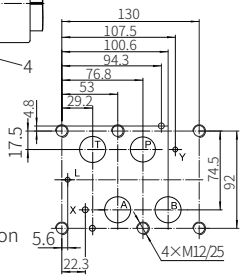
Model Z2S22...-5XJ/...



Required surface finishing of mating components







1 Check valve in port A, B when cracking pressure is 3 or 5 bar
2 Check valve in port A, B when cracking pressure is 7.5 or 10bar
2.1 Check valve in port A when cracking pressure is 7.5 or 10bar
2.2 Check valve in port B when cracking pressure is 7.5 or 10bar
3 Name plate
4 Mounting holes
5 O-ring 27X3 (for oil port A, B, P, T).
6 O-ring 19X3 (for oil port X, Y, L)
7 Valve fixing screw mounting holes M12-10.9 grade GB/T70.1-2000

Tightening torque M_A=95Nm
Need to order separately

It must be ordered separately if connection subplate is needed.
Subplate model:

G153/01 (G1") ; G153/02 (M33×2)
G154/01 (G1-1/4"); G154/02 (M42×2)
G156/01(G1-1/2"); G156/02 (M48×2)