Modular Hydraulic Control Check Valve

Model: Z2S10...3X

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

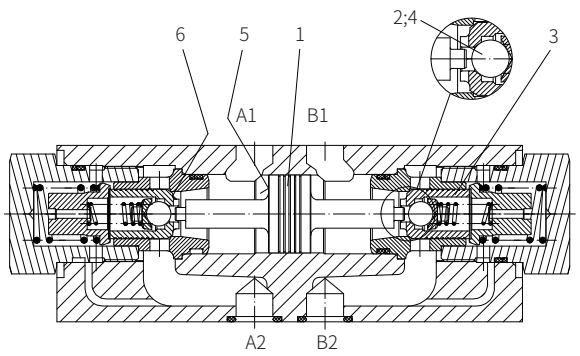
Contents

Features

- For vertical stacking installation
- One or two working oil ports blocked for leakage-free as required

Function description, sectional drawing

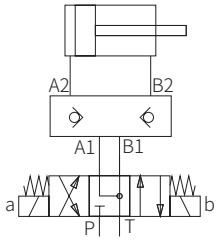
The Z2S type is a superimposed structure hydraulically controlled check valve. This type of valve can keep one or two working oil ports leakage-free even if it is shut down for a long time.
There is a free flow in the direction A1 to A2 or B1 to B2 but closed in the opposite direction. When the oil flows 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).



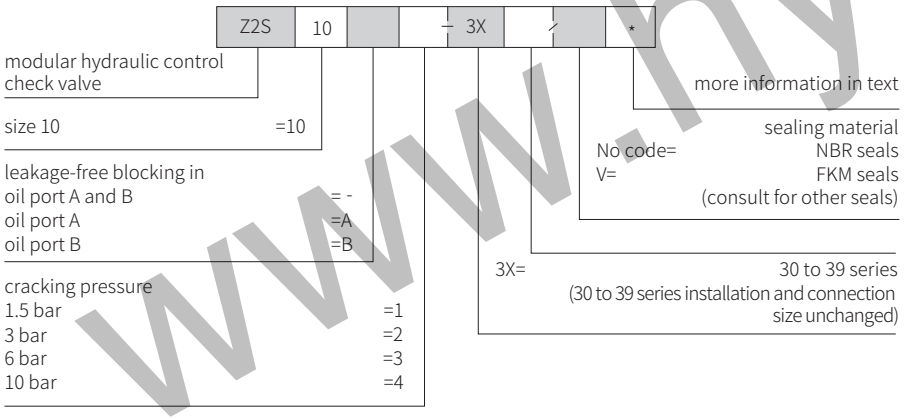
Model Z2S10...-3XJ/

2;4 Ball, area A3
5 Control spool, area A2
6 Valve spool, area A1

Circuit example



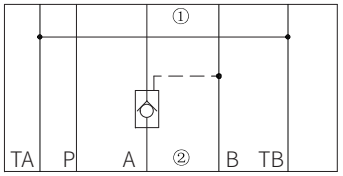
Models and specifications



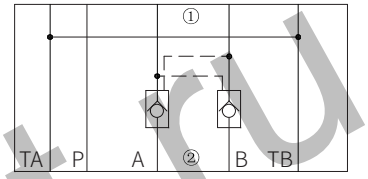
Functional symbols

(①= Valve side, ②= Subplate side)

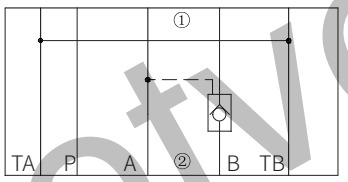
Model Z2S10A-...



Model Z2S10-...



Model Z2S10B...



Technical Parameters

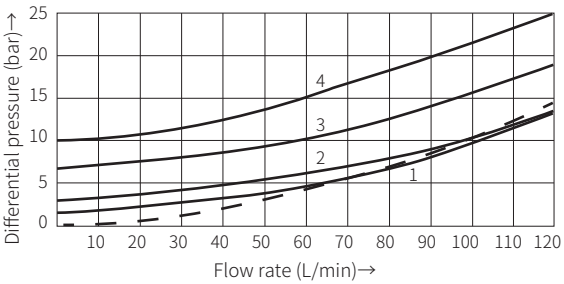
Overview		
Weight	kg	about 3
Installation position		Optional
Environment temperature range	°C	-30 to + 50 (NBR seal) -20 to + 50 (FKM seal)
Hydraulic		
Maximum working pressure	bar	315
Cracking pressure in free flow direction		See characteristic
Maximum flow	L/min	120
Flow direction		See the symbol
Oil fluid		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]
Oil temperature range	°C	-30 to + 80 (NBR seal) -20 to + 80 (FKM seal)
Viscosity range	mm^2/s	2.8 to 500
Cleanliness of oil		The maximum allowable pollution level of oil is ISO4406 Class 20 / 18 / 15
Area ratio		A1/A2=1/3;A3/A2=1/11.5 （See section view above）

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→A2;B1→B2

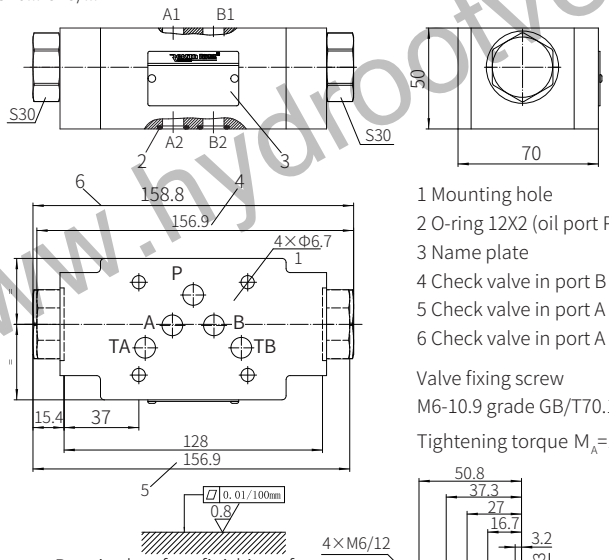
A2→A1;B2→B1

1 Cracking pressure 1.5bar
2 Cracking pressure 3bar
3 Cracking pressure 6bar
4 Cracking pressure 10bar

Component size

Size unit: mm

Model Z2S10...-3XJ/...



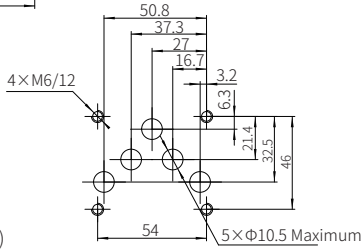
1 Mounting hole
2 O-ring 12X2 (oil port P, A, B, T)
3 Name plate
4 Check valve in port B
5 Check valve in port A
6 Check valve in port A and B

Valve fixing screw
M6-10.9 grade GB/T70.1-2000

Tightening torque M_A=13.7Nm

Required surface finishing of mating components

It must be ordered separately if connection subplate is needed.



Subplate model:
G66/01 (G3/8") ; G66/02(M18x1.5)
G67/01 (G1/2") ; G67/02 (M22x1.5)
G534/01 (G3/4") ; G534/02 (M27x2)