

Pilot Operated Pressure Sequence Valve

Model: DZ...5XJ



- ◆ Size 10, 25, 32
- ◆ Maximum working pressure 315 bar
- ◆ Maximum flow rate 500 L/min

Contents

Function description, sectional drawing	02-03
Models and specifications	03
Functional symbols	04
Technical parameters	04
Characteristic curve	05-06
Component size	07-08

Features

- Use as pressure valve, sequence valve and bypass valve
- For subplate mounting
- 4 adjusting elements
 - Rotary knob
 - Adjusting screw with protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale
- 4 pressure ranges
- Check valve, optional

Function description, sectional drawing

The DZ pressure valve is pilot operated sequence valve, it is used for pressure dependent sequence switching of the secondary circuit. The valve is mainly composed of main valve (1) with main spool insert (7), pilot control valve (2) with pressure adjusting element, and an optional check valve(3).

The valve function varies according to pilot oil supply and drain configuration:

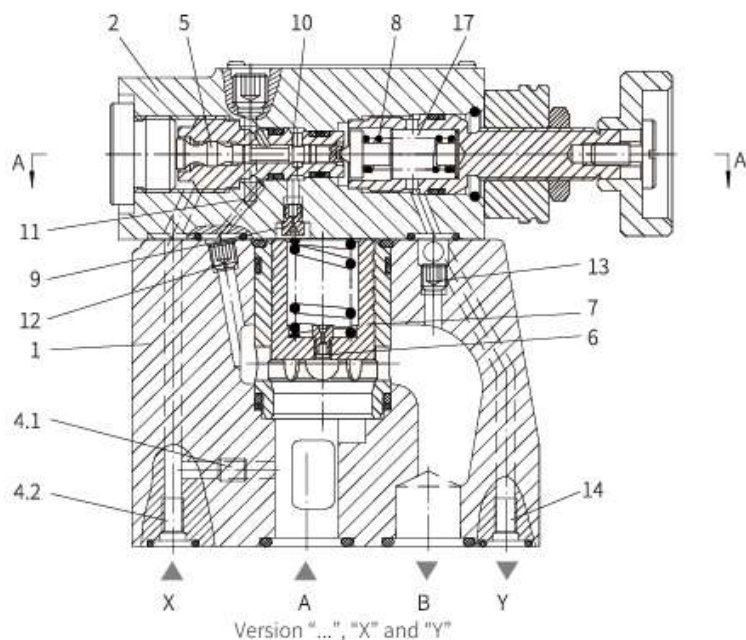
Preload valve model DZ...-5XJ/...(Control lines 4.1, 12 and 13 open; control lines 4.2, 14 and 15 closed)

The pressure in port A acts on the pilot spool (5) of the pilot valve(2) via the control line(4.1), and acts on the spring-loaded side of the main spool(7) via throttle (6) at the same time. When pressure exceeds the setting value of the spring (8), the pilot valve spool (5) is moved against spring (8). The control signal is obtained internally from port A via control line (4.1).

The fluid in spring chamber of main spool(7) via throttle (9), control shoulder (10), control lines (11) and (12) flow into port B. Thus, the pressure differential is formed at the main spool(7), the port A and port B is connected, and the setting value of the spring (8) remains unchanged. The leakage oil of the pilot valve spool (5) flows into port B internally via control line(13). An optional check valve (3) can be installed to allow the fluid flow freely from port B to port A.

Preload valve model DZ...-5XJ/.X... (Control lines 4.2, 12 and 13 open; control lines 4.1, 14 and 15 closed)

In principle, the function of this valve is same as model DZ...-5XJ/... but the signal is provided externally via control line (4.2) for model DZ...5XJ.X...



Function description, sectional drawing

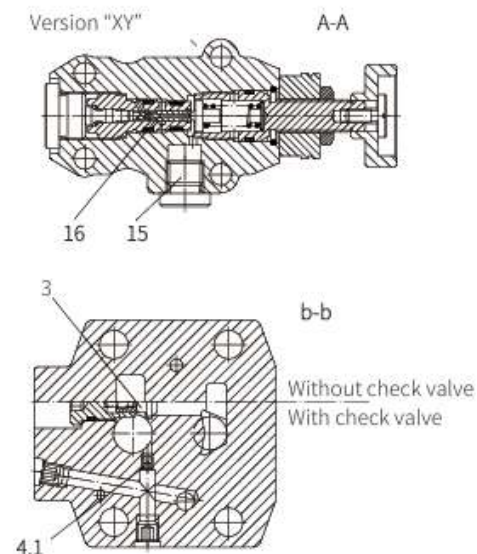
Preload valve model DZ...-5XJ/..Y...(Control lines 4.1, 12, and 14 or 15 open; control lines 4.2 and 13 closed)

In principle, the function of this valve is same as model DZ...-5XJ/...

But for model DZ...5XJ...Y, the leakage at the pilot valve (5) must be drained to tank without pressure via control line (14) or (15), the pilot oil flows into port B via control line (12).

Preload valve model DZ...-5XJ/..XY...(Control lines 4.2, 14 or 15 open; control lines 4.1, 12 and 13 closed)

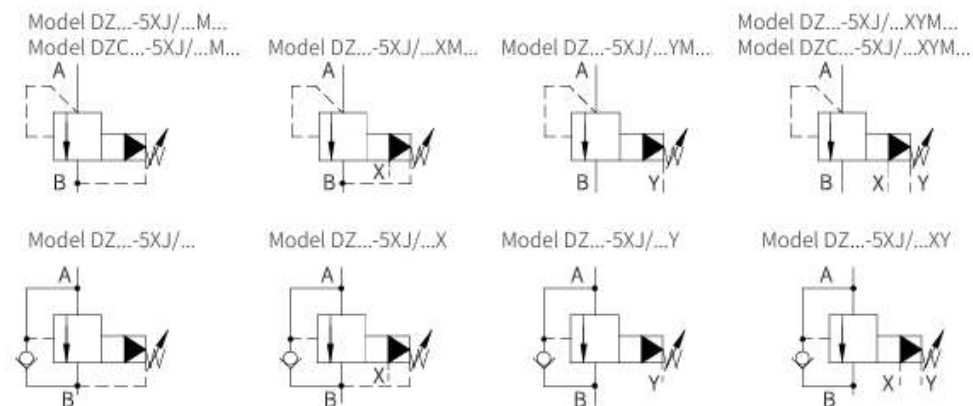
The pressure in port X acts on control piston (5) of pilot valve (2) via control line (4,2). At same time, the pressure in port A acts on spring chamber of main spool (7) via throttle (6). When the pressure in port X exceeds the setting value of the spring (8), the control piston (5) is moved against the spring (8), the fluid flows from spring chamber of main spool (7) to spring chamber (17) of pilot valve (2) via orifice (9) and hole (16). The pressure in spring chamber of main spool (7) decreases. Thus, the fluid can flow from port A to port B with minimum pressure lose. The control oil in spring chamber (17) should be drained to tank without pressure via control line (14) or (15). An optional check valve (3) can be installed to allow the fluid flow freely from port B to port A.



Models and specifications

	DZ		-	5X	J				.
pilot valve pilot valve without main spool insert (no mark for size) pilot valve with main spool insert (mark for size 30)	=No code =C =C								more information in text
							No code= V=		sealing material NBR seals FKM seals (consult for other seals)
size 10 size 20 size 30	=10 =20 =30						No code= M=		with check valve without check valve
adjusting element rotary knob adjusting screw with protective cap lockable rotary knob with scale rotary knob with scale	 =1 =2 =3 =7						No code= X= Y= XY=		pilot oil supply pilot oil supply and drain internal pilot oil supply external and drain internal pilot oil supply internal and drain external pilot oil supply and drain external
50 to 59 series (50 to 59 series installation and connection size unchanged)	 =5X						50= 100= 200= 315=		setting pressure up to 50 bar setting pressure up to 100 bar setting pressure up to 200 bar setting pressure up to 315 bar
Rekith					=J				

Functional symbols



Technical parameters

Installation position		Optional		
Environment temperature range		°C	-30 to +50 (NBR seal)	
			-20 to +50 (FKM seal)	
Weight	Size		10	25
	DZ...	kg	3.4	5.3
	DZC...	kg	1.2	8.0
	DZC30...	kg	1.5	
Hydraulic				
Maximum working pressure port A, B, X		bar	315	
Maximum backpressure port T		bar	315	
Setting pressure	Minimum	bar	flow-related (see characteristic curve)	
	Maximum	bar	50; 100; 200; 315	
Maximum flow	Size		10	25
	L/min		200	400
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⁾	
Hydraulic oil temperature range	°C		-30 to +80 (NBR seal)	
	°C		-20 to +80 (FKM seal)	
Viscosity range		mm ² /s	10 to 800	
Cleanliness of oil ³⁾			The maximum allowable pollution level of oil is ISO4406 Class 20/18/15	

1) For NBR seal and FKM seal.

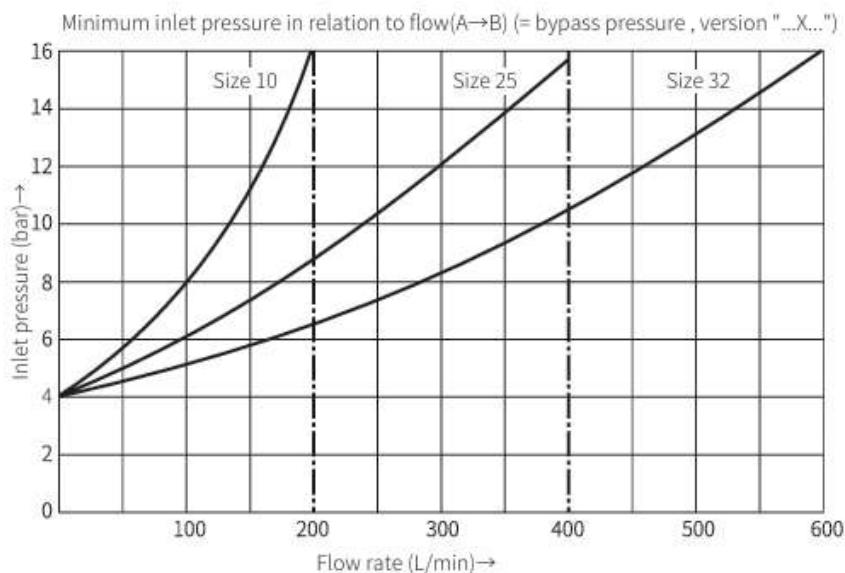
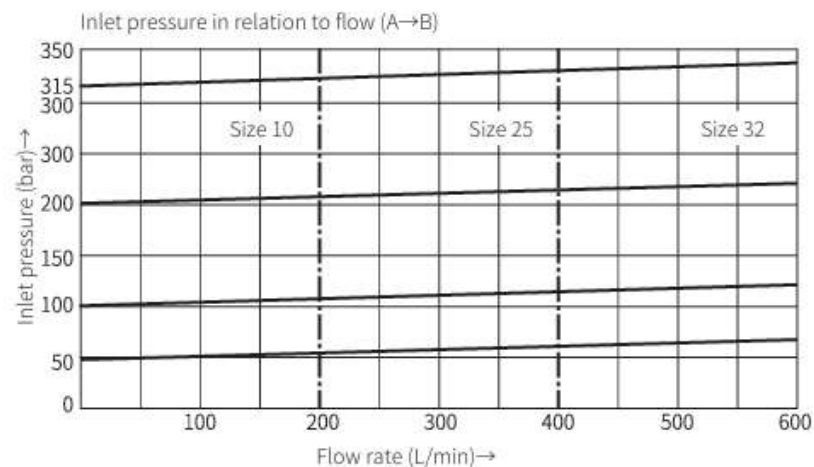
2) Only for FKM seal.

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

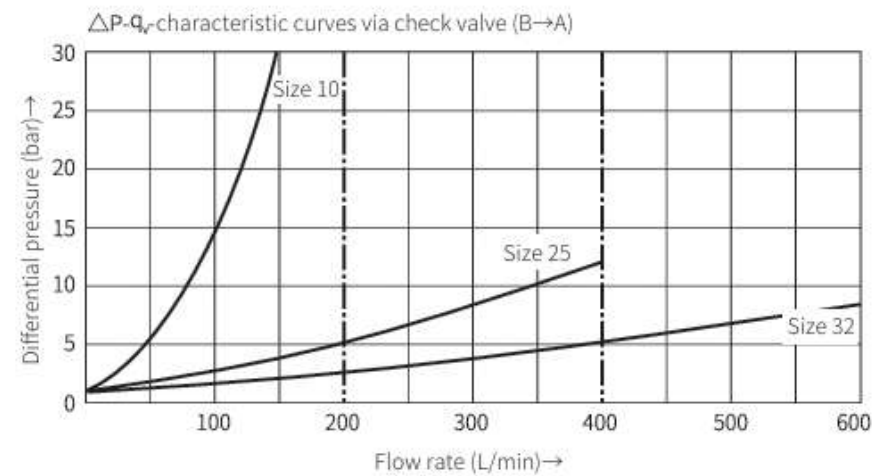
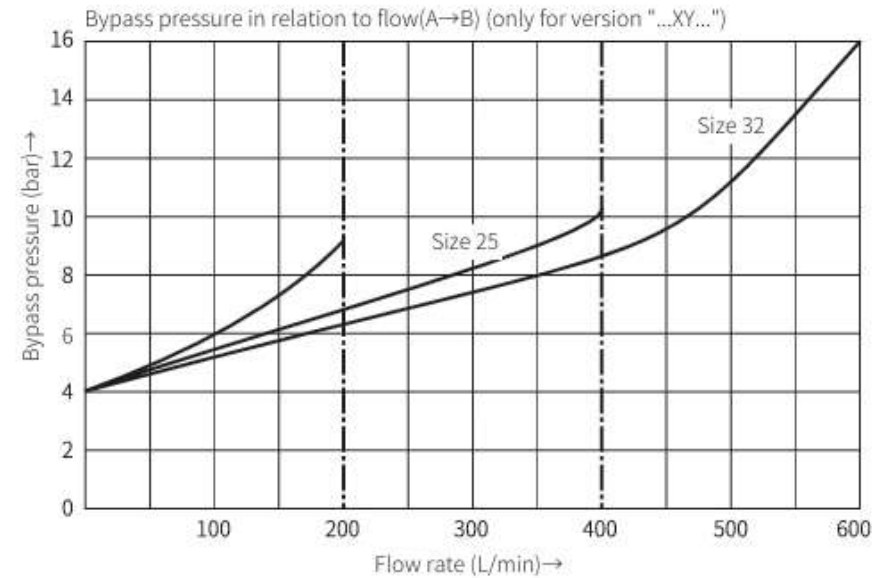
(Measured when using HLP46, $\vartheta_{oil} = 40^\circ\text{C} \pm 5^\circ\text{C}$)



The curves are valid for outlet pressure $P_B=0$ over the entire flow range.

Characteristic curve

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