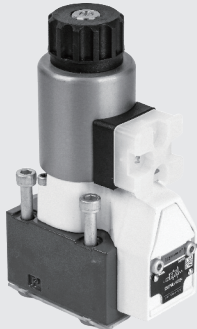


Solenoid Operated Poppet Valve

Model: 23QDF6



01

- ◆ Size 6
- ◆ Maximum working pressure 420 bar
- ◆ Maximum working flow 25 L/min

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Features

- Lever-type directional valve operated by solenoid
- Closed port without leakage
- Switching smoothly even in high-pressure state long periods

Function description, sectional drawing

General:

The 23QDF directional valve is solenoid operated directional seat valve. It is used to control the opening, closing and flow direction of the fluid. The valve is mainly composed of valve body (1), solenoid (2), hardened valve system (3) and closed element ball (4).

Basic functions:

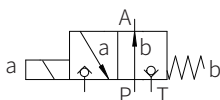
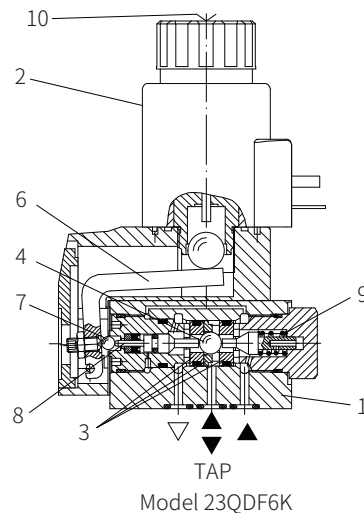
In the initial position, the ball (4) is pressed into the valve seat by a spring (9) and by the solenoid (2) when in switching position. The force of the solenoid (2) acts on the actuating push rods (8) which is sealed on both sides through the lever (6) and the ball (7). The chamber between the two sealing elements is connected to the oil port P. Therefore, the valve system is pressure compensated based on the actuating force (solenoid or reset spring).

Note:

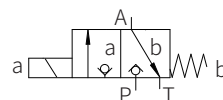
- The 3/2-way directional seat valve has "negative cover" function. Therefore, port T must always be always connected. That means the ports P-A-T are connected with each other during the switching process (from the starting of the opening of one valve seat to the closing of the other valve seat). But this process is completed in a very short time, so it is irrelevant in almost all applications.
- The manual emergency operation (10) allows the valve to be switched without solenoid energized.
- It must ensure that the specified maximum flow is not exceeded! If necessary, a throttle can be used to limit the flow.

Functional symbol:

3/2-way directional seat valve	
Normally open	
Initial position	P and A connected, T blocked
Switching position	P blocked, A and T connected
Normally closed	
Initial position	P blocked, A and T connected
Switching position	P and A connected, T blocked



Model 23QDF6F(Normally open)



Model 23QDF6B(Normally closed)

Models and specifications

	23	QDF	6	/	315	G24	*	
3/2-way	=23							more information in text
solenoid poppet valve	=QDF							coil voltage
size 6			=6			G24=		DC24V
type								(consult for other voltages)
normally closed			=B		315=			maximum working pressure 315bar
normally open			=K					

01

Technical parameters

Installation position	Optional
Environment temperature range°C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)
Weight kg	1.5
Hydraulic	
Maximum working pressure bar	See models and specifications
Maximum flow rate L/min	25
Hydraulic oil	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 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.

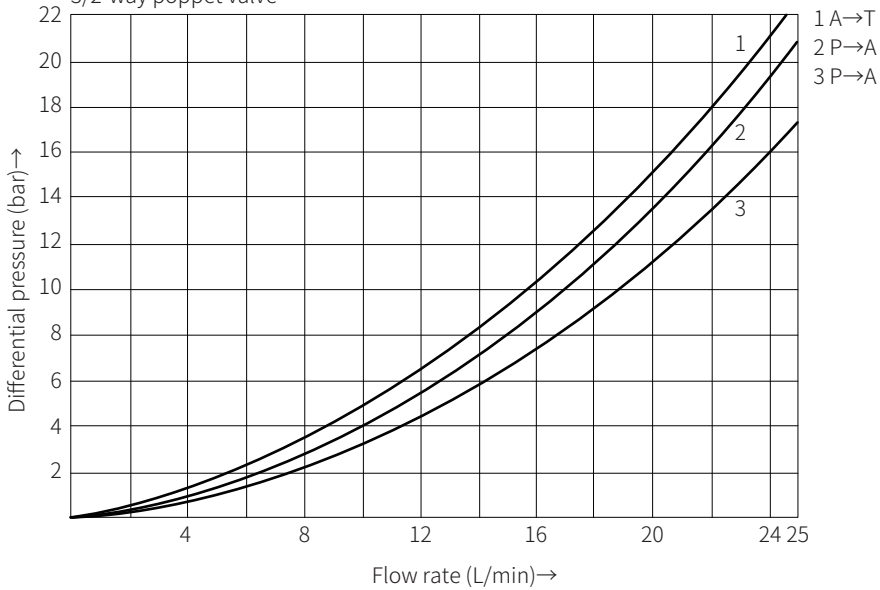
3) The oil must meet the cleanliness degree requested by the components in the hydraulic system.
Effective oil filtration can prevent failure and increase the service life of the components.

Characteristic curve

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

Δp - q_v -characteristic curve

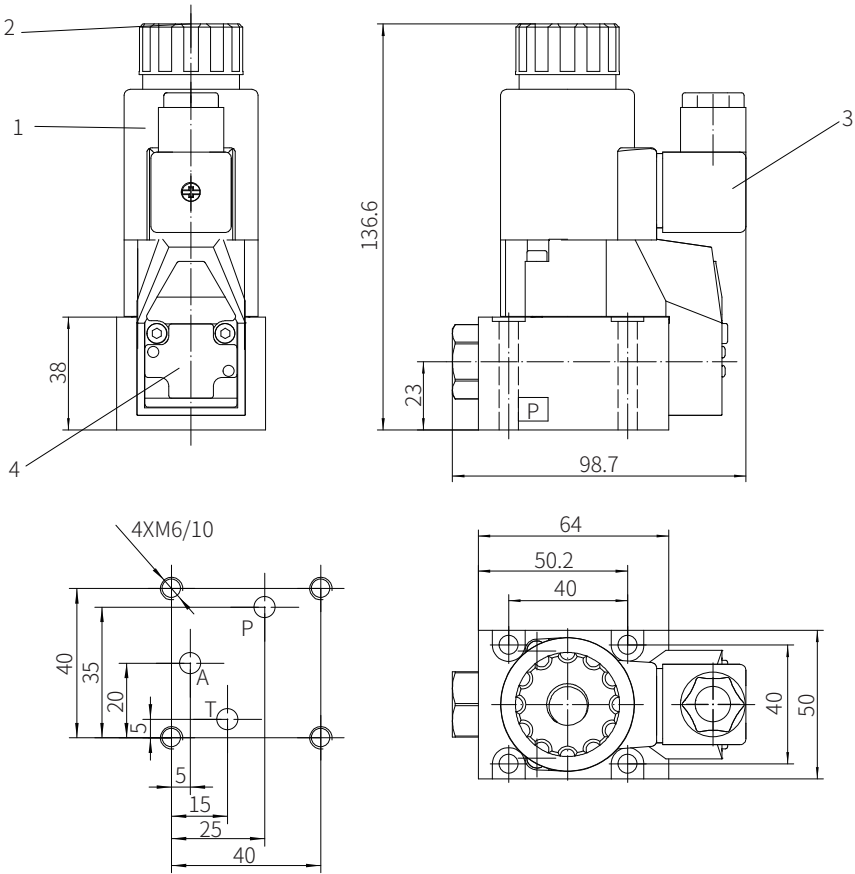
3/2-way poppet valve



Component size

Size unit: mm

3/2-way poppet valve



Valve fixing screw
M6×45-10.9 grade GB/T70.1-2000
Tightening torque $M_A=15.5\text{Nm}$

