

Modular Pressure Relief Valve

Model: ZDB/Z2DB16(22)...-3X



- ◆ Size 16 and 22
- ◆ Maximum working pressure 315 bar
- ◆ Maximum working flow 200 L/min
400 L/min

Contents

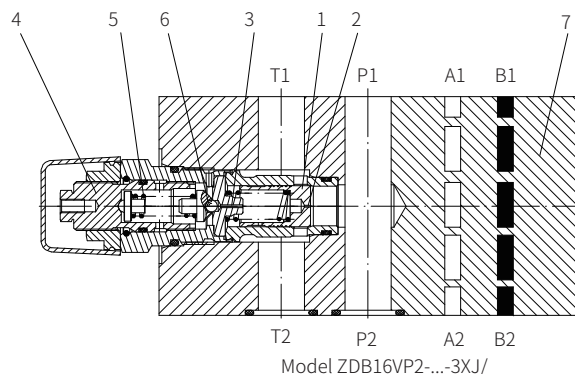
Function description, sectional drawing	02
Models and specifications	02
Functional symbols	03
Technical parameters	03
Characteristic curve	04
Component size	05-08

Features

- Sandwich plate type
- The installation surface according to DIN24340A and ISO4401
- Threaded connection and subplate mounting
- 4 pressure ratings
- 5 circuit options
- With one or two cartridge relief valves
- 1 adjustment element
Adjusting screw with protective cap

Function description, sectional drawing

Relief valve model ZDB and Z2DB are pilot operated relief valve and of sandwich plate design. It's used to limit the pressure within hydraulic system. The valve is composed of valve body (7), with one or two cartridge relief valves. The system pressure is set by adjustment element (4). At rest, the valve is closed. Pressure in port A acts on valve spool (1), at the same time pressure pass through orifice (2) acts on spring, and pass through orifice (3) acts on pilot valve spool (6), if pressure of port A rises above the value set on spring (5), then the pilot valve spool (6) opens. Hydraulic oil flow spring loaded side of the valve spool (1) and orifice (3) into port T. The pressure drop moves valve spool (1) thereby opening the connection A to T, while maintaining the pressure set at spring (5). Pilot oil return from two spring chambers via port T externally.



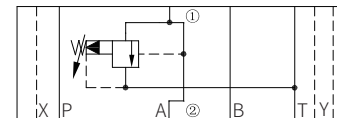
Models and specifications

Z	DB			3X		*
sandwich plate =Z						more information in text
only for "VC" and "VD" 2 cartridge relief valves =2						sealing material No code = NBR seals V= FKM seals (consult for other seals)
pilot operated pressure relief valve =DB						
size 16 =16						50= pressure adjustable up to 50bar
size 22 =22						100= pressure adjustable up to 100bar
						200= pressure adjustable up to 200bar
						315= pressure adjustable up to 315bar
Relief function from - to:						
A—T =VA						
B—T =VB						
P—T =VP						
A—T and B—T =VC						
A—B and B—A =VD						
				3X=		30 to 39 series (30 to 39 series installation and connection size unchanged)
				2=		adjustment element adjusting screw with protective cap

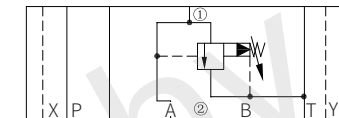
Functional symbols

(① = Valve side ② = Subplate side)

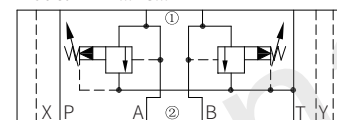
Model ZDB...VA...



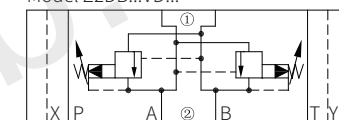
Model ZDB...VB...



Model Z2DB...VC...



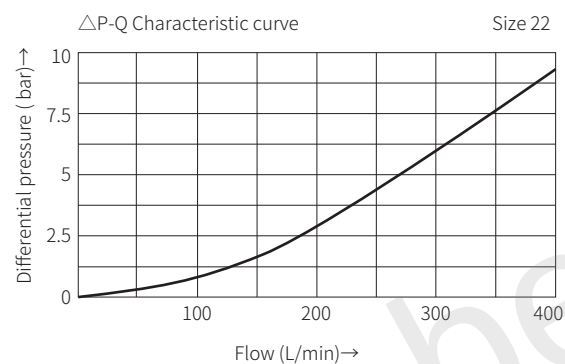
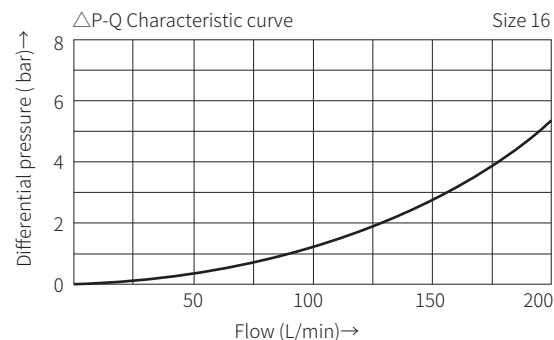
Model Z2DB...VD...



Technical parameters

Oil fluid		Mineral oil - for NBR seal and FKM seal	
		Phosphate oil - for FKM seal	
Working medium temperature range		°C	
		-30 to +80 (NBR seals)	
		-20 to +80 (FKM seals)	
Viscosity range		mm²/s	10 to 800
Cleanliness of oil		The maximum allowable pollution level of oil is ISO4406 Class 20/18/15	
Maximum working pressure		bar	to 315
Maximum setting pressure		bar	50, 100, 200, 315
Size		16	
Maximum flow		L/min	200
			400
Weight	ZDB	kg	about 9.4
	Z2DB	kg	about 11.8
			about 10.3

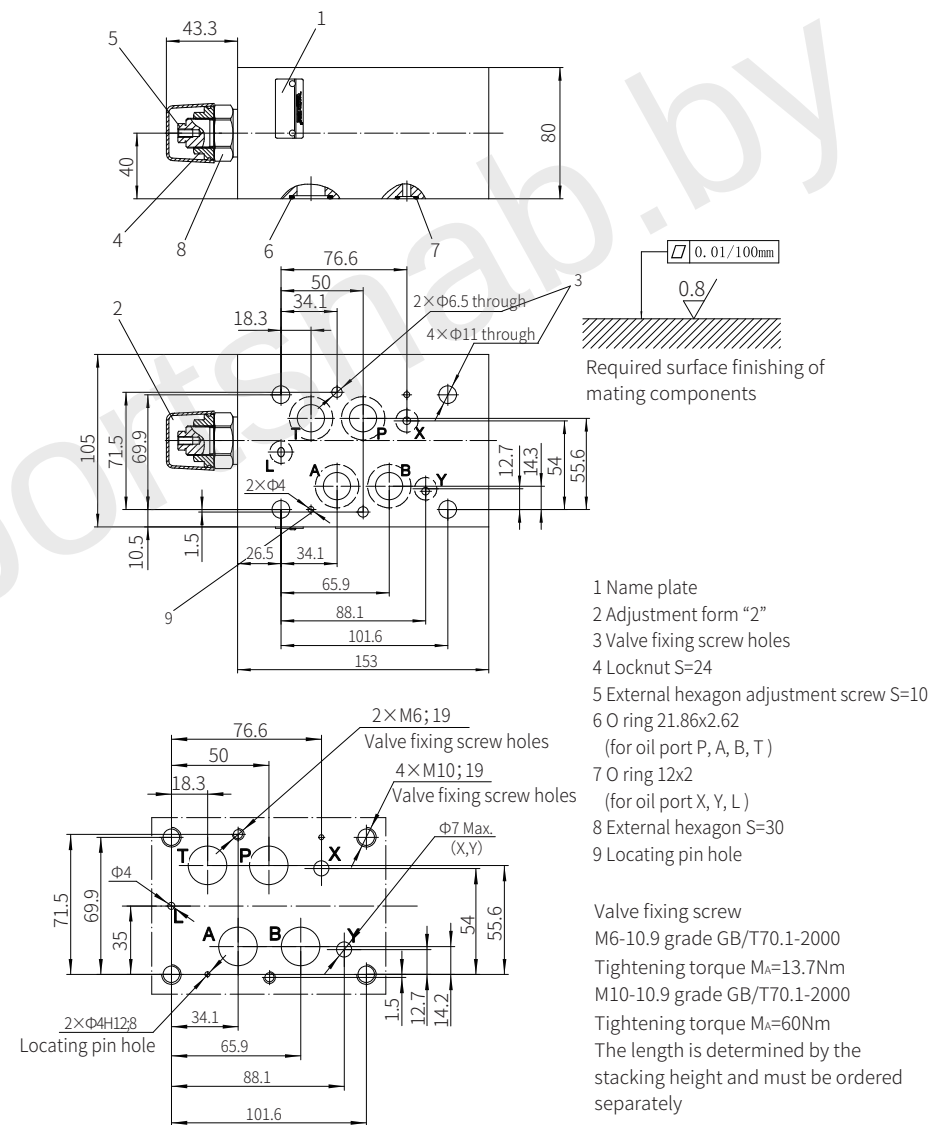
Characteristic curve

(Measured when using HLP 46, $\vartheta_{oil} = 40^{\circ}\text{C} \pm 5^{\circ}\text{C}$)

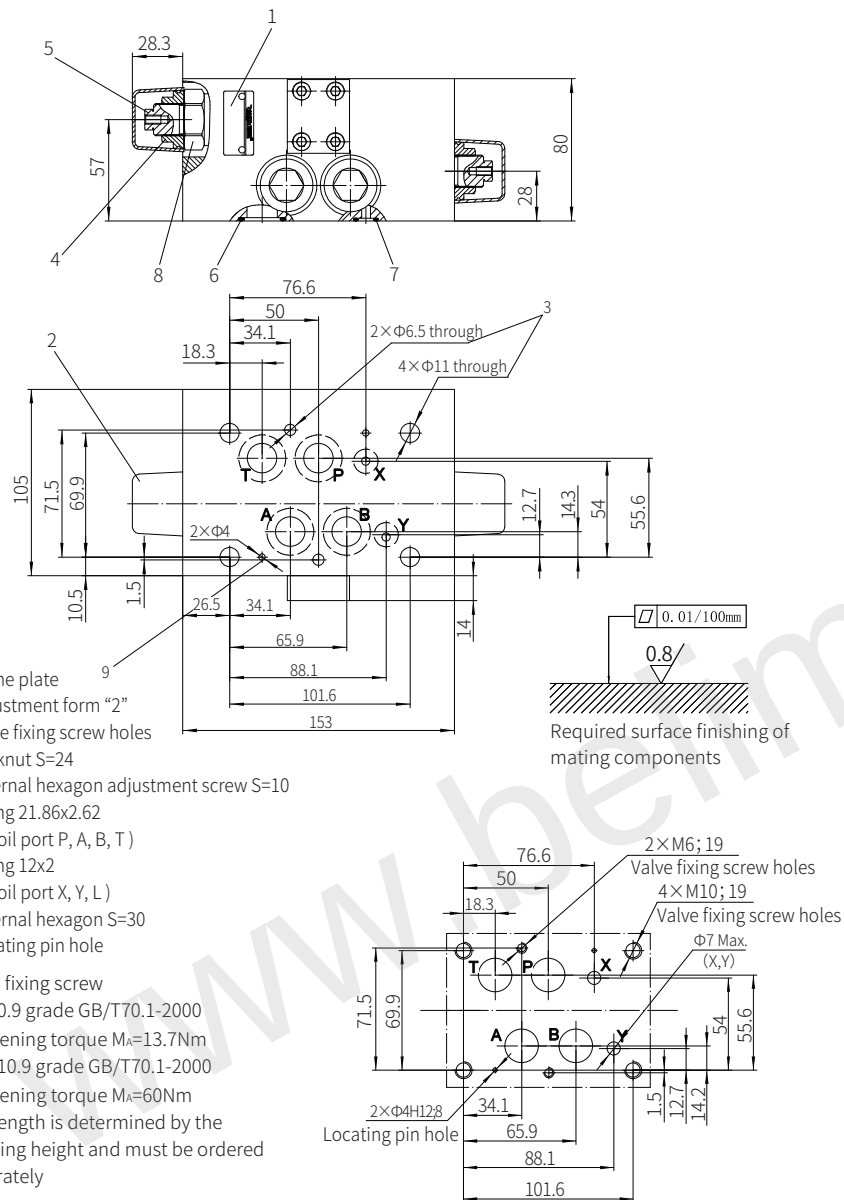
Component size

Size unit: mm

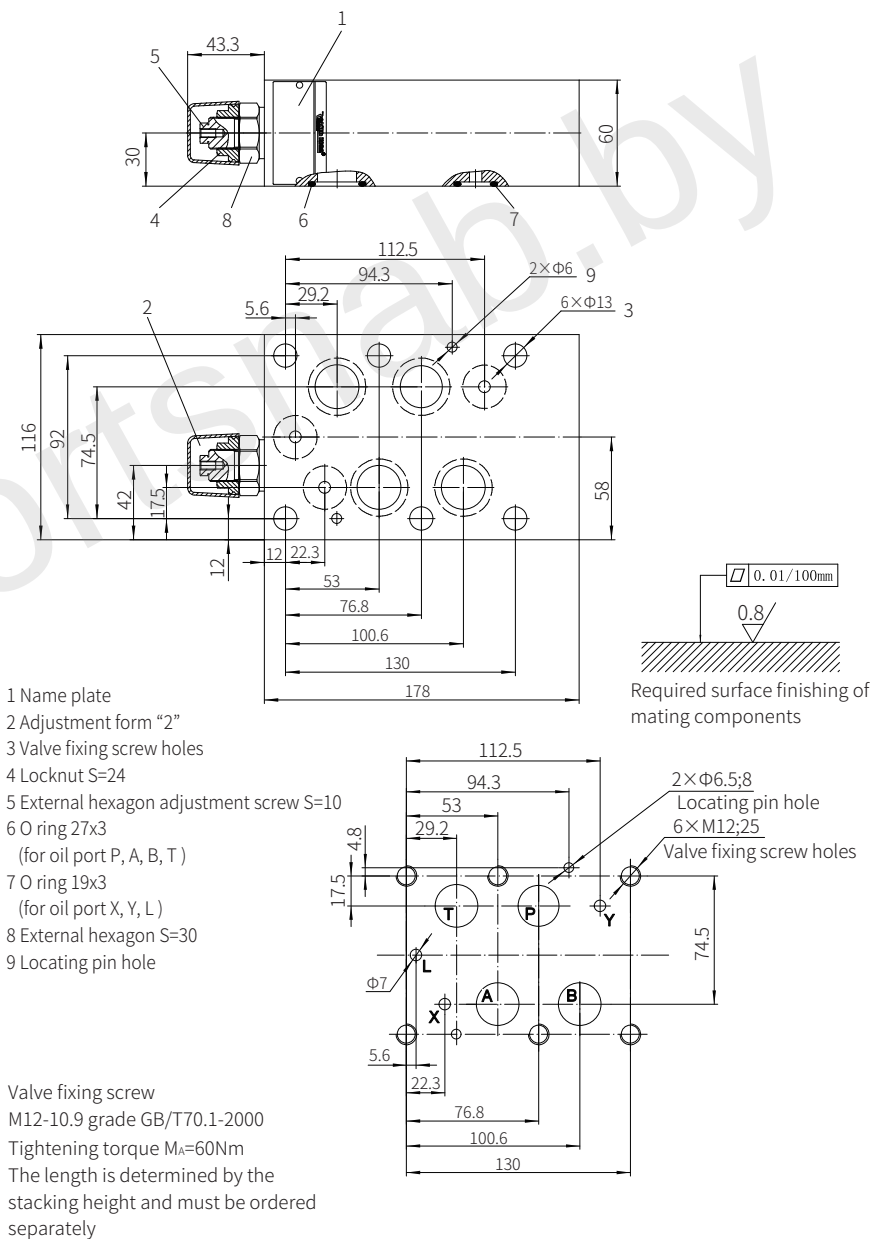
Model ZDB16VA...-3XJ/... and ZDB16VP...-3XJ/...



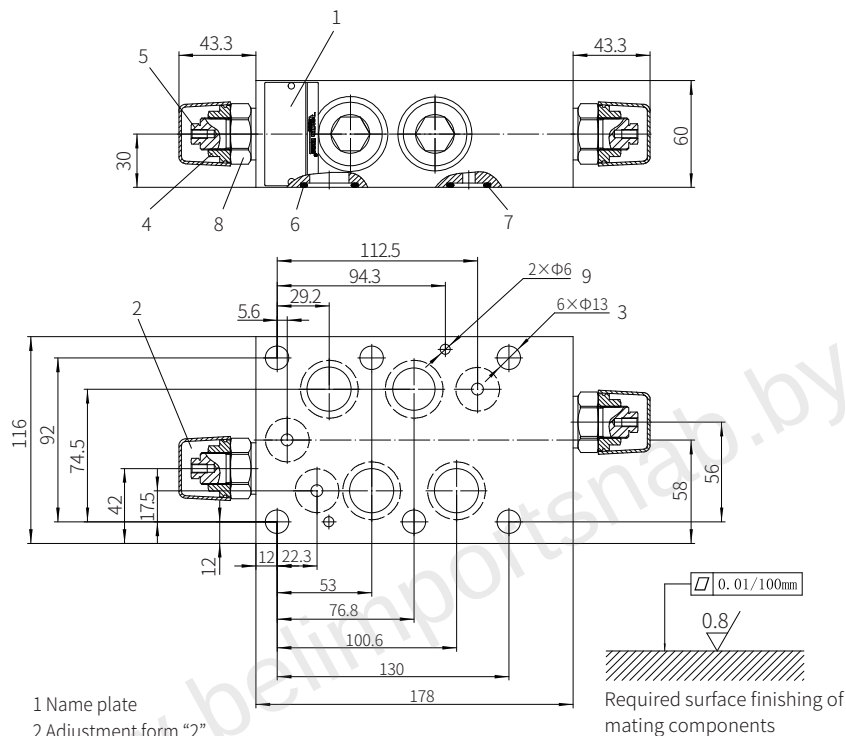
Model Z2DB16VD...-3XJ/...



Model ZDB22VP...-3XJ/...



Model Z2DB22VD...-3XJ/...



1 Name plate

2 Adjustment form "2"

3 Valve fixing screw holes

4 Locknut S=24

5 External hexagon adjustment screw S=10

6 O ring 27x3
(for oil port P, A, B, T)

7 O ring 19x3
(for oil port X, Y, L)

8 External hexagon S=30

9 Locating pin hole

Valve fixing screw

M12-10.9 grade GB/T70.1-2000

Tightening torque $M_A=95\text{Nm}$

The length is determined by the stacking height and must be ordered separately

