



ZDB type... Modular Relief Valve



ZDB /Z2DB...4XJ...type

Sizes 16, 22
Max. Working Pressure: 315 bar
Max. Flow: 250 L/min

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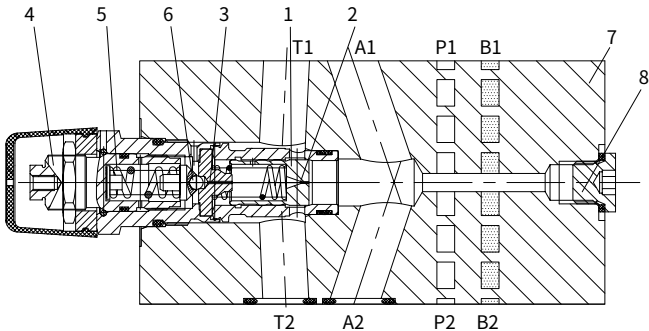
Features

- Sandwich plate valve
- Porting pattern to DIN 24 340 form A and ISO4401
- For threaded connection, and sub-plate mounting
- 4 pressure ratings
- 5 circuit options
- With one or two pressure relief cartridges
- 1 adjustment elements:
 - Adjustable bolt with protective cap

Function and configuration

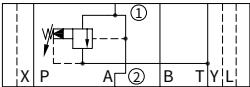
ZDB and Z2DB type pressure valve is pilot operated relief valve in sandwich plate design. It is used to limit a system pressure. It consists of the valve housing (7), together with one or two pressure relief valve cartridges. The system pressure is set by means of adjustment element (4). In zero position, the valves are closed. Pressure in port A acts on the spool (1). Pressure fluid flows through orifice (2) to the spring loaded side of the spool (1) and through orifice (3) to the pilot poppet (6). If the pressure in port A rises beyond the value setting at spring (5), the pilot poppet (6) opens. Fluid can flow from the spring loaded side of spool (1), orifice (3), and channel (8) into port T. The pressure drop moves spool (1) to open the connection from A to T, while the setting pressure at spring (5) is maintained. Pilot oil returns from the two spring chambers via port T externally. Pressure tapping (8) can measure the pressure.

Type ZDB16VA2-4XJ/...

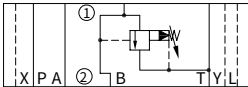


Symbols

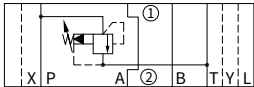
Type ZDB..VA..



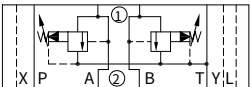
Type ZDB..VB..



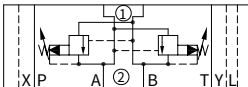
Type ZDB..VP..



Type Z2DB..VC..



Type Z2DB..VD..



① =valve side ② = sub-plate side

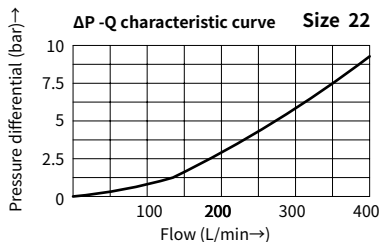
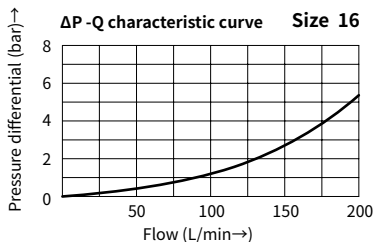
Specification

Z		DB		4XJ		*	
Sandwich plate = Z						Further details in clear text	
Only applies to versions VC and VD: With 2 pressure relief valve cartridges = 2						No code = NBR seals V = FKM seals	
Pressure relief valve = DB						50 = Pressure adjustable up to 50bar 100 = Pressure adjustable up to 100bar 200 = Pressure adjustable up to 200bar 315 = Pressure adjustable up to 315bar	
Nominal size 16 = 16						4XJ = Series 40J to 49J (40J to 49J: unchanged installation and connection dimensions)	
Nominal size 22 = 22						Regulation form: 2= Adjustable bolt with protective cap	
Relief function from – to:							
A → T						=VA	
P → T						=VP	
B → T						=VB	
A → T and B → T						=VC	
A → B and B → A						=VD	

Technical data

Fluid		Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal	
Fluid temperature range		-30 to +80 (NBR seal) -20 to +80 (FKM seal)	
Viscosity range		mm ² /s 10 to 800	
Degree of contamination		Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15 , ISO4406	
Max.operating pressure		bar to 315	
Max.adjustable pressure		bar 50; 100; 200; 315	
Size		16	22
Max. flow-rate		L/min 200	400
Weight	Type ZDB	kg Approx.9.4	Approx.9.2
	Type Z2DB	kg Approx.11.8	Approx.10.3

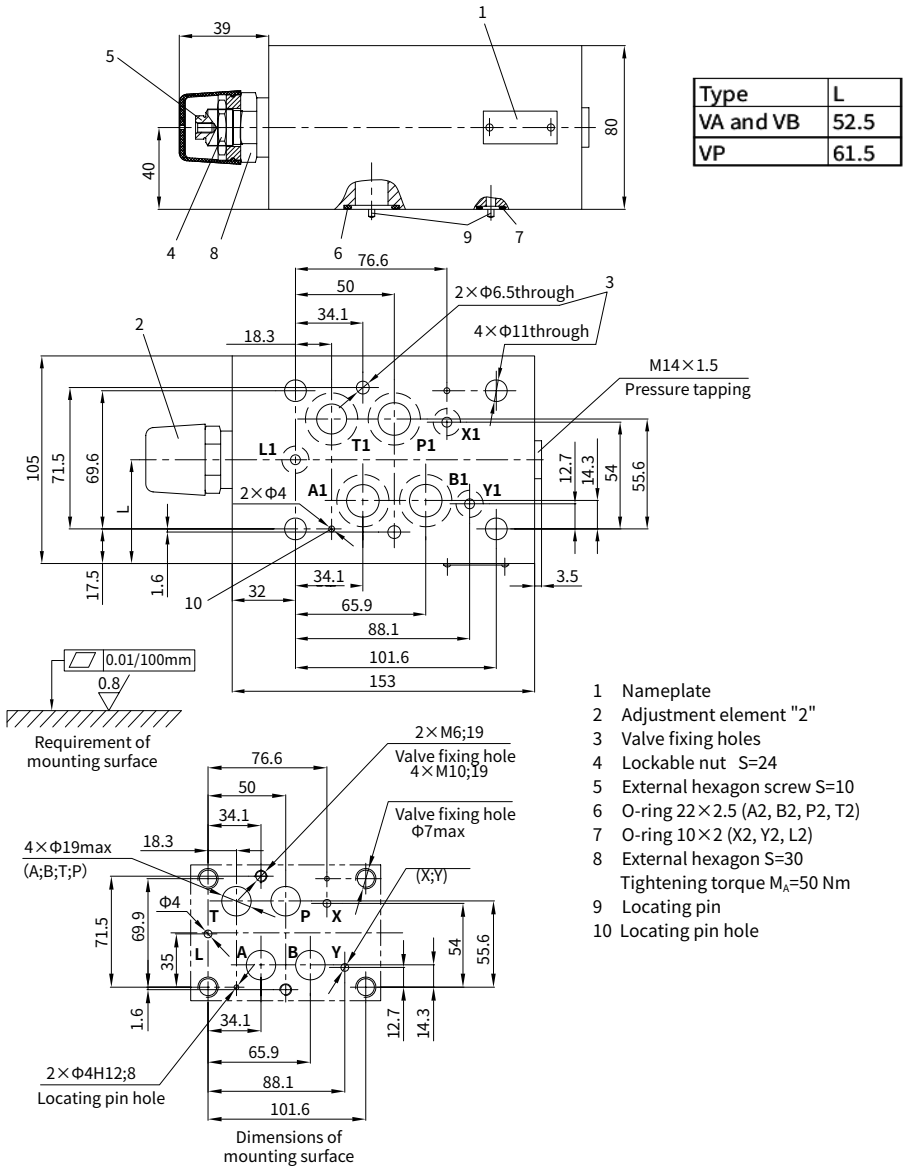
Characteristic curves (Measured at t=40°C ±5°C , using HLP46)



Unit dimensions

(Dimensions in mm)

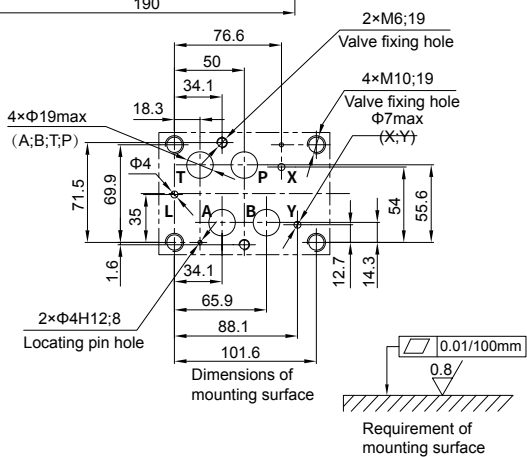
Type ZDB16VA...4XJ/.. Type ZDB16VB...4XJ/.. Type ZDB16VP...4XJ/..



(Dimensions in mm)

[illegible]

- 1 Nameplate
- 2 Adjustment element "2"
- 3 Valve fixing holes
- 4 Lockable nut $S=24$
- 5 External hexagon bolt $S=10$
- 6 O-ring 22×2.5 (A2, B2, P2, T2)
- 7 O-ring 10×2 (X2, Y2, L2)
- 8 External hexagon $S=30$
Tightening torque $M_A = 50 \text{ Nm}$
- 9 Locating pin
- 10 Locating pin hole



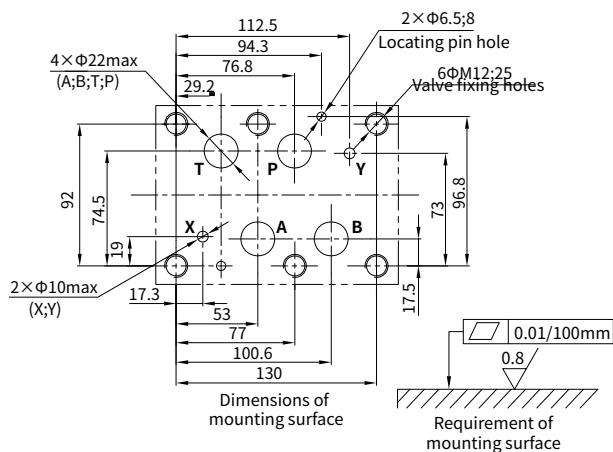
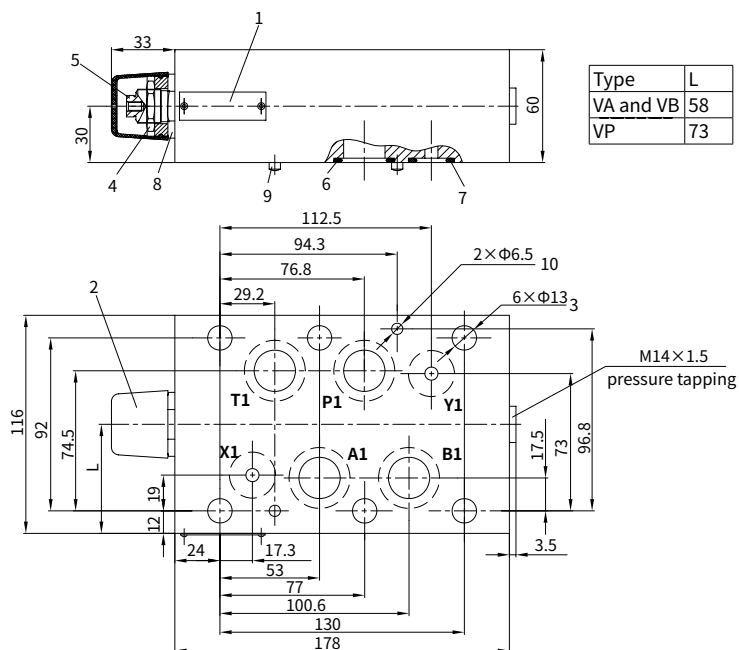
Unit dimensions

(Dimensions in mm)

Type ZDB22VA...4XJ/..

Type ZDB22VB...4XJ/..

Type ZDB22VP...4XJ/..

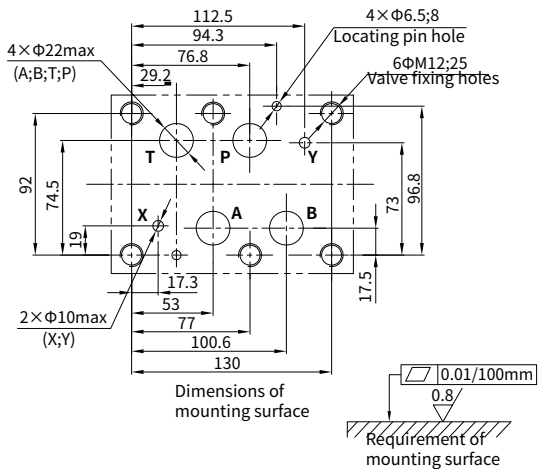
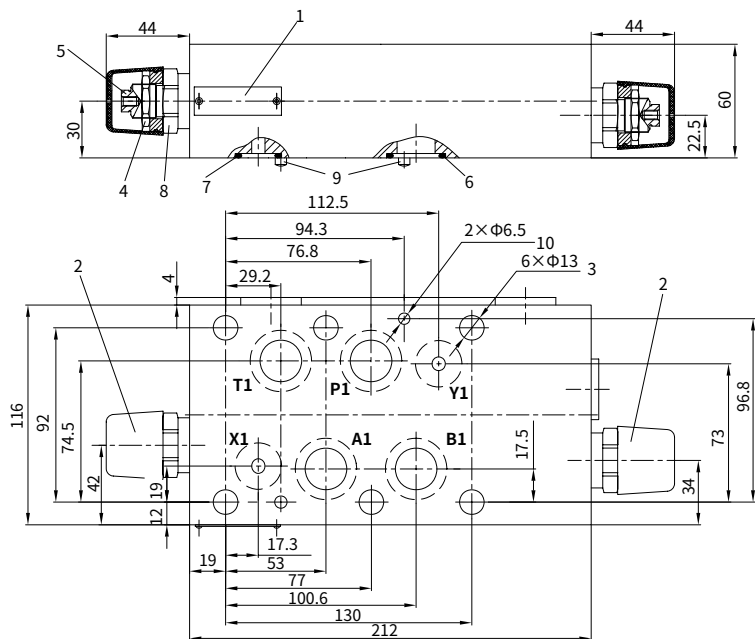


- 1 Nameplate
- 2 Adjustment element "2"
- 3 Valve fixing holes
- 4 Lockable nut S=24
- 5 External hexagon screw S=10
- 6 O-ring 27×3 (A2,B2,P2,T2)
- 7 O-ring 19×3 (X2,Y2,L2)
- 8 External hexagon S=30
Tightening torque $M_A = 50\text{Nm}$
- 9 Locating pin
- 10 Locating pin hole

Unit dimensions

(Dimensions in mm)

Type Z2DB22VC...4XJ/..

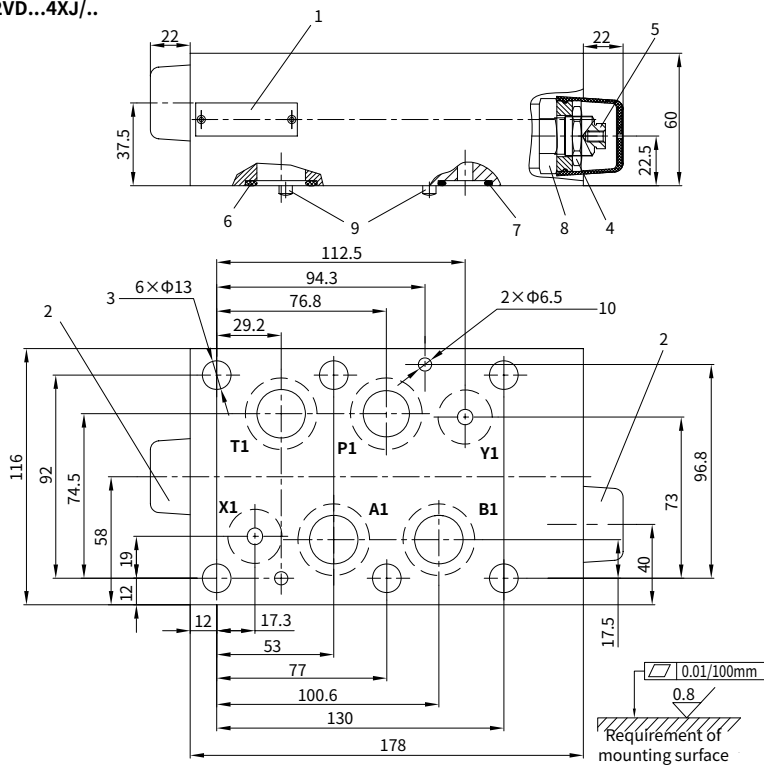


- 1 Nameplate
- 2 Adjustment element "2"
- 3 Valve fixing holes
- 4 Lockable nut S=24
- 5 External hexagon screw S=10
- 6 O-ring 27×3 (A2,B2,P2,T2)
- 7 O-ring 19×3 (X2,Y2,L2)
- 8 External hexagon S=30
Tightening torque $M_A = 50 \text{ Nm}$
- 9 Locating pin
- 10 Locating pin hole

Unit dimensions

(Dimensions in mm)

Type Z2DB22VD...4XJ/..



- 1 Nameplate
- 2 Adjustment element "2"
- 3 Valve fixing holes
- 4 Lockable nut S=24
- 5 External hexagon screw S=10
- 6 O-ring 27×3 (A2,B2,P2,T2)
- 7 O-ring 19×3 (X2,Y2,L2)
- 8 External hexagon S=30
Tightening torque $M_A = 50\text{Nm}$
- 9 Locating pin
- 10 Space locating pin hole

