



ZDB10...type Modular Relief Valve

ZDB / Z2DB 10..4XJ...type

Size 10

Max. Working Pressure: 315 bar

Max. Flow: 100 L/min



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Features

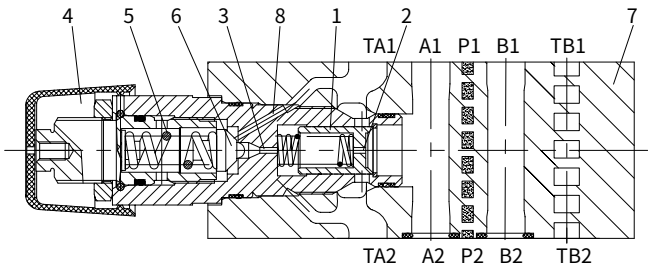
- Sandwich plate valve
- Porting pattern to DIN 24 340 form A and ISO 4401
- For threaded connection, and sub-plate mounting
- 4 pressure ratings
- 6 circuit options
- With one or two pressure relief cartridges
- 4 adjustment elements:
 - Rotary knob
 - Adjustable bolt with protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale

Function and configuration

ZDB and Z2DB type pressure valve is pilot operated relief valve in sandwich plate design. It is used for limiting a system pressure. It consists of the housing (7), together with one or two pressure relief valves cartridges. And the system pressure is set by means of relief valve(4).

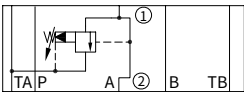
In the initial position, the valves are closed. Pressure in port A acts on the spool (1). Pressure fluid flows through orifice (2) to the spring loaded side of the spool (1) and through orifice (3) to the pilot poppet(6). If the pressure in port A rises beyond the value setting at spring (5), the pilot 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.

Type ZDB10VA2-4XJ/...

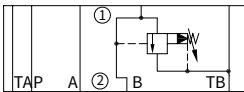


Symbols

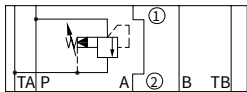
Type ZDB10VA..



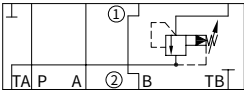
Type ZDB10VB..



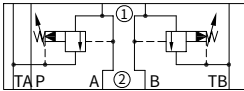
Type ZDB10VP..



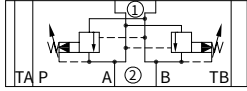
Type ZDB10VT..



Type Z2DB10VC..



Type Z2DB10VD..



① =valve side ② = sub-plate side

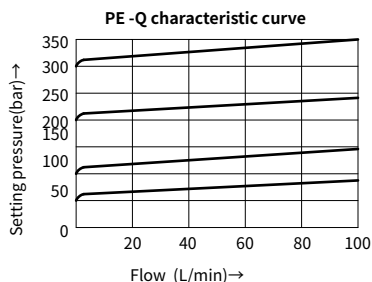
Specifications

Z		DB	10			- 4XJ /		*
Further details in clear text								
Sandwich plate	= Z						No code =	NBR seals
Only applies to models VC and VD:							V	FKM seals
With 2 pressure relief valve cartridges	=2						50 =	Pressure adjustable up to 50bar
Pressure relief valve	= DB						100 =	Pressure adjustable up to 100bar
							200 =	Pressure adjustable up to 200bar
Nominal size 10	=10						315 =	Pressure adjustable up to 315bar
Relief function from → to:							4XJ =	Series 40J to 49J
A → TA	=VA					(40J to 49J: unchanged installation and connection dimensions)		
P → TA	=VP						Rotary knob	
TB1 → TA2	=VT					1=	Adjustable bolt with protective cap	
B → TB	=VB					2=	Lockable rotary knob with scale	
A → TA and B → TB	=VC					3=	Rotary knob with scale	
A → B and B → A	=VD					7=		

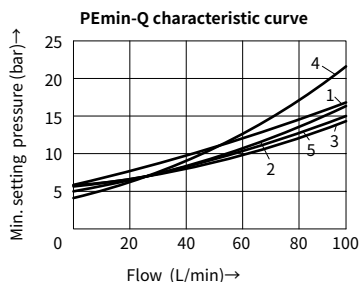
Technical data

Fluid		Mineral oil suitable for NBR and FKM seal	
		Phosphate ester for FKM seal	
Fluid temperature range		°C	-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
Max. flow-rate		L/min	100
Weight	Type ZDB10	kg	Approx.2.7
	Type Z2DB10	kg	Approx.3.1

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



The curves were measured
at zero back pressure.



1. VD(A to B)
2. VA
3. VB and VC
4. VP and VD(B to A)

03

03

03

03

03



- 03

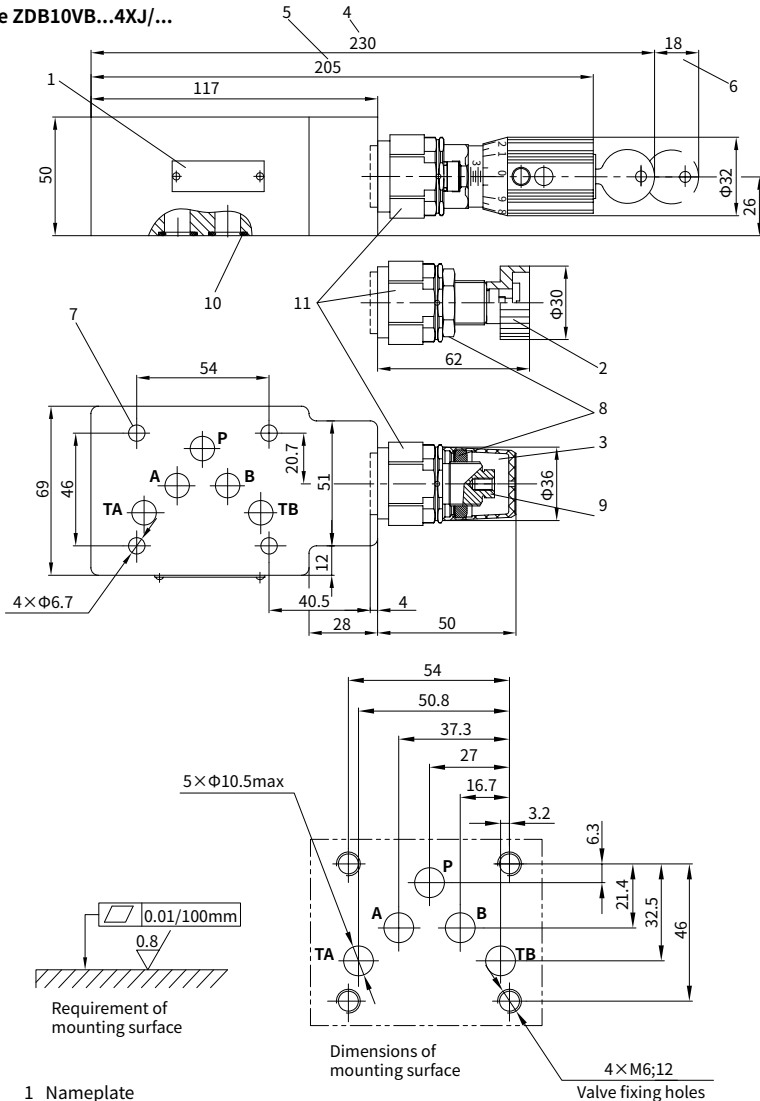
03

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Unit dimensions

(Dimensions in mm)

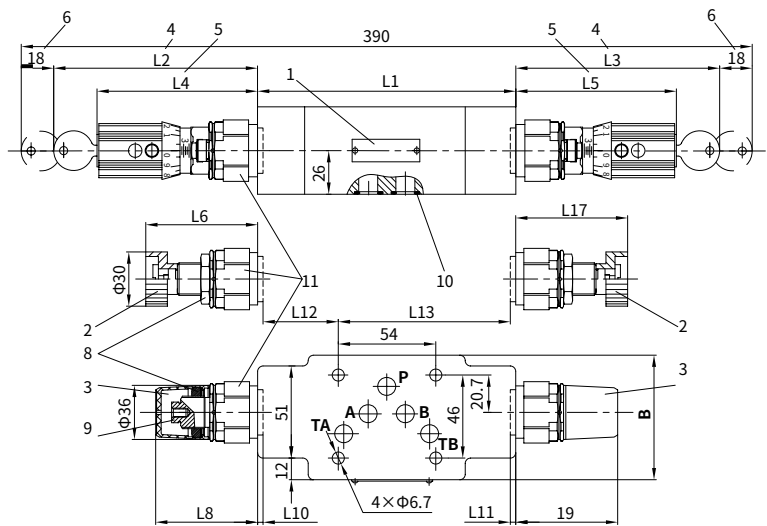
Type ZDB10VB...4XJ/...



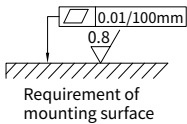
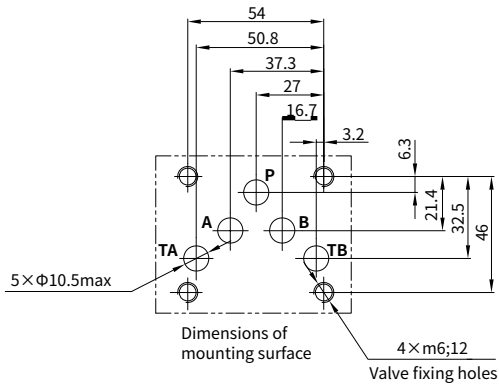
Unit dimensions

(Dimensions in mm)

Type Z2DB10VC...4XJ/..
Type Z2DB10VD...4XJ/..



- 1 Nameplate
- 2 Adjustment element "1"
- 3 Adjustment element "2"
- 4 Adjustment element "3"
- 5 Adjustment element "7"
- 6 Space required to remove the key
- 7 Valve fixing holes
- 8 Lockable nut S=24
- 9 External hexagon bolt S=10
- 10 O-ring 12 $\times$ 2 (A2,B2,P2,TA2,TB2)
- 11 External hexagon S=30
Tightening torque $M_A=50 \text{ Nm}$



Type	B	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
VC	69	123	115	116	90	91	64	65	52	53	2	1	32.5	87.5
VD	70	132	111	111	86	86	60	60	48	48	6	6	33	87