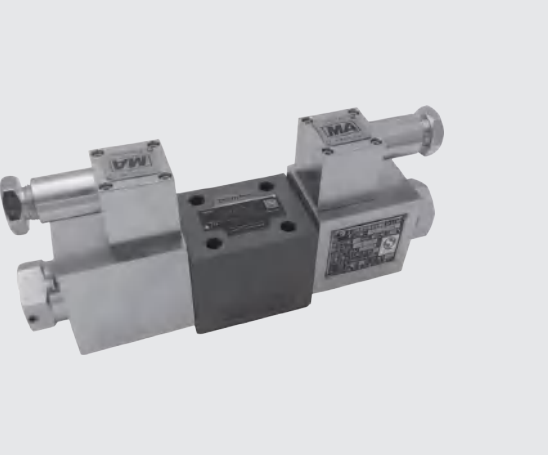


Explosion-proof Solenoid Directional Valve

Model: GD-WE10...3XJ



01

- ◆ Size 10
- ◆ Maximum working pressure 315 bar
- ◆ Maximum working flow rate 120 L/min

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Features

- Solenoid operated directional spool valve
- Wet-pin explosion-proof solenoid

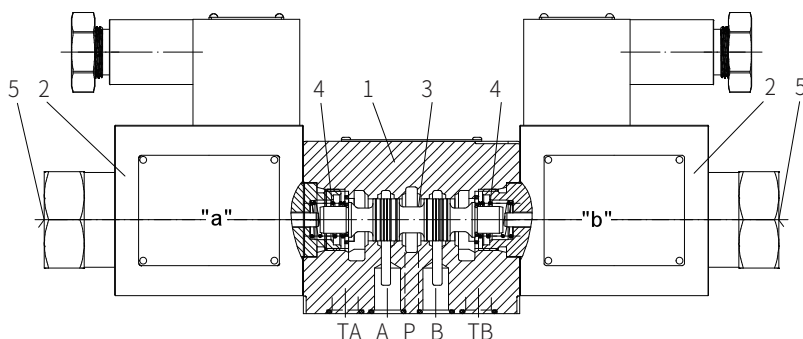
Function description, sectional drawing

The GD-WE10 directional control valve is a directional spool valve operated by explosion-proof solenoid, it is used to control the opening, closing and flow direction of the liquid flow.

The directional control valve mainly includes valve body (1), one or two explosion-proof solenoids (2), control spool (3), and one or two reset springs (4). In the non-energized condition, the control spool (3) is held in the middle or initial position by the reset spring (4). The control spool (3) is operated by the wet-pin explosion-proof solenoid (2).

To ensure proper function, the pressure chamber of the solenoid must be filled with oil. The force of the explosion-proof solenoid (2) acts on the control spool (3) through the push rod (5) to push it from the stationary position to the required position. In this way, the oil flow freely from P to A and B to T, or from P to B and A to T.

When the explosion-proof solenoid (2) is powered off, the control spool (3) is pushed to the initial position by the return spring (4).



Model GD-WE10...3XJ/

Models and specifications

	-GD-	WE	10	-3X	J	/	/	/	*
explosion proof class I =G1									more information in text
explosion proof class II=G2									sealing material
explosion proof valve									No code= NBR seals
3 working oil ports =3									V= FKM seals
4 working oil ports =4									(consult for other seals)
function symbol									No code= no plug-in throttle port no plug-in throttle port (see table)
30 to 39 series =3X									
(30 to 39 series installation and connection size unchanged)									
Rekith =J									
with reset spring =No code									
no reset spring =O									
no reset spring, with detent =OF									
voltage									
24V DC =G24									
36V AC with rectifier =B36									
127V AC with rectifier =B127									
220V AC with rectifier =B220									
									N9= with hidden emergency button operation

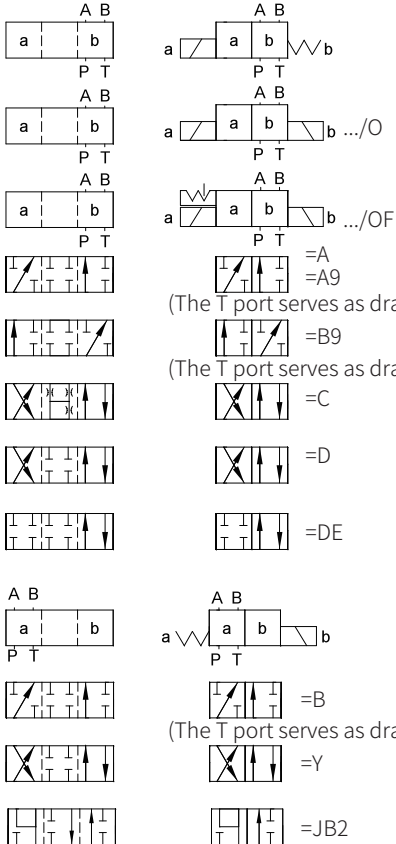
Note:

G1 explosion-proof grade EXD I

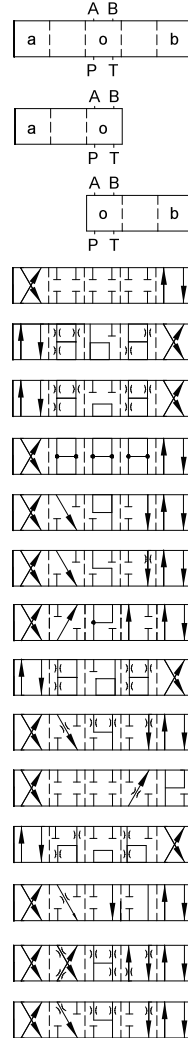
G2 explosion-proof grade EXD II CT4

Functional symbols

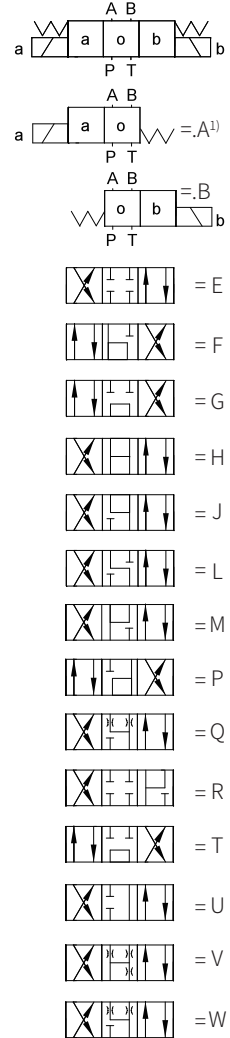
Transition function Spool valve function



Transition function



Spool valve function



1) For example: .

The function symbol EA means
the coil on side A

Note: Functions A9 and B9 are only used
as pilot valves

Technical parameters

Hydraulic		
Maximum working pressure	Oil ports A, B, P bar	350
	Oil port T bar	210 (DC) When the working pressure exceeds the allowable pressure, the valves with symbols A and B must use T port as the drain port.
Maximum flow	L/min	120
Effective over-flow section (spool position)	mm ²	6% of rated cross-sectional area for symbol Q
		3% of rated cross-sectional area for symbol W
Oil fluid		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)
		-15 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.

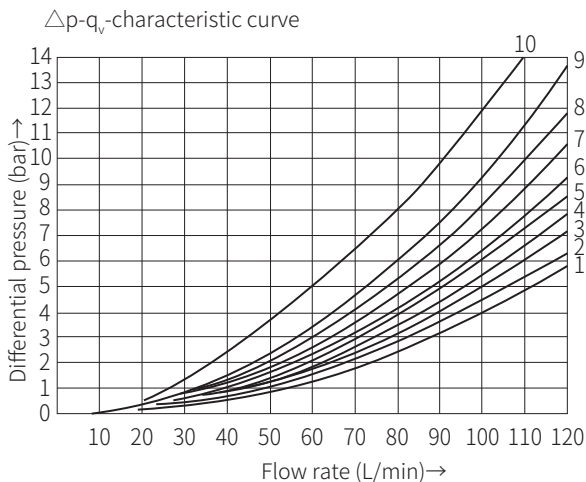
3) The oil must meet the cleanliness degree requested by the components in the hydraulic system. Effective oil filtration can prevent failure and increase the service life of the components.

Electric		
Voltage type		DC AC Rectifier
Voltage available ⁴⁾	V	24 36,127,220
Allowable voltage tolerance (voltage unit)	%	±10 ±10
Power consumption	W	30 -
Holding power	VA	- 50
Impact power	VA	- 220
Power rate		100% 100%
Switching time to ISO6403	On ms	25-45 10-20
	Off ms	10-25 15-40
Maximum switching frequency	1/h	15000 7200

4) Other voltages are determined as required

Characteristic curve

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



Function symbol	Flow direction			
	P - A	P - B	A - T	B - T
A,B	3	3	-	-
C	3	3	4	5
D,Y	5	5	6	6
E	1	1	4	4
F	2	3	7	4
G	3	3	6	7
H	1	1	6	7
J	1	1	3	3
L	2	2	3	5
M	1	1	4	5
P	4	2	5	7
Q	1	2	1	3
R	3	6	4	-
T	3	3	6	7
U,V	2	2	3	3
W	2	2	4	5
Switch position	P - A	B - A	A - T	P - T
R	-	9	-	-

	P - A	P - B	B - T	A - T	P - T
F	4	-	-	9	9
P	-	5	8	-	10
G,T			-	-	9
H			-	-	3

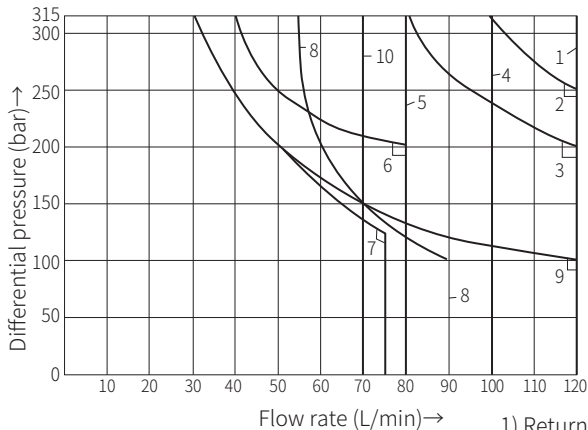
Characteristic limit

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

The indicated switching power limit applies to two flow directions (e.g. from P to A and simultaneous return oil flow from B to T).

Due to the effect of hydraulic power inside the valve, the allowable power will be significantly reduced when there is only one flow direction (e.g. from P to A, and the B oil port is closed).

The switching power limit is measured when the solenoid is at the operating temperature, at 10% below the standard voltage and without tank preloading.

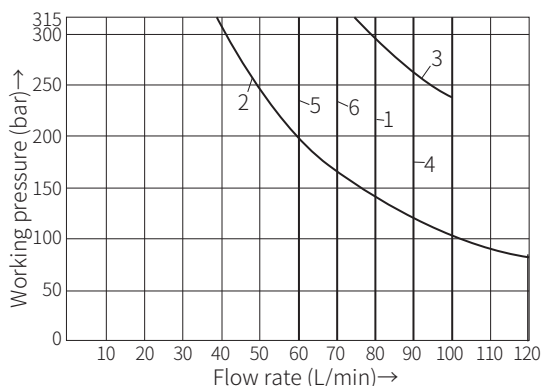
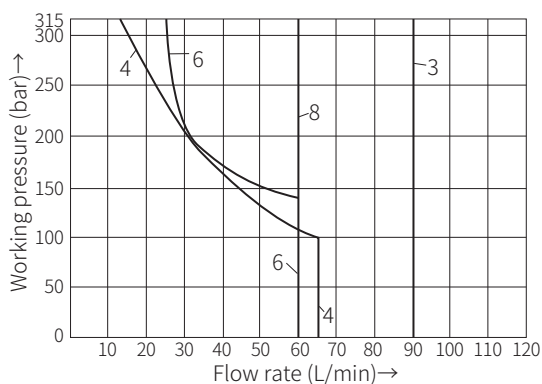
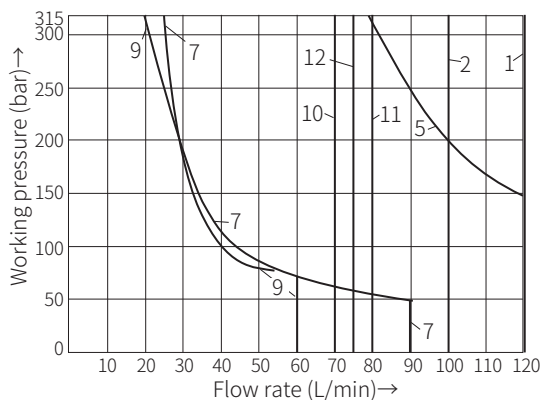


characteristic curve	Function symbol
1	C,C/O,C/OF D,D/O,D/OF Y,M
2	E
3	A/O,A/OF L,U,Q,W
4	H
5 ¹⁾	R,L ²⁾ ,U ²⁾
6	G
7	T
8	F,P
9	A,B
10	V

- 1) Return oil flow (Independent from area ratio)
2) Applicable only in the middle position

Characteristic limit

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



characteristic curve	Function symbol
1	C, C/O, C/OF D, D/O, D/OF Y
2	E, L, U Q, W
3	M
4	A, B
5	A/O, A/OF, J
6	G
7	F, P
8	V
9	T
10	H
11	R
12 ¹⁾	L, U

1) Applicable only in the middle position

42V, 50Hz; 110V, 50Hz; 120V, 60Hz;
127V, 50Hz; 220V, 50Hz; 240V, 60Hz

characteristic curve	Function symbol
1	C, C/O, C/OF D, D/O, D/OF Y
2	A/O, A/OF
3	E
4	M
5	V
6	H

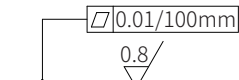
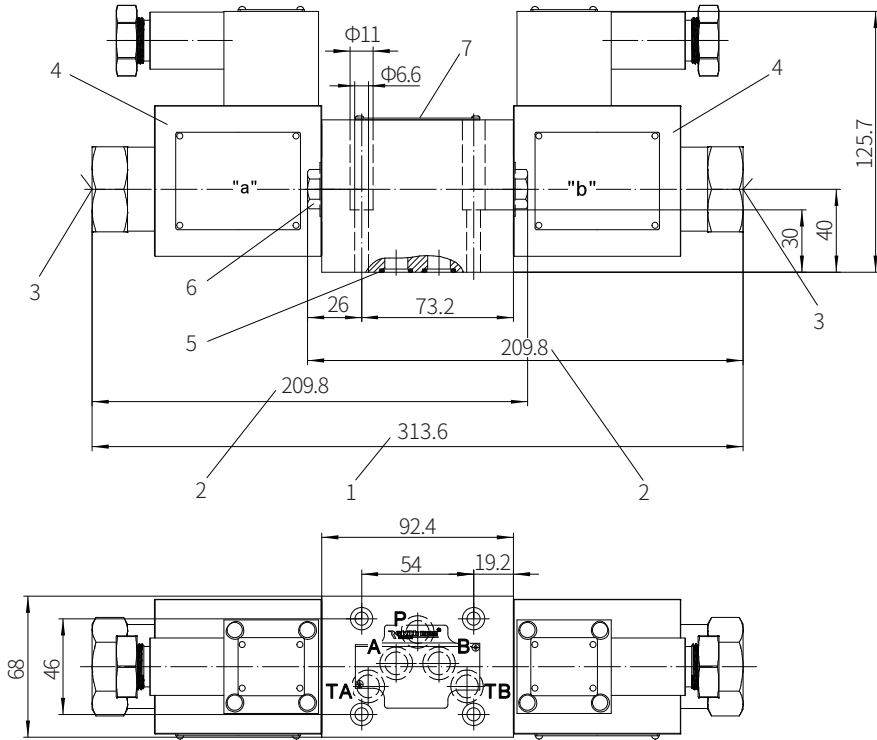
42V, 60Hz; 110V, 60Hz;
127V, 60Hz; 220V, 60Hz

Please consult us the power
limit of the special valve spools!

Component size

Size unit: mm

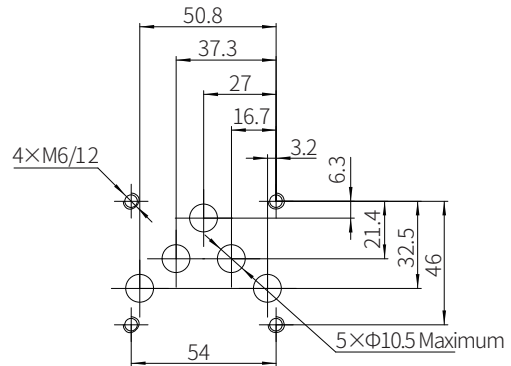
Model GD-4WE10...-3XJ/...



Required surface finishing of mating components

- 1 Size of 3-position valve
- 2 Size of 2-position valve
- 3 Hidden emergency button
- 4 Solenoids
- 5 O-ring 12x2 (for oil ports P, A, B, T)
- 6 Plug for valve with one solenoid
- 7 Name plate

Valve fixing screw
M6x60-10.9 grade GB/T70.1-2000
Tightening torque $M_A=13.7\text{Nm}$



It must be ordered separately if connection subplate is needed.
Subplate model:

G66/01 (G3/8") ; G66/02 (M18x1.5)
G67/01 (G1/2") ; G67/02 (M22x1.5)
G534/01 (G3/4") ; G534/02 (M27x2)