



WE6...Type Solenoid-Operated Directional Valve



WE6...6XJ...type

Size (NG) 6
Max. Working Pressure: 315 bar
Max. Flow: 80 L/min

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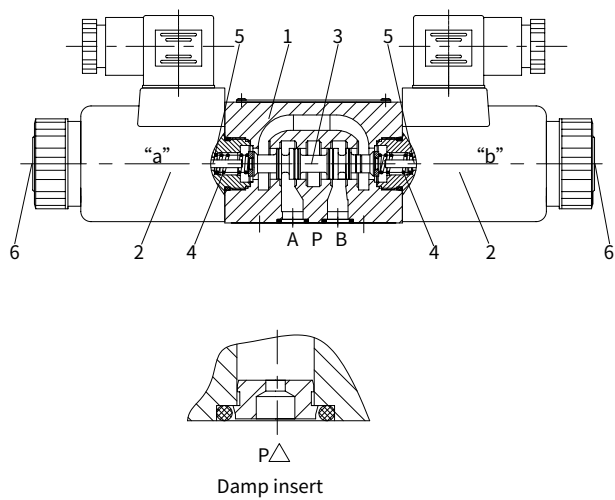
Features

- Direct operated directional solenoid valve,
- Porting pattern according to DIN 24 340 form A, ISO 4401 and CETOP-RP 121 H
- Wet-pin AC or DC solenoids with detachable coil
- Pressure-tight chamber needs not to be opened for a coil change
- Electrical connection as individual or central connection

Function and configurations

WE6...6XJ...type valves are solenoid operated directional spool valves. They control the start, stop and direction of hydraulic oil flow. The directional control valves consist of valve body(1), one or two solenoids (2), the valve core (3), and one or two return springs (4). In the de-energized condition the valve core(3) is held in the neutral or initial position by means of return springs (4) (except for impulse spools). The control spool (3) is actuated via wet pin solenoids (2).

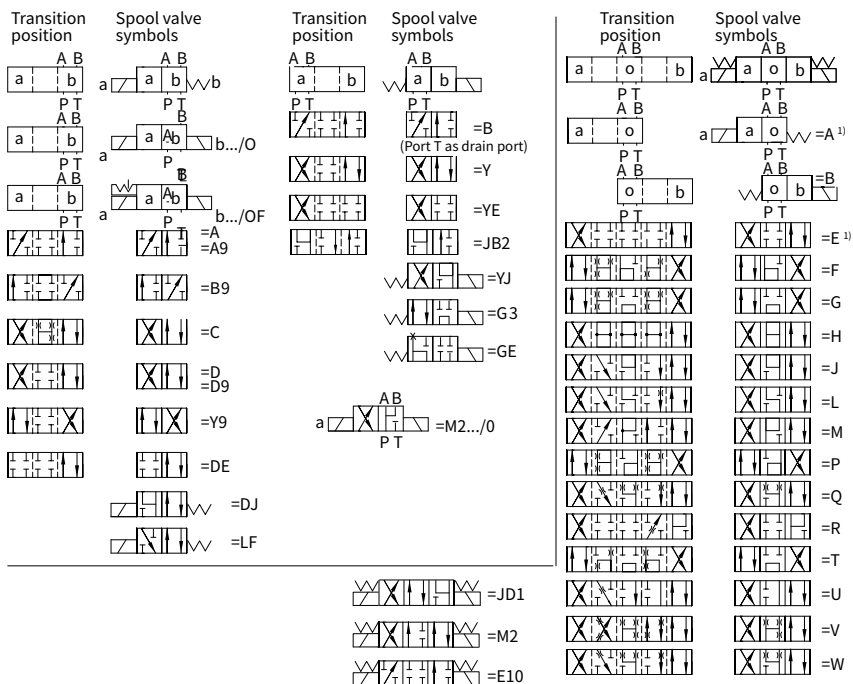
To ensure proper operation, the pressure chamber of the solenoid must be filled with oil. The valve core(3) is moved to the expected position by solenoids(2) and pushing rod(5). This gives free-flow from P to A and B to T or P to B and A to T. When solenoid (2) is de-energized, the valve core (3) is returned to its initial position by means of the return springs (4). The solenoids may also control the valve core (3) by an optional override button(6) under the de-energized condition.



Specification

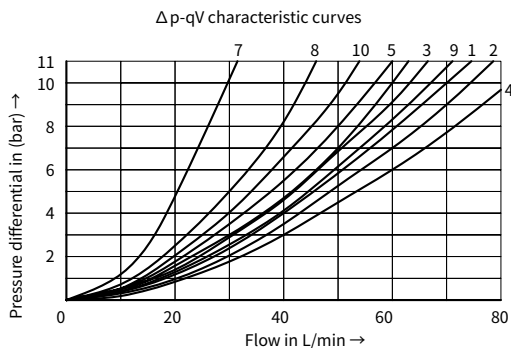
	WE	6	- 6XJ /				/			*
3 ways = 3 (For spool A and B)										Further details in clear text
4 ways = 4										
Solenoid directional valve										No code=Without locating hole /60= With locating hole /62=With locating pin hole ISO 8752-3×8-St
Nominal size 6 =6										No code = NBR seals V = FKM seals
Symbols e.g. C, E etc.										
Series 60J to 69J =6XJ (60J to 69J: unchanged installation and connection dimensions)										No code = Without throttle insert B08 = Throttle Ø0.8 mm B10 = Throttle Ø1.0 mm B12 = Throttle Ø1.2 mm B15 = Throttle Ø1.5mm B20 = Throttle Ø2.0 mm B25 = Throttle Ø2.5 mm B30 = Throttle Ø3.0 mm
With spring return = No code										
Without spring return =O										
Without spring return, and with detent =OF										
Standard solenoid =E										
Large-scope solenoid (Only for 12V and 24V) =N										Z4 = square plugs (not applicable for the integer)
24V DC =G24 220V										Z5L = square plugs with lamps
AC 50/60 Hz =W220 Plug										K4 = DIN4365 sockets without plugs
rectification 220V =W220R 110V AC										DL = Connecting box
50/60 Hz =W110										
With concealed hand emergency = N9										

Symbols



Characteristic curves

(Measured at $t=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$, using HLP46)



7 Symbol "R" in switched positions B → A

8 Symbol "G" and "T" in neutral position $P \rightarrow T$

9 Symbol "H" in neutral position $P \rightarrow T$

Spool symbol	Flow direction			
	P to A	P to B	A to T	B to T
A, B	3	3	-	-
C	1	1	3	1
D, Y	5	5	3	3
E	3	3	1	1
F	1	3	1	1
T	10	10	9	9
H	2	4	2	2
J, Q	1	1	2	1
L	3	3	4	9
M	2	4	3	3
P	3	1	1	1
R	5	5	4	-
V	1	2	1	1
W	1	1	2	2
U	3	3	9	4
G	6	6	9	9

Technical data

Fixing position			Optional
Environment temperature range °C			-30 to +50 (NBR seal)
			-20 to +50 (FKM seal)
Weight	Single solenoid	kg	1.5
	Double solenoids	kg	2.0
Max.operating pressure	Port A,B,P	bar	315
	Port T	bar	210 (DC),160 (AC), when the operating pressure exceed the permission value, port T must be used as drain port for spool symbol A and B
Max. flow-rate			L/min
			80 (DC), 60 (AC)
Flow cross section (switching neutral position)			mm ²
			for symbol Q 6% of nominal cross section
			mm ²
			for symbol W 3% of nominal cross section
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
			2.8 to 500
Degree of contamination			Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406

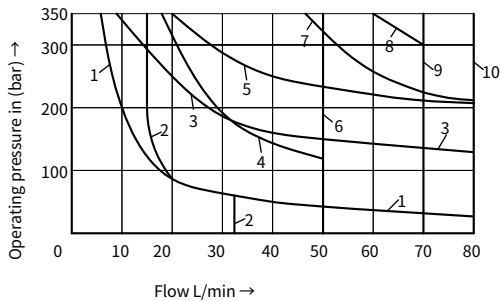
Electric data

Type of voltage			DC	AC 50Hz
Usable voltage			V	12,24,28 ¹⁾ ,48,96,110,205,220
Permissible voltage (deviation)			%	Standard solenoid:+10~-15; Large-scope solenoid:+20~-30
Power consumption			W	Standard solenoid:30; Large-scope solenoid:32
Holding power			VA	-
Making capacity			VA	50
Duty			-	220
			Continuous working	
Switching time to ISO 6403	ON	ms	25 to 45	10 to 20
	OFF	ms	10 to 25	15 to 40
Switched frequency			times/h	to 15000
				to 7200
Type of protection to DIN 40050			IP65(Z4, Z5L plug), IP67 (K7 Deutsch)	
Max. coils temperature			°C	+150
				+180

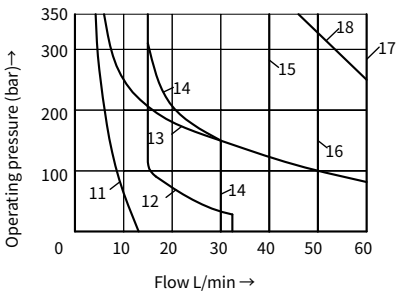
Performance limits

The specified switching performance limits are valid with two directions of flow.
Due to the flow forces acting within the valve, the permissible switching performance limit can be significantly lower with only one direction of flow! The switching performance limit was determined with the solenoid at operating temperature, at 15 % under-voltage and without tank pre-loading.

Solenoid DC		Solenoid AC-50Hz		Solenoid AC-60Hz	
Curve	Spool symbol	Curve	Spool symbol	Curve	Spool symbol
1	A, B ₁	11	A, B ₁	19	A, B ₁
2	V	12	V	20	V
3	A, B	13	A, B	21	A, B
4	F, P	14	F, P	22	F, P
5	J	15	G, T	23	G, T
6	G, H, T	16	H	24	J, L, U
7	A/O, A/OF, L, U	17	A/O, A/OF, C/O,	25	A/O, A/OF, Q, W
8	C, D, Y		C/OF, D/O, D/OF	26	C, D, Y
9	M		E, J, L, M	27	H
10	E, R ₂ , C/O, C/OF		Q, R ₂ , U, W	28	C/O, C/OF, D/O
	D/O, D/OF, Q, W	18	C, D, Y		D/OF, M, R, E, R ₂

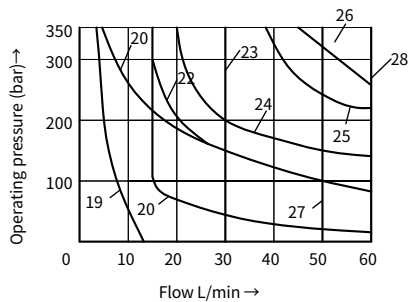


Solenoid DC	
Curve	Solenoid voltage(V)
1 to 10	12, 24, 48, 96, 205

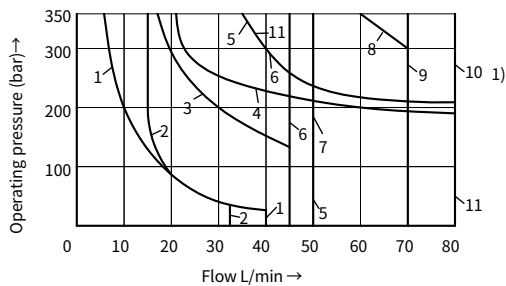


Solenoid AC		
Curve	Solenoid voltage	
11 to 18	W110	110V, 50Hz
	W127	127V, 50Hz
	W230	230V, 50Hz

Performance limits (Measured at t=40°C ±5°C , using HLP46)

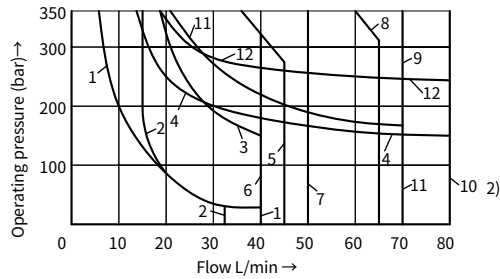


Solenoid AC		
Curve	Solenoid voltage	
19 to 28	W110	110V, 60Hz
	W230	230V, 60Hz



Solenoid DC	
Curve	Solenoid voltage
1 to 10 ₁	110, 180

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

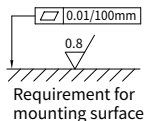


Solenoid AC	
Curve	Solenoid voltage
1 to 12, see 10 ₂	220

Unit dimensions

(Dimensions in mm)

Valve with DC or rectification AC solenoid



- | | |
|--|---|
| 1 Solenoid | 11.2 Dimension of 2-position valves with solenoid at 'A', large-scope Type of voltage |
| 2 Manual override button | 12.1 Dimension of 2-position valves with solenoid at 'B', standard version |
| 3.1 Plug-in connector to DIN 43 650 | 12.2 Dimension of 2-position valves with solenoid at 'B', large-scope Type of voltage |
| 3.2 Deutsch connector assembly | 13 Securing nut, tightening torque $M_A=4Nm$ |
| 4 Junction box with lead and light, M22×1.5 interface | 14 Valve fixing screws. |
| 5 Nameplate | Hexagon socket head cap screw |
| 6 O-ring: 9.25×1.78 | M5×50 GB/T 70.1-10.9, |
| 7 Plug screw for valves with one solenoid | Tightening torque $M_A=8.9Nm$ |
| 8 Space required to remove connector | |
| 9 Space required to remove coil | |
| 10.1 Dimension of 3-position valves, standard version | |
| 10.2 Dimension of 3-position valves, large-scope Type of voltage | |
| 11.1 Dimension of 2-position valves with solenoid at 'A', standard version | |

(Dimensions in mm)

[illegible]

- 1 Solenoid
- 2 Manual override button
- 3 Plug-in connector to DIN 43 650 (rotatable 90°)
- 4 Junction box with lead and light, M22×1.5 interface
- 5 Nameplate
- 6 Seal rings 9.25×1.78
- 7 Plug screw for valves with one solenoid
- 8 Space required to remove connector
- 9 Space required to remove coil
- 10 Securing nut, tightening torque, $M_A = 4 \text{ Nm}$
- 11 Valve fixing screws. Hexagon socket head cap screw
M5×50 GB/T 70.1-10.9.
Tightening torque $M_A = 8.9 \text{ Nm}$