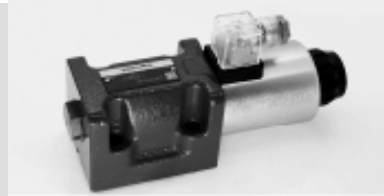




# WE10...Type Solenoid-Operated Directional Valve



## WE10...5XJ...type

Size (NG) 10  
Max. Working Pressure: 315 bar  
Max. Flow: 150L/min

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### Features

- Solenoid direct operated directional spool valve
- Porting pattern according to DIN 24 340 Form A, ISO 4401, and CETOP-RP121H
- Wet-pin DC solenoids with detachable coil (AC voltages possible via a rectifier)
- Solenoid coil can be rotated through 90°
- The coil can be replaced without opening the pressure-tight chamber
- Adjustable spool switching time, optional

# Function and configuration

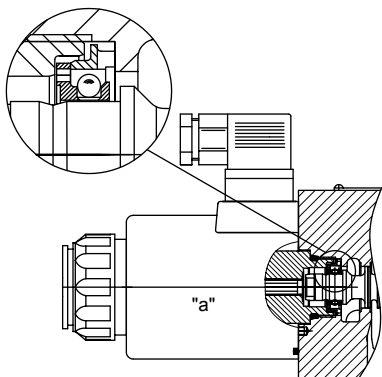
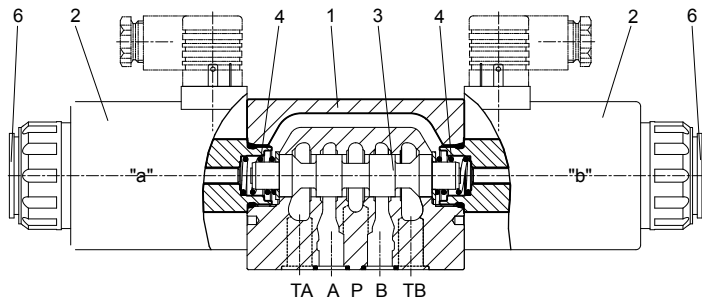
WE10...5XJ...type valves are solenoid operated directional spool valves. They control the start, stop and direction of flow. The directional valves consist of valve body(1), one or two solenoids (2), the control spool (3), and one or two return springs (4).

In de-energized condition, the control spool (3) is held in the central position or in the initial position by the return springs (4) (except for version "O").

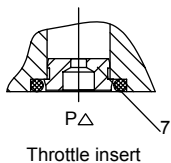
The control spool (3) is actuated by wet-pin electronic solenoids (2). The force of electronic solenoid (2) acts via the plunger(5) on the control spool (3) will push the control spool(3) from its rest position to the required end position. This enables free-flow from P to A and B to T or P to B and A to T.

The return spring (4) will push the control spool (3) back to its rest position when the electronic solenoid is de-energized.

A manual override (6) allows for the manual switching of the valve without solenoid energization. To ensure proper functioning, make sure that the pressure chamber of the solenoid is filled with oil.



Type:WE10...5XJ/OF ... (Impulse spool)



Throttle insert "B..."

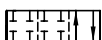
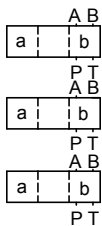
Using a throttle insert (7) in channels P, A, B or T increases the flow resistance at the valve. This is required in prevailing operating conditions, flows occur during the switching processes, which exceed the performance limit of the valve.

Specification

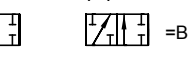
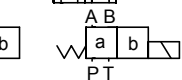
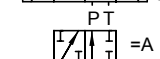
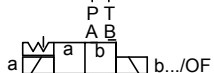
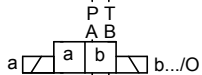
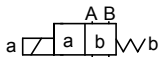
	WE	10	-5XJ	/			N	/		*
3 work ports (Symbol A , B ) = 3 4 work ports = 4										Further details in clear text
Solenoid directional valve										
Nominal size 10		=10								
Symbols										
Series 50J to 59J (50J to 59J: unchanged installation and connection dimensions)			=5XJ							
With spring return			= No code							
Without spring return			= 0							
Without spring return with detent			= OF							No code= NBR seals V = FKM seals
High-performance solenoid			= E							No code= Without throttle insert
24VDC			= G24							B08= Throttle φ0.8 mm
With manual override			=N9							B10= Throttle φ1.0 mm
Square plug										B12= Throttle φ1.2 mm
Square plug with indicator light										B15= Throttle φ1.5 mm
Connecting box										B20= Throttle φ2.0 mm
DIN4365 sockets without plugs										B25= Throttle φ2.5 mm
										B30= Throttle φ3.0 mm

## Symbol

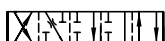
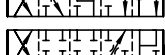
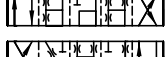
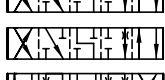
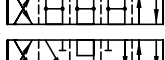
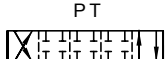
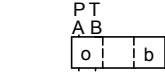
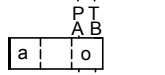
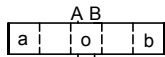
Transition position



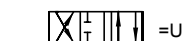
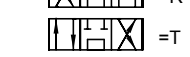
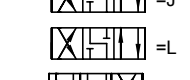
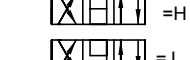
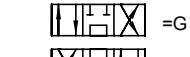
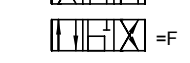
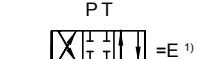
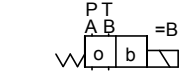
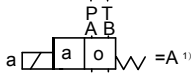
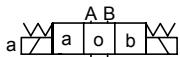
### Spool valve symbol



Transition position



### Spool valve symbol



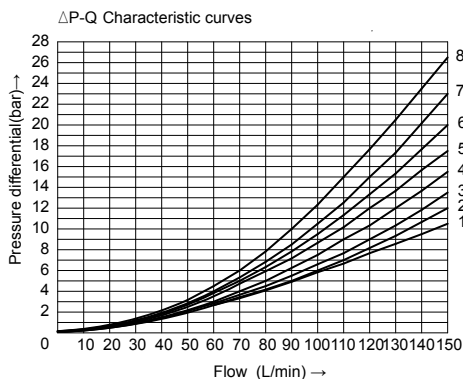
## Technical data

Fixing position			Optional
Ambient temperature range      °C			- 30 to + 50 (with NBR seals)
			- 20 to + 50 (with FKM seals)
Weight	Valve with 1 solenoids	kg	4.3 ( DC )
	Valve with 2 solenoids	kg	5.9 ( DC )
Max.operating pressure	Port A,B,P	bar	350
	Port T	bar	210 (DC), With symbols A and B, port T must be used as a drain port, if the operating pressure is higher than the permissible tank pressure.
Maximum flow      L/min			150
Pressure fluid			Mineral oil (HL, HLP) to DIN 51 524, suitable for NBR and FKM
			Phosphate ester, suitable for FKM
Pressure fluid temperature range      °C			- 30 to + 80 (with NBR seals)
			- 20 to + 80 (with FKM seals)
Viscosity range      mm <sup>2</sup> /s			2.8 to 500
ISO code cleanliness class			Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15

## Electrical data

Voltage type			DC
Available voltages      V			24
Voltage tolerance (nominal voltage) %			Super performance solenoid: +10 ~ -15
Power consumption      W			39
Duty			Continuous
Switching time to ISO 6403 (without switching time adjustment)	ON	ms	45 to 60
	OFF	ms	20 to 30
Switched frequency      cycles/h			Up to 15000
Protection to DIN 40 050			Z4, Z5L, K4:IP65; K7:IP67
Maximum coil temperature      °C			+150

## Characteristic curves (Measured with HLP46, oil = $40 \pm 5^\circ\text{C}$ [ $104 \pm 9^\circ\text{F}$ ])

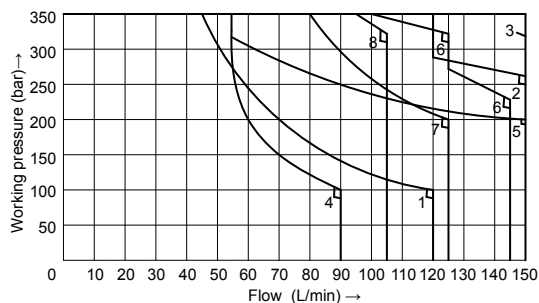


Spool symbol	Flow direction				
	P to A	P to B	A to T	B to T	P to T
A	4	4	-	-	-
B	4	5	-	-	-
C, J, Y, YH	2	3	5	7	-
D	2	2	5	7	-
E	3	3	6	7	-
F	1	3	3	8	4
G	4	5	6	8	7
H	1	1	6	8	7
L	3	3	5	7	-
P	3	1	5	6	5
R	3	4	5	6	-
U	2	2	5	7	-
DE	3	-	-	6	-
YE	-	3	6	-	-

## Performance limits (Measured with HLP46, oil = $40 \pm 5^\circ\text{C}$ [ $104 \pm 9^\circ\text{F}$ ])

Due to the flow forces acting within the valves, the admissible Performance limits may be considerably lower with only one direction of flow.

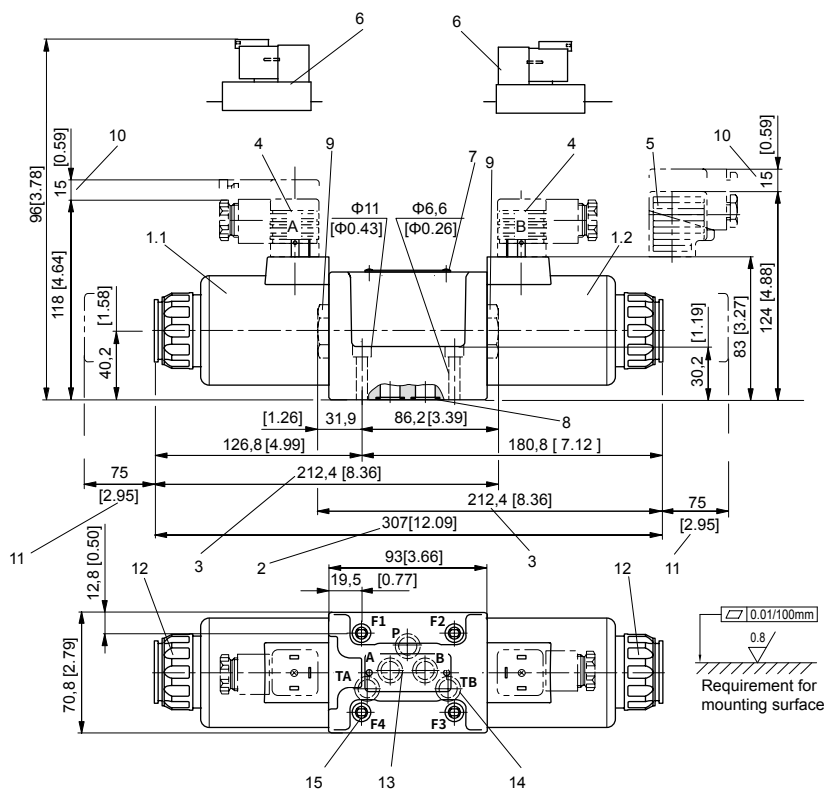
In such cases of application, please consult us! The switching Performance limit was established while the solenoids were at operating temperature, at 10% undervoltage and without tank preloading.



Curve	Symbol
1	A, B
2	C, D, Y, YH
3	E
4	F, P
5	G
6	H, L, U
7	J
8	R

# Unit dimensions

(Dimensions in mm)



1.1 Solenoid "a"

1.2 Solenoid "b"

2 Dimension of 3-position valves

3 Dimension of 2-position valves

4 Connector without indicator light

according to DIN EN 175301-803

5 Connector with indicator light

according to DIN EN 175301-803

6 DT04-2P Deutsch connector

7 Name plate

8 Identical seal rings for ports A, B, P, TA and TB

9 Plug screw for valves with one solenoid

10 Space required to remove connector

11 Space required to remove coil

12 Securing nut, tightening torque

$M_A = 6+2 \text{ Nm}$  [4.43 +1.48 ft-lbs]

13 Porting pattern according to

ISO 4401-05-04-0-05 and DIN 24340 A10

14 TB can be used in connection with

separately produced bore

15 Valve fixing screws:

4 hexagon socket head cap screws, metric

ISO 4762-M6×40-10.9

Tightening torque  $M_A = 15.5 \text{ Nm}$  [11.4 ft-lbs]  $\pm 10 \%$

With different friction coefficients,

the tightening torques can be adjusted accordingly!