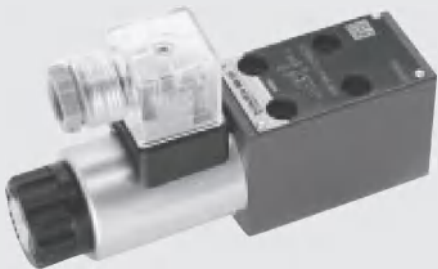


# Solenoid Operated Directional Valve

Model: WE5...6XJ



01

- ◆ Size 5
- ◆ Maximum working pressure 250 bar
- ◆ Maximum working flow 14 L/min

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## Features

- Direct solenoid operated directional spool valve
- Wet pin DC or AC solenoids
- Plate connection

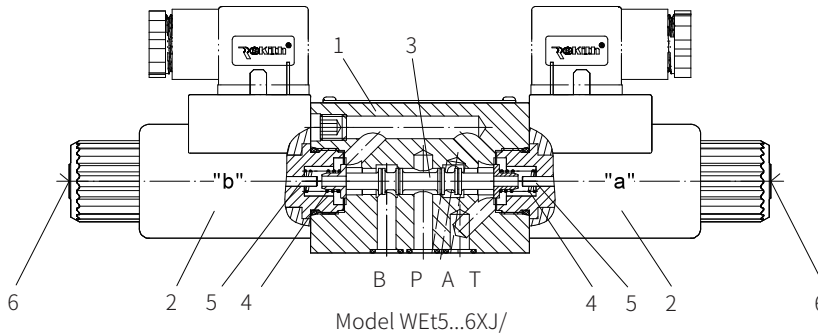
## Function description, sectional drawing

The WE5 solenoid operated directional valve uses wet pin AC (or DC) solenoids to control different spool valve positions. This valve is mainly composed of valve body (1), one or two solenoids (2), spool (3) and one or two reset springs (4).

When the solenoid is de-energized, the spool valve is held in the middle or initial position by the spring (except for impulse valve). When the solenoid is energized, the force of the solenoid acts on the spool (3) through the push rod (5) to push it to the desired working position. Pushing the fault check button (6) can move the spool valve to check the working condition of the valve.

The WE5 valve adopts plate connection

Due to the use of wet pin solenoids, this valve has the advantages of long service life, good heat dissipation performance, and short action time. DC solenoids have many advantages such as high commutation frequency, soft operating characteristics, insensitivity to overvoltage and low voltage response, and highly reliable operation. The valve is widely used in various hydraulic systems and as pilot valves for pressure valves.

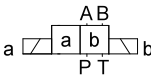
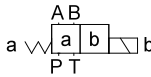
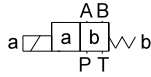


## Models and specifications

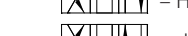
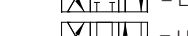
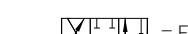
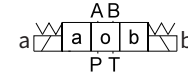
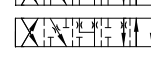
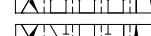
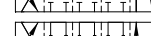
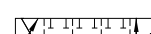
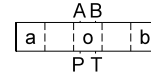
|                                                              |     |     |    |          |    |          |  |  |                                           |
|--------------------------------------------------------------|-----|-----|----|----------|----|----------|--|--|-------------------------------------------|
|                                                              | WE5 | -6X | J  | /        | C  |          |  |  | *                                         |
| 3 ways                                                       | =3  |     |    |          |    |          |  |  | more information in text                  |
| 4 ways                                                       | =4  |     |    |          |    |          |  |  | sealing material                          |
| symbols e.g. N, J, E, etc                                    |     |     |    |          |    |          |  |  | No code= NBR seals                        |
| 60 to 69 series                                              |     | =6X |    |          |    |          |  |  | V= FKM seals                              |
| (60 to 69 series installation and connection size unchanged) |     |     |    |          |    |          |  |  | (consult for other seals)                 |
| Rekith                                                       |     |     | =J |          |    |          |  |  | Z4= standard plug                         |
| with reset spring                                            |     |     |    | =No code |    |          |  |  | Z5L= large right angle lamp plug          |
| no reset spring                                              |     |     |    | =O       |    |          |  |  | No code= no manual emergent operation     |
| wet pin solenoid with detachable coil                        |     |     |    |          | =C |          |  |  | N9= with hidden manual emergent operation |
| AC 220V/50Hz                                                 |     |     |    |          |    | =W220-50 |  |  |                                           |
| DC 12V                                                       |     |     |    |          |    | =G12     |  |  |                                           |
| DC 24V                                                       |     |     |    |          |    | =G24     |  |  |                                           |
| DC 27V                                                       |     |     |    |          |    | =G27     |  |  |                                           |
| solenoid with rectifier (AC voltage 220V)                    |     |     |    |          |    | =W220R   |  |  |                                           |

## Functional symbols

Transition function      spool valve function



Transition function      spool valve function

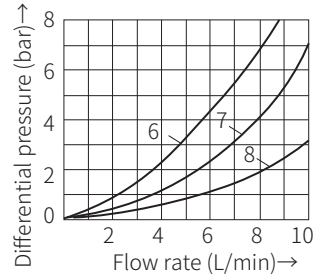
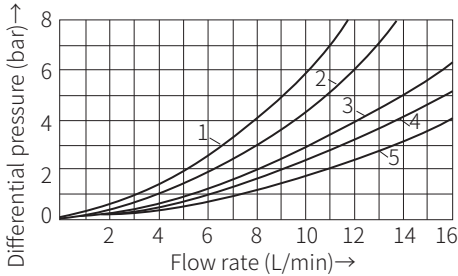


## Technical parameters

|                                               |         |                                                         |                                    |
|-----------------------------------------------|---------|---------------------------------------------------------|------------------------------------|
| Hydraulic                                     |         |                                                         |                                    |
| Medium                                        |         | Mineral hydraulic oil or phosphate grease hydraulic oil |                                    |
| Temperature range                             | °C      | -30 to +80                                              |                                    |
| Viscosity range                               | mm²/s   | 2.8 to 500                                              |                                    |
| Maximum allowable working pressure            | bar     | A, B, P                                                 | to 250                             |
|                                               |         | T                                                       | to 60                              |
| Overflow section O position (middle position) |         | Q type 6% of rated cross-sectional area                 |                                    |
| Weight                                        | kg      | Valve→                                                  | Subplate G115/01 ← Subplate G96/01 |
|                                               |         | About 1.4                                               | About 0.7      About 0.5           |
| Electrical                                    |         |                                                         |                                    |
| AC voltage                                    | V       | 110, 220 in 50Hz                                        |                                    |
| DC voltage                                    | V       | 12, 24, 27                                              |                                    |
| Voltage type                                  |         | DC voltage                                              | AC voltage                         |
| Power consumption                             | W       | 26                                                      | -                                  |
| Holding power                                 |         | -                                                       | 48VA                               |
| Starting power                                |         | -                                                       | 130VA                              |
| Operating time                                | ms      | Consecutive                                             |                                    |
| Connection time                               | ms      | 40                                                      | 25                                 |
| Disconnect time                               | ms      | 30                                                      | 20                                 |
| Maximum allowable environment temperature     | °C      | +50                                                     |                                    |
| Maximum allowable coil temperature            | °C      | +150                                                    |                                    |
| Maximum allowable switching frequency         | times/h | 15000                                                   | 7200                               |
| Protection device type DIN 40050              |         | IP65                                                    |                                    |

## Characteristic curve

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



1 Symbol B: P→B, P→A

2 Symbol B: P→A, P→B

3 All symbols except B: A→T

4 All symbols except B: B→T

5 All symbols except B: P→A, P→B, A→T

6 Symbol G: P→A, B→T

7 Symbol G: P→T, P→B

8 Symbol G: A→T

## Characteristic limit

The switching characteristics of the valve are related to the adhesion effect of the filter. To achieve the recommended flow value, it is recommended to use a 20μm filter in the system.

Due to the hydraulic force acting inside the valve affects the flow capacity of the valve.

Therefore, different spool valve symbols have different power limits.

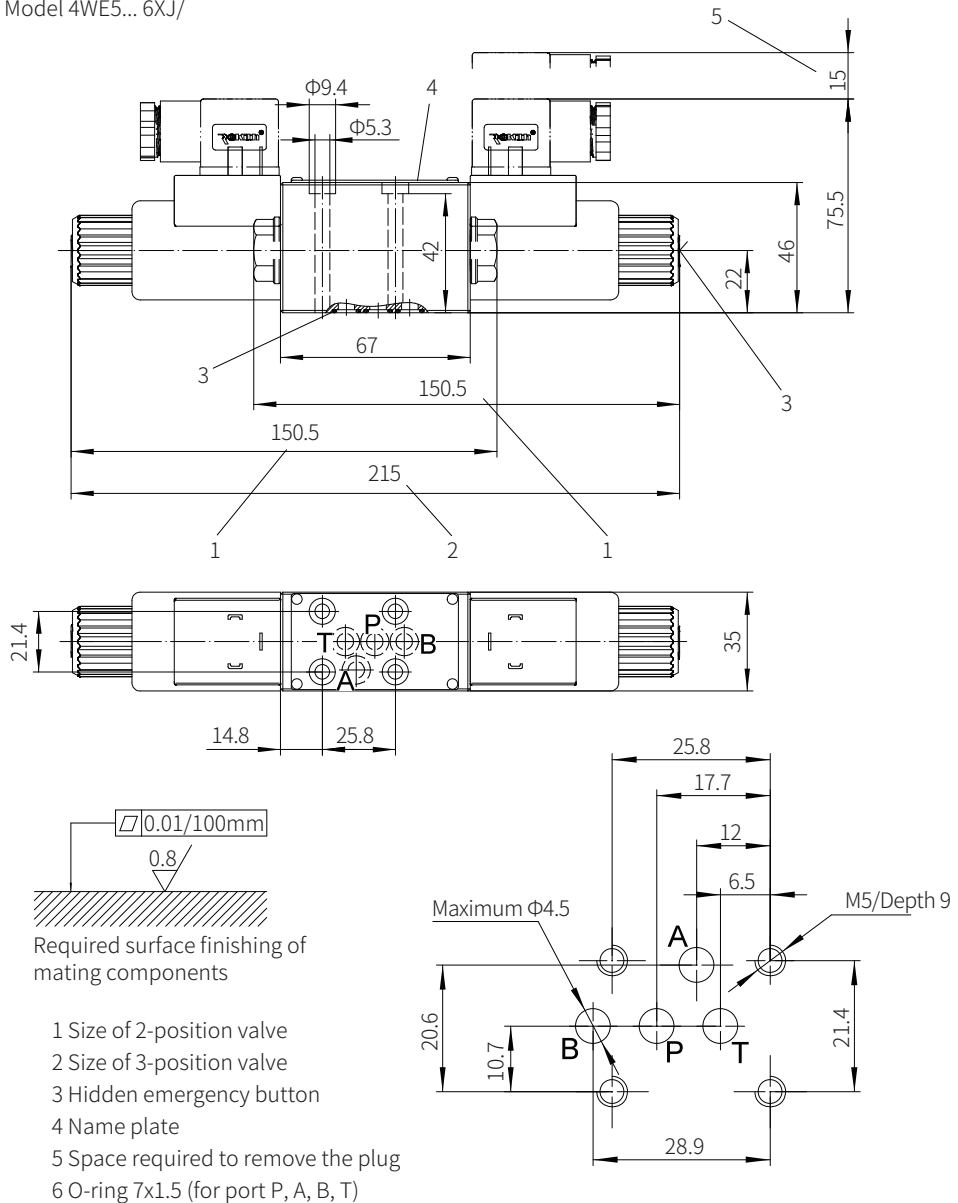
In the case of only one channel, e.g. when the four-way valve with chamber A or B blocked is used as three-way valve, the power limit difference is significant.

| Flow (L/min) \ Working pressure (bar)    | 50 | 100 | 250 |
|------------------------------------------|----|-----|-----|
| Symbols                                  |    |     |     |
| A, B, C, N, E, F, H, J, L, M, Q, R, V, W | 14 | 14  | 12  |
| G                                        | 10 | 10  | 9   |

## Component size

Size unit: mm

Model 4WE5... 6XJ/



Valve fixing screw

M5×50-10.9 grade GB/T70.1-2000

Tightening torque  $M_A = 7.8 \text{ Nm}$

It must be ordered separately if connection subplate is needed.

Subplate model:

G115/01 (G1/4") ; G115/02(M14x1.5)