# Explosion-proof Solenoid Operated Directional Valve with Emergency Handle

Model: GD-4WEMM6(10).../...



## Function description, sectional drawing

The GD-4WEMM directional valve is a directional spool valve operated by explosion-proof solenoid and control handle. It controls the opening, closing and flow direction of liquid flow.

It is mainly composed of valve body (1), one or two solenoids (2), valve spool (3), reset spring (4) and manual control device.

#### Solenoid operation:

When the solenoid is de-energized, the valve spool (3) is held in the neutral or original position by means of the reset spring. The force of the solenoid (2) acts on the valve spool (3) to push it from the stationary position to the terminal position. In this way, the pressure oil flows from P to A and B to T, or from P to B and A to T. After the solenoid (2) is de-energized, the reset spring (4) pushes the valve spool (3) back to its original position.

#### Auxiliary handle operation:

When the solenoid is not energized, the valve spool (3) can be moved by operating the auxiliary handle. Turn the auxiliary handle (5) to the right so that the operating force acts on the valve spool (3) through the spindle (6), the ball valve core (7) and the guide sleeve (8) to move it to the left. When the auxiliary handle (5) returns to the zero position, the valve spool (3) returns to the original position under the action of the reset spring (9).



#### Technical parameters

Working pressure	Мра	port A,B,P to 35
Pressure in port T	Мра	to 16(AC), to 21(DC)
Medium		Mineral hydraulic oil or phosphate ester wave pressure oil
Viscosity range	mm²/s	2.5 to 500
Temperature range	°C	-30 to +80

Note: For symbols A and B, port T must be used as drain port if the working pressure exceeds the allowable pressure.

For the characteristic curve and operating limit, please refer to the WE solenoid directional valve.

### Functional symbols

Transition function Spool valve function	Transition function	Spool valve function
$ \begin{array}{c} A B \\ a \\ \hline \\ p \\ \hline \\ p \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ p \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ a \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \\ \end{array} \\ \begin{array}{c} A \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} A \\ \hline \end{array} \\ \begin{array}{c} A \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} A \\ \end{array} \\ \end{array} \\ \begin{array}{c} A \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} A \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} A \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} A \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} A \\ \end{array} \\$	A B a   o   b P T	a A B a b b b b
$\begin{bmatrix} 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \end{bmatrix} = \mathbf{A}$ (The T port serves as drain port)	A B a l o P T	$a$ $a$ $o$ $P$ $T$ $a$ $A^{(1)}$
$\begin{bmatrix} I_{1}^{I_{1}} & I_{1}^{I_{1}} \\ I_{1}^{I_{1}} & I_{1}^{I_{1}} \end{bmatrix} = B9$ (The T port serves as drain port)	A B o I I b P T	
		$\begin{bmatrix} 1 & 1 \\ \mathbf{T} & \mathbf{T} \end{bmatrix} = \mathbf{E}$
$X_{1,\tau}^{\dagger} \xrightarrow{1}_{\tau} \xrightarrow{1}_{\tau} \xrightarrow{1}_{\tau}$		
		= G
	XHHHH	
(The T port serves as drain port)		
$\begin{bmatrix} \mathbf{X} & 1 & 1 \\ \mathbf{T} & \mathbf{T} & 1 \end{bmatrix} \mathbf{Y} = \mathbf{Y}$		P
	$X_{ T T T T T T T T$	$X \downarrow I = R$
1) For example: .		
The function symbol EA means		$\begin{bmatrix} \mathbf{X} \end{bmatrix}_{T}^{\perp} \begin{bmatrix} \mathbf{I} \\ \mathbf{I} \end{bmatrix} = \mathbf{U}$
Note: Functions A9 and B9 are only used	XXH	
as pilot valves		

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#### Component size

Valve with DC solenoid (Size 6)



Size unit: mm



Component size

G534/01 (G3/4"); G534/02 (M27x1.5)

Size unit: mm