



M-SED 6...type Solenoid Ball Valve



M-SED6...1XJ...type

Size 6

Max. Working Pressure: 315 bar

Max. Flow: 25 L/min

Contents

Function and configuration	02
Symbols	03
Specification	03
Technical data	04
Electrical data	04
Characteristic curves	05
Unit dimensions	06-07

Features

- Direct operated directional ball valve with solenoid actuation
- Mounting face as per DIN24 340 A ISO 4401 and CETOP-RP 121H
- Closed port is leak-free isolated
- Keep switch flexibility under high pressure
- Pressure-tight chamber does not need to be opened when changing of the coil
- Solenoid coil can be rotated through 90°
- With optional concealed manual override

Function and configuration

M-4SEW6 3/2 directional seat valve

M-SED6 type valve is a solenoid actuation directional seat valve. It controls the start, stop and direction of flow. The valve consists of valve housing (1), solenoid (2), valve seats (7) and (11) and closing element (4). The valve can be operated without energisation of the solenoid by the manual override (6).

The initial position of the valve (normally open "UK" or normally closed "CK") is determined by the arrangement of the spring (5). The chamber (3) behind closing element (4) is connected to port P and closed towards port T. The valve is therefore pressurebalanced with regard to the actuating forces (solenoid and spring).

Due to the special closing element (4), ports P, A and T can be pressurized to the maximum operating pressure (350 bar), and the flow can be directed in both directions.

In the initial position, the closing element (4) is pressed onto seat (11) by the spring (5), and by the solenoid (2) in the switching position. The flow is blocked.

M-4SEW6 4/2 directional seat valve

With a sandwich plate, the Plus-1 plate, under the 3/2 directional seat valve, the function of a 4/2 directional seat valve can be achieved.

Function of the Plus-1 plate:

Initial position:

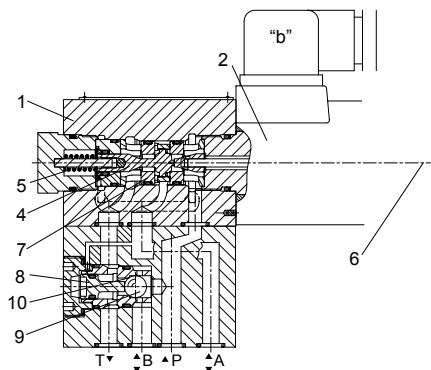
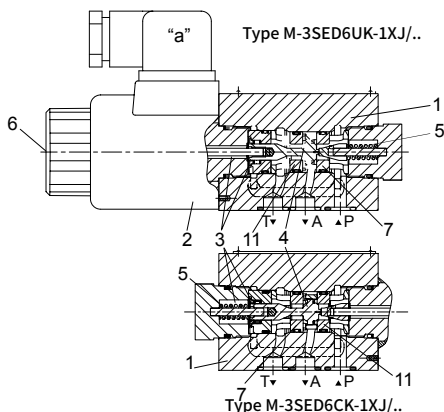
The main valve is not operated. Spring (5) holds closing element (4) on seat (11). Port P is blocked, and A is connected to T. A pilot line is provided from A to the large of pilot spool (8), which is therefore unloaded to tank. the pressure applied via P now shifts ball (9) onto seat (10). This opens the connection from P to B and A to T.

Transition position:

When the main valve is operating, closing element (4) is shifted against spring (5) and pressed onto seat (10). This results in closing of port T, while P, A and B are briefly connected.

Switching position:

P is connected to A. Since the pump pressure acts via A on the large area of the pilot spool (8), ball (9) is pressure onto seat (12). B is therefore connected to T, and P to A. Ball (9) is plus-1 plate has a "positive overlap".



Cartridge type orifice plug(model M-.SED6.1XJ/...)

For the work status of the valve during switching process, the flow may be over the value permitted by the valve performance limit curve; in this case, a cartridge orifice plug is necessary.

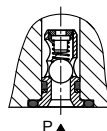
The orifice plug is installed in port P.



Cartridge check valve (model M-.SED6.1XJ/...)

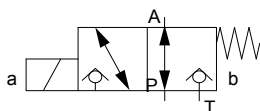
Cartridge check valve allows the oil flows from P to A freely with no leaks from A to P.

One-way valve is installed on port P.

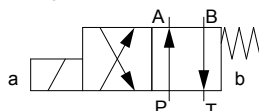


Spool symbols

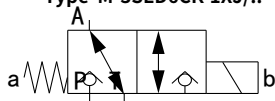
Type M-3SED6UK-1XJ/..



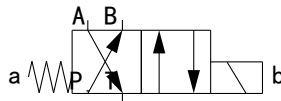
Type M-4SED6D-1XJ/..



Type M-3SED6CK-1XJ/..



Type M-4SED6Y-1XJ/..



Specification

M SED 6 - 1XJ / 350 C N / *									
3 work ports	= 3								
4 work ports	= 4								
Solenoid ball valve									
Size 6	= 6								
Spool symbols									
I0J ~ I9Jseries			= 1XJ						
Work pressure to 350bar				= 350					
Wet-pin solenoid with detachable coil					= C				
12VDC									
24VDC									
110VDC									
205VDC									
220VDC									
110VAC									
220VAC									
With manual emergency button									= N9
Further details in clear text									
No code = NBR seals V = FKM seals									
No code = Without cartridge check valve, without cartridge restriction choke P=Without Cartridge check valve									
B12 = Orifice Φ1.2 mm									
B15 = Orifice Φ1.5 mm									
B18 = Orifice Φ1.8 mm									
B20 = Orifice Φ2.0 mm									
B22 = Orifice Φ2.2 mm									
K4 = Without plug									
Z4 = With square plug									
Z5L = Square plug with light									

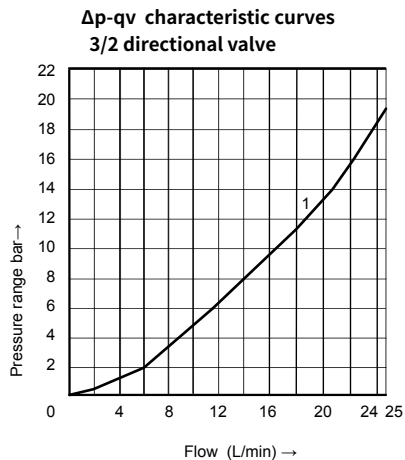
Technical data

Installation position			Optional
Environment temperature °C			-30 to +50 (NBR seal)
			-20 to +50 (FKM seal)
Weight	2/2,3/2 directional poppet valve	Kg	1.5
	4/2 directional poppet valve	Kg	2.3
Max operation pressure bar			350
Max flow L/min			25
Hydraulic fluid			Mineral oil suitable for NBR and FKM seal
			Phosphate ester for FKM seal
Hydraulic fluid temperature range °C			-30 to +80 (NBR seal)
			-20 to +80 (FKM seal)
Viscosity range mm²/s			2.8 to 500
Degree of contamination			Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406

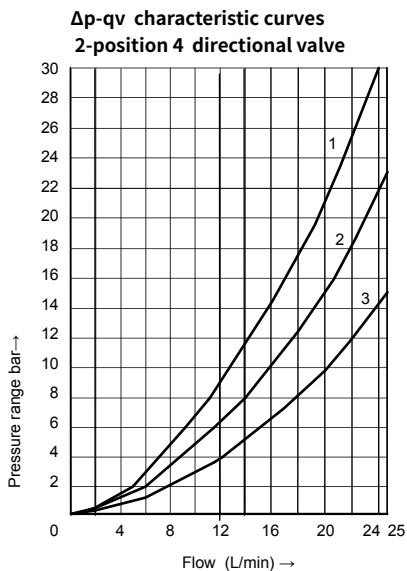
Electrical data

Voltage type								DC				AC							
Available voltage								V				12, 24, 110, 205, 220				110, 220 (Only by Z5 rectifier plug)			
Voltage tolerance (nominal voltage)								%				+10 ~ -15							
Power consumption								W				30							
Duty cycle								100%											
Switching time to ISO 6403 (installation position: Solenoid installed horizontally)																			
Pressure bar		Flow L/min		DC								AC + rectifier							
				On/ms (without oil tank pressure)				Off/ms				On/ms (without oil tank pressure)				Off/ms			
				UK	CK	D	Y	UK, CK	D, Y	U	C	D	Y	U, C	D, Y				
70	25	45	40	50	50	10	15	45	40	45	40	40	40	40	40				
140	25	60	40	50	50	10	15	55	40	55	40	40	40	40	40				
210	25	60	45	60	50	10	15	60	45	60	45	40	40	40	40				
280	25	60	45	60	50	10	15	65	45	65	45	40	40	40	40				
315	25	65	45	65	50	10	15	65	45	65	45	40	40	40	40				
350	25	65	45	65	50	10	15	65	45	65	45	40	40	40	40				
Note: switching time is related to flow direction (P to A / A to T); there may be deviation for reverse flow																			
Switching frequency								times/h				Up to 15000							
Type of protection to DIN 40050												IP65							
Max coil temperature								°C				+150							

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



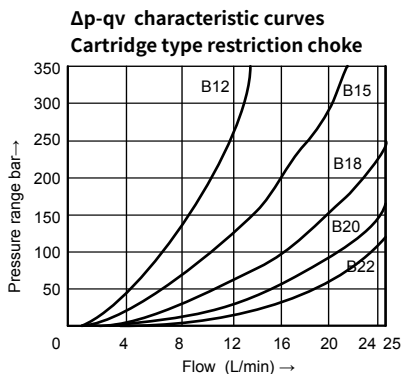
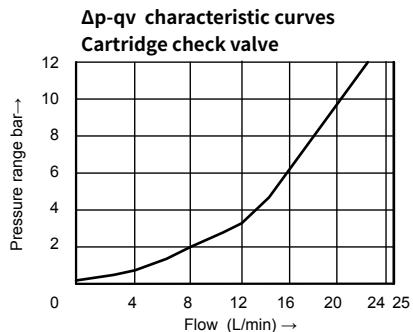
1 M-3SED6^{CK}_{uK...}, P to A and A to T



1 M-4SED6^D_{Y...}, A to T

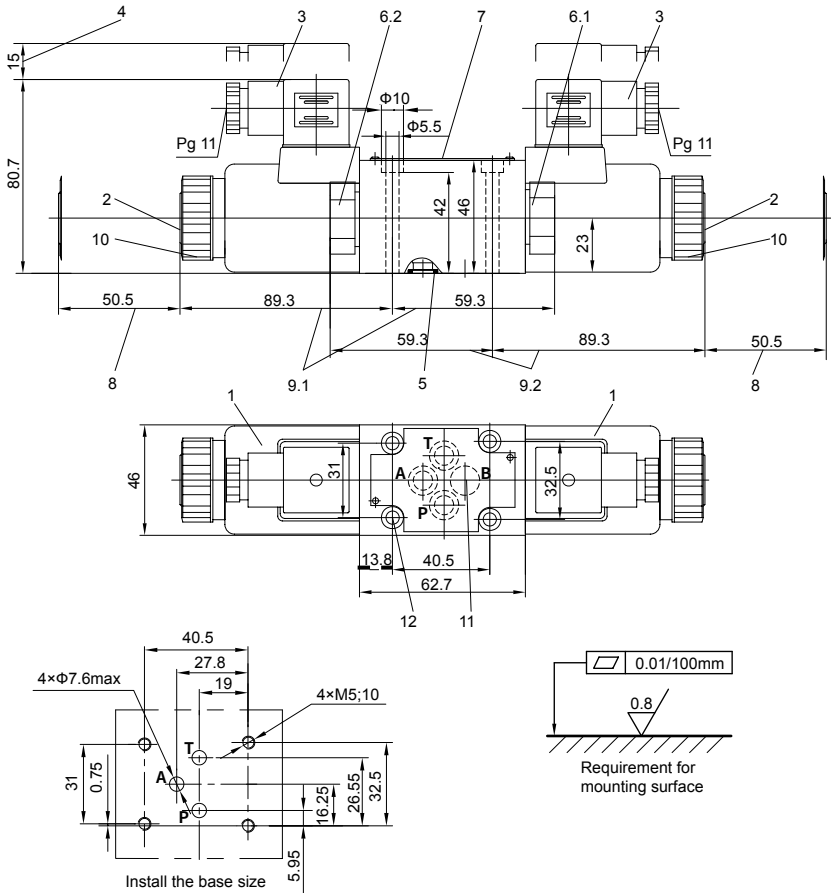
2 M-4SED6^D_{Y...}, P to A

3 M-4SED6^D_{Y...}, P to B, B to T



Unit dimensions

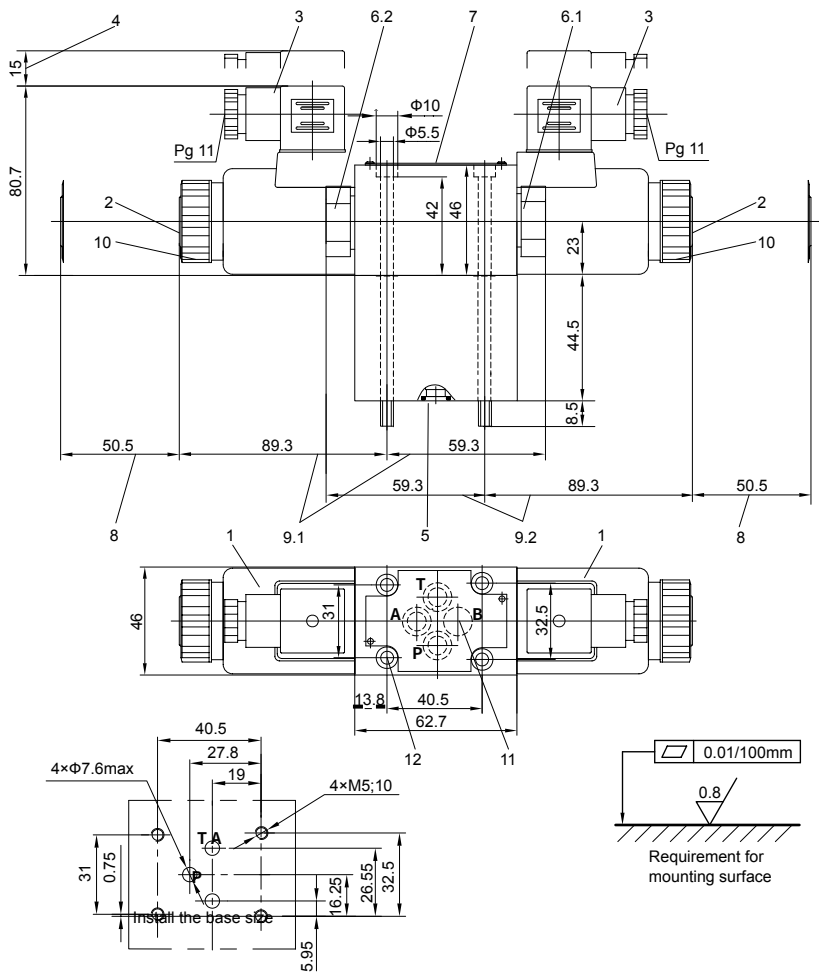
• M-3SED6 ^{CK}_{UK} -1XJ/...solenoid ball valve



- | | |
|--|---|
| 1 Solenoid | 8 Space required to remove coil |
| 2 Manual emergency button | 9.1 M-3SED6UK-1XJ/.. total length |
| 3 Plug as per DIN43650 (can rotate for 90 degrees) | 9.2 M-3SED6CK-1XJ/.. total length |
| 4 Space required to remove cable socket | 10 Fixing nut, Tightening torque $M_A=4Nm$ |
| 5 O-ring 9.25×1.78 for port P, T, A and B | 11 Oil port B of the valve is a blind bore. |
| 6.1 Plug for M-3SED6UK-1XJ/.. | 12 Valve fixing screw: |
| 6.2 Plug for M-3SED6CK-1XJ/.. | M5 $\times$ 50 GB/T770.1-10.9 |
| 7 Name plate. | Tightening torque $M_A=8.9Nm$ |

Unit dimensions

•M-4SED6^D_V-1XJ/..solenoid ball valve



- | | |
|--|--|
| 1 Solenoid | 8 Space required to remove coil |
| 2 Manual emergency button | 9.1 M-4SED6D-1XJ/.. total length |
| 3 Plug as per DIN43650 (can rotate for 90 degrees) | 9.2 M-4SED6Y-1XJ/..total length |
| 4 Space required to remove cable socket | 10 Fixing nut, Tightening torque $M_A=4Nm$ |
| 5 O-ring 9.25×1.78 for port P, T, A and B | 11 Oil B of the valve is a blind bore. |
| 6.1 Plug for M-4SED6D-1XJ/.. | 12 Valve fixing screw: |
| 6.2 Plug for M-4SED6Y-1XJ/.. | M5×50 GB/T70.1-10.9 |
| 7 Name plate. | Tightening torque $M_A=8.9Nm$ |