

M-SEW 6...type Solenoid Ball Valve



M-SEW6...3XJ...type

Size 6
Max. Working Pressure: 420/630 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-acting solenoid ball valve
- Mounting face as per DIN24 340 A ISO 4401 and CETOP-RP 121H
- Free of leakage
- Switching flexibility in high-pressure state
- Replace the coil, can take pressure operation
- Solenoid coil can rotate for 90 degrees
- Manual emergency operation available

Function and configuration

M-SEW6 2-position 2/3-way solenoid ball valve

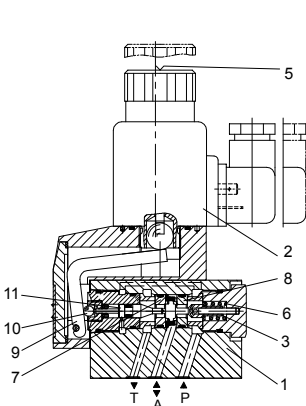
M-SEW6 type valve is a solenoid actuation directional seat valve. It controls start, stop and flow direction.

The valve consists of valve body (1), Solenoid (2), and valve element (3).

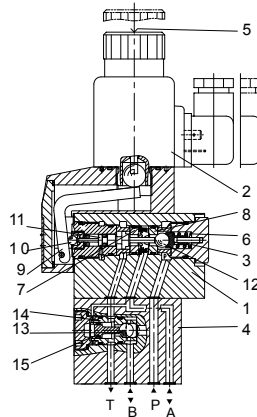
In the initial position, the spool is pressed to the seat by the spring(6). And in the switching position, it is pressed by the solenoid(2). The force of the solenoid(2) acts by the angled lever(9) and ball(10) on the push bar(11) of the two-side seal, the chamber between the two sealing elements is connected to port P. Thus the valve element is pressure-compensated in relation to the actuating force(solenoid or spring). It means that the valve can be used up to 630 bar.

The manual emergency button(5) allows for the switching of the valve without solenoid energization.

Make sure that the specified maximum flow is not exceeded. If necessary, use a throttle insert to limit the flow.



M-3SEW6 2-position 2/3-way solenoid ball valve



M-4SEW6 2-position 4-way solenoid ball valve

M-SEW6 2-position 4-way solenoid ball 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 is achieved.

Function of the Plus-1 plate:

Initial position:

when the Solenoid is not energized, pretension of spring (6) keeps valve element (12) on valve seat (8) on the right, oil port P is closed and port A connected to T; pressure oil supplied from oil port P push steel ball (13) to valve seat (14), upon which oil port P is connected to B and A connected to T; besides, a control oil line is connected from oil port A acts on the big area of control piston (15), which can be used for unloading to oil tank.

Switching position:

after the Solenoid is energized, oil port P is connected to A; pressure oil from the pump goes through the control oil line connected from port A and acts on the big area of control piston (15); steel ball (13) is pushed to the other side of valve seat (14), thus oil port P is connected to A and B connected to T.

Cartridge restriction choke (model M-.SEW6.3XJ/.../B...)

To restrict flow through the valve, a restriction choke can be installed.

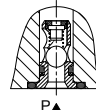
Restriction choke is installed on port P.



Cartridge type one-way valve (model M-.SEW6.3XJ/.../P)

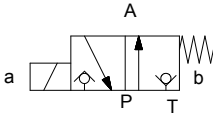
Cartridge type one-way valve allows oil flow in from port P and it is closed for reverse flowing.

One-way valve installed on port P.

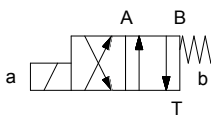


Spool symbols

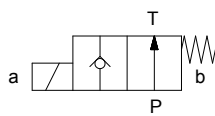
Type M-3SEW6U-3XJ/..



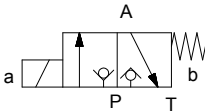
Type M-4SEW6D-3XJ/..



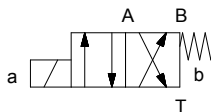
Type M-2SEW6P-3XJ/..



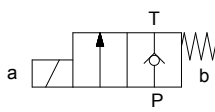
Type M-3SEW6C-3XJ/..



Type M-4SEW6Y-3XJ/..



Type M-2SEW6N-3XJ/..



Specification

M	SEW	6	-	3XJ	/	M		N	/				
---	-----	---	---	-----	---	---	--	---	---	--	--	--	--

2 work ports = 2
 3 work ports = 3
 4 work ports = 4

Solenoid ball valve

Diameter 6 =6

Spool symbols

30J ~ 39J series =3XJ

Work pressure to 420 bar =420

Work pressure to 630 bar =630

Coil replaceable (air gap type) Solenoid =M

12VDC = G12

24VDC = G24

110VDC = G110

205VDC = G205

220VDC = G220

110VAC (Need to take rectifying plug Z5) =W110R

220VAC (Need to take rectifying plug Z5) =W220R

With manual emergency button =N9

Further details
in clear text

No code = NBR seals
 V = FKM seals

No code = Without cartridge
 one-way valve,
 without cartridge restriction choke
 P= Without Cartridge check valve
 B12 = Orifice Φ 1.2 mm
 B15 = Orifice Φ 1.5 mm
 B18 = Orifice Φ 1.8 mm
 B20 = Orifice Φ 2.0 mm
 B22 = Orifice Φ 2.2 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	Two two-way Solenoidic directional valve	Kg	1.5
	Two three-way Solenoidic directional valve	Kg	1.5
	Two four-way Solenoidic directional valve	Kg	2.3
Max operation pressure	Port P, A, B	bar	420
	Port T		100
Max flow		L/min	25
Fluid		Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal	
Fluid temperature range		°C	-30 to +50 (NBR seal) -20 to +50 (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	

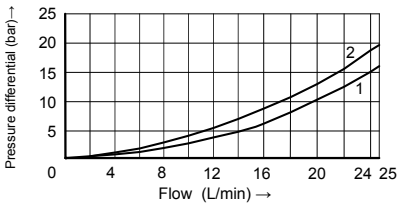
Electrical data

Voltage type		DC				AC									
Available voltage		V		12, 24, 110, 205, 220				110, 220 (Only by Z5 rectifier plug)							
Allowed voltage (deviation)		%		+10 ~ -15											
Required power		W		30											
Continuous power-on time		%		100											
Switching time in compliance with ISO 6403															
Pressure bar	Flow L/min	DC								AC50HZ					
		on/ms (without oil tank pressure)				off/ms				on/ms (without oil tank pressure)				off/ms	
		U	C	D	Y	U, C	D, Y	U	C	D	Y	U, C	D, Y		
140	25	25	30	25	30	10	10	30	40	30	40	35	35		
280	25	25	30	25	30	10	10	35	45	35	45	40	40		
320	25	25	35	25	35	10	10	35	50	35	50	40	40		
420	25	25	35	25	35	10	10	40	50	40	50	50	50		
Switching frequency		Time/h				Up to 15000									
IP rating as per DIN 40050						IP65									
Max coil temperature		°C		+150											

Characteristic curves

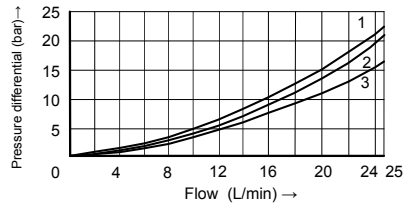
(Measured at $t=40^{\circ}\text{C}\pm 5^{\circ}\text{C}$, using HLP46)

Δp - q_v characteristic curves 2-position 2-way solenoid ball valve



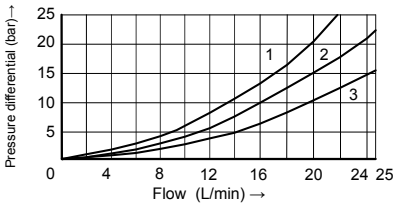
- 1 M-2SEW6N ..., P to T
- 2 M-2SEW6P ..., P to T

Δp - q_v characteristic curves 2-position 3-way solenoid ball valve



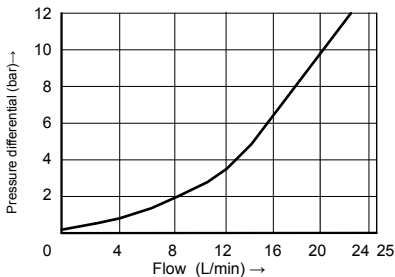
- 1 M-3SEW6^U_C ..., A to T
- 2 M-3SED6U ..., P to A
- 3 M-3SED6C ..., P to A

Δp - q_v characteristic curves 2-position 4-way solenoid ball valve

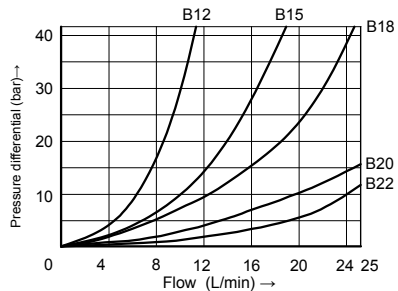


- 1 M-4SEW6^D_Y ..., A to T
- 2 M-4SEW6^D_Y ..., P to A
- 3 M-4SEW6^D_Y ..., P to B, B to T

Δp - q_v characteristic curves Cartridge check valve

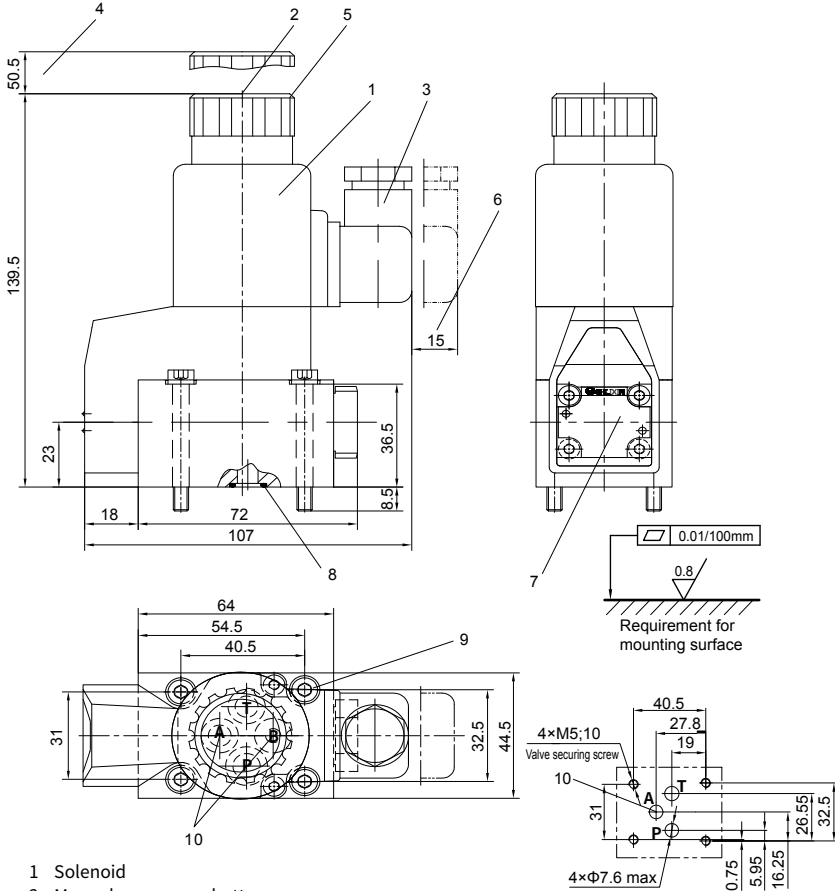


Δp - q_v characteristic curves Cartridge type restriction choke



Unit dimensions

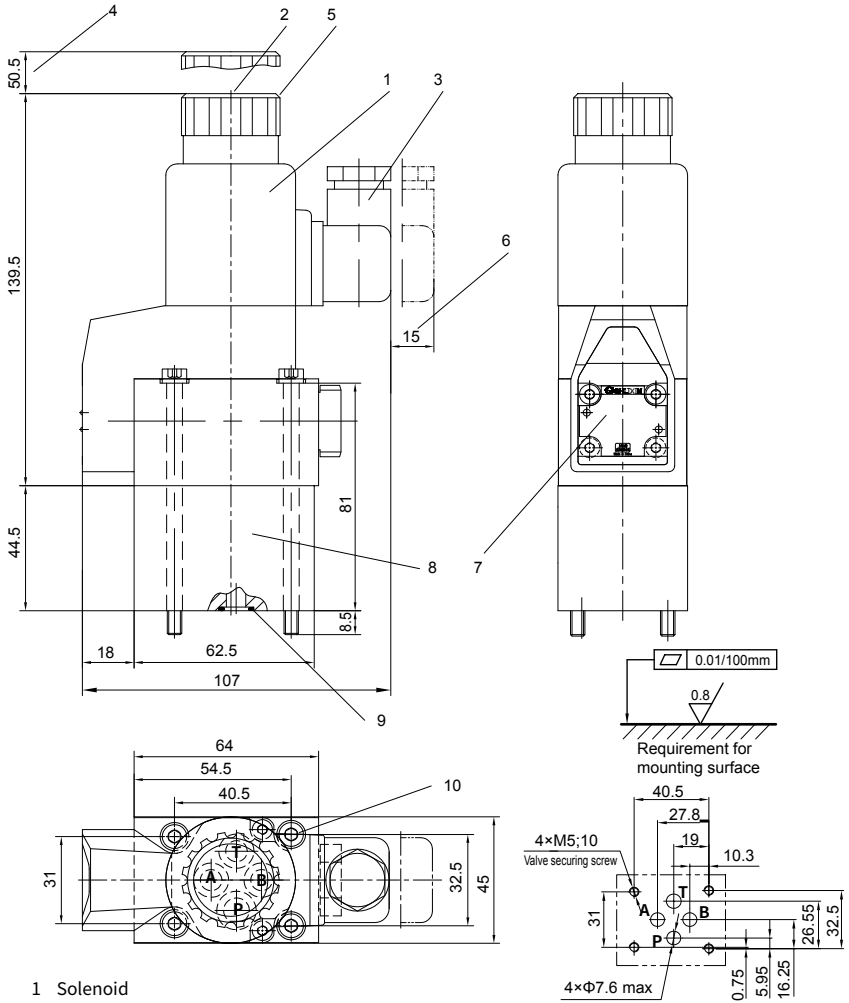
• 2-position 2-way, 2-position 3-way solenoid ball valve



- 1 Solenoid
- 2 Manual emergency button
- 3 Plug as per DIN43650 (can rotate for 90 degrees)
- 4 Remove space needed for Solenoid coil.
- 5 Lock nut, tightening torque $M_A=4Nm$
- 6 Remove space
- 7 Name plate.
8. Oil port A and B use O ring 9.25×1.78 , P uses O-ring 10×2
9. Valve securing screw: $M5 \times 45$ GB/T70.1- class 10.9, Tightening torque $M_A=8.9Nm$
- 10 2-position 2-way directional valve has oil port A and B which are blind holes;
3/2 directional poppet valve has oil port A and B which are blind holes.

Unit dimensions

·2-position 4-way solenoid ball valve



- 1 Solenoid
- 2 Manual emergency button
- 3 Plug as per DIN43650 (can rotate for 90 degrees)
- 4 Remove space needed for Solenoid coil.
- 5 Lock nut, tightening torque $M_A=4Nm$
- 6 Remove space
- 7 Name plate.
- 8 Connecting valve body
- 9 Oil port A and B use O ring 9.25×1.78 , P uses O-ring 10×2
- 10 Valve securing screw hole, $M5 \times 90$ GB/T70.1-10.9, Tightening torque $M_A=8.9Nm$