



M-SEW 10...type Solenoid Ball Valve



M-SEW10...1XJ...type

Size 10

Max. Working Pressure: 420/630 bar

Max. Flow: 40 L/min

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Features

- Direct-acting solenoid ball valve
- Mounting face as per DIN24 340 A ISO 4401 and CETOP-RP 121H
- Free of leakage
- Keeping switching flexibility in high-pressure state
- DC Solenoid of removable coil
- Solenoid coil can rotate for 90 degrees
- Optional manual emergency operation

Function and configuration

M-SEW10 2-position 3-way solenoid ball valve

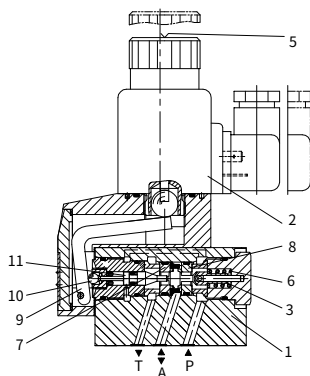
M-SEW10 type valve is a solenoid actuation directional seat valve, it controls start, stop and flow direction. The valve main consists of valve body (1), Solenoid (2), and valve element(3).

In the initial position, the spool is pressed to the seat by the spring(6), and by the solenoid(2) in the switching position.

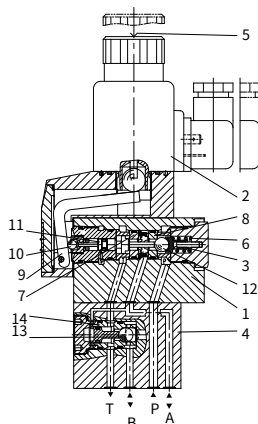
The force of the solenoid(2) acts by the angled lever(9) and the ball(10) on the push bar(11) with two-side seal. The chamber between the two sealing elements is connected to port P. Thus the valve element is pressure-compensated in relation to the actuating force(solenoid or spring). It means that the 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-3SEW10 2-position TEE solenoid ball valve



M-4SEW10 2-position 4-way solenoid ball valve

M-4SEW10 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:

1). Initial position:

when the Solenoid is not energized, pretention 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; control oil line is connected from oil port A acts on the larger area of control piston (12), which can be used for unloading to oil tank.

2). 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 larger area of control piston (12); 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-.SEW10.1XJ/./B...)

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

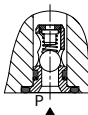
Restriction choke is installed on port P.



Cartridge type one-way valve (model M-.SEW10.1XJ/./P)

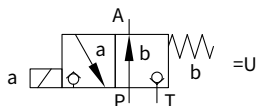
Cartridge type one-way valve allows oil flow in from port P and it is closed for reverse flowing.

One-way valve installed on port P.

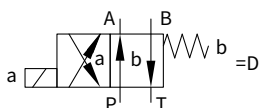


Spool symbols

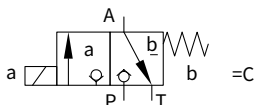
Type M-3SEW10U-1XJ/..



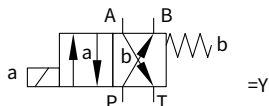
Type M-4SEW10D-1XJ/..



Type M-3SEW10C-1XJ/..



Type M-4SEW10Y-1XJ/..



Specification

M	SEW	10	1XJ	M	N	*
3 work ports 4 work ports	= 3 = 4					
Solenoid ball valve						
Nominal size 10	=10					
Spool symbols						
10J ~ 19J series (10J to 19J: unchanged installation and connection dimensions)	=1XJ					
Work pressure to 420bar	=420					
Work pressure to 630bar	=630					
Replaceable coil (air gap type) Solenoid	=M					
12VDC	= G12					
24VDC	= G24					
110VDC	= G110					
205VDC	= G205					
220VDC	= G220					
110VAC	=W110R					
220VAC	=W220R					
With manual override	=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 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

02

Technical data

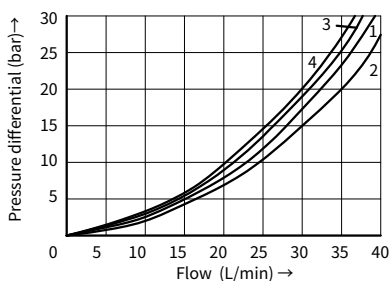
Installation position			Optional
Environment temperature			

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	40	20	40	20	40	12	17	20	40	20	40	60	45	40	50		
280	40	25	45	20	45	12	17	20	45	25	45	60	45	45	55		
320	40	25	45	20	45	12	17	25	45	25	45	60	45	45	55		
420	40	30	45	20	50	12	17	25	45	25	50	60	45	45	55		
Switching frequency						Time/h		Up to 15000									
IP rating as per DIN 40050								IP65									
Max coil temperature						°C		+150									

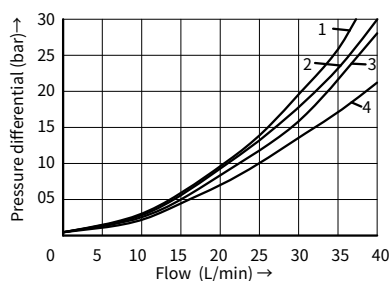
Characteristic curves (Measured at $t=40^{\circ}\text{C}\pm 5^{\circ}\text{C}$, using HLP46)

Δp - q_v characteristic curves
3/2 solenoid ball valve



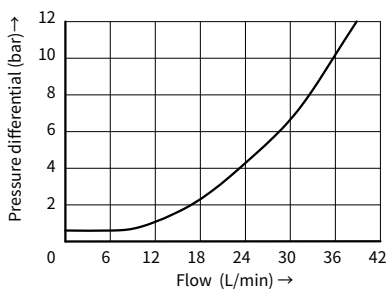
- 1 M-3SEW 10 C ..., P to A
- 2 M-3SEW 10 C ..., A to T
- 3 M-3SEW 10 U ..., P to A
- 4 M-3SEW 10 U ..., A to T

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

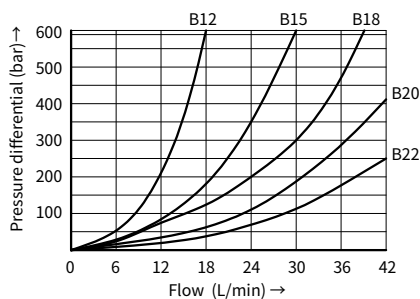


- 1 M-3SEW 10 $\frac{D}{V}$..., A to T
- 2 M-3SEW 10 $\frac{D}{V}$..., P to A
- 3 M-3SEW 10 $\frac{D}{V}$..., P to B
- 4 M-3SEW 10 $\frac{D}{V}$..., B to T

Δp - q_v characteristic curves
Cartridge check valve

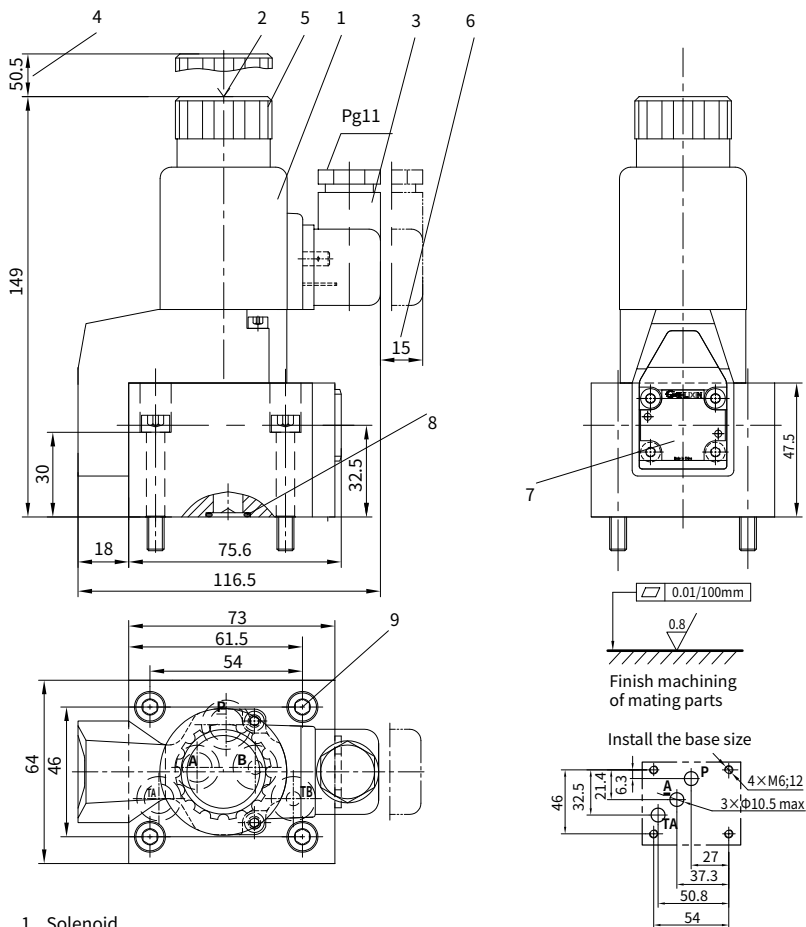


Δp - q_v characteristic curves
Cartridge type restriction choke



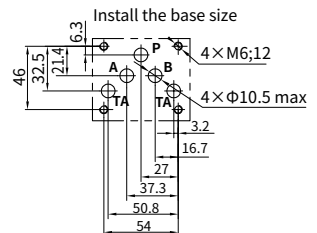
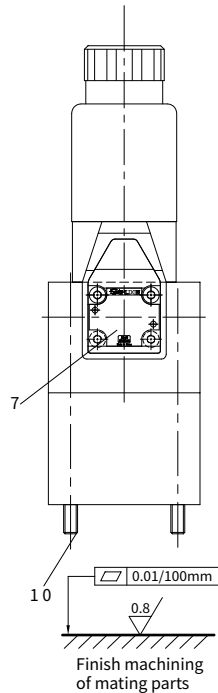
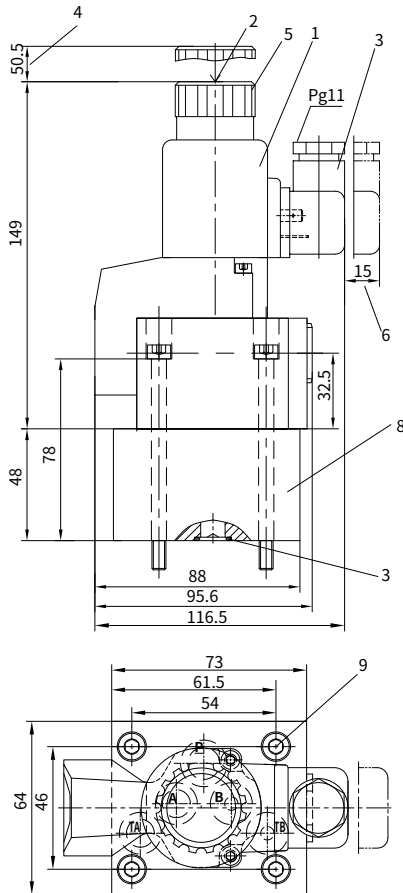
Unit dimensions

·2-position 3-way solenoid ball valve



Unit dimensions

·2-position 4-way solenoid ball valve



- 1 Solenoid
- 2 Manual override
- 3 Plug as per DIN43650 (can rotate for 90 degrees)
- 4 Remove space needed for Solenoid coil
- 5 Lock nut, tightening torque $M_A=4\text{Nm}$
- 6 Remove space
- 7 Name plate.
- 8 Connecting valve body
- 9 Oil port A,B,TA use O-ring 12×2, Oil port P uses O-ring 14×2
- 10 Valve securing screw, M6×90 GB/T70.1- class 10.9, Tightening torque $M_A=15.5\text{Nm}$