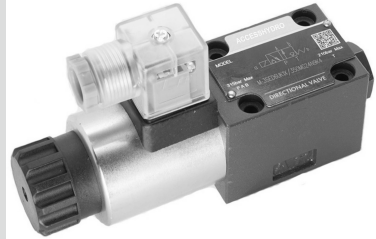


# AH-M-SED 6...type Solenoid Ball Valve



AH-M-SED6...10S...type

Size 6

Max. Working Pressure: 315 bar

Max. Flow: 25 L/min

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## 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

## AH-M-4SED6 3/2 directional seat valve

This 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.

## AH-M-4SED6 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:

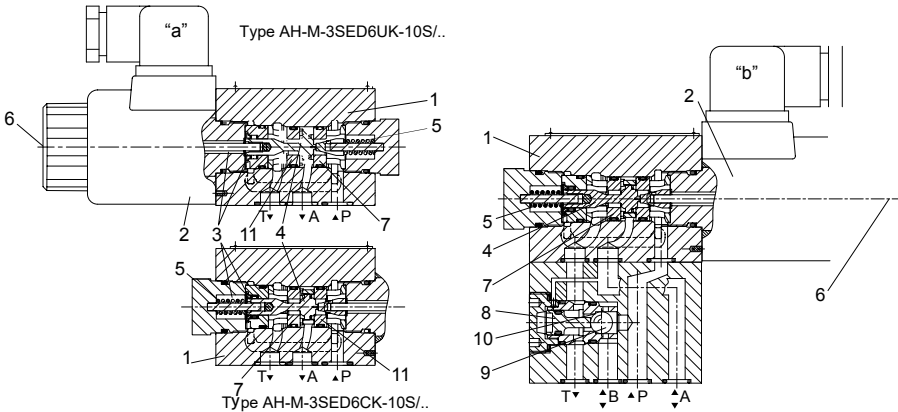
The main valve is not operated. Spring (5) holds closing element (4) on seat (11). Port P is blocked, and A is connected to T. A pilot line is provided from A to the large of pilot spool(8), which is therefore unloaded to tank. the pressure applied via P now shifts ball(9) onto seat(10). This opens the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



### Cartridge type orifice plug(model AH-M-.SED6.10S/...)

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.

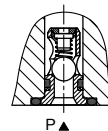
The orifice plug is installed in port P.



### Cartridge check valve (model AH-M-.SED6.10S/...)

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.





## Technical data

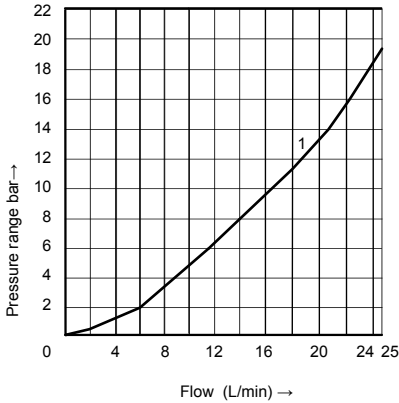
Installation position		Optional	
Environment temperature		°C	-30 to +50 (NBR seal) -20 to +50 (FKM seal)
Weight	2/2,3/2 directional poppet valve	Kg	1.5
	4/2 directional poppet valve	Kg	2.3
Max operation pressure		bar	350
Max flow		L/min	25
Hydraulic fluid		Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal	
Hydraulic fluid temperature range		°C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)
Viscosity range		mm <sup>2</sup> /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
140	25	60	40	50	50	10	15	55	40	55	40	40		40
210	25	60	45	60	50	10	15	60	45	60	45	40		40
280	25	60	45	60	50	10	15	65	45	65	45	40		40
315	25	65	45	65	50	10	15	65	45	65	45	40		40
350	25	65	45	65	50	10	15	65	45	65	45	40		40
<b>Note:</b> 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										

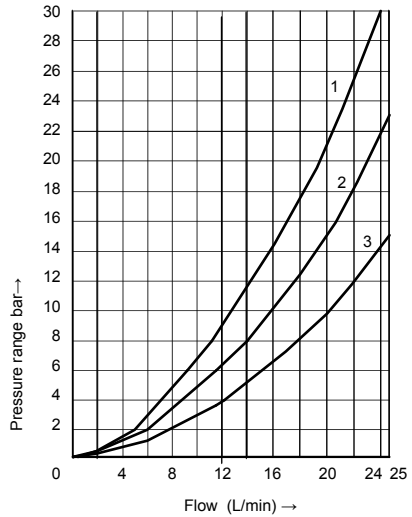
**Characteristic curves** (Measured at  $t=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , using HLP46)

**$\Delta p$ - $q_v$  characteristic curves**  
3/2 directional valve



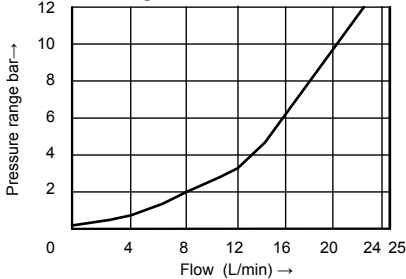
1 AH-M-3SED6<sup>CK</sup>UK ..., P to A and A to T

**$\Delta p$ - $q_v$  characteristic curves**  
2-position 4 directional valve

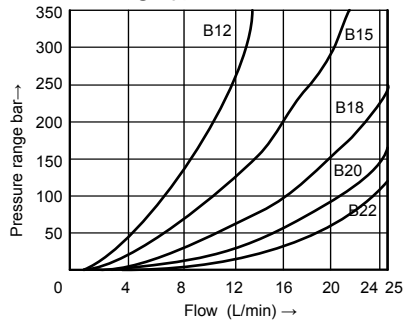


- 1 AH-M-4SED6<sup>D</sup> ..., A t<sub>y</sub>    o T
- 2 AH-M-4SED6<sup>D</sup> ..., P t<sub>y</sub>    o A
- 3 AH-M-4SED6<sup>D</sup> ..., P t<sub>y</sub>    o B, B to T

**$\Delta p$ - $q_v$  characteristic curves**  
Cartridge check valve

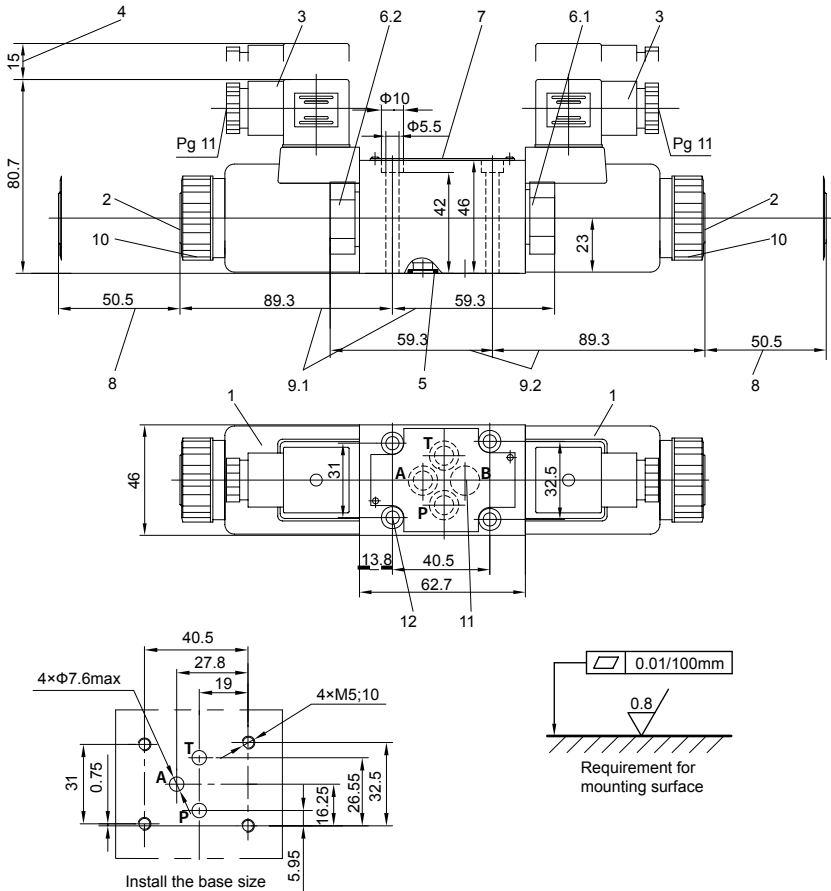


**$\Delta p$ - $q_v$  characteristic curves**  
Cartridge type restriction choke



## Unit dimensions

### AH-M-3SED6<sup>CK</sup><sub>UK</sub>-10S/...solenoid ball valve

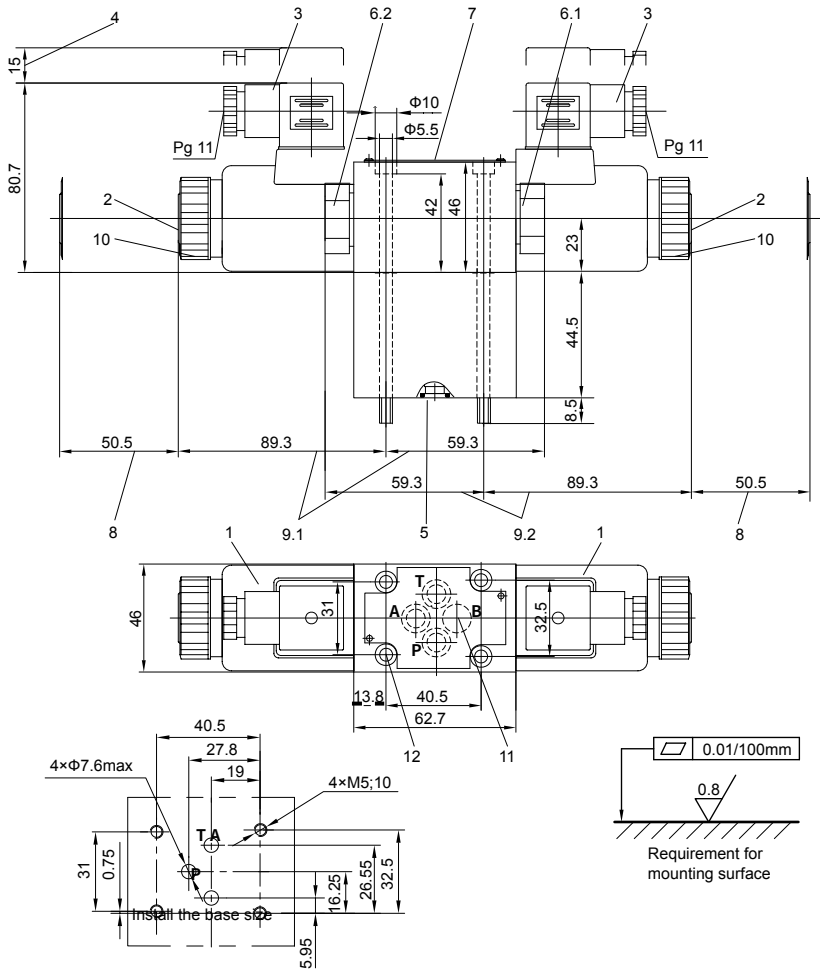


- 1 Solenoid
- 2 Manual emergency button
- 3 Plug as per DIN43650 (can rotate for 90 degrees)
- 4 Space required to remove cable socket
- 5 O-ring 9.25×1.78 for port P, T, A and B
- 6.1 Plug for AH-M-3SED6UK-10S/..
- 6.2 Plug for AH-M-3SED6CK-10S/..
- 7 Name plate.

- 8 Space required to remove coil
- 9.1 AH-M-3SED6UK-10S/.. total length
- 9.2 AH-M-3SED6CK-10S/.. total length
- 10 Fixing nut, Tightening torque  $M_A=4\text{Nm}$
- 11 Oil port B of the valve is a blind bore.
- 12 Valve fixing screw:  
M5×50 GB/T70.1-10.9  
Tightening torque  $M_A=8.9\text{Nm}$

## Unit dimensions

### AH-M-4SED6<sup>D</sup><sub>Y</sub>-10S/..solenoid ball valve



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>1 Solenoid</li> <li>2 Manual emergency button</li> <li>3 Plug as per DIN43650 (can rotate for 90 degrees)</li> <li>4 Space required to remove cable socket</li> <li>5 O-ring 9.25×1.78 for port P, T, A and B</li> <li>6.1 Plug for M-4SED6D-10S/..</li> <li>6.2 Plug for M-4SED6Y-10S/..</li> <li>7 Name plate.</li> </ul> | <ul style="list-style-type: none"> <li>8 Space required to remove coil</li> <li>9.1 AH-M-4SED6D-10S/.. total length</li> <li>9.2 AH-M-4SED6Y-10S/..total length</li> <li>10 Fixing nut, Tightening torque<math>M_A=4Nm</math></li> <li>11 Oil B of the valve is a blind bore.</li> <li>12 Valve fixing screw:<br/>M5×50 GB/T70.1-10.9<br/>Tightening torque <math>M_A=8.9Nm</math></li> </ul> |
|--|---|