



INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTION

2-WAY SOLENOID VALVES PILOT OPERATED

***Type: 2VE10DA, 2VE12DA
2VE13DA, 2VE16DA
2VE25DA, 2VE32DA
2VE40DA, 2VE50DA***

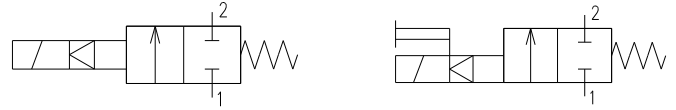
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Application

Two-way solenoid valves pilot operated 2VE10DA up to 2VE50DA are electromagnetic shut-off valves with on-off function which can be used for flow control of water, air and other non-aggressive medium suitable for applied materials. Valve is closed at the basic position without voltage. After bringing of voltage to the coil the valve is opened.



Operation description

Valve consists of body (10), flange (9) and solenoid. Valve body has two necks with internal thread for connection to pipeline. There is a diaphragm (2) inside of body and flange which close medium flow passing through. Solenoid consists of coil (1), core guider (5) and core with seal (3).

At the basic position without voltage on coil, medium is flowing through the inlet neck and the hole in diaphragm to the space above the diaphragm and core of solenoid pressing diaphragm on the seat in body.

Valve is closed. After voltage bringing, core is opening auxiliary hole which connects space over the diaphragm with outlet neck. Pressure over the diaphragm is lower than pressure below the diaphragm. Differential pressure caused opening of the valve, medium is flowing through the valve.

Technical valve data according to TP 75 0277/98

Type	Version	Flow factor [m ³ /h]	Connection Diameter DN [mm]		Operating pressure [MPa]		Medium Temperature [°C]	Seal	Weight [kg]	Voltage AC / DC	Power Consumption AC / DC	
					Min	Max AC / DC						
2VE10DA	N1	1,6	G 3/8	10	0,03	1,6	90	NBR	0,7	AC / DC	18VA/13W	
	E2					1,6 / 1,0	110				EPDM	15VA/10W
	E3					1,0	130	12VA/10W				
2VE12DA	N1	2,2	G 1/2	12		1,6	90	NBR			0,7	18VA/13W
	E2					1,6 / 1,0	110					EPDM
	E3					1,0	130	12VA/10W				
2VE13DA	N1	3	G 1/2	13	1,6	90	NBR	1,1	18VA/13W			
	E2				1,6 / 1,0	110			EPDM	15VA/10W		
	E3				1,0	130	12VA/10W					
2VE16DA	N1	3,6	G 3/4	16	1,6	90	NBR	1,0	18VA/13W			
	E2				1,6 / 1,0	110			EPDM	15VA/10W		
	E3				1,0	130	12VA/10W					
2VE25DA	N1	8,5	G 1	25	1,6	90	NBR	1,8	18VA/13W			
	E2				1,6 / 1,0	110			EPDM	15VA/10W		
	E3				1,0	130	12VA/10W					
2VE32DA	N2	17,5	G 1 ¼	32	1,0	90	NBR	3,6	15VA/10W			
	E2					110	EPDM					
2VE40DA	N2	18,5	G 1 ½	40		90	NBR	3,2	15VA/10W			
	E2					110	EPDM					
2VE50DA	N1	38	G 2	50		90	NBR	5,0	18VA/13W			
	E1					110	EPDM					

Applied materials:

Body, flange	brass
Internal parts	stainless steel
Sealing, diaphragm	rubber NBR – standard or EPDM – on special request
Coil	thermal insulation class F according to STN IEC 60085

Installation

Clean pipeline system before valve installing. Dirt causes malfunction. If applied medium consists impurities must be installed fit filter with 0, 2 mm filtration softness upstream on valve inlet. Solenoid must not be used to capture the torque when fitting into the pipeline.

Working position of valve is optional. Preferentially recommended is mounting with coil above the body to horizontal pipeline. Medium has to flow only in the direction of the arrow marked on the body. Valve is running correctly only in marked flow direction.

Electrical connection

Connect the coil in accordance with National electrical Engineering Standards. Before coil connection check electric data on coil and main voltage. Voltage is connected to the designated terminals on terminal board. Protective wire must be securely connected to protective terminal which is marked on terminal board. Electric cable must be safety connected to the bushing. Connector provides enclosure IP 65. Coil is mounted to valve rotated in 360°. Connector of the coil is positionable about 4x90°. Coil has to be mounted to valve before voltage bringing, otherwise, it can be damaged.

Coil duty rating is 100%. Coil warming up during permanent operation without media flow cannot be higher than 105°C by 10% voltage increasing.

Max. valve switching on frequency:

- 2VE10DA up to 2VE25DA for air	120 switching-on / min.
- 2VE10DA up to 2VE25DA for liquids	40 switching-on / min.
- 2VE32DA, 2VE40DA for air	100 switching-on / min.
- 2VE32DA, 2VE40DA for liquids	30 switching-on / min.
- 2VE50DA for air	30 switching-on / min.
- 2VE50DA for liquids	10 switching-on / min.

Coil voltage:

- standard version	230 V AC ; 50 Hz
- possible version	12, 24, 42, 48, 110 V AC ; 50 or 60 Hz
	12, 24, 48, 110, 220 V DC
- permissible voltage deviation	±10%

Instruction for operation

Operating conditions should correspond with valve technical data. Temperature and medium type should correspond with seals and valve material with which it comes into contact. By valve running it is necessary to check function rightness, seals and joints tightness. For proper function of valves there is differential pressure between input and output of valve required. At valves that are equipped with manual control, it is possible to emergency open by swing out cam of manual control to position "1". During operation this cam must be always in position "0". Manual override is not suitable for standing change of closed and opened position of valve, is delivered only on special request.

Valves are not frost-proof. Frozen medium causes a damage of valve and coil. If the medium in the valve freezes, not the valve switching because of the possibility of damage to coils. Valves are designed for use in closed rooms (buildings) where is not the action of atmospheric precipitation, solar radiation and moisture condensation. Operating ambient temperature is -10 °C up to +50°C.

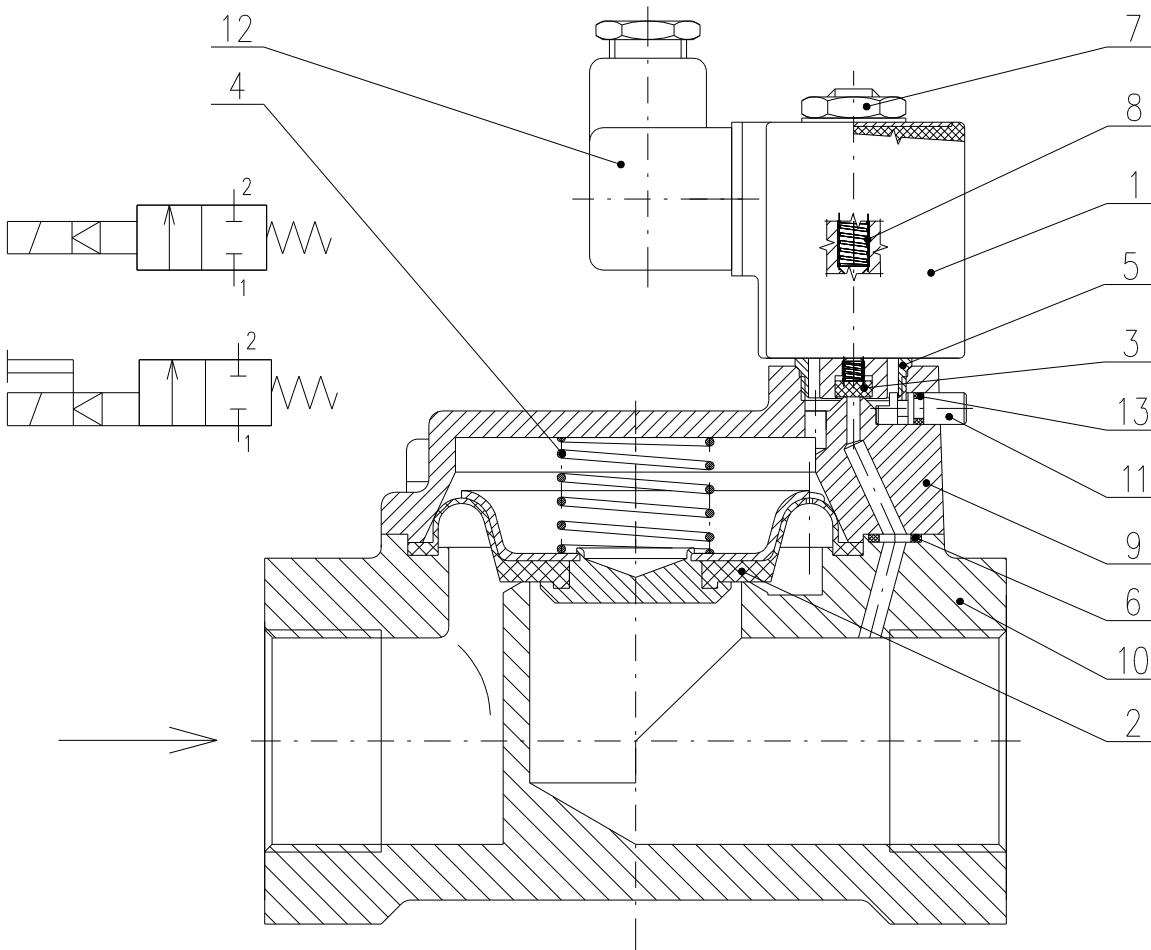
Maintenance

Maintenance is necessary in case of valve failure only (no function rightness, no tightness). Preventive maintenance is advised in case of worse operating conditions, often initializing of valve or by medium pollution. This can prevent valve malfunction. Repair and maintenance work must be carried out only by the absence of pressure in the pipeline and with solenoid disconnected from the voltage supply.

After valve repairing, test the valve with 1, 5 multiple of maximum operating pressure. Valve should be not initializing by testing, valve could be opened or closed by testing.

Upon request, producer is able to supply some kinds of spare parts and brochures with sectional drawing and assembly instructions. By coil ordering is it necessary to set number and kind of voltage (AC or DC).

Valve cut



Legend:

- | | | |
|------------------|-----------------|----------------|
| 1 – Coil | 5 – Core guider | 9 – Flange |
| 2 – Diaphragm | 6 – O-ring | 10 – Body |
| 3 – Core sealing | 7 – Nut | 11 – Cam |
| 4 – Spring | 8 – Spring | 12 – Connector |
| | | 13 – O-ring |

Guarantee and Service:

The manufacturer is responsible for the solenoid valve properties during 12 months since delivery. In case of any claim it is required to present the solenoid valve, a document about buying (payment receipt) and this Installation, Service and Maintenance Instructions. The guarantee is not approved if the damages are caused by inappropriate impact to the solenoid valve or with not following these instructions.

Under and out-of – guarantee repairs can be performed by the manufactures.

Product liquidation

Components and pack can be used as source of secondary raw material.
 Product is not source of environmental pollution and doesn't include danger scrap.