

Solenoid valves with isolating diaphragm 2/2-way servo-operated Type EV222B

Features



EV222B

- The isolating diaphragm design ensures that no fluid enters the armature area, which gives the following advantages:
- the valve is resistant to aggressive fluids, to impurities in the fluid and to calcareous and other scale deposits
- Differential pressure: Up to 10 bar
- Viscosity: Up to 50 cSt
- Ambient temperature: Up to +60°C
- Coil enclosure: Up to IP 67
- Thread connection: From G ½ to G 2
- Water hammer damped
- Built in filter for protection of pilot system

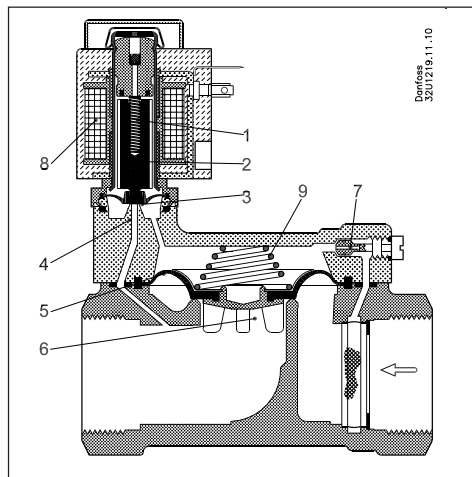
Technical data

Type	EV222B																
Installation	Optional, but vertical solenoid system is recommended																
Nominal pressure	PN10																
Differential pressure	0.3 to 10 bar																
Max. test pressure	16 bar																
Ambient temperature	Max. 60°C (depending on coil type, see below)																
Medium temperature	0 to +100°C (Water +60°C)																
Viscosity	Max. 50cSt																
Materials	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Valve body:</td> <td style="width: 50%;">Stainless Steel, W.no. 1.4581 / AISI 318 ¹⁾</td> </tr> <tr> <td>Flange for isolating diaphragm:</td> <td>Stainless Steel, W.no. 1.4581 / AISI 318 ¹⁾</td> </tr> <tr> <td>Diaphragm plate:</td> <td>Stainless Steel, W.no. 1.4301 / AISI 304 ¹⁾</td> </tr> <tr> <td>Isolating diaphragm:</td> <td>FKM</td> </tr> <tr> <td>Main diaphragm:</td> <td>FKM</td> </tr> <tr> <td>O-rings:</td> <td>FKM</td> </tr> <tr> <td>Closing spring:</td> <td>Stainless Steel, W.no. 1.4310 / AISI 301 ¹⁾</td> </tr> <tr> <td>Fluid above isolating diaphragm:</td> <td>Silicone oil</td> </tr> </table>	Valve body:	Stainless Steel, W.no. 1.4581 / AISI 318 ¹⁾	Flange for isolating diaphragm:	Stainless Steel, W.no. 1.4581 / AISI 318 ¹⁾	Diaphragm plate:	Stainless Steel, W.no. 1.4301 / AISI 304 ¹⁾	Isolating diaphragm:	FKM	Main diaphragm:	FKM	O-rings:	FKM	Closing spring:	Stainless Steel, W.no. 1.4310 / AISI 301 ¹⁾	Fluid above isolating diaphragm:	Silicone oil
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1) W. no. according to DIN 17440

Function

- 1. Armature spring
- 2. Armature
- 3. Isolating diaphragm
- 4. Pilot orifice
- 5. Diaphragm
- 6. Main orifice
- 7. Equalizing orifice
- 8. Coil



2/2-way servo-operated

When voltage is applied to the coil (8), the armature (2) with the isolating diaphragm (3) is lifted clear of the pilot orifice (4) and the diaphragm (5) is lifted by the fluid pressure - the main orifice (6) opens.

When voltage is disconnected the isolating diaphragm (3) is pressed down against the pilot orifice (4) by the armature spring (1) and pressure is built up above the diaphragm (5) via the equalizing orifice (7). The main orifice is closed by the fluid pressure and the spring (9). The isolating diaphragm keeps the medium away from the actuator.

The space above the isolating diaphragm is filled up with silicone oil.


Ordering

Valve body

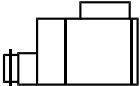
Connection ISO 228/1	Seal material	k _v - value [m ³ /h]	Media temp.		Type designation		Permissible diff. pressure (bar) / Coil type			Code no. without coil
			Min. [°C]	Max. [°C]	Main type	Specification	Min.	Max.		
								BB/BE		
								10 W ac	18 W dc	
G ½	FKM ¹⁾	4	0	+100	EV222B 15 SS	G 12F NC000	0.3	10	10	032U8526
G ¾	FKM ¹⁾	8	0	+100	EV222B 20 SS	G 34F NC000	0.3	10	10	032U8527
G 1	FKM ¹⁾	11	0	+100	EV222B 25 SS	G 1 NC000	0.3	10	10	032U8528
G 1 ¼	FKM ¹⁾	18	0	+100	EV222B 32 SS	G 114F NC000	0.3	10	10	032U8529
G 1 ½	FKM ¹⁾	24	0	+100	EV222B 40 SS	G 112F NC000	0.3	10	10	032U8530
G 2	FKM ¹⁾	40	0	+100	EV222B 50 SS	G 2 NC000	0.3	10	10	032U8531

¹⁾ Suitable for oil and air.

Coil options



Type:BB
10 W ac / 15 W dc



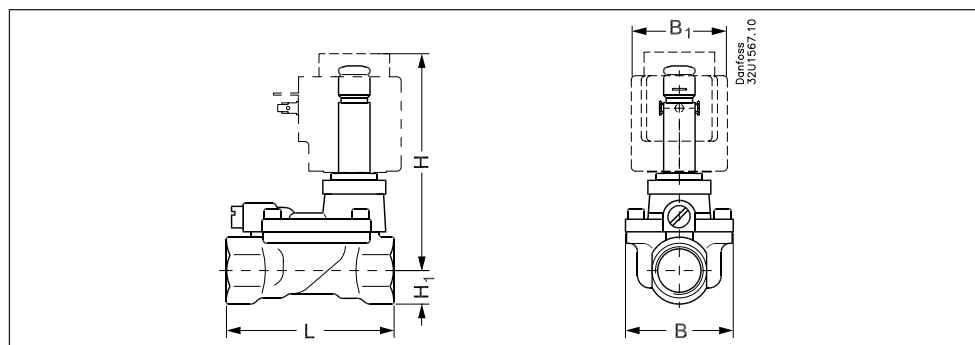
Type:BE (IP 67)
10 W ac / 18 W dc

Danfoss also offers hum-free coils for noise sensitive applications and EEx m II T4 coils for use in explosion risk areas - please see coil data sheet IC.PD.600.A

Ordering coils

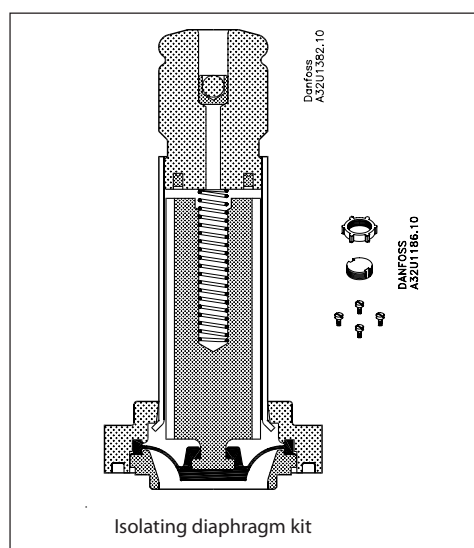
See separate data sheet for coils IC.PD.600.A.

Dimensions and weight



Type	L [mm]	B [mm]	B ₁ [mm]	H ₁ [mm]	H [mm]	Weight without coil [kg]
			Coil type BB/BE			
EV222B 15 SS	80.0	52.0	46	15.0	104.0	0.8
EV222B 20 SS	90.0	58.0	46	18.0	108.0	1.0
EV222B 25 SS	109.0	70.0	46	22.0	118.0	1.4
EV222B 32 SS	120.0	82.0	46	27.0	125.0	2.0
EV222B 40 SS	130.0	95.0	46	32.0	134.0	3.2
EV222B 50 SS	162.0	113.0	46	37.0	140.0	4.3

Spare parts

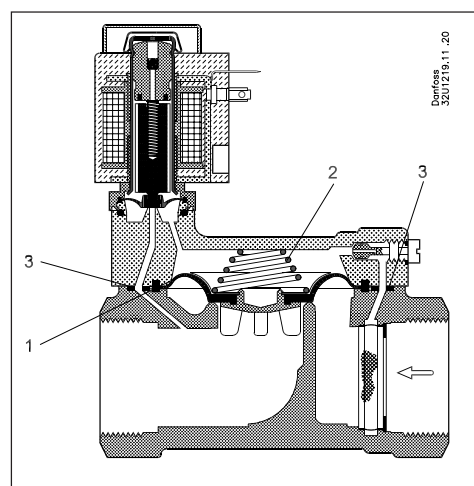


Isolating diaphragm kit

The kit consist of assembled isolating unit, O-ring, 4 screws, locking button and nut for the coil.

Seal material	Code no.
EPDM ¹⁾	042U1009
FKM ²⁾	042U1010

- 1) Suitable for water.
- 2) Suitable for oil and air.



The spare part kit comprise a complete diaphragm (1), closing spring (2) and O-rings for the pilot system (3).

Type	Seal material	Code no.
DN15	FKM ¹⁾	032U6326
DN20	FKM ¹⁾	032U6327
DN25	FKM ¹⁾	032U6328
DN32	FKM ¹⁾	032U6329
DN40	FKM ¹⁾	032U6330
DN50	FKM ¹⁾	032U6331

- 1) Suitable for oil and air.

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