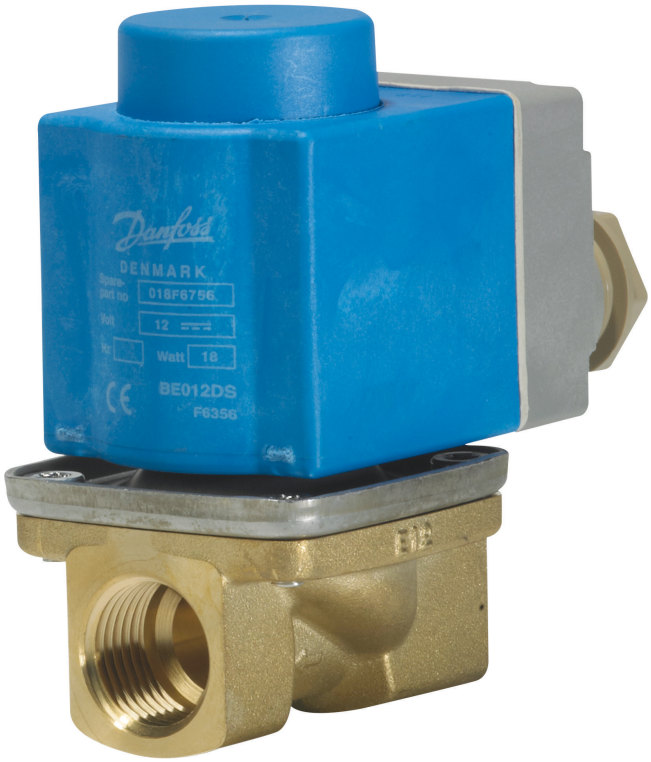
ENGINEERING TOMORROW

Data Sheet

Solenoid valves Type **EV227B**

For neutral brines in cooling applications.



EV227B is a servo-operated 2/2-way solenoid valve programme, designed with diaphragm in softer material and with stronger armature spring for optimum closing at low pressure differences.

Features:

- For neutral brines
- Clip on coil
- Ambient temperature: Up to 50 °C
- Coil enclosure: Up to IP67
- Stainless steel screws for optimum corrosion resistance

1 Portfolio overview

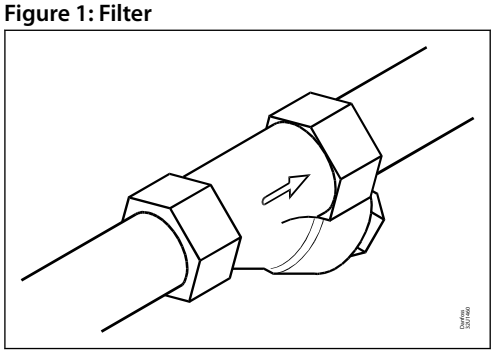
Table 1: Portfolio overview

Features	EV227B
	
Body material	Brass
DN [mm]	10-22
Connection	G⅜" – G1"
Sealing material	EPDM
Function	NC
Kv [m³/h]	1.5 – 5.5
Differential pressure range [bar]	0.1 – 5
Temperature range [°C]	-35 – 60

2 Application

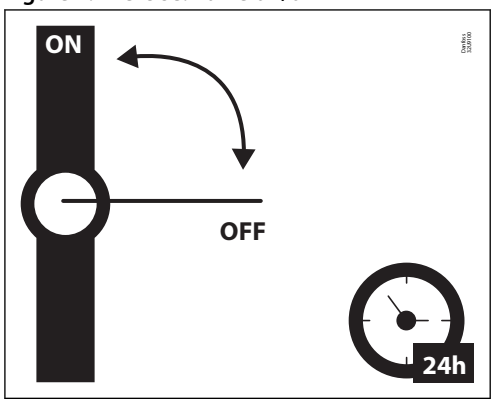
It is recommended to use a filter in front of the valve. Recommended filter 50 mesh (297 microns).

Figure 1: Filter



In water applications, exercise the valves at least once every 24 hours, meaning change the state of the valve. The valve exercise will minimize the risk of the valve sticking due to calcium carbonate, zinc or iron oxide build-up.

Figure 2: Exercise: Valve on/off



To minimize scaling, and corrosion attack it is recommended that the water passing the valve have the following values:

- Hardness 6 – 18 °dH to avoid scaling (chalk / lime stone build up)
- Conductivity 50 – 800 µS/cm to avoid brass dezincification and corrosion.
- Above 25 °C media temperature avoid stagnant water inside the valve to avoid dezincification and corrosion attack.

3 Product specification

3.1 Technical data

Table 2: Technical data

Media	EPDM	For neutral brines
Media temperature [°C]	EPDM	-35 – 60 °C
Kv value [m³/h]	DN10	1.5 m³/h
	DN12	2.5 m³/h
	DN14	3.5 m³/h
	DN18	5.5 m³/h
	DN22	5.5 m³/h
Min. Opening differential pressure [bar]	0.1 bar	
Max. Opening differential pressure [bar]	5 bar	
Max. working pressure [bar]	5 bar	
Max. test pressure [bar]	16 bar	
Viscosity [cSt]	Max. 50 cSt	

Table 3: Indicative capacity correction factors for different viscosities

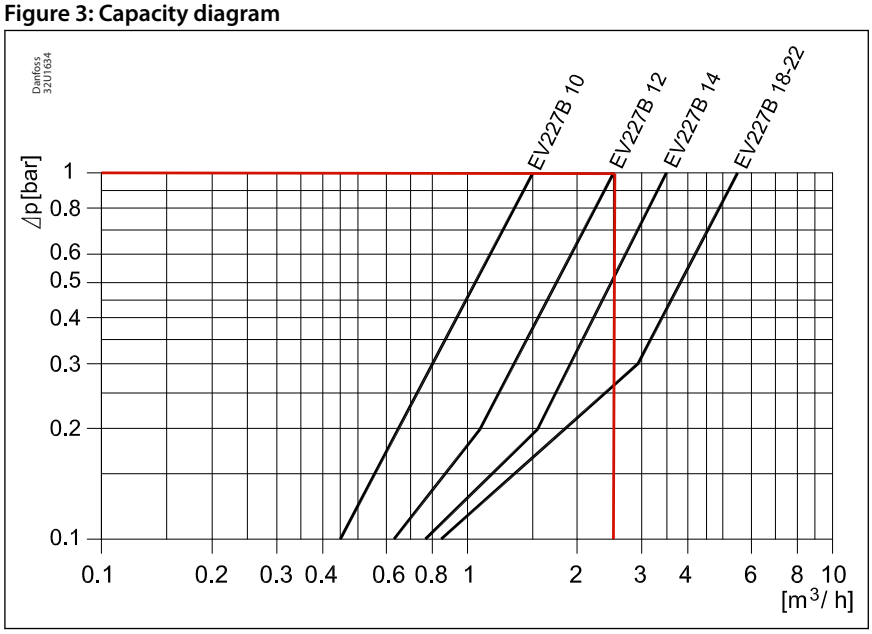
Viscosity, mm²/s	10	20	30	40	50
Correction factor	1.10	1.15	1.20	1.30	1.45

Multiply the capacity (m³/h) with the viscosity to find the EV227B valve that complies with the correction factor of the brine selected for the corrected capacity system. Then use the water capacity diagram.

Capacity diagram

Example, water: EV227B 12 at differential pressure of 1 bar: Approx. 2.5 m³/h

Figure 3: Capacity diagram



Time to open/close

Table 4: Time to open/close

Main type	EV227B 10	EV227B 12	EV227B 14	EV227B 18	EV227B 22
Time to open [ms][1]	50	60	100	200	200
Time to close [ms][1]	300	300	400	500	500

[1] The times are indicative.

Materials

Table 5: Materials

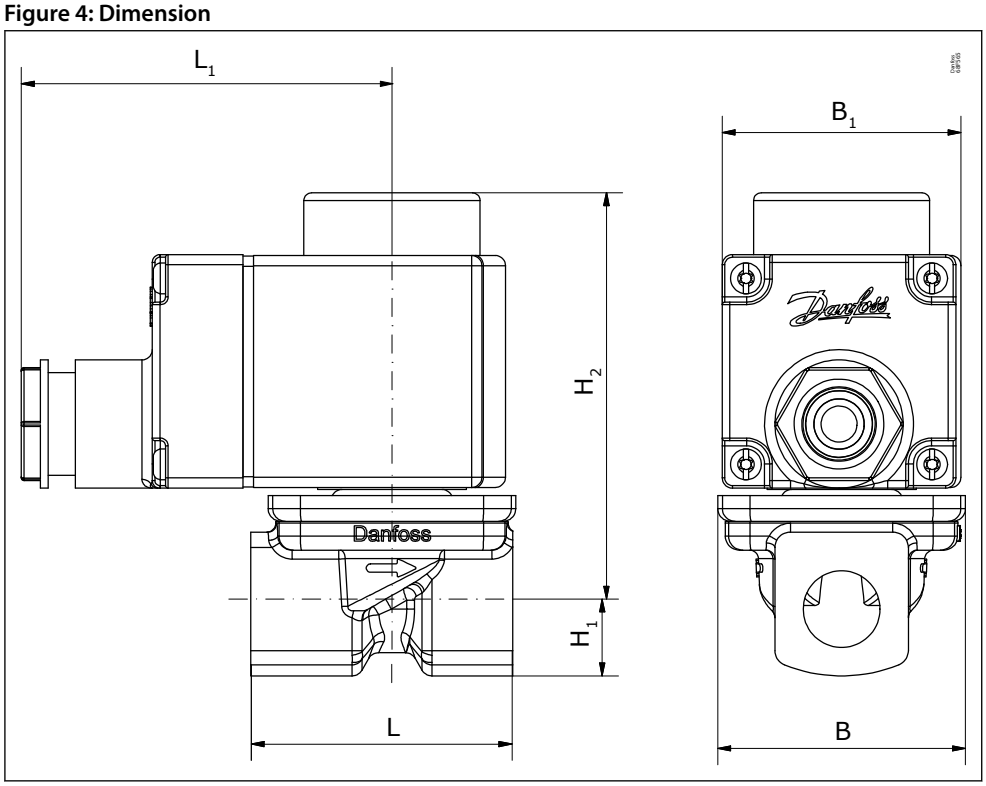
Components	Materials	Specifications
Valve body	Brass	W.no. 2.0402
Cover	Stainless steel	W.no. 1.4301
Armature tube	Stainless steel	W.no. 1.4306
Diaphragm	EPDM	–
Screws	Stainless steel	–

3.2 Dimension and weight

Table 6: Dimension and weight

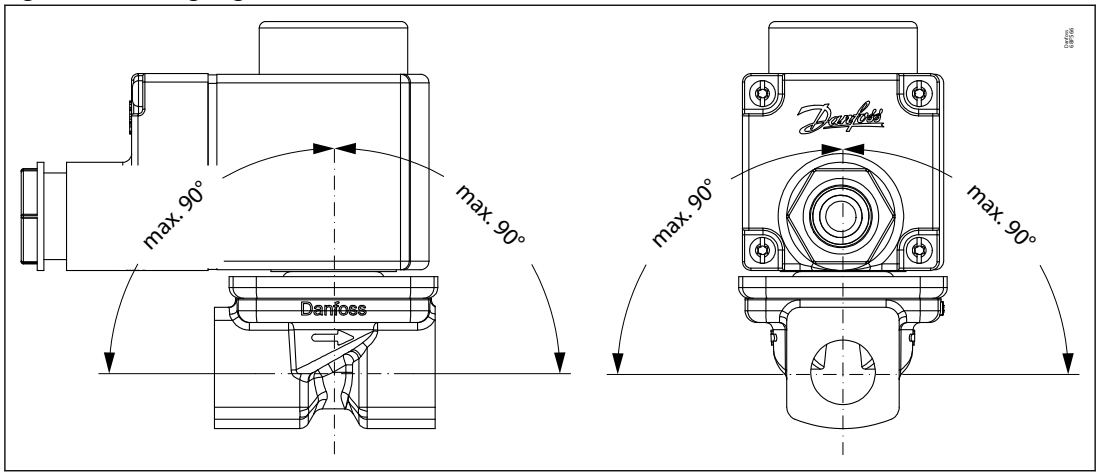
Type	L [mm]	B [mm]	B_1/L_1 [mm] Coil type				H_1 [mm]	H_2 [mm]	Weight without coil [kg]
			BE		BG				
			B_1	L_1	B_1	L_1			
EV227B 10	51	48	46	72	66	82	13	84	0.29
EV227B 12	58	50	46	72	66	82	13	84	0.35
EV227B 14	80	52	46	72	66	82	15	87	0.5
EV227B 18	90	56	46	72	66	82	18	90	0.65
EV227B 22	90	58	46	72	66	82	18	98	1

Figure 4: Dimension



3.3 Mounting

Figure 5: Mounting angle



4 Ordering

4.1 Parts program

Table 7: Brass, valve body NC

Connection ISO 228/1	Orifice size [mm]	Kv - value [m³/h]	Seal material	Function NC
G 3/8	10	1.5	EPDM	068F4050
G 1/2	12	2.5		068F4052
	14	3.5		068F4053
G 3/4	18	5.5		068F4054
G 1	22	5.5		068F4055

4.2 Accessories

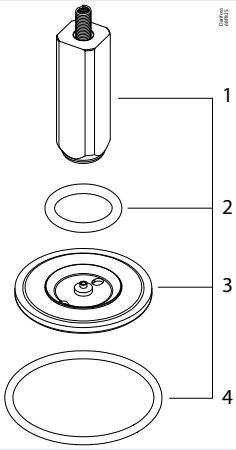
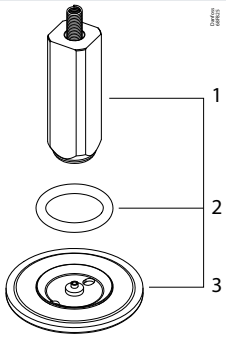
Coils

Table 8: Coils used with EV227B

Coil	Type	Power consumption	Enclosure	Features
	BE, clip on	10 W AC 18 W DC	IP67	With terminal box
	BG, clip-on	12 W AC 20 W DC	IP67	With terminal box

Spare parts

Table 9: Service kit EV227B

Type	Service kit EV227B	
	EPDM	
EV227B 10	068F4000	
EV227B 12		068F4001
EV227B 14		068F4002
EV227B 18 - EV227B 22		068F4003
		
	1. Armature assembly 2. O-ring 3. Diaphragm assembly 4. O-ring	1. Armature assembly 2. O-ring 3. Diaphragm assembly

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