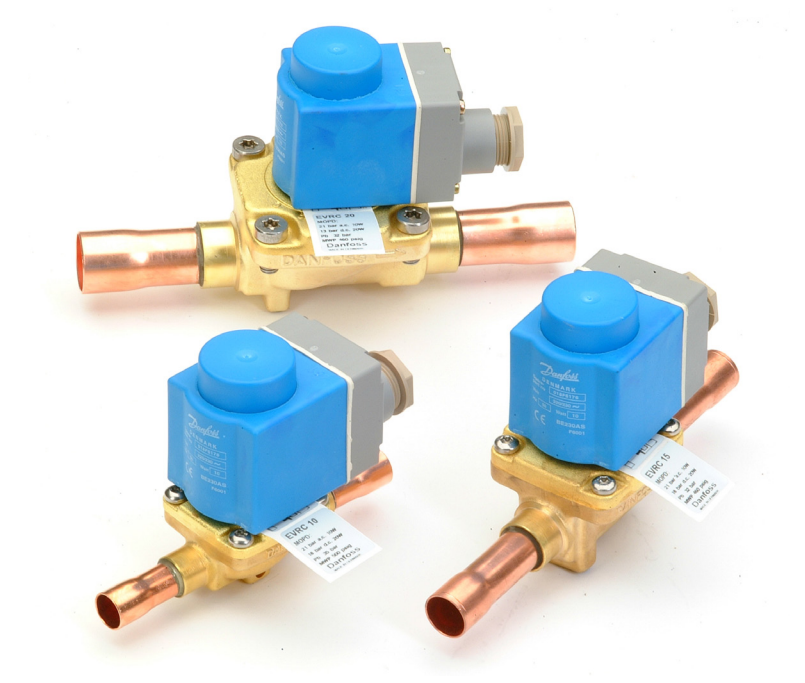
Data sheet

Solenoid valve
Types EVRC 10 – 20



EVRC is a servo operated solenoid valve for use in liquid lines in refrigeration plant.

EVRC allows flow in both directions and can therefore be used in liquid lines in refrigeration plant with hot gas or gas defrost.

During the refrigeration period EVRC works as a normal solenoid valve, while during the defrost it allows the condensed liquid to return to the liquid manifold.

During the defrosting period the coil for EVRC must be energized.

Features

- For liquid line in refrigeration, freezing and air conditioning plants
- For bi-flow, eg. reverse flow during defrosting
- Available as normally closed (NC) with de-energized coil
- Wide choice of coils for a.c. and d.c.
- Suitable for all fluorianted refrigerants and many flammable refrigerants
- Designed for media temperatures up to 105 °C
- MOPD (Max. Opening Pressure Differential) up to 25 bar with 12 W coil
- Solder connections up to $^{7}/_{8}$ in.

Approvals

Low Voltage Directive (LVD) 2006/95/EC

Technical data

Refrigerants
R22/R407C, R404A/R507, R410A, R134a, R407A, R23, R32, R290, R600 and R600a. For other refrigerants, please contact Danfoss.

Temperature of medium
-40 – 105 °C with 10 W or 12 W coil.

Ambient temperature and enclosure for coil
See separate data sheet for coils and ATEX coils.

Capacity
The capacity of the valve depends on the flow direction, see k_v values from the table.

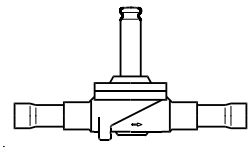
See extended capacity tables as for EVR in the EVR data sheet.

Type	Rated capacity with normal flow direction [1] [kW]			Opening differential pressure with standard coil Δp [bar]				Max. working pressure Ps [bar]	k_v-value [2] [m³/h]	
	R22/ R407C	R134A	R404A/ R507	Min.	Max. (= MOPD) liquid				Flow in arrow direction	Flow against arrow direction
					10 W a.c.	12 W a.c.	20 W d.c.			
EVRC 10	38.2	35.3	26.7	0.05	21	25	18	35	1.9	1.1
EVRC 15	52.3	48.3	36.5	0.05	21	25	18	32	2.6	1.2
EVRC 20	94.6	87.2	66.1	0.05	21	25	13	32	5.0	4.7

[1] Rated liquid capacity is based on evaporating temperature t_e = -10 °C, liquid temperature ahead of valve t_l = 25 °C, and pressure drop across valve Δp = 0.15 bar.

[2] The k_v value is the water flow in [m³/h] at a pressure drop across valve of 1 bar, ρ = 1000 kg/m³.

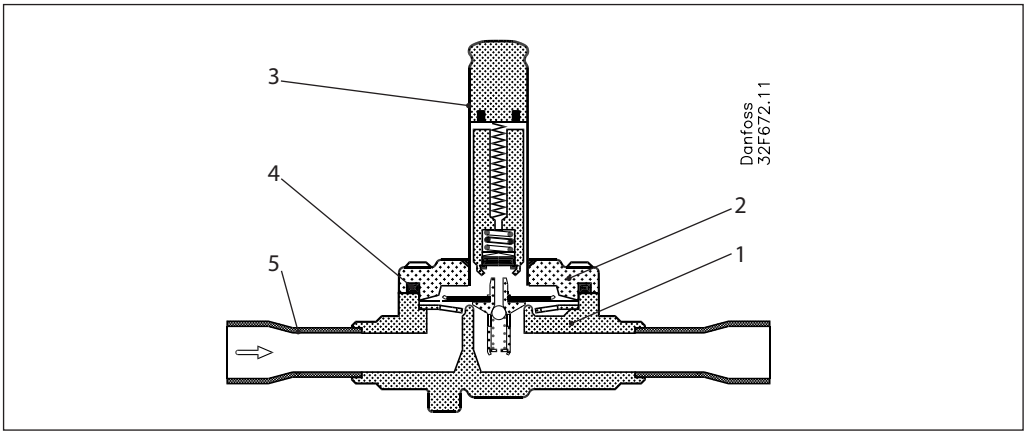
Ordering



Type	Required coil	Connection Solder		Code no.
		[in.]	[mm]	Valve housing without coil
EVRC 10	a.c. / d.c.	1/2	—	**032F1216**
EVRC 15	a.c. / d.c.	5/8	16	**032F1255**
EVRC 20	a.c. / d.c.	7/8	22	**032F1258**

Coils
See separate data sheet for coils.

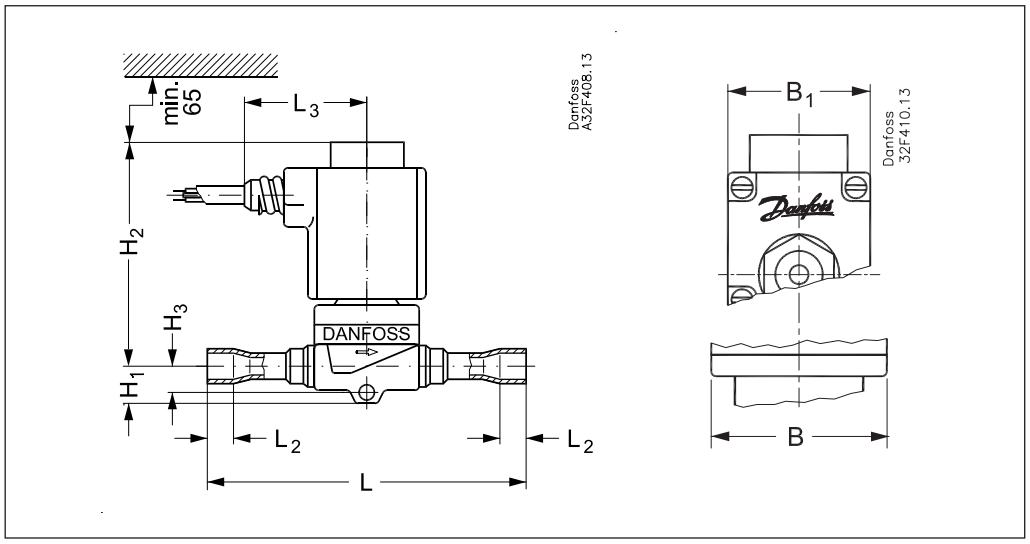
Material specifications



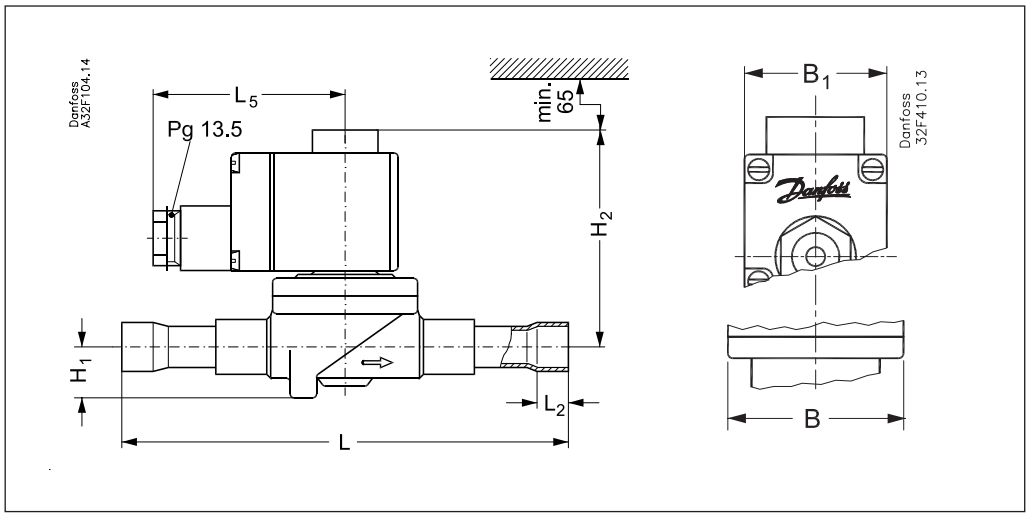
No.	Description	Material	Analysis	Mat. no.	Standard		
					W.no.	DIN	EN
1	**Valve body**	Brass	CuZn40Pb2	CW617N	2.0402	17672	12165
2	**Cover**	Brass	CuZn40Pb2	—	2.0402	—	12165
3	**Armature tube**	Stainless steel	X2 CrNi19-11	—	1.4306	17672-1	10088
4	**Gasket**	Gummi	Cr	—	—	—	—
5	**Solder tube**	Copper	SF-Cu	CW024A	2.0090	1787	12449
6	**Screws**	Stainless steel	A2-70	—	—	3506	—

Dimensions [mm] and weight [kg]

EVRC Coil with cable



EVRC Coil with terminal box



Net weight of coil:
10 W: ca. 0.3 kg
12 og 20 W: ca. 0.5 kg

Type	H_1	H_2	H_3	L	L_2	L_3	L_5 max.		B	B_1 max.	Net weight with coil
							10 W	12 W / 20 W			
EVRC 10 (NC)	16	79	11	127	10	45	75	85	46	68	0.7
EVRC 15 (NC)	19	86	11	176	12	45	75	85	56	68	1.0
EVRC 20 (NC)	20	90	11	191	17	45	75	85	72	68	1.5