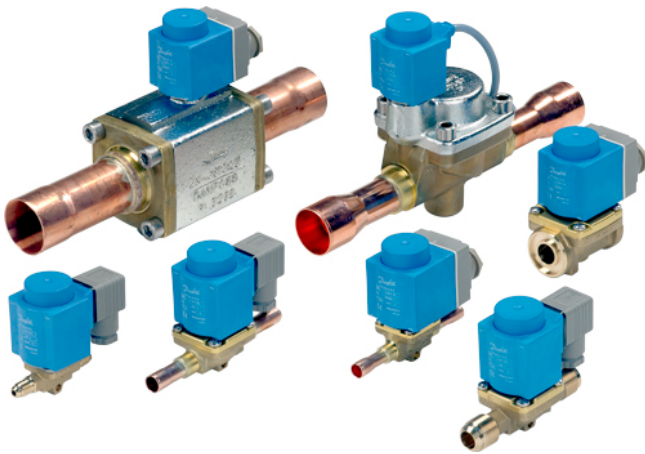


Data Sheet

# Solenoid valve Type **EVR 2 - EVR 40**

Version 2



EVR is a direct or servo operated solenoid valve suitable for liquid, suction, and hot gas lines with most refrigerants, including flammable refrigerants.

EVR valves and coils are sold separately.

**Features**

- Complete range of solenoid valves for refrigeration, freezing and air conditioning plant
- Supplied in versions normally closed (NC) and normally open (NO) with de-energized coil
- Wide choice of coils for AC and DC
- Suitable for most refrigerants, including flammable refrigerants
- Designed for media temperatures up to 105 °C
- Flare connections up to 5/8 in
- Solder connections up to 2 1/8 in
- Extended ends on solder versions make the installation easy, eliminating the need to dismantle the valve when soldering in
- Available in flare, solder and flange connection versions

## Functions

### Function

EVR solenoid valves are designed on two different principles:

1. Direct operation
2. Servo operation

#### 1. Direct operation (NC)

EVR 2 – EVR 3 are direct operated. The valves open directly for full flow when the armature (3) moves up into the magnetic field of the coil.

This means that the valves operate with a minimum differential pressure of 0 bar. The seat plate is fitted directly on the armature (3) see [Design and material](#).

Inlet pressure acts from above on the armature and the valve plate. Thus, the inlet pressure and spring force act to close the valve when there is no current in the coil.

#### 2. Servo operation (NC)

EVR 4 – EVR 22 are servo operated with a "floating" diaphragm (4) see [Design and material](#). The pilot orifice of stainless steel is placed in the center of the diaphragm. The seat plate is fitted directly to the armature (3) see [Design and material](#). When there is no current in the coil, the main orifice and pilot orifice are closed. The pilot orifice and main orifice are held closed by the armature spring force and the differential pressure between inlet and outlet sides.

When current is applied to the coil, the armature is drawn up into the magnetic field and opens the pilot orifice. This relieves the pressure above the diaphragm, i.e. the space above the diaphragm becomes connected to the outlet side of the valve.

The differential pressure between inlet and outlet sides then presses the diaphragm away from the main orifice and opens it for full flow. Therefore a certain minimum differential pressure is necessary to open the valve and keep it open. For EVR 4 – EVR 22 valves the minimum differential pressure for safe operation is 0.03 bar.

When the current is switched off, the pilot orifice is closed. Via the equalization holes in the diaphragm, the pressure above the diaphragm rises to the same value as the inlet pressure and the diaphragm closes the main orifice.

EVR 25, EVR 32 and EVR 40 are servo operated piston valves. The servo piston (16) see [Design and material](#) with sealing face closes against the valve seat by means of the differential pressure between inlet and outlet side of the valve and the force of the compression spring. When the coil is switched on, the pilot orifice opens. This relieves the pressure on the piston spring side of the valve. The differential pressure will then open the valve. The minimum differential pressure for safe operation is 0.2 bar.

EVR (NO) has the opposite function to EVR (NC), i.e. it is open with de-energized coil. EVR (NO) is available with servo operation only.

#### 2.1. Bi-flow operation

Bi-flow operation with EVRC EVRC is a servo operated solenoid valve with a special diaphragm with built-in non-return valve. The valve is for use in liquid lines in refrigeration plants.

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

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

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

#### 2.2. Manual stem operation for EVR 6 - EVR 25 NC

EVR 6 - EVR 25 NC are available with optional manual stem operation to manually force the NC valve open when the coil is de-energized.

## Solenoid valve, Type EVR 2 - EVR 40

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The protective cap should be removed and the manual stem (12) **Design and material** should be rotated until the valve is fully open. It takes approx. 6 cycles from fully closed, to reach the fully open position.

After manual operation is completed, the valve should manually be closed again and the protective cap mounted.

**NOTE:**

Alternatively, all EVR NC and NO valves can be manually operated by removing the coil and force the valve open or closed by using a solenoid valve tester (permanent magnet) code no. 018F0091.

## Media

### Refrigerants

R1234yf, R1234ze(E), R125, R134a, R152a, R22, R290, R32, R404A, R407C, R407F, R407H, R410A, R413A, R417A, R422A, R422B, R422D, R438A, R422A, R422B, R422D, R438A, R442A, R444B, R447A, R447B, R448A, R449A, R449B, R450A, R452A, R452B, R454A, R454B, R454C, R455A, R463A, R507A, R512A, R513A, R513B, R515A, R515B, R516A, R600, R600a.

For a complete list of approved refrigerants, visit [store.danfoss.com](https://store.danfoss.com) and search for individual code numbers, where refrigerants are listed as part of technical data.

#### **NOTE:**

Special note for R1234yf, R1234ze, R152A, R290, R32, R444B, R452B, R454A, R454B, R454C, R455A, R516A, R600 and R600a: This product is validated in accordance to ATEX, ISO 5149, IEC 60335-2-24, IEC 60335-2-40 and UL. Ignition risk is evaluated in accordance to ISO 5149 and IEC 60335.

The EVR 2 – EVR 22 with solder connections and without manual stem can be applied on systems with R1234yf, R1234ze, R152A, R290, R32, R444B, R452B, R454A, R454B, R454C, R455A, R516A, R600 and R600a as the working fluid.

EVR 2-15 flare connections are only approved for A1 and A2L refrigerants

#### **NOTE:**

Excluded from this EVR 22 with connections 1 3/8 inch / 35mm related to PED requirements.

The EVR 2-EVR 40 versions with solder and flare connection and without manual stem can be applied to oil-free systems : R1234ze(E)

EVR 2 - EVR 22 versions with solder and flare connections and without manual stem can be applied to oil-free systems R513A, R515B, R516A

#### **NOTE:**

EVR 2-22 (R516A) and EVR 2-40, R1234ze:

- Excluded from this EVR 22 - EVR 40 with connections 1 3/8 inch / 35mm and larger connections related to higher PED requirements.

For countries where safety standards are not an indispensable part of the safety system Danfoss recommends the installer gets a third party approval of any system containing flammable refrigerant.

#### **NOTE:**

Please follow specific selection criteria stated in the datasheet for these particular refrigerants.

### Media temperature

-40 – 105 °C, Max. 130 °C during defrosting

For R1234ze Media temperature: - 20 - 90 °C (105 °C for transient condition).

**Product specification**

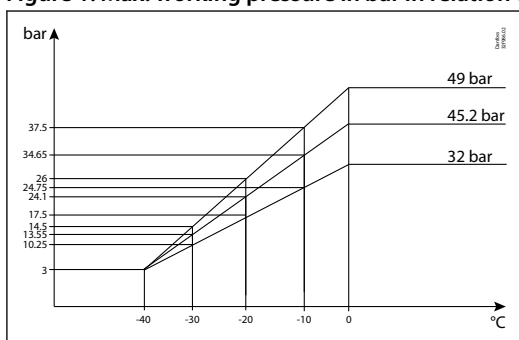
**Technical data**

**Ambient temperature and enclosure for coil**

See separate data sheet for solenoid and ATEX coils.

**Max. working pressure**

Figure 1: Max. working pressure in bar in relation to media temperature in °C.



**⚠ WARNING:**

- Special note for EVR PED version: The EVR 2 - EVR 22 versions with solder connections and without manual stem can be applied to 49 bar MWP.
- EVR solder and flare connections: 45.2 bar.
- EVR flange connections: 32 bar.

**ℹ NOTE:**

Excluded from this EVR 22 with connections 1 3/8 inch / 35 mm related to higher PED requirements.

**Capacity**

For  $K_v$  values refer to the tables in [Ordering](#).

The  $K_v$  value of the water flow in [m<sup>3</sup>/h] at a pressure drop across valve of 1 bar,  $\rho = 1000 \text{ kg/m}^3$ .

See extended capacity tables on Coolselector®2.

Table 1: MOPD

Type	Opening differential pressure with standard coil $\Delta p$ [bar]		
	Min.	Max. (= MOPD) liquid	
		AC coil [10 W]	DC coil [20 W]
EVR 2 NC	0.00	38	33
EVR 3 NC	0.00	38	18
EVR 4 NC	0.03	38	28
EVR 6 NC	0.03	38	28
EVR 6 NO	0.03	21	21
EVR 8 NC	0.03	38	28
EVR 10 NC	0.03	38	20
EVR 10 NO	0.03	21	21
EVR 15 NC	0.03	38	20
EVR 15 NO	0.03	21	21
EVR 18 NC	0.03	38	20
EVR 20 NC	0.03	38	20
EVR 20 NO	0.03	19	19
EVR 22 NC	0.03	38	20
EVR 22 NO	0.03	19	19
EVR 25 NC	0.2	38	17
EVR 32 NC	0.2	38	17
EVR 40 NC	0.2	38	17

## Solenoid valve, Type EVR 2 - EVR 40

### NOTE:

For higher MODP 12 W and 20 W AC coils are available on request

### Valve selection based on capacity calculation

As for extended capacity calculations and valve selection based on capacities and refrigerants, please refer to Coolselector®2. Rated and extended capacities are calculated with the Coolselector®2 calculation engine to ARI standards with the ASEREP equations based on laboratory measurements of selected valves.

### Rated capacity [kW]

Table 2: Rated capacity [kW]

Type	R22/R407C	R134a	R404A/R507	R410A	R32	R290	R600a
<b>Liquid</b>							
EVR 2	3.02	2.79	2.04	2.96	4.23	3.36	3.38
EVR 3	5.43	5.02	3.68	5.32	7.61	6.05	6.09
EVR 4	13.68	12.66	9.26	13.41	19.17	15.23	15.33
EVR 6	17.90	16.56	12.12	17.55	25.09	19.93	20.07
EVR 8	21.32	19.73	14.44	20.90	29.88	23.74	23.90
EVR 10	37.62	34.80	25.47	36.88	52.71	41.88	42.17
EVR 15	57.93	53.60	39.23	56.79	81.18	64.49	64.94
EVR 18	75.84	70.16	51.36	74.35	106.26	84.43	85.01
EVR 20	120.29	111.29	81.46	117.93	168.56	133.92	134.85
EVR 22	137.19	126.92	92.90	134.49	192.23	152.73	153.79
EVR 25	149.23	138.06	101.06	146.30	–	–	–
EVR 32	254.97	235.89	172.66	249.96	–	–	–
EVR 40	368.74	341.15	249.71	361.49	–	–	–
<b>Suction vapour</b>							
EVR 2	0.33	0.24	0.29	0.42	0.54	0.41	0.23
EVR 3	0.60	0.44	0.52	0.75	0.96	0.73	0.41
EVR 4	1.51	1.10	1.32	1.90	2.43	1.85	1.03
EVR 6	1.98	1.44	1.72	2.48	3.18	2.42	1.35
EVR 8	2.35	1.71	2.05	2.96	3.78	2.88	1.60
EVR 10	4.15	3.02	3.62	5.22	6.67	5.09	2.83
EVR 15	6.40	4.65	5.57	8.03	10.28	7.83	4.36
EVR 18	8.37	6.09	7.30	10.52	13.45	10.26	5.70
EVR 20	13.28	9.66	11.57	16.68	21.34	16.27	9.04
EVR 22	15.15	11.02	13.20	19.02	24.34	18.55	10.31
EVR 25	16.33	11.79	14.25	20.58	–	–	–
EVR 32	27.90	20.14	24.35	35.16	–	–	–
EVR 40	40.35	29.12	35.21	50.85	–	–	–
<b>Hot gas</b>							
EVR 2	1.35	1.04	1.10	1.65	2.18	1.54	0.94
EVR 3	2.42	1.87	1.99	2.98	3.92	2.76	1.70
EVR 4	6.10	4.70	5.01	7.50	9.86	6.96	4.28
EVR 6	7.99	6.16	6.56	9.81	12.91	9.11	5.61
EVR 8	9.51	7.33	7.81	11.68	15.37	10.85	6.68
EVR 10	16.78	12.94	13.78	20.61	27.12	19.14	11.78
EVR 15	25.85	19.93	21.22	31.74	41.77	29.48	18.14
EVR 18	33.84	26.08	27.77	41.55	54.67	38.59	23.75
EVR 20	53.68	41.37	44.05	65.91	86.72	61.21	37.67
EVR 22	61.22	47.18	50.24	75.17	98.91	69.81	42.96
EVR 25	87.87	67.73	72.12	107.91	–	–	–
EVR 32	150.17	115.75	123.24	184.40	–	–	–
EVR 40	217.22	167.43	178.27	266.74	–	–	–

Rated liquid and suction vapor capacity is based on:

- vaporating temperature  $t_e = -10\text{ °C}$
- liquid temperature ahead of valve  $t_l = 25\text{ °C}$
- pressure drop in valve  $\Delta p = 0.15\text{ bar}$

## Solenoid valve, Type EVR 2 - EVR 40

Rated hot gas capacity is based on:

- condensing temperature  $t_c = 40\text{ }^\circ\text{C}$
- pressure drop across valve  $\Delta p = 0.8\text{ bar}$
- hot gas temperature  $t_h = 65\text{ }^\circ\text{C}$
- subcooling of refrigerant  $\Delta t_{\text{sub}} = 4\text{ K}$

For other refrigerants, please refer to Coolselector®2

### Design and material

Figure 2: EVR 2 - EVR 3 Solder and flare connection

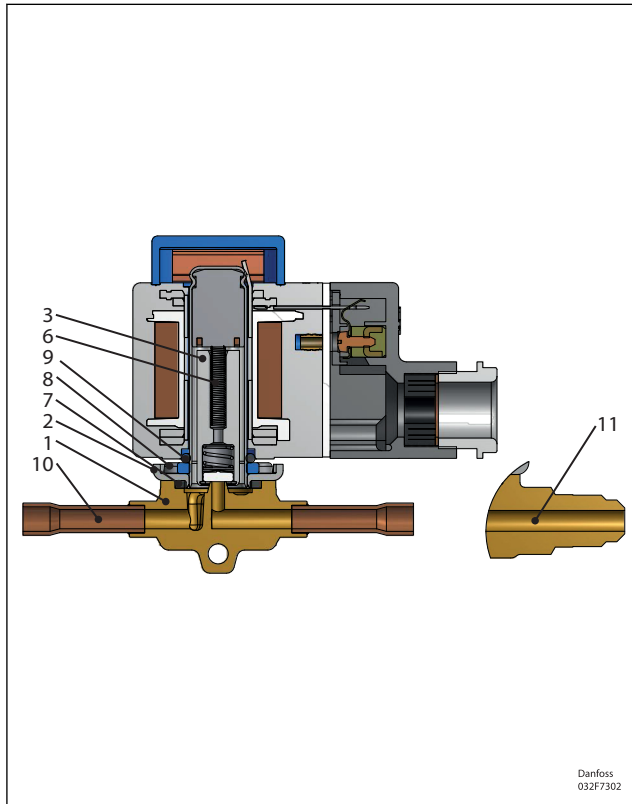


Figure 3: EVR 4 - EVR 6 - EVR 8 Solder and flare connection

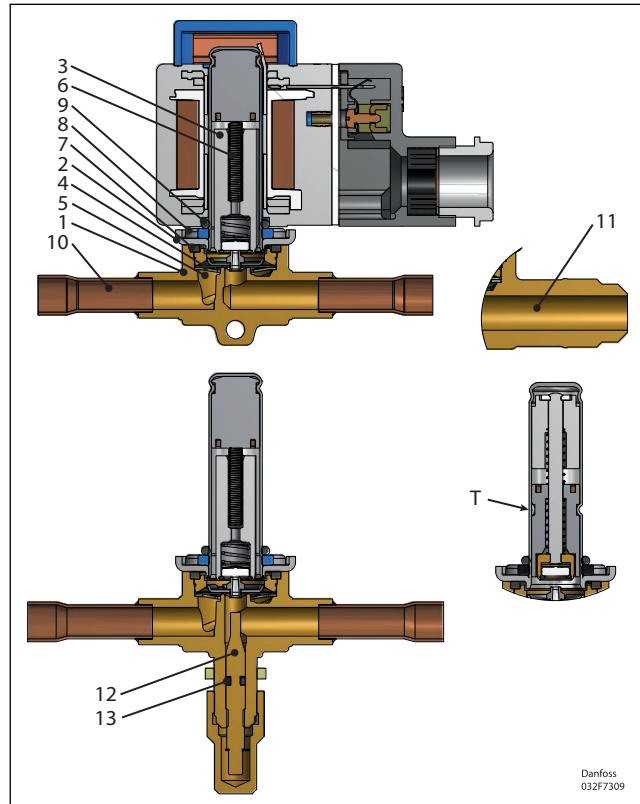


Table 3: Design and material for EVR 2, EVR 3, EVR 4, EVR 6, EVR 8

Pos. no.	Description	Material
1	Valve housing assembly	Brass
2	Cover	Stainless steel
3	Armature assembly	Stainless steel/PTFE
4	Diaphragm assembly	Stainless steel/PTFE
5	Support washer	Stainless steel
6	Armature spring	Stainless steel
7	Seal	Chloroprene rubber
8	Screws	Stainless steel
9	O-ring	EPDM rubber
10	Solder connection	Copper
11	Flare connection	Brass
12	Manual stem <sup>(1)</sup>	Brass
13	O-ring	Chloroprene rubber
T	Normally Open (NO) tube design	

<sup>(1)</sup> Manual stem is not available for EVR 4

Solenoid valve, Type EVR 2 - EVR 40

Figure 4: EVR 10 Solder and flare connection

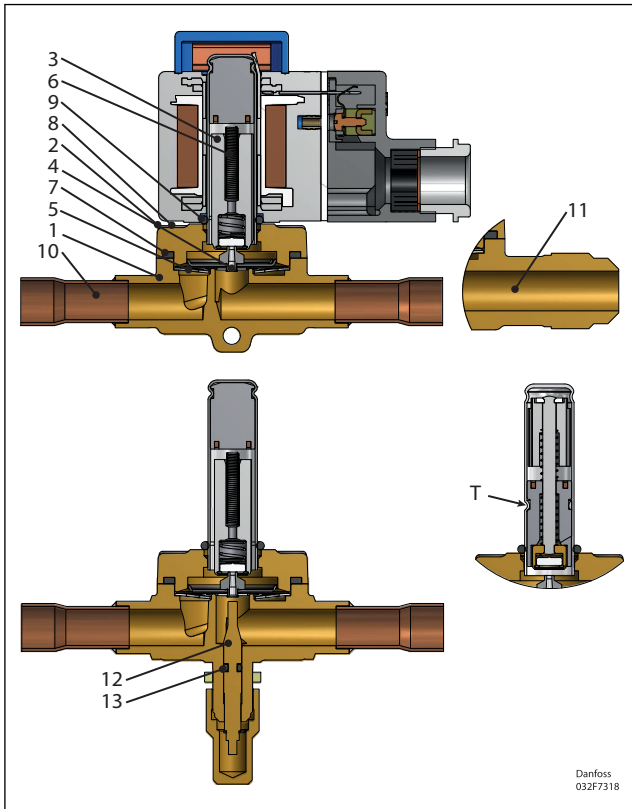


Figure 5: EVR 15 - EVR 18 Solder, flare, and flange

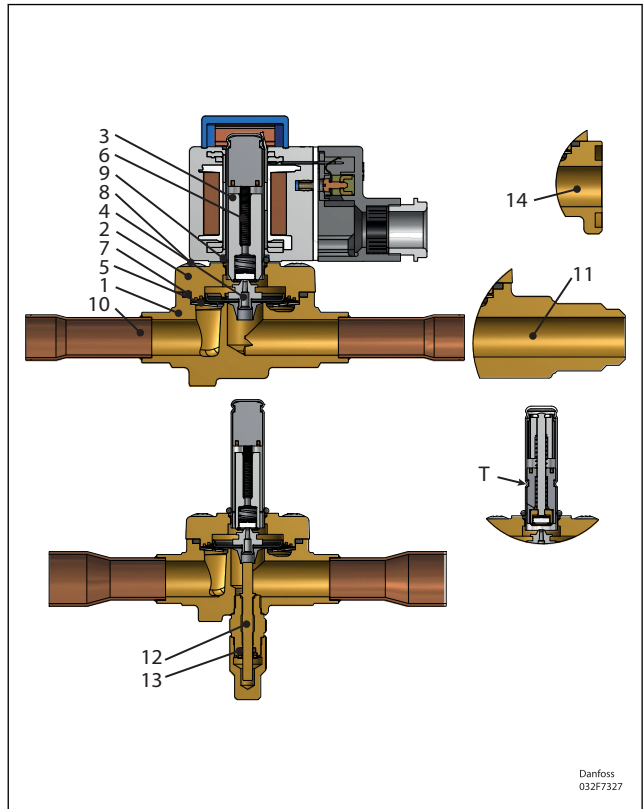


Table 4: Design and material for EVR 10, EVR 15, EVR 18

Pos. no.	Description	Material
1	Valve housing assembly	Brass
2	Cover	Stainless steel
3	Armature assembly	Stainless steel/PTFE
4	Diaphragm assembly	Stainless steel/PTFE
5	Support washer	Stainless steel
6	Armature spring	Stainless steel
7	Seal	Chloroprene rubber
8	Screws	Stainless steel
9	O-ring	EPDM rubber
10	Solder connection	Copper
11	Flare connection	Brass
12	Manual stem	Brass
13	O-ring	Chloroprene rubber
14	Flange connection	Brass
T	Normally Open (NO) tube design	



## Solenoid valve, Type EVR 2 - EVR 40

Figure 6: EVR 20 - EVR 22 Solder and flange connection

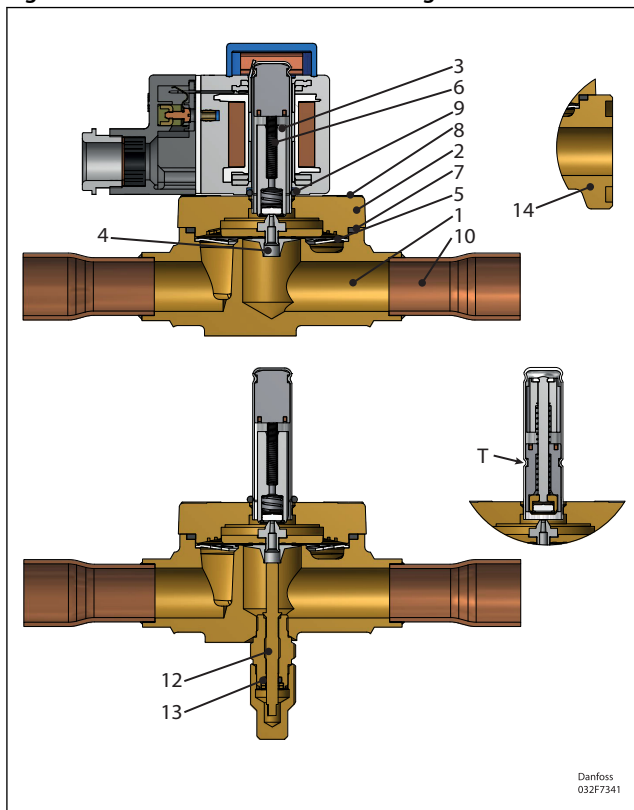


Figure 7: EVR 25 Solder connection

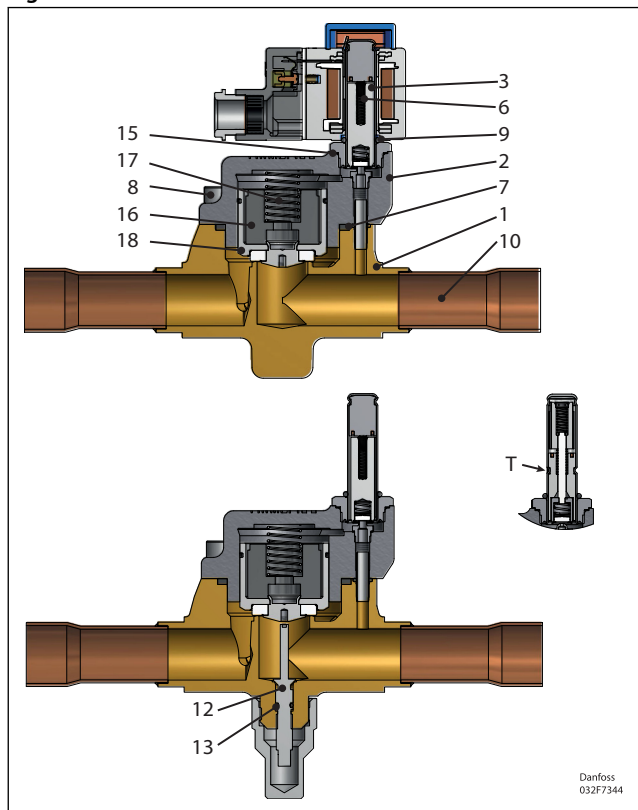


Table 5: Design and material for EVR 20, EVR 22, EVR 25

Pos. no.	Description	Material
1	Valve housing assembly	Brass
2	Cover	Stainless steel
3	Armature assembly	Stainless steel/PTFE
4	Diaphragm assembly	Stainless steel/PTFE
5	Support washer	Stainless steel
6	Armature spring	Stainless steel
7	Seal	Chloroprene rubber
8	Screws	Stainless steel
9	O-ring	EPDM rubber
10	Solder connection	Copper
11	Flare connection	Brass
12	Manual stem	Brass
13	O-ring	Chloroprene rubber
14	Flange connection	Brass
15	Gasket	Aluminum
16	Insert	Nylon
17	Piston spring	Stainless steel
18	Piston	Stainless steel
T	Normally Open (NO) tube design	

## Solenoid valve, Type EVR 2 - EVR 40

Figure 8: EVR 32 - EVR 40 Solder connection

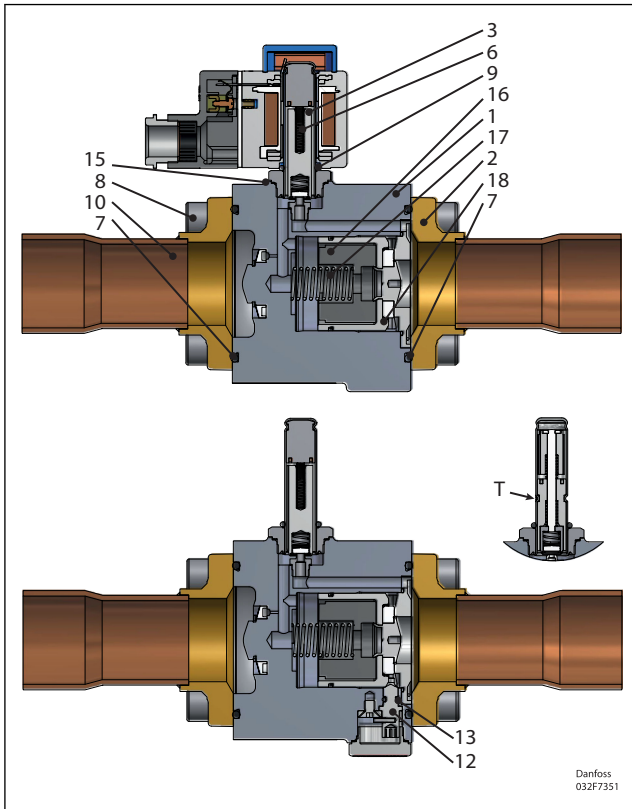


Figure 9: EVRC Solder connection

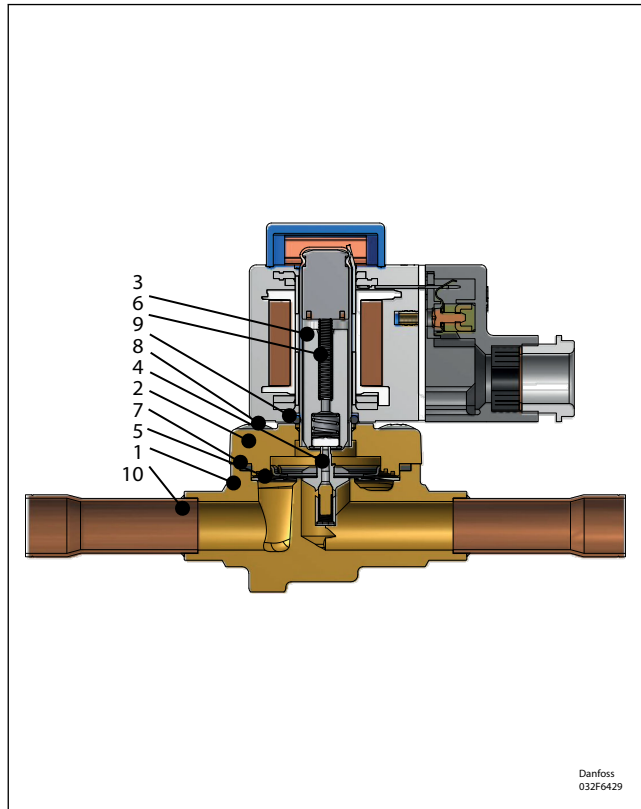


Table 6: Design and material for EVR 32, EVR 40, EVR Solder connection

Pos. no.	Description	Material
1	Valve housing assembly	Brass
2	Cover	Stainless steel
3	Armature assembly	Stainless steel/PTFE
4	Diaphragm assembly	Stainless steel/PTFE
5	Support washer	Stainless steel
6	Armature spring	Stainless steel
7	Seal	Chloroprene rubber
8	Screws	Stainless steel
9	O-ring	EPDM rubber
10	Solder connection	Copper
12	Manual stem	Brass
13	O-ring	Chloroprene rubber
15	Gasket	Aluminum
16	Insert	Nylon
17	Piston spring	Stainless steel
18	Piston	Stainless steel
T	Normally Open (NO) tube design	

### Dimensions and weights for EVR 2 - EVR 3 Solder connection

Figure 10: EVR and Cable coil

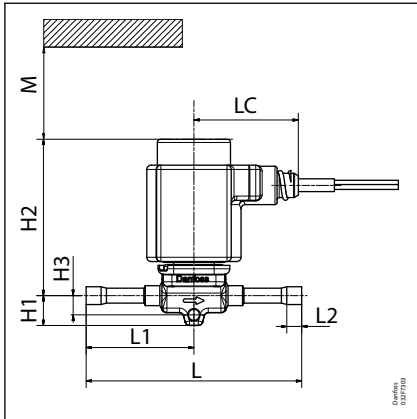


Figure 11: EVR and DIN plug coil

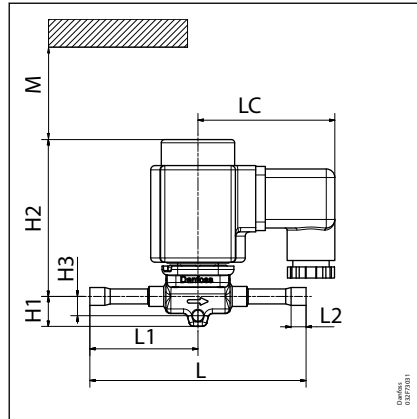


Figure 12: EVR and Terminal box coil

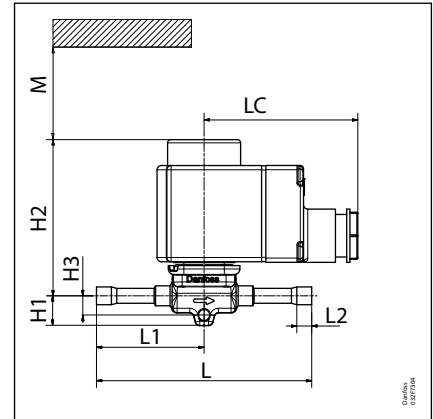


Figure 13: End view

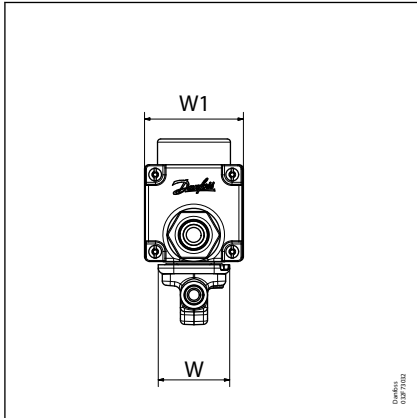


Table 7: Dimensions and weights for EVR 2 - EVR 3 Solder connection

Type	Connection size		H1	H2	H3	M min.	L	L1	L2	LC	W	W1 max.	Net weight without coil <sup>(1)</sup>
	[in]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
<b>Valve body</b>													
EVR 2	1/4	6	14	73	9	65	101	50.5	7	-	34	-	0.16
EVR 3	1/4	6	14	73	9	65	101	50.5	7	-	34	-	0.16
	3/8	10	14	73	9	65	117	58.5	8	-	34	-	0.17
<b>Coil</b>													
Cable coil										49	-	46	-
DIN plug coil										64	-	47	-
Terminal box coil 10 W										72	-	47	-
Terminal box coil 12 / 20 W										80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

For 3D CAD models on individual code numbers visit [store.danfoss.com](http://store.danfoss.com)

### Dimensions and weights for EVR 4 - EVR 6 - EVR 8 Solder connection

Figure 14: EVR and Cable coil

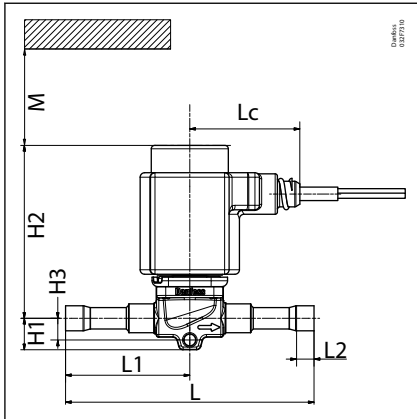


Figure 15: EVR and DIN plug coil

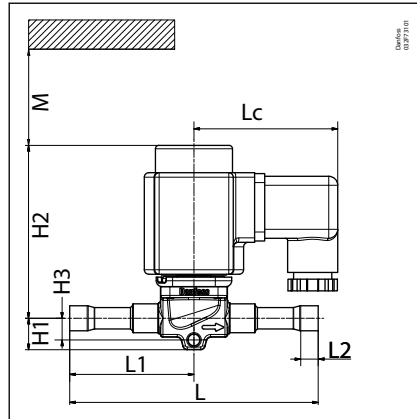


Figure 16: EVR and Terminal box coil

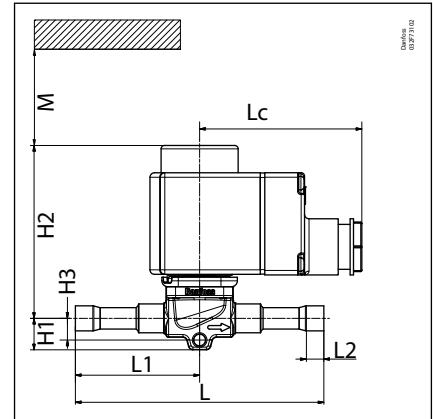


Figure 17: Manual stem

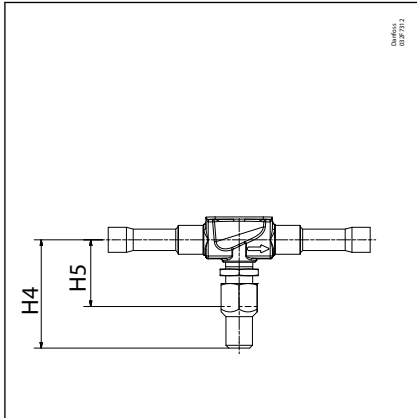


Figure 18: End view

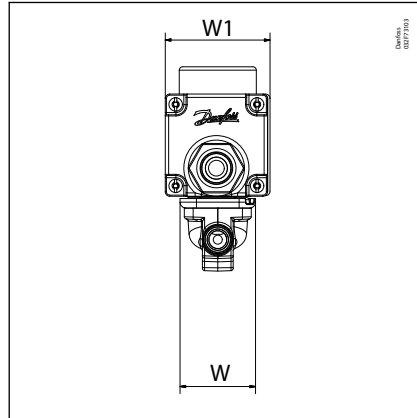


Table 8: Dimensions and weights for EVR 4 - EVR 6 - EVR 8 Solder connection

Type	Connection size		Manual operation	H1	H2	H3	H4	H5	M min.	L	L1	L2	LC	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>																
EVR 4	3/8	10	No	14	78	10	-	-	65	117	58.5	8	-	34	-	0.19
	3/8	10	Yes	14	78	10	48	30	65	117	58.5	8	-	34	-	0.19
EVR 6	3/8	10	No	14	78	10	-	-	65	111	55.5	8	-	34	-	0.19
	1/2	12	Yes	14	78	10	48	30	65	127	63.5	10	-	34	-	0.2
EVR 8	1/2	12	No	14	78	10	-	-	65	127	63.5	10	-	34	-	0.2
	1/2	12	Yes	14	78	10	48	30	65	127	63.5	10	-	34	-	0.2
EVR 8	1/2	12	No	14	78	10	-	-	65	127	63.5	10	-	34	-	0.2
	5/8	16	No	14	78	10	-	-	65	163	81.5	12	-	34	-	0.2
<b>Coil</b>																
Cable coil													49	-	46	-
DIN plug coil													64	-	47	-
Terminal box coil 10 W													72	-	47	-
Terminal box coil 12 / 20 W													80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

For 3D CAD models on individual code numbers visit [store.danfoss.com](https://store.danfoss.com)

### Dimensions and weights for EVR 10 Solder connection

Figure 19: EVR and Cable coil

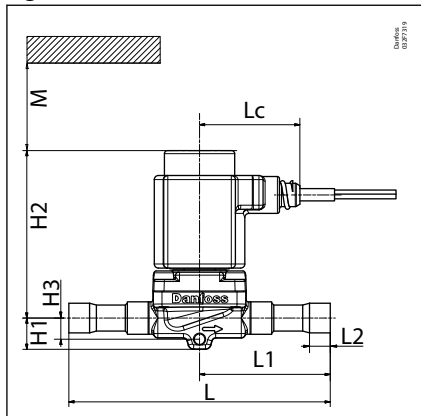


Figure 20: EVR and DIN plug coil

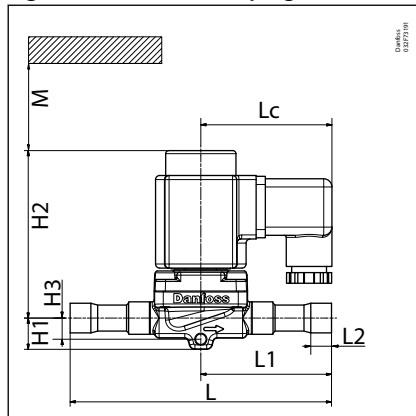


Figure 21: EVR and Terminal box coil

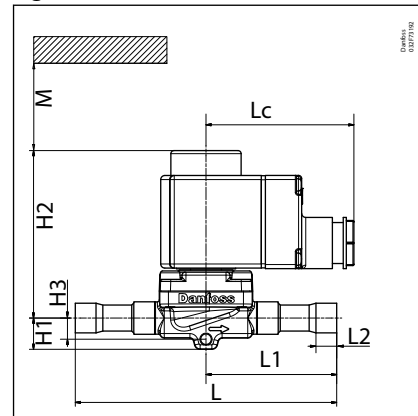


Figure 22: Manual stem

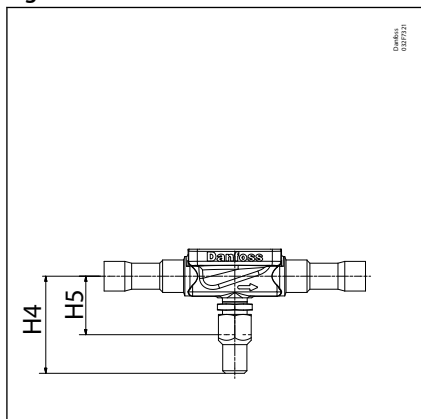


Figure 23: End view

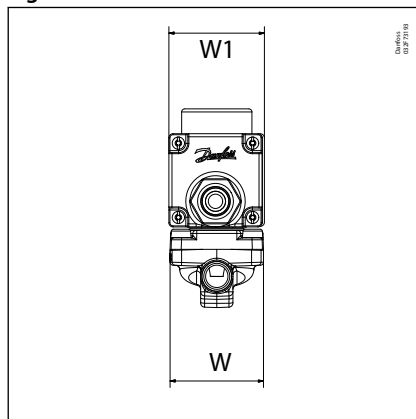


Table 9: Dimensions and weights for EVR 10 Solder connection

Type	Connection size		Manual operation	H1	H2	H3	H4	H5	M min.	L	L1	L2	LC	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>																
EVR 10	1/2	12	Yes	15	82	10	48	29	65	128	64	10	-	46	-	0.39
	3/8	10	No	15	82	10	-	-	65	118	59	-	-	46	-	0.34
	5/8	16	No	15	82	10	-	-	65	163	81.5	12	-	46	-	0.38
	5/8	16	Yes	15	82	10	48	29	65	163	81.5	12	-	46	-	0.4
<b>Coil</b>																
Cable coil													49	-	46	-
DIN plug coil													64	-	47	-
Terminal box coil 10 W													72	-	47	-
Terminal box coil 12 / 20 W													80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVR 15 - EVR 18 Solder connection

Figure 24: EVR and Cable coil

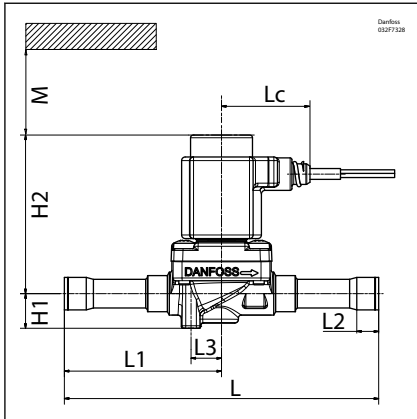


Figure 25: EVR and DIN plug coil

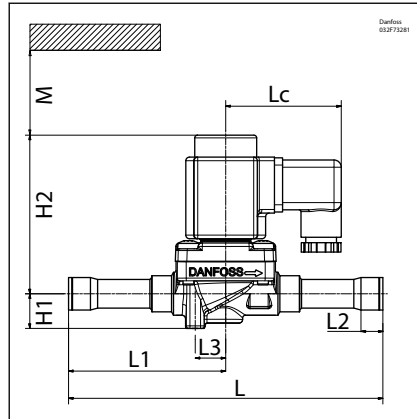


Figure 26: EVR and Terminal box coil

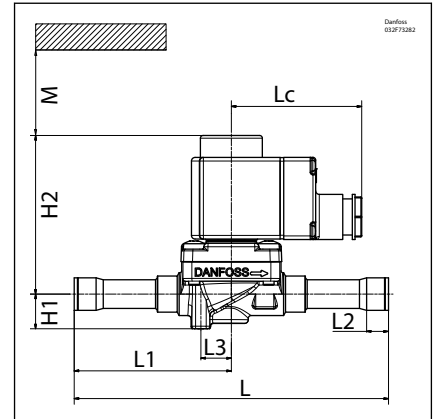


Figure 27: Manual stem

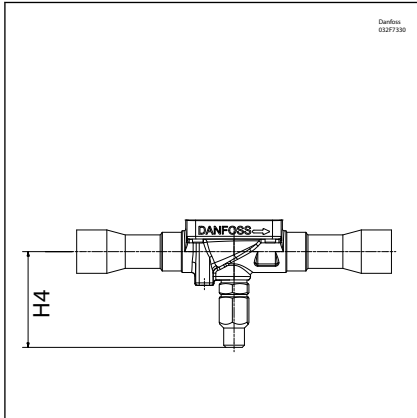


Figure 28: End view

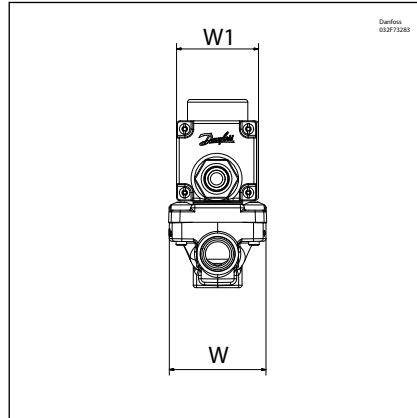


Table 10: Dimensions and weights for EVR 15 - EVR 18 Solder connection

Type	Connection		Manual operation	H1	H2	H4	M min.	L	L1	L2	L3	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>															
EVR 15	5/8	16	Yes	19	89	54	65	174	87	12	17	-	56	-	0.7
	5/8	16	No	19	89	-	65	174	87	12	17	-	56	-	0.7
	7/8	22	No	19	89	-	65	174	87	17	17	-	56	-	0.7
EVR 18	7/8	22	Yes	19	89	54	65	179	89.5	17	17	-	56	-	0.7
<b>Coil</b>															
Cable coil												49	-	46	-
DIN plug coil												64	-	47	-
Terminal box coil 10 W												72	-	47	-
Terminal box coil 12 / 20 W												80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVR 20 - EVR 22 Solder connection

Figure 29: EVR and Cable coil

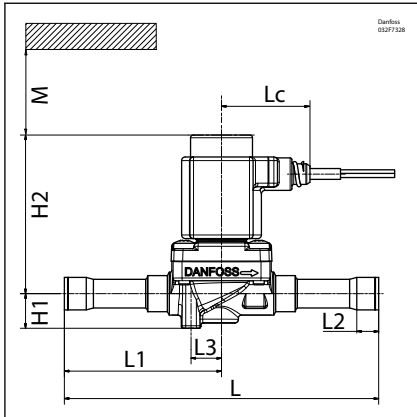


Figure 30: EVR and DIN plug coil

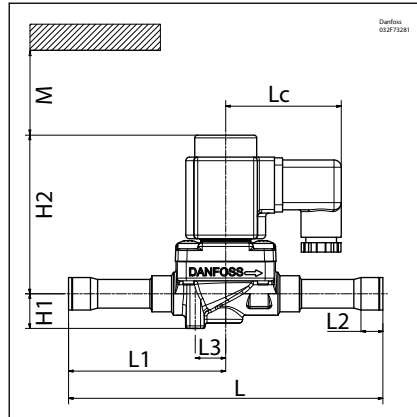


Figure 31: EVR and Terminal box coil

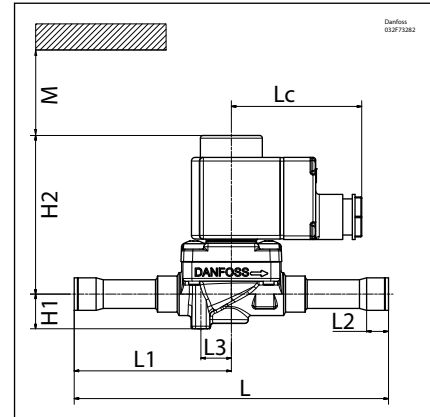


Figure 32: Manual stem

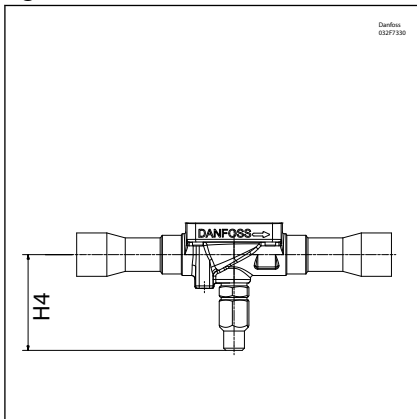


Figure 33: End view

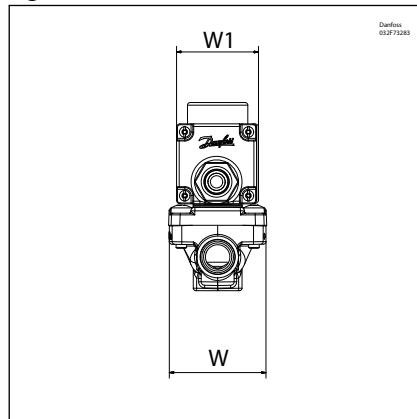


Table 11: Dimensions and weights for EVR 20 - EVR 22 Solder connection

Type	Connection		Manual operation	H1	H2	H4	M min.	L	L1	L2	L3	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>															
EVR 20	7/8	22	Yes	19	93	56	65	190	95	17	20	-	72	-	1.26
	7/8	22	No	19	93	-	65	190	95	17	20	-	72	-	1.26
	1 1/8	28	No	19	93	-	65	217	108.5	20	20	-	72	-	1.31
EVR 22	1 1/8	28	Yes	19	93	56	65	222	111	20	20	-	72	-	1.31
	1 1/8	28	No	19	93	-	65	267	133.5	20	20	-	72	-	1.47
	1 3/8	35	No	19	93	-	65	292	146	25	20	-	72	-	1.47
<b>Coil</b>															
Cable coil												49	-	46	-
DIN plug coil												64	-	47	-
Terminal box coil 10 W												72	-	47	-
Terminal box coil 12 / 20 W												80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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## Dimensions and weights for EVR 25 Solder connection

Figure 34: EVR and Cable coil

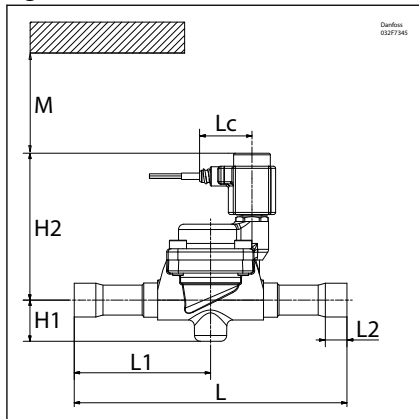


Figure 35: EVR and DIN plug coil

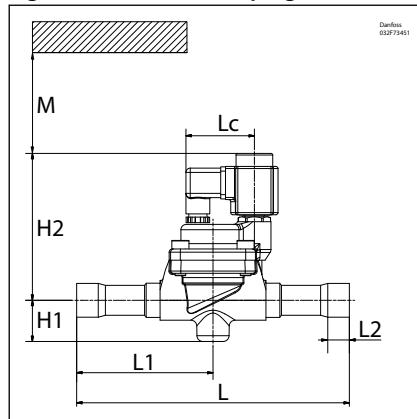


Figure 36: EVR and Terminal box coil

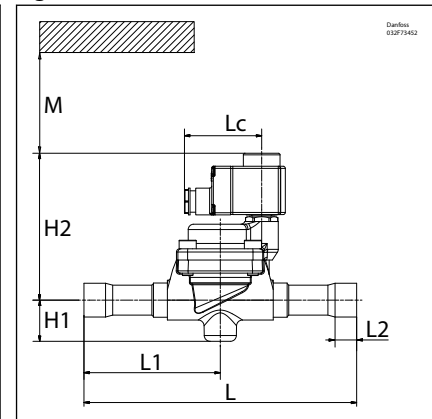


Figure 37: Manual stem

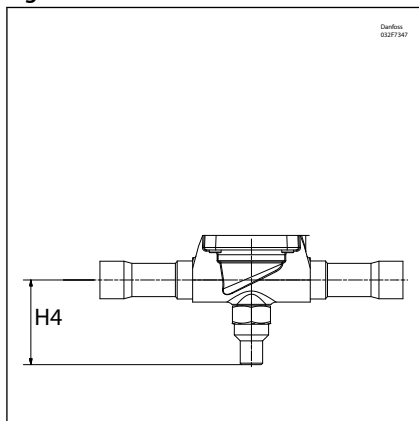


Figure 38: End view

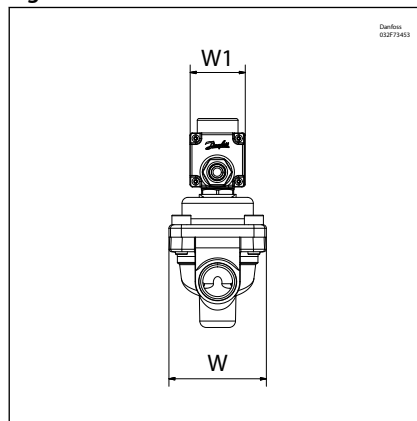


Table 12: Dimensions and weights for EVR 25 Solder connection

Type	Connec-tion		Manual operation	H1	H2	H4	M min.	L	L1	L2	Lc	W	W1 max.	Net weight without coil <sup>(2)</sup>
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
<b>Valve body</b>														
EVR 25	1 1/8	28	Yes	39	138	71	65	255	127.5	20	-	82	-	2.67 <sup>(1)</sup>
	1 1/8	28	No	39	138	-	65	255	127.5	20	-	82	-	2.67 <sup>(1)</sup>
	1 3/8	35	Yes	39	138	71	65	281	140.5	25	-	82	-	2.80 <sup>(1)</sup>
	1 3/8	35	No	39	138	-	65	281	140.5	25	-	82	-	2.80 <sup>(1)</sup>
<b>Coil</b>														
Cable coil											49	-	46	-
DIN plug coil											64	-	47	-
Terminal box coil 10 W											72	-	47	-
Terminal box coil 12 / 20 W											80	-	68	-

<sup>(1)</sup> Manual stem: +0.060 kg

<sup>(2)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVR 32 - EVR 40 Solder connection

Figure 39: EVR and Cable coil

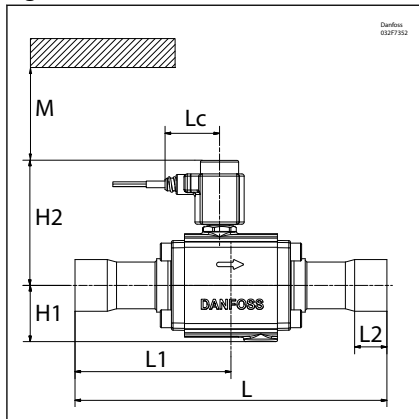


Figure 40: EVR and DIN plug coil

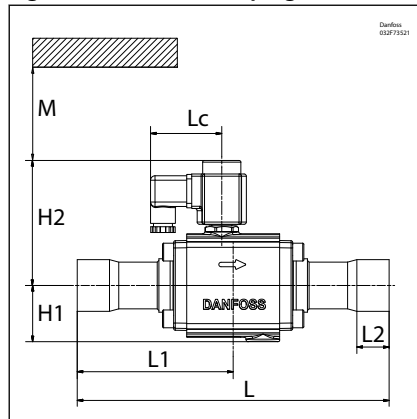


Figure 41: EVR and Terminal box coil

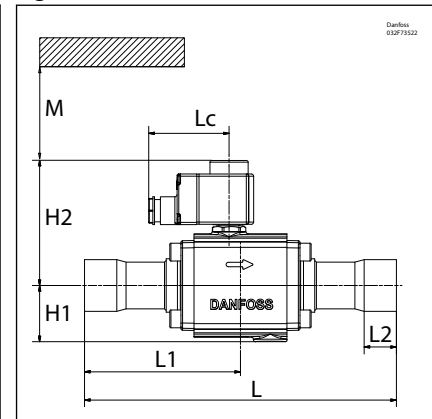


Figure 42: Manual stem

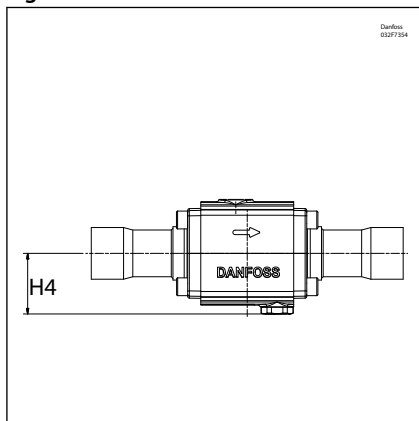


Figure 43: End view

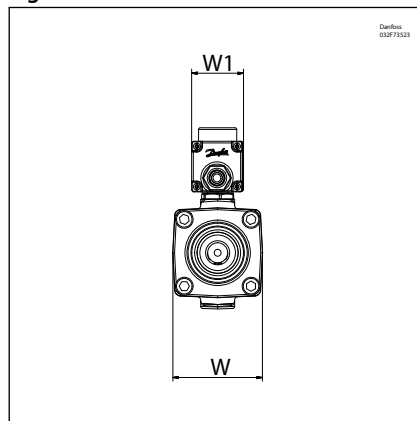


Table 13: Dimensions and weights for EVR 32 - EVR 40 Solder connection

Type	Conne- ction		Manual opera- tion	H1	H2	H4	M min.	L	L1	L2	Lc	W	W1 max.	Net weight without coil <sup>(2)</sup>
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
<b>Valve body</b>														
EVR 32	1 3/8	35	Yes	–	111	55	65	280	140	25	–	81	–	4.3
	1 3/8	35	No	51	111	–	65	280	140	25	–	81	–	4.3
	1 5/8	42	Yes	–	111	55	65	280	140	29	–	81	–	4.4
	1 5/8	42	No	51	111	–	65	280	140	29	–	81	–	4.4
	2 1/8	–	Yes	–	111	55	65	280	140	34	–	80	–	4.57
	2 1/8	–	No	51	111	–	65	280	140	34	–	80	–	4.57
EVR 40	1 5/8	42	Yes	–	111	55	65	280	140	29	–	81	–	4.4
	1 5/8	42	No	51	111	–	65	280	140	29	–	81	–	4.4
	2 1/8	–	Yes	–	111	55	65	280	140	34	–	80	–	4.57
	2 1/8	–	No	51	111	–	65	280	140	34	–	80	–	4.57
<b>Coil</b>														
Cable coil											49	–	46	–
DIN plug coil											64	–	47	–
Terminal box coil 10 W											72	–	47	–
Terminal box coil 12 / 20 W											80	–	68	–

<sup>(2)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVRC 15 Solder connection

Figure 44: EVRC and Cable coil

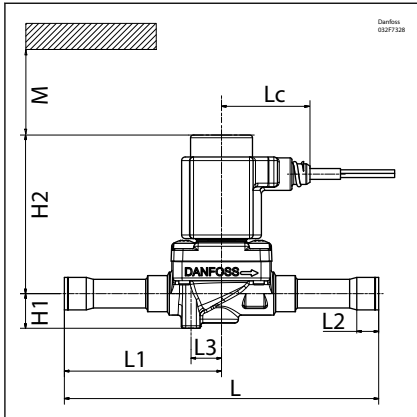


Figure 45: EVRC and DIN plug coil

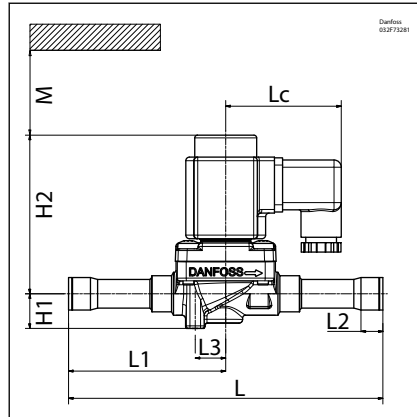


Figure 46: EVRC and Terminal box coil

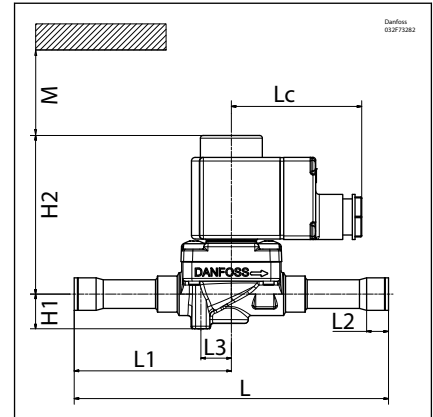


Figure 47: End view

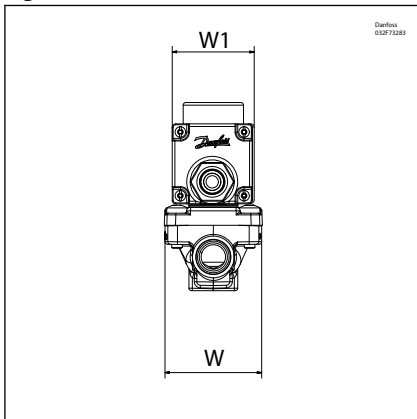


Table 14: Dimensions and weights for EVRC 15 Solder connection

Type	Connection		Manual operation	H1	H2	M min.	M min.	L	L1	L2	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>														
EVRC 15	5/8	16	No	19	89	65	174	87	12	17	-	56	-	0.7
<b>Coil</b>														
Cable coil											49	-	46	-
DIN plug coil											64	-	47	-
Terminal box coil 10 W											72	-	47	-
Terminal box coil 12 / 20 W											80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVRC 20 Solder connection

Figure 48: EVRC and Cable coil

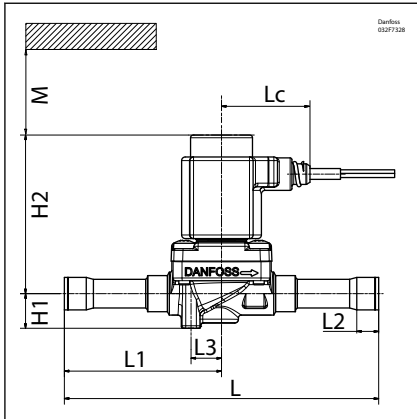


Figure 49: EVRC and DIN plug coil

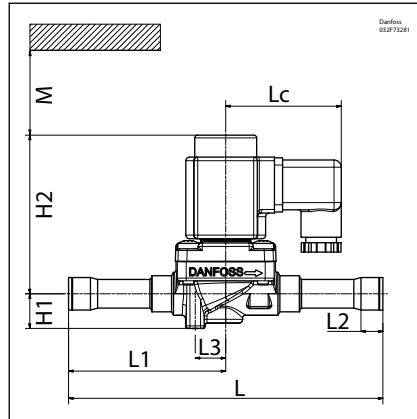


Figure 50: EVRC and Terminal box coil

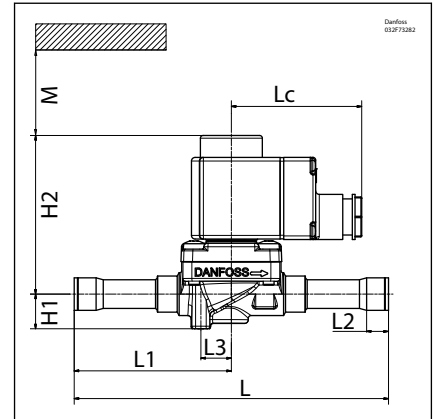


Figure 51: End view

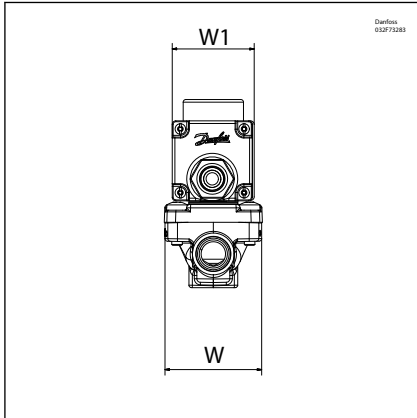


Table 15: Dimensions and weights for EVRC 20 Solder connection

Type	Connection		Manual operation	H1	H2	M min.	M min.	L	L1	L2	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>														
EVRC 20	7/8	22	No	19	93	65	190	95	17	20	-	72	-	1.26
<b>Coil</b>														
Cable coil											49	-	46	-
DIN plug coil											64	-	47	-
Terminal box coil 10 W											72	-	47	-
Terminal box coil 12 / 20 W											80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVR 2 - EVR 3 Flare connection

Figure 52: EVR and Cable coil

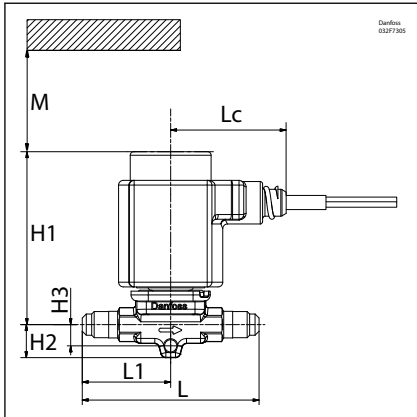


Figure 53: EVR and DIN plug coil

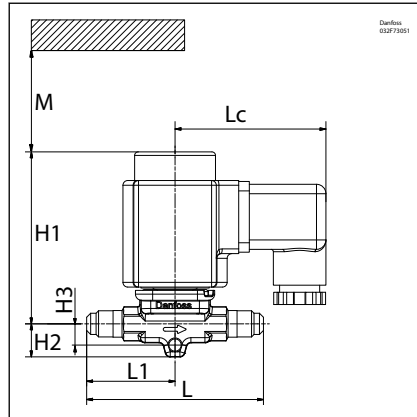


Figure 54: EVR and Terminal box coil

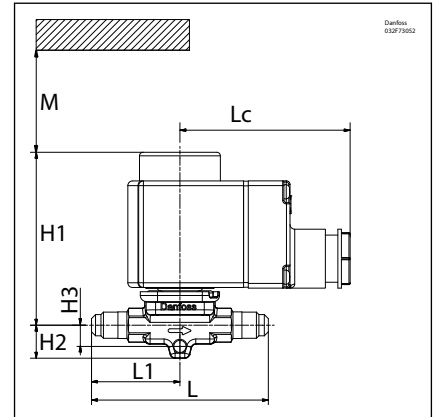
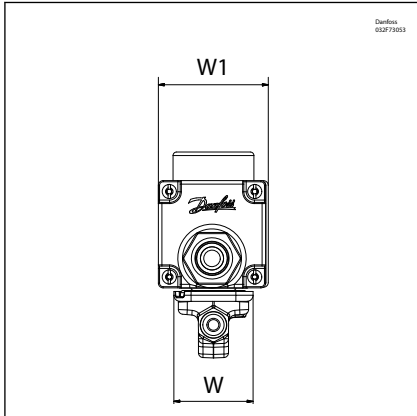


Figure 55: End view



Type	Connection		H1	H2	H3	M min.	L	L1	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup>
	[in]	[mm]										
<b>Valve body</b>												
EVR 2	1/4	6	14	73	9	65	75	37.5	-	34	-	0.18
EVR 3	1/4	6	14	73	9	65	75	37.5	-	34	-	0.18
	3/8	10	14	73	9	65	75	37.5	-	34	-	0.18
<b>Coil</b>												
Cable coil									49	-	46	-
DIN plug coil									64	-	47	-
Terminal box coil 10 W									72	-	47	-
Terminal box coil 12 / 20 W									80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVR 6 Flare connection

Figure 56: EVR and Cable coil

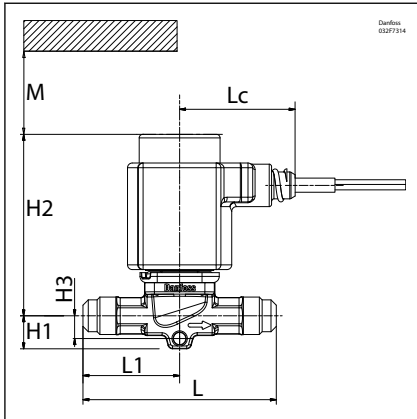


Figure 57: EVR and DIN plug coil

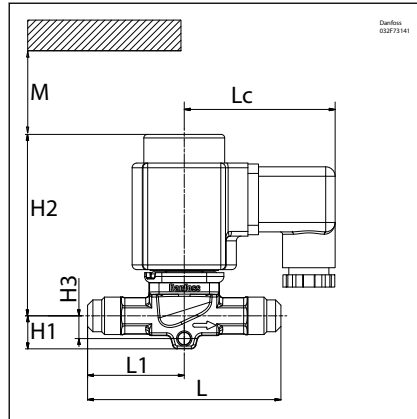


Figure 58: EVR and Terminal box coil

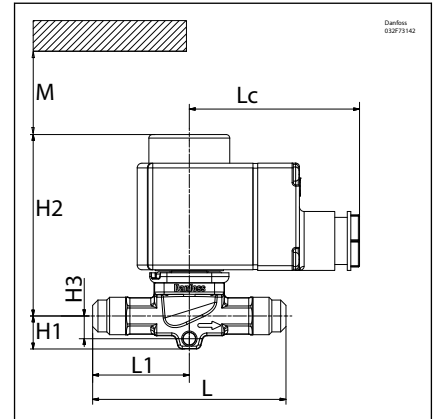


Figure 59: End view

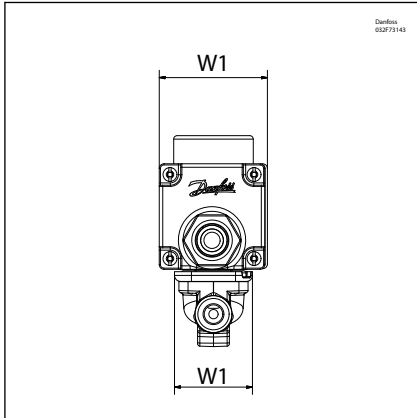


Table 16: Dimensions and weights for EVR 6 Flare connection

Type	Conne- tion		H1	H2	H3	M min.	L	L1	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup>
	[in]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
<b>Valve body</b>												
EVR 6	3/8	10	14	77	10	65	82	41	-	34	-	0.21
	1/2	12	14	77	10	65	88	44	-	34	-	0.22
<b>Coil</b>												
Cable coil									49	-	46	-
DIN plug coil									64	-	47	-
Terminal box coil 10 W									72	-	47	-
Terminal box coil 12 / 20 W									80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVR 10 Flare connection

Figure 60: EVR and Cable coil

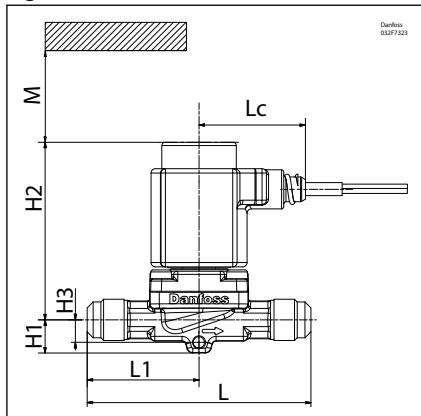


Figure 61: EVR and DIN plug coil

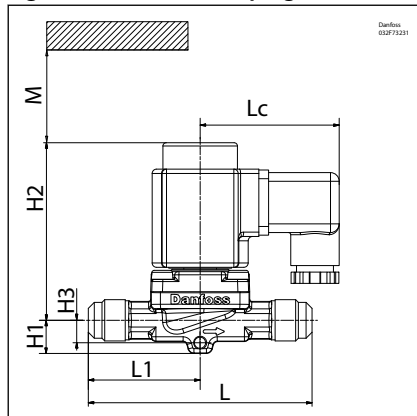


Figure 62: EVR and Terminal box coil

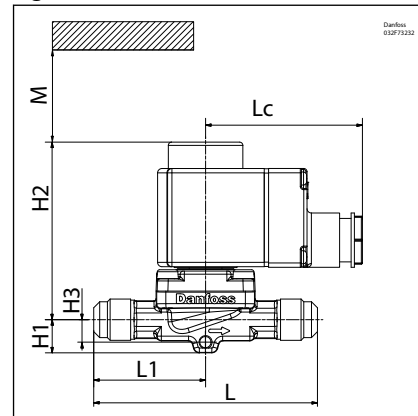


Figure 63: End view

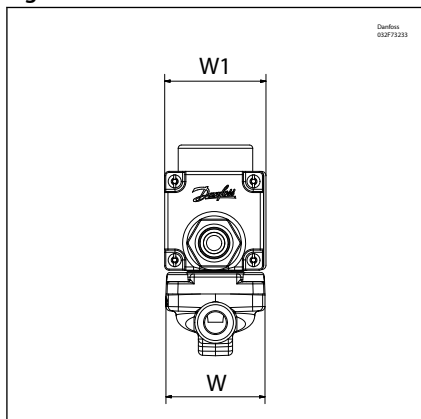


Table 17: Dimensions and weights for EVR 10 Flare connection

Type	Connection		H1	H2	H3	M min.	L	L1	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup>
	[in]	[mm]										
<b>Valve body</b>												
EVR 10	1/2	12	15	82	10	65	103	51.5	-	46	-	0.44
	5/8	16	15	82	10	65	110	55	-	46	-	0.45
<b>Coil</b>												
Cable coil									49	-	46	-
DIN plug coil									64	-	47	-
Terminal box coil 10 W									72	-	47	-
Terminal box coil 12 / 20 W									80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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### Dimensions and weights for EVR 15 Flare connection

Figure 64: EVR and Cable coil

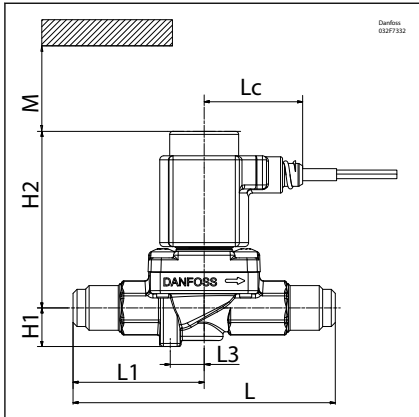


Figure 65: EVR and DIN plug coil

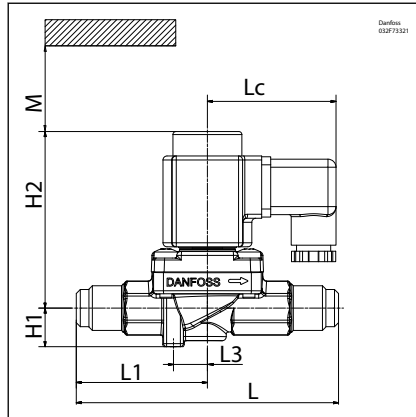


Figure 66: EVR and Terminal box coil

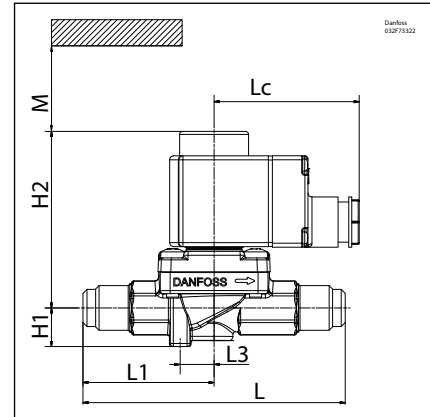


Figure 67: Manual stem

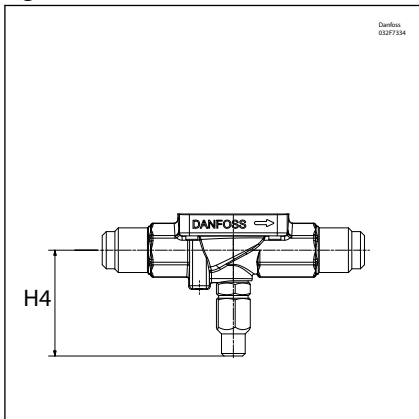


Figure 68: End view

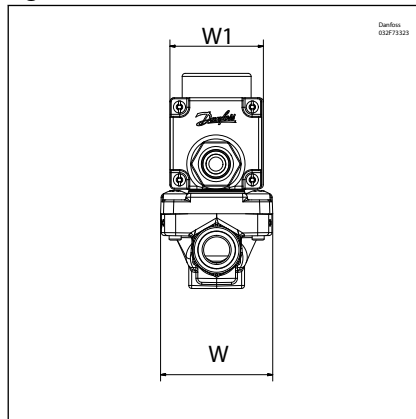


Table 18: Dimensions and weights for EVR 15 Flare connection

Type	Connection		Manual operation	H1	H2	H3	M min.	L	L1	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
	[in]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>													
EVR 15	5/8	16	Yes	19	89	53	65	131	65.5	17	-	56	-
	5/8	16	No	19	89	-	65	131	65.5	17	-	56	-
<b>Coil</b>													
Cable coil										49	-	46	-
DIN plug coil										64	-	47	-
Terminal box coil 10 W										72	-	47	-
Terminal box coil 12 / 20 W										80	-	68	-

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg

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## Dimensions and weights for EVR 15 Flange connection

Figure 69: EVR and Cable coil

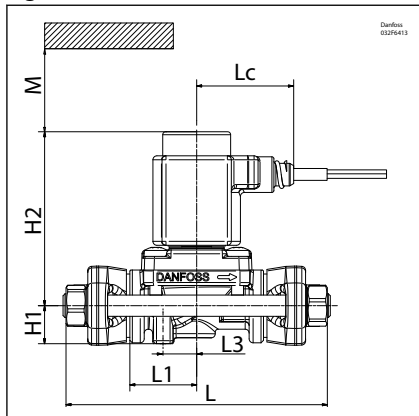


Figure 70: EVR and DIN plug coil

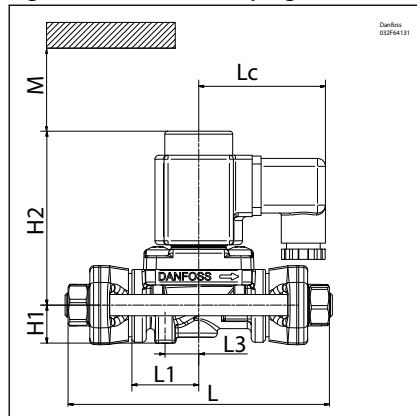


Figure 71: EVR and Terminal box coil

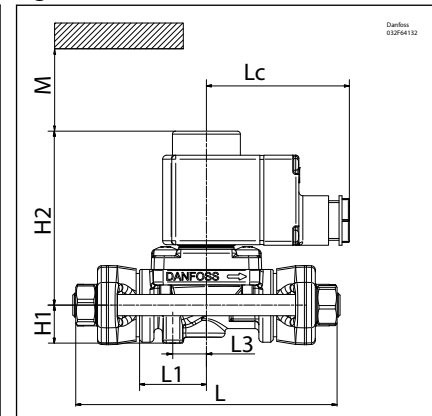


Figure 72: Manual stem

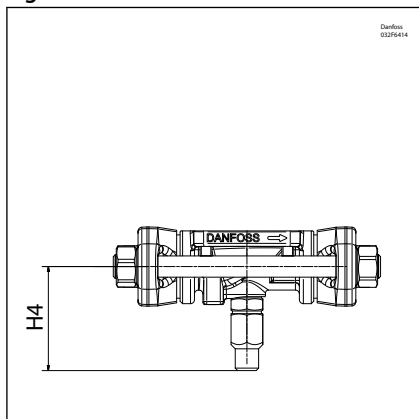


Figure 73: End view

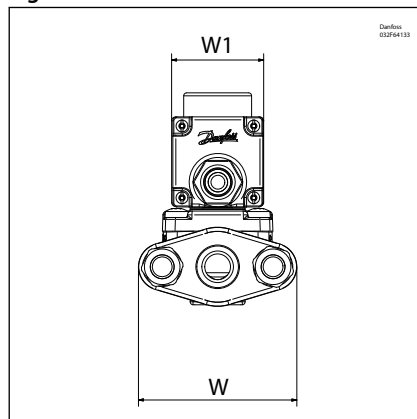


Table 19: Dimensions and weights for EVR 15 Flange connection

Type	Manual operation	H1	H2	H4	M min.	L	L1	L3	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>												
EVR 15	Yes	19	89	53	65	126	33.8	17	–	80	–	0.64
	No	19	89	–	65	126	33.8	17	–	80	–	0.64
<b>Coil</b>												
Cable coil									49	–	46	–
DIN plug coil									64	–	47	–
Terminal box coil 10 W									72	–	47	–
Terminal box coil 12 / 20 W									80	–	68	–

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg. The Weight of flange set is 0.6 kg

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## Dimensions and weights for EVR 20 Flange connection

Figure 74: EVR and Cable coil

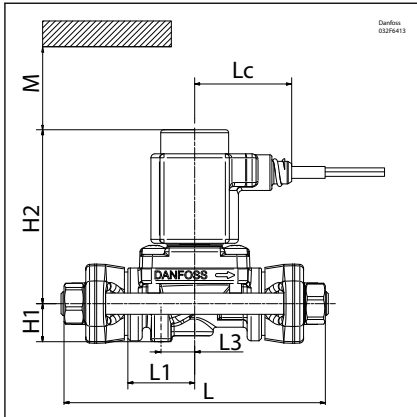


Figure 75: EVR and DIN plug coil

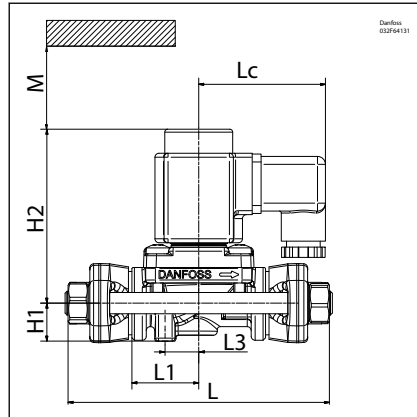


Figure 76: EVR and Terminal box coil

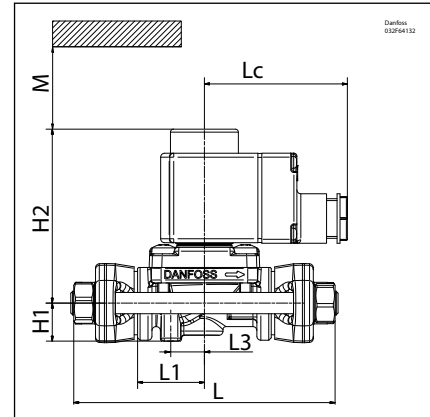


Figure 77: Manual stem

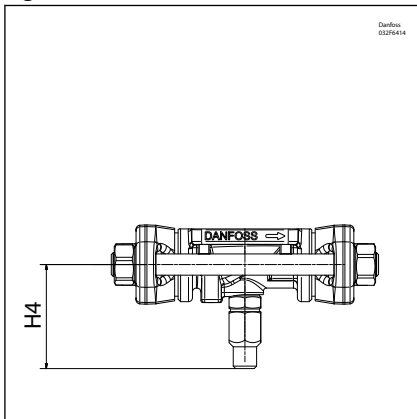


Figure 78: End view

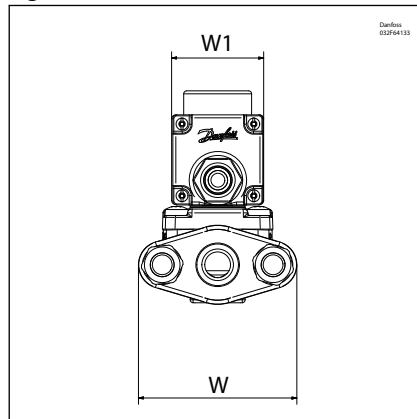


Table 20: Dimensions and weights for EVR 20 Flange connection

Type	Manual operation	H1	H2	H4	M min.	L	L1	L3	Lc	W	W1 max.	Net weight without coil <sup>(1)</sup> [kg]
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
<b>Valve body</b>												
EVR 20	Yes	19	93	56	65	156	42.5	20	–	96	–	1.20
	No	19	93	–	65	156	42.5	20	–	96	–	1.20
<b>Coil</b>												
Cable coil									49	–	46	–
DIN plug coil									64	–	47	–
Terminal box coil 10 W									72	–	47	–
Terminal box coil 12 / 20 W									80	–	68	–

<sup>(1)</sup> Net weight of coil for 10 W is approx. 0.3 kg and for 12 and 20 W is approx. 0.5 kg. The Weight of flange set is 0.6 kg

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**Ordering**

**Ordering EVR solder connection, Normally Closed (NC) - separate valve bodies**

Figure 79: EVR 2 / EVR 3    Figure 80: EVR 4 / EVR 6 / EVR 8    Figure 81: EVR 10    Figure 82: EVR 15 / EVR 18 / EVR 20 / EVR 22

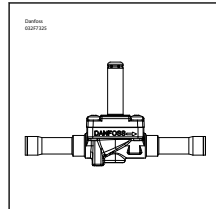
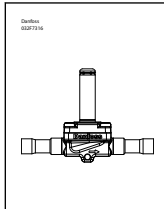
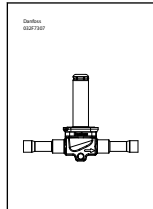
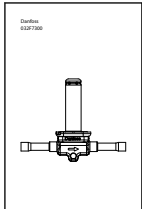


Figure 83: EVR 25

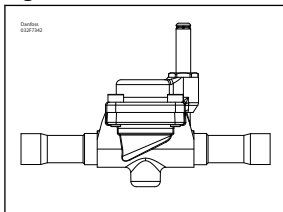


Figure 84: EVR 32 / EVR 40

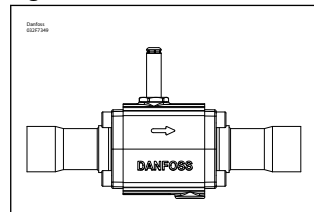


Table 21: Ordering EVR solder connection, Normally Closed (NC) - separate valve bodies

Type	Coil voltage	Connection size		Manual operation	K <sub>v</sub> value [m <sup>3</sup> /h]	Code no.
		[in]	[mm]			
EVR 2	AC / DC	1/4	–	No	0.15	032F1201
	AC / DC	1/4	–	No	0.15	032F7100
	AC / DC	–	6	No	0.15	032F1202
EVR 3	AC / DC	1/4	–	No	0.26	032F1206
	AC / DC	3/8	–	No	0.26	032F1204
	AC / DC	–	6	No	0.26	032F1207
EVR 4	AC / DC	–	10	No	0.26	032F1208
	AC / DC	3/8	–	No	0.7	032L7110
	AC / DC	3/8	–	Yes	0.87	032L7116
EVR 6	AC / DC	–	10	No	1.0	032L1212
	AC / DC	3/8	–	No	1.0	032L1213
	AC / DC	–	12	No	1.0	032L1236
	AC / DC	1/2	–	No	1.0	032L1209
	AC / DC	1/2	–	Yes	0.87	032L7144
	AC / DC	5/8	–	No	1.0	032L7117
EVR 8	AC / DC	1/2	–	No	1.15	032L7121
	AC / DC	1/2	–	Yes	1.09	032L7148
	AC / DC	5/8	–	No	1.15	032L7122
EVR 10	AC / DC	3/8	–	No	1.56	032L7125
	AC / DC	–	12	No	2.2	032L1218
	AC / DC	1/2	–	No	2.2	032L1217
	AC / DC	1/2	–	Yes	2.2	032L1188
	AC / DC	5/8	16	No	2.2	032L1214
	AC / DC	5/8	–	Yes	2.2	032L7149
EVR 15	AC / DC	5/8	16	No	3.3	032L1228
	AC / DC	5/8	16	Yes	3.3	032L1227
	AC / DC	7/8	22	No	3.3	032L1225
EVR 18	AC / DC	7/8	–	Yes	3.9	032L1004
EVR 20	AC / DC	7/8	–	No	6.0	032L1240
	AC / DC	7/8	–	Yes	6.0	032L1254
	AC / DC	1 1/8	–	No	6.0	032L1244
	AC / DC	–	28	No	6.0	032L1245

## Solenoid valve, Type EVR 2 - EVR 40

Type	Coil voltage	Connection size		Manual operation	K <sub>v</sub> value	Code no.
		[in]	[mm]		[m <sup>3</sup> /h]	
EVR 22	AC / DC	1 1/8	–	No	6.2	032L7145
	AC / DC	1 1/8	–	Yes	6.2	032L7137
	AC / DC	1 3/8	–	No	6.2	032L3267
EVR 25	AC / DC	1 1/8	–	Yes	9.8	032L2200
	AC / DC	1 1/8	–	No	9.8	032L2201
	AC / DC	–	28	Yes	9.8	032L2205
	AC / DC	–	28	No	9.8	032L2206
	AC / DC	1 3/8	–	Yes	9.8	032L2207
	AC / DC	1 3/8	–	No	9.8	032L2208
	AC / DC	1 3/8	35	Yes	16.7	032L1105
EVR 32	AC / DC	1 3/8	35	No	16.7	032L1106
	AC / DC	1 5/8	–	Yes	16.7	032L1103
	AC / DC	1 5/8	–	No	16.7	032L1104
	AC / DC	–	42	Yes	16.7	032L1107
	AC / DC	–	42	No	16.7	032L1108
	AC / DC	2 1/8	–	No	16.7	032L1180
	AC / DC	2 1/8	–	Yes	16.7	032L1181
	AC / DC	1 5/8	–	Yes	24.2	032L1109
EVR 40	AC / DC	1 5/8	–	No	24.2	032L1110
	AC / DC	–	42	Yes	24.2	032L1113
	AC / DC	–	42	No	24.2	032L1114
	AC / DC	2 1/8	–	Yes	24.2	032L1111
	AC / DC	2 1/8	–	No	24.2	032L1112

### Ordering EVR solder connection, Normally Open (NO) - separate valve bodies

Figure 85: EVR 6 solder connection (NO)

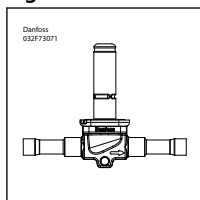


Table 22: Ordering EVR solder connection, Normally Open (NO) - separate valve bodies

Type	Coil voltage	Connection size		Manual operation	K <sub>v</sub> value	Code no.
		[in]	[mm]		[m <sup>3</sup> /h]	
EVR 6	AC / DC	3/8	–	No	1.0	032L1290
	AC / DC	–	10	No	1.0	032L1295
EVR 10	AC / DC	1/2	–	No	2.2	032L1291
	AC / DC	–	12	No	2.2	032L1296
EVR 15	AC / DC	5/8	16	No	3.3	032L1299
	AC / DC	7/8	–	No	3.3	032L3270
EVR 20	AC / DC	7/8	–	No	6.0	032L1260
	AC / DC	1 1/8	–	No	6.0	032L1269
	AC / DC	–	28	No	6.0	032L1279
EVR 22	AC	1 3/8	–	No	6.0	032L3268

### Ordering EVR flare connection, Normally Closed (NC) - separate valve bodies

Figure 86: EVR 6 flare connection (NC)

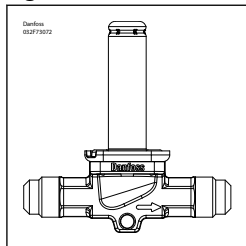


Table 23: Ordering EVR flare connection, Normally Closed (NC) - separate valve bodies

Type	Coil voltage	Connection size		Manual operation	K <sub>v</sub> value [m <sup>3</sup> /h]	Code no.
		[in]	[mm]			
EVR 2	AC / DC	1/4	6	No	0.15	032F8056
EVR 3	AC / DC	1/4	6	No	0.26	032F8107
	AC / DC	3/8	10	No	0.26	032F8116
EVR 6	AC / DC	3/8	10	No	1.0	032L8072
	AC / DC	1/2	12	No	1.0	032L8079
EVR 10	AC / DC	1/2	12	No	2.2	032L8095
	AC / DC	5/8	16	No	2.2	032L8098
EVR 15	AC / DC	5/8	16	Yes	3.3	032L8100
	AC / DC	5/8	16	No	3.3	032L8101

### Ordering EVR flare connection, Normally Open (NO) - separate valve bodies

Figure 87: EVR 6 flare connection (NO)

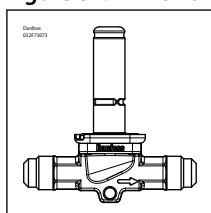


Table 24: Ordering EVR flare connection, Normally Open (NO) - separate valve bodies

Type	Coil voltage	Connection size		Manual operation	K <sub>v</sub> value [m <sup>3</sup> /h]	Code no.
		[in]	[mm]			
EVR 6	AC / DC	3/8	10	No	1.0	032L8085
EVR 10	AC / DC	1/2	12	No	2.2	032L8090

### Ordering EVR flange connection, Normally Closed (NC) - separate valve bodies

Figure 88: EVR 15 flange connection

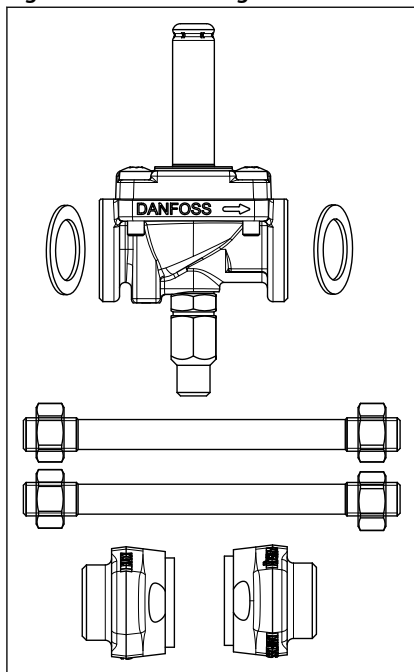


Table 25: EVR flange connection, Normally Closed (NC) - separate valve bodies

Type	Coil voltage	Connection	Manual operation	Code no.
EVR 15	AC / DC	Flanges	No	032L1224
	AC / DC	Flanges	Yes	032L1234
EVR 20	AC / DC	Flanges	No	032L1243
	AC / DC	Flanges	Yes	032L1253

Table 26: Flange sets

Type	Connection size		Connection type			Code no.
	[in]	[mm]	Solder [in]	Solder [mm]	Weld [in]	
EVR 15	1/2	-	-	-	Yes	027N1115
	5/8	-	Yes	-	-	027L1117
	-	16	-	Yes	-	027L1116
	3/4	-	-	-	Yes	027N1120
	7/8	-	Yes	-	-	027L1123
	-	22	-	Yes	-	027L1122
EVR 20	3/4	-	-	-	Yes	027N1220
	7/8	-	Yes	-	-	027L1223
	-	22	-	Yes	-	027L1222
	1	-	-	-	Yes	027N1225
	1 1/8	-	Yes	-	-	027L1229
	-	28	-	Yes	-	027L1228

#### Example

EVR 15 without manual operation,

code no. **032L1224**

1/2 in weld flange set,

code no. **027N1115**

+ coil with terminal box, 220 V, 50 Hz,

code no. **018F6701**

## Ordering EVRC solder connection, Normally Closed (NC) - separate valve bodies

Figure 89: EVRC solder connection (NC)

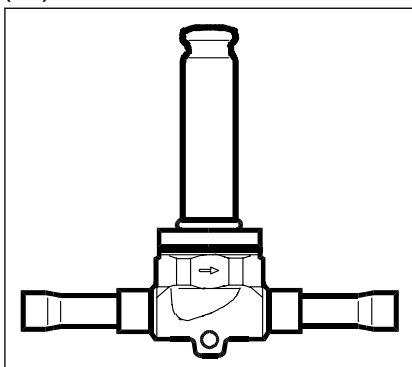


Table 27: EVRC solder connection, Normally Closed (NC)

Type	Coil voltage	Connection size [in]	Connection size [mm]	Manual operation	Kv value [m <sup>3</sup> /h]		Code no.
					Flow in arrow direction	Flow against arrow direction	
EVRC 15	AC / DC	5/8	16	No	2.7	2.5	032L1255
EVRC 20	AC / DC	7/8	22	No	3.6	5	032L1258

## Ordering Flare nuts

Valve bodies for flare connection (NC) and (NO) are supplied without flare nuts.

Table 28: ordering Flare nuts

Connection size		Code no.
[in]	[mm]	
1/4	6	011L1101
3/8	10	011L1135
1/2	12	011L1103
5/8	16	011L1167

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**Table 29: Certificates, declarations, and approvals**

Document name	Document type	Document topic	Approval authority
MH7648	Electrical - Safety Certificate		UL
TAA0000085 Rev. 2	Marine - Safety Certificate		DNV GL
RMRS 18.10006.262	Marine - Safety Certificate		RMRS

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