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
Data sheet  Solenoid valve, types EVRC 10 – 20

**Technical data**

**Refrigerants**
For other refrigerants, please contact Danfoss.

**Capacity**
The capacity of the valve depends on the flow direction, see k\(_v\) values from the table.

**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.

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<table>
<thead>
<tr>
<th>Type</th>
<th>Rated capacity with normal flow direction (^1) [kW]</th>
<th>Opening differential pressure with standard coil (\Delta p) [bar]</th>
<th>Max. working pressure (P_s) [bar]</th>
<th>(k_v)-value (^2) [m(^3)/h]</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVRC 10</td>
<td>38.2</td>
<td>35.3</td>
<td>26.7</td>
<td>0.05</td>
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<tr>
<td>EVRC 15</td>
<td>52.3</td>
<td>48.3</td>
<td>36.5</td>
<td>0.05</td>
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<tr>
<td>EVRC 20</td>
<td>94.6</td>
<td>87.2</td>
<td>66.1</td>
<td>0.05</td>
</tr>
</tbody>
</table>

\(^1\) 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 \(\Delta p = 0.15\) bar.

\(^2\) The \(k_v\) value is the water flow in [m\(^3\)/h] at a pressure drop across valve of 1 bar, \(\rho = 1000\) kg/m\(^3\).

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**Ordering**

<table>
<thead>
<tr>
<th>Type</th>
<th>Required coil</th>
<th>Connection Solder</th>
<th>Code no.</th>
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</thead>
<tbody>
<tr>
<td>EVRC 10</td>
<td>a.c. / d.c.</td>
<td>1/8, —</td>
<td>032F1216</td>
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<tr>
<td>EVRC 15</td>
<td>a.c. / d.c.</td>
<td>1/4, 16</td>
<td>032F1255</td>
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<tr>
<td>EVRC 20</td>
<td>a.c. / d.c.</td>
<td>1/4, 22</td>
<td>032F1258</td>
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</table>

**Coils**
See separate data sheet for coils.

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**Material specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Analysis</th>
<th>Mat. no.</th>
<th>Standard</th>
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<td></td>
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<td></td>
<td></td>
<td>W.no.</td>
<td>DIN</td>
</tr>
<tr>
<td>1</td>
<td>Valve body</td>
<td>Brass</td>
<td>CuZn40Pb2</td>
<td>CW617N</td>
<td>2.0402</td>
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<td>2</td>
<td>Cover</td>
<td>Brass</td>
<td>CuZn40Pb2</td>
<td>—</td>
<td>2.0402</td>
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<tr>
<td>3</td>
<td>Armature tube</td>
<td>Stainless steel</td>
<td>X2 CrNi19-11</td>
<td>—</td>
<td>1.4306</td>
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<td>4</td>
<td>Gasket</td>
<td>Gummi</td>
<td>Cr</td>
<td>—</td>
<td>—</td>
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<tr>
<td>5</td>
<td>Solder tube</td>
<td>Copper</td>
<td>SF-Cu</td>
<td>CW024A</td>
<td>2.0090</td>
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<td>6</td>
<td>Screws</td>
<td>Stainless steel</td>
<td>A2-70</td>
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</table>
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

<table>
<thead>
<tr>
<th>Type</th>
<th>H₁</th>
<th>H₂</th>
<th>H₃</th>
<th>L₁</th>
<th>L₂</th>
<th>L₃</th>
<th>L₄</th>
<th>L₅</th>
<th>B₁</th>
<th>B₂</th>
<th>B₃</th>
<th>Net weight with coil</th>
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</thead>
<tbody>
<tr>
<td>EVRC 10 (NC)</td>
<td>16</td>
<td>79</td>
<td>11</td>
<td>127</td>
<td>10</td>
<td>45</td>
<td>75</td>
<td>85</td>
<td>46</td>
<td>68</td>
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<td>EVRC 15 (NC)</td>
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<td>176</td>
<td>12</td>
<td>45</td>
<td>75</td>
<td>85</td>
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<td>1.0</td>
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<td>EVRC 20 (NC)</td>
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<td>90</td>
<td>11</td>
<td>191</td>
<td>17</td>
<td>45</td>
<td>75</td>
<td>85</td>
<td>72</td>
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<td>1.5</td>
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