Data sheet

# Solenoid valve
# Types EVR 2 – EVR 40

EVR is a direct or servo operated solenoid valve for liquid, suction, and hot gas lines with HCFC and HFC refrigerants.

EVR valves are supplied complete or as separate components, i.e. valve body, coil and fl anges, if required, can be ordered separately.

**Features**

- A complete range of solenoid valves for refrigeration, freezing and air conditioning systems
- Normally closed (NC) and normally open (NO) versions available
- a.c. and d.c. coils are interchangeable on all valve body versions
- Use with any fluorinated refrigerant
- Designed for media temperatures up to 220 °F
- Flare connections up to $^{5}/_{8}$ in.
- Solder connections up to 2 $^{1}/_{8}$ in.
- Solder versions have extended connections; there is no need to dismantle the valve when soldering

## Approvals

UL listed, file MH 7648

**Note:**
These approvals are only recognized when one of the EVR series of solenoid valves found in this leaflet is combined with a GP general purpose coil.

## Technical data

Refrigerant
R22/R407C, R404A/R507, R134a,
R407A, R23, (R410A for EVR 2 – EVR 8 only).
For other refrigerants,
please contact Danfoss.

Temperature of medium: -40 – 220 °F
Maximum 265 °F during defrosting

Maximum working pressure
EVR 2 – EVR 8: MWP = 655 psig
EVR 10: MWP = 500 psig
EVR 15 – EVR 40: MWP = 460 psig

Enclosure of coil
~ NEMA 2 or ~ NEMA 4

| Valve type | Opening differential pressure Δp [psi] | | | Medium temperature | Maximum working pressure MWP | $C_v$ value [1] |
|---|---|---|---|---|---|---|
| | Minimum | Maximum (= MOPD) liquid [2] | | | | |
| | | a.c. | d.c. | [°F] | [psig] | [gal/min] |
| **EVR 2** | 0.0 | 350 | 260 | -40 – 220 | 655 | 0.19 |
| **EVR 3** | 0.0 | 300 | 260 | -40 – 220 | 655 | 0.32 |
| **EVR 4** | 0.7 | 300 | 260 | -40 – 220 | 655 | 0.66 |
| **EVR 6** | 0.7 | 300 | 260 [3] | -40 – 220 | 655 | 0.93 |
| **EVR 8** | 0.7 | 300 | 260 | -40 – 220 | 655 | 1.3 |
| **EVR 10** | 0.7 | 300 | 260 [3] | -40 – 220 | 500 | 2.2 |
| **EVR 15** | 0.7 | 300 | 260 [3] | -40 – 220 | 460 | 3.0 |
| **EVR 18** | 0.7 | 300 | 260 | -40 – 220 | 460 | 3.9 |
| **EVR 20** | 0.7 | 300 [4] | 190 | -40 – 220 | 460 | 5.8 |
| **EVR 22** | 0.7 | 300 [4] | 190 | -40 – 220 | 460 | 6.9 |
| **EVR 25** | 1.0 | 300 | 260 | -40 – 220 | 460 | 12.0 |
| **EVR 32** | 1.0 | 300 | 260 | -40 – 220 | 460 | 18.0 |
| **EVR 40** | 1.0 | 300 | 260 | -40 – 220 | 460 | 29.0 |

*Metric conversions*
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 in. = 25.4 mm

[1] $C_v$ value is the water flow in [gal/min] at a pressure drop across valve Δp = 1 psi, ρ = 10 lbs/gal

[2] MOPD (Max. Opening Pressure Differential) for media in gas form is approximately 14 psi greater

[3] EVR (NO): 300 psig

[4] EVR (NO): 275 psig

## Technical data

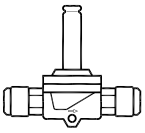
| Valve type | Rated capacity [1] [TR] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Liquid | | | Suction vapor | | | Hot gas | | |
| | R22 /R407C | R134a | R404A /R507 | R22/ R407C | R134a | R404A /R507 | R22/ R407C | R134a | R404A /R507 |
| EVR 2 | 1.17 | 0.89 | 0.80 | 0.10 | 0.07 | 0.09 | 0.22 | 0.18 | 0.17 |
| EVR 3 | 2.03 | 1.55 | 1.40 | 0.17 | 0.13 | 0.15 | 0.38 | 0.31 | 0.30 |
| EVR 4 | 4.15 | 3.16 | 2.86 | 0.34 | 0.26 | 0.30 | 0.77 | 0.63 | 0.62 |
| EVR 6 | 5.83 | 4.43 | 4.01 | 0.48 | 0.37 | 0.43 | 1.08 | 0.88 | 0.87 |
| EVR 8 | 8.01 | 6.09 | 5.52 | 0.66 | 0.51 | 0.58 | 1.49 | 1.21 | 1.19 |
| EVR 10 | 13.8 | 10.5 | 9.53 | 1.15 | 0.88 | 1.01 | 2.57 | 2.10 | 2.06 |
| EVR 15 | 18.9 | 14.4 | 13.0 | 1.57 | 1.20 | 1.38 | 3.52 | 2.87 | 2.82 |
| EVR 18 | 24.6 | 18.7 | 17.0 | 2.04 | 1.56 | 1.80 | 4.57 | 3.73 | 3.67 |
| EVR 20 | 36.4 | 27.7 | 25.1 | 3.02 | 2.31 | 2.66 | 6.76 | 5.51 | 5.43 |
| EVR 22 | 43.7 | 33.3 | 30.1 | 3.62 | 2.78 | 3.19 | 8.11 | 6.62 | 6.52 |
| EVR 25 | 72.8 | 55.4 | 50.2 | 6.04 | 4.63 | 5.32 | 13.5 | 11.0 | 10.9 |
| EVR 32 | 116.5 | 88.7 | 80.3 | 9.66 | 7.40 | 8.51 | 21.6 | 17.7 | 17.4 |
| EVR 40 | 182.0 | 138.5 | 125.4 | 16.1 | 11.6 | 13.3 | 33.8 | 27.6 | 27.2 |

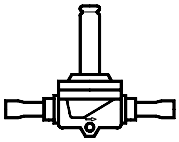
*Metric conversions*
1 psi = 0.07 bar
$^5/_9 (t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW
1 in. = 25.4 mm
US gal/min = 0.86 $m^3/h$

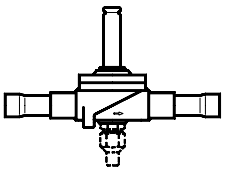
[1] Rated liquid and suction vapor capacity are based on:
Evaporating temperature $t_e$= 40 °F
Liquid temperature ahead of valve $t_l$= 100 °F
Pressure drop Δp across valve
– with liquid Δp = 2 psi for R134a
Δp = 3 psi for R22/R407C, R404A/R507
– with suction vapor Δp = 1 psi

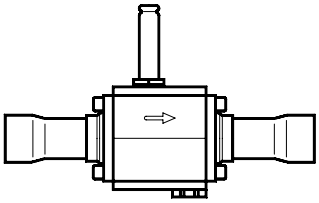
Rated hot gas capacity is based on:
– Condensing temperature $t_c$= 100 °F
– Hot gas temperature $t_h$= 140 °F
– Pressure drop across valve Δp = 2 psi

## Ordering







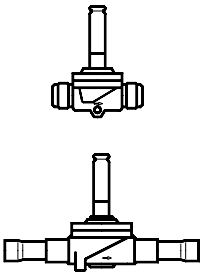


### Separate valve bodies for EVR, normally closed (NC)

| Type | Rated capacity R22/R407C (liquid) [TR] | Connection [in.] | Port size [in.] | $C_v$ value [gal/min] | Code nos. valve body excl. coil | | |
|---|---|---|---|---|---|---|---|
| | | | | | Flare | Solder ODF | |
| | | | | | Without manual stem [in.] | With manual stem [in.] | Without manual stem [in.] |
| **EVR 2** | 1.17 | 1/4 | 3/32 | 0.19 | — | — | **032F7100** |
| **EVR 3** | 2.03 | 1/4 | 1/8 | 0.32 | **032F8106** | — | **032F7105** |
| **EVR 3** | 2.03 | 3/8 | 1/8 | 0.32 | **032F8115** | — | **032F1157** |
| **EVR 4** | 4.15 | 3/8 | 5/32 | 0.66 | — | — | **032F7110** |
| **EVR 6** | 5.83 | 3/8 | 15/64 | 0.93 | **032F8071** | **032F7116** | **032F7115** |
| **EVR 6** | 5.83 | 1/2 | 15/64 | 0.93 | — | **032F7144** | **032F1162** |
| **EVR 6** | 5.83 | 5/8 | 15/64 | 0.93 | — | — | **032F7117** |
| **EVR 8** | 8.01 | 1/2 | 5/16 | 1.3 | — | **032F7148** | **032F7121** |
| **EVR 8** | 8.01 | 5/8 | 5/16 | 1.3 | — | — | **032F7122** |
| **EVR 10** | 13.8 | 3/8 | 3/8 | 2.2 | — | — | **032F7125** |
| **EVR 10** | 13.8 | 1/2 | 3/8 | 2.2 | — | **032F1188** | **032F1166** |
| **EVR 10** | 13.8 | 5/8 | 3/8 | 2.2 | — | **032F7149** | **032F1168** |
| **EVR 15** | 18.9 | 5/8 | 9/16 | 3.0 | — | **032F1172** | **032F1171** |
| **EVR 15** | 18.9 | 7/8 | 9/16 | 3.0 | — | — | **032F7130** |
| **EVR 18** | 24.6 | 7/8 | 19/32 | 3.9 | — | **032F1004** | — |
| **EVR 20** | 36.4 | 7/8 | 7/8 | 5.8 | — | **032F1177** | **032F1176** |
| **EVR 22** | 43.7 | 1 1/8 | 15/16 | 6.9 | — | **032F7137** | **032F7145** |
| **EVR 22** | 43.7 | 1 3/8 | 15/16 | 6.9 | — | — | **032F7146** |
| **EVR 25** | 72.8 | 1 1/8 | 1 | 12.0 | — | **032F1190** | **032F1189** |
| **EVR 25** | 72.8 | 1 3/8 | 1 | 12.0 | — | **032F1194** | **032F1193** |
| **EVR 32** | 116.5 | 1 3/8 | 7/8 | 18.0 | — | **42H1177** | **042H1176** |
| **EVR 32** | 116.5 | 1 5/8 | 7/8 | 18.0 | — | **042H1179** | **042H1178** |
| **EVR 32** | 116.5 | 2 1/8 | 7/8 | 18.0 | — | **042H1181** | **042H1180** |
| **EVR 40** | 182.0 | 2 1/8 | 1 | 29.0 | — | **042H1188** | — |

*Metric conversions*
1 psi = 0.07 bar
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW
1 in. = 25.4 mm
US gal/min = 0.86 $m^3/h$

## Ordering
*(continued)*



*Separate valve bodies for EVR, normally open (NO)*

| Type | Rated capacity R22/R407C (liquid) [TR] | Connection [in.] | Port size [in.] | $C_v$ value [gal/min] | Code nos. valve body excl. coil | |
|---|---|---|---|---|---|---|
| | | | | | Flare [in.] | Solder ODF [in.] |
| **EVR 6** | 5.8 | 3/8 | 1/4 | 0.93 | — | **032F1164** |
| **EVR 10** | 13.8 | 1/2 | 3/8 | 2.2 | — | **032F1169** |
| **EVR 15** | 18.9 | 5/8 | 9/16 | 3.0 | — | **032F1174** |

*Metric conversions*
1 psi = 0.07 bar
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW
1 in. = 25.4 mm
US gal/min = 0.86 $m^3/h$

## Coils for EVR valves

## Approvals

Listed with EVR, MH7648
Low Voltage Directive (LVD) 2006/95/EC

## Ordering

| Valve type | Coil type | Wire length [in.] | Wire length [cm] | Voltage [V a.c.] | Frequency [Hz] | Power consumption [Hz] | Code no. |
|---|---|---|---|---|---|---|---|
| Junction box NEMA 2 | | | | | | | |
| **AKV / EVR EVRH / EVRA EVRAT / EVRS EVRST / EVM EV220B 6-50 EV210B EV215B EV225B EV250B** | BJ024CS | 7 | 18 | 24 | 50 / 60 | 14 | **018F4100** |
| | BJ120CS | 7 | 18 | 110<br>120 | 50 / 60<br>60 | 16<br>15 | **018F4110** |
| | BJ240CS | 7 | 18 | 208 – 240<br>230 | 60<br>50 | 14<br>17 | **018F4120** |
| **AKVH / EVRH** | BJ120BS | 7 | 18 | 120 | 60 | 16 | **018F4130** |
| | BJ208BS | 7 | 18 | 208 | 60 | 16 | **018F4132** |
| | BJ240BS | 7 | 18 | 240 | 60 | 16 | **018F4134** |
| Conduit boss NEMA 4 | | | | | | | |
| **AKV / EVR EVRH / EVRA EVRAT / EVRS EVRST / EVM EV220B 6-50 EV210B EV215B EV225B EV250B** | BX024CS | 18 | 46 | 24 | 50 / 60 | 14 | **018F4102** |
| | BX024CS | 71 | 180 | 24 | 50 / 60 | 14 | **018F4103** |
| | BX024CS | 98 | 250 | 24 | 50 / 60 | 14 | **018F4104** |
| | BX120CS | 18 | 46 | 110<br>120 | 50 / 60<br>60 | 16<br>15 | **018F4112** |
| | BX120CS | 36 | 91 | | | | **018F4113** |
| | BX120CS | 71 | 180 | | | | **018F4114** |
| | BX120CS | 98 | 250 | | | | **018F4115** |
| | BX240CS | 18 | 46 | 208 – 240<br>230 | 60<br>50 | 14<br>17 | **018F4122** |
| | BX240CS | 98 | 250 | | | | **018F4123** |
| **AKVH / EVRH** | BX120BS | 98 | 250 | 120 | 60 | 16 | **018F4131** |
| | BX208BS | 98 | 250 | 208 | 60 | 16 | **018F4133** |
| | BX240BS | 98 | 250 | 240 | 60 | 16 | **018F4135** |

## Technical data

*Design*
In accordance with UL 429

*Power supply*
Alternating current (a.c.)

*Permissible voltage variation*
Alternating current (a.c.):
50 Hz and 60 Hz: -10% – +15%
50/60 Hz: +/- 10%

*Power consumption*
Alternating current (a.c.): Inrush: 49 VA;
Holding: 28 VA, 16 W

*Insulation of coil wire*
Class H according to IEC 85

*Connection*
Junction box or Conduit boss

*Enclosure, IEC 60529*
Junction box NEMA 2 ~ IP 12–32
Conduit boss NEMA 4 ~ IP 54

*Ambient temperature*
-40 °F – 122 °F (-40 °C – 50 °C)

## Coils for EVR valves
*(continued)*

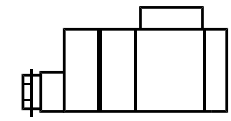
## Features

- For high temperatures – class H insulated wire
- Encapsulated coils with long life time
- Wide range of coils
  – from 12 V – 200 V d.c.
  – with terminal box IP67 ~ NEMA 6

## Approvals

Low Voltage Directive (LVD) 2006/95/EC

## Ordering



| Voltage [V] | Code no. | | Power consumption |
|---|---|---|---|
| | EVR 2 – 15<br>EVR 25 – 40 | EVR 20 – 22 | |
| 12 | **018F6856** | **018F6886** | Holding:<br>20 W |
| 12 | **018F6857** | **018F6887** | |
| 48 | **018F6859** | **018F6889** | |
| 110 | **018F6860** | **018F6890** | |
| 115 | **018F6861** | — | |
| 220 | **018F6851** | **018F6881** | |

## Technical data

*Design*
In accordance with VDE 0580

*Power supply*
Direct current (d.c.)

*Permissible voltage variation*
-10 – 15%

*Power consumption*
20 W

*Insulation of coil wire*
Class H according to IEC 85

*Connection*
Terminal box

*Enclosure, IEC 529*
IP 67 NEMA

*Ambient temperature*
-40 °F – 122 °F (-40 °C – 50 °C)

## Capacity Liquid

| Type | Liquid capacity $Q_0$ [TR] at a pressure drop across valve Δp [psi] | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **R22/R407C** | | | | | | | |
| **EVR 2** | 0.67 | 0.95 | 1.17 | 1.35 | 1.50 | 1.65 | 1.78 |
| **EVR 3** | 1.18 | 1.66 | 2.03 | 2.35 | 2.63 | 2.88 | 3.11 |
| **EVR 4** | 2.40 | 3.39 | 4.15 | 4.79 | 5.36 | 5.87 | 6.34 |
| **EVR 6** | 3.37 | 4.76 | 5.83 | 6.73 | 7.52 | 8.24 | 8.90 |
| **EVR 8** | 4.62 | 6.54 | 8.01 | 9.24 | 10.3 | 11.3 | 12.2 |
| **EVR 10** | 7.99 | 11.3 | 13.8 | 16.0 | 17.9 | 19.6 | 21.1 |
| **EVR 15** | 10.9 | 15.5 | 18.9 | 21.9 | 24.4 | 26.8 | 28.9 |
| **EVR 18** | 14.2 | 20.1 | 24.6 | 28.4 | 31.8 | 34.8 | 37.6 |
| **EVR 20** | 21.0 | 29.7 | 36.4 | 42.0 | 47.0 | 51.5 | 55.6 |
| **EVR 22** | 25.2 | 35.7 | 43.7 | 50.4 | 56.4 | 61.8 | 66.7 |
| **EVR 25** | 42.1 | 59.5 | 72.8 | 84.1 | 94.0 | 103.0 | 111.0 |
| **EVR 32** | 67.3 | 95.1 | 116.5 | 134.0 | 150.0 | 164.8 | 177.0 |
| **EVR 40** | 105.0 | 148.6 | 182.0 | 210.0 | 235.0 | 257.0 | 278.0 |
| **R134a** | | | | | | | |
| **EVR 2** | 0.63 | 0.89 | 1.09 | 1.25 | 1.40 | 1.54 | 1.66 |
| **EVR 3** | 1.10 | 1.55 | 1.90 | 2.19 | 2.45 | 2.68 | 2.90 |
| **EVR 4** | 2.23 | 3.16 | 3.87 | 4.47 | 5.00 | 5.47 | 5.91 |
| **EVR 6** | 3.14 | 4.43 | 5.43 | 6.27 | 7.01 | 7.68 | 8.30 |
| **EVR 8** | 4.31 | 6.09 | 7.46 | 8.62 | 9.63 | 10.6 | 11.4 |
| **EVR 10** | 7.45 | 10.5 | 12.9 | 14.9 | 16.7 | 18.2 | 19.7 |
| **EVR 15** | 10.2 | 14.4 | 17.7 | 20.4 | 22.8 | 25.0 | 27.0 |
| **EVR 18** | 13.3 | 18.7 | 23.0 | 26.5 | 29.6 | 32.4 | 35.0 |
| **EVR 20** | 19.6 | 27.7 | 33.9 | 39.2 | 43.8 | 48.0 | 51.8 |
| **EVR 22** | 23.5 | 33.3 | 40.7 | 47.0 | 52.6 | 57.6 | 62.2 |
| **EVR 25** | 39.2 | 55.4 | 67.9 | 78.4 | 87.6 | 96.0 | 103.0 |
| **EVR 32** | 62.7 | 88.7 | 108.0 | 125.0 | 140.0 | 153.0 | 165.0 |
| **EVR 40** | 98.0 | 138.5 | 169.0 | 195.0 | 219.0 | 239.0 | 259.0 |

Capacities are based on:
Liquid temperature $t_l$= 100 °F
Evaporating temperature $t_e$= 40 °F
Superheat temperature ($t_e$+ 10 °F) = 50 °F

*Metric conversions*
1 psi = 0.07 bar
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW

*Correction factors*
When liquid temperature $t_l$ ahead of the expansion valve is other than 100 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

*Correction factors for liquid temperature $t_l$*

| $t_l$ [°F] | 80 | 90 | 100 | 110 | 120 |
|---|---|---|---|---|---|
| **Factor** | 1.10 | 1.05 | 1.00 | 0.95 | 0.90 |

**Capacity**
**Liquid**
*(continued)*

| Type | Liquid capacity $Q_0$ [TR] at a pressure drop across valve Δp [psi] | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | | | | **R404A and R507** |
| **EVR** | 0.46 | 0.66 | 0.80 | 0.93 | 1.04 | 1.13 | 1.23 |
| **EVR 3** | 0.81 | 1.14 | 1.40 | 1.62 | 1.81 | 1.98 | 2.14 |
| **EVR 4** | 1.65 | 2.33 | 2.86 | 3.30 | 3.69 | 4.04 | 4.37 |
| **EVR 6** | 2.32 | 3.28 | 4.01 | 4.63 | 5.18 | 5.67 | 6.13 |
| **EVR 8** | 3.18 | 4.50 | 5.52 | 6.37 | 7.12 | 7.80 | 8.42 |
| **EVR 10** | 5.50 | 7.78 | 9.53 | 11.0 | 12.3 | 13.5 | 14.6 |
| **EVR 15** | 7.53 | 10.6 | 13.0 | 15.1 | 16.8 | 18.4 | 19.9 |
| **EVR 18** | 9.79 | 13.8 | 17.0 | 19.6 | 21.9 | 24.0 | 25.9 |
| **EVR 20** | 14.5 | 20.5 | 25.1 | 29.0 | 32.4 | 35.5 | 38.3 |
| **EVR 22** | 17.4 | 24.6 | 30.1 | 34.7 | 38.8 | 42.5 | 46.0 |
| **EVR 25** | 29.0 | 40.9 | 50.2 | 57.9 | 64.7 | 70.9 | 76.6 |
| **EVR 32** | 46.3 | 65.5 | 80.3 | 92.6 | 103.6 | 113.0 | 121.0 |
| **EVR 40** | 72.4 | 102.0 | 125.0 | 144.0 | 162.0 | 177.0 | 191.0 |

*Correction factors*
When liquid temperature tl ahead of the expansion valve is other than 100 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

*Correction factors for liquid temperature $t_l$*

| $t_l$ [°F] | 80 | 90 | 100 | 110 | 120 |
|---|---|---|---|---|---|
| **Factor** | 1.10 | 1.05 | 1.00 | 0.95 | 0.90 |

## Capacity
## Suction vapor

| Type | Pressure drop across valve Δp [psi] | Suction vapor capacity $Q_0$ [TR] at evaporating temperature $t_e$ [°F] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | -40 | -20 | 0 | 10 | 20 | 30 | 40 | 50 |
| | | | | | | | | | **R22/R407C** |
| EVR 2 | 1 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 | 0.11 |
| | 2 | 0.05 | 0.07 | 0.09 | 0.10 | 0.11 | 0.12 | 0.14 | 0.15 |
| | 3 | 0.06 | 0.08 | 0.10 | 0.12 | 0.13 | 0.15 | 0.17 | 0.18 |
| EVR 3 | 1 | 0.06 | 0.09 | 0.11 | 0.12 | 0.14 | 0.15 | 0.17 | 0.19 |
| | 2 | 0.09 | 0.12 | 0.15 | 0.18 | 0.19 | 0.22 | 0.24 | 0.26 |
| | 3 | 0.10 | 0.14 | 0.18 | 0.20 | 0.23 | 0.26 | 0.29 | 0.32 |
| EVR 4 | 1 | 0.13 | 0.18 | 0.22 | 0.25 | 0.28 | 0.31 | 0.34 | 0.38 |
| | 2 | 0.18 | 0.24 | 0.31 | 0.36 | 0.40 | 0.44 | 0.49 | 0.54 |
| | 3 | 0.21 | 0.28 | 0.37 | 0.42 | 0.47 | 0.54 | 0.60 | 0.66 |
| EVR 6 | 1 | 0.18 | 0.25 | 0.32 | 0.35 | 0.39 | 0.44 | 0.48 | 0.53 |
| | 2 | 0.25 | 0.33 | 0.43 | 0.50 | 0.56 | 0.62 | 0.68 | 0.75 |
| | 3 | 0.29 | 0.40 | 0.52 | 0.59 | 0.66 | 0.76 | 0.84 | 0.92 |
| EVR 8 | 1 | 0.25 | 0.34 | 0.43 | 0.49 | 0.54 | 0.60 | 0.66 | 0.73 |
| | 2 | 0.34 | 0.46 | 0.59 | 0.69 | 0.77 | 0.85 | 0.94 | 1.03 |
| | 3 | 0.40 | 0.55 | 0.71 | 0.80 | 0.91 | 1.04 | 1.15 | 1.26 |
| EVR 10 | 1 | 0.44 | 0.59 | 0.75 | 0.84 | 0.94 | 1.04 | 1.15 | 1.26 |
| | 2 | 0.59 | 0.79 | 1.02 | 1.19 | 1.32 | 1.47 | 1.62 | 1.78 |
| | 3 | 0.69 | 0.94 | 1.23 | 1.39 | 1.57 | 1.80 | 1.98 | 2.18 |
| EVR 15 | 1 | 0.60 | 0.81 | 1.02 | 1.15 | 1.28 | 1.42 | 1.57 | 1.72 |
| | 2 | 0.80 | 1.08 | 1.40 | 1.63 | 1.81 | 2.01 | 2.22 | 2.44 |
| | 3 | 0.94 | 1.29 | 1.68 | 1.90 | 2.14 | 2.46 | 2.71 | 2.99 |
| EVR 18 | 1 | 0.78 | 1.05 | 1.33 | 1.50 | 1.66 | 1.84 | 2.04 | 2.24 |
| | 2 | 1.04 | 1.41 | 1.82 | 2.12 | 2.35 | 2.61 | 2.88 | 3.17 |
| | 3 | 1.22 | 1.68 | 2.19 | 2.47 | 2.79 | 3.20 | 3.53 | 3.88 |
| EVR 20 | 1 | 1.15 | 1.56 | 1.97 | 2.22 | 2.46 | 2.72 | 3.02 | 3.32 |
| | 2 | 1.54 | 2.08 | 2.69 | 3.13 | 3.48 | 3.86 | 4.27 | 4.69 |
| | 3 | 1.81 | 2.48 | 3.23 | 3.66 | 4.12 | 4.73 | 5.22 | 5.74 |
| EVR 22 | 1 | 1.38 | 1.87 | 2.36 | 2.66 | 2.95 | 3.27 | 3.62 | 3.98 |
| | 2 | 1.85 | 2.50 | 3.23 | 3.76 | 4.18 | 4.63 | 5.12 | 5.63 |
| | 3 | 2.17 | 2.97 | 3.88 | 4.39 | 4.94 | 5.67 | 6.26 | 6.89 |
| EVR 25 | 1 | 2.30 | 3.12 | 3.94 | 4.43 | 4.92 | 5.45 | 6.04 | 6.63 |
| | 2 | 3.09 | 4.17 | 5.38 | 6.27 | 6.96 | 7.71 | 8.53 | 9.39 |
| | 3 | 3.61 | 4.96 | 6.47 | 7.32 | 8.24 | 9.45 | 10.4 | 11.5 |
| EVR 32 | 1 | 3.68 | 4.99 | 6.30 | 7.09 | 7.88 | 8.72 | 9.66 | 10.6 |
| | 2 | 4.94 | 6.67 | 8.61 | 10.0 | 11.1 | 12.3 | 13.6 | 15.0 |
| | 3 | 5.78 | 7.93 | 10.4 | 11.7 | 13.2 | 15.1 | 16.7 | 18.4 |
| EVR 40 | 1 | 5.74 | 7.80 | 9.85 | 11.1 | 12.3 | 13.6 | 16.1 | 16.6 |
| | 2 | 7.71 | 10.4 | 13.5 | 15.7 | 17.4 | 19.3 | 21.3 | 23.5 |
| | 3 | 9.03 | 12.4 | 16.2 | 18.3 | 20.6 | 23.6 | 26.1 | 28.7 |

*Metric conversions*
1 psi = 0.07 bar
$^5/_9 (t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW

*Correction factors*
When liquid temperature $t_l$ ahead of the expansion valve is other than 100 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

The table values refer to evaporator capacity and are given as a function of evaporating temperature te and pressure drop Δp across the valve. Capacities are based on liquid temperature $t_l$= 100 °F ahead of the expansion valve and superheat $t_s$= 7 °F.
For each additional 10 °F of superheat, the table capacities must be reduced by 2%.

*Correction factors for liquid temperature $t_l$*

| $t_l$ [°F] | 80 | 90 | 100 | 110 | 120 |
|---|---|---|---|---|---|
| Factor | 1.10 | 1.05 | 1.00 | 0.95 | 0.90 |

## Capacity
## Suction vapor
*(continued)*

| Type | Pressure drop across valve Δp [psi] | Suction vapor capacity $Q_0$ [TR] at evaporating temperature $t_e$ [°F] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | -40 | -20 | 0 | 10 | 20 | 30 | 40 | 50 |
| | | | | | | | | | **R134a** |
| EVR 2 | 1 | 0.02 | 0.03 | 0.05 | 0.05 | 0.06 | 0.07 | 0.07 | 0.08 |
| | 2 | 0.03 | 0.04 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 | 0.12 |
| | 3 | 0.03 | 0.05 | 0.07 | 0.08 | 0.10 | 0.11 | 0.12 | 0.14 |
| EVR 3 | 1 | 0.04 | 0.06 | 0.08 | 0.09 | 0.10 | 0.12 | 0.13 | 0.14 |
| | 2 | 0.05 | 0.08 | 0.10 | 0.12 | 0.14 | 0.16 | 0.18 | 0.21 |
| | 3 | 0.06 | 0.09 | 0.12 | 0.14 | 0.17 | 0.19 | 0.22 | 0.25 |
| EVR 4 | 1 | 0.08 | 0.11 | 0.16 | 0.18 | 0.21 | 0.24 | 0.26 | 0.30 |
| | 2 | 0.10 | 0.15 | 0.21 | 0.25 | 0.28 | 0.33 | 0.37 | 0.42 |
| | 3 | 0.11 | 0.18 | 0.25 | 0.30 | 0.34 | 0.39 | 0.44 | 0.51 |
| EVR 6 | 1 | 0.11 | 0.16 | 0.23 | 0.26 | 0.29 | 0.33 | 0.37 | 0.42 |
| | 2 | 0.14 | 0.22 | 0.30 | 0.35 | 0.40 | 0.47 | 0.53 | 0.59 |
| | 3 | 0.16 | 0.25 | 0.35 | 0.42 | 0.48 | 0.55 | 0.62 | 0.72 |
| EVR 8 | 1 | 0.16 | 0.22 | 0.31 | 0.35 | 0.40 | 0.45 | 0.51 | 0.57 |
| | 2 | 0.20 | 0.30 | 0.41 | 0.48 | 0.55 | 0.64 | 0.72 | 0.81 |
| | 3 | 0.22 | 0.34 | 0.49 | 0.57 | 0.65 | 0.75 | 0.85 | 0.99 |
| EVR 10 | 1 | 0.27 | 0.38 | 0.54 | 0.61 | 0.69 | 0.79 | 0.88 | 0.99 |
| | 2 | 0.34 | 0.51 | 0.71 | 0.82 | 0.94 | 1.11 | 1.25 | 1.40 |
| | 3 | 0.37 | 0.59 | 0.84 | 0.99 | 1.13 | 1.30 | 1.47 | 1.71 |
| EVR 15 | 1 | 0.37 | 0.52 | 0.73 | 0.84 | 0.95 | 1.08 | 1.20 | 1.35 |
| | 2 | 0.47 | 0.70 | 0.97 | 1.13 | 1.29 | 1.52 | 1.71 | 1.91 |
| | 3 | 0.51 | 0.80 | 1.15 | 1.35 | 1.54 | 1.78 | 2.01 | 2.34 |
| EVR 18 | 1 | 0.48 | 0.68 | 0.95 | 1.09 | 1.23 | 1.40 | 1.56 | 1.75 |
| | 2 | 0.61 | 0.91 | 1.26 | 1.46 | 1.68 | 1.98 | 2.22 | 2.49 |
| | 3 | 0.67 | 1.04 | 1.50 | 1.75 | 2.01 | 2.31 | 2.62 | 3.04 |
| EVR 20 | 1 | 0.71 | 1.00 | 1.41 | 1.61 | 1.82 | 2.07 | 2.31 | 2.59 |
| | 2 | 0.90 | 1.35 | 1.87 | 2.17 | 2.48 | 2.92 | 3.28 | 3.68 |
| | 3 | 0.98 | 1.54 | 2.22 | 2.59 | 2.97 | 3.41 | 3.87 | 4.50 |
| EVR 22 | 1 | 0.85 | 1.20 | 1.69 | 1.93 | 2.19 | 2.48 | 2.78 | 3.11 |
| | 2 | 1.08 | 1.62 | 2.25 | 2.60 | 2.97 | 3.51 | 3.94 | 4.41 |
| | 3 | 1.18 | 1.85 | 2.66 | 3.11 | 3.56 | 4.10 | 4.65 | 5.40 |
| EVR 25 | 1 | 1.41 | 2.00 | 2.82 | 3.22 | 3.64 | 4.14 | 4.63 | 5.19 |
| | 2 | 1.81 | 2.69 | 3.74 | 4.33 | 4.96 | 5.84 | 6.56 | 7.35 |
| | 3 | 1.97 | 3.09 | 4.43 | 5.19 | 5.94 | 6.83 | 7.75 | 8.99 |
| EVR 32 | 1 | 2.26 | 3.20 | 4.52 | 5.15 | 5.83 | 6.62 | 7.40 | 8.30 |
| | 2 | 2.89 | 4.31 | 5.99 | 6.93 | 7.93 | 9.35 | 10.5 | 11.8 |
| | 3 | 3.15 | 4.94 | 7.09 | 8.30 | 9.51 | 10.9 | 12.4 | 14.4 |
| EVR 40 | 1 | 3.53 | 5.01 | 7.06 | 8.04 | 9.11 | 10.3 | 11.6 | 13.0 |
| | 2 | 4.51 | 6.73 | 9.35 | 10.8 | 12.4 | 14.6 | 16.4 | 18.4 |
| | 3 | 4.92 | 7.71 | 11.1 | 13.0 | 14.9 | 17.1 | 19.4 | 22.5 |

*Metric conversions*
1 psi = 0.07 bar
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW

*Correction factors*
When liquid temperature $t_l$ ahead of the expansion valve is other than 100 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

The table values refer to evaporator capacity and are given as a function of evaporating temperature te and pressure drop Dp across the valve. Capacities are based on liquid temperature $t_l$= 100 °F ahead of the expansion valve and superheat $t_s$ = 7 °F.
For each additional 10 °F of superheat, the table capacities must be reduced by 2%.

*Correction factors for liquid temperature $t_l$*

| $t_l$ [°F] | 80 | 90 | 100 | 110 | 120 |
|---|---|---|---|---|---|
| Factor | 1.10 | 1.05 | 1.00 | 0.95 | 0.90 |

## Capacity
## Suction vapor
*(continued)*

| Type | Pressure drop across valve Δp [psi] | Suction vapor capacity $Q_0$ [TR] at evaporating temperature $t_e$ [°F] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | -40 | -20 | 0 | 10 | 20 | 30 | 40 | 50 |
| | | **R404A and R507** | | | | | | | |
| EVR 2 | 1 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.10 |
| | 2 | 0.04 | 0.05 | 0.08 | 0.09 | 0.10 | 0.11 | 0.12 | 0.13 |
| | 3 | 0.05 | 0.06 | 0.09 | 0.10 | 0.12 | 0.13 | 0.15 | 0.16 |
| EVR 3 | 1 | 0.05 | 0.07 | 0.09 | 0.11 | 0.12 | 0.13 | 0.15 | 0.17 |
| | 2 | 0.07 | 0.09 | 0.13 | 0.15 | 0.17 | 0.19 | 0.21 | 0.23 |
| | 3 | 0.08 | 0.11 | 0.15 | 0.18 | 0.20 | 0.23 | 0.26 | 0.29 |
| EVR 4 | 1 | 0.10 | 0.14 | 0.19 | 0.22 | 0.24 | 0.27 | 0.30 | 0.34 |
| | 2 | 0.14 | 0.19 | 0.27 | 0.30 | 0.34 | 0.39 | 0.43 | 0.48 |
| | 3 | 0.16 | 0.23 | 0.31 | 0.36 | 0.42 | 0.47 | 0.53 | 0.59 |
| EVR 6 | 1 | 0.14 | 0.20 | 0.26 | 0.30 | 0.34 | 0.38 | 0.43 | 0.48 |
| | 2 | 0.20 | 0.27 | 0.38 | 0.43 | 0.48 | 0.54 | 0.60 | 0.67 |
| | 3 | 0.23 | 0.32 | 0.44 | 0.50 | 0.59 | 0.66 | 0.74 | 0.82 |
| EVR 8 | 1 | 0.20 | 0.27 | 0.36 | 0.42 | 0.47 | 0.52 | 0.58 | 0.65 |
| | 2 | 0.27 | 0.37 | 0.52 | 0.58 | 0.66 | 0.74 | 0.83 | 0.92 |
| | 3 | 0.32 | 0.44 | 0.60 | 0.69 | 0.80 | 0.91 | 1.01 | 1.13 |
| EVR 10 | 1 | 0.34 | 0.47 | 0.62 | 0.72 | 0.80 | 0.90 | 1.01 | 1.13 |
| | 2 | 0.47 | 0.64 | 0.89 | 1.01 | 1.14 | 1.28 | 1.43 | 1.60 |
| | 3 | 0.55 | 0.77 | 1.04 | 1.20 | 1.39 | 1.57 | 1.75 | 1.96 |
| EVR 15 | 1 | 0.47 | 0.65 | 0.85 | 0.99 | 1.10 | 1.24 | 1.38 | 1.54 |
| | 2 | 0.64 | 0.88 | 1.22 | 1.38 | 1.55 | 1.76 | 1.95 | 2.18 |
| | 3 | 0.75 | 1.05 | 1.43 | 1.64 | 1.90 | 2.15 | 2.40 | 2.68 |
| EVR 18 | 1 | 0.61 | 0.84 | 1.11 | 1.29 | 1.43 | 1.61 | 1.80 | 2.01 |
| | 2 | 0.83 | 1.14 | 1.59 | 1.80 | 2.02 | 2.29 | 2.54 | 2.84 |
| | 3 | 0.98 | 1.36 | 1.85 | 2.13 | 2.47 | 2.80 | 3.12 | 3.48 |
| EVR 20 | 1 | 0.90 | 1.25 | 1.64 | 1.90 | 2.12 | 2.38 | 2.66 | 2.97 |
| | 2 | 1.23 | 1.69 | 2.35 | 2.66 | 2.99 | 3.38 | 3.76 | 4.20 |
| | 3 | 1.44 | 2.02 | 2.74 | 3.15 | 3.66 | 4.14 | 4.61 | 5.15 |
| EVR 22 | 1 | 1.08 | 1.50 | 1.97 | 2.28 | 2.54 | 2.86 | 3.19 | 3.56 |
| | 2 | 1.48 | 2.03 | 2.82 | 3.19 | 3.58 | 4.06 | 4.51 | 5.04 |
| | 3 | 1.73 | 2.42 | 3.29 | 3.78 | 4.39 | 4.96 | 5.53 | 6.18 |
| EVR 25 | 1 | 1.81 | 2.49 | 3.28 | 3.81 | 4.23 | 4.76 | 5.32 | 5.94 |
| | 2 | 2.46 | 3.38 | 4.69 | 5.32 | 5.97 | 6.76 | 7.52 | 8.40 |
| | 3 | 2.89 | 4.04 | 5.48 | 6.30 | 7.32 | 8.27 | 9.22 | 10.31 |
| EVR 32 | 1 | 2.89 | 3.99 | 5.25 | 6.09 | 6.77 | 7.62 | 8.51 | 9.51 |
| | 2 | 3.94 | 5.41 | 7.51 | 8.51 | 9.56 | 10.8 | 12.0 | 13.4 |
| | 3 | 4.62 | 6.46 | 8.77 | 10.1 | 11.7 | 13.2 | 14.8 | 16.5 |
| EVR 40 | 1 | 4.51 | 6.24 | 8.21 | 9.5 | 10.6 | 11.9 | 13.3 | 14.9 |
| | 2 | 6.15 | 8.45 | 11.7 | 13.3 | 14.9 | 16.9 | 18.8 | 21.0 |
| | 3 | 7.22 | 10.1 | 13.7 | 15.8 | 18.3 | 20.7 | 23.1 | 25.8 |

*Metric conversions*
1 psi = 0.07 bar
$^5/_9 (t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW

*Correction factors*
When liquid temperature $t_l$ ahead of the expansion valve is other than 100 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

The table values refer to evaporator capacity and are given as a function of evaporating temperature $t_e$ and pressure drop Δp across the valve. Capacities are based on liquid temperature $t_l$= 100 °F ahead of the expansion valve and superheat $t_s$= 7 °F.
For each additional 10 °F of superheat, the table capacities must be reduced by 2%.

*Correction factors for liquid temperature $t_l$*

| $t_l$ [°F] | 80 | 90 | 100 | 110 | 120 |
|---|---|---|---|---|---|
| Factor | 1.10 | 1.05 | 1.00 | 0.90 | 0.90 |

## Capacity
## Hot gas

*EVR 2 – 6*

| Type | Pressure drop across valve Δp [psi] | Hot gas capacity $Q_h$ [TR] Evaporating temp. $t_e$ = 40 °F, hot gas temp. $t_h$=$t_c$+40 °F, subcooling $\Delta t_u$ = 10 °F | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | R22/R407C | | | R134a | | | R404A/R507 | | |
| | | Condensing temp. $t_c$ [°F] | | | Condensing temp. $t_c$ [°F] | | | Condensing temp. $t_c$ [°F] | | |
| | | 70 | 100 | 140 | 70 | 100 | 140 | 70 | 100 | 140 |
| EVR 2 | **2** | 0.20 | **0.22** | 0.23 | 0.16 | **0.18** | 0.18 | 0.17 | **0.17** | 0.17 |
| | 5 | 0.31 | 0.35 | 0.37 | 0.26 | 0.28 | 0.29 | 0.27 | 0.28 | 0.27 |
| | 10 | 0.43 | 0.49 | 0.53 | 0.35 | 0.39 | 0.42 | 0.37 | 0.40 | 0.38 |
| | 15 | 0.53 | 0.58 | 0.65 | 0.43 | 0.48 | 0.52 | 0.45 | 0.47 | 0.47 |
| | 20 | 0.60 | 0.67 | 0.73 | 0.50 | 0.56 | 0.59 | 0.52 | 0.54 | 0.53 |
| | 25 | 0.67 | 0.75 | 0.81 | 0.56 | 0.63 | 0.66 | 0.58 | 0.61 | 0.59 |
| EVR 3 | **2** | 0.34 | **0.38** | 0.41 | 0.28 | **0.31** | 0.32 | 0.29 | **0.30** | 0.29 |
| | 5 | 0.55 | 0.60 | 0.64 | 0.45 | 0.49 | 0.51 | 0.47 | 0.48 | 0.47 |
| | 10 | 0.75 | 0.86 | 0.92 | 0.62 | 0.69 | 0.74 | 0.64 | 0.70 | 0.67 |
| | 15 | 0.92 | 1.02 | 1.14 | 0.76 | 0.84 | 0.91 | 0.79 | 0.82 | 0.82 |
| | 20 | 1.05 | 1.18 | 1.27 | 0.88 | 0.97 | 1.03 | 0.90 | 0.94 | 0.92 |
| | 25 | 1.18 | 1.31 | 1.42 | 0.99 | 1.09 | 1.15 | 1.02 | 1.06 | 1.03 |
| EVR 4 | **2** | 0.70 | **0.77** | 0.83 | 0.57 | **0.63** | 0.66 | 0.59 | **0.62** | 0.60 |
| | 5 | 1.12 | 1.23 | 1.32 | 0.92 | 1.01 | 1.05 | 0.95 | 0.99 | 0.95 |
| | 10 | 1.54 | 1.76 | 1.88 | 1.26 | 1.40 | 1.50 | 1.30 | 1.42 | 1.36 |
| | 15 | 1.87 | 2.08 | 2.32 | 1.54 | 1.72 | 1.87 | 1.60 | 1.67 | 1.68 |
| | 20 | 2.15 | 2.40 | 2.59 | 1.79 | 1.99 | 2.10 | 1.85 | 1.93 | 1.88 |
| | 25 | 2.40 | 2.67 | 2.89 | 2.01 | 2.23 | 2.35 | 2.07 | 2.17 | 2.09 |
| EVR 6 | **2** | 0.98 | **1.08** | 1.16 | 0.80 | **0.88** | 0.92 | 0.83 | **0.87** | 0.84 |
| | 5 | 1.57 | 1.73 | 1.85 | 1.29 | 1.41 | 1.47 | 1.33 | 1.39 | 1.34 |
| | 10 | 2.16 | 2.47 | 2.63 | 1.77 | 1.96 | 2.11 | 1.83 | 1.99 | 1.91 |
| | 15 | 2.63 | 2.92 | 3.26 | 2.17 | 2.41 | 2.62 | 2.25 | 2.35 | 2.36 |
| | 20 | 3.02 | 3.37 | 3.64 | 2.51 | 2.79 | 2.94 | 2.59 | 2.70 | 2.63 |
| | 25 | 3.37 | 3.75 | 4.06 | 2.82 | 3.13 | 3.30 | 2.91 | 3.04 | 2.94 |

**Note:**
Bold figures refer to rated capacity

*Metric conversions*
1 psi = 0.07 bar
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW

*Correction factors*
The table values refer to hot gas capacity and are given as a function of condensing temperature $t_c$ and pressure drop Δp across the valve. Capacities are based on a hot gas temperature superheated 40 °F above condensing temperature ($t_h$ = $t_c$ + 40 °F). For each additional 10 °F of superheat above 40 °F, the table capacities must be reduced by 1%.

When the valve is used in a hot gas defrost circuit, evaporator temperature affects the capacity. When the evaporator temperature differs from 40 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

*Correction factors for $t_h$ and $t_e$*

| $t_e$ [°F] | -40 | -20 | 0 | 20 | 40 | 50 |
|---|---|---|---|---|---|---|
| **Factor** | 1.18 | 1.14 | 1.09 | 1.04 | 1 | 0.97 |

**Capacity**
**Hot gas**
*(continued)*

*EVR 8 – 18*

| Type | Pressure drop across valve Δp [psi] | Hot gas capacity $Q_h$ [TR] Evaporating temp. $t_e$ = 40 °F, hot gas temp. $t_h$ = $t_c$ +40 °F, subcooling $\Delta t_u$ = 10 °F | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | R22/R407C | | | R134a | | | R404A/R507 | | |
| | | Condensing temp. $t_c$ [°F] | | | Condensing temp. $t_c$ [°F] | | | Condensing temp. $t_c$ [°F] | | |
| | | 70 | 100 | 140 | 70 | 100 | 140 | 70 | 100 | 140 |
| EVR 8 | **2** | 1.35 | **1.49** | 1.60 | 1.10 | **1.21** | 1.27 | 1.14 | **1.19** | 1.16 |
| | 5 | 2.15 | 2.37 | 2.54 | 1.78 | 1.94 | 2.03 | 1.83 | 1.91 | 1.84 |
| | 10 | 2.97 | 3.40 | 3.62 | 2.43 | 2.70 | 2.90 | 2.52 | 2.74 | 2.62 |
| | 15 | 3.61 | 4.01 | 4.48 | 2.98 | 3.31 | 3.60 | 3.09 | 3.23 | 3.25 |
| | 20 | 4.15 | 4.62 | 5.00 | 3.45 | 3.83 | 4.05 | 3.56 | 3.71 | 3.62 |
| | 25 | 4.63 | 5.16 | 5.58 | 3.88 | 4.30 | 4.54 | 4.00 | 4.18 | 4.04 |
| EVR 10 | **2** | 2.33 | **2.57** | 2.76 | 1.90 | **2.10** | 2.20 | 1.98 | **2.06** | 2.00 |
| | 5 | 3.72 | 4.10 | 4.38 | 3.07 | 3.36 | 3.50 | 3.16 | 3.29 | 3.17 |
| | 10 | 5.13 | 5.87 | 6.26 | 4.20 | 4.66 | 5.01 | 4.35 | 4.73 | 4.53 |
| | 15 | 6.24 | 6.93 | 7.74 | 5.15 | 5.72 | 6.22 | 5.34 | 5.58 | 5.61 |
| | 20 | 7.17 | 7.99 | 8.63 | 5.96 | 6.62 | 6.99 | 6.15 | 6.42 | 6.26 |
| | 25 | 8.00 | 8.91 | 9.64 | 6.70 | 7.43 | 7.85 | 6.90 | 7.22 | 6.98 |
| EVR 15 | **2** | 3.18 | **3.52** | 3.77 | 2.60 | **2.87** | 3.00 | 2.71 | **2.82** | 2.73 |
| | 5 | 5.09 | 5.61 | 6.00 | 4.20 | 4.59 | 4.79 | 4.33 | 4.51 | 4.34 |
| | 10 | 7.02 | 8.04 | 8.56 | 5.74 | 6.38 | 6.85 | 5.95 | 6.47 | 6.20 |
| | 15 | 8.54 | 9.48 | 10.6 | 7.04 | 7.83 | 8.51 | 7.31 | 7.63 | 7.67 |
| | 20 | 9.81 | 10.9 | 11.8 | 8.16 | 9.06 | 9.57 | 8.41 | 8.78 | 8.56 |
| | 25 | 10.9 | 12.2 | 13.2 | 9.2 | 10.2 | 10.7 | 9.45 | 9.88 | 9.55 |
| EVR 18 | **2** | 4.14 | **4.57** | 4.90 | 3.38 | **3.73** | 3.91 | 3.52 | **3.67** | 3.55 |
| | 5 | 6.62 | 7.29 | 7.80 | 5.46 | 5.97 | 6.22 | 5.63 | 5.86 | 5.65 |
| | 10 | 9.13 | 10.5 | 11.1 | 7.47 | 8.29 | 8.91 | 7.73 | 8.41 | 8.07 |
| | 15 | 11.1 | 12.3 | 13.8 | 9.15 | 10.2 | 11.1 | 9.51 | 9.92 | 9.98 |
| | 20 | 12.8 | 14.2 | 15.4 | 10.6 | 11.8 | 12.4 | 10.9 | 11.4 | 11.1 |
| | 25 | 14.2 | 15.9 | 17.2 | 11.9 | 13.2 | 14.0 | 12.3 | 12.9 | 12.4 |

**Note:**
Bold figures refer to rated capacity

*Metric conversions*
1 psi = 0.07 bar
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW

*Correction factors*
The table values refer to hot gas capacity and are given as a function of condensing temperature $t_c$ and pressure drop Δp across the valve. Capacities are based on a hot gas temperature superheated 40 °F above condensing temperature ($t_h$=$t_c$+ 40 °F). For each additional 10 °F of superheat above 40 °F, the table capacities must be reduced by 1%.

When the valve is used in a hot gas defrost circuit, evaporator temperature affects the capacity. When the evaporator temperature differs from 40 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

*Correction factors for $t_h$ and $t_e$*

| $t_e$ [°F] | -40 | -20 | 0 | 20 | 40 | 50 |
|---|---|---|---|---|---|---|
| Factor | 1.18 | 1.14 | 1.09 | 1.04 | 1 | 0.97 |

## Capacity
## Hot gas
*(continued)*

*EVR 20 – 40*

| Type | Pressure drop across valve Δp [psi] | Hot gas capacity $Q_h$ [TR] Evaporating temp. $t_e$ = 40 °F, hot gas temp. $t_h$=$t_c$+ 40 °F, subcooling $\Delta t_u$ = 10 °F | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | R22/R407C | | | R134a | | | R404A/R507 | | |
| | | Condensing temp. $t_c$ [°F] | | | Condensing temp. $t_c$ [°F] | | | Condensing temp. $t_c$ [°F] | | |
| | | 70 | 100 | 140 | 70 | 100 | 140 | 70 | 100 | 140 |
| EVR 20 | 2 | 6.12 | 6.76 | 7.25 | 5.01 | 5.51 | 5.78 | 5.20 | 5.43 | 5.25 |
| | 5 | 9.80 | 10.8 | 11.5 | 8.07 | 8.83 | 9.21 | 8.32 | 8.67 | 8.35 |
| | 10 | 13.5 | 15.5 | 16.5 | 11.1 | 12.3 | 13.2 | 11.4 | 12.4 | 11.9 |
| | 15 | 16.4 | 18.2 | 20.4 | 13.5 | 15.1 | 16.4 | 14.1 | 14.7 | 14.8 |
| | 20 | 18.9 | 21.0 | 22.7 | 15.7 | 17.4 | 18.4 | 16.2 | 16.9 | 16.5 |
| | 25 | 21.0 | 23.5 | 25.4 | 17.6 | 19.6 | 20.7 | 18.2 | 19.0 | 18.4 |
| EVR 22 | 2 | 7.35 | 8.11 | 8.71 | 6.01 | 6.62 | 6.93 | 6.24 | 6.52 | 6.30 |
| | 5 | 11.8 | 12.9 | 13.9 | 9.69 | 10.6 | 11.1 | 9.99 | 10.4 | 10.0 |
| | 10 | 16.2 | 18.6 | 19.8 | 13.3 | 14.7 | 15.8 | 13.7 | 14.9 | 14.3 |
| | 15 | 19.7 | 21.9 | 24.4 | 16.3 | 18.1 | 19.6 | 16.9 | 17.6 | 17.7 |
| | 20 | 22.7 | 25.2 | 27.3 | 18.8 | 20.9 | 22.1 | 19.4 | 20.3 | 19.8 |
| | 25 | 25.3 | 28.1 | 30.5 | 21.2 | 23.5 | 24.8 | 21.8 | 22.8 | 22.0 |
| EVR 25 | 2 | 12.2 | 13.5 | 14.5 | 10.0 | 11.0 | 11.6 | 10.4 | 10.9 | 10.5 |
| | 5 | 19.6 | 21.6 | 23.1 | 16.2 | 17.7 | 18.4 | 16.6 | 17.3 | 16.7 |
| | 10 | 27.0 | 30.9 | 32.9 | 22.1 | 24.5 | 26.4 | 22.9 | 24.9 | 23.9 |
| | 15 | 32.9 | 36.5 | 40.7 | 27.1 | 30.1 | 32.7 | 28.1 | 29.4 | 29.5 |
| | 20 | 37.8 | 42.1 | 45.4 | 31.4 | 34.9 | 36.8 | 32.4 | 33.8 | 32.9 |
| | 25 | 42.1 | 46.9 | 50.8 | 35.3 | 39.1 | 41.3 | 36.3 | 38.0 | 36.7 |
| EVR 32 | 2 | 19.6 | 21.6 | 23.2 | 16.0 | 17.7 | 18.5 | 16.7 | 17.4 | 16.8 |
| | 5 | 31.4 | 34.5 | 36.9 | 25.8 | 28.3 | 29.5 | 26.6 | 27.7 | 26.7 |
| | 10 | 43.2 | 49.5 | 52.7 | 35.3 | 39.2 | 42.2 | 36.6 | 39.8 | 28.2 |
| | 15 | 52.6 | 58.4 | 65.2 | 43.3 | 48.2 | 52.4 | 45.0 | 47.0 | 47.2 |
| | 20 | 60.4 | 67.3 | 72.7 | 50.2 | 55.8 | 58.9 | 51.8 | 54.0 | 52.7 |
| | 25 | 67.3 | 75.1 | 81.2 | 56.4 | 62.6 | 66.1 | 58.1 | 60.3 | 58.8 |
| EVR 40 | 2 | 30.6 | 33.8 | 36.3 | 25.0 | 27.6 | 28.9 | 26.0 | 27.2 | 26.3 |
| | 5 | 49.0 | 53.9 | 57.7 | 40.4 | 44.2 | 46.0 | 41.6 | 43.3 | 41.8 |
| | 10 | 67.5 | 77.3 | 82.3 | 55.2 | 61.3 | 65.9 | 57.2 | 62.2 | 59.7 |
| | 15 | 82.1 | 91.1 | 101.0 | 67.7 | 75.3 | 81.8 | 70.3 | 73.4 | 73.8 |
| | 20 | 94.4 | 105.0 | 113.0 | 78.5 | 87.2 | 92.0 | 80.9 | 84.4 | 82.3 |
| | 25 | 105.0 | 117.0 | 126.0 | 88.1 | 97.8 | 103.0 | 90.8 | 95.0 | 91.8 |

*Metric conversions*
1 psi = 0.07 bar
$^5/_9$ ($t_1$ °F - 32) = $t_2$ °C
1 TR = 3.5 kW

*Correction factors*
The table values refer to hot gas capacity and are given as a function of condensing temperature $t_c$ and pressure drop Δp across the valve. Capacities are based on a hot gas temperature superheated 40 °F above condensing temperature ($t_h$ = $t_c$+40 °F). For each additional 10 °F of superheat above 40 °F, the table capacities must be reduced by 1%.

When the valve is used in a hot gas defrost circuit, evaporator temperature affects the capacity. When the evaporator temperature differs from 40 °F, adjust the table capacities by multiplying them by the appropriate correction factor found in the following table.

*Correction factors for $t_h$ and $t_e$*

| $t_e$ [°F] | -40 | -20 | 0 | 20 | 40 | 50 |
|---|---|---|---|---|---|---|
| Factor | 1.18 | 1.14 | 1.09 | 1.04 | 1 | 0.97 |

## Identification


Essential valve data is given on the label

*Example*

| | |
|---|---|
| EVR 8 | Valve type and size |
| SWP | Safe Working Pressure (MWP) in psig |
| 018Z7600 | Coil group for the EVR |
| MOPD | Maximum Operating Pressure in psi |
| S and A | Approvals in USA and Canada |

## Valve selection example

**Note:**
When selecting the appropriate solenoid valve, it is easier to convert the actual required capacity to that of the rated capacities listed in the tables.

This is done by utilizing various correction factors in the selection process. The following examples illustrate how this is done.

*Metric conversions*
1 psi = 0.07 bar
$^5/_9 (t_1 °F - 32) = t_2 °C$
1 TR = 3.5 kW

*Liquid line solenoid valve selection example*
Refrigerant R134a
Condensing temperature $t_c$ = 100 °F
Liquid temperature ahead of valve $t_l$ = 90 °F
Maximum allowable pressure drop across valve Δp = 2 psi
Evaporator capacity $Q_o$ = 10 TR (required valve capacity)

**Step 1:**
Determine the correction factor for liquid temperature. From the correction factor table found on page 7, a liquid temperature of 90 °F corresponds to a factor of 1.05.

**Step 2:**
Correct the required valve capacity.
This is done by dividing the evaporator capacity by the liquid correction factor.
$Q_{corrected} = 10/1.05 = 9.5$ TR

**Step 3:**
Select the appropriate capacity table and choose the first valve whose capacity is greater than or equal to $Q_{corrected}$ at the required pressure drop. Using the R134a liquid capacity table found on page 7, the EVR 10 is selected as it has a capacity of 10.5 TR at a Δp = 2 psi.

*Suction line solenoid valve selection example*
Refrigerant R134a
Liquid temperature ahead of expansion valve $t_l$ = 90 °F
Evaporator temperature $t_e$ = 30 °F
Superheat ahead of valve $t_s$ = 17 °F
Maximum allowable pressure drop across valve Δp = 3 psi
Evaporator capacity $Q_o$ = 10 TR (required valve capacity)

**Step 1:**
Determine the correction factor for superheat ahead of the valve by increasing the required valve capacity by 2% for each 10 °F of actual superheat above the table rated value of 7 °F. In the example, a superheat of 17 °F corresponds to a 10 °F increase above the table value which is equivalent to a superheat correction factor of 1.02.

**Step 2:**
Determine the correction factor for liquid temperature. From the correction factor table found on page 9, a liquid temperature of 90 °F corresponds to a factor of 1.05.

**Step 3:**
Correct the required valve capacity. This is done by first multiplying the evaporator capacity by the superheat correction factor and then dividing it by the liquid correction factor.
$Q_{corrected} = (10 \times 1.02)/1.05 = 9.7$ TR

**Step 4:**
Select the appropriate capacity table and choose the first valve whose capacity is greater than or equal to $Q_{corrected}$ at the required evaporating temperature and pressure drop. Using the R134a suction vapor capacity table found on page 9, the EVR 32 is selected as it has a capacity of 10.9 TR at $t_e$ = 30 °F and Δp = 3 psi.

**Valve selection example**
*(continued)*

*Metric conversions*
1 psi = 0.07 bar
$^5/_9(t_1\,°F - 32) = t_2\,°C$
1 TR = 3.5 kW

*Hot gas line solenoid valve selection example*
With hot gas defrost, pressure in the evaporator quickly rises to a value near that of the condensing pressure and remains there until the defrost cycle has been completed. Therefore, when selecting valves for hot gas applications, sizing is based primarily on the condensing temperature $t_c$ and the pressure drop $D_p$ across the valve.

*Example (with heat recovery)*
Refrigerant: R134a
Evaporator temperature: $t_e$= 0 °F
Condensing temperature: $t_c$= 100 °F
Hot gas temperature ahead of valve: $t_h$= 180 °F
Maximum allowable pressure drop across valve: Δp = 5 psi
Output of heat recovery condenser: $Q_h$= 15 TR (required valve capacity)

**Step 1:**
Determine the correction factor for hot gas temperature ($t_h$= $t_c$+ 40 °F) by increasing the required valve capacity by 1% for each 10 °F of actual superheat above the table rated superheat value of 40 °F.
In the example, an actual hot gas temperature of 180 °F is 40 °F higher than the calculated table value of ($t_h$= $t_c$+ 40 °F = 140 °F). This is equivalent to a hot gas correction factor of 1.04 (4% higher).

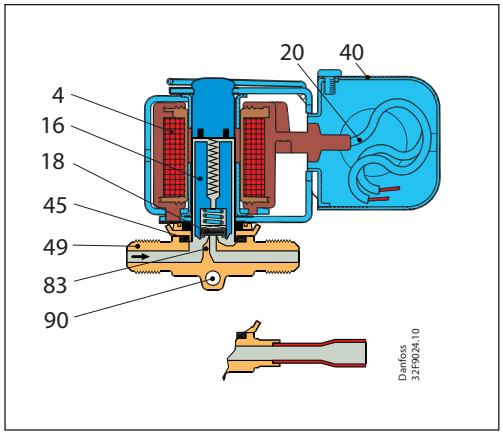
**Step 2:**
Determine the correction factor for evaporator temperature. From the correction factor table found on page 11, an evaporator temperature of 0 °F corresponds to a factor of 1.09.

**Step 3:**
Correct the required valve capacity. This is done by first multiplying the heat recovery capacity by the hot gas correction factor and then dividing it by the evaporator correction factor.
$Q_{corrected}$= (15 × 1.04)/1.09 = 14.3 TR

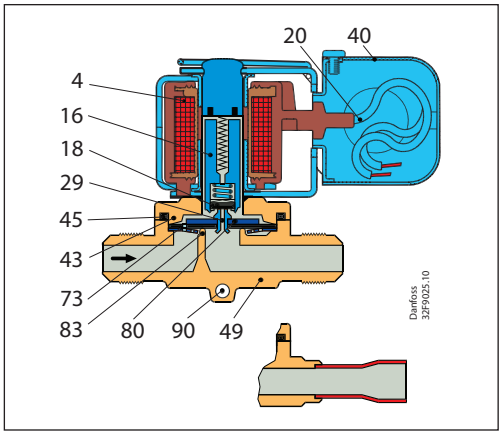
**Step 4:**
Select the appropriate capacity table and choose the first valve whose capacity is greater than or equal to $Q_{corrected}$ at the required condensing temperature and pressure drop. Using the R134a hot gas capacity table found on pages 11 and 12, the EVR 25 is selected as it has a capacity of 17.7 TR at $t_c$= 100 °F and Δp = 5 psi.

## Design / Function

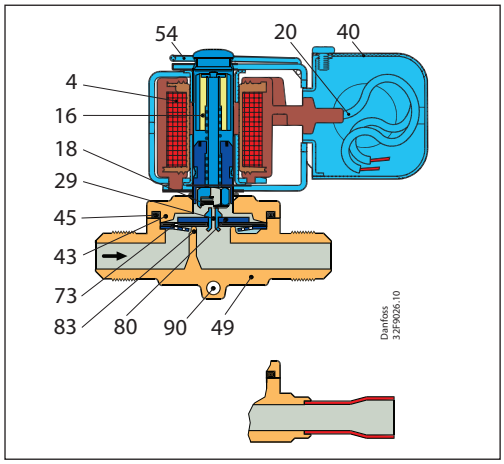
*EVR 2 and EVR 3, NC*




*EVR 4 – EVR 22, NC*




*EVR 6 – EVR 15, NO*




4. Coil
16. Armature
18. Valve plate
20. Earth terminal
29. Pilot orifice
40. Junction box
43. Valve cover
45. Gasket
49. Valve body
54. Spacer ring
73. Equalizing hole
80. Diaphragm
83. Valve seat
90. Fixing hole

EVR solenoid valves are based on two different design principles:
1. Direct operation
2. Servo operation

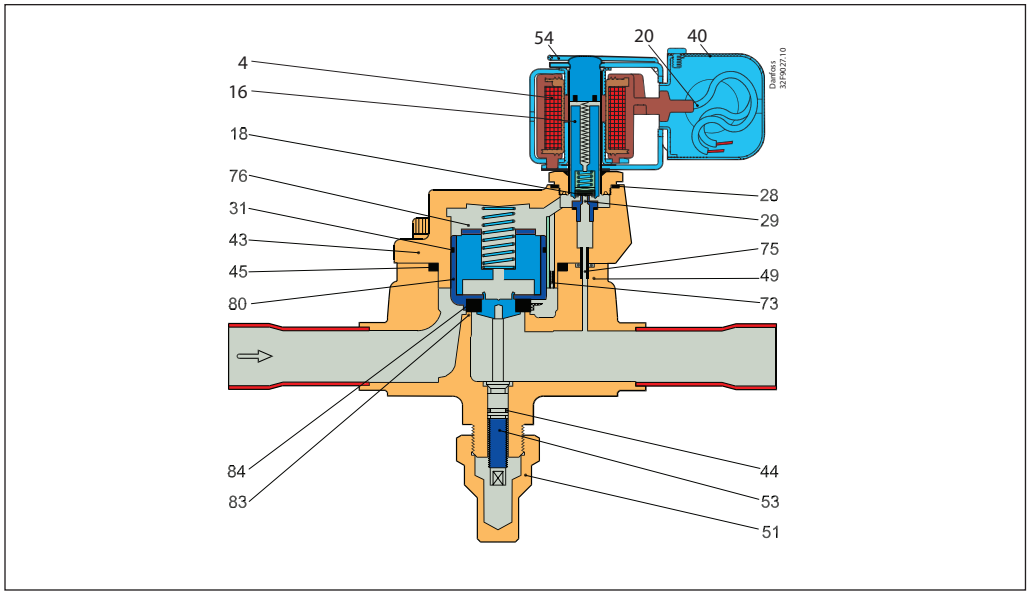
*1: Direct operation*
EVR 2 and EVR 3 are direct operated. The valves opens to admit full flow when the armature (16) is moved up into the magnetic field of the coil. The valves operates with a minimum differential pressure of 0 psi.
The valve plate (18) is fitted directly to the armature (16).
Inlet pressure and spring force act to close the valve when the coil is de-energized.

*2a:*
EVR 4 – 22 are servo-operated with a "floating" diaphragm (80). The pilot orifice (29) is located in the center of the diaphragm.
The pilot valve plate (18) is fitted directly to the armature (16).
When the coil is de-energized, the valve port and pilot orifice are closed and the inlet pressure acts both above and below the diaphragm.
The valve port and pilot orifice are kept 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 pulled up into the magnetic field and the pilot orifice opens. This relieves pressure above the diaphragm because the space above it becomes connected to the outlet side of the valve.
The differential pressure between inlet and outlet presses the diaphragm away from the valve seat (83) and the valve opens to admit full flow. A minimum differential pressure (0.7 psi for EVR 4 – 22) is necessary to open the valve and keep it open.
When the coil is de-energized, the pilot orifice closes. Then, via the equalizing port (73) the pressure above the diaphragm rises to the same value as the inlet pressure, which results in the valve port being closed by the diaphragm.

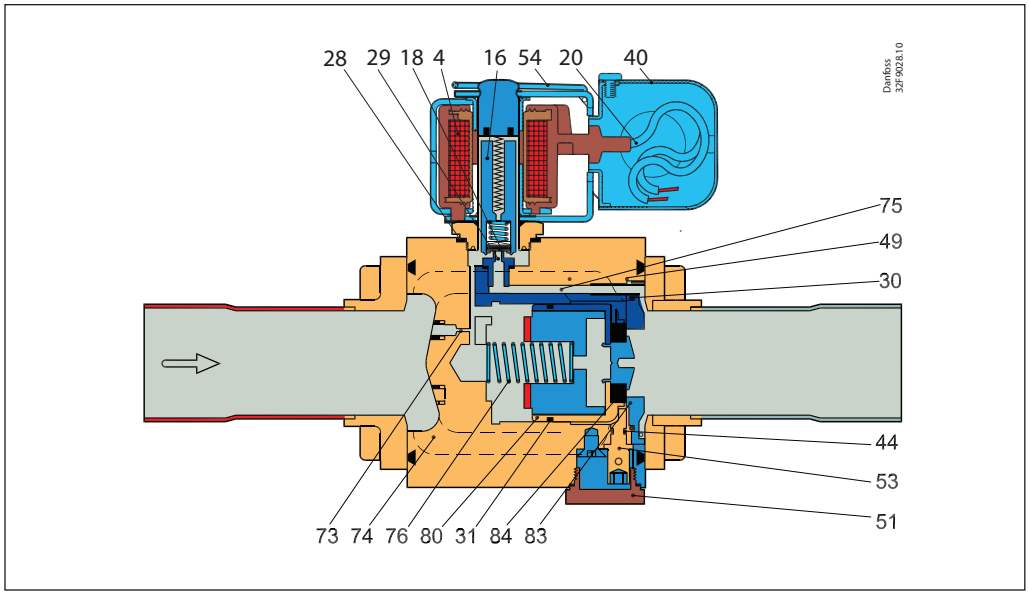
EVR 6 – 15, NO, function in a manner opposite to the NC valves; they are open when the coil is de-energized.
Normally open (NO) EVR valves are available with servo operation only.

**Design / Function**
(continued)

*EVR 25*




*EVR 32 and EVR 40*



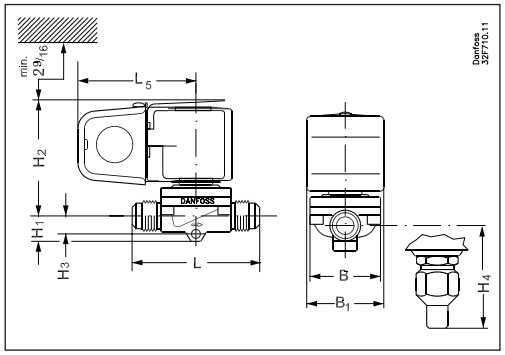

4. Coil
16. Armature
18. Pilot valve plate
20. Earth screw
28. Gasket
29. Pilot orifice
30. O-ring
31. Piston ring
40. Junction box
43. Valve cover
44. O-ring
45. Valve cover gasket
49. Valve body
51. Protective cap /blanking plug
53. Manual stem
73. Equalizing hole
74. Main passage
75. Pilot passage
76. Return spring
80. Servo piston
83. Main valve seat
84. Main valve plate

*2b. Servo operation of EVR 25 – EVR 40*
EVR 25, EVR 32 and EVR 40 are servo-operated piston valves.
The valves are closed when the coil is de-energized. In operation, EVR 25 is the same as for EVR 4 – EVR 22, but the design is different. The pilot unit is located in the cover and the servo unit is a piston (80) with a cast iron piston ring.

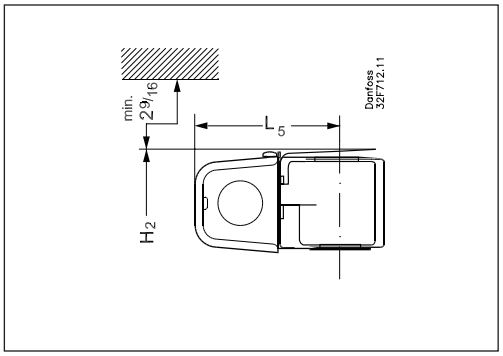
For EVR 25 – 40, piston (80) and valve plate (84) will close against the valve seat (83) due to the differential pressure between inlet and outlet plus the force from the return spring (76).
When the coil is energized, the pilot orifice (29) is opened and pressure on the spring side of the piston is relieved. The pressure differential now opens the valve. The minimum differential required to keep the valve fully open is 1 psi.

## Dimensions [in.] and weights [lbs]

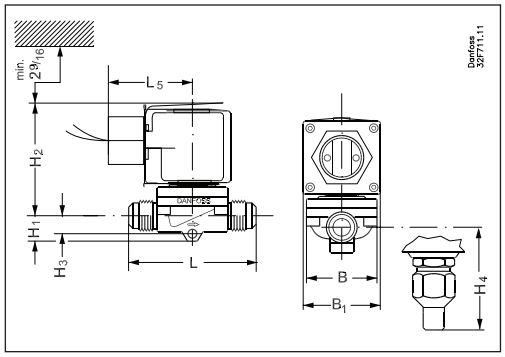
*EVR 2 – 10, NC*



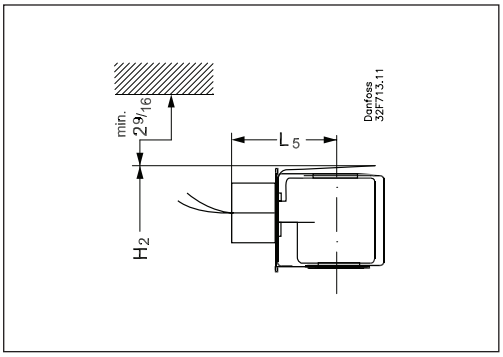

*EVR 6, EVR 10 and EVR 15, NO*




*EVR 2 – 22, NC*




*EVR 6, EVR 10 and EVR 15, NO*




Coil net weight: 1 lb

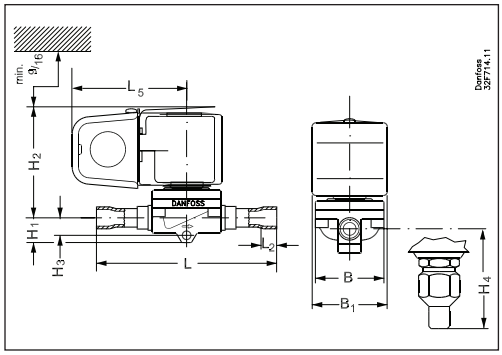
*Flare connection*

| Type | Connection | | L | $L_5$ | $H_1$ | $H_2$ NC | $H_3$ | $H_4$ | B | $B_1$ | Net weight with coil |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | normal size | oversize | | | | | | | | | |
| **EVR 2, NC** | 1/4 | — | 2 5/16 | 2 3/4 | 9/16 | 2 13/16 | 5/16 | — | 1 5/16 | 2 1/16 | 1.3 |
| **EVR 3, NC** | 1/4 | — | 2 5/16 | 2 3/4 | 9/16 | 2 13/16 | 5/16 | — | 1 5/16 | 2 1/16 | 1.3 |
| **EVR 3, NC** | — | 3/8 | 2 7/16 | 2 3/4 | 9/16 | 2 13/16 | 5/16 | — | 1 5/16 | 2 1/16 | 1.3 |
| **EVR 4, NC** | 3/8 | — | 2 3/4 | 2 3/4 | 9/16 | 2 7/8 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 4, NC** | — | 1/2 | 3 | 2 3/4 | 9/16 | 2 7/8 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 6, NC** | 3/8 | — | 2 3/4 | 2 3/4 | 9/16 | 2 7/8 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 6, NC** | 3/8 | — | 2 3/4 | 2 3/4 | 9/16 | 2 7/8 | — | 2 3/16 | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 6, NC** | — | 1/2 | 3 | 2 3/4 | 9/16 | 2 7/8 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 8, NC** | 1/2 | — | 3 5/16 | 2 3/4 | 9/16 | 2 7/8 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 10, NC** | 1/2 | — | 3 5/16 | 2 3/4 | 9/16 | 3 1/8 | 7/16 | — | 1 13/16 | 2 1/16 | 1.8 |
| **EVR 10, NC** | 1/2 | — | 3 5/16 | 2 3/4 | 9/16 | 3 1/8 | — | 2 3/16 | 1 13/16 | 2 1/16 | 1.8 |
| **EVR 10, NC** | — | 5/8 | 3 5/8 | 2 3/4 | 9/16 | 3 1/8 | 7/16 | — | 1 13/16 | 2 1/16 | 1.8 |

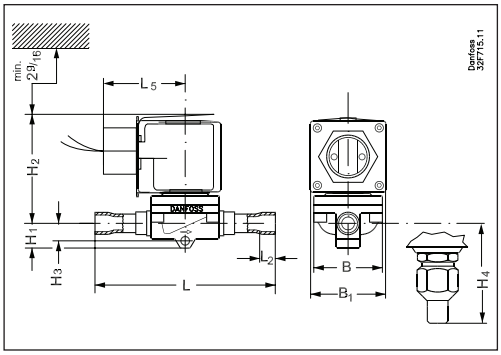
*Metric conversions*
1 in. = 25.4 mm

## Dimensions [in.] and weights [lbs]

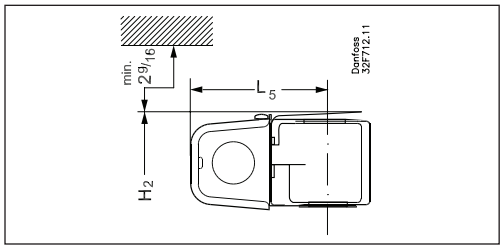
*EVR 6 – 15, NO*



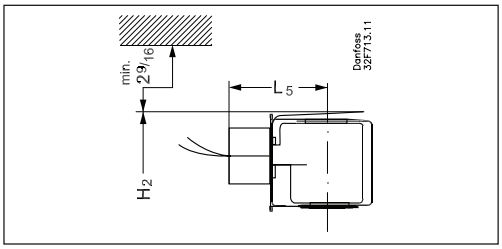

*EVR 2 – 22*




*EVR 6 – 15, NO*




*EVR 6 – 15, NO*




Coil net weight: 1 lb

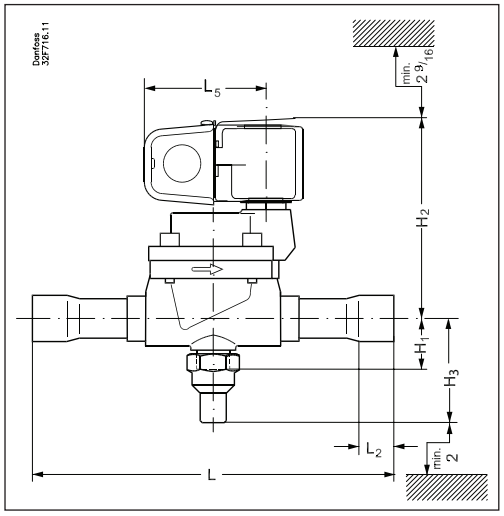
*Solder connection*

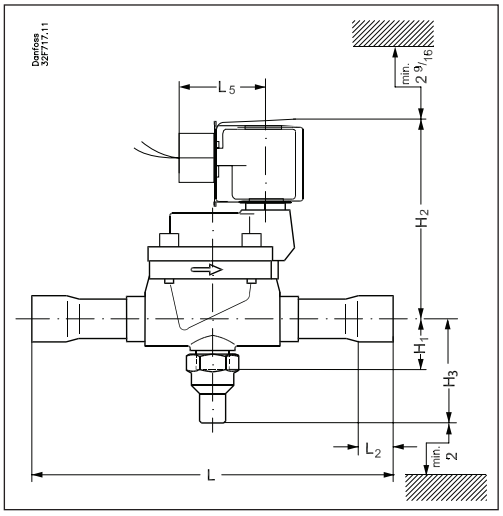
| Type | Connection | | L | $L_2$ | $L_5$ | $H_1$ | $H_2$ NC | $H_3$ | $H_4$ | B | $B_1$ | Net weight with coil |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | normal size | oversize | | | | | | | | | | |
| **EVR 2 NC** | 1/4 | — | 4 5/8 | 3/8 | 2 3/4 | 9/16 | — | 5/16 | — | 1 5/16 | 2 1/16 | 1.3 |
| **EVR 3 NC** | 1/4 | — | 4 5/8 | 3/8 | 2 3/4 | 9/16 | 2 13/16 | 5/16 | — | 1 5/16 | 2 1/16 | 1.3 |
| **EVR 3 NC** | — | 3/8 | 4 5/8 | 3/8 | 2 3/4 | 9/16 | 2 13/16 | 5/16 | — | 1 5/16 | 2 1/16 | 1.3 |
| **EVR 4 NC** | 3/8 | — | 4 3/8 | 3/8 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 4 NC** | — | 1/2 | 5 | 3/8 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 6 NC** | 3/8 | — | 4 3/8 | 3/8 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 6 NC** | 3/8 | — | 4 3/8 | 3/8 | 2 3/4 | — | 3 1/16 | — | 2 3/16 | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 6 NC** | — | 1/2 | 5 | 3/8 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 6 NC** | — | 5/8 | 6 1/2 | 1/2 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 8 NC** | 3/8 | — | 4 5/8 | 3/8 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 8 NC** | — | 1/2 | 5 | 3/8 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 8 NC** | — | 5/8 | 6 | 1/2 | 2 3/4 | 9/16 | 3 1/16 | 3/8 | — | 1 7/16 | 2 1/16 | 1.4 |
| **EVR 10 NC** | 3/8 | — | 4 5/8 | 3/8 | 2 3/4 | 5/8 | 3 1/8 | 7/16 | — | 1 13/16 | 2 1/16 | 1.8 |
| **EVR 10 NC** | — | 1/2 | 5 | 3/8 | 2 3/4 | 5/8 | 3 1/8 | 7/16 | — | 1 13/16 | 2 1/16 | 1.8 |
| **EVR 10 NC** | — | 1/2 | 5 | 3/8 | 2 3/4 | — | 3 1/8 | | 2 3/16 | 1 7/16 | 2 1/16 | 1.8 |
| **EVR 10 NC** | — | 5/8 | 6 5/16 | 1/2 | 2 3/4 | 5/8 | 3 1/8 | 7/16 | — | 1 13/16 | 2 1/16 | 1.8 |
| **EVR 15 NC** | 5/8 | — | 6 7/8 | 1/2 | 2 3/4 | 3/4 | 3 3/8 | 3/4 | — | 2 3/16 | 2 1/16 | 2.4 |
| **EVR 15 NC** | 5/8 | — | 6 7/8 | 1/2 | 2 3/4 | — | 3 3/8 | — | 2 1/8 | 2 3/16 | 2 1/16 | 2.4 |
| **EVR 15 NC** | — | 7/8 | 7 1/8 | 5/8 | 2 3/4 | 3/4 | 3 3/8 | 3/4 | — | 2 3/16 | 2 1/16 | 2.4 |
| **EVR 18 NC** | 7/8 | — | 7 1/8 | 5/8 | 2 3/4 | 3/4 | 3 3/8 | 3/4 | — | 2 3/16 | 2 1/16 | 2.4 |
| **EVR 18 NC** | — | 1 1/8 | 8 1/2 | 7/8 | 2 3/4 | 3/4 | 3 3/8 | 3/4 | — | 2 3/16 | 2 1/16 | 2.4 |
| **EVR 20 NC** | 7/8 | — | 7 1/2 | 5/8 | 2 3/4 | 25/32 | 3 9/16 | — | — | 2 13/16 | 2 1/16 | 3.4 |
| **EVR 20 NC** | 7/8 | — | 7 1/2 | 5/8 | 2 3/4 | — | 3 9/16 | — | 2 3/8 | 2 13/16 | 2 1/16 | 3.4 |
| **EVR 20 NC** | — | 1 1/8 | 8 1/2 | 7/8 | 2 3/4 | 25/32 | 3 9/16 | — | — | 2 13/16 | 2 1/16 | 3.4 |
| **EVR 22 NC** | 1 1/8 | — | 10 1/16 | 7/8 | 2 3/4 | 25/32 | 3 9/16 | — | — | 2 13/16 | 2 1/16 | 3.4 |
| **EVR 22 NC** | — | 1 3/8 | 11 1/16 | 1 | 2 3/4 | 25/32 | 3 9/16 | — | — | 2 13/16 | 2 1/16 | 3.4 |

*Metric conversions:*
1 in. = 25.4 mm

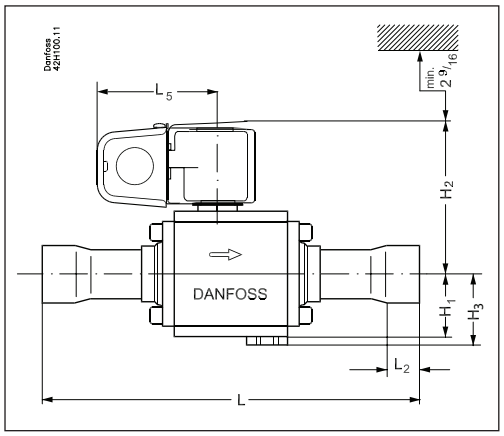
## Dimensions [in.] and weights [lbs]

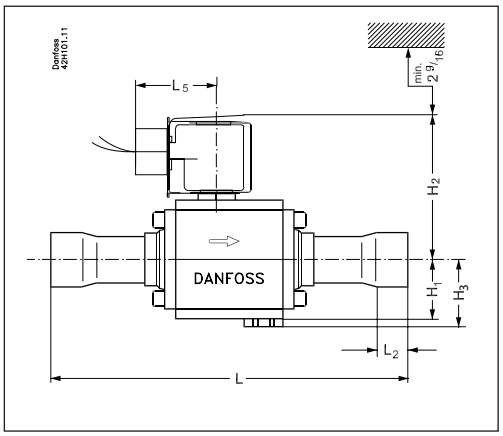
*EVR 25*




*EVR 32 and EVR 40*




Coil net weight: 1 lb

*Solder connection*

| Type | Connection | | L | $L_2$ | $L_5$ | $H_1$ | $H_2$ | $H_4$ | B | Net weight with coil |
|---|---|---|---|---|---|---|---|---|---|---|
| | normal size | oversize | | | | | | | | |
| **EVR 25** | 1 1/8 | — | 10 1/16 | 7/8 | 2 3/8 | 1 ½ | 5 7/16 | 2 13/16 | 3 ¼ | 6.9 |
| **EVR 25** | — | 1 3/8 | 11 1/16 | 1 | 2 3/8 | 1 ½ | 5 7/16 | 2 13/16 | 3 ¼ | 7.7 |
| **EVR 32** | 1 3/8 | — | 11 1/16 | 1 | 2 3/8 | 1 7/8 | 4 3/8 | 2 1/8 | 3 3/16 | 9.5 |
| **EVR 32** | — | 1 5/8 | 11 1/16 | 1 1/8 | 2 3/8 | 1 7/8 | 4 3/8 | 2 1/8 | 3 3/16 | 9.7 |
| **EVR 40** | 1 5/8 | — | 11 1/16 | 1 1/8 | 2 3/8 | 1 7/8 | 4 3/8 | 2 1/8 | 3 3/16 | 10.0 |
| **EVR 40** | — | 2 1/8 | 11 1/16 | 1 1/8 | 2 3/8 | 1 7/8 | 4 3/8 | 2 1/8 | 3 3/16 | 10.0 |

*Metric conversions:*
1 in. = 25.4 mm

## Spare parts

| Type | Code no. | | | |
|---|---|---|---|---|
| | Seal kit | Service kit | Piston service kit | Pilot service kit |
| EVR 2 | 032F8196 | 032F0230 | — | — |
| EVR 3 | 032F8196 | 032F0230 | — | — |
| EVR 4 | 032F8165 | — | — | — |
| EVR 6 | 032F8165 | 032F8169 | — | — |
| EVR 8 | 032F8165 | 032F8169 | — | — |
| EVR 10 | 032F8196 | 032F0185 | — | — |
| EVR 15 | 032F8196 | 032F0187 | — | — |
| EVR 18 | 032F8196 | 032F0187 | — | — |
| EVR 20 | — | 032F0189 | — | — |
| EVR 22 | — | 032F0189 | — | — |
| EVR 25 | 032F3235 | — | 032F3236 | 042H0161 |
| EVR 32 | 042H0160 | — | 042H0172 | 042H0165 |
| EVR 40 | 042H0160 | — | 042H0173 | — |
| EVR 6 NO | 032F8165 | — | — | — |
| EVR 10 NO | 032F8196 | — | — | — |
| EVR 15 NO | 032F8196 | — | — | — |

## Spare parts, contents

| Seal kit | Service kit | Piston service kit | Pilot service kit |
|---|---|---|---|
| O-ring<br>Gasket | Diaphragm assembly<br>Armature assembly<br>Rubber gasket<br>Screws<br>Torx key<br>Snap fastener<br>Nut | Piston assembly<br>Plastic block<br>Spring<br>Piston ring<br>Rubber gasket<br>Snap fastener<br>Nut | Armature tube assembly<br>Snap fastener<br>Armature<br>Orifice<br>Gaskets<br>Nut |