

Technical brochure

Thermostatic expansion valves type TGE 10, TGE 20 and TGE 40



TGE is a dedicated designed series of thermostatic expansion valves for all standard refrigerants.

The hermetic tight design meets the environmental demands for today and future. Versions for no standard refrigerants can be produced to order.

Applications

- Air conditioning systems
- Heat pumps
- Water chillers
- Refrigerated containers
- Traditional refrigeration systems - and others

Features

- Hermetic TXV for R22, R134a, R404A, R507, R407C, R410A
- Head pressure independent
- Version with MOP (Max. Operating Pressure)
- Straightway flow
- Balance port (BP)
- Low hysteresis
- Opening superheat (OSH) max. 4°K
- Max. working pressure 46 bar/ 667 psi
- Lifetime for heat pump application
- Cylindrical bulb design with upgraded bulb strap
- Biflow with expansion in both directions
- Adjustable superheat setting
- Laser welded, stainless steel power element / capillary tube
- Mechanical connections (solder/flare, MIO, ORFS) available
- Capacity range: 3.5 to 47 TR (12.3 to 165 kW) R410A.

Technical data

Thermostatic charge for R410A, R22/R407C, R134a, R407C, R404A and R507:

- MAH -30 - +15°C
-22 - +59°F
For Air Conditioning applications
- N -40 → +10°C without MOP
-40 → +50°F without MOP
For refrigeration applications
- K -25 → +10°C MOP + 15°C
-15 → +50°F MOP + 60°F
For refrigeration applications

Static superheat (SS): 4K / 7.2°F

Connection

Type	Inlet ODF solder	Outlet ODF solder
TGE 10	3/8, 1/2, 5/8	5/8, 7/8, 1-1/8
	10, 12, 16	16, 22, 28
TGE 20	5/8, 7/8, 1-1/8	5/8, 7/8, 1-1/8, 1-3/8
TGE 40	16, 22, 28	16, 22, 28, 35

Capillary tube length

Type	Capillary tube length	
TGE 10	1.5 m	5 ft
TGE 20	1.5 m or 3 m	5 ft or 10 ft
TGE 40	1.5 m or 3 m	5 ft or 10 ft

Valve options

In addition to the standard programme, variants of following options may be available:

- Refrigerants
- Evaporator range
- MOP point
- Static superheat setting (0K / 0°F → 8K / 14.4°F)
- Flare connections

Please contact your nearest Danfoss sales office to discuss valve options.

Operating conditions

Max. operating temperature

- Thermostatic element
- MAH charge: 150 °C / 302 °F
- N charge: 100 °C / 210 °F (R410A)
- K charge: 150 °C / 302 °F (R410A)
- Valve body: 110 °C / 230 °F

Max. working pressure 46 bar / 667 psig
Max. test pressure 51 bar / 740 psig

TGE valves are designed for biflow operations.

MOP function

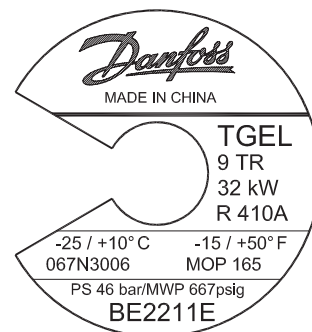
Refrigerant	Range K -25 → +10°C / -15 → +50°F
	MOP point for evaporating temperature t_e and evaporating pressure p_e $t_e = +15°C / +60°F$
R22	100 psig / 6.9 bar (abs)
R407C	95 psig / 6.6 bar (abs)
R134a	55 psig / 5 bar (abs)
R410A	165 psig / 11.5 bar (abs)
R404A/ R507	120 psig / 8.3 bar (abs)

Identification

Important valve information is provided on the diaphragm element (fig. 1)

Main valve example:

- TGE = Valve type
- 9 TR = Nominal capacity Q_{nom} in tons of refrigeration
- 32 kW = Rated capacity Q_{nom} in kW
- R410A = Refrigerant
- 25 / +10°C = Evaporating temperature range (°C)
- 15 / +50°F = Evaporating temperature range (°F)
- 067N3006 = Code number
- MOP = Max. Operating Pressure
- PS 46 bar / MWP 667 psig = Max. Working Pressure in bar and psig
- BE2211E = BE = China
22 = week
11 = 2011
E = Friday



Danfoss
67N11.17

Fig. 1

- Refrigerant code:
- R22 = X
 - R410A = L
 - R407C = Z
 - R134a = N
 - R404A/ R507 = S

Nominal capacity*)

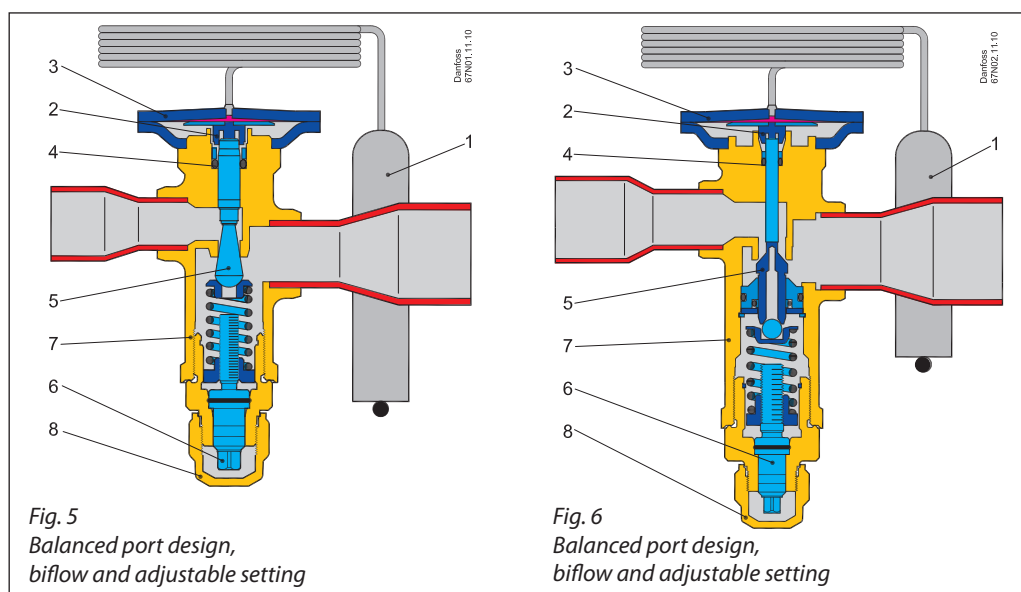
Units / Conditions	t _{evap}	t _{cond}	Sub-cooling
SI (°C)	4.4	38	1
US (°F)	40	100	1.8

*Nominal capacity according to ARI standard

Valve type	Orifice no.	Range N, K, MAH									
		R134a		R407C		R404A		R22		R410A	
		kW	TR	kW	TR	kW	TR	kW	TR	kW	TR
TGE 10	3	6.13	1.74	9.66	2.75	7.04	2.00	10.40	2.96	12.30	3.50
	4	8.37	2.38	13.10	3.72	9.55	2.72	14.10	4.01	16.70	4.74
	6	12.50	3.54	19.20	5.45	14.00	3.99	20.70	5.88	24.40	6.92
	8	16.90	4.80	25.50	7.26	18.70	5.31	27.40	7.79	32.20	9.16
TGE 20	11	24.50	6.97	37.20	10.60	26.70	7.59	38.90	11.00	46.00	13.10
	12.5	29.70	8.45	43.00	12.20	31.80	9.04	43.60	12.40	55.30	15.70
	16	37.70	10.70	54.00	15.40	40.10	11.40	55.10	15.70	69.60	19.80
TGE 40	20	44.70	12.70	63.80	18.20	47.10	13.40	64.80	18.40	81.60	23.20
	26	62.20	17.70	84.80	24.20	65.70	18.70	94.10	26.80	113.00	32.20
	30	70.80	20.20	96.30	27.40	74.50	21.20	107.00	30.30	128.00	36.40
	40	87.60	24.90	122.00	34.70	94.60	26.90	137.00	38.80	165.00	47.00

Design and function

1. Bulb with capillary tube
2. Thrust pad
3. Thermostatic element
4. Push pin seal
5. Balance port
6. Static superheat adjustment spindle
7. Valve body
8. Protective cap

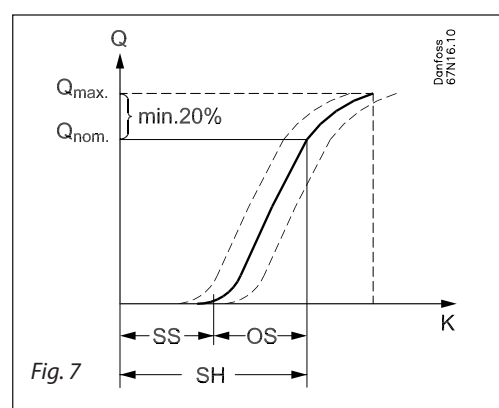


The central push pin is fitted with a robust seal (4) that ensures maximum tightness for the life of the valve.
 Static superheat (SS) can be adjusted by the setting spindle (6), see fig. 5. The standard superheat setting (SS) is 4K / 7.2°F and adjustable for 0 → 8K / 0 → 14.4°F.

SS = static superheat
 OS = opening superheat
 SH = SS+OS= total superheat

Example:
 Static superheat SS = 4K / 7.2°F (factory setting)
 Opening superheat OS = 4K / 7.2°F
 The opening superheat is 4K, i.e. from the point the valve begins to open up to nominal capacity. Opening superheat is determined by the design and cannot be changed.
 Total superheat SH = SS+OS
 SH = 4+4 = 8K / 14.4°F
 Total superheat SH can be altered by changing SS (by using the setting spindle).

Balanced port design and advantage
 The TGE series of thermostatic expansion valves have balanced port design. Balanced port design prevents changes in pressure drop across the valve from influencing



operation and provides excellent control on applications having widely varying operating conditions. Balanced port TXV's are recommended in refrigeration and air conditioning systems with any combinations of these conditions:

- 1) Widely varying head pressures
- 2) Widely varying evaporator loads
- 3) Widely varying pressure drop across the TXV
- 4) Fluctuating or extremely low liquid temperatures
- 5) Intermittent liquid line flash gas

Application

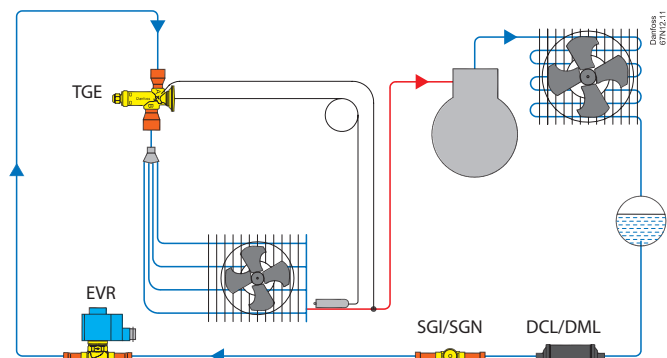


Fig. 2
Traditional refrigeration plant

Fig. 2 is a diagram of a traditional refrigeration plant where TGE is used for flow in one direction only.

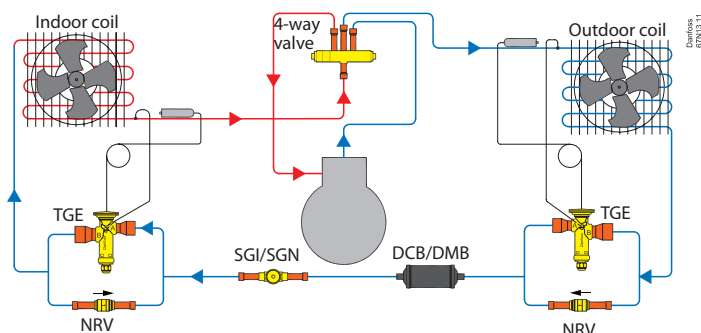


Fig. 3
Conventional system with summer/winter operation

Fig. 3 is a conventional split heat pump system shown in cooling mode. This system has two TGE thermostatic expansion valves with fixed direction flow. An NRV check valve is placed in series with each TGE to allow liquid refrigerant to bypass when flow is opposite the TXV fixed direction.

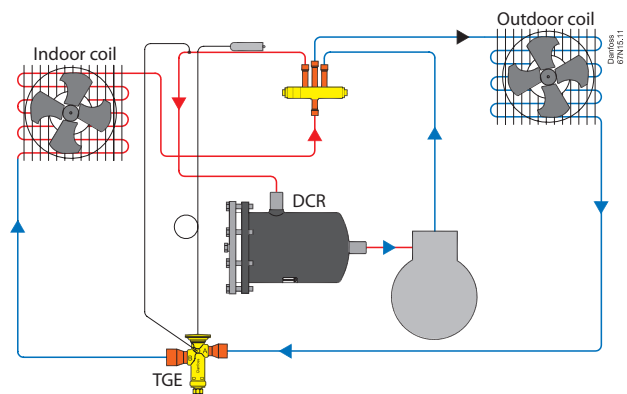


Fig. 4
Simplified heat pump system

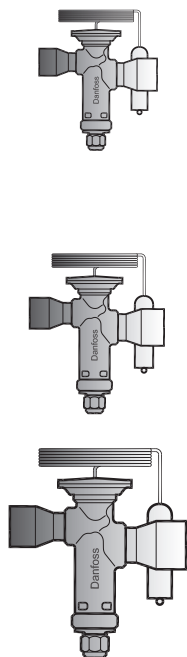
Fig. 4 is a heat pump system similar to that in fig. 3 but with a more compact design, where the distance between evaporator and condenser is very short. This system has only one bi-flow TGE valve metering liquid refrigerant effectively in both directions. Changeover is by means of a 4-way valve. A suction filter drier is often placed in suction lines just before the compressor. The normal flow direction of TGE is determined by the primary function, i.e. cooling or heating.

Ordering

The valve and bulb straps are supplied in industrial packs or multi packs:

- Industrial pack, TGE 10 / 12 pcs
- Industrial pack, TGE 20 / 8 pcs
- Industrial pack, TGE 40 / 8 pcs

- Multi pack, TGE 10 / 12 pcs
- Multi pack, TGE 20 / 8 pcs
- Multi pack, TGE 40 / 6 pcs

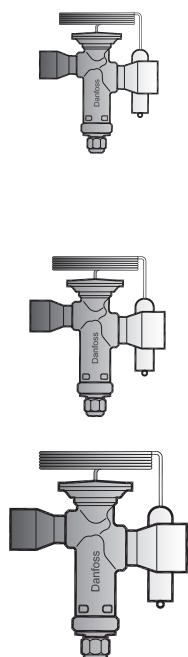
Ordering
Standard range


Range N = -40 → +10°C OS = 4 K

R22/R407C

Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF × ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEX 10	3	10	3	$\frac{3}{8} \times \frac{5}{8}$	067N2150	10 × 16	067N2190
TGEX 10	3	10	3	$\frac{1}{2} \times \frac{5}{8}$	067N2151	12 × 16	067N2191
TGEX 10	4	14	4	$\frac{1}{2} \times \frac{7}{8}$	067N2152	12 × 22	067N2192
TGEX 10	6	20	6	$\frac{1}{2} \times \frac{5}{8}$	067N2153	12 × 16	067N2193
TGEX 10	6	20	6	$\frac{1}{2} \times \frac{7}{8}$	067N2154	12 × 22	067N2194
TGEX 10	6	20	6	$\frac{5}{8} \times \frac{7}{8}$	067N2155	16 × 22	067N2195
TGEX 10	8	27	7.5	$\frac{5}{8} \times \frac{7}{8}$	067N2156	16 × 22	067N2196
TGEX 10	11	38	11	$\frac{5}{8} \times \frac{7}{8}$	067N2157	16 × 22	067N2197
TGEX 10	11	38	11	$\frac{5}{8} \times 1 \frac{1}{8}$	067N2158	16 × 28	067N2198
TGEX 20	12.5	43	12	$\frac{5}{8} \times \frac{7}{8}$	067N2159	16 × 22	067N2199
TGEX 20	12.5	43	12	$\frac{5}{8} \times 1 \frac{1}{8}$	067N2160	16 × 28	067N2200
TGEX 20	16	54	15	$\frac{5}{8} \times 1 \frac{1}{8}$	067N2161	16 × 28	067N2201
TGEX 20	16	54	15	$\frac{7}{8} \times 1 \frac{1}{8}$	067N2162	22 × 28	067N2202
TGEX 20	20	63	18	$\frac{7}{8} \times 1 \frac{1}{8}$	067N2163	22 × 28	067N2203
TGEX 20	20	63	18	$\frac{7}{8} \times 1 \frac{3}{8}$	067N2164	22 × 35	067N2204
TGEX 40	26	92	26	$\frac{7}{8} \times 1 \frac{3}{8}$	067N2165	22 × 35	067N2205
TGEX 40	26	92	26	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N2166	28 × 35	067N2206
TGEX 40	30	104	30	$\frac{7}{8} \times 1 \frac{3}{8}$	067N2167	22 × 35	067N2207
TGEX 40	30	104	30	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N2168	28 × 35	067N2208
TGEX 40	40	134	38	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N2169	28 × 35	067N2209

Range K = -25 → +10°C with MOP 100 psig/ 6.9 bar abs. OS = 4 K

R22/R407C


Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF × ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEX 10	3	10	3	$\frac{3}{8} \times \frac{5}{8}$	067N2000	10 × 16	067N2040
TGEX 10	3	10	3	$\frac{1}{2} \times \frac{5}{8}$	067N2001	12 × 16	067N2041
TGEX 10	4	14	4	$\frac{1}{2} \times \frac{7}{8}$	067N2002	12 × 22	067N2042
TGEX 10	6	20	6	$\frac{1}{2} \times \frac{5}{8}$	067N2003	12 × 16	067N2043
TGEX 10	6	20	6	$\frac{1}{2} \times \frac{7}{8}$	067N2004	12 × 22	067N2044
TGEX 10	6	20	6	$\frac{5}{8} \times \frac{7}{8}$	067N2005	16 × 22	067N2045
TGEX 10	8	27	7.5	$\frac{5}{8} \times \frac{7}{8}$	067N2006	16 × 22	067N2046
TGEX 10	11	38	11	$\frac{5}{8} \times \frac{7}{8}$	067N2007	16 × 22	067N2047
TGEX 10	11	38	11	$\frac{5}{8} \times 1 \frac{1}{8}$	067N2008	16 × 28	067N2048
TGEX 20	12.5	43	12	$\frac{5}{8} \times \frac{7}{8}$	067N2009	16 × 22	067N2049
TGEX 20	12.5	43	12	$\frac{5}{8} \times 1 \frac{1}{8}$	067N2010	16 × 28	067N2050
TGEX 20	16	54	15	$\frac{5}{8} \times 1 \frac{1}{8}$	067N2011	16 × 28	067N2051
TGEX 20	16	54	15	$\frac{7}{8} \times 1 \frac{1}{8}$	067N2012	22 × 28	067N2052
TGEX 20	20	63	18	$\frac{7}{8} \times 1 \frac{1}{8}$	067N2013	22 × 28	067N2053
TGEX 20	20	63	18	$\frac{7}{8} \times 1 \frac{3}{8}$	067N2014	22 × 35	067N2054
TGEX 40	26	92	26	$\frac{7}{8} \times 1 \frac{3}{8}$	067N2015	22 × 35	067N2055
TGEX 40	26	92	26	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N2016	28 × 35	067N2056
TGEX 40	30	104	30	$\frac{7}{8} \times 1 \frac{3}{8}$	067N2017	22 × 35	067N2057
TGEX 40	30	104	30	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N2018	28 × 35	067N2058
TGEX 40	40	134	38	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N2019	28 × 35	067N2059

¹⁾ Pressure equalisation = $\frac{1}{4}$ in (6 mm) ODF

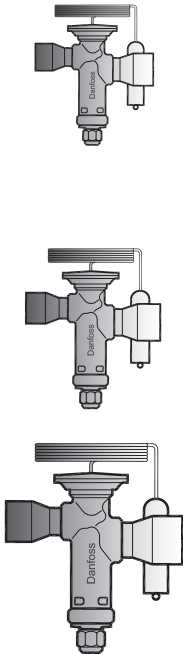
²⁾ The nominal capacity is based on: ARI standard

 Evaporating temperature, $T_e = 4.4^\circ\text{C}$,
 Liquid temperature, $T_l = 37^\circ\text{C}$
 Condensing temperature, $T_c = 38^\circ\text{C}$,
 Opening surperheat, OS = 4K

Ordering
Standard range (continued)

Range N = -40 → +10°C OS = 4 K

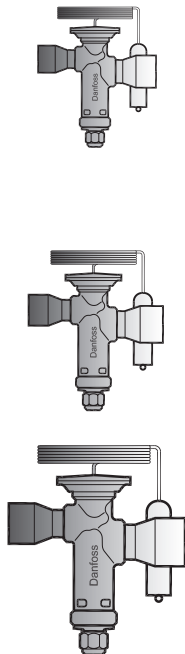
R134a



Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF × ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEN 10	3	6	1.5	$\frac{3}{8} \times \frac{5}{8}$	067N5150	10 × 16	067N5190
TGEN 10	3	6	1.5	$\frac{1}{2} \times \frac{5}{8}$	067N5151	12 × 16	067N5191
TGEN 10	4	8	2.5	$\frac{1}{2} \times \frac{7}{8}$	067N5152	12 × 22	067N5192
TGEN 10	6	12	3.5	$\frac{1}{2} \times \frac{5}{8}$	067N5153	12 × 16	067N5193
TGEN 10	6	12	3.5	$\frac{1}{2} \times \frac{7}{8}$	067N5154	12 × 22	067N5194
TGEN 10	6	12	3.5	$\frac{5}{8} \times \frac{7}{8}$	067N5155	16 × 22	067N5195
TGEN 10	8	17	4.5	$\frac{5}{8} \times \frac{7}{8}$	067N5156	16 × 22	067N5196
TGEN 10	11	24	7	$\frac{5}{8} \times \frac{7}{8}$	067N5157	16 × 22	067N5197
TGEN 10	11	24	7	$\frac{5}{8} \times 1 \frac{1}{8}$	067N5158	16 × 28	067N5198
TGEN 20	12.5	29	8	$\frac{5}{8} \times \frac{7}{8}$	067N5159	16 × 22	067N5199
TGEN 20	12.5	29	8	$\frac{5}{8} \times 1 \frac{1}{8}$	067N5160	16 × 28	067N5200
TGEN 20	16	37	10	$\frac{5}{8} \times 1 \frac{1}{8}$	067N5161	16 × 28	067N5201
TGEN 20	16	37	10	$\frac{7}{8} \times 1 \frac{1}{8}$	067N5162	22 × 28	067N5202
TGEN 20	20	44	12	$\frac{7}{8} \times 1 \frac{1}{8}$	067N5163	22 × 28	067N5203
TGEN 20	20	44	12	$\frac{7}{8} \times 1 \frac{3}{8}$	067N5164	22 × 35	067N5204
TGEN 40	26	61	17	$\frac{7}{8} \times 1 \frac{3}{8}$	067N5165	22 × 35	067N5205
TGEN 40	26	61	17	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N5166	28 × 35	067N5206
TGEN 40	30	70	20	$\frac{7}{8} \times 1 \frac{3}{8}$	067N5167	22 × 35	067N5207
TGEN 40	30	70	20	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N5168	28 × 35	067N5208
TGEN 40	40	87	25	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N5169	28 × 35	067N5209

Range K = -25 → +10°C with MOP 55 psig/ 5 bar abs. OS = 4 K

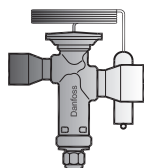
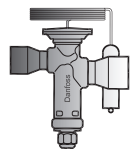
R134a



Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF × ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEN 10	3	6	1.5	$\frac{3}{8} \times \frac{5}{8}$	067N5000	10 × 16	067N5040
TGEN 10	3	6	1.5	$\frac{1}{2} \times \frac{5}{8}$	067N5001	12 × 16	067N5041
TGEN 10	4	8	2.5	$\frac{1}{2} \times \frac{7}{8}$	067N5002	12 × 22	067N5042
TGEN 10	6	12	3.5	$\frac{1}{2} \times \frac{5}{8}$	067N5003	12 × 16	067N5043
TGEN 10	6	12	3.5	$\frac{1}{2} \times \frac{7}{8}$	067N5004	12 × 22	067N5044
TGEN 10	6	12	3.5	$\frac{5}{8} \times \frac{7}{8}$	067N5005	16 × 22	067N5045
TGEN 10	8	17	4.5	$\frac{5}{8} \times \frac{7}{8}$	067N5006	16 × 22	067N5046
TGEN 10	11	24	7	$\frac{5}{8} \times \frac{7}{8}$	067N5007	16 × 22	067N5047
TGEN 10	11	24	7	$\frac{5}{8} \times 1 \frac{1}{8}$	067N5008	16 × 28	067N5048
TGEN 20	12.5	29	8	$\frac{5}{8} \times \frac{7}{8}$	067N5009	16 × 22	067N5049
TGEN 20	12.5	29	8	$\frac{5}{8} \times 1 \frac{1}{8}$	067N5010	16 × 28	067N5050
TGEN 20	16	37	10	$\frac{5}{8} \times 1 \frac{1}{8}$	067N5011	16 × 28	067N5051
TGEN 20	16	37	10	$\frac{7}{8} \times 1 \frac{1}{8}$	067N5012	22 × 28	067N5052
TGEN 20	20	44	12	$\frac{7}{8} \times 1 \frac{1}{8}$	067N5013	22 × 28	067N5053
TGEN 20	20	44	12	$\frac{7}{8} \times 1 \frac{3}{8}$	067N5014	22 × 35	067N5054
TGEN 40	26	61	17	$\frac{7}{8} \times 1 \frac{3}{8}$	067N5015	22 × 35	067N5055
TGEN 40	26	61	17	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N5016	28 × 35	067N5056
TGEN 40	30	70	20	$\frac{7}{8} \times 1 \frac{3}{8}$	067N5017	22 × 35	067N5057
TGEN 40	30	70	20	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N5018	28 × 35	067N5058
TGEN 40	40	87	25	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N5019	28 × 35	067N5059

¹⁾ Pressure equalisation = $\frac{1}{4}$ in (6 mm) ODF
²⁾ The nominal capacity is based on: ARI standard

Evaporating temperature, $T_e = 4.4^\circ\text{C}$,
Liquid temperature, $T_l = 37^\circ\text{C}$
Condensing temperature, $T_c = 38^\circ\text{C}$,
Opening surperheat, OS = 4K

Ordering
Standard range (continued)


Range N = -40 → +10°C OS = 4 K

R134a

Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		In. version	
		kW	TR	Connection Screw in.	Code no. Multi pack
TGEN 10	3	6	1.5	$1/2 \times 5/8 \times 1/4$ MIO	067N7150
TGEN 10	4	8	2.5	$1/2 \times 5/8 \times 1/4$ MIO	067N7152
TGEN 10	4	8	2.5	$3/8 \times 1/2$ MIO $\times 1/4$ F	067N7153
TGEN 10	4	8	2.5	$3/8 \times 1/2 \times 1/4$ Flare	067N7154
TGEN 10	6	12	3.5	$1/2 \times 5/8 \times 1/4$ Flare	067N7157
TGEN 10	6	12	3.5	$3/8 \times 1/2$ MIO $\times 1/4$ F	067N7158
TGEN 10	6	12	3.5	$3/8 \times 1/2 \times 1/4$ Flare	067N7160
TGEN 10	8	17	4.5	$1/2 \times 5/8 \times 1/4$ MIO	067N7161
TGEN 10	8	17	4.5	$1/2 \times 5/8 \times 1/4$ Flare	067N7163
TGEN 10	8	17	4.5	$3/8 \times 1/2$ MIO $\times 1/4$ F	067N7164
TGEN 10	8	17	4.5	$5/8 \times 3/4 \times 1/4$ MIO	067N7165
TGEN 10	11	24	7	$5/8 \times 3/4 \times 1/4$ MIO	067N7166
TGEN 20	12.5	29	8	$5/8 \times 3/4 \times 1/4$ MIO	067N7167
TGEN 20	16	37	10	$5/8 \times 3/4 \times 1/4$ Flare	067N7168

Range K = -25 → +10°C with MOP 55 psig/ 5 bar abs. OS = 4 K

R134a

Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version	
		kW	TR	Connection Screw in.	Code no. Multi pack
TGEN 10	4	8	2.5	$3/8 \times 1/2 \times 1/4$ F	067N7000
TGEN 10	6	12	3.5	$3/8 \times 1/2 \times 1/4$ F	067N7003
TGEN 10	6	12	3.5	$1/2 \times 5/8 \times 1/4$ F	067N7004
TGEN 10	8	17	4.5	$1/2 \times 5/8 \times 1/4$ F	067N7008
TGEN 10	8	17	4.5	$5/8 \times 3/4 \times 1/4$ F	067N7013
TGEN 10	11	24	7	$5/8 \times 3/4 \times 1/4$ F	067N7016
TGEN 20	12.5	29	8	$5/8 \times 3/4 \times 1/4$ F	067N7018
TGEN 20	16	37	10	$5/8 \times 3/4 \times 1/4$ F	067N7020
TGEN 20	20	44	12	$5/8 \times 3/4 \times 1/4$ F	067N7021
TGEN 10	4	8	2.5	$1/2 \times 5/8 \times 1/4$ MIO	067N7002
TGEN 10	8	17	4.5	$1/2 \times 5/8 \times 1/4$ MIO	067N7010
TGEN 10	6	12	3.5	$1/2 \times 5/8$ MIO $\times 1/4$ F	067N7006
TGEN 10	8	17	4.5	$5/8 \times 3/4 \times 1/4$ MIO	067N7012
TGEN 10	11	24	7	$5/8 \times 3/4 \times 1/4$ MIO	067N7015
TGEN 20	12.5	29	8	$5/8 \times 3/4 \times 1/4$ MIO	067N7017
TGEN 20	16	37	10	$5/8 \times 3/4 \times 1/4$ MIO	067N7019

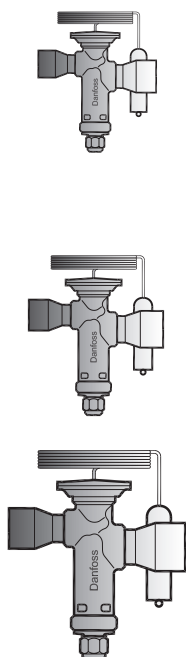
¹⁾The nominal capacity is based on: ARI standard

 Evaporating temperature, $T_e = 4.4^\circ\text{C}$,
 Liquid temperature, $T_l = 37^\circ\text{C}$
 Condensing temperature, $T_c = 38^\circ\text{C}$,
 Opening surperheat, OS = 4K

 F: Flare
 MIO: Male inserts O-ring
 ORFS: O-ring face seal

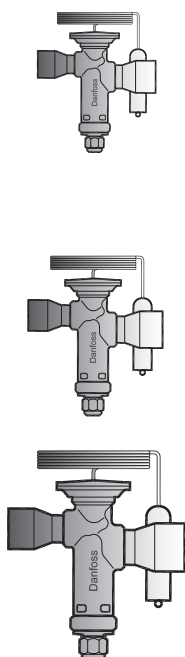
Ordering
Standard range (continued)

 Range N = $-40 \rightarrow +10^{\circ}\text{C}$ OS = 4 K

R407C


Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF \times ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF \times ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEZ 10	3	9	2.5	$\frac{3}{8} \times \frac{5}{8}$	067N4150	10 \times 16	067N4190
TGEZ 10	3	9	2.5	$\frac{1}{2} \times \frac{5}{8}$	067N4151	12 \times 16	067N4191
TGEZ 10	4	13	3.5	$\frac{1}{2} \times \frac{7}{8}$	067N4152	12 \times 22	067N4192
TGEZ 10	6	19	5	$\frac{1}{2} \times \frac{5}{8}$	067N4153	12 \times 16	067N4193
TGEZ 10	6	19	5	$\frac{1}{2} \times \frac{7}{8}$	067N4154	12 \times 22	067N4194
TGEZ 10	6	19	5	$\frac{5}{8} \times \frac{7}{8}$	067N4155	16 \times 22	067N4195
TGEZ 10	8	25	7	$\frac{5}{8} \times \frac{7}{8}$	067N4156	16 \times 22	067N4196
TGEZ 10	11	36	10	$\frac{5}{8} \times \frac{7}{8}$	067N4157	16 \times 22	067N4197
TGEZ 10	11	36	10	$\frac{5}{8} \times 1 \frac{1}{8}$	067N4158	16 \times 28	067N4198
TGEZ 20	12.5	42	12	$\frac{5}{8} \times \frac{7}{8}$	067N4159	16 \times 22	067N4199
TGEZ 20	12.5	42	12	$\frac{5}{8} \times 1 \frac{1}{8}$	067N4160	16 \times 28	067N4200
TGEZ 20	16	53	15	$\frac{5}{8} \times 1 \frac{1}{8}$	067N4161	16 \times 28	067N4201
TGEZ 20	16	53	15	$\frac{7}{8} \times 1 \frac{1}{8}$	067N4162	22 \times 28	067N4202
TGEZ 20	20	62	18	$\frac{7}{8} \times 1 \frac{1}{8}$	067N4163	22 \times 28	067N4203
TGEZ 20	20	62	18	$\frac{7}{8} \times 1 \frac{3}{8}$	067N4164	22 \times 35	067N4204
TGEZ 40	26	84	24	$\frac{7}{8} \times 1 \frac{3}{8}$	067N4165	22 \times 35	067N4205
TGEZ 40	26	84	24	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N4166	28 \times 35	067N4206
TGEZ 40	30	95	27	$\frac{7}{8} \times 1 \frac{3}{8}$	067N4167	22 \times 35	067N4207
TGEZ 40	30	95	27	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N4168	28 \times 35	067N4208
TGEZ 40	40	121	34	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N4169	28 \times 35	067N4209

 Range K = $-25 \rightarrow +10^{\circ}\text{C}$ with MOP 95 psig/ 6.6 bar abs. OS = 4 K

R407C


Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF \times ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF \times ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEZ 10	3	9	2.5	$\frac{3}{8} \times \frac{5}{8}$	067N4000	10 \times 16	067N4040
TGEZ 10	3	9	2.5	$\frac{1}{2} \times \frac{5}{8}$	067N4001	12 \times 16	067N4041
TGEZ 10	4	13	3.5	$\frac{1}{2} \times \frac{7}{8}$	067N4002	12 \times 22	067N4042
TGEZ 10	6	19	5	$\frac{1}{2} \times \frac{5}{8}$	067N4003	12 \times 16	067N4043
TGEZ 10	6	19	5	$\frac{1}{2} \times \frac{7}{8}$	067N4004	12 \times 22	067N4044
TGEZ 10	6	19	5	$\frac{5}{8} \times \frac{7}{8}$	067N4005	16 \times 22	067N4045
TGEZ 10	8	25	7	$\frac{5}{8} \times \frac{7}{8}$	067N4006	16 \times 22	067N4046
TGEZ 10	11	36	10	$\frac{5}{8} \times \frac{7}{8}$	067N4007	16 \times 22	067N4047
TGEZ 10	11	36	10	$\frac{5}{8} \times 1 \frac{1}{8}$	067N4008	16 \times 28	067N4048
TGEZ 20	12.5	42	12	$\frac{5}{8} \times \frac{7}{8}$	067N4009	16 \times 22	067N4049
TGEZ 20	12.5	42	12	$\frac{5}{8} \times 1 \frac{1}{8}$	067N4010	16 \times 28	067N4050
TGEZ 20	16	53	15	$\frac{5}{8} \times 1 \frac{1}{8}$	067N4011	16 \times 28	067N4051
TGEZ 20	16	53	15	$\frac{7}{8} \times 1 \frac{1}{8}$	067N4012	22 \times 28	067N4052
TGEZ 20	20	62	18	$\frac{7}{8} \times 1 \frac{1}{8}$	067N4013	22 \times 28	067N4053
TGEZ 20	20	62	18	$\frac{7}{8} \times 1 \frac{3}{8}$	067N4014	22 \times 35	067N4054
TGEZ 40	26	84	24	$\frac{7}{8} \times 1 \frac{3}{8}$	067N4015	22 \times 35	067N4055
TGEZ 40	26	84	24	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N4016	28 \times 35	067N4056
TGEZ 40	30	95	27	$\frac{7}{8} \times 1 \frac{3}{8}$	067N4017	22 \times 35	067N4057
TGEZ 40	30	95	27	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N4018	28 \times 35	067N4058
TGEZ 40	40	121	34	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N4019	28 \times 35	067N4059

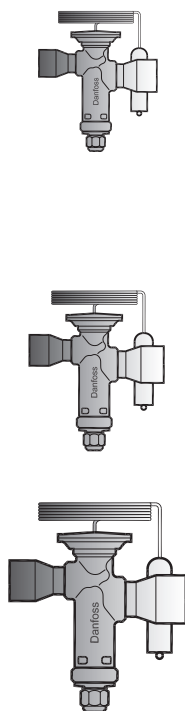
¹⁾ Pressure equalisation = $\frac{1}{4}$ in (6 mm) ODF

²⁾ The nominal capacity is based on: ARI standard

 Evaporating temperature, $T_e = 4.4^{\circ}\text{C}$,
 Liquid temperature, $T_l = 37^{\circ}\text{C}$
 Condensing temperature, $T_c = 38^{\circ}\text{C}$,
 Opening surperheat, OS = 4K

Ordering
Standard range (continued)

 Capacity in kW for MAH $-30^{\circ}\text{C}/+15^{\circ}\text{C}$ at 4°K static superheat SS

R407C


Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connections Solder ODF x ODF in.	Code no. Multi pack	Connection Solder ODF x ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEZ 10	3	9	2.5	$3/8 \times 5/8$	067N9600	10 x 16	067N9640
TGEZ 10	3	9	2.5	$1/2 \times 5/8$	067N9601	12 x 16	067N9641
TGEZ 10	4	13	3.5	$1/2 \times 7/8$	067N9602	12 x 22	067N9642
TGEZ 10	6	19	5	$1/2 \times 5/8$	067N9603	12 x 16	067N9643
TGEZ 10	6	19	5	$1/2 \times 7/8$	067N9604	12 x 22	067N9644
TGEZ 10	6	19	5	$5/8 \times 7/8$	067N9605	16 x 22	067N9645
TGEZ 10	8	25	7	$5/8 \times 7/8$	067N9606	16 x 22	067N9646
TGEZ 10	11	36	10	$5/8 \times 7/8$	067N9607	16 x 22	067N9647
TGEZ 10	11	36	10	$5/8 \times 1 1/8$	067N9608	16 x 28	067N9648
TGEZ 20	12.5	42	12	$5/8 \times 7/8$	067N9609	16 x 22	067N9649
TGEZ 20	12.5	42	12	$5/8 \times 1 1/8$	067N9610	16 x 28	067N9650
TGEZ 20	16	53	15	$5/8 \times 1 1/8$	067N9611	16 x 28	067N9651
TGEZ 20	16	53	15	$7/8 \times 1 1/8$	067N9612	22 x 28	067N9652
TGEZ 20	20	62	18	$7/8 \times 1 1/8$	067N9613	22 x 28	067N9653
TGEZ 20	20	62	18	$7/8 \times 1 3/8$	067N9614	22 x 35	067N9654
TGEZ 40	26	84	24	$7/8 \times 1 3/8$	067N9615	22 x 35	067N9655
TGEZ 40	26	84	24	$1 1/8 \times 1 3/8$	067N9616	28 x 35	067N9656
TGEZ 40	30	95	27	$7/8 \times 1 3/8$	067N9617	22 x 35	067N9657
TGEZ 40	30	95	27	$1 1/8 \times 1 3/8$	067N9618	28 x 35	067N9658
TGEZ 40	40	121	34	$1 1/8 \times 1 3/8$	067N9619	28 x 35	067N9659

¹⁾ Pressure equalisation = $1/4$ in (6 mm) ODF

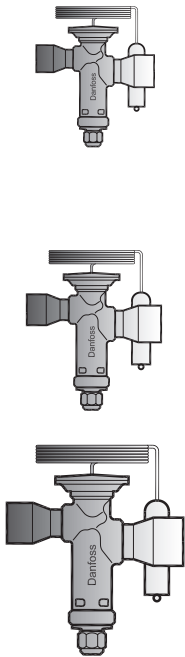
²⁾ The nominal capacity is based on: ARI standard

 Evaporating temperature, $T_e = 4.4^{\circ}\text{C}$,
 Liquid temperature, $T_l = 37^{\circ}\text{C}$
 Condensing temperature, $T_c = 38^{\circ}\text{C}$,

Ordering
Standard range (continued)

Range N = -40 → +10°C OS = 4 K

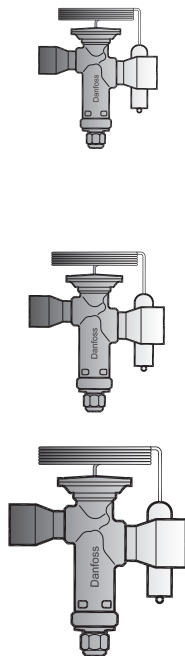
R410A



Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF × ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEL 10	3	12	3.5	$3/8 \times 5/8$	067N3150	10 × 16	067N3190
TGEL 10	3	12	3.5	$1/2 \times 5/8$	067N3151	12 × 16	067N3191
TGEL 10	4	16	4.5	$1/2 \times 7/8$	067N3152	12 × 22	067N3192
TGEL 10	6	24	6.5	$1/2 \times 5/8$	067N3153	12 × 16	067N3193
TGEL 10	6	24	6.5	$1/2 \times 7/8$	067N3154	12 × 22	067N3194
TGEL 10	6	24	6.5	$5/8 \times 7/8$	067N3155	16 × 22	067N3195
TGEL 10	8	32	9	$5/8 \times 7/8$	067N3156	16 × 22	067N3196
TGEL 10	11	45	13	$5/8 \times 7/8$	067N3157	16 × 22	067N3197
TGEL 10	11	45	13	$5/8 \times 1 1/8$	067N3158	16 × 28	067N3198
TGEL 20	12.5	54	15	$5/8 \times 7/8$	067N3159	16 × 22	067N3199
TGEL 20	12.5	54	15	$5/8 \times 1 1/8$	067N3160	16 × 28	067N3200
TGEL 20	16	68	19	$5/8 \times 1 1/8$	067N3161	16 × 28	067N3201
TGEL 20	16	68	19	$7/8 \times 1 1/8$	067N3162	22 × 28	067N3202
TGEL 20	20	79	23	$7/8 \times 1 1/8$	067N3163	22 × 28	067N3203
TGEL 20	20	79	23	$7/8 \times 1 3/8$	067N3164	22 × 35	067N3204
TGEL 40	26	110	31	$7/8 \times 1 3/8$	067N3165	22 × 35	067N3205
TGEL 40	26	110	31	$1 1/8 \times 1 3/8$	067N3166	28 × 35	067N3206
TGEL 40	30	125	35	$7/8 \times 1 3/8$	067N3167	22 × 35	067N3207
TGEL 40	30	125	35	$1 1/8 \times 1 3/8$	067N3168	28 × 35	067N3208
TGEL 40	40	161	46	$1 1/8 \times 1 3/8$	067N3169	28 × 35	067N3209

Range K = -25 → +10°C with MOP 165 psig/11.5 bar abs. OS = 4 K

R410A



Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF × ODF ¹⁾ mm	Code no. Multi pack
		kW	TR				
TGEL 10	3	12	3.5	$3/8 \times 5/8$	067N3000	10 × 16	067N3040
TGEL 10	3	12	3.5	$1/2 \times 5/8$	067N3001	12 × 16	067N3041
TGEL 10	4	16	4.5	$1/2 \times 7/8$	067N3002	12 × 22	067N3042
TGEL 10	6	24	6.5	$1/2 \times 5/8$	067N3003	12 × 16	067N3043
TGEL 10	6	24	6.5	$1/2 \times 7/8$	067N3004	12 × 22	067N3044
TGEL 10	6	24	6.5	$5/8 \times 7/8$	067N3005	16 × 22	067N3045
TGEL 10	8	32	9	$5/8 \times 7/8$	067N3006	16 × 22	067N3046
TGEL 10	11	45	13	$5/8 \times 7/8$	067N3007	16 × 22	067N3047
TGEL 10	11	45	13	$5/8 \times 1 1/8$	067N3008	16 × 28	067N3048
TGEL 20	12.5	54	15	$5/8 \times 7/8$	067N3009	16 × 22	067N3049
TGEL 20	12.5	54	15	$5/8 \times 1 1/8$	067N3010	16 × 28	067N3050
TGEL 20	16	68	19	$5/8 \times 1 1/8$	067N3011	16 × 28	067N3051
TGEL 20	16	68	19	$7/8 \times 1 1/8$	067N3012	22 × 28	067N3052
TGEL 20	20	79	23	$7/8 \times 1 1/8$	067N3013	22 × 28	067N3053
TGEL 20	20	79	23	$7/8 \times 1 3/8$	067N3014	22 × 35	067N3054
TGEL 40	26	110	31	$7/8 \times 1 3/8$	067N3015	22 × 35	067N3055
TGEL 40	26	110	31	$1 1/8 \times 1 3/8$	067N3016	28 × 35	067N3056
TGEL 40	30	125	35	$7/8 \times 1 3/8$	067N3017	22 × 35	067N3057
TGEL 40	30	125	35	$1 1/8 \times 1 3/8$	067N3018	28 × 35	067N3058
TGEL 40	40	161	46	$1 1/8 \times 1 3/8$	067N3019	28 × 35	067N3059

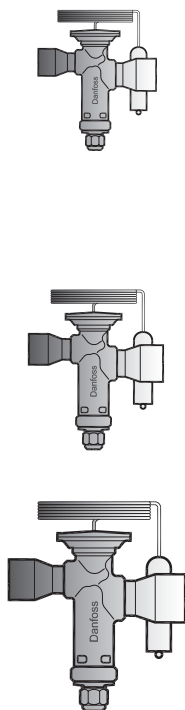
¹⁾ Pressure equalisation = 1/4 in (6 mm) ODF

²⁾ The nominal capacity is based on: ARI standard

Evaporating temperature, $T_e = 4.4^\circ\text{C}$,
Liquid temperature, $T_l = 37^\circ\text{C}$
Condensing temperature, $T_c = 38^\circ\text{C}$,
Opening surperheat, OS = 4K

Ordering
Standard range (continued)

 Capacity in kW for MAH $-30^{\circ}\text{C}/+15^{\circ}\text{C}$ at 4°K static superheat SS

R410A


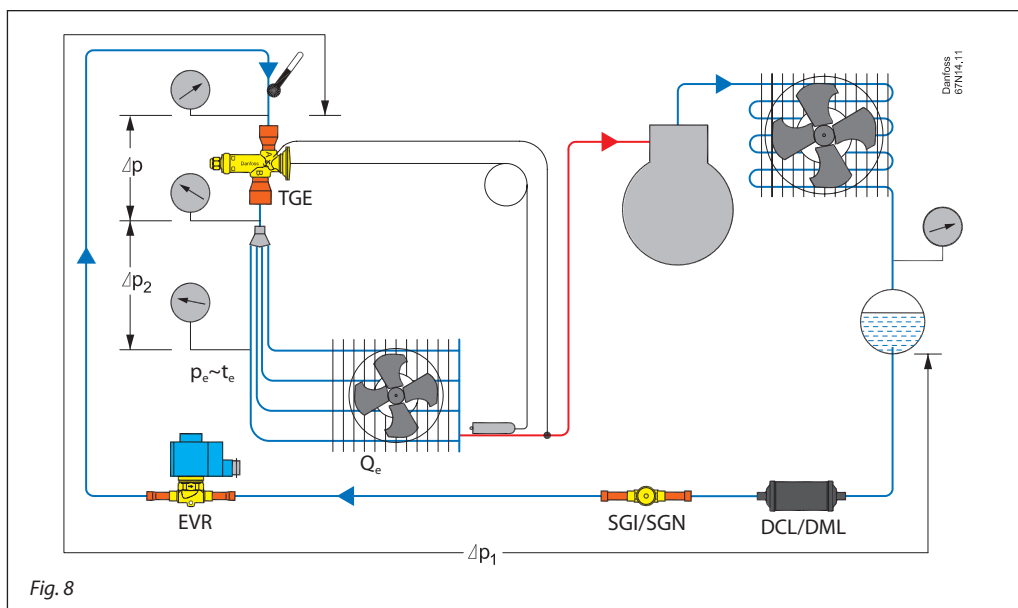
Valve type	Orifice no.	Nominal capacity $Q_{nom.}^{2)}$		Inch version		mm version	
				Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack	Connection Solder ODF × ODF ¹⁾ in.	Code no. Multi pack
		kW	TR				
TGEL 10	3	12	3.5	$\frac{3}{8} \times \frac{5}{8}$	067N9205	10 × 16	067N9245
TGEL 10	3	12	3.5	$\frac{1}{2} \times \frac{5}{8}$	067N9201	12 × 16	067N9241
TGEL 10	4	16	4.5	$\frac{1}{2} \times \frac{7}{8}$	067N9202	12 × 22	067N9242
TGEL 10	6	24	6.5	$\frac{1}{2} \times \frac{5}{8}$	067N9203	12 × 16	067N9243
TGEL 10	6	24	6.5	$\frac{1}{2} \times \frac{7}{8}$	067N9204	12 × 22	067N9244
TGEL 10	6	24	6.5	$\frac{5}{8} \times \frac{7}{8}$	067N9200	16 × 22	067N9240
TGEL 10	8	32	9	$\frac{5}{8} \times \frac{7}{8}$	067N9206	16 × 22	067N9246
TGEL 10	11	45	13	$\frac{5}{8} \times \frac{7}{8}$	067N9207	16 × 22	067N9247
TGEL 10	11	45	13	$\frac{5}{8} \times 1 \frac{1}{8}$	067N9208	16 × 28	067N9248
TGEL 20	12.5	54	15	$\frac{5}{8} \times \frac{7}{8}$	067N9209	16 × 22	067N9249
TGEL 20	12.5	54	15	$\frac{5}{8} \times 1 \frac{1}{8}$	067N9210	16 × 28	067N9250
TGEL 20	16	68	19	$\frac{5}{8} \times 1 \frac{1}{8}$	067N9211	16 × 28	067N9251
TGEL 20	16	68	19	$\frac{7}{8} \times 1 \frac{1}{8}$	067N9212	22 × 28	067N9252
TGEL 20	20	79	23	$\frac{7}{8} \times 1 \frac{1}{8}$	067N9213	22 × 28	067N9253
TGEL 20	20	79	23	$\frac{7}{8} \times 1 \frac{3}{8}$	067N9214	22 × 35	067N9254
TGEL 40	26	110	31	$\frac{7}{8} \times 1 \frac{3}{8}$	067N9215	22 × 35	067N9255
TGEL 40	26	110	31	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N9216	28 × 35	067N9256
TGEL 40	30	125	35	$\frac{7}{8} \times 1 \frac{3}{8}$	067N9217	22 × 35	067N9257
TGEL 40	30	125	35	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N9218	28 × 35	067N9258
TGEL 40	40	161	46	$1 \frac{1}{8} \times 1 \frac{3}{8}$	067N9219	28 × 35	067N9259

¹⁾ Pressure equalisation = $\frac{1}{4}$ in (6 mm) ODF

²⁾ The nominal capacity is based on: ARI standard

 Evaporating temperature, $T_e = 4.4^{\circ}\text{C}$,
 Liquid temperature, $T_l = 37^{\circ}\text{C}$
 Condensing temperature, $T_c = 38^{\circ}\text{C}$,

Sizing



Sizing examples (SI and US)

Refrigerant: R410A
 Evaporator capacity: $Q_e = 30 \text{ kW} / 8.6 \text{ TR}$
 Evaporator with several circuits, i.e. a valve with distributor is required
 Evaporating temperature: $t_e = 0^\circ\text{C} / 32^\circ\text{F}$
 Condensing temperature: $p_e = 8 \text{ bar} / 116 \text{ psi}$
 $t_c = +36^\circ\text{C} / 96.8^\circ\text{F}$
 Refrigerant liquid temperature: $p_c = 22 \text{ bar} / 319 \text{ psi}$
 Subcooling: $t_l = +26^\circ\text{C} / 78.8^\circ\text{F}$
 $\Delta t_{\text{sub}} = 36 - 26 = 10 \text{ K} / 96.8^\circ\text{F} - 78.8^\circ\text{F} = 18^\circ\text{F}$

Pressure drop Δp_2 in the liquid distributor can also be assumed as 1.0 bar / 14.5 psi.

The correction factor at $\Delta t_{\text{sub}} (f_{\text{sub}}) = 10 \text{ K} / 18^\circ\text{F}$ is 1.09.
 The correction factor at distributor (f_p) = 0.96.
 The corrected evaporator capacity thus 30 kW / 8.6 TR divided by 1.09 and 0.96 = 28.7 kW / 8.2 TR.

Since the capacity of the expansion valve must be equal to or slightly higher than the corrected evaporator capacity of 28.7 kW / 8.2 TR, a TGE 10 orifice 08 giving 31.3 kW / 8.9 TR would be a suitable choice (See tables below).

Capacity in kW. Range N: -40°C to +10°C. Range K: -25°C to +10°C. Opening superheat sh= 4 K

R410A

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
35	5.58	6.36	7.17	8.02	8.87	9.71	10.50	11.20	11.70	12.00	11.90	11.40	TGE 10	3
	7.50	8.56	9.68	10.80	12.00	13.20	14.30	15.20	16.00	16.40	16.30	15.60	TGE 10	4
	11.00	12.60	14.20	15.90	17.60	19.40	21.00	22.40	23.50	24.00	23.90	22.80	TGE 10	6
	14.80	17.00	19.20	21.40	23.70	26.00	28.10	29.90	31.30	31.90	31.60	30.00	TGE 10	8
	22.10	25.40	28.80	32.20	35.60	38.70	41.40	43.40	44.50	44.50	43.00	39.80	TGE 10	11
	22.10	25.60	29.40	33.50	37.80	42.20	46.50	50.50	53.80	56.00	56.50	54.70	TGE 20	12.5
	27.40	31.90	36.70	41.80	47.30	52.90	58.50	63.70	68.10	71.10	72.00	69.90	TGE 20	16
	33.70	39.00	44.70	50.70	56.90	63.20	69.40	75.00	79.70	82.50	82.60	79.00	TGE 20	20
	44.10	51.20	58.80	67.10	76.00	85.30	94.60	104.00	111.00	117.00	119.00	117.00	TGE 40	26
	50.10	58.10	66.80	76.30	86.30	96.90	107.00	118.00	126.00	133.00	135.00	132.00	TGE 40	30
60.30	69.80	80.50	92.50	106.00	120.00	134.00	148.00	159.00	167.00	168.00	161.00	TGE 40	40	

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.37	1.45	1.52	1.59	1.66

Distributor correction factor*

Evaporating temp.		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
Pressure drop [bar]	0	1	1	1	1	1	1	1	1	1	1	1	2
	1	0,97	0,97	0,97	0,97	0,97	0,97	0,96	0,96	0,96	0,95	0,94	0,93
	1,5	0,96	0,96	0,96	0,95	0,95	0,95	0,95	0,94	0,93	0,93	0,91	0,89
	2	0,94	0,94	0,94	0,94	0,93	0,93	0,93	0,92	0,91	0,90	0,88	0,85

*calculated at 32°C condensing temperature

R22

Capacity in kW. Range N: -40°C to +10°C. Range K: -25°C to +10°C. Opening superheat sh= 4 K

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
25	4.39	5.03	5.68	6.36	7.02	7.65	8.22	8.68	8.97	9.01	8.70	7.90	TGE 10	3
	5.94	6.80	7.70	8.62	9.54	10.40	11.20	11.80	12.20	12.30	11.90	10.80	TGE 10	4
	8.76	10.10	11.40	12.80	14.10	15.40	16.60	17.50	18.10	18.20	17.50	15.90	TGE 10	6
	11.90	13.60	15.50	17.30	19.10	20.80	22.30	23.50	24.20	24.20	23.20	20.90	TGE 10	8
	17.70	20.40	23.10	25.80	28.40	30.60	32.40	33.50	33.80	33.00	31.10	27.70	TGE 10	11
	16.50	19.10	21.90	24.90	28.00	31.10	34.10	36.70	38.70	39.50	38.80	36.00	TGE 20	12.5
	20.70	24.00	27.50	31.30	35.30	39.30	43.20	46.60	49.20	50.50	49.80	46.20	TGE 20	16
	25.60	29.50	33.70	38.10	42.70	47.20	51.50	55.10	57.70	58.60	57.10	52.30	TGE 20	20
	34.50	40.10	46.40	53.10	60.20	67.40	74.50	80.80	85.80	88.40	87.60	81.50	TGE 40	26
39.20	45.70	52.80	60.40	68.50	76.80	84.80	92.00	97.60	100.00	99.30	92.30	TGE 40	30	
47.30	55.00	63.60	73.00	83.10	93.70	104.00	114.00	121.00	124.00	121.00	110.00	TGE 40	40	

	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	Valve	Orifice no.
	35	4.44	5.11	5.81	6.55	7.30	8.06	8.79	9.47	10.00	10.50	10.70		
	5.96	6.86	7.82	8.82	9.86	10.90	11.90	12.80	13.60	14.20	14.50	14.40	TGE 10	4
	8.69	10.00	11.40	12.90	14.40	16.00	17.50	18.90	20.00	20.90	21.30	21.00	TGE 10	6
	11.70	13.50	15.40	17.40	19.40	21.40	23.40	25.20	26.70	27.70	28.10	27.60	TGE 10	8
	17.30	20.20	23.20	26.30	29.30	32.20	34.80	36.80	38.20	38.80	38.40	36.90	TGE 10	11
	16.30	18.90	21.70	24.70	28.10	31.50	35.10	38.60	41.80	44.40	46.10	46.50	TGE 20	12.5
	20.20	23.40	27.00	30.90	35.10	39.50	44.10	48.60	52.80	56.30	58.60	59.30	TGE 20	16
	25.00	28.80	33.10	37.60	42.50	47.60	52.80	57.80	62.40	66.00	68.10	68.20	TGE 20	20
	33.00	38.50	44.60	51.30	58.60	66.40	74.50	82.60	90.20	96.80	101.00	103.00	TGE 40	26
	37.40	43.60	50.60	58.30	66.60	75.40	84.60	93.80	102.00	110.00	115.00	117.00	TGE 40	30
	45.10	52.60	61.00	70.50	81.10	92.70	105.00	118.00	130.00	139.00	145.00	145.00	TGE 40	40

	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	Valve	Orifice no.
	45	4.39	5.07	5.79	6.56	7.35	8.18	9.00	9.81	10.60	11.20	11.80		
	5.84	6.75	7.73	8.76	9.85	11.00	12.10	13.20	14.30	15.20	15.90	16.40	TGE 10	4
	8.40	9.74	11.20	12.70	14.30	15.90	17.60	19.20	20.80	22.10	23.20	23.80	TGE 10	6
	11.20	13.00	14.90	16.90	19.00	21.20	23.40	25.50	27.50	29.20	30.50	31.20	TGE 10	8
	16.50	19.40	22.50	25.80	29.10	32.40	35.50	38.30	40.50	42.10	42.90	42.70	TGE 10	11
	15.70	18.20	20.90	23.90	27.20	30.70	34.50	38.30	42.10	45.70	48.80	51.20	TGE 20	12.5
	19.30	22.40	25.80	29.50	33.70	38.20	42.90	47.90	52.80	57.50	61.60	64.80	TGE 20	16
	23.80	27.50	31.60	36.00	40.90	46.00	51.50	57.20	62.70	67.90	72.30	75.50	TGE 20	20
	30.80	35.90	41.70	48.10	55.20	62.90	71.10	79.70	88.50	96.90	104.00	110.00	TGE 40	26
	34.80	40.60	47.10	54.40	62.40	71.20	80.50	90.30	100.00	110.00	118.00	125.00	TGE 40	30
	41.90	48.90	56.80	65.90	76.20	87.80	101.00	114.00	129.00	143.00	155.00	163.00	TGE 40	40

	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	Valve	Orifice no.
	55	4.26	4.93	5.64	6.40	7.21	8.05	8.91	9.78	10.60	11.40	12.20		
	5.61	6.50	7.46	8.48	9.57	10.70	11.90	13.10	14.20	15.30	16.30	17.10	TGE 10	4
	7.95	9.24	10.60	12.10	13.70	15.40	17.10	18.80	20.50	22.10	23.60	24.70	TGE 10	6
	10.40	12.20	14.00	16.00	18.10	20.30	22.50	24.80	27.00	29.10	30.90	32.20	TGE 10	8
	15.30	18.10	21.20	24.50	27.90	31.40	34.80	38.10	40.90	43.20	44.90	45.70	TGE 10	11
	14.90	17.20	19.70	22.50	25.60	29.00	32.70	36.50	40.50	44.40	48.20	51.50	TGE 20	12.5
	18.20	21.00	24.10	27.60	31.50	35.70	40.30	45.20	50.30	55.40	60.20	64.60	TGE 20	16
	22.30	25.70	29.50	33.60	38.20	43.10	48.40	54.10	59.90	65.70	71.20	76.00	TGE 20	20
	28.30	32.90	38.20	44.00	50.50	57.70	65.50	73.80	82.60	91.50	100.00	108.00	TGE 40	26
	31.70	37.00	42.90	49.60	57.00	65.10	73.90	83.40	93.30	103.00	113.00	122.00	TGE 40	30
	38.00	44.30	51.50	59.70	69.20	79.90	92.10	106.00	121.00	136.00	151.00	165.00	TGE 40	40

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.13	1.19	1.25	1.31	1.36	1.42	1.48	1.53

Distributer correction factor (fp)*

Evaporating temp.	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
Pressure drop [bar]	0	1	1	1	1	1	1	1	1	1	1	1
	1	0.96	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.93	0.92	0.91
	1.5	0.93	0.93	0.93	0.93	0.92	0.92	0.91	0.91	0.90	0.88	0.86
	2	0.91	0.91	0.90	0.90	0.90	0.89	0.88	0.87	0.86	0.84	0.81

*calculated at 32°C condensing temperature

Capacity in kW. Range N: -40°C to +10°C. Range K: -25°C to +10°C. Opening superheat sh= 4 K

R134a

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
25	2.44	2.76	3.10	3.47	3.85	4.24	4.62	4.96	5.23	5.37	5.31	4.92	TGE 10	3
	3.33	3.77	4.24	4.74	5.27	5.81	6.33	6.81	7.18	7.38	7.30	6.77	TGE 10	4
	5.00	5.66	6.37	7.13	7.92	8.73	9.52	10.20	10.80	11.10	11.00	10.10	TGE 10	6
	6.90	7.81	8.78	9.82	10.90	12.00	13.10	14.00	14.70	15.10	14.90	13.70	TGE 10	8
	10.20	11.50	13.00	14.50	16.10	17.60	19.10	20.30	21.20	21.40	20.80	18.80	TGE 10	11
	10.60	12.20	14.00	15.90	17.90	20.10	22.30	24.40	26.10	27.20	27.20	25.60	TGE 20	12.5
	13.40	15.40	17.60	20.10	22.70	25.50	28.40	31.10	33.40	34.90	35.00	32.90	TGE 20	16
	16.60	19.10	21.80	24.70	27.80	31.00	34.20	37.20	39.60	41.00	40.80	37.90	TGE 20	20
	22.10	25.40	29.10	33.20	37.60	42.30	47.20	51.90	56.00	58.70	59.30	56.00	TGE 40	26
	25.20	29.00	33.30	37.90	43.00	48.40	54.00	59.30	64.00	67.10	67.60	63.80	TGE 40	30
30.50	35.00	40.00	45.50	51.60	58.20	65.10	71.80	77.60	81.60	82.00	76.60	TGE 40	40	

35	2.46	2.79	3.16	3.56	3.99	4.44	4.92	5.39	5.84	6.22	6.49	6.59	TGE 10	3
	3.34	3.79	4.29	4.84	5.43	6.05	6.70	7.36	7.97	8.51	8.89	9.02	TGE 10	4
	4.96	5.64	6.39	7.21	8.09	9.03	10.00	11.00	11.90	12.70	13.30	13.50	TGE 10	6
	6.79	7.73	8.75	9.87	11.10	12.30	13.60	14.90	16.20	17.20	17.90	18.10	TGE 10	8
	9.95	11.40	12.90	14.60	16.40	18.30	20.20	22.00	23.60	24.80	25.40	25.30	TGE 10	11
	10.50	12.00	13.80	15.80	18.00	20.40	22.90	25.60	28.20	30.50	32.40	33.30	TGE 20	12.5
	13.10	15.10	17.30	19.80	22.60	25.70	29.00	32.40	35.70	38.80	41.30	42.60	TGE 20	16
	16.10	18.60	21.40	24.40	27.70	31.20	35.00	38.80	42.60	45.90	48.40	49.50	TGE 20	20
	21.20	24.40	28.10	32.20	36.80	41.90	47.40	53.20	59.00	64.40	68.80	71.40	TGE 40	26
	24.10	27.80	32.00	36.70	42.00	47.80	54.10	60.70	67.30	73.40	78.40	81.30	TGE 40	30
29.20	33.60	38.60	44.20	50.60	57.70	65.50	73.90	82.50	90.50	96.90	100.00	TGE 40	40	

45	2.41	2.75	3.12	3.53	3.98	4.47	5.00	5.55	6.10	6.64	7.13	7.52	TGE 10	3
	3.25	3.71	4.21	4.77	5.39	6.06	6.78	7.53	8.29	9.04	9.71	10.20	TGE 10	4
	4.78	5.46	6.21	7.05	7.96	8.96	10.00	11.10	12.30	13.40	14.40	15.20	TGE 10	6
	6.48	7.41	8.44	9.57	10.80	12.20	13.60	15.10	16.60	18.10	19.40	20.40	TGE 10	8
	9.44	10.90	12.40	14.20	16.10	18.10	20.30	22.50	24.60	26.60	28.10	29.00	TGE 10	11
	10.00	11.50	13.30	15.20	17.40	19.80	22.50	25.30	28.30	31.30	34.20	36.60	TGE 20	12.5
	12.40	14.30	16.50	18.90	21.70	24.70	28.10	31.80	35.60	39.50	43.30	46.50	TGE 20	16
	15.30	17.60	20.30	23.20	26.50	30.10	34.00	38.20	42.60	47.00	51.10	54.50	TGE 20	20
	19.70	22.80	26.20	30.20	34.70	39.70	45.30	51.40	57.90	64.60	71.00	76.70	TGE 40	26
	22.30	25.80	29.80	34.30	39.40	45.20	51.50	58.50	65.90	73.40	80.70	87.10	TGE 40	30
27.10	31.20	36.00	41.40	47.60	54.70	62.70	71.70	81.50	91.80	102.00	110.00	TGE 40	40	

55	2.31	2.64	3.00	3.41	3.86	4.35	4.89	5.47	6.07	6.69	7.29	7.85	TGE 10	3
	3.09	3.53	4.02	4.57	5.18	5.85	6.59	7.37	8.20	9.05	9.88	10.60	TGE 10	4
	4.48	5.13	5.86	6.67	7.57	8.57	9.65	10.80	12.00	13.30	14.50	15.60	TGE 10	6
	6.00	6.89	7.88	8.98	10.20	11.50	13.00	14.50	16.20	17.80	19.50	20.90	TGE 10	8
	8.68	10.00	11.60	13.30	15.20	17.30	19.50	21.90	24.40	26.70	28.80	30.50	TGE 10	11
	9.41	10.80	12.40	14.20	16.30	18.60	21.10	24.00	27.00	30.20	33.50	36.60	TGE 20	12.5
	11.50	13.30	15.30	17.50	20.10	23.00	26.20	29.80	33.70	37.80	42.00	46.10	TGE 20	16
	14.10	16.30	18.70	21.50	24.60	28.00	31.80	35.90	40.40	45.10	49.90	54.40	TGE 20	20
	17.90	20.70	23.80	27.50	31.60	36.30	41.60	47.40	53.90	60.80	67.90	74.90	TGE 40	26
	20.10	23.30	26.90	31.00	35.70	41.10	47.10	53.80	61.10	68.90	77.00	84.90	TGE 40	30
24.40	28.10	32.40	37.30	43.00	49.60	57.20	66.00	75.90	86.80	98.40	110.00	TGE 40	40	

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.37	1.44	1.51	1.58	1.65

Distributer correction factor (fp)*

Evaporating temp.	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
Pressure drop [bar]	0	1	1	1	1	1	1	1	1	1	1	1
	1	0.93	0.93	0.93	0.93	0.92	0.92	0.92	0.91	0.90	0.89	0.87
	1.5	0.90	0.89	0.89	0.89	0.88	0.88	0.87	0.86	0.84	0.82	0.79
	2	0.86	0.86	0.85	0.85	0.84	0.83	0.82	0.81	0.79	0.76	0.71

*calculated at 32°C condensing temperature

Capacity in kW. Range N: -40°C to +10°C. Range K: -25°C to + 10°C. Opening superheat sh= 4 K

R404A/R507

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
25	3.13	3.57	4.03	4.51	5.00	5.48	5.92	6.28	6.53	6.59	6.41	5.88	TGE 10	3
	4.24	4.84	5.47	6.13	6.80	7.46	8.06	8.57	8.92	9.02	8.77	8.04	TGE 10	4
	6.27	7.16	8.10	9.08	10.10	11.10	12.00	12.70	13.20	13.40	13.00	11.90	TGE 10	6
	8.54	9.74	11.00	12.30	13.70	15.00	16.20	17.10	17.80	17.90	17.30	15.80	TGE 10	8
	12.70	14.50	16.40	18.30	20.20	21.90	23.50	24.60	25.10	24.80	23.50	21.00	TGE 10	11
	12.90	14.90	17.10	19.40	21.90	24.40	26.80	28.90	30.50	31.30	30.80	28.60	TGE 20	12.5
	16.20	18.70	21.40	24.40	27.60	30.80	33.90	36.70	38.90	40.00	39.50	36.70	TGE 20	16
	19.90	22.90	26.10	29.60	33.20	36.80	40.30	43.30	45.40	46.30	45.20	41.50	TGE 20	20
	26.10	30.20	34.80	39.70	44.90	50.40	55.80	60.80	64.80	67.10	66.70	62.40	TGE 40	26
	29.70	34.40	39.60	45.20	51.20	57.40	63.60	69.20	73.80	76.30	75.70	70.70	TGE 40	30
35.70	41.30	47.70	54.70	62.20	70.20	78.20	85.40	91.10	93.80	92.30	84.90	TGE 40	40	

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
35	2.91	3.35	3.83	4.34	4.87	5.43	5.98	6.51	6.97	7.33	7.52	7.50	TGE 10	3
	3.92	4.51	5.16	5.85	6.58	7.34	8.10	8.82	9.47	9.97	10.20	10.20	TGE 10	4
	5.74	6.62	7.57	8.59	9.67	10.80	11.90	13.00	13.90	14.70	15.10	15.00	TGE 10	6
	7.75	8.94	10.20	11.60	13.00	14.50	16.00	17.40	18.60	19.50	20.00	19.80	TGE 10	8
	11.50	13.40	15.30	17.40	19.50	21.60	23.60	25.40	26.80	27.70	27.80	26.90	TGE 10	11
	11.70	13.60	15.70	18.00	20.50	23.20	26.00	28.80	31.40	33.50	35.00	35.30	TGE 20	12.5
	14.50	16.90	19.50	22.50	25.60	29.10	32.70	36.20	39.60	42.50	44.40	45.00	TGE 20	16
	17.80	20.70	23.80	27.20	31.00	34.90	39.00	43.00	46.70	49.70	51.50	51.60	TGE 20	20
	23.10	26.90	31.20	36.00	41.20	46.90	52.90	59.00	64.90	70.00	73.70	75.20	TGE 40	26
	26.20	30.50	35.40	40.80	46.80	53.20	60.10	67.00	73.70	79.50	83.60	85.20	TGE 40	30
31.40	36.70	42.70	49.50	57.10	65.50	74.50	83.80	92.70	100.00	105.00	106.00	TGE 40	40	

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
45	2.57	2.99	3.44	3.94	4.47	5.04	5.64	6.24	6.83	7.37	7.81	8.10	TGE 10	3
	3.43	4.00	4.61	5.28	6.00	6.78	7.58	8.41	9.22	9.95	10.60	11.00	TGE 10	4
	4.98	5.80	6.70	7.68	8.74	9.87	11.10	12.30	13.50	14.50	15.40	16.00	TGE 10	6
	6.67	7.77	8.97	10.30	11.70	13.20	14.80	16.30	17.90	19.30	20.40	21.10	TGE 10	8
	9.94	11.70	13.50	15.60	17.70	19.90	22.20	24.40	26.40	28.00	29.10	29.30	TGE 10	11
	10.00	11.70	13.60	15.70	18.10	20.70	23.50	26.40	29.40	32.20	34.70	36.60	TGE 20	12.5
	12.30	14.50	16.80	19.50	22.40	25.70	29.20	33.00	36.80	40.50	43.80	46.30	TGE 20	16
	15.10	17.70	20.60	23.70	27.20	30.90	35.00	39.30	43.70	47.80	51.40	54.00	TGE 20	20
	19.40	22.70	26.50	30.80	35.50	40.80	46.60	52.80	59.20	65.60	71.40	76.00	TGE 40	26
	21.90	25.70	30.00	34.80	40.20	46.20	52.80	59.80	67.10	74.30	80.80	86.00	TGE 40	30
26.30	30.90	36.10	42.20	49.10	57.00	65.90	75.60	85.80	95.80	105.00	111.00	TGE 40	40	

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
55	2.13	2.50	2.91	3.35	3.83	4.36	4.92	5.51	6.11	6.70	7.25	7.72	TGE 10	3
	2.82	3.32	3.86	4.46	5.11	5.82	6.57	7.37	8.19	9.00	9.75	10.40	TGE 10	4
	4.04	4.76	5.55	6.42	7.36	8.39	9.49	10.70	11.80	13.00	14.10	15.00	TGE 10	6
	5.36	6.32	7.37	8.52	9.77	11.10	12.60	14.10	15.70	17.20	18.60	19.70	TGE 10	8
	7.95	9.49	11.20	13.00	15.00	17.10	19.30	21.50	23.70	25.70	27.30	28.40	TGE 10	11
	8.07	9.50	11.10	12.90	14.90	17.10	19.60	22.20	25.00	27.90	30.70	33.30	TGE 20	12.5
	9.86	11.60	13.60	15.80	18.30	21.10	24.20	27.50	31.10	34.80	38.40	41.70	TGE 20	16
	12.10	14.30	16.60	19.30	22.20	25.50	29.10	33.00	37.10	41.40	45.60	49.30	TGE 20	20
	15.20	18.00	21.10	24.60	28.60	33.00	37.90	43.40	49.30	55.40	61.60	67.40	TGE 40	26
	17.10	20.20	23.80	27.70	32.20	37.30	42.90	49.10	55.70	62.70	69.60	76.00	TGE 40	30
20.50	24.20	28.50	33.50	39.30	45.90	53.60	62.30	71.90	82.20	92.40	102.00	TGE 40	40	

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.97	1.00	1.10	1.19	1.27	1.35	1.43	1.52	1.60	1.68	1.76

Distributor correction factor (fp)*

Evaporating temp.	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
Pressure drop [bar]	0	1	1	1	1	1	1	1	1	1	1	1
	1	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.94	0.94	0.92
	1.5	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.92	0.91	0.90	0.88
	2	0.92	0.92	0.92	0.92	0.91	0.91	0.90	0.89	0.88	0.87	0.84

*calculated at 32°C condensing temperature

Capacity in kW. Range N: -40°C to +10°C. Range K: -25°C to +10°C. Opening superheat sh= 4 K

R407C

Cond. temp. [°C]	Capacity [kW]												Valve	Orifice no.
	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15		
25	4.13	4.66	5.24	5.85	6.49	7.13	7.76	8.33	8.80	9.12	9.24	9.07	TGE 10	3
	5.58	6.30	7.09	7.93	8.80	9.69	10.50	11.30	12.00	12.40	12.60	12.40	TGE 10	4
	8.23	9.31	10.50	11.70	13.00	14.30	15.60	16.80	17.80	18.40	18.70	18.30	TGE 10	6
	11.20	12.60	14.20	15.90	17.60	19.40	21.10	22.60	23.90	24.70	24.90	24.30	TGE 10	8
	16.50	18.80	21.20	23.70	26.30	28.80	31.10	32.90	34.20	34.70	34.40	32.90	TGE 10	11
	16.70	19.10	21.80	24.70	27.90	31.20	34.60	37.80	40.70	42.90	44.20	44.00	TGE 20	12.5
	20.80	23.80	27.20	31.00	35.00	39.30	43.60	47.80	51.60	54.60	56.40	56.30	TGE 20	16
	25.70	29.30	33.40	37.80	42.40	47.30	52.20	56.80	60.80	63.80	65.20	64.40	TGE 20	20
	32.80	37.40	42.70	48.50	54.90	61.70	68.80	75.80	82.20	87.50	90.90	91.30	TGE 40	26
	37.30	42.60	48.60	55.20	62.50	70.30	78.30	86.30	93.60	99.60	103.00	104.00	TGE 40	30
45.00	51.30	58.50	66.50	75.50	85.30	95.60	106.00	115.00	123.00	127.00	127.00	TGE 40	40	

	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	Valve	Orifice no.
	35	4.00	4.54	5.14	5.79	6.49	7.21	7.96	8.68	9.36	9.95	10.40		
5.37		6.10	6.91	7.79	8.74	9.73	10.70	11.70	12.70	13.50	14.10	14.50	TGE 10	4
7.84		8.91	10.10	11.40	12.80	14.30	15.80	17.20	18.60	19.80	20.80	21.30	TGE 10	6
10.50		12.00	13.60	15.30	17.20	19.20	21.20	23.10	24.90	26.50	27.60	28.20	TGE 10	8
15.60		17.80	20.30	23.10	26.00	28.90	31.80	34.40	36.60	38.10	38.90	38.90	TGE 10	11
15.70		18.00	20.60	23.60	26.80	30.30	34.00	37.80	41.50	45.00	47.80	49.90	TGE 20	12.5
19.40		22.30	25.60	29.30	33.30	37.80	42.50	47.40	52.20	56.70	60.50	63.30	TGE 20	16
23.90		27.40	31.30	35.70	40.50	45.60	51.00	56.50	61.90	66.70	70.70	73.30	TGE 20	20
30.20		34.50	39.50	45.20	51.60	58.60	66.10	74.00	82.00	89.50	96.20	101.00	TGE 40	26
34.20		39.20	44.90	51.30	58.60	66.50	75.10	84.10	93.10	102.00	109.00	115.00	TGE 40	30
41.30	47.20	54.00	61.90	70.90	81.00	92.10	104.00	116.00	128.00	138.00	145.00	TGE 40	40	

	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	Valve	Orifice no.
	45	3.75	4.27	4.85	5.50	6.20	6.96	7.75	8.56	9.36	10.10	10.80		
4.98		5.68	6.47	7.34	8.29	9.32	10.40	11.50	12.60	13.60	14.60	15.40	TGE 10	4
7.19		8.21	9.35	10.60	12.00	13.50	15.10	16.70	18.40	19.90	21.20	22.40	TGE 10	6
9.57		10.90	12.50	14.20	16.00	18.00	20.10	22.30	24.40	26.40	28.10	29.50	TGE 10	8
14.10		16.20	18.70	21.40	24.40	27.60	30.80	33.90	36.80	39.10	40.80	41.80	TGE 10	11
14.30		16.40	18.80	21.50	24.60	28.00	31.70	35.60	39.70	43.70	47.40	50.80	TGE 20	12.5
17.50		20.10	23.10	26.50	30.30	34.60	39.30	44.30	49.40	54.60	59.50	63.80	TGE 20	16
21.50		24.70	28.30	32.30	36.80	41.80	47.20	53.00	58.80	64.70	70.10	74.80	TGE 20	20
26.80		30.70	35.20	40.40	46.30	52.90	60.30	68.20	76.50	84.90	93.10	101.00	TGE 40	26
30.30		34.70	39.80	45.70	52.40	59.90	68.20	77.20	86.60	96.20	105.00	114.00	TGE 40	30
36.60	41.80	48.00	55.10	63.40	73.00	83.90	96.10	109.00	123.00	137.00	149.00	TGE 40	40	

	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	Valve	Orifice no.
	55	3.39	3.87	4.41	5.01	5.68	6.42	7.20	8.02	8.86	9.69	10.50		
4.46		5.10	5.82	6.64	7.54	8.52	9.59	10.70	11.80	13.00	14.10	15.00	TGE 10	4
6.35		7.27	8.31	9.48	10.80	12.20	13.80	15.40	17.10	18.70	20.30	21.70	TGE 10	6
8.36		9.58	11.00	12.50	14.30	16.20	18.20	20.40	22.60	24.70	26.70	28.50	TGE 10	8
12.20		14.10	16.40	19.00	21.80	25.00	28.30	31.60	34.80	37.70	40.10	41.80	TGE 10	11
12.60		14.40	16.50	18.90	21.60	24.70	28.10	31.80	35.80	39.80	43.80	47.70	TGE 20	12.5
15.20		17.50	20.00	23.00	26.40	30.30	34.50	39.20	44.10	49.30	54.40	59.40	TGE 20	16
18.70		21.40	24.50	28.10	32.10	36.60	41.50	46.90	52.60	58.60	64.40	70.00	TGE 20	20
22.90		26.20	30.10	34.60	39.80	45.70	52.30	59.50	67.40	75.60	84.00	92.20	TGE 40	26
25.80		29.50	33.90	39.00	44.90	51.50	59.00	67.30	76.20	85.50	95.00	104.00	TGE 40	30
31.10	35.60	40.80	46.90	54.10	62.50	72.30	83.50	96.10	110.00	124.00	139.00	TGE 40	40	

Subcooling correction factor 'f_{sub}'

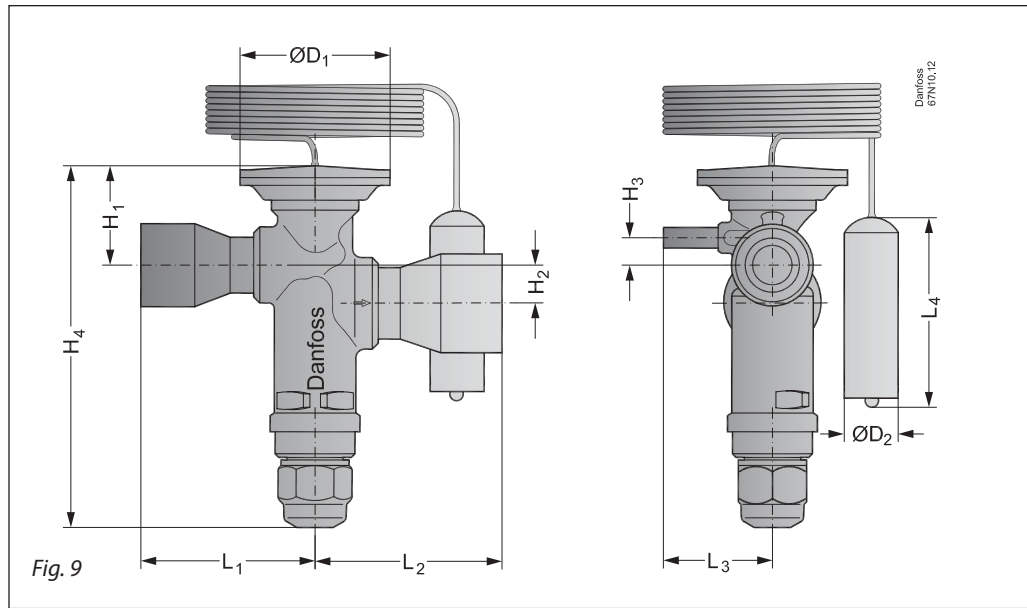
Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.97	1.00	1.08	1.15	1.22	1.29	1.36	1.43	1.50	1.57	1.64

Distributor correction factor (f_p)*

Evaporating temp.	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
Pressure drop [bar]	0	1	1	1	1	1	1	1	1	1	1	1
	1	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.93
	1.5	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.91	0.90
	2	0.92	0.92	0.92	0.92	0.91	0.91	0.91	0.90	0.89	0.88	0.86

*calculated at 32°C condensing temperature

Dimensions and weights



Type	Connection inlet × outlet ODF solder		Capillary tube length m	H ₁ mm	H ₂ mm	H ₃ mm	H ₄ mm	L ₁ mm	L ₂ mm	L ₃ mm	L ₄ mm	ØD ₁ mm	ØD ₂ mm	Weight kg
	in.	mm												
TGE 10	3/8 × 5/8	10 × 16	1.5	28.5	7.5	5	93	41.5	45.5	37.5	70	45	14.5	0.37
	1/2 × 5/8	12 × 16							59.5					
	1/2 × 7/8	12 × 22							45.5					
	5/8 × 5/8	16 × 22							59.5					
	5/8 × 7/8								45.5					
TGE 20	5/8 × 7/8	16 × 22	1.5	32	9	8	117	48	62	40	78	53	19.2	0.57
	7/8 × 7/8	62												
	3/8 × 1 1/8	16 × 28						48	66					
	7/8 × 1 1/8	22 × 28						62						
	7/8 × 1 3/8	22 × 35						74.5						
1 1/8 × 1 1/8	69.5		43.5	78	60	19.2	0.93							
1 1/8 × 1 3/8	28 × 35	74.5												

Type	Connection inlet × outlet ODF solder		Capillary tube length ft	H ₁ in	H ₂ in	H ₃ in	H ₄ in	L ₁ in	L ₂ in	L ₃ in	L ₄ in	ØD ₁ in	ØD ₂ in	Weight lbs
	in.	mm												
TGE 10	3/8 × 5/8	10 × 16	4.92	1.12	0.30	0.20	3.66	1.63	1.79	1.48	2.76	1.77	0.57	0.81
	1/2 × 5/8	12 × 16							2.34					
	1/2 × 7/8	12 × 22							1.79					
	5/8 × 5/8	16 × 22							2.34					
	5/8 × 7/8								1.79					
TGE 20	5/8 × 7/8	16 × 22	4.92	1.26	0.35	0.31	4.61	1.89	2.44	1.57	3.07	2.09	0.76	1.27
	7/8 × 7/8	2.44												
	5/8 × 1 1/8	16 × 28						1.89	2.60					
	7/8 × 1 1/8	22 × 28						2.44						
	7/8 × 1 3/8	22 × 35						2.58						
1 1/8 × 1 1/8	2.74		1.71	3.07	2.36	0.76	2.05							
1 1/8 × 1 3/8	28 × 35	2.93												

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