MAKING MODERN LIVING POSSIBLE

Technical brochure
Thermostatic expansion valve

Type TGE

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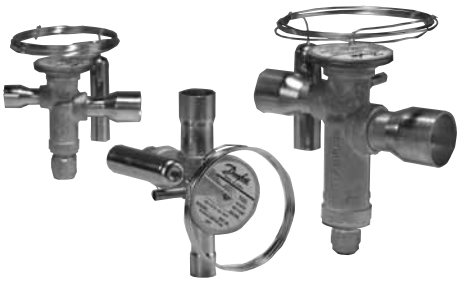
Introduction

TGE is a new dedicated designed series of thermostatic expansion valves with lots of technical inovations for all normal refrigerants including R410A, and use in applications such as:

- Air conditioning systems,
- Heat pumps,
- Water chillers,
- Refrigerated containers,
- Traditional refrigeration systems.

The hermetic tight design meets the environmental demands for today and future. The capacity from 4 to 50 TR (14 kW to 175 kW) (R410A).

This leaflet contains data and code numbers for TGE valves for refrigerants R410A, R22, R407C, R134a, R404A, R507. Versions for other refrigerants can be produced to order, contact Danfoss for further information.



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 new bulb strap*
- *Biflow with expansion in both directions*
- *Adjustable superheat setting*
- *Laser welded, stainless steel power element / capillary tube*
- *Mechanicalconnections (solder/flare, MIO, ORFS) available*

Standard programme

Thermostatic charge for R410A, R22, R134a, and R407C:

N −40 → +10°C without MOP
−40 → +50°F without MOP
K −25 → +10°C MOP + 15°C
−15 → +50°F MOP + 60°F
Static superheat (SS): 4K / 7.2°F

Connection

Type	Inlet ODF solder	Outlet ODF solder
TGE10	$^{3}/_{8}$, ½ , $^{5}/_{8}$	$^{5}/_{8}$, $^{7}/_{8}$, 1-$^{1}/_{8}$
	10 , 12 , 16	16, 22, 28
TGE20/40	$^{5}/_{8}$, $^{7}/_{8}$, 1-$^{1}/_{8}$	$^{5}/_{8}$, $^{7}/_{8}$, 1-$^{1}/_{8}$, 1-$^{3}/_{8}$
	16, 22, 28	16, 22, 28, 35

Capillary tube length

Type	Capillary tube length	
TGE10	1.5 m	5 ft
TGE20	1.5 m or 3 m	5 ft or 10 ft
TGE40	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.

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Technical data

Max. operating temperature
- Thermostatic element

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

Max. working pressure	46 / 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 / 8 bar
R407C	95 psig / 7.5 bar
R134a	55 psig / 5 bar
R410A	167 psig / 12.5 bar
R404A/ R507	120 psig / 8.4 bar

Identification

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

Main valve example:

TGE	= Valve type
9 TR	= Rated capacity Q_{nom} in tons of refrigeration
32 kW	= Rated capacity Q_{nom} in kW
R410A	= Refrigerant
−25 / +10°C	= Evaporating temperature range (°C)
−13 / + 50°F	= Evaporating temperature range (°F)
067N3006	= Code number
MOP K	= Max. Operating Pressure in K
PS 46 bar / MWP 670 psig	= Max. Working Pressure in bar and psig
080912	= Date code (Sep 12, 2008)

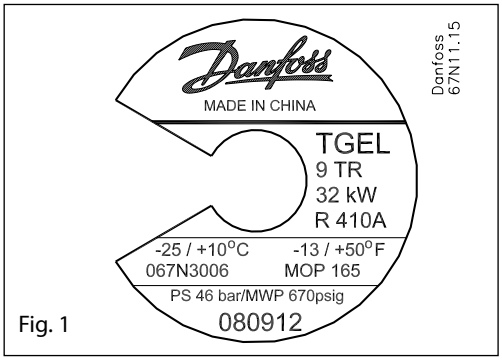

Fig. 1

Refrigerant code:

R22	=	X
R410A	=	L
R407C	=	Z
R134a	=	N
R404A/ R507	=	S

Rated capacity*)

Typ	R22		R134a		R404A/R507		R407C		R410A	
	kW	TR	kW	TR	kW	TR	kW	TR	kW	TR
TGE 10	10.0	3.0	6.0	1.5	7.0	2.0	9.0	2.5	12.0	3.5
	14.0	4.0	8.0	2.5	9.0	2.5	13.0	3.5	16.0	4.5
	20.0	6.0	12.0	3.5	14.0	4.0	19.0	5.0	24.0	6.5
	27.0	7.5	17.0	4.5	18.0	5.0	25.0	7.0	32.0	9.0
	38.0	11.0	24.0	7.0	26.0	7.5	36.0	10.0	45.0	13.0
TGE 20	43.0	12.0	29.0	8.0	31.0	9.0	42.0	12.0	54.0	15.0
	54.0	15.0	37.0	10.0	39.0	11.0	53.0	15.0	68.0	19.0
	63.0	18.0	44.0	12.0	45.0	13.0	62.0	18.0	79.0	23.0
TGE 40	92.0	26.0	61.0	17.0	64.0	18.0	84.0	24.0	110.0	31.0
	104.0	30.0	70.0	20.0	72.0	21.0	95.0	27.0	125.0	35.0
	134.0	38.0	87.0	25.0	92.0	26.0	121.0	34.0	161.0	46.0

*) Rated capacity according to ASERCOM standard
Evaporating temperature, T_e =4°C, Liquid temperature, T_l=37°C
Condensing temperature, T_c =38°C, Openning surperheat,OS=4K

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Design and function

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

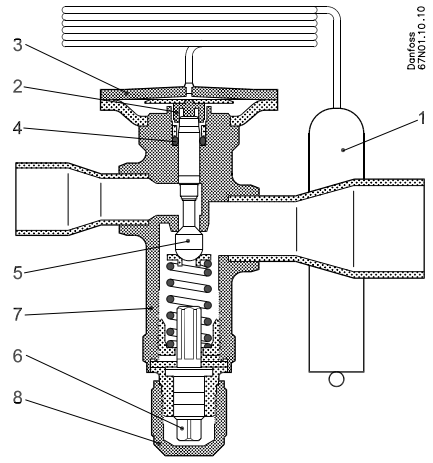

Fig. 5
Balanced port design
Adjustable setting

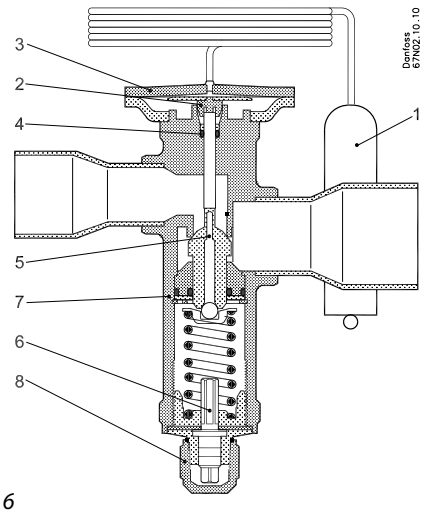

Fig. 6
Balanced port design
Biflow and adjustable setting

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).

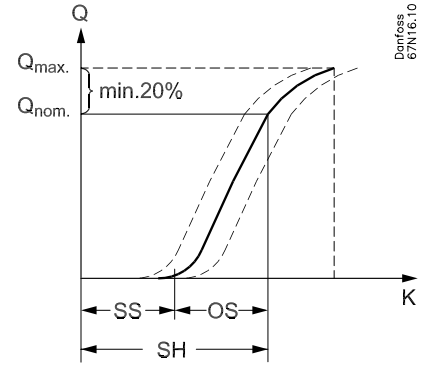

Fig. 7

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

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Application

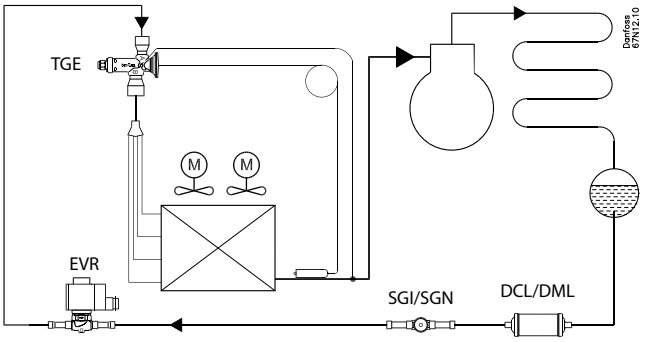

Fig. 2
Traditional refrigeration plant

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

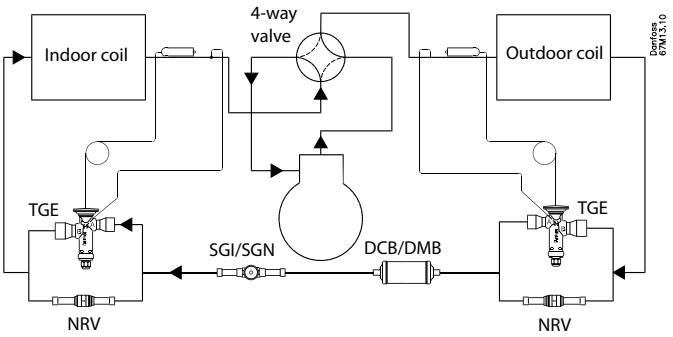

Fig. 3
Conventional system with summer/winter operation

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.

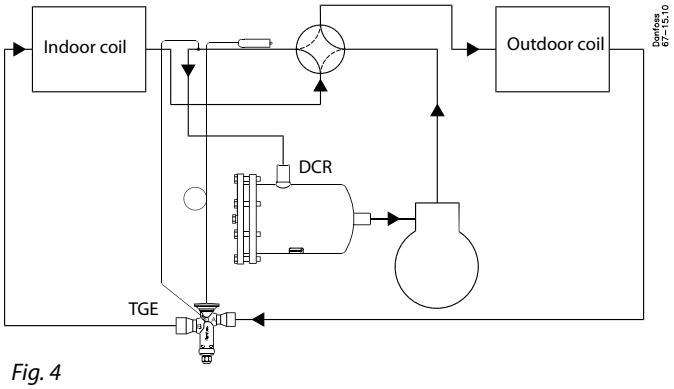

Fig. 4
Simplified heat pump system

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, TGE10 / 12 pcs	Multi pack, TGE10 / 12 pcs
Industrial pack, TGE20 / 8 pcs	Multi pack, TGE20 / 8 pcs
Industrial pack, TGE40 / 8 pcs	Multi pack, TGE40 / 6 pcs

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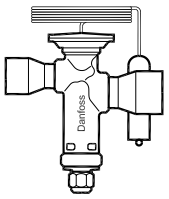
Ordering
Standard range



R22/R407C

Range N = –40 → +10°C OS = 4 K

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version Connection Solder ODF × ODF [1] in.	Code no. Multi pack	Code no. Industrial pack	mm version Connection Solder ODF × ODF [1] mm	Code no. Multi pack	Code no. Industrial pack
TGEX 10							
TGEX 3	10	3/8 × 5/8	**067N2150**	**067N2170**	10 × 16	**067N2190**	**067N2210**
TGEX 3	10	1/2 × 5/8	**067N2151**	**067N2171**	12 × 16	**067N2191**	**067N2211**
TGEX 4	14	1/2 × 7/8	**067N2152**	**067N2172**	12 × 22	**067N2192**	**067N2212**
TGEX 6	20	1/2 × 5/8	**067N2153**	**067N2173**	12 × 16	**067N2193**	**067N2213**
TGEX 6	20	1/2 × 7/8	**067N2154**	**067N2174**	12 × 22	**067N2194**	**067N2214**
TGEX 6	20	5/8 × 7/8	**067N2155**	**067N2175**	16 × 22	**067N2195**	**067N2215**
TGEX 7.5	27	5/8 × 7/8	**067N2156**	**067N2176**	16 × 22	**067N2196**	**067N2216**
TGEX 11	38	5/8 × 7/8	**067N2157**	**067N2177**	16 × 22	**067N2197**	**067N2217**
TGEX 11	38	5/8 × 1 1/8	**067N2158**	**067N2178**	16 × 28	**067N2198**	**067N2218**
TGEX 20							
TGEX 12	43	5/8 × 7/8	**067N2159**	**067N2179**	16 × 22	**067N2199**	**067N2219**
TGEX 12	43	5/8 × 1 1/8	**067N2160**	**067N2180**	16 × 28	**067N2200**	**067N2220**
TGEX 15	54	5/8 × 1 1/8	**067N2161**	**067N2181**	16 × 28	**067N2201**	**067N2221**
TGEX 15	54	7/8 × 1 1/8	**067N2162**	**067N2182**	22 × 28	**067N2202**	**067N2222**
TGEX 18	63	7/8 × 1 1/8	**067N2163**	**067N2183**	22 × 28	**067N2203**	**067N2223**
TGEX 18	63	7/8 × 1 3/8	**067N2164**	**067N2184**	22 × 35	**067N2204**	**067N2224**
TGE 40							
TGEX 26	92	7/8 × 1 3/8	**067N2165**	**067N2185**	22 × 35	**067N2205**	**067N2225**
TGEX 26	92	1 1/8 × 1 3/8	**067N2166**	**067N2186**	28 × 35	**067N2206**	**067N2226**
TGEX 30	104	7/8 × 1 3/8	**067N2167**	**067N2187**	22 × 35	**067N2207**	**067N2227**
TGEX 30	104	1 1/8 × 1 3/8	**067N2168**	**067N2188**	28 × 35	**067N2208**	**067N2228**
TGEX 38	134	1 1/8 × 1 3/8	**067N2169**	**067N2189**	28 × 35	**067N2209**	**067N2229**

Range K = –25 → +10°C with MOP 100 psig/ 8 bar abs. OS = 4 K

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version Connection Solder ODF × ODF [1] in.	Code no. Multi pack	Code no. Industrial pack	mm version Connection Solder ODF × ODF [1] mm	Code no. Multi pack	Code no. Industrial pack
TGEX 10							
TGEX 3	10	3/8 × 5/8	**067N2000**	**067N2020**	10 × 16	**067N2040**	**067N2060**
TGEX 3	10	1/2 × 5/8	**067N2001**	**067N2021**	12 × 16	**067N2041**	**067N2061**
TGEX 4	14	1/2 × 7/8	**067N2002**	**067N2022**	12 × 22	**067N2042**	**067N2062**
TGEX 6	20	1/2 × 5/8	**067N2003**	**067N2023**	12 × 16	**067N2043**	**067N2063**
TGEX 6	20	1/2 × 7/8	**067N2004**	**067N2024**	12 × 22	**067N2044**	**067N2064**
TGEX 6	20	5/8 × 7/8	**067N2005**	**067N2025**	16 × 22	**067N2045**	**067N2065**
TGEX 7.5	27	5/8 × 7/8	**067N2006**	**067N2026**	16 × 22	**067N2046**	**067N2066**
TGEX 11	38	5/8 × 7/8	**067N2007**	**067N2027**	16 × 22	**067N2047**	**067N2067**
TGEX 11	38	5/8 × 1 1/8	**067N2008**	**067N2028**	16 × 28	**067N2048**	**067N2068**
TGE 20							
TGEX 12	43	5/8 × 7/8	**067N2009**	**067N2029**	16 × 22	**067N2049**	**067N2069**
TGEX 12	43	5/8 × 1 1/8	**067N2010**	**067N2030**	16 × 28	**067N2050**	**067N2070**
TGEX 15	54	5/8 × 1 1/8	**067N2011**	**067N2031**	16 × 28	**067N2051**	**067N2071**
TGEX 15	54	7/8 × 1 1/8	**067N2012**	**067N2032**	22 × 28	**067N2052**	**067N2072**
TGEX 18	63	7/8 × 1 1/8	**067N2013**	**067N2033**	22 × 28	**067N2053**	**067N2073**
TGEX 18	63	7/8 × 1 3/8	**067N2014**	**067N2034**	22 × 35	**067N2054**	**067N2074**
TGE 40							
TGEX 26	92	7/8 × 1 3/8	**067N2015**	**067N2035**	22 × 35	**067N2055**	**067N2075**
TGEX 26	92	1 1/8 × 1 3/8	**067N2016**	**067N2036**	28 × 35	**067N2056**	**067N2076**
TGEX 30	104	7/8 × 1 3/8	**067N2017**	**067N2037**	22 × 35	**067N2057**	**067N2077**
TGEX 30	104	1 1/8 × 1 3/8	**067N2018**	**067N2038**	28 × 35	**067N2058**	**067N2078**
TGEX 38	134	1 1/8 × 1 3/8	**067N2019**	**067N2039**	28 × 35	**067N2059**	**067N2079**

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

[2] The rated capacity is based on: ASERCOM standard

Evaporating temperature, T_e =4°C,
Liquid temperature, T_l=37°C
Condensing temperature, T_c =38°C,
Openning surperheat,OS=4K

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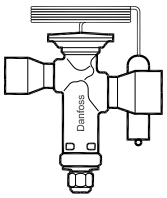
Ordering
Standard range (continued)



R134a

Range N = –40 → +10°C OS = 4 K

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version: Connection Solder ODF × ODF [1] in.	Inch version: Code no. Multi pack	Inch version: Code no. Industrial pack	mm version: Connection Solder ODF × ODF [1] mm	mm version: Code no. Multi pack	mm version: Code no. Industrial pack
TGEN 10							
TGEN 1.5	6	3/8 × 5/8	**067N5150**	**067N5170**	10 × 16	**067N5190**	**067N5210**
TGEN 1.5	6	1/2 × 5/8	**067N5151**	**067N5171**	12 × 16	**067N5191**	**067N5211**
TGEN 2.5	8	1/2 × 7/8	**067N5152**	**067N5172**	12 × 22	**067N5192**	**067N5212**
TGEN 3.5	12	1/2 × 5/8	**067N5153**	**067N5173**	12 × 16	**067N5193**	**067N5213**
TGEN 3.5	12	1/2 × 7/8	**067N5154**	**067N5174**	12 × 22	**067N5194**	**067N5214**
TGEN 3.5	12	5/8 × 7/8	**067N5155**	**067N5175**	16 × 22	**067N5195**	**067N5215**
TGEN 4.5	17	5/8 × 7/8	**067N5156**	**067N5176**	16 × 22	**067N5196**	**067N5216**
TGEN 7	24	5/8 × 7/8	**067N5157**	**067N5177**	16 × 22	**067N5197**	**067N5217**
TGEN 7	24	5/8 × 1 1/8	**067N5158**	**067N5178**	16 × 28	**067N5198**	**067N5218**
TGEN 20							
TGEN 8	29	5/8 × 7/8	**067N5159**	**067N5179**	16 × 22	**067N5199**	**067N5219**
TGEN 8	29	5/8 × 1 1/8	**067N5160**	**067N5180**	16 × 28	**067N5200**	**067N5220**
TGEN 10	37	5/8 × 1 1/8	**067N5161**	**067N5181**	16 × 28	**067N5201**	**067N5221**
TGEN 10	37	7/8 × 1 1/8	**067N5162**	**067N5182**	22 × 28	**067N5202**	**067N5222**
TGEN 12	44	7/8 × 1 1/8	**067N5163**	**067N5183**	22 × 28	**067N5203**	**067N5223**
TGEN 12	44	7/8 × 1 3/8	**067N5164**	**067N5184**	22 × 35	**067N5204**	**067N5224**
TGEN 40							
TGEN 17	61	7/8 × 1 3/8	**067N5165**	**067N5185**	22 × 35	**067N5205**	**067N5225**
TGEN 17	61	1 1/8 × 1 3/8	**067N5166**	**067N5186**	28 × 35	**067N5206**	**067N5226**
TGEN 20	70	7/8 × 1 3/8	**067N5167**	**067N5187**	22 × 35	**067N5207**	**067N5227**
TGEN 20	70	1 1/8 × 1 3/8	**067N5168**	**067N5188**	28 × 35	**067N5208**	**067N5228**
TGEN 25	87	1 1/8 × 1 3/8	**067N5169**	**067N5189**	28 × 35	**067N5209**	**067N5229**

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

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version: Connection Solder ODF × ODF [1] in.	Inch version: Code no. Multi pack	Inch version: Code no. Industrial pack	mm version: Connection Solder ODF × ODF [1] mm	mm version: Code no. Multi pack	mm version: Code no. Industrial pack
TGEN 10							
TGEN 1.5	6	3/8 × 5/8	**067N5000**	**067N5020**	10 × 16	**067N5040**	**067N5060**
TGEN 1.5	6	1/2 × 5/8	**067N5001**	**067N5021**	12 × 16	**067N5041**	**067N5061**
TGEN 2.5	8	1/2 × 7/8	**067N5002**	**067N5022**	12 × 22	**067N5042**	**067N5062**
TGEN 3.5	12	1/2 × 5/8	**067N5003**	**067N5023**	12 × 16	**067N5043**	**067N5063**
TGEN 3.5	12	1/2 × 7/8	**067N5004**	**067N5024**	12 × 22	**067N5044**	**067N5064**
TGEN 3.5	12	5/8 × 7/8	**067N5005**	**067N5025**	16 × 22	**067N5045**	**067N5065**
TGEN 4.5	17	5/8 × 7/8	**067N5006**	**067N5026**	16 × 22	**067N5046**	**067N5066**
TGEN 7	24	5/8 × 7/8	**067N5007**	**067N5027**	16 × 22	**067N5047**	**067N5067**
TGEN 7	24	5/8 × 1 1/8	**067N5008**	**067N5028**	16 × 28	**067N5048**	**067N5068**
TGEN 20							
TGEN 8	29	5/8 × 7/8	**067N5009**	**067N5029**	16 × 22	**067N5049**	**067N5069**
TGEN 8	29	5/8 × 1 1/8	**067N5010**	**067N5030**	16 × 28	**067N5050**	**067N5070**
TGEN 10	37	5/8 × 1 1/8	**067N5011**	**067N5031**	16 × 28	**067N5051**	**067N5071**
TGEN 10	37	7/8 × 1 1/8	**067N5012**	**067N5032**	22 × 28	**067N5052**	**067N5072**
TGEN 12	44	7/8 × 1 1/8	**067N5013**	**067N5033**	22 × 28	**067N5053**	**067N5073**
TGEN 12	44	7/8 × 1 3/8	**067N5014**	**067N5034**	22 × 35	**067N5054**	**067N5074**
TGEN 40							
TGEN 17	61	7/8 × 1 3/8	**067N5015**	**067N5035**	22 × 35	**067N5055**	**067N5075**
TGEN 17	61	1 1/8 × 1 3/8	**067N5016**	**067N5036**	28 × 35	**067N5056**	**067N5076**
TGEN 20	70	7/8 × 1 3/8	**067N5017**	**067N5037**	22 × 35	**067N5057**	**067N5077**
TGEN 20	70	1 1/8 × 1 3/8	**067N5018**	**067N5038**	28 × 35	**067N5058**	**067N5078**
TGEN 25	87	1 1/8 × 1 3/8	**067N5019**	**067N5039**	28 × 35	**067N5059**	**067N5079**

[1] Pressure equalisation = 1/4 in (6 mm) ODF
[2] The rated capacity is based on: ASERCOM standard

Evaporating temperature, T_e =4°C,
Liquid temperature, T_l=37°C
Condensing temperature, T_c =38°C,
Openning surperheat,OS=4K

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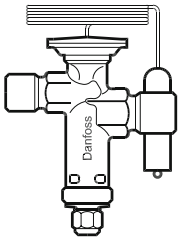
Ordering
Standard range (continued)



R134a

Range N = –40 → +10°C OS = 4 K

Type and rated capacity $Q_{nom.}$ [1] TR	Rated capacity $Q_{nom.}$ [1] kW	Inch version: Connection Screw in.	Code no. Multi pack	Code no. Industrial pack
TGEN 1.5	6	1/2 × 5/8 × 1/4 MIO	**067N7150**	
TGEN 2.5	8	1/2 × 5/8 × 1/4 Flare		**067N7151**
TGEN 2.5	8	1/2 × 5/8 × 1/4 MIO	**067N7152**	
TGEN 2.5	8	3/8 × 1/2 MIO × 1/4 F	**067N7153**	
TGEN 2.5	8	3/8 × 1/2 × 1/4 Flare	**067N7154**	
TGEN 2.5	8	3/8 × 1/2 × 1/4 Flare		**067N7155**
TGEN 3.5	12	1/2 × 5/8 × 1/4 Flare		**067N7156**
TGEN 3.5	12	1/2 × 5/8 × 1/4 Flare	**067N7157**	
TGEN 3.5	12	3/8 × 1/2 MIO × 1/4 F	**067N7158**	
TGEN 3.5	12	3/8 × 1/2 × 1/4 Flare		**067N7159**
TGEN 3.5	12	3/8 × 1/2 × 1/4 Flare	**067N7160**	
TGEN 4.5	17	1/2 × 5/8 × 1/4 MIO	**067N7161**	
TGEN 4.5	17	1/2 × 5/8 × 1/4 MIO	**067N7161**	
TGEN 4.5	17	3/8 × 1/2 × 1/4 Flare		**067N7162**
TGEN 4.5	17	3/8 × 1/2 × 1/4 Flare	**067N7163**	
TGEN 4.5	17	3/8 × 1/2 MIO × 1/4 F	**067N7164**	
TGEN 4.5	17	5/8 × 3/4 × 1/4 MIO	**067N7165**	
TGEN 7	24	5/8 × 3/4 × 1/4 MIO	**067N7166**	
TGEN 8	29	5/8 × 3/4 × 1/4 MIO	**067N7167**	
TGEN 10	37	5/8 × 3/4 × 1/4 Flare	**067N7168**	
TGEN 10	37	5/8 × 3/4 × 1/4 MIO	**067N7160**	
TGEN 12	44	5/8 × 3/4 × 1/4 MIO		**067N7170**

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

Type and rated capacity $Q_{nom.}$ [1] TR	Rated capacity $Q_{nom.}$ [1] kW	Inch version: Connection Screw in.	Code no. Multi pack	Code no. Industrial pack
TGEN 2.5	8	3/8 × 1/2 × 1/4 F	**067N7000**	
TGEN 3.5	12	3/8 × 1/2 × 1/4 F	**067N7003**	
TGEN 4.5	17	3/8 × 1/2 × 1/4 F		**067N7007**
TGEN 3.5	12	1/2 × 5/8 × 1/4 F	**067N7004**	
TGEN 3.5	12	1/2 × 5/8 × 1/4 F	**067N7005**	
TGEN 4.5	17	1/2 × 5/8 × 1/4 F	**067N7008**	
TGEN 4.5	17	5/8 × 3/4 × 1/4 F	**067N7013**	
TGEN 7	24	5/8 × 3/4 × 1/4 F	**067N7016**	
TGEN 8	29	5/8 × 3/4 × 1/4 F	**067N7018**	
TGEN 10	37	5/8 × 3/4 × 1/4 F	**067N7020**	
TGEN 12	44	5/8 × 3/4 × 1/4 F	**067N7021**	

TGEN 2.5	8	3/8 × 1/2 MIO 1/4 F		**067N7001**
TGEN 2.5	8	1/2 × 5/8 × 1/4 MIO	**067N7002**	
TGEN 4.5	17	1/2 × 5/8 × 1/4 MIO	**067N7010**	
TGEN 4.5	17	1/2 × 5/8 × 1/4 MIO		**067N7011**
TGEN 3.5	12	1/2 × 5/8 MIO × 1/4 F	**067N7006**	
TGEN 4.5	17	3/8 × 1/2 MIO × 1/4 F		**067N7009**
TGEN 4.5	17	5/8 × 3/4 × 1/4 MIO	**067N7012**	
TGEN 7	24	5/8 × 3/4 × 1/4 MIO	**067N7015**	
TGEN 8	29	5/8 × 3/4 × 1/4 MIO	**067N7017**	
TGEN 8	29	5/8 × 3/4 × 1/4 MIO	**067N7019**	

TGEN 2.5	8	3/8 × 1/2 ORFS × 1/4 F		**067N7040**
TGEN 3.5	12	3/8 × 1/2 ORFS × 1/4 F		**067N7041**
TGEN 4.5	17	3/8 × 1/2 ORFS × 1/4 F		**067N7042**
TGEN 4.5	17	5/8 × 3/4 ORFS × 1/4 F		**067N7043**
TGEN 12	44	5/8 × 3/4 ORFS × 1/4 F		**067N7044**

[1] The rated capacity is based on:
ASERCOM standard

Evaporating temperature, T_e =4°C,
Liquid temperature, T_l=37°C
Condensing temperature, T_c =38°C,
Openning surperheat,OS=4K

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

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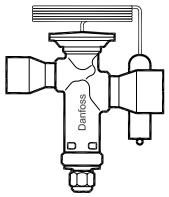
Ordering
Standard range (continued)



R407C

Range N = –40 → +10°C OS = 4 K

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version: Connection Solder ODF × ODF [1] in.	Inch version: Code no. Multi pack	Inch version: Code no. Industrial pack	mm version: Connection Solder ODF × ODF [1] mm	mm version: Code no. Multi pack	mm version: Code no. Industrial pack
TGEZ 10							
TGEZ 2.5	9	3/8 × 5/8	**067N4150**	**067N4170**	10 × 16	**067N4190**	**067N4210**
TGEZ 2.5	9	1/2 × 5/8	**067N4151**	**067N4171**	12 × 16	**067N4191**	**067N4211**
TGEZ 3.5	13	1/2 × 7/8	**067N4152**	**067N4172**	12 × 22	**067N4192**	**067N4212**
TGEZ 5	19	1/2 × 5/8	**067N4153**	**067N4173**	12 × 16	**067N4193**	**067N4213**
TGEZ 5	19	1/2 × 7/8	**067N4154**	**067N4174**	12 × 22	**067N4194**	**067N4214**
TGEZ 5	19	5/8 × 7/8	**067N4155**	**067N4175**	16 × 22	**067N4195**	**067N4215**
TGEZ 7	25	5/8 × 7/8	**067N4156**	**067N4176**	16 × 22	**067N4196**	**067N4216**
TGEZ 10	36	5/8 × 7/8	**067N4157**	**067N4177**	16 × 22	**067N4197**	**067N4217**
TGEZ 10	36	5/8 × 1 1/8	**067N4158**	**067N4178**	16 × 28	**067N4198**	**067N4218**
TGEZ 20							
TGEZ 12	42	5/8 × 7/8	**067N4159**	**067N4179**	16 × 22	**067N4199**	**067N4219**
TGEZ 12	42	5/8 × 1 1/8	**067N4160**	**067N4180**	16 × 28	**067N4200**	**067N4220**
TGEZ 15	53	5/8 × 1 1/8	**067N4161**	**067N4181**	16 × 28	**067N4201**	**067N4221**
TGEZ 15	53	7/8 × 1 1/8	**067N4162**	**067N4182**	22 × 28	**067N4202**	**067N4222**
TGEZ 18	62	7/8 × 1 1/8	**067N4163**	**067N4183**	22 × 28	**067N4203**	**067N4223**
TGEZ 18	62	7/8 × 1 3/8	**067N4164**	**067N4184**	22 × 35	**067N4204**	**067N4224**
TGEZ 40							
TGEZ 24	84	7/8 × 1 3/8	**067N4165**	**067N4185**	22 × 35	**067N4205**	**067N4225**
TGEZ 24	84	1 1/8 × 1 3/8	**067N4166**	**067N4186**	28 × 35	**067N4206**	**067N4226**
TGEZ 27	95	7/8 × 1 3/8	**067N4167**	**067N4187**	22 × 35	**067N4207**	**067N4227**
TGEZ 27	95	1 1/8 × 1 3/8	**067N4168**	**067N4188**	28 × 35	**067N4208**	**067N4228**
TGEZ 34	121	1 1/8 × 1 3/8	**067N4169**	**067N4189**	28 × 35	**067N4209**	**067N4229**

Range K = –25 → +10°C with MOP 95 psig/ 7.5 bar abs. OS = 4 K

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version: Connection Solder ODF × ODF [1] in.	Inch version: Code no. Multi pack	Inch version: Code no. Industrial pack	mm version: Connection Solder ODF × ODF [1] mm	mm version: Code no. Multi pack	mm version: Code no. Industrial pack
TGEZ 10							
TGEZ 2.5	9	3/8 × 5/8	**067N4000**	**067N4020**	10 × 16	**067N4040**	**067N4060**
TGEZ 2.5	9	1/2 × 5/8	**067N4001**	**067N4021**	12 × 16	**067N4041**	**067N4061**
TGEZ 3.5	13	1/2 × 7/8	**067N4002**	**067N4022**	12 × 22	**067N4042**	**067N4062**
TGEZ 5	19	1/2 × 5/8	**067N4003**	**067N4023**	12 × 16	**067N4043**	**067N4063**
TGEZ 5	19	1/2 × 7/8	**067N4004**	**067N4024**	12 × 22	**067N4044**	**067N4064**
TGEZ 5	19	5/8 × 7/8	**067N4005**	**067N4025**	16 × 22	**067N4045**	**067N4065**
TGEZ 7	25	5/8 × 7/8	**067N4006**	**067N4026**	16 × 22	**067N4046**	**067N4066**
TGEZ 10	36	5/8 × 7/8	**067N4007**	**067N4027**	16 × 22	**067N4047**	**067N4067**
TGEZ 10	36	5/8 × 1 1/8	**067N4008**	**067N4028**	16 × 28	**067N4048**	**067N4068**
TGEZ 20							
TGEZ 12	42	5/8 × 7/8	**067N4009**	**067N4029**	16 × 22	**067N4049**	**067N4069**
TGEZ 12	42	5/8 × 1 1/8	**067N4010**	**067N4030**	16 × 28	**067N4050**	**067N4070**
TGEZ 15	53	5/8 × 1 1/8	**067N4011**	**067N4031**	16 × 28	**067N4051**	**067N4071**
TGEZ 15	53	7/8 × 1 1/8	**067N4012**	**067N4032**	22 × 28	**067N4052**	**067N4072**
TGEZ 18	62	7/8 × 1 1/8	**067N4013**	**067N4033**	22 × 28	**067N4053**	**067N4073**
TGEZ 18	62	7/8 × 1 3/8	**067N4014**	**067N4034**		**067N4054**	**067N4074**
TGEZ 40							
TGEZ 24	84	7/8 × 1 3/8	**067N4015**	**067N4035**	22 × 35	**067N4055**	**067N4075**
TGEZ 24	84	1 1/8 × 1 3/8	**067N4016**	**067N4036**	28 × 35	**067N4056**	**067N4076**
TGEZ 27	95	7/8 × 1 3/8	**067N4017**	**067N4037**	22 × 35	**067N4057**	**067N4077**
TGEZ 27	95	1 1/8 × 1 3/8	**067N4018**	**067N4038**	28 × 35	**067N4058**	**067N4078**
TGEZ 34	121	1 1/8 × 1 3/8	**067N4019**	**067N4039**	28 × 35	**067N4059**	**067N4079**

[1] Pressure equalisation = 1/4 in (6 mm) ODF
[2] The rated capacity is based on:
ASERCOM standard

Evaporating temperature, T_E =4°C,
Liquid temperature, T_l=37°C
Condensing temperature, T_C =38°C,
Openning surperheat,OS=4K

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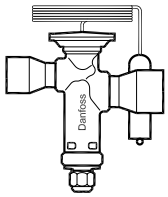
Ordering
Standard range (continued)



R410A

Range N = –40 → +10°C OS = 4 K

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version: Connection Solder ODF × ODF [1] in.	Inch version: Code no. Multi pack	Inch version: Code no. Industrial pack	mm version: Connection Solder ODF × ODF [1] mm	mm version: Code no. Multi pack	mm version: Code no. Industrial pack
TGEL 10							
TGEL 3.5	12	3/8 × 5/8	**067N3150**	**067N3170**	10 × 16	**067N3190**	**067N3210**
TGEL 3.5	12	1/2 × 5/8	**067N3151**	**067N3171**	12 × 16	**067N3191**	**067N3211**
TGEL 4.5	16	1/2 × 7/8	**067N3152**	**067N3172**	12 × 22	**067N3192**	**067N3212**
TGEL 6.5	24	1/2 × 5/8	**067N3153**	**067N3173**	12 × 16	**067N3193**	**067N3213**
TGEL 6.5	24	1/2 × 7/8	**067N3154**	**067N3174**	12 × 22	**067N3194**	**067N3214**
TGEL 6.5	24	5/8 × 7/8	**067N3155**	**067N3175**	16 × 22	**067N3195**	**067N3215**
TGEL 9	32	5/8 × 7/8	**067N3156**	**067N3176**	16 × 22	**067N3196**	**067N3216**
TGEL 13	45	5/8 × 7/8	**067N3157**	**067N3177**	16 × 22	**067N3197**	**067N3217**
TGEL 13	45	5/8 × 1 1/8	**067N3158**	**067N3178**	16 × 28	**067N3198**	**067N3218**
TGEL 20							
TGEL 15	54	5/8 × 7/8	**067N3159**	**067N3179**	16 × 22	**067N3199**	**067N3219**
TGEL 15	54	5/8 × 1 1/8	**067N3160**	**067N3180**	16 × 28	**067N3200**	**067N3220**
TGEL 19	68	5/8 × 1 1/8	**067N3161**	**067N3181**	16 × 28	**067N3201**	**067N3221**
TGEL 19	68	7/8 × 1 1/8	**067N3162**	**067N3182**	22 × 28	**067N3202**	**067N3222**
TGEL 23	79	7/8 × 1 1/8	**067N3163**	**067N3183**	22 × 28	**067N3203**	**067N3223**
TGEL 23	79	7/8 × 1 3/8	**067N3164**	**067N3184**	22 × 35	**067N3204**	**067N3224**
TGEL 40							
TGEL 31	110	7/8 × 1 1/8	**067N3165**	**067N3185**	22 × 28	**067N3205**	**067N3225**
TGEL 31	110	1 1/8 × 1 3/8	**067N3166**	**067N3186**	28 × 35	**067N3206**	**067N3226**
TGEL 35	125	7/8 × 1 3/8	**067N3167**	**067N3187**	22 × 35	**067N3207**	**067N3227**
TGEL 35	125	1 1/8 × 1 3/8	**067N3168**	**067N3188**	28 × 35	**067N3208**	**067N3228**
TGEL 46	161	1 1/8 × 1 3/8	**067N3169**	**067N3189**	28 × 35	**067N3209**	**067N3229**

Range K = –25 → +10°C with MOP 167 psig/12.5 bar abs. OS = 4 K

Type and rated capacity $Q_{nom.}$ [2] TR	Rated capacity $Q_{nom.}$ [2] kW	Inch version: Connection Solder ODF × ODF [1] in.	Inch version: Code no. Multi pack	Inch version: Code no. Industrial pack	mm version: Connection Solder ODF × ODF [1] mm	mm version: Code no. Multi pack	mm version: Code no. Industrial pack
TGEL 10							
TGEL 3.5	12	3/8 × 5/8	**067N3000**	**067N3020**	10 × 16	**067N3040**	**067N3060**
TGEL 3.5	12	1/2 × 5/8	**067N3001**	**067N3021**	12 × 16	**067N3041**	**067N3061**
TGEL 4.5	16	1/2 × 7/8	**067N3002**	**067N3022**	12 × 22	**067N3042**	**067N3062**
TGEL 6.5	24	1/2 × 5/8	**067N3003**	**067N3023**	12 × 16	**067N3043**	**067N3063**
TGEL 6.5	24	1/2 × 7/8	**067N3004**	**067N3024**	12 × 22	**067N3044**	**067N3064**
TGEL 6.5	24	5/8 × 7/8	**067N3005**	**067N3025**	16 × 22	**067N3045**	**067N3065**
TGEL 9	32	5/8 × 7/8	**067N3006**	**067N3026**	16 × 22	**067N3046**	**067N3066**
TGEL 13	45	5/8 × 7/8	**067N3007**	**067N3027**	16 × 22	**067N3047**	**067N3067**
TGEL 13	45	5/8 × 1 1/8	**067N3008**	**067N3028**	16 × 28	**067N3048**	**067N3068**
TGEL 20							
TGEL 15	54	5/8 × 7/8	**067N3009**	**067N3029**	16 × 22	**067N3049**	**067N3069**
TGEL 15	54	5/8 × 1 1/8	**067N3010**	**067N3030**	16 × 28	**067N3050**	**067N3070**
TGEL 19	68	5/8 × 1 1/8	**067N3011**	**067N3031**	16 × 28	**067N3051**	**067N3071**
TGEL 19	68	7/8 × 1 1/8	**067N3012**	**067N3032**	22 × 28	**067N3052**	**067N3072**
TGEL 23	79	7/8 × 1 1/8	**067N3013**	**067N3033**	22 × 28	**067N3053**	**067N3073**
TGEL 23	79	7/8 × 1 3/8	**067N3014**	**067N3034**	22 × 35	**067N3054**	**067N3074**
TGEL 40							
TGEL 31	110	7/8 × 1 3/8	**067N3015**	**067N3035**	22 × 28	**067N3055**	**067N3075**
TGEL 31	110	1 1/8 × 1 3/8	**067N3016**	**067N3036**	28 × 35	**067N3056**	**067N3076**
TGEL 35	125	7/8 × 1 3/8	**067N3017**	**067N3037**	22 × 35	**067N3057**	**067N3077**
TGEL 35	125	1 1/8 × 1 3/8	**067N3018**	**067N3038**	28 × 35	**067N3058**	**067N3078**
TGEL 46	161	1 1/8 × 1 3/8	**067N3019**	**067N3039**	28 × 35	**067N3059**	**067N3079**

[1] Pressure equalisation = 1/4 in (6 mm) ODF
[2] The rated capacity is based on: ASERCOM standard

Evaporating temperature, T_e =4°C,
Liquid temperature, Tl=37°C
Condensing temperature, T_C =38°C,
Openning surperheat,OS=4K

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Capacity

R22

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature +15°C								**Evaporating temperature +10°C**							
TGEX 3	10	7.1	9.4	10.8	11.7	12.2	12.5	12.7	12.8	6.8	9.0	10.4	11.1	11.6	11.9	12.0	12.1
TGEX 4	14	9.7	12.8	14.7	15.8	16.5	16.9	17.1	17.1	9.3	12.3	14.1	15.1	15.7	16.0	16.2	16.2
TGEX 6	20	14.2	18.7	21.4	23.9	23.9	24.3	24.5	24.5	13.8	18.1	20.6	22.0	22.7	23.2	23.3	23.2
TGEX 7.5	27	18.7	24.5	27.9	30.0	31.1	31.6	31.8	31.7	18.2	23.8	27.1	28.8	29.8	30.3	30.4	30.2
TGEX 11	38	24.2	32.2	37.3	40.6	42.6	43.9	44.7	45.1	23.9	31.7	36.6	39.5	41.3	42.6	43.3	43.6
TGEX 12	43	32.5	42.1	47.3	50.2	51.4	51.7	51.4	50.7	31.2	40.2	45.1	47.4	48.4	48.6	48.3	47.5
TGEX 15	54	41.8	53.9	60.3	63.7	64.9	65.0	64.4	63.3	40.1	51.5	57.4	60.1	61.1	61.1	60.4	59.3
TGEX 18	63	47.1	61.4	69.6	74.1	76.0	76.4	75.9	74.5	45.7	59.3	66.7	70.2	71.6	71.6	70.7	69.3
TGEX 26	92	74.0	94.2	104.4	109.2	110.2	109.4	107.5	104.8	71.1	90.1	99.5	103.0	103.6	102.7	100.7	98.0
TGEX 30	104	83.7	106.6	118.1	123.4	124.5	123.5	121.3	118.2	80.7	102.2	112.7	116.6	117.2	116.1	113.7	110.6
TGEX 38	134	99.3	129.8	147.4	157.4	161.9	163.5	163.0	160.9	96.0	124.9	141.0	149.0	152.5	153.3	152.1	149.3
		Evaporating temperature +5°C								**Evaporating temperature 0°C**							
TGEX 3	10	6.6	8.6	9.8	10.5	10.9	11.2	11.3	11.4	6.2	8.2	9.2	9.8	10.2	10.5	10.6	10.6
TGEX 4	14	9.0	11.8	13.4	14.2	14.8	15.1	15.2	15,2	8.5	11.2	12.6	13.4	13.8	14.1	14.2	14.2
TGEX 6	20	13.3	17.3	19.6	20.8	21.5	21.9	22.0	21.9	12.7	16.5	18.5	19.6	20.2	20.5	20.5	20.4
TGEX 7.5	27	17.7	23.0	25.9	27.5	28.3	28.7	28.8	28.6	17.0	22.0	24.6	26.0	26.7	27.0	27.0	26.8
TGEX 11	38	23.5	31.0	35.5	38.1	39.8	40.9	41.6	41.9	22.9	30.1	34.1	36.5	38.1	39.0	39.6	39.8
TGEX 12	43	29.7	38.1	42.5	44.4	45.2	45.3	44.9	44.2	28.1	35.8	39.5	41.2	41.9	41.9	41.5	40.8
TGEX 15	54	38.2	48.8	54.1	56.2	57.0	56.9	56.2	55.1	36.1	45.8	50.3	52.1	52.7	52.5	51.8	50.7
TGEX 18	63	44.0	56.6	63.1	65.8	66.6	66.7	66.0	64.9	42.0	53.5	58.8	61.2	62.1	52.1	61.4	60.3
TGEX 26	92	67.9	85.5	93.6	96.3	96.6	95.5	93.5	90.8	64.2	80.4	87.1	89.3	89.3	88.0	86.0	83.5
TGEX 30	104	77.2	97.1	106.3	109.2	109.5	108.1	105.7	102.6	73.2	91.5	99.0	101.3	101.3	99.8	97.3	94.3
TGEX 38	134	92.2	119.1	133.2	139.4	141.9	141.8	139.9	136.5	87.7	112.4	124.0	128.9	130.3	129.3	126.6	122.6
		Evaporating temperature –5°C								**Evaporating temperature –10°C**							
TGEX 3	10	5.9	7.7	8.6	9.2	9.5	9.7	9.8	9.8	5.5	7.1	7.9	8.4	8.7	8.9	9.0	9.0
TGEX 4	14	8.1	10.5	11.7	12.4	12.8	13.1	13.2	13.1	7.6	9.8	10.8	11.5	11.8	12.0	12.1	12.0
TGEX 6	20	12.1	15.6	17.3	18.3	18.8	19.0	19.0	18.9	11.4	14.5	16.0	16.9	17.3	17.5	17.5	17.4
TGEX 7.5	27	16.2	20.9	23.1	24.3	24.9	25.2	25.1	24.9	15.4	19.6	21.5	22.6	23.1	23.2	23.2	22.9
TGEX 11	38	22.1	28.9	32.4	34.6	36.0	36.9	37.3	37.4	21.2	27.4	30.6	32.5	33.7	34.4	34.7	34.8
TGEX 12	43	26.3	33.4	36.4	37.9	38.4	38.4	38.0	37.3	24.4	30.6	33.3	34.5	34.9	34.9	34.5	33.8
TGEX 15	54	33.8	42.7	46.3	47.9	48.3	48.1	47.4	46.3	31.3	39.1	42.3	43.6	43.9	43.6	42.9	41.9
TGEX 18	63	39.6	50.2	54.7	56.8	57.5	57.3	56.6	55.4	37.1	46.5	50.4	52.1	52.6	52.4	51.6	50.5
TGEX 26	92	60.2	75.0	80.3	82.0	81.8	80.5	78.5	76.0	56.0	68.8	73.2	74.6	74.2	72.9	71.0	68.6
TGEX 30	104	68.8	85.5	91.3	93.2	92.8	91.2	88.8	86.0	64.0	78.5	83.5	84.8	84.3	82.7	80.3	77.6
TGEX 38	134	82.6	104.9	114.0	117.6	117.9	116.0	112.6	107.9	77.0	96.1	103.4	105.7	105.0	102.2	98.0	93.9
		Evaporating temperature –15°C								**Evaporating temperature –20°C**							
TGEX 3	10	5.1	6.6	7.3	7.7	8.0	8.1	8.2	8.2	4.7	6.0	6.6	7.0	7.2	7.3	7.4	7.4
TGEX 4	14	7.1	9.0	9.9	10.5	10.8	11.0	11.0	10.9	6.5	8.2	9.0	9.5	9.8	9.9	9.9	9.9
TGEX 6	20	10.6	13.4	14.7	15.5	15.8	16.0	15.9	15.8	9.8	1.2	13.4	14.0	14.3	14.4	14.4	14.2
TGEX 7.5	27	14.4	18.1	19.8	20.7	21.2	21.3	21.1	20.9	13.4	16.6	18.1	18.9	19.2	19.3	19.1	18.8
TGEX 11	38	20.1	25.6	28.5	30.2	31.2	31.8	32.0	31.9	18.9	23.7	26.2	27.7	28.5	28.9	29.0	28.8
TGEX 12	43	22.4	27.8	30.1	31.2	31.5	31.4	31.0	30.4	20.4	25.0	27.0	27.9	28.1	28.0	27.7	27.1
TGEX 15	54	28.8	35.5	38.2	39.3	39.6	39.2	38.6	37.6	26.2	31.9	34.2	35.2	35.3	35.0	34.4	33.5
TGEX 18	63	34.5	42.6	45.9	47.4	47.7	47.4	46.6	45.5	31.6	38.6	41.4	42.6	42.9	42.5	41.7	40.7
TGEX 26	92	51.5	62.4	66.2	67.2	66.7	65.4	63.6	61.4	46.9	56.0	59.2	60.0	59.4	58.2	56.5	54.5
TGEX 30	104	59.0	71.4	75.5	76.5	75.8	74.2	72.0	69.5	53.8	64.2	67.6	68.3	67.6	66.0	64.0	61.6
TGEX 38	134	71.0	86.9	92.4	93.4	91.7	89.5	87.0	84.1	64.6	77.4	81.3	82.2	81.5	80.0	77.4	74.7

Correction for subcooling Δt_{sub}

The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.06	1.11	1.15	1.20	1.24	1.29	1.33	1.37	1.42

Note: Flash gas can form if subcooling is too low.

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Capacity (continued)

R22

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature –25°C								**Evaporating temperature –30°C**							
TGEX 3	10	4.3	5.4	5.9	6.3	6.5	6.6	6.6	6.6	3.9	4.8	5.3	5.6	5.7	5.8	5.9	5.8
TGEX 4	14	6.0	7.4	8.1	8,5	8,7	8.8	8.9	8.8	5.3	6.6	7.2	7.6	7.8	7.8	7.8	7.8
TGEX 6	20	9.0	11.0	12.1	12.6	12.9	12.9	12.8	12.7	8.1	9.9	10.8	11.2	11.4	11.4	11.4	11.2
TGEX 7.5	27	12.3	15.1	16.4	17.0	17.3	17.3	17.1	16.8	11.1	13.5	14.6	15.2	15.3	15.3	15.1	14.8
TGEX 11	38	17.5	21.7	23.9	25.1	25.7	26.0	25.9	25.6	16.0	19.6	21.4	22.4	22.9	22.9	22.7	22.3
TGEX 12	43	18.4	22.2	23.9	24.7	24.9	24.8	24.5	24.0	16.2	19.5	21.0	21.7	21.9	21.8	21.5	21.0
TGEX 15	54	23.6	28.3	30.3	31.1	31.3	30.9	30.4	29.6	20.9	24.9	26.7	27.3	27.4	27.1	26.6	26.0
TGEX 18	63	28.7	34.5	37.0	38.0	38.1	37.7	37.0	36.1	25.6	30.6	32.7	33.5	33.6	33.2	32.6	31.7
TGEX 26	92	42.3	49.8	52.4	53.0	52.4	51.3	49.7	47.9	37.4	43.8	46.0	46.4	45.9	44.8	43.4	41.8
TGEX 30	104	48.6	57.0	60.0	60.4	59.6	58.2	56.3	54.2	43.0	50.2	52.6	52.9	52.2	50.8	49.1	47.2
TGEX 38	134	58.0	68.4	72.0	72.8	72.0	70.4	68.2	65.7	51.5	60.3	63.4	63.9	63.1	61.5	59.5	57.3
		Evaporating temperature –35°C								**Evaporating temperature –40°C**							
TGEX 3	10	3.4	4.2	4.7	4.9	5.1	5.1	5.1	5.1	3.0	3.7	4.1	4.3	4.4	4.4	4.5	4.4
TGEX 4	14	4.7	5.8	6.4	6.7	6.8	6.9	6.9	6.8	4.2	5.1	5.5	5.8	5.9	6.0	5.9	5.9
TGEX 6	20	7.2	8.7	9.5	9.9	10.0	10.0	9.9	9.8	6.3	7.6	8.3	8.6	8.7	8.7	8.6	8.4
TGEX 7.5	27	9.9	12.0	12.9	13.4	13.5	13.4	13.2	12.9	8.8	10.5	11.3	11.7	11.7	11.7	11.5	11.2
TGEX 11	38	14.3	17.4	19.0	19.7	19.9	19.9	19.5	19.0	12.7	15.3	16.5	17.0	17.1	16.8	16.5	16.1
TGEX 12	43	14.2	17.0	18.3	18.9	19.1	19.0	18.7	18.7	12.3	14.7	15.8	16.4	16.5	16.5	16.2	15.9
TGEX 15	54	18.3	21.7	23.2	23.8	23.9	23.6	23.2	22.6	15.8	18.8	20.1	20.6	20.7	20.5	20.1	19.6
TGEX 18	63	22.5	26.8	28.6	29.3	29.3	29.0	28.4	27.7	19.6	23.3	24.8	25.4	25.4	25.1	24.6	24.0
TGEX 26	92	32.7	38.1	40.0	40.3	39.8	38.8	37.6	36.2	28.2	32.8	34.4	34.6	34.2	33.4	32.3	31.1
TGEX 30	104	37.7	43.8	45.8	46.0	45.3	44.0	42.6	40.1	32.6	37.7	39.4	39.5	38.9	37.8	36.5	35.1
TGEX 38	134	45.2	52.7	55.2	55.6	54.8	53.3	51.6	49.6	39.2	45.6	47.6	47.8	47.0	45.8	44.2	42.5

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.06	1.11	1.15	1.20	1.24	1.29	1.33	1.37	1.42

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Capacity (continued)

R134a

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature +15°C								**Evaporating temperature +10°C**							
TGEN 1.5	6	5.2	6.6	7.3	7.6	7.8	7.8	7.7	7.5	4.9	6.2	6.8	7.1	7.2	7.2	7.1	7.0
TGEN 2.5	8	7.1	9.0	10.0	10.4	10.5	10.5	10.3	10.1	6.7	8.5	9.3	9.7	9.8	9.7	9.6	9.3
TGEN 3.5	12	10.6	13.4	14.7	15.3	15.4	15.3	15.0	14.6	10.1	12.7	13.8	14.3	14.4	14.2	13.9	13.5
TGEN 4.5	17	14.2	18.0	19.7	20.4	20.5	20.3	19.8	19.2	13.6	17.1	18.5	19.1	19.1	18.9	18.4	17.8
TGEN 7	24	19.3	24.8	27.5	28.8	29.4	29.5	29.2	28.6	18.7	23.9	26.2	27.3	27.8	27.8	27.4	26.8
TGEN 8	29	26.8	33.4	36.0	36.6	36.4	35.5	34.3	32.9	25.3	31.4	33.4	33.9	33.6	32.7	31.6	30.2
TGEN 10	37	34.5	42.7	45.7	46.3	45.8	44.5	42.8	40.8	32.6	40.1	42.4	42.8	42.2	41.0	39.3	37.4
TGEN 12	44	39.7	49.7	53.5	54.2	53.5	52.2	50.4	48.2	37.9	46.9	49.7	50.4	49.8	48.5	46.6	44.5
TGEN 17	61	58.5	71.6	75.8	76.0	74.3	71.6	68.3	64.6	55.3	67.2	70.3	70.2	68.4	65.8	62.6	59.1
TGEN 20	70	66.6	81.4	86.1	86.2	84.2	81.1	77.2	73.0	63.1	76.6	80.0	79.7	77.6	74.5	70.8	66.8
TGEN 25	87	79.9	100.2	108.3	110.3	109.2	106.1	101.6	96.1	75.9	94.3	102.2	101.3	99.6	95.9	91.0	85.2
		Evaporating temperature +5°C								**Evaporating temperature 0°C**							
TGEN 1.5	6	4.6	5.8	6.3	6.6	6.7	6.6	6.5	6.4	4.3	5.4	5.8	6.0	6.1	6.1	6.0	5.8
TGEN 2.5	8	6.3	7.9	8.6	8.9	9.0	9.0	8.8	8.6	5.9	7.3	7.9	8.2	8.3	8.2	8.0	7.8
TGEN 3.5	12	9.5	11.9	12.8	13.2	13.3	13.1	12.8	12.4	8.9	11.0	11.8	12.1	12.2	12.0	11.7	11.3
TGEN 4.5	17	12.9	16.1	17.3	17.7	17.7	17.5	17.0	16.4	12.2	14.9	16.0	16.3	16.3	16.0	15.6	15.0
TGEN 7	24	17.9	22.6	24.6	25.6	26.0	25.9	25.5	24.9	17.1	21.2	23.0	23.8	24.1	23.9	23.4	22.8
TGEN 8	29	23.7	29.0	30.8	31.1	30.7	29.9	28.8	27.5	22.1	26.6	28.1	28.3	27.9	27.1	26.0	24.8
TGEN 10	37	30.5	37.1	39.0	39.3	38.6	37.3	35.8	34.0	28.4	34.0	35.6	35.7	35.0	33.8	32.3	30.6
TGEN 12	44	35.8	43.7	46.1	46.6	45.9	44.5	42.8	40.7	33.6	40.4	42.5	42.7	41.9	40.6	38.8	36.9
TGEN 17	61	51.2	62.0	64.5	64.2	62.4	59.8	56.8	53.5	48.1	56.8	58.8	58.3	56.5	54.0	51.1	48.0
TGEN 20	70	59.2	70.8	73.5	73.0	70.8	67.8	64.9	60.5	55.1	64.9	67.0	66.3	64.1	61.2	57.9	54.3
TGEN 25	87	71.3	87.0	91.7	91.8	89.3	85.1	80.0	73.9	66.4	79.5	82.8	82.0	78.8	74.2	70.0	65.8
		Evaporating temperature –5°C								**Evaporating temperature –10°C**							
TGEN 1.5	6	4.0	4.9	5.3	5.5	5.5	5.5	5.4	5.3	3.7	4.5	4.8	5.0	5.0	5.0	4.9	4.7
TGEN 2.5	8	5.5	6.7	7.3	7.5	7.5	7.4	7.3	7.0	5.1	6.1	6.6	6.8	6.8	6.7	6.5	6.3
TGEN 3.5	12	8.3	10.1	10.8	11.1	11.1	10.9	10.6	10.2	7.7	9.2	9.8	10.0	10.0	9.8	9.5	9.1
TGEN 4.5	17	11.4	13.8	14.7	14.9	14.9	14.6	14.1	13.5	10.6	12.6	13.4	13.6	13.5	13.1	12.7	12.1
TGEN 7	24	16.1	19.7	21.3	21.9	22.0	21.8	21.3	20.6	15.1	18.1	19.5	20.0	20.0	19.7	19.1	18.4
TGEN 8	29	20.3	24.2	25.4	25.6	25.1	24.3	23.3	22.2	18.6	21.8	22.8	22.9	22.5	21.7	20.8	19.8
TGEN 10	37	26.1	30.8	32.2	32.2	31.5	30.3	28.9	27.4	23.9	27.8	28.9	28.8	28.1	27.0	25.7	24.3
TGEN 12	44	31.2	37.0	38.7	38.8	37.9	36.6	35.0	33.1	28.8	33.5	34.9	34.9	34.1	32.8	31.2	29.5
TGEN 17	61	44.4	51.6	53.1	52.4	50.7	48.3	45.7	42.9	40.6	46.4	47.6	46.9	45.2	43.0	40.5	38.0
TGEN 20	70	50.9	59.0	60.6	59.7	57.6	54.8	51.7	48.5	46.6	53.2	54.4	53.4	51.3	48.7	45.9	42.9
TGEN 25	87	61.2	71.7	73.8	72.1	69.4	66.2	62.6	58.7	56.0	64.0	65.3	64.3	62.0	59.0	55.6	52.0
		Evaporating temperature –15°C								**Evaporating temperature –20°C**							
TGEN 1.5	6	3.4	4.0	4.3	4.5	4.5	4.4	4.3	4.2	3.0	3.6	3.9	4.0	4.0	4.0	3.9	3.7
TGEN 2.5	8	4.6	5.5	5.9	6.1	6.1	6.0	5.8	5.6	4.2	5.0	5.3	5.4	5.4	5.3	5.2	5.0
TGEN 3.5	12	7.0	8.3	8.9	9.0	9.0	8.8	8.5	8.1	6.4	7.5	7.9	8.1	8.0	7.8	7.5	7.2
TGEN 4.5	17	9.7	11.4	12.1	12.2	12.1	11.8	11.3	10.8	8.8	10.3	10.9	11.0	10.8	10.5	10.1	9.6
TGEN 7	24	13.9	16.5	17.7	18.0	17.9	17.6	17.0	16.2	12.7	15.0	15.9	16.1	15.9	15.5	14.9	14.1
TGEN 8	29	16.7	19.4	20.3	20.3	19.9	19.3	18.4	17.5	14.9	17.3	18.0	18.0	17.6	17.0	16.2	15.4
TGEN 10	37	21.5	24.8	25.7	25.6	24.9	23.9	22.8	21.5	19.1	22.0	22.7	22.6	22.0	21.1	20.0	18.9
TGEN 12	44	26.1	30.2	31.3	31.1	30.3	29.1	27.7	26.1	23.4	26.9	27.8	27.6	26.8	25.7	24.4	23.0
TGEN 17	61	36.5	41.5	42.4	41.6	40.0	38.0	35.7	33.4	32.6	36.8	37.5	36.7	35.2	33.4	31.3	29.3
TGEN 20	70	42.0	47.5	48.4	47.4	45.4	43.0	40.4	37.3	37.5	42.2	42.8	41.8	40.0	37.8	35.4	33.0
TGEN 25	87	50.1	57.0	58.2	57.1	54.9	52.0	49.0	45.7	44.9	50.7	51.6	50.4	48.3	45.7	42.9	40.0

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.08	1.13	1.18	1.23	1.29	1.34	1.39	1.44	1.49

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Capacity (continued)

R134a

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature –25°C								**Evaporating temperature –30°C**							
TGEN 1.5	6	2.7	3.2	3.5	3.6	3.6	3.5	3.4	3.3	2.4	2.9	3.1	3.2	3.1	3.1	3.0	2.9
TGEN 2.5	8	3.8	4.5	4.7	4.8	4.8	4.7	4.6	4.4	3.4	4.0	4.2	4.3	4.3	4.2	4.0	3.9
TGEN 3.5	12	5.7	6.7	7.1	7.2	7.1	6.9	6.6	6.3	5.1	6.0	6.3	6.4	6.3	6.1	5.8	5.6
TGEN 4.5	17	7.9	9.2	9.7	9.8	9.6	9.3	8.9	8.4	7.1	8.3	8.6	8.7	8.5	8.2	7.8	7.4
TGEN 7	24	11.5	13.4	14.2	14.3	14.0	13.5	12.8	12.1	13.3	12.0	12.5	12.5	12.2	11.8	11.3	10.6
TGEN 8	29	13.2	15.2	15.8	15.8	15.5	14.9	14.2	13.5	11.6	13.4	13.9	13.9	13.5	13.0	12.4	11.8
TGEN 10	37	16.9	19.4	20.0	19.8	19.3	18.5	17.5	16.5	14.9	17.0	17.5	17.4	16.9	16.1	15.3	14.4
TGEN 12	44	20.8	23.8	24.6	24.3	23.6	22.6	21.4	20.1	18.4	21.0	21.6	21.4	20.7	19.8	18.7	17.5
TGEN 17	61	28.9	32.5	33.0	32.2	30.8	29.2	27.4	25.5	25.5	28.5	28.9	28.2	27.0	25.5	23.9	22.2
TGEN 20	70	33.3	37.3	37.7	36.7	35.0	33.1	31.0	28.8	29.4	32.8	33.0	32.1	30.6	28.8	27.0	25.0
TGEN 25	87	39.9	44.8	45.4	44.3	42.4	40.0	37.4	34.8	35.3	39.5	39.9	38.8	37.0	34.9	32.6	30.2
		Evaporating temperature –35°C								**Evaporating temperature –40°C**							
TGEN 1.5	6	2.2	2.6	2.7	2.8	2.8	2.7	2.6	2.5	2.0	2.3	2.4	2.5	2.5	2.4	2.3	2.2
TGEN 2.5	8	3.0	3.5	3.7	3.8	3.8	3.7	3.5	3.4	2.7	3.2	3.3	3.4	3.3	3.2	3.1	3.0
TGEN 3.5	12	4.6	5.3	5.6	5.6	5.5	5.4	5.1	4.9	4.1	4.8	5.0	5.0	4.9	4.7	4.5	4.3
TGEN 4.5	17	6.4	7.4	7.7	7.7	7.5	7.2	6.9	6.5	5.7	6.6	6.8	6.8	6.6	6.4	6.0	5.7
TGEN 7	24	9.3	10.7	11.1	11.1	10.8	10.4	9.9	9.3	8.3	9.6	9.9	9.9	9.6	9.2	8.7	8.2
TGEN 8	29	10.2	11.7	12.2	12.1	11.9	11.4	10.9	10.3	8.9	10.3	10.7	10.6	10.4	10.0	9.5	9.0
TGEN 10	37	13.1	14.9	15.4	15.2	14.7	14.1	13.4	12.6	11.5	13.1	13.5	13.3	12.9	12.3	11.7	11.0
TGEN 12	44	16.3	18.5	19.0	18.7	18.1	17.3	16.3	15.3	14.3	16.2	16.7	16.4	15.9	15.1	14.3	13.4
TGEN 17	61	22.4	25.0	25.3	24.6	23.5	22.2	20.8	19.3	19.7	22.0	22.2	21.6	20.6	19.4	18.2	16.9
TGEN 20	70	25.9	28.8	28.9	28.1	26.7	25.1	23.5	21.7	22.8	25.2	25.4	24.6	23.4	22.0	20.4	18.9
TGEN 25	87	31.2	34.7	35.0	33.9	32.3	30.3	28.3	26.2	27.5	30.5	30.7	29.7	28.2	26.5	24.6	22.7

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.08	1.13	1.18	1.23	1.29	1.34	1.39	1.44	1.49

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Capacity (continued)

R404A/ R507

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature +15°C								**Evaporating temperature +10°C**							
TGES 2	7	5.1	6.6	7.4	7.9	8.1	8.1	8.0	7.8	4.9	6.4	7.2	7.6	7.8	7.8	7.7	7.5
TGES 2.5	9	5.9	9.0	10.1	10.7	11.0	10.9	10.8	10.5	6.8	8.7	9.8	10.4	10.5	10.5	10.3	10.0
TGES 4	14	10.2	13.2	14.8	15.6	15.9	15.9	15.6	15.1	10.0	12.9	14.4	15.2	15.4	15.3	15.0	14.5
TGES 5	18	13.4	17.3	19.4	20.5	20.9	20.7	20.3	19.6	13.3	17.0	19.0	20.0	20.2	20.1	19.6	19.0
TGES 7.5	26	17.5	22.9	25.9	27.7	28.5	28.6	28.3	27.6	17.5	22.8	25.7	27.4	28.0	28.1	27.7	27.1
TGES 9	31	24.8	31.6	35.0	36.5	36.8	36.1	35.0	33.5	24.2	30.7	33.8	35.2	35.2	34.6	33.5	32.0
TGES 11	39	31.9	40.5	44.7	46.5	46.6	45.6	44.1	42.1	31.1	39.3	43.2	44.7	44.6	43.6	42.1	40.2
TGES 13	45	35.7	45.8	51.1	53.6	54.2	53.4	51.8	49.6	35.2	45.0	49.8	52.0	52.1	51.1	49.4	47.1
TGES 18	64	53.7	67.5	73.8	76.2	75.9	73.8	70.1	67.2	52.3	65.5	71.3	73.3	72.4	70.4	67.4	64.0
TGES 21	72	60.8	76.5	83.6	86.3	85.8	83.4	80.0	75.9	59.4	74.3	80.9	83.1	82.1	79.6	73.3	72.3
TGES 26	92	71.9	92.4	103.1	108.4	109.7	108.3	105.3	101.1	70.4	90.1	100.0	104.6	105.0	103.3	100.1	95.8
		Evaporating temperature +5°C								**Evaporating temperature 0°C**							
TGES 2	7	4.8	6.2	6.9	7.3	7.4	7.4	7.3	7.1	4.6	5.9	6.6	6.9	7.0	7.0	6.9	6.7
TGES 2.5	9	6.6	8.4	9.4	9.9	10.1	10.0	9.8	9.6	6.3	8.1	9.0	9.4	9.5	9.4	9.3	9.0
TGES 4	14	9.7	12.5	13.9	14.6	14.7	14.6	14.3	13.8	9.4	12.0	13.3	13.8	13.9	13.8	13.5	13.1
TGES 5	18	13.0	16.6	18.5	19.3	19.4	19.3	18.8	17.2	12.6	16.1	17.8	18.4	18.5	18.3	17.8	17.2
TGES 7.5	26	17.3	11.4	25.3	26.7	27.2	27.2	26.9	26.3	17.0	21.9	24.6	26.7	26.2	26.2	25.8	25.2
TGES 9	31	23.4	29.5	32.4	33.4	33.4	32.7	31.6	30.3	22.4	28.1	30.8	31.5	31.3	30.6	29.6	28.3
TGES 11	39	30.0	37.8	41.4	42.5	42.2	41.2	39.7	37.9	28.8	36.0	39.2	39.9	39.6	38.6	37.1	35.4
TGES 13	45	34.4	43.6	48.1	49.6	49.4	48.2	46.4	44.3	33.3	41.9	45.8	46.7	46.3	45.3	43.7	41.7
TGES 18	64	50.5	62.9	68.2	69.5	68.5	66.4	63.5	60.2	48.3	59.9	64.5	65.2	64.1	62.0	59.2	56.0
TGES 21	72	57.5	71.5	77.5	78.8	77.7	75.2	72.0	68.1	55.1	68.2	73.5	74.1	72.8	70.3	67.1	63.4
TGES 26	92	68.4	87.0	96.0	99.3	99.2	97.1	93.7	89.4	65.8	83.1	91.0	93.0	92.4	90.1	86.5	82.0
		Evaporating temperature –5°C								**Evaporating temperature –10°C**							
TGES 2	7	4.4	5.6	6.2	6.5	6.5	6.5	6.4	6.2	4.2	5.3	5.8	6.0	6.1	6.0	5.9	5.8
TGES 2.5	9	6.0	7.7	8.5	8.8	8.9	8.8	8.6	8.4	5.7	7.2	7.9	8.2	8.2	8.2	8.0	7.7
TGES 4	14	9.0	11.5	12.6	13.0	13.1	12.9	12.6	12.2	8.6	10.8	11.7	12.1	12.2	12.0	11.7	11.3
TGES 5	18	12.2	15.4	16.8	17.4	17.4	17.2	16.7	16.1	11.6	14.6	15.8	16.3	16.3	16.0	15.6	15.0
TGES 7.5	26	16.6	21.3	23.6	24.6	25.0	24.9	24.5	23.9	16.0	20.4	22.4	23.2	23.5	23.4	23.0	22.3
TGES 9	31	21.2	26.6	28.7	29.3	29.1	28.4	27.4	26.2	20.0	24.9	26.6	27.0	26.8	26.1	25.2	24.0
TGES 11	39	27.3	34.0	36.6	37.2	36.8	35.8	34.4	32.7	25.7	31.8	33.9	34.3	33.8	32.8	31.5	29.9
TGES 13	45	31.9	39.8	43.0	43.8	43.4	42.3	40.8	38.9	30.3	37.6	40.1	40.7	40.3	39.2	37.6	35.8
TGES 18	64	45.9	56.5	60.2	60.5	59.4	57.3	54.6	54.6	43.1	52.8	55.6	55.7	54.5	52.4	49.9	47.1
TGES 21	72	52.4	64.4	68.6	68.9	67.5	65.0	62.0	58.5	49.4	60.3	63.4	63.5	62.0	59.6	56.6	53.4
TGES 26	92	62.7	78.5	84.8	86.1	85.0	82.3	78.4	73.9	59.1	73.3	78.0	78.6	77.0	74.0	70.0	65.3
		Evaporating temperature –15°C								**Evaporating temperature –20°C**							
TGES 2	7	3.9	4.9	5.3	5.5	5.6	5.5	5.4	5.3	3.6	4.5	4.9	5.1	5.1	5.1	4.9	4.8
TGES 2.5	9	5.4	6.7	7.3	7.5	7.6	7.5	7.3	7.1	5.0	6.2	6.7	6.9	6.9	6.8	6.7	6.4
TGES 4	14	8.1	10.1	10.9	11.2	11.2	11.0	10.7	10.3	7.6	9.3	10.0	10.3	10.2	10.1	9.8	9.4
TGES 5	18	11.0	13.7	14.7	15.1	15.1	14.8	14.3	13.8	10.3	12.7	13.6	13.9	13.8	13.5	13.1	12.5
TGES 7.5	26	15.3	19.3	21.0	21.8	22.0	21.8	21.3	20.7	14.5	18.1	19.5	20.2	20.3	20.0	19.5	18.9
TGES 9	31	18.6	22.9	24.4	24.7	24.4	23.8	22.9	21.8	17.2	20.9	22.1	22.4	22.1	21.4	20.6	19.6
TGES 11	39	24.0	29.4	31.0	31.3	30.8	29.8	28.6	27.1	22.2	26.8	28.2	28.3	27.8	26.9	25.7	24.4
TGES 13	45	28.5	35.0	37.1	37.5	37.0	35.9	34.4	32.7	26.6	32.2	33.9	34.2	33.6	32.5	31.1	29.5
TGES 18	64	40.2	48.6	50.8	50.8	49.5	47.5	45.2	42.5	37.1	44.2	46.0	45.8	44.6	42.7	40.5	38.1
TGES 21	72	46.1	55.6	58.0	57.9	56.4	54.0	51.3	48.2	42.6	50.7	52.6	52.3	50.8	48.6	46.0	43.2
TGES 26	92	55.2	67.4	70.8	70.8	68.7	65.3	61.8	58.2	51.0	61.0	63.4	62.7	61.1	58.5	55.5	52.2

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.09	1.16	1.23	1.30	1.37	1.44	1.51	1.58	1.65

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Capacity (continued)

R404A/ R507

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature –25°C								**Evaporating temperature –30°C**							
TGES 2	7	3.4	4.1	4.5	4.6	4.6	4.6	4.5	4.3	3.1	3.7	4.0	4.1	4.1	4.1	4.0	3.9
TGES 2.5	9	4.6	5.7	6.1	6.3	6.3	6.2	6.0	5.8	4.3	5.1	5.5	5.6	5.6	5.5	5.4	5.2
TGES 4	14	7.0	8.5	9.1	9.3	9.3	9.1	8.8	8.4	6.5	7.7	8.2	8.4	8.3	8.2	7.9	7.5
TGES 5	18	9.6	11.7	12.4	12.6	12.5	12.2	11.8	11.3	8.9	10.6	11.3	11.4	11.3	11.0	10.6	10.1
TGES 7.5	26	13.7	16.7	18.0	18.5	18.5	18.2	17.7	17.0	12.7	15.3	16.4	16.7	16.7	16.3	15.8	15.1
TGES 9	31	15.8	18.9	19.9	20.1	19.8	19.2	18.4	17.5	14.3	16.9	17.8	17.9	17.6	17.0	16.3	15.5
TGES 11	39	20.3	24.2	25.3	25.4	24.9	24.0	23.0	21.7	18.4	21.6	22.6	22.6	22.1	21.3	20.3	19.2
TGES 13	45	24.6	29.3	30.7	30.9	30.3	29.2	27.9	26.4	22.5	26.4	27.6	27.6	27.0	26.0	24.8	23.4
TGES 18	64	33.9	39.8	41.3	41.0	39.8	38.0	36.0	33.8	30.7	35.5	36.7	36.3	35.2	33.6	31.7	29.7
TGES 21	72	39.0	45.7	47.2	46.8	45.3	43.3	40.9	38.3	35.4	40.8	42.0	41.5	40.1	38.2	36.0	33.7
TGES 26	92	46.6	54.6	56.7	56.3	54.6	52.2	49.4	46.4	42.3	48.9	50.5	50.0	48.4	46.2	43.6	40.8
		Evaporating temperature –35°C								**Evaporating temperature –40°C**							
TGES 2	7	2.8	3.4	3.6	3.7	3.7	3.6	3.5	3.4	2.5	3.0	3.2	3.3	3.3	3.2	3.1	3.0
TGES 2.5	9	3.9	4.6	4.9	5.0	5.0	4.9	4.8	4.6	3.5	4.1	4.4	4.5	4.5	4.4	4.2	4.0
TGES 4	14	5.9	7.0	7.4	7.5	7.4	7.3	7.0	6.7	5.3	6.2	6.6	6.7	6.6	6.4	6.2	5.9
TGES 5	18	8.1	9.6	10.1	10.2	10.1	9.8	9.4	8.9	7.3	8.6	9.0	9.1	9.0	8.7	8.3	7.9
TGES 7.5	26	11.7	13.9	14.8	15.0	14.9	14.5	13.9	13.3	10.6	12.5	13.2	13.3	13.1	12.7	12.1	11.5
TGES 9	31	12.8	15.0	15.7	15.8	15.5	15.0	14.4	13.6	11.3	13.2	13.8	13.9	13.6	13.2	12.6	11.9
TGES 11	39	16.5	19.2	20.0	20.0	19.5	18.8	17.9	16.9	14.6	16.9	17.6	17.5	17.1	16.4	15.6	14.7
TGES 13	45	20.2	23.5	24.5	24.5	23.9	23.0	21.9	20.6	18.0	20.8	21.7	21.6	21.0	20.2	19.2	18.1
TGES 18	64	27.4	31.4	32.4	32.0	30.9	29.4	27.8	26.0	24.2	27.6	28.3	28.0	26.9	25.6	24.1	22.5
TGES 21	72	31.6	36.1	37.1	36.6	35.2	33.5	31.5	29.4	27.9	31.2	32.5	32.0	30.7	29.2	27.4	25.5
TGES 26	92	37.9	43.4	44.7	44.0	42.6	40.5	38.2	35.6	33.5	38.3	39.2	38.6	37.2	35.3	33.2	30.9

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.09	1.16	1.23	1.30	1.37	1.44	1.51	1.58	1.65

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Capacity (continued)

R407C

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature +15°C								**Evaporating temperature +10°C**							
TGEZ 2.5	9	5.7	7.5	8.6	9.2	9.5	9.7	9.7	9.7	5.5	7.2	8.2	8.7	9.0	9.1	9.2	9.1
TGEZ 3.5	13	7.9	10.3	11.7	12.5	12.9	13.1	13.1	13.0	7.6	9.9	11.2	11.9	12.2	12.4	12.4	12.3
TGEZ 5	19	11.8	15.3	17.4	18.5	19.1	19.3	19.2	19.0	11.4	14.8	16.7	17.6	18.1	18.2	18.2	18.0
TGEZ 7	25	15.8	20.6	23.3	24.8	25.4	25.6	25.6	25.2	15.4	19.9	22.4	23.6	24.2	24.4	24.3	23.9
TGEZ 10	36	21.4	28.2	32.2	34.6	35.8	36.5	36.7	36.6	21.0	27.5	31.3	33.3	34.4	35.0	35.2	35.0
TGEZ 12	42	33.5	42.9	47.8	50.1	50.7	50.5	49.6	48.4	32.2	41.0	45.5	47.2	47.7	47.3	46.5	45.3
TGEZ 15	53	43.1	54.9	60.9	63.5	64.1	63.5	62.3	60.5	41.4	52.5	57.9	59.8	60.2	59.5	58.2	56.5
TGEZ 18	62	48.7	62.8	70.3	73.9	75.0	74.6	73.2	71.1	47.2	60.5	67.4	69.9	70.5	69.7	68.0	66.2
TGEZ 24	84	70.6	89.3	98.2	101.6	101.7	100.2	97.6	94.3	67.7	85.1	93.2	95.5	95.3	93.7	91.1	87.9
TGEZ 27	95	80.2	101.3	111.4	115.2	115.3	113.5	110.4	106.6	77.1	96.8	105.9	108.4	108.1	106.1	103.1	99.4
TGEZ 34	121	95.4	123.3	138.4	145.8	148.2	147.9	145.6	141.8	91.9	118.0	131.6	137.0	138.6	137.6	134.7	130.6
		Evaporating temperature +5°C								**Evaporating temperature 0°C**							
TGEZ 2.5	9	5.3	6.9	7.7	8.2	8.4	8.6	8.6	8.5	5.0	6.5	7.3	7.7	7.9	8.0	8.0	7.9
TGEZ 3.5	13	7.3	9.4	10.6	11.2	11.5	11.6	11.6	11.5	6.9	8.9	9.9	10.5	10.7	10.9	10.8	10.7
TGEZ 5	19	10.9	14.1	15.8	16.6	17.0	17.2	17.1	16.9	10.4	13.4	14.8	15.6	15.9	16.0	16.0	15.7
TGEZ 7	25	14.8	19.1	21.3	22.4	22.9	23.0	22.8	22.5	14.2	18.2	20.1	21.1	21.5	21.6	21.4	21.0
TGEZ 10	36	20.4	26.6	30.0	31.8	32.8	33.3	33.4	33.2	19.7	25.6	28.5	30.2	31.1	31.4	31.5	31.2
TGEZ 12	42	30.6	38.8	42.6	44.1	44.4	44.0	43.2	42.0	28.9	36.5	39.6	40.8	41.0	40.6	39.8	38.6
TGEZ 15	53	39.4	49.7	54.3	55.8	56.0	55.3	54.0	52.3	37.2	46.6	50.4	51.7	51.7	50.9	49.7	48.1
TGEZ 18	62	45.5	57.8	63.4	65.3	65.5	64.9	63.6	61.8	43.3	54.6	59.1	60.8	61.0	60.3	59.0	57.2
TGEZ 24	84	64.4	80.4	87.1	88.9	88.5	86.8	84.2	81.1	60.7	75.4	80.8	82.1	81.5	79.8	77.3	74.3
TGEZ 27	95	73.4	91.6	99.2	101.1	100.5	98.4	95.4	91.8	69.4	86.1	92.0	93.5	92.7	90.5	87.6	84.1
TGEZ 34	121	87.8	111.9	123.2	127.4	128.0	126.3	122.9	118.3	83.2	105.1	114.0	117.0	116.7	114.4	110.5	105.5
		Evaporating temperature –5°C								**Evaporating temperature –10°C**							
TGEZ 2.5	9	4.8	6.1	6.8	7.1	7.3	7.4	7.4	7.4	4.5	5.7	6.3	6.6	6.8	6.9	6.8	6.8
TGEZ 3.5	13	6.6	8.4	9.3	9.7	10.0	10.1	10.1	9.9	6.2	7.8	8.6	9.0	9.2	9.3	9.3	9.2
TGEZ 5	19	9.9	12.6	13.9	14.5	14.8	14.9	14.8	14.6	9.4	11.8	12.9	13.5	13.7	13.8	13.7	13.4
TGEZ 7	25	13.5	17.2	18.9	19.7	20.0	20.1	19.9	19.5	12.8	16.1	17.6	18.3	18.6	18.6	18.4	18.1
TGEZ 10	36	19.0	24.4	27.0	28.4	29.2	29.5	29.4	29.1	18.1	23.0	25.3	26.6	27.2	27.4	27.3	27.0
TGEZ 12	42	27.1	33.9	36.5	37.5	37.6	37.2	36.3	35.2	25.2	31.1	33.3	34.2	34.2	33.7	32.9	31.9
TGEZ 15	53	34.8	43.3	46.4	47.4	47.3	46.6	45.3	43.8	32.4	39.7	42.3	43.2	43.0	42.2	41.0	39.6
TGEZ 18	62	40.9	51.1	54.9	56.3	56.4	55.6	54.2	52.4	38.4	47.3	50.6	51.7	51.6	50.7	49.4	47.7
TGEZ 24	84	56.8	70.0	74.2	75.2	74.5	72.7	70.3	67.5	52.8	64.0	67.7	68.4	67.5	65.8	63.5	60.9
TGEZ 27	95	65.1	79.9	84.7	85.7	84.5	82.6	79.8	76.5	60.5	73.3	77.3	78.0	76.9	74.8	72.1	69.0
TGEZ 34	121	78.1	97.4	104.2	106.1	105.1	102.0	97.7	92.3	72.6	88.9	94.3	95.1	93.2	90.1	87.0	83.4
		Evaporating temperature –15°C								**Evaporating temperature –20°C**							
TGEZ 2.5	9	4.2	4.9	5.4	5.6	5.7	5.8	5.8	5.7	4.0	4.9	5.4	5.6	5.7	5.8	5.8	5.7
TGEZ 3.5	13	5.8	7.3	8.0	8.3	8.5	8.6	8.5	8.4	5.5	6.7	7.3	7.7	7.8	7.9	7.8	7.7
TGEZ 5	19	8.8	11.0	12.0	12.5	12.7	12.7	12.6	12.4	8.3	10.2	11.0	11.5	11.7	11.7	11.5	11.3
TGEZ 7	25	12.1	15.0	16.3	17.0	17.2	17.2	17.0	16.6	11.4	14.0	15.1	15.7	15.9	15.8	15.6	15.2
TGEZ 10	36	17.2	21.5	23.6	24.7	25.2	25.4	25.2	24.8	16.3	20.1	21.9	22.9	23.3	23.3	23.1	22.7
TGEZ 12	42	23.2	28.2	30.2	30.9	30.8	30.4	29.6	28.7	21.1	25.4	27.1	27.7	27.6	27.2	27.6	25.6
TGEZ 15	53	29.8	36.0	38.3	39.0	38.7	38.0	36.9	35.	27.2	32.5	34.4	34.9	34.7	33.9	32.9	31.7
TGEZ 18	62	35.7	43.3	46.1	47.0	46.8	45.9	44.6	43.0	32.9	39.3	41.7	42.4	42.1	41.2	40.0	38.5
TGEZ 24	84	48.6	58.2	61.2	61.7	60.8	59.1	57.0	54.5	44.5	52.4	55.0	55.3	54.4	52.8	50.8	48.6
TGEZ 27	95	55.9	66.6	70.0	70.4	69.3	67.2	64.7	61.8	51.2	60.1	62.9	63.1	62.0	60.0	57.7	55.0
TGEZ 34	121	66.9	80.3	84.2	84.5	83.4	81.1	78.2	74.8	61.1	72.0	75.5	76.0	74.7	72.5	69.8	66.7

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.08	1.13	1.18	1.24	1.29	1.34	1.39	1.45	1.50

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Capacity (continued)

R407C

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
		Evaporating temperature –25°C								**Evaporating temperature –30°C**							
TGEZ 2.5	9	3.7	4.5	4.9	5.2	5.2	5.3	5.3	5.2	3.4	4.2	4.5	4.7	4.8	4.9	4.8	4.8
TGEZ 3.5	13	5.1	6.2	6.8	7.1	7.2	7.2	7.1	7.0	4.7	5.7	6.2	6.5	6.6	6.6	6.5	6.4
TGEZ 5	19	7.7	9.4	10.2	10.6	10.7	10.7	10.5	10.3	7.2	8.7	9.4	9.7	9.8	9.8	9.7	9.4
TGEZ 7	25	10.7	12.9	14.0	14.4	14.6	14.5	14.3	13.9	9.9	11.9	12.9	13.3	13.4	13.3	13.1	12.7
TGEZ 10	36	15.3	18.7	20.3	21.1	21.4	21.4	21.1	20.6	14.3	17.3	18.7	19.4	19.6	19.5	19.2	18.7
TGEZ 12	42	19.1	22.7	24.2	24.7	24.6	24.2	23.5	22.7	17.0	20.2	21.4	21.8	21.8	21.4	20.8	20.1
TGEZ 15	53	24.6	29.0	30.7	31.1	30.8	30.1	29.2	28.1	21.9	25.8	27.2	27.5	27.3	26.6	25.8	24.8
TGEZ 18	62	29.9	35.4	37.4	37.9	37.6	36.8	35.6	34.2	26.9	31.6	33.3	33.7	33.4	32.6	31.5	30.3
TGEZ 24	84	40.2	47.0	49.1	46.3	48.4	46.9	45.1	43.0	36.0	41.8	43.6	43.7	42.9	41.5	39.8	38.0
TGEZ 27	95	46.3	53.9	56.2	56.3	55.1	53.3	51.2	48.8	41.5	48.1	50.0	49.9	48.9	47.2	45.2	43.0
TGEZ 34	121	55.4	64.6	67.6	67.8	66.6	64.5	61.9	59.1	49.7	57.7	60.2	60.2	59.0	57.1	54.7	52.1
		Evaporating temperature –35°C								**Evaporating temperature –40°C**							
TGEZ 2.5	9	3.1	3.8	4.2	4.4	4.4	4.5	4.4	4.4	2.9	3.5	3.9	4.0	4.1	4.1	4.1	4.0
TGEZ 3.5	13	4.3	5.3	5.7	6.0	6.0	6.0	6.0	5.9	4.0	4.9	5.3	5.5	5.6	5.6	5.5	5.4
TGEZ 5	19	6.6	8.0	8.6	8.9	9.0	9.0	8.8	8.6	6.1	7.4	8.0	8.2	8.3	8.3	8.1	7.9
TGEZ 7	25	9.2	11.0	11.9	12.2	12.3	12.2	12.0	11.7	8.6	10.2	11.0	11.3	11.4	11.2	11.0	10.7
TGEZ 10	36	13.3	16.0	17.3	17.8	18.0	17.8	17.4	17.9	12.4	14.8	16.0	16.4	16.5	16.3	15.9	15.4
TGEZ 12	42	15.1	17.8	18.9	19.3	19.2	18.8	18.3	17.7	13.3	15.7	16.7	17.0	16.9	16.6	16.1	15.6
TGEZ 15	53	19.4	22.8	24.0	24.3	24.0	23.5	22.7	21.8	17.2	20.1	21.1	21.4	21.1	20.6	20.0	19.2
TGEZ 18	62	23.9	28.1	29.6	29.9	29.5	28.8	27.8	26.7	21.2	24.8	26.1	26.3	26.0	25.3	2.45	23.5
TGEZ 24	84	32.1	37.1	38.6	38.7	37.9	36.6	35.1	33.5	28.5	32.9	34.2	34.2	33.4	32.3	31.0	29.5
TGEZ 27	95	37.0	42.7	44.3	44.2	43.2	41.6	39.8	37.9	32.8	37.8	39.2	39.1	38.1	36.7	35.1	33.4
TGEZ 34	121	44.4	51.4	53.4	53.4	52.2	50.4	48.2	45.9	39.6	45.6	47.3	47.2	46.1	44.4	42.5	40.3

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

	Δt_{sub}	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50K
Correction factor	TGE 10 TGE 20 TGE 40	1.00	1.08	1.13	1.18	1.24	1.29	1.34	1.39	1.45	1.50

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Capacity (continued)

R410A

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		3	6	9	12	15	18	21	24	3	6	9	12	15	18	21	24
		Evaporating temperature +15°C								**Evaporating temperature +10°C**							
TGEL 3.5	12	8.7	11.3	12.7	13.5	13.8	13.9	13.7	13.3	8.5	11.0	12.4	13.1	13.3	13.4	13.2	12.9
TGEL 4.5	16	11.8	15.3	17.2	18.3	18.6	18.6	18.3	17.8	11.6	14.9	16.8	17.7	18.0	18.0	17.7	17.2
TGEL 6.5	24	17.4	22.4	25.1	26.5	26.9	26.8	26.3	25.4	17.0	21.9	24.5	25.7	26.1	26.0	25.4	24.6
TGEL 9	32	22.7	29.3	328	34.6	35.1	34.8	34.1	32.9	22.5	28.9	32.2	33.7	34.1	33.9	33.1	32.0
TGEL 13	45	29.6	38.7	43.9	47.0	48.2	48.6	48.2	47.1	29.6	38.6	43.7	46.4	47.6	47.9	47.6	46.6
TGEL 15	54	42.7	54.2	59.7	62.1	62.0	60.7	58.7	56.0	41.7	52.7	57.9	59.7	59.6	58.4	56.4	53.9
TGEL 19	68	54.9	69.3	75.9	78.6	78.1	76.3	73.4	69.7	53.6	67.4	73.6	75.6	75.0	73.2	70.4	67.0
TGEL 23	79	60.9	78.2	87.0	91.1	91.4	89.9	86.8	82.7	60.3	76.9	85.1	88.1	88.1	86.2	82.9	78.7
TGEL 31	110	92.5	115.5	125.6	128.9	127.1	123.2	117.7	111.2	90.3	112.3	121.6	123.7	121.8	117.9	112.7	106.5
TGEL 35	125	104.5	130.6	141.8	145.5	143.5	139.0	132.7	125.3	102.3	127.1	137.6	139.9	137.7	133.2	127.2	120.1
TGEL 46	161	123.8	159.2	177.5	186.4	187.7	185.1	179.6	171.8	121.7	155.6	172.7	179.5	180.1	177.0	171.3	163.4
		Evaporating temperature +5°C								**Evaporating temperature 0°C**							
TGEL 3.5	12	8.2	10.6	11.9	12.5	12.8	12.8	12.6	12.3	7.9	10.1	11.3	11.8	12.1	12.1	11.9	11.7
TGEL 4.5	16	11.2	14.4	16.2	16.9	17.2	17.2	16.9	16.5	10.8	13.9	15.4	16.0	16.3	16.3	16.0	15.6
TGEL 6.5	24	16.6	21.3	23.7	24.7	25.0	24.9	24.4	23.6	16.0	20.5	22.6	23.5	23.7	23.6	23.1	22.4
TGEL 9	32	22.0	28.2	31.3	32.6	32.9	32.6	31.9	30.8	21.4	27.3	30.0	31.1	31.4	31.1	30.4	29.3
TGEL 13	45	29.4	38.1	43.0	45.4	46.5	46.8	46.4	45.5	28.9	37.4	41.8	43.9	44.9	45.2	44.8	43.9
TGEL 15	54	40.4	50.8	55.6	56.9	56.6	55.4	53.6	51.2	38.7	48.5	52.5	53.6	53.3	52.1	50.3	48.1
TGEL 19	68	51.9	64.9	70.6	71.9	71.3	69.4	66.8	63.6	49.7	61.9	66.7	67.7	67.0	65.2	62.7	59.7
TGEL 23	79	59.0	74.8	82.1	84.1	83.6	81.3	77.9	74.4	57.2	71.9	77.9	79.2	78.2	76.4	73.8	70.4
TGEL 31	110	87.3	108.0	116.4	117.5	115.4	111.6	106.6	100.8	83.7	103.0	109.8	110.4	108.3	104.5	99.8	94.3
TGEL 35	125	99.2	122.6	132.0	133.0	130.6	126.2	120.4	113.8	95.2	117.0	124.7	125.2	122.7	118.3	112.8	106.5
TGEL 46	161	118.5	150.5	166.0	170.7	170.4	166.7	160.6	152.6	114.2	144.0	156.7	160.1	158.9	154.5	147.9	139.7
		Evaporating temperature –5°C								**Evaporating temperature –10°C**							
TGEL 3.5	12	7.5	9.6	10.6	11.1	11.3	11.3	11.2	10.9	7.1	9.0	9.9	10.3	10.5	10.5	10.4	10.2
TGEL 4.5	16	10.3	13.2	14.5	15.1	15.3	15.2	15.0	14.6	9.7	12.4	13.5	14.0	14.2	14.2	13.9	13.6
TGEL 6.5	24	15.4	19.5	21.3	22.1	22.3	22.1	21.7	21.0	14.6	18.4	20.0	20.6	20.8	20.6	20.2	19.5
TGEL 9	32	20.6	26.2	28.5	29.4	29.6	29.3	28.6	27.6	19.7	24.8	26.8	27.6	27.7	27.3	26.6	25.7
TGEL 13	45	28.2	36.2	40.1	42.1	43.0	43.1	42.7	41.8	27.2	34.7	38.1	39.8	40.6	40.6	40.1	39.2
TGEL 15	54	36.8	45.8	49.1	50.0	49.6	48.5	46.8	44.7	34.6	42.7	45.4	46.2	45.7	44.6	43.0	41.1
TGEL 19	68	47.2	58.4	62.3	63.1	62.3	60.5	58.2	55.4	44.4	54.4	57.6	58.2	57.3	55.7	53.4	50.9
TGEL 23	79	54.8	68.2	72.9	74.1	73.5	71.6	69.0	65.9	52.0	64.1	68.1	69.0	68.2	66.4	63.9	60.9
TGEL 31	110	79.5	97.2	102.5	102.7	100.5	96.9	92.4	87.3	74.7	90.5	94.7	94.7	92.4	88.9	84.7	80.0
TGEL 35	125	90.6	110.7	116.5	116.7	114.0	109.7	104.5	98.7	85.4	103.3	107.8	107.6	104.9	100.8	95.9	90.5
TGEL 46	161	108.9	136.1	146.0	148.1	145.9	140.8	133.8	125.3	102.7	126.7	134.2	134.9	131.7	125.9	118.4	109.6
		Evaporating temperature –15°C								**Evaporating temperature –20°C**							
TGEL 3.5	12	6.7	8.4	9.1	9.5	9.7	9.7	9.6	9.3	6.2	7.7	8.4	8.7	8.8	8.8	8.7	8.5
TGEL 4.5	16	9.1	11.5	12.5	12.9	13.1	13.0	12.8	12.5	8.5	10.5	11.4	11.8	11.9	11.9	11.7	11.3
TGEL 6.5	24	13.7	17.1	18.5	19.1	19.2	19.0	18.5	17.9	12.8	15.7	16.9	17.4	17.5	17.3	16.9	16.3
TGEL 9	32	18.6	23.1	24.9	25.6	25.6	25.2	24.6	23.7	17.5	21.4	22.9	23.5	23.5	23.1	22.4	21.6
TGEL 13	45	26.0	32.7	35.8	37.3	37.9	37.8	37.3	36.4	24.6	30.5	33.2	34.5	34.9	34.7	34.1	33.2
TGEL 15	54	32.2	39.2	41.6	42.2	41.7	40.7	39.2	37.4	29.6	35.6	37.7	38.1	37.7	36.7	35.3	33.8
TGEL 19	68	41.3	50.0	52.7	53.1	52.2	50.7	48.6	46.2	38.0	45.4	47.7	47.9	47.1	45.7	43.8	41.6
TGEL 23	79	48.9	59.4	62.8	63.5	62.6	60.9	58.5	55.7	45.4	54.5	57.4	57.8	56.9	55.2	53.0	50.4
TGEL 31	110	69.6	83.1	86.6	86.3	84.1	80.9	76.9	72.6	64.1	75.6	78.4	78.0	75.9	72.8	69.2	63.5
TGEL 35	125	79.6	95.0	98.7	98.2	95.6	91.7	87.1	82.1	73.5	86.4	89.5	88.8	86.2	82.6	78.4	73.8
TGEL 46	161	95.8	116.0	121.5	120.9	116.8	110.6	105.3	99.5	88.3	104.7	108.3	106.7	103.9	99.8	94.9	89.5

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

Δt_{sub}	4 °K	10 °K	15 °K	20 °K	25 °K	30 °K	35 °K	40 °K	45 °K	50 °K
Correction factor	1.00	1.08	1.14	1.20	1.26	1.31	1.37	1.43	1.48	1.54

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Capacity (continued)

R410A

Capacity in kW for range N and K, opening superheat OS = 4 K

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		3	6	9	12	15	18	21	24	3	6	9	12	15	18	21	24
		Evaporating temperature–25°C								**Evaporating temperature –30°C**							
TGEL 3.5	12	5.7	7.0	7.6	7.9	8.0	8.0	7.9	7.7	5.2	6.3	6.8	7.1	7.2	7.1	7.0	6.9
TGEL 4.5	16	7.8	9.6	10.3	10.7	10.8	10.7	10.5	10.2	7.1	8.6	9.3	9.6	9.7	9.6	9.4	9.1
TGEL 6.5	24	11.8	14.3	15.4	15.8	15.9	15.6	15.2	14.7	10.8	12.9	13.9	14.2	14.2	14.0	13.6	13.1
TGEL 9	32	16.2	19.5	20.9	21.3	21.3	20.9	20.3	19.5	14.8	17.7	18.9	19.2	19.1	18.7	18.2	17.4
TGEL 13	45	23.0	28.2	30.5	31.5	31.8	31.5	30.8	29.8	21.2	25.6	27.6	28.4	28.5	28.1	27.3	26.3
TGEL 15	54	26.9	32.0	33.7	34.1	33.7	32.8	31.6	30.1	24.1	28.4	29.9	30.2	29.8	29.0	27.9	26.7
TGEL 19	68	34.6	40.7	42.7	42.9	42.1	40.7	39.0	37.1	31.0	36.2	37.8	37.9	37.2	36.0	34.5	32.8
TGEL 23	79	41.7	49.3	51.7	52.0	51.1	49.5	47.4	45.1	37.7	44.1	46.1	46.3	45.4	43.9	42.1	40.0
TGEL 31	110	58.5	67.9	70.3	69.7	67.7	64.9	61.7	58.2	52.6	60.5	62.4	61.8	60.0	57.4	54.5	51.4
TGEL 35	125	67.2	77.8	80.3	79.5	77.0	73.7	69.9	65.7	60.5	69.3	71.3	70.5	68.2	65.2	61.7	58.1
TGEL 46	161	80.4	93.1	96.4	95.7	93.0	89.1	84.6	79.8	72.3	83.2	85.8	85.0	82.4	78.9	74.8	70.4
		Evaporating temperature –35°C								**Evaporating temperature –40°C**							
TGEL 3.5	12	4.6	5.6	6.1	6.3	6.4	6.3	6.2	6.1	4.1	5.0	5.4	5.6	5.6	5.6	5.5	5.3
TGEL 4.5	16	6.4	7.7	8.3	8.5	8.6	8.5	8.3	8.1	5.7	6.8	7.3	7.5	7.6	7.5	7.3	7.1
TGEL 6.5	24	9.7	11.6	12.4	12.6	12.6	12.4	12.1	11.6	8.6	10.3	10.9	11.2	11.1	10.9	10.6	10.2
TGEL 9	32	13.4	15.9	16.9	17.1	17.0	16.7	16.1	15.4	12.0	14.1	14.9	15.2	15.0	14.7	14.2	13.5
TGEL 13	45	19.3	23.1	24.7	25.3	25.2	24.6	23.8	22.7	17.3	20.5	21.8	22.1	21.9	21.3	20.4	19.5
TGEL 15	54	21.2	24.9	26.2	26.5	26.1	25.4	24.5	23.4	18.5	21.6	22.8	23.0	22.7	22.1	21.3	20.4
TGEL 19	68	27.3	31.7	33.2	33.2	32.6	31.5	30.2	28.7	23.8	27.6	28.8	28.8	28.3	27.4	26.2	25.0
TGEL 23	79	33.5	38.9	40.7	40.7	39.9	38.6	36.9	35.1	29.3	34.0	35.5	35.5	34.8	33.6	32.2	30.5
TGEL 31	110	46.5	53.3	54.9	54.3	52.6	50.4	47.8	45.0	40.8	46.5	47.8	47.3	45.8	43.9	41.6	39.2
TGEL 35	125	53.6	61.2	62.8	61.9	59.8	57.1	54.1	50.9	47.0	53.4	54.8	54.0	52.1	49.7	47.1	44.2
TGEL 46	161	64.2	73.6	75.7	74.8	72.4	69.2	65.6	61.7	56.5	64.4	66.2	65.3	63.1	60.3	57.0	53.6

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 4 K. The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

Δt_{sub}	4 °K	10 °K	15 °K	20 °K	25 °K	30 °K	35 °K	40 °K	45 °K	50 °K
Correction factor	1.00	1.08	1.14	1.20	1.26	1.31	1.37	1.43	1.48	1.54

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Capacity

R22

Capacity in Tons for range N and K, opening superheat OS: 7.2°F

Type	Rated capacity [tons]	Pressure drop across the valve Δp psig								Pressure drop across the valve Δp psig							
		40	70	100	130	160	190	220	250	40	70	100	130	160	190	220	250
		Evaporating temperature +50°F								**Evaporating temperature +40°F**							
TGEX 3	3	2.2	2.7	3.1	3.2	3.3	3.4	3.4	3.4	2.1	2.6	2.9	3.0	3.1	3.2	3.2	3.2
TGEX 4	4	3.0	3.7	4.2	4.4	4.5	4.6	4.6	4.6	2.9	3.5	3.9	4.1	4.2	4.3	4.3	4.3
TGEX 6	6	4.5	5.5	6.1	6.4	6.5	6.6	6.6	6.6	4.3	5.2	5.7	6.0	6.1	6.2	6.2	6.1
TGEX 7.5	7.5	5.9	7.2	8.0	8.3	8.6	8.6	8.6	8.5	5.7	6.9	7.6	7.9	8.1	8.1	8.1	8.0
TGEX 11	11	7.8	9.7	10.8	11.5	12.0	12.2	12.4	12.4	7.6	9.4	10.4	11.1	11.5	11.7	11.8	11.9
TGEX 12	12	10.1	12.1	13.2	13.7	13.8	13.8	13.6	13.4	9.5	11.4	12.3	12.7	12.8	12.7	12.6	12.3
TGEX 15	15	12.9	15.5	16.8	17.3	17.4	17.3	17.0	16.6	12.1	14.5	15.6	16.0	16.1	16.0	15.7	15.3
TGEX 18	18	14.8	17.9	19.5	20.2	20.4	20.3	19.9	19.5	14.1	16.9	18.2	18.7	18.8	18.7	18.5	18.1
TGEX 26	26	22.8	27.0	28.9	29.5	29.4	28.9	28.2	27.3	21.5	25.4	26.9	27.3	27.1	26.6	25.9	25.1
TGEX 30	30	25.8	30.6	32.7	33.3	33.2	32.7	31.9	30.8	24.5	28.8	30.5	30.9	30.7	30.1	29.3	28.3
TGEX 38	38	31.1	37.7	41.4	43.0	43.6	43.5	42.8	41.8	29.6	35.6	38.5	39.8	40.1	39.7	38.8	37.6
		Evaporating temperature +30°F								**Evaporating temperature +20°F**							
TGEX 3	3	2.0	2.4	2.7	2.8	2.9	2.9	3.0	3.0	1.9	2.3	2.5	2.6	2.7	2.7	2.7	2.7
TGEX 4	4	2.7	3.3	3.6	3.8	3.9	4.0	4.0	4.0	2.6	3.1	3.3	3.5	3.6	3.6	3.6	3.6
TGEX 6	6	4.1	4.9	5.3	5.6	5.7	5.7	5.7	5.7	3.8	4.6	4.9	5.1	5.2	5.3	5.3	5.2
TGEX 7.5	7.5	5.4	6.6	7.1	7.4	7.5	7.6	7.5	7.4	5.1	6.1	6.6	6.6	6.8	7.0	6.9	6.8
TGEX 11	11	7.4	9.0	9.9	10.5	10.9	11.1	11.2	11.2	7.1	8.5	9.4	9.9	10.2	10.3	10.4	10.4
TGEX 12	12	8.9	10.6	11.3	11.6	11.7	11.6	11.5	11.2	8.2	9.7	10.3	10.6	10.6	10.5	10.4	10.1
TGEX 15	15	11.4	13.5	14.3	14.7	14.7	14.6	14.3	13.9	10.5	12.3	13.0	13.3	13.3	13.2	12.9	12.5
TGEX 18	18	13.3	15.8	16.8	17.3	17.4	17.3	17.0	16.6	12.4	14.6	15.5	15.8	15.9	15.7	15.4	15.1
TGEX 26	26	20.2	23.6	24.7	25.0	24.8	24.3	23.6	22.8	18.7	21.5	22.5	22.6	22.4	21.9	21.2	20.5
TGEX 30	30	23.0	26.8	28.1	28.4	28.1	27.5	26.7	25.7	21.3	24.5	25.5	25.7	25.4	24.8	24.0	23.1
TGEX 38	38	27.8	33.2	35.4	36.2	36.2	35.6	34.5	33.1	25.8	30.3	32.0	32.4	32.1	31.2	29.9	28.3
		Evaporating temperature +10°F								**Evaporating temperature +0°F**							
TGEX 3	3	1.7	2.1	2.2	2.4	2.4	2.5	2.5	2.4	1.6	1.9	2.0	2.1	2.2	2.2	2.2	2.2
TGEX 4	4	2.4	2.8	3.1	3.2	3.3	3.3	3.3	3.3	2.2	2.5	2.8	2.9	2.9	3.0	2.9	2.9
TGEX 6	6	3.5	4.2	4.5	4.7	4.8	4.8	4.8	4.7	3.3	3.8	4.1	4.2	4.3	4.3	4.3	4.2
TGEX 7.5	7.5	4.8	5.6	6.1	6.3	6.4	6.4	6.3	6.2	4.4	5.1	5.5	5.7	5.7	5.7	5.6	5.5
TGEX 11	11	6.7	8.0	8.7	9.1	9.4	9.5	9.5	9.5	6.2	7.4	8.0	8.3	8.5	8.6	8.6	8.5
TGEX 12	12	7.5	8.7	9.2	9.5	9.5	9.4	9.3	9.0	6.8	7.8	8.2	8.4	8.4	8.3	8.2	8.0
TGEX 15	15	9.6	11.1	11.7	11.9	11.9	11.8	11.5	11.2	8.7	9.9	10.4	10.6	10.5	10.4	10.2	9.9
TGEX 18	18	11.5	13.3	14.0	14.3	14.3	14.2	13.9	13.5	10.5	11.9	12.6	12.8	12.8	12.6	12.3	12.0
TGEX 26	26	17.1	19.4	20.2	20.3	20.0	19.5	18.9	18.2	15.4	17.3	17.9	17.9	17.7	17.2	16.6	16.0
TGEX 30	30	19.6	22.1	23.0	23.0	22.7	22.1	21.4	20.5	17.7	19.7	20.4	20.4	20.0	19.5	18.8	18.0
TGEX 38	38	23.7	27.2	28.4	28.4	27.8	26.7	25.8	24.9	21.3	24.0	24.7	24.5	24.2	23.5	22.8	21.9
		Evaporating temperature –10°F								**Evaporating temperature –20°F**							
TGEX 3	3	1.4	1.7	1.8	1.9	1.9	2.0	2.0	1.9	1.3	1.5	1.6	1.7	1.7	1.7	1.7	1.7
TGEX 4	4	1.9	2.3	2.5	2.6	2.6	2.6	2.6	2.6	1.7	2.0	2.2	2.2	2.3	2.3	2.3	2.3
TGEX 6	6	2.9	3.4	3.6	3.8	3.8	3.8	3.8	3.7	2.6	3.0	3.2	3.3	3.3	3.3	3.3	3.2
TGEX 7.5	7.5	4.0	4.6	4.9	5.1	5.1	5.1	5.0	4.9	3.6	4.1	4.4	4.5	4.5	4.5	4.4	4.3
TGEX 11	11	5.7	6.7	7.2	7.5	7.6	7.7	7.6	7.5	5.1	6.0	6.4	6.6	6.7	6.7	6.6	6.5
TGEX 12	12	6.0	6.8	7.2	7.4	7.4	7.3	7.2	7.0	5.2	5.9	6.3	6.4	6.4	6.3	6.2	6.1
TGEX 15	15	7.7	8.7	9.1	9.3	9.2	9.1	8.9	8.6	6.7	7.6	7.9	8.0	8.0	7.9	7.7	7.5
TGEX 18	18	9.3	10.6	11.1	11.3	11.2	11.1	10.8	10.5	8.2	9.3	9.7	9.8	9.8	9.6	9.4	9.1
TGEX 26	26	13.6	15.2	15.7	15.7	15.4	15.0	14.5	13.9	11.9	13.2	13.6	13.6	13.3	12.9	12.5	12.0
TGEX 30	30	15.7	17.4	17.9	17.9	17.5	17.0	16.4	15.7	13.7	15.1	15.5	15.4	15.1	14.6	14.1	13.5
TGEX 38	38	18.8	20.8	21.5	21.5	21.1	20.6	19.8	19.0	16.4	18.2	18.7	18.7	18.3	17.7	17.1	16.4
		Evaporating temperature –30°F								**Evaporating temperature–40°F**							
TGEX 3	3	1.1	1.3	1.4	1.4	1.5	1.5	1.5	1.5	0.9	1.1	1.2	1.2	1.3	1.3	1.3	1.2
TGEX 4	4	1.5	1.8	1.9	1.9	2.0	2.0	2.0	1.9	1.3	1.5	1.6	1.7	1.7	1.7	1.7	1.7
TGEX 6	6	2.3	2.6	2.8	2.9	2.9	2.9	2.8	2.8	2.0	2.3	2.4	2.5	2.5	2.5	2.4	2.4
TGEX 7.5	7.5	3.1	3.6	3.8	3.9	3.9	3.9	3.8	3.7	2.7	3.1	3.3	3.3	3.3	3.3	3.2	3.1
TGEX 11	11	4.6	5.2	5.6	5.7	5.8	5.7	5.6	5.4	4.0	4.5	4.8	4.9	4.8	4.7	4.6	4.5
TGEX 12	12	4.5	5.1	5.4	5.5	5.5	5.5	5.4	5.2	3.8	4.3	4.6	4.7	4.7	4.7	4.6	4.5
TGEX 15	15	5.8	6.5	6.8	6.9	6.9	6.8	6.6	6.4	4.9	5.5	5.8	5.9	5.9	5.8	5.6	5.5
TGEX 18	18	7.1	8.0	8.4	8.5	8.4	8.3	8.1	7.8	6.1	6.8	7.2	7.2	7.2	7.1	6.9	6.7
TGEX 26	26	10.2	11.3	11.6	11.6	11.4	11.0	10.6	10.2	8.7	9.6	9.8	9.8	9.6	9.3	9.0	8.6
TGEX 30	30	11.8	13.0	13.3	13.2	12.9	12.5	12.0	11.5	10.0	11.0	11.3	11.2	10.9	10.6	10.2	9.7
TGEX 38	38	14.2	15.6	16.0	16.0	15.6	15.1	14.6	13.9	12.1	13.3	13.6	13.5	13.6	12.8	12.3	11.8

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 7.2°F.
The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

Δt_{sub}	10 °F	20 °F	30 °F	40 °F	50 °F	60 °F	70 °F	80 °F	90 °F	100 °F
Correction factor	1.00	1.06	1.11	1.15	1.20	1.24	1.29	1.33	1.37	1.42

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Capacity (continued)

R134a

Capacity in Tons for range N and K, opening superheat OS: 7.2°F

Type	Rated capacity [tons]	Pressure drop across the valve Δp psig								Pressure drop across the valve Δp psig							
		40	60	80	100	120	140	160	180	40	60	80	100	120	140	160	180
		Evaporating temperature +50°F								**Evaporating temperature +40°F**							
TGEN 1.5	1.5	1.6	1.8	1.9	2.0	2.0	2.1	2.1	2.0	1.5	1.7	1.8	1.8	1.9	1.9	1.9	1.9
TGEN 2.5	2.5	2.2	2.5	2.6	2.7	2.8	2.8	2.8	2.8	2.0	2.3	2.4	2.5	2.5	2.5	2.5	2.5
TGEN 3.5	3.5	3.2	3.6	3.9	4.0	4.1	4.1	4.1	4.0	3.0	3.4	3.6	3.7	3.7	3.7	3.7	3.7
TGEN 4.5	4.5	4.3	4.9	5.2	5.4	5.4	5.4	5.4	5.4	4.1	4.6	4.8	4.9	5.0	5.0	5.0	4.9
TGEN 7	7	6.0	6.8	7.3	7.6	7.8	7.9	7.9	7.9	5.7	6.4	6.9	7.1	7.3	7.3	7.9	7.9
TGEN 8	8	8.0	9.0	9.4	9.6	9.6	9.6	9.4	9.2	7.5	8.2	8.6	8.7	8.8	8.7	8.5	8.4
TGEN 10	10	10.3	11.5	12.0	12.2	12.2	12.1	11.8	11.6	9.6	10.5	10.9	11.1	11.0	10.9	10.7	10.4
TGEN 12	12	12.0	13.4	14.0	14.3	14.3	14.2	14.0	13.7	11.2	12.4	12.9	13.1	13.1	13.0	12.8	12.5
TGEN 17	17	17.4	19.2	19.9	20.0	19.9	19.6	19.1	18.6	16.1	17.6	18.1	18.2	18.0	17.7	17.2	16.7
TGEN 20	20	19.9	21.9	22.6	22.8	22.6	22.2	21.6	21.0	18.4	20.1	20.6	20.7	20.5	20.1	19.5	18.9
TGEN 25	25	24.1	27.0	28.3	28.8	28.8	28.4	27.8	27.0	22.4	24.7	25.5	25.9	25.7	25.2	24.5	23.6
		Evaporating temperature +30°F								**Evaporating temperature +20°F**							
TGEN 1.5	1.5	1.4	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.2	1.4	1.4	1.5	1.5	1.5	1.5	1.5
TGEN 2.5	2.5	1.9	2.1	2.2	2.3	2.3	2.3	2.3	2.3	1.7	1.9	2.0	2.0	2.1	2.1	2.1	2.0
TGEN 3.5	3.5	2.8	3.1	3.3	3.3	3.4	3.4	3.4	3.3	2.5	2.8	2.9	3.0	3.0	3.0	3.0	3.0
TGEN 4.5	4.5	3.8	4.2	4.4	4.5	4.6	4.6	4.5	4.4	3.5	3.8	4.0	4.1	4.1	4.1	4.1	4.0
TGEN 7	7	5.4	6.0	6.3	6.6	6.7	6.7	6.7	6.6	5.0	5.5	5.8	6.0	6.1	6.1	6.0	6.0
TGEN 8	8	6.8	7.5	7.8	7.9	7.9	7.8	7.6	7.5	6.2	6.7	6.9	7.0	7.0	6.9	6.8	6.6
TGEN 10	10	8.8	9.5	9.8	10.0	9.9	9.8	9.6	9.3	7.9	8.5	8.8	8.9	8.8	8.7	8.5	8.2
TGEN 12	12	10.4	11.3	11.8	11.9	11.9	11.7	11.5	11.2	9.5	10.2	10.6	10.7	10.6	10.5	10.2	10.0
TGEN 17	17	14.8	15.9	16.3	16.4	16.1	15.8	15.4	14.8	13.3	14.2	14.6	14.5	14.3	14.0	13.6	13.1
TGEN 20	20	16.9	18.2	18.6	18.6	18.4	18.0	17.4	16.8	15.3	16.3	16.6	16.6	16.3	15.9	15.4	14.8
TGEN 25	25	20.5	22.2	22.9	23.0	22.6	22.0	21.1	20.3	18.4	19.7	20.1	20.0	19.6	19.2	18.6	17.9
		Evaporating temperature +10°F								**Evaporating temperature +0°F**							
TGEN 1.5	1.5	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.3	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.2
TGEN 2.5	2.5	1.5	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6
TGEN 3.5	3.5	2.3	2.5	2.6	2.7	2.7	2.7	2.7	2.6	2.1	2.3	2.4	2.4	2.4	2.4	2.4	2.3
TGEN 4.5	4.5	3.2	3.5	3.6	3.7	3.7	3.7	3.6	3.5	2.8	3.1	3.2	3.3	3.3	3.2	3.2	3.1
TGEN 7	7	4.5	5.0	5.2	5.4	5.4	5.4	5.4	5.3	4.1	4.5	4.7	4.8	4.8	4.8	4.7	4.6
TGEN 8	8	5.5	5.9	6.1	6.2	6.2	6.1	6.0	5.8	4.8	5.2	5.4	5.4	5.4	5.3	5.2	5.1
TGEN 10	10	7.0	7.5	7.8	7.8	7.8	7.6	7.4	7.2	6.2	6.6	6.8	6.8	6.8	6.6	6.5	6.3
TGEN 12	12	8.5	9.2	9.4	9.5	9.4	9.3	9.0	8.8	7.5	8.1	8.3	8.3	8.3	8.1	7.9	7.7
TGEN 17	17	11.9	12.6	12.9	12.8	12.6	12.3	11.9	11.4	10.5	11.1	11.3	11.4	11.0	10.7	10.3	9.9
TGEN 20	20	13.6	14.5	14.7	14.6	14.3	14.0	13.5	13.0	12.0	12.7	12.9	12.8	12.5	12.2	11.7	11.3
TGEN 25	25	16.3	17.3	17.6	17.6	17.3	16.8	16.3	15.7	14.4	15.3	15.5	15.4	15.1	14.7	14.2	13.6
		Evaporating temperature –10°F								**Evaporating temperature –20°F**							
TGEN 1.5	1.5	0.9	1.0	1.0	1.0	1.1	1.1	1.0	1.0	0.9	1.0	1.0	1.0	1.1	1.1	1.0	1.0
TGEN 2.5	2.5	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.4
TGEN 3.5	3.5	1.8	2.0	2.1	2.1	2.1	2.1	2.1	2.0	1.8	2.0	2.1	2.1	2.1	2.1	2.1	2.0
TGEN 4.5	4.5	2.5	2.7	2.8	2.9	2.9	2.8	2.8	2.7	2.5	2.7	2.8	2.9	2.9	2.8	2.8	2.7
TGEN 7	7	3.7	4.0	4.2	4.2	4.2	4.2	4.1	4.0	3.7	4.0	4.2	4.2	4.2	4.2	4.1	4.0
TGEN 8	8	4.2	4.5	4.7	4.7	4.7	4.6	4.5	4.4	4.2	4.5	4.7	4.7	4.7	4.6	4.5	4.4
TGEN 10	10	5.4	5.8	5.9	5.9	5.9	5.8	5.6	5.4	5.4	5.8	5.9	5.9	5.9	5.8	5.6	5.4
TGEN 12	12	6.6	7.1	7.3	7.3	7.2	7.1	6.9	6.6	6.6	7.1	7.3	7.3	7.2	7.1	6.9	6.6
TGEN 17	17	9.1	9.7	9.8	9.7	9.5	9.2	8.9	8.6	7.9	8.4	8.5	8.4	8.2	8.0	7.7	7.4
TGEN 20	20	10.6	11.1	11.2	11.1	10.8	10.5	10.1	9.7	9.1	9.6	9.7	9.6	9.4	9.1	8.7	8.3
TGEN 25	25	12.6	13.3	13.5	13.4	13.1	12.7	12.3	11.8	11.0	11.6	11.7	11.6	11.3	11.0	10.5	10.1
		Evaporating temperature –30°F								**Evaporating temperature–40°**							
TGEN 1.5	1.5	0.9	1.0	1.0	1.0	1.1	1.1	1.0	1.0	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
TGEN 2.5	2.5	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.4	0.8	0.9	0.9	1.0	1.0	1.0	0.9	0.9
TGEN 3.5	3.5	1.8	2.0	2.1	2.1	2.1	2.1	2.1	2.0	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3
TGEN 4.5	4.5	2.5	2.7	2.8	2.9	2.9	2.8	2.8	2.7	1.8	1.9	1.9	2.0	1.9	1.9	1.9	1.8
TGEN 7	7	3.7	4.0	4.2	4.2	4.2	4.2	4.1	4.0	2.6	2.7	2.8	2.8	2.8	2.8	2.7	2.6
TGEN 8	8	4.2	4.5	4.7	4.7	4.7	4.6	4.5	4.4	2.7	2.9	3.0	3.0	3.0	3.0	2.9	2.8
TGEN 10	10	5.4	5.8	5.9	5.9	5.9	5.8	5.6	5.4	3.5	3.7	3.8	3.8	3.8	3.7	3.6	3.5
TGEN 12	12	6.6	7.1	7.3	7.3	7.2	7.1	6.9	6.6	4.4	4.6	4.7	4.7	4.7	4.5	4.4	4.3
TGEN 17	17	6.9	7.2	7.3	7.2	7.1	6.9	6.6	6.3	6.0	6.3	6.3	6.3	6.1	5.9	5.7	5.5
TGEN 20	20	7.9	8.3	8.4	8.3	8.1	7.8	7.5	7.2	6.9	7.2	7.2	7.1	6.9	6.7	6.4	6.2
TGEN 25	25	9.6	10.1	10.1	10.0	9.7	9.4	9.0	8.6	8.3	8.7	8.8	8.6	8.4	8.1	7.8	7.4

Correction for subcooling Δt_{sub}
The evaporator capacity used must be corrected if the subcooling deviates from 7.2°F.
The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

Δt_{sub}	10 °F	20 °F	30 °F	40 °F	50 °F	60 °F	70 °F	80 °F	90 °F	100 °F
Correction factor	1.00	1.08	1.13	1.18	1.23	1.29	1.34	1.39	1.44	1.49

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Capacity (continued)

R404A/ R507

Capacity in Tons for range N and K, opening superheat OS: 7.2°F

Type	Rated capacity [tons]	Pressure drop across the valve Δp psig								Pressure drop across the valve Δp psig							
		50	90	130	170	210	250	290	330	50	90	130	170	210	190	250	330
		Evaporating temperature +50°F								**Evaporating temperature +40°F**							
TGES 2	2	1.7	2.0	2.2	2.2	2.1	2.0	1.9	1.8	1.6	1.9	2.0	2.1	2.0	1.9	1.8	1.7
TGES 2.5	2.5	2.3	2.8	2.9	2.9	2.9	2.7	2.6	2.4	2.2	2,6	2.8	2.8	2.7	2.6	2.4	2.2
TGES 4	4	3.4	4.0	4.3	4.3	4.2	4.0	3.7	3.4	3.3	3.9	4.1	4.1	4.0	3.8	3.5	3.2
TGES 5	5	4.6	5.4	5.7	5.7	5.5	5.2	4.9	4.4	4.5	5.2	5.5	5.4	5.2	5.0	4.6	4.2
TGES 7.5	7.5	6.2	7.4	7.9	8.0	7.9	7.6	7.2	6.7	6.1	7.3	7.7	7.8	7.6	7.4	6.9	6.4
TGES 9	9	8.2	9.6	9.9	9.7	9.3	8.7	8.0	7.2	7.9	9.1	9.3	9.1	8.7	8.2	7.5	6.8
TGES 11	11	10.6	12.2	12.6	12.3	11.7	10.9	10.0	9.0	10.1	11.6	11.8	11.5	11.0	10.2	9.3	8.4
TGES 13	13	12.1	14.1	14.7	14.4	13.7	12.8	11.7	10.5	11.7	13.5	13.8	13.5	12.8	12.0	11.0	9.9
TGES 18	18	17.9	20.4	20.8	20.1	19.0	17.5	15.9	14.2	17.1	19.4	19.5	18.9	17.7	16.4	14.9	13.3
TGES 21	21	20.3	23.1	23.6	22.8	21.4	19.8	18.0	16.0	19.5	22.0	22.2	21.4	20.1	18.5	16.8	15.0
TGES 26	26	24.5	28.7	29.9	29.5	28.2	26.4	24.1	21.6	23.5	27.3	28.1	27.5	26.2	24.3	22.1	19.7
		Evaporating temperature +30°F								**Evaporating temperature +20°F**							
TGES 2	2	1.6	1.8	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.7	1.8	1.8	1.7	1.7	1.6	1.4
TGES 2.5	2.5	2.1	2.5	2.6	2.6	2.5	2.4	2.3	2.1	2.0	2.3	2.4	2.4	2.3	2.2	2.1	1.9
TGES 4	4	3.2	3.7	3.9	3.8	3.7	3.5	3.3	3.0	3.0	3.5	3.6	3.5	3.4	3.2	3.0	2.8
TGES 5	5	4.3	5.0	5.2	5.1	4.9	4.7	4.3	4.0	4.1	4.7	4.8	4.8	4.6	4.3	4.0	3.7
TGES 7.5	7.5	5.9	7.0	7.4	7.4	7.3	7.0	6.6	6.1	5.7	6.7	7.0	7.0	6.8	6.5	6.1	5.7
TGES 9	9	7.5	8.5	8.7	8.5	8.1	7.6	6.9	6.3	7.0	7.9	8.0	7.8	7.4	6.9	6.3	5.7
TGES 11	11	9.6	10.9	11.0	10.7	10.1	9.4	8.6	7.8	9.0	10.0	10.1	9.8	9.3	8.6	7.9	7.1
TGES 13	13	11.2	12.7	12.9	12.6	12.0	11.2	10.3	9.3	10.5	11.8	12.0	11.6	11.0	10.3	9.4	8.5
TGES 18	18	16.2	18.1	18.1	17.4	16.4	15.1	13.7	12.2	15.2	16.7	16.6	15.9	14.9	13.7	12.4	11.1
TGES 21	21	18.5	20.6	20.6	19.8	18.5	17.1	15.5	13.8	17.3	19.1	18.9	18.1	16.9	15.5	14.0	12.5
TGES 26	26	22.4	25.6	26.0	25.2	23.8	21.9	19.8	17.5	21.0	23.6	23.7	22.8	21.2	19.3	17.2	15.2
		Evaporating temperature +10°F								**Evaporating temperature +0°F**							
TGES 2	2	1.4	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.3	1.4	1.5	1.5	1.4	1.4	1.3	1.2
TGES 2.5	2.5	1.9	2.1	2.2	2.2	2.1	2.0	1.9	1.7	1.7	1.9	2.0	2.0	1.9	1.8	1.7	1.6
TGES 4	4	2.8	3.2	3.3	3.2	3.1	3.0	2.7	2.5	2.6	2.9	3.0	2.9	2.8	2.7	2.5	2.2
TGES 5	5	3.8	4.3	4.4	4.4	4.2	3.9	3.7	3.3	3.6	4.0	4.1	4.0	3.8	3.6	3.3	3.0
TGES 7.5	7.5	5.5	6.3	6.5	6.5	6.3	6.0	5.6	5.2	5.1	5.8	6.0	5.9	5.7	5.4	5.1	4.6
TGES 9	9	6.5	7.2	7.3	7.0	6.7	6.2	5.7	5.2	5.9	6.5	6.5	6.3	6.0	5.5	5.1	4.6
TGES 11	11	8.3	9.1	9.2	8.9	8.3	7.7	7.1	6.4	7.6	8.2	8.2	7.9	7.4	6.9	6.3	5.6
TGES 13	13	9.9	10.9	11.0	10.6	10.0	9.3	8.5	7.7	9.1	9.9	9.9	9.6	9.0	8.3	7.6	6.8
TGES 18	18	14.0	15.2	15.1	14.4	13.4	12.3	11.1	9.9	12.8	13.7	13.5	12.8	11.9	10.9	9.9	8.8
TGES 21	21	16.0	17.4	17.2	16.4	15.2	13.9	12.6	11.2	14.7	15.7	15.4	14.6	13.6	12.4	11.2	9.9
TGES 26	26	19.4	21.3	21.2	20.1	18.5	16.8	15.2	13.6	17.7	19.0	18.6	17.6	16.4	15.0	13.5	12.0
		Evaporating temperature –10°F								**Evaporating temperature –20°F**							
TGES 2	2	1.1	1.3	1.3	1.3	1.3	1.2	1.1	1.0	1.0	1.1	1.2	1.2	1.1	1.1	1.0	0.9
TGES 2.5	2.5	1.6	1.8	1.8	1.8	1.7	1.6	1.5	1.4	1.4	1.6	1.6	1.6	1.5	1.4	1.3	1.2
TGES 4	4	2.4	2.6	2.7	2.6	2.5	2.4	2.2	2.0	2.1	2.3	2.4	2.3	2.2	2.1	1.9	1.7
TGES 5	5	3.3	3.6	3.6	3.6	3.4	3.2	2.9	2.6	2.9	3.2	3.3	3.2	3.0	2.8	2.6	2.3
TGES 7.5	7.5	4.7	5.3	5.4	5.3	5.1	4.8	4.5	4.1	4.3	4.8	4.8	4.7	4.5	4.2	3.9	3.6
TGES 9	9	5.3	5.8	5.8	5.6	5.3	4.9	4.5	4.0	4.7	5.1	5.1	4.9	4.6	4.3	3.9	3.5
TGES 11	11	6.8	7.3	7.3	7.0	6.6	6.1	5.5	4.9	6.0	6.5	6.4	6.1	5.7	5.3	4.8	4.3
TGES 13	13	8.2	8.9	8.9	8.5	8.0	7.4	6.7	6.0	7.3	7.9	7.8	7.5	7.0	6.4	5.8	5.2
TGES 18	18	11.5	12.2	12.0	11.3	10.5	9.6	8.6	7.7	10.1	10.7	10.5	9.9	9.1	8.3	7.5	6.6
TGES 21	21	13.1	14.0	13.7	12.9	11.9	10.9	9.8	8.7	11.7	12.3	12.0	11.3	10.4	9.4	8.5	7.5
TGES 26	26	15.8	16.7	16.4	15.6	14.4	13.2	11.8	10.5	13.9	14.8	14.4	13.6	12.6	11.4	10.3	9.1
		Evaporating temperature –30°F								**Evaporating temperature–40°F**							
TGES 2	2	0.9	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.7
TGES 2.5	2.5	1.2	1.4	1.4	1.4	1.3	1.2	1.1	1.0	1.1	1.2	1.2	1.2	1.1	1.1	1.0	0.9
TGES 4	4	1.9	2.1	2.1	2.0	1.9	1.8	1.7	1.5	1.7	1.8	1.8	1.8	1.7	1.6	1.4	1.3
TGES 5	5	2.6	2.9	2.9	2.8	2.6	2.4	2.2	2.0	2.3	2.5	2.5	2.4	2.3	2.1	1.9	1.7
TGES 7.5	7.5	3.8	4.2	4.3	4.1	3.9	3.6	3.3	2.9	3.4	3.7	3.7	3.5	3.3	3.0	2.8	2.5
TGES 9	9	4.1	4.4	4.4	4.2	4.0	3.7	3.4	3.0	3.5	3.8	3.8	3.6	3.4	3.2	2.9	2.6
TGES 11	11	5.2	5.6	5.6	5.3	5.0	4.6	4.1	3.7	4.5	4.8	4.8	4.6	4.3	3.9	3.5	3.1
TGES 13	13	12.2	6.9	6.8	6.5	6.1	5.6	5.0	4.5	5.6	6.0	5.9	5.6	5.2	4.8	4.3	3.8
TGES 18	18	8.9	9.3	9.1	8.6	7.9	7.2	6.4	5.7	7.7	8.1	7.8	7.3	6.8	6.1	5.5	4.8
TGES 21	21	10.2	10.7	10.4	9.7	9.0	8.1	7.3	6.4	8.9	9.2	8.9	8.4	7.7	6.9	6.2	5.4
TGES 26	26	12.3	12.9	12.5	11.8	10.9	9.8	8.8	7.7	10.7	11.1	10.8	10.1	9.3	8.4	7.5	6.6

Correction for subcooling Δt_{sub}

The evaporator capacity used must be corrected if the subcooling deviates from 7.2°F.

The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Δt_{sub}	10 °F	20 °F	30 °F	40 °F	50 °F	60 °F	70 °F	80 °F	90 °F	100 °F
Correction factor	1.00	1.09	1.16	1.23	1.30	1.37	1.44	1.51	1.58	1.65

Note: Flash gas can form if subcooling is too low.

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Capacity (continued)

R407C

Capacity in Tons for range N and K, opening superheat OS: 7.2°F

Type	Rated capacity [tons]	Pressure drop across the valve Δp psig								Pressure drop across the valve Δp psig							
		40	70	100	130	160	190	220	250	40	70	100	130	160	190	220	250
		Evaporating temperature +50°F								**Evaporating temperature +40°F**							
TGEZ 2.5	2.5	1.8	2.2	2.4	2.5	2.6	2.6	2.6	2.6	1.7	2.1	2.3	2.4	2.4	2.4	2.4	2.4
TGEZ 3.5	3.5	2.5	3.0	3.3	3.4	3.5	3.5	3.5	3.5	2.3	2.8	3.1	3.2	3.3	3.3	3.3	3.2
TGEZ 5	5	3.7	4.5	4.9	5.1	5.2	5.2	5.1	5.1	3.5	4.2	4.6	4.8	4.8	4.8	4.8	4.7
TGEZ 7	7	5.0	6.0	6.6	6.8	6.9	6.9	6.8	6.7	4.7	5.7	6.2	6.4	6.5	6.5	6.4	6.3
TGEZ 10	10	6.8	8.3	9.2	9.6	9.9	10.0	10.0	9.9	6.6	8.0	8.7	9.2	9.4	9.4	9.4	9.3
TGEZ 12	12	10.3	12.3	13.2	13.5	13.5	13.4	13.0	12.6	9.7	11.5	12.3	12.5	12.5	12.3	12.0	11.6
TGEZ 15	15	13.2	15.7	16.8	17.1	17.0	16.8	16.3	15.7	12.5	14.7	15.6	15.8	15.7	15.4	15.0	14.4
TGEZ 18	18	15.2	18.2	19.6	20.0	20.0	19.6	19.1	18.4	14.5	17.2	18.2	18.5	18.4	18.1	17.7	17.1
TGEZ 24	24	21.6	25.4	26.9	27.2	26.9	26.3	25.4	24.4	20.4	23.8	24.9	25.1	24.7	24.1	23.2	22.2
TGEZ 27	27	24.6	28.8	30.6	30.9	30.6	29.7	28.7	27.5	23.2	27.1	28.3	28.5	28.1	27.3	26.3	25.2
TGEZ 34	34	29.6	35.5	38.3	39.3	39.3	37.7	41.6	36.3	28.0	33.3	35.4	36.1	35.9	35.1	33.8	32.3
		Evaporating temperature +30°F								**Evaporating temperature +20°F**							
TGEZ 2.5	2.5	1.6	1.9	2.1	2.2	2.2	2.2	2.2	2.2	1.5	1.8	1.9	2.0	2.0	2.1	2.0	2.0
TGEZ 3.5	3.5	2.2	2.6	2.9	3.0	3.0	3.0	3.0	3.0	2.1	2.5	2.6	2.7	2.8	2.8	2.8	2.7
TGEZ 5	5	3.3	4.0	4.3	4.4	4.5	4.5	4.4	4.3	3.1	3.7	3.9	4.1	4.1	4.1	4.1	4.0
TGEZ 7	7	4.5	5.4	5.8	6.0	6.0	6.0	5.9	5.8	4.3	5.0	5.4	5.5	5.6	5.5	5.5	5.3
TGEZ 10	10	6.3	7.6	8.3	8.6	8.8	8.8	8.8	8.7	6.0	7.1	7.7	8.0	8.2	8.2	8.1	8.0
TGEZ 12	12	9.1	10.7	11.3	11.5	11.4	11.2	10.9	10.5	8.4	9.7	10.2	10.4	10.3	10.1	9.8	9.5
TGEZ 15	15	11.7	13.6	14.3	14.5	14.3	14.0	13.6	13.1	10.8	12.4	13.0	13.1	13.0	12.7	12.2	11.8
TGEZ 18	18	13.7	16.0	16.8	17.1	17.0	16.7	16.2	15.6	12.8	14.7	15.4	15.6	15.5	15.1	14.7	14.1
TGEZ 24	24	19.0	21.9	22.8	22.9	22.5	21.9	21.1	20.1	17.6	20.0	20.7	20.7	20.3	19.7	18.9	18.0
TGEZ 27	27	21.7	25.0	26.0	26.0	25.6	24.8	23.9	22.8	20.1	22.8	23.6	23.6	23.1	22.3	21.4	20.4
TGEZ 34	34	26.2	30.7	32.3	32.6	32.2	31.1	29.8	28.2	24.3	27.9	29.0	29.0	28.3	27.2	25.9	24.7
		Evaporating temperature +10°F								**Evaporating temperature +0°F**							
TGEZ 2.5	2.5	1.4	1.6	1.8	1.9	1.9	1.9	1.9	1.8	1.3	1.5	1.6	1.7	1.7	1.7	1.7	1.7
TGEZ 3.5	3.5	1.9	2.3	2.4	2.5	2.5	2.5	2.5	2.5	1.8	2.1	2.2	2.3	2.3	2.3	2.3	2.3
TGEZ 5	5	2.9	3.4	3.6	3.7	3.8	3.8	3.7	3.6	2.7	3.1	3.3	3.4	3.4	3.4	3.4	3.3
TGEZ 7	7	4.0	4.6	5.0	5.1	5.1	5.1	5.0	4.9	3.7	4.3	4.5	4.7	4.7	4.6	4.5	4.4
TGEZ 10	10	5.7	6.7	7.2	7.4	7.5	7.5	7.4	7.3	5.3	6.2	6.6	6.8	6.9	6.9	6.8	6.6
TGEZ 12	12	7.7	8.8	9.2	9.3	9.2	9.0	8.8	8.5	6.9	7.8	8.2	8.3	8.2	8.0	7.8	7.5
TGEZ 15	15	9.9	11.2	11.7	11.7	11.6	11.3	10.9	10.5	8.9	10.0	10.4	10.4	10.3	10.0	9.6	9.2
TGEZ 18	18	11.8	13.4	14.0	14.1	14.0	13.6	13.2	12.7	10.7	12.1	12.6	12.6	12.4	12.1	11.7	11.2
TGEZ 24	24	16.1	18.0	18.6	18.5	18.1	17.5	16.8	16.0	14.5	16.1	16.5	16.4	16.1	15.5	14.8	14.1
TGEZ 27	27	18.4	20.6	21.2	21.1	20.6	19.9	19.1	18.1	16.6	18.4	18.9	18.8	18.3	17.6	16.8	16.0
TGEZ 34	34	22.2	25.0	25.7	25.4	24.8	24.0	23.0	22.0	19.9	22.0	22.7	22.6	22.0	21.3	20.4	19.4
		Evaporating temperature –10°F								**Evaporating temperature –20°F**							
TGEZ 2.5	2.5	1.2	1.4	1.5	1.5	1.6	1.6	1.5	1.5	1.1	1.3	1.3	1.4	1.4	1.4	1.4	1.4
TGEZ 3.5	3.5	1.6	1.9	2.0	2.1	2.1	2.1	2.1	2.0	1.5	1.7	1.8	1.9	1.9	1.9	1.9	1.8
TGEZ 5	5	2.5	2.9	3.0	3.1	3.1	3.1	3.1	3.0	2.3	2.6	2.8	2.8	2.8	2.8	2.8	2.7
TGEZ 7	7	3.4	3.9	4.2	4.3	4.3	4.2	4.1	4.0	3.2	3.6	3.8	3.9	3.9	3.8	3.7	3.6
TGEZ 10	10	4.9	5.7	6.1	6.2	6.3	6.2	6.1	6.0	4.5	5.2	5.5	5.7	5.7	5.6	5.5	5.3
TGEZ 12	12	6.2	6.9	7.2	7.3	7.2	7.1	6.8	6.6	5.4	6.1	6.3	6.4	6.3	6.2	6.0	5.7
TGEZ 15	15	7.9	8.8	9.2	9.2	9.0	8.8	8.5	8.1	7.0	7.8	8.0	8.0	7.9	7.7	7.4	7.1
TGEZ 18	18	9.6	10.8	11.2	11.2	11.0	10.7	10.3	9.9	8.5	9.5	9.8	9.8	9.6	9.4	9.0	8.6
TGEZ 24	24	12.9	14.2	14.6	14.5	14.1	13.6	13.0	12.4	11.4	12.5	12.8	12.7	12.3	11.9	11.3	10.8
TGEZ 27	27	14.8	16.3	16.7	16.5	16.1	15.5	14.7	14.0	13.1	14.4	14.6	14.5	14.0	13.5	12.9	12.2
TGEZ 34	34	17.7	19.6	20.1	19.9	19.4	18.7	17.9	17.0	15.7	17.3	17.7	17.5	17.0	16.3	15.6	14.8
		Evaporating temperature –30°F								**Evaporating temperature–40°F**							
TGEZ 2.5	2.5	1.0	1.1	1.2	1.3	1.3	1.3	1.3	1.2	0.9	1.1	1.1	1.2	1.2	1.2	1.1	1.1
TGEZ 3.5	3.5	1.4	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.3	1.4	1.5	1.6	1.6	1.6	1.5	1.5
TGEZ 5	5	2.1	2.4	2.5	2.6	2.6	2.6	2.5	2.4	1.9	2.2	2.3	2.4	2.4	2.3	2.3	2.2
TGEZ 7	7	2.9	3.3	3.5	3.5	3.5	3.5	3.4	3.3	2.7	3.0	3.2	3.2	3.2	3.2	3.1	3.0
TGEZ 10	10	4.2	4.8	5.0	5.2	5.1	5.1	4.9	4.8	3.9	4.4	4.6	4.7	4.7	4.6	4.4	4.3
TGEZ 12	12	4.7	5.3	5.5	5.6	5.5	5.4	5.2	5.0	4.1	4.6	4.8	4.8	4.8	4.6	4.5	4.3
TGEZ 15	15	6.1	6.8	7.0	7.0	6.9	6.7	6.4	6.1	5.3	5.9	6.1	6.1	5.9	5.8	5.5	5.3
TGEZ 18	18	7.5	8.3	8.6	8.6	8.4	8.2	7.8	7.5	6.6	7.3	7.5	7.5	7.3	7.1	6.8	6.5
TGEZ 24	24	10.0	11.0	11.2	11.1	10.8	10.3	9.9	9.4	8.7	9.6	9.8	9.6	9.4	9.0	8.6	8.1
TGEZ 27	27	11.5	12.6	12.8	12.6	12.3	11.7	11.2	10.6	10.1	11.0	11.2	11.0	10.7	10.2	9.7	9.2
TGEZ 34	34	13.8	15.2	15.4	15.3	14.8	14.2	13.5	12.8	12.1	13.3	13.5	13.3	12.9	12.3	11.7	11.1

Correction for subcooling Δt_{sub}

The evaporator capacity used must be corrected if the subcooling deviates from 7.2°F.

The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

Δt_{sub}	10 °F	20 °F	30 °F	40 °F	50 °F	60 °F	70 °F	80 °F	90 °F	100 °F
Correction factor	1.00	1.08	1.13	1.18	1.24	1.29	1.34	1.39	1.45	1.50

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Capacity (continued)

R410A

Capacity in Tons for range N and K, opening superheat OS: 7.2°F

Type	Rated capacity [tons]	Pressure drop across the valve Δp psig								Pressure drop across the valve Δp psig							
		50	100	150	200	250	300	350	400	50	100	150	200	250	300	350	400
		Evaporating temperature +50°F								**Evaporating temperature +40°F**							
TGEL 3.5	3.5	2.5	3.3	3.6	3.8	3.8	3.8	3.7	3.5	2.5	3.1	3.5	3.6	3.6	3.6	3.5	3.3
TGEL 4.5	4.5	3.5	4.4	4.9	5.1	5.1	5.0	4.9	4.7	3.4	4.3	4.7	4.8	4.9	4.8	4.7	4.5
TGEL 6.5	6.5	5.1	6.5	7.2	7.4	7.4	7.3	7.0	6.6	5.0	6.3	6.9	7.1	7.1	6.9	6.7	6.3
TGEL 9	9	6.8	8.6	9.4	9.7	9.7	9.5	9.1	8.6	6.6	8.3	9.1	9.3	9.3	9.1	8.7	8.3
TGEL 13	13	8.9	11.5	12.9	13.4	13.6	13.5	13.2	12.7	8.8	11.3	12.6	13.1	13.3	12.9	12.9	12.4
TGEL 15	15	12.5	15.6	16.8	17.0	16.7	16.1	15.3	14.3	12.0	14.9	16.0	16.1	15.8	15.2	14.4	13.5
TGEL 19	19	16.1	19.8	21.3	21.5	21.0	20.1	19.0	17.7	15.5	19.0	20.2	20.3	19.8	19.0	17.9	16.7
TGEL 23	23	18.1	22.7	24.8	25.1	24.7	23.7	22.3	20.6	17.6	22.0	23.6	23.8	23.2	22.1	21.0	19.7
TGEL 31	31	27.0	33.0	35.1	34.9	33.9	32.2	30.2	27.9	26.0	31.5	33.2	32.9	31.8	30.3	28.4	26.3
TGEL 35	35	30.6	37.3	39.7	39.5	38.2	36.4	34.1	31.5	29.5	35.8	37.6	37.3	36.0	34.2	32.1	29.7
TGEL 46	46	36.6	46.1	50.4	51.3	50.7	48.9	46.4	43.2	35.4	44.3	47.7	48.3	47.4	45.5	42.9	39.8
		Evaporating temperature +30°F								**Evaporating temperature +20°F**							
TGEL 3.5	3.5	2.3	3.0	3.3	3.4	3.4	3.3	3.1		2.2	2.8	3.0	3.1	3.2	3.1	3.0	2.9
TGEL 4.5	4.5	3.2	4.1	4.4	4.6	4.6	4.5	4.4	4.2	3.0	3.8	4.1	4.2	4.2	4.2	4.1	3.9
TGEL 6.5	6.5	4.8	6.0	6.5	6.7	6.6	6.5	6.3	6.0	4.5	5.6	6.1	6.2	6.2	6.0	5.8	5.6
TGEL 9	9	6.4	8.0	8.6	8.8	8.8	8.6	8.2	7.8	6.1	7.6	8.1	8.2	8.2	8.0	7.7	7.3
TGEL 13	13	8.6	11.0	12.1	12.6	12.7	12.6	12.3	11.9	8.4	10.6	11.5	11.9	12.0	11.9	11.6	11.2
TGEL 15	15	11.5	14.1	14.9	15.0	14.7	14.2	13.4	12.6	10.8	13.1	13.8	13.8	13.5	13.0	12.4	11.6
TGEL 19	19	14.7	18.0	18.9	18.9	18.4	17.6	16.7	15.6	14.7	18.0	18.9	18.9	18.4	16.2	15.3	14.3
TGEL 23	23	17.0	20.9	22.1	22.1	21.6	20.8	19.7	18.5	16.1	19.6	20.5	20.5	20.0	19.2	18.2	17.1
TGEL 31	31	24.7	29.8	31.0	30.6	29.6	28.1	26.3	24.4	23.2	27.7	28.6	28.2	27.1	25.7	24.1	22.3
TGEL 35	35	28.1	33.9	35.2	34.7	33.5	31.7	29.7	27.5	26.5	31.5	32.5	32.0	30.7	29.1	27.2	25.2
TGEL 46	46	33.9	42.0	44.5	44.7	43.5	41.4	38.8	35.6	32.0	39.0	40.8	40.6	39.1	36.9	34.1	30.9
		Evaporating temperature +10°F								**Evaporating temperature +0°F**							
TGEL 3.5	3.5	2.1	2.6	2.8	2.9	2.9	2.9	2.8	2.7	1.9	2.3	2.5	2.6	2.6	2.6	2.5	2.4
TGEL 4.5	4.5	2.8	3.5	3.8	3.9	3.9	3.8	3.7	3.6	2.6	3.2	3.4	3.5	3.5	3.5	3.4	3.2
TGEL 6.5	6.5	4.3	5.2	5.6	5.7	5.7	5.5	5.3	5.1	4.0	4.8	5.1	5.2	5.2	5.0	4.8	4.6
TGEL 9	9	5.8	7.0	7.5	7.6	7.5	7.3	7.1	6.7	5.4	6.5	6.9	7.0	6.9	6.7	6.4	6.1
TGEL 13	13	8.0	10.0	10.8	11.2	11.2	11.1	10.8	10.4	7.6	9.3	10.0	10.3	10.3	10.1	9.8	9.4
TGEL 15	15	10.0	12.0	12.6	12.6	12.3	11.8	11.2	10.5	9.2	10.8	11.3	11.3	11.0	10.6	10.0	9.4
TGEL 19	19	12.8	15.3	15.9	15.8	15.3	14.7	13.9	12.9	11.8	13.8	14.3	14.2	13.7	13.1	12.4	11.6
TGEL 23	23	15.1	18.1	18.9	18.8	18.3	17.6	16.6	15.6	14.0	16.5	17.1	17.1	16.6	15.8	15.0	14.0
TGEL 31	31	21.6	25.3	26.0	25.6	24.5	23.2	21.8	20.2	19.8	22.9	23.4	22.9	22.0	20.8	19.4	18.0
TGEL 35	35	24.7	28.9	29.6	29.0	27.8	26.3	24.6	22.8	22.7	26.1	26.6	26.1	24.9	23.5	22.0	20.3
TGEL 46	46	28.8	35.5	36.8	36.1	34.4	31.9	29.8	27.6	27.3	31.8	32.5	31.4	30.1	28.5	26.6	24.7
		Evaporating temperature –10°F								**Evaporating temperature –20°F**							
TGEL 3.5	3.5	1.8	2.1	2.3	2.3	2.4	2.3	2.3	2.2	1.6	1.9	2.0	2.1	2.1	2.1	2.0	1.9
TGEL 4.5	4.5	2.4	2.9	3.1	3.2	3.2	3.1	3.0	2.9	2.2	2.6	2.8	2.8	2.8	2.8	2.7	2.5
TGEL 6.5	6.5	3.6	4.3	4.6	4.7	4.6	4.5	4.3	4.1	3.3	3.9	4.1	4.2	4.1	4.0	3.8	3.6
TGEL 9	9	5.0	5.9	6.2	6.3	6.2	6.0	5.7	5.4	4.5	5.3	5.6	5.6	5.5	5.3	5.1	4.8
TGEL 13	13	7.1	8.5	9.1	9.3	9.3	9.1	8.8	8.4	6.4	7.7	8.2	8.3	8.2	8.0	7.7	7.3
TGEL 15	15	8.3	9.7	10.1	10.0	9.8	9.4	8.9	8.4	7.3	8.5	8.8	8.8	8.5	8.2	7.8	7.3
TGEL 19	19	10.6	12.3	12.7	12.6	12.2	11.6	11.0	10.2	9.4	10.8	11.1	11.0	10.6	10.1	9.6	8.9
TGEL 23	23	12.8	14.8	15.4	15.2	14.8	14.1	13.3	12.4	11.4	13.1	13.5	13.4	13.0	12.4	11.7	10.9
TGEL 31	31	17.9	20.4	20.8	20.3	19.4	18.4	17.2	15.9	15.9	18.0	18.2	17.8	17.0	16.0	15.0	13.9
TGEL 35	35	20.6	23.3	23.7	23.1	22.1	20.8	19.4	18.0	18.3	20.6	20.8	20.2	19.3	18.2	16.9	15.7
TGEL 46	46	24.7	28.0	28.5	27.8	26.7	25.2	23.5	21.8	21.8	24.7	25.1	24.5	23.4	22.0	20.6	19.0
		Evaporating temperature –30°F								**Evaporating temperature–40°F**							
TGEL 3.5	3.5	1.4	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.2	1.5	1.6	1.6	1.6	1.6	1.5	1.5
TGEL 4.5	4.5	1.9	2.3	2.4	2.5	2.5	2.4	2.3	2.2	1.7	2.0	2.1	2.2	2.1	2.1	2.0	1.9
TGEL 6.5	6.5	2.9	3.4	3.6	3.6	3.6	3.5	3.3	3.2	2.6	3.0	3.2	3.2	3.1	3.0	2.9	2.7
TGEL 9	9	4.0	4.7	4.9	4.9	4.8	4.7	4.4	4.2	3.5	4.1	4.3	4.3	4.2	4.0	3.8	3.6
TGEL 13	13	5.8	6.8	7.2	7.3	7.2	6.9	6.6	6.2	5.1	6.0	6.3	6.3	6.1	5.8	5.5	5.2
TGEL 15	15	6.4	7.4	7.6	7.6	7.4	7.1	6.7	6.3	5.5	6.3	6.5	6.5	6.3	6.1	5.8	5.4
TGEL 19	19	8.2	9.3	9.6	9.5	9.2	8.8	8.3	7.7	7.0	8.0	8.2	8.1	7.9	7.5	7.1	6.6
TGEL 23	23	10.0	11.5	11.8	11.6	11.3	10.7	10.1	9.4	8.6	9.9	10.1	10.0	9.6	9.2	8.7	8.1
TGEL 31	31	13.9	15.6	15.8	15.4	14.7	13.9	13.0	12.0	12.0	13.4	13.6	13.2	12.6	11.9	11.1	10.3
TGEL 35	35	16.0	17.9	18.1	17.5	16.7	15.7	14.6	13.5	13.8	15.4	15.5	15.1	14.3	13.5	12.5	11.6
TGEL 46	46	19.2	21.5	21.8	21.2	20.2	19.1	17.8	16.4	16.6	18.6	18.8	18.2	17.4	16.3	15.2	14.0

Correction for subcooling Δt_{sub}

The evaporator capacity used must be corrected if the subcooling deviates from 7.2°F.

The corrected capacity can be obtained by dividing the required evaporator capacity by the correction factor given across, and then selecting from the tables.

Note: Flash gas can form if subcooling is too low.

Δt_{sub}	10 °F	20 °F	30 °F	40 °F	50 °F	60 °F	70 °F	80 °F	90 °F	100 °F
Correction factor	1.00	1.08	1.14	1.20	1.26	1.31	1.37	1.43	1.48	1.54

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Sizing

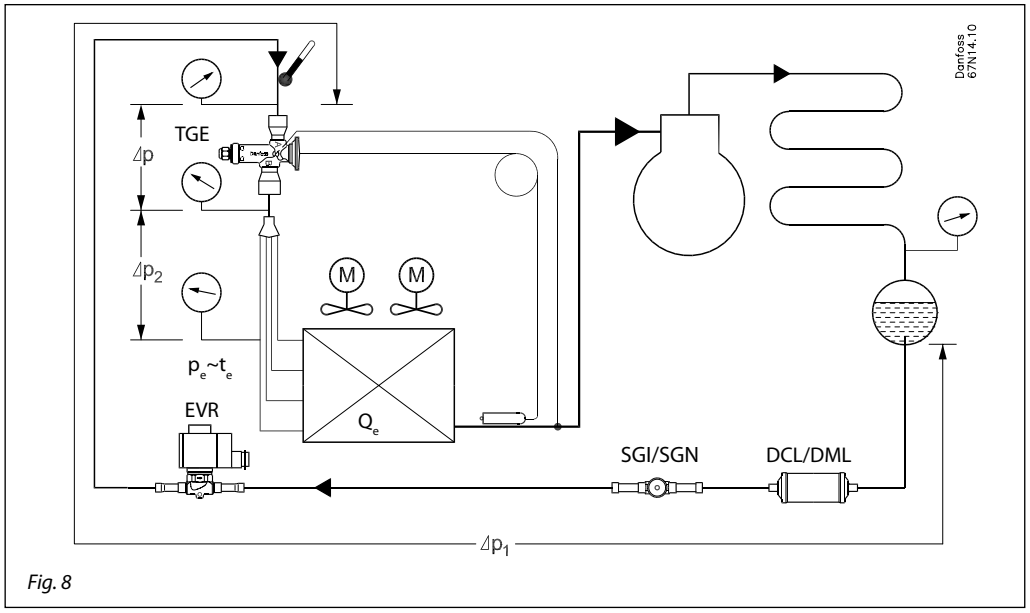

Fig. 8

Sizing examples (SI and US)
Refrigerant R410A
Evaporator capacity Q_e = 25 kW / 7 TR
Evaporator with several circuits, i.e.
a valve with distributor is required
Evaporating temperature t_e = 0°C/ 32°F
p_e = 8 bar / 116 psi
Condensing temperature t_c = +36°C / 96.8°F
p_c = 22 bar / 319 psi
Refrigrant liquid temperature t_l = +26°C / 78.8°F
SubcoolingΔt_{sub} = 36 – 26 = 10 K /
96.8°F –78.8°F = 18°F

From the data supplied determine pressure drop Δp across TGE.
Pressure drop Δp_1 in liquid lines, pipe bends, filter, sight glass, solenoid valve, etc. can be assumed to be 0.5 bar / 7.25 psi
Pressure drop Δp_2 in the liquid distributor can also be assumed as 0.5 bar / 7.25 psi.

From the diagram it can be seen that evaporating pressure p_e is equal to $p_c - \Delta p - \Delta p_1 - \Delta p_2$.
Thus, pressure drop Δp across TGE equals
$p_c - p_e - \Delta p_1 - \Delta p_2$ = 22–8–0.5–0.5 = 13 bar /
$p_c - p_e - \Delta p_1 - \Delta p_2$ = 319-116–7.25–7.25 = 188.5 psi.

Pressure drop in risers, etc. is not taken into account.

The correction factor at Δt_{sub} = 10 K /18°F is 1.08. The corrected evaporator capacity thus becomes 25 kW/ 7TR divided by 1.08 = 23.1 kW/ 6.5 TR.

Since the capacity of the expansion valve must be equal to or slightly higher than the corrected evaporator capacity of 23.1 kW / 6.5 TR, a TGEL 6.5 giving 23.5 kW/ 6.5 TR at Δp = 12 bar/ 190 psi would be a suitable choice (See tables below).

R410A

Capacity in kW

Type and rated capacity	Rated capacity [kW]	Pressure drop across the valve Δp bar								Pressure drop across the valve Δp bar							
		3	6	9	12	15	18	21	24	3	6	9	12	15	18	21	24
		Evaporating temperature +5°C								**Evaporating temperature 0°C**							
TGEL 3.5	12	8.2	10.6	11.9	12.5	12.8	12.8	12.6	12.3	7.9	10.1	11.3	11.8	12.1	12.1	11.9	11.7
TGEL 4.5	16	11.2	14.4	16.2	16.9	17.2	17.2	16.9	16.5	10.8	13.9	15.4	16.0	16.3	16.3	16.0	15.6
TGEL 6.5	24	16.6	21.3	23.7	24.7	25.0	24.9	24.4	23.6	16.0	20.5	22.6	23.5	23.7	23.6	23.1	22.4
TGEL 9	32	22.0	28.2	31.3	32.6	32.9	32.6	31.9	30.8	21.4	27.3	30.0	31.1	31.4	31.1	30.4	29.3
TGEL 13	45	29.4	38.1	43.0	45.4	46.5	46.8	46.4	45.5	28.9	37.4	41.8	43.9	44.9	45.2	44.8	43.9

R410A

Capacity in Tons

Type	Rated capacity [tons]	Pressure drop across the valve Δp psig								Pressure drop across the valve Δp psig							
		50	100	150	200	250	300	350	400	50	100	150	200	250	300	350	400
		Evaporating temperature +30°F								**Evaporating temperature +20°F**							
TGEL 3.5	3.5	2.3	3.0	3.3	3.4	3.4	3.4	3.3	3.1	2.2	2.8	3.0	3.1	3.2	3.1	3.0	2.9
TGEL 4.5	4.5	3.2	4.1	4.4	4.6	4.6	4.5	4.4	4.2	3.0	3.8	4.1	4.2	4.2	4.2	4.1	3.9
TGEL 6.5	6.5	4.8	6.0	6.5	6.7	6.6	6.5	6.3	6.0	4.5	5.6	6.1	6.2	6.2	6.0	5.8	5.6
TGEL 9	9	6.4	8.0	8.6	8.8	8.8	8.6	8.2	7.8	6.1	7.6	8.1	8.2	8.2	8.0	7.7	7.3
TGEL 13	13	8.6	11.0	12.1	12.6	12.7	12.6	12.3	11.9	8.4	10.6	11.5	11.9	12.0	11.9	11.6	11.2

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Dimensions and weights

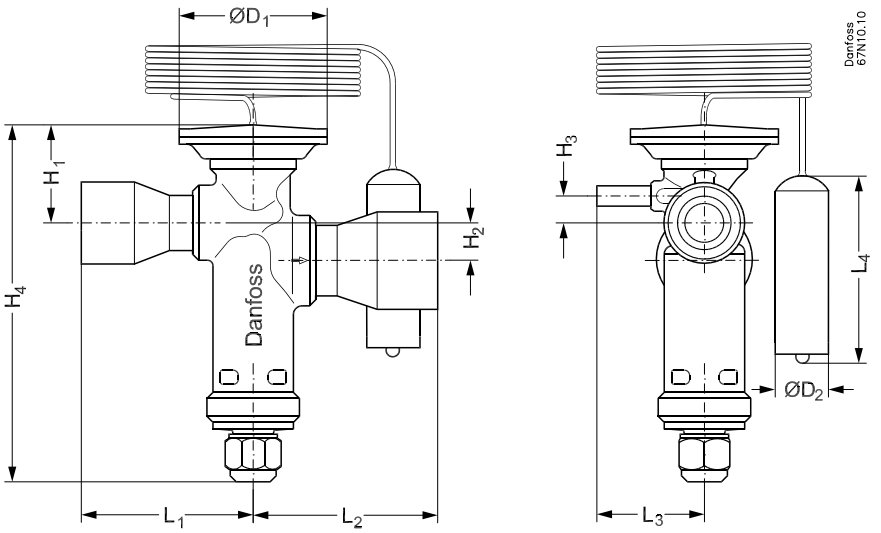

Fig. 9

Type	Connection inlet × outlet ODF solder		Capillary tube length	H_1	H_2	H_3	H_4	L_1	L_2	L_3	L_4	$ØD_1$	$ØD_2$	Weight
	in.	mm	m	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
TGE 10	$^3/_8 \times ^5/_8$	10 × 16	1.5	28.5	7.5	5	93	41.5	45.5	37.5	70	45	14.5	0.37
	$^1/_2 \times ^5/_8$	12 × 16												
	$^1/_2 \times ^7/_8$	12 × 22							59.5					
	$^5/_8 \times ^5/_8$							45.5	45.5					
	$^5/_8 \times ^7/_8$	16 × 22							59.5					
	$^5/_8 \times 1^1/_8$													
TGE 20	$^5/_8 \times ^7/_8$	16 × 22	1.5	32	9	8	117	48	62	40	78	53	19.2	0.57
	$^7/_8 \times ^7/_8$							62						
	$^5/_8 \times 1^1/_8$	16 × 28						48	66					
	$^7/_8 \times 1^1/_8$	22 × 28						62						
	$^7/_8 \times 1^3/_8$													
TGE 40	$^7/_8 \times 1^3/_8$	22 × 35	3	39	15	11	144	69.5	74.5	43.5	78	60	19.2	0.93
	$1^1/_8 \times 1^1/_8$								69.5					
	$1^1/_8 \times 1^3/_8$	28 × 35							74.5					

Type	Connection inlet × outlet ODF solder		Capillary tube length	H_1	H_2	H_3	H_4	L_1	L_2	L_3	L_4	$ØD_1$	$ØD_2$	Weight
	in.	mm	ft	in	in	in	in	in	in	in	in	in	in	lbs
TGE 10	$^3/_8 \times ^5/_8$	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
	$^1/_2 \times ^5/_8$	12 × 16												
	$^1/_2 \times ^7/_8$	12 × 22							2.34					
	$^5/_8 \times ^5/_8$							1.79	1.79					
	$^5/_8 \times ^7/_8$	16 × 22							2.34					
	$^5/_8 \times 1^1/_8$													
TGE 20	$^5/_8 \times ^7/_8$	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
	$^7/_8 \times ^7/_8$							2.44						
	$^5/_8 \times 1^1/_8$	16 × 28						1.89	2.60					
	$^7/_8 \times 1^1/_8$	22 × 28						2.44						
	$^7/_8 \times 1^3/_8$													
TGE 40	$^7/_8 \times 1^3/_8$	22 × 35	9.84	1.54	0.59	0.43	5.67	2.58	2.93	1.71	3.07	2.36	0.76	2.05
	$1^1/_8 \times 1^1/_8$							2.74	2.74					
	$1^1/_8 \times 1^3/_8$	28 × 35							2.93					

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