ENGINEERING TOMORROW

Data sheet

Thermostatic expansion valves

Type T2 / TE2



Thermostatic expansion valves regulate the injection of refrigerant liquid into evaporators.

Injection is controlled by the refrigerant superheat.

Therefore the valves are especially suitable for liquid injection in "dry" evaporators where the superheat at the evaporator outlet is proportional to the evaporator load.

Features

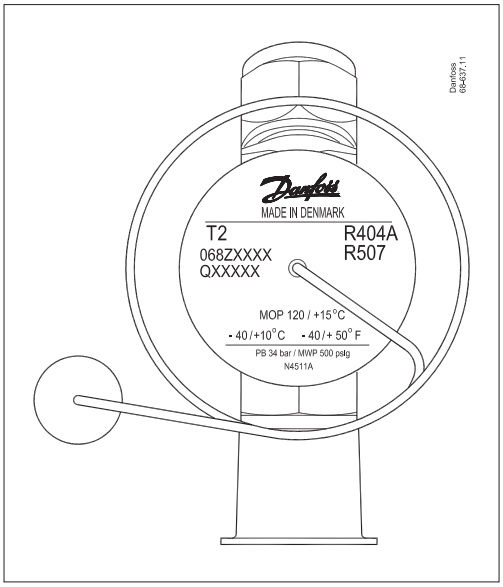
- Large temperature range
  – Equally applicable to freezing, refrigeration and air conditioning applications.
- Interchangeable orifice assembly
  – easy storage
  – easy capacity matching
  – better service.
  – easy cleaning and replacement of filter
- Rated capacities from 1 to 20.5 kW / 0.3 to 5.8 TR for R407C
- Can be supplied with MOP (Max. Operating Pressure).
  – Protects the compressor motor against excessive evaporating pressure during normal operation
- Stainless steel bulb and Danfoss patented bulb strap
  – Fast and easy to install
  – Good temperature transfer from pipe to bulb
- Valves for special temperature ranges can be supplied
- Design protected

Identification

The thermostatic element has laser engraved data on top of the diaphragm. This engraving gives valve type (with code number), evaporating temperature range, MOP point, refrigerant, and max. working pressure. PS/MWP.

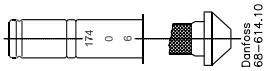
T2 = internal equalization
TE2 = external equalization

Production place and date
N4511A =
N = Nordborg, Denmark
(BE = Wuqing, China)
45 = week
11 = 2011
A = Monday



Orifice assembly for T2 and TE2
The orifice assembly is marked with the orifice size (e.g. 06) and week stamp + last number in the year (e.g. 174).
The orifice assembly number is also given on the lid of its plastic container.

Orifice assembly and filter for flare x flare version for T2 and TE2



Capillary tube label for T2 and TE2
The label gives the orifice size (04) and consists of the lid of the orifice assembly plastic container. It can easily be fastened around the expansion valve capillary tube to clearly identify the valve size.

Capillary tube label T2 and TE2



Technical data

Max. temperature
Bulb, when valve is installed: 100 °C
Bulb, element not mounted: 60 °C

Min. temperature
T2 – TE2: -60 °C

Max. test pressure
PT = 38 bar

Max. working pressure
PS/MWP = 34 bar

MOP-points

Refrigerant	Range N -40 °C – 10 °C	Range NM -40 °C – -5 °C	Range NL -40 °C – -15 °C	Range B -60 °C – -25 °C
	MOP-point in evaporating temperature t_e and evaporating pressure p_e [1]			
	15 °C / 60 °F	0 °C / 32 °F	-10 °C / 15 °F	-20 °C / -4 °F
R22	100 psig / 6.9 bar (abs)	60 psig / 4.0 bar (abs)	35 psig / 2.4 bar (abs)	20 psig / 1.4 bar (abs)
R407C	95 psig / 6.6 bar (abs)	–	–	–
R134a	55 psig / 3.8 bar (abs)	30 psig / 2.0 bar (abs)	15 psig / 1.0 bar (abs)	–
R404A/R507	120 psig / 8.3 bar (abs)	75 psig / 5.2 bar (abs)	50 psig / 3.4 bar (abs)	30 psig / 2.1 bar (abs)

[1]) Pe in bar gauge

Superheat

SS = static superheat
OS = opening superheat
SH = SS + OS = total superheat
Q_{nom} = rated capacity
Q_{max} = maximum capacity

Static superheat SS can be adjusted with setting spindle.

Standard superheat setting SS is 4K for all standard valves.
The opening superheat OS is 6 K from when opening begins to where the valve gives its rated capacity Q_{nom}.

Example

Static superheat	SS = 5 K
Opening superheat	OS = 6 K
Total superheat	SH = 5 + 6 = 11 K

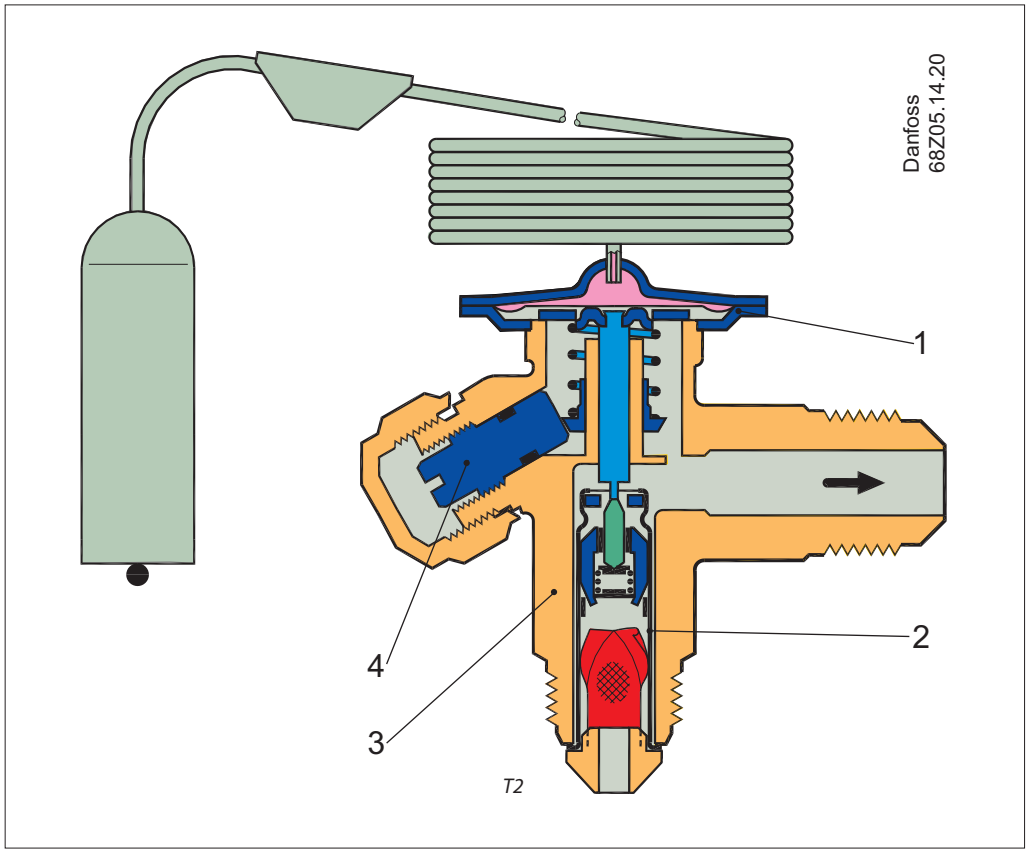
Design Function

General
T2 and TE2 valves have an interchangeable orifice assembly.

The orifice assembly is suitable for all versions of valve body and refrigerants and in all evaporating temperature ranges.
The charge in the thermostatic element depends on the refrigerant and evaporating temperature range.
The valves are available with internal (T2) or external (TE2) pressure equalization.

External pressure equalization should always be used on systems with liquid distributors.
The bulb gives fast and precise reaction to temperature changes in the evaporator. The bulb is fixed with a Danfoss patented bulb strap for quick, easy and reliable connection. The valves are able to withstand the effects that normally occur with hot gas defrosting.

To ensure long operating life, the valve cone and seat are made of a special alloy with particularly good wear qualities.

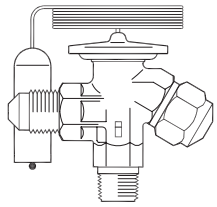


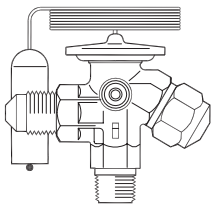
1. Thermostatic element (diaphragm)
2. Interchangeable orifice assembly
3. Valve body
4. Superheat setting spindle (see instructions)

Technical data and ordering

T2/TE2 Thermostatic element with bulb strap
Flare x flare

Capillary tube: 1.5 m
Range N = -40 – 10 °C
Range B = -60 – -25 °C
Range NM = -40 – -5 °C MOP 0 °C
Range NL = -40 – -15 °C MOP -10 °C

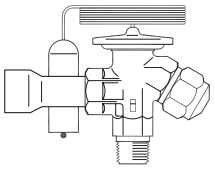


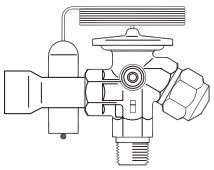


Refrigerant	Type	Range	MOP	Pressure equlization Flare	Connection flare inlet × outlet		Code no. Multi pack
		[°C]	[°C]		[in.]	[mm]	
R22/R407C [1]	T2	-40 – 10	–	–	3/8 × 1/2	10×12	**068Z3206**
	T2	-40 – 10	15	–	3/8 × 1/2	10×12	**068Z3208**
	T2	-40 – -5	0	–	3/8 × 1/2	10×12	**068Z3224**
	T2	-40 – -15	-10	–	3/8 × 1/2	10×12	**068Z3226**
	T2	-60 – -25	–	–	3/8 × 1/2	10×12	**068Z3207**
	T2	-60 – -25	-20	–	3/8 × 1/2	10×12	**068Z3228**
	TE2	-40 – 10	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3209**
	TE2	-40 – 10	15	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3211**
	TE2	-40 – -5	0	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3225**
	TE2	-40 – -15	-10	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3227**
	TE2	-60 – -25	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3210**
	TE2	-60 – -25	-20	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3229**
R407C	T2	-40 – 10	–	–	3/8 × 1/2	10×12	**068Z3496**
	T2	-40 – 10	15	–	3/8 × 1/2	10×12	**068Z3516**
	TE2	-40 – 10	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3501**
	TE2	-40 – 10	15	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3517**
R134a/R513A	T2	-40 – 10	–	–	3/8 × 1/2	10×12	**068Z3346**
	T2	-40 – 10	15	–	3/8 × 1/2	10×12	**068Z3347**
	T2	-40 – -5	0	–	3/8 × 1/2	10×12	**068Z3393**
	T2	-40 – -15	-10	–	3/8 × 1/2	10×12	**068Z3369**
	TE2	-40 – 10	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3348**
	TE2	-40 – 10	15	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3349**
	TE2	-40 – -5	0	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3392**
	TE2	-40 – -15	-10	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3370**
R404A/R507	T2	-40 – 10	–	–	3/8 × 1/2	10×12	**068Z3400**
	T2	-40 – 10	15	–	3/8 × 1/2	10×12	**068Z3402**
	T2	-40 – -5	0	–	3/8 × 1/2	10×12	**068Z3406**
	T2	-40 – -15	-10	–	3/8 × 1/2	10×12	**068Z3408**
	T2	-60 – -25	–	–	3/8 × 1/2	10×12	**068Z3401**
	T2	-60 – -25	-20	–	3/8 × 1/2	10×12	**068Z3410**
	TE2	-40 – 10	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3403**
	TE2	-40 – 10	15	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3405**
	TE2	-40 – -5	0	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3407**
	TE2	-40 – -15	-10	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3409**
	TE2	-60 – -25	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3404**
	TE2	-60 – -25	-20	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3411**
R407F/R407A	T2	-40 – 10	–	–	3/8 × 1/2	10×12	**068Z3715**
	TE2	-40 – 10	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3714**
R448A/R449A	T2	-40 – 10	–	–	3/8 × 1/2	–	**068Z3727**
	TE2	-40 – 10	–	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3728**
	T2	-40 – -15	-10	–	3/8 × 1/2	10×12	**068Z3675**
	T2	-60 – -25	-20	–	3/8 × 1/2	10×12	**068Z3735**
	TE2	-60 – -25	-20	¼ in / 6mm	3/8 × 1/2	10×12	**068Z3736**

[1] For R407C plants. Please select valves from the dedicated R407C program

Technical data and ordering





T2/TE2 Thermostatic element with bulb strap
Flare x solder

Capillary tube: 1.5 m
Range N = -40 – 10 °C
Range NL = -40 – -15 °C
Range B = -60 – -25 °C

Refrigerant	Type	Range	MOP	Pressure equalization solder	Connection inlet (Flare) × outlet (Solder)		Code no. Multi pack
		[°C]	[°C]		[in.]	[mm]	
R22/R407C [1]	T2	-40 – 10	–	–	3/8 × 1/2	–	068Z3281
	T2	-40 – 10	–	–	–	10×12	068Z3302
	T2	-40 – 10	15	–	3/8 × 1/2	–	068Z3287
	T2	-40 – 10	15	–	–	10×12	068Z3308
	T2	-40 – -15	-10	–	–	10×12	068Z3366
	T2	-60 – -25	–	–	3/8 × 1/2	–	068Z3357
	T2	-60 – -25	–	–	–	10×12	068Z3361
	T2	-60 – -25	-20	–	3/8 × 1/2	–	068Z3319
	TE2	-40 – 10	–	¼ in.	3/8 × 1/2	–	068Z3284
	TE2	-40 – 10	–	6 mm	–	10×12	068Z3305
	TE2	-40 – 10	15	¼ in.	3/8 × 1/2	–	068Z3290
	TE2	-40 – 10	15	6 mm	–	10×12	068Z3311
	TE2	-40 – -15	-10	6 mm	–	10×12	068Z3367
	TE2	-60 – -25	–	¼ in.	3/8 × 1/2	–	068Z3359
	TE2	-60 – -25	–	6 mm	–	10×12	068Z3363
	TE2	-60 – -25	-20	–	3/8 × 1/2	–	068Z3320
R407C	T2	-40 – 10	–	–	–	10×12	068Z3502
	T2	-40 – 10	15	–	3/8 × 1/2	–	068Z3329
	T2	-40 – 10	15	–	–	10×12	068Z3514
	TE2	-40 – 10	–	¼ in.	3/8 × 1/2	1/2 in.	068Z3446
	TE2	-40 – 10	–	6 mm	–	10×12	068Z3503
	TE2	-40 – 10	15	¼ in.	3/8 × 1/2	–	068Z3447
	TE2	-40 – 10	15	6 mm	–	10×12	068Z3515
R134a/R513A	T2	-40 – 10	–	–	3/8 × 1/2	–	068Z3383
	T2	-40 – 10	–	–	–	10×12	068Z3384
	T2	-40 – 10	15	–	3/8 × 1/2	–	068Z3387
	T2	-40 – 10	15	–	–	10×12	068Z3388
	TE2	-40 – 10	–	¼ in.	3/8 × 1/2	–	068Z3385
	TE2	-40 – 10	–	6 mm	–	10×12	068Z3386
	TE2	-40 – 10	15	¼ in.	3/8 × 1/2	–	068Z3389
	TE2	-40 – 10	15	6 mm	–	10×12	068Z3390
R404A/R507	T2	-40 – 10	–	–	3/8 × 1/2	–	068Z3414
	T2	-40 – 10	–	–	–	10×12	068Z3435
	T2	-40 – 10	15	–	3/8 × 1/2	–	068Z3416
	T2	-40 – 10	15	–	–	10×12	068Z3423
	T2	-40 – -15	-10	–	3/8 × 1/2	–	068Z3429
	T2	-40 – -15	-10	–	–	10×12	068Z3436
	T2	-60 – -25	–	–	3/8 × 1/2	–	068Z3418
	T2	-60 – -25	–	–	–	10×12	068Z3425
	T2	-60 – -25	-20	–	3/8 × 1/2	–	068Z3420
	T2	-60 – -25	-20	–	–	10×12	068Z3427
	TE2	-40 – 10	–	¼ in.	3/8 × 1/2	–	068Z3415
	TE2	-40 – 10	–	6 mm	–	10×12	068Z3422
	TE2	-40 – 10	15	6 mm	–	10×12	068Z3424
	TE2	-40 – 10	15	¼ in.	3/8 × 1/2	–	068Z3417
	TE2	-40 – -15	-10	¼ in.	3/8 × 1/2	–	068Z3430
	TE2	-40 – -15	-10	6 mm	–	10×12	068Z3437
	TE2	-60 – -25	–	¼ in.	3/8 × 1/2	–	068Z3419
	TE2	-60 – -25	–	6 mm	–	10×12	068Z3426
	TE2	-60 – -25	-20	¼ in.	3/8 × 1/2	–	068Z3421
	TE2	-60 – -25	-20	6 mm	–	10×12	068Z3428
R407F/R407A	T2	-40 – 10	–	–	3/8 × 1/2	–	068Z3716
	TE2	-40 – 10	–	¼ in.	3/8 × 1/2	–	068Z3713
R448A/R449A	T2	-40 – 10	–	–	3/8 × 1/2	–	068Z3729
	TE2	-40 – 10	–	¼ in.	3/8 × 1/2	–	068Z3730
	T2	-40 – -15	-10	–	3/8 × 1/2	–	068Z3664
	T2	-60 – -25	-20	–	3/8 × 1/2	–	068Z3737
	TE2	-40 – -15	-10	¼ in.	3/8 × 1/2	–	068Z3665
	TE2	-60 – -25	-20	¼ in.	3/8 × 1/2	–	068Z3738
	T2	-40 – -15	-10	–	–	10×12	068Z3674
	TE2	-60 – -25	-20	6 mm	–	10×12	068Z3672
R452A	T2	-40 – 10	–	–	3/8 × 1/2	–	068Z3806
	TE2	-40 – 10	–	¼ in	3/8 × 1/2	–	068Z3807
	T2	-40 – 10	–	–	–	10×12	068Z3808
	TE2	-40 – 10	–	6 mm	–	10×12	068Z3809

[1] For R407C plants, please select valves from the dedicated R407C program

Flare connections



Connection for copper tubing with outside diameter		Reducer for copper tubing with outside diameter		Code no.
[in.]	[mm]	[in.]	[mm]	
1/4	6	–	–	**011L1101**
3/8	10	–	–	**011L1135**
1/2	12	–	–	**011L1103**
–	–	1/4	6	**011L1107**

Example :
A TE2 thermostatic expansion valve consists of two elements + flare nuts if required:
– 1 thermostatic element
– 1 orifice assembly and flare nuts

When ordering one thermostatic expansion valve, TE2 with orifice 01, five code numbers are required:
– 1-off thermostatic element **068Z3209**
– 1-off orifice assembly 01 **068-2010**
– 1-off 3/8 in. flare nut **011L1135**
– 1-off 1/2 in. flare nut **011L1103**
– 1-off 1/4 in. flare nut **011L1101**

Range N: -40 to 50 °F

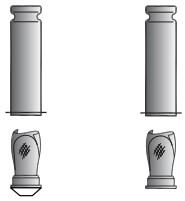
The rated capacity is based on:
Evaporating temperature t_e = 40 °F
Condensing temperature t_c = 100 °F
Refrigerant temperature ahead of valve t_l = 98 °F

Orifice no.	Rated capacity in tons (TR)								
	R22	R407C	R134a	R513A	R404A R507	R407A	R407F	R448A	R449A
0X	0.25	0.26	0.19	0.16	0.18	0.25	0.28	0.26	0.25
00	0.51	0.51	0.34	0.29	0.37	0.49	0.56	0.51	0.49
01	1.0	1.0	0.59	0.51	0.75	1.0	1.1	1.0	0.97
02	1.3	1.4	0.73	0.62	1.0	1.3	1.5	1.4	1.3
03	2.3	2.3	1.2	1.0	1.8	2.3	2.6	2.3	2.3
04	3.4	3.5	1.8	1.5	2.8	3.5	4.1	3.6	3.5
05	4.8	4.7	2.4	2.0	3.7	4.6	5.4	4.6	4.5
06	5.6	5.6	2.9	2.5	4.4	5.6	6.5	5.7	5.5

Range N: -40 to 10 °C

The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C
Condensing temperature t_c = 38 °C
Refrigerant temperature ahead of valve t_l = 37 °C

Orifice no.	Rated capacity in kW								
	R22	R407C	R134a	R513A	R404A R507	R407A	R407F	R448A	R449A
0X	0.90	0.92	0.68	0.58	0.64	0.88	1.0	0.90	0.88
00	1.8	1.8	1.2	1.0	1.3	1.7	2.0	1.8	1.7
01	3.5	3.5	2.1	1.8	2.6	3.4	3.9	3.5	3.4
02	4.7	4.8	2.6	2.2	3.7	4.7	5.4	4.8	4.6
03	8.0	8.1	4.3	3.7	6.3	8.0	9.2	8.1	7.9
04	12.1	12.4	6.4	5.4	9.9	12.4	14.3	12.6	12.1
05	16.7	16.5	8.4	6.9	13.0	16.3	19.0	16.3	15.7
06	19.7	19.7	10.1	8.6	15.5	19.6	22.9	19.8	19.1



1 2

1. Orifice assembly with filter
2. Orifice assembly with filter for solder adaptor

Orifice assembly with filter

Orifice no.	Code no.
0X	**068-2002**
00	**068-2003**
01	**068-2010**
02	**068-2015**
03	**068-2006**
04	**068-2007**
05	**068-2008**
06	**068-2009**

Orifice assembly with filter for solder adaptor

Orifice no.	Code no.
0X	**068-2089**
00	**068-2090**
01	**068-2091**
02	**068-2092**
03	**068-2093**
04	**068-2094**
05	**068-2095**
06	**068-2096**



Filter

Filter type	Code no. Multi pack
For flare connection	**068-0003**
For solder adaptor	**068-0015**

The adaptor is for use with thermostatic expansion valves T2 and TE2. When the adaptor is fitted correctly it meets the sealing requirements of DIN 8964. The flare orifice in T2 and TE2 can be used with a solder adaptor when the orifice filter is replaced with a specific filter intended for solder adaptors.
Only in this way the sealing requirements of DIN 8964 can be fulfilled. Solder adaptors for filter driers (FSA) ***must not be used*** on the T2 inlet.

Solder adaptor



The adaptor is for use with thermostatic expansion valves T2 and TE2 with flare × solder connections. When the adaptor is fitted correctly it meets the sealing requirements of DIN 8964.

The adaptor offers the following advantages:

- The orifice assembly can be replaced.
- The filter can be cleaned or replaced.

When using the solder adapter, a special orifice assembly is required. Please use the following tables to select both the appropriate adapter and orifice asembly.
Only in this way can the sealing requirements of DIN 8964 be fulfilled.
Solder adaptor for filter drier (FSA) may not be used in the T2 inlet.

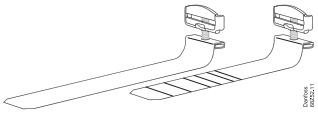
Solder adaptor without orifice assembly and filter

Connection ODF solder	Code no.
1/4 in.	**068-2062**
6 mm	**068-2063**
3/8 in.	**068-2060**
10 mm	**068-2061**

Filter for solder adaptor

Description	Code no.
Filter excl. orifice assembly	**068-0015**

Bulb strap (Danfoss patented)



Each valve is delivered with a Danfoss patented bulb strap. Spares can be ordered.

Description	Pack mode	Quantity / pack	Code no.
Bulb strap 0.4 mm Max. 28 mm tube	I	45	**068U3505**
Bulb strap 0.4 mm Max. 50 mm tube	I	45	**068U3506**
Bulb strap 0.4 mm Max. 28 mm tube	M	25	**068U3507**
Bulb strap 0.4 mm Max. 50 mm tube	M	25	**068U3508**

How to select a valve

Example:

Refrigerant = R407C
Q (capacity) = 1.1kW
T_{cond} (condensing temperature) = 25 °C
T_{evap} (evaporator temperature) = -30 °C
T_{sub} (subcooling temperature) = 2 K
D_{pd} (distributer pressure drop) = 1 bar

Q (capacity) = 1.1kW
f_{sub} (subcooling correction factor) = 0.98
f_p (distribution correction factor) = 0.96

$$\frac{Q}{f_{sub} \times f_p} = \text{Selected capacity}$$

$$\frac{1.1}{0.98 \times 0.96} = 1.17 \text{ kW}$$

The selection will be:
TE2 orifice 00 (1.21 kW > 1.17 kW)

***Capacity in kW**, range N -40 °C to 10 °C. Opening superheat sh= 6 K*

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-40	-30	-20	-10
T2 / TE2	0X	25	0.76	0.83	0.88	0.90
T2 / TE2	00		0.99	1.21	1.42	1.60
T2 / TE2	01		1.41	1.80	2.27	2.77

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15
Correction factor	0.98	1.00	1.07	1.12

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]			
		-40	-35	-30	-25
"Pressure drop [bar]"	0	1	1	1	1
	1	0.96	0.96	0.96	0.96
	1.5	0.94	0.94	0.94	0.94
	2	0.92	0.92	0.92	0.92

*) calculated at 32 °C condensing temperature

Capacity

R22

Capacity in kW, range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.75	0.82	0.86	0.86	0.81	0.68
T2 / TE2	00		0.95	1.18	1.39	1.53	1.55	1.37
T2 / TE2	01		1.32	1.72	2.18	2.63	2.91	2.78
T2 / TE2	02		1.49	1.98	2.57	3.24	3.82	3.88
T2 / TE2	03		2.49	3.32	4.32	5.43	6.40	6.57
T2 / TE2	04		3.59	4.79	6.35	8.16	9.72	9.88
T2 / TE2	05		4.69	6.25	8.30	10.80	13.10	13.50
T2 / TE2	06		5.53	7.36	9.73	12.70	15.40	16.00

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.78	0.86	0.91	0.93	0.92	0.85
T2 / TE2	00		0.99	1.23	1.47	1.67	1.77	1.72
T2 / TE2	01		1.37	1.80	2.31	2.86	3.33	3.50
T2 / TE2	02		1.56	2.08	2.74	3.54	4.38	4.92
T2 / TE2	03		2.62	3.51	4.62	5.96	7.39	8.35
T2 / TE2	04		3.85	5.12	6.83	8.98	11.20	12.70
T2 / TE2	05		5.03	6.68	8.93	11.90	15.30	17.50
T2 / TE2	06		5.89	7.82	10.40	13.90	17.90	20.70

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.80	0.88	0.94	0.97	0.98	0.95
T2 / TE2	00		1.01	1.26	1.52	1.75	1.90	1.94
T2 / TE2	01		1.41	1.85	2.39	3.00	3.59	3.96
T2 / TE2	02		1.61	2.14	2.84	3.72	4.74	5.60
T2 / TE2	03		2.71	3.64	4.82	6.32	8.08	9.63
T2 / TE2	04		4.06	5.37	7.14	9.47	12.20	14.50
T2 / TE2	05		5.30	7.01	9.37	12.60	16.70	20.30
T2 / TE2	06		6.19	8.18	10.90	14.70	19.50	24.00

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.79	0.88	0.94	0.98	1.00	0.99
T2 / TE2	00		1.01	1.26	1.53	1.77	1.95	2.04
T2 / TE2	01		1.42	1.87	2.42	3.06	3.71	4.19
T2 / TE2	02		1.63	2.18	2.89	3.81	4.92	5.95
T2 / TE2	03		2.76	3.70	4.93	6.51	8.46	10.30
T2 / TE2	04		4.23	5.53	7.32	9.68	12.50	15.30
T2 / TE2	05		5.52	7.24	9.64	13.00	17.30	21.70
T2 / TE2	06		6.42	8.43	11.20	15.10	20.30	25.80

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.05	1.10	1.14	1.19	1.23	1.28	1.32	1.36	1.41

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
"Pressure drop [bar]"	0	1	1	1	1	1	1	1	1	1	1	1	1
	1	0.96	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.93	0.92	0.91	0.89
	1.5	0.93	0.93	0.93	0.93	0.92	0.92	0.91	0.91	0.90	0.88	0.86	0.82
	2	0.91	0.91	0.90	0.90	0.90	0.89	0.88	0.87	0.86	0.84	0.81	0.76

*) calculated at 32 °C condensing temperature

Capacity

R22

Capacity in kW, range B -60 °C to -25 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	25	0.54	0.67	0.78	0.84
T2 / TE2	00		0.55	0.77	1.03	1.28
T2 / TE2	01		0.72	1.06	1.47	1.95
T2 / TE2	02		0.80	1.17	1.66	2.26
T2 / TE2	03		1.32	1.94	2.76	3.77
T2 / TE2	04		1.87	2.76	3.95	5.45
T2 / TE2	05		2.45	3.60	5.15	7.14
T2 / TE2	06		2.91	4.26	6.10	8.50

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	35	0.56	0.69	0.80	0.88
T2 / TE2	00		0.56	0.79	1.06	1.34
T2 / TE2	01		0.74	1.08	1.52	2.04
T2 / TE2	02		0.82	1.20	1.72	2.36
T2 / TE2	03		1.35	1.99	2.85	3.93
T2 / TE2	04		1.90	2.81	4.04	5.63
T2 / TE2	05		2.50	3.66	5.26	7.36
T2 / TE2	06		2.96	4.33	6.21	8.71

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	45	0.56	0.70	0.82	0.91
T2 / TE2	00		0.57	0.80	1.08	1.37
T2 / TE2	01		0.75	1.10	1.55	2.09
T2 / TE2	02		0.82	1.22	1.74	2.41
T2 / TE2	03		1.36	2.01	2.88	4.00
T2 / TE2	04		1.91	2.82	4.06	5.70
T2 / TE2	05		2.52	3.68	5.29	7.42
T2 / TE2	06		2.98	4.35	6.23	8.75

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	55	0.56	0.70	0.82	0.91
T2 / TE2	00		0.57	0.80	1.08	1.38
T2 / TE2	01		0.75	1.10	1.55	2.10
T2 / TE2	02		0.82	1.21	1.74	2.41
T2 / TE2	03		1.36	2.00	2.87	4.01
T2 / TE2	04		1.89	2.79	4.03	5.66
T2 / TE2	05		2.52	3.67	5.25	7.37
T2 / TE2	06		2.98	4.32	6.17	8.66

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.12	1.18	1.23	1.28	1.34	1.39	1.45	1.50

*Distributer correction factor 'fp' *)*

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

*) calculated at 32 °C condensing temperature

Capacity

R407C

Capacity in kW, range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.76	0.83	0.88	0.90	0.88	0.81
T2 / TE2	00		0.99	1.21	1.42	1.60	1.69	1.63
T2 / TE2	01		1.41	1.80	2.27	2.77	3.19	3.31
T2 / TE2	02		1.59	2.06	2.67	3.40	4.18	4.64
T2 / TE2	03		2.65	3.44	4.46	5.73	7.07	7.85
T2 / TE2	04		3.86	4.98	6.44	8.35	10.60	12.50
T2 / TE2	05		5.04	6.52	8.46	11.00	14.00	16.30
T2 / TE2	06		5.94	7.71	10.10	13.20	16.80	19.40

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.76	0.84	0.90	0.94	0.95	0.92
T2 / TE2	00		0.99	1.22	1.45	1.67	1.81	1.85
T2 / TE2	01		1.40	1.81	2.32	2.88	3.43	3.76
T2 / TE2	02		1.59	2.08	2.72	3.54	4.48	5.28
T2 / TE2	03		2.66	3.48	4.57	5.98	7.62	8.98
T2 / TE2	04		3.93	5.10	6.65	8.74	11.40	14.20
T2 / TE2	05		5.13	6.66	8.73	11.50	15.10	18.60
T2 / TE2	06		6.01	7.85	10.40	13.80	18.10	22.20

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.73	0.82	0.89	0.94	0.97	0.97
T2 / TE2	00		0.95	1.19	1.43	1.67	1.85	1.94
T2 / TE2	01		1.36	1.77	2.28	2.88	3.50	3.97
T2 / TE2	02		1.55	2.04	2.69	3.54	4.58	5.58
T2 / TE2	03		2.60	3.42	4.53	6.01	7.82	9.52
T2 / TE2	04		3.89	5.07	6.66	8.83	11.70	15.00
T2 / TE2	05		5.06	6.62	8.73	11.70	15.60	19.80
T2 / TE2	06		5.90	7.76	10.30	13.90	18.70	23.60

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.68	0.77	0.85	0.91	0.95	0.96
T2 / TE2	00		0.89	1.12	1.37	1.61	1.81	1.93
T2 / TE2	01		1.27	1.67	2.18	2.78	3.43	3.96
T2 / TE2	02		1.46	1.93	2.57	3.42	4.49	5.58
T2 / TE2	03		2.46	3.27	4.36	5.84	7.71	9.60
T2 / TE2	04		3.74	4.90	6.48	8.65	11.60	15.10
T2 / TE2	05		4.85	6.39	8.49	11.40	15.40	20.00
T2 / TE2	06		5.61	7.45	9.99	13.60	18.50	24.00

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.12	1.18	1.23	1.28	1.34	1.39	1.45	1.50

*Distributer correction factor 'fp' *)*

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

*) calculated at 32 °C condensing temperature

Capacity

R134a

Capacity in kW, range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.48	0.54	0.59	0.62	0.61	0.54
T2 / TE2	00		0.52	0.67	0.82	0.95	1.03	0.98
T2 / TE2	01		0.70	0.92	1.19	1.48	1.72	1.77
T2 / TE2	02		0.78	1.03	1.35	1.73	2.08	2.24
T2 / TE2	03		1.31	1.72	2.27	2.89	3.49	3.76
T2 / TE2	04		1.89	2.49	3.28	4.21	5.15	5.69
T2 / TE2	05		2.50	3.28	4.33	5.57	6.80	7.48
T2 / TE2	06		2.98	3.93	5.20	6.69	8.16	8.96

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.49	0.57	0.63	0.67	0.69	0.66
T2 / TE2	00		0.54	0.69	0.86	1.03	1.17	1.22
T2 / TE2	01		0.72	0.96	1.25	1.60	1.95	2.20
T2 / TE2	02		0.81	1.07	1.43	1.87	2.36	2.79
T2 / TE2	03		1.36	1.80	2.40	3.14	3.96	4.69
T2 / TE2	04		2.02	2.64	3.51	4.60	5.85	7.07
T2 / TE2	05		2.66	3.48	4.62	6.06	7.72	9.31
T2 / TE2	06		3.15	4.14	5.51	7.24	9.24	11.10

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.49	0.57	0.64	0.69	0.73	0.74
T2 / TE2	00		0.54	0.70	0.88	1.07	1.25	1.36
T2 / TE2	01		0.73	0.97	1.28	1.66	2.08	2.46
T2 / TE2	02		0.82	1.09	1.46	1.93	2.51	3.11
T2 / TE2	03		1.38	1.83	2.45	3.25	4.22	5.24
T2 / TE2	04		2.10	2.73	3.63	4.80	6.24	7.89
T2 / TE2	05		2.76	3.59	4.76	6.31	8.23	10.40
T2 / TE2	06		3.25	4.24	5.64	7.51	9.82	12.40

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.47	0.56	0.63	0.69	0.74	0.76
T2 / TE2	00		0.53	0.69	0.87	1.07	1.27	1.43
T2 / TE2	01		0.72	0.95	1.26	1.65	2.11	2.57
T2 / TE2	02		0.81	1.08	1.45	1.94	2.55	3.24
T2 / TE2	03		1.38	1.82	2.44	3.27	4.30	5.50
T2 / TE2	04		2.14	2.77	3.66	4.85	6.38	8.25
T2 / TE2	05		2.81	3.63	4.80	6.37	8.40	10.90
T2 / TE2	06		3.30	4.26	5.65	7.54	10.00	13.00

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.12	1.18	1.23	1.29	1.34	1.40	1.45	1.50

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
"Pressure drop [bar]"	0	1	1	1	1	1	1	1	1	1	1	1	1
	1	0.93	0.93	0.93	0.93	0.92	0.92	0.92	0.91	0.90	0.89	0.87	0.83
	1.5	0.90	0.89	0.89	0.89	0.88	0.88	0.87	0.86	0.84	0.82	0.79	0.74
	2	0.86	0.86	0.85	0.85	0.84	0.83	0.82	0.81	0.79	0.76	0.71	0.62

*) calculated at 32 °C condensing temperature

Capacity

R404A

Capacity in kW, range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.55	0.61	0.64	0.65	0.62	0.54
T2 / TE2	00		0.72	0.92	1.09	1.21	1.22	1.08
T2 / TE2	01		1.00	1.38	1.81	2.20	2.40	2.25
T2 / TE2	02		1.12	1.58	2.17	2.79	3.25	3.22
T2 / TE2	03		1.86	2.65	3.65	4.72	5.49	5.42
T2 / TE2	04		2.68	3.83	5.36	7.12	8.53	8.69
T2 / TE2	05		3.51	5.04	7.06	9.38	11.20	11.30
T2 / TE2	06		4.15	5.99	8.43	11.20	13.40	13.30

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.52	0.59	0.64	0.67	0.68	0.64
T2 / TE2	00		0.67	0.88	1.08	1.25	1.34	1.29
T2 / TE2	01		0.95	1.33	1.79	2.28	2.64	2.70
T2 / TE2	02		1.07	1.53	2.15	2.90	3.59	3.89
T2 / TE2	03		1.78	2.57	3.64	4.93	6.11	6.57
T2 / TE2	04		2.60	3.75	5.37	7.45	9.53	10.60
T2 / TE2	05		3.40	4.93	7.07	9.82	12.50	13.70
T2 / TE2	06		4.00	5.83	8.40	11.70	14.90	16.30

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.46	0.54	0.60	0.65	0.68	0.67
T2 / TE2	00		0.61	0.81	1.01	1.20	1.34	1.38
T2 / TE2	01		0.86	1.22	1.68	2.19	2.66	2.87
T2 / TE2	02		0.97	1.41	2.02	2.81	3.64	4.16
T2 / TE2	03		1.63	2.38	3.43	4.80	6.23	7.06
T2 / TE2	04		2.43	3.50	5.08	7.26	9.74	11.40
T2 / TE2	05		3.17	4.60	6.69	9.58	12.90	14.90
T2 / TE2	06		3.71	5.41	7.92	11.40	15.40	17.70

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.39	0.47	0.54	0.59	0.62	0.64
T2 / TE2	00		0.52	0.70	0.89	1.07	1.23	1.30
T2 / TE2	01		0.74	1.06	1.47	1.96	2.44	2.73
T2 / TE2	02		0.85	1.23	1.78	2.52	3.35	3.96
T2 / TE2	03		1.43	2.09	3.03	4.32	5.78	6.76
T2 / TE2	04		2.17	3.10	4.50	6.51	8.98	10.90
T2 / TE2	05		2.83	4.07	5.92	8.61	11.90	14.40
T2 / TE2	06		3.29	4.77	6.99	10.30	14.30	17.20

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.38	1.45	1.52	1.59	1.65

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
"Pressure drop [bar]"	0	1	1	1	1	1	1	1	1	1	1	1	1
	1	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.94	0.94	0.92	0.91
	1.5	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.92	0.91	0.90	0.88	0.86
	2	0.92	0.92	0.92	0.92	0.91	0.91	0.90	0.89	0.88	0.87	0.84	0.80

*) calculated at 32 °C condensing temperature

Capacity

R404A

Capacity in kW, range B, -60 °C to -25 °C, opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	25	0.44	0.51	0.58	0.63
T2 / TE2	00		0.50	0.65	0.83	1.02
T2 / TE2	01		0.68	0.90	1.22	1.62
T2 / TE2	02		0.75	1.00	1.39	1.91
T2 / TE2	03		1.22	1.64	2.30	3.22
T2 / TE2	04		1.69	2.31	3.23	4.46
T2 / TE2	05		2.20	3.02	4.22	5.82
T2 / TE2	06		2.60	3.55	4.98	6.92

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	35	0.41	0.49	0.56	0.62
T2 / TE2	00		0.47	0.61	0.80	1.00
T2 / TE2	01		0.64	0.86	1.18	1.59
T2 / TE2	02		0.70	0.96	1.34	1.88
T2 / TE2	03		1.16	1.58	2.24	3.18
T2 / TE2	04		1.72	2.31	3.22	4.47
T2 / TE2	05		2.23	3.01	4.19	5.83
T2 / TE2	06		2.63	3.51	4.90	6.87

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	45	0.36	0.44	0.52	0.58
T2 / TE2	00		0.41	0.55	0.73	0.93
T2 / TE2	01		0.56	0.77	1.08	1.48
T2 / TE2	02		0.63	0.86	1.23	1.76
T2 / TE2	03		1.04	1.44	2.07	2.99
T2 / TE2	04		1.68	2.20	3.04	4.23
T2 / TE2	05		2.16	2.84	3.94	5.52
T2 / TE2	06		2.57	3.30	4.57	6.46

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]			
			-60	-50	-40	-30
			Capacity [kW]			
T2 / TE2	0X	55	0.29	0.36	0.44	0.50
T2 / TE2	00		0.33	0.46	0.62	0.81
T2 / TE2	01		0.46	0.64	0.92	1.29
T2 / TE2	02		0.51	0.73	1.06	1.54
T2 / TE2	03		0.86	1.22	1.80	2.65
T2 / TE2	04		1.56	1.96	2.67	3.73
T2 / TE2	05		1.98	2.50	3.44	4.85
T2 / TE2	06		2.39	2.93	3.97	5.63

Subcooling correction factor 'fsub'

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

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]							
		-60	-55	-50	-45	-40	-35	-30	-25
"Pressure drop [bar]"	0	1	1	1	1	1	1	1	1
	1	0.97	0.96	0.96	0.96	0.96	0.96	0.96	0.96
	1.5	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.94
	2	0.93	0.93	0.93	0.93	0.92	0.92	0.92	0.92

*) calculated at 32 °C condensing temperature

Capacity

R407F

Capacity in kW, range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.84	0.92	0.96	0.98	0.95	0.86
T2 / TE2	00		1.1	1.4	1.6	1.8	1.8	1.7
T2 / TE2	01		1.6	2.0	2.6	3.1	3.6	3.6
T2 / TE2	02		1.8	2.3	3.0	3.9	4.8	5.1
T2 / TE2	03		2.9	3.9	5.1	6.6	8.1	8.7
T2 / TE2	04		4.3	5.6	7.4	9.6	12.2	14.0
T2 / TE2	05		5.6	7.4	9.7	12.7	16.1	18.1
T2 / TE2	06		6.6	8.7	11.6	15.2	19.3	21.5

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.85	0.93	0.99	1.0	1.0	0.98
T2 / TE2	00		1.1	1.4	1.6	1.9	2.0	2.0
T2 / TE2	01		1.6	2.1	2.7	3.3	3.9	4.1
T2 / TE2	02		1.8	2.4	3.1	4.1	5.2	5.9
T2 / TE2	03		3.0	4.0	5.3	7.0	8.8	10.0
T2 / TE2	04		4.4	5.8	7.7	10.2	13.3	16.0
T2 / TE2	05		5.8	7.6	10.1	13.5	17.5	20.9
T2 / TE2	06		6.7	9.0	12.0	16.1	21.0	24.8

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.83	0.92	0.99	1.0	1.1	1.0
T2 / TE2	00		1.1	1.4	1.6	1.9	2.0	2.1
T2 / TE2	01		1.5	2.0	2.6	3.3	4.0	4.4
T2 / TE2	02		1.8	2.3	3.1	4.1	5.3	6.3
T2 / TE2	03		3.0	4.0	5.3	7.1	9.1	10.7
T2 / TE2	04		4.4	5.9	7.8	10.4	13.8	17.1
T2 / TE2	05		5.8	7.6	10.2	13.8	18.3	22.4
T2 / TE2	06		6.7	8.9	12.1	16.4	21.9	26.6

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.79	0.89	0.96	1.0	1.0	1.0
T2 / TE2	00		1.0	1.3	1.6	1.8	2.0	2.1
T2 / TE2	01		1.5	2.0	2.6	3.3	3.9	4.4
T2 / TE2	02		1.7	2.3	3.0	4.1	5.3	6.4
T2 / TE2	03		2.9	3.8	5.2	7.0	9.1	10.9
T2 / TE2	04		4.3	5.7	7.7	10.3	13.8	17.4
T2 / TE2	05		5.6	7.5	10.1	13.7	18.4	22.9
T2 / TE2	06		6.5	8.7	11.9	16.3	22.1	27.4

Subcooling correction factor 'fsub'

Subcooling [K]	1	4	10	15	20	25	30	35	40	45	50
Correction factor	0.96	1.00	1.07	1.14	1.20	1.26	1.33	1.40	1.47	1.54	1.65

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
"Pressure drop [bar]"	0	1	1	1	1	1	1	1	1	1	1	1	1
	1	1.00	0.93	0.91	0.88	0.87	0.82	0.79	0.76	0.73	0.69	0.65	0.91
	1.5	1.04	0.91	0.88	0.84	0.82	0.77	0.74	0.69	0.64	0.60	0.57	0.86
	2	1.07	0.93	0.85	0.81	0.77	0.72	0.67	0.63	0.58	0.54	0.50	0.80

*) calculated at 32 °C condensing temperature

Capacity

R407A

Capacity in kW, range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.74	0.81	0.86	0.87	0.85	0.77
T2 / TE2	00		0.97	1.2	1.4	1.6	1.7	1.6
T2 / TE2	01		1.4	1.8	2.3	2.8	3.2	3.2
T2 / TE2	02		1.6	2.1	2.7	3.5	4.3	4.6
T2 / TE2	03		2.6	3.4	4.6	5.9	7.3	7.8
T2 / TE2	04		3.8	5.0	6.6	8.6	11.0	12.6
T2 / TE2	05		5.0	6.5	8.6	11.4	14.5	16.4
T2 / TE2	06		5.8	7.7	10.3	13.6	17.3	19.4

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.74	0.82	0.88	0.91	0.91	0.88
T2 / TE2	00		0.97	1.2	1.4	1.7	1.8	1.8
T2 / TE2	01		1.4	1.8	2.3	2.9	3.4	3.7
T2 / TE2	02		1.6	2.1	2.8	3.6	4.6	5.3
T2 / TE2	03		2.6	3.5	4.7	6.2	7.8	9.0
T2 / TE2	04		3.9	5.1	6.8	9.0	11.9	14.4
T2 / TE2	05		5.0	6.7	8.9	12.0	15.7	18.7
T2 / TE2	06		5.9	7.9	10.6	14.3	18.8	22.2

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.72	0.80	0.87	0.91	0.93	0.92
T2 / TE2	00		0.94	1.2	1.4	1.7	1.8	1.9
T2 / TE2	01		1.3	1.8	2.3	2.9	3.5	3.9
T2 / TE2	02		1.5	2.0	2.7	3.7	4.7	5.6
T2 / TE2	03		2.6	3.4	4.6	6.2	8.1	9.5
T2 / TE2	04		3.8	5.1	6.8	9.2	12.2	15.2
T2 / TE2	05		5.0	6.6	8.9	12.1	16.2	19.9
T2 / TE2	06		5.8	7.8	10.6	14.5	19.4	23.7

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.67	0.76	0.83	0.88	0.91	0.92
T2 / TE2	00		0.88	1.1	1.4	1.6	1.8	1.9
T2 / TE2	01		1.3	1.7	2.2	2.8	3.5	3.9
T2 / TE2	02		1.4	1.9	2.6	3.5	4.6	5.6
T2 / TE2	03		2.4	3.3	4.5	6.1	8.0	9.6
T2 / TE2	04		3.7	4.9	6.6	9.0	12.1	15.4
T2 / TE2	05		4.8	6.4	8.7	11.9	16.1	20.3
T2 / TE2	06		5.5	7.5	10.3	14.2	19.4	24.2

Subcooling correction factor 'fsub'

Subcooling [K]	1	4	10	15	20	25	30	35	40	45	50
Correction factor	0.96	1.00	1.08	1.14	1.21	1.28	1.35	1.42	1.50	1.57	1.65

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
"Pressure drop [bar]"	0	1	1	1	1	1	1	1	1	1	1	1	1
	1	0.97	0.93	0.92	0.89	0.86	0.83	0.80	0.78	0.74	0.72	0.67	0.91
	1.5	1.01	0.92	0.88	0.85	0.81	0.78	0.73	0.71	0.67	0.63	0.59	0.86
	2	1.01	0.90	0.86	0.82	0.77	0.74	0.69	0.63	0.59	0.56	0.52	0.80

*) calculated at 32 °C condensing temperature

Capacity

R448A

Capacity in kW, range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.77	0.83	0.87	0.88	0.86	0.79
T2 / TE2	00		1.05	1.25	1.44	1.60	1.67	1.59
T2 / TE2	01		1.51	1.90	2.35	2.82	3.19	3.25
T2 / TE2	02		1.72	2.19	2.78	3.50	4.22	4.58
T2 / TE2	03		2.86	3.65	4.67	5.90	7.14	7.73
T2 / TE2	04		4.17	5.30	6.77	8.67	10.9	12.4
T2 / TE2	05		5.45	6.93	8.87	11.3	14.1	15.8
T2 / TE2	06		6.45	8.26	10.6	13.7	17.1	19.1

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.77	0.84	0.89	0.92	0.93	0.90
T2 / TE2	00		1.05	1.26	1.48	1.67	1.79	1.81
T2 / TE2	01		1.51	1.91	2.40	2.94	3.43	3.70
T2 / TE2	02		1.72	2.21	2.84	3.64	4.54	5.23
T2 / TE2	03		2.88	3.70	4.78	6.16	7.70	8.87
T2 / TE2	04		4.24	5.42	6.99	9.08	11.7	14.1
T2 / TE2	05		5.53	7.08	9.15	11.9	15.2	18.1
T2 / TE2	06		6.52	8.40	10.9	14.3	18.5	22.0

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.75	0.82	0.88	0.93	0.95	0.94
T2 / TE2	00		1.01	1.23	1.46	1.67	1.83	1.90
T2 / TE2	01		1.47	1.87	2.37	2.94	3.51	3.90
T2 / TE2	02		1.67	2.16	2.81	3.65	4.64	5.52
T2 / TE2	03		2.82	3.64	4.75	6.20	7.91	9.41
T2 / TE2	04		4.20	5.39	6.99	9.18	12.0	14.9
T2 / TE2	05		5.47	7.03	9.16	12.0	15.7	19.2
T2 / TE2	06		6.41	8.31	10.9	14.5	19.0	23.4

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.70	0.78	0.84	0.89	0.93	0.94
T2 / TE2	00		0.95	1.17	1.39	1.61	1.79	1.89
T2 / TE2	01		1.38	1.77	2.26	2.84	3.44	3.90
T2 / TE2	02		1.58	2.06	2.70	3.54	4.56	5.54
T2 / TE2	03		2.68	3.49	4.59	6.04	7.82	9.51
T2 / TE2	04		4.06	5.23	6.82	9.01	11.9	15.1
T2 / TE2	05		5.26	6.81	8.92	11.8	15.6	19.4
T2 / TE2	06		6.13	8.00	10.6	14.2	19.0	23.8

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.13	1.19	1.25	1.31	1.37	1.42	1.48	1.54

*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
"Pressure drop [bar]"	0	1	1	1	1	1	1	1	1	1	1	1	1
	1	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.94	0.94	0.93
	1.5	0.95	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.92	0.92	0.90	0.89
	2	0.93	0.93	0.92	0.92	0.92	0.92	0.91	0.90	0.90	0.89	0.87	0.85

*) calculated at 32 °C condensing temperature

Capacity

R449A

Capacity in kW. range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.76	0.82	0.85	0.87	0.85	0.78
T2 / TE2	00		1.05	1.24	1.42	1.57	1.63	1.56
T2 / TE2	01		1.53	1.90	2.32	2.76	3.12	3.17
T2 / TE2	02		1.74	2.19	2.76	3.43	4.11	4.45
T2 / TE2	03		2.91	3.66	4.63	5.79	6.95	7.52
T2 / TE2	04		4.24	5.33	6.75	8.54	10.6	12.0
T2 / TE2	05		5.55	6.98	8.84	11.2	13.7	15.3
T2 / TE2	06		6.59	8.32	10.6	13.5	16.6	18.5

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.76	0.82	0.87	0.90	0.91	0.88
T2 / TE2	00		1.05	1.25	1.45	1.63	1.75	1.77
T2 / TE2	01		1.53	1.91	2.36	2.87	3.34	3.61
T2 / TE2	02		1.74	2.20	2.81	3.56	4.40	5.07
T2 / TE2	03		2.92	3.70	4.73	6.03	7.48	8.60
T2 / TE2	04		4.30	5.43	6.93	8.92	11.4	13.6
T2 / TE2	05		5.61	7.10	9.09	11.67	14.8	17.4
T2 / TE2	06		6.63	8.43	10.9	14.1	17.9	21.2

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.74	0.81	0.87	0.91	0.93	0.93
T2 / TE2	00		1.01	1.22	1.43	1.63	1.79	1.86
T2 / TE2	01		1.48	1.86	2.33	2.87	3.41	3.80
T2 / TE2	02		1.69	2.15	2.77	3.56	4.49	5.35
T2 / TE2	03		2.84	3.63	4.68	6.05	7.66	9.10
T2 / TE2	04		4.23	5.37	6.91	8.99	11.6	14.4
T2 / TE2	05		5.51	7.02	9.06	11.8	15.2	18.5
T2 / TE2	06		6.49	8.31	10.8	14.2	18.4	22.6

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.69	0.76	0.82	0.87	0.91	0.92
T2 / TE2	00		0.95	1.15	1.36	1.57	1.74	1.85
T2 / TE2	01		1.39	1.76	2.22	2.76	3.34	3.80
T2 / TE2	02		1.59	2.04	2.64	3.44	4.41	5.36
T2 / TE2	03		2.69	3.46	4.49	5.87	7.54	9.15
T2 / TE2	04		4.06	5.18	6.71	8.78	11.5	14.5
T2 / TE2	05		5.27	6.76	8.78	11.5	15.0	18.7
T2 / TE2	06		6.17	7.96	10.4	13.9	18.3	22.9

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.13	1.19	1.25	1.31	1.37	1.43	1.49	1.55

*Distributer correction factor 'fp' *)*

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

*) calculated at 32 °C condensing temperature

Capacity

R452A

Capacity in kW. range N -40 °C to 10 °C. Opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.57	0.63	0.68	0.70	0.68	0.60
T2 / TE2	00		0.75	0.96	1.15	1.29	1.32	1.22
T2 / TE2	01		1.05	1.45	1.91	2.35	2.60	2.53
T2 / TE2	02		1.17	1.66	2.29	2.98	3.53	3.64
T2 / TE2	03		1.94	2.78	3.85	5.04	5.97	6.11
T2 / TE2	04		2.79	4.01	5.66	7.60	9.27	9.80
T2 / TE2	05		3.66	5.28	7.45	10.0	12.2	12.7
T2 / TE2	06		4.33	6.27	8.89	12.0	14.5	15.0

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.54	0.62	0.68	0.71	0.73	0.69
T2 / TE2	00		0.70	0.93	1.14	1.33	1.44	1.41
T2 / TE2	01		0.99	1.40	1.89	2.42	2.83	2.95
T2 / TE2	02		1.12	1.61	2.27	3.08	3.86	4.26
T2 / TE2	03		1.86	2.70	3.84	5.24	6.56	7.18
T2 / TE2	04		2.72	3.94	5.67	7.92	10.2	11.6
T2 / TE2	05		3.56	5.17	7.46	10.4	13.4	15.0
T2 / TE2	06		4.19	6.12	8.87	12.5	16.1	17.8

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.49	0.57	0.64	0.69	0.73	0.73
T2 / TE2	00		0.64	0.85	1.07	1.28	1.44	1.49
T2 / TE2	01		0.91	1.29	1.78	2.34	2.85	3.11
T2 / TE2	02		1.03	1.49	2.14	2.99	3.90	4.51
T2 / TE2	03		1.72	2.52	3.64	5.11	6.68	7.65
T2 / TE2	04		2.56	3.70	5.39	7.73	10.4	12.4
T2 / TE2	05		3.35	4.86	7.09	10.2	13.8	16.2
T2 / TE2	06		3.91	5.72	8.40	12.2	16.5	19.2

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.42	0.51	0.58	0.63	0.67	0.69
T2 / TE2	00		0.56	0.75	0.95	1.15	1.32	1.42
T2 / TE2	01		0.79	1.14	1.58	2.11	2.63	2.97
T2 / TE2	02		0.91	1.32	1.91	2.71	3.62	4.31
T2 / TE2	03		1.53	2.24	3.25	4.65	6.24	7.35
T2 / TE2	04		2.33	3.33	4.82	7.00	9.70	11.9
T2 / TE2	05		3.04	4.36	6.35	9.26	12.9	15.7
T2 / TE2	06		3.53	5.11	7.50	11.0	15.5	18.7

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.38	1.45	1.52	1.59	1.66

*Distributer correction factor 'fp' *)*

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

*) calculated at 32 °C condensing temperature

Capacity

R513A

Capacity in kW, range N, -40°C to 10°C, opening superheat sh= 6 K

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	25	0.39	0.46	0.51	0.54	0.53	0.47
T2 / TE2	00		0.42	0.55	0.70	0.83	0.91	0.86
T2 / TE2	01		0.55	0.76	1.0	1.3	1.5	1.6
T2 / TE2	02		0.62	0.85	1.1	1.5	1.8	2.0
T2 / TE2	03		1.0	1.4	1.9	2.5	3.1	3.3
T2 / TE2	04		1.5	2.1	2.8	3.6	4.5	5.0
T2 / TE2	05		1.9	2.6	3.5	4.6	5.7	6.4
T2 / TE2	06		2.4	3.2	4.4	5.7	7.1	7.9

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	35	0.39	0.46	0.52	0.57	0.59	0.58
T2 / TE2	00		0.41	0.56	0.72	0.88	1.0	1.1
T2 / TE2	01		0.55	0.77	1.0	1.4	1.7	1.9
T2 / TE2	02		0.61	0.86	1.2	1.6	2.0	2.4
T2 / TE2	03		1.0	1.4	2.0	2.6	3.4	4.1
T2 / TE2	04		1.5	2.1	2.9	3.9	5.0	6.2
T2 / TE2	05		2.0	2.7	3.7	4.9	6.4	7.8
T2 / TE2	06		2.4	3.3	4.5	6.1	7.9	9.8

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	45	0.37	0.45	0.51	0.57	0.61	0.62
T2 / TE2	00		0.40	0.54	0.71	0.88	1.0	1.2
T2 / TE2	01		0.54	0.75	1.0	1.4	1.7	2.1
T2 / TE2	02		0.60	0.84	1.2	1.6	2.1	2.6
T2 / TE2	03		1.0	1.4	2.0	2.7	3.5	4.5
T2 / TE2	04		1.5	2.1	2.9	3.9	5.2	6.7
T2 / TE2	05		2.0	2.7	3.7	5.0	6.7	8.5
T2 / TE2	06		2.4	3.3	4.6	6.2	8.3	10.7

Valve type	Orifice no.	Cond. temp. [°C]	Evaporating [°C]					
			-40	-30	-20	-10	0	10
			Capacity [kW]					
T2 / TE2	0X	55	0.35	0.42	0.49	0.55	0.59	0.63
T2 / TE2	00		0.38	0.52	0.68	0.85	1.0	1.2
T2 / TE2	01		0.51	0.72	0.99	1.3	1.7	2.1
T2 / TE2	02		0.57	0.81	1.1	1.6	2.1	2.7
T2 / TE2	03		0.98	1.4	1.9	2.6	3.5	4.6
T2 / TE2	04		1.5	2.1	2.9	3.9	5.2	6.8
T2 / TE2	05		1.9	2.7	3.7	5.0	6.6	8.7
T2 / TE2	06		2.3	3.2	4.5	6.1	8.2	10.8

Subcooling correction factor 'fsub'

Subcooling [K]	2	4	10	15	20	25	30	35	40	45	50
Correction factor	0.98	1.00	1.07	1.13	1.18	1.24	1.31	1.37	1.43	1.49	1.55

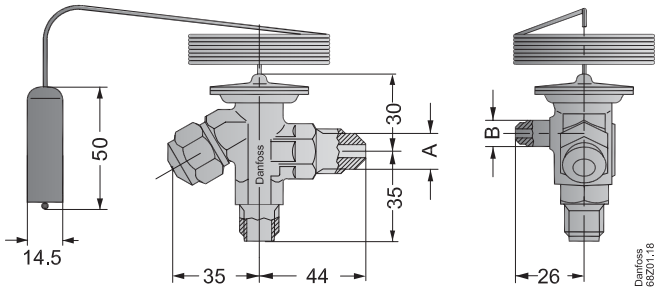
*Distributer correction factor 'fp' *)*

Pressure drop [bar]		Evaporating temp. [°C]											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15
"Pressure drop [bar]"	0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	1	0.94	0.93	0.93	0.93	0.93	0.92	0.92	0.91	0.90	0.89	0.87	0.84
	1.5	0.90	0.90	0.90	0.89	0.89	0.88	0.88	0.86	0.85	0.83	0.80	0.75
	2	0.87	0.86	0.86	0.85	0.85	0.84	0.83	0.81	0.79	0.77	0.72	0.64

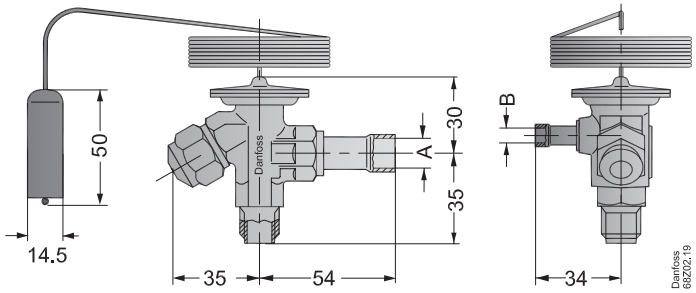
*) calculated at 32 °C condensing temperature

Dimensions and weights

T2 and TE2

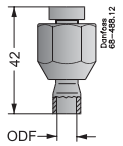


Flare × flare
All dimentions are in mm



Flare × solder
All dimentions are in mm

	Outlet	Equalization	Weight
	A	B	[kg / lb]
Flare × flare	1/2″ flare	1/4″ flare	0.3 / 0.7
Flare × solder	1/2″ solder 12 mm solder	1/4″ solder 6 mm solder	0.3 / 0.7



Solder adaptor

Solder ODF		Weight
[in.]	[mm]	[kg / lb]
1/4	6	0.05 / 0.11
3/8	10	0.05 / 0.11

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ENGINEERING TOMORROW

Data sheet

Thermostatic expansion valves
Type TE 5 – TE 55



The TE 5 - TE 55 series expansion valve regulate the injection of refrigerant into evaporators. It controls the refrigerant flow based on the superheat. The exchangeable power element is produced with the well known Danfoss laser welding technology for extended lifetime capability. The TE 5 - TE 55 series is available with a wide range of orifices which will cover a wide range of applications.

Applications:
- Air conditioning system
- Chiller
- Cold room
- Freezer
- Other refrigeration systems

Features

- Wide operating range:
  -40 – 10 °C / -40 – 50 °F
  -60 – -25 °C / -75 – -15 °F
- Refrigerants: R407F, R407A, R448A, R449A, R452A,R404A, R507, R22, R513A, R134a and R407C.
- Interchangeable orifice assembly:
  - easy storage
  - easy capacity matching
  - better service
- Laser welded stainless steel power element, capillary tube and bulb.
- Wide capacity range, rated capacity from:
  R448A/R449A : 9 – 225 kW / 2.5 – 64 TR
  R407F : 11 – 250 kW / 3 – 71 TR
  R404A/R507 : 7 – 183 kW / 2 – 52 TR
- MOP function is available.
- Superior charge performance.
- PS / MWP (maximum working pressure): 28 bar / 400 psig.
- Minimized capacity gap and overlap between orifices.
- TE 55 has balanced port design.
- Patented bulb strap design.

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Technical data

Max. temperature
Bulb, when valve is assembled:100 °C / 210 °F.
Complete valve when not assembled: 70 °C / 160 °F.
Min. temperature: -60 °C / -75 °F.

Max. test pressure: 32 bar / 465 psig.
Maximum working pressure: 28 bar / 400 psig.

MOP-points

SI units

Refrigerant	Range -40 – 10 °C	Range -40 – -5 °C	Range -40 – -15 °C	Range -60 – -25 °C
	MOP-point in evaporating temperature t_e and evaporating pressure p_e			
	15 °C	0 °C	-10 °C	-20 °C
R407F/R407A	7.5 bar	4.2 bar	2.6 bar	1.5 bar
R404A/R507	8.6 bar	5.1 bar	3.4 bar	2.0 bar
R22	6.9 bar	4.0 bar	2.6 bar	1.5 bar
R134a	3.9 bar	2.0 bar	1.0 bar	0.3 bar
R407C	6.6 bar	3.6 bar	2.2 bar	1.1 bar

US units

Range -40 – 50 °F	Range -40 – 25 °F	Range -40 – 5 °F	Range -75 – -15 °F
MOP-point in evaporating temperature t_e and evaporating pressure p_e			
60 °F	32 °F	15 °F	-5 °F
110 psig	60 psig	40 psig	20 psig
120 psig	70 psig	45 psig	30 psig
100 psig	60 psig	35 psig	20 psig
55 psig	30 psig	15 psig	5 psig
95 psig	50 psig	30 psig	15 psig

MOP = Max. Operating Pressure
For MOP of R448A/R449A, R452A, R513A, please contact Danfoss for more information.

Superheat

SS = static superheat
OS = opening superheat
SH = SS + OS = total superheat
Q_{nom} = rated capacity
Q_{max} = maximum capacity

SS can be adjusted with setting spindle.
The standard factory SS setting is 4 K / 7.2 °F.
The OS is 4 K / 7.2 °F from when opening begins to where the valve reaches its rated capacity Q_{nom}.
OS is determined by the design and cannot be changed.

Example

Static superheat	SS	= 4 K / 7.2 °F
Opening superheat	OS	= 4 K / 7.2 °F
Total superheat	SH	= 4 + 4 = 8 K
	SH	= 7.2 + 7.2 = 14.4 °F

Using orifice with range B element, please check superheat under running conditions and readjust SS setting, if necessary.

Identification

The thermostatic element is fitted with a label (on top of the diaphragm).

The label holds information like valve type, evaporating temperature range, MOP point, refrigerant, max. working pressure PS / MWP and production date.

Production place and date (BE1315B) mean:
BE = Wuqing, China
13 = Week
15 = Year 2015
B = Tuesday



Element label

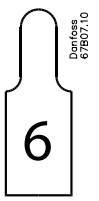
Orifice assembly for TE 5 – TE 55
The orifice assembly is marked on top of the spring cup, e.g. as shown in the figure.

TE 12 = For valve type
06 = Orifice no.
067B2709 = Orifice code no. for sales order
1315 = week 13, year 2015



Orifice assembly marking for TE 5 – TE 55

Capillary tube tag for TE 5 – TE 55
The label gives the orifice size (06). A new label always accompanies a new orifice assembly.



Capillary tube tag TE 5 – TE 55

Design / Function

General
TE 5 – TE 55 valves have an interchangeable orifice assembly.

TE 5 – TE 55 valves are built up of three main components (Parts program):

1. Thermostatic element
2. Orifice assembly
3. Valve body with connections



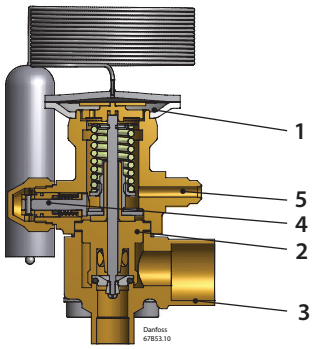
1. Thermostatic element
2. Orifice assembly
3. Valve body with connections

The orifice is refrigerant and range independend.

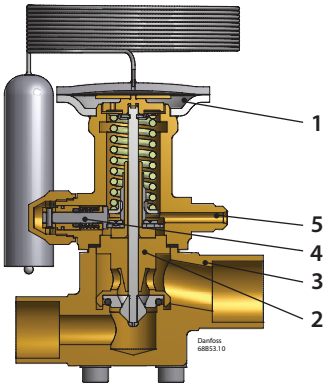
All valves are equipped with external pressure equalization.

To ensure long operating life, the valve cone and seat are made of a special alloy with particularly good wear properties.

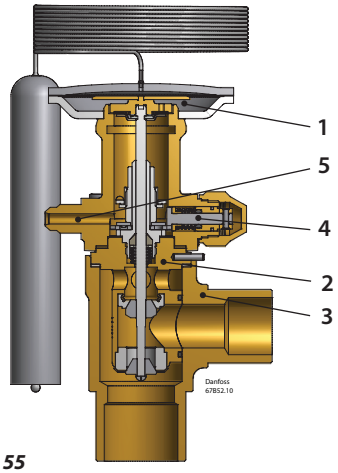
1. Thermostatic element.
2. Interchangeable orifice assembly.
3. Valve body.
4. Superheat setting spindle.
5. External pressure equalizing connection with $\frac{1}{4}$ in / 6 mm flare nut (solder is available on TE 5).



TE 5



TE 12 / TE 20



TE 55

Ordering



Element for expansion valve - including bulb strap.

R407F/R407A

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3501
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3502
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3503
	1/4 in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	067B3504
TE 12	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3532
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3531
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3533
TE 20	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3561
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3560
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3562
TE 55	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3500

Element for expansion valve - including bulb strap.

R448A/R449A

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3252
	¼ in. / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3600
TE 12	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B2512
TE 20	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3294
TE 55	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3219

Element for expansion valve - including bulb strap.

R452A

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3601
	¼ in. / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3602
TE 12	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3652
TE 20	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3680
TE 55	¼ in. / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3600

Ordering

Element for expansion valve - including bulb strap.

R404A/R507

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3342
	1/4 in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	067B3380
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3238
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3357
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3358
	1/4 in	Solder ODF	-10	15	-40 – -15	-40 – 5	3	118	067B3384
	1/4 in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	067B3344
	6 mm	Solder ODF	–	–	-60 – -25	-75 – -15	3	118	067B3392
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3343
	1/4 in	Solder ODF	-20	-5	-60 – -25	-75 – -15	3	118	067B3381
TE 12	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3347
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3345
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3348
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3349
	1/4 in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	067B3368
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3346
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067B3350
TE 20	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3352
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3351
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3353
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3354
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3356
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067B3355
TE 55	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3302
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067G3303
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067G3304
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067G3305
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067G3301
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067G3306

Ordering



Element for expansion valve - including bulb strap.

R22/R407C [1])

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3250**
	1/4 in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	**067B3420**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3267**
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	**067B3249**
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	**067B3253**
	1/4 in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	**067B3263**
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	**067B3251**
TE 12	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3210**
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067B3209**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3227**
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	**067B3207**
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	**067B3213**
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	**067B3211**
	1/4 in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	**067B3225**
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	**067B3212**
TE 20	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3274**
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067B3290**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3286**
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	**067B3273**
	1/4 in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	**067B3275**
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	**067B3276**
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	**067B3287**
TE 55	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067G3205**
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067G3209**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067G3220**
	1/4 in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	**067G3206**
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	**067G3207**
	1/4 in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	**067G3217**

[1]) *For R407C plants. please select elements from the dedicated R407C program*

Element for expansion valve - including bulb strap.

R513A

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3603**
TE 12	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3651**
TE 20	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3681**
TE 55	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067G3601**

Element for expansion valve - including bulb strap.

R134a

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3297**
	1/4 in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	**067B3430**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3298**
TE 12	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3232**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3233**
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067B3363**
TE 20	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3292**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3293**
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067B3370**
TE 55	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067G3222**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067G3223**
	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067G3230**

Ordering

Element for expansion valve - including bulb strap.

R407C

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 5	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3278**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3277**
TE 12	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	**067B3366**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	**067B3367**
TE 20	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067B3371**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	5	197	**067B3372**
TE 55	1/4 in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	**067G3240**
	1/4 in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	5	197	**067G3241**



Orifice for expansion valves. Rated capacity.

Valve type	Orifice no.	R407F	R407A	R448A/ R449A	R452A	R404A/ R507	R22	R513A	R134a	R407C	R407F	R407A	R448A/ R449A	R452A	R404A/ R507	R22	R513A	R134a	R407C	Code no.
		[kW]									[TR]									
TE 5	0.5	11	9	9	7	7	9	5	5	11	3	2.5	2.5	2	2	2.5	1.5	1.5	3	**067B2788**
	01	18	18	18	14	14	16	11	11	18	5	5	5	4	4	4.5	3	3	5	**067B2789**
	02	28	25	25	21	19	25	14	16	25	8	7	7	6	5.5	7	4	4.5	7	**067B2790**
	03	35	32	32	28	25	32	18	21	32	10	9	9	8	7	9	5	6	9	**067B2791**
	04	46	42	46	39	35	42	25	28	46	13	12	13	11	10	12	7	8	13	**067B2792**
TE 12	05	70	56	53	46	49	56	30	35	53	20	16	15	13	14	16	8.5	10	15	**067B2708**
	06	95	74	70	63	63	74	39	49	74	27	21	20	18	18	21	11	14	21	**067B2709**
	07	113	95	91	81	81	95	49	63	91	32	27	26	23	23	27	14	18	26	**067B2710**
TE 20	08	141	127	123	84	84	127	74	77	116	40	36	35	24	24	36	21	22	33	**067B2771** [1]
	09	158	148	141	98	102	148	81	91	134	45	42	40	28	29	42	23	26	38	**067B2773** [1]
TE 55	9B	123	109	113	84	84	113	70	74	109	35	31	32	24	24	32	20	21	31	**067G2705** [2]
	10	172	165	155	116	127	169	98	109	162	49	47	44	33	36	48	28	31	46	**067G2701**
	11	186	183	169	127	137	183	106	120	176	53	52	48	36	39	52	30	34	50	**067G2704**
	12	208	200	186	141	151	200	116	134	190	59	57	53	40	43	57	33	38	54	**067G2707**
	13	250	243	225	172	183	246	144	165	232	71	69	64	49	52	70	41	47	66	**067G2710**

The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

[1] *Recommend to use orifice no. 9B as alternative for orifice no. 08 and 09 on TE 55 when selecting the valve to work in range -60 – -25 °C / -75 – -15 °F.*
Extend capacity tables for range -60 – -25 °C / -75 – -15 °F are not provided.

[2] *Alternative for orifice no. 08 and 09 in range -60 – -25 °C / -75 – -15 °F.*
Extend capacity tables for range -40 – 10 °C / -40 –50 °F are not provided.

Ordering



Flare angleway



Solder straightway



Solder straightway



Flanges



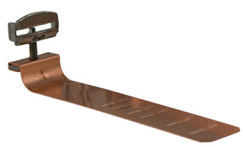
Solder angleway

Valve body for expansion valves

Type	Connection Inlet × Outlet [in]	Connection Inlet × Outlet [mm]	Connections / Flow direction	Connection type [1]	Code no.
TE 5	1/2 × 5/8	12 × 16	Flare angleway	–	067B4013
	1/2 × 5/8	–	Solder angleway	ODF × ODF	067B4009
	1/2 × 7/8	–	Solder angleway	ODF × ODF	067B4010
	5/8 × 7/8	–	Solder angleway	ODF × ODF	067B4011
	7/8 × 1 1/8	–	Solder angleway	ODF × ODM	067B4034
	1/2 × 5/8	–	Solder straightway	ODF × ODF	067B4007
	1/2 × 7/8	–	Solder straightway	ODF × ODF	067B4008
	5/8 × 7/8	–	Solder straightway	ODF × ODF	067B4032
	7/8 × 1 1/8	–	Solder straightway	ODF × ODM	067B4033
	–	12 × 16	Solder angleway	ODF × ODF	067B4004
	–	12 × 22	Solder angleway	ODF × ODF	067B4005
	–	16 × 22	Solder angleway	ODF × ODF	067B4012
	–	22 × 28	Solder angleway	ODF × ODM	067B4037
	–	12 × 16	Solder straightway	ODF × ODF	067B4002
	–	12 × 22	Solder straightway	ODF × ODF	067B4003
	–	16 × 22	Solder straightway	ODF × ODF	067B4035
	–	22 × 28	Solder straightway	ODF × ODM	067B4036
TE 12	5/8 × 7/8	–	Solder angleway	ODF × ODF	067B4022
	7/8 × 1 1/8	–	Solder angleway	ODF × ODM	067B4023
	5/8 × 7/8	–	Solder straightway	ODF × ODF	067B4020
	7/8 × 1 1/8	–	Solder straightway	ODF × ODM	067B4021
	–	22 × 28	Solder angleway	ODF × ODM	067B4017
	–	16 × 22	Solder straightway	ODF × ODF	067B4018
	–	22 × 28	Solder straightway	ODF × ODM	067B4016
TE 12	5/8 × 7/8	–	Solder flanges	ODF × ODF	067B4025
	7/8 × 1	–	Solder flanges	ODF × ODF	067B4026
	–	16 × 22	Solder flanges	ODF × ODF	067B4027
	–	22 × 25	Solder flanges	ODF × ODF	067B4015
TE 20	7/8 × 1 1/8	–	Solder angleway	ODF × ODM	067B4023
	–	22 × 28	Solder angleway	ODF × ODM	067B4017
	7/8 × 1 1/8	–	Solder straightway	ODF × ODM	067B4021
	–	22 × 28	Solder straightway	ODF × ODM	067B4016
TE 55	1 1/8 × 1 3/8	–	Solder angleway	ODM × ODM	067G4004
	–	28 × 35	Solder angleway	ODM × ODM	067G4002
	1 1/8 × 1 3/8	–	Solder straightway	ODM × ODM	067G4003
	–	28 × 35	Solder straightway	ODM × ODM	067G4001

[1]) *ODF = Internal diameter*
ODM = External diameter

Spareparts



Bulb straps (delivered separately) in Industrial pack

Type	Max. tube diameter	Code no.
TE 5 / TE 12	2 1/8 in / 53 mm	067N0557
TE 20 / TE 55	3 1/8 in / 78 mm	067N0559

How to select a valve

Example:

Q (capacity) = 45 kW
T_{con} (condensing temperature) = 25 °C
T_{evap} (evaporator temperature) = -30 °C
T_{sub} (subcooling temperature) =10 K
D_{pd} (distributer pressure drop) = 2 bar

SI units

Q (capacity) = 45 kW
f_{sub} (subcooling correction factor) = 1.09
f_p (distributer correction factor) = 0.92

$$\frac{Q}{f_{sub} \times f_p} = \text{Selected capacity}$$

$$\frac{50}{1.09 \times 0.92} = 44.9 \text{ kW}$$

The selection will be:
TE 20 orifice 9 (54.2 kW > 44.9 kW)

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units
R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]		
			-40	-30	-20
TE 20	~~8~~	~~25~~	35.7	~~48.4~~	62.2
	9	25	39.5	54.2	71.3
TE 55	~~10~~	~~25~~	46.5	64.9	86.1
	11	25	51.1	71.2	94.4
	12	25	54.8	76.8	103
	13	25	66.5	93.7	126

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15
Correction factor	0,97	1,00	1,09	1,16

Distributer correction factor, f_p

SI units
R404A/R507

Pressure drop [bar] Δp	Evap. temp. [°C]			
	-40	-30	-20	-10
	Correction factor			
0	1	1	1	1
1	0.96	0.96	0.96	0.95
1.5	0.94	0.94	0.94	0.93
2	0.92	0.92	0.91	0.90

Calculated at 32 °C condensing temperature.

US units

Q (capacity) = 14 TR
T_{con} (condensing temperature) = 75 °F
T_{evap} (evaporator temperature) = -20 °F
T_{sub} (subcooling temperature) = 10 °F
D_{pd} (distributer pressure drop) = 30 psi

Q (capacity) = 14 TR
f_{sub} (subcooling correction factor) = 1.03
f_p (distributer correction factor) = 0.92

$$\frac{Q}{f_{sub} \times f_p} = \text{Selected capacity}$$

$$\frac{14}{1.03 \times 0.92} = 14.8 \text{ TR}$$

The selection will be:
TE 20 orifice 9 (16.1 TR > 14.8 TR)

Capacity in kW. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units
R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]		
			-40	-20	0
TE 20	~~08~~	~~75~~	10.2	~~14.2~~	18.6
	09	75	11.3	16.1	21.5
TE 55	~~10~~	~~75~~	13.4	~~19.2~~	26.0
	11	75	14.7	21.1	28.5
	12	75	15.8	22.8	31.1
	13	75	19.2	27.9	38.2

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20
Correction factor	0.96	1.00	1.03	1.11

Distributer correction factor, f_p

US units
R404A/R507

Pressure drop [psi] Δp	Evap. temp. [°F]			
	-40	-20	0	20
	Correction factor			
0	1	1	1	1
15	0.96	0.96	0.96	0.95
25	0.94	0.93	0.92	0.91
30	0.92	0.92	0.91	0.89

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407F

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	4.70	5.94	7.36	8.83	10.06	10.5
	01	25	8.60	10.9	13.5	16.2	18.4	19.1
	02	25	12.0	15.3	19.0	22.7	25.5	26.1
	03	25	15.3	19.4	24.1	28.8	32.8	34.1
	04	25	20.3	26.0	32.6	39.4	44.7	46.1
TE 12	05	25	26.1	34.7	45.0	56.7	67.3	70.9
	06	25	32.8	44.3	58.4	74.6	89.4	94.4
	07	25	42.6	59.2	77.5	96.2	113	124
TE 20	08	25	52.3	69.5	90.2	113	131	134
	09	25	56.6	76.3	101	130	155	162
TE 55	10	25	65.7	86.2	111	139	164	177
	11	25	72.3	94.9	123	153	180	193
	12	25	77.7	103	133	167	200	216
	13	25	94.7	126	163	206	245	262

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407F

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	1.33	1.72	2.17	2.62	2.91	2.92
	01	75	2.44	3.17	4.00	4.81	5.32	5.32
	02	75	3.41	4.44	5.60	6.70	7.32	7.26
	03	75	4.34	5.64	7.11	8.55	9.48	9.49
	04	75	5.76	7.58	9.66	11.7	12.9	12.8
TE 12	05	75	7.42	10.2	13.5	17.2	19.7	19.7
	06	75	9.32	13.0	17.6	22.7	26.2	26.2
	07	75	12.0	17.4	23.2	29.0	33.6	34.7
TE 20	08	75	14.9	20.4	27.0	33.8	37.8	37.3
	09	75	16.1	22.5	30.6	39.5	45.4	45.1
TE 55	10	75	18.8	25.3	33.4	42.0	48.4	49.4
	11	75	20.7	27.9	36.8	46.1	52.9	53.9
	12	75	22.3	30.3	40.1	50.8	59.1	60.3
	13	75	27.2	37.1	49.3	62.6	72.3	73.2

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407F

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	4.70	5.98	7.49	9.14	10.7	11.9
	01	35	8.60	11.0	13.8	16.8	19.7	21.7
	02	35	12.0	15.4	19.4	23.6	27.4	29.9
	03	35	15.2	19.4	24.4	29.7	34.8	38.5
	04	35	20.0	26.0	33.0	40.6	47.7	52.0
TE 12	05	35	25.8	33.8	43.6	55.6	68.8	79.0
	06	35	31.9	42.6	56.1	72.8	91.3	106
	07	35	43.6	58.0	75.1	93.7	112	129
TE 20	08	35	51.2	67.4	87.6	112	136	153
	09	35	54.3	71.9	94.9	123	156	181
TE 55	10	35	61.4	81.6	107	137	167	191
	11	35	67.2	89.3	117	150	182	208
	12	35	70.7	94.5	124	160	200	233
	13	35	84.6	113	150.1	195	243	282

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407F

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	1.33	1.74	2.23	2.75	3.21	3.37
	01	95	2.44	3.20	4.11	5.06	5.89	6.16
	02	95	3.41	4.49	5.77	7.09	8.17	8.48
	03	95	4.32	5.67	7.26	8.95	10.4	10.9
	04	95	5.69	7.57	9.83	12.2	14.3	14.9
TE 12	05	95	7.33	9.87	13.1	17.0	21.1	22.6
	06	95	9.07	12.5	16.9	22.4	28.1	30.2
	07	95	12.4	17.0	22.5	28.4	34.2	36.6
TE 20	08	95	14.6	19.7	26.3	34.1	41.3	43.5
	09	95	15.4	21.1	28.6	38.1	47.9	51.3
TE 55	10	95	17.4	23.9	32.2	41.8	50.9	54.3
	11	95	19.1	26.2	35.3	45.7	55.4	58.9
	12	95	20.1	27.7	37.4	49.3	61.4	66.2
	13	95	24.0	33.3	45.3	59.8	74.5	80.1

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.12	1.17	1.23	1.28

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.27

Distributer correction factor, f_p

SI units R407F

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.97	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.95	0.94	0.94	0.93	0.91
2	0.93	0.93	0.92	0.91	0.90	0.87

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R407F

Pressure drop [psi] Δp	Evap. temp. [°C]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.95	0.94
25	0.94	0.94	0.93	0.92	0.91	0.89
30	0.93	0.92	0.92	0.91	0.89	0.87

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407F

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	4.58	5.86	7.39	9.11	10.9	12.4
	01	45	8.36	10.7	13.6	16.8	20.0	22.7
	02	45	11.7	15.1	19.1	23.6	28.0	31.5
	03	45	14.7	18.9	23.9	29.5	35.2	40.0
	04	45	19.2	25.0	32.2	40.2	48.3	54.8
TE 12	05	45	25.2	32.3	41.2	52.3	65.6	79.5
	06	45	30.7	40.2	52.5	68.0	87.0	107
	07	45	41.9	54.0	69.3	87.0	106	125
TE 20	08	45	49.5	64.2	82.8	106	132	157
	09	45	51.5	66.8	86.9	113	145	179
TE 55	10	45	55.2	74.2	98.8	129	162	192
	11	45	60.0	80.8	108	140	175	207
	12	45	62.3	83.9	112	146	187	229
	13	45	73.1	99.0	132	175	224	274

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407F

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	1.29	1.70	2.19	2.75	3.29	3.52
	01	115	2.36	3.12	4.04	5.07	6.05	6.47
	02	115	3.29	4.38	5.69	7.13	8.45	8.97
	03	115	4.14	5.48	7.10	8.90	10.6	11.4
	04	115	5.40	7.27	9.58	12.2	14.6	15.6
TE 12	05	115	7.12	9.37	12.3	15.9	20.3	22.4
	06	115	8.66	11.7	15.6	20.8	27.1	30.2
	07	115	11.8	15.6	20.5	26.2	32.3	35.2
TE 20	08	115	14.0	18.6	24.6	32.2	40.6	44.4
	09	115	14.5	19.4	25.9	34.6	45.1	50.4
TE 55	10	115	15.5	21.5	29.5	39.3	49.6	54.2
	11	115	16.8	23.4	32.1	42.7	53.7	58.6
	12	115	17.4	24.2	33.2	44.7	57.9	64.5
	13	115	20.4	28.6	39.4	53.3	69.5	77.3

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407F

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	4.33	5.56	7.06	8.77	10.6	12.3
	01	55	7.89	10.2	13.0	16.2	19.5	22.6
	02	55	11.0	14.3	18.3	22.9	27.5	31.6
	03	55	13.7	17.8	22.7	28.2	34.1	39.5
	04	55	17.7	23.4	30.3	38.4	46.8	54.3
TE 12	05	55	24.3	30.6	38.3	48.0	59.8	73.6
	06	55	29.1	37.5	48.1	61.8	79.0	99.2
	07	55	37.6	47.1	60.4	76.7	95.2	115
TE 20	08	55	47.3	60.3	76.8	97.4	122	149
	09	55	48.6	61.6	78.6	101	130	163
TE 55	10	55	47.2	64.2	86.7	115	148	180
	11	55	51.0	69.3	93.7	124	159	194
	12	55	53.0	71.9	96.3	127	166	208
	13	55	61.0	83.3	112	150	196	247

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407F

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	1.21	1.60	2.08	2.63	3.19	3.45
	01	135	2.20	2.93	3.83	4.85	5.89	6.37
	02	135	3.06	4.10	5.40	6.86	8.29	8.91
	03	135	3.82	5.10	6.66	8.44	10.3	11.1
	04	135	4.91	6.69	8.92	11.5	14.1	15.3
TE 12	05	135	6.84	8.78	11.2	14.3	18.2	20.4
	06	135	8.16	10.8	14.1	18.6	24.3	27.5
	07	135	10.3	13.2	17.4	22.7	28.6	31.8
TE 20	08	135	13.3	17.3	22.6	29.2	37.3	41.5
	09	135	13.6	17.6	23.0	30.3	39.7	45.1
TE 55	10	135	12.8	18.1	25.3	34.5	44.9	50.0
	11	135	13.8	19.5	27.3	37.2	48.3	53.7
	12	135	14.5	20.3	28.1	38.2	50.6	57.3
	13	135	16.5	23.4	32.6	44.7	59.8	67.9

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.12	1.17	1.23	1.28

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.27

Distributer correction factor, f_p

SI units R407F

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.97	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.95	0.94	0.94	0.93	0.91
2	0.93	0.93	0.92	0.91	0.90	0.87

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R407F

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.95	0.94
25	0.94	0.94	0.93	0.92	0.91	0.89
30	0.93	0.92	0.92	0.91	0.89	0.87

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	4.36	5.50	6.80	8.10	9.14	9.44
	01	25	8.00	10.1	12.5	14.9	16.7	17.2
	02	25	11.2	14.2	17.5	20.7	23.1	23.5
	03	25	14.2	18.0	22.3	26.6	29.9	30.5
	04	25	19.0	24.2	30.2	36.2	40.6	41.2
TE 12	05	25	19.7	26.4	34.3	42.7	49.9	52.8
	06	25	25.1	33.8	44.4	56.0	66.1	70.3
	07	25	32.6	43.9	58.1	74.1	88.2	94.2
TE 20	08	25	46.6	59.8	75.2	91.3	104	107
	09	25	51.3	66.8	85.6	106	124	130
TE 55	10	25	60.0	77.7	99.1	123	145	156
	11	25	66.1	85.6	109	135	159	171
	12	25	71.2	92.4	118	148	176	191
	13	25	86.9	113	146	182	216	232

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	1.24	1.60	2.01	2.40	2.63	2.63
	01	75	2.27	2.94	3.69	4.39	4.79	4.77
	02	75	3.19	4.13	5.15	6.09	6.59	6.52
	03	75	4.03	5.24	6.60	7.86	8.56	8.49
	04	75	5.40	7.07	8.95	10.7	11.6	11.5
TE 12	05	75	5.62	7.75	10.3	12.9	14.6	14.7
	06	75	7.16	9.96	13.4	16.9	19.4	19.6
	07	75	9.32	13.0	17.6	22.5	26.0	26.3
TE 20	08	75	13.3	18.0	22.4	27.2	30.0	29.8
	09	75	14.7	20.0	25.7	32.1	36.2	36.2
TE 55	10	75	17.2	22.8	29.7	37.1	42.8	43.6
	11	75	19.0	25.2	32.7	40.8	46.9	47.8
	12	75	20.0	27.2	35.6	44.8	52.1	53.4
	13	75	25.0	33.4	43.9	55.3	63.9	64.9

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	4.25	5.41	6.78	8.30	9.75	10.8
	01	35	7.79	9.93	12.5	15.2	17.9	20.0
	02	35	10.9	14.0	17.5	21.3	24.8	27.0
	03	35	13.7	17.5	22.1	27.1	31.8	34.8
	04	35	18.2	23.5	29.8	36.8	43.3	47.2
TE 12	05	35	18.9	25.0	32.6	41.6	50.8	57.9
	06	35	23.7	31.7	41.9	54.2	67.1	77.2
	07	35	30.1	39.9	52.9	68.9	86.3	100
TE 20	08	35	43.9	56.5	72.0	89.9	107	120
	09	35	47.2	61.3	79.3	101	124	142
TE 55	10	35	54.5	71.5	92.8	118	146	169
	11	35	59.7	78.2	101	129	159	184
	12	35	63.7	83.7	109	139	173	203
	13	35	76.4	100	132	169	211	246

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	1.21	1.58	2.02	2.50	2.92	3.06
	01	95	2.21	2.89	3.71	4.59	5.34	5.58
	02	95	3.10	4.07	5.20	6.40	7.38	7.66
	03	95	3.89	5.11	6.57	8.15	9.49	9.88
	04	95	5.15	6.84	8.89	11.1	12.9	13.4
TE 12	05	95	5.36	7.31	9.80	12.7	15.5	16.4
	06	95	6.73	9.30	12.6	16.6	20.5	21.9
	07	95	8.55	11.7	15.9	21.2	26.5	28.5
TE 20	08	95	12.5	16.5	21.5	27.3	32.4	34.0
	09	95	13.4	17.9	23.8	31.0	37.9	40.2
TE 55	10	95	15.5	20.9	27.9	36.2	44.7	48.1
	11	95	16.9	22.9	30.5	39.6	48.7	52.3
	12	95	18.1	24.5	32.8	42.9	53.4	57.7
	13	95	21.7	29.5	39.7	52.2	64.9	69.9

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.13	1.19	1.24	1.30

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.09	1.16	1.23	1.29

Distributer correction factor, f_p

SI units R407A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.94	0.94	0.93	0.92	0.90
2	0.93	0.92	0.92	0.91	0.89	0.87

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R407A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.93
25	0.94	0.93	0.93	0.92	0.90	0.89
30	0.92	0.92	0.91	0.90	0.88	0.86

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	4.00	5.11	6.47	8.05	9.73	11.2
	01	45	7.33	9.39	11.9	14.8	17.9	20.6
	02	45	10.3	13.2	16.8	20.8	25.0	28.5
	03	45	12.8	16.4	20.8	26.0	31.6	36.3
	04	45	16.8	21.8	28.0	35.4	43.2	49.6
TE 12	05	45	17.5	22.8	29.6	38.1	47.8	57.3
	06	45	21.7	28.7	37.8	49.3	62.9	76.4
	07	45	27.4	35.3	46.1	60.1	77.1	95.0
TE 20	08	45	40.2	51.4	65.7	83.4	103	121
	09	45	42.2	54.3	70.2	90.6	115	139
TE 55	10	45	47.4	62.9	82.9	108	137	167
	11	45	51.6	68.4	90.0	117	149	181
	12	45	54.6	72.5	95.8	125	160	197
	13	45	64.3	85.8	114	150	193	236

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	1.13	1.48	1.92	2.43	2.96	3.18
	01	115	2.06	2.72	3.53	4.48	5.44	5.85
	02	115	2.89	3.82	4.97	6.29	7.58	8.10
	03	115	3.60	4.74	6.17	7.86	9.58	10.3
	04	115	4.72	6.30	8.32	10.7	13.1	14.1
TE 12	05	115	4.92	6.58	8.78	11.6	14.7	16.2
	06	115	6.10	8.28	11.2	15.0	19.4	21.5
	07	115	7.67	10.2	13.6	18.3	23.8	26.6
TE 20	08	115	11.3	14.8	19.5	25.3	31.6	34.3
	09	115	11.8	15.6	20.8	27.5	35.5	39.2
TE 55	10	115	13.2	18.1	24.6	32.9	42.5	47.1
	11	115	14.4	19.7	26.7	35.7	46.0	50.9
	12	115	15.2	20.9	28.4	38.2	49.7	55.4
	13	115	17.9	24.6	33.8	45.7	59.6	66.5

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	3.65	4.66	5.91	7.42	9.12	10.83
	01	55	6.68	8.56	10.9	13.7	16.9	20.0
	02	55	9.34	12.0	15.4	19.4	23.8	27.9
	03	55	11.6	14.8	18.8	23.8	29.4	35.0
	04	55	15.0	19.5	25.2	32.3	40.3	48.2
TE 12	05	55	15.9	20.2	25.8	33.1	42.0	51.9
	06	55	19.4	25.1	32.7	42.6	55.0	69.1
	07	55	24.5	30.7	39.0	50.0	64.3	81.3
TE 20	08	55	35.6	45.1	57.4	73.2	92.5	113
	09	55	36.8	46.6	59.6	76.9	99.2	124
TE 55	10	55	39.3	52.7	70.3	93.0	121	152
	11	55	42.5	57.0	75.8	100	130	164
	12	55	44.6	59.8	79.9	106	139	176
	13	55	51.4	69.4	93.4	125	164	209

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	1.01	1.32	1.72	2.21	2.75	3.02
	01	135	1.85	2.43	3.17	4.08	5.09	5.58
	02	135	2.58	3.42	4.49	5.77	7.16	7.81
	03	135	3.20	4.19	5.47	7.06	8.86	9.73
	04	135	4.13	5.52	7.34	9.63	12.2	13.4
TE 12	05	135	4.39	5.70	7.47	9.80	12.7	14.2
	06	135	5.34	7.08	9.46	12.7	16.7	19.0
	07	135	6.78	8.63	11.2	14.7	19.4	22.0
TE 20	08	135	9.80	12.7	16.6	21.7	27.9	31.2
	09	135	10.1	13.1	17.1	22.8	30.1	34.1
TE 55	10	135	10.6	14.7	20.3	27.8	37.0	41.9
	11	135	11.5	15.9	21.9	29.9	39.7	45.0
	12	135	12.0	16.7	23.0	31.6	42.3	48.2
	13	135	13.8	19.3	26.8	37.1	50.1	57.2

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.13	1.19	1.24	1.30

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.09	1.16	1.23	1.29

Distributer correction factor, f_p

SI units R407A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.94	0.94	0.93	0.92	0.90
2	0.93	0.92	0.92	0.91	0.89	0.87

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R407A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.93
25	0.94	0.93	0.93	0.92	0.90	0.89
30	0.92	0.92	0.91	0.90	0.88	0.86

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	4.27	5.53	6.90	8.31	9.50	9.95
	01	25	7.84	10.2	12.7	15.3	17.4	18.1
	02	25	11.0	14.3	17.8	21.3	24.0	24.7
	03	25	13.9	18.0	22.6	27.2	31.1	32.2
	04	25	18.4	24.2	30.6	37.1	42.3	43.4
TE 12	05	25	22.5	29.0	36.5	44.8	52.5	56.1
	06	25	28.5	37.2	47.5	59.0	69.7	74.6
	07	25	37.4	48.4	61.8	77.3	92.3	100
TE 20	08	25	49.9	65.4	83.2	102	118	122
	09	25	54.0	71.7	93.3	118	140	147
TE 55	10	25	56.3	76.7	101	128	153	166
	11	25	62.0	84.4	111	141	168	181
	12	25	66.5	90.8	120	154	185	202
	13	25	80.7	112	148	189	228	246

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	1.21	1.61	2.04	2.47	2.75	2.76
	01	75	2.23	2.96	3.75	4.52	5.02	5.02
	02	75	3.12	4.15	5.25	6.29	6.90	6.84
	03	75	3.93	5.26	6.70	8.09	8.96	8.93
	04	75	5.24	7.08	9.09	11.0	12.2	12.0
TE 12	05	75	6.40	8.47	10.9	13.5	15.4	15.6
	06	75	8.13	10.9	14.2	17.8	20.5	20.8
	07	75	10.7	14.2	18.6	23.5	27.4	28.0
TE 20	08	75	14.2	19.2	24.8	30.6	34.2	33.9
	09	75	15.4	21.2	28.2	35.8	41.0	40.9
TE 55	10	75	16.2	22.7	30.5	38.9	45.4	46.3
	11	75	17.8	24.9	33.6	42.8	49.7	50.6
	12	75	19.1	26.9	36.5	46.9	55.2	56.6
	13	75	23.2	32.9	44.8	57.8	67.6	68.6

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	4.22	5.50	6.96	8.54	10.1	11.4
	01	35	7.73	10.1	12.8	15.7	18.6	20.7
	02	35	10.8	14.2	18.0	22.0	25.9	28.5
	03	35	13.6	17.8	22.6	27.9	33.0	36.8
	04	35	17.9	23.8	30.6	38.0	45.2	50.1
TE 12	05	35	21.6	27.8	35.3	44.0	53.5	61.4
	06	35	27.1	35.4	45.6	57.7	70.9	82.1
	07	35	35.0	44.9	57.4	72.8	90.1	105
TE 20	08	35	47.2	62.2	80.1	101	122	137
	09	35	49.8	66.2	86.7	112	139	161
TE 55	10	35	51.1	70.5	94.4	123	153	179
	11	35	55.8	77.0	103	134	167	195
	12	35	59.4	82.1	111	144	182	215
	13	35	70.7	98.4	133	175	221	260

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	1.20	1.61	2.07	2.58	3.05	3.22
	01	95	2.20	2.95	3.82	4.75	5.59	5.89
	02	95	3.07	4.15	5.36	6.64	7.74	8.09
	03	95	3.85	5.20	6.74	8.41	9.94	10.5
	04	95	5.08	6.96	9.13	11.5	13.6	14.2
TE 12	05	95	6.13	8.12	10.5	13.4	16.3	17.5
	06	95	7.70	10.3	13.7	17.6	21.7	23.3
	07	95	9.95	13.1	17.2	22.3	27.7	29.9
TE 20	08	95	13.4	18.2	24.0	30.6	36.9	38.9
	09	95	14.1	19.4	26.1	34.3	42.7	45.6
TE 55	10	95	14.5	20.7	28.5	37.7	47.0	50.9
	11	95	15.8	22.6	31.1	41.1	51.2	55.4
	12	95	16.9	24.1	33.4	44.5	56.1	61.0
	13	95	20.1	28.9	40.3	54.1	68.2	73.9

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.13	1.18	1.24	1.31

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.28

Distributer correction factor, f_p

SI units R448A/R449A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.94	0.94	0.93	0.92	0.90
2	0.93	0.92	0.92	0.91	0.90	0.87

** Calculated at 32 °C condensing temperature.*

Distributer correction factor, f_p

US units R448A/R449A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.94
25	0.94	0.93	0.93	0.92	0.90	0.89
30	0.93	0.92	0.92	0.90	0.88	0.87

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	4.07	5.34	6.79	8.42	10.2	11.8
	01	45	7.45	9.80	12.5	15.5	18.7	21.7
	02	45	10.4	13.8	17.6	21.9	26.2	30.0
	03	45	13.0	17.1	21.9	27.2	33.0	38.3
	04	45	16.9	22.7	29.4	37.1	45.3	52.6
TE 12	05	45	20.3	26.0	32.9	41.3	51.1	61.1
	06	45	25.2	32.8	42.2	53.7	67.5	81.9
	07	45	32.0	40.6	51.5	65.2	82.0	100
TE 20	08	45	43.6	57.6	74.5	94.7	117	139
	09	45	44.9	59.4	77.8	101	129	158
TE 55	10	45	45.1	62.8	85.0	112	142	174
	11	45	48.9	68.2	92.2	121	154	187
	12	45	51.6	72.1	97.9	129	166	204
	13	45	60.3	84.9	116	154	199	245

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	1.15	1.55	2.02	2.54	3.09	3.35
	01	115	2.10	2.85	3.72	4.69	5.70	6.15
	02	115	2.94	4.00	5.23	6.60	7.96	8.54
	03	115	3.66	4.97	6.49	8.23	10.0	10.9
	04	115	4.77	6.59	8.75	11.2	13.8	14.9
TE 12	05	115	5.70	7.50	9.74	12.5	15.7	17.3
	06	115	7.07	9.47	12.5	16.3	20.8	23.1
	07	115	8.99	11.7	15.2	19.7	25.2	28.1
TE 20	08	115	12.3	16.7	22.1	28.7	36.0	39.3
	09	115	12.6	17.2	23.1	30.8	40.0	44.5
TE 55	10	115	12.6	18.2	25.4	34.1	44.0	48.9
	11	115	13.7	19.8	27.5	36.9	47.5	52.8
	12	115	14.4	20.9	29.2	39.5	51.3	57.3
	13	115	16.8	24.5	34.6	47.2	61.6	68.8

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	3.84	5.05	6.43	7.99	9.69	11.4
	01	55	7.01	9.26	11.8	14.8	17.9	21.1
	02	55	9.77	13.0	16.7	20.9	25.3	29.5
	03	55	12.1	16.0	20.5	25.6	31.2	36.8
	04	55	15.6	21.0	27.4	34.7	42.9	50.9
TE 12	05	55	18.6	23.6	29.7	37.1	45.9	55.9
	06	55	22.8	29.5	37.7	47.9	60.4	74.8
	07	55	28.7	35.8	44.7	56.0	70.3	87.3
TE 20	08	55	39.4	52.0	67.1	85.3	107	129
	09	55	39.7	52.1	67.7	87.6	113	142
TE 55	10	55	38.9	54.8	74.6	98.7	127	157
	11	55	42.0	59.1	80.3	106	136	169
	12	55	43.9	61.9	84.4	112	145	181
	13	55	50.3	71.5	98.4	132	171	215

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	1.07	1.45	1.89	2.38	2.92	3.18
	01	135	1.96	2.66	3.48	4.41	5.41	5.89
	02	135	2.73	3.74	4.91	6.23	7.61	8.25
	03	135	3.38	4.60	6.01	7.63	9.38	10.3
	04	135	4.34	6.03	8.04	10.4	13.0	14.2
TE 12	05	135	5.16	6.71	8.62	11.0	13.8	15.4
	06	135	6.30	8.36	11.0	14.2	18.3	20.6
	07	135	7.92	10.08	12.9	16.5	21.1	23.8
TE 20	08	135	10.9	14.79	19.6	25.4	32.2	35.8
	09	135	10.9	14.73	19.6	26.0	34.2	38.8
TE 55	10	135	10.7	15.58	21.9	29.6	38.6	43.4
	11	135	11.5	16.77	23.5	31.8	41.4	46.5
	12	135	12.0	17.54	24.7	33.6	44.1	49.8
	13	135	13.7	20.20	28.7	39.4	52.1	58.9

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.13	1.18	1.24	1.31

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.28

*Distributer correction factor, f_p**

SI units R448A/R449A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.94	0.94	0.93	0.92	0.90
2	0.93	0.92	0.92	0.91	0.90	0.87

** Calculated at 32 °C condensing temperature.*

*Distributer correction factor, f_p**

US units R448A/R449A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.94
25	0.94	0.93	0.93	0.92	0.90	0.89
30	0.93	0.92	0.92	0.90	0.88	0.87

** Calculated at 90 °F condensing temperature.*

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	20	2.57	3.35	4.33	5.53	6.18
	01	20	4.67	6.11	7.94	10.2	11.4
	02	20	6.51	8.54	11.1	14.2	15.9
	03	20	8.03	10.7	14.0	18.2	20.5
	04	20	10.4	14.0	18.6	24.4	27.7

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	65	0.74	0.92	1.14	1.41	1.70
	01	65	1.34	1.68	2.09	2.58	3.13
	02	65	1.87	2.35	2.93	3.62	4.39
	03	65	2.31	2.93	3.70	4.61	5.64
	04	65	3.01	3.85	4.90	6.16	7.62

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	30	2.56	3.34	4.34	5.59	6.29
	01	30	4.64	6.08	7.94	10.3	11.6
	02	30	6.44	8.47	11.1	14.4	16.3
	03	30	8.0	10.6	13.9	18.2	20.6
	04	30	10.3	13.7	18.3	24.2	27.7

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	85	0.74	0.92	1.15	1.42	1.74
	01	85	1.34	1.68	2.10	2.61	3.20
	02	85	1.86	2.34	2.93	3.65	4.49
	03	85	2.31	2.92	3.67	4.60	5.70
	04	85	2.97	3.78	4.81	6.09	7.66

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	40	2.50	3.25	4.23	5.46	6.17
	01	40	4.51	5.90	7.71	10.0	11.3
	02	40	6.24	8.19	10.8	14.1	15.9
	03	40	7.80	10.2	13.4	17.5	19.9
	04	40	9.91	13.1	17.4	23.1	26.6

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	105	0.72	0.89	1.11	1.38	1.70
	01	105	1.30	1.62	2.03	2.53	3.13
	02	105	1.79	2.25	2.83	3.54	4.40
	03	105	2.24	2.81	3.52	4.41	5.48
	04	105	2.85	3.59	4.55	5.77	7.29

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	50	2.39	3.09	4.01	5.17	5.85
	01	50	4.29	5.59	7.30	9.48	10.7
	02	50	5.91	7.74	10.2	13.3	15.1
	03	50	7.46	9.67	12.6	16.3	18.5
	04	50	9.37	12.2	16.1	21.3	24.5

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R448A/R449A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	125	0.68	0.84	1.05	1.30	1.60
	01	125	1.22	1.52	1.90	2.37	2.93
	02	125	1.68	2.11	2.64	3.31	4.12
	03	125	2.13	2.63	3.27	4.06	5.03
	04	125	2.67	3.33	4.17	5.25	6.62

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.08	1.14	1.20	1.27	1.33

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.09	1.15	1.22	1.30

*Distributer correction factor, f_p**

SI units R448A/R449A

Pressure drop [bar] Δp	Evap. temp. [°C]				
	-60	-50	-40	-30	-25
	Correction factor				
0	1	1	1	1	1
1	0.97	0.97	0.96	0.96	0.96
1.5	0.95	0.95	0.95	0.94	0.94
2	0.93	0.93	0.93	0.92	0.92

** Calculated at 32 °C condensing temperature.*

*Distributer correction factor, f_p**

US units R448A/R449A

Pressure drop [psi] Δp	Evap. temp. [°F]				
	-75	-60	-45	-30	-15
	Correction factor				
0	1	1	1	1	1
15	0.96	0.96	0.96	0.96	0.96
25	0.94	0.94	0.94	0.94	0.93
30	0.93	0.93	0.93	0.92	0.92

** Calculated at 90 °F condensing temperature.*

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	3.60	4.78	6.04	7.27	8.23	8.41
	01	25	6.62	8.78	11.1	13.3	15.0	15.2
	02	25	9.28	12.3	15.5	18.5	20.6	20.6
	03	25	11.7	15.6	19.8	23.8	26.7	26.9
	04	25	15.5	21.0	26.8	32.4	36.3	36.1
TE 12	05	25	18.2	25.2	33.1	41.4	48.4	49.9
	06	25	23.0	32.3	43.2	54.8	64.5	66.5
	07	25	29.8	41.0	54.7	70.6	85.0	88.8
TE 20	08	25	32.4	44.4	58.1	72.6	84.4	86.8
	09	25	35.3	49.3	66.0	84.6	101	105
TE 55	10	25	44.1	59.5	78.1	98.7	117	125
	11	25	48.6	65.6	86.1	109	129	137
	12	25	52.4	70.9	93.6	119	143	153
	13	25	64.0	87.2	115	147	176	186

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	1.03	1.40	1.79	2.16	2.36	2.33
	01	75	1.89	2.57	3.29	3.95	4.30	4.22
	02	75	2.65	3.61	4.60	5.47	5.87	5.72
	03	75	3.32	4.56	5.87	7.05	7.63	7.46
	04	75	4.43	6.16	7.98	9.60	10.3	10.0
TE 12	05	75	5.22	7.44	9.97	12.5	14.1	13.9
	06	75	6.59	9.57	13.1	16.6	18.7	18.5
	07	75	8.55	12.2	16.7	21.6	25.0	24.8
TE 20	08	75	9.25	13.1	17.5	21.8	24.4	24.1
	09	75	10.1	14.6	20.0	25.8	29.5	29.3
TE 55	10	75	12.6	17.6	23.6	29.9	34.5	34.8
	11	75	14.0	19.4	26.0	33.0	37.9	38.1
	12	75	15.1	21.0	28.3	36.3	42.2	42.7
	13	75	18.4	25.9	35.0	44.9	51.8	52.0

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	3.40	4.58	5.89	7.30	8.64	9.57
	01	35	6.24	8.43	10.9	13.4	15.8	17.4
	02	35	8.75	11.9	15.3	18.8	21.9	23.8
	03	35	10.9	14.8	19.1	23.7	28.0	30.8
	04	35	14.4	19.8	26.0	32.4	38.3	41.7
TE 12	05	35	16.6	23.1	30.6	39.3	48.3	55.1
	06	35	20.7	29.3	39.7	51.8	64.5	74.0
	07	35	26.2	36.1	48.5	63.8	81.1	94.9
TE 20	08	35	29.7	41.0	54.6	70.0	85.9	97.3
	09	35	31.6	44.3	59.9	78.8	99.4	115
TE 55	10	35	38.9	53.5	71.8	93.5	117	136
	11	35	42.6	58.6	78.6	102	128	148
	12	35	45.5	62.8	84.6	111	139	164
	13	35	54.7	75.9	103	135	170	199

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	0.96	1.34	1.76	2.20	2.59	2.72
	01	95	1.77	2.46	3.24	4.05	4.74	4.95
	02	95	2.48	3.47	4.55	5.65	6.53	6.76
	03	95	3.09	4.33	5.72	7.17	8.39	8.73
	04	95	4.08	5.81	7.77	9.81	11.4	11.8
TE 12	05	95	4.71	6.77	9.22	12.0	14.7	15.7
	06	95	5.88	8.63	12.0	15.9	19.7	21.0
	07	95	7.44	10.6	14.6	19.7	25.0	26.9
TE 20	08	95	8.42	12.0	16.4	21.4	26.1	27.6
	09	95	8.98	13.0	18.1	24.3	30.6	32.8
TE 55	10	95	11.0	15.7	21.7	28.7	35.8	38.6
	11	95	12.1	17.2	23.7	31.5	39.1	42.0
	12	95	12.9	18.4	25.6	34.2	43.0	46.5
	13	95	15.5	22.3	31.1	41.7	52.4	56.4

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.08	1.15	1.22	1.29	1.38

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.96	1.00	1.02	1.10	1.18	1.25	1.34

Distributer correction factor, f_p

SI units R452A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.94	0.94	0.93	0.92	0.90
2	0.93	0.92	0.92	0.91	0.90	0.87

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R452A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.93
25	0.94	0.94	0.93	0.92	0.90	0.89
30	0.93	0.92	0.92	0.90	0.88	0.86

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	3.09	4.22	5.49	6.91	8.38	9.72
	01	45	5.66	7.76	10.1	12.8	15.5	17.8
	02	45	7.94	10.9	14.3	17.9	21.6	24.6
	03	45	9.80	13.5	17.7	22.3	27.1	31.3
	04	45	12.8	18.0	23.9	30.6	37.3	42.9
TE 12	05	45	14.7	20.4	27.1	35.1	44.1	53.2
	06	45	18.1	25.7	34.8	45.9	58.8	71.8
	07	45	22.6	30.8	41.2	54.3	70.5	87.6
TE 20	08	45	26.3	36.5	48.8	63.5	80.1	96.1
	09	45	27.5	38.5	52.1	69.0	89.3	110
TE 55	10	45	32.7	45.8	62.5	83.0	107	130
	11	45	35.6	49.9	68.0	90.3	116	141
	12	45	37.8	53.0	72.4	96.7	125	154
	13	45	44.6	62.9	86.5	116	151	186

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	0.86	1.22	1.63	2.08	2.54	2.75
	01	115	1.58	2.25	3.01	3.84	4.68	5.04
	02	115	2.22	3.17	4.24	5.40	6.51	6.95
	03	115	2.74	3.90	5.24	6.72	8.22	8.85
	04	115	3.58	5.21	7.11	9.23	11.3	12.1
TE 12	05	115	4.10	5.88	8.03	10.6	13.5	14.9
	06	115	5.05	7.42	10.4	14.0	18.1	20.2
	07	115	6.28	8.87	12.2	16.5	21.8	24.5
TE 20	08	115	7.35	10.6	14.5	19.3	24.6	27.0
	09	115	7.68	11.1	15.5	21.0	27.7	31.0
TE 55	10	115	9.07	13.2	18.6	25.3	32.9	36.6
	11	115	9.87	14.4	20.2	27.5	35.7	39.7
	12	115	10.5	15.2	21.5	29.5	38.7	43.2
	13	115	12.3	18.1	25.7	35.4	46.7	52.1

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	2.70	3.73	4.89	6.19	7.59	8.97
	01	55	4.94	6.87	9.05	11.5	14.1	16.6
	02	55	6.92	9.70	12.8	16.2	19.8	23.1
	03	55	8.49	11.8	15.6	19.8	24.4	28.8
	04	55	11.0	15.6	21.0	27.1	33.7	40.0
TE 12	05	55	12.6	17.5	23.1	29.6	37.3	45.7
	06	55	15.4	21.7	29.3	38.5	49.5	61.8
	07	55	18.9	25.7	33.9	44.0	56.7	71.5
TE 20	08	55	22.6	31.4	41.9	54.4	69.1	85.0
	09	55	23.3	32.4	43.5	57.3	74.3	94.0
TE 55	10	55	26.1	37.3	51.6	69.4	90.7	114
	11	55	28.2	40.4	55.8	75.0	97.8	123
	12	55	29.6	42.4	58.8	79.5	104	132
	13	55	34.3	49.5	69.1	93.9	124	158

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	0.74	1.06	1.42	1.83	2.26	2.47
	01	135	1.35	1.95	2.63	3.39	4.19	4.57
	02	135	1.89	2.75	3.73	4.80	5.88	6.37
	03	135	2.32	3.35	4.53	5.85	7.25	7.93
	04	135	2.98	4.43	6.11	8.04	10.1	11.0
TE 12	05	135	3.44	4.92	6.65	8.70	11.1	12.4
	06	135	4.18	6.13	8.48	11.4	14.8	16.7
	07	135	5.15	7.18	9.70	12.9	16.9	19.1
TE 20	08	135	6.17	8.87	12.1	16.1	20.7	23.1
	09	135	6.35	9.11	12.5	16.9	22.3	25.4
TE 55	10	135	6.97	10.4	14.9	20.6	27.4	31.0
	11	135	7.53	11.3	16.1	22.2	29.5	33.3
	12	135	7.89	11.8	17.0	23.6	31.5	35.8
	13	135	9.08	13.7	19.8	27.8	37.5	42.6

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.08	1.15	1.22	1.29	1.38

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.96	1.00	1.02	1.10	1.18	1.25	1.34

Distributer correction factor, f_p

SI units R452A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.96	0.95	0.94
1.5	0.95	0.94	0.94	0.93	0.92	0.90
2	0.93	0.92	0.92	0.91	0.90	0.87

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R452A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.93
25	0.94	0.94	0.93	0.92	0.90	0.89
30	0.93	0.92	0.92	0.90	0.88	0.86

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	20	1.95	2.58	3.37	4.32	4.81
	01	20	3.56	4.72	6.19	7.93	8.85
	02	20	4.96	6.59	8.68	11.1	12.4
	03	20	6.13	8.27	11.0	14.2	15.9
	04	20	8.03	10.9	14.7	19.2	21.6

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	65	0.56	0.71	0.89	1.10	1.33
	01	65	1.03	1.30	1.64	2.02	2.44
	02	65	1.44	1.82	2.29	2.84	3.43
	03	65	1.78	2.28	2.90	3.63	4.41
	04	65	2.33	3.01	3.86	4.88	5.98

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	30	1.86	2.48	3.28	4.27	4.80
	01	30	3.39	4.53	6.02	7.84	8.83
	02	30	4.70	6.31	8.42	11.0	12.4
	03	30	5.81	7.85	10.6	13.9	15.7
	04	30	7.52	10.3	14.0	18.6	21.2

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	85	0.54	0.68	0.87	1.08	1.33
	01	85	0.98	1.25	1.58	1.99	2.45
	02	85	1.36	1.74	2.21	2.79	3.43
	03	85	1.68	2.16	2.78	3.52	4.35
	04	85	2.18	2.82	3.66	4.68	5.87

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	40	1.70	2.28	3.05	4.01	4.55
	01	40	3.09	4.16	5.58	7.37	8.36
	02	40	4.27	5.78	7.80	10.3	11.7
	03	40	5.30	7.15	9.67	12.9	14.7
	04	40	6.78	9.24	12.6	17.1	19.6

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	105	0.49	0.62	0.80	1.01	1.25
	01	105	0.89	1.13	1.45	1.84	2.30
	02	105	1.22	1.57	2.03	2.58	3.23
	03	105	1.52	1.95	2.51	3.21	4.02
	04	105	1.94	2.51	3.27	4.23	5.37

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R452A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	50	1.49	2.0	2.70	3.58	4.07
	01	50	2.69	3.64	4.93	6.56	7.48
	02	50	3.71	5.04	6.86	9.20	10.5
	03	50	4.63	6.22	8.43	11.3	12.9
	04	50	5.86	7.94	10.9	14.8	17.1

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R452A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	125	0.42	0.54	0.69	0.88	1.10
	01	125	0.75	0.97	1.25	1.60	2.01
	02	125	1.04	1.34	1.74	2.24	2.83
	03	125	1.30	1.66	2.14	2.74	3.46
	04	125	1.64	2.11	2.74	3.56	4.57

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.10	1.17	1.25	1.33	1.41

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.96	1.00	1.02	1.10	1.18	1.26	1.37

*Distributer correction factor, f_p**

SI units R452A

Pressure drop [bar] Δp	Evap. temp. [°C]				
	-60	-50	-40	-30	-25
	Correction factor				
0	1	1	1	1	1
1	0.97	0.97	0.96	0.96	0.96
1.5	0.95	0.95	0.95	0.94	0.94
2	0.93	0.93	0.93	0.93	0.92

** Calculated at 32 °C condensing temperature.*

*Distributer correction factor, f_p**

US units R452A

Pressure drop [psi] Δp	Evap. temp. [°F]				
	-75	-60	-45	-30	-15
	Correction factor				
0	1	1	1	1	1
15	0.97	0.97	0.96	0.96	0.96
25	0.94	0.94	0.94	0.94	0.93
30	0.93	0.93	0.93	0.92	0.92

** Calculated at 90 °F condensing temperature.*

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	3.68	4.77	5.91	6.93	7.54	7.30
	01	25	6.76	8.76	10.8	12.7	13.7	13.2
	02	25	9.49	12.3	15.1	17.6	18.8	17.9
	03	25	12.0	15.6	19.4	22.6	24.4	23.3
	04	25	16.1	21.1	26.3	30.8	33.1	31.2
TE 12	05	25	20.7	28.0	36.0	43.9	48.9	47.2
	06	25	24.9	34.1	44.5	55.0	61.7	59.6
	07	25	32.5	43.9	57.6	71.9	81.4	78.3
TE 20	08	25	35.7	48.4	62.2	75.2	82.9	79.7
	09	25	39.5	54.2	71.3	88.4	100	97.0
TE 55	10	25	46.5	64.9	86.1	108	124	125
	11	25	51.1	71.2	94.4	118	136	135
	12	25	54.8	76.8	103	130	151	152
	13	25	66.5	93.7	126	159	183	181

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	1.05	1.39	1.74	2.03	2.11	2.02
	01	75	1.93	2.56	3.20	3.70	3.83	3.65
	02	75	2.71	3.58	4.45	5.11	5.21	4.93
	03	75	3.42	4.56	5.71	6.61	6.78	6.43
	04	75	4.59	6.17	7.76	8.98	9.15	8.62
TE 12	05	75	5.94	8.23	10.8	13.0	13.8	13.1
	06	75	7.14	10.1	13.4	16.4	17.4	16.5
	07	75	9.36	13.1	17.4	21.6	22.9	21.7
TE 20	08	75	10.2	14.2	18.6	22.2	23.2	22.0
	09	75	11.3	16.1	21.5	26.4	28.2	26.8
TE 55	10	75	13.4	19.2	26.0	32.4	35.6	34.6
	11	75	14.7	21.1	28.5	35.5	38.8	37.5
	12	75	15.8	22.8	31.1	39.2	43.4	42.2
	13	75	19.2	27.9	38.2	47.9	52.3	50.3

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	3.45	4.55	5.78	7.05	8.12	8.61
	01	35	6.34	8.37	10.6	12.9	14.8	15.6
	02	35	8.90	11.8	14.9	18.0	20.4	21.3
	03	35	11.1	14.8	18.8	22.9	26.3	28.0
	04	35	14.9	19.9	25.5	31.2	35.7	37.1
TE 12	05	35	18.7	25.3	33.3	42.3	50.5	54.4
	06	35	22.3	30.7	41.0	52.7	63.6	68.7
	07	35	27.8	37.9	50.7	66.0	81.2	89.1
TE 20	08	35	32.4	44.3	58.4	73.6	86.9	92.6
	09	35	34.9	48.2	64.6	83.5	101	110
TE 55	10	35	40.6	57.7	78.7	103	126	141
	11	35	44.3	62.9	85.7	112	137	153
	12	35	47.1	67.2	92.1	121	150	170
	13	35	56.0	80.5	110	146	181	203

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	0.98	1.33	1.72	2.11	2.39	2.44
	01	95	1.80	2.44	3.16	3.87	4.37	4.44
	02	95	2.53	3.43	4.42	5.37	5.98	6.04
	03	95	3.16	4.31	5.60	6.86	7.71	7.80
	04	95	4.21	5.81	7.60	9.34	10.5	10.5
TE 12	05	95	5.29	7.42	10.0	12.9	15.1	15.4
	06	95	6.32	9.02	12.4	16.1	19.0	19.5
	07	95	7.90	11.1	15.3	20.3	24.5	25.3
TE 20	08	95	9.18	13.0	17.5	22.3	25.8	26.3
	09	95	9.89	14.1	19.5	25.5	30.4	31.3
TE 55	10	95	11.5	17.0	23.8	31.5	38.3	40.1
	11	95	12.6	18.5	25.9	34.2	41.4	43.4
	12	95	13.4	19.8	27.9	37.2	45.7	48.2
	13	95	15.9	23.7	33.6	45.0	54.9	57.5

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.37

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.96	1.00	1.03	1.11	1.20	1.28	1.37

Distributer correction factor, f_p

SI units R404A/R507

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.95	0.94	0.92
1.5	0.94	0.94	0.94	0.93	0.91	0.88
2	0.92	0.92	0.91	0.90	0.88	0.84

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R404A/R507

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.93	0.92
25	0.94	0.93	0.92	0.91	0.89	0.87
30	0.92	0.92	0.91	0.89	0.86	0.84

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	3.08	4.11	5.32	6.67	8.02	9.05
	01	45	5.65	7.57	9.81	12.3	14.7	16.5
	02	45	7.94	10.7	13.8	17.2	20.4	22.7
	03	45	9.85	13.2	17.2	21.6	25.9	29.0
	04	45	13.0	17.7	23.3	29.4	35.4	39.4
TE 12	05	45	16.1	21.9	29.1	37.8	47.4	55.3
	06	45	19.1	26.4	35.6	46.9	59.6	70.1
	07	45	23.1	31.4	42.0	55.7	71.9	86.8
TE 20	08	45	28.0	38.4	51.3	66.6	82.8	95.2
	09	45	29.5	40.7	55.0	73.0	93.2	110
TE 55	10	45	33.5	48.5	67.4	90.6	117	140
	11	45	36.2	52.5	72.9	97.9	126	150
	12	45	38.3	55.5	77.5	104	136	165
	13	45	44.6	65.3	91.8	125	162	196

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	0.86	1.18	1.57	2.00	2.41	2.56
	01	115	1.58	2.18	2.90	3.69	4.42	4.69
	02	115	2.22	3.07	4.07	5.15	6.11	6.43
	03	115	2.75	3.81	5.07	6.48	7.77	8.21
	04	115	3.63	5.11	6.88	8.84	10.6	11.2
TE 12	05	115	4.48	6.29	8.60	11.4	14.4	15.6
	06	115	5.29	7.59	10.6	14.3	18.2	19.8
	07	115	6.41	8.97	12.4	16.9	22.1	24.3
TE 20	08	115	7.79	11.1	15.2	20.1	25.1	26.9
	09	115	8.19	11.7	16.3	22.2	28.5	31.1
TE 55	10	115	9.25	14.0	20.1	27.6	35.9	39.5
	11	115	10.0	15.1	21.7	29.8	38.6	42.4
	12	115	10.6	16.0	23.1	32.0	41.9	46.3
	13	115	12.3	18.6	27.3	38.0	49.9	55.1

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	2.60	3.50	4.57	5.83	7.20	8.50
	01	55	4.76	6.44	8.45	10.8	13.3	15.7
	02	55	6.69	9.10	11.9	15.2	18.6	21.7
	03	55	8.24	11.1	14.6	18.7	23.2	27.3
	04	55	10.8	14.9	19.8	25.6	31.9	37.5
TE 12	05	55	13.3	16.0	23.8	31.1	40.0	49.4
	06	55	15.5	21.4	28.9	38.4	50.3	63.1
	07	55	18.6	24.9	33.0	43.4	56.9	72.4
TE 20	08	55	23.1	31.5	42.1	55.4	71.1	86.8
	09	55	23.8	32.6	43.9	58.6	77.2	97.3
TE 55	10	55	25.7	38.1	53.8	73.7	97.8	124
	11	55	27.7	41.0	57.8	79.0	105	132
	12	55	28.9	42.9	60.8	83.6	112	142
	13	55	33.1	49.6	70.7	97.9	131	168

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	0.70	0.98	1.31	1.71	2.14	2.34
	01	135	1.29	1.80	2.42	3.16	3.95	4.31
	02	135	1.81	2.55	3.43	4.45	5.52	5.98
	03	135	2.22	3.10	4.18	5.47	6.87	7.50
	04	135	2.90	4.14	5.67	7.50	9.47	10.3
TE 12	05	135	3.57	4.98	6.77	9.07	11.9	13.4
	06	135	4.15	5.93	8.24	11.3	15.1	17.1
	07	135	4.99	6.87	9.33	12.6	16.9	19.3
TE 20	08	135	6.21	8.76	12.0	16.2	21.2	23.7
	09	135	6.38	9.00	12.5	17.2	23.1	26.3
TE 55	10	135	6.78	10.5	15.4	21.8	29.5	33.5
	11	135	7.29	11.3	16.5	23.3	31.5	35.7
	12	135	7.61	11.8	17.4	24.6	33.6	38.4
	13	135	8.67	13.6	20.2	28.8	39.5	45.2

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.37

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.96	1.00	1.03	1.11	1.20	1.28	1.37

Distributer correction factor, f_p

SI units R404A/R507

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.95	0.94	0.92
1.5	0.94	0.94	0.94	0.93	0.91	0.88
2	0.92	0.92	0.91	0.90	0.88	0.84

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R404A/R507

Pressure drop [psi] Δp	Evap. temp. [°C]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.93	0.92
25	0.94	0.93	0.92	0.91	0.89	0.87
30	0.92	0.92	0.91	0.89	0.86	0.84

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	20	2.01	2.87	3.92	5.12	5.73
	01	20	3.66	5.25	7.21	9.41	10.5
	02	20	5.09	7.33	10.1	13.2	14.7
	03	20	6.38	9.22	12.8	16.8	18.8
	04	20	8.32	12.2	17.1	22.8	25.6
TE 12	05	20	10.3	14.7	20.5	27.3	30.8
	06	20	12.8	18.6	26.2	35.5	40.5
	07	20	16.5	24.0	33.9	46.1	52.6
TE 55	9B	20	20.6	29.2	40.1	52.4	58.5
	10	20	24.1	34.7	49.0	66.8	76.6
	11	20	26.6	38.4	54.1	73.8	84.6
	12	20	28.6	41.3	58.5	80.2	92.3
	13	20	34.7	50.5	71.9	99.2	114

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	65	0.59	0.79	1.03	1.30	1.58
	01	65	1.07	1.44	1.89	2.39	2.91
	02	65	1.49	2.01	2.64	3.35	4.06
	03	65	1.87	2.53	3.34	4.25	5.19
	04	65	2.44	3.35	4.46	5.74	7.07
TE 12	05	65	3.01	4.06	5.36	6.87	8.52
	06	65	3.77	5.13	6.85	8.90	11.2
	07	65	4.87	6.63	8.87	11.6	14.6
TE 55	9B	65	6.04	8.08	10.6	13.4	16.3
	10	65	7.10	9.62	12.8	16.8	21.3
	11	65	7.84	10.6	14.2	18.5	23.5
	12	65	8.45	11.5	15.4	20.1	25.6
	13	65	10.3	14.1	18.9	24.9	31.9

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	30	1.88	2.72	3.79	5.04	5.72
	01	30	3.42	4.97	6.96	9.29	10.5
	02	30	4.72	6.93	9.76	13.1	14.8
	03	30	5.87	8.63	12.2	16.5	18.7
	04	30	7.54	11.3	16.2	22.3	25.5
TE 12	05	30	9.33	13.6	19.3	26.3	30.2
	06	30	11.4	16.9	24.4	33.9	39.3
	07	30	14.4	21.3	30.8	43.0	49.9
TE 55	9B	30	18.5	26.6	37.3	50.0	56.6
	10	30	21.2	31.0	44.3	61.7	71.7
	11	30	23.2	34.0	48.7	67.7	78.6
	12	30	24.8	36.3	52.1	72.8	84.8
	13	30	29.5	43.6	61.0	88.6	104

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	85	0.55	0.75	0.99	1.27	1.58
	01	85	1.00	1.36	1.81	2.34	2.91
	02	85	1.38	1.90	2.54	3.29	4.09
	03	85	1.71	2.36	3.18	4.13	5.18
	04	85	2.20	3.08	4.20	5.55	7.06
TE 12	05	85	2.72	3.73	5.02	6.57	8.35
	06	85	3.34	4.63	6.30	8.39	10.9
	07	85	4.22	5.85	7.97	10.6	13.8
TE 55	9B	85	5.39	7.32	9.73	12.6	15.7
	10	85	6.18	8.49	11.5	15.3	19.8
	11	85	6.79	9.32	12.6	16.8	21.7
	12	85	7.25	9.97	13.5	18.0	23.5
	13	85	8.66	12.0	16.3	21.9	28.6

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.37

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.96	1.00	1.03	1.11	1.20	1.28	1.37

Distributer correction factor, f_p

SI units R404A/R507

Pressure drop [bar] Δp	Evap. temp. [°C]				
	-60	-50	-40	-30	-25
	Correction factor				
0	1	1	1	1	1
1	0.97	0.96	0.96	0.96	0.96
1.5	0.95	0.95	0.94	0.94	0.94
2	0.93	0.93	0.92	0.92	0.92

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R404A/R507

Pressure drop [psi] Δp	Evap. temp. [°F]				
	-75	-60	-45	-30	-15
	Correction factor				
0	1	1	1	1	1
15	0.96	0.96	0.96	0.96	0.96
25	0.94	0.94	0.94	0.93	0.93
30	0.93	0.93	0.92	0.92	0.92

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	40	1.69	2.48	3.51	4.75	5.43
	01	40	3.06	4.53	6.44	8.76	10.0
	02	40	4.21	6.29	9.03	12.4	14.2
	03	40	5.17	7.75	11.2	15.4	17.7
	04	40	6.52	9.96	14.7	20.8	24.1
TE 12	05	40	8.10	12.0	17.4	24.2	28.0
	06	40	9.70	14.6	21.5	30.7	36.0
	07	40	12.0	18.1	26.6	37.9	44.6
TE 55	9B	40	15.8	23.1	33.0	45.1	51.8
	10	40	17.7	26.2	38.2	54.0	63.3
	11	40	19.2	28.6	41.6	58.8	68.9
	12	40	20.4	30.3	44.2	62.7	73.6
	13	40	23.8	35.7	52.3	74.8	88.3

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	105	0.49	0.67	0.90	1.18	1.49
	01	105	0.88	1.22	1.65	2.17	2.75
	02	105	1.21	1.70	2.31	3.05	3.88
	03	105	1.49	2.09	2.86	3.80	4.86
	04	105	1.88	2.68	3.73	5.06	6.60
TE 12	05	105	2.33	3.25	4.43	5.91	7.66
	06	105	2.79	3.93	5.46	7.41	9.80
	07	105	3.44	4.84	6.72	9.13	12.1
TE 55	9B	105	4.52	6.23	8.43	11.1	14.2
	10	105	5.06	7.05	9.68	13.1	17.2
	11	105	5.51	7.68	10.6	14.2	18.7
	12	105	5.83	8.14	11.2	15.1	20.0
	13	105	6.81	9.56	13.2	18.0	23.9

Capacity in kW. Range: -60 – -25 °C.
Opening superheat sh = 4 K

SI units R404A/R507

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	50	1.47	2.18	3.13	4.29	4.95
	01	50	2.64	3.97	5.73	7.92	9.15
	02	50	3.61	5.50	8.04	11.2	13.0
	03	50	4.36	6.66	9.81	13.8	16.1
	04	50	5.35	8.39	12.7	18.4	21.7
TE 12	05	50	6.68	10.1	14.9	21.1	24.8
	06	50	7.75	12.0	18.1	26.3	31.2
	07	50	9.28	14.4	21.6	31.5	37.4
TE 55	9B	50	12.7	18.9	27.5	38.5	44.6
	10	50	13.8	21.0	31.1	44.7	52.8
	11	50	14.9	22.7	33.6	48.3	57.0
	12	50	15.6	23.8	35.4	51.0	60.3
	13	50	17.8	27.4	41.0	59.5	70.8

Capacity in TR. Range: -75 – -15 °F.
Opening superheat sh = 7.2 °F.

US units R404A/R507

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	125	0.41	0.58	0.79	1.04	1.33
	01	125	0.74	1.05	1.44	1.92	2.47
	02	125	1.02	1.45	2.01	2.70	3.50
	03	125	1.23	1.75	2.44	3.30	4.31
	04	125	1.50	2.19	3.13	4.34	5.81
TE 12	05	125	1.87	2.65	3.70	5.02	6.61
	06	125	2.15	3.12	4.42	6.13	8.27
	07	125	2.56	3.71	5.25	7.29	9.85
TE 55	9B	125	3.51	4.93	6.80	9.14	11.9
	10	125	3.81	5.43	7.60	10.4	13.9
	11	125	4.11	5.87	8.21	11.2	15.0
	12	125	4.30	6.15	8.61	11.8	15.9
	13	125	4.89	7.04	9.92	13.7	18.5

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.97	1.00	1.09	1.16	1.23	1.30	1.37

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.96	1.00	1.03	1.11	1.20	1.28	1.37

Distributer correction factor, f_p

SI units R404A/R507

Pressure drop [bar] Δp	Evap. temp. [°C]				
	-60	-50	-40	-30	-25
	Correction factor				
0	1	1	1	1	1
1	0.97	0.96	0.96	0.96	0.96
1.5	0.95	0.95	0.94	0.94	0.94
2	0.93	0.93	0.92	0.92	0.92

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R404A/R507

Pressure drop [psi] Δp	Evap. temp. [°F]				
	-75	-60	-45	-30	-15
	Correction factor				
0	1	1	1	1	1
15	0.96	0.96	0.96	0.96	0.96
25	0.94	0.94	0.94	0.93	0.93
30	0.93	0.93	0.92	0.92	0.92

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	4.53	5.73	7.00	8.17	8.87	8.56
	01	25	8.33	10.5	12.9	15.0	16.2	15.5
	02	25	11.7	14.8	18.0	20.8	22.3	21.2
	03	25	14.9	18.8	23.1	26.8	28.9	27.5
	04	25	19.9	25.5	31.4	36.6	39.3	37.0
TE 12	05	25	24.4	31.2	38.8	46.0	50.7	49.4
	06	25	31.4	40.5	50.8	60.9	67.5	65.7
	07	25	41.2	53.1	67.0	80.9	90.4	88.3
TE 20	08	25	54.5	70.9	88.6	104	113	105
	09	25	60.1	79.7	102	123	136	127
TE 55	10	25	65.5	86.3	110	133	150	149
	11	25	72.3	95.2	121	147	165	163
	12	25	78.1	103	132	161	183	183
	13	25	95.8	127	163	199	225	221

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	1.28	1.66	2.05	2.38	2.47	2.35
	01	75	2.35	3.05	3.77	4.35	4.49	4.26
	02	75	3.30	4.28	5.26	6.02	6.16	5.80
	03	75	4.20	5.45	6.76	7.80	8.01	7.56
	04	75	5.64	7.39	9.20	10.6	10.8	10.2
TE 12	05	75	6.93	9.08	11.4	13.5	14.2	13.6
	06	75	8.91	11.8	15.1	17.9	18.9	18.1
	07	75	11.7	15.5	19.9	24.0	25.5	24.4
TE 20	08	75	15.5	20.7	26.2	30.5	31.1	29.1
	09	75	17.1	23.4	30.4	36.4	37.6	35.1
TE 55	10	75	18.7	25.2	32.6	39.4	42.5	41.0
	11	75	20.6	27.9	36.0	43.4	46.6	44.8
	12	75	22.3	30.3	39.4	48.0	52.1	50.4
	13	75	27.4	37.4	48.8	59.3	63.6	60.8

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	4.67	5.93	7.34	8.80	10.0	10.6
	01	35	8.56	10.9	13.5	16.2	18.4	19.3
	02	35	12.0	15.3	18.9	22.6	25.4	26.5
	03	35	15.2	19.3	24.0	28.8	32.7	34.2
	04	35	20.1	26.0	32.5	39.2	44.5	46.2
TE 12	05	35	24.6	31.2	39.0	47.6	55.3	59.5
	06	35	31.2	40.1	50.8	62.7	73.6	79.5
	07	35	40.3	51.3	64.7	80.1	95.0	103
TE 20	08	35	54.1	70.2	88.9	109	125	130
	09	35	58.0	76.4	98.7	124	146	155
TE 55	10	35	62.5	83.4	108	136	162	178
	11	35	68.6	91.4	118	149	177	194
	12	35	73.3	98.2	128	162	194	215
	13	35	88.3	119	156	197	237	260

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	1.33	1.73	2.18	2.63	2.96	3.02
	01	95	2.43	3.17	4.01	4.82	5.40	5.49
	02	95	3.41	4.46	5.61	6.71	7.44	7.51
	03	95	4.30	5.62	7.12	8.58	9.59	9.72
	04	95	5.72	7.57	9.67	11.7	13.0	13.1
TE 12	05	95	6.98	9.08	11.6	14.3	16.4	16.9
	06	95	8.85	11.7	15.1	18.9	21.9	22.6
	07	95	11.5	15.0	19.3	24.3	28.4	29.5
TE 20	08	95	15.4	20.5	26.5	32.6	36.6	36.9
	09	95	16.5	22.3	29.6	37.4	43.2	44.0
TE 55	10	95	17.8	24.4	32.5	41.2	48.5	50.6
	11	95	19.5	26.8	35.5	45.0	52.9	55.0
	12	95	20.8	28.8	38.4	49.1	58.5	61.2
	13	95	25.1	34.9	46.8	60.0	71.0	73.8

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.05	1.10	1.14	1.19	1.23

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.07	1.12	1.17	1.22

Distributer correction factor, f_p

SI units R22

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.95	0.95	0.94	0.93	0.91
1.5	0.93	0.93	0.92	0.91	0.90	0.86
2	0.91	0.90	0.90	0.88	0.86	0.81

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R22

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.95	0.95	0.95	0.94	0.92	0.91
25	0.92	0.92	0.91	0.89	0.87	0.84
30	0.91	0.90	0.89	0.87	0.84	0.80

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	4.71	5.98	7.45	9.06	10.6	11.8
	01	45	8.62	11.0	13.7	16.67	19.5	21.6
	02	45	12.1	15.4	19.3	23.4	27.2	29.8
	03	45	15.2	19.3	24.1	29.4	34.5	38.1
	04	45	20.0	25.7	32.6	40.1	47.1	51.9
TE 12	05	45	24.2	30.3	37.8	46.6	55.8	63.7
	06	45	30.3	38.6	48.9	61.1	74.2	85.3
	07	45	38.8	48.4	60.4	75.1	91.7	107
TE 20	08	45	52.6	67.8	86.0	107	127	142
	09	45	55.0	71.5	92.1	117	144	165
TE 55	10	45	58.0	78.1	102	132	163	190
	11	45	63.2	85.0	112	143	176	205
	12	45	67.0	90.4	119	154	191	225
	13	45	79.1	107	143	185.	231	271

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	1.34	1.74	2.22	2.73	3.21	3.39
	01	115	2.45	3.20	4.08	5.03	5.88	6.19
	02	115	3.42	4.50	5.74	7.04	8.16	8.53
	03	115	4.30	5.61	7.17	8.85	10.4	10.9
	04	115	5.65	7.50	9.70	12.1	14.2	14.8
TE 12	05	115	6.85	8.79	11.2	14.0	16.9	18.1
	06	115	8.58	11.2	14.5	18.5	22.6	24.3
	07	115	11.0	14.0	17.8	22.7	27.9	30.3
TE 20	08	115	14.9	19.7	25.5	32.2	38.4	40.6
	09	115	15.5	20.7	27.4	35.5	43.8	47.0
TE 55	10	115	16.3	22.7	30.7	40.1	49.8	53.9
	11	115	17.8	24.7	33.3	43.5	53.9	58.3
	12	115	18.8	26.2	35.6	46.9	58.7	63.9
	13	115	22.2	31.2	42.6	56.4	70.7	76.8

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	4.68	5.92	7.38	9.02	10.74	12.3
	01	55	8.55	10.9	13.6	16.7	19.8	22.6
	02	55	11.9	15.3	19.2	23.4	27.8	31.4
	03	55	14.9	18.9	23.6	29.0	34.6	39.6
	04	55	19.4	25.0	31.8	40.0	47.5	54.2
TE 12	05	55	23.5	29.0	35.8	44.0	53.3	62.7
	06	55	29.1	36.5	45.9	57.4	70.7	84.2
	07	55	37.0	45.0	55.1	68.0	83.5	101
TE 20	08	55	50.5	64.3	81.1	101	123	143
	09	55	51.7	66.0	84.1	107	134	161
TE 55	10	55	52.5	71.1	94.3	123	155	187
	11	55	56.8	76.9	102	132	167	201
	12	55	59.7	81.0	108	141	179	218
	13	55	69.1	94.6	127	167	213	260

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	1.32	1.72	2.18	2.71	3.25	3.50
	01	135	2.42	3.15	4.03	5.01	6.00	6.44
	02	135	3.38	4.43	5.68	7.05	8.39	8.94
	03	135	4.22	5.47	6.98	8.71	10.5	11.2
	04	135	5.48	7.24	9.40	11.9	14.4	15.4
TE 12	05	135	6.61	8.32	10.5	13.1	16.1	17.6
	06	135	8.17	10.5	13.5	17.2	21.5	23.6
	07	135	10.4	12.8	16.0	20.2	25.2	27.9
TE 20	08	135	14.2	18.5	23.8	30.3	37.2	40.4
	09	135	14.5	18.9	24.6	32.0	40.7	45.0
TE 55	10	135	14.5	20.4	27.8	37.0	47.4	52.5
	11	135	15.7	22.0	30.0	39.9	50.9	56.4
	12	135	16.5	23.1	31.7	42.4	54.7	60.9
	13	135	19.0	26.9	37.2	50.2	65.1	72.6

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.05	1.10	1.14	1.19	1.23

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.07	1.12	1.17	1.22

Distributer correction factor, f_p

SI units R22

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.95	0.95	0.94	0.93	0.91
1.5	0.93	0.93	0.92	0.91	0.90	0.86
2	0.91	0.90	0.90	0.88	0.86	0.81

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R22

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.95	0.95	0.95	0.94	0.92	0.91
25	0.92	0.92	0.91	0.89	0.87	0.84
30	0.91	0.90	0.89	0.87	0.84	0.80

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -60°C – -25°C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	20	2.63	3.66	4.87	6.18	6.84
	01	20	4.80	6.71	8.95	11.4	12.6
	02	20	6.68	9.38	12.6	15.9	17.6
	03	20	8.39	11.9	15.9	20.3	22.5
	04	20	11.0	15.7	21.4	27.6	30.6
TE 12	05	20	12.2	16.9	22.5	28.8	32.0
	06	20	15.9	22.1	29.9	38.7	43.3
	07	20	20.8	29.0	39.2	51.1	57.3
TE 55	9B	20	30.7	41.9	54.5	67.2	72.9
	10	20	36.3	50.4	67.5	86.3	95.7
	11	20	40.6	55.9	74.9	95.9	106
	12	20	43.3	60.4	81.4	104	117
	13	20	53.1	74.6	101	131	147

Capacity in TR. Range: -75°F – -15°F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	65	0.76	1.00	1.27	1.57	1.88
	01	65	1.38	1.83	2.34	2.89	3.45
	02	65	1.93	2.56	3.28	4.06	4.82
	03	65	2.43	3.23	4.16	5.17	6.18
	04	65	3.19	4.29	5.58	7.00	8.41
TE 12	05	65	3.53	4.61	5.89	7.31	8.80
	06	65	4.60	6.06	7.81	9.80	11.9
	07	65	6.04	7.96	10.3	12.9	15.8
TE 55	9B	65	8.89	11.5	14.4	17.4	20.2
	10	65	10.6	13.9	17.8	22.1	26.5
	11	65	11.7	15.4	19.7	24.6	29.5
	12	65	12.6	16.7	21.4	26.8	32.3
	13	65	15.5	20.6	26.7	33.6	40.7

Capacity in kW. Range: -60°C – -25°C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	30	2.70	3.78	5.07	6.52	7.28
	01	30	4.90	6.90	9.30	12.0	13.4
	02	30	6.78	9.61	13.0	16.8	18.8
	03	30	8.43	12.0	16.4	21.3	23.8
	04	30	10.8	15.7	21.8	28.8	32.4
TE 12	05	30	12.1	16.9	22.8	29.7	33.4
	06	30	15.6	21.8	29.9	39.5	44.8
	07	30	19.9	28.0	38.6	51.2	58.1
TE 55	9B	30	30.0	41.3	54.6	68.7	75.5
	10	30	34.7	48.7	66.0	86.0	96.4
	11	30	38.1	53.6	72.8	95.0	107
	12	30	40.8	57.5	78.5	103	116
	13	30	49.1	69.7	95.9	127	143

Capacity in TR. Range: -75°F – -15°F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	85	0.78	1.03	1.33	1.66	2.01
	01	85	1.42	1.89	2.44	3.05	3.71
	02	85	1.96	2.63	3.41	4.29	5.20
	03	85	2.44	3.29	4.29	5.41	6.60
	04	85	3.15	4.29	5.68	7.27	8.95
TE 12	05	85	3.51	4.63	5.98	7.53	9.23
	06	85	4.49	5.98	7.82	9.97	12.4
	07	85	5.77	7.69	10.1	12.9	16.1
TE 55	9B	85	8.69	11.4	14.4	17.7	21.0
	10	85	10.1	13.4	17.3	21.9	26.8
	11	85	11.1	14.7	19.1	24.2	29.6
	12	85	11.9	15.8	20.6	26.1	32.1
	13	85	14.3	19.2	25.1	32.1	39.8

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.05	1.10	1.14	1.19	1.23

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.07	1.12	1.17	1.22

Distributer correction factor, f_p

SI units R22

Pressure drop [bar] Δp	Evap. temp. [°C]				
	-60	-50	-40	-30	-25
	Correction factor				
0	1	1	1	1	1
1	0.96	0.96	0.96	0.95	0.95
1.5	0.94	0.93	0.93	0.93	0.93
2	0.91	0.91	0.91	0.90	0.90

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R22

Pressure drop [psi] Δp	Evap. temp. [°F]				
	-75	-60	-45	-30	-15
	Correction factor				
0	1	1	1	1	1
15	0.96	0.96	0.95	0.95	0.95
25	0.93	0.93	0.92	0.92	0.92
30	0.91	0.91	0.91	0.90	0.90

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -60°C – -25°C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	40	2.72	3.82	5.16	6.70	7.53
	01	40	4.92	6.96	9.45	12.3	13.9
	02	40	6.76	9.66	13.2	17.3	19.5
	03	40	8.31	11.9	16.5	21.7	24.5
	04	40	10.5	15.3	21.6	29.1	33.1
TE 12	05	40	11.8	16.5	22.5	29.7	33.6
	06	40	14.8	21.0	29.1	39.1	44.6
	07	40	18.6	26.4	36.8	49.6	56.8
TE 55	9B	40	28.6	39.8	53.2	68.0	75.3
	10	40	32.3	45.8	62.7	82.7	93.5
	11	40	35.3	50.1	68.7	90.8	103
	12	40	37.5	53.3	73.4	97.5	111
	13	40	44.2	63.3	88.0	118	135

Capacity in TR. Range: -75°F – -15°F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	105	0.79	1.05	1.35	1.70	2.09
	01	105	1.43	1.90	2.48	3.13	3.84
	02	105	1.96	2.64	3.46	4.39	5.41
	03	105	2.41	3.26	4.29	5.48	6.79
	04	105	3.03	4.17	5.60	7.29	9.16
TE 12	05	105	3.40	4.51	5.87	7.48	9.29
	06	105	4.26	5.73	7.56	9.76	12.3
	07	105	5.35	7.19	9.51	12.3	15.6
TE 55	9B	105	8.26	10.9	14.0	17.4	20.9
	10	105	9.33	12.5	16.3	20.8	25.8
	11	105	10.2	13.6	17.9	22.8	28.3
	12	105	10.8	14.5	19.0	24.4	30.5
	13	105	12.7	17.2	22.8	29.4	37.0

Capacity in kW. Range: -60°C – -25°C.
Opening superheat sh = 4 K

SI units R22

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]				
			-60	-50	-40	-30	-25
TE 5	0.5	50	2.71	3.81	5.17	6.75	7.62
	01	50	4.87	6.91	9.44	12.4	14.0
	02	50	6.65	9.55	13.2	17.5	19.8
	03	50	8.08	11.7	16.2	21.6	24.6
	04	50	9.94	14.7	21.0	28.8	33.0
TE 12	05	50	11.2	15.8	21.7	29.0	33.0
	06	50	13.8	19.8	27.7	37.6	43.3
	07	50	17.0	24.3	34.2	46.6	53.7
TE 55	9B	50	26.9	37.6	50.6	65.4	73.0
	10	50	29.6	42.1	58.1	77.4	88.0
	11	50	32.0	45.7	63.2	84.3	95.9
	12	50	33.7	48.2	66.9	89.7	102
	13	50	38.8	56.1	78.6	107	122

Capacity in TR. Range: -75°F – -15°F.
Opening superheat sh = 7.2 °F.

US units R22

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]				
			-75	-60	-45	-30	-15
TE 5	0.5	125	0.78	1.04	1.35	1.71	2.11
	01	125	1.41	1.89	2.46	3.13	3.88
	02	125	1.92	2.60	3.43	4.40	5.47
	03	125	2.33	3.17	4.20	5.42	6.79
	04	125	2.86	3.97	5.39	7.11	9.08
TE 12	05	125	3.21	4.29	5.62	7.22	9.05
	06	125	3.96	5.35	7.12	9.28	11.8
	07	125	4.83	6.54	8.72	11.4	14.6
TE 55	9B	125	7.68	10.2	13.2	16.5	20.1
	10	125	8.42	11.3	14.9	19.2	24.0
	11	125	9.12	12.3	16.2	20.8	26.1
	12	125	9.57	12.9	17.1	22.1	27.8
	13	125	11.0	15.0	20.0	26.0	33.1

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.05	1.10	1.14	1.19	1.23

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.07	1.12	1.17	1.22

Distributer correction factor, f_p

SI units R22

Pressure drop [bar] Δp	Evap. temp. [°C]				
	-60	-50	-40	-30	-25
	Correction factor				
0	1	1	1	1	1
1	0.96	0.96	0.96	0.95	0.95
1.5	0.94	0.93	0.93	0.93	0.93
2	0.91	0.91	0.91	0.90	0.90

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R22

Pressure drop [psi] Δp	Evap. temp. [°F]				
	-75	-60	-45	-30	-15
	Correction factor				
0	1	1	1	1	1
15	0.96	0.96	0.95	0.95	0.95
25	0.93	0.93	0.92	0.92	0.92
30	0.91	0.91	0.91	0.90	0.90

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R513A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	2.12	2.79	3.56	4.37	5.02	5.10
	01	25	3.90	5.14	6.56	8.03	9.18	9.29
	02	25	5.47	7.21	9.19	11.2	12.7	12.8
	03	25	6.99	9.22	11.8	14.4	16.5	16.6
	04	25	9.39	12.5	16.0	19.7	22.5	22.5
TE 12	05	25	11.4	14.9	18.9	23.3	27.0	27.9
	06	25	14.7	19.3	24.8	30.8	36.0	37.1
	07	25	19.8	26.0	33.4	41.5	48.7	50.5
TE 20	08	25	26.8	36.0	46.7	57.8	66.4	66.1
	09	25	28.8	38.8	50.9	64.2	75.3	76.4
TE 55	10	25	32.5	44.6	59.2	75.4	89.5	93.1
	11	25	36.1	49.5	65.7	83.6	99.0	103
	12	25	39.1	53.8	71.9	92.1	110	115
	13	25	48.6	67.2	90.0	115	137	141

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R513A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	0.60	0.81	1.06	1.30	1.43	1.40
	01	75	1.11	1.50	1.95	2.38	2.62	2.55
	02	75	1.55	2.10	2.73	3.32	3.62	3.50
	03	75	1.98	2.69	3.50	4.28	4.70	4.56
	04	75	2.67	3.64	4.76	5.84	6.39	6.17
TE 12	05	75	3.24	4.33	5.62	6.95	7.79	7.66
	06	75	4.19	5.65	7.39	9.21	10.4	10.2
	07	75	5.63	7.61	9.98	12.5	14.1	13.9
TE 20	08	75	7.62	10.6	13.9	17.2	18.9	18.2
	09	75	8.21	11.4	15.3	19.3	21.7	21.0
TE 55	10	75	9.29	13.1	17.8	22.8	26.0	25.6
	11	75	10.3	14.6	19.8	25.3	28.7	28.2
	12	75	11.2	15.9	21.7	27.9	32.1	31.7
	13	75	13.9	19.9	27.2	35.0	39.8	39.0

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R513A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	2.10	2.80	3.63	4.58	5.53	6.22
	01	35	3.86	5.15	6.68	8.42	10.1	11.4
	02	35	5.40	7.22	9.38	11.8	14.1	15.7
	03	35	6.90	9.19	11.9	15.0	18.1	20.3
	04	35	9.20	12.4	16.2	20.5	24.7	27.6
TE 12	05	35	11.2	14.7	18.8	23.7	28.9	33.2
	06	35	14.4	18.9	24.5	31.2	38.4	44.2
	07	35	19.2	25.1	32.3	41.0	50.5	58.7
TE 20	08	35	25.9	35.0	46.0	58.6	71.2	79.7
	09	35	27.4	37.0	49.0	63.4	78.9	90.5
TE 55	10	35	30.0	41.9	56.9	75.0	94.3	110
	11	35	33.1	46.2	62.8	82.7	104	120
	12	35	35.6	49.8	68.0	90.1	114	134
	13	35	43.4	61.1	83.8	111	141	164

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R513A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	0.60	0.82	1.09	1.39	1.67	1.77
	01	95	1.10	1.51	2.0	2.56	3.06	3.23
	02	95	1.53	2.11	2.81	3.58	4.25	4.45
	03	95	1.96	2.69	3.58	4.57	5.48	5.76
	04	95	2.61	3.62	4.85	6.24	7.47	7.83
TE 12	05	95	3.19	4.28	5.64	7.23	8.82	9.42
	06	95	4.08	5.52	7.36	9.55	11.7	12.6
	07	95	5.45	7.33	9.70	12.5	15.5	16.7
TE 20	08	95	7.35	10.3	13.8	17.9	21.6	22.6
	09	95	7.78	10.8	14.8	19.5	24.2	25.7
TE 55	10	95	8.51	12.3	17.2	23.1	29.0	31.1
	11	95	9.39	13.6	19.0	25.5	31.9	34.1
	12	95	10.1	14.7	20.6	27.9	35.2	37.9
	13	95	12.3	18.0	25.4	34.5	43.4	46.5

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.13	1.18	1.24	1.31

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.29

Distributer correction factor, f_p

SI units R513A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.94	0.93	0.93	0.92	0.90	0.87
1.5	0.90	0.90	0.89	0.88	0.85	0.80
2	0.87	0.86	0.85	0.83	0.79	0.72

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R513A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.93	0.93	0.92	0.91	0.89	0.87
25	0.89	0.88	0.87	0.85	0.81	0.77
30	0.86	0.85	0.84	0.82	0.76	0.71

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R513A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	2.03	2.72	3.57	4.56	5.66	6.69
	01	45	3.72	5.0	6.56	8.40	10.4	12.3
	02	45	5.20	7.01	9.21	11.8	14.5	17.0
	03	45	6.65	8.89	11.6	14.9	18.5	21.8
	04	45	8.78	11.9	15.7	20.2	25.2	29.7
TE 12	05	45	10.8	14.0	18.0	22.9	28.6	34.4
	06	45	13.6	17.9	23.3	30.0	37.8	45.9
	07	45	18.1	23.5	30.2	38.4	48.1	58.8
TE 20	08	45	24.5	33.0	43.5	56.1	70.3	83.7
	09	45	25.5	34.2	45.3	59.2	75.8	92.6
TE 55	10	45	26.7	37.8	52.2	70.3	91.4	113
	11	45	29.2	41.4	57.2	76.9	100	123
	12	45	31.2	44.3	61.4	83.0	109	135
	13	45	37.3	53.3	74.3	101	133	165

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R513A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	0.57	0.79	1.07	1.39	1.74	1.90
	01	115	1.05	1.46	1.96	2.56	3.20	3.49
	02	115	1.47	2.04	2.76	3.60	4.47	4.84
	03	115	1.88	2.59	3.48	4.55	5.68	6.19
	04	115	2.47	3.45	4.69	6.18	7.76	8.46
TE 12	05	115	3.04	4.07	5.37	6.98	8.83	9.75
	06	115	3.83	5.19	6.94	9.15	11.7	13.0
	07	115	5.11	6.80	8.95	11.6	14.9	16.6
TE 20	08	115	6.89	9.60	13.0	17.1	21.7	23.7
	09	115	7.15	9.92	13.5	18.1	23.5	26.2
TE 55	10	115	7.45	11.0	15.7	21.7	28.5	31.9
	11	115	8.16	12.0	17.2	23.7	31.2	34.8
	12	115	8.69	12.8	18.4	25.6	34.0	38.1
	13	115	10.4	15.5	22.3	31.2	41.5	46.5

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R513A

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	1.92	2.58	3.40	4.37	5.49	6.64
	01	55	3.51	4.73	6.24	8.05	10.1	12.2
	02	55	4.90	6.63	8.76	11.3	14.2	17.0
	03	55	6.27	8.39	11.0	14.2	17.8	21.5
	04	55	8.18	11.1	14.7	19.1	24.2	29.4
TE 12	05	55	10.1	13.1	16.8	21.3	26.7	32.7
	06	55	12.6	16.5	21.4	27.6	35.0	43.5
	07	55	16.9	21.6	27.3	34.5	43.3	53.6
TE 20	08	55	22.6	30.4	40.0	51.6	65.3	79.9
	09	55	23.2	30.9	40.7	53.0	68.2	85.7
TE 55	10	55	22.8	32.9	46.0	62.7	83.1	106
	11	55	24.9	35.8	50.0	68.2	90.3	115
	12	55	26.2	37.9	53.1	72.8	97.1	124
	13	55	30.7	44.7	63.1	87.0	117	150

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R513A

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	0.54	0.75	1.01	1.32	1.68	1.87
	01	135	0.98	1.37	1.85	2.44	3.10	3.43
	02	135	1.37	1.91	2.60	3.42	4.34	4.79
	03	135	1.75	2.42	3.26	4.28	5.44	6.03
	04	135	2.28	3.19	4.35	5.79	7.43	8.25
TE 12	05	135	2.82	3.75	4.92	6.38	8.14	9.09
	06	135	3.51	4.72	6.29	8.29	10.7	12.1
	07	135	4.69	6.14	7.96	10.3	13.1	14.8
TE 20	08	135	6.29	8.72	11.8	15.5	19.9	22.2
	09	135	6.43	8.82	11.9	15.9	20.9	23.7
TE 55	10	135	6.22	9.35	13.6	19.0	25.7	29.3
	11	135	6.76	10.2	14.7	20.6	27.9	31.7
	12	135	7.12	10.7	15.6	22.0	30.0	34.3
	13	135	8.30	12.6	18.5	26.3	36.1	41.3

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.13	1.18	1.24	1.31

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.29

Distributer correction factor, f_p

SI units R513A

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.94	0.93	0.93	0.92	0.90	0.87
1.5	0.90	0.90	0.89	0.88	0.85	0.80
2	0.87	0.86	0.85	0.83	0.79	0.72

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R513A

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.93	0.93	0.92	0.91	0.89	0.87
25	0.89	0.88	0.87	0.85	0.81	0.77
30	0.86	0.85	0.84	0.82	0.76	0.71

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R134a

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	2.59	3.33	4.16	5.00	5.65	5.72
	01	25	4.76	6.12	7.65	9.18	10.3	10.4
	02	25	6.69	8.60	10.7	12.8	14.4	14.4
	03	25	8.55	11.0	13.8	16.5	18.6	18.7
	04	25	11.5	14.9	18.7	22.5	25.4	25.4
TE 12	05	25	15.2	19.3	24.1	29.0	33.0	33.6
	06	25	19.7	25.2	31.6	38.4	43.9	44.8
	07	25	26.3	33.8	42.6	51.9	59.5	60.8
TE 20	08	25	30.2	39.1	49.3	59.8	67.8	68.3
	09	25	34.8	45.4	58.0	71.5	82.4	84.0
TE 55	10	25	40.0	52.7	67.7	84.0	98.1	102
	11	25	44.6	58.7	75.4	93.4	109	113
	12	25	48.5	64.0	82.6	103	121	127
	13	25	60.6	80.4	104	130	152	156

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R134a

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	0.73	0.96	1.22	1.47	1.61	1.57
	01	75	1.35	1.78	2.25	2.70	2.94	2.87
	02	75	1.89	2.49	3.15	3.76	4.06	3.95
	03	75	2.42	3.19	4.06	4.87	5.27	5.14
	04	75	3.27	4.33	5.53	6.64	7.18	6.97
TE 12	05	75	4.29	5.61	7.12	8.59	9.42	9.26
	06	75	5.57	7.32	9.36	11.4	12.6	12.4
	07	75	7.47	9.85	12.7	15.5	17.1	16.8
TE 20	08	75	8.57	11.4	14.6	17.7	19.3	18.8
	09	75	9.88	13.3	17.3	21.3	23.6	23.1
TE 55	10	75	11.4	15.4	20.2	25.2	28.4	28.1
	11	75	12.7	17.2	22.5	28.0	31.5	31.1
	12	75	13.8	18.8	24.7	31.0	35.2	34.9
	13	75	17.3	23.6	31.2	39.0	43.9	43.2

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R134a

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	2.65	3.42	4.34	5.36	6.35	7.03
	01	35	4.86	6.29	7.98	9.85	11.6	12.8
	02	35	6.81	8.83	11.2	13.8	16.2	17.7
	03	35	8.70	11.3	14.3	17.6	20.8	22.9
	04	35	11.6	15.2	19.3	24.0	28.4	31.1
TE 12	05	35	15.3	19.5	24.5	30.3	36.1	40.2
	06	35	19.6	25.1	31.9	39.8	47.8	53.6
	07	35	26.1	33.3	42.1	52.5	63.2	71.1
TE 20	08	35	30.3	39.2	50.0	62.3	74.4	82.4
	09	35	34.1	44.4	57.3	72.6	88.3	99.3
TE 55	10	35	38.2	51.0	66.8	85.5	105	121
	11	35	42.3	56.4	73.9	94.4	116	133
	12	35	45.6	61.0	80.3	103	128	148
	13	35	56.0	75.3	99.4	128	159	182

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R134a

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	0.75	1.00	1.30	1.62	1.91	2.00
	01	95	1.38	1.84	2.38	2.97	3.49	3.65
	02	95	1.93	2.58	3.34	4.15	4.84	5.03
	03	95	2.47	3.29	4.26	5.33	6.24	6.51
	04	95	3.30	4.43	5.78	7.25	8.50	8.84
TE 12	05	95	4.35	5.67	7.31	9.17	10.9	11.4
	06	95	5.57	7.34	9.54	12.1	14.5	15.2
	07	95	7.42	9.70	12.6	15.9	19.1	20.2
TE 20	08	95	8.60	11.4	14.9	18.9	22.4	23.4
	09	95	9.69	13.0	17.2	22.1	26.8	28.2
TE 55	10	95	10.8	14.9	20.1	26.6	32.1	34.3
	11	95	12.0	16.5	22.2	28.9	35.4	37.7
	12	95	113.0	17.9	24.2	31.6	39.1	41.9
	13	95	15.9	22.1	29.9	39.3	48.5	51.7

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.06	1.12	1.17	1.22	1.28

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.27

Distributer correction factor, f_p

SI units R134a

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.93	0.93	0.92	0.92	0.90	0.87
1.5	0.90	0.89	0.88	0.87	0.84	0.79
2	0.86	0.85	0.84	0.82	0.79	0.71

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R134a

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.93	0.93	0.92	0.91	0.89	0.86
25	0.88	0.87	0.86	0.84	0.80	0.76
30	0.86	0.85	0.83	0.81	0.75	0.70

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R134a

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	2.64	3.42	4.37	5.49	6.70	7.80
	01	45	4.83	6.28	8.04	10.1	12.3	14.3
	02	45	6.75	8.80	11.3	14.1	17.2	19.8
	03	45	8.62	11.2	14.3	17.9	21.9	25.4
	04	45	11.4	14.9	19.2	24.3	29.8	34.5
TE 12	05	45	15.0	19.0	24.0	30.0	36.7	43.2
	06	45	19.0	24.3	31.0	39.1	48.5	57.5
	07	45	25.2	31.7	39.9	50.1	62.1	73.9
TE 20	08	45	29.5	38.0	48.7	61.6	76.1	89.3
	09	45	32.6	42.1	54.4	69.9	87.7	105
TE 55	10	45	35.1	47.5	63.1	82.6	105	128
	11	45	38.6	52.1	69.4	90.6	115	140
	12	45	41.4	56.0	74.7	98.1	126	153
	13	45	49.8	67.8	90.9	120	154	189

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R134a

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	0.75	1.00	1.31	1.67	2.06	2.23
	01	115	1.37	1.83	2.40	3.08	3.78	4.08
	02	115	1.91	2.57	3.37	4.31	5.26	5.66
	03	115	2.44	3.25	4.27	5.47	6.71	7.25
	04	115	3.23	4.34	5.75	7.42	9.14	9.87
TE 12	05	115	4.25	5.51	7.12	9.10	11.3	12.3
	06	115	5.38	7.04	9.21	11.9	15.0	16.4
	07	115	7.12	9.15	11.8	15.2	19.1	20.9
TE 20	08	115	8.34	11.1	14.5	18.8	23.4	25.4
	09	115	9.19	12.2	16.2	21.3	27.1	29.8
TE 55	10	115	9.86	13.8	18.9	25.4	32.7	36.2
	11	115	10.8	15.1	20.8	27.8	35.8	39.6
	12	115	11.6	16.2	22.3	30.1	39.1	43.5
	13	115	13.9	19.6	27.2	36.8	47.9	53.2

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R134a

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	2.56	3.32	4.27	5.41	6.72	8.06
	01	55	4.68	6.09	7.84	9.95	12.4	14.8
	02	55	6.52	8.54	11.0	14.0	17.3	20.6
	03	55	8.34	10.8	13.8	17.5	21.8	26.1
	04	55	10.9	14.3	18.5	23.7	29.6	35.7
TE 12	05	55	14.4	18.0	22.6	28.3	35.2	42.8
	06	55	18.0	22.8	29.0	36.8	46.4	56.9
	07	55	23.8	29.4	36.6	45.8	57.3	70.4
TE 20	08	55	28.1	35.9	45.9	58.4	73.4	89.4
	09	55	30.5	38.9	49.9	64.2	82.0	102
TE 55	10	55	31.2	42.6	57.3	76.2	99.2	125
	11	55	34.0	46.5	62.6	83.1	108	136
	12	55	36.1	49.4	66.7	89.0	117	148
	13	55	42.7	58.7	79.8	107	141	179

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R134a

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	0.72	0.96	1.27	1.64	2.07	2.29
	01	135	1.32	1.76	2.33	3.02	3.81	4.20
	02	135	1.83	2.47	3.27	4.24	5.33	5.86
	03	135	2.34	3.11	4.09	5.31	6.71	7.40
	04	135	3.06	4.11	5.48	7.19	9.15	10.1
TE 12	05	135	4.05	5.16	6.63	8.51	10.8	12.0
	06	135	5.04	6.53	8.50	11.1	14.3	16.0
	07	135	6.67	8.37	10.6	13.7	17.5	19.6
TE 20	08	135	7.87	10.3	13.5	17.6	22.6	25.2
	09	135	8.49	11.1	14.6	19.3	25.3	28.5
TE 55	10	135	8.57	12.1	16.9	23.2	30.8	35.0
	11	135	9.34	13.2	18.4	25.2	33.5	38.0
	12	135	9.89	14.0	19.6	27.0	36.2	41.2
	13	135	11.6	16.6	23.4	32.4	43.6	49.8

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.06	1.12	1.17	1.22	1.28

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.27

Distributer correction factor, f_p

SI units R134a

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.93	0.93	0.92	0.92	0.90	0.87
1.5	0.90	0.89	0.88	0.87	0.84	0.79
2	0.86	0.85	0.84	0.82	0.79	0.71

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R134a

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.93	0.93	0.92	0.91	0.89	0.86
25	0.88	0.87	0.86	0.84	0.80	0.76
30	0.86	0.85	0.83	0.81	0.75	0.70

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407C

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	25	4.62	5.82	7.18	8.56	9.66	10.0
	01	25	8.48	10.7	13.2	15.7	17.7	18.2
	02	25	11.9	15.0	18.4	21.8	24.4	24.9
	03	25	15.0	19.0	23.6	28.1	31.6	32.4
	04	25	20.1	25.6	31.9	38.2	42.9	43.7
TE 12	05	25	20.9	27.9	36.2	45.1	52.7	55.9
	06	25	26.6	35.8	46.9	59.1	69.8	74.5
	07	25	34.5	46.5	61.4	78.2	93.2	99.8
TE 20	08	25	49.3	63.2	79.4	96.4	110	114
	09	25	54.3	70.6	90.4	112	131	138
TE 55	10	25	63.6	82.2	105	130	153	166
	11	25	70.1	90.5	115	143	168	181
	12	25	75.5	97.8	125	156	186	202
	13	25	92.1	120	154	192	228	246

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407C

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	75	1.31	1.69	2.12	2.53	2.78	2.78
	01	75	2.41	3.11	3.89	4.63	5.07	5.06
	02	75	3.38	4.36	5.44	6.42	6.96	6.91
	03	75	4.27	5.54	6.96	8.29	9.05	9.00
	04	75	5.71	7.47	9.45	11.3	12.3	12.2
TE 12	05	75	5.95	8.19	10.9	13.6	15.4	15.6
	06	75	7.58	10.5	14.1	17.9	20.5	20.8
	07	75	9.87	13.7	18.6	23.8	27.5	27.9
TE 20	08	75	14.1	18.5	23.6	28.7	31.7	31.6
	09	75	15.5	20.8	27.2	33.9	38.3	38.4
TE 55	10	75	18.2	24.1	31.3	39.1	45.2	46.3
	11	75	20.1	26.6	34.5	43.0	49.6	50.6
	12	75	21.6	28.8	37.6	47.3	55.1	56.6
	13	75	26.5	35.3	46.3	58.3	67.5	68.8

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407C

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	35	4.54	5.77	7.22	8.82	10.4	11.5
	01	35	8.34	10.6	13.3	16.2	19.0	20.9
	02	35	11.7	14.9	18.6	22.7	26.4	28.7
	03	35	14.7	18.7	23.5	28.8	33.8	37.0
	04	35	19.4	25.0	31.7	39.1	46.0	50.2
TE 12	05	35	20.2	26.7	34.7	44.2	54.0	61.6
	06	35	25.4	33.9	44.7	57.6	71.3	82.1
	07	35	32.2	42.6	56.3	73.2	91.7	107
TE 20	08	35	47.0	60.3	76.7	95.6	114	127
	09	35	50.5	65.4	84.4	108	132	151
TE 55	10	35	58.3	76.3	98.9	126	155	180
	11	35	63.9	83.5	108	138	169	196
	12	35	68.2	89.4	116	149	185	216
	13	35	81.8	108	141	181	225	262

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407C

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	95	1.29	1.68	2.15	2.66	3.10	3.25
	01	95	2.37	3.09	3.95	4.88	5.68	5.93
	02	95	3.32	4.34	5.54	6.81	7.85	8.15
	03	95	4.16	5.45	7.00	8.67	10.1	10.5
	04	95	5.52	7.30	9.46	11.8	13.7	14.3
TE 12	05	95	5.74	7.80	10.4	13.5	16.4	17.5
	06	95	7.21	9.92	13.5	17.7	21.8	23.3
	07	95	9.15	12.5	17.0	22.5	28.2	30.3
TE 20	08	95	13.4	17.6	22.9	29.0	34.4	36.1
	09	95	14.4	19.1	25.4	32.9	40.2	42.9
TE 55	10	95	16.6	22.3	29.7	38.5	47.6	51.2
	11	95	18.1	24.4	32.4	42.1	51.8	55.7
	12	95	19.4	26.1	34.9	45.6	56.8	61.4
	13	95	23.2	31.5	42.3	55.5	69.0	74.4

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.12	1.18	1.23	1.28

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.27

Distributer correction factor, f_p

SI units R407C

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.95	0.95	0.93
1.5	0.94	0.94	0.94	0.93	0.92	0.90
2	0.92	0.92	0.91	0.91	0.89	0.86

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R407C

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.93
25	0.93	0.93	0.93	0.92	0.90	0.88
30	0.92	0.92	0.91	0.90	0.88	0.86

Calculated at 90 °F condensing temperature.

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407C

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	45	4.34	5.52	6.96	8.65	10.4	12.0
	01	45	7.96	10.2	12.8	15.9	19.2	22.1
	02	45	11.1	14.3	18.1	22.4	26.8	30.5
	03	45	13.9	17.7	22.4	28.0	33.9	38.9
	04	45	18.2	23.6	30.2	38.0	46.3	53.1
TE 12	05	45	19.0	24.6	31.9	40.9	51.3	61.4
	06	45	23.6	31.0	40.7	53.0	67.4	81.9
	07	45	29.7	38.2	49.6	64.5	82.7	102
TE 20	08	45	43.6	55.5	70.8	89.6	111	130
	09	45	45.8	58.7	75.6	97.4	123	149
TE 55	10	45	51.5	68.0	89.2	116	147	179
	11	45	56.0	73.9	97.0	126	160	194
	12	45	59.3	78.4	103	135	172	211
	13	45	69.8	92.7	123	161	207	253

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407C

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	115	1.22	1.60	2.07	2.61	3.17	3.42
	01	115	2.24	2.94	3.80	4.81	5.84	6.27
	02	115	3.14	4.13	5.36	6.76	8.13	8.69
	03	115	3.91	5.12	6.65	8.45	10.3	11.1
	04	115	5.13	6.82	8.97	11.5	14.1	15.1
TE 12	05	115	5.35	7.12	9.46	12.4	15.8	17.3
	06	115	6.63	8.96	12.1	16.2	20.9	23.1
	07	115	8.34	11.0	14.7	19.6	25.6	28.6
TE 20	08	115	12.2	16.0	21.0	27.2	33.9	36.8
	09	115	12.8	16.9	22.4	29.6	38.1	42.1
TE 55	10	115	14.4	19.6	26.5	35.4	45.6	50.6
	11	115	15.6	21.3	28.8	38.3	49.3	54.7
	12	115	16.5	22.6	30.6	41.0	53.3	59.4
	13	115	19.4	26.7	36.4	49.1	64.0	71.3

Capacity in kW. Range: -40 – 10 °C.
Opening superheat sh = 4 K

SI units R407C

Valve type	Orifice no.	Cond. temp. [°C]	Evap. temp. [°C]					
			-40	-30	-20	-10	0	10
TE 5	0.5	55	4.04	5.12	6.46	8.08	9.91	11.7
	01	55	7.38	9.40	11.9	15.0	18.3	21.7
	02	55	10.3	13.2	16.8	21.1	25.8	30.3
	03	55	12.8	16.3	20.6	25.9	31.9	37.9
	04	55	16.6	21.4	27.6	35.2	43.8	52.2
TE 12	05	55	17.5	22.2	28.2	36.0	45.6	56.2
	06	55	21.4	27.6	35.7	46.4	59.8	74.9
	07	55	27.1	33.7	42.6	54.5	69.9	88.1
TE 20	08	55	39.4	49.6	62.8	79.8	100	122
	09	55	40.6	51.2	65.2	83.8	109	135
TE 55	10	55	43.5	57.9	76.9	101	132	165
	11	55	47.0	62.6	82.9	109	142	178
	12	55	49.3	65.7	87.4	116	151	191
	13	55	56.8	76.3	102	136	179	227

Capacity in TR. Range: -40 – 50 °F.
Opening superheat sh = 7.2 °F.

US units R407C

Valve type	Orifice no.	Cond. temp. [°F]	Evap. temp. [°F]					
			-40	-20	0	20	40	50
TE 5	0.5	135	1.12	1.46	1.89	2.41	3.00	3.28
	01	135	2.05	2.68	3.48	4.46	5.54	6.07
	02	135	2.87	3.78	4.92	6.31	7.80	8.50
	03	135	3.55	4.63	6.01	7.72	9.65	10.59
	04	135	4.59	6.10	8.06	10.5	13.3	14.6
TE 12	05	135	4.88	6.29	8.20	10.7	13.8	15.5
	06	135	5.94	7.82	10.4	13.8	18.2	20.6
	07	135	7.54	9.53	12.3	16.1	21.1	24.0
TE 20	08	135	10.9	14.0	18.2	23.7	30.4	33.9
	09	135	11.2	14.4	18.8	24.9	32.7	37.1
TE 55	10	135	11.8	16.3	22.3	30.3	40.3	45.6
	11	135	12.7	17.5	24.0	32.6	43.2	49.0
	12	135	13.3	18.4	25.3	34.5	46.1	52.5
	13	135	15.3	21.3	29.5	40.5	54.5	62.2

Subcooling correction factor, f_{sub}

Subcooling [K]	2	4	10	15	20	25	30
Correction factor	0.98	1.00	1.07	1.12	1.18	1.23	1.28

Subcooling correction factor, f_{sub}

Subcooling [°F]	2	7	10	20	30	40	50
Correction factor	0.97	1.00	1.02	1.08	1.15	1.21	1.27

Distributer correction factor, f_p

SI units R407C

Pressure drop [bar] Δp	Evap. temp. [°C]					
	-40	-30	-20	-10	0	10
	Correction factor					
0	1	1	1	1	1	1
1	0.96	0.96	0.96	0.95	0.95	0.93
1.5	0.94	0.94	0.94	0.93	0.92	0.90
2	0.92	0.92	0.91	0.91	0.89	0.86

Calculated at 32 °C condensing temperature.

Distributer correction factor, f_p

US units R407C

Pressure drop [psi] Δp	Evap. temp. [°F]					
	-40	-20	0	20	40	50
	Correction factor					
0	1	1	1	1	1	1
15	0.96	0.96	0.96	0.95	0.94	0.93
25	0.93	0.93	0.93	0.92	0.90	0.88
30	0.92	0.92	0.91	0.90	0.88	0.86

Calculated at 90 °F condensing temperature.

Dimensions and weights

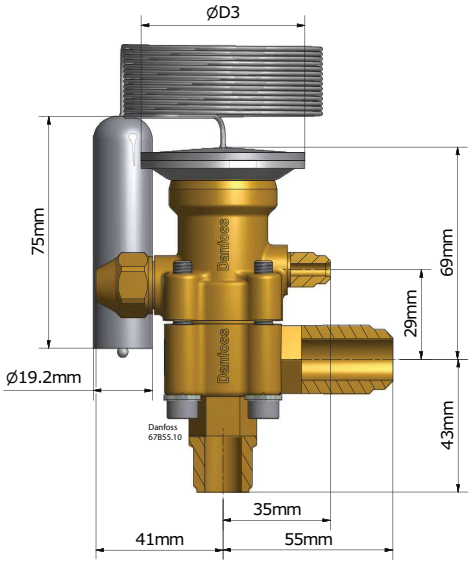
Element	$ØD_3$ [mm]	$ØD_3$ [in]
Standard	53	2.09
Range -60 – -25 °C (-75 – -15 °F)	60	2.36

Inlet side $ØD_1$	L_1 [mm]	L_1 [in]
½ In. / 12 mm ODF	10	0.39
⅝ In. / 16 mm ODF	12	0.47
⅞ In. / 22 mm ODF	17	0.67

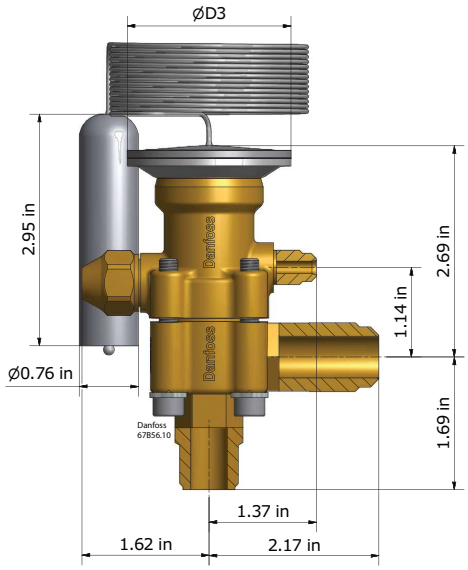
Outlet side $ØD_2$	L_1 [mm]	L_1 [in]
⅝ In. / 16 mm ODF	12	0.47
⅞ In. / 22 mm ODF	17	0.67
1⅛ In. / 28 mm ODM	25	0.98

Valve body		L_3 [mm]	L_3 [in]
Straight way	⅞ × 1⅛	28	1.10
	22 X 28 mm	28	1.10
	⅝ × ⅞	28	1.10
	16 X 22 mm	28	1.10
	Others	25	0.98
Angle way	⅞ × 1⅛	39	1.54
	22 × 28 mm	39	1.54
	Others	28	1.10

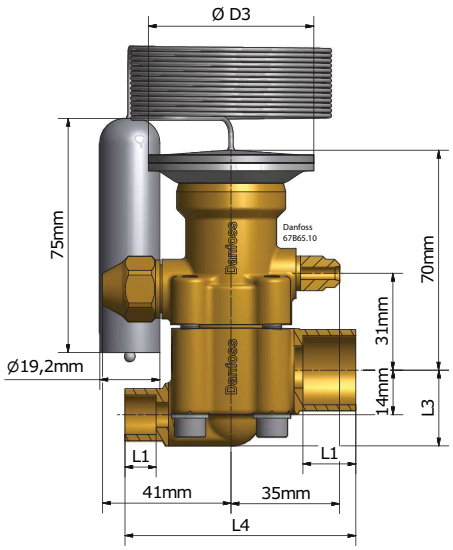
Valve body		L_4 [mm]	L_4 [in]
Straight way	⅞ × 1⅛	97	3.82
	22 X 28 mm	97	3.82
	⅝ × ⅞	97	3.82
	16 X 22 mm	97	3.82
	Others	74	2.91
Angle way	⅞ × 1⅛	52	2.05
	22 × 28 mm	52	2.05
	Others	40	1.57



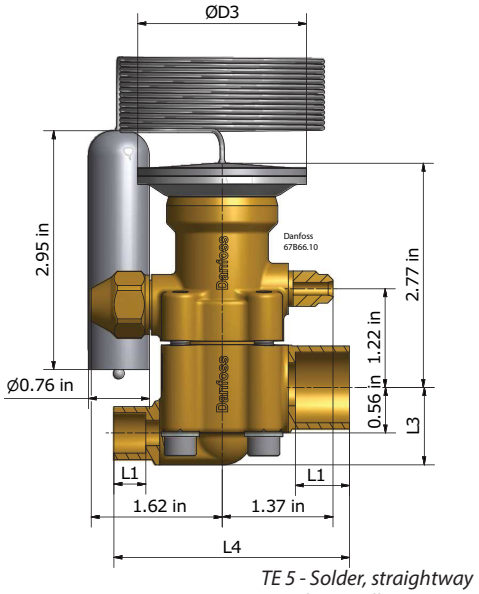
TE 5 - Flare, angleway
Weight: 1.1 kg



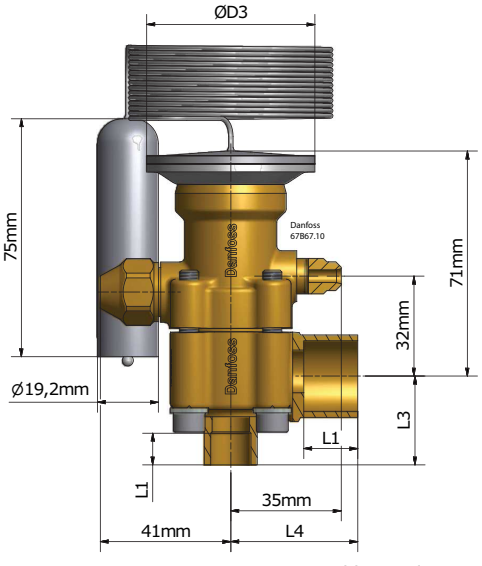
TE 5 - Flare, angleway
Weight: 2.43 lbs



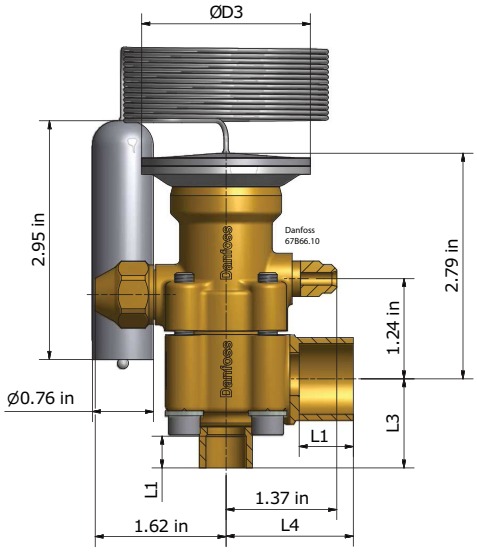
TE 5 - Solder, straightway
Weight: 1 kg



TE 5 - Solder, straightway
Weight: 2.02 lbs



TE 5 - Solder, angleway
Weight: 1 kg



TE 5 - Solder, angleway
Weight: 2.02 lbs

Dimensions and weights

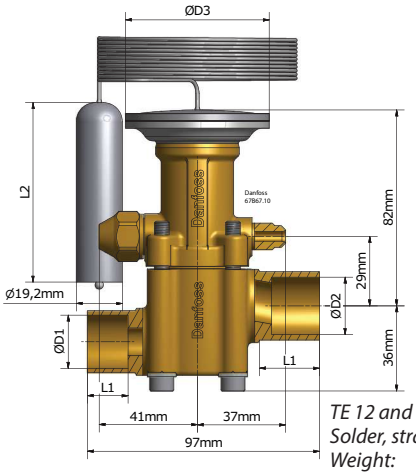
Element	$ØD_3$ [mm]	$ØD_3$ [in]
TE 12 Standard	60	2.36
TE 12 Range -60 – -25 °C (-75 – -15 °F)	72	2.83
TE 20	72	2.83

Bulb	L_2 [mm]	L_2 [in]
TE 12 Standard	75	2.95
TE 12 Range -60 – -25 °C (-75 – -15 °F)	120	4.72
TE 20	120	4.72

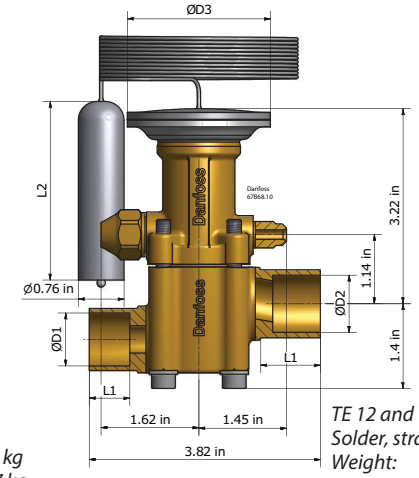
TE12 / TE20

Inlet side $ØD_1$	L_1 [mm]	L_1 [in]
$^{7}/_{8}$ in. / 22 mm ODF	17	0.67

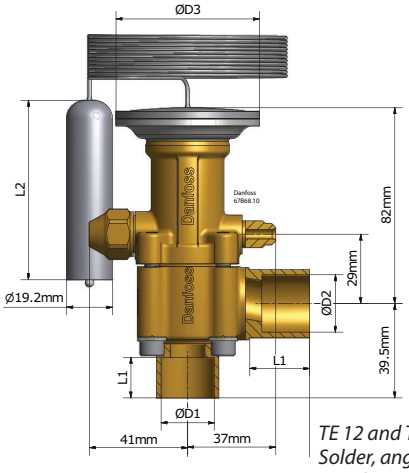
Outlet side $ØD_2$	L_1 [mm]	L_1 [in]
$1^{1}/_{8}$ in. / 28 mm ODM	25	0.98



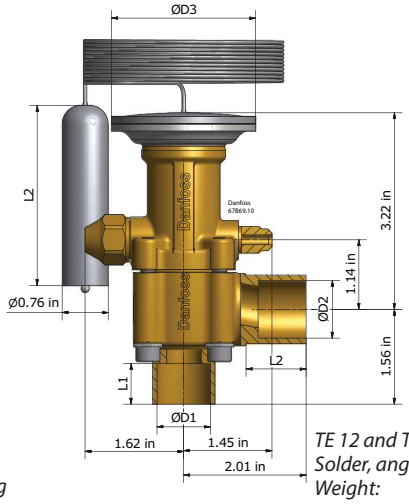
TE 12 and TE 20
Solder, straightway
Weight: TE 12: 1.5 kg
TE 20: 1.7 kg



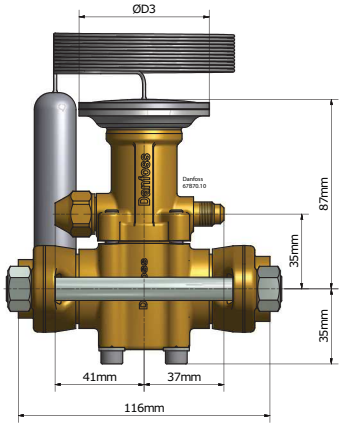
TE 12 and TE 20
Solder, straightway
Weight: TE 12: 3.31 lbs
TE 20: 3.75 lbs

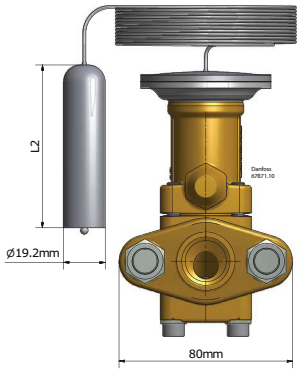


TE 12 and TE 20
Solder, angleway
Weight: TE 12: 1.5 kg
TE 20: 1.6 kg

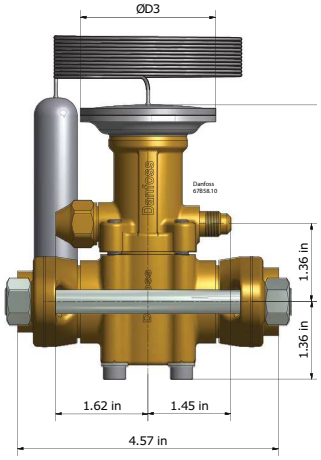


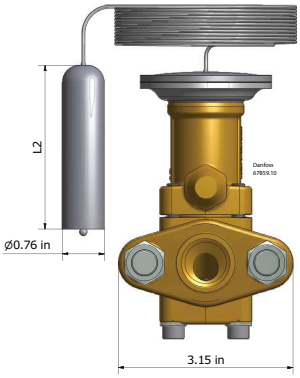
TE 12 and TE 20
Solder, angleway
Weight: TE12: 3.31 lbs
TE20: 3.53 lbs





TE 12 - Solder flanges, straightway
Weight: Without filter: 2.3 kg
Weight: Without filter: 7.72 lbs

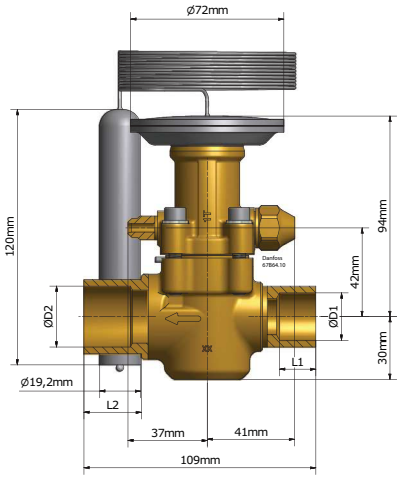




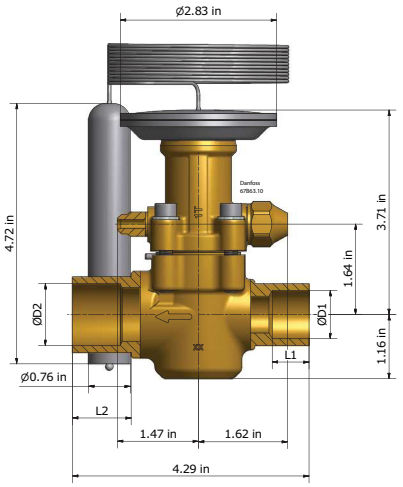
TE 55

Inlet side $ØD_1$	L_1 [mm]	L_1 [in]
$^{7}/_{8}$ in. / 22 mm ODF	17	0.67
$1^{1}/_{8}$ in. / 28 mm ODM	25	0.98

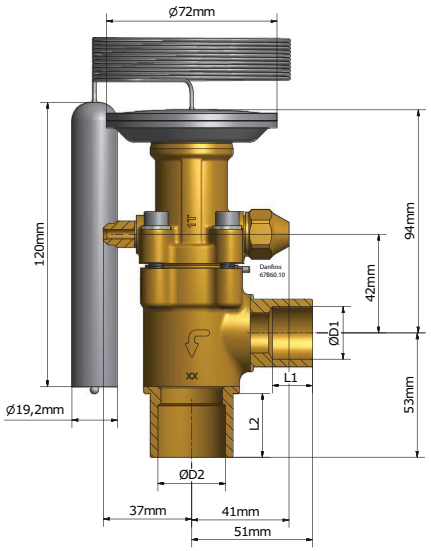
Outlet side $ØD_2$	L_2 [mm]	L_2 [in]
$1^{1}/_{8}$ in. / 28 mm ODF	22	0.87
$1^{3}/_{8}$ in. / 35 mm ODM	27	1.06



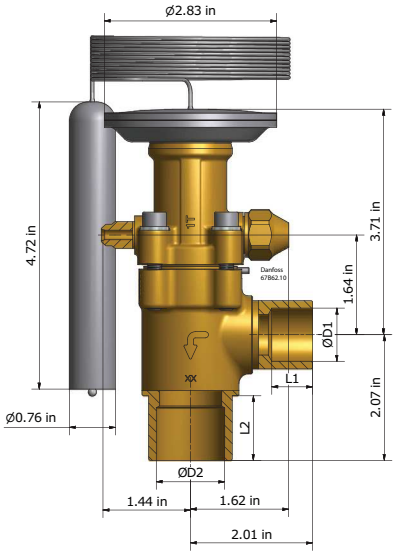
TE 55 - Solder, straightway
Weight: 1.7 kg



TE 55 - Solder, straightway
Weight: 3.75 lbs



TE 55 - Solder, angleway
Weight: 1.6 kg



TE 55 - Solder, angleway
Weight: 3.53 lbs

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