



Thermostatic expansion valves, type TE 5 - TE 55

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Introduction



The TE 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 technology for extended lifetime capability.

The TE series is available with a wide range of orifices which will cover a wide range of applications.

Features and benefits

Features

- Large operating range: -60°C to +10°C
- Interchangeable orifice assembly
- Stainless steel power element, capillary and bulb
- Wide capacity range
- MOP function is available
- Superior charge performance
- Patented bulb strap design
- MWP up to 28 bar
- Widely capacity range to minimize capacity gap and overlap

Benefits

- Equally applicable to freezing, refrigeration and air conditioning plant.
- High flexibility for reduced stock and easy capacity matching.
- High corrosion, strength and vibration resistance.
- Capacity from 3~ 73TR (Asercom standard, 4K OSH)
- Protects the compressor motor against excessive evaporating pressure.
- Improve system reliabilities
- Improve reaction and installation time. Fast installation and bulb self aligning. Better surface contact with tube and heat transferring character.
- Higher application pressure range.
- Easy to select.
- "Green Image"

Technical data

Max. temperature
 Bulb, when valve is installed: 100°C
 Complete valve not installed: 70°C

Max. test pressure
 32 bar

Min. temperature
 -60°C

Maximum working pressure
 28 bar

MOP-points

Refrigerant	Range N - 40 → +10°C	Range NM - 40 → - 5°C	Range NL - 40 → - 15°C	Range B - 60 → - 25°C
	MOP-point in evaporating temperature t_e and evaporating pressure p_e +15°C/+60°F 0°C/+32°F - 10°C/+15°F - 20°C/- 4°F			
R22	6.9 bar / 100 psig	4.0 bar / 55 psig	2.6 bar / 35 psig	1.5 bar / 20 psig
R134a	3.9 bar / 55 psig	2.5 bar / 35 psig	2.1 bar / 15 psig	0.3 bar / 5 psig
R404A/R507	8.6 bar / 125 psig	5.1 bar / 75 psig	3.4 bar / 50 psig	2.0 bar / 30 psig
R407C	6.6 bar / 95 psig	3.6 bar / 50 psig	2.2 bar / 30 psig	1.1 bar / 15 psig

MOP = Max. Operating Pressure

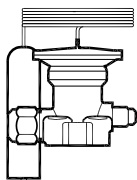
Superheat

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

Example
 Static superheat SS = 4 K
 Opening superheat OS = 4 K
 Total superheat SH = 4 + 4 = 8 K

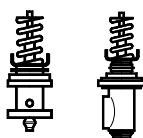
Static superheat SS can be adjusted with setting spindle.

The standard superheat setting SS is 4 K.
 The opening superheat OS is 4 K from when opening begins to where the valve reaches its rated capacity Q_{nom} .

Ordering

Thermostatic element - including bulb strap

Valve type	Pressure equalization $\frac{1}{4}$ in. / 6 mm	Capillary tube m	Code no.					
			Range N -40°C to +10°C		Range NM -40 to -5°C	Range NL -40 to -15°C	Range B -60 to -25°C	
			Without MOP	MOP+15°C	MOP 0°C	MOP -10°C	Without MOP	MOP -20°C
TEX 5	Ext. ¹⁾	3	067B3250	067B3267	067B3249	067B3253	067B3263	067B3251
TEX 12	Ext.	3	067B3210	067B3227	067B3207	067B3213		067B3211
TEX 12	Ext.	5	067B3209					067B3212
TEX 20	Ext.	3	067B3274	067B3286	067B3273	067B3275		067B3276
TEX 20	Ext.	5	067B3290					067B3287
TEX 55	Ext.	3	067G3205	067G3220	067G3206			067G3207
TEX 55	Ext.	5	067G3209					067G3217

¹⁾ Pressure equalization, please contact Danfoss.

Orifice assembly


Valve type	Rated capacity Range N: -40°C to 10°C kW	Rated capacity kW Range B: -60°C to -25°C kW	Orifice no.	Code no.
TEX 5-3	11.1	6.4	0.5	067B2788
TEX 5-5.5	18.8	11	1	067B2789
TEX 5-7.5	26.1	15.8	2	067B2790
TEX 5-10	33.9	19.5	3	067B2791
TEX 5-13	44.8	25.9	4	067B2792
TEX 12-17	60	35.6	5	067B2708
TEX 12-21	72.7	42	6	067B2709
TEX 12-24	84.5	46.4	7	067B2710
TEX 20-32.5	113.6	55.0	8	067B2771
TEX 20-37.5	131.5	57.5	9	067B2773
TEX 55-44.5	156.3	68.2	10	067G2701
TEX 55-54	190.0	77.8	11	067G2704
TEX 55-65.5	228.8	95.3	12	067G2707
TEX 55-80	281.0	131.4	13	067G2710

The rated capacity is based on:

Evaporating temperature

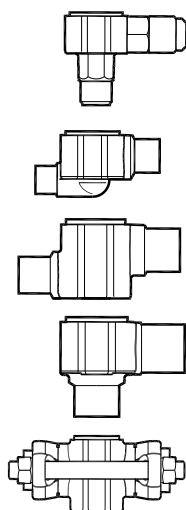
$t_e = +4^\circ\text{C}$ for range N and $t_e = -30^\circ\text{C}$ for range B

Condensing temperature

$t_c = +38^\circ\text{C}$

Refrigerant temperature ahead of valve

$t_1 = +37^\circ\text{C}$

Valve body


Type	Connection Inlet x Outlet		Code no.			
	in.	mm	Flare angleway	Solder angleway	Solder straightway	Solder flanges
TE 5	$\frac{1}{2} \times \frac{5}{8}$ $\frac{1}{2} \times \frac{7}{8}$ $\frac{3}{8} \times \frac{7}{8}$ $\frac{7}{8} \times \frac{1}{8}$		067B4013	067B4009 ¹⁾ 067B4010 ¹⁾ 067B4011 ¹⁾ 067B4034 ²⁾	067B4007 ¹⁾ 067B4008 ¹⁾ 067B4032 ¹⁾ 067B4033 ²⁾	
TE 5		12 x 16 12 x 22 16 x 22 22 x 28	067B4013	067B4004 ¹⁾ 067B4005 ¹⁾ 067B4012 ¹⁾ 067B4037 ²⁾	067B4002 ¹⁾ 067B4003 ¹⁾ 067B4035 ¹⁾ 067B4036 ²⁾	
TE 12	$\frac{5}{8} \times \frac{7}{8}$ $\frac{7}{8} \times 1$ $\frac{7}{8} \times \frac{1}{8}$			067B4023 ²⁾	067B4021 ²⁾	067B4025 ¹⁾ 067B4026 ¹⁾
TE 12		16 x 22 22 x 25 22 x 28		067B4017 ²⁾	067B4016 ²⁾	067B4027 ¹⁾ 067B4015 ¹⁾
TE 20	$\frac{7}{8} \times \frac{1}{8}$	22 x 28		067B4023 ²⁾ 067B4017 ²⁾	067B4021 ²⁾ 067B4016 ²⁾	
TE 55	$1\frac{1}{8} \times \frac{1}{8}$	28 x 35		067G4004 ³⁾ 067G4002 ³⁾	067G4003 ³⁾ 067G4001 ³⁾	

¹⁾ ODF x ODF

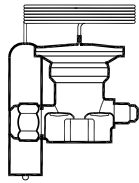
²⁾ ODF x ODM

³⁾ ODM x ODM

ODF = Internal diameter

ODM = External diameter

Ordering
(continued)



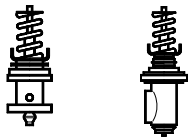
Thermostatic element - including bulb strap

R407C

Valve type	Pressure equalization	Capillary tube	Code no.	
			Range N -40 to +10°C	
	1/4 in. / 6 mm	m	Without MOP	MOP+15°C
TEZ 5	Ext. ¹⁾	3	067B3278	067B3277
TEZ 12	Ext.	3	067B3366	067B3367
TEZ 20	Ext.	3	067B3371	067B3372
TEZ 55	Ext.	3	067G3240	067G3241

¹⁾ Pressure equalization, please contact Danfoss.

Orifice assembly

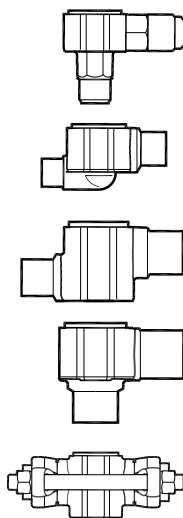


Valve type	Rated capacity kW, Range N: -40°C to 10°C	Orifice no.	Code no.
TEZ 5-3	10.8	0.5	067B2788
TEZ 5-5	18.3	1	067B2789
TEZ 5-7.5	25.6	2	067B2790
TEZ 5-9.5	33.0	3	067B2791
TEZ 5-12.5	43.9	4	067B2792
TEZ 12-17	58.8	5	067B2708
TEZ 12-20.5	71.2	6	067B2709
TEZ 12-23.5	81.4	7	067B2710
TEZ 20-29.5	104.0	8	067B2771
TEZ20-32.5	113.5	9	067B2773
TEZ 55-42.5	148.4	10	067G2701
TEZ 55- 50.5	177.4	11	067G2704
TEZ 55-61.5	215.3	12	067G2707
TEZ 55-78	273.6	13	067G2710

The rated capacity is based on:

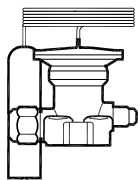
Evaporating temperature $t_e = +4^\circ\text{C}$ for range N
 Condensing temperature $t_c = +38^\circ\text{C}$
 Refrigerant temperature ahead of valve $t_i = +37^\circ\text{C}$

Valve body



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

¹⁾ ODF x ODF
²⁾ ODF x ODM
³⁾ ODM x ODM
 ODF = Internal diameter
 ODM = External diameter

Ordering
(continued)


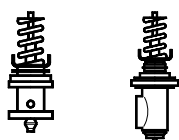
Thermostatic element - including bulb strap.

R134a

Valve type	Pressure equalization $\frac{1}{4}$ in. / 6 mm	Capillary tube m	Code no.		
			Range N -40 to +10°C		Range NM -40 to -5°C
			Without MOP	MOP +15°C	MOP 0°C
TEN 5	Ext. ¹⁾	3	067B3297	067B3298	067B3360
TEN 12	Ext.	3	067B3232	067B3233	
TEN 12	Ext.	5	067B3363		
TEN 20	Ext.	3	067B3292	067B3293	
TEN 20	Ext.	5	067B3370		
TEN 55	Ext.	3	067G3222	067G3223	
TEN 55	Ext.	5	067G3230		

¹⁾ Pressure equalization, please contact Danfoss.

Orifice assembly

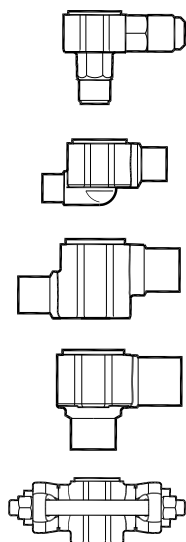


Valve type	Rated capacity kW, range N: -40°C to 10°C	Orifice no.	Code no.
TEN 5-2.0	7.0	0.5	067B2788
TEN 5-3.5	12.0	1	067B2789
TEN 5-5.0	16.9	2	067B2790
TEN 5-6.0	21.7	3	067B2791
TEN 5-8.5	29.0	4	067B2792
TEN 12-11	39.0	5	067B2708
TEN 12-13.5	47.5	6	067B2709
TEN 12-16	55.8	7	067B2710
TEN 20-20	69.5	8	067B2771
TEN 20-22.5	78.4	9	067B2773
TEN 55-29.5	102.8	10	067B2701
TEN 55-35.5	124.7	11	067G2704
TEN 55-44	154.7	12	067G2707
TEN 55-54.5	190.8	13	067G2710

The rated capacity is based on:

Evaporating temperature $t_e = +4^\circ\text{C}$
 Condensing temperature $t_c = +38^\circ\text{C}$
 Refrigerant temperature ahead of valve $t_i = +37^\circ\text{C}$

Valve body



Type	Connection Inlet x Outlet		Code no.			
	in.	mm	Flare angleway	Solder angleway	Solder straightway	Solder flanges
TE 5	$\frac{1}{2} \times \frac{5}{8}$ $\frac{1}{2} \times \frac{7}{8}$ $\frac{3}{8} \times \frac{7}{8}$ $\frac{7}{8} \times 1\frac{1}{8}$		067B4013	067B4009 ¹⁾	067B4007 ¹⁾	
				067B4010 ¹⁾	067B4008 ¹⁾	
				067B4011 ¹⁾	067B4032 ¹⁾	
				067B4034 ²⁾	067B4033 ²⁾	
TE 5		12 x 16 12 x 22 16 x 22 22 x 28	067B4013	067B4004 ¹⁾	067B4002 ¹⁾	
				067B4005 ¹⁾	067B4003 ¹⁾	
				067B4012 ¹⁾	067B4035 ¹⁾	
				067B4037 ²⁾	067B4036 ²⁾	
TE 12	$\frac{5}{8} \times \frac{7}{8}$ $\frac{7}{8} \times 1$ $\frac{7}{8} \times 1\frac{1}{8}$					067B4025 ¹⁾ 067B4026 ¹⁾
				067B4023 ²⁾	067B4021 ²⁾	
TE 12		16 x 22 22 x 25 22 x 28		067B4017 ²⁾	067B4016 ²⁾	067B4027 ¹⁾ 067B4015 ¹⁾
				067B4023 ²⁾	067B4021 ²⁾	
TE 20	$\frac{7}{8} \times 1\frac{1}{8}$	22 x 28		067B4017 ²⁾	067B4016 ²⁾	
				067B4023 ²⁾	067B4021 ²⁾	
TE 55	$1\frac{1}{8} \times 1\frac{3}{8}$	28 x 35		067G4004 ³⁾	067G4003 ³⁾	
				067G4002 ³⁾	067G4001 ³⁾	

¹⁾ ODF x ODF

²⁾ ODF x ODM

³⁾ ODM x ODM

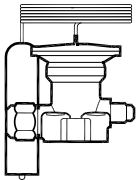
ODF = Internal diameter

ODM = External diameter

Ordering
(continued)

Thermostatic element - including bulb strap

R404A/R507



Valve type	Pressure equalization	Capillary tube	Code no.					
			Range N -40 to +10°C		Range NM -40 to -5°C	Range NL -40 to -15°C	Range B -60 to -25°C	
			Without MOP	MOP +15°C	MOP 0°C	MOP -10°C	Without MOP	MOP -20°C
TES 5	Ext. ¹⁾	3	067B3342		067B3357	067B3358	067B3344	067B3343
TES 12	Ext.	3	067B3347		067B3345	067B3348		067B3349
TES 12	Ext.	5	067B3346					067B3350
TES 20	Ext.	3	067B3352		067B3351	067B3353		067B3354
TES 20	Ext.	5	067B3356					067B3355
TES 55	Ext.	3	067G3302		067G3303	067G3304		067G3305
TES 55	Ext.	5	067G3301					067G3306

¹⁾ Pressure equalization, please contact Danfoss.

Orifice assembly

Valve type	Rated capacity kW range N: -40°C to 10°C	Rated capacity kW range B: -60°C to -25°C	Orifice no.	Code no.
TES 5-2.5	8.7	5.7	0.5	067B2788
TES 5-4.0	14.6	9.9	1	067B2789
TES 5-6	20.1	14.4	2	067B2790
TES 5-7.5	26.3	17.3	3	067B2791
TES 5-10	34.6	22.9	4	067B2792
TE S12-14.5	50.6	24.2	5	067B2708
TES 12-17.5	61.0	28.4	6	067B2709
TES 12-20	70.6	31.0	7	067B2710
TES 20-22	77.6	43.8	8	067B2771
TES 20-24	84.5	44.0	9	067B2773
TES 55-34	118.4	52.3	10	067G2701
TES 55-41	143.2	58.9	11	067G2704
TES 55-48.5	170.3	71.0	12	067G2707
TES 55-60	209.8	100.2	13	067G2710

The rated capacity is based on:

Evaporating temperature

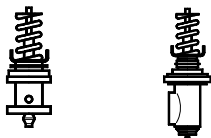
$t_e = +4^\circ\text{C}$ for range N and $t_e = -30^\circ\text{C}$ for range B

Condensing temperature

$t_c = +38^\circ\text{C}$

Refrigerant temperature ahead of valve

$t_1 = +37^\circ\text{C}$



Valve body

Type	Connection Inlet x Outlet		Code no.			
	in.	mm	Flare angleway	Solder angleway	Solder straightway	Solder flanges
TE 5	$\frac{1}{2} \times \frac{5}{8}$		067B4013	067B4009 ¹⁾	067B4007 ¹⁾	
	$\frac{1}{2} \times \frac{7}{8}$			067B4010 ¹⁾	067B4008 ¹⁾	
	$\frac{5}{8} \times \frac{7}{8}$			067B4011 ¹⁾	067B4032 ¹⁾	
	$\frac{7}{8} \times 1\frac{1}{8}$			067B4034 ²⁾	067B4033 ²⁾	
TE 5		12 x 16	067B4013	067B4004 ¹⁾	067B4002 ¹⁾	
		12 x 22		067B4005 ¹⁾	067B4003 ¹⁾	
		16 x 22		067B4012 ¹⁾	067B4035 ¹⁾	
		22 x 28		067B4037 ²⁾	067B4036 ²⁾	
TE 12				067B4023 ²⁾	067B4021 ²⁾	067B4025 ¹⁾
						067B4026 ¹⁾
TE 12		16 x 22		067B4017 ²⁾	067B4016 ²⁾	067B4027 ¹⁾
		22 x 25				067B4015 ¹⁾
		22 x 28				
TE 20				067B4023 ²⁾	067B4021 ²⁾	067B4017 ²⁾
						067B4017 ²⁾
TE 55				067G4004 ³⁾	067G4003 ³⁾	067G4003 ³⁾
						067G4002 ³⁾

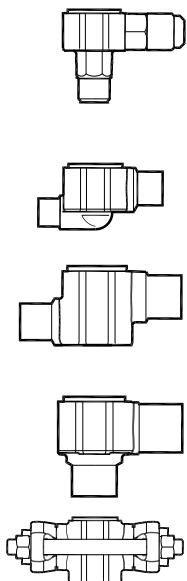
¹⁾ ODF x ODF

²⁾ ODF x ODM

³⁾ ODM x ODM

ODF = Internal diameter

ODM = External diameter



Capacity

R22

Capacity in KW for Range N: -40°C to +10°C

Valve type	Orifice no.	Pressure drop across valve Δp bar								Pressure drop across valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
Evaporating temperature +10°C										Evaporating temperature 0°C							
TEX 5-3	0.5	7.3	9.8	11.3	12.3	12.9	13.3	13.6	13.7	6.6	8.7	9.9	10.7	11.2	11.5	11.7	11.9
TEX 5-5.5	1	12.2	16.3	18.9	20.5	21.6	22.4	22.9	23.2	11.1	14.6	16.7	18.0	18.9	19.5	20.0	20.2
TEX 5-7.5	2	16.7	22.3	25.9	28.2	29.8	31.0	31.8	32.4	15.3	20.3	23.3	25.2	26.5	27.4	28.1	28.5
TEX 5-10	3	22.0	29.3	34.0	36.9	39.0	40.4	41.4	42.0	20.0	26.5	30.2	32.6	34.2	35.3	36.0	36.5
TEX 5-13	4	28.5	38.1	44.4	48.3	51.1	53.2	54.7	55.7	26.4	35.0	40.0	43.2	45.4	47.0	48.1	48.9
TEX 12-17	5	40.0	53.1	61.2	66.0	69.1	71.1	72.3	72.8	36.2	47.6	53.9	57.6	60.0	61.5	62.2	62.5
TEX 12-21	6	48.3	64.1	73.9	79.8	83.6	86.0	87.5	88.2	44.1	57.9	65.5	69.9	72.7	74.4	75.2	75.3
TEX 12-24	7	58.0	76.3	87.3	93.4	96.9	98.7	99.4	99.1	53.0	68.9	77.1	81.5	83.9	84.8	84.7	83.8
TEX 20-32.5	8	72.46	96.64	112.1	121.8	128.4	133.1	136.4	138.7	68.22	90.04	102.5	110.2	115.3	118.7	120.8	121.9
TEX 20-37.5	9	84.95	112.7	130.0	140.4	147.0	151.1	153.5	154.4	81.78	107.1	120.9	128.7	133.2	135.5	136.0	135.1
TEX 55-44.5	10	112.3	145.8	164.4	173.6	177.7	178.8	177.8	175.2	102.6	131.5	145.4	151.7	154.1	154.1	152.3	149.2
TEX 55-54	11	143.8	184.1	204.9	213.6	215.9	214.6	210.9	205.5	130.0	164.2	178.9	184.1	184.7	182.4	178.2	172.7
TEX 55-65.5	12	169.1	217.7	243.2	254.1	257.1	255.6	250.9	244.1	158.1	200.1	218.2	224.3	224.5	221.0	215.1	207.6
TEX 55-80	13	183.8	243.2	279.5	300.7	313.5	320.9	324.2	324.3	176.7	230.7	259.4	274.9	283.4	286.9	286.6	283.4
Evaporating temperature -10°C										Evaporating temperature -20°C							
TEX 5-3	0.5	5.8	7.5	8.4	9.0	9.4	9.7	9.9	10.0	4.9	6.2	7.0	7.5	7.8	8.0	8.1	8.2
TEX 5-5.5	1	9.8	12.8	14.4	15.4	16.1	16.6	16.9	17.1	8.4	10.7	12.0	12.8	13.3	13.7	13.9	14.0
TEX 5-7.5	2	13.7	17.9	20.2	21.7	22.8	23.5	24.0	24.3	11.9	15.1	17.0	18.2	19.0	19.5	19.9	20.0
TEX 5-10	3	17.8	23.1	26.0	27.8	29.1	29.9	30.4	30.7	15.3	19.4	21.6	23.1	24.0	24.5	24.9	25.0
TEX 5-13	4	23.7	30.9	34.7	37.3	38.9	40.1	40.8	41.1	20.7	26.1	29.1	31.0	32.2	32.9	33.2	33.3
TEX 12-17	5	32.0	41.3	46.1	49.0	50.7	51.7	52.1	52.1	27.5	34.6	38.3	40.4	41.7	42.3	42.4	42.3
TEX 12-21	6	39.2	50.5	56.2	59.5	61.4	62.4	62.6	62.3	33.9	42.4	46.7	49.0	50.3	50.7	50.6	50.0
TEX 12-24	7	47.2	60.1	66.0	69.0	70.4	70.6	70.0	68.8	40.8	50.4	54.7	56.7	57.3	57.0	56.2	54.8
TEX 20-32.5	8	62.3	80.6	90.1	96.0	99.6	101.7	102.6	102.7	54.9	69.0	76.2	80.4	82.7	83.6	83.6	82.9
TEX 20-37.5	9	76.3	97.7	107.8	113.2	115.6	116.1	115.0	112.9	68.6	84.7	92.0	95.1	95.9	95.0	92.9	90.1
TEX 55-44.5	10	91.1	114.4	124.1	128.3	129.4	128.5	126.3	123.1	78.5	95.5	102.5	105.1	105.2	103.8	101.4	98.4
TEX 55-54	11	114.3	141.3	151.0	154.0	153.3	150.4	146.1	140.9	97.6	116.8	123.4	124.8	123.3	120.2	116.2	111.6
TEX 55-65.5	12	143.3	176.7	188.1	190.9	188.9	184.2	177.8	170.5	125.3	149.0	156.1	156.4	153.2	148.1	141.8	135.1
TEX 55-80	13	164.6	209.9	230.7	241.2	245.5	245.4	242.3	236.9	147.8	181.7	196.5	202.5	203.3	200.7	195.8	189.5
Evaporating temperature -30°C										Evaporating temperature -40°C							
TEX 5-3	0.5	4.0	5.0	5.6	6.0	6.2	6.4	6.5		3.2	3.9	4.4	4.6	4.8	4.9	5.0	5.0
TEX 5-5.5	1	6.9	8.7	9.6	10.3	10.7	10.9	11.1		5.5	6.8	7.5	8.0	8.3	8.4	8.5	8.5
TEX 5-7.5	2	9.9	12.4	13.8	14.7	15.3	15.6	15.8		7.9	9.7	10.8	11.4	11.8	12.1	12.2	12.2
TEX 5-10	3	12.7	15.7	17.4	18.5	19.1	19.5	19.6		10.0	12.3	13.6	14.3	14.7	14.9	15.0	14.9
TEX 5-13	4	17.2	21.3	23.5	24.8	25.6	26.0	26.0		13.7	16.7	18.3	19.2	19.6	19.7	19.7	19.4
TEX 12-17	5	22.8	28.1	30.8	32.4	33.2	33.6	33.5		18.1	22.0	24.1	25.1	25.7	25.8	25.6	25.3
TEX 12-21	6	28.2	34.4	37.5	39.1	39.8	39.9	39.5		22.4	27.0	29.2	30.2	30.5	30.3	29.9	29.2
TEX 12-24	7	34.0	40.9	43.9	45.1	45.2	44.6	43.6		27.0	32.0	34.0	34.7	34.5	33.8	32.8	31.6
TEX 20-32.5	8	46.3	56.6	61.9	64.6	65.8	66.0	65.4		36.9	44.6	48.2	49.8	50.2	49.9	49.1	47.9
TEX 20-37.5	9	58.6	70.2	74.9	76.3	75.9	74.2	71.8		47.3	55.5	58.2	58.5	57.2	55.5	53.2	50.6
TEX 55-44.5	10	64.7	76.9	81.7	83.1	82.6	81.0	78.7		50.9	59.7	62.8	63.5	62.7	61.1	59.1	56.7
TEX 55-54	11	80.0	93.3	97.6	97.9	96.0	93.1	89.5		62.5	72.0	74.5	74.2	72.4	69.7	66.7	63.5
TEX 55-65.5	12	104.6	120.6	124.5	123.3	119.7	114.7	109.1		82.8	93.7	95.5	93.6	90.0	85.7	81.0	76.3
TEX 55-80	13	126.1	150.4	159.8	162.3	160.9	156.9	151.5		101.6	118.7	124.2	124.4	121.8	117.6	112.5	106.9

Correction for subcooling Δt_{sub}

The evaporator capacities used must be corrected if subcooling deviates more than 4 K. The corrected capacity can be obtained by

dividing the required evaporator capacity by the correction factor below. Selections can then be made from the tables above.

Δt _{sub}	1 K	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50 K
Correction factor	0.97	1.00	1.07	1.13	1.18	1.23	1.28	1.32	1.37	1.42	1.46

Capacity (continued)

R22

Capacity in KW for Range B: -60°C to -25°C

Valve type	Orifice no.	Pressure drop across valve Δp bar								Pressure drop across valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
Evaporating temperature -25°C										Evaporating temperature -30°C							
TEX 5-2	0.5	4.5	5.6	6.3	6.7	7.0	7.1	7.2	7.3	4.1	5.1	5.6	6.0	6.2	6.4	6.5	6.5
TEX 5-3	1	7.7	9.7	10.8	11.5	12.0	12.3	12.4	12.5	7.0	8.7	9.7	10.3	10.7	11.0	11.1	11.2
TEX 5-4.5	2	11.0	13.8	15.4	16.4	17.1	17.5	17.8	17.9	10.0	12.4	13.9	14.8	15.4	15.7	15.9	16.0
TEX 5-5.5	3	14.0	17.5	19.5	20.7	21.4	21.9	22.1	22.1	12.8	15.8	17.5	18.6	19.2	19.5	19.7	19.7
TEX 5-7.5	4	19.0	23.7	26.3	27.8	28.7	29.2	29.3	29.3	17.3	21.4	23.6	24.9	25.7	26.0	26.0	25.9
TEX 12-10	5	26.7	33.1	36.4	38.3	39.4	39.8	39.9	39.6	24.4	30.0	32.9	34.5	35.4	35.7	35.7	35.3
TEX 12-12	6	32.9	40.5	44.3	46.3	47.2	47.4	47.1	46.3	30.1	36.7	40.0	41.6	42.3	42.3	41.9	41.1
TEX 12-13.5	7	39.7	48.1	51.8	53.4	53.6	53.0	51.8	50.3	36.3	43.6	46.7	47.9	47.9	47.2	46.0	44.5
TEX 20-15.5	8	45.5	56.0	61.2	64.0	65.2	65.4	64.8	63.7	41.2	50.2	54.6	56.8	57.7	57.7	57.0	55.9
TEX 20-16.5	9	54.2	65.1	69.6	70.9	70.5	69.0	66.8	64.1	49.3	58.6	62.2	63.1	62.4	60.8	58.6	56.1
TEX 55-19.5	10	64.6	77.1	81.9	83.4	82.9	81.3	79.0	76.3	58.1	68.8	72.9	74.0	73.4	71.9	69.7	67.2
TEX 55-22	11	79.8	93.5	97.8	98.1	96.3	93.3	89.7	85.8	71.5	83.2	86.8	86.9	85.1	82.4	79.1	75.5
TEX 55-27	12	104.3	120.7	124.7	123.6	119.9	114.9	109.3	103.5	94.2	108.1	111.1	109.7	106.1	101.5	96.4	91.1
TEX 55-37.5	13	117.4	139.9	146.4	145.9	141.6	135.0	127.0	118.2	109.9	128.4	133.1	131.8	127.1	120.4	112.7	104.4
Evaporating temperature -35°C										Evaporating temperature -40°C							
TEX 5-2	0.5	3.7	4.5	5.1	5.4	5.6	5.7	5.8	5.8	3.3	4.1	4.5	4.8	5.0	5.1	5.1	5.1
TEX 5-3	1	6.3	7.8	8.7	9.3	9.6	9.8	9.9	10.0	5.6	7.0	7.8	8.2	8.5	8.7	8.8	8.8
TEX 5-4.5	2	9.0	11.2	12.5	13.2	13.7	14.0	14.2	14.2	8.1	10.0	11.1	11.8	12.2	12.4	12.6	12.6
TEX 5-5.5	3	11.5	14.2	15.7	16.6	17.1	17.4	17.5	17.4	10.3	12.7	14.0	14.7	15.2	15.4	15.4	15.3
TEX 5-7.5	4	15.7	19.3	21.2	22.3	22.8	23.0	23.0	22.8	14.1	17.2	18.8	19.7	20.1	20.3	20.2	19.9
TEX 12-10	5	22.1	27.0	29.6	31.0	31.7	31.9	31.8	31.4	19.9	24.2	26.4	27.6	28.1	28.2	28.0	27.6
TEX 12-12	6	27.3	33.1	35.9	37.3	37.7	37.6	37.1	36.3	24.6	29.6	32.0	33.0	33.3	33.1	32.5	31.7
TEX 12-13.5	7	33.0	39.3	41.9	42.8	42.6	41.8	40.6	39.2	29.7	35.1	37.3	37.9	37.6	36.7	35.6	34.2
TEX 20-15.5	8	37.1	45.0	48.7	50.5	51.1	50.9	50.2	49.1	33.3	40.1	43.3	44.7	45.1	44.8	44.0	42.9
TEX 20-16.5	9	44.7	52.7	55.5	56.0	55.2	53.6	51.5	49.2	40.2	47.0	49.3	49.4	48.5	46.9	45.0	42.8
TEX 55-19.5	10	52.1	61.4	64.8	65.7	65.0	63.5	61.5	59.2	46.5	54.5	57.4	58.0	57.3	55.9	54.0	51.9
TEX 55-22	11	64.0	74.1	77.1	76.9	75.2	72.7	69.7	66.5	57.0	65.7	68.1	67.8	66.1	63.8	61.0	58.1
TEX 55-27	12	84.8	96.6	98.8	97.2	93.8	89.5	84.9	80.1	75.9	85.8	87.4	85.7	82.4	78.5	74.3	70.0
TEX 55-37.5	13	101.5	116.9	120.2	118.1	113.1	106.6	99.22	91.5	92.52	105.4	107.4	104.7	99.68	93.37	86.46	79.35
Evaporating temperature -45°C										Evaporating temperature -50°C							
TEX 5-2	0.5	2.9	3.6	4.0	4.2	4.4	4.5	4.5	4.5	2.6	3.1	3.5	3.7	3.8	3.9	3.9	3.9
TEX 5-3	1	5.0	6.2	6.9	7.3	7.5	7.7	7.7	7.7	4.4	5.4	6.0	6.4	6.6	6.7	6.7	6.7
TEX 5-4.5	2	7.2	8.9	9.9	10.4	10.8	11.0	11.0	11.0	6.4	7.8	8.6	9.1	9.4	9.5	9.6	9.5
TEX 5-5.5	3	9.2	11.2	12.4	13.0	13.3	13.5	13.5	13.4	8.1	9.9	10.8	11.3	11.6	11.7	11.7	11.6
TEX 5-7.5	4	12.6	15.3	16.6	17.4	17.7	17.7	17.5	17.3	11.1	13.4	14.5	15.1	15.3	15.3	15.1	14.8
TEX 12-10	5	17.7	21.5	23.4	24.4	24.8	24.8	24.6	24.2	15.6	18.9	20.5	21.3	21.6	21.6	21.3	20.9
TEX 12-12	6	21.9	26.3	28.3	29.1	29.2	28.9	28.4	27.6	19.4	23.1	24.7	25.3	25.4	25.0	24.4	23.7
TEX 12-13.5	7	26.5	31.2	32.9	33.3	32.9	32.0	30.9	29.6	23.4	27.4	28.8	28.9	28.5	27.6	26.6	25.4
TEX 20-15.5	8	29.7	36.5	38.3	39.4	39.6	39.3	38.5	37.4	26.3	31.4	33.6	34.5	34.6	34.1	33.3	32.3
TEX 20-16.5	9	36.0	41.8	43.5	43.5	42.5	40.9	39.1	37.1	31.9	36.8	38.1	37.9	36.8	35.4	33.7	31.9
TEX 55-19.5	10	41.3	48.3	50.7	51.0	50.3	48.9	47.2	45.3	36.4	42.4	44.3	44.5	43.8	42.5	40.9	39.2
TEX 55-22	11	50.6	58.0	59.9	59.5	58.0	55.8	53.3	50.7	44.5	50.8	52.3	51.8	50.3	48.3	46.1	43.7
TEX 55-27	12	67.5	75.9	77.0	75.2	72.2	68.5	64.7	60.8	59.6	66.5	67.2	65.4	62.5	59.2	55.8	52.4
TEX 55-37.5	13	83.36	93.86	94.85	91.8	86.78	80.8	74.43	67.96	74.1	82.52	82.66	79.4	74.56	69.01	63.22	57.44
Evaporating temperature -55°C										Evaporating temperature -60°C							
TEX 5-2	0.5	2.2	2.7	3.0	3.2	3.3	3.4	3.4	3.4	1.9	2.4	2.6	2.8	2.8	2.9	2.9	2.9
TEX 5-3	1	3.9	4.7	5.2	5.5	5.7	5.8	5.8	5.8	3.3	4.1	4.5	4.7	4.9	5.0	5.0	4.9
TEX 5-4.5	2	5.6	6.8	7.5	7.9	8.1	8.2	8.2	8.2	4.8	5.9	6.5	6.8	7.0	7.0	7.0	7.0
TEX 5-5.5	3	7.0	8.6	9.4	9.8	10.0	10.1	10.0	9.9	6.1	7.4	8.0	8.4	8.5	8.6	8.5	8.4
TEX 5-7.5	4	9.6	11.6	12.6	13.0	13.1	13.1	12.9	12.6	8.3	10.0	10.8	11.1	11.2	11.1	10.9	10.6
TEX 12-10	5	13.7	16.5	17.8	18.5	18.7	18.6	18.3	17.9	11.8	14.2	15.3	15.8	16.0	15.9	15.6	15.2
TEX 12-12	6	16.9	20.1	21.4	21.8	21.8	21.4	20.8	20.1	14.6	17.3	18.3	18.6	18.5	18.1	17.6	16.9
TEX 12-13.5	7	20.5	23.8	24.9	24.9	24.4	23.6	22.6	21.5	17.8	20.5	21.3	21.2	20.7	19.9	19.0	18.1
TEX 20-15.5	8	23.1	27.5	29.3	29.9	29.9	29.4	28.7	27.7	20.1	23.8	25.3	25.7	25.6	25.1	24.4	23.5
TEX 20-16.5	9	28.0	32.1	33.1	32.7	31.7	30.3	28.8	27.2	24.4	27.8	28.4	28.0	27.0	25.7	24.4	23.0
TEX 55-19.5	10	31.9	36.9	38.5	38.5	37.8	36.6	35.2	33.6	27.6	31.8	33.1	33.1	32.3	31.2	29.9	28.5
TEX 55-22	11	38.9	44.2	45.3	44.8	43.4	41.5	39.5	37.4	33.6	38.1	38.9	38.3	37.0	35.4	33.6	31.7
TEX 55-27	12	52.1	57.8	58.2	56.4	53.8	50.8	47.7	44.7	45.1	49.8	49.9	48.2	45.8	43.1	40.4	37.8
TEX 55-37.5	13	64.93	71.54	71.05	67.73	63.18	58.13	52.96	47.88	56.08	61.15	60.2	56.97	52.79	48.29	43.77	39.36

Correction for subcooling Δt_{sub}

The evaporator capacities used must be corrected if subcooling deviates more than 4 K. The corrected capacity can be obtained by

dividing the required evaporator capacity by the correction factor below. Selections can then be made from the tables above.

Note:
Insufficient subcooling can produce flash gas.

Δt _{sub}	1 K	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50 K
Correction factor	0.97	1.00	1.07	1.13	1.18	1.23	1.28	1.32	1.37	1.42	1.46

Capacity (continued)

R407C

Capacity in KW for Range N: -40°C to +10°C

Valve type	Orifice no.	Pressure drop across valve Δp bar								Pressure drop across valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
Evaporating temperature +10°C										Evaporating temperature 0°C							
TEZ 5 - 3	0.5	7.2	9.5	10.9	11.7	12.1	12.4	12.5	12.5	6.5	8.5	9.5	10.1	10.5	10.7	10.8	10.7
TEZ 5 - 5	1	12.1	16.0	18.3	19.6	20.4	20.9	21.1	21.2	11.0	14.3	16.1	17.2	17.8	18.2	18.3	18.3
TEZ 5 - 7.5	2	16.6	22.0	25.2	27.1	28.3	29.1	29.5	29.7	15.3	20.0	22.5	24.0	25.0	25.6	25.9	26.0
TEZ 5 - 9.5	3	21.8	28.8	33.0	35.4	36.8	37.7	38.2	38.3	19.9	25.9	29.1	31.0	32.2	32.8	33.1	33.1
TEZ 5 - 12.5	4	28.5	37.7	43.3	46.5	48.6	49.9	50.7	51.0	26.3	34.4	38.7	41.3	42.9	43.8	44.2	44.3
TEZ 12 - 17	5	41.2	53.9	61.5	65.4	67.7	68.9	69.2	68.9	36.1	46.8	52.1	55.0	56.6	57.3	57.3	56.8
TEZ 12 - 20.5	6	49.7	65.2	74.3	79.1	81.9	83.4	83.8	83.4	44.0	57.0	63.4	66.8	68.6	69.3	69.1	68.3
TEZ 12 - 23.5	7	59.8	77.7	87.7	92.5	94.8	95.5	94.9	93.3	52.9	67.8	74.6	77.8	79.0	78.8	77.6	75.8
TEZ 20 - 29.5	8	69.1	90.8	103.9	110.9	115.2	117.7	118.7	118.6	64.5	83.8	93.7	99.2	102.3	103.7	103.9	103.1
TEZ 20 - 32.5	9	77.6	101.4	115.2	122.2	125.9	127.5	127.3	125.9	74.0	95.3	105.5	110.5	112.7	112.9	111.6	109.3
TEZ 55 - 42.5	10	112.4	144.2	160.9	167.6	169.8	169.1	166.3	162.1	102.8	130.2	141.7	146.2	147.0	145.4	142.1	137.7
TEZ 55 - 50.5	11	143.4	181.6	200.1	205.9	206.1	202.9	197.4	190.3	129.9	162.2	174.2	177.4	176.2	172.2	166.5	159.7
TEZ 55 - 61.5	12	170.9	217.3	240.0	247.3	247.6	243.6	236.6	227.6	159.8	199.6	214.2	217.8	215.6	210.0	202.2	193.0
TEZ 55 - 78	13	187.4	244.7	277.8	294.3	302.9	306.2	305.4	301.3	179.9	231.5	255.9	267.7	272.4	272.3	268.6	262.2
Evaporating temperature -10°C										Evaporating temperature -20°C							
TEZ 5 - 3	0.5	5.7	7.3	8.1	8.6	8.9	9.0	9.1	9.0	4.9	6.1	6.7	7.1	7.3	7.4	7.4	7.4
TEZ 5 - 5	1	9.7	12.5	13.8	14.7	15.2	15.4	15.5	15.5	8.4	10.5	11.6	12.2	12.6	12.7	12.8	12.7
TEZ 5 - 7.5	2	13.7	17.5	19.5	20.7	21.5	21.9	22.1	22.1	11.9	14.9	16.4	17.4	17.9	18.2	18.2	18.1
TEZ 5 - 9.5	3	17.7	22.6	25.1	26.5	27.4	27.8	27.9	27.7	15.3	19.0	20.9	22.0	22.6	22.8	22.8	22.6
TEZ 5 - 12.5	4	23.7	30.3	33.6	35.5	36.7	37.2	37.4	37.2	20.8	25.7	28.2	29.6	30.3	30.6	30.5	30.1
TEZ 12 - 17	5	31.1	39.4	43.3	45.4	46.4	46.7	46.5	45.9	26.2	32.2	35.2	36.6	37.3	37.3	36.9	36.2
TEZ 12 - 20.5	6	38.2	48.2	52.8	55.2	56.2	56.3	55.7	54.7	32.4	39.6	42.9	44.4	44.9	44.6	43.8	42.7
TEZ 12 - 23.5	7	46.0	57.3	62.0	64.0	64.3	63.6	62.2	60.3	39.0	47.0	50.2	51.3	51.1	50.2	48.7	46.9
TEZ 20 - 29.5	8	58.7	74.5	81.9	86.0	87.9	88.5	88.0	86.7	51.9	63.7	69.3	72.0	73.1	72.9	71.9	70.3
TEZ 20 - 32.5	9	68.6	85.9	93.3	96.5	97.2	96.3	94.2	91.2	61.5	74.2	79.4	81.0	80.6	78.9	76.3	73.1
TEZ 55 - 42.5	10	92.0	113.4	121.5	124.2	123.8	121.6	118.1	113.8	79.9	95.3	100.9	102.2	101.1	98.5	95.1	91.0
TEZ 55 - 50.5	11	115.2	139.9	147.7	149.0	146.7	142.4	136.8	130.4	99.3	116.6	121.6	121.4	118.6	114.2	109.0	103.3
TEZ 55 - 61.5	12	145.3	176.0	185.0	185.6	181.6	175.1	167.1	158.3	128.0	149.1	154.1	152.6	147.6	140.9	133.3	125.4
TEZ 55 - 78	13	167.8	209.8	227.8	234.7	235.8	232.8	227.0	219.1	151.4	182.2	194.2	197.5	195.7	190.8	183.7	175.4
Evaporating temperature -30°C										Evaporating temperature -40°C							
TEZ 5 - 3	0.5	4.0	4.9	5.4	5.7	5.9	5.9	5.9	5.9	3.2	3.9	4.2	4.5	4.6	4.6	4.6	4.5
TEZ 5 - 5	1	6.9	8.5	9.4	9.8	10.1	10.2	10.2	10.1	5.5	6.7	7.3	7.7	7.8	7.9	7.8	7.7
TEZ 5 - 7.5	2	9.9	12.2	13.4	14.1	14.4	14.6	14.6	14.4	7.9	9.6	10.5	11.0	11.2	11.3	11.2	11.0
TEZ 5 - 9.5	3	12.7	15.5	16.9	17.7	18.1	18.2	18.0	17.8	10.1	12.2	13.2	13.7	13.9	13.9	13.8	13.5
TEZ 5 - 12.5	4	17.3	21.0	22.9	23.8	24.2	24.2	23.9	23.4	13.8	16.6	17.9	18.4	18.6	18.4	18.0	17.5
TEZ 12 - 17	5	21.2	25.7	27.8	28.8	29.1	29.0	28.6	27.9	16.6	19.9	21.4	22.0	22.2	21.9	21.5	20.9
TEZ 12 - 20.5	6	26.3	31.5	33.9	34.8	34.8	34.4	33.6	32.5	20.6	24.4	26.0	26.4	26.3	25.8	25.0	24.0
TEZ 12 - 23.5	7	31.7	37.4	39.6	40.0	39.6	38.5	37.1	35.5	24.8	28.9	30.3	30.3	29.7	28.7	27.5	26.1
TEZ 20 - 29.5	8	43.6	54.6	56.5	58.2	58.5	57.9	56.6	54.9	35.0	41.6	44.3	45.2	45.0	44.1	42.8	41.2
TEZ 20 - 32.5	9	52.3	61.5	64.8	65.2	64.1	61.9	59.3	56.2	42.3	48.9	50.6	50.3	48.7	46.6	44.1	41.5
TEZ 55 - 42.5	10	66.2	77.4	81.0	81.3	79.8	77.2	73.9	70.3	52.5	60.5	62.7	62.4	60.7	58.3	55.4	52.4
TEZ 55 - 50.5	11	81.7	93.9	96.8	95.7	92.7	88.6	84.0	79.2	64.4	72.9	74.3	72.8	70.0	66.4	62.5	58.5
TEZ 55 - 61.5	12	107.0	121.4	123.6	120.7	115.5	109.2	102.5	95.7	85.3	94.8	95.1	91.8	86.9	81.4	75.8	70.2
TEZ 55 - 78	13	129.2	151.4	159.7	159.0	155.3	149.5	142.3	134.4	104.8	120.3	123.8	122.1	117.7	111.9	105.4	98.54

Correction for subcooling Δt_{sub}

The evaporator capacities used must be corrected if subcooling deviates more than 4 K. The corrected capacity can be obtained by

dividing the required evaporator capacity by the correction factor below. Selections can then be made from the tables above.

Note:
Insufficient subcooling can produce flash gas.

Δt _{sub}	1 K	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50 K
Correction factor	0.96	1.00	1.08	1.16	1.23	1.30	1.37	1.43	1.49	1.55	1.62

Capacity (continued)

R134a

Capacity in KW for Range N: -40°C to +10°C

Valve type	Orifice no.	Pressure drop across valve Δp bar								Pressure drop across valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
Evaporating temperature +10°C										Evaporating temperature 0°C							
TEN 5 - 2.0	0.5	5.5	7.1	7.8	8.2	8.4	8.5	8.4	8.3	4.8	6.1	6.6	6.9	7.1	7.1	7.0	6.9
TEN 5 - 3.5	1	9.3	12.0	13.2	13.9	14.3	14.4	14.4	14.2	8.2	10.3	11.3	11.9	12.1	12.2	12.1	11.9
TEN 5 - 5.0	2	13.0	16.7	18.5	19.6	20.1	20.3	20.3	20.1	11.6	14.6	16.0	16.8	17.2	17.3	17.2	16.9
TEN 5 - 6.0	3	16.9	21.7	23.9	25.2	25.8	26.0	25.9	25.5	15.0	18.7	20.5	21.4	21.8	21.9	21.6	21.2
TEN 5 - 8.5	4	22.4	28.8	31.9	33.6	34.4	34.8	34.7	34.2	20.1	25.1	27.5	28.7	29.2	29.3	29.0	28.4
TEN 12 - 11	5	29.3	37.4	41.0	42.7	43.4	43.4	42.8	41.8	26.1	32.4	35.1	36.4	36.7	36.5	35.8	34.8
TEN 12 - 13.5	6	36.5	46.5	50.8	52.8	53.4	53.2	52.3	50.9	32.5	40.2	43.4	44.7	44.9	44.3	43.3	41.8
TEN 12 - 16	7	40.1	50.5	54.5	56.1	56.1	55.2	53.7	51.7	35.8	43.8	46.7	47.5	47.2	46.0	44.4	42.4
TEN 20 - 20	8	55.44	71.0	77.96	81.52	83.02	83.1	82.15	80.39	50.45	62.69	68.01	70.4	71.02	70.45	69.02	66.95
TEN 20 - 22.5	9	63.48	80.53	87.49	90.41	90.87	89.67	87.28	84.02	58.78	72.06	77.01	78.44	77.76	75.73	72.78	69.2
TEN 55 - 29.5	10	88.39	110.0	117.3	119.2	118.0	114.9	110.5	105.3	78.94	95.11	100.1	100.6	98.69	95.27	90.94	86.06
TEN 55 - 35.5	11	111.5	136.6	143.6	143.8	140.4	135.0	128.3	121.0	98.72	117.0	121.2	120.0	116.1	110.6	104.4	97.74
TEN 55 - 44	12	137.0	167.9	176.3	176.1	171.4	164.0	155.1	145.5	124.4	146.8	151.3	148.9	143.0	135.3	126.7	117.8
TEN 55 - 54.5	13	154.6	195.6	212.5	219.2	219.8	216.4	210.0	201.5	144.1	176.2	187.9	190.8	188.5	182.9	175.1	165.8
Evaporating temperature -10°C										Evaporating temperature -20°C							
TEN 5 - 2.0	0.5	4.1	5.0	5.5	5.7	5.8	5.8	5.7	5.6	3.3	4.0	4.4	4.5	4.6	4.5	4.5	4.4
TEN 5 - 3.5	1	7.1	8.6	9.4	9.8	9.9	9.9	9.8	9.6	5.7	6.9	7.5	7.8	7.8	7.7	7.5	7.5
TEN 5 - 5.0	2	10.0	12.3	13.3	13.9	14.1	14.2	14.0	13.7	8.2	9.9	10.7	11.1	11.2	11.2	11.0	10.7
TEN 5 - 6.0	3	12.9	15.6	17.0	17.6	17.8	17.7	17.5	17.0	10.5	12.6	13.5	13.9	14.0	13.9	13.5	13.1
TEN 5 - 8.5	4	17.4	21.1	22.9	23.7	23.9	23.7	23.3	22.6	14.3	17.1	18.3	18.7	18.7	18.4	17.9	17.2
TEN 12 - 11	5	22.6	27.2	29.2	30.0	30.1	29.7	29.0	28.0	18.6	22.0	23.5	24.0	23.9	23.4	22.7	21.8
TEN 12 - 13.5	6	28.1	33.6	35.9	36.6	36.5	35.8	34.6	33.2	23.1	27.2	28.7	29.0	28.7	27.8	26.7	25.4
TEN 12 - 16	7	31.1	36.7	38.7	38.9	38.3	37.0	35.4	33.6	25.6	29.7	30.9	30.8	30.0	28.8	27.3	25.6
TEN 20 - 20	8	44.31	53.24	57.04	58.4	58.32	57.28	55.57	53.37	36.75	43.37	45.87	46.44	45.87	44.58	42.81	40.7
TEN 20 - 22.5	9	52.41	61.8	64.89	65.06	63.56	61.04	57.91	54.4	43.97	50.62	52.18	51.47	49.54	46.94	43.97	40.84
TEN 55 - 29.5	10	68.17	79.31	82.39	81.93	79.59	76.17	72.13	67.75	55.7	63.6	65.22	64.17	61.74	58.57	55.02	51.28
TEN 55 - 35.5	11	84.56	96.61	98.7	96.67	92.61	87.54	81.97	76.2	68.6	76.83	77.45	75.03	71.2	66.72	61.99	57.21
TEN 55 - 44	12	108.8	123.2	124.7	120.9	114.6	107.3	99.47	91.65	89.71	99.05	98.43	94.04	88.09	81.57	74.95	68.47
TEN 55 - 54.5	13	129.2	151.8	158.7	158.4	154.1	147.3	139.0	130.0	108.8	124.6	127.7	125.2	119.8	112.9	105.2	97.18
Evaporating temperature -30°C										Evaporating temperature -40°C							
TEN 5 - 2.0	0.5	2.6	3.1	3.3	3.5	3.5	3.4	3.3	3.3	2.0	2.3	2.5	2.5	2.6	2.5	2.5	2.4
TEN 5 - 3.5	1	4.5	5.4	5.8	5.9	6.0	5.9	5.8	5.6	3.4	4.0	4.3	4.4	4.4	4.3	4.2	4.0
TEN 5 - 5.0	2	6.5	7.7	8.3	8.5	8.5	8.4	8.2	8.0	4.9	5.8	6.2	6.3	6.3	6.1	5.9	5.7
TEN 5 - 6.0	3	8.2	9.7	10.4	10.6	10.6	10.4	10.1	9.7	6.2	7.3	7.7	7.8	7.7	7.5	7.2	6.9
TEN 5 - 8.5	4	11.2	13.2	14.0	14.2	14.0	13.7	13.2	12.5	8.5	9.8	10.3	10.3	10.1	9.8	9.3	8.8
TEN 12 - 11	5	14.7	17.3	18.3	18.5	18.3	17.8	17.2	16.4	11.3	13.1	13.7	13.8	13.6	13.1	12.5	11.8
TEN 12 - 13.5	6	18.3	21.2	22.2	22.2	21.7	20.9	19.9	18.8	14.0	16.0	16.6	16.4	15.9	15.2	14.3	13.4
TEN 12 - 16	7	20.3	23.2	23.8	23.5	22.7	21.5	20.2	18.9	15.5	17.5	17.8	17.3	16.5	15.6	14.5	13.4
TEN 20 - 20	8	29.14	34.62	35.35	35.37	34.55	33.23	31.58	29.73	22.1	25.3	26.1	25.82	24.95	23.75	22.34	20.83
TEN 20 - 22.5	9	35.12	39.56	40.02	38.85	36.86	34.48	31.93	29.34	26.73	29.46	29.31	28.03	26.25	24.27	22.24	20.23
TEN 55 - 29.5	10	43.59	48.96	49.6	48.29	46.02	43.28	40.31	37.27	32.66	36.16	36.21	34.88	32.93	30.7	28.35	26.0
TEN 55 - 35.5	11	53.36	58.73	58.46	56.02	52.67	48.94	45.11	41.32	39.78	43.11	42.4	40.21	37.45	34.5	31.55	28.67
TEN 55 - 44	12	70.55	76.13	74.39	70.11	64.93	59.52	54.2	49.11	52.92	55.96	53.84	50.11	45.9	41.68	37.63	33.83
TEN 55 - 54.5	13	87.07	97.24	97.71	94.15	88.73	82.48	75.94	69.41	66.11	72.15	71.14	67.46	62.71	57.58	52.44	47.46

Correction for subcooling Δt_{sub}

The evaporator capacities used must be corrected if subcooling deviates more than 4 K. The corrected capacity can be obtained by

dividing the required evaporator capacity by the correction factor below. Selections can then be made from the tables above.

Note:
Insufficient subcooling can produce flash gas.

Δt _{sub}	1 K	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50 K
Correction factor	0,96	1.00	1.08	1.15	1.21	1.27	1.33	1.38	1.44	1.49	1.55

Capacity (continued)

Capacity in KW for Range N: -40°C to +10°C

R404A/R507

Valve type	Orifice no.	Pressure drop across valve Δp bar								Pressure drop across valve Δp bar							
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16
Evaporating temperature +10°C										Evaporating temperature 0°C							
TES 5 - 2.5	0.5	6.1	7.9	9.0	9.6	9.8	9.9	9.8	9.7	5.6	7.2	8.1	8.5	8.7	8.8	8.7	8.5
TES 5 - 4	1	10.0	13.1	14.9	15.9	16.4	16.5	16.5	16.2	9.3	12.1	13.6	14.4	14.7	14.8	14.7	14.5
TES 5 - 6	2	13.5	17.7	20.2	21.7	22.3	22.6	22.6	22.3	12.8	16.6	18.8	19.9	20.4	20.6	20.5	20.3
TES 5 - 7.5	3	17.9	23.4	26.7	28.6	29.5	29.8	29.7	29.3	16.8	21.8	24.6	25.9	26.6	26.8	26.6	26.2
TES 5 - 10	4	23.0	30.2	34.4	37.0	38.2	38.8	38.8	38.4	21.9	28.5	32.2	34.1	35.0	35.4	35.3	34.8
TES 12 - 14.5	5	35.8	46.7	52.8	56.4	57.8	58.1	57.6	56.5	32.7	42.2	47.3	49.5	50.5	50.5	49.8	48.7
TES 12 - 17.5	6	42.5	55.6	63.1	67.5	69.4	70.0	69.7	68.6	39.3	50.8	57.0	59.8	61.0	61.1	60.4	59.0
TES 12 - 20	7	51.1	66.4	74.8	79.4	81.0	80.9	79.7	77.6	47.3	60.6	67.4	70.0	70.6	69.9	68.2	65.8
TES 20 - 22	8	53.3	69.7	79.1	84.6	87.0	87.7	87.3	85.8	50.4	65.1	73.1	76.7	78.3	78.5	77.5	75.8
TES 20 - 24	9	58.9	76.6	86.5	92.0	94.0	94.2	93.0	90.7	57.0	73.2	81.6	84.9	85.9	85.2	83.2	80.4
TES 55 - 34	10	92.2	117.7	130.4	136.1	136.4	134.1	129.9	124.3	84.8	106.9	117.0	119.7	119.0	116.1	111.8	106.5
TES 55 - 41	11	119.1	150.1	164.2	169.1	167.3	162.4	155.4	147.0	108.1	134.4	145.0	146.3	143.6	138.4	131.8	124.1
TES 55 - 48.5	12	136.0	172.7	190.0	196.6	195.2	189.9	181.9	172.1	129.0	160.9	174.1	175.8	172.5	166.1	157.8	148.2
TES 55 - 60	13	144.9	188.7	213.3	227.2	232.4	233.1	230.4	224.9	141.8	182.2	203.1	211.5	213.8	212.0	207.1	199.8
Evaporating temperature -10°C										Evaporating temperature -20°C							
TES 5 - 2.5	0.5	5.0	6.4	7.1	7.4	7.5	7.5	7.5	7.3	4.3	5.4	5.9	6.2	6.3	6.3	6.2	6.0
TES 5 - 4	1	8.4	10.8	11.9	12.5	12.8	12.8	12.7	12.5	7.4	9.3	10.1	10.5	10.7	10.7	10.6	10.3
TES 5 - 6	2	11.7	15.1	16.7	17.5	18.0	18.1	17.9	17.6	10.4	13.1	14.3	14.9	15.2	15.2	15.0	14.7
TES 5 - 7.5	3	15.3	19.6	21.6	22.6	23.1	23.2	22.9	22.5	13.4	16.8	18.3	19.1	19.2	19.3	19.0	18.5
TES 5 - 10	4	20.2	26.0	28.7	30.1	30.8	30.9	30.7	30.1	18.0	22.6	24.6	25.6	25.9	25.8	25.4	24.7
TES 12 - 14.5	5	29.0	37.0	40.5	42.1	42.6	42.4	41.6	40.4	25.1	31.1	33.6	34.6	34.8	34.4	33.6	32.4
TES 12 - 17.5	6	35.3	45.0	49.2	51.1	51.6	51.2	50.2	48.6	30.7	38.0	40.9	42.0	42.1	41.4	40.2	38.6
TES 12 - 20	7	42.5	53.6	57.9	59.4	59.3	58.1	56.2	53.7	37.0	45.2	48.0	48.7	48.1	46.6	44.6	42.3
TES 20 - 22	8	46.0	58.7	64.2	66.7	67.5	67.1	65.8	63.9	40.5	50.2	54.2	55.7	55.9	55.0	53.5	51.5
TES 20 - 24	9	53.3	67.3	72.9	74.8	74.8	73.3	70.9	67.7	47.9	58.5	62.2	63.0	62.1	60.2	57.5	54.4
TES 55 - 34	10	75.7	93.9	100.1	101.4	100.0	96.9	92.7	87.8	65.3	78.7	82.6	82.8	81.0	77.9	74.0	69.7
TES 55 - 41	11	95.3	116.6	122.5	122.3	119.1	114.0	107.9	101.1	81.5	96.7	100.0	98.9	95.5	90.8	85.3	79.6
TES 55 - 48.5	12	118.0	144.2	151.3	150.7	146.0	139.2	131.0	122.1	103.8	122.6	126.1	123.8	118.6	111.9	104.4	96.6
TES 55 - 60	13	133.8	168.9	182.8	187.6	187.0	183.0	176.4	168.1	121.3	147.9	156.8	158.3	155.6	150.1	142.8	134.4
Evaporating temperature -30°C										Evaporating temperature -40°C							
TES 5 - 2.5	0.5	3.7	4.4	4.8	5.0	5.0	5.0	4.9	4.8	2.9	3.5	3.8	3.9	3.9	3.9	3.8	3.7
TES 5 - 4	1	6.3	7.6	8.3	8.6	8.7	8.6	8.5	8.2	5.0	6.0	6.5	6.7	6.7	6.7	6.5	6.3
TES 5 - 6	2	8.9	10.8	11.8	12.2	12.4	12.3	12.1	11.8	7.2	8.6	9.3	9.6	9.6	9.5	9.3	9.0
TES 5 - 7.5	3	11.4	13.9	15.0	15.4	15.6	15.4	15.1	14.6	9.2	11.0	11.7	12.0	12.0	11.8	11.5	11.0
TES 5 - 10	4	15.5	18.7	20.2	20.8	20.9	20.6	20.1	19.4	12.5	14.9	15.9	16.2	16.1	15.7	15.2	14.5
TES 12 - 14.5	5	21.0	25.2	26.9	27.6	27.5	27.0	26.1	25.1	16.6	19.7	20.9	21.2	21.0	20.4	19.6	18.7
TES 12 - 17.5	6	25.8	30.9	32.8	33.3	33.0	32.2	30.9	29.4	20.6	24.1	25.3	25.5	25.0	24.1	23.0	21.6
TES 12 - 20	7	31.1	36.6	38.4	38.4	37.5	36.0	34.2	32.1	24.8	28.6	29.6	29.3	28.3	26.9	25.2	23.5
TES 20 - 22	8	34.4	41.6	43.9	44.7	44.4	43.3	41.8	39.9	27.6	32.4	34.2	34.5	33.9	32.8	31.4	29.7
TES 20 - 24	9	41.3	48.5	50.7	50.6	49.3	47.2	44.6	41.7	33.5	38.4	39.5	39.0	37.5	35.5	33.2	30.7
TES 55 - 34	10	54.4	63.3	65.7	65.2	63.2	60.4	57.0	53.3	42.9	49.1	50.3	49.5	47.6	45.1	42.3	39.3
TES 55 - 41	11	67.4	77.1	78.9	77.2	74.0	69.8	65.2	60.4	52.8	59.4	60.0	58.2	55.3	51.9	48.1	44.3
TES 55 - 48.5	12	87.8	99.5	100.7	97.5	92.4	86.4	79.9	73.4	69.9	77.4	77.1	73.8	69.2	64.1	58.9	53.7
TES 55 - 60	13	105.1	123.0	128.0	127.1	123.1	117.2	110.2	102.5	85.3	97.31	99.46	97.31	92.92	87.36	81.21	74.8

Correction for subcooling Δt_{sub}

The evaporator capacities used must be corrected if subcooling deviates more than 4 K. The corrected capacity can be obtained by

dividing the required evaporator capacity by the correction factor below. Selections can then be made from the tables above.

Note:
Insufficient subcooling can produce flash gas.

Δt _{sub}	1 K	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50 K
Correction factor	0.95	1.00	1.11	1.20	1.28	1.36	1.44	1.52	1.59	1.67	1.75

Capacity (continued)

R404A/R507

Capacity in KW for Range B: -60°C to -25°C

Valve type	Orifice no.	Pressure drop across valve Δp bar								Pressure drop across valve Δp bar																									
		2	4	6	8	10	12	14	16	2	4	6	8	10	12	14	16																		
Evaporating temperature -25°C																		Evaporating temperature -30°C																	
TES 5 - 1.5	0.5	5.5	6.8	7.4	7.6	7.7	7.6	7.4	4.4	5.3	5.8	6.0	6.0	6.0	5.9	5.7	TES 5 - 3.0	1	9.2	11.5	12.5	13.1	13.3	13.1	12.9	7.5	9.1	9.9	10.3	10.4	10.3	10.2	9.9		
TES 5 - 4	2	12.9	16.0	17.6	18.5	19.0	19.2	19.1	10.6	12.9	14.1	14.7	14.9	14.9	14.7	14.4	TES 5 - 5	3	16.7	20.7	22.6	23.6	23.9	24.0	23.7	13.6	16.5	17.8	18.4	18.5	18.3	17.8	17.2		
TES 5 - 6.5	4	22.1	27.5	30.2	31.7	32.4	32.7	32.5	18.3	22.1	23.9	24.6	24.7	24.3	23.6	22.7	TES 12 - 8	5	22.0	26.9	28.9	29.6	29.6	29.1	28.2	20.3	24.3	26.0	26.6	26.5	25.9	25.1	24.0		
TES 12 - 9.5	6	27.1	32.9	35.1	35.8	35.5	34.7	33.4	25.0	29.8	31.6	32.1	31.7	30.8	29.6	28.1	TES 12 - 10	7	32.7	39.1	41.1	41.2	40.3	38.8	36.8	30.2	35.4	37.0	36.9	35.9	34.4	32.6	30.5		
TES 20 - 12.5	8	43.2	52.6	56.4	57.7	57.5	56.3	54.4	40.1	48.0	51.1	51.9	51.5	50.2	48.3	45.9	TES 20 - 13	9	50.5	60.4	63.4	63.5	61.8	59.1	55.8	47.2	55.4	57.7	57.3	55.4	52.7	49.4	45.9		
TES 55 - 15	10	62.4	73.5	76.3	75.7	73.3	69.9	65.9	57.4	66.5	68.7	67.9	65.5	62.3	58.5	54.5	TES 55 - 17	11	77.4	89.6	91.4	89.3	85.3	80.3	74.9	71.0	80.8	82.1	79.9	76.1	71.4	66.4	61.3		
TES 55 - 20.5	12	99.3	113.9	115.2	111.5	105.4	98.3	90.8	92.0	103.5	104.0	100.1	94.3	87.6	80.6	73.7	TES 55 - 28.5	13	117.4	139.9	146.4	145.9	141.6	135.0	127.0	109.9	128.4	133.1	131.8	127.1	120.4	112.7	104.4		
Evaporating temperature -35°C																		Evaporating temperature -40°C																	
TES 5 - 1.5	0.5	3.5	4.2	4.5	4.7	4.7	4.6	4.4	2.8	3.3	3.6	3.7	3.7	3.6	3.6	3.4	TES 5 - 3.0	1	6.0	7.2	7.8	8.1	8.1	8.0	7.8	4.8	5.7	6.2	6.3	6.3	6.2	6.1	5.8		
TES 5 - 4	2	8.6	10.3	11.2	11.5	11.6	11.5	11.3	6.9	8.2	8.8	9.0	9.0	8.9	8.6	8.3	TES 5 - 5	3	10.9	13.1	14.0	14.3	14.2	14.0	13.5	8.7	10.3	11.0	11.1	11.0	10.7	10.3	9.8		
TES 5 - 6.5	4	14.8	17.6	18.7	19.0	18.7	18.2	17.4	11.9	13.9	14.6	14.7	14.4	13.8	13.1	12.3	TES 12 - 8	5	18.5	22.0	23.4	23.8	23.6	23.1	22.3	16.7	19.7	20.9	21.2	21.0	20.5	19.7	18.7		
TES 12 - 9.5	6	22.8	26.9	28.4	28.7	28.2	27.3	26.1	20.7	24.2	25.4	25.5	25.0	24.1	23.0	21.6	TES 12 - 10	7	27.5	32.0	33.2	33.0	32.0	30.5	28.7	24.9	28.7	29.6	29.3	28.3	26.8	25.2	23.4		
TES 20 - 12.5	8	36.7	43.5	46.0	46.6	45.9	44.5	42.6	33.4	39.2	41.2	41.4	40.6	39.2	37.2	35.2	TES 20 - 13	9	43.6	50.5	52.1	51.4	49.4	46.7	43.5	39.8	45.5	46.6	45.6	43.6	40.9	38.0	34.9		
TES 55 - 15	10	52.2	59.9	61.5	60.5	58.2	55.2	51.7	47.0	53.5	54.7	53.6	51.3	48.4	45.2	41.9	TES 55 - 17	11	64.4	72.6	73.3	71.1	67.4	63.1	58.5	57.9	64.6	64.9	62.7	59.2	55.3	51.1	46.8		
TES 55 - 20.5	12	84.1	93.5	93.2	89.2	83.6	77.4	71.0	76.0	83.6	82.8	78.8	73.5	67.8	61.9	56.2	TES 55 - 28.5	13	101.5	116.9	120.2	118.1	113.1	106.6	99.22	92.52	105.4	107.4	104.7	99.68	93.37	86.46	79.35		
Evaporating temperature -45°C																		Evaporating temperature -50°C																	
TES 5 - 1.5	0.5	2.2	2.6	2.8	2.9	2.9	2.8	2.7	1.8	2.1	2.2	2.3	2.3	2.2	2.2	2.1	TES 5 - 3.0	1	3.8	4.5	4.9	5.0	5.0	4.9	4.7	3.0	3.6	3.8	3.9	3.9	3.8	3.7	3.5		
TES 5 - 4	2	5.5	6.5	6.9	7.1	7.0	6.9	6.7	4.4	5.2	5.5	5.6	5.5	5.4	5.2	4.9	TES 5 - 5	3	7.0	8.2	8.6	8.7	8.6	8.3	8.0	5.5	6.5	6.8	6.8	6.7	6.5	6.2	5.8		
TES 5 - 6.5	4	9.5	11.0	11.1	11.4	11.1	10.6	10.0	7.6	8.7	9.0	8.9	8.6	8.2	7.7	7.1	TES 55 - 15	10	41.9	47.3	48.1	46.9	44.8	42.1	39.2	36.9	41.4	41.9	40.6	38.6	36.1	33.5	30.8		
TES 12 - 8	5	15.0	17.6	18.6	18.8	18.5	18.0	17.2	13.3	15.5	16.3	16.4	16.2	15.6	14.9	14.1	TES 12 - 9.5	6	18.5	21.6	22.5	22.5	22.0	21.1	20.0	16.5	19.0	19.7	19.6	19.1	18.2	17.2	16.1		
TES 12 - 10	7	22.4	25.6	26.2	25.8	24.8	23.4	21.9	19.9	22.5	23.0	22.5	21.5	20.2	18.8	17.3	TES 12 - 10	7	22.4	25.6	26.2	25.8	24.8	23.4	21.9	19.9	22.5	23.0	22.5	21.5	20.2	18.8	17.3		
TES 20 - 12.5	8	30.0	35.6	36.5	36.5	35.6	34.2	32.4	26.6	30.7	31.9	31.8	30.8	29.4	27.7	25.9	TES 20 - 13	9	35.9	40.6	41.2	40.1	38.0	35.5	32.7	32.0	35.8	36.0	34.7	32.7	30.3	27.8	25.3		
TES 55 - 15	10	41.9	47.3	48.1	46.9	44.8	42.1	39.2	36.9	41.4	41.9	40.6	38.6	36.1	33.5	30.8	TES 55 - 17	11	51.4	57.0	57.0	54.8	51.5	47.9	44.1	45.2	49.7	49.4	47.3	44.3	41.0	37.6	34.3		
TES 55 - 20.5	12	68.0	74.0	72.8	68.9	63.9	58.6	53.4	60.0	64.7	63.2	59.4	54.9	50.1	45.4	40.9	TES 55 - 20.5	12	68.0	74.0	72.8	68.9	63.9	58.6	53.4	60.0	64.7	63.2	59.4	54.9	50.1	45.4	40.9		
TES 55 - 28.5	13	83.36	93.86	94.85	91.8	86.78	80.8	74.43	74.1	82.52	82.66	79.4	74.56	69.01	63.22	57.44	TES 55 - 28.5	13	83.36	93.86	94.85	91.8	86.78	80.8	74.43	74.1	82.52	82.66	79.4	74.56	69.01	63.22	57.44		
Evaporating temperature -55°C																		Evaporating temperature -60°C																	
TES 5 - 1.5	0.5	1.4	1.7	1.8	1.8	1.8	1.7	1.6	1.1	1.3	1.4	1.4	1.4	1.4	1.3	1.3	TES 5 - 3.0	1	2.4	2.9	3.0	3.1	3.1	3.0	2.9	1.9	2.3	2.4	2.4	2.4	2.3	2.2	2.1		
TES 5 - 4	2	3.5	4.1	4.3	4.4	4.3	4.2	4.0	2.8	3.3	3.4	3.4	3.4	3.3	3.1	2.9	TES 5 - 5	3	4.4	5.1	5.4	5.4	5.2	5.0	4.8	3.5	4.1	4.2	4.2	4.1	3.9	3.7	3.5		
TES 5 - 6.5	4	6.0	6.9	7.1	7.0	6.7	6.3	5.9	4.8	5.5	5.6	5.5	5.2	5.0	4.6	4.3	TES 55 - 15	10	32.1	35.8	36.0	34.8	32.9	30.6	28.3	27.6	30.6	30.6	29.4	27.6	25.7	23.6	21.5		
TES 12 - 8	5	11.7	13.6	14.2	14.2	13.9	13.4	12.8	10.1	11.7	12.2	12.2	11.9	11.4	10.8	10.1	TES 12 - 9.5	6	14.4	16.6	17.1	16.9	16.4	15.6	14.6	12.5	14.3	14.7	14.4	13.9	13.1	12.3	11.4		
TES 12 - 10	7	17.5	19.7	19.9	19.4	18.4	17.2	16.0	15.2	16.9	17.1	16.5	15.6	14.5	13.4	12.2	TES 12 - 10	7	17.5	19.7	19.9	19.4	18.4	17.2	16.0	15.2	16.9	17.1	16.5	15.6	14.5	13.4	12.2		
TES 20 - 12.5	8	23.3	26.7	27.6	27.3	26.3	25.0	23.4	20.2	23.0	23.5	23.1	22.2	20.9	19.5	18.0	TES 20 - 12.5	8	23.3	26.7	27.6	27.3	26.3	25.0	23.4	20.2	23.0	23.5	23.1	22.2	20.9	19.5	18.0		
TES 20 - 13	9	28.1	31.1	31.0	29.7	27.7	25.6	23.4	24.3	26.7	26.3	25.0	23.2	21.3	19.3	17.4	TES 20 - 13	9	28.1	31.1	31.0	29.7	27.7	25.6	23.4	24.3	26.7	26.3	25.0	23.2	21.3	19.3	17.4		
TES 55 - 15	10	32.1	35.8	36.0	34.8	32.9	30.6	28.3	27.6	30.6	30.6	29.4	27.6	25.7	23.6	21.5	TES 55 - 15	10	32.1	35.8	36.0	34.8	32.9	30.6	28.3	27.6	30.6	30.6	29.4	27.6	25.7	23.6	21.5		
TES 55 - 17	11	39.3	42.9	42.4	40.3	37.6	34.7	31.7	33.7	36.5	35.9	34.0	31.6	29.0	26.3	23.8	TES 55 - 17	11	39.3	42.9	42.4	40.3	37.6	34.7	31.7	33.7	36.5	35.9	34.0	31.6	29.0	26.3	23.8		
TES 55 - 20.5	12	52.3	55.9	54.1	50.6	46.5	42.3	38.1	44.9	47.6	45.8	42.5	38.9	35.2	31.6	28.2	TES 55 - 20.5	12	52.3	55.9	54.1	50.6	46.5	42.3	38.1	44.9	47.6	45.8	42.5	38.9	35.2	31.6	28.2		
TES 55 - 28.5	13	64.93	71.54	71.05	67.73	63.18	58.13	52.96	56.08	61.15	60.2	56.97	52.79	48.29	43.77	39.36	TES 55 - 28.5	13	64.93	71.54	71.05	67.73	63.18	58.13	52.96	56.08	61.15	60.2	56.97	52.79	48.29	43.77	39.36		

Correction for subcooling Δt_{sub}

The evaporator capacities used must be corrected if subcooling deviates more than 4 K. The corrected capacity can be obtained by

dividing the required evaporator capacity by the correction factor below. Selections can then be made from the tables above.

Note:
Insufficient subcooling can produce flash gas.

Δt _{sub}	1 K	4 K	10 K	15 K	20 K	25 K	30 K	35 K	40 K	45 K	50 K
Correction factor	0.95	1.00	1.11	1.20	1.28	1.36	1.44	1.52	1.59	1.67	1.75

Design/Function

General

All TE valves have an interchangeable orifice assembly.

TE 5 and TE 55 valves are built up of three main components:

- I. Thermostatic element, 1
- II. Orifice assembly, 2
- III. Valve body with connections, 3

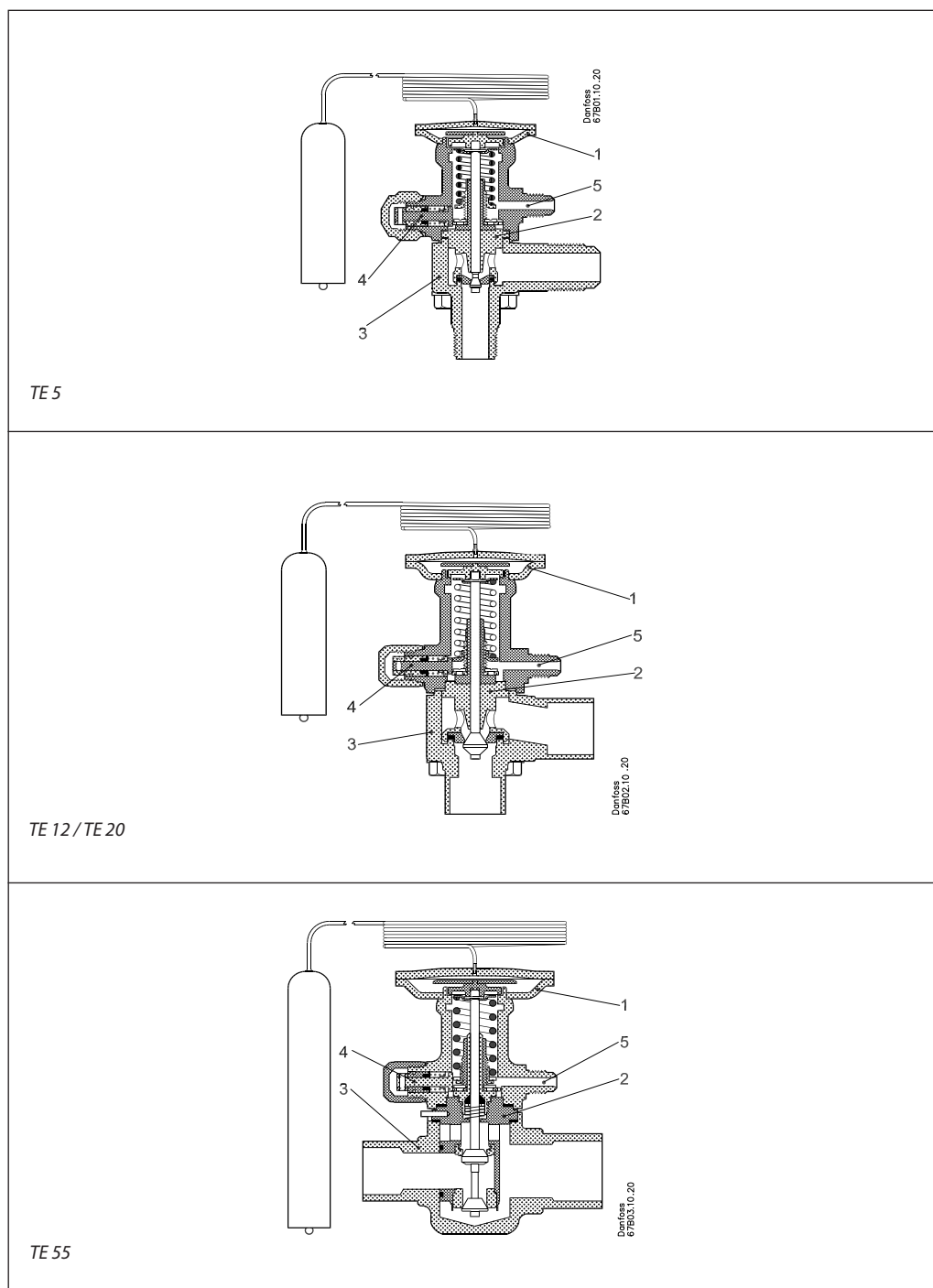
For the same valve type and refrigerant, the associated orifice assembly is suitable for all versions of valve body and in all evaporating temperature ranges.

All valves are equipped with external pressure

equalization.

It also makes fitting the bulb quick and easy.

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



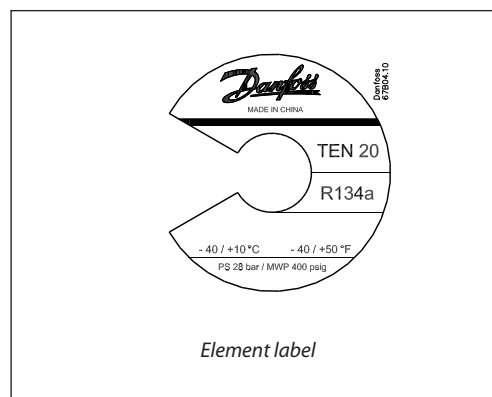
- 1. Thermostatic element (diaphragm)
- 2. Interchangeable orifice assembly
- 3. Valve body
- 4. Superheat setting spindle (see instructions)
- 5. Ext. pressure equalizing connection with 1/4 in./6 mm flare nut

Identification

The thermostatic element is fitted with a label (on top of the diaphragm). The code refers to the refrigerant for which the valve is designed:

- X = R22
- N = R134a
- S = R404A/R507
- Z = R407C

The label holds information like valve type, evaporating temperature range, MOP point, refrigerant, and max. test pressure, PS.



Orifice assembly for TE 5, TE 12, 20 and 55

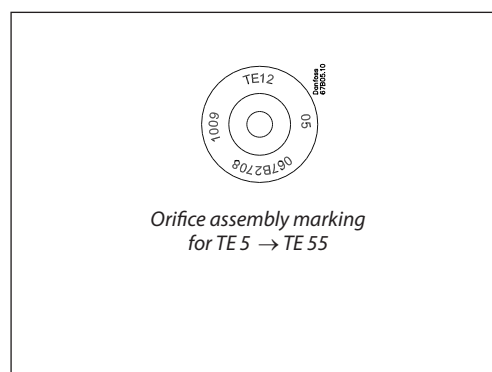
The orifice assembly is marked on top of the spring cup, e.g. as shown in the figure. For a given size of valve, the same orifice assembly can be used for valves with ranges N and B.

TE 12 = Valve type which the orifice can be used

05 = Orifice no.

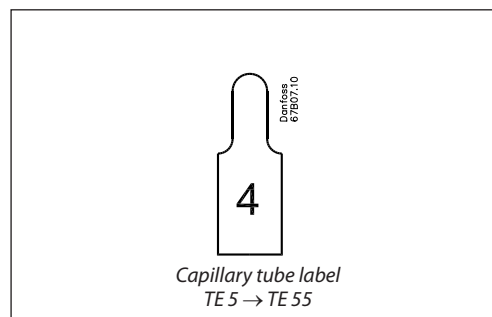
067B2708 = Orifice code no. for sales order

1009 = Production date (Week, Year)



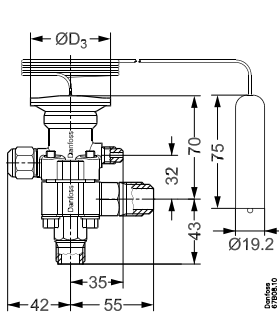
Capillary tube label for TE 5 to TE 55

The label gives the orifice size (04). A new label always accompanies a new orifice assembly.

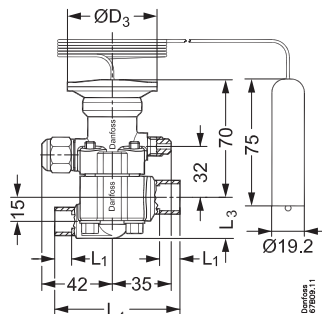


Dimensions and weights

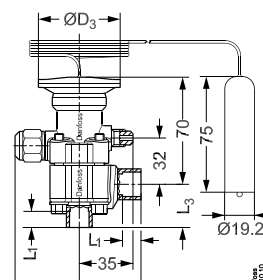
TE 5



TE 5 - Flare, angleway
Weight: 1.1 kg



TE 5 - Solder, straightway
Weight: 1 kg



TE 5 - Solder, angleway
Weight: 1 kg

TE5

Outlet side ØD ₁	L ₁ [mm]
½ In. / 12 mm ODF	10
5/8 In. / 16 mm ODF	10
7/8 In. / 22 mm ODF	17

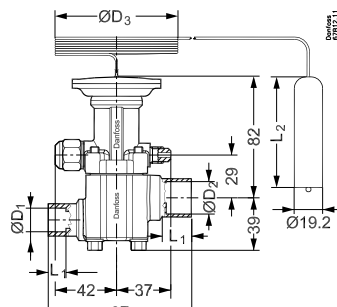
Outlet side ØD ₂	L ₁ [mm]
5/8 In. / 16 mm ODF	12
7/8 In. / 22 mm ODF	17
1 ¼ In. / 28 mm ODM	25

Element

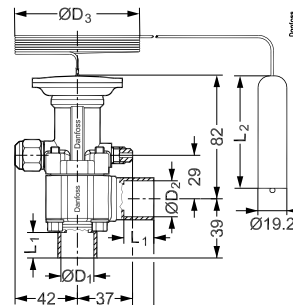
	ØD ³ [mm]
Range N	53
Range B	60

Valve body		L3	L4
Straight way	7/8 X 1 ¼	28	97
	22 X 28 mm		
	5/8 X 7/8		
	16 X 22 mm		
Angle way	Others	25	74
	7/8 X 1 ¼	39	52
	22 X 28 mm	28	40

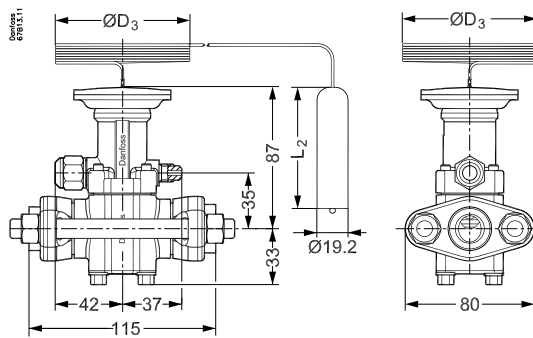
Dimensions and weights
(continued)



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



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



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

TE 12 and TE 20

Inlet side ØD ₁	L ₁ mm
5/8 in. / 16 mm ODF	12
7/8 in. / 22 mm ODF	17

Outlet side ØD ₂	L ₁ mm
7/8 in. / 22 mm ODF	17
1 1/8 in. / 28 mm ODM	25

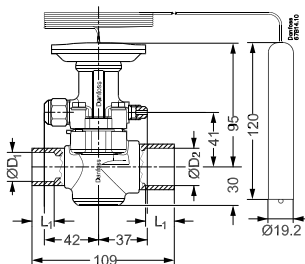
Bulb - TE 12

	L ₂
Range N	75,0
Range B	120,0

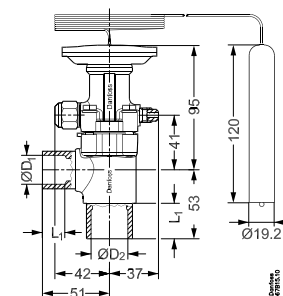
Bulb - TE 20

	L ₂
Range N/B	120,0

Dimensions and weights
(continued)



TE 55 - Solder, straightway
Weight: 1.7 kg



TE 55 - Solder, angleway
Weight: 1.6 kg

TE 55

Inlet side ØD ₁	L ₁ mm
7/8 in. / 22 mm ODF	17
1 1/8 in. / 28 mm ODM	25

Outlet side ØD ₂	L ₁ mm
1 1/8 in. / 28 mm ODF	22
1 3/8 in. / 35 mm ODM	27

