ENGINEERING TOMORROW

Data Sheet

Thermostatic expansion valves Type **TE 5 - TE 55**

Designed to regulate refrigerant injection into evaporators



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:
  1. Easy storage
  2. Easy capacity matching
  3. Better service

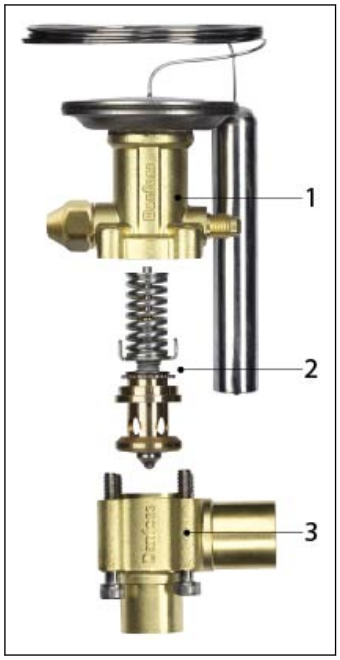
- Laser welded stainless steel power element, capillary tube and bulb.
- Wide capacity range, rated capacity from:
  1. R448A/R449A : 9 – 225 kW / 2.5 – 64 TR
  2. R407F : 11 – 250 kW / 3 – 71 TR
  3. R404A/R507 : 7 – 183 kW / 2 – 52 TR

- 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.

Functions

Design and Function

Figure 1: TE 5 - TE 55



General

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

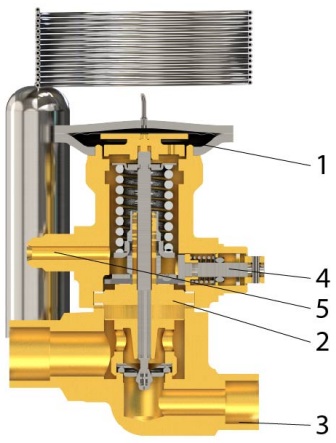
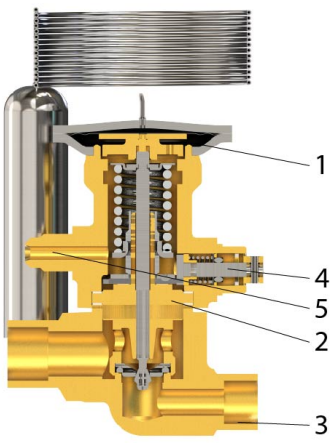
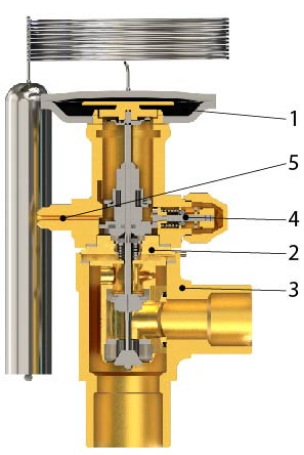
TE 5 – TE 55 valves are built up of three main components (Parts program):

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

The orifice is refrigerant and range independend.

All valves are equipped with external pressure equalization.

Table 1: Thermostatic expansion valves, type TE 5 – TE 55

TE 5	TE 12 / TE 20	TE 55
		

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

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

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.

Table 2: MOP-points

Refrigerant	SI units				US units			
	Range -40 – 10 °C	Range -40 – -5 °C	Range -40 – -15 °C	Range -60 – -25 °C	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				MOP-point in evaporating temperature t_e and evaporating pressure p_e			
	15 °C	0 °C	-10 °C	-20 °C	60 °F	32 °F	15 °F	-5 °F
R407F/R407A	7.5 bar	4.2 bar	2.6 bar	1.5 bar	110 psig	60 psig	40 psig	20 psig
R404A/R507	8.6 bar	5.1 bar	3.4 bar	2.0 bar	120 psig	70 psig	45 psig	30 psig
R22	6.9 bar	4.0 bar	2.6 bar	1.5 bar	100 psig	60 psig	35 psig	20 psig
R134a	3.9 bar	2.0 bar	1.0 bar	0.3 bar	55 psig	30 psig	15 psig	5 psig
R407C	6.6 bar	3.6 bar	2.2 bar	1.1 bar	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 Qnom. 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

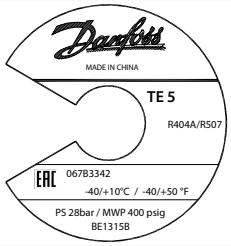
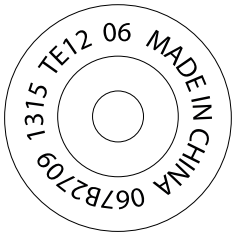
Total superheat SH = 4 + 4 = 8 K

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

Table 3: TE 5 - TE 55

Element label	Orifice assembly marking	Capillary tube tag
		

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

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

Capillary tube tag for TE 5 – TE 55

The label gives the orifice size (06). A new label always accompanies a new orifice assembly.

Product specification

Dimensions and weight

Figure 2: TE 5 - Flare, angleway, Weight: 1.1 kg

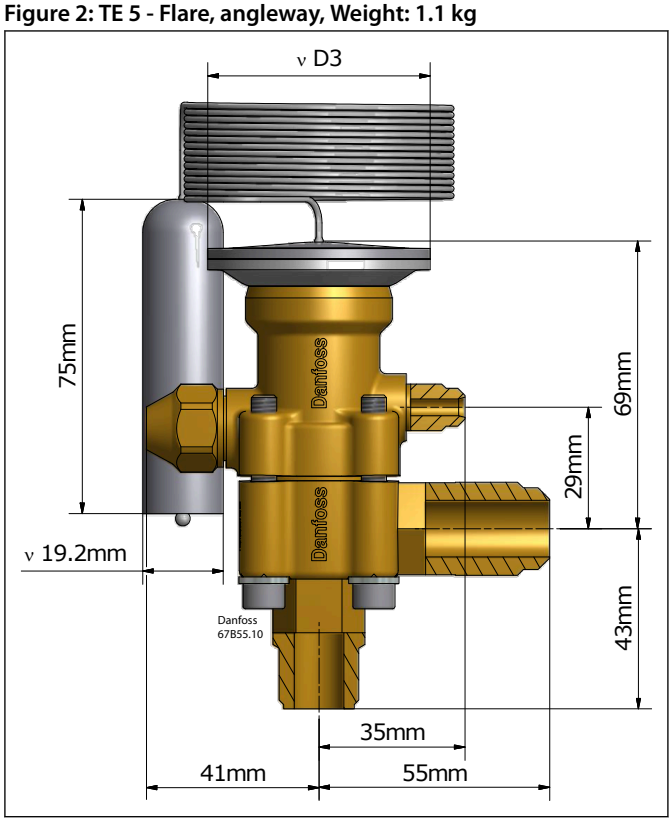


Figure 3: TE 5 - Flare, angleway, Weight: 2.43 lbs

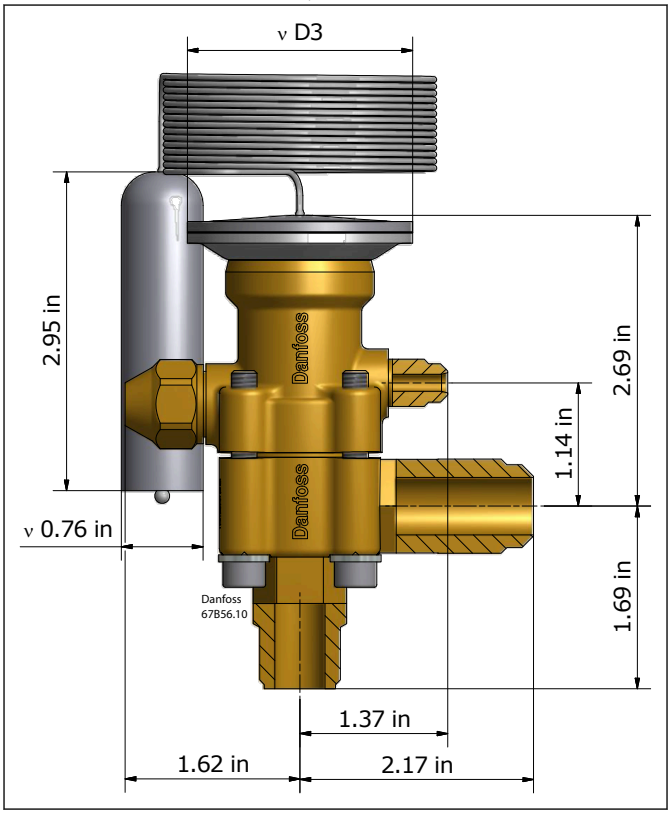


Table 4: Type TE 5 - TE 55

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

Figure 4: TE 5 - Solder straightway, Weight: 1 kg

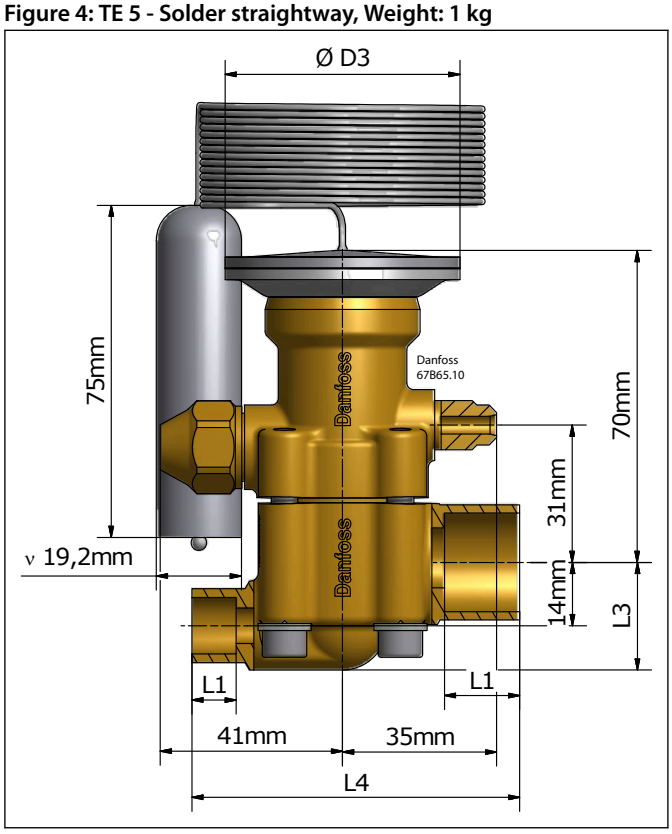


Figure 5: TE 5 - Solder straightway, Weight: 2.02 lbs

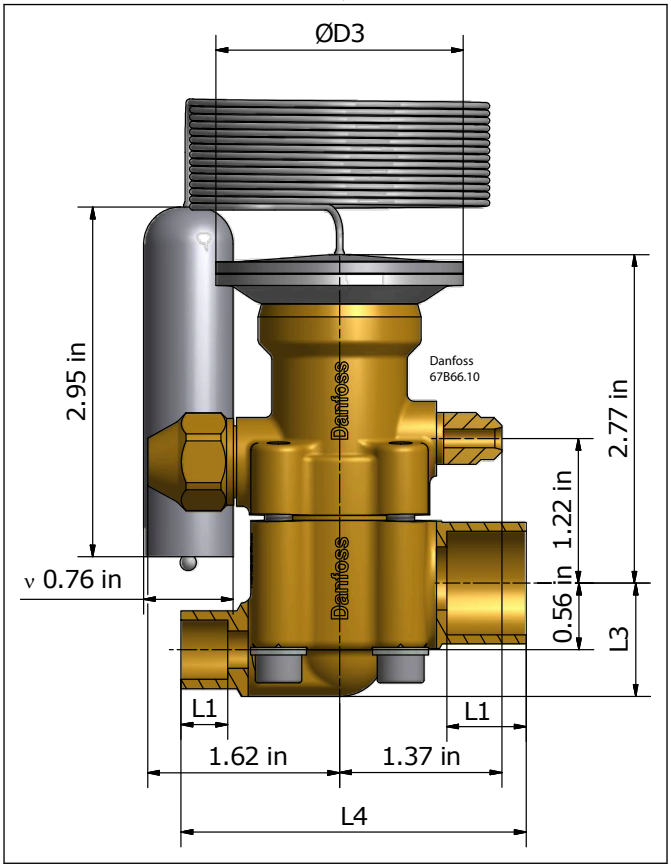


Figure 6: TE 5 - Solder anglewayWeight: 1 kg

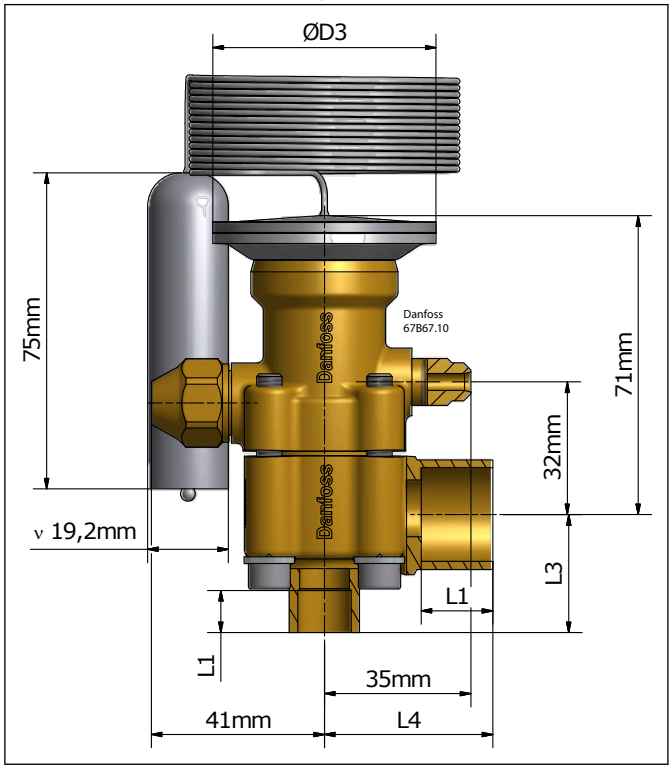


Figure 7: TE 5 - Solder angleway, Weight: 2.02 lbs

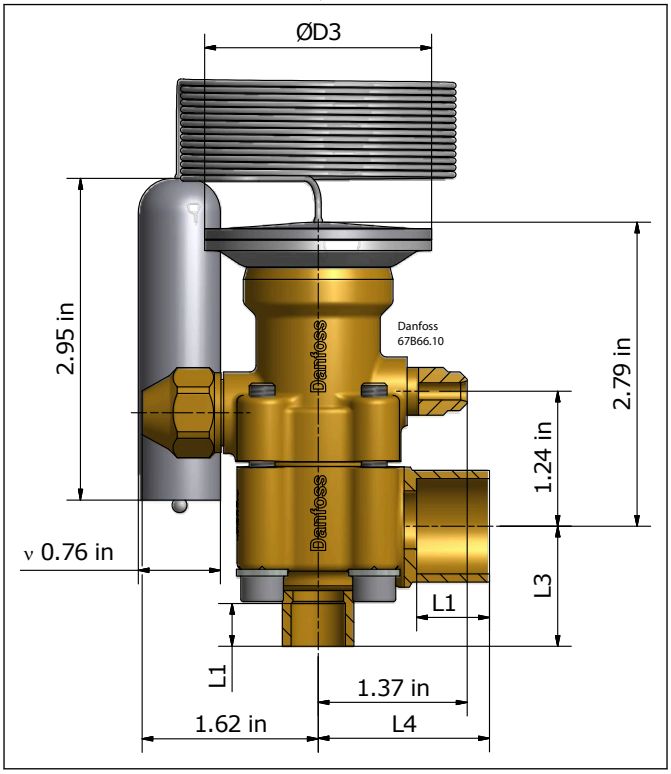


Table 5: Inlet side

$ØD_1$	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

Table 6: 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

Table 7: Valve body for Straight and Angle way

Valve body		L_3 [mm]	L_3 [in]	L_4 [mm]	L_4 [in]
Straight way	⅞ X 1⅛	28	1.10	97	3.82
	22 X 28 mm	28	1.10	97	3.82
	⅝ X ⅞	28	1.10	97	3.82
	16 X 22 mm	28	1.10	97	3.82
	Others	25	0.98	74	2.91
Angle way	⅞ X 1⅛	39	1.54	52	2.05
	22 × 28 mm	39	1.54	52	2.05
	Others	28	1.10	40	1.57

Figure 8: TE 12 and TE 20 Solder straightway, Weight: TE 12: 1.5 kg and TE 20: 1.7 kg

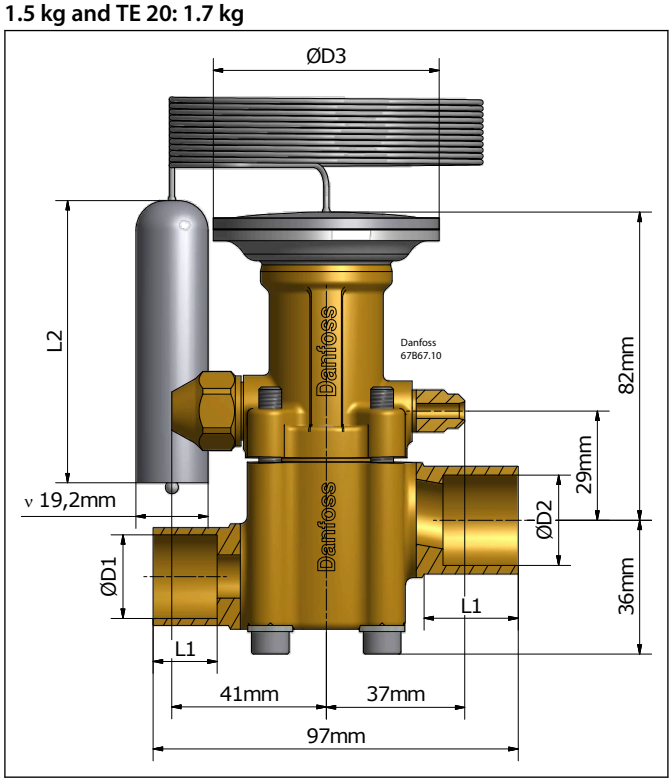


Figure 9: TE 12 and TE 20 Solder straightway, Weight: TE 12: 3.31 lbs and TE 20: 3.75 lbs

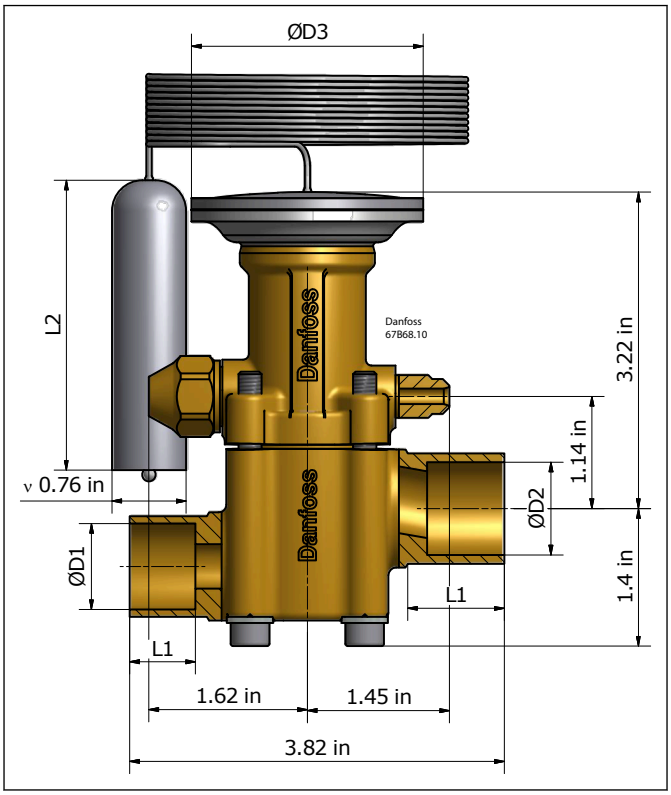


Table 8: TE 12 and TE 20 Element

Element	$ØD_3$ [mm]	$ØD_3$ [in]
TE 12 Standard	60	2.36
TE 12 Range -60 – -25 °C (-75 – -15 °F)	120	4.72
TE 20	120	4.72

Figure 10: TE 12 and TE 20 Solder angleway, Weight: TE 12: 1.5 kg and TE 20: 1.6 kg

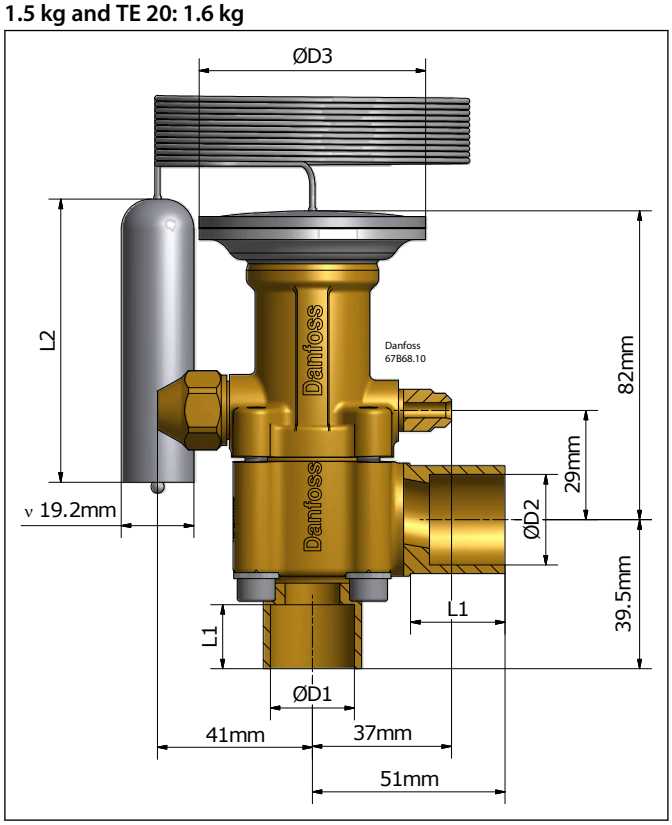


Figure 11: TE 12 and TE 20 Solder angleway, Weight: TE12: 3.31 lbs and TE20: 3.53 lbs

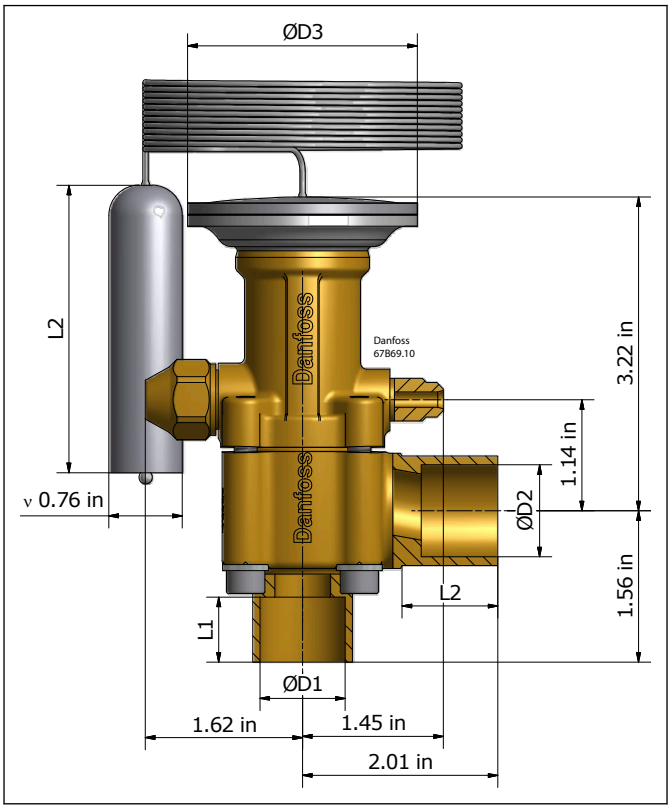


Table 9: TE 12 - Solder flanges, straightway, Weight: Without filter: 2.3 kg and 7.72 lbs

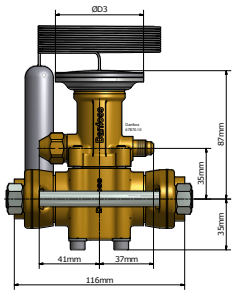
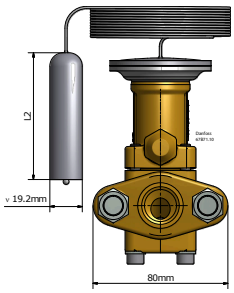
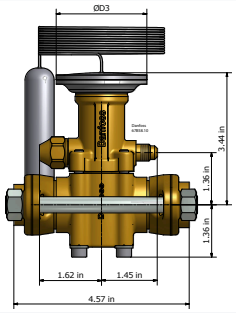
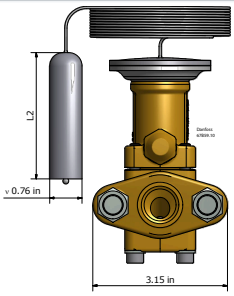
TE 12 - Solder flanges, straightway			
			

Table 10: TE 12 and TE 20 Bulb

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

Table 11: Inlet side

$ØD_1$	L_1 [mm]	L_1 [in]
⅞ in. / 22 mm ODF	17	0.67

Table 12: Outlet side

$ØD_2$	L_1 [mm]	L_1 [in]
1⅛ in. / 28 mm ODM	25	0.98

Figure 12: TE 55 - Solder straightway, Weight: 1.7 kg

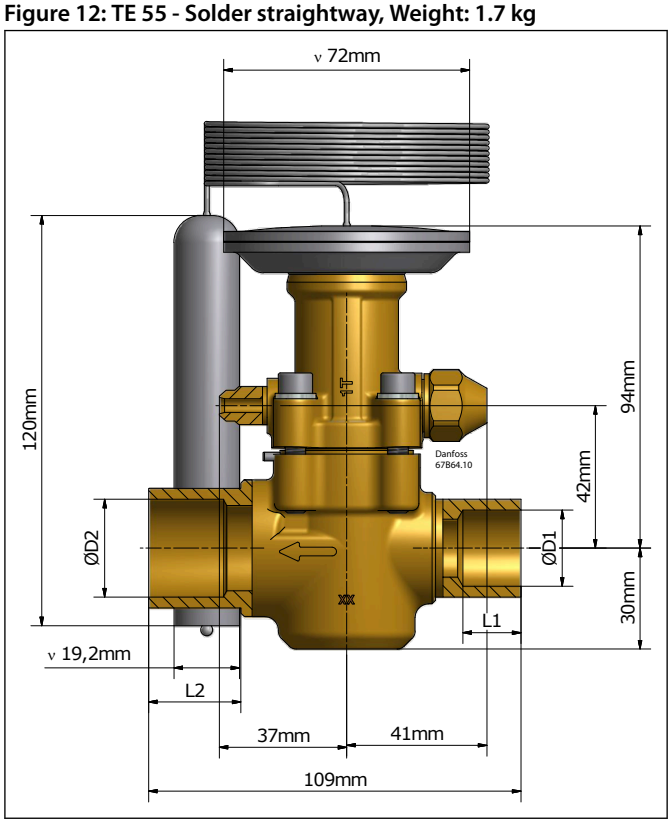


Figure 13: TE 55 - Solder straightway, Weight: 3.75 lbs

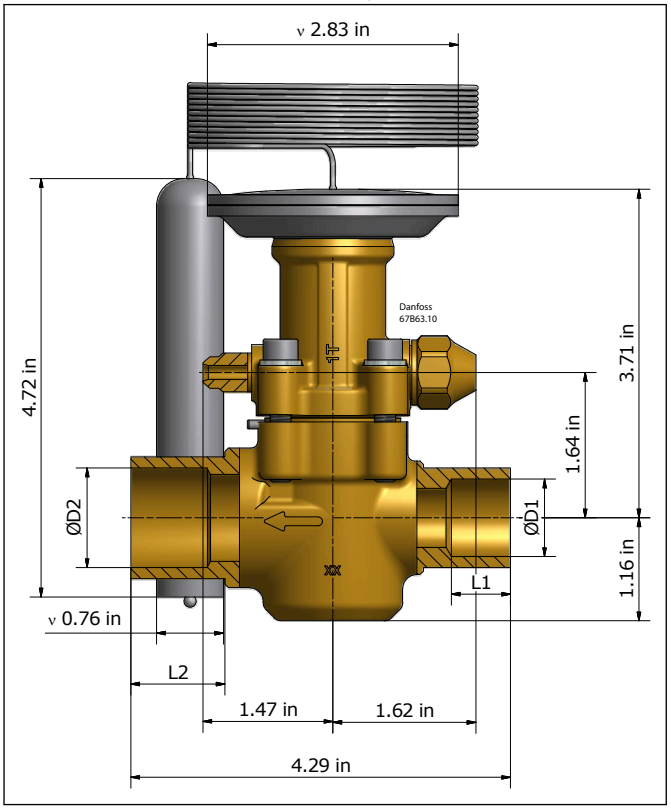


Figure 14: TE 55 - Solder angleway, Weight: 1.6 kg

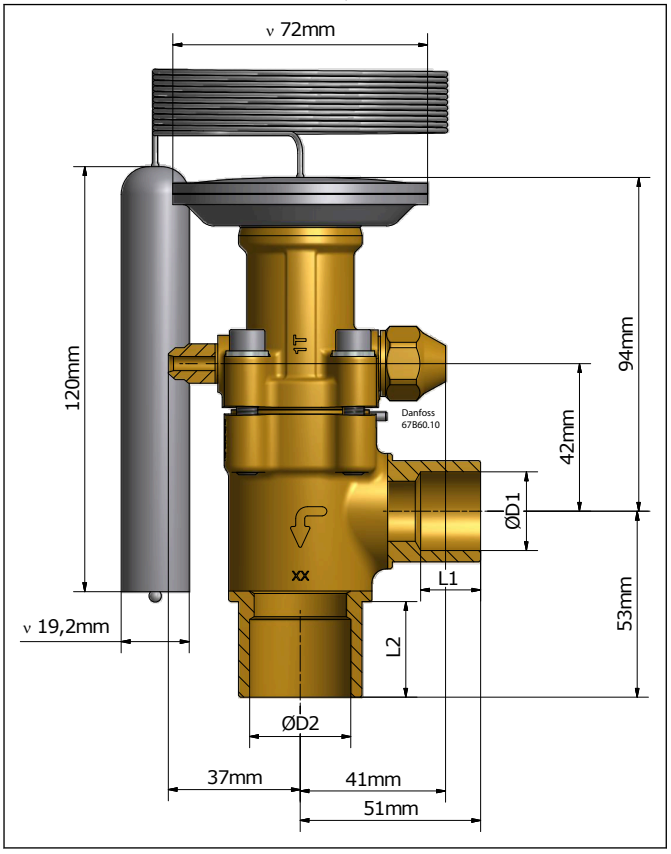


Figure 15: TE 55 - Solder angleway, Weight: 3.53 lbs

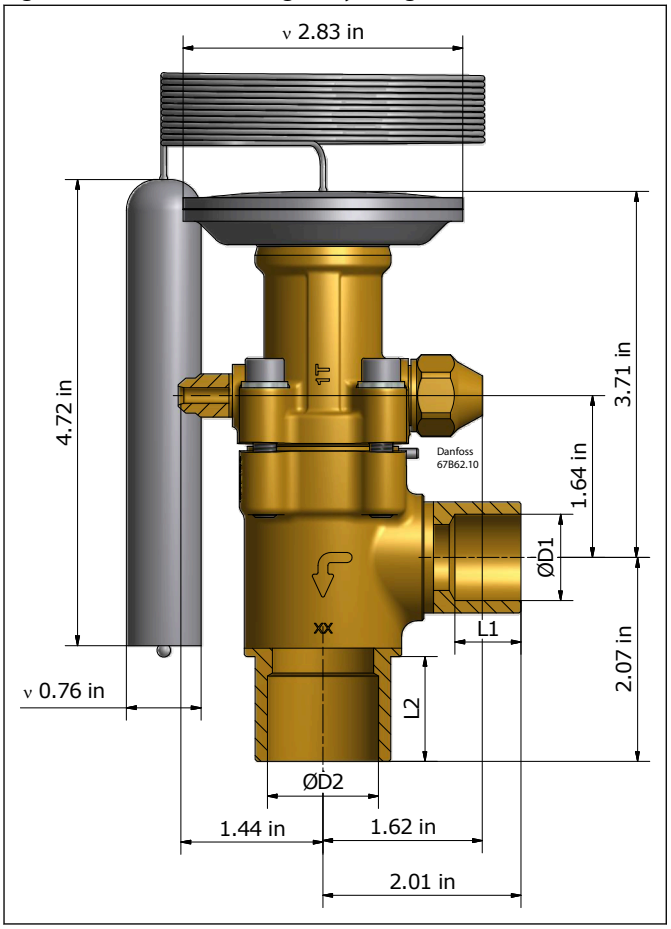


Table 13: TE 55, Inlet side

$ØD_1$	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

Table 14: TE 55, 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

Ordering

Table 15: 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	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3501
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3502
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3503
	¼ in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	067B3504
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3532
TE 12	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3531
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3533
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3561
TE 20	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3560
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3562
TE 55	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3500

Table 16: 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

Table 17: 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

Table 18: Element for expansion valve - including bulb strap, R455A

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	067B3397

Table 19: Element for expansion valve - including bulb strap, R454C

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	067B3398

Table 20: Element for expansion valve - including bulb strap, R1234yf

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	067B3399

Table 21: 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	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3342
	¼ in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	067B3380
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3238
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3357
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3358
	¼ in	Solder ODF	-10	15	-40 – -15	-40 – 5	3	118	067B3384
	¼ in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	067B3344
	6 mm	Solder ODF	–	–	-60 – -25	-75 – -15	3	118	067B3392
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3343
	¼ in	Solder ODF	-20	-5	-60 – -25	-75 – -15	3	118	067B3381
TE 12	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3347
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3345
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3348
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3349
	¼ in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	067B3368
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3346
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067B3350
TE 20	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3352
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3351
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3353
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3354
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3356
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067B3355
TE 55	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3302
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067G3303
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067G3304
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067G3305
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067G3301
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067G3306

Table 22: 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	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3250
	¼ in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	067B3420
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3267
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3249
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3253
	¼ in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	067B3263
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3251
TE 12	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3210
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3209
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3227
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3207
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3213
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3211
	¼ in / 6 mm	Flare	–	–	-60 – -25	-75 – -15	3	118	067B3225
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067B3212
TE 20	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3274
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3290
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3286
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067B3273
	¼ in / 6 mm	Flare	-10	15	-40 – -15	-40 – 5	3	118	067B3275
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067B3276
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	5	197	067B3287

Valve type	Pressure equalization		MOP		Range		Capillary tube		Code no.
	Size	Type	[°C]	[°F]	[°C]	[°F]	[m]	[in]	
TE 55	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3205
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067G3209
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067G3220
	¼ in / 6 mm	Flare	0	32	-40 – -5	-40 – 25	3	118	067G3206
	¼ in / 6 mm	Flare	-20	-5	-60 – -25	-75 – -15	3	118	067G3207
	¼ 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

Table 23: 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	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3603
TE 12	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3651
TE 20	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3681
TE 55	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3601

Table 24: 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	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3297
	¼ in	Solder ODF	–	–	-40 – 10	-40 – 50	3	118	067B3430
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3298
TE 12	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3232
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3233
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3363
TE 20	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3292
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3293
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3370
TE 55	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067G3222
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067G3223
	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067G3230

Table 25: 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	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3278
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3277
TE 12	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	3	118	067B3366
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	3	118	067B3367
TE 20	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067B3371
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	5	197	067B3372
TE 55	¼ in / 6 mm	Flare	–	–	-40 – 10	-40 – 50	5	197	067G3240
	¼ in / 6 mm	Flare	15	60	-40 – 10	-40 – 50	5	197	067G3241

Table 26: Orifice for expansion valves, Rated capacity kW

Valve type	Orifice no.	R407F	R407A	R448A/ R449A	R452A	R455A	R454C	R1234yf	R404A/ R507	R22	R513A	R134a	R407C	Code no.
TE 5	0.5	11	9	9	7	9	9	5	7	9	5	5	11	067B2788
	1	18	18	18	14	18	16	9	14	16	11	11	18	067B2789
	2	28	25	25	21	26	23	14	19	25	14	16	25	067B2790
	3	35	32	32	28	33	29	18	25	32	18	21	32	067B2791
	4	46	42	46	39	46	39	25	35	42	25	28	46	067B2792

Valve type	Orifice no.	R407F	R407A	R448A/ R449A	R452A	R455A	R454C	R1234yf	R404A/ R507	R22	R513A	R134a	R407C	Code no.
TE 12	5	70	56	53	46	Contact Danfoss for more information			49	56	30	35	53	067B2708
	6	95	74	70	63				63	74	39	49	74	067B2709
	7	113	95	91	81				81	95	49	63	91	067B2710
TE 20	8	141	127	123	84				84	127	74	77	116	067B277[1]
	9	158	148	141	98				102	148	81	91	134	067B2773
TE 55	9B	123	109	113	84				84	113	70	74	109	067G2705[2]
	10	172	165	155	116				127	169	98	109	162	067G2701
	11	186	183	169	127				137	183	106	120	176	067G2704
	12	208	200	186	141				151	200	116	134	190	067G2707
	13	250	243	225	172				183	246	144	165	232	067G2710

[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.

Table 27: Orifice for expansion valves, Rated capacity TR

Valve type	Orifice no.	R407F	R407A	R448A/ R449A	R452A	R455A	R454C	R1234yf	R404A/ R507	R22	R513A	R134a	R407C	Code no.
TE 5	0.5	3	2.5	2.5	2	2.5	2.5	1.5	2	2.5	1.5	1.5	3	067B2788
	1	5	5	5	4	5	4.5	2.5	4	4.5	3	3	5	067B2789
	2	8	7	7	6	7.5	6.5	4	5.5	7	4	4.5	7	067B2790
	3	10	9	9	8	9.5	8.5	5	7	9	5	6	9	067B2791
	4	13	12	13	11	13	11	7	10	12	7	8	13	067B2792
TE 12	5	20	16	15	13	Contact Danfoss for more information			14	16	8.5	10	15	067B2708
	6	27	21	20	18				18	21	11	14	21	067B2709
	7	32	27	26	23				23	27	14	18	26	067B2710
TE 20	8	40	36	35	24				24	36	21	22	33	067B2771[3]
	9	45	42	40	28				29	42	23	26	38	067B2773
TE 55	9B	35	31	32	24				24	32	20	21	31	067G2705[4]
	10	49	47	44	33				36	48	28	31	46	067G2701
	11	53	52	48	36				39	52	30	34	50	067G2704
	12	59	57	53	40				43	57	33	38	54	067G2707
	13	71	69	64	49				52	70	41	47	66	067G2710

[3] 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 provide

[4] 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.

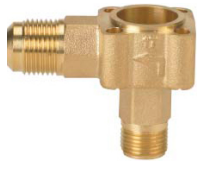
The rated capacity is based on:
Evaporating temperature t_e = 4.4 °C / 40 °F
Condensing temperature t_c = 38 °C / 100 °F
Refrigerant temperature ahead of valve t_l = 37 °C / 98 °F

Table 28: Valve body for expansion valves

Type	Connection Inlet × Outlet		Connections / Flow direction	Connection type [5]	Code no.
	[in]	[mm]			
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

[5] ODF = Internal diameter ODM = External diameter

Table 29: Valve body for expansion valves

Flare angleway	Solder straightway	Solder straightway	Flanges	Solder angleway
				

Valve selection based on capacity calculation

As for extended capacity calculations and valve selection based on capacities and refrigerants, please refer to Coolselector®2. Rated and extended capacities are calculated with the Coolselector®2 calculation engine to ARI standards with the ASEREP equations based on laboratory measurements of selected valves.

Open the Coolselector tool and select thermostatic expansion valve.
Coolselector can be downloaded from https://www.danfoss.com/en/service-and-support/downloads/dcs/coolselector-2/
or used online on http://coolselectoronline.danfoss.com

Spare parts

Table 30: Bulb straps (delivered separately) in Industrial pack

	Type	Max. tube diameter	Code no.
	TE 5 / TE 12	2 ⅛ in / 53 mm	067N0557
	TE 20 / TE 55	3 ⅛ in / 78 mm	067N0559

Certficates, declaration and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Table 31: Certificates, declaration and approvals

Document name	Document type	Document topic	Approval authority
033F4011	Manufacturers Declaration	RoHS	Danfoss
067R1068.AD	Manufacturers Declaration	PED/RoHS	Danfoss
067R9602-002.00	Manufacturers Declaration	Ped	Danfoss
UA.089.D.00188-17	UA Declaration	PED	LLC CDC EURO TYSK
UA.TR-089.0993-17	Pressure - Safety Certificate	PED	LLC CDC EURO TYSK
033F4006	Manufacturers Declaration	China RoHS	Danfoss

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