Data sheet



# Element for expansion valve

## TE 5 - TE 55

# Description

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.

## Features & benefits

- Wide operating range: -40 to 10 °C / -40 to 50 °F & -60 to -25 °C / -75 to -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 and 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

## Applications

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

# Ordering

## Product code numbers

### Table: 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 |
| TE 12 | ¼ in / 6 mm | Flare | – | – | -40 – 10 | -40 – 50 | 3 | 118 | 067B3532 |
| | 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 |
| TE 20 | ¼ in / 6 mm | Flare | – | – | -40 – 10 | -40 – 50 | 3 | 118 | 067B3561 |
| | 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: 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: 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: 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: 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: 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: 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: 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 |
| 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: 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: 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: 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: 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 |
| 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: 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.

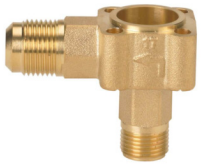
The rated capacity is based on:
Evaporating temperature $t_e$ = 4.4 °C / 40 °F
Condensing temperature $t_c$ = 38 °C / 100 °F
Refrigerant temperature ahead of valve $t_l$ = 37 °C / 98 °F

**Table: Valve body for expansion valves**

| Type | Connection Inlet × Outlet | | Connections / Flow direction | Connection type [5] | Code no. |
|---|---|---|---|---|---|
| | [in] | [mm] | | | |
| TE 5 | ½ × ⅝ | 12 × 16 | Flare angleway | – | 067B4013 |
| | ½ × ⅝ | – | Solder angleway | ODF ´ ODF | 067B4009 |
| | ½ × ⅞ | – | Solder angleway | ODF ´ ODF | 067B4010 |
| | ⅝ × ⅞ | – | Solder angleway | ODF ´ ODF | 067B4011 |
| | ⅞ × 1⅛ | – | Solder angleway | ODF ´ ODM | 067B4034 |
| | ½ × ⅝ | – | Solder straightway | ODF ´ ODF | 067B4007 |
| | ½ × ⅞ | – | Solder straightway | ODF ´ ODF | 067B4008 |
| | ⅝ × ⅞ | – | Solder straightway | ODF ´ ODF | 067B4032 |
| | ⅞ × 1⅛ | – | 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 | ⅝ × ⅞ | – | Solder angleway | ODF ´ ODF | 067B4022 |
| | ⅞ × 1⅛ | – | Solder angleway | ODF ´ ODM | 067B4023 |
| | ⅝ × ⅞ | – | Solder straightway | ODF ´ ODF | 067B4020 |
| | ⅞ × 1⅛ | – | 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 | ⅝ × ⅞ | – | Solder flanges | ODF ´ ODF | 067B4025 |
| | ⅞ × 1⅛ | – | Solder flanges | ODF ´ ODF | 067B4026 |
| | – | 16 × 22 | Solder flanges | ODF ´ ODF | 067B4027 |
| | – | 22 × 25 | Solder flanges | ODF ´ ODF | 067B4015 |
| TE 20 | ⅞ × 1⅛ | – | Solder angleway | ODF ´ ODM | 067B4023 |
| | – | 22 × 28 | Solder angleway | ODF ´ ODM | 067B4017 |
| | ⅞ × 1⅛ | – | Solder straightway | ODF ´ ODM | 067B4021 |
| | – | 22 × 28 | Solder straightway | ODF ´ ODM | 067B4016 |
| TE 55 | 1 ⅛ × 1⅜ | – | Solder angleway | ODM ´ ODM | 067G4004 |
| | – | 28 × 35 | Solder angleway | ODM ´ ODM | 067G4002 |
| | 1 ⅛ × 1⅜ | – | Solder straightway | ODM ´ ODM | 067G4003 |
| | – | 28 × 35 | Solder straightway | ODM ´ ODM | 067G4001 |

[5] ODF = Internal diameter ODM = External diameter

**Table: Valve body for expansion valves**

| Flare angleway | Solder straightway | Solder straightway | Flanges | Solder angleway |
|---|---|---|---|---|
|  |  |  |  |  |

**Valve selection based on capacity calculation**

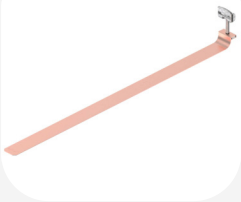
As for extended capacity calculations and valve selection based on capacities and refrigerants, please refer to Coolselector®2. Rated and extended capacities are calculated with the Coolselector®2 calculation engine to ARI standards with the ASEREP equations based on laboratory measurements of selected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



067N0589

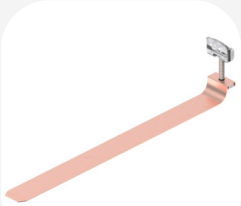
**Generic accessories, Bulb clamp, Accessory**

Product Type: Accessory, Type designation: Bulb strap, 350 mm, Packing format: Industrial pack, Quantity per packing format: 40



068B0676

**Generic accessories, Accessory bag, Seal kit**



067N0587

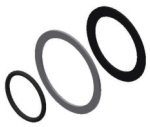
**Generic accessories, Bulb clamp, Accessory**

Product Type: Accessory, Type designation: Bulb strap, 225 mm, Packing format: Industrial pack, Quantity per packing format: 40



068B0675

**Generic accessories, Accessory bag, Seal kit**



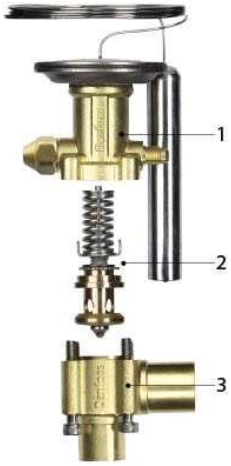
068G0050

**Spare part, TE 55, Seal kit**

Product Type: Spare part, Used for product: TE 55, Type designation: Seal kit, Seal kit

# Functions

**Figure: TE 5 - TE 55**



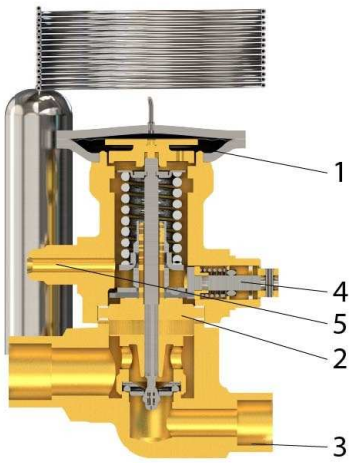
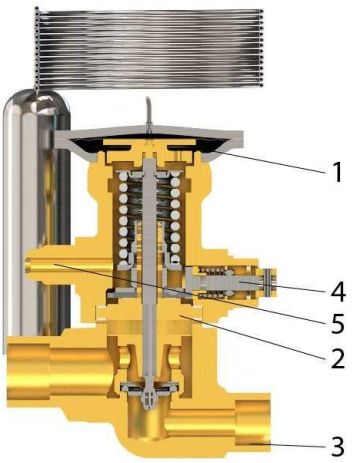
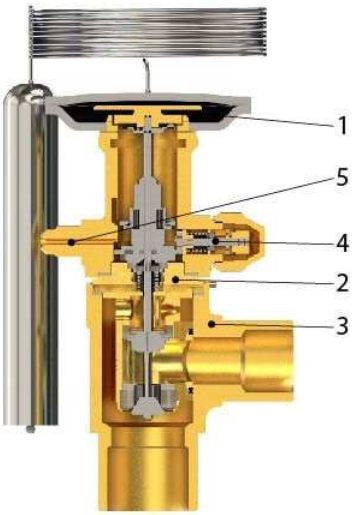

**General**

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 independent. All valves are equipped with external pressure equalization.

**Table: 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 ¼ in / 6 mm flare nut (solder is available on TE 5). |

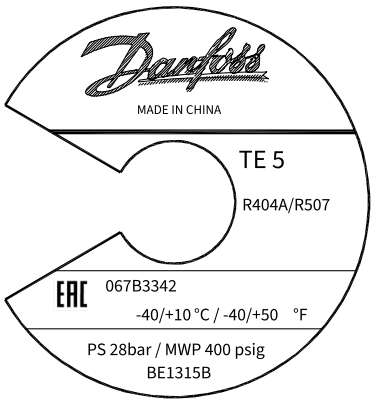
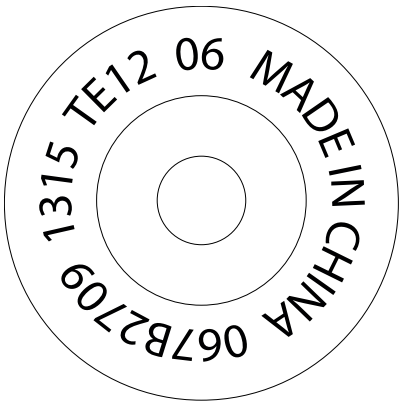
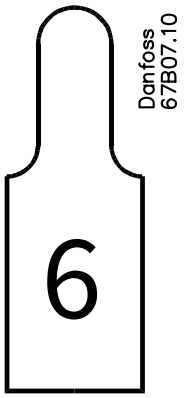
To ensure long operating life, the valve cone and seat are made of a special alloy with particularly good wear properties.

# Product details

## Design

### Identification

**Table: 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.

## Pressure and temperature 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: 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 $Q_{nom}$. 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.

## Dimensions

**Figure: TE 5 – Flare, angleway, Weight: 1.1 kg**

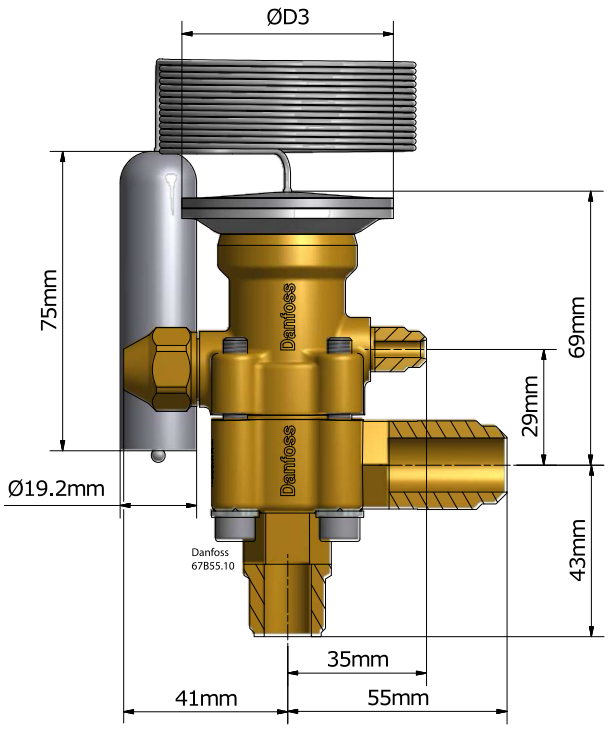



**Figure: TE 5 – Flare, angleway, Weight: 2.43 lbs**

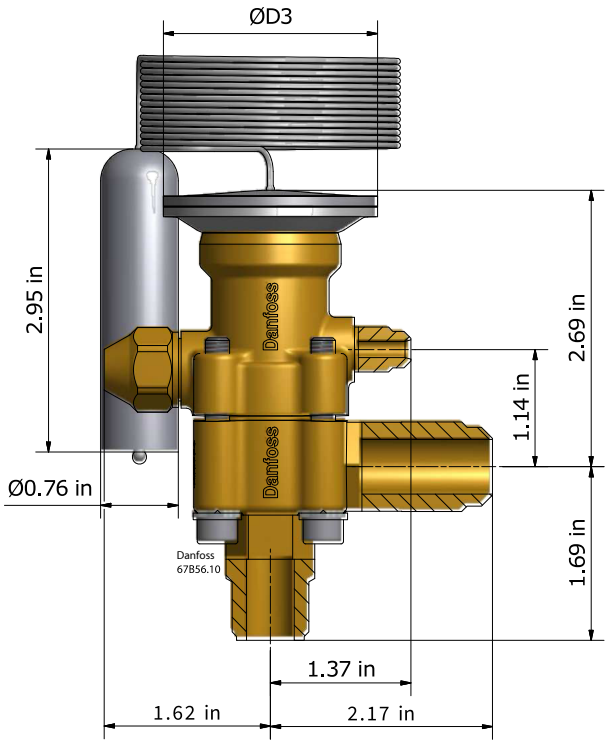



**Table: Type TE 5 – TE 55**

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

**Figure: TE 5 – Solder straightway, Weight: 1 kg**

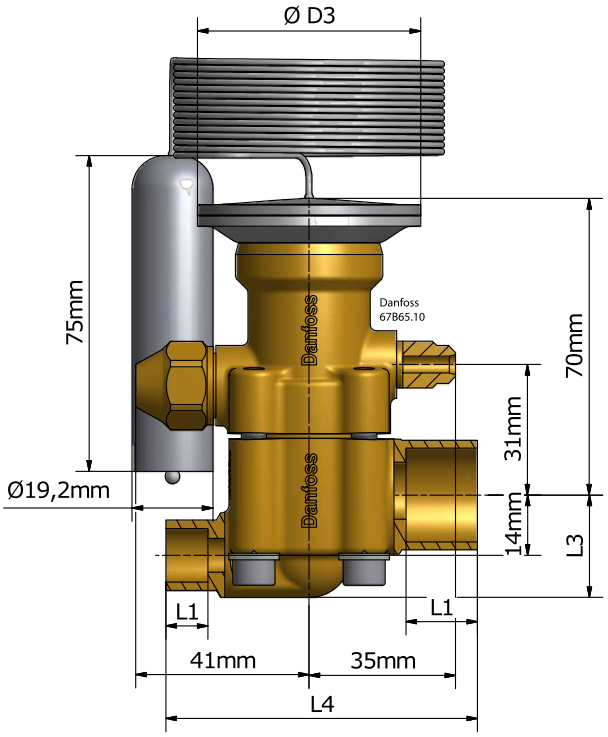



**Figure: TE 5 – Solder straightway, Weight: 2.02 lbs**

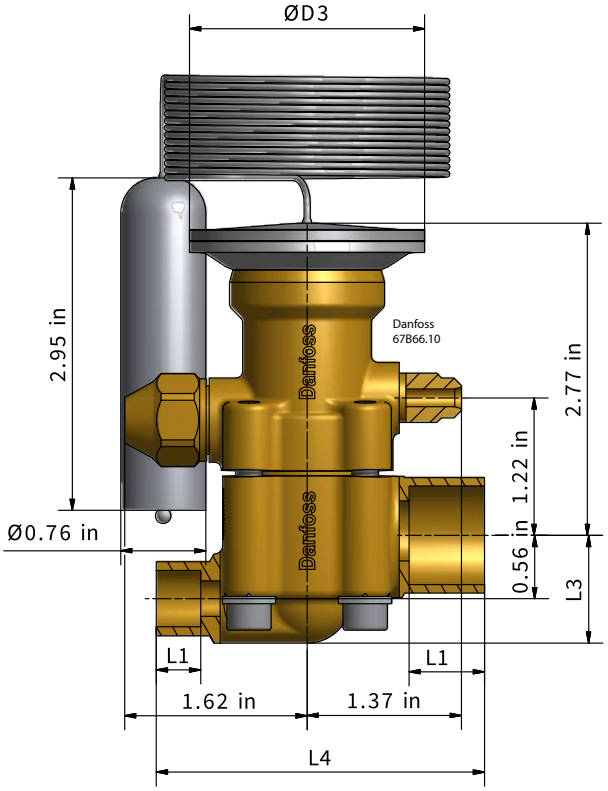


**Figure: TE 5 – Solder angleway, Weight: 1 kg**

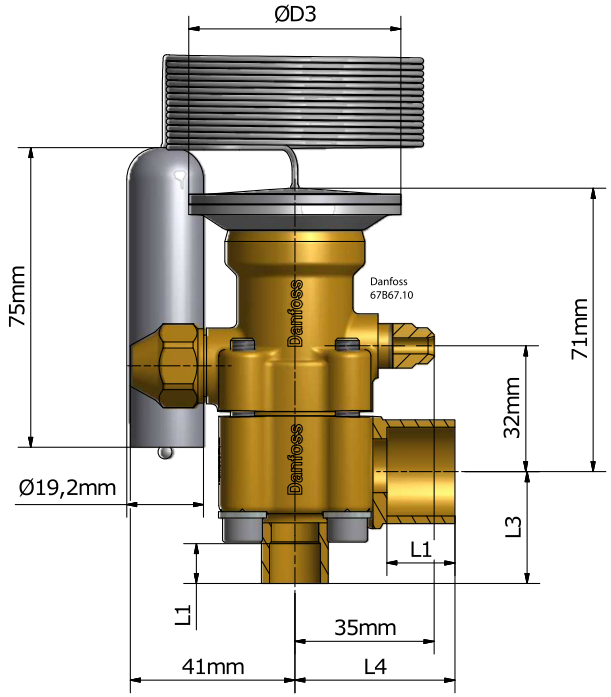



**Figure: TE 5 – Solder angleway, Weight: 2.02 lbs**

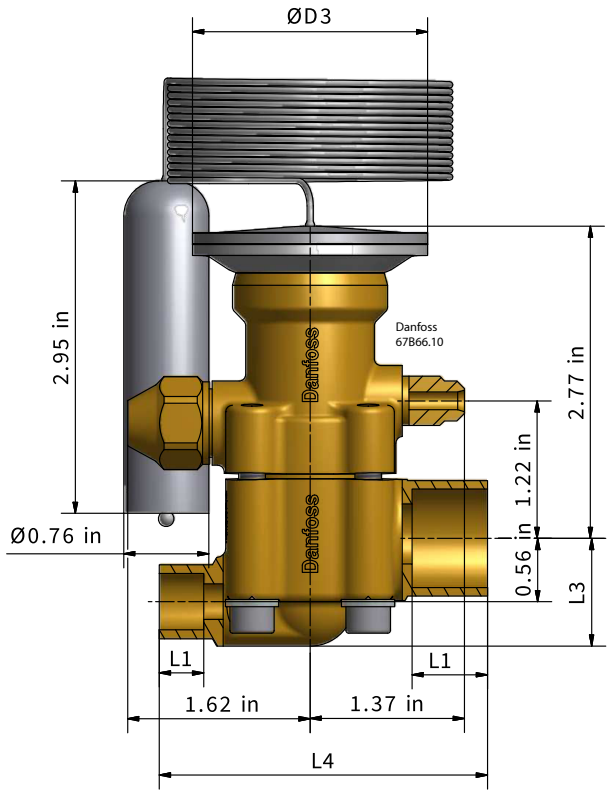



**Table: Inlet side**

| **$ØD_1$** | **$L_1$ [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: 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: 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: TE 12 and TE 20 Solder straightway, Weight: TE 12: 1.5 kg and TE 20: 1.7 kg**

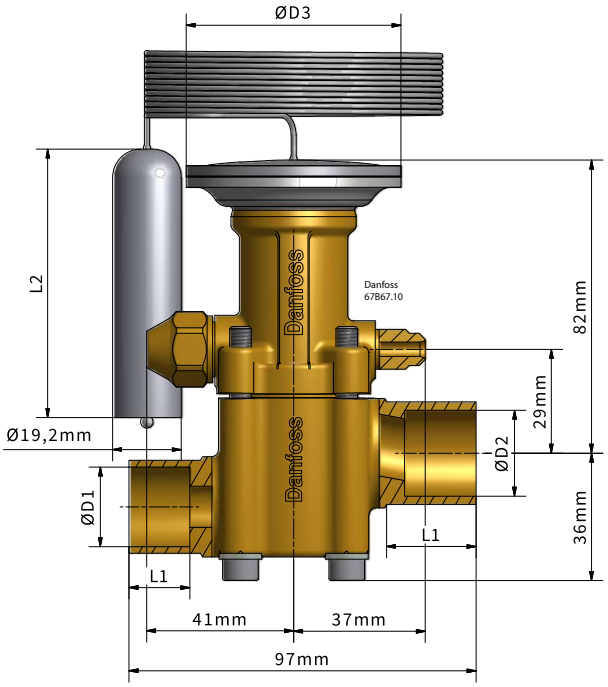


**Figure: TE 12 and TE 20 Solder straightway, Weight: TE 12: 3.31 lbs and TE 20: 3.75 lbs**

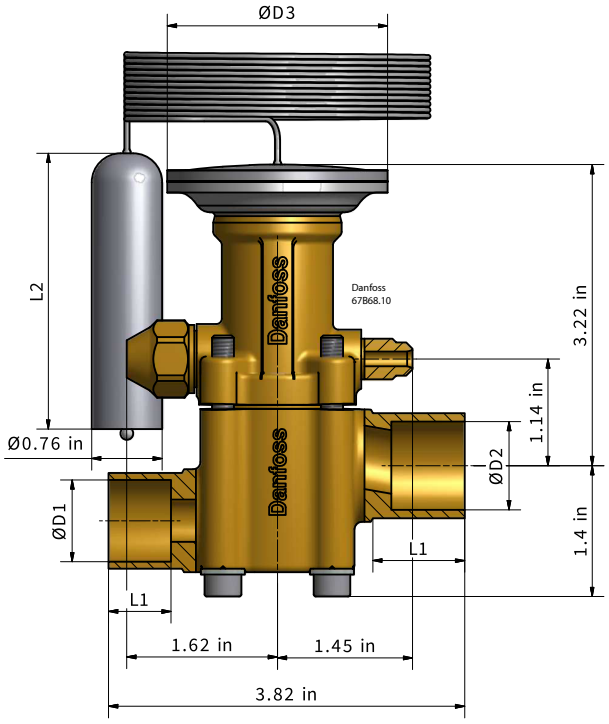



**Table: TE 12 and TE 20 Element**

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

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

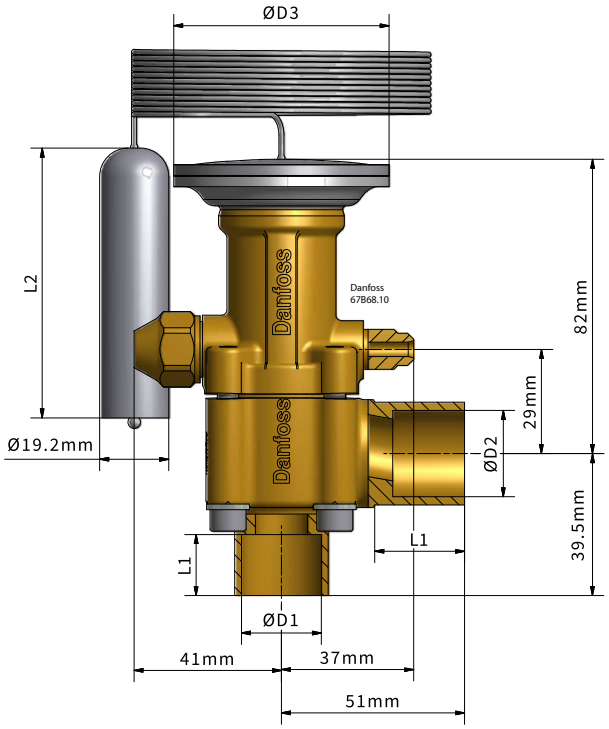


**Figure: TE 12 and TE 20 Solder angleway, Weight: TE12: 3.31 lbs and TE20: 3.53 lbs**

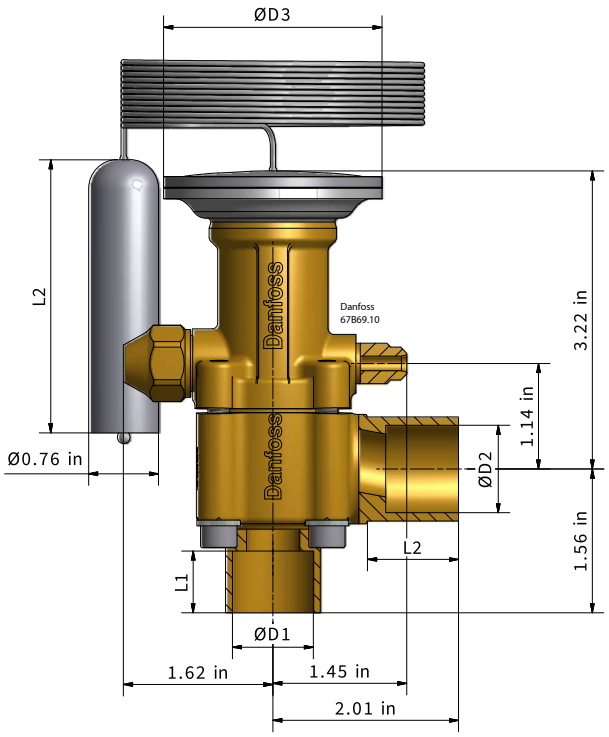



**Table: TE 12 - Solder flanges, straightway, Weight: Without filter: 2.3 kg and 7.72 lbs**

**TE 12 - Solder flanges, straightway**

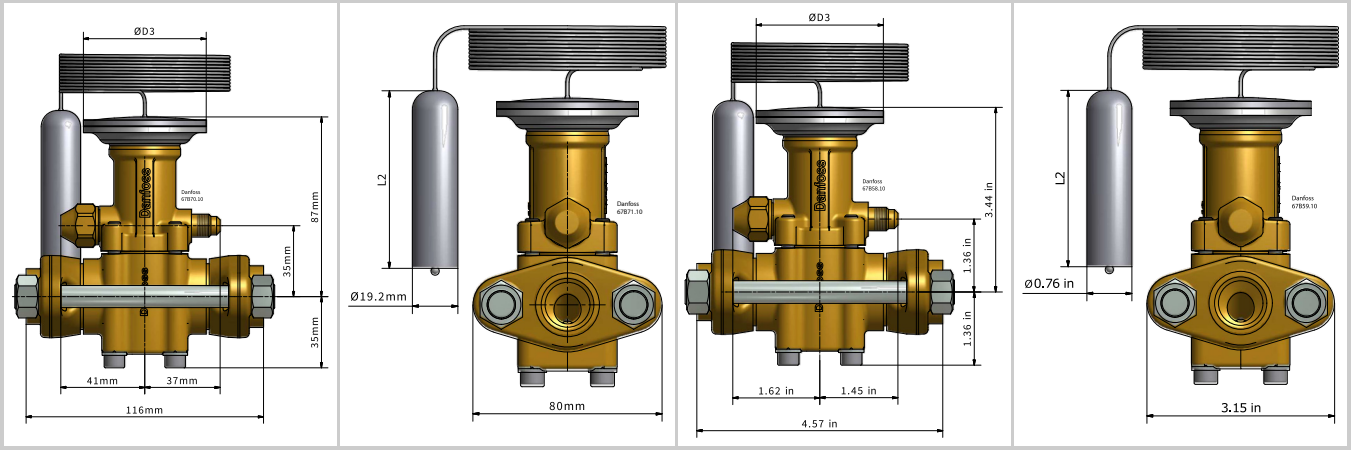



**Table: TE 12 and TE 20 Bulb**

| 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: Inlet side**

| ØD1 | $L_1$ [mm] | $L_1$ [in] |
|---|---|---|
| ⅞ in. / 22 mm ODF | 17 | 0.67 |

**Table: Outlet side**

| ØD1 | $L_1$ [mm] | $L_1$ [in] |
|---|---|---|
| 1⅛ in. / 28 mm ODF | 25 | 0.98 |

**Figure: TE 55 – Solder straightway, Weight: 1.7 kg**

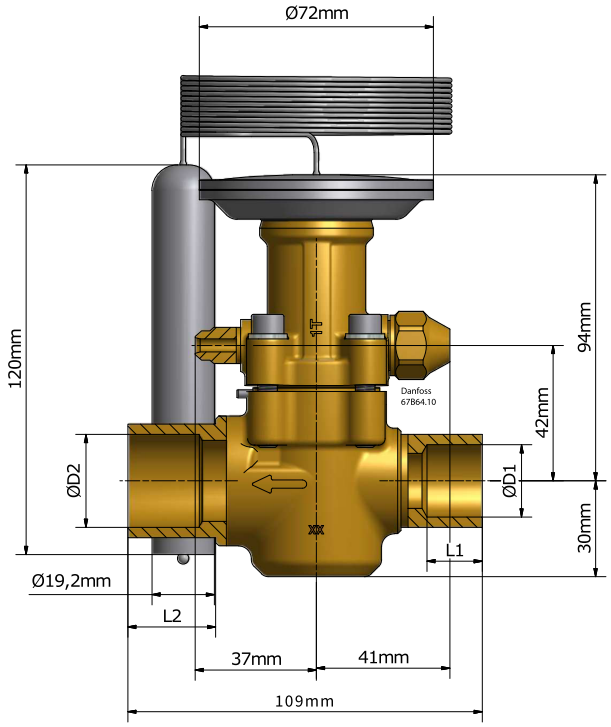



**Figure: TE 55 – Solder straightway, Weight: 3.75 lbs**

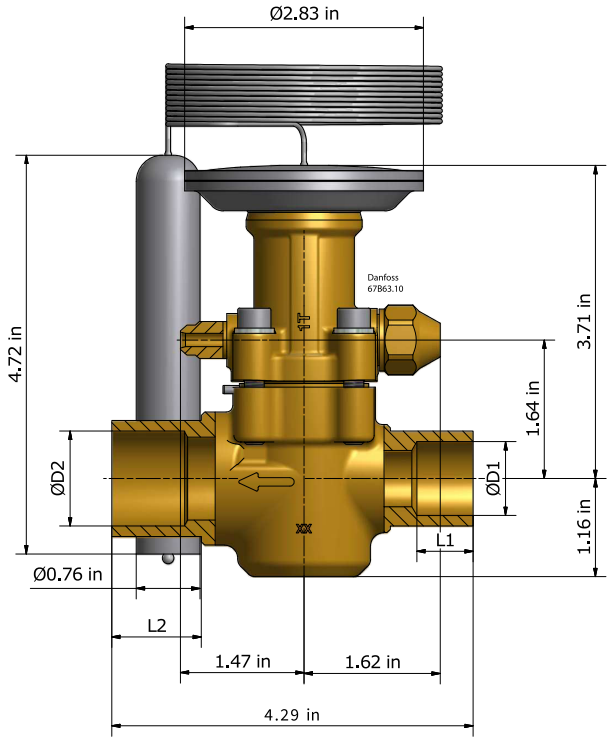


**Figure: TE 55 – Solder angleway, Weight: 1.6 kg**

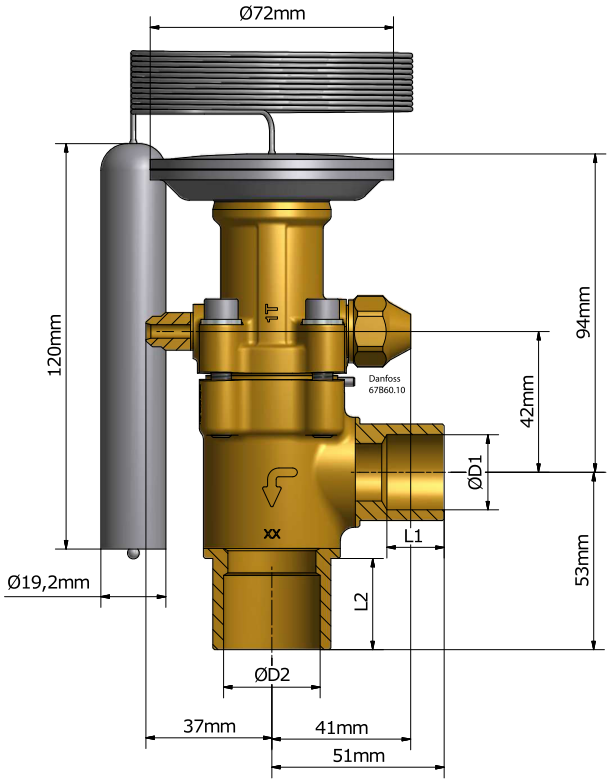



**Table: TE 55, Inlet side**

| **$ØD_1$** | **$L_1$ [mm]** | **$L_1$ [in]** |
|---|---|---|
| ⅞ in. / 22 mm ODF | 17 | 0.67 |
| 1⅛ in. / 28 mm ODM | 25 | 0.98 |

**Table: TE 55, Outlet side**

| **$ØD_2$** | **$L_2$ [mm]** | **$L_2$ [in]** |
|---|---|---|
| 1⅛ in. / 28 mm ODF | 22 | 0.87 |
| 1⅜ in. / 35 mm ODM | 27 | 1.06 |

## Certificates, declarations 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.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

| Approval type | Title | Certification body | Approval topic |
|---|---|---|---|
| Export Control Declaration | TE and TEH valve body and element for expansion valves | Danfoss | |
| Manufacturer's Declaration | Danfoss MD 067R1068.AG | Danfoss | PED, Pressure |
| Pressure Safety Certificate | LLC CDC EURO-TYSK UA.TR.089.1015.02-22 | LLC CDC EURO TYSK - Ukraine | PED, Pressure |
| UA Declaration | Danfoss UA 2023-01-10 Valves PL01 PL40 | Danfoss | PED, Pressure |
| Manufacturer's Declaration | Danfoss MD 033F4006 AC | Danfoss | China RoHS |

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