



Installation guide

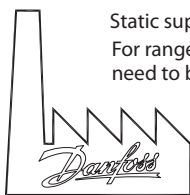
Thermostatic expansion valves

Type TE 5, TE 12, TE 20 and TE 55

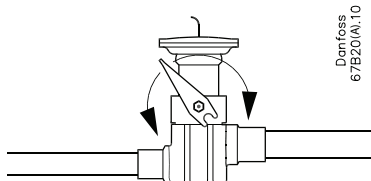
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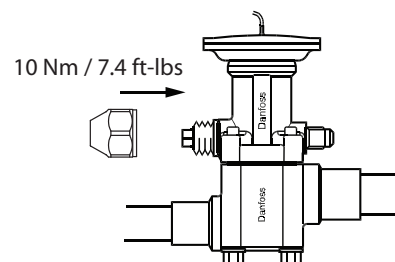
| <p>Refrigerants: See product label For all approved list of refrigerants, visit http://store.danfoss.com/</p> | <p>Max. working pressure PS / MWP: 28 bar / 400 psig</p> | <p>Max. test pressure P_{test} : 32 bar / 465 psig</p> | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|-------------|--|--|----|-----|--------|------|----|-----|-----|-------|----|-----|-----|-------|----|-----|-----|-------|----|-----|------|--|
| <p>Solder</p> <p>Min. 5% Ag</p> | <p>1 2 3</p> | <p>Flange</p> <p>45 ± 5 Nm / 33.2 ± 3.7 ft-lbs</p> | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Allen key M6</p> | <table border="1"> <thead> <tr> <th rowspan="2">Type</th> <th colspan="3">Torque ± 5%</th> </tr> <tr> <th>Nm</th> <th>kpm</th> <th>ft-lbs</th> </tr> </thead> <tbody> <tr> <td>TE 5</td> <td>10</td> <td>1.1</td> <td>7.4</td> </tr> <tr> <td>TE 12</td> <td>13</td> <td>1.4</td> <td>9.6</td> </tr> <tr> <td>TE 20</td> <td>13</td> <td>1.4</td> <td>9.6</td> </tr> <tr> <td>TE 55</td> <td>15</td> <td>1.6</td> <td>11.1</td> </tr> </tbody> </table> | Type | Torque ± 5% | | | Nm | kpm | ft-lbs | TE 5 | 10 | 1.1 | 7.4 | TE 12 | 13 | 1.4 | 9.6 | TE 20 | 13 | 1.4 | 9.6 | TE 55 | 15 | 1.6 | 11.1 | |
| Type | Torque ± 5% | | | | | | | | | | | | | | | | | | | | | | | | |
| | Nm | kpm | ft-lbs | | | | | | | | | | | | | | | | | | | | | | |
| TE 5 | 10 | 1.1 | 7.4 | | | | | | | | | | | | | | | | | | | | | | |
| TE 12 | 13 | 1.4 | 9.6 | | | | | | | | | | | | | | | | | | | | | | |
| TE 20 | 13 | 1.4 | 9.6 | | | | | | | | | | | | | | | | | | | | | | |
| TE 55 | 15 | 1.6 | 11.1 | | | | | | | | | | | | | | | | | | | | | | |
| | | <p>1/2-5/8 in. 12-16mm</p> <p>3/4-7/8 in. 18-22mm</p> <p>1-1 3/8 in. 25-35mm</p> | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Torx T25 Max. 4 Nm / 3 ft-lbs</p> | <p>✓ t₂ > t₁</p> <p>✗ t₂ = t₁</p> <p>✗ t₂ < t₁</p> <p>t₂ MOP</p> | <p>Superheat = t₁ - t_s</p> <p>p_s ~ t_s</p> | | | | | | | | | | | | | | | | | | | | | | | |



Static superheat = 4 K / 7.2 °F
For range B, the static superheat need to be adjusted



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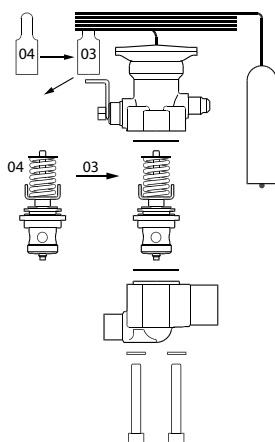
Temperature ranges:

| |
|--------------------------------------|
| Range N: -40 – 10 °C / -40 – 50 °F |
| Range NL: -40 – -5 °C / -40 – 25 °F |
| Range NM: -40 – -15 °C / -40 – 5 °F |
| Range B: -60 – -25 °C / -75 – -15 °F |

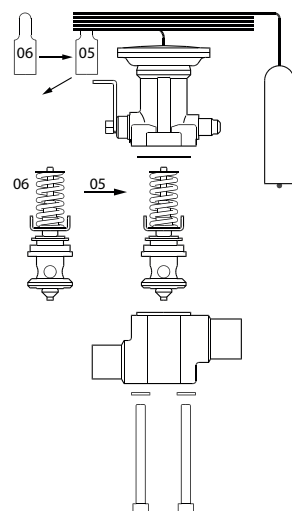
$\Delta SH / 360^\circ$ \ominus \oplus

| | | |
|--------------|-----------|---------------|
| TE 5, TE 12 | N, NL, NM | ~0.5 K / 1 °F |
| | B | ~1.5 K / 3 °F |
| TE 20, TE 55 | N, NL, NM | ~0.5 K / 1 °F |
| | B | ~1 K / 2 °F |

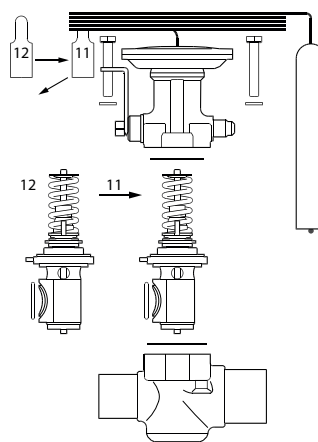
TE 5



TE 12 / TE 20



TE 55



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| Cross reference | | | | Rated capacity ²⁾ | | | | | | | | | | | | | | | | | |
|-----------------|----------|-------------|------------------------------------|------------------------------|-------|-----------------|-------|----------------|-----|-------|-------|-------|-------|-------|-----------------|-------|----------------|-----|-------|-------|-------|
| Type | Code no. | Orifice no. | Old code no. | [kW] | | | | | | | | [TR] | | | | | | | | | |
| | | | | R407F | R407A | R448A/ R449A | R452A | R404A/ R507 | R22 | R513A | R134a | R407C | R407F | R407A | R448A/ R449A | R452A | R404A/ R507 | R22 | R513A | R134a | R407C |
| TE 5 | 067B2788 | 0.5 | – | 11 | 9 | 9 | 7 | 7 | 9 | 5 | 5 | 11 | 3 | 2.5 | 2.5 | 2 | 2 | 2.5 | 1.5 | 1.5 | 3 |
| | 067B2789 | 01 | 067B2089 067B2005 ¹⁾ | 18 | 18 | 18 | 14 | 14 | 16 | 11 | 11 | 18 | 5 | 5 | 5 | 4 | 4 | 4.5 | 3 | 3 | 5 |
| | 067B2790 | 02 | 067B2090 | 28 | 25 | 25 | 21 | 19 | 25 | 14 | 16 | 25 | 8 | 7 | 7 | 6 | 5.5 | 7 | 4 | 4.5 | 7 |
| | 067B2791 | 03 | 067B2091 067B2006 ¹⁾ | 35 | 32 | 32 | 28 | 25 | 32 | 18 | 21 | 32 | 10 | 9 | 9 | 8 | 7 | 9 | 5 | 6 | 9 |
| | 067B2792 | 04 | 067B2092 067B2007 ¹⁾ | 46 | 42 | 46 | 39 | 35 | 42 | 25 | 28 | 46 | 13 | 12 | 13 | 11 | 10 | 12 | 7 | 8 | 13 |
| TE 12 | 067B2708 | 05 | 067B2008 | 70 | 56 | 53 | 46 | 49 | 56 | 30 | 35 | 53 | 20 | 16 | 15 | 13 | 14 | 16 | 8.5 | 10 | 15 |
| | 067B2709 | 06 | – | 95 | 74 | 70 | 63 | 63 | 74 | 39 | 49 | 74 | 27 | 21 | 20 | 18 | 18 | 21 | 11 | 14 | 21 |
| | 067B2710 | 07 | – | 113 | 95 | 91 | 81 | 81 | 95 | 49 | 63 | 91 | 32 | 27 | 26 | 23 | 23 | 27 | 14 | 18 | 26 |
| TE 20 | 067B2771 | 08 | 067B2172 067B2170 067B2175 | 141 | 127 | 123 | 84 | 84 | 127 | 74 | 77 | 116 | 40 | 36 | 35 | 24 | 24 | 36 | 21 | 22 | 33 |
| | 067B2773 | 09 | – | 158 | 148 | 141 | 98 | 102 | 148 | 81 | 91 | 134 | 45 | 42 | 40 | 28 | 29 | 42 | 23 | 26 | 38 |
| TE 55 | 067G2705 | 9B | – | 123 | 109 | 113 | 84 | 84 | 113 | 70 | 74 | 109 | 35 | 31 | 32 | 24 | 24 | 32 | 20 | 21 | 31 |
| | 067G2701 | 10 | – | 172 | 165 | 155 | 116 | 127 | 169 | 98 | 109 | 162 | 49 | 47 | 44 | 33 | 36 | 48 | 28 | 31 | 46 |
| | 067G2704 | 11 | 067G2005 067G2001 067G2011 | 186 | 183 | 169 | 127 | 137 | 183 | 106 | 120 | 176 | 53 | 52 | 48 | 36 | 39 | 52 | 30 | 34 | 50 |
| | 067G2707 | 12 | – | 208 | 200 | 186 | 141 | 151 | 200 | 116 | 134 | 190 | 59 | 57 | 53 | 40 | 43 | 57 | 33 | 38 | 54 |
| | 067G2710 | 13 | 067G2006 067G2002 067G2012 | 250 | 243 | 225 | 172 | 183 | 246 | 144 | 165 | 232 | 71 | 69 | 64 | 49 | 52 | 70 | 41 | 47 | 66 |

¹⁾ Part of old TE 12 valve assembly. Need to change to TE 5 valve body and element for replacement

²⁾ The rated capacity is based on:

- Evaporating temperature $t_e = 4.4 \text{ °C} / 40 \text{ °F}$
- Condensing temperature $t_c = 38 \text{ °C} / 100 \text{ °F}$
- Refrigerant temperature ahead of valve $t_1 = 37 \text{ °C} / 98 \text{ °F}$