

Main Features

Stainless steel, hermetically tight solder version

- High connection strength
- High corrosion resistance
- Capillary tube joints of high strength and vibration resistance

Bimetal connections

- Straightforward and fast soldering (no wet cloth or refrigeration pliers required).

Laser-welded **power element** in stainless steel

- Longer diaphragm life
- High pressure tolerance and working pressure
- High corrosion resistance

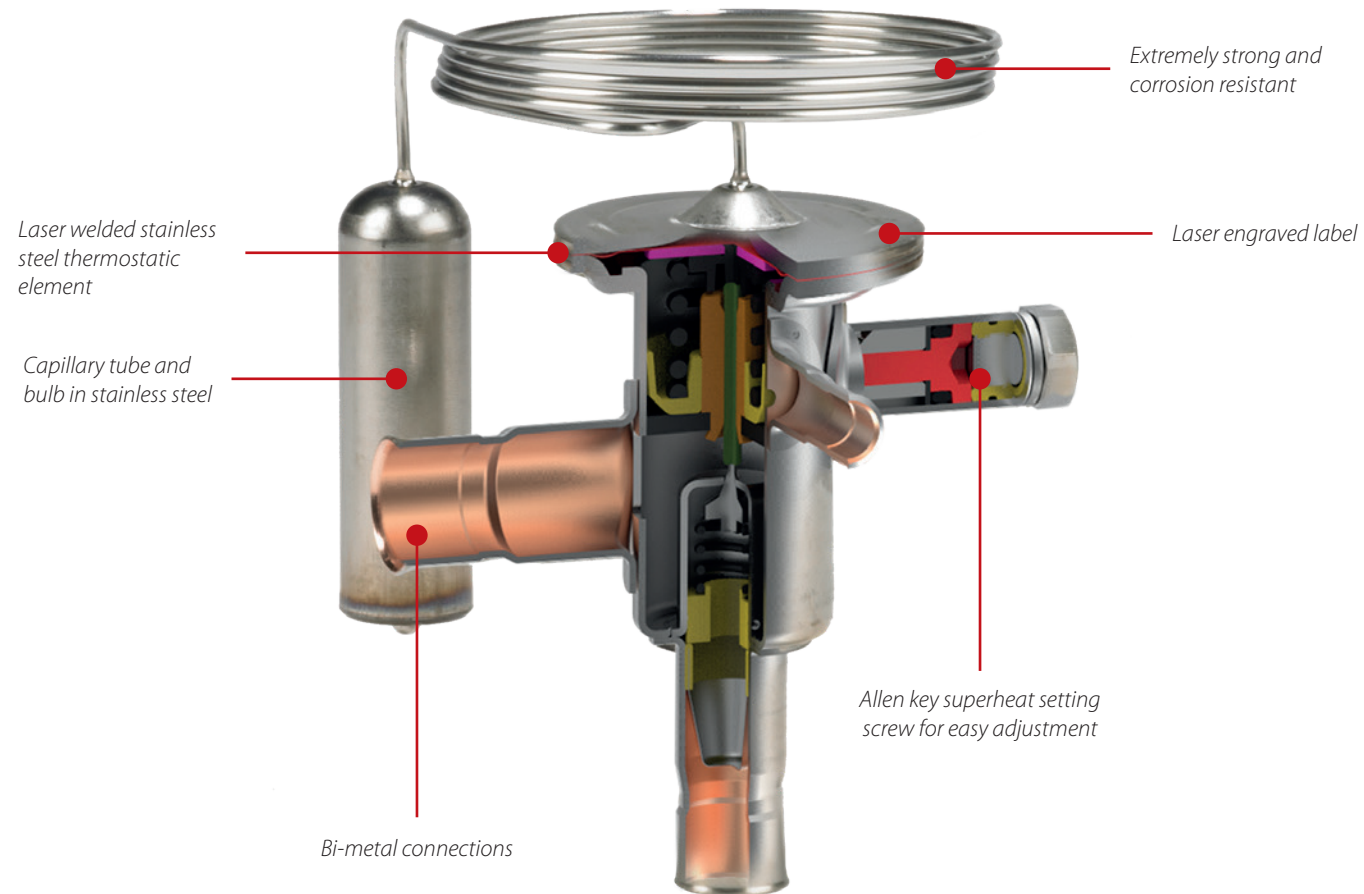
Compact design

- Small dimensions and low weight

Can be supplied with **MOP**

(Maximum Operating Pressure)

- Protects the compressor motor against excessive evaporating pressure during normal operation



TUBE Thermostatic Expansion Valve



For more information, please check
Coolselector.danfoss.com

Learn more at ra.danfoss.com

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

AD135086437198en-000604

© Danfoss | DCS (az) | 2025.03

Achieve the highest precision flow control - regardless of the system conditions

Wide range of thermostatic expansion valves

Future proof

Qualified for
A2L and natural
refrigerants



Choose the optimum solution



		Type	TD1 series	T2 series	TUA series	TUB series	TCAE	TCBE	TR6 ⁽⁵⁾	TGE series	TE 5 - TE 55 series
			• Designed for small applications • Wide temperature range	• Standard valve for multiple applications	• Compact design and light weight • With steel / copper bi-metal connections for fast soldering		• Compact design and light weight • With steel / copper bi-metal connections for fast soldering		• Compact design and light weight • With steel / copper bi-metal connections for fast soldering	• With dual diaphragm for long lifetime	• Supplied as Parts programme - element, orifice and valve body
Main applications	A/C Systems										
	Transport Refrigeration										
	Display Cabinets										
	Ice Making Machine										
	Water Chiller										
	Cold Room										
	Heat Pumps										
Main Characteristics (sub types)	Orifice type		Fixed	Exchangeable	Exchangeable	Fixed	Exchangeable	Fixed	Fixed	Fixed	Exchangeable
	Superheat		Fixed / Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable	Adjustable
	Equalisation		Internal • TD 1 External • TDE 1	Internal • T2 External • TE2	Internal • TUA External • TUAЕ	Internal • TUB External • TUBE	External	External	External	External	External
	Max. working pressure (PS)		34 bar	34 bar	34 bar (R410A: 45.5 bar)	34 bar (R410A: 45.5 bar)	34 bar (R410A: 45.5 bar)	34 bar (R410A: 45.5 bar)	49 bar	46 bar	28 bar
Technical Specifications	Capacity for:	R134a/ R513A	0.4 – 3.8 kW • 0.1 – 1.1 TR	0.5 – 8.6 kW • 0.1 – 2.5 TR ⁽²⁾	0.2 – 7.7 kW • 0.1 – 2.2 TR ⁽²⁾		7.7 – 16.5 kW • 2.2 – 4.7 TR ⁽²⁾		–	6 – 102 kW • 1.5 – 29 TR	5 – 165 kW • 1.5 – 47 TR
		R448A/ R449A	0.9 – 6.7 kW 0.2 – 1.9 TR	0.9 – 19.8 kW • 0.2 – 5.7 TR ⁽³⁾ 0.8 – 19.1 kW • 0.2 – 5.5 TR ⁽⁴⁾	0.4 – 13.9 kW • 0.1 – 4.1 TR ⁽³⁾ 0.4 – 13.6 kW • 0.1 – 4.2 TR ⁽⁴⁾		17.6 – 25.1 kW • 5.1 – 7.4 TR ⁽³⁾ 16.9 – 23.9 kW • 4.9 – 7 TR ⁽⁴⁾		–	–	9 – 225 kW 2.5 – 64 TR
		R452A	0.7 – 5.6 kW • 0.2 – 1.6 TR	0.6 – 15.8 kW • 0.2 – 4.4 TR	0.2 – 7.2 kW • 0.1 – 2.1 TR		12.6 – 18.1 kW • 3.6 – 5.2 TR		–	–	7 – 172 kW • 2 – 49 TR
		R407C	0.5 – 5.3 kW • 0.1 – 1.5 TR	0.9 – 19.7 kW • 0.2 – 5.6 TR	0.4 – 14 kW • 0.1 – 3.9 TR	0.4 – 13.9 kW • 0.1 – 3.9 TR	17.8 – 25.3 kW • 5.0 – 7.1 TR	17.8 – 25.3 kW • 5.07 – 7.1 TR	9.8 – 21.1 kW • 2.8 – 6 TR	9 – 148 kW • 2.5 – 42 TR	11 – 232 kW • 3 – 66 TR
		R404A	0.4 – 4.2 kW • 0.1 – 1.2 TR	–	–	–	–	–	–	7 – 105 kW • 2 – 30 TR	7 – 183 kW • 2 – 52 TR
		R1234yf	Not Approved	0.5 – 7.3 kW • 0.1 – 2.1 TR	0.3 – 6.6 kW • 0.1 – 1.9 TR		–		–	Not Approved	5.6 – 24.8 kW • 1.6 – 7.1 TR ⁽¹⁾
		R454C	Not Approved	0.8 – 14.8 kW • 0.2 – 4.2 TR	0.5 – 11.2 kW • 0.1 – 3.2 TR		–		–	Not Approved	9.1 – 40.7 kW • 2.6 – 11.6 TR ⁽¹⁾
		R455A	⁽⁶⁾	0.9 – 18.3 kW • 0.2 – 5.2 TR	0.5 – 12.9 kW • 0.1 – 3.7 TR		–		–	Not Approved	10.3 – 46.1 kW • 2.9 – 13.1 TR ⁽¹⁾
		R410A	–	–	–	–	–	–	11.2 – 24.6 kW • 3.2 – 7 TR	12 – 182 kW • 3.5 – 52 TR	–
		R452B	–	–	–	–	–	–	–	12 – 208 kW • 3.5 – 59 TR	–
		R454B	–	–	–	–	–	–	12.6 – 26.7 kW • 3.6 – 7.6 TR	14 – 229 kW • 4 – 65 TR	–
		R32	–	–	–	–	–	–	17.6 – 36.2 kW • 5 – 10.3 TR	–	–
		R290	0.6 – 5.6 kW • 0.16 – 1.6 TR	Not Approved	0.49 – 27.9 kW • 0.14 – 7.9 TR		–	–	–	10 – 152 kW • 3 – 43 TR	Not Approved
	Standard temperature ranges available		-40 – 10 °C	-40 – 10 °C	-40 – 10 °C	-40 – 10 °C	-40 – 10 °C	-40 – 10 °C	-10 – 15 °C	-40 – 10 °C	-40 – 10 °C
			–	-40 – -5 °C	-	-40 – -5 °C	-	-40 – -5 °C	–	–	-40 – -5 °C
			–	-40 – -15 °C	-40 – -15 °C	-40 – -15 °C	-40 – -15 °C	-40 – -15 °C	–	–	-40 – -15 °C
			–	-60 – -25 °C	-60 – -25 °C	-60 – -25 °C	-60 – -25 °C	-60 – -25 °C	–	–	-60 – -25 °C
			-25 – 10 °C	–	–	–	–	–	–	-25 – 10 °C	–
			–	–	–	–	–	–	–	-30 – 15 °C	–
			-25 – 15 °C	–	–	–	–	–	–	–	–
	Valve body configuration		Angleway / Straightway	Angleway	Straightway	Angleway / Straightway	Straightway	Straightway	Straightway	Straightway	Angleway / Straightway
	Connections		Copper solder	SAE Flare / Copper solder	Bi-metal solder	Bi-metal solder	Bi-metal solder	Bi-metal solder	Copper solder / Flare / Threaded version	Copper solder / Flare / MIO / ORFS	Brass solder / Flange / Flare
	Approvals		UL (angleway only)	GOST / EAC	GOST	GOST	GOST	GOST	UL	UL • GOST	GOST
Materials	Element		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
	Valve body		Brass	Brass	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Brass	Brass	Brass
	Bulb and capillary tube		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel

⁽¹⁾ Capacity data is only for TE 5 -⁽²⁾ Capacities are for R513A only -⁽³⁾ Capacities are for R448A only -⁽⁴⁾ Capacities are for R449A only

-⁽⁵⁾ TR6 is for North America only -⁽⁶⁾ Approved but capacity data not available yet