ENGINEERING
TOMORROW

Main **Features**

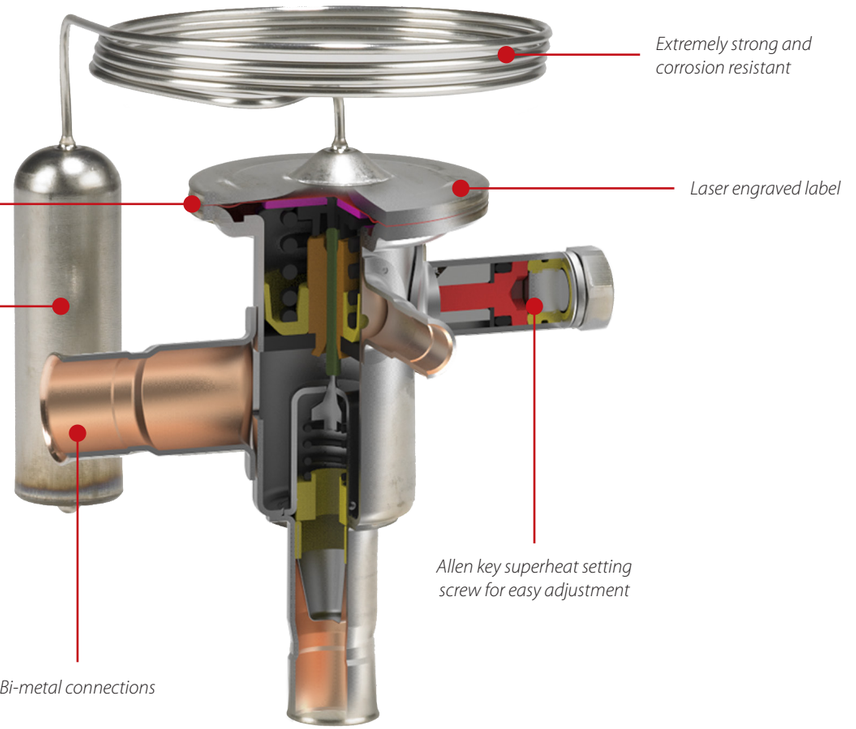
Stainless steel, hermetically tight solder version
- High connection strength
- High corrosion resistance
- Capillary tube joints of high strength and vibration resistance

Laser-welded **power element** in stainless steel
- Longer diaphragm life
- High pressure tolerance and working pressure
- High corrosion resistance

Can be supplied with **MOP** (Maximum Operating Pressure)
- Protects the compressor motor against excessive evaporating pressure during normal operation

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

Compact **design**
- Small dimensions and low weight



TUBE Thermostatic Expansion Valve

Learn more at **ra.danfoss.com**

For more information, please check **Coolselector.danfoss.com**

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ENGINEERING
TOMORROW

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

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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 multible 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 Charac-teristics (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 • TUAE	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: 4.5 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

For additional information check Coolselector.danfoss.com