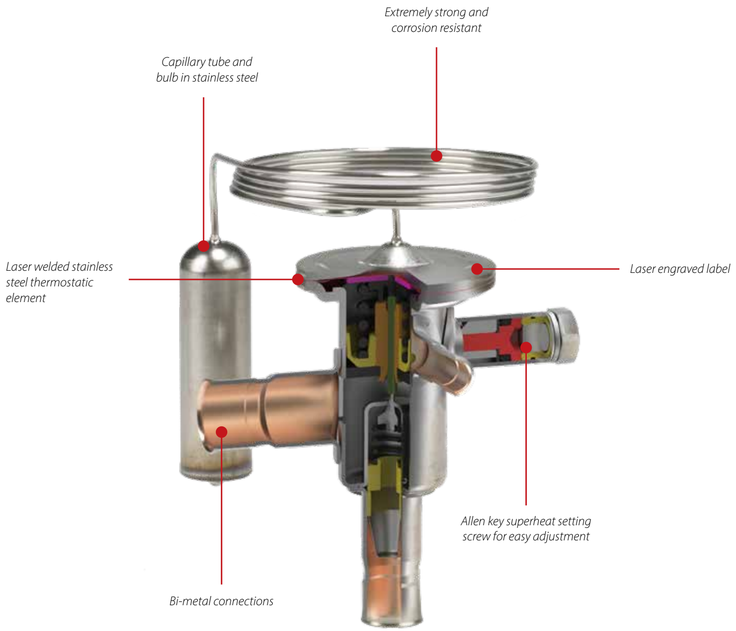

TUBE Thermostatic Expansion Valve

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

ENGINEERING TOMORROW

A world leader in climate and energy technology

The Danfoss Group operates globally with the primary aims of making modern living possible for our stakeholders and being a leader in refrigeration, heating, power electronics, and mobile hydraulics.

We employ 24,000 people, and produce approximately 250,000 components each day at our 76 factories in 25 countries.

We promise leadership in our businesses through reliability, excellence, and innovation – driving true customer satisfaction and solutions within climate and energy.

Extensive experience in all key HVAC/R segments
Danfoss plays a leading role in research, development and production in a wide spectrum of industries, and has been a key player in the HVAC/R field for more than 75 years. Our Refrigeration & Air Conditioning Division designs, produces and markets a comprehensive range of automated solutions and compressors for a wide variety of HVAC/R segments, including:

- Heat Pumps
- Commercial Air Conditioning
- Residential Air Conditioning
- Commercial Refrigeration
- Household, Light Commercial and Mobile Refrigeration
- Wholesalers & Installers
- Industrial Refrigeration
- Food Retail

Learn more at **ra.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

TU
Celebrating 25 years of passion for expansion

ra.danfoss.com

Thermostatic expansion valve

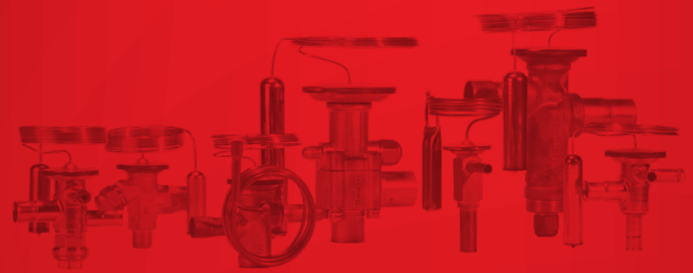
Danfoss' range of Thermostatic Expansion Valves are designed to ensure a precise control of the injection of refrigerant liquid into evaporators. They contribute to **higher system reliability** by preventing liquid migration back to the compressor in case of unstable power or power shut down.

Depending on type, the Thermostatic Expansion Valves are delivered with connections in SAE flare or solder connections in either copper or stainless steel/copper bi-metal. The valves diaphragm assemblies are laser welded which ensures a long lifetime of the system.

Danfoss Thermostatic Expansion Valves are available as complete valves (fixed orifice) or parts programme, i.e. with separate valve body and orifice assemblies.

Danfoss has an extensive experience as industry leader thanks to its recognised innovation. This experience is reflected in every feature of its Thermostatic Expansion Valve programme, which ensures the optimal performance for every HVAC/R application.

In 2020, the company celebrates its passion for expansion with the 25th anniversary of the TU valves and the release of new Electric Expansion Valves ETS 5M for VRF, CRAC units and residential heat pumps.



Reliable function • Laser Welding • Wide capacity range

They are compatible with the several major refrigerants. For more information, please check **Coolselector.danfoss.com**

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													✓	
	Computer Room		✓												
	Cold Room				✓		✓								✓
	Heat Pumps		✓		✓				✓			✓		✓	
	Commercial Refrigeration		✓		✓		✓				✓			✓	✓
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	External	Internal	External	Internal	External	Internal	External	External	External	External	External	External
	R134a/R513A		TD 1	TDE 1	T2	TE2	TUA TUAE		TUB TUBE		TCAE	TCBE	–	TGE	TE 5 - TE 55
	R404A/R452A/R448A/R449A		TD 1	TDE 1	T2	TE2							–	TGE	TE 5 - TE 55
	R410A/R452B/R454B [1]		–	–	–	–							TR 6	TGE	–
	Max. working pressure (PS)		34 bar		34 bar		34 bar (R410A: 42.5 bar)		34 bar (R410A: 42.5 bar)		34 bar (R410A: 45.5 bar)	34 bar (R410A: 45.5 bar)	45.5 bar	46 bar	28 bar
Technical Specifications	Capacity for:	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	10.6 – 24.6 kW 3 – 7 TR	9 – 148 kW 2.5 – 42 TR	11 – 232 kW 3 – 66 TR
		R134a/R513A	0.4 – 3.8 kW 0.1 – 1.1 TR		0.5 – 8.6 kW [2] 0.1 – 2.5 TR [2]		0.2 – 7.7 kW [2] 0.1 – 2.2 TR [2]				7.7 – 16.5 kW [2] 2.2 – 4.7 TR [2]		-	6 – 102 kW 1.5 – 29 TR	5 – 165 kW 1.5 – 47 TR
		R404A	0.4 – 4.2 kW • 0.1 – 1.2 TR		-		-		-		-	-	-	7 – 105 kW • 2 – 30 TR	7 – 183 kW • 2 – 52 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
		R410A	-		-		-		-		-	-	-	12 – 182 kW • 3.5 – 52 TR	-
		R452B	-		-		-		-		-	-	-	12 – 208 kW • 3.5 – 59 TR	-
		R454B	-		-		-		-		-	-	-	14 – 229 kW • 4 – 65 TR	-
	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	Angleway / 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 · GOST	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		Copper		Stainless steel		Stainless steel		Stainless steel		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel

[1] *R452/4B only for TG and TER452/4B only for TG and TE* - [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*

For additional information check Coolselector.danfoss.com