

## 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

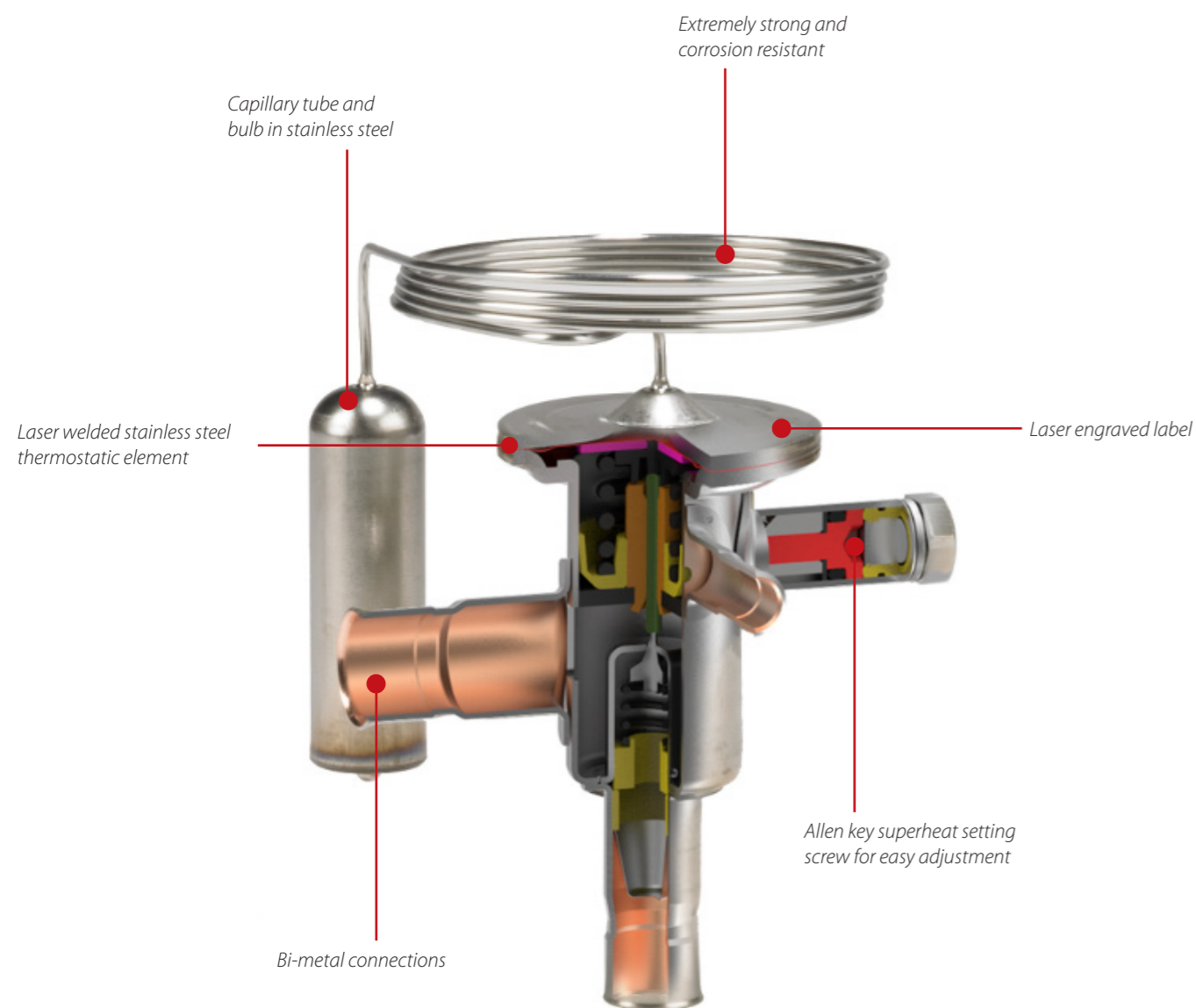
Danfoss plays a leading role in research, development and production in a wide spectrum of industries, and has been a key player in the HVAC/R field for more than 75 years. Our Refrigeration & Air Conditioning Division designs, produces and markets a comprehensive range of automated solutions and compressors 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](http://ra.danfoss.com)

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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

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

Wide range of thermostatic expansion valves



### Laser welded

stainless steel thermostatic element for joint strength and operational life

# 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 also protect the compressor motor against liquid refrigerant entering it.

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 experience in the field of Air Conditioning and Refrigeration. This experience is reflected in every feature of its Thermostatic Expansion Valve programme, which ensures the optimal performance for every HVAC/R application.

Choose the optimum solution



Type	TD1 series	T2 series	TUA series	TUB series	TCAE	TCBE	TR6	TGE series	TE series										
	<ul style="list-style-type: none"> <li>Designed for small applications</li> <li>Wide temperature range</li> </ul>	<ul style="list-style-type: none"> <li>Standard valve for multiple applications</li> </ul>	<ul style="list-style-type: none"> <li>Compact design and light weight</li> <li>With steel / copper bi-metal connections for fast soldering</li> </ul>	<ul style="list-style-type: none"> <li>Compact design and light weight</li> <li>With steel / copper bi-metal connections for fast soldering</li> </ul>	<ul style="list-style-type: none"> <li>Compact design and light weight</li> <li>With steel / copper bi-metal connections for fast soldering</li> </ul>	<ul style="list-style-type: none"> <li>Compact design and light weight</li> <li>With steel / copper bi-metal connections for fast soldering</li> </ul>	<ul style="list-style-type: none"> <li>Compact design and light weight</li> <li>With steel / copper bi-metal connections for fast soldering</li> </ul>	<ul style="list-style-type: none"> <li>With dual diaphragm for long lifetime</li> </ul>	<ul style="list-style-type: none"> <li>Supplied as Parts programme - element, orifice and valve body</li> </ul>										
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									
	Superheat	Fixed / Adjustable		Adjustable		Adjustable		Adjustable		Adjustable									
	Equalisation	Internal	External	Internal	External	Internal	External	Internal	External	Internal	External								
	R407C	TDZ 1	TDEZ 1	T2	TE2														
	R134a	TDN 1	TDEN 1	T2	TE2														
	R404A/R507	TDS 1	TDES 1	T2	TE2	TUA	TUAE	TUB	TUBE	TCAE	TCBE								
	R410A	-	-	-	-					TR 6									
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)								
Technical Specification	Capacity for R407C	0.53 – 5.35 kW 0.15 – 1.52 TR		0.91 – 19.7 kW 0.26 – 5.61 TR		0.49 – 14.0 kW 0.14 – 3.99 TR		0.49 – 14.0 kW 0.14 – 3.99 TR		17.8 – 25.3 kW 5.07 – 7.18 TR		17.8 – 25.3 kW 5.07 – 7.18 TR		10.65 – 24.6 kW 3 – 7 TR		9.67 – 122.0 kW 2.75 – 34.7 TR		10.8 – 233.2 kW 3.1 – 66.3 TR	
		-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 – -5 °C		-		-		-40 – -5 °C	
		-		-40 – -15 °C		-40 – -15 °C		-40 – -15 °C		-40 – -15 °C		-40 – -15 °C		-		-		-40 – -15 °C	
	Charge (Temperature)	-		-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		GOST		UL - GOST		UL - 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		Stainless steel		Brass		Brass	
	Bulb and capillary tube	Copper		Stainless steel		Stainless steel		Stainless steel		Stainless steel		Stainless steel		Stainless steel		Stainless steel		Stainless steel	

\* For additional information visit Danfoss.com 1) CO2 Gascooler throttle 2) CO2 Gas by-pass



Reliable function • Laser Welding • Wide capacity range