

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

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.

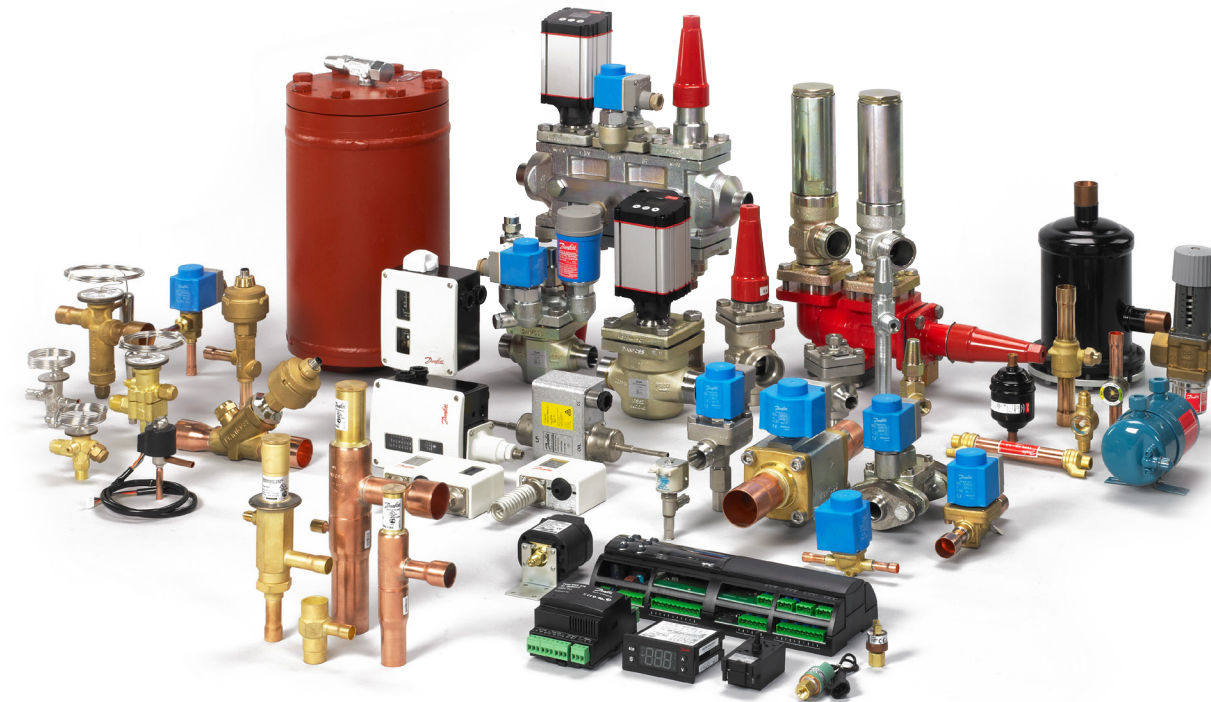
We employ 24,000 people, and produce approximately 250,000 components each day at our 76 factories in 25 countries.

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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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					
		• 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																		
	Computer Room																		
	Cold Room																		
	Heat Pumps																		
	Commercial Refrigeration																		
Main Characteristics (sub types)	Orifice type	Fixed		Exchangeable		Exchangeable		Fixed		Exchangeable		Fixed		Fixed		Exchangeable			
	Superheat	Fixed / Adjustable		Adjustable		Adjustable		Adjustable		Adjustable		Adjustable		Adjustable		Adjustable			
	Equalisation	Internal	External	Internal	External	Internal	External	Internal	External	External		External		External		External			
	R407C	TDZ 1	TDEZ 1	TZ 2	TEZ 2	TUA TUAE		TUB TUBE		TCAE		TCBE		—		TGEZ	TEZ		
	R134a	TDN 1	TDEN 1	TN 2	TEN 2									—		TGEN	TEN		
	R404A/R507	TDS 1	TDES 1	TS 2	TES 2									—		TGES	TES		
	R410A	—	—	—	—									TR 6		TGEL	—		
	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 Specification	Capacity for R407C	<div><div></div></div> 0.53 – 5.35 kW 0.15 – 1.52 TR		<div><div></div></div> 0.91 – 19.7 kW 0.26 – 5.61 TR		<div><div></div></div> 0.49 – 14.0 kW 0.14 – 3.99 TR		<div><div></div></div> 0.49 – 14.0 kW 0.14 – 3.99 TR		<div><div></div></div> 17.8 – 25.3 kW 5.07 – 7.18 TR		<div><div></div></div> 17.8 – 25.3 kW 5.07 – 7.18 TR		<div><div></div></div> 10.65 – 24.6 kW 3 – 7 TR		<div><div></div></div> 9.67 – 122.0 kW 2.75 – 34.7 TR		<div><div></div></div> 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	
	Charge (Temperature)	—		-40 – -5 °C		-40 – -5 °C		-40 – -5 °C		-40 – -5 °C		-40 – -5 °C		—		—		-40 – -5 °C	
		—		-40 – -15 °C		-40 – -5 °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	

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

Reliable function • Laser Welding • Wide capacity range