

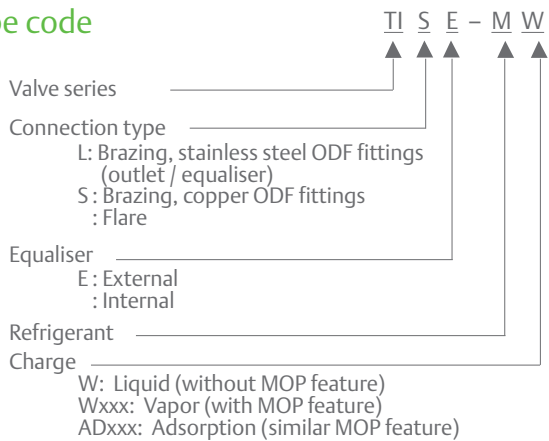
TI Series Thermo™ - expansion valves

Exchangeable orifices

Features

- Laser-welded diaphragm / power element with large diameter for high reliability and maximum lifetime
- Constant superheat across wide application ranges
- Easy and precise superheat setting by internal fine threads
- Three styles of connections:
 - TILE: Stainless steel brazed fittings eliminate the need of wet rags during brazing
 - TIS(E): Copper brazed fittings (valve requires wet rag during brazing)
 - TI(E): Flare
- With capacities between 0.5 kW and 19.4 kW (R448A) ideally suited for service work
- Internal or external equaliser
- Cleanable / exchangeable inlet strainer in orifice assembly
- Inlet brazing adapter
- Capillary tube length 1.5 m
- Max. working pressure PS: 45 bar
- Temperature range TS: -45...+75°C
- PS: 45 bar. TS: -45 ... +75°C
- CE Marking acc. PED not required

Type code



TILE



TIE

Selection table for orifice assembly with strainer for inlet connection

Type	Nominal capacity* (kW)							
	TIO-00X	TIO-000	TIO-001	TIO-002	TIO-003	TIO-004	TIO-005	TIO-006
Part No.	800 532	800 533	800 534	800 535	800 536	800 537	800 538	800 539
R134a	0.3	0.8	1.9	3.1	5.0	8.3	10.1	11.7
R22	0.5	1.3	3.2	5.3	8.5	13.9	16.9	19.5
R404A / R507	0.4	1.0	2.3	3.9	6.2	10.1	12.3	14.2
R407C	0.5	1.4	3.5	5.7	9.2	15.0	18.3	21.1
R410A	0.6	1.5	3.7	6.2	9.9	16.2	19.7	22.8
R407A	0.5	1.3	3.2	5.2	8.4	13.7	16.6	19.2
R407F	0.6	1.5	3.6	5.9	9.5	15.5	18.9	21.8
R448A	0.5	1.3	3.19	5.28	8.48	13.86	16.85	19.44
R449A	0.49	1.27	3.12	5.16	8.28	13.54	16.46	19
R450A	0.2	0.55	1.3	2.11	3.41	5.66	6.89	7.98
R513A	0.21	0.56	1.33	2.16	3.49	5.79	7.05	8.17
R1234ze	0.23	0.63	1.49	2.42	3.91	6.49	7.9	9.15
R452A	0.4	1.0	2.4	4.0	6.4	10.5	12.8	14.8

Brazing adapter for TILE and TIS(E)

Type	Part no.	Connection, ODF	
		(mm)	(inch)
TIA-M06	802 500	6.0	-
TIA-M10	802 501	10.0	-
TIA-014	802 502	-	1/4"
TIA-038	802 503	-	3/8"
Gasket Set	803 780	100 pieces	



*Nominal capacity is based on the following conditions:

Refrigerant	Evaporating temperature	Condensing temperature	Sub-cooling
R407C, R407F	+4°C +4°C dew point	+38°C bubble p. +42.9°C dew point	1K
R513A, R1234ze		+38°C bubble/ +38°C dew point	
R22, R134a, R404A, R410A, R507		+38°C bubble/ +38°C dew point	
R450A		+38°C bubble/ +38.6°C dew point	
R448A, R449A		+38°C bubble/ +42.6°C dew point	
R452A		+38°C bubble / +41.6°C dew point	

These effects have been integrated in selection program "Controls Navigator".

TI valve bodies without orifice and nut

Refrigerant	Outlet/equalizer connection	Type	Part no.	Type	Part no.	Mop (°C)	Evaporating temperature range (°C)
		External equalizer		Internal equalizer			
R404A / R507	Brazing stainless steel fittings *	TILE-SW (12mm)	802465			-	-45 ... +20
		TILE-SW (1/2")	802466			-	-45 ... +20
	Brazing copper fittings **	TISE-SW (12mm)	802462	TIS-SW (12mm)	802461	-	-45 ... +20
		TISE-SW (1/2")	802464	TIS-SW (1/2")	802463	-	-45 ... +20
		TISE-SAD10 (1/2")	802479	TIS-SAD10 (1/2")	802478	+10	-45 ... 0
		TISE-SW75 (12mm)	802471			0	-45 ... -3
		TISE-SW75 (1/2")	802472			0	-45 ... -3
		TISE-SAD-20 (12mm)	802474			-20	-45 ... -27
		TISE-SAD-20 (1/2")	802475			-20	-45 ... -27
	Flare fittings	TIE-SW	802460	TI-SW	802459	-	-45 ... +20
		TIE-SAD10	802477	TI-SAD10	802476	+10	-45 ... 0
		TIE-SW75	802470	TI-SW75	802469	0	-45 ... -3
		TIE-SAD-20	802473			-20	-45 ... -27
	R134a	Brazing stainless steel fittings *	TILE-MW (12mm)	802451			-
TILE-MW (1/2")			802452			-	-45 ... +20
Brazing copper fittings **		TISE-MW (12 mm)	802448	TIS-MW (12 mm)	802447	-	-45 ... +20
		TISE-MW (1/2")	802450	TIS-MW (1/2")	802449	-	-45 ... +20
		TISE-MW55 (12mm)	802457			+14	-45 ... +11
Flare fittings		TISE-MW55 (1/2")	802458			+14	-45 ... +11
		TIE-MW	802446	TI-MW	802445	-	-45 ... +20
TIE-MW55	802456	TI-MW55	802455	+14	-45 ... +11		
R407C	Brazing stainless steel fittings *	TILE-NW (12mm)	802486			-	-45 ... +20
		TILE-NW (1/2")	802485			-	-45 ... +20
	Brazing copper fittings **	TISE-NW (12mm)	802438	TIS-NW (12mm)	802437	-	-45 ... +20
		TISE-NW (1/2")	802440	TIS-NW (1/2")	802439	-	-45 ... +20
	Flare fittings	TIE-NW	802436	TI-NW	802435	-	-45 ... +20
R407A/R407F	Brazing stainless steel fittings *	TILE-NW (12mm)	802486			-	-45 ... 0
		TILE-NW (1/2")	802485			-	-45 ... 0
	Brazing copper fittings **	TISE-NW (12mm)	802438	TIS-NW (12mm)	802437	-	-45 ... 0
		TISE-NW (1/2")	802440	TIS-NW (1/2")	802439	-	-45 ... 0
	Flare fittings	TIE-NW	802436	TI-NW	802435	-	-45 ... 0
		TISE-SAD-20 (12mm)	802474			-20	-45 ... -27
		TISE-SAD-20 (1/2")	802475			-20	-45 ... -27
R22	Brazing stainless steel fittings *	TILE-HW (12mm)	802426			-	-45 ... +20
		TILE-HW (1/2")	802427			-	-45 ... +20
	Brazing copper fittings **	TISE-HW (12mm)	802423	TIS-HW (12mm)	802422	-	-45 ... +20
		TISE-HW (1/2")	802425	TIS-HW (1/2")	802424	-	-45 ... +20
		TISE-HW100 (12mm)	802431			+15	-45 ... +13
	Flare fittings	TISE-HW100 (1/2")	802432			+15	-45 ... +13
TIE-HW		802421	TI-HW	802420	-	-45 ... +20	
R410A	Brazing stainless steel fittings *	TILE-ZW (12mm)	802488			-	-35 ... +20
		TILE-ZW (1/2")	802489			-	-35 ... +20
		TILE-ZW175 (12mm)	802490			+16.4	-35 ... +15
		TILE-ZW175(1/2")	802491			+16.4	-35 ... +15

Note: *) TILE brazing without wet rag ** *) TISE Brazing with wet rag

TI valve bodies without orifice and nuts in single packaging

Refrigerant	Connection	Valves with factory setting and/or new charges					Valve for field setting		
		Type	Ad part no.	Equalizer	Charge	Mop	Type	Part no.	
r448A/ R449A/ R452A	Braze stainless steel fittings *	TILE-BW (12mm)	802418	External	Liquid	No	TILE-SW (12 mm)	802 465	
		TILE-BW (1/2")	802419		Liquid	No	TILE-SW (1/2")	802 466	
	Braze copper fittings **	TISE-BW (12 mm)	802416		Liquid	No	TISE-SW (12 mm)	802 462	
		TISE-BW (1/2")	802417		Liquid	No	TISE-SW (1/2")	802 464	
		TISE-BW30 (1/2")	802495		Vapor	Yes		-	
		TISE-BW30 (12mm)	802494						
		TISE-BW70 (1/2")	-		Vapor	Yes	TISE-SW75 (1/2")	802 472	
		TIS-BW (12 mm)	802414		Internal	Liquid	No	TIS-SW (12 mm)	802 461
	TIS-BW (1/2")	802415	Liquid			No	TIS-SW (1/2")	802 463	
	Flare fittings	TIE-BW	802413		External	Liquid	No	TIE-SW	802 460
TIE-BW70		-	Vapor	Yes		TIE-SW75	802 470		
TI-BW		802412	Internal	Liquid	No	TI-SW	802 459		
R450A	Braze stainless steel fittings *	TILE-DW (12 mm)	-	External	Liquid	No	TILE-MW (12 mm)	802 451	
		TILE-DW (1/2")	-		Liquid	No	TILE-MW (1/2")	802 452	
	Braze copper fittings **	TISE-DW (12 mm)	-		Liquid	No	TISE-MW (12 mm)	802 448	
		TISE-DW (1/2")	-		Liquid	No	TISE-MW (1/2")	802 450	
		TISE-DW55 (12 mm)	-		Vapor	Yes	TISE-MW55 (12 mm)	802 457	
		TISE-DW55 (1/2")	-		Vapor	Yes	TISE-MW55 (1/2")	802 458	
		TIS-DW (12 mm)	-		Internal	Liquid	No	TIS-MW (12 mm)	802 447
		TIS-DW (1/2")	-			Liquid	No	TIS-MW (1/2")	802 449
	Flare fittings	TIE-DW	-		External	Liquid	No	TIE-MW	802 446
		TI-DW	-		Internal	Liquid	No	TI-MW	802 445
R513A	Braze stainless steel fittings *	TILE-CW (12 mm)	-	External	Liquid	No	TILE-MW (12 mm)	802 451	
		TILE-CW (1/2")	-		Liquid	No	TILE-MW (1/2")	802 452	
	Braze copper fittings **	TISE-CW (12 mm)	-		Liquid	No	TISE-MW (12 mm)	802 448	
		TISE-CW (1/2")	-		Liquid	No	TISE-MW (1/2")	802 450	
		TISE-CW55 (12 mm)	-		Vapor	Yes	TISE-MW55 (12 mm)	802 457	
		TISE-CW55 (1/2")	-		Vapor	Yes	TISE-MW55 (1/2")	802 458	
		TIS-CW (12 mm)	-		Internal	Liquid	No	TIS-MW (12 mm)	802 447
		TIS-CW (1/2")	-			Liquid	No	TIS-MW (1/2")	802 449
	Flare fittings	TIE-CW	-		External	Liquid	No	TIE-MW	802 446
		TI-CW	-		Internal	Liquid	No	TI-MW	802 445
R1234ze	Braze copper fittings **	TISE-EW (12 mm)	-	External	Liquid	No	TISE-MW (12 mm)	802 448	
		TISE-EW (1/2")	-		Liquid	No	TISE-MW (1/2")	802 450	
		TISE-EW55 (12 mm)	-		Vapor	Yes	TISE-MW55 (12 mm)	802 457	
		TISE-EW55 (1/2")	-		Vapor	Yes	TISE-MW55 (1/2")	802 458	
		TIS-EW (12 mm)	-		Liquid	No	TIS-MW (12 mm)	802 447	
		TIS-EW (1/2")	-		Liquid	No	TIS-MW (1/2")	802 449	
	Flare fittings	TIE-EW	-		Internal	Liquid	No	TIE-MW	802 446
		TI-EW	-			Liquid	No	TI-MW	802 445

Note: *) TILE Braze without wet rag **) TISE Braze with wet rag

Connections

Body	Inlet connection		Outlet	External equalizer*
	Braze with adapter	Flare		
TI(E) Flare connections	-	5/8"-18UNF Flare suitable for 6 mm, 8 mm, 10 mm, 1/4", 5/16", 3/8" tubes	3/4" - 16UNF Flare: for 12 mm, 1/2" tubes	7/16" - 20UNF Flare: for 6 mm, 1/4" tubes
TIS(E) / TILE Braze connections	TIA - M06 (6 mm ODF) TIA - M10 (10 mm ODF)		12 mm ODF	6 mm ODF
	TIA - 014 (1/4" ODF) TIA - 038 (3/8" ODF)		1/2 ODF	1/4" ODF

Note: *) TI and TIS with internal equalizer