

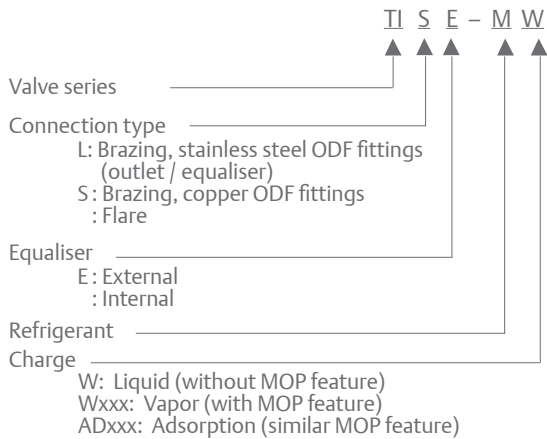
Thermo™ - Expansion Valves Series TI

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 0.5kw 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
- CE Marking acc. PED not required

Type Code



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 |
| 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 | +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 | | | - | -45 ... +20 |
| | | | TILE-MW (1/2") | 802452 | | | - | -45 ... +20 |
| | | Brazing Copper Fittings ** | TISE-MW (12 mm) | 802448 | | TIS-MW (12 mm) | 802447 | - |
| TISE-MW (1/2") | | | 802450 | | TIS-MW (1/2") | 802449 | - | -45 ... +20 |
| TISE-MW55 (12mm) | | | 802457 | | | | +14 | -45 ... +11 |
| TISE-MW55 (1/2") | | | 802458 | | | | +14 | -45 ... +11 |
| Flare Fittings | | 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 |
| | 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 |
| | | TISE-HW100 (1/2") | 802432 | | | | +15 | -45 ... +13 |
| Flare Fittings | | 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 | Brazeing 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 | | |
| | Brazeing 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 | Brazeing 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 | | |
| | Brazeing 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 | Brazeing 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 |
| Brazeing 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 | | Brazeing 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 Brazeing without wet rag **) TISE Brazeing with wet rag

Connections

| Body | Inlet connection | | Outlet | External equalizer* |
|------------------------------------|---|---|--|--|
| | Brazeing with adapter | Flare | | |
| TI(E) Flare connections | - | 5/8" - 18 UNF Flare suitable for 6 mm, 8 mm, 10 mm, 1/4", 5/16", 3/8" tubes | 3/4" - 16 UNF Flare: for 12 mm, 1/2" tubes | 7/16" - 20 UNF 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: *) TIE, TISE and TILE