

## TRAE Stretch Series Thermo™ - expansion valves

For AC, heat pumps, close control, industrial process cooling applications, and transportation AC with HP demand

### Features

- Hermetic valve with brazing connections
- Compact size design
- Compatible with R410A / R407C / R22
- Maximum working pressure: 46.9 bar
- Bi-Flow application
  - Balanced port in normal and reverse flow directions eliminates disturbance forces resulting from condensing pressure
  - Optimum static superheat in normal and reverse flow
  - Capacities performance in normal and reverse flow correlates to capacity of heat pumps in cooling and heating mode
- Desired reverse superheat setting is much suitable for Heat Pump application in heating model.
- Stainless steel power element with special diaphragms design provides life expectancy against high pressure during reversed flow via external equalizer.



### Options

- Special factory setting upon request

### Specifications

- Maximum working pressure: 46.9 bar

### Technical data

Maximum working gauge pressure (bar)	46.9
Burst gauge pressure (bar)	234.5
Compatibility	R410A, R407C, R22

Connections	Copper
Capillary tube length (m)	1.5 (5Ft)
Power element	Stainless Steel
Gross weight (kg)	Approx. 0.50 ~ 0.53 kg (Depend on valve size)

Charge code	System refrig	Maximum bulb temperature (°C)	Evaporating temperature range (°C)
HCA	R22	120	-29 ~ 10
HW100	R22	120	-46 ~ 10
NW100	R407C	120	-46 ~ 10
ZAA	R410A	120	-46 ~ 10

### R410A Selection table

Model	PCN	Capacity, R410A [Tons] <sup>1</sup>	Capacity, R410A [kW] <sup>2</sup>	Connection	
				Inlet × outlet	Equalizer
TRAE 8 ZAA	066797	8	32	5/8 × 7/8 ODF	1/4 ODF
TRAE 10 ZAA	066798	10	40	5/8 × 7/8 ODF	1/4 ODF
TRAE 12 ZAA	066799	12	48	5/8 × 7/8 ODF	1/4 ODF
TRAE 15 ZAA	066800	15	60	5/8 × 7/8 ODF	1/4 ODF
TRAE 15 ZAA	066801	15	60	5/8 × 1-1/8 ODF	1/4 ODF
TRAE 18 ZAA	066802	18	72	5/8 × 1-1/8 ODF	1/4 ODF

1. Nominal capacity is rated at 37.8°C liquid inlet and 4.4°C evap temperature; with 160 Psi pressure drop across TXV per ARI-750.

2. The nominal capacities are based +4°C dew point evaporating temperature, +38°C bubble point condensing temperature and 1K subcooling per Asercom standard.

\*See extended capacity tables for ratings at a wide range of conditions per Asercom standard.

## R407C Selection table

Model	PCN	Capacity, R407C [Ton] <sup>1</sup>	Capacity, R407C [kW] <sup>2</sup>	Connection	
				Inlet × outlet	Equalizer
TRAE 8 NW100	066790	8	36	5/8 × 7/8 ODF	1/4 ODF
TRAE 10 NW100	066791	10	46	5/8 × 7/8 ODF	1/4 ODF
TRAE 12 NW100	066792	12	55	5/8 × 7/8 ODF	1/4 ODF
TRAE 12 NW100	066793	12	55	5/8 × 7/8 ODF	1/4 ODF
TRAE 15 NW100	066794	15	68	5/8 × 1-1/8 ODF	1/4 ODF

1. Nominal capacity is rated at 37.8°C liquid inlet and 4.4°C evap temperature; with 160 Psi pressure drop across TXV per ARI-750.

2. The nominal capacities are based +4°C dew point evaporating temperature, +38°C bubble point (+43°C dew point) condensing temperature and 1K subcooling per Asercom standard.

\*See extended capacity tables for ratings at a wide range of conditions per Asercom standard.

## R22 Selection table

Model	PCN	Capacity, R22 [Tons] <sup>1</sup>	Capacity, R22 [kW] <sup>2</sup>	Connection	
				Inlet × outlet	Equalizer
TRAE 8 HCA	066780	8	32	5/8 × 7/8 ODF	1/4 ODF
TRAE 10 HCA	066781	10	40	5/8 × 7/8 ODF	1/4 ODF
TRAE 12 HCA	066782	12	48	5/8 × 7/8 ODF	1/4 ODF
TRAE 12 HCA	066783	12	48	5/8 × 1-1/8 ODF	1/4 ODF
TRAE 15 HCA	066784	15	61	5/8 × 1-1/8 ODF	1/4 ODF
TRAE 8 HW100	066785	8	32	5/8 × 7/8 ODF	1/4 ODF
TRAE 10 HW100	066786	10	40	5/8 × 7/8 ODF	1/4 ODF
TRAE 12 HW100	066787	12	48	5/8 × 7/8 ODF	1/4 ODF
TRAE 12 HW100	066788	12	48	5/8 × 1-1/8 ODF	1/4 ODF
TRAE 15 HW100	066789	15	61	5/8 × 1-1/8 ODF	1/4 ODF

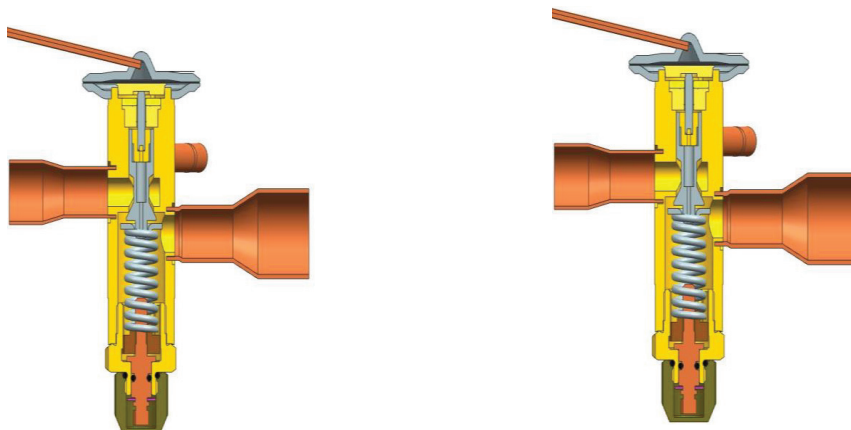
1. Nominal capacity is rated at 37.8°C liquid inlet and 4.4°C evap temperature; with 160 Psi pressure drop across TXV per ARI-750.

2. The nominal capacities are based +4°C dew point evaporating temperature, +38°C bubble point condensing temperature and 1K subcooling per Asercom standard.

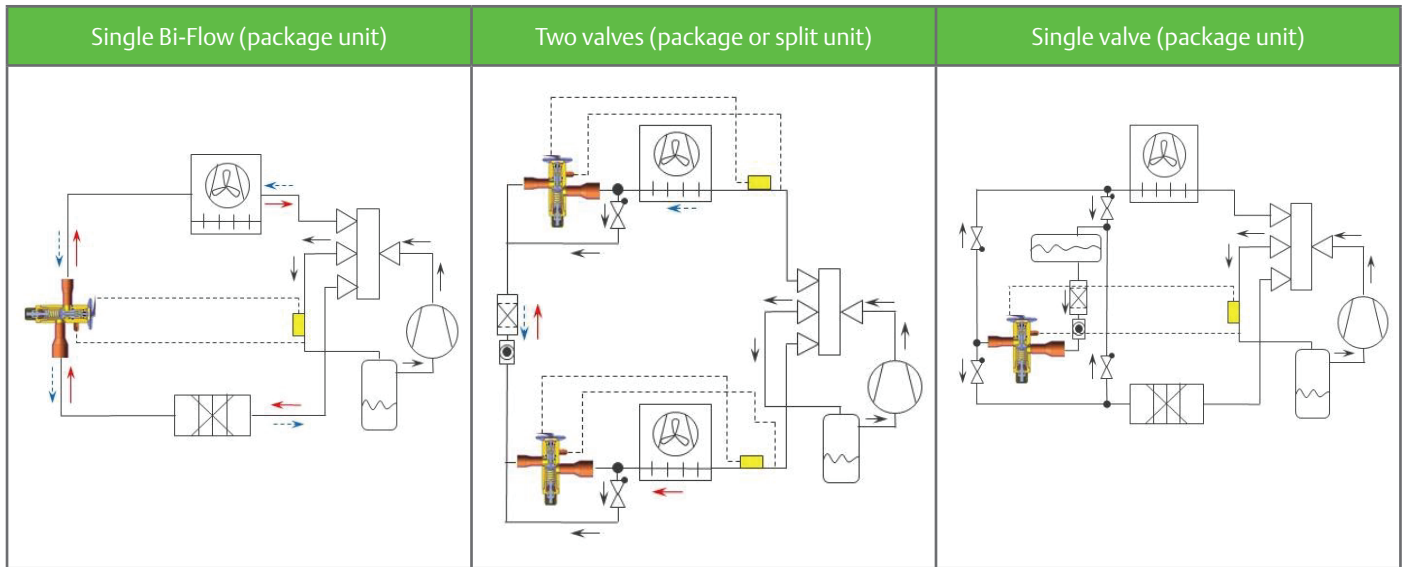
\*See extended capacity tables for ratings at a wide range of conditions per Asercom standard.

## True Bi-flow design

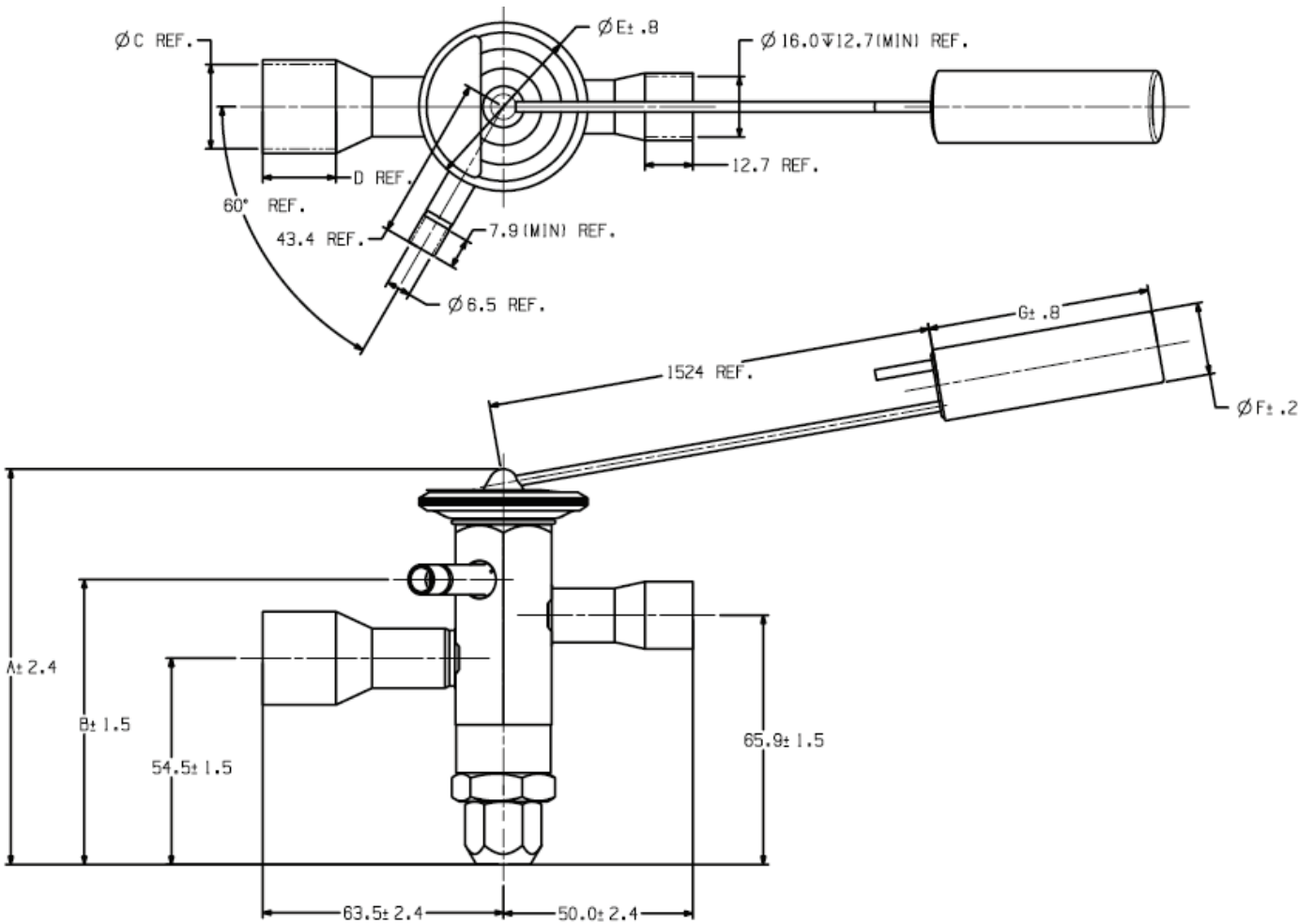
The valve pin is balanced against inlet pressure changes in both flow directions. The inlet pressure impact negatively performance of Thermo™- expansion valves.



## Typical applications in reversible chillers and heat pumps



Note:   
→ : Flow direction in cooling mode   
→ : Flow direction in heating mode   
→ : Flow direction independent from heating and cooling mode



PCN	Model	A	B	C	D	E	F	G
066780	TRAE 8 HCA	103.7	75.3	22.3	19.3	44.4	19.1	58.7
066781	TRAE 10 HCA	103.7	75.3	22.3	19.3	44.4	19.1	58.7
066782	TRAE 12 HCA	107.9	79.5	22.3	19.3	44.4	19.1	58.7
066783	TRAE 12 HCA	107.9	79.5	28.7	23.1	44.4	19.1	58.7
066784	TRAE 15 HCA	107.9	79.5	28.7	23.1	44.4	19.1	58.7
066785	TRAE 8 HW100	103.7	75.3	22.3	19.3	44.4	19.1	58.7
066786	TRAE 10 HW100	103.7	75.3	22.3	19.3	44.4	19.1	58.7
066787	TRAE 12 HW100	107.9	79.5	22.3	19.3	44.4	19.1	58.7
066788	TRAE 12 HW100	107.9	79.5	28.7	23.1	44.4	19.1	58.7
066789	TRAE 15 HW100	107.9	79.5	28.7	23.1	44.4	19.1	58.7
066790	TRAE 8 NW100	103.7	75.3	22.3	19.3	44.4	12.6	53.2
066791	TRAE 10 NW100	103.7	75.3	22.3	19.3	44.4	12.6	53.2
066792	TRAE 12 NW100	107.9	79.5	22.3	19.3	44.4	12.6	53.2
066793	TRAE 12 NW100	107.9	79.5	28.7	23.1	44.4	12.6	53.2
066794	TRAE 15 NW100	107.9	79.5	28.7	23.1	44.4	12.6	53.2
066797	TRAE 8 ZAA	104.5	75.3	22.3	19.3	44.5	19.1	58.7
066798	TRAE 10 ZAA	104.5	75.3	22.3	19.3	44.5	19.1	58.7
066799	TRAE 12 ZAA	104.5	75.3	22.3	19.3	44.5	19.1	58.7
066800	TRAE 15 ZAA	108.7	79.5	22.3	19.3	44.5	19.1	58.7
066801	TRAE 15 ZAA	108.7	79.5	28.7	23.1	44.5	19.1	58.7
066802	TRAE 18 ZAA	108.7	79.5	28.7	23.1	44.5	19.1	58.7

Condensing temperature [°C]	R410A Capacity in normal flow direction [kW]								Model
	Evaporating temperature [°C]								
	10	5	0	-5	-10	-15	-20	-25	
65	25.8	26.1	26.3	26.3	26.2	26.0	25.7	25.4	TRAE 8 ZAA
	32.2	32.6	32.8	32.9	32.8	32.5	32.2	31.7	TRAE 10 ZAA
	38.6	39.1	39.4	39.4	39.3	39.0	38.6	38.1	TRAE 12 ZAA
	48.3	48.9	49.2	49.3	49.1	48.8	48.3	47.6	TRAE 15 ZAA
	58.0	58.7	59.1	59.1	59.0	58.5	57.9	57.1	TRAE 18 ZAA
60	28.3	28.8	29.1	29.3	29.4	29.3	29.1	28.8	TRAE 8 ZAA
	35.4	36.0	36.4	36.6	36.7	36.6	36.4	36.0	TRAE 10 ZAA
	42.5	43.2	43.7	44.0	44.0	43.9	43.6	43.2	TRAE 12 ZAA
	53.1	54.0	54.6	55.0	55.1	54.9	54.6	54.0	TRAE 15 ZAA
	63.7	64.8	65.6	66.0	66.1	65.9	65.5	64.8	TRAE 18 ZAA
55	29.6	30.3	30.8	31.1	31.3	31.3	31.2	31.0	TRAE 8 ZAA
	37.0	37.8	38.5	38.9	39.1	39.1	39.0	38.8	TRAE 10 ZAA
	44.3	45.4	46.2	46.6	46.9	47.0	46.8	46.5	TRAE 12 ZAA
	55.4	56.8	57.7	58.3	58.6	58.7	58.6	58.2	TRAE 15 ZAA
	66.5	68.1	69.2	70.0	70.4	70.5	70.3	69.8	TRAE 18 ZAA
50	29.9	30.9	31.6	32.1	32.4	32.6	32.6	32.5	TRAE 8 ZAA
	37.4	38.6	39.5	40.1	40.5	40.7	40.7	40.6	TRAE 10 ZAA
	44.9	46.3	47.4	48.1	48.6	48.8	48.9	48.7	TRAE 12 ZAA
	56.1	57.9	59.2	60.1	60.7	61.0	61.1	60.9	TRAE 15 ZAA
	67.4	69.5	71.1	72.2	72.9	73.3	73.3	73.1	TRAE 18 ZAA

Condensing temperature [°C]	R410A Capacity in normal flow direction [kW]								Model
	Evaporating temperature [°C]								
	10	5	0	-5	-10	-15	-20	-25	
45	29.6	30.8	31.7	32.4	32.9	33.2	33.3	33.4	TRAE 8 ZAA
	37.0	38.5	39.6	40.5	41.1	41.5	41.7	41.7	TRAE 10 ZAA
	44.4	46.2	47.6	48.6	49.3	49.8	50.0	50.0	TRAE 12 ZAA
	55.5	57.7	59.5	60.8	61.7	62.2	62.5	62.5	TRAE 15 ZAA
	66.6	69.3	71.4	72.9	74.0	74.7	75.0	75.0	TRAE 18 ZAA
40	28.6	30.1	31.3	32.2	32.8	33.3	33.6	33.7	TRAE 8 ZAA
	35.7	37.6	39.1	40.2	41.0	41.6	42.0	42.1	TRAE 10 ZAA
	42.8	45.1	46.9	48.2	49.3	49.9	50.4	50.6	TRAE 12 ZAA
	53.5	56.4	58.6	60.3	61.6	62.4	63.0	63.2	TRAE 15 ZAA
	64.2	67.7	70.3	72.4	73.9	74.9	75.6	75.9	TRAE 18 ZAA
35	26.8	28.7	30.2	31.4	32.3	32.9	33.4	33.6	TRAE 8 ZAA
	33.5	35.9	37.8	39.3	40.4	41.2	41.7	42.1	TRAE 10 ZAA
	40.2	43.1	45.4	47.1	48.4	49.4	50.1	50.5	TRAE 12 ZAA
	50.2	53.9	56.7	58.9	60.6	61.8	62.6	63.1	TRAE 15 ZAA
	60.3	64.6	68.0	70.7	72.7	74.1	75.1	75.7	TRAE 18 ZAA

Quick selection (Included 1.5 bar pressure drop for liquid line components and distributor)

Condensing temperature [°C]	R407C Capacity in normal flow direction [kW]								Model
	Evaporating temperature [°C]								
	10	5	0	-5	-10	-15	-20	-25	
55°C bubble point/ 59.2°C dew point	34.8	35.2	35.3	35.3	35.1	34.8	34.4	33.9	TRAE 8 NW100
	43.5	43.9	44.1	44.1	43.9	43.5	43.0	42.4	TRAE 10 NW100
	52.2	52.7	53.0	52.9	52.7	52.2	51.6	50.8	TRAE 12 NW100
	65.2	65.9	66.2	66.2	65.9	65.3	64.5	63.6	TRAE 15 NW100
50°C bubble point/ 54.4°C dew point	34.6	35.2	35.6	35.7	35.7	35.5	35.2	34.8	TRAE 8 NW100
	43.3	44.0	44.5	44.7	44.6	44.4	44.0	43.5	TRAE 10 NW100
	52.0	52.8	53.4	53.6	53.5	53.3	52.8	52.2	TRAE 12 NW100
	65.0	66.1	66.7	67.0	66.9	66.6	66.0	65.3	TRAE 15 NW100
5°C bubble point/ 49.6°C dew point	34.0	34.8	35.4	35.7	35.8	35.8	35.6	35.3	TRAE 8 NW100
	42.4	43.5	44.2	44.6	44.8	44.7	44.5	44.1	TRAE 10 NW100
	50.9	52.2	53.0	53.5	53.7	53.6	53.4	52.9	TRAE 12 NW100
	63.7	65.2	66.3	66.9	67.1	67.1	66.7	66.1	TRAE 15 NW100
40°C bubble point/ 44.9°C dew point	32.7	33.8	34.6	35.2	35.5	35.6	35.6	35.4	TRAE 8 NW100
	40.9	42.3	43.3	44.0	44.4	44.5	44.4	44.2	TRAE 10 NW100
	49.0	50.7	52.0	52.8	53.2	53.4	53.3	53.0	TRAE 12 NW100
	61.3	63.4	65.0	66.0	66.5	66.8	66.7	66.3	TRAE 15 NW100
35°C bubble point/ 40.1°C dew point	30.9	32.4	33.5	34.2	34.7	35.0	35.1	35.1	TRAE 8 NW100
	38.6	40.4	41.8	42.8	43.4	43.8	43.9	43.8	TRAE 10 NW100
	46.3	48.5	50.2	51.3	52.1	52.5	52.7	52.6	TRAE 12 NW100
	57.9	60.7	62.7	64.2	65.1	65.7	65.9	65.7	TRAE 15 NW100
30°C bubble point/ 35.2°C dew point	28.4	30.3	31.8	32.8	33.6	34.1	34.3	34.4	TRAE 8 NW100
	35.5	37.9	39.7	41.1	42.0	42.6	42.9	43.0	TRAE 10 NW100
	42.5	45.5	47.7	49.3	50.4	51.1	51.5	51.6	TRAE 12 NW100
	53.2	56.9	59.6	61.6	63.0	63.9	64.4	64.5	TRAE 15 NW100
25°C bubble point/ 30.4°C dew point	25.1	27.7	29.6	31.0	32.0	32.7	33.2	33.4	TRAE 8 NW100
	31.3	34.6	37.0	38.7	40.0	40.9	41.5	41.8	TRAE 10 NW100
	37.6	41.5	44.3	46.5	48.0	49.1	49.7	50.1	TRAE 12 NW100
	47.0	51.8	55.4	58.1	60.0	61.3	62.2	62.6	TRAE 15 NW100

Quick selection (Included 1.5 bar pressure drop for liquid line components and distributor)

Condensing temperature [°C]	R22 Capacity in normal flow direction [kW]								Model
	Evaporating temperature [°C]								
	10	5	0	-5	-10	-15	-20	-25	
65	33.5	33.9	34.1	34.2	34.2	34.0	33.8	33.4	TRAE 8 HCA
	41.9	42.4	42.7	42.8	42.7	42.5	42.2	41.8	TRAE 10 HCA
	50.3	50.9	51.2	51.3	51.3	51.0	50.6	50.1	TRAE 12 HCA
	62.9	63.6	64.0	64.2	64.1	63.8	63.3	62.7	TRAE 15 HCA
	33.5	33.9	34.1	34.2	34.2	34.0	33.8	33.4	TRAE 8 HW100
	41.9	42.4	42.7	42.8	42.7	42.5	42.2	41.8	TRAE 10 HW100
	50.3	50.9	51.2	51.3	51.3	51.0	50.6	50.1	TRAE 12 HW100
	62.9	63.6	64.0	64.2	64.1	63.8	63.3	62.7	TRAE 15 HW100
60	33.4	33.9	34.3	34.5	34.6	34.5	34.3	34.1	TRAE 8 HCA
	41.7	42.4	42.8	43.1	43.2	43.1	42.9	42.6	TRAE 10 HCA
	50.0	50.9	51.4	51.7	51.8	51.7	51.5	51.1	TRAE 12 HCA
	62.5	63.6	64.3	64.7	64.8	64.7	64.4	63.9	TRAE 15 HCA
	33.4	33.9	34.3	34.5	34.6	34.5	34.3	34.1	TRAE 8 HW100
	41.7	42.4	42.8	43.1	43.2	43.1	42.9	42.6	TRAE 10 HW100
	50.0	50.9	51.4	51.7	51.8	51.7	51.5	51.1	TRAE 12 HW100
	62.5	63.6	64.3	64.7	64.8	64.7	64.4	63.9	TRAE 15 HW100
55	32.7	33.5	34.0	34.4	34.5	34.6	34.5	34.4	TRAE 8 HCA
	40.9	41.8	42.5	42.9	43.2	43.2	43.2	42.9	TRAE 10 HCA
	49.1	50.2	51.0	51.5	51.8	51.9	51.8	51.5	TRAE 12 HCA
	61.4	62.8	63.8	64.4	64.8	64.9	64.7	64.4	TRAE 15 HCA
	32.7	33.5	34.0	34.4	34.5	34.6	34.5	34.4	TRAE 8 HW100
	40.9	41.8	42.5	42.9	43.2	43.2	43.2	42.9	TRAE 10 HW100
	49.1	50.2	51.0	51.5	51.8	51.9	51.8	51.5	TRAE 12 HW100
	61.4	62.8	63.8	64.4	64.8	64.9	64.7	64.4	TRAE 15 HW100
50	31.7	32.6	33.3	33.9	34.2	34.4	34.4	34.3	TRAE 8 HCA
	39.6	40.8	41.7	42.3	42.7	42.9	43.0	42.9	TRAE 10 HCA
	47.5	48.9	50.0	50.8	51.3	51.5	51.6	51.5	TRAE 12 HCA
	59.4	61.2	62.5	63.5	64.1	64.4	64.5	64.3	TRAE 15 HCA
	31.7	32.6	33.3	33.9	34.2	34.4	34.4	34.3	TRAE 8 HW100
	39.6	40.8	41.7	42.3	42.7	42.9	43.0	42.9	TRAE 10 HW100
	47.5	48.9	50.0	50.8	51.3	51.5	51.6	51.5	TRAE 12 HW100
	59.4	61.2	62.5	63.5	64.1	64.4	64.5	64.3	TRAE 15 HW100
45	31.7	32.6	33.3	33.9	34.2	34.4	34.4	34.3	TRAE 8 HCA
	39.6	40.8	41.7	42.3	42.7	42.9	43.0	42.9	TRAE 10 HCA
	47.5	48.9	50.0	50.8	51.3	51.5	51.6	51.5	TRAE 12 HCA
	59.4	61.2	62.5	63.5	64.1	64.4	64.5	64.3	TRAE 15 HCA
	31.7	32.6	33.3	33.9	34.2	34.4	34.4	34.3	TRAE 8 HW100
	39.6	40.8	41.7	42.3	42.7	42.9	43.0	42.9	TRAE 10 HW100
	47.5	48.9	50.0	50.8	51.3	51.5	51.6	51.5	TRAE 12 HW100
	59.4	61.2	62.5	63.5	64.1	64.4	64.5	64.3	TRAE 15 HW100

Condensing temperature [°C]	R22 Capacity in normal flow direction [kW]								Model
	Evaporating temperature [°C]								
	10	5	0	-5	-10	-15	-20	-25	
40	28.1	29.7	30.9	31.8	32.4	32.9	33.2	33.3	TRAE 8 HCA
	35.1	37.1	38.6	39.7	40.5	41.1	41.5	41.6	TRAE 10 HCA
	42.2	44.5	46.3	47.6	48.6	49.3	49.8	50.0	TRAE 12 HCA
	52.7	55.6	57.9	59.6	60.8	61.7	62.2	62.5	TRAE 15 HCA
	28.1	29.7	30.9	31.8	32.4	32.9	33.2	33.3	TRAE 8 HW100
	35.1	37.1	38.6	39.7	40.5	41.1	41.5	41.6	TRAE 10 HW100
	42.2	44.5	46.3	47.6	48.6	49.3	49.8	50.0	TRAE 12 HW100
	52.7	55.6	57.9	59.6	60.8	61.7	62.2	62.5	TRAE 15 HW100
35	25.5	27.5	29.0	30.2	31.1	31.7	32.1	32.4	TRAE 8 HCA
	31.9	34.4	36.3	37.7	38.8	39.6	40.2	40.5	TRAE 10 HCA
	38.3	41.2	43.5	45.3	46.6	47.5	48.2	48.6	TRAE 12 HCA
	47.8	51.5	54.4	56.6	58.2	59.4	60.2	60.7	TRAE 15 HCA
	25.5	27.5	29.0	30.2	31.1	31.7	32.1	32.4	TRAE 8 HW100
	31.9	34.4	36.3	37.7	38.8	39.6	40.2	40.5	TRAE 10 HW100
	38.3	41.2	43.5	45.3	46.6	47.5	48.2	48.6	TRAE 12 HW100
	47.8	51.5	54.4	56.6	58.2	59.4	60.2	60.7	TRAE 15 HW100

# TRAE+ Series Thermo™ - expansion valves

For refrigeration, air conditioning, heat pump, and chiller applications

The TRAE Plus series is a large capacity valve designed for refrigeration, air conditioning, heat pump, and chiller applications.

## Features

- Suitable for Bi-Flow applications
- Replaceable power element and cage assembly for full serviceability
- Stainless steel power element prevents corrosion and valve failure
- Double balanced port design improves operation and stability over wide loads and evaporator temperature ranges
- Solid copper connections
- External superheat adjustment
- Square body with straight-thru connections
- Large diaphragm provides superior stability
- Permanent inlet strainer



## Options

- Cages (For available cage kits, see T Series)

## Specifications

- Maximum working pressure: 450 psig
- Torque power assembly: 375 - 425 in. lb.
- UR/CUR file number: SA5312

## Model nomenclature example: TRAE+ 30HC10FT7/8X1-1/8ODFS/T

TRA	E	+	30	H	C	10 FT	7/8 X 1-1/8	ODF	S/T
Series	Equalizer	Replaceable components	Capacity	Refrigerant code	Charge code	Capillary tube length	Inlet x outlet connection sizes	Connection type	Configuration
Double balanced port design	E = external 1/4" SAE	Cage and power assembly	Nominal Rating in Tons  (See Nominal Capacity Table below)	+F = R-12 • H = R-22 • M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A	C = medium temp CA = heat pump W(mop) <sup>1</sup> = press. limiting Z = low temp	10 Ft (std)	5/8 X 7/8 7/8 X 1-1/8 1-1 1/2 X 1-3/8	ODF = solder (only)	S/t = Straight-thru (only)

+ = R-12 and R-134a are interchangeable refrigerant charges  
 \* = R-507, R-502 and R-404A are interchangeable refrigerant charges  
 • = R-22 and R-407C are interchangeable refrigerant charges  
<sup>1</sup> Maximum Operating Pressure

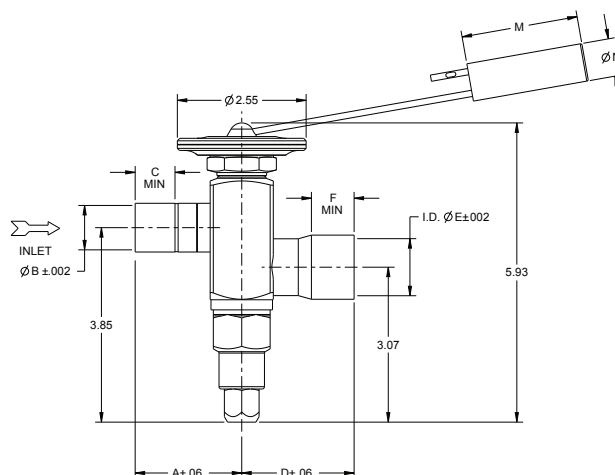
## TRAE+ Series – nominal\* capacity table in Tons (kW)

R-12	R-134a	R-22/R-407C	R-507/R-404A/R-502
7½ (27)	9 (32)	10 (35)	8 (28)
10 (35)	13 (46)	15 (53)	12 (42)
12 (42)	14 (50)	20 (71)	14 (50)
18 (64)	22 (78)	30 (106)	20 (71)
25 (88)	30 (106)	40 (142)	30 (106)

All capacities shown are at 100°F condensing, 40°F evaporator temperature.  
 \*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

## TRAE+ dimensional data (in.)

Connection size		A	B	C	D	E	F
Inlet (ODF)	Outlet (ODF)						
5/8	7/8	1.57	0.629	0.5	2.09	0.879	0.75
5/8	1-1/8	1.57	0.629	0.5	2.21	1.13	0.91
7/8	7/8	2.09	0.879	0.75	2.09	0.879	0.75
7/8	1-1/8	2.09	0.879	0.75	2.21	1.13	0.91
7/8	1-3/8	2.09	0.879	0.75	2.39	1.38	0.97
1-1/8	1-1/8	2.21	1.13	0.91	2.21	1.13	0.91
1-1/8	1-3/8	2.21	1.13	0.91	2.39	1.38	0.97





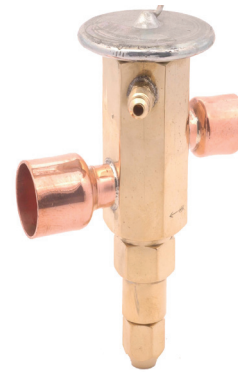
# TRAE Series Thermo™ - expansion Valves

For chiller, heat pump, refrigeration, and air conditioning applications

The TRAE series is a large capacity valve for chiller, heat pump, refrigeration, and air conditioning applications.

## Features

- Suitable for Bi-Flow applications
- Stainless steel power element prevents corrosion and valve failure
- Balanced port design improves valve operation and stability over wide loads and evaporator temperature range
- Solid copper connections
- External superheat adjustment
- Integral body with straight-thru connections
- Large diaphragm provides superior stability



## Specifications

- Maximum Working Pressure: 450 psig
- UR/CUR file number: SA5312

## Model nomenclature example: TRAE 50HC10FT7/8X1-1/8ODFS/T

TRA	E	50	H	C	10 FT	7/8 X 1-1/8	ODF	S/T
Series	Equalizer	Capacity	Refrigerant code	Charge code	Capillary tube length	Inlet x outlet Connection sizes	Connection type	Configuration
Hermetic balanced port design	E = External 1/4" Sae	Nominal Rating in Tons  (See Nominal Capacity Table below)	+F = R-12 • H = R-22 +M = R-134a • N = R-407C *P = R-507 *R = R-502 *S = R-404A	C = medium temp CA = heat pump W(mop) <sup>1</sup> = press. limiting Z = low temp	10 Ft (std)	1/4 X 3/8 3/8 X 1/2 7/8 X 1-1/8	ODF = solder (only)	S/t = straight-thru (only)

+ = R-12 and R-134a are interchangeable refrigerant charges  
 \* = R-507, R-502 and R-404A are interchangeable refrigerant charges  
 • = R-22 and R-407C are interchangeable refrigerant charges  
<sup>1</sup> Maximum Operating Pressure

## TRAE Series – nominal\* capacity table in Tons (kW)

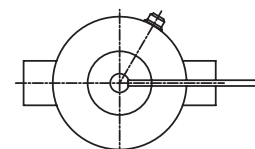
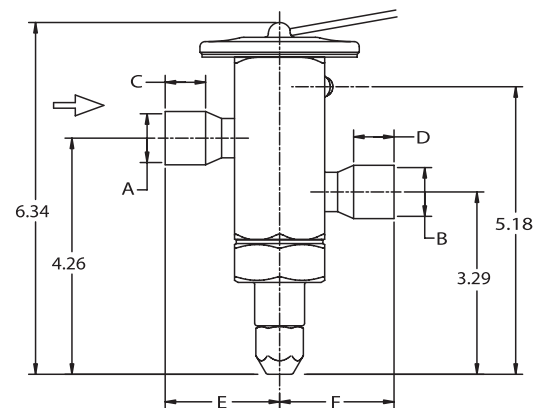
R-12	R-134a	R-22/R-407C	R-507/R-404A/R-502
30 (106)	40 (142)	50 (177)	35 (124)
35 (124)	45 (159)	60 (212)	40 (142)
40 (142)	50 (177)	70 (248)	50 (177)

All capacities shown are at 100°F condensing, 40°F evaporator temperature.  
 \*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

## TRAE dimensional data (in.)

Remote bulb tubing length 10' standard

Connection size		A	B	C MIN	D MIN	E	F
Inlet (ODF)	Outlet (ODF)						
7/8 ODF	7/8 ODF	0.88	0.88	0.75	0.75	2.09	2.09
7/8 ODF	1-1/8 ODF	0.88	1.13	0.75	0.91	2.90	2.21
7/8 ODF	1-3/8 ODF	0.88	1.38	0.75	0.97	2.90	2.39
1-1/8 ODF	1-1/8 ODF	1.13	1.13	0.91	0.91	2.21	2.21
1-1/8 ODF	1-3/8 ODF	1.13	1.38	0.91	0.97	2.21	2.39
1-3/8 ODF	1-3/8 ODF	1.38	1.38	0.91	0.97	2.39	2.39



## Remote bulb table

Remote bulb tubing length	Bulb length
5, 10, 15 ft.	4-7/8
20, 30 ft.	
40, 50 ft.	6-3/16

# TRAE+/TRAE Series Thermo™ - expansion valves

For refrigeration, air conditioning, heat pump, and chiller applications

## Ordering information

Refrigerant	Series	Tons*	Charge	Connections	Cap tube	PCN	
R-22 R-407C R-404A R-134A	TRAE+	10	HC	5/8 X 7/8 ODF S/T	5 FT	062718	
			HCA	5/8 X 7/8 ODF S/T	10 FT	063138	
			HCA	7/8 X 1-1/8 ODF S/T	10 FT	063554	
			HC	7/8 X 1-1/8 ODF S/T	15 FT	063100	
		15	HC	7/8 X 1-1/8 ODF S/T	10 FT	062721	
			HCA	5/8 X 7/8 ODF S/T	10 FT	063510	
			HCA	7/8 X 1-1/8 ODF S/T	10 FT	062722	
			HCA	7/8 X 1-3/8 ODF S/T	10 FT	063141	
			HW100	5/8 X 7/8 ODF S/T	10 FT	063103	
			20	HC	7/8 X 1-3/8 ODF S/T	10 FT	063650
				HCA	7/8 X 1-1/8 ODF S/T	10 FT	062725
				HCA	1-1/2 X 1-1/8 ODF S/T	10 FT	064581
		HW90		7/8 X 1-1/8 ODF S/T	15 FT	064018	
		HC		7/8 X 1-1/8 ODF S/T	10 FT	062724	
		SC		7/8 X 1-1/8 ODF S/T	10 FT	063461	
		SZ		5/8 X 7/8 ODF S/T	10 FT	064923	
		30		HC	7/8 X 1-1/8 ODF S/T	10 FT	062727
			HC	1-1/8 X 1-3/8 ODF S/T	10 FT	062728	
			HCA	1-1/8 X 1-3/8 ODF S/T	10 FT	062730	
			HW100	7/8 X 1-3/8 ODF S/T	5 FT	063425	
			MC	1-1/8 X 1-3/8 ODF S/T	10 FT	064001	
			40	HC	1-1/8 X 1-3/8 ODF S/T	10 FT	062733
		HC		1-1/8 X 1-3/8 ODF S/T	15 FT	063153	
		HCA		1-1/8 X 1-3/8 ODF S/T	10 FT	062734	
		TRAE	35	SC	1-1/8 X 1-3/8 ODF S/T	10 FT	064217
			40	MC	1-1/8 X 1-3/8 ODF S/T	15 FT	063941
			50	HC	1-1/8 X 1-3/8 ODF S/T	10 FT	061700
			60	HC	1-1/8 X 1-3/8 ODF S/T	10 FT	061865
	70		HC	1-1/8 X 1-3/8 ODF S/T	10 FT	061866	

(+) Replaceable power assembly

## Cage replacement kits for TRAE+ Series Valves

Cage kits are cross referenced by capacity and tonnage in the table below. Each cage kit consists of a replacement cage and cage removal wrench. In addition, the cage removal wrench (KT-20294) can be ordered as a separate item

PCN	TRAE+ KIT Model	Nominal capacity - Tons		
		R-22	R-12/R-134a	R-507/R-404A/ R-502
063387	KT-20289	10	9	8
063388	KT-20290	15	13	12
063389	KT-20291	20	14	14
063390	KT-20292	30	22	20
063391	KT-20293	40	30	30
063392	KT-20294	Cage wrench kit for all tonnages		

## Replacement parts

Description	Model	PCN
Power assembly	X-28458HCA-2	063414
	X-28458MC-3	063593
	X-28458SC-2	065439
	X-28458HW100-2	063416
	X-28458SW45-2	065298
Seal nut	27676-1	058707