

THERMOSTATIC EXPANSION VALVES



*FLEXIBILITY OF CHOICE
INCREASED MECHANICAL STRENGTH*

SANHUA

“Yearly SANHUA supplies over 40 million thermostatic and electronic expansion valves to the HVAC&R and Automotive industries worldwide.”

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RFKH SERIES**THERMOSTATIC EXPANSION VALVE**

RFKH series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems like freezers, ice makers, dehumidifiers as well as air conditioners and heat pumps at various evaporation temperature ranges.

**FEATURES**

- STAINLESS STEEL CAPILLARY AND SENSING BULB
- EXCHANGEABLE VALVE ORIFICE, EASY TO STOCK HOLDING, CONVENIENT FOR CAPACITY MATCH AND REPAIR
- THERMAL BULB UTILIZES CROSS CHARGE TECHNOLOGY, PROVIDING CONSISTENT SUPERHEAT DEGREE OVER THE WHOLE EVAPORATION TEMPERATURE RANGE
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN A WIDE EVAPORATION TEMPERATURE RANGE
- RELIABLE AND CONSISTENT PERFORMANCE OF SUPERHEAT CONTROL

GENERAL SPECIFICATIONS

- Applicable for all common HCFC and HFC refrigerants such as: R22, R407C, R404A, R507, R134a, R404A, R410A, R407A, R407F, R448A/R449A, R452A, R450A/R513A, R455A, R454C
- Ambient temperature min./max.: -35°C / +55°C
- Medium temperature TS min./max.: -40°C / +70°C extended to -60°C / +70°C for range B models
- Max. operating pressure PS: 4.6 MPa (46 bar)
- Installation position:
 - Preferably valve head upwards
 - Flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration

THERMOSTATIC EXPANSION VALVE



TECHNICAL PARAMETERS

- RFKH series angle shape valve
- Inlet 3/8" flare connection
- Capillary tube length 1,5m
- Equalization port:
 - RFKH flare/flare type with 1/4" flare connection;
 - RFKH flare/solder type with 1/4" or 6mm solder connection

MODEL DESIGNATION LEGEND

| Position Number | Model Designation Legend | |
|-----------------|------------------------------|-----------------------------------|
| 1 | Product Code | Product Series |
| | RFKH | Thermostatic expansion valve |
| 2 | Refrigerant | Description |
| | 01 | R22 |
| | 02 | R407C |
| | 03 | R404A / R507A |
| | 04 | R134a |
| | 05 | R410A |
| | 07 | R407A / R407F |
| | 08 | R448A / R449A |
| | 10 | R450A |
| | 11 | R452A |
| | 14 | R513A |
| | 20 | R455A / R454C |
| 3 | Pressure Equalization | Description |
| | E | External pressure equalization |
| | (Omitted) | Internal pressure equalization |
| 4 | Miscellaneous | Description |
| | xxxx | Digits for additional information |

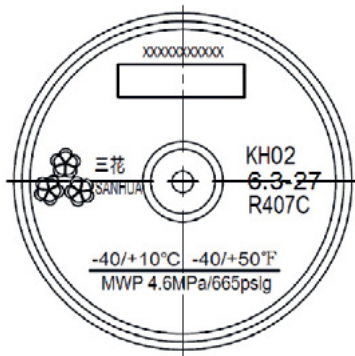
THERMOSTATIC EXPANSION VALVE



MODEL DESIGNATION EXAMPLE

| Position Number | | | | | According to Model Designation Legend |
|-----------------|-----------|----------|------------|------------|---|
| 1 | 2 | 3 | 4 | 5 | |
| RFKH | 01 | E | xxx | xxx | Thermostatic expansion valve |
| RFKH | 01 | E | xxx | xxx | Refrigerant R22 |
| RFKH | 01 | E | xxx | xxx | Connection for external pressure equalization |
| RFKH | 01 | E | xxx | xxx | Nominal Capacity (in USRT) |
| RFKH | 01 | E | xxx | xxx | Digits for additional information |

MODELS DESIGNATION (VALVE HEAD)



| Code | Description |
|---------------|------------------------------|
| KH11E-4.5-323 | Part number |
| MOP 45/-10°C | With MOP |
| -40/-15°F | Evaporating temperature (°C) |
| -40/+5°F | Evaporating temperature (°F) |
| R452A | Refrigerant |
| MWP 4.6Mpa | Max. Working Pressure (MPa) |
| MWP 665psig | Max. Working Pressure (Psig) |

MODELS WITH MOP FUNCTION

RFKH valves can be selected with MOP (Max. Operating Pressure) function.

MOP protects the compressor motor against excessive evaporating pressure during normal operation.

| Refrigerant | Range N (-40°C to +10°C) | Range NM (-40°C to -5°C) | Range NL (-40°C to -15°C) | Range B (-60°C to -25°C) |
|---------------|-----------------------------|-----------------------------|------------------------------|-----------------------------|
| | MOP = +15°C | MOP = 0°C | MOP = -10°C | MOP = -20°C |
| R22 | 6,9 barg - STD | 4,0 barg - O.R. | 2,5 barg - STD | N.A. |
| R407C | 6,6 barg - STD | N.A. | N.A. | N.A. |
| R404A / R507 | 8,4 barg - STD | 5,0 barg - O.R. | 3,3 barg - STD | 2,0 barg - STD |
| R134a | 3,9 barg - STD | 1,9 barg - O.R. | 1,0 barg - O.R. | N.A. |
| R410A | 11,5 barg - STD | 7,0 barg - O.R. | 4,7 barg - STD | N.A. |
| R407A / R407F | 7,9 barg - STD | N.A. | N.A. | N.A. |
| R448A / R449A | 7,3 barg - O.R. | 4,2 barg - O.R. | 2,6 barg - STD | 1,5 barg - O.R. |
| R450A | 3,2 barg - O.R. | 1,5 barg - O.R. | 0,7 barg - O.R. | N.A. |
| R452A | 8,0 barg - O.R. | 4,6 barg - O.R. | 3,0 barg - STD | 1,7 barg - STD |
| R513A | 4,3 barg - O.R. | 2,3 barg - O.R. | 1,3 barg - O.R. | N.A. |
| R455A | 6,8 barg - O.R. | 3,8 barg - O.R. | 2,4 barg - O.R. | N.A. |
| R454C | 6,3 barg - O.R. | 3,5 barg - O.R. | 2,2 barg - O.R. | N.A. |

Note: STD : Standard product
O.R. : On Request
N.A. : Not Available

THERMOSTATIC EXPANSION VALVE

TECHNICAL PARAMETERS

Tab. A : Models with Range N : Temperature Range from -40°C to +10°C [without MOP]

| Ref. | Model Valve Body | Part Number ^{1 & 4)} | Connection type | Inlet ØA | Outlet ØB | | | Ext. ØC | | |
|---------------|------------------|-----------------------------------|---------------------------------|----------|-----------|--------|--------|---------|--------|--------|
| | | | In / Out / Ext. Pressure Equal. | Flare | Flare | Solder | | Flare | Solder | Solder |
| | | | | [inch] | [inch] | [mm] | [inch] | [inch] | [inch] | [mm] |
| R22 | RFKH 01-6.0-22 | 10201002502 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH01E-6.0-13 | 10201002402 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH01-6.0-26 | 10201002602 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH01E-6.0-06 | 10201002102 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH01-6.0-07 | 10201002202 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH01E-6.0-08 | 10201002302 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R407C | RFKH02-6.3-24 | 10201002902 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH02E-6.3-20 | 10201002802 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH02-6.3-27 | 10201003002 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH02E-6.3-28 | 10201003102 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH02-6.3-32 | 10201003202 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH02E-6.3-18 | 10201002702 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R404A / R507A | RFKH03-4.8-21 | 10201003702 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH03E-4.8-15 | 10201003802 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH03-4.8-03 | 10201003402 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH03E-4.8-02 | 10201003302 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH03-4.8-09 | 10201003502 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH03E-4.8-10 | 10201003602 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R134a | RFKH04-2.9-23 | 10201004102 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH04E-2.9-19 | 10201004002 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH04-2.9-29 | 10201004202 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH04E-2.9-17 | 10201003902 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH04-2.9-30 | 10201004302 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH04E-2.9-31 | 10201004402 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |
| R410A | RFKH05-7.6-66 | 10201005702 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH05E-7.6-33 | 10201005202 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH05-7.6-37 | 10201005602 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH05E-7.6-36 | 10201005502 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH05-7.6-35 | 10201005402 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH05E-7.6-34 | 10201005302 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |
| R407A / R407F | RFKH07-6.0-43 | 10201004802 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH07E-6.0-42 | 10201004702 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH07-6.0-44 | 10201004902 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH07E-6.0-41 | 10201004602 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH07-6.0-45 | 10201005002 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH07E-6.0-46 | 10201005102 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |

THERMOSTATIC EXPANSION VALVE

TECHNICAL PARAMETERS

Tab. A : Models with Range N : Temperature Range from -40°C to +10°C [without MOP]

| Ref. | Model Valve Body | Part Number ^{1 & 4)} | Connection type | Inlet ØA | Outlet ØB | | | Ext. ØC | | |
|---------------|------------------|-----------------------------------|---------------------------------|----------|-----------|--------|--------|---------|--------|--------|
| | | | In / Out / Ext. Pressure Equal. | Flare | Flare | Solder | | Flare | Solder | Solder |
| | | | | [inch] | [inch] | [mm] | [inch] | [inch] | [inch] | [mm] |
| R448A / R449A | RFKH08-6.1-49 | 10201012802 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH08E-6.1-48 | 10201012402 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH08-6.1-50 | 10201013302 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH08E-6.1-47 | 10201012302 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH08-6.1-51 | 10201012502 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH08E-6.1-52 | 10201012602 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R450A | RFKH10-2.8-61 | 10201016102 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH10E-2.8-60 | 10201016002 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH10-2.8-72 | 10201016202 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH10E-2.8-59 | 10201015902 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH10-2.8-63 | 10201016302 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH10E-2.8-64 | 10201016402 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R452A | RFKH11-4.5-55 | 10201013602 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH11E-4.5-54 | 10201013502 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH11-4.5-56 | 10201013702 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH11E-4.5-53 | 10201013402 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH11-4.5-57 | 10201013802 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH11E-4.5-58 | 10201013902 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R513A | RFKH14-2.7-68 | 10201016802 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH14E-2.7-67 | 10201016702 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH14-2.7-70 | 10201016902 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH14E-2.7-65 | 10201016502 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH14-2.7-71 | 10201017002 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH14E-2.7-76 | 10201017102 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R455A / R454C | RFKH20-4.3-80 | 10201024902 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH20E-4.3-79 | 10201024802 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH20-4.3-81 | 10201025002 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH20E-4.3-78 | 10201024702 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH20-4.3-82 | 10201024502 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH20E-4.3-83 | 10201024402 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |

THERMOSTATIC EXPANSION VALVE

Tab. B : Models with Range N : Temperature Range from -40°C to +10°C [with MOP = +15°C]

| Ref. | Model Valve Body | Part Number ^{1 & 4)} | Connection type | Inlet ØA | Outlet ØB | | | Ext. ØC | | |
|---------------|------------------|-----------------------------------|---------------------------------|----------|-----------|--------|--------|---------|--------|--------|
| | | | In / Out / Ext. Pressure Equal. | Flare | Flare | Solder | | Flare | Solder | Solder |
| | | | | [inch] | [inch] | [mm] | [inch] | [inch] | [inch] | [mm] |
| R22 | RFKH 01-6.0-205 | 10201006702 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH01E-6.0-204 | 10201006602 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH01-6.0-206 | 10201008102 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH01E-6.0-201 | 10201006302 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH01-6.0-202 | 10201006402 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH01E-6.0-203 | 10201006502 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R407C | RFKH02-6.3-209 | 10201007602 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH02E-6.3-208 | 10201007502 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH02-6.3-210 | 10201007702 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH02E-6.3-211 | 10201007802 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH02-6.3-212 | 10201007902 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH02E-6.3-207 | 10201007402 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R404A / R507A | RFKH03-4.8-218 | 10201008702 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH03E-4.8-217 | 10201008502 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH03-4.8-214 | 10201008302 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH03E-4.8-213 | 10201008202 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH03-4.8-215 | 10201008402 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH03E-4.8-216 | 10201008602 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R134a | RFKH04-2.9-221 | 10201009502 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH04E-2.9-220 | 10201009402 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH04-2.9-223 | 10201009702 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH04E-2.9-219 | 10201009302 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH04-2.9-222 | 10201009602 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH04E-2.9-224 | 10201009802 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |
| R410A | RFKH05-7.6-230 | 10201010402 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH05E-7.6-225 | 10201009902 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH05-7.6-229 | 10201010302 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH05E-7.6-228 | 10201010202 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH05-7.6-227 | 10201010102 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH05E-7.6-226 | 10201010002 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |
| R407A / R407F | RFKH07-6.0-233 | 10201011302 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH07E-6.0-232 | 10201011202 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH07-6.0-234 | 10201011402 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH07E-6.0-231 | 10201011102 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH07-6.0-235 | 10201011502 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH07E-6.0-236 | 10201011602 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |

THERMOSTATIC EXPANSION VALVE


Tab. C : Models with Range NL : Temperature Range from -40°C to -15°C [with MOP = -10°C]

| Ref. | Model Valve Body | Part Number ^{1 & 4)} | Connection type | Inlet ØA | Outlet ØB | | | Ext. ØC | | |
|---------------|------------------|-----------------------------------|---------------------------------|----------|-----------|--------|--------|---------|--------|--------|
| | | | In / Out / Ext. Pressure Equal. | Flare | Flare | Solder | | Flare | Solder | Solder |
| | | | | [inch] | [inch] | [mm] | [inch] | [inch] | [inch] | [mm] |
| R22 | RFKH 01-6.0-305 | 10201007202 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH01E-6.0-304 | 10201007102 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH01-6.0-306 | 10201007302 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH01E-6.0-301 | 10201006802 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH01-6.0-302 | 10201006902 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH01E-6.0-303 | 10201008002 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R404A / R507A | RFKH03-4.8-312 | 10201009202 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH03E-4.8-311 | 10201009102 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH03-4.8-308 | 10201008902 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH03E-4.8-307 | 10201008802 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH03-4.8-309 | 10201009002 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH03E-4.8-310 | 10201005802 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R410A | RFKH05-7.6-318 | 10201011002 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH05E-7.6-313 | 10201010502 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH05-7.6-317 | 10201010902 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH05E-7.6-316 | 10201010802 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH05-7.6-315 | 10201010702 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH05E-7.6-314 | 10201010602 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |
| R448A / R449A | RFKH08-6.1-315 | 10201019702 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH08E-6.1-314 | 10201019602 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH08-6.1-316 | 10201019802 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH08E-6.1-313 | 10201019902 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH08-6.1-317 | 10201012902 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH08E-6.1-318 | 10201013002 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R452A | RFKH11-4.5-320 | 10201020002 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH11E-4.5-319 | 10201014202 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH11-4.5-321 | 10201014002 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH11E-4.5-324 | 10201014102 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH11-4.5-322 | 10201013102 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH11E-4.5-323 | 10201013202 | flare / solder / solder | | - | - | 1/2 | - | - | 1/4 |

- Note:**
- 1) Extent of delivery: valve body and bulb strap
 - 2) Different evaporation temperature range on request
 - 3) MOP function on request
 - 4) Part Number is referred to Multi Pack

THERMOSTATIC EXPANSION VALVE

Tab. D : Models with Range B : Temperature Range from -60°C to -25°C [without MOP]

| Ref. | Model Valve Body | Part Number ^{1 & 4)} | Connection type | Inlet ØA | Outlet ØB | | | Ext. ØC | | |
|---------------|------------------|-----------------------------------|---------------------------------|----------|-----------|--------|--------|---------|--------|--------|
| | | | In / Out / Ext. Pressure Equal. | Flare | Flare | Solder | | Flare | Solder | Solder |
| | | | | [inch] | [inch] | [mm] | [inch] | [inch] | [inch] | [mm] |
| R404A / R507A | RFKH03-4.8-106 | 10201017902 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH03E-4.8-105 | 10201017802 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH03-4.8-102 | 10201017502 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH03E-4.8-101 | 10201017402 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH03-4.8-103 | 10201017602 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH03E-4.8-104 | 10201017702 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |

Tab. E : Models with Range B : Temperature Range from -60°C to -25°C [with MOP -20°C]

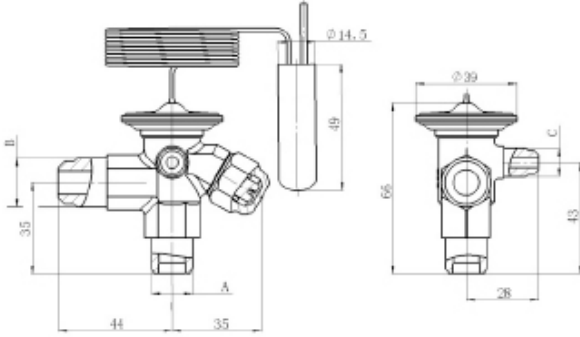
| Ref. | Model Valve Body | Part Number ^{1 & 4)} | Connection type | Inlet ØA | Outlet ØB | | | Ext. ØC | | |
|---------------|------------------|-----------------------------------|---------------------------------|----------|-----------|--------|--------|---------|--------|--------|
| | | | In / Out / Ext. Pressure Equal. | Flare | Flare | Solder | | Flare | Solder | Solder |
| | | | | [inch] | [inch] | [mm] | [inch] | [inch] | [inch] | [mm] |
| R404A / R507A | RFKH03-4.8-406 | 10201015602 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH03E-4.8-405 | 10201014402 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH03-4.8-402 | 10201015802 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH03E-4.8-401 | 10201015302 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH03-4.8-403 | 10201015402 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH03E-4.8-404 | 10201015502 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |
| R452A | RFKH11-4.5-409 | 10201014802 | flare / flare | 3/8 | 1/2 | - | - | - | - | - |
| | RFKH11E-4.5-408 | 10201014302 | flare / flare / flare | | 1/2 | - | - | 1/4 | - | - |
| | RFKH11-4.5-410 | 10201015002 | flare / solder | | - | 12 | - | - | - | - |
| | RFKH11E-4.5-407 | 10201014702 | flare / solder / solder | | - | 12 | - | - | - | 6 |
| | RFKH11-4.5-411 | 10201015102 | flare / solder | | - | - | 1/2 | - | - | - |
| | RFKH11E-4.5-412 | 10201015202 | flare / solder / solder | | - | - | 1/2 | - | 1/4 | - |

- Note:**
- 1) Extent of delivery: valve body and bulb strap
 - 2) Different evaporation temperature range on request
 - 3) MOP function on request
 - 4) Part Number is referred to Multi Pack

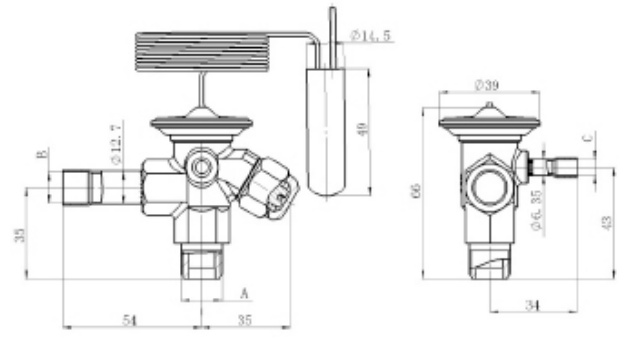
THERMOSTATIC EXPANSION VALVE



DIMENSIONS



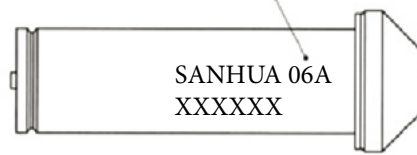
Valve Body - Connection Type: flare/flare/flare



Valve Body - Connection Type: flare/solder/solder

ACCESSORIES

Orifice Number



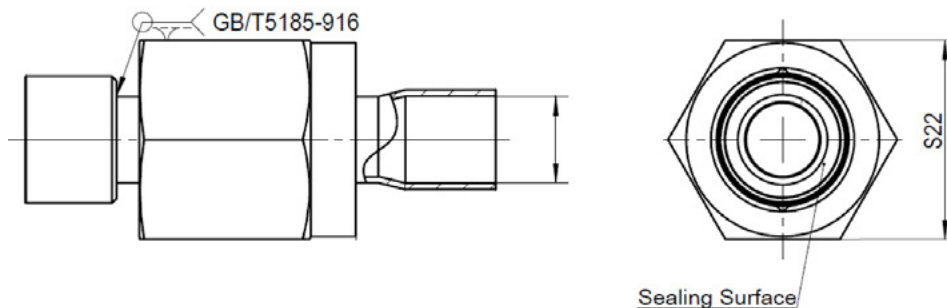
ORIFICES

| Orifice Number | Valve Orifice Model | Valve Orifice Part Number | Nominal Capacity ¹⁾ [kW] | | | | | |
|----------------|---------------------|---------------------------|--|-------|----------------|-------|-------|----------------|
| | | | R22 | R407C | R404A R507A | R134a | R410A | R407A R407F |
| 0X | RFKH-023-0X | 10202001702 | 1 | 1 | 0,7 | 0,69 | 1,3 | 1 |
| 0 | RFKH-023-00 | 10202001002 | 1,9 | 2,1 | 1,4 | 1,2 | 2,5 | 1,8 |
| 1 | RFKH-023-01 | 10202001102 | 3,8 | 4 | 2,8 | 2,1 | 5 | 3,7 |
| 2 | RFKH-023-02 | 10202001202 | 5,1 | 5,4 | 4 | 2,7 | 6,2 | 5,1 |
| 3 | RFKH-023-03 | 10202001302 | 8,6 | 9,2 | 6,8 | 4,4 | 11,2 | 8,6 |
| 4 | RFKH-023-04 | 10202001402 | 13,2 | 13,9 | 10,8 | 6,5 | 17 | 13,4 |
| 5 | RFKH-023-05 | 10202001502 | 18,1 | 18,5 | 14,1 | 8,6 | 21,3 | 17,6 |
| 6 | RFKH-023-06 | 10202001602 | 21,3 | 22,1 | 16,8 | 10,3 | 26,8 | 21,2 |

| Orifice Number | Valve Orifice Model | Valve Orifice Part Number | Nominal Capacity ¹⁾ [kW] | | | | | | |
|----------------|---------------------|---------------------------|--|-------|-------|-------|-------|-------|-------|
| | | | R448A | R449A | R450A | R452A | R513A | R455A | R454C |
| 0X | RFKH-023-0X | 10202001702 | 1,1 | 1,0 | 0,6 | 0,8 | 0,6 | 0,6 | 0,6 |
| 0 | RFKH-023-00 | 10202001002 | 2,1 | 2,0 | 1,1 | 1,5 | 1,0 | 1,3 | 1,2 |
| 1 | RFKH-023-01 | 10202001102 | 4,0 | 4,0 | 1,9 | 3,0 | 1,8 | 2,5 | 2,4 |
| 2 | RFKH-023-02 | 10202001202 | 5,0 | 4,9 | 2,3 | 3,7 | 2,2 | 3,5 | 3,3 |
| 3 | RFKH-023-03 | 10202001302 | 8,9 | 8,8 | 4,2 | 6,7 | 4,0 | 6,0 | 5,8 |
| 4 | RFKH-023-04 | 10202001402 | 13,6 | 13,4 | 6,3 | 10,1 | 6,1 | 9,8 | 9,4 |
| 5 | RFKH-023-05 | 10202001502 | 17,0 | 16,8 | 7,9 | 12,7 | 7,6 | 12,6 | 12,1 |
| 6 | RFKH-023-06 | 10202001602 | 21,4 | 21,1 | 9,9 | 16,0 | 9,6 | 15,1 | 14,5 |

- Note:**
- 1) Nominal working conditions: Condensing temperature 38°C; evaporating temperature +4,4°C; liquid temperature 37°C
 - 2) R407C data based on dew point conditions
 - 3) Nominal capacity based on
 - Static Superheat (SS) 5K (for models without MOP) and 4K (for models with MOP)
 - Opening Superheat(OS) 6K

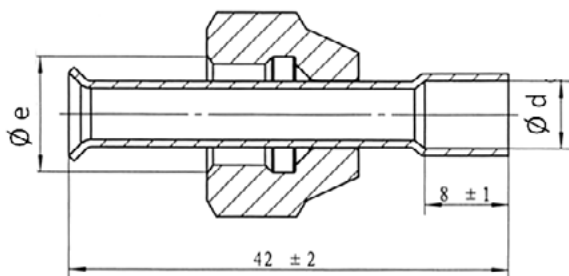
THERMOSTATIC EXPANSION VALVE



SOLDER ADAPTERS FOR RFKH INLET A

| Model | Part Number ¹⁾ | SAE Flare Ø e | Solder Connection Ø d |
|----------------|---------------------------|------------------|--------------------------|
| RFK-A04-038010 | 20200001602 | 3/8" | 3/8" |
| RFK-A04-038011 | 20201002502 | | 10mm |
| RFK-A04-038012 | 20201002602 | | 1/4" |
| RFK-A04-038013 | 20201002702 | | 6mm |

Note: 1) Copper pipe and flare nut are in the extent of delivery



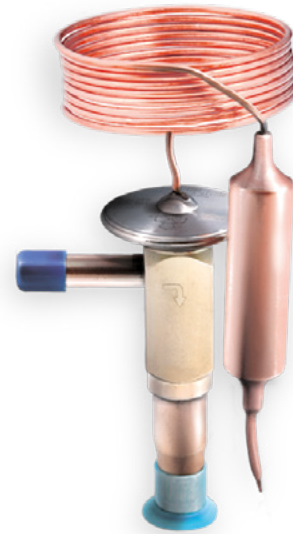
SOLDER ADAPTERS FOR RFKH EXTERNAL PRESSURE EQUALIZATION C

| Model | Part Number ¹⁾ | SAE Flare Ø e | Solder Connection Ø d |
|-------------|---------------------------|------------------|--------------------------|
| RFKA-038-03 | 20201000502 | 1/4" | 6mm |
| RFKA-038-04 | 20201000602 | | 1/4" |

Note: 1) Copper pipe and flare nut are in the extent of delivery

RFGB SERIES**THERMOSTATIC EXPANSION VALVE**

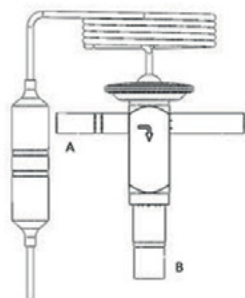
RFGB series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems like commercial refrigerators and freezers, icemakers, dehumidifiers as well as air conditioners at various evaporation temperature.

**FEATURES**

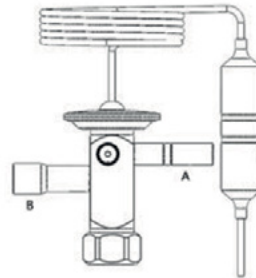
- COMPACT DESIGN WITH BUILT-IN ORIFICE
- WARM THERMO HEAD CONSTRUCTION
- ALL CONNECTIONS PIPES ARE COMPLETELY IN COPPER
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN A WIDE EVAPORATION TEMPERATURE RANGE
- RELIABLE AND CONSISTENT PERFORMANCE OF SUPERHEAT CONTROL

GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC refrigerants such as: R22, R134a, R404A, R407C, R507A...
- Ambient temperature min./max.: -35/+55°C
- Medium temperature TS min./max.: -40°C / +70°C
- Max. operating pressure PS: 3,5 MPa (35 bar)
- Installation position: - Preferably valve head upwards
- Flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration

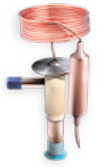


Angle version



Straight version

THERMOSTATIC EXPANSION VALVE



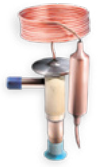
TECHNICAL PARAMETERS

- RFCB valve available in straight shape with adjustable superheat on site
- RFCB valve available in angle shape with fixed factory superheat settings
- Both versions are available with the following solder connections
 - Metric: Inlet 6mm ODF/ Outlet 10mm ODF or Inlet 10mm ODF/ Outlet 12mm ODF
 - Imperial: Inlet 1/4" ODF/ Outlet 3/8" ODF or Inlet 3/8" ODF/ Outlet 1/2" ODF
- Equalization port available as option:
 - Metric: 6mm ODF (available for models with metric solder connections)
 - Imperial: 1/4" ODF (available for models with imperial solder connections)
- Capillary tube length 800mm

MODEL DESIGNATION LEGEND

| Position Number | Model Designation Legend | |
|-----------------|------------------------------|--|
| 1 | Product Code | Product Series |
| | RFCB | Thermostatic expansion valve with build-in orifice |
| 2 | Refrigerant | Description |
| | 1 | R22 |
| | 2 | R407C |
| | 3 | R404A / R507A |
| | 4 | R134a |
| | 6 | R290 |
| 3 | Pressure Equalization | Description |
| | E | External pressure equalization |
| | (Omitted) | Internal pressure equalization |
| 4 | Valve Size | Internal Orifice Size |
| | From 1 to 5 | Valve size: proportional to the orifice size and to the nominal capacity |
| 5 | Valve Shape | Description |
| | S | Straight Version |
| | A | Angle Version |
| 6 | Connections Type | Description |
| | Mx | Metric: M6 inlet 6mm ; M10 inlet 10mm |
| | Ix | Imperial: I2 inlet 1/4" ; I3 inlet 3/8" |
| 7 | Miscellaneous | Description |
| | xxx | Digits for additional information e.g. static superheat, MOP, Bleed... |

THERMOSTATIC EXPANSION VALVE



MODEL DESIGNATION EXAMPLE

| Position Number | | | | | According to Model Designation Legend |
|-----------------|-----------|----------|------------|------------|--|
| 1 | 2 | 3 | 4 | 5 | |
| RFGB | 04 | E | 1.0 | xxx | Thermostatic expansion valve with build-in orifice |
| RFGB | 04 | E | 1.0 | xxx | Refrigerant: R134a |
| RFGB | 04 | E | 1.0 | xxx | With connection for external pressure equalization |
| RFGB | 04 | E | 1.0 | xxx | Nominal Capacity (expressed in USRT) |
| RFGB | 04 | E | 1.0 | xxx | Additional digits |


MODELS DESIGNATION (VALVE HEAD)



| Code | Description |
|---------------|------------------------------|
| GB06E-1.0-518 | Model |
| -40/+10°C | Evaporating temperature (°C) |
| -40/+50°F | Evaporating temperature (°F) |
| R290 | Refrigerant |
| MWP 3.5Mpa | Max. Working Pressure (MPa) |
| MWP 505psig | Max. Working Pressure (Psig) |

FIXING BULB OPTIONS

For customized RFCB thermostatic expansion valves it is possible to select the preferred bulb mounting element. The available options are the following two:

| | | |
|-------|---|---|
| Strap |  | Suitable for Tube diameter: 1/4"; 3/8"; 1/2"; 5/8"; 3/4"; 7/8"; 1" |
| Clip |  | Suitable for Tube diameter: 1/4"; 3/8"; 1/2" |


TECHNICAL DATA

| Nominal Cooling Capacities ¹⁾²⁾ | | | | | | |
|--|------|--------------------------|--------------------|----------|--------|---------|
| Refrigerant | Size | Model Name ³⁾ | Drawing | Capacity | | PS |
| | | | | [USRT] | [kW] | [MPa] |
| R22 | 0 | RFGB 01(E) -0 | RFGB01(E)-0.17-xxx | 0,17 | 0,60 | 3,5 |
| | 1 | RFGB 01(E) -1 | RFGB01(E)-0.35-xxx | 0,35 | 1,20 | |
| | 2 | RFGB 01(E) -2 | RFGB01(E)-0.7-xxx | 0,70 | 2,50 | |
| | 3 | RFGB 01(E) -3 | RFGB01(E)-1.0-xxx | 1,00 | 3,50 | |
| | 4 | RFGB 01(E) -4 | RFGB01(E)-1.5-xxx | 1,50 | 5,30 | |
| | 5 | RFGB 01(E) -5 | RFGB01(E)-2.0-xxx | 2,00 | 7,00 | |
| R407C ³⁾ | 0 | RFGB 02(E) -0 | RFGB02(E)-0.19-xxx | 0,19 | 0,67 | 3,5 |
| | 1 | RFGB 02(E) -1 | RFGB02(E)-0.38-xxx | 0,38 | 1,30 | |
| | 2 | RFGB 02(E) -2 | RFGB02(E)-0.76-xxx | 0,76 | 2,70 | |
| | 3 | RFGB 02(E) -3 | RFGB02(E)-1.1-xxx | 1,10 | 3,90 | |
| | 4 | RFGB 02(E) -4 | RFGB02(E)-1.6-xxx | 1,60 | 5,60 | |
| | 5 | RFGB 02(E) -5 | RFGB02(E)-2.2-xxx | 2,20 | 7,70 | |
| R404A / R507 | 0 | RFGB 03(E) -0 | RFGB03(E)-0.13-xxx | 0,13 | 0,50 | 3,5 |
| | 1 | RFGB 03(E) -1 | RFGB03(E)-0.25-xxx | 0,25 | 0,90 | |
| | 2 | RFGB 03(E) -2 | RFGB03(E)-0.5-xxx | 0,50 | 1,80 | |
| | 3 | RFGB 03(E) -3 | RFGB03(E)-0.7-xxx | 1,70 | 2,50 | |
| | 4 | RFGB 03(E) -4 | RFGB03(E)-1.0-xxx | 1,00 | 3,50 | |
| | 5 | RFGB 03(E) -5 | RFGB03(E)-1.4-xxx | 1,40 | 4,90 | |
| R134a | 0 | RFGB 04(E) -0 | RFGB04(E)-0.12-xxx | 0,12 | 0,40 | 3,5 |
| | 1 | RFGB 04(E) -1 | RFGB04(E)-0.23-xxx | 0,22 | 0,80 | |
| | 2 | RFGB 04(E) -2 | RFGB04(E)-0.44-xxx | 0,44 | 1,50 | |
| | 3 | RFGB 04(E) -3 | RFGB04(E)-0.63-xxx | 0,63 | 2,20 | |
| | 4 | RFGB 04(E) -4 | RFGB04(E)-0.94-xxx | 0,94 | 3,30 | |
| | 5 | RFGB 04(E) -5 | RFGB04(E)-1.3-xxx | 1,30 | 4,60 | |
| R290 | 0 | RFGB 06(E) -0 | RFGB06(E)-0.17-xxx | 0,17 | 1,69 | 3,5 |
| | 1 | RFGB 06(E) -1 | RFGB06(E)-0.35-xxx | 0,35 | 1,20 | |
| | 2 | RFGB 06(E) -2 | RFGB06(E)-0.7-xxx | 0,70 | 2,50 | |
| | 3 | RFGB 06(E) -3 | RFGB06(E)-1.0-xxx | 1,00 | 3,50 | |
| | 4 | RFGB 06(E) -4 | RFGB06(E)-1.5-xxx | 1,50 | 5,30 | |
| | 5 | RFGB 06(E) -5 | RFGB06(E)-2.0-xxx | 2,00 | 7,00 | |

Note:

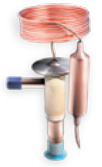
1) Nominal capacity valid for: - Version "S" in straight shape and version "A" in angle shape
- Versions with metrical and imperial connections

2) Nominal working conditions: Condensing temperature: 38°C; evaporating temperature +4.4°C; Liquid temperature 37°C

3) R407C data based on dew point conditions

4) Model Name in this table is referred to the first 4 positions of the model designation

THERMOSTATIC EXPANSION VALVE



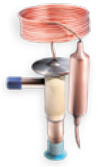
MODEL LIST

Evaporation Temp. Range to = +10...-40°C¹⁾

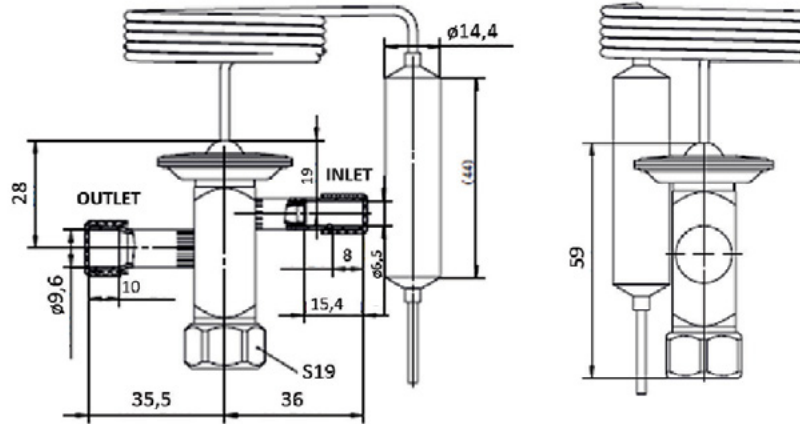
| Model Name ^{2) 3) 4) 5)} | | | | Connections Size (Solder ODF) | | | | | | |
|---|--|---|---------------------------------------|-------------------------------|--------|--------|--------|-----------------|--------|-----|
| Valve Body All Refrigerants | Capacity Size All Sizes | Valve Shape ⁶⁾ Straight / Angle | Pipe connections Metric / Imperial | Inlet | | Outlet | | Pressure Equal. | | |
| | | | | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | |
| RFGB 01 - RFGB 02 - RFGB 03 - RFGB 04 - RFGB 06 - | 0 - 1 - 2 - 3 - 4 - 5 - | S - | M6 | 6 | - | 10 | - | - | - | |
| | | | M10 | 10 | - | 12 | - | - | - | |
| | | | 2 | - | 1/4 | - | 3/8 | - | - | |
| | | 3 | - | 3/8 | - | 1/2 | - | - | | |
| | | A - | M6 | 6 | - | 10 | - | - | - | |
| | | | M10 | 10 | - | 12 | - | - | - | |
| | 2 | | - | 1/4 | - | 3/8 | - | - | | |
| | RFGB 01E - RFGB 02E - RFGB 03E - RFGB 04E - RFGB 06E - | 0 - 1 - 2 - 3 - 4 - 5 - | S - | M6 | 6 | - | 10 | - | 6 | - |
| | | | | M10 | 10 | - | 12 | - | 6 | - |
| | | | | 2 | - | 1/4 | - | 3/8 | - | 1/4 |
| 3 | | | - | 3/8 | - | 1/2 | - | 1/4 | | |
| A - | | | M6 | 6 | - | 10 | - | 6 | - | |
| | | | M10 | 10 | - | 12 | - | 6 | - | |
| | | 2 | - | 1/4 | - | 3/8 | - | 1/4 | | |
| | | | | 3 | - | 3/8 | - | 1/2 | - | 1/4 |

Note:

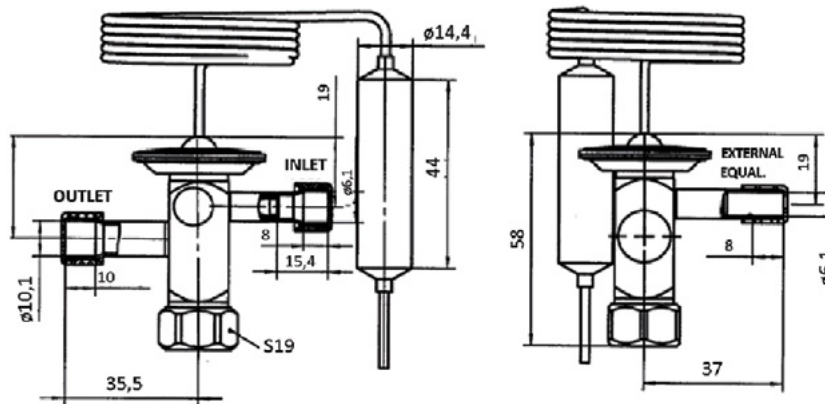
- 1) Different evaporation temperature range on request
- 2) Extent of delivery: valve body and bulb strap
- 3) MOP function on request
- 4) Delivery time on request
- 5) Model Name in this table is referred to the first 6 positions of the model designation
- 6) Superheat : - Straight version "S" with adjustable settings
- Angle version "A" with fixed factory settings



DIMENSIONS

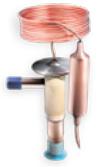


Straight Shape with Internal Pressure Equalization

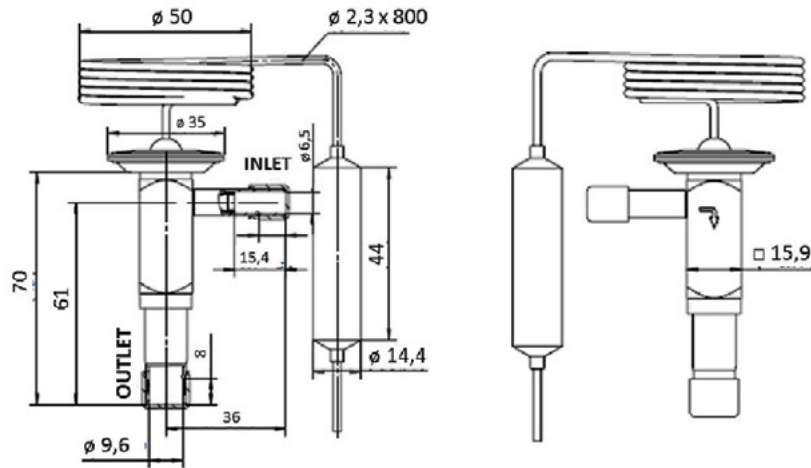


Straight Shape with External Pressure Equalization

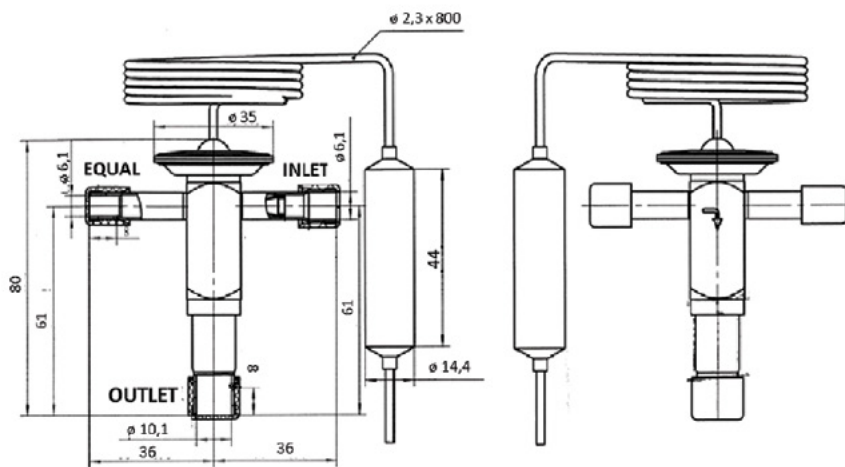
THERMOSTATIC EXPANSION VALVE



DIMENSIONS



Angle Shape with Internal Pressure Equalization



Angle Shape with External Pressure Equalization

RFGB SERIES

THERMOSTATIC EXPANSION VALVE WITH REPLACABLE STRAINER

RFGB thermostatic expansion valves are also available on request with a replaceable strainer placed on the inlet connection of the valve. This mechanical filter equipped with a metallic net (mesh 100) can block all the potential impurities present in the refrigeration circuit avoiding that some of them damage the valve. The particular layout of the inlet connection (from the bottom) allows the strainer to be removed for cleaning or replacement without having to remove the valve from the system

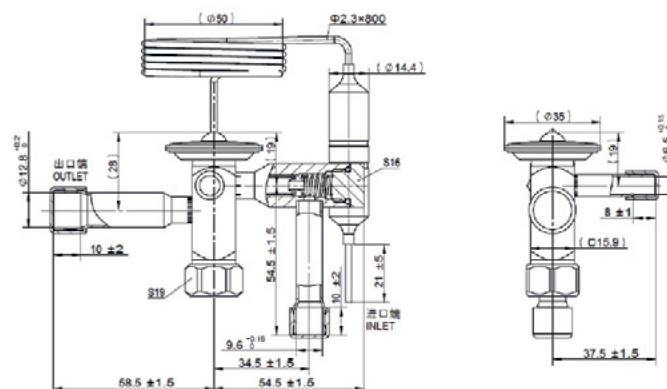
All the RFGB variants shown on “Technical Data” and “Model List” tables can be customized on request with the introduction of a replaceable strainer.



MODEL DESIGNATION EXAMPLE

| Position Number | | | | | | | According to Model Designation Legend |
|-----------------|-----------|----------|----------|----------|-----------|------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| RFGB | 04 | E | 3 | S | M6 | xxx | Thermostatic expansion valve with build-in orifice |
| RFGB | 04 | E | 3 | S | M6 | xxx | Refrigerant: R134a |
| RFGB | 04 | E | 3 | S | M6 | xxx | With connection for external pressure equalization |
| RFGB | 04 | E | 3 | S | M6 | xxx | Capacity: Valve and orifice size 3 |
| RFGB | 04 | E | 3 | S | M6 | xxx | Valve Shape: straight |
| RFGB | 04 | E | 3 | S | M6 | xxx | Valve pipe connections: metric inlet 6mm/outlet 10mm |
| RFGB | 04 | E | 3 | S | M6 | 8xx | "8" as first digits for RFGB with strainer |

DIMENSIONS (RFGB WITH REPLACEABLE STRAINER)



Straight shape with external equalization and replaceable strainer

RFGD SERIES**THERMOSTATIC EXPANSION VALVE**

RFGD series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems like commercial refrigerators and freezers, icemakers, dehumidifiers as well as air conditioners at various evaporation temperatures.

**FEATURES**

- COMPACT DESIGN WITH BUILD-IN ORIFICE
- WARM THERMO HEAD CONSTRUCTION
- ALL CONNECTIONS PIPES ARE COMPLETELY IN COPPER
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN A WIDE EVAPORATION TEMPERATURE RANGE
- RELIABLE AND CONSISTENT PERFORMANCE OF SUPERHEAT CONTROL
- BALANCED PORT – SUITABLE FOR REVERSIBLE CYCLES
- THERMAL BULB UTILIZES CROSS CHARGE TECHNOLOGY, PROVIDING CONSISTENT SUPERHEAT DEGREE OVER THE WHOLE EVAPORATION TEMPERATURE RANGE
- WIDE CAPACITIES RANGE SPLIT IN 9 ORIFICES SIZES:
 - RFGD10: (ORIFICES 1 TO 6)
 - RFGD20: (ORIFICES 7 TO 9)

GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507
- Ambient temperature min./max.: -35/+55°C
- Medium temperature TS min./max.: -40°C / +70°C
- Max. operating pressure PS: 4.8 Mpa¹⁾
- Installation position: - Preferably valve head upwards
- Main flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration

Note: 1) Max. operating pressure is related to the used refrigerant

THERMOSTATIC EXPANSION VALVE



TECHNICAL PARAMETERS

- RFGD valves are available in straight shape with adjustable superheat on site
- RFGD valves are available with the different solder and flare connections (see more details in following tables)
- RFGD valves are available with 2 different temperature ranges:
 - from -40°C to +10°C
 - from -25°C to +10°C
- Equalization port available as option:
 - Metric: 6mm ODF (available for models with metric solder connections)
 - Imperial: 1/4" ODF (available for models with imperial solder connections)
- Capillary tube length 1500mm as standard. Different length customizable on request.
- Standard MOP values:
 - T. range -40°C to +10°C: MOP: +15°C or MOP not present
 - T. range -25°C to +10°C: MOP: +15°C

MODEL DESIGNATION LEGEND

| Position Number | Model Designation Legend | |
|-----------------|--|--|
| 1 | Product Code | Product Series |
| | RFGD | Thermostatic expansion valve with build-in orifice |
| 2 | Refrigerant | Description |
| | 1 | R22 |
| | 2 | R407C |
| | 3 | R404A / R507 |
| | 4 | R134a |
| 5 | R410A | |
| 3 | Pressure Equalization | Description |
| | E (Omitted) | External pressure equalization Internal pressure equalization |
| 4 | Valve Size | Internal Orifice Size |
| | From 1 to 6 | Valve size: proportional to the orifice size and to the nominal capacity |
| 5 | Connections Type | Description |
| | M10/16 | Metric: inlet 10mm / outlet 16mm |
| | M12/22 | Metric: inlet 12mm / outlet 22mm |
| | M16/22 | Metric: inlet 16mm / outlet 22mm |
| | 3/5 | Imperial: inlet 3/8" / outlet 5/8" |
| | 4/7 | Imperial: inlet 1/2" / outlet 7/8" |
| | 5/7 | Imperial: inlet 5/8" / outlet 7/8" |
| | S5/6 | Both SAE Flare: inlet 5/8" / outlet 3/4" |
| I5/6 | Both MIO Flare: inlet 5/8" / outlet 3/4" | |
| O5/6 | Both ORFS inlet 5/8" / outlet 3/4" | |
| 6 | Miscellaneous | Description |
| | xxx | Digits for additional information e.g. static superheat, MOP, Bleed... |

THERMOSTATIC EXPANSION VALVE



MODEL DESIGNATION EXAMPLE

| Position Number | | | | | | According to Model Designation Legend |
|-----------------|-----------|----------|----------|------------|-------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | |
| RFGD | 04 | E | 3 | M16 | xxxx | Thermostatic expansion valve with build-in orifice |
| RFGD | 04 | E | 3 | M16 | xxxx | Refrigerant: R134a |
| RFGD | 04 | E | 3 | M16 | xxxx | With connection for external pressure equalization |
| RFGD | 04 | E | 3 | M16 | xxxx | Capacity: Valve and orifice size 3 |
| RFGD | 04 | E | 3 | M16 | xxxx | Valve pipe connections: metric inlet 16mm/outlet 22mm |
| RFGD | 04 | E | 3 | M16 | xxxx | Digits for additional information |

TECHNICAL DATA

Nominal Capacities¹

| R22 | | | R407C ²⁾ | | | R404A / R507A | | | R134a | | | R410A | | |
|--------------------------|----------|------|--------------------------|----------|------|--------------------------|----------|------|--------------------------|----------|------|--------------------------|----------|------|
| PS: 2,8 MPa | | | PS: 2,8 MPa | | | PS: 3,5 MPa | | | PS: 2,1 MPa | | | PS: 4,5 MPa | | |
| Model Name ³⁾ | Capacity | | Model Name ³⁾ | Capacity | | Model Name ³⁾ | Capacity | | Model Name ³⁾ | Capacity | | Model Name ³⁾ | Capacity | |
| | [USRT] | [kW] | | [USRT] | [kW] | | [USRT] | [kW] | | [USRT] | [kW] | | [USRT] | [kW] |
| RFGD 01-1 | 3,0 | 10,6 | RFGD 02-1 | 3,1 | 10,9 | RFGD 03-1 | 2,0 | 7,0 | RFGD 04-1 | 1,8 | 6,3 | RFGD 05-1 | 3,5 | 12,3 |
| RFGD 01E-1 | | | RFGD 02E-1 | | | RFGD 03E-1 | | | RFGD 04E-1 | | | RFGD 05E-1 | | |
| RFGD 01-2 | 4,0 | 14,1 | RFGD 02-2 | 4,2 | 14,8 | RFGD 03-2 | 2,8 | 9,8 | RFGD 04-2 | 2,5 | 8,8 | RFGD 05-2 | 4,5 | 15,8 |
| RFGD 01E-2 | | | RFGD 02E-2 | | | RFGD 03E-2 | | | RFGD 04E-2 | | | RFGD 05E-2 | | |
| RFGD 01-3 | 6,0 | 21,1 | RFGD 02-3 | 6,3 | 22,2 | RFGD 03-3 | 4,2 | 14,8 | RFGD 04-3 | 3,6 | 12,7 | RFGD 05-3 | 7,0 | 24,6 |
| RFGD 01E-3 | | | RFGD 02E-3 | | | RFGD 03E-3 | | | RFGD 04E-3 | | | RFGD 05E-3 | | |
| RFGD 01-4 | 7,5 | 26,4 | RFGD 02-4 | 8,1 | 28,5 | RFGD 03-4 | 5,4 | 19,0 | RFGD 04-4 | 4,6 | 16,2 | RFGD 05-4 | 8,6 | 30,2 |
| RFGD 01E-4 | | | RFGD 02E-4 | | | RFGD 03E-4 | | | RFGD 04E-4 | | | RFGD 05E-4 | | |
| RFGD 01-5 | 9,0 | 31,7 | RFGD 02-5 | 9,4 | 33,1 | RFGD 03-5 | 6,4 | 22,5 | RFGD 04-5 | 5,5 | 19,3 | RFGD 05-5 | 10,6 | 37,3 |
| RFGD 01E-5 | | | RFGD 02E-5 | | | RFGD 03E-5 | | | RFGD 04E-5 | | | RFGD 05E-5 | | |
| RFGD 01-6 | 11,0 | 38,7 | RFGD 02-6 | 11,7 | 41,1 | RFGD 03-6 | 7,8 | 27,4 | RFGD 04-6 | 6,8 | 23,9 | RFGD 05-6 | 12,8 | 45,0 |
| RFGD 01E-6 | | | RFGD 02E-6 | | | RFGD 03E-6 | | | RFGD 04E-6 | | | RFGD 05E-6 | | |
| RFGD 01-7 | 12,0 | 42,2 | RFGD 02-7 | 12,0 | 42,2 | RFGD 03-7 | 9,0 | 31,7 | RFGD 04-7 | 8,0 | 28,1 | RFGD 05-7 | 15,0 | 52,8 |
| RFGD 01E-7 | | | RFGD 02E-7 | | | RFGD 03E-7 | | | RFGD 04E-7 | | | RFGD 05E-7 | | |
| RFGD 01-8 | 15,0 | 52,8 | RFGD 02-8 | 15,0 | 52,8 | RFGD 03-8 | 11,0 | 38,7 | RFGD 04-8 | 10,0 | 35,2 | RFGD 05-8 | 19,0 | 66,8 |
| RFGD 01E-8 | | | RFGD 02E-8 | | | RFGD 03E-8 | | | RFGD 04E-8 | | | RFGD 05E-8 | | |
| RFGD 01-9 | 18,0 | 63,3 | RFGD 02-9 | 18,0 | 63,3 | RFGD 03-9 | 13,0 | 45,7 | RFGD 04-9 | 12,0 | 42,2 | RFGD 05-9 | 23,0 | 80,9 |
| RFGD 01E-9 | | | RFGD 02E-9 | | | RFGD 03E-9 | | | RFGD 04E-9 | | | RFGD 05E-9 | | |

Note:

- Nominal capacities referred at the following working conditions:
 Condensing temperature: 38°C; evaporating temperature +4,4°C; Liquid temperature 37°C
 Static Super Heating: 4 K
- R407C data based on dew point conditions
- Model Name in this table is referred to the first 4 positions of the model designation

THERMOSTATIC EXPANSION VALVE



RFGD10 MODEL LIST (WITH EXTERNAL EQUALIZATION) - SOLDER CONNECTION

| Model Name | | | | | | | | | | Temperature Range | |
|--------------|------------|-------------------------|------------------------------------|-------|--------|--------|--------|-----------------|--------|-------------------|----------------|
| Ref. | Valve Body | Capacity Size All Sizes | Pipe connections Metric / Imperial | Inlet | | Outlet | | Pressure Equal. | | -40°C to +10°C | -25°C to +10°C |
| | | | | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | No MOP | MOP: +15°C |
| R22 | RFGD 01E - | 1 | M10/16 | 10 | - | 16 | - | 6 | - | O.R. | O.R. |
| | | 2 | M12/22 | 12 | - | 22 | - | 6 | - | O.R. | O.R. |
| | | 3 | M16/22 | 16 | - | 22 | - | 6 | - | O.R. | O.R. |
| | | 4 | 3/5 | - | 3/8 | - | 5/8 | - | 1/4 | O.R. | O.R. |
| | | 5 | 4/7 | - | 1/2 | - | 7/8 | - | 1/4 | O.R. | O.R. |
| | | 6 | 5/7 | - | 5/8 | - | 7/8 | - | 1/4 | O.R. | O.R. |
| R407C | RFGD 02E - | 1 | M10/16 | 10 | - | 16 | - | 6 | - | STD | O.R. |
| | | 2 | M12/22 | 12 | - | 22 | - | 6 | - | STD | O.R. |
| | | 3 | M16/22 | 16 | - | 22 | - | 6 | - | STD | O.R. |
| | | 4 | 3/5 | - | 3/8 | - | 5/8 | - | 1/4 | STD | O.R. |
| | | 5 | 4/7 | - | 1/2 | - | 7/8 | - | 1/4 | STD | O.R. |
| | | 6 | 5/7 | - | 5/8 | - | 7/8 | - | 1/4 | STD | O.R. |
| R404A / R507 | RFGD 03E - | 1 | M10/16 | 10 | - | 16 | - | 6 | - | STD | O.R. |
| | | 2 | M12/22 | 12 | - | 22 | - | 6 | - | STD | O.R. |
| | | 3 | M16/22 | 16 | - | 22 | - | 6 | - | STD | O.R. |
| | | 4 | 3/5 | - | 3/8 | - | 5/8 | - | 1/4 | STD | O.R. |
| | | 5 | 4/7 | - | 1/2 | - | 7/8 | - | 1/4 | STD | O.R. |
| | | 6 | 5/7 | - | 5/8 | - | 7/8 | - | 1/4 | STD | O.R. |
| R134a | RFGD 04E - | 1 | M10/16 | 10 | - | 16 | - | 6 | - | STD | O.R. |
| | | 2 | M12/22 | 12 | - | 22 | - | 6 | - | STD | O.R. |
| | | 3 | M16/22 | 16 | - | 22 | - | 6 | - | STD | O.R. |
| | | 4 | 3/5 | - | 3/8 | - | 5/8 | - | 1/4 | STD | O.R. |
| | | 5 | 4/7 | - | 1/2 | - | 7/8 | - | 1/4 | STD | O.R. |
| | | 6 | 5/7 | - | 5/8 | - | 7/8 | - | 1/4 | STD | O.R. |
| R410A | RFGD 05E - | 1 | M10/16 | 10 | - | 16 | - | 6 | - | STD | O.R. |
| | | 2 | M12/22 | 12 | - | 22 | - | 6 | - | STD | O.R. |
| | | 3 | M16/22 | 16 | - | 22 | - | 6 | - | STD | O.R. |
| | | 4 | 3/5 | - | 3/8 | - | 5/8 | - | 1/4 | STD | O.R. |
| | | 5 | 4/7 | - | 1/2 | - | 7/8 | - | 1/4 | STD | O.R. |
| | | 6 | 5/7 | - | 5/8 | - | 7/8 | - | 1/4 | STD | STD*) |

THERMOSTATIC EXPANSION VALVE



RFGD20 MODEL LIST (WITH EXTERNAL EQUALIZATION) – SOLDER CONNECTION

| Model Name | | | | | | | | | | Temperature Range | |
|--------------|------------|-------------------------|------------------------------------|-------|--------|--------|--------|-----------------|--------|-------------------|----------------|
| Ref. | Valve Body | Capacity Size All Sizes | Pipe connections Metric / Imperial | Inlet | | Outlet | | Pressure Equal. | | -40°C to +10°C | -25°C to +10°C |
| | | | | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | No MOP | MOP: +15°C |
| R22 | RFGD 01E - | 7 | M16/22 | 16 | | 22 | | 6 | | O.R. | O.R. |
| | | 7 | M16/28 | 16 | | 28 | | 6 | | O.R. | O.R. |
| | | 8 | M16/28 | 16 | | 28 | | 6 | | O.R. | O.R. |
| | | 8 | M22/28 | 22 | | 28 | | 6 | | O.R. | O.R. |
| | | 9 | M22/28 | 22 | | 28 | | 6 | | O.R. | O.R. |
| | | 9 | M22/35 | 22 | | 35 | | 6 | | O.R. | O.R. |
| | | 7 | 5/7 | | 5/8 | | 7/8 | | 1/4 | O.R. | O.R. |
| | | 7 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | O.R. | O.R. |
| | | 8 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | O.R. | O.R. |
| | | 8 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | O.R. | O.R. |
| | | 9 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | O.R. | O.R. |
| | | 9 | 7/11 | | 7/8 | | 1-3/8 | | 1/4 | O.R. | O.R. |
| R407C | RFGD 02E - | 7 | M16/22 | 16 | | 22 | | 6 | | STD | STD |
| | | 7 | M16/28 | 16 | | 28 | | 6 | | STD | STD |
| | | 8 | M16/28 | 16 | | 28 | | 6 | | STD | STD |
| | | 8 | M22/28 | 22 | | 28 | | 6 | | STD | STD |
| | | 9 | M22/28 | 22 | | 28 | | 6 | | STD | STD |
| | | 9 | M22/35 | 22 | | 35 | | 6 | | STD | STD |
| | | 7 | 5/7 | | 5/8 | | 7/8 | | 1/4 | STD | STD |
| | | 7 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 8 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 8 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 9 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 9 | 7/11 | | 7/8 | | 1-3/8 | | 1/4 | STD | STD |
| R404A / R507 | RFGD 03E - | 7 | M16/22 | 16 | | 22 | | 6 | | STD | STD |
| | | 7 | M16/28 | 16 | | 28 | | 6 | | STD | STD |
| | | 8 | M16/28 | 16 | | 28 | | 6 | | STD | STD |
| | | 8 | M22/28 | 22 | | 28 | | 6 | | STD | STD |
| | | 9 | M22/28 | 22 | | 28 | | 6 | | STD | STD |
| | | 9 | M22/35 | 22 | | 35 | | 6 | | STD | STD |
| | | 7 | 5/7 | | 5/8 | | 7/8 | | 1/4 | STD | STD |
| | | 7 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 8 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 8 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 9 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | STD | STD |
| | | 9 | 7/11 | | 7/8 | | 1-3/8 | | 1/4 | STD | STD |

THERMOSTATIC EXPANSION VALVE



RFGD20 MODEL LIST (WITH EXTERNAL EQUALIZATION) – SOLDER CONNECTION

| Model Name | | | | | | | | | | Temperature Range | | |
|------------|------------|-------------------------|------------------------------------|-------|--------|--------|--------|-----------------|--------|-------------------|----------------|-----|
| Ref. | Valve Body | Capacity Size All Sizes | Pipe connections Metric / Imperial | Inlet | | Outlet | | Pressure Equal. | | -40°C to +10°C | -25°C to +10°C | |
| | | | | [mm] | [inch] | [mm] | [inch] | [mm] | [inch] | No MOP | MOP: +15°C | |
| R134a | RFGD 04E - | 7 | M16/22 | 16 | | 22 | | 6 | | STD | STD | |
| | | 7 | M16/28 | 16 | | 28 | | 6 | | STD | STD | |
| | | 8 | M16/28 | 16 | | 28 | | 6 | | STD | STD | |
| | | 8 | M22/28 | 22 | | 28 | | 6 | | STD | STD | |
| | | 9 | M22/28 | 22 | | 28 | | 6 | | STD | STD | |
| | | 9 | M22/35 | 22 | | 35 | | 6 | | STD | STD | |
| | | 7 | 5/7 | | 5/8 | | 7/8 | | 1/4 | | STD | STD |
| | | 7 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 8 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 8 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 9 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 9 | 7/11 | | 7/8 | | 1-3/8 | | 1/4 | | STD | STD |
| R410A | RFGD 05E - | 7 | M16/22 | 16 | | 22 | | 6 | | STD | STD | |
| | | 7 | M16/28 | 16 | | 28 | | 6 | | STD | STD | |
| | | 8 | M16/28 | 16 | | 28 | | 6 | | STD | STD | |
| | | 8 | M22/28 | 22 | | 28 | | 6 | | STD | STD | |
| | | 9 | M22/28 | 22 | | 28 | | 6 | | STD | STD | |
| | | 9 | M22/35 | 22 | | 35 | | 6 | | STD | STD | |
| | | 7 | 5/7 | | 5/8 | | 7/8 | | 1/4 | | STD | STD |
| | | 7 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 8 | 5/9 | | 5/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 8 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 9 | 7/9 | | 7/8 | | 1-1/8 | | 1/4 | | STD | STD |
| | | 9 | 7/11 | | 7/8 | | 1-3/8 | | 1/4 | | STD | STD |

THERMOSTATIC EXPANSION VALVE



RFGD20 MODEL LIST (WITH EXTERNAL EQUALIZATION) – FLARE CONNECTION

| Model Name | | | | | | | Temperature Range | |
|------------|------------|-------------------------|------------------------|--------|--------|-----------------|-------------------|----------------|
| Ref. | Valve Body | Capacity Size All Sizes | Pipe connections Flare | Inlet | Outlet | Pressure Equal. | -40°C to +10°C | -25°C to +10°C |
| | | | | [inch] | [inch] | [inch] | No MOP | MOP: +15°C |
| R134a | RFGD 04E - | 7 | SAE | 5/8 | 3/4 | 1/4 | O.R. | STD |
| | | 7 | MIO | 5/8 | 3/4 | 1/4 | STD | STD |
| | | 7 | ORFS | 5/8 | 3/4 | 1/4 | O.R. | O.R. |
| | | 8 | SAE | 5/8 | 3/4 | 1/4 | STD | STD |
| | | 8 | MIO | 5/8 | 3/4 | 1/4 | STD | STD |
| | | 8 | ORFS | 5/8 | 3/4 | 1/4 | O.R. | O.R. |
| | | 9 | SAE | 5/8 | 3/4 | 1/4 | STD | STD |
| | | 9 | MIO | 5/8 | 3/4 | 1/4 | STD | STD |
| | | 9 | ORFS | 5/8 | 3/4 | 1/4 | O.R. | STD |

- Note:** 1) Extent of delivery: valve body and bulb strap
 2) O.R. : On Request
 3) N.A.: Not Available
 4) STD: Standard Models available on stock (see Standard Model Table for further details)

THERMOSTATIC EXPANSION VALVE

RFGD STANDARD RANGE
A) Models with Metric Connections
RFGD10 (orifice 1-6) -40°C to +10°C (Models without MOP)

| Ref. | Valve Body | Capacity Size All Sizes | Connections IN x OUT | | Pressure Equal. | Model Name | Product Number U11 Code Multi-Pack |
|--------------------|------------|----------------------------|-------------------------|---------|--------------------|------------------|--|
| | | | Metric | [mm] | [mm] | | |
| R407C | RFGD 02E | 1 - | M10/16 | 10 x 16 | 6 | RFGD 02E-3.1-57 | 10205009002 |
| | | 2 - | M12/22 | 12 x 22 | 6 | RFGD 02E-4.2-58 | 10205009102 |
| | | 3 - | M12/22 | 12 x 22 | 6 | RFGD 02E-6.3-59 | 10205009202 |
| | | 4 - | M16/22 | 12 x 22 | 6 | RFGD 02E-8.1-60 | 10205009302 |
| | | 5 - | M16/22 | 16 x 22 | 6 | RFGD 02E-9.4-61 | 10205009402 |
| | | 6 - | M16/22 | 16 x 22 | 6 | RFGD 02E-11.7-62 | 10205009502 |
| R404A / R507 | RFGD 03E | 1 - | M10/16 | 10 x 16 | 6 | RFGD 03E-2.0-63 | 10205009602 |
| | | 2 - | M12/22 | 12 x 22 | 6 | RFGD 03E-2.8-64 | 10205009702 |
| | | 3 - | M12/22 | 12 x 22 | 6 | RFGD 03E-4.2-65 | 10205009802 |
| | | 4 - | M16/22 | 12 x 22 | 6 | RFGD 03E-5.4-66 | 10205009902 |
| | | 5 - | M16/22 | 16 x 22 | 6 | RFGD 03E-6.4-67 | 10205010002 |
| | | 6 - | M16/22 | 16 x 22 | 6 | RFGD 03E-7.8-68 | 10205010102 |
| R134a | RFGD 04E | 1 - | M10/16 | 10 x 16 | 6 | RFGD 04E-1.8-69 | 10205010202 |
| | | 2 - | M12/22 | 12 x 22 | 6 | RFGD 04E-2.5-70 | 10205010302 |
| | | 3 - | M12/22 | 12 x 22 | 6 | RFGD 04E-3.6-71 | 10205010402 |
| | | 4 - | M16/22 | 12 x 22 | 6 | RFGD 04E-4.6-72 | 10205010502 |
| | | 5 - | M16/22 | 16 x 22 | 6 | RFGD 04E-5.5-73 | 10205010602 |
| | | 6 - | M16/22 | 16 x 22 | 6 | RFGD 04E-6.8-74 | 10205010702 |
| R410A | RFGD 05E | 1 - | M10/16 | 10 x 16 | 6 | RFGD 05E-3.5-75 | 10205010802 |
| | | 2 - | M12/22 | 12 x 22 | 6 | RFGD 05E-4.5-76 | 10205010902 |
| | | 3 - | M12/22 | 12 x 22 | 6 | RFGD 05E-7.0-77 | 10205011002 |
| | | 4 - | M16/22 | 16 x 22 | 6 | RFGD 05E-8.6-78 | 10205011102 |
| | | 5 - | M16/22 | 16 x 22 | 6 | RFGD 05E-10.6-79 | 10205011202 |
| | | 6 - | M16/22 | 16 x 22 | 6 | RFGD 05E-12.8-80 | 10205011302 |

THERMOSTATIC EXPANSION VALVE



RFGD STANDARD RANGE

B) Models with Metric Connections

RFGD20 (orifice 7-9) -40°C to +10°C (Models without MOP)

| Ref. | Valve Body | Capacity Size All Sizes | Connections IN x OUT | | Pressure Equal. | Model Name | Product Number U11 Code Multi-Pack |
|--------------------|------------|----------------------------|-------------------------|---------|--------------------|------------------|--|
| | | | Metric | [mm] | [mm] | | |
| R407C | RFGD 02E | 7 - | M16/22 | 16 x 22 | 6 | RFGD02E-12.0-565 | 10205065202 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD02E-12.0-544 | 10205057502 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD02E-15.0-546 | 10205057702 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD02E-15.0-548 | 10205057902 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD02E-18.0-550 | 10205058102 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD02E-18.0-566 | 10205065302 |
| R404A / R507 | RFGD 03E | 7 - | M16/22 | 16 x 22 | 6 | RFGD03E-9.0-563 | 10205066502 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD03E-9.0-534 | 10205056502 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD03E-11.0-536 | 10205056702 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD03E-11.0-538 | 10205056902 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD03E-13.0-540 | 10205057102 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD03E-13.0-564 | 10205065102 |
| R134a | RFGD 04E | 7 - | M16/22 | 16 x 22 | 6 | RFGD04E-8.0-559 | 10205066102 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD04E-8.0-503 | 10205054302 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD04E-10.0-515 | 10205054502 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD04E-10.0-521 | 10205054702 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD04E-12.0-523 | 10205054902 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD04E-12.0-560 | 10205066202 |
| R410A | RFGD 05E | 7 - | M16/22 | 16 x 22 | 6 | RFGD05E-15.0-567 | 10205065402 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD05E-15.0-552 | 10205058502 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD05E-19.0-553 | 10205058702 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD05E-19.0-554 | 10205058902 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD05E-23.0-556 | 10205059102 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD05E-23.0-568 | 10205065502 |

THERMOSTATIC EXPANSION VALVE



RFGD STANDARD RANGE

C) Models with Metric Connections

RFGD20 (orifice 7-9) -25°C to +10°C with MOP +15°C

| Ref. | Valve Body | Capacity Size All Sizes | Connections IN x OUT | | Pressure Equal. | Model Name | Product Number U11 Code Multi-Pack |
|--------------------|------------|----------------------------|-------------------------|---------|--------------------|------------------|--|
| | | | Metric | [mm] | [mm] | | |
| R407C | RFGD 02E | 7 - | M16/22 | 16 x 22 | 6 | RFGD02E-12.0-663 | 10205064702 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD02E-12.0-639 | 10205062802 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD02E-15.0-641 | 10205063002 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD02E-15.0-643 | 10205063202 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD02E-18.0-645 | 10205063402 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD02E-18.0-664 | 10205064802 |
| R404A / R507 | RFGD 03E | 7 - | M16/22 | 16 x 22 | 6 | RFGD03E-9.0-661 | 10205066002 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD03E-9.0-629 | 10205061802 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD03E-11.0-631 | 10205062002 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD03E-11.0-633 | 10205062202 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD03E-13.0-635 | 10205062402 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD03E-13.0-662 | 10205064602 |
| R134a | RFGD 04E | 7 - | M16/22 | 16 x 22 | 6 | RFGD04E-8.0-657 | 10205065602 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD04E-8.0-603 | 10205059402 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD04E-10.0-605 | 10205059602 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD04E-10.0-607 | 10205059802 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD04E-12.0-609 | 10205060002 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD04E-12.0-658 | 10205065702 |
| R410A | RFGD 05E | 7 - | M16/22 | 16 x 22 | 6 | RFGD05E-15.0-665 | 10205064902 |
| | | 7 - | M16/28 | 16 x 28 | 6 | RFGD05E-15.0-649 | 10205063802 |
| | | 8 - | M16/28 | 16 x 28 | 6 | RFGD05E-19.0-651 | 10205064002 |
| | | 8 - | M22/28 | 22 x 28 | 6 | RFGD05E-19.0-653 | 10205064202 |
| | | 9 - | M22/28 | 22 x 28 | 6 | RFGD05E-23.0-655 | 10205064402 |
| | | 9 - | M22/35 | 22 x 35 | 6 | RFGD05E-23.0-666 | 10205065002 |

THERMOSTATIC EXPANSION VALVE

RFGD STANDARD RANGE
D) Models with Imperial Connections
RFGD10 (orifice 1-6) -40°C to +10°C (Models without MOP)

| Ref. | MWP [MPa] | Valve Body | Capacity Size All Sizes | Connections IN x OUT | | Pressure Equal. | Model Name | Product Number U11 Code Multi-Pack |
|--------------------|----------------|------------|----------------------------|-------------------------|-----------|--------------------|------------------|--|
| | | | | Imperial | [inch] | [inch] | | |
| R407C | 2,8 | RFGD 02E | 1 - | 3/5 | 3/8 x 5/8 | 1/4 | RFGD 02E-3.1-33 | 10205008402 |
| | | | 2 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 02E-4.2-34 | 10205007002 |
| | | | 3 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 02E-6.3-35 | 10205008502 |
| | | | 4 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 02E-8.1-36 | 10205007802 |
| | | | 5 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 02E-9.4-37 | 10205007902 |
| | | | 6 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 02E-11.7-38 | 10205008002 |
| R404A / R507 | 3,5 | RFGD 03E | 1 - | 3/5 | 3/8 x 5/8 | 1/4 | RFGD 03E-2.0-39 | 10205008102 |
| | | | 2 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 03E-2.8-40 | 10205008202 |
| | | | 3 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 03E-4.2-41 | 10205008302 |
| | | | 4 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 03E-5.4-42 | 10205008602 |
| | | | 5 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 03E-6.4-43 | 10205008702 |
| | | | 6 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 03E-7.8-44 | 10205008802 |
| R134a | 2,1 | RFGD 04E | 1 - | 3/5 | 3/8 x 5/8 | 1/4 | RFGD 04E-1.8-01 | 10205026702 |
| | | | 2 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 04E-2.5-02 | 10205026702 |
| | | | 3 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 04E-3.6-03 | 10205026902 |
| | | | 4 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 04E-4.6-04 | 10205027002 |
| | | | 5 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 04E-5.5-49 | 10205008902 |
| | | | 6 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 04E-6.8-32 | 10205004402 |
| R410A | 4,5 | RFGD 05E | 1 - | 3/5 | 3/8 x 5/8 | 1/4 | RFGD 05E-3.5-22 | 10205002502 |
| | | | 2 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 05E-4.5-23 | 10205002702 |
| | | | 3 - | 4/7 | 1/2 x 7/8 | 1/4 | RFGD 05E-7.0-24 | 10205002802 |
| | | | 4 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 05E-8.6-25 | 10205002902 |
| | | | 5 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 05E-10.6-27 | 10205003102 |
| | | | 6 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD 05E-12.8-26 | 10205003002 |

THERMOSTATIC EXPANSION VALVE



RFGD STANDARD RANGE

E) Models with Imperial Connections

RFGD20 (orifice 7-9) -40°C to +10°C (Models without MOP)

| Ref. | Valve Body | Capacity Size All Sizes | Connections IN x OUT | | Pressure Equal. | Model Name | Product Number U11 Code Multi-Pack |
|--------------------|------------|----------------------------|-------------------------|-------------|--------------------|------------------|--|
| | | | Imperial | [inch] | [inch] | | |
| R407C | RFGD 02E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD02E-12.0-542 | 10205057302 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD02E-12.0-543 | 10205057402 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD02E-15.0-545 | 10205057602 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD02E-15.0-547 | 10205057802 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD02E-18.0-549 | 10205058002 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD02E-18.0-551 | 10205058202 |
| R404A / R507 | RFGD 03E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD03E-9.0-532 | 10205056302 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD03E-9.0-533 | 10205056402 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD03E-11.0-535 | 10205056602 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD03E-11.0-537 | 10205056802 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD03E-13.0-539 | 10205057002 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD03E-13.0-541 | 10205057202 |
| R134a | RFGD 04E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD04E-8.0-501 | 10205054102 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD04E-8.0-502 | 10205054202 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD04E-10.0-504 | 10205054402 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD04E-10.0-520 | 10205054602 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD04E-12.0-522 | 10205054802 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD04E-12.0-524 | 10205055002 |
| R410A | RFGD 05E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD05E-15.0-510 | 10205058302 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD05E-15.0-511 | 10205058402 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD05E-19.0-512 | 10205058602 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD05E-19.0-517 | 10205058802 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD05E-23.0-555 | 10205059002 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD05E-23.0-557 | 10205059202 |

THERMOSTATIC EXPANSION VALVE



RFGD STANDARD RANGE

F) Models with Imperial Connections

RFGD20 (orifice 7-9) -25°C to +10°C with MOP +15°C

| Ref. | Valve Body | Capacity Size All Sizes | Connections IN x OUT | | Pressure Equal. | Model Name | Product Number U11 Code Multi-Pack |
|--------------------|------------|----------------------------|-------------------------|-------------|--------------------|------------------|--|
| | | | Imperial | [inch] | [inch] | | |
| R407C | RFGD 02E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD02E-12.0-637 | 10205062602 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD02E-12.0-638 | 10205062702 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD02E-15.0-640 | 10205062902 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD02E-15.0-642 | 10205063102 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD02E-18.0-644 | 10205063302 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD02E-18.0-646 | 10205063502 |
| R404A / R507 | RFGD 03E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD03E-9.0-627 | 10205061602 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD03E-9.0-628 | 10205061702 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD03E-11.0-630 | 10205061902 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD03E-11.0-632 | 10205062102 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD03E-13.0-634 | 10205062302 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD03E-13.0-636 | 10205062502 |
| R134a | RFGD 04E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD04E-8.0-601 | 10205051202 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD04E-8.0-602 | 10205059302 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD04E-10.0-604 | 10205059502 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD04E-10.0-606 | 10205059702 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD04E-12.0-608 | 10205059902 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD04E-12.0-610 | 10205060102 |
| R410A | RFGD 05E | 7 - | 5/7 | 5/8 x 7/8 | 1/4 | RFGD05E-15.0-647 | 10205063602 |
| | | 7 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD05E-15.0-648 | 10205063702 |
| | | 8 - | 5/9 | 5/8 x 1-1/8 | 1/4 | RFGD05E-19.0-650 | 10205063902 |
| | | 8 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD05E-19.0-652 | 10205064102 |
| | | 9 - | 7/9 | 7/8 x 1-1/8 | 1/4 | RFGD05E-23.0-654 | 10205064302 |
| | | 9 - | 7/11 | 7/8 x 1-3/8 | 1/4 | RFGD05E-23.0-656 | 10205064502 |

THERMOSTATIC EXPANSION VALVE



RFGD STANDARD RANGE

G) Models with Flare Connections

RFGD20 -40°C to +10°C without MOP

| Ref. | Valve Body | Capacity Size All Sizes | Connections | | | Model Name | Product Number U11 Code Multi-Pack |
|-------|------------|----------------------------|-------------|--------------|-----------------|------------------|--|
| | | | Flare | IN x OUT x E | Flare Type | | |
| R134a | RFGD 04E - | 7 - | I5/6 | 5/8×3/4×1/4 | MIO x MIO x MIO | RFGD04E-8.0-525 | 10205055102 |
| | | 8 - | I5/6 | 5/8×3/4×1/4 | MIO x MIO x MIO | RFGD04E-10.0-526 | 10205055202 |
| | | 8 - | S5/6 | 5/8×3/4×1/4 | SAE x SAE x SAE | RFGD04E-10.0-527 | 10205055302 |
| | | 9 - | I5/6 | 5/8×3/4×1/4 | MIO x MIO x MIO | RFGD04E-12.0-528 | 10205055402 |

Connections

1) MIO: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A

2) SAE: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A

H) Models with Flare Connections

RFGD20 -25°C to +10°C with MOP +15°C

| Ref. | Valve Body | Capacity Size All Sizes | Connections | | | Model Name | Product Number U11 Code Multi-Pack |
|-------|------------|----------------------------|-------------|--------------|-------------------|------------------|--|
| | | | Flare | IN x OUT x E | Flare Type | | |
| R134a | RFGD 04E - | 7 - | I5/6 | 5/8×3/4×1/4 | MIO x MIO x MIO | RFGD04E-8.0-611 | 10205051902 |
| | | 7 - | S5/6 | 5/8×3/4×1/4 | SAE x SAE x SAE | RFGD04E-8.0-612 | 10205060202 |
| | | 8 - | I5/6 | 5/8×3/4×1/4 | MIO x MIO x MIO | RFGD04E-10.0-613 | 10205052002 |
| | | 8 - | S5/6 | 5/8×3/4×1/4 | SAE x SAE x SAE | RFGD04E-10.0-614 | 10205060302 |
| | | 9 - | S5/6 | 5/8×3/4×1/4 | SAE x SAE x SAE | RFGD04E-12.0-615 | 10205060402 |
| | | 9 - | O5/6 | 5/8×3/4×1/4 | ORFS x ORFS x SAE | RFGD04E-12.0-616 | 10205060502 |

Connections

1) MIO: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A

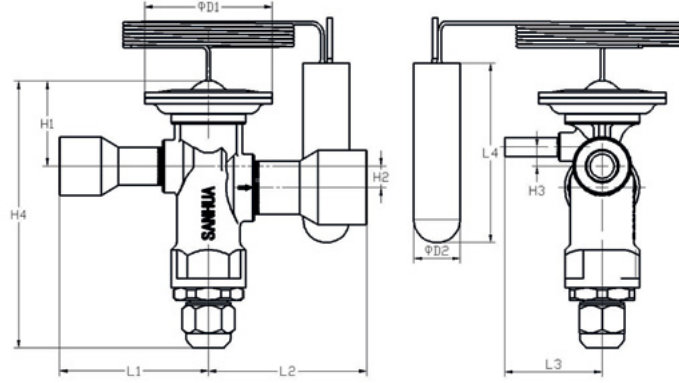
2) SAE: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A

3) ORFS: Inlet = 1-14UNS-2A; Outlet = 1-3/16-12UN-2A; Ext. Equalization port = 7/16-20UNF-2A

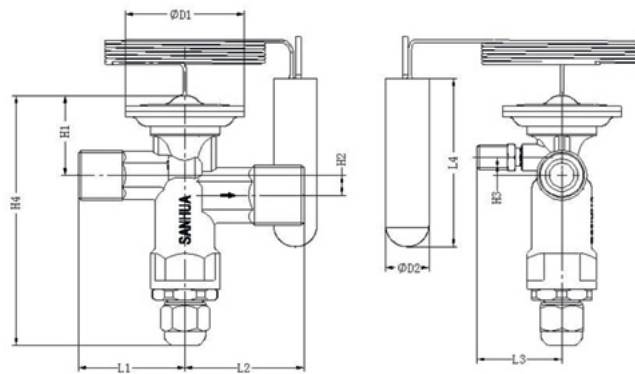
THERMOSTATIC EXPANSION VALVE



DIMENSIONS



| Model | Connections | | Capillary | Dimensions [mm] | | | | | | | | | |
|--------|-------------|--------|-----------|-----------------|------|------|------|------|------|------|------|------|------|
| | Imperial | Metric | | H1 | H2 | H3 | H4 | L1 | L2 | L3 | L4 | ΦD1 | ΦD2 |
| | [inch] | [mm] | | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| RFGD10 | 3/8×5/8 | 10×16 | 1.5 | 30 | 7.5 | 5 | 97 | 41.5 | 45.5 | 37.5 | 64 | 48 | 14.4 |
| | 1/2×7/8 | 12×22 | | | | | | 41.5 | 59.5 | | | | |
| | 5/8×7/8 | 16×22 | | | | | | 45.5 | 59.5 | | | | |
| RFGD20 | 5/8×7/8 | 16×22 | 1.5 | 32 | 9 | 8 | 111 | 48 | 62 | 40.5 | 75 | 53 | 19,2 |
| | 5/8×1-1/8 | 16×28 | | | | | | 48 | 66 | | | | |
| | 7/8×1-1/8 | 22×28 | | | | | | 62 | 66 | | | | |
| | 7/8×1-3/8 | 22×35 | | | | | | 62 | 66 | | | | |



| Model | Connections | | Capillary | Dimensions [mm] | | | | | | | | | |
|--------|----------------------|--|-----------|-----------------|------|------|------|------|------|------|------|------|------|
| | Flare | | | H1 | H2 | H3 | H4 | L1 | L2 | L3 | L4 | ΦD1 | ΦD2 |
| | Inlet x Out x Ext. E | | | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| RFGD20 | 5/8×3/4×1/4MIO | | 1.5 | 32 | 9 | 8 | 111 | 47.5 | 53 | 37.7 | 75 | 53 | 19,2 |
| | 5/8×3/4×1/4SAE | | | | | | | | | | | | |
| | 5/8×3/4 ORFS×1/4 | | | | | | | | | | | | |