

## RFGK SERIES | *Thermostatic Expansion Valve*



RFGK series thermostatic expansion valves are used to regulate refrigerant flow into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They are designed in three different connection configurations: Removable Inlet Strainer, ODF Solder, and SAE Flare.

### FEATURES

- FORGED BRASS BODY
- DOUBLE DIAPHRAGM POWER ELEMENT TO MEET AND EXCEED ENDURANCE REQUIREMENTS
- BALANCED PORT DESIGN TO ADDRESS THE INFLUENCE OF PRESSURE CHANGES IN THE SYSTEM
- STAINLESS STEEL POWER ELEMENT, CAPILLARY TUBE AND BULB
- LASER WELDED POWER ELEMENT

### GENERAL SPECIFICATION

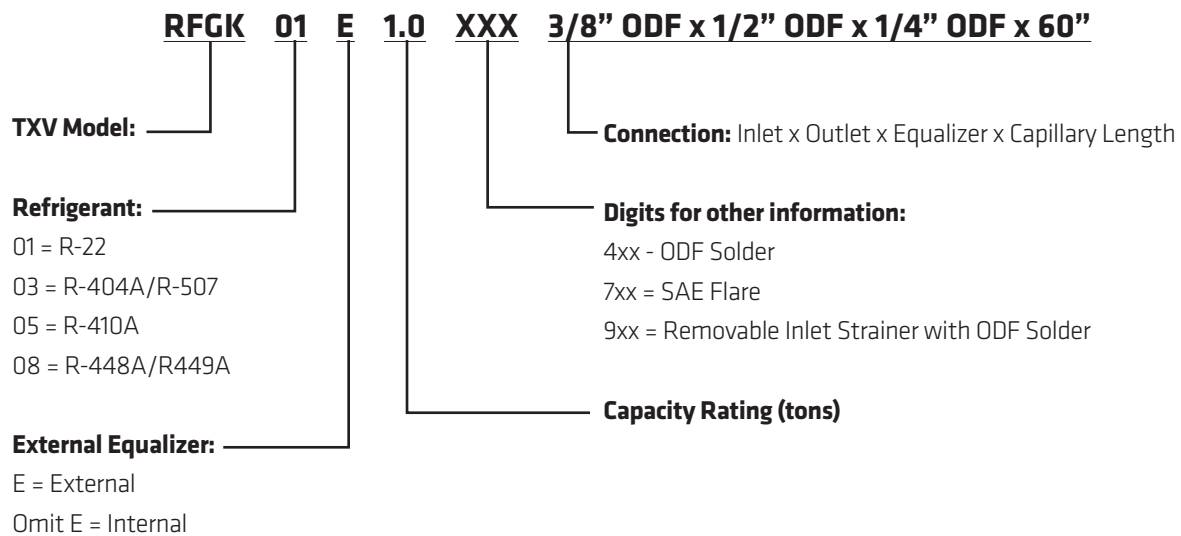
- UL Approved Refrigerants: R22, R23, R290, R32, R407C, R407A, R407F, R448A, R449A, R1234yf, R1234ze, R452A, R450A, R513A, R404A, R507, R410A, R134a, R454B, R454C, R455A, R471A, R407H, R600a, R1270, R452B, R422D, R12, R123, R152A, R422, R422A, R426A, R427A, R447A, R449B, R452C, R454A, R457A, R500, R502, R507A, R600
- Maximum operating pressure:
  - R-410A: 670 psig
  - R-22, R-404A, R-507, R-448A, R-449A: 500 psig
- UL File Number: SA44768

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### TECHNICAL PARAMETERS

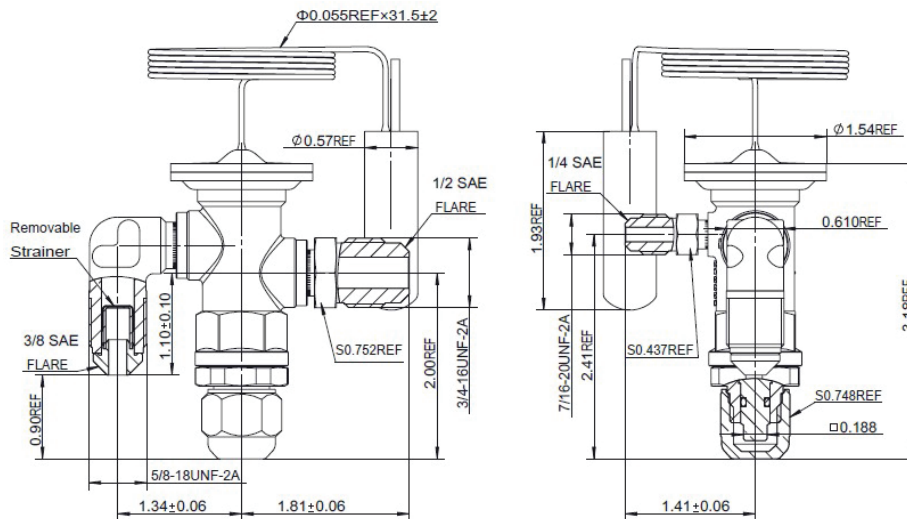
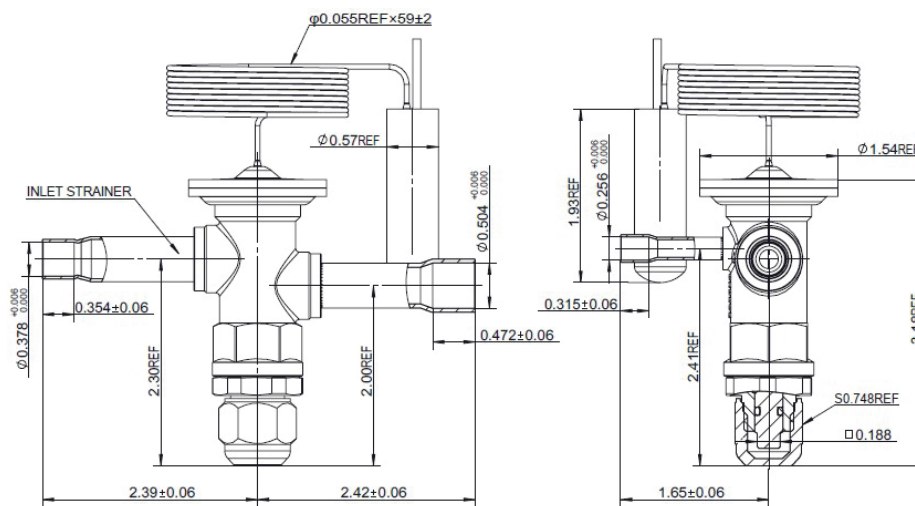
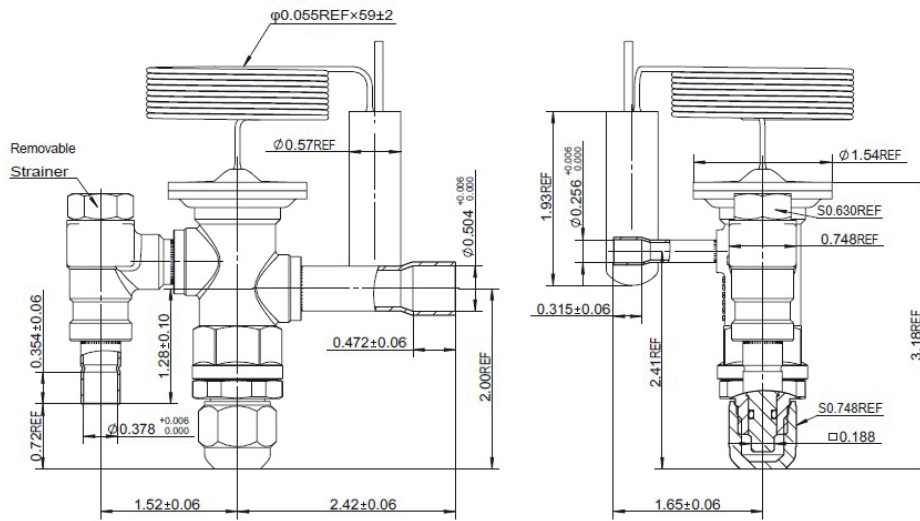
- RFGK valves available in 3 configurations:
  - Angle (Removable Inlet Strainer w/ ODF solder)
  - Angle (SAE Flare Elbow Inlet)
  - Straight through (ODF solder)
- Adjustable superheat or fixed superheat
- Connection types:
  - SAE Flare: Inlet: 1/4" SAE Flare, 3/8" SAE Flare  
Outlet: 1/2" SAE Flare  
Ext. Equalizer: 1/4" SAE Flare
  - Solder: Inlet: 1/4" ODF, 3/8" ODF, 1/2" ODF & 5/8" ODF  
Outlet: 1/2" ODF, 5/8" ODF & 7/8" ODF  
Ext. Equalizer: 1/4" ODF
- Capillary tube length: 60" (1500mm)
- Temperature range:
  - A/C: -22°F to 50°F; with 60°F MOP
  - Medium & Low Temp. Refrigeration: -40°F to 50°F; without MOP
  - Low Temp. Refrigeration: -40°F to 5°F; with 14°F MOP
  - Balanced port design for Bi-flow operation

### MODEL DESIGNATION



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### TECHNICAL DATA



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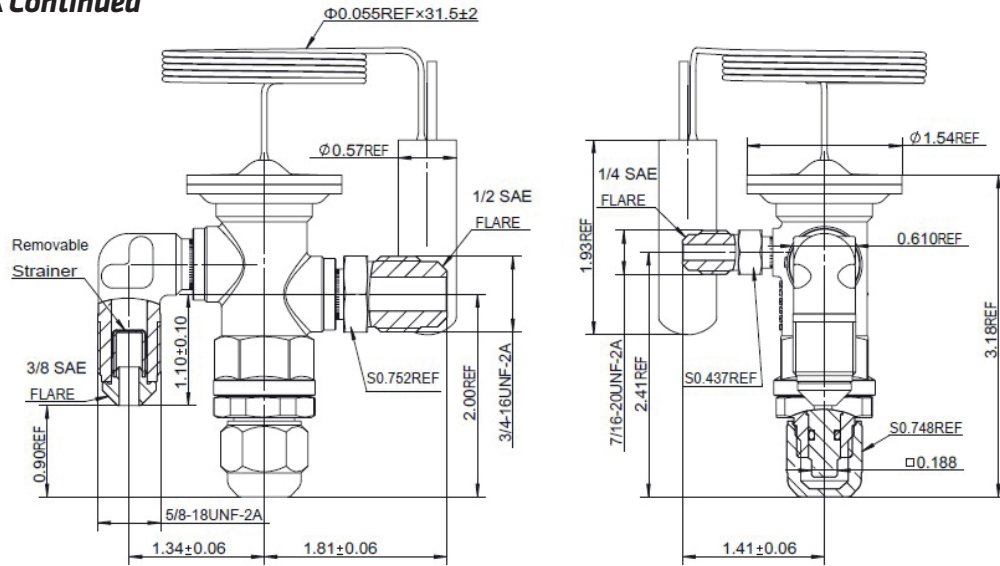
### REFRIGERANT CAPACITY TABLES

| Ref.               | Model Number | Nominal Capacity (tons) | Btu/hr  |
|--------------------|--------------|-------------------------|---------|
| R32<br>(200 psi)   | RFGK13E-1A   | 0.87                    | 10,440  |
|                    | RFGK13E-1.5A | 1.54                    | 18,480  |
|                    | RFGK13E-2A   | 2.03                    | 24,360  |
|                    | RFGK13E-2.5A | 2.60                    | 31,200  |
|                    | RFGK13E-3A   | 3.04                    | 36,480  |
|                    | RFGK13E-4A   | 3.9                     | 46,800  |
|                    | RFGK13E-5A   | 4.76                    | 57,120  |
|                    | RFGK13E-6A   | 6.08                    | 72,960  |
|                    | RFGK13E-7A   | 6.7                     | 80,400  |
|                    | RFGK13E-8A   | 7.7                     | 92,400  |
|                    | RFGK13E-9A   | 9.08                    | 108,960 |
| RFGK13E-10A        | 9.9          | 118,800                 |         |
| R290<br>(100 psi)  | RFGK06E-1    | 1.10                    | 13,200  |
|                    | RFGK06E-1.5  | 1.57                    | 18,840  |
|                    | RFGK06E-2    | 2.16                    | 25,920  |
|                    | RFGK06E-2.5  | 2.67                    | 32,040  |
|                    | RFGK06E-3    | 3.29                    | 39,480  |
|                    | RFGK06E-4    | 4.32                    | 51,840  |
|                    | RFGK06E-5    | 5.46                    | 65,520  |
|                    | RFGK06E-6    | 6.45                    | 77,400  |
| R454B<br>(200 psi) | RFGK19E-1A   | 1.00                    | 12,000  |
|                    | RFGK19E-1.5A | 1.53                    | 18,360  |
|                    | RFGK19E-2A   | 1.95                    | 23,400  |
|                    | RFGK19E-2.5A | 2.49                    | 29,880  |
|                    | RFGK19E-3A   | 2.93                    | 35,160  |
|                    | RFGK19E-4A   | 4.02                    | 48,240  |
|                    | RFGK19E-5A   | 5.04                    | 60,480  |
|                    | RFGK19E-6A   | 5.80                    | 69,600  |
|                    | RFGK19E-7A   | 6.83                    | 81,960  |
| RFGK19E-8A         | 7.45         | 89,400                  |         |

Note: 40°F evap., 110°F cond., 100°F liq, Pressure drop (PSI) listed with Refrigerant

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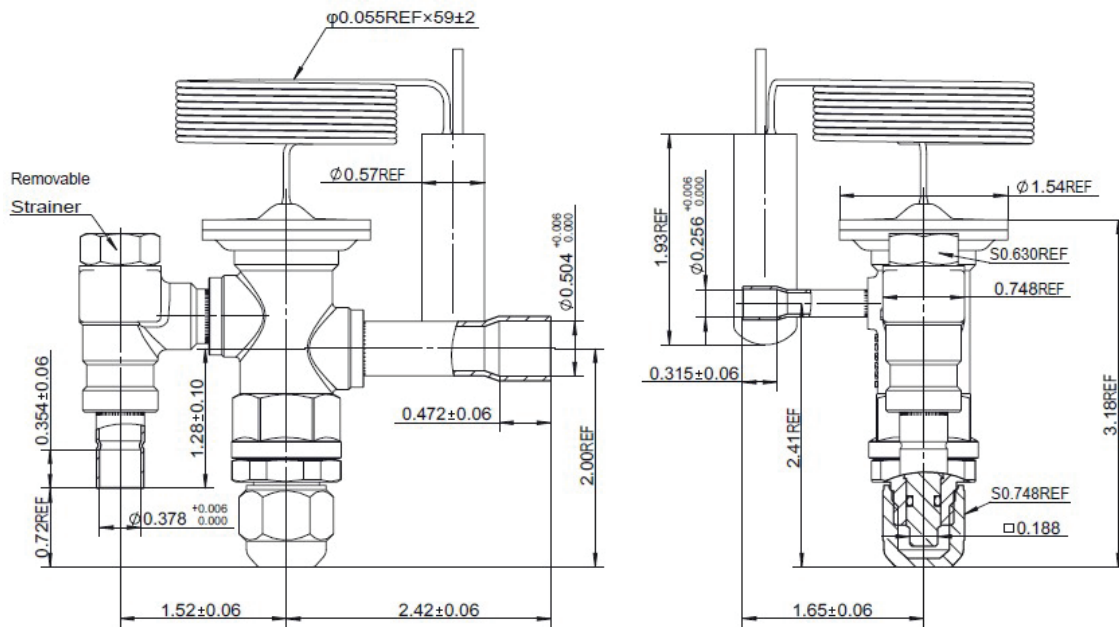
### TECHNICAL DATA *Continued*



| Ref.             | Model Name      | Nominal Capacity (tons) | Connections, SAE Flare (inch) |        |           | Capillary Tube Length (inch) | MOP (Thermostatic Charge) |
|------------------|-----------------|-------------------------|-------------------------------|--------|-----------|------------------------------|---------------------------|
|                  |                 |                         | Inlet                         | Outlet | Equalizer |                              |                           |
| R-404A<br>R-507  | RFGK03E-1.0-716 | 1                       | 3/8                           | 1/2    | 1/4       | 60                           | None                      |
|                  | RFGK03E-1.5-717 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK03E-2.0-718 | 2                       |                               |        |           |                              |                           |
|                  | RFGK03E-3.0-719 | 3                       |                               |        |           |                              |                           |
|                  | RFGK03E-1.0-720 | 1                       |                               |        |           |                              | 48 psig (@14°F)           |
|                  | RFGK03E-1.5-721 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK03E-2.0-722 | 2                       |                               |        |           |                              |                           |
|                  | RFGK08E-3.0-723 | 3                       |                               |        |           |                              |                           |
| R-448A<br>R-449A | RFGK08E-1.0-724 | 1                       | 3/8                           | 1/2    | 1/4       | 60                           | None                      |
|                  | RFGK08E-1.5-725 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK08E-2.0-726 | 2                       |                               |        |           |                              |                           |
|                  | RFGK08E-3.0-727 | 3                       |                               |        |           |                              |                           |
|                  | RFGK08E-1.0-728 | 1                       |                               |        |           |                              | 35 psig (@14°F)           |
|                  | RFGK08E-1.5-729 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK08E-2.0-730 | 2                       |                               |        |           |                              |                           |
|                  | RFGK08E-3.0-731 | 3                       |                               |        |           |                              |                           |
| R-22             | RFGK01E-1.0-711 | 1                       | 1/4                           | 1/2    | 1/4       | 60                           | None                      |
|                  | RFGK01E-1.0-712 | 1                       | 3/8                           |        |           |                              |                           |
|                  | RFGK01E-1.5-713 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK01E-2.0-714 | 2                       |                               |        |           |                              |                           |
|                  | RFGK01E-3.0-715 | 3                       |                               |        |           |                              |                           |

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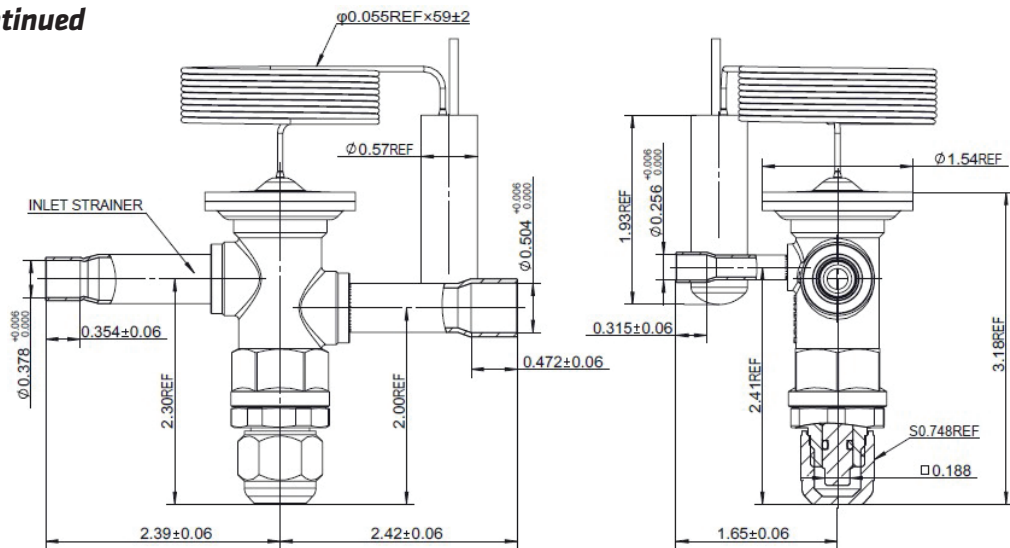
### TECHNICAL DATA



| Ref.             | Model Name      | Nominal Capacity (tons) | Connections, ODF Solder (inch) |         |           | Capillary Tube Length (inch) | MOP (Thermostatic Charge) |
|------------------|-----------------|-------------------------|--------------------------------|---------|-----------|------------------------------|---------------------------|
|                  |                 |                         | Inlet                          | Outlet  | Equalizer |                              |                           |
| R-404A<br>R-507  | RFGK03E-1.5-905 | 1                       | 3/8 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | None                      |
|                  | RFGK03E-2.0-906 | 2                       |                                |         |           |                              |                           |
|                  | RFGK03E-3.0-907 | 3                       |                                |         |           |                              |                           |
|                  | RFGK03E-1.0-908 | 1                       |                                |         |           |                              |                           |
|                  | RFGK03E-1.5-909 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK03E-2.0-910 | 2                       |                                |         |           |                              |                           |
|                  | RFGK03E-3.0-911 | 3                       |                                |         |           |                              |                           |
| R-448A<br>R-449A | RFGK08E-1.5-912 | 1                       | 3/8 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | None                      |
|                  | RFGK08E-2.0-913 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK08E-3.0-914 | 2                       |                                |         |           |                              |                           |
|                  | RFGK08E-1.0-915 | 3                       |                                |         |           |                              |                           |
|                  | RFGK08E-1.5-916 | 1                       |                                |         |           |                              |                           |
|                  | RFGK08E-2.0-917 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK08E-3.0-918 | 2                       |                                |         |           |                              |                           |
|                  | RFGK08E-1.5-919 | 3                       |                                |         |           |                              |                           |
| R-22             | RFGK01E-1.0-901 | 1                       | 3/8 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | ---                       |
|                  | RFGK01E-1.5-902 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK01E-2.0-903 | 2                       |                                |         |           |                              |                           |
|                  | RFGK01E-3.0-904 | 3                       |                                |         |           |                              |                           |

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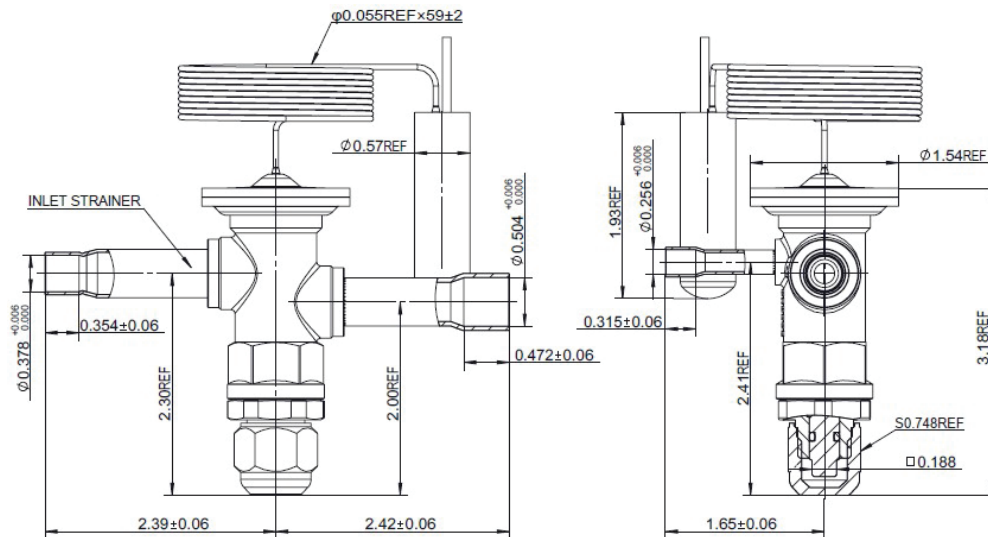
### TECHNICAL DATA *Continued*



| Ref.             | Model Name      | Nominal Capacity (tons) | Connections, ODF Solder (inch) |         |           | Capillary Tube Length (inch) | MOP (Thermostatic Charge) |
|------------------|-----------------|-------------------------|--------------------------------|---------|-----------|------------------------------|---------------------------|
|                  |                 |                         | Inlet                          | Outlet  | Equalizer |                              |                           |
| R-404A<br>R-507  | RFGK03E-1.0-430 | 1                       | 1/4 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | ---                       |
|                  | RFGK03E-1.0-431 | 1                       | 3/8 ODF                        |         |           |                              |                           |
|                  | RFGK03E-1.5-432 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK03E-2.0-433 | 2                       | 1/2 ODF                        | 5/8 ODF | 1/4 ODF   | 60                           | 48 psig (@14°F)           |
|                  | RFGK03E-3.0-434 | 3                       |                                |         |           |                              |                           |
|                  | RFGK03E-3.0-435 | 3                       | 3/8 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | 48 psig (@14°F)           |
|                  | RFGK03E-1.0-436 | 1                       |                                |         |           |                              |                           |
|                  | RFGK03E-1.5-437 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK03E-2.0-438 | 2                       |                                |         |           |                              |                           |
|                  | RFGK03E-3.0-439 | 3                       | 1/2 ODF                        | 5/8 ODF | 1/4 ODF   | 60                           | 48 psig (@14°F)           |
| RFGK03E-3.0-440  | 3               |                         |                                |         |           |                              |                           |
| R-448A<br>R-449A | RFGK08E-1.0-462 | 1                       | 1/4 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | ---                       |
|                  | RFGK08E-1.0-441 | 1                       | 3/8 ODF                        |         |           |                              |                           |
|                  | RFGK08E-1.5-442 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK08E-2.0-443 | 2                       | 1/2 ODF                        | 5/8 ODF | 1/4 ODF   | 60                           | 35 psig (@14°F)           |
|                  | RFGK08E-3.0-444 | 3                       |                                |         |           |                              |                           |
|                  | RFGK08E-3.0-460 | 3                       | 3/8 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | 35 psig (@14°F)           |
|                  | RFGK08E-1.0-455 | 1                       |                                |         |           |                              |                           |
|                  | RFGK08E-1.5-456 | 1.5                     |                                |         |           |                              |                           |
|                  | RFGK08E-2.0-457 | 2                       |                                |         |           |                              |                           |
|                  | RFGK08E-3.0-458 | 3                       | 1/2 ODF                        | 5/8 ODF | 1/4 ODF   | 60                           | 35 psig (@14°F)           |
| RFGK08E-3.0-459  | 3               |                         |                                |         |           |                              |                           |

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### TECHNICAL DATA *Continued*

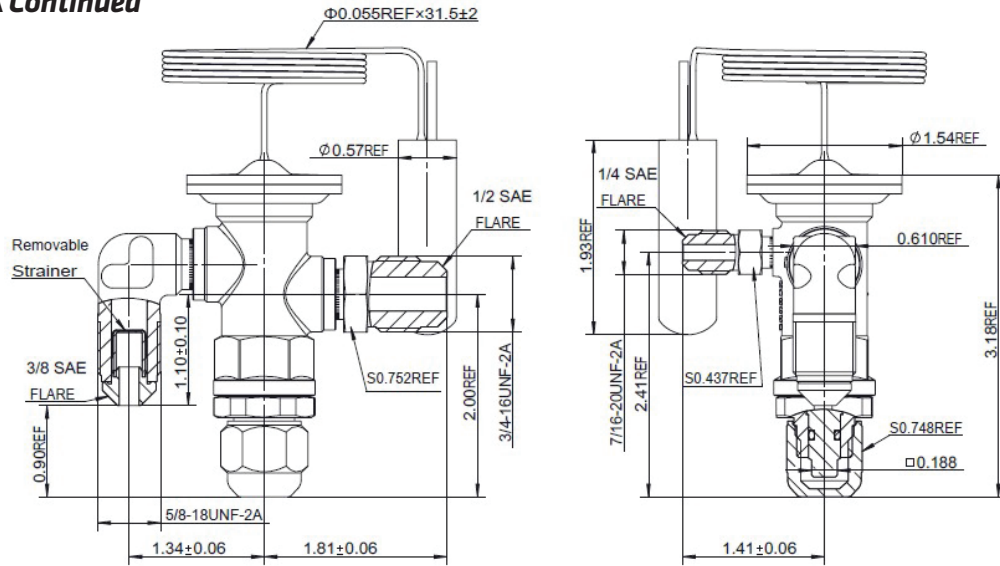


| Ref. | Model Name      | Nominal Capacity (tons) | Connections, ODF Solder (inch) |         |           | Capillary Tube Length (inch) | MOP (Thermostatic Charge) |
|------|-----------------|-------------------------|--------------------------------|---------|-----------|------------------------------|---------------------------|
|      |                 |                         | Inlet                          | Outlet  | Equalizer |                              |                           |
| R-22 | RFGK01E-1.0-401 | 1                       | 1/4 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | None                      |
|      | RFGK01E-1.0-402 | 1                       | 3/8 ODF                        |         |           |                              |                           |
|      | RFGK01E-1.5-403 | 1.5                     |                                |         |           |                              |                           |
|      | RFGK01E-2.0-404 | 2                       |                                |         |           |                              |                           |
|      | RFGK01E-3.0-405 | 3                       |                                |         |           |                              |                           |
|      | RFGK01E-3.0-406 | 3                       | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-4.0-407 | 4                       | 3/8 ODF                        | 1/2 ODF |           |                              |                           |
|      | RFGK01E-4.0-408 | 4                       | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-4.0-409 | 4                       |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-5.0-410 | 5                       | 3/8 ODF                        | 1/2 ODF |           |                              |                           |
|      | RFGK01E-5.0-411 | 5                       | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-5.0-412 | 5                       |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-413 | 6                       |                                | 5/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-414 | 6                       | 5/8 ODF                        | 7/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-415 | 6                       |                                |         |           |                              |                           |

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## RFGK SERIES | *Thermostatic Expansion Valve*

### TECHNICAL DATA *Continued*



| Ref.             | Model Name      | Nominal Capacity (tons) | Connections, SAE Flare (inch) |        |           | Capillary Tube Length (inch) | MOP (Thermostatic Charge) |
|------------------|-----------------|-------------------------|-------------------------------|--------|-----------|------------------------------|---------------------------|
|                  |                 |                         | Inlet                         | Outlet | Equalizer |                              |                           |
| R-404A<br>R-507  | RFGK03E-1.0-716 | 1                       | 3/8                           | 1/2    | 1/4       | 60                           | None                      |
|                  | RFGK03E-1.5-717 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK03E-2.0-718 | 2                       |                               |        |           |                              |                           |
|                  | RFGK03E-3.0-719 | 3                       |                               |        |           |                              |                           |
|                  | RFGK03E-1.0-720 | 1                       |                               |        |           |                              | 48 psig (@14°F)           |
|                  | RFGK03E-1.5-721 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK03E-2.0-722 | 2                       |                               |        |           |                              |                           |
|                  | RFGK08E-3.0-723 | 3                       |                               |        |           |                              |                           |
| R-448A<br>R-449A | RFGK08E-1.0-724 | 1                       | 3/8                           | 1/2    | 1/4       | 60                           | None                      |
|                  | RFGK08E-1.5-725 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK08E-2.0-726 | 2                       |                               |        |           |                              |                           |
|                  | RFGK08E-3.0-727 | 3                       |                               |        |           |                              |                           |
|                  | RFGK08E-1.0-728 | 1                       |                               |        |           |                              | 35 psig (@14°F)           |
|                  | RFGK08E-1.5-729 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK08E-2.0-730 | 2                       |                               |        |           |                              |                           |
|                  | RFGK08E-3.0-731 | 3                       |                               |        |           |                              |                           |
| R-22             | RFGK01E-1.0-711 | 1                       | 1/4                           | 1/2    | 1/4       | 60                           | None                      |
|                  | RFGK01E-1.0-712 | 1                       | 3/8                           |        |           |                              |                           |
|                  | RFGK01E-1.5-713 | 1.5                     |                               |        |           |                              |                           |
|                  | RFGK01E-2.0-714 | 2                       |                               |        |           |                              |                           |
|                  | RFGK01E-3.0-715 | 3                       |                               |        |           |                              |                           |

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### TECHNICAL DATA *Continued*

| Ref. | Model Name      | Nominal Capacity (tons) | Connections, ODF Solder (inch) |         |           | Capillary Tube Length (inch) | MOP (Thermostatic Charge) |
|------|-----------------|-------------------------|--------------------------------|---------|-----------|------------------------------|---------------------------|
|      |                 |                         | Inlet                          | Outlet  | Equalizer |                              |                           |
| R-22 | RFGK01E-1.0-401 | 1                       | 1/4 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | None                      |
|      | RFGK01E-1.0-402 | 1                       | 3/8 ODF                        |         |           |                              |                           |
|      | RFGK01E-1.5-403 | 1.5                     |                                |         |           |                              |                           |
|      | RFGK01E-2.0-404 | 2                       |                                |         |           |                              |                           |
|      | RFGK01E-3.0-405 | 3                       |                                |         |           |                              |                           |
|      | RFGK01E-3.0-406 | 3                       |                                | 1/2 ODF |           |                              |                           |
|      | RFGK01E-4.0-407 | 4                       | 3/8 ODF                        | 1/2 ODF |           |                              |                           |
|      | RFGK01E-4.0-408 | 4                       | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-4.0-409 | 4                       |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-5.0-410 | 5                       | 3/8 ODF                        | 1/2 ODF |           |                              |                           |
|      | RFGK01E-5.0-411 | 5                       | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-5.0-412 | 5                       |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-413 | 6                       |                                | 5/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-414 | 6                       |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-415 | 6                       |                                |         |           |                              |                           |
| R-22 | RFGK01E-1.0-416 | 1.0                     | 3/8 ODF                        | 1/2 ODF | 1/4 ODF   | 60                           | 100 psig (@60°F)          |
|      | RFGK01E-1.5-417 | 1.5                     |                                |         |           |                              |                           |
|      | RFGK01E-2.0-418 | 2.0                     |                                |         |           |                              |                           |
|      | RFGK01E-3.0-419 | 3.0                     |                                |         |           |                              |                           |
|      | RFGK01E-3.0-420 | 3.0                     | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-4.0-421 | 4.0                     | 3/8 ODF                        | 1/2 ODF |           |                              |                           |
|      | RFGK01E-4.0-422 | 4.0                     | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-4.0-423 | 4.0                     |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-5.0-424 | 5.0                     | 3/8 ODF                        | 1/2 ODF |           |                              |                           |
|      | RFGK01E-5.0-425 | 5.0                     | 1/2 ODF                        | 5/8 ODF |           |                              |                           |
|      | RFGK01E-5.0-426 | 5.0                     |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-427 | 6.0                     |                                | 5/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-428 | 6.0                     |                                | 7/8 ODF |           |                              |                           |
|      | RFGK01E-6.0-429 | 6.0                     |                                |         |           |                              |                           |