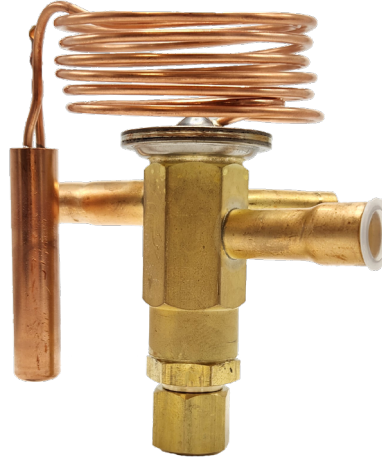


# Thermostatic Expansion Valves



M Series - Miniature/Compact



## Description

The Ranco® M Series Thermostatic Expansion Valves (TXV) are designed to meet the requirements of small refrigeration equipment. This TXV is used to adjust the refrigerant supply volume in the evaporator by sensing the superheat degree of the evaporator outlet through a thermal sensing bulb and external (internal) balance.

## Features and Benefits

- 2 optional designs: adjustable superheat degree (straight-way style) and non-adjustable (right-angle style)
- Compact structure of valve body
- Power head uses continuous laser welding, providing a high welding strength and a long diaphragm life
- Available back pressure capability, 15% or 30%
- Available Maximum Operating Pressure (MOP) function
- Optional imported filter
- Standard capillary tube length: 30 in. (0.75 m)
- UL and CE Certified

## Applications

- Commercial refrigeration
- Air conditioning
- Split systems
- Heat pump systems

**1** Year  
Limited  
Warranty



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# Specifications

|  |   |
|--|---|
| <b>Applicable refrigerants</b>                         | R134A, R404A, R407C, R22, R290, R448A and R449A |
| <b>Maximum working pressure</b>                        | 493 PSI (3.4 MPa)                               |
| <b>Medium temperature range</b>                        | -40°F to 158°F (-40°C to 70°C)                  |
| <b>Ambient temperature range</b>                       | -22°F to 131°F (-30°C to 55°C)                  |
| <b>Maximum thermal bulb temperature</b>                | 212°F (100°C)                                   |
| <b>Maximum valve body temperature</b>                  | 230°F (110°C)                                   |
| <b>Static state superheat degree adjustment change</b> | 0K to 8K  |
| <b>Static state superheat degree setting</b>           | 4K  |
| <b>Relative humidity</b>                               | 95%   |

# Replacement Information

| Ranco Part Numbers | Danfoss (TD 1) | Sporlan (EG) | Sanhua (RFGB) | Nominal Capacity (tons) | Connections, ODF Solder (inch) |        |           | Capillary Tube Length (inch) | Refrigerants   | Structure                                  |
|--------------------|----------------|--------------|---------------|-------------------------|--------------------------------|--------|-----------|------------------------------|----------------|--|
|                    |                |              |               |                         | Inlet                          | Outlet | Equalizer |                              |                |  |
|                    |                |              |               |                         | (inch)                         | (inch) | (inch)    |                              |                |  |
| RTXVM-0.11A-1      | 068N5602       | EGJ-1/8      | RFGB04-0.12   | 0.11                    | 1/4                            | 3/8    | NA        | 29.5                         | R-134A         | Angleway (Internal equalization structure) |
| RTXVM-0.25A-1      | 068N5614       | EGJ-1/4      |               | 0.25                    |                                |        |           |                              |                |  |
| RTXVM-0.5A-1       | 068N5665       | EGJ-1/2      | RFGB04-0.44   | 0.5                     |                                |        |           |                              |                |  |
| RTXVM-0.78A-1      | 068N5692       |              | RFGB04-0.63   | 0.78                    |                                |        |           |                              |                |  |
| RTXVM-0.9A-1       |                |              |               | 0.9                     |                                |        |           |                              |                |  |
| RTXVM-1.3A-1       | 068N5695       | EGJ-1        | RFGB04-0.1.3  | 1.3                     | 3/8                            | 1/2    | NA        | 29.5                         | R-407C         |  |
| RTXVM-1.9A-1       |                | EGJ-1-1/2    |               | 1.9                     |                                |        |           |                              |                |  |
| RTXVM-2.5A-1       |                |              |               | 2.5                     |                                |        |           |                              |                |  |
| RTXVM-3A-1         |                |              |               | 3                       | 1/4                            | 3/8    | NA        | 29.5                         | R-407C         |  |
| RTXVM-0.16A-3      |                |              |               | 0.16                    |                                |        |           |                              |                |  |
| RTXVM-0.3A-3       | 068N5640       | EGV-1/5      | RFGB02-0.38   | 0.3                     |                                |        |           |                              |                |  |
| RTXVM-0.8A-3       |                | EGV-1/2      |               | 0.8                     |                                |        |           |                              |                |  |
| RTXVM-1.1A-3       | 068N5685       | EGV-1        | RFGB02-1.1    | 1.1                     |                                |        |           |                              |                |  |
| RTXVM-1.25A-3      | 068N5676       |              |               | 1.25                    | 3/8                            | 1/2    | NA        | 29.5                         | R-22           |  |
| RTXVM-1.6A-3       |                | EGV-1-1/2    | RFGB02-1.6    | 1.6                     |                                |        |           |                              |                |  |
| RTXVM-2.5A-3       |                | EGV-2-1/2    | RFGB02-2.2    | 2.5                     |                                |        |           |                              |                |  |
| RTXVM-3.2A-3       |                |              |               | 3.2                     | 1/4                            | 3/8    | NA        | 29.5                         | R-22           |  |
| RTXVM-4.9A-3       |                |              |               | 4.9                     |                                |        |           |                              |                |  |
| RTXVM-0.15A-2      |                |              | RFGB01-0.17   | 0.15                    |                                |        |           |                              |                |  |
| RTXVM-0.3A-2       |                | EGV-1/5      |               | 0.3                     |                                |        |           |                              |                |  |
| RTXVM-0.7A-2       | 068N5657       | EGV-1/2      | RFGB01-0.70   | 0.7                     |                                |        |           |                              |                |  |
| RTXVM-1A-2         |                | EGV-1        | RFGB01-1.0    | 1                       | 3/8                            | 1/2    | NA        | 29.5                         | R-404A / R-507 |  |
| RTXVM-1.15A-2      | 068N5685       |              |               | 1.15                    |                                |        |           |                              |                |  |
| RTXVM-1.5A-2       |                | EGV-1-1/2    | RFGB01-1.5    | 1.5                     |                                |        |           |                              |                |  |
| RTXVM-2.3A-2       |                |              |               | 2.3                     | 1/4                            | 3/8    | NA        | 29.5                         | R-404A / R-507 |  |
| RTXVM-3A-2         |                | EGV-2-1/2    |               | 3                       |                                |        |           |                              |                |  |
| RTXVM-4.5A-2       |                |              |               | 4.5                     |                                |        |           |                              |                |  |
| RTXVM-0.11A-5      | 068N7603       | EGS-1/8      | RFGB03-0.13   | 0.11                    |                                |        |           |                              |                |  |
| RTXVM-0.21A-5      | 068N5630       | EGS-1/4      | RFGB03-0.25   | 0.21                    |                                |        |           |                              |                | 3/8  |
| RTXVM-0.45A-5      | 068N5620       | EGS-1/2      |               | 0.45                    |                                |        |           |                              |                |  |
| RTXVM-0.6A-5       | 068N5652       |              | RFGB03-0.50   | 0.6                     |                                |        |           |                              |                |  |
| RTXVM-0.8A-5       |                |              | RFGB03-0.70   | 0.8                     | 1/4                            | 3/8    | NA        | 29.5                         | R-404A / R-507 |  |
| RTXVM-1.2A-5       |                | EGS-1        | RFGB03-1.0    | 1.2                     |                                |        |           |                              |                |  |
| RTXVM-1.7A-5       |                | EGS-1-1/2    | RFGB03-1.4    | 1.7                     |                                |        |           |                              |                |  |
| RTXVM-2.2A-5       |                |              |               | 2.2                     |                                |        |           |                              |                |  |
| RTXVM-2.6A-5       |                |              |               | 2.6                     |                                |        |           |                              |                |  |

| Ranco Part Numbers | Danfoss (TD 1) | Sporlan (EG) | Sanhua (RFGB) | Nominal Capacity (tons) | Connections, ODF Solder (inch) |        |           | Capillary Tube Length (inch) | Refrigerants   | Structure                                     |
|--------------------|----------------|--------------|---------------|-------------------------|--------------------------------|--------|-----------|------------------------------|----------------|---|
|                    |                |              |               |                         | Inlet                          | Outlet | Equalizer |                              |                |   |
|                    |                |              |               |                         | (inch)                         | (inch) | (inch)    |                              |                |   |
| RTXVM-0.17A-8      | 068N5637       |              | RFGB06-0.17   | 0.17                    | 1/4                            | 3/8    | NA        | 29.5                         | R-290          | Angleway (Internal equalization structure)    |
| RTXVM-0.32A-8      | 068N5603       |              | RFGB06-0.35   | 0.32                    |                                |        |           |                              |                |   |
| RTXVM-0.74A-8      | 068N5634       |              | RFGB06-0.70   | 0.74                    |                                |        |           |                              |                |   |
| RTXVM-1.1A-8       | 068N5662       |              | RFGB06-1.0    | 1.1                     |                                |        |           |                              |                |   |
| RTXVM-1.25A-8      | 068N5690       |              |               | 1.25                    |                                |        |           |                              |                |   |
| RTXVM-1.6A-8       |                |              | RFGB06-1.5    | 1.6                     |                                |        |           |                              |                |   |
| RTXVM-2.4A-8       | 068N5697       |              |               | 2.4                     | 3/8                            | 1/2    | NA        | 29.5                         | R-134A         |   |
| RTXVM-3.2A-8       |                |              |               | 3.2                     |                                |        |           |                              |                |   |
| RTXVM-4.7A-8       |                |              |               | 4.7                     |                                |        |           |                              |                |   |
| RTXVM-0.11B-1      | 068N5703       | EFJ-1/8      | RFGB04-0.12   | 0.11                    | 1/4                            | 3/8    | NA        | 29.5                         | R-134A         |   |
| RTXVM-0.25B-1      | 068N5710       | EFJ-1/4      |               | 0.25                    |                                |        |           |                              |                |   |
| RTXVM-0.5B-1       |                | EFJ-1/2      | RFGB04-0.44   | 0.5                     |                                |        |           |                              |                |   |
| RTXVM-0.78B-1      | 068N5699       |              | RFGB04-0.63   | 0.78                    |                                |        |           |                              |                |   |
| RTXVM-0.9B-1       | 068N7661       | EFJ-1        |               | 0.9                     |                                |        |           |                              |                |   |
| RTXVM-1.3B-1       |                | EFJ-1-1/2    | RFGB04-0.1.3  | 1.3                     |                                |        |           |                              |                |   |
| RTXVM-1.9B-1       |                |              |               | 1.9                     | 3/8                            | 1/2    | NA        | 29.5                         | R-407C         |   |
| RTXVM-2.5B-1       |                |              |               | 2.5                     |                                |        |           |                              |                |   |
| RTXVM-3B-1         |                |              |               | 3                       |                                |        |           |                              |                |   |
| RTXVM-0.16B-3      |                |              |               | 0.16                    | 1/4                            | 3/8    | NA        | 29.5                         | R-407C         |   |
| RTXVM-0.3B-3       | 068N7657       |              | RFGB02-0.38   | 0.3                     |                                |        |           |                              |                |   |
| RTXVM-0.8B-3       |                |              |               | 0.8                     |                                |        |           |                              |                |   |
| RTXVM-1.1B-3       |                |              | RFGB02-1.1    | 1.1                     |                                |        |           |                              |                |   |
| RTXVM-1.25B-3      |                |              |               | 1.25                    |                                |        |           |                              |                |   |
| RTXVM-1.6B-3       |                |              | RFGB02-1.6    | 1.6                     |                                |        |           |                              |                |   |
| RTXVM-2.5B-3       |                |              | RFGB02-2.2    | 2.5                     | 3/8                            | 1/2    | NA        | 29.5                         | R-22           | Straightway (Internal equalization structure) |
| RTXVM-3.2B-3       |                |              |               | 3.2                     |                                |        |           |                              |                |   |
| RTXVM-4.9B-3       |                |              |               | 4.9                     |                                |        |           |                              |                |   |
| RTXVM-0.15B-2      |                |              |               | 0.15                    | 1/4                            | 3/8    | NA        | 29.5                         | R-22           | Straightway (Internal equalization structure) |
| RTXVM-0.3B-2       |                | EFV-1/3      | RFGB01-0.17   | 0.3                     |                                |        |           |                              |                |   |
| RTXVM-0.7B-2       |                |              | RFGB01-0.70   | 0.7                     |                                |        |           |                              |                |   |
| RTXVM-1B-2         |                | EFV-1        | RFGB01-1.0    | 1                       |                                |        |           |                              |                |   |
| RTXVM-1.15B-2      |                |              |               | 1.15                    |                                |        |           |                              |                |   |
| RTXVM-1.5B-2       |                | EFV-1-1/2    | RFGB01-1.5    | 1.5                     |                                |        |           |                              |                |   |
| RTXVM-2.3B-2       |                | EFV-2-1/2    |               | 2.3                     | 3/8                            | 1/2    | NA        | 29.5                         | R-404A / R-507 |   |
| RTXVM-3B-2         |                |              |               | 3                       |                                |        |           |                              |                |   |
| RTXVM-4.5B-2       |                |              |               | 4.5                     |                                |        |           |                              |                |   |
| RTXVM-0.11B-5      |                | EFS-1/8      | RFGB03-0.13   | 0.11                    | 1/4                            | 3/8    | NA        | 29.5                         | R-404A / R-507 |   |
| RTXVM-0.21B-5      | 068N7668       | EFS-1/4      | RFGB03-0.25   | 0.21                    |                                |        |           |                              |                |   |
| RTXVM-0.45B-5      | 068N7669       | EFS-1/2      |               | 0.45                    |                                |        |           |                              |                |   |
| RTXVM-0.6B-5       | 068N7633       |              | RFGB03-0.50   | 0.6                     |                                |        |           |                              |                |   |
| RTXVM-0.8B-5       |                |              | RFGB03-0.70   | 0.8                     |                                |        |           |                              |                |   |
| RTXVM-1.2B-5       |                | EFS-1        | RFGB03-1.0    | 1.2                     |                                |        |           |                              |                |   |
| RTXVM-1.7B-5       |                | EFS-1-1/2    | RFGB03-1.4    | 1.7                     | 3/8                            | 1/2    | NA        | 29.5                         | R-290          |   |
| RTXVM-2.2B-5       |                |              |               | 2.2                     |                                |        |           |                              |                |   |
| RTXVM-2.6B-5       |                |              |               | 2.6                     |                                |        |           |                              |                |   |
| RTXVM-0.17B-8      | 068N7643       |              | RFGB06-0.17   | 0.17                    | 1/4                            | 3/8    | NA        | 29.5                         | R-290          |   |
| RTXVM-0.32B-8      | 068N7656       |              | RFGB06-0.35   | 0.32                    |                                |        |           |                              |                |   |
| RTXVM-0.74B-8      | 068N7689       |              | RFGB06-0.70   | 0.74                    |                                |        |           |                              |                |   |
| RTXVM-1.1B-8       |                |              | RFGB06-1.0    | 1.1                     |                                |        |           |                              |                |   |
| RTXVM-1.25B-8      |                |              |               | 1.25                    |                                |        |           |                              |                |   |
| RTXVM-1.6B-8       |                |              | RFGB06-1.5    | 1.6                     |                                |        |           |                              |                |   |
| RTXVM-2.4B-8       |                |              |               | 2.4                     | 3/8                            | 1/2    | NA        | 29.5                         | R-290          |   |
| RTXVM-3.2B-8       |                |              |               | 3.2                     |                                |        |           |                              |                |   |
| RTXVM-4.7B-8       |                |              |               | 4.7                     |                                |        |           |                              |                |   |

| Ranco Part Numbers | Danfoss (TD 1) | Sporlan (EG) | Sanhua (RFGB)   | Nominal Capacity (tons) | Connections, ODF Solder (inch) |        |           | Capillary Tube Length (inch) | Refrigerants   | Structure |
|--------------------|----------------|--------------|-----------------|-------------------------|--------------------------------|--------|-----------|------------------------------|----------------|-----------|
|                    |                |              |                 |                         | Inlet                          | Outlet | Equalizer |                              |                |           |
|                    |                |              |                 |                         | (inch)                         | (inch) | (inch)    |                              |                |           |
| RTXVM-0.11E-1      | 068N5703       | EFJE-1/8     | RFGB04(E)-0.12  | 0.11                    | 1/4                            | 3/8    | 1/4       | 29.5                         | R-134A         |           |
| RTXVM-0.25E-1      | 068N5710       | EFJE-1/4     |                 | 0.25                    |                                |        |           |                              |                |           |
| RTXVM-0.5E-1       |                | EFJE-1/2     | RFGB04(E)-0.44  | 0.5                     |                                |        |           |                              |                |           |
| RTXVM-0.78E-1      | 068N5699       |              | RFGB04(E)-0.63  | 0.78                    |                                |        |           |                              |                |           |
| RTXVM-0.9E-1       | 068N7661       | EFJE-1       |                 | 0.9                     |                                |        |           |                              |                |           |
| RTXVM-1.3E-1       |                | EFJE-1-1/2   | RFGB04(E)-0.1.3 | 1.3                     |                                |        |           |                              |                |           |
| RTXVM-1.9E-1       |                | EFJE-2       |                 | 1.9                     | 3/8                            | 1/2    |           |                              |                |           |
| RTXVM-2.5E-1       |                |              |                 | 2.5                     |                                |        |           |                              |                |           |
| RTXVM-3E-1         |                |              |                 | 3                       |                                |        |           |                              |                |           |
| RTXVM-0.16E-3      |                |              |                 | 0.16                    | 1/4                            | 3/8    | 1/4       | 29.5                         | R-407C         |           |
| RTXVM-0.3E-3       | 068N7657       | EFVE-1/3     | RFGB02(E)-0.38  | 0.3                     |                                |        |           |                              |                |           |
| RTXVM-0.8E-3       |                | EFVE-1/2     |                 | 0.8                     |                                |        |           |                              |                |           |
| RTXVM-1.1E-3       |                | EFVE-1       | RFGB02(E)-1.1   | 1.1                     |                                |        |           |                              |                |           |
| RTXVM-1.25E-3      |                |              |                 | 1.25                    |                                |        |           |                              |                |           |
| RTXVM-1.6E-3       |                | EFVE-1-1/2   | RFGB02(E)-1.6   | 1.6                     |                                |        |           |                              |                |           |
| RTXVM-2.5E-3       |                |              | RFGB02(E)-2.2   | 2.5                     | 3/8                            | 1/2    |           |                              |                |           |
| RTXVM-3.2E-3       |                |              |                 | 3.2                     |                                |        |           |                              |                |           |
| RTXVM-4.9E-3       |                |              |                 | 4.9                     |                                |        |           |                              |                |           |
| RTXVM-0.15E-2      |                |              |                 | 0.15                    | 1/4                            | 3/8    | 1/4       | 29.5                         | R-22           |           |
| RTXVM-0.3E-2       |                |              | RFGB01(E)-0.17  | 0.3                     |                                |        |           |                              |                |           |
| RTXVM-0.7E-2       |                | EFVE-1/2     | RFGB01(E)-0.70  | 0.7                     |                                |        |           |                              |                |           |
| RTXVM-1E-2         |                | EFVE-1       | RFGB01(E)-1.0   | 1                       |                                |        |           |                              |                |           |
| RTXVM-1.15E-2      |                |              |                 | 1.15                    |                                |        |           |                              |                |           |
| RTXVM-1.5E-2       |                | EFVE-1-1/2   | RFGB01(E)-1.5   | 1.5                     |                                |        |           |                              |                |           |
| RTXVM-2.3E-2       |                | EFVE-2       |                 | 2.3                     | 3/8                            | 1/2    |           |                              |                |           |
| RTXVM-3E-2         |                | EFVE-3       |                 | 3                       |                                |        |           |                              |                |           |
| RTXVM-4.5E-2       |                |              |                 | 4.5                     |                                |        |           |                              |                |           |
| RTXVM-0.11E-5      |                | EFSE-1/8     | RFGB03(E)-0.13  | 0.11                    | 1/4                            | 3/8    | 1/4       | 29.5                         | R-404A / R-507 |           |
| RTXVM-0.21E-5      | 068N7668       | EFSE-1/4     | RFGB03(E)-0.25  | 0.21                    |                                |        |           |                              |                |           |
| RTXVM-0.45E-5      | 068N7669       |              |                 | 0.45                    |                                |        |           |                              |                |           |
| RTXVM-0.6E-5       | 068N7633       | EFSE-1/2     | RFGB03(E)-0.50  | 0.6                     |                                |        |           |                              |                |           |
| RTXVM-0.8E-5       |                |              | RFGB03(E)-0.70  | 0.8                     |                                |        |           |                              |                |           |
| RTXVM-1.2E-5       |                | EFSE-1       | RFGB03(E)-1.0   | 1.2                     |                                |        |           |                              |                |           |
| RTXVM-1.7E-5       |                | EFSE-1-1/2   | RFGB03(E)-1.4   | 1.7                     | 3/8                            | 1/2    |           |                              |                |           |
| RTXVM-2.2E-5       |                | EFSE-2       |                 | 2.2                     |                                |        |           |                              |                |           |
| RTXVM-2.6E-5       |                |              |                 | 2.6                     |                                |        |           |                              |                |           |
| RTXVM-0.17E-8      | 068N7643       |              | RFGB06(E)-0.17  | 0.17                    | 1/4                            | 3/8    | 1/4       | 29.5                         | R-290          |           |
| RTXVM-0.32E-8      | 068N7656       |              | RFGB06(E)-0.35  | 0.32                    |                                |        |           |                              |                |           |
| RTXVM-0.74E-8      | 068N7689       |              | RFGB06(E)-0.70  | 0.74                    |                                |        |           |                              |                |           |
| RTXVM-1.1E-8       |                |              | RFGB06(E)-1.0   | 1.1                     |                                |        |           |                              |                |           |
| RTXVM-1.25E-8      |                |              |                 | 1.25                    |                                |        |           |                              |                |           |
| RTXVM-1.6E-8       |                |              | RFGB06(E)-1.5   | 1.6                     |                                |        |           |                              |                |           |
| RTXVM-2.4E-8       |                |              |                 | 2.4                     | 3/8                            | 1/2    |           |                              |                |           |
| RTXVM-3.2E-8       |                |              |                 | 3.2                     |                                |        |           |                              |                |           |
| RTXVM-4.7E-8       |                |              |                 | 4.7                     |                                |        |           |                              |                |           |