



HFES 1/2FC-01

# HF SERIES THERMOSTATIC EXPANSION VALVES

The HF Series is a balanced ported valve designed for refrigeration, air conditioning and heat pump applications.

**FEATURES**

- Stainless steel replaceable power assembly eliminates corrosion and prevents valve failure
- Two body sizes provide capacities from 1/8 to 13 tons for R-404A
- Bodies, cages and power assemblies can be ordered separately or in pre-packaged Service kits
- Bi-directional capability up to 3-1/2 tons for R-22 on one valve superheat control in cooling and heating
- Optional removable inlet strainer (ODF only)
- Available in straight-through or angle flow configurations
- Available with internal or external equalizer
- Available in ODF or SAE connections

**SPECIFICATIONS**

Maximum Working Pressure..... 450 psig (31 bar)  
 UR/CUR File Number ..... SA5312  
 Canadian CRN ..... 0C21506.513467890YTN

**MODEL NUMBER NOMENCLATURE** - Example: HFE 1/2FC-01

| SERIES               | SUPERHEAT ADJUSTMENT                            | EQUALIZER                               | CONNECTION TYPE                        | REMOVABLE INLET STRAINER             | BLEED HOLE                                     | CAPACITY               | SYSTEM REFRIGERANT CODE  | CHARGE CODE  | SEQUENTIAL IDENTIFIER | CUSTOMER SPECIAL                             | PACK TYPE  |
|----------------------|---|---|--|--------------------------------------|--|------------------------|--|--|-----------------------|--|--|
| HF                   |   | E                                       |  |                                      |  | 1/2                    | F  | C  | -01                   | G  |  |
| Balanced Port Design | N = Non-adjustable<br><br>(Omit For Adjustable) | E = External<br><br>(Omit For Internal) | S = Solder<br><br>(Omit For SAE Flare) | C = Inlet Strainer<br><br>(ODF Only) | B = Bleed Hole<br><br>(Omit For No Bleed Hole) | Nominal Rating in Tons | B = R-448A/R-449A/R-452A<br>D = R-450A/R-513A<br>F = R-12<br>H = R-22/R-407A<br>M = R-134a<br>N = R-407C<br>P = R-507<br>R = R-502<br>S = R-404A/R-407H<br>T = R-290 | A = Medium & Low Temp.<br>AA = Wide Range<br>C = Medium Temp.<br>CA = Heat Pump<br>W(MOP) = Press. Limiting<br>Z = Low Temp. | -01 Thru -999         | G = Cust. Special<br><br>(Omit for Standard) | B1 = Bulk Pack<br><br>(Omit for Individual Pack) |

**HF SERIES THERMOSTATIC EXPANSION VALVES** (Adjustable Superheat Models)

| SYSTEM REFRIGERANT CODE | CAPACITY (NOMINAL TONNAGE) | CHARGE CODE        | INLET X OUTLET CONNECTION | EQUALIZER | BLEED | CAP LENGTH    | BODY DESIGN   | STRAINER        | MODEL NUMBER     | ITEM NUMBER |
|-------------------------|----------------------------|--------------------|---------------------------|-----------|-------|---------------|---------------|-----------------|------------------|-------------|
| B (R-448A, R-449A)      | 1/4                        | A (Med./Low Temp.) | 1/4" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1/4BA-01    | 067018      |
|                         | 1/4                        | A (Med./Low Temp.) | 1/4" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/4BA-01   | 067016      |
|                         | 1/2                        | A (Med./Low Temp.) | 1/4" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1/2BA-01    | 067019      |
|                         | 1/2                        | A (Med./Low Temp.) | 1/4" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/2BA-01   | 067017      |
|                         | 1/2                        | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/2BA-02   | 066979      |
|                         | 1                          | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1BA-01      | 067008      |
|                         | 1                          | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1BA-01     | 066980      |
|                         | 1-1/2                      | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1-1/2BA-01  | 067009      |
|                         | 1-1/2                      | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1-1/2BA-01 | 066981      |
|                         | 2                          | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 2BA-01      | 067010      |
|                         | 2                          | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 2BA-01     | 066982      |
|                         | 2-1/2                      | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 2-1/2BA-01  | 067011      |
|                         | 2-1/2                      | A (Med./Low Temp.) | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 2-1/2BA-01 | 066983      |
| 3-1/2                   | A (Med./Low Temp.)         | 3/8" X 1/2" ODF    | External                  | No        | 5 Ft. | Straight Thru | No            | HFES 3-1/2BA-01 | 067012           |             |

All capacities shown are at 100°F condensing, 40°F evaporator temperature.

Valve capacity is for the first refrigerant listed. To determine the capacity for additional refrigerants listed, consult the nominal capacity tables for interchangeable refrigerants.

# THERMOSTATIC EXPANSION VALVES

# HF SERIES

| SYSTEM REFRIGERANT CODE        | CAPACITY (NOMINAL TONNAGE) | CHARGE CODE       | INLET X OUTLET CONNECTION | EQUALIZER | BLEED | CAP LENGTH    | BODY DESIGN   | STRAINER        | MODEL NUMBER     | ITEM NUMBER |
|--------------------------------|----------------------------|-------------------|---------------------------|-----------|-------|---------------|---------------|-----------------|------------------|-------------|
| M (R-134a)<br>*R-12            | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/2MC-01   | 058069      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" SAE           | Internal  | No    | 5 Ft.         | Angle         | No              | HF 1/2MC-01      | 057620      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Straight Thru | No              | HFS 1/2MC-01     | 058100      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Angle         | Yes             | HFSC 1/2MC-01    | 058067      |
|                                | 3/4                        | C (Med. Temp.)    | 3/8" X 1/2" SAE           | External  | No    | 30 In.        | Angle         | No              | HFE 3/4MC-01     | 057861      |
|                                | 3/4                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | No              | HFES 3/4MC-01    | 057784      |
|                                | 3/4                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 3/4MC-02    | 059422      |
|                                | 1                          | C (Med. Temp.)    | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1MC-01       | 057617      |
|                                | 1                          | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | No              | HFES 1MC-01      | 058546      |
|                                | 1                          | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1MC-02      | 065646      |
|                                | 1                          | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1MC-01     | 057570      |
|                                | 1                          | C (Med. Temp.)    | 3/8" X 1/2" SAE           | Internal  | No    | 5 Ft.         | Angle         | No              | HF 1MC-01        | 057619      |
|                                | 1                          | C (Med. Temp.)    | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Straight Thru | No              | HFS 1MC-01       | 065641      |
|                                | 1-1/2                      | C (Med. Temp.)    | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1-1/2MC-01   | 057895      |
|                                | 1-1/2                      | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1-1/2MC-01 | 057568      |
|                                | 1-3/4                      | C (Med. Temp.)    | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1-3/4MC-01   | 057896      |
|                                | 1-3/4                      | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1-3/4MC-01  | 058152      |
|                                | 1-3/4                      | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1-3/4MC-02  | 065647      |
|                                | 2-1/2                      | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 2-1/2MC-01 | 058421      |
|                                | 4                          | C (Med. Temp.)    | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 4MC-01       | 057897      |
| 4                              | C (Med. Temp.)             | 1/2" X 5/8" ODF   | External                  | No        | 5 Ft. | Straight Thru | No            | HFES 4MC-01     | 058680           |             |
| 6                              | C (Med. Temp.)             | 5/8" X 7/8" ODF   | External                  | No        | 5 Ft. | Straight Thru | No            | HFES 6MC-01     | 057903           |             |
| 7-1/2                          | C (Med. Temp.)             | 5/8" X 7/8" ODF   | External                  | No        | 5 Ft. | Straight Thru | No            | HFES 7-1/2MC-01 | 057904           |             |
| 11                             | C (Med. Temp.)             | 5/8" X 7/8" ODF   | External                  | No        | 5 Ft. | Straight Thru | No            | HFES 11MC-02    | 057906           |             |
| 11                             | C (Med. Temp.)             | 7/8" X 1-1/8" ODF | External                  | No        | 5 Ft. | Straight Thru | No            | HFES 11MC-03    | 058681           |             |
| 14                             | C (Med. Temp.)             | 7/8" X 1-3/8" ODF | External                  | No        | 5 Ft. | Straight Thru | No            | HFES 14MC-02    | 064000           |             |
| R (R-502)<br>*R-404A<br>*R-507 | 1/4                        | C (Med. Temp.)    | 1/4" X 1/2" SAE           | Internal  | No    | 5 Ft.         | Angle         | No              | HF 1/4RC-02      | 059304      |
|                                | 1/4                        | C (Med. Temp.)    | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1/4RC-01     | 054366      |
|                                | 1/4                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | No              | HFES 1/4RC-01    | 055092      |
|                                | 1/4                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/4RC-01   | 057436      |
|                                | 1/4                        | C (Med. Temp.)    | 3/8" X 1/2" SAE           | Internal  | No    | 5 Ft.         | Angle         | No              | HF 1/4RC-01      | 054137      |
|                                | 1/4                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Angle         | No              | HFS 1/4RC-01     | 055490      |
|                                | 1/4                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Angle         | Yes             | HFSC 1/4RC-01    | 057487      |
|                                | 1/4                        | W45 (MOP)         | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1/4RW45-01   | 054963      |
|                                | 1/4                        | Z (Low Temp.)     | 1/4" X 3/8" ODF           | Internal  | No    | 5 Ft.         | Straight Thru | No              | HFS 1/4RZ-01     | 055792      |
|                                | 1/4                        | Z (Low Temp.)     | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1/4RZ-01     | 054370      |
|                                | 1/4                        | Z (Low Temp.)     | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | No              | HFES 1/4RZ-01    | 055491      |
|                                | 1/4                        | Z (Low Temp.)     | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/4RZ-01   | 057454      |
|                                | 1/4                        | Z (Low Temp.)     | 3/8" X 1/2" SAE           | Internal  | No    | 5 Ft.         | Angle         | No              | HF 1/4RZ-01      | 054369      |
|                                | 1/4                        | Z (Low Temp.)     | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Straight Thru | No              | HFS 1/4RZ-02     | 056228      |
|                                | 1/4                        | Z (Low Temp.)     | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Angle         | Yes             | HFSC 1/4RZ-01    | 057484      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1/2RC-01     | 054967      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | No              | HFES 1/2RC-01    | 055992      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1/2RC-02    | 056022      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/2RC-01   | 057437      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" SAE           | Internal  | No    | 5 Ft.         | Angle         | No              | HF 1/2RC-01      | 054964      |
|                                | 1/2                        | C (Med. Temp.)    | 3/8" X 1/2" ODF           | Internal  | No    | 5 Ft.         | Angle         | Yes             | HFSC 1/2RC-01    | 057488      |
|                                | 1/2                        | W45 (MOP)         | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1/2RW45-01   | 054969      |
|                                | 1/2                        | W45 (MOP)         | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | No              | HFES 1/2RW45-01  | 055996      |
|                                | 1/2                        | W45 (MOP)         | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | Yes             | HFESC 1/2RW45-01 | 057443      |
|                                | 1/2                        | W45 (MOP)         | 3/8" X 1/2" SAE           | Internal  | No    | 5 Ft.         | Angle         | No              | HF 1/2RW45-01    | 054966      |
|                                | 1/2                        | Z (Low Temp.)     | 3/8" X 1/2" SAE           | External  | No    | 5 Ft.         | Angle         | No              | HFE 1/2RZ-01     | 054968      |
|                                | 1/2                        | Z (Low Temp.)     | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Angle         | No              | HFES 1/2RZ-01    | 055497      |
|                                | 1/2                        | Z (Low Temp.)     | 3/8" X 1/2" ODF           | External  | No    | 5 Ft.         | Straight Thru | No              | HFES 1/2RZ-02    | 056024      |
| 1/2                            | Z (Low Temp.)              | 3/8" X 1/2" ODF   | External                  | No        | 5 Ft. | Angle         | Yes           | HFESC 1/2RZ-01  | 057455           |             |
| 1/2                            | Z (Low Temp.)              | 3/8" X 1/2" SAE   | Internal                  | No        | 5 Ft. | Angle         | No            | HF 1/2RZ-01     | 054965           |             |