

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

### Features

- Stainless steel replaceable power element eliminates corrosion and prevents valve failure
- Two body sizes provide capacities from 1/4 to 20 tons

### Standard Body – HF & HFK

- The HF is offered several ways:
  - *Pre-packaged HFK service kits* – Include a mix of bodies and power elements with a complete set of cages to serve the most applications with a minimum of parts
  - *Individual components* – Bodies, cages, & power elements may be ordered separately
  - *Finished valves* – Assembled valves ready for immediate installation
- Bi-Flow capability up to 5-1/2 tons R-22 allows one valve to control the superheat in both cooling and heating modes



**NOTE:** If the HF body is stamped HFK, then the cage is replaceable.

### Options

- ODF or SAE connections
- Straight-through or angle flow configurations
- Removable inlet strainer (ODF only)
- Internal or external equalizer

### Specifications

- Maximum working pressure: 450 psig

### Extended Body – HF

- Capacity range from 8 to 20 tons (R-22)
- Finished valve only

**Nomenclature** example: HFESC 2 HC 5 FT 3/8 x 1/2 ODF S/T

| HF                                   | N                                                                 | E                                              | S                                                     | C                                                                    | B                                                 | 2                                                                        | H                                                                                                                        | C                                                                                                               | 5 FT                                | 3/8 x 1/2                                                 | ODF                                            | S/T                                                     |
|--------------------------------------|-------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------|------------------------------------------------|---------------------------------------------------------|
| Valve Series<br>Balanced Port Design | Superheat Adjustment<br>N = Non-Adjustable<br>Omit for Adjustable | Equalizer<br>E=External<br>(Omit for Internal) | Connection Type<br>S = Solder<br>(Omit for SAE Flare) | Removable Inlet Strainer (optional)<br>C = Inlet Strainer (ODF only) | Bleed Hole (optional)<br>(Omit for no bleed hole) | Capacity<br>Nominal Rating in Tons<br>(See nominal capacity table below) | Refrigerant Code<br>+F = R-12<br>• H = R-22<br>+M = R-134a<br>• N = R-407C<br>* P = R-507<br>* R = R-502<br>* S = R-404A | Charge Code<br>C = medium temp<br>CA = heat pump<br>W(MOP) = press. limiting<br>Z = low temp<br>AA = wide range | Capillary Tube Length<br>5 FT (std) | Inlet x Outlet Connection Sizes<br>1/4 x 3/8<br>3/8 x 1/2 | Connection Type<br>SAE = flare<br>ODF = solder | Configuration<br>ANG = 90° angle<br>S/T = straight-thru |

+ = R-12 and R-134a are interchangeable refrigerant charges

\* = R-507, R-502 and R-404A are interchangeable refrigerant charges

• = R-22 and R-407C are interchangeable refrigerant charges

### HF Series-Nominal\* Capacity Tables in Tons (kW)

#### Standard Body HF

| R-12         | R-134a      | R-22/R-407C  | R-502/<br>R-404A/R-507 |
|--------------|-------------|--------------|------------------------|
| 1/8 (0.4)    | 1/4 (0.9)   | 1/4 (0.9)    | 1/8 (0.4)              |
| 1/4 (0.9)    | 1/2 (1.8)   | 1/2 (1.8)    | 1/4 (0.9)              |
| 1/2 (1.8)    | 3/4 (2.7)   | 1 (3.5)      | 1/2 (1.8)              |
| 1 (3.5)      | 1 (3.5)     | 1 1/2 (5.3)  | 1 (3.5)                |
| 1 1/4 (4.4)  | 1 1/2 (5.3) | 2 (7.0)      | 1 1/4 (4.4)            |
| 1 1/2 (5.3)  | 1 3/4 (6.2) | 2 1/2 (8.8)  | 1 1/2 (5.3)            |
| 2 (7.0)      | 2 1/2 (8.8) | 3 (11.0)     | 2 (7.0)                |
| 3 1/2 (12.0) | 4 (14.0)    | 5 1/2 (20.0) | 3 1/2 (12.0)           |

#### Extended Body HF

| R-12      | R-134a       | R-22/R-407C | R-502/<br>R-404A/R-507 |
|-----------|--------------|-------------|------------------------|
| 5 (17.0)  | 6 (21.0)     | 8 (28.0)    | 5 (17.0)               |
| 6 (21.0)  | 7 1/2 (27.0) | 10 (35.0)   | 7 (27.0)               |
| 9 (32.0)  | 11 (39.0)    | 15 (53.0)   | 10 (35.0)              |
| 12 (42.0) | 14 (50.0)    | 20 (70.0)   | 13 (46.0)              |

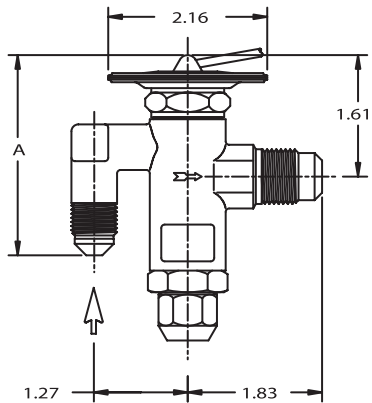
All capacities shown are at 100°F condensing, 40°F evaporator temperature.

\*See Extended Capacity Tables for ratings at a wide range of conditions per ARI standard 750.

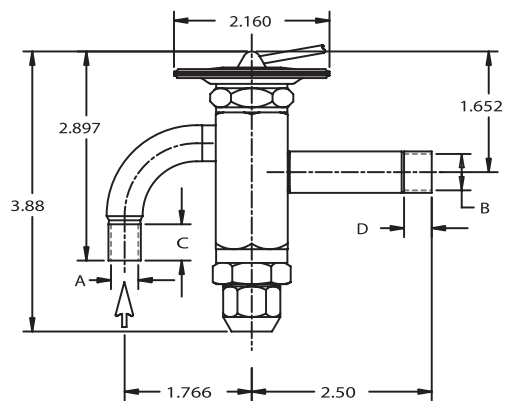
### Dimensional Data

#### Standard Body HF

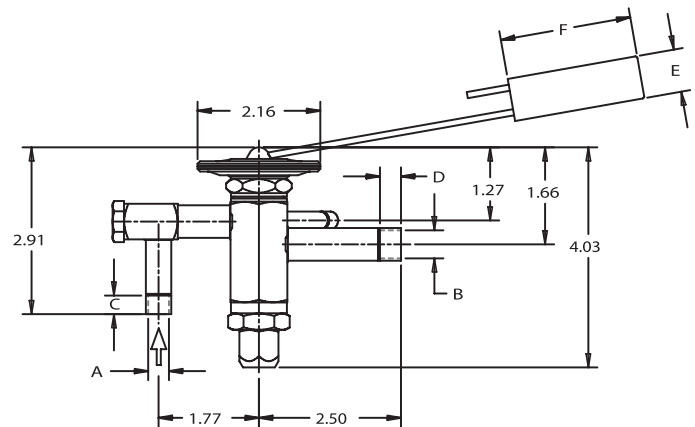
¼ thru 5½ tons R-22



SAE



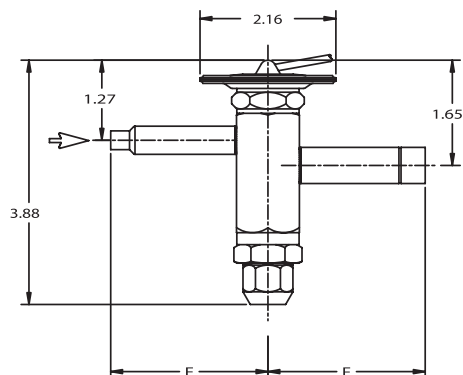
ODF



ODF  
w/optional strainer  
at inlet

#### Extended Body HF

8, 10, 15 & 20 ton R-22



ODF

#### HF SAE

| Connection Size |         | A    | B    | C    |
|-----------------|---------|------|------|------|
| Inlet           | Outlet  |      |      |      |
| 1/4 SAE         | 1/2 SAE | 3.11 | 1.27 | 1.83 |
| 3/8 SAE         | 1/2 SAE | 2.72 |      |      |

#### HF ODF

| Connection Size |         | A±<br>.002 | B±<br>.002 | C<br>MIN | D<br>MIN | E    | F    |
|-----------------|---------|------------|------------|----------|----------|------|------|
| Inlet           | Outlet  |            |            |          |          |      |      |
| 1/4 ODF         | 3/8 ODF | 0.25       | 0.38       | 0.31     | 0.31     | 2.50 | 2.50 |
| 3/8 ODF         | 1/2 ODF | 0.25       | 0.50       | 0.31     | 0.37     |      |      |
| 3/8 ODF         | 1/2 ODF | 0.38       | 0.50       | 0.37     | 0.37     |      |      |

### Ordering Information (continued)

| HF Series – Externally Equalized (continued) |             |                 |        |                     |          |        |
|----------------------------------------------|-------------|-----------------|--------|---------------------|----------|--------|
| Refrigerant                                  | Series      | Tons*           | Charge | Connections         | Cap Tube | PCN    |
| R-22<br>R-407C                               | HFE<br>HFES | +54778<br>5-1/2 | HC     | 3/8 X 1/2 ODF S/T   | 5 FT     | 054141 |
|                                              |             |                 | HC     | 3/8 X 1/2 SAE       | 5 FT     | 054140 |
|                                              |             |                 | HC     | 1/2 X 5/8 ODF ANG   | 5 FT     | 054778 |
|                                              |             |                 | HC     | 1/2 X 7/8 ODF S/T   | 5 FT     | 055187 |
|                                              |             |                 | HC     | 5/8 X 7/8 ODF S/T   | 5 FT     | 054779 |
|                                              |             |                 | HCA    | 3/8 X 1/2 ODF S/T   | 5 FT     | 065649 |
|                                              |             |                 | HCA    | 1/2 X 5/8 ODF ANG   | 5 FT     | 057378 |
|                                              |             |                 | HZ     | 3/8 X 1/2 ODF S/T   | 5 FT     | 054780 |
|                                              |             |                 | HZ     | 3/8 X 1/2 SAE       | 5 FT     | 054777 |
|                                              |             | +57313<br>8     | HC     | 1/2 X 5/8 ODF S/T   | 5 FT     | 057312 |
|                                              |             |                 | HC     | 5/8 X 1 1/8 ODF ST  | 5 FT     | 057313 |
|                                              |             |                 | HCA    | 1/2 X 7/8 ODF S/T   | 5 FT     | 056818 |
|                                              |             |                 | HCA    | 5/8 X 1 1/8 ODF ST  | 5 FT     | 056819 |
|                                              |             | +57256<br>10    | HC     | 1/2 X 5/8 ODF S/T   | 5 FT     | 057315 |
|                                              |             |                 | HC     | 5/8 X 7/8 ODF S/T   | 5 FT     | 057256 |
|                                              |             |                 | HC     | 7/8 X 1 1/8 ODF S/T | 5 FT     | 057316 |
|                                              |             |                 | HCA    | 5/8 X 7/8 ODF S/T   | 5 FT     | 056820 |
|                                              |             | +62737<br>12    | HCA    | 5/8 X 1 1/8 ODF S/T | 5 FT     | 056821 |
|                                              |             |                 | HC     | 5/8 X 1 1/8 ODF S/T | 5 FT     | 062737 |
|                                              |             |                 | HC     | 5/8 X 7/8 ODF S/T   | 5 FT     | 057317 |
|                                              |             |                 | HC     | 7/8 X 1 1/8 ODF S/T | 5 FT     | 057318 |
|                                              |             | 15              | HCA    | 5/8 X 1 1/8 ODF S/T | 5 FT     | 056824 |
|                                              |             |                 | HCA    | 5/8 X 7/8 ODF S/T   | 5 FT     | 056823 |
|                                              |             |                 | HCA    | 7/8 X 1 1/8 ODF S/T | 5 FT     | 056825 |
|                                              |             |                 | HC     | 7/8 X 1 1/8 ODF S/T | 5 FT     | 062055 |
|                                              |             | 20              | HCA    | 7/8 X 1 1/8 ODF S/T | 5 FT     | 058490 |
|                                              |             |                 | SC     | 1/4 X 1/2 ODF S/T   | 30IN     | 066533 |
| R-404A<br>R-507<br>R-502                     | HFE<br>HFES | 1/4             | SW 45  | 3/8 X 1/2 ODF S/T   | 5 FT     | 065734 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 SAE ANG   | 5 FT     | 066623 |
|                                              |             |                 | SZ     | 3/8 X 1/2 ODF S/T   | 5 FT     | 065733 |
|                                              |             |                 | SC     | 3/8 X 1/2 ODF ANG   | 5 FT     | 058975 |
|                                              |             | 1/2             | SW 45  | 3/8 X 1/2 ODF S/T   | 5 FT     | 065736 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 SAE ANG   | 5 FT     | 066040 |
|                                              |             |                 | SZ     | 3/8 X 1/2 ODF ANG   | 5 FT     | 058995 |
|                                              |             |                 | SZ     | 3/8 X 1/2 ODF S/T   | 5 FT     | 065735 |
|                                              |             | 1               | SC     | 3/8 X 1/2 ODF S/T   | 5 FT     | 065650 |
|                                              |             |                 | SC     | 3/8 X 1/2 ODF ANG   | 5 FT     | 058976 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 ODF ANG   | 5 FT     | 059086 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 SAE ANG   | 5 FT     | 066624 |
|                                              |             | 1-1/4           | SW 45  | 3/8 X 1/2 ODF S/T   | 5 FT     | 065651 |
|                                              |             |                 | SZ     | 3/8 X 1/2 ODF S/T   | 5 FT     | 064289 |
|                                              |             |                 | SC     | 3/8 X 1/2 ODF ANG   | 5 FT     | 058977 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 ODF S/T   | 5 FT     | 057976 |
|                                              |             | 1-1/2           | SZ     | 3/8 X 1/2 ODF S/T   | 5 FT     | 065737 |
|                                              |             |                 | SC     | 3/8 X 1/2 ODF S/T   | 5 FT     | 057974 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 ODF S/T   | 5 FT     | 065738 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 SAE ANG   | 5 FT     | 066625 |
|                                              |             | 2               | SZ     | 3/8 X 1/2 ODF S/T   | 5 FT     | 064290 |
|                                              |             |                 | SC     | 3/8 X 1/2 ODF S/T   | 5 FT     | 057958 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 ODF S/T   | 5 FT     | 065740 |
|                                              |             |                 | SW 45  | 3/8 X 1/2 SAE ANG   | 5 FT     | 066627 |
|                                              |             | 3-1/2           | SZ     | 3/8 X 1/2 ODF S/T   | 5 FT     | 065739 |
|                                              |             |                 | SC     | 3/8 X 1/2 ODF S/T   | 5 FT     | 065652 |
|                                              |             |                 | SC     | 5/8 X 7/8 ODF S/T   | 5 FT     | 062151 |
|                                              |             |                 | SW 45  | 1/2 X 5/8 ODF S/T   | 5 FT     | 066534 |
|                                              |             | 5               | SZ     | 1/2 X 5/8 ODF S/T   | 5 FT     | 061694 |
|                                              |             |                 | SW 45  | 5/8 X 7/8 ODF S/T   | 5 FT     | 064170 |
|                                              |             |                 | SC     | 5/8 X 7/8 ODF S/T   | 5 FT     | 066536 |
|                                              |             |                 | SZ     | 5/8 X 7/8 ODF S/T   | 5 FT     | 058451 |
|                                              |             | 7               | SC     | 5/8 X 7/8 ODF S/T   | 5 FT     | 066536 |
|                                              |             |                 | SW45   | 5/8 X 7/8 ODF S/T   | 5 FT     | 066537 |
|                                              |             |                 | SZ     | 5/8 X 7/8 ODF S/T   | 5 FT     | 064291 |
|                                              |             |                 | SC     | 5/8 X 7/8 ODF S/T   | 5 FT     | 066538 |
|                                              |             | 10              | SW 45  | 5/8 X 7/8 ODF S/T   | 5 FT     | 064195 |
|                                              |             |                 | SZ     | 5/8 X 7/8 ODF S/T   | 5 FT     | 062828 |