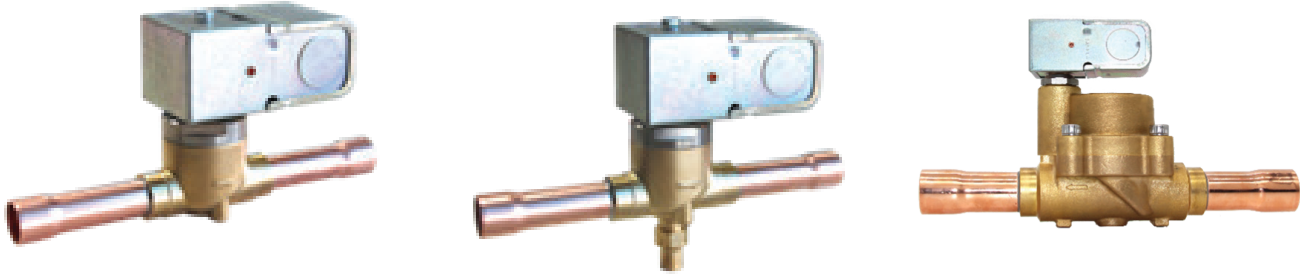


HDF SERIES | *Solenoid Valve*



HDF series solenoid valves are piston type pilot operated solenoid valves, and are designed for use in all air conditioning and refrigeration systems. The HDF series can be installed in the discharge, liquid, or suction lines.

FEATURES

- COMPACT DESIGN, EASY TO INSTALL
- SUPERIOR PERFORMANCE IN THE PRESENCE OF IMPURITIES
- HIGH LIFE CYCLE PERFORMANCE; OVER 400,000 CYCLES
- WIDE REFRIGERANT TEMPERATURE RANGE
- HIGH MAXIMUM OPENING PRESSURE DIFFERENTIAL (MOPD)
- LOW ENERGY CONSUMPTION COILS ARE SUPPLIED WITH JUNCTION BOX

GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC refrigerants
- Fluid temperature range: -40°F to +240°F
- Applicable ambient temperatures: -40°F to +131°F
- Relative Humidity: 0 to 95 percent
- Installation Position:
 - Liquid, suction and discharge line applications
 - Coil preferably on top with flow direction corresponding to the arrow
- Certifications: UL/CSA File No. MH25894

HDF SERIES | Solenoid Valve

TECHNICAL PARAMETERS

| Model Size & Features | Normal Position & Features | Operation | Cv | Max. Rated Press. (psig) | MOPD (psi) | Min. OPD (psi) |
|-----------------------|---------------------------------------|----------------|-------|--------------------------|------------|----------------|
| HDF2H | Normally Closed | Direct Acting | 0.14 | 700 | 450 | 0.0 |
| HDF3H | | | 0.30 | | | |
| HDF5H | | Pilot Operated | 0.58 | | | |
| HDF6H | | | 0.93 | | | |
| HDF9H | | | 1.52 | | | |
| HDF10H | | | 2.22 | | | |
| HDF15H | | | 2.92 | | | |
| HDF19H | | | 4.67 | | | |
| HDF25H | | | 6.65 | | | |
| HDF35H | | | 13.54 | | | |
| HDF43H | | | 19.61 | | | |
| HDF61HM | Normally Closed with Manual Lift Stem | Pilot Operated | 0.84 | 700 | 450 | 1.0 |
| HDF9HM | | | 1.52 | | | |
| HDF10HM | | | 2.22 | | | |
| HDF15HM | | | 2.92 | | | |
| HDF19HM | | | 4.67 | | | |
| HDF25HM | | | 6.65 | | | |
| HDF35HM | | | 13.54 | | | |
| HDF43HM | | | 19.61 | | | |
| HDF9HC | Normally Open | Pilot Operated | 1.52 | 700 | 450 | 1.0 |
| HDF10HC | | | 2.22 | | | |
| HDF15HC | | | 2.92 | | | |
| HDF19HC | | | 4.67 | | | |
| HDF25HC | | | 6.65 | | | |
| HDF35HC | | | 13.54 | | | |
| HDF43HC | | | 19.61 | | | |

MODEL DESIGNATION

HDF 9H M 51K

SOLENOID VALVE MODEL

SIZE CODE

DIGITS FOR OTHER INFORMATION:

Connection sizes, special features, etc.

NORMAL POSITION/FEATURES:

Blank = Normally Closed

M = Normally Closed w/Manual Lift

C = Normally Open

HDF SERIES | Solenoid Valve

LIQUID FLOW CAPACITY

| Model Size | R-404A/R-507 - Liquid Capacity (tons ¹) | | | | |
|------------|---|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.31 | 0.44 | 0.54 | 0.62 | 0.69 |
| HDF3H | 0.67 | 0.95 | 1.16 | 1.34 | 1.50 |
| HDF5H | 1.29 | 1.82 | 2.23 | 2.58 | 2.88 |
| HDF6H | 2.06 | 2.91 | 3.57 | 4.12 | 4.61 |
| HDF9H | 3.35 | 4.74 | 5.80 | 6.70 | 7.49 |
| HDF10H | 4.89 | 6.92 | 8.48 | 9.79 | 10.9 |
| HDF15H | 6.44 | 9.11 | 11.2 | 12.9 | 14.4 |
| HDF19H | 10.3 | 14.6 | 17.8 | 20.6 | 23.0 |
| HDF25H | 15.5 | 21.9 | 26.8 | 30.9 | 34.6 |
| HDF35H | 29.9 | 42.3 | 51.7 | 59.8 | 66.8 |
| HDF43H | 43.3 | 61.2 | 74.9 | 86.5 | 96.8 |

| Model Size | R-448A/R-449A - Liquid Capacity (tons ¹) | | | | |
|------------|--|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.40 | 0.57 | 0.70 | 0.81 | 0.90 |
| HDF3H | 0.87 | 1.24 | 1.51 | 1.75 | 1.95 |
| HDF5H | 1.68 | 2.38 | 2.91 | 3.36 | 3.76 |
| HDF6H | 2.69 | 3.80 | 4.66 | 5.38 | 6.01 |
| HDF9H | 4.37 | 6.18 | 7.57 | 8.74 | 9.77 |
| HDF10H | 6.39 | 9.03 | 11.1 | 12.8 | 14.3 |
| HDF15H | 8.40 | 11.9 | 14.6 | 16.8 | 18.8 |
| HDF19H | 13.4 | 19.0 | 23.3 | 26.9 | 30.1 |
| HDF25H | 20.2 | 28.5 | 34.9 | 40.3 | 45.1 |
| HDF35H | 39.0 | 55.1 | 67.5 | 78.0 | 87.2 |
| HDF43H | 56.5 | 79.9 | 97.8 | 113 | 126 |

| Model Size | R-407A/R-407F - Liquid Capacity (tons ¹) | | | | |
|------------|--|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.40 | 0.57 | 0.70 | 0.81 | 0.90 |
| HDF3H | 0.87 | 1.23 | 1.51 | 1.74 | 1.95 |
| HDF5H | 1.68 | 2.37 | 2.91 | 3.35 | 3.75 |
| HDF6H | 2.68 | 3.80 | 4.65 | 5.37 | 6.00 |
| HDF9H | 4.36 | 6.17 | 7.55 | 8.72 | 9.75 |
| HDF10H | 6.37 | 9.01 | 11.0 | 12.7 | 14.3 |
| HDF15H | 8.39 | 11.9 | 14.5 | 16.8 | 18.8 |
| HDF19H | 13.4 | 19.0 | 23.2 | 26.8 | 30.0 |
| HDF25H | 20.1 | 28.5 | 34.9 | 40.3 | 45.0 |
| HDF35H | 38.9 | 55.0 | 67.4 | 77.8 | 87.0 |
| HDF43H | 56.4 | 79.7 | 97.6 | 113 | 126 |

| Model Size | R-22 - Liquid Capacity (tons ¹) | | | | |
|------------|---|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.45 | 0.64 | 0.78 | 0.91 | 1.01 |
| HDF3H | 0.98 | 1.39 | 1.70 | 1.96 | 2.19 |
| HDF5H | 1.89 | 2.67 | 3.27 | 3.77 | 4.22 |
| HDF6H | 3.02 | 4.27 | 5.23 | 6.03 | 6.75 |
| HDF9H | 4.90 | 6.93 | 8.49 | 9.81 | 11.0 |
| HDF10H | 7.17 | 10.1 | 12.4 | 14.3 | 16.0 |
| HDF15H | 9.43 | 13.3 | 16.3 | 18.9 | 21.1 |
| HDF19H | 15.1 | 21.3 | 26.1 | 30.2 | 33.7 |
| HDF25H | 22.6 | 32.0 | 39.2 | 45.3 | 50.6 |
| HDF35H | 43.7 | 61.9 | 75.8 | 87.5 | 97.8 |
| HDF43H | 63.4 | 89.6 | 110 | 127 | 142 |

LIQUID TEMPERATURE CORRECTION FACTORS ³

| Refrigerant | Liquid Temperature (F) | | | | | | | | | | |
|---------------|------------------------|------|------|------|------|------|------|------|------|------|------|
| | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 |
| R-404A/R-507 | 1.51 | 1.43 | 1.34 | 1.26 | 1.17 | 1.09 | 1.00 | 0.91 | 0.82 | 0.72 | 0.62 |
| R-448A/R-449A | 1.41 | 1.34 | 1.26 | 1.21 | 1.14 | 1.07 | 1.00 | 0.93 | 0.86 | 0.78 | 0.70 |
| R-407A/R-407F | 1.41 | 1.34 | 1.28 | 1.21 | 1.14 | 1.07 | 1.00 | 0.93 | 0.86 | 0.78 | 0.70 |
| R-22 | 1.31 | 1.26 | 1.21 | 1.16 | 1.11 | 1.05 | 1.00 | 0.95 | 0.89 | 0.84 | 0.78 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P):
40°F Evap., 110°F Condensing, 100°F Liquid

² Nominal capacities are highlighted

³ Correction factors are based on 40°F evaporating temperature. Capacities, for the refrigerants listed above, reduced by approximately 1.5% for every 10°F reduction in evaporating temperature

HDF SERIES | Solenoid Valve

LIQUID FLOW CAPACITY (CONTINUED)

| Model Size | R-410A - Liquid Capacity (tons ¹) | | | | |
|------------|---|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.43 | 0.61 | 0.75 | 0.87 | 0.97 |
| HDF3H | 0.94 | 1.33 | 1.63 | 1.88 | 2.11 |
| HDF5H | 1.81 | 2.56 | 3.14 | 3.62 | 4.05 |
| HDF6H | 2.90 | 4.10 | 5.02 | 5.80 | 6.48 |
| HDF9H | 4.71 | 6.66 | 8.16 | 9.42 | 10.5 |
| HDF10H | 6.89 | 9.74 | 11.9 | 13.8 | 15.4 |
| HDF15H | 9.06 | 12.8 | 15.7 | 18.1 | 20.3 |
| HDF19H | 14.5 | 20.5 | 25.1 | 29.0 | 32.4 |
| HDF25H | 21.7 | 30.7 | 37.7 | 43.5 | 48.6 |
| HDF35H | 42.0 | 59.4 | 72.8 | 84.1 | 94.0 |
| HDF43H | 60.9 | 86.1 | 105 | 122 | 136 |

| Model Size | R-32 - Liquid Capacity (tons ¹) | | | | |
|------------|---|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.62 | 0.88 | 1.07 | 1.24 | 1.39 |
| HDF3H | 1.34 | 1.90 | 2.33 | 2.69 | 3.00 |
| HDF5H | 2.58 | 3.65 | 4.47 | 5.17 | 5.77 |
| HDF6H | 4.13 | 5.84 | 7.16 | 8.26 | 9.24 |
| HDF9H | 6.71 | 9.50 | 11.6 | 13.4 | 15.0 |
| HDF10H | 9.81 | 13.9 | 17.0 | 19.6 | 21.9 |
| HDF15H | 12.9 | 18.3 | 22.4 | 25.8 | 28.9 |
| HDF19H | 20.7 | 29.2 | 35.8 | 41.3 | 46.2 |
| HDF25H | 31.0 | 43.8 | 53.7 | 62.0 | 69.3 |
| HDF35H | 59.9 | 84.7 | 104 | 120 | 134 |
| HDF43H | 86.8 | 123 | 150 | 174 | 194 |

| Model Size | R-454B - Liquid Capacity (tons ¹) | | | | |
|------------|---|--------|--------|--------|--------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.51 | 0.72 | 0.88 | 1.02 | 1.14 |
| HDF3H | 1.10 | 1.56 | 1.91 | 2.20 | 2.46 |
| HDF5H | 2.12 | 2.99 | 3.67 | 4.23 | 4.73 |
| HDF6H | 3.39 | 4.79 | 5.86 | 6.77 | 7.57 |
| HDF9H | 5.50 | 7.78 | 9.53 | 11.00 | 12.30 |
| HDF10H | 8.04 | 11.37 | 13.93 | 16.08 | 17.98 |
| HDF15H | 10.58 | 14.96 | 18.33 | 21.16 | 23.66 |
| HDF19H | 16.93 | 23.94 | 29.32 | 33.86 | 37.85 |
| HDF25H | 25.39 | 35.91 | 43.98 | 50.79 | 56.78 |
| HDF35H | 49.09 | 69.43 | 85.03 | 98.19 | 109.78 |
| HDF43H | 71.10 | 100.55 | 123.15 | 142.20 | 158.98 |

LIQUID TEMPERATURE CORRECTION FACTORS ³

| Refrigerant | Liquid Temperature (F) | | | | | | | | | | |
|-------------|------------------------|------|------|------|------|------|------|------|------|------|------|
| | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 |
| R-410A | 1.42 | 1.35 | 1.28 | 1.22 | 1.15 | 1.07 | 1.00 | 0.92 | 0.85 | 0.76 | 0.67 |
| R-32 | 1.33 | 1.28 | 1.22 | 1.17 | 1.11 | 1.06 | 1.00 | 0.94 | 0.88 | 0.81 | 0.74 |
| R-454B | 1.37 | 1.31 | 1.25 | 1.19 | 1.13 | 1.06 | 1.00 | 0.93 | 0.87 | 0.79 | 0.72 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P):
40°F Evap., 110°F Condensing, 100°F Liquid

² Nominal capacities are highlighted

³ Correction factors are based on 40°F evaporating temperature. Capacities, for the refrigerants listed above, reduced by approximately 1.0% for every 10F reduction in evaporating temperature

HDF SERIES | Solenoid Valve

LIQUID FLOW CAPACITY (CONTINUED)

| Model Size | R-134A - Liquid Capacity (tons ¹) | | | | |
|------------|---|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.43 | 0.61 | 0.75 | 0.86 | 0.96 |
| HDF3H | 0.93 | 1.32 | 1.61 | 1.86 | 2.08 |
| HDF5H | 1.79 | 2.54 | 3.11 | 3.59 | 4.01 |
| HDF6H | 2.87 | 4.06 | 4.97 | 5.74 | 6.41 |
| HDF9H | 4.66 | 6.59 | 8.07 | 9.32 | 10.4 |
| HDF10H | 6.81 | 9.63 | 11.8 | 13.6 | 15.2 |
| HDF15H | 8.96 | 12.7 | 15.5 | 17.9 | 20.0 |
| HDF19H | 14.3 | 20.3 | 24.8 | 28.7 | 32.1 |
| HDF25H | 21.5 | 30.4 | 37.3 | 43.0 | 48.1 |
| HDF35H | 41.6 | 58.8 | 72.0 | 83.2 | 93.0 |
| HDF43H | 60.2 | 85.2 | 104 | 120 | 135 |

| Model Size | R-450A - Liquid Capacity (tons ¹) | | | | |
|------------|---|------|------|------|------|
| | Pressure Drop (psi) ² | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| HDF2H | 0.40 | 0.57 | 0.70 | 0.80 | 0.90 |
| HDF3H | 0.87 | 1.23 | 1.51 | 1.74 | 1.95 |
| HDF5H | 1.67 | 2.37 | 2.90 | 3.35 | 3.74 |
| HDF6H | 2.68 | 3.79 | 4.64 | 5.36 | 5.99 |
| HDF9H | 4.35 | 6.16 | 7.54 | 8.71 | 9.74 |
| HDF10H | 6.36 | 9.00 | 11.0 | 12.7 | 14.2 |
| HDF15H | 8.37 | 11.8 | 14.5 | 16.7 | 18.7 |
| HDF19H | 13.4 | 18.9 | 23.2 | 26.8 | 30.0 |
| HDF25H | 20.1 | 28.4 | 34.8 | 40.2 | 44.9 |
| HDF35H | 38.9 | 54.9 | 67.3 | 77.7 | 86.9 |
| HDF43H | 56.3 | 79.6 | 97.5 | 113 | 126 |

LIQUID TEMPERATURE CORRECTION FACTORS³

| Refrigerant | Liquid Temperature (F) | | | | | | | | | | |
|-------------|------------------------|------|------|------|------|------|------|------|------|------|------|
| | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 |
| R-134a | 1.36 | 1.30 | 1.24 | 1.18 | 1.12 | 1.06 | 1.00 | 0.94 | 0.88 | 0.81 | 0.75 |
| R-450A | 1.37 | 1.31 | 1.25 | 1.19 | 1.12 | 1.06 | 1.00 | 0.94 | 0.87 | 0.81 | 0.74 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P): 40°F Evap., 110°F Condensing, 100°F Liquid

² Nominal capacities are highlighted

³ Correction factors are based on 40°F evaporating temperature. Capacities, for the refrigerants listed above, reduced by approximately 2.0% for every 10F reduction in evaporating temperature

HDF SERIES | Solenoid Valve

SUCTION GAS CAPACITY

| Model Size | R-404A/R-507 - Suction Gas Capacity (tons ¹) | | | | |
|------------|--|------|------|-------|-------|
| | Evaporating Temperature | | | | |
| | 40°F | 20°F | 0°F | -20°F | -40°F |
| HDF2H | 0.06 | 0.04 | 0.03 | 0.03 | 0.02 |
| HDF3H | 0.12 | 0.10 | 0.08 | 0.06 | 0.04 |
| HDF5H | 0.23 | 0.19 | 0.15 | 0.11 | 0.08 |
| HDF6H | 0.37 | 0.30 | 0.23 | 0.18 | 0.13 |
| HDF9H | 0.61 | 0.48 | 0.38 | 0.29 | 0.21 |
| HDF10H | 0.89 | 0.71 | 0.55 | 0.42 | 0.31 |
| HDF15H | 1.17 | 0.93 | 0.73 | 0.55 | 0.41 |
| HDF19H | 1.87 | 1.49 | 1.16 | 0.89 | 0.66 |
| HDF25H | 2.80 | 2.23 | 1.74 | 1.33 | 0.99 |
| HDF35H | 5.42 | 4.31 | 3.37 | 2.57 | 1.91 |
| HDF43H | 7.85 | 6.25 | 4.88 | 3.72 | 2.77 |

| Model Size | R-448A/R-449A - Suction Gas Capacity (tons ¹) | | | | |
|------------|---|------|------|-------|-------|
| | Evaporating Temperature | | | | |
| | 40°F | 20°F | 0°F | -20°F | -40°F |
| HDF2H | 0.06 | 0.05 | 0.04 | 0.03 | 0.02 |
| HDF3H | 0.13 | 0.11 | 0.08 | 0.06 | 0.05 |
| HDF5H | 0.26 | 0.20 | 0.16 | 0.12 | 0.09 |
| HDF6H | 0.41 | 0.33 | 0.26 | 0.20 | 0.15 |
| HDF9H | 0.66 | 0.53 | 0.42 | 0.32 | 0.24 |
| HDF10H | 0.97 | 0.77 | 0.61 | 0.46 | 0.35 |
| HDF15H | 1.28 | 1.02 | 0.80 | 0.61 | 0.46 |
| HDF19H | 2.04 | 1.63 | 1.28 | 0.98 | 0.73 |
| HDF25H | 3.06 | 2.45 | 1.92 | 1.47 | 1.09 |
| HDF35H | 5.92 | 4.73 | 3.71 | 2.84 | 2.11 |
| HDF43H | 8.58 | 6.85 | 5.37 | 4.11 | 3.06 |

| Model Size | R-407A/R-407F - Suction Gas Capacity (tons ¹) | | | | |
|------------|---|------|------|-------|-------|
| | Evaporating Temperature | | | | |
| | 40°F | 20°F | 0°F | -20°F | -40°F |
| HDF2H | 0.06 | 0.05 | 0.04 | 0.03 | 0.02 |
| HDF3H | 0.13 | 0.10 | 0.08 | 0.06 | 0.05 |
| HDF5H | 0.25 | 0.20 | 0.16 | 0.12 | 0.09 |
| HDF6H | 0.40 | 0.32 | 0.25 | 0.19 | 0.14 |
| HDF9H | 0.65 | 0.52 | 0.40 | 0.31 | 0.23 |
| HDF10H | 0.95 | 0.76 | 0.59 | 0.45 | 0.33 |
| HDF15H | 1.25 | 1.00 | 0.78 | 0.59 | 0.44 |
| HDF19H | 2.00 | 1.59 | 1.24 | 0.95 | 0.70 |
| HDF25H | 3.00 | 2.39 | 1.87 | 1.42 | 1.05 |
| HDF35H | 5.81 | 4.62 | 3.61 | 2.75 | 2.04 |
| HDF43H | 8.41 | 6.69 | 5.22 | 3.98 | 2.95 |

| Model Size | R-22 - Suction Gas Capacity (tons ¹) | | | | |
|------------|--|------|------|-------|-------|
| | Evaporating Temperature | | | | |
| | 40°F | 20°F | 0°F | -20°F | -40°F |
| HDF2H | 0.06 | 0.05 | 0.04 | 0.03 | 0.03 |
| HDF3H | 0.14 | 0.11 | 0.09 | 0.07 | 0.05 |
| HDF5H | 0.27 | 0.22 | 0.17 | 0.14 | 0.11 |
| HDF6H | 0.43 | 0.35 | 0.28 | 0.22 | 0.17 |
| HDF9H | 0.69 | 0.56 | 0.45 | 0.36 | 0.27 |
| HDF10H | 1.01 | 0.83 | 0.66 | 0.52 | 0.40 |
| HDF15H | 1.33 | 1.09 | 0.87 | 0.68 | 0.53 |
| HDF19H | 2.13 | 1.74 | 1.39 | 1.10 | 0.84 |
| HDF25H | 3.19 | 2.61 | 2.09 | 1.64 | 1.26 |
| HDF35H | 6.18 | 5.04 | 4.04 | 3.18 | 2.44 |
| HDF43H | 8.94 | 7.30 | 5.86 | 4.60 | 3.53 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P): 65°F Suctin Vapor, 110°F Condensing, 100°F Liquid, 1 psi ΔP

HDF SERIES | Solenoid Valve

SUCTION GAS CAPACITY (CONTINUED)

| Model Size | R-410A - Suction Gas Capacity (tons ¹) | | | | |
|------------|--|------|------|-------|-------|
| | Evaporating Temperature | | | | |
| | 40°F | 20°F | 0°F | -20°F | -40°F |
| HDF2H | 0.08 | 0.06 | 0.05 | 0.04 | 0.03 |
| HDF3H | 0.17 | 0.14 | 0.11 | 0.09 | 0.07 |
| HDF5H | 0.33 | 0.27 | 0.21 | 0.17 | 0.13 |
| HDF6H | 0.52 | 0.43 | 0.34 | 0.27 | 0.21 |
| HDF9H | 0.85 | 0.69 | 0.56 | 0.44 | 0.34 |
| HDF10H | 1.24 | 1.01 | 0.81 | 0.64 | 0.49 |
| HDF15H | 1.63 | 1.33 | 1.07 | 0.84 | 0.65 |
| HDF19H | 2.61 | 2.13 | 1.71 | 1.35 | 1.03 |
| HDF25H | 3.92 | 3.20 | 2.57 | 2.02 | 1.55 |
| HDF35H | 7.57 | 6.18 | 4.96 | 3.90 | 3.00 |
| HDF43H | 11.0 | 8.95 | 7.19 | 5.65 | 4.34 |

| Model Size | R-32 - Suction Gas Capacity (tons ¹) | | | | |
|------------|--|------|------|-------|-------|
| | Evaporating Temperature | | | | |
| | 40°F | 20°F | 0°F | -20°F | -40°F |
| HDF2H | 0.10 | 0.08 | 0.07 | 0.05 | 0.04 |
| HDF3H | 0.22 | 0.18 | 0.14 | 0.12 | 0.09 |
| HDF5H | 0.41 | 0.34 | 0.28 | 0.22 | 0.17 |
| HDF6H | 0.66 | 0.55 | 0.45 | 0.36 | 0.28 |
| HDF9H | 1.08 | 0.89 | 0.72 | 0.58 | 0.45 |
| HDF10H | 1.57 | 1.30 | 1.06 | 0.85 | 0.66 |
| HDF15H | 2.07 | 1.71 | 1.39 | 1.11 | 0.87 |
| HDF19H | 3.31 | 2.74 | 2.23 | 1.78 | 1.39 |
| HDF25H | 4.97 | 4.11 | 3.35 | 2.67 | 2.08 |
| HDF35H | 9.61 | 7.95 | 6.47 | 5.16 | 4.02 |
| HDF43H | 13.9 | 11.5 | 9.37 | 7.47 | 5.83 |

| Model Size | R-454B - Suction Gas Capacity (tons ¹) | | | | |
|------------|--|------|------|-------|-------|
| | Evaporating Temperature | | | | |
| | 40°F | 20°F | 0°F | -20°F | -40°F |
| HDF2H | 0.08 | 0.07 | 0.06 | 0.04 | 0.03 |
| HDF3H | 0.18 | 0.15 | 0.12 | 0.09 | 0.07 |
| HDF5H | 0.35 | 0.29 | 0.23 | 0.18 | 0.14 |
| HDF6H | 0.56 | 0.46 | 0.37 | 0.29 | 0.22 |
| HDF9H | 0.90 | 0.74 | 0.60 | 0.47 | 0.37 |
| HDF10H | 1.32 | 1.08 | 0.87 | 0.69 | 0.53 |
| HDF15H | 1.74 | 1.43 | 1.15 | 0.91 | 0.70 |
| HDF19H | 2.78 | 2.28 | 1.84 | 1.45 | 1.12 |
| HDF25H | 4.18 | 3.42 | 2.76 | 2.18 | 1.69 |
| HDF35H | 8.07 | 6.62 | 5.34 | 4.22 | 3.26 |
| HDF43H | 11.7 | 9.59 | 7.73 | 6.11 | 4.72 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P): 65°F Suction Vapor, 100°F Condensing, 100°F Liquid, 1 psi ΔP

HDF SERIES | Solenoid Valve

SUCTION GAS CAPACITY (CONTINUED)

| R-134a - Suction Gas Capacity (tons ¹) | | | |
|--|-------------------------|------|------|
| Model Size | Evaporating Temperature | | |
| | 40°F | 20°F | 0°F |
| HDF2H | 0.05 | 0.04 | 0.03 |
| HDF3H | 0.11 | 0.09 | 0.07 |
| HDF5H | 0.21 | 0.16 | 0.13 |
| HDF6H | 0.33 | 0.26 | 0.20 |
| HDF9H | 0.54 | 0.43 | 0.33 |
| HDF10H | 0.79 | 0.62 | 0.48 |
| HDF15H | 1.04 | 0.82 | 0.63 |
| HDF19H | 1.67 | 1.31 | 1.01 |
| HDF25H | 2.51 | 1.97 | 1.52 |
| HDF35H | 4.85 | 3.81 | 2.94 |
| HDF43H | 7.02 | 5.52 | 4.25 |

| R-450A - Suction Gas Capacity (tons ¹) | | | |
|--|-------------------------|------|------|
| Model Size | Evaporating Temperature | | |
| | 40°F | 20°F | 0°F |
| HDF2H | 0.05 | 0.04 | 0.03 |
| HDF3H | 0.10 | 0.08 | 0.06 |
| HDF5H | 0.19 | 0.15 | 0.11 |
| HDF6H | 0.30 | 0.24 | 0.18 |
| HDF9H | 0.49 | 0.38 | 0.29 |
| HDF10H | 0.72 | 0.56 | 0.43 |
| HDF15H | 0.94 | 0.74 | 0.56 |
| HDF19H | 1.51 | 1.18 | 0.90 |
| HDF25H | 2.27 | 1.77 | 1.35 |
| HDF35H | 4.38 | 3.42 | 2.62 |
| HDF43H | 6.35 | 4.96 | 3.79 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P): 65°F Suctin Vapor, 100°F Condensing, 100°F Liquid, 1 psi ΔP

HDF SERIES | Solenoid Valve

DISCHARGE GAS CAPACITY

| Model Size | R-404A/R-507 - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|--|------|------|------|-------|------|------|
| | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.12 | 0.20 | 0.28 | 0.44 | 0.62 | 0.76 | 0.87 |
| HDF3H | 0.27 | 0.42 | 0.60 | 0.95 | 1.34 | 1.64 | 1.89 |
| HDF5H | 0.51 | 0.81 | 1.15 | 1.82 | 2.57 | 3.15 | 3.64 |
| HDF6H | 0.82 | 1.30 | 1.84 | 2.91 | 4.12 | 5.04 | 5.82 |
| HDF9H | 1.34 | 2.12 | 2.99 | 4.73 | 6.69 | 8.19 | 9.46 |
| HDF10H | 1.96 | 3.09 | 4.37 | 6.91 | 9.78 | 12.0 | 13.8 |
| HDF15H | 2.57 | 4.07 | 5.75 | 9.09 | 12.9 | 15.8 | 18.2 |
| HDF19H | 4.12 | 6.51 | 9.20 | 14.6 | 20.6 | 25.2 | 29.1 |
| HDF25H | 6.17 | 9.76 | 13.8 | 21.8 | 30.87 | 37.8 | 43.7 |
| HDF35H | 11.9 | 18.9 | 26.7 | 42.2 | 59.68 | 73.1 | 84.4 |
| HDF43H | 17.3 | 27.3 | 38.7 | 61.1 | 86.4 | 106 | 122 |

| Model Size | R-448A/R-449A - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|---|------|------|------|------|------|------|
| | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.14 | 0.22 | 0.31 | 0.49 | 0.69 | 0.84 | 0.97 |
| HDF3H | 0.30 | 0.47 | 0.66 | 1.05 | 1.49 | 1.82 | 2.10 |
| HDF5H | 0.57 | 0.90 | 1.28 | 2.02 | 2.86 | 3.50 | 4.04 |
| HDF6H | 0.91 | 1.45 | 2.05 | 3.23 | 4.57 | 5.60 | 6.47 |
| HDF9H | 1.49 | 2.35 | 3.32 | 5.25 | 7.43 | 9.10 | 10.5 |
| HDF10H | 2.17 | 3.43 | 4.86 | 7.68 | 10.9 | 13.3 | 15.4 |
| HDF15H | 2.86 | 4.52 | 6.39 | 10.1 | 14.3 | 17.5 | 20.2 |
| HDF19H | 4.57 | 7.23 | 10.2 | 16.2 | 22.9 | 28.0 | 32.3 |
| HDF25H | 6.86 | 10.8 | 15.3 | 24.3 | 34.3 | 42.0 | 48.5 |
| HDF35H | 13.3 | 21.0 | 29.7 | 46.9 | 66.3 | 81.2 | 93.8 |
| HDF43H | 19.2 | 30.4 | 42.9 | 67.9 | 96.0 | 118 | 136 |

| Model Size | R-407A/R-407F - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|---|------|------|------|------|------|------|
| | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.14 | 0.21 | 0.30 | 0.48 | 0.68 | 0.83 | 0.96 |
| HDF3H | 0.29 | 0.46 | 0.66 | 1.04 | 1.47 | 1.80 | 2.08 |
| HDF5H | 0.57 | 0.89 | 1.26 | 2.00 | 2.83 | 3.46 | 4.00 |
| HDF6H | 0.90 | 1.43 | 2.02 | 3.20 | 4.52 | 5.54 | 6.40 |
| HDF9H | 1.47 | 2.32 | 3.29 | 5.20 | 7.35 | 9.00 | 10.4 |
| HDF10H | 2.15 | 3.40 | 4.80 | 7.60 | 10.7 | 13.2 | 15.2 |
| HDF15H | 2.83 | 4.47 | 6.32 | 10.0 | 14.1 | 17.3 | 20.0 |
| HDF19H | 4.52 | 7.15 | 10.1 | 16.0 | 22.6 | 27.7 | 32.0 |
| HDF25H | 6.78 | 10.7 | 15.2 | 24.0 | 33.9 | 41.5 | 48.0 |
| HDF35H | 13.1 | 20.7 | 29.3 | 46.4 | 65.6 | 80.3 | 92.8 |
| HDF43H | 19.0 | 30.0 | 42.5 | 67.2 | 95.0 | 116 | 134 |

| Model Size | R-22 - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|--|------|------|------|------|------|------|
| | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.14 | 0.22 | 0.31 | 0.48 | 0.69 | 0.84 | 0.97 |
| HDF3H | 0.30 | 0.47 | 0.66 | 1.05 | 1.49 | 1.82 | 2.10 |
| HDF5H | 0.57 | 0.90 | 1.28 | 2.02 | 2.86 | 3.50 | 4.04 |
| HDF6H | 0.91 | 1.45 | 2.04 | 3.23 | 4.57 | 5.60 | 6.46 |
| HDF9H | 1.49 | 2.35 | 3.32 | 5.25 | 7.43 | 9.10 | 10.5 |
| HDF10H | 2.17 | 3.43 | 4.85 | 7.68 | 10.9 | 13.3 | 15.4 |
| HDF15H | 2.86 | 4.52 | 6.39 | 10.1 | 14.3 | 17.5 | 20.2 |
| HDF19H | 4.57 | 7.23 | 10.2 | 16.2 | 22.9 | 28.0 | 32.3 |
| HDF25H | 6.86 | 10.8 | 15.3 | 24.2 | 34.3 | 42.0 | 48.5 |
| HDF35H | 13.3 | 21.0 | 29.6 | 46.9 | 66.3 | 81.2 | 93.7 |
| HDF43H | 19.2 | 30.4 | 42.9 | 67.9 | 96.0 | 118 | 136 |

EVAPORATOR TEMPERATURE CORRECTION FACTORS ³

| Liquid Temperature (F) | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|
| 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 |
| 1.00 | 0.96 | 0.93 | 0.90 | 0.87 | 0.84 | 0.81 | 0.78 | 0.75 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P): 40°F Evap., 65°F Suction Vapor, Isentropic Compression plus 50°F, 110°F Condensing, 100°F Liquid

² Nominal capacitices are highlighted

HDF SERIES | Solenoid Valve

DISCHARGE GAS CAPACITY (CONTINUED)

| Model Size | R-410A - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|--|------|------|------|------|------|------|
| | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.17 | 0.26 | 0.37 | 0.59 | 0.83 | 1.02 | 1.18 |
| HDF3H | 0.36 | 0.57 | 0.81 | 1.28 | 1.80 | 2.21 | 2.55 |
| HDF5H | 0.69 | 1.10 | 1.55 | 2.45 | 3.47 | 4.25 | 4.91 |
| HDF6H | 1.11 | 1.76 | 2.48 | 3.93 | 5.55 | 6.80 | 7.85 |
| HDF9H | 1.80 | 2.85 | 4.03 | 6.38 | 9.02 | 11.0 | 12.8 |
| HDF10H | 2.64 | 4.17 | 5.90 | 9.32 | 13.2 | 16.1 | 18.6 |
| HDF15H | 3.47 | 5.49 | 7.76 | 12.3 | 17.3 | 21.2 | 24.5 |
| HDF19H | 5.55 | 8.78 | 12.4 | 19.6 | 27.8 | 34.0 | 39.3 |
| HDF25H | 8.33 | 13.2 | 18.6 | 29.4 | 41.6 | 51.0 | 58.9 |
| HDF35H | 16.1 | 25.5 | 36.0 | 56.9 | 80.5 | 98.6 | 114 |
| HDF43H | 23.3 | 36.9 | 52.1 | 82.4 | 117 | 143 | 165 |

| Model Size | R-32 - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|--|------|------|------|------|------|------|
| | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.21 | 0.33 | 0.46 | 0.73 | 1.03 | 1.26 | 1.45 |
| HDF3H | 0.45 | 0.70 | 1.00 | 1.58 | 2.23 | 2.73 | 3.15 |
| HDF5H | 0.86 | 1.36 | 1.92 | 3.03 | 4.29 | 5.25 | 6.06 |
| HDF6H | 1.37 | 2.17 | 3.07 | 4.85 | 6.86 | 8.40 | 9.70 |
| HDF9H | 2.23 | 3.52 | 4.98 | 7.88 | 11.1 | 13.6 | 15.8 |
| HDF10H | 3.26 | 5.15 | 7.28 | 11.5 | 16.3 | 19.9 | 23.0 |
| HDF15H | 4.29 | 6.78 | 9.58 | 15.2 | 21.4 | 26.2 | 30.3 |
| HDF19H | 6.86 | 10.8 | 15.3 | 24.2 | 34.3 | 42.0 | 48.5 |
| HDF25H | 10.3 | 16.3 | 23.0 | 36.4 | 51.4 | 63.0 | 72.7 |
| HDF35H | 19.9 | 31.4 | 44.5 | 70.3 | 99.4 | 122 | 141 |
| HDF43H | 28.8 | 45.5 | 64.4 | 102 | 144 | 176 | 204 |

| Model Size | R-454B - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|--|------|------|------|------|------|------|
| | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.18 | 0.28 | 0.40 | 0.63 | 0.88 | 1.08 | 1.25 |
| HDF3H | 0.38 | 0.61 | 0.86 | 1.35 | 1.92 | 2.35 | 2.71 |
| HDF5H | 0.74 | 1.16 | 1.65 | 2.60 | 3.68 | 4.51 | 5.21 |
| HDF6H | 1.18 | 1.86 | 2.64 | 4.17 | 5.89 | 7.22 | 8.34 |
| HDF9H | 1.92 | 3.03 | 4.28 | 6.77 | 9.58 | 11.7 | 13.5 |
| HDF10H | 2.80 | 4.43 | 6.26 | 9.90 | 14.0 | 17.1 | 19.8 |
| HDF15H | 3.68 | 5.82 | 8.24 | 13.0 | 18.4 | 22.6 | 26.0 |
| HDF19H | 5.89 | 9.32 | 13.2 | 20.8 | 29.5 | 36.1 | 41.7 |
| HDF25H | 8.84 | 14.0 | 19.8 | 31.3 | 44.2 | 54.1 | 62.5 |
| HDF35H | 17.1 | 27.0 | 38.2 | 60.4 | 85.5 | 105 | 121 |
| HDF43H | 24.8 | 39.1 | 55.4 | 87.5 | 124 | 152 | 175 |

EVAPORATOR TEMPERATURE CORRECTION FACTORS ³

| Liquid Temperature (F) | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|
| 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 |
| 1.00 | 0.96 | 0.93 | 0.90 | 0.87 | 0.84 | 0.81 | 0.78 | 0.75 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P): 40°F Evap., 65°F Suction Vapor, Isentropic Compression plus 50°F, 110°F Condensing, 100°F Liquid

² Nominal capacities are highlighted

HDF SERIES | Solenoid Valve

DISCHARGE GAS CAPACITY (CONTINUED)

| Model Size | R-134A - Discharge Gas Capacity (tons ¹) | | | | | | | Model Size | R-450A - Discharge Gas Capacity (tons ¹) | | | | | | |
|------------|--|------|------|------|------|------|------|------------|--|------|------|------|------|------|------|
| | Pressure Drop (psi) ² | | | | | | | | Pressure Drop (psi) ² | | | | | | |
| | 2 | 5 | 10 | 25 | 50 | 75 | 100 | | 2 | 5 | 10 | 25 | 50 | 75 | 100 |
| HDF2H | 0.12 | 0.19 | 0.26 | 0.41 | 0.59 | 0.72 | 0.83 | HDF2H | 0.11 | 0.17 | 0.24 | 0.38 | 0.54 | 0.66 | 0.76 |
| HDF3H | 0.25 | 0.40 | 0.57 | 0.90 | 1.27 | 1.55 | 1.79 | HDF3H | 0.23 | 0.37 | 0.52 | 0.82 | 1.16 | 1.42 | 1.64 |
| HDF5H | 0.49 | 0.77 | 1.09 | 1.73 | 2.44 | 2.99 | 3.45 | HDF5H | 0.45 | 0.71 | 1.00 | 1.58 | 2.23 | 2.73 | 3.15 |
| HDF6H | 0.78 | 1.23 | 1.75 | 2.76 | 3.90 | 4.78 | 5.52 | HDF6H | 0.71 | 1.13 | 1.60 | 2.52 | 3.57 | 4.37 | 5.05 |
| HDF9H | 1.27 | 2.01 | 2.84 | 4.49 | 6.34 | 7.77 | 8.97 | HDF9H | 1.16 | 1.83 | 2.59 | 4.10 | 5.80 | 7.10 | 8.20 |
| HDF10H | 1.85 | 2.93 | 4.15 | 6.56 | 9.27 | 11.4 | 13.1 | HDF10H | 1.70 | 2.68 | 3.79 | 5.99 | 8.48 | 10.4 | 12.0 |
| HDF15H | 2.44 | 3.86 | 5.46 | 8.63 | 12.2 | 14.9 | 17.3 | HDF15H | 2.23 | 3.53 | 4.99 | 7.89 | 11.2 | 13.7 | 15.8 |
| HDF19H | 3.90 | 6.17 | 8.73 | 13.8 | 19.5 | 23.9 | 27.6 | HDF19H | 3.57 | 5.64 | 7.98 | 12.6 | 17.8 | 21.9 | 25.2 |
| HDF25H | 5.86 | 9.26 | 13.1 | 20.7 | 29.3 | 35.9 | 41.4 | HDF25H | 5.35 | 8.46 | 12.0 | 18.9 | 26.8 | 32.8 | 37.9 |
| HDF35H | 11.3 | 17.9 | 25.3 | 40.0 | 56.6 | 69.3 | 80.1 | HDF35H | 10.3 | 16.4 | 23.1 | 36.6 | 51.7 | 63.4 | 73.2 |
| HDF43H | 16.4 | 25.9 | 36.7 | 58.0 | 82.0 | 100 | 116 | HDF43H | 15.0 | 23.7 | 33.5 | 53.0 | 74.9 | 91.8 | 106 |

EVAPORATOR TEMPERATURE CORRECTION FACTORS ³

| Liquid Temperature (F) | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|
| 40 | 30 | 20 | 10 | 0 | -10 | -20 | -30 | -40 |
| 1.00 | 0.96 | 0.93 | 0.90 | 0.87 | 0.84 | 0.81 | 0.78 | 0.75 |

¹ Rated in accordance with ANSI/AHRI Standard 760 (I-P): 40°F Evap., 65°F Suction Vapor, Isentropic Compression plus 50°F, 110°F Condensing, 100°F Liquid

² Nominal capacities are highlighted

HDF SERIES | Solenoid Valve

DIMENSIONS - NORMALY CLOSED

| Model | Corrections | Figure | A (in.) | B (in.) | C (in.) | D (in.) | E (in.) | Weight (lbs) |
|-----------|-------------|--------|---------|---------|---------|---------|---------|--------------|
| HDF2H52K | 1/4" ODF | 1 | 2.74 | 1.02 | 4.63 | 0.63 | 2.32 | 0.39 |
| HDF3H51K | | | 2.74 | 1.02 | 4.63 | 0.63 | 2.32 | 0.39 |
| HDF5H53K | | | 2.76 | 1.02 | 4.63 | 0.63 | 2.32 | 0.39 |
| HDF2H51K | 3/8" ODF | 1 | 2.74 | 1.02 | 4.63 | 0.63 | 2.32 | 0.40 |
| HDF3H52K | | | 2.74 | 1.02 | 4.57 | 0.63 | 2.28 | 0.40 |
| HDF5H51K | | | 2.76 | 1.02 | 4.57 | 0.63 | 2.28 | 0.41 |
| HDF6H52K | | | 2.76 | 1.02 | 4.63 | 0.63 | 2.32 | 0.41 |
| HDF9H53K | | | 3.06 | 1.34 | 6.54 | 1.02 | 3.27 | 0.65 |
| HDF3H53K | 1/2" ODF | 1 | 2.74 | 1.02 | 4.57 | 0.63 | 2.28 | 0.41 |
| HDF5H52K | | | 2.76 | 1.02 | 4.72 | 0.63 | 2.36 | 0.42 |
| HDF6H51K | | | 2.76 | 1.02 | 5.00 | 0.63 | 2.50 | 0.42 |
| HDF9H52K | | | 3.06 | 1.34 | 5.00 | 1.02 | 2.50 | 0.66 |
| HDF10H52K | | | 3.06 | 1.34 | 5.00 | 1.02 | 2.50 | 0.66 |
| HDF9H51K | 5/8" ODF | 1 | 3.06 | 1.34 | 6.54 | 1.02 | 3.27 | 0.73 |
| HDF10H51K | | | 3.06 | 1.34 | 6.54 | 1.02 | 3.27 | 0.72 |
| HDF15H51K | | | 3.25 | 1.46 | 6.89 | 1.14 | 3.45 | 0.88 |
| HDF19H02K | | | 3.94 | 2.24 | 6.89 | 1.18 | 3.45 | 1.59 |
| HDF15H52K | 7/8" ODF | 1 | 3.25 | 1.46 | 6.89 | 1.14 | 3.45 | 0.96 |
| HDF19H01K | | | 3.94 | 2.24 | 7.13 | 1.18 | 3.57 | 1.54 |
| HDF25H01K | | | 3.94 | 2.24 | 7.50 | 1.18 | 3.75 | 1.90 |
| HDF25H02K | 1-1/8" ODF | 1 | 3.94 | 2.24 | 7.50 | 1.18 | 3.73 | 2.03 |
| HDF35H01K | | 2 | 5.65 | 3.02 | 10.10 | - | 5.05 | 5.45 |
| HDF35H02K | 1-3/8" ODF | 2 | 5.65 | 3.02 | 11.10 | - | 5.65 | 5.75 |
| HDF43H01K | 1-5/8" ODF | 2 | 6.50 | 3.45 | 11.10 | - | 5.55 | 7.89 |
| HDF43H02K | 2-1/8" ODF | 2 | 6.50 | 3.45 | 11.10 | - | 6.65 | 8.62 |

FIGURE 1

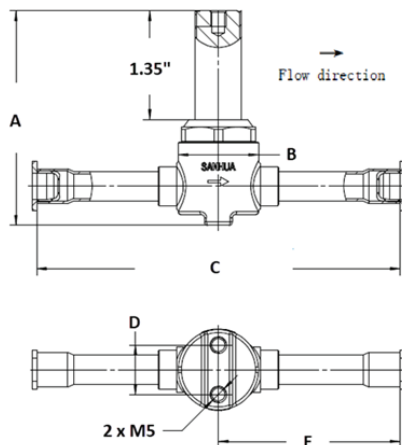
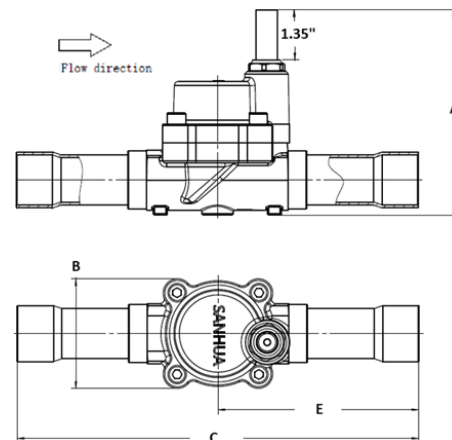


FIGURE 2



HDF SERIES | Solenoid Valve

DIMENSIONS (CONTINUED)

NORMALLY CLOSED WITH MANUAL LIFT STEM

| Model | Corrections | Figure | A (in.) | B (in.) | C (in.) | D (in.) | E (in.) | Weight (lbs) |
|------------|-------------|--------|---------|---------|---------|---------|---------|--------------|
| HDF6HM51K | 3/8" ODF | 3 | 3.64 | 1.04 | 4.63 | 0.63 | 2.32 | 0.44 |
| HDF9HM53K | | 3 | 4.12 | 1.34 | 4.63 | 1.02 | 2.32 | 0.71 |
| HDF6HM52K | 1/2" ODF | 3 | 3.64 | 1.04 | 5.00 | 1.02 | 2.50 | 0.46 |
| HDF9HM51K | | 3 | 4.12 | 1.34 | 5.00 | 1.02 | 2.50 | 0.72 |
| HDF10HM52K | | 3 | 4.12 | 1.34 | 5.00 | 1.02 | 2.50 | 0.71 |
| HDF9HM52K | 5/8" ODF | 3 | 4.12 | 1.34 | 6.54 | 1.02 | 3.27 | 0.78 |
| HDF10HM51K | | 3 | 4.12 | 1.34 | 6.54 | 1.02 | 3.27 | 0.77 |
| HDF15HM51K | | 3 | 4.30 | 1.46 | 6.89 | 1.14 | 3.45 | 0.94 |
| HDF19HM02K | | 3 | 5.17 | 2.24 | 6.89 | 1.18 | 3.45 | 1.65 |
| HDF15HM52K | 7/8" ODF | 3 | 4.30 | 1.46 | 6.89 | 1.14 | 3.45 | 1.01 |
| HDF19HM01K | | 3 | 5.17 | 2.24 | 7.13 | 1.18 | 3.57 | 1.61 |
| HDF25HM01K | | 3 | 5.17 | 2.24 | 7.50 | 1.18 | 3.75 | 1.94 |
| HDF19HM03K | 1-1/8" ODF | 3 | 5.17 | 2.24 | 7.50 | 1.18 | 3.73 | 1.72 |
| HDF25HM02K | | 3 | 5.17 | 2.24 | 8.50 | 1.18 | 4.25 | 2.09 |
| HDF35HM01K | | 4 | 6.74 | 3.02 | 10.10 | - | 5.05 | 5.80 |
| HDF35HM02K | 1-3/8" ODF | 4 | 6.74 | 3.02 | 11.10 | - | 5.65 | 5.49 |
| HDF43HM01K | 1-5/8" ODF | 4 | 7.64 | 3.45 | 11.10 | - | 5.55 | 7.76 |
| HDF43HM02K | 2-1/8" ODF | 4 | 7.64 | 3.45 | 11.10 | - | 5.65 | 8.49 |

FIGURE 3

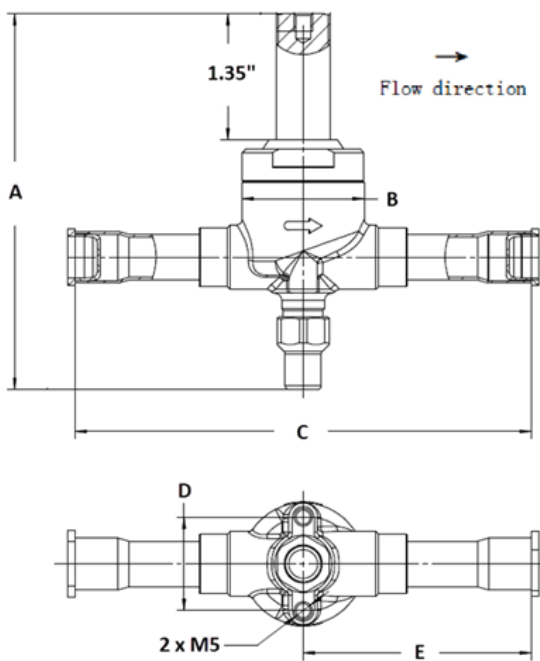
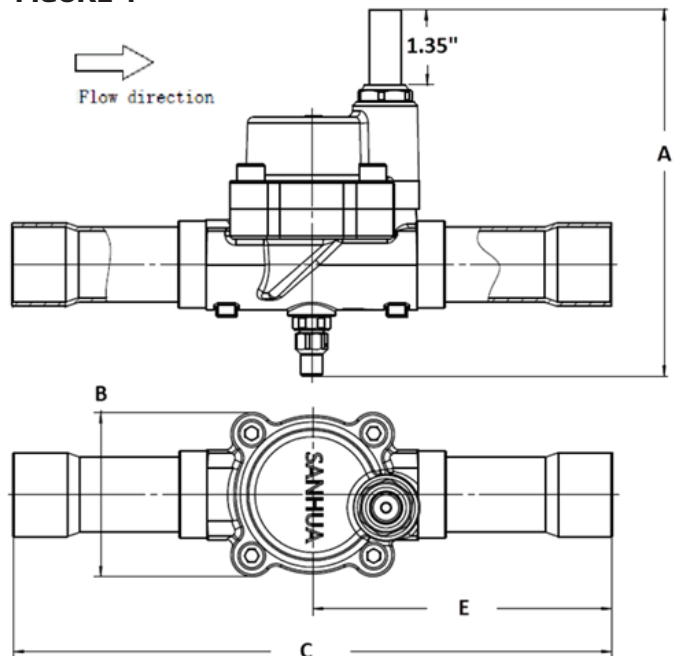


FIGURE 4



HDF SERIES | Solenoid Valve

DIMENSIONS (CONTINUED)

NORMALLY OPEN

| Model | Corrections | Figure | A (in.) | B (in.) | C (in.) | D (in.) | E (in.) | Weight (lbs) |
|------------|-------------|--------|---------|---------|---------|---------|---------|--------------|
| HDF9HC03K | 3/8" ODF | 5 | 3.85 | 1.34 | 4.63 | 1.02 | 2.32 | 0.72 |
| HDF9HC01K | 1/2" ODF | 5 | 3.85 | 1.34 | 5.00 | 1.02 | 2.50 | 0.73 |
| HDF10HC02K | | 5 | 3.85 | 1.34 | 5.00 | 1.02 | 2.50 | 0.72 |
| HDF9HC02K | 5/8" ODF | 5 | 3.85 | 1.34 | 6.54 | 1.02 | 3.27 | 0.79 |
| HDF10HC01K | | 5 | 3.85 | 1.34 | 6.54 | 1.02 | 3.27 | 0.78 |
| HDF15HC01K | | 5 | 4.04 | 1.46 | 6.89 | 1.14 | 3.45 | 0.96 |
| HDF19HC02K | 7/8" ODF | 5 | 4.73 | 2.24 | 7.13 | 1.18 | 3.57 | 1.65 |
| HDF25HC01K | | 5 | 4.73 | 2.24 | 7.50 | 1.18 | 3.75 | 1.96 |
| HDF25HC02K | 1-1/8" ODF | 5 | 4.73 | 2.24 | 8.50 | 1.18 | 4.25 | 1.72 |
| HDF35HC01K | | 6 | 6.57 | 3.02 | 10.10 | - | 5.05 | 5.58 |
| HDF35HC02K | 1-3/8" ODF | 6 | 6.57 | 3.02 | 11.10 | - | 5.65 | 5.27 |
| HDF43HC01K | 1-5/8" ODF | 6 | 7.42 | 3.45 | 11.10 | - | 5.55 | 7.94 |
| HDF43HC02K | 2-1/8" ODF | 6 | 7.42 | 3.45 | 11.10 | - | 5.65 | 8.60 |

FIGURE 5

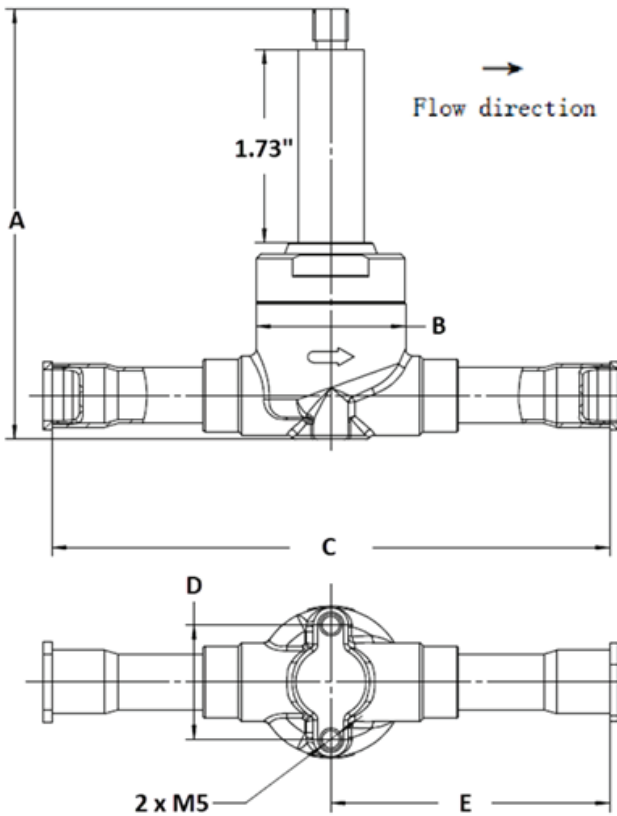
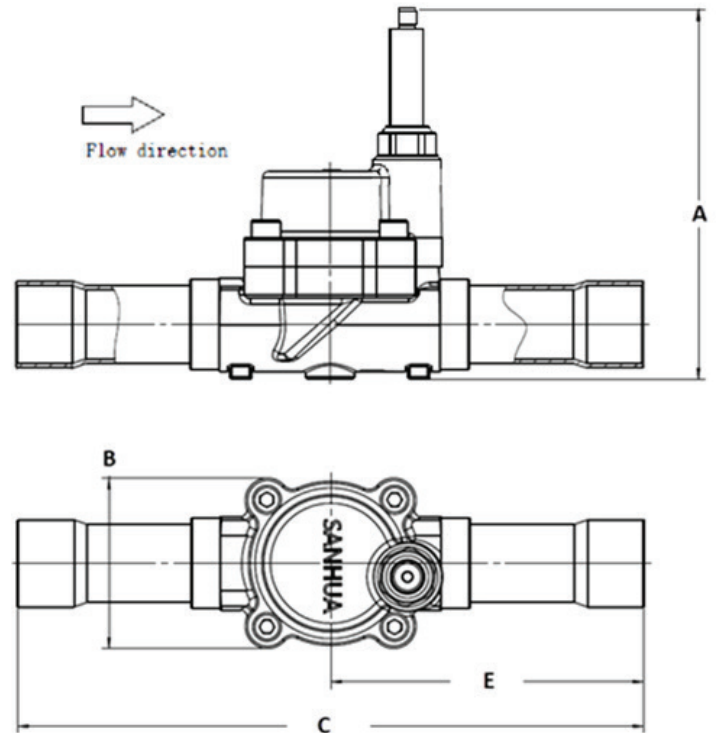


FIGURE 6



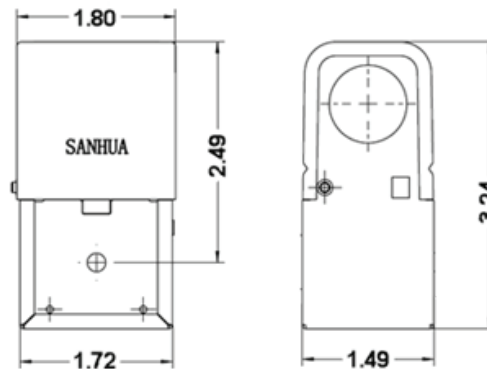
HDF SERIES | Solenoid Valve

TECHNICAL PARAMETERS OF COIL

Coils with Junction Box

| Model (Coil) | | Rated Voltage | Power | | Freq. | Insulation Class | Ingress Protection |
|------------------------|----------------------|--------------------|------------------------------|-------------------------------|----------|------------------|---------------------|
| Normally Closed (N.C.) | Normally Open (N.C.) | | Normally Closed (N.C.) | Normally Open (N.C.) | | | |
| MQ-A14120-000001 | MQ-A17120-000001 | 120 VAC | 9.0 W (50Hz) 8.0 W (60Hz) | 11.0 W (50Hz) 9.0 W (60Hz) | 50/60 Hz | F | IP67 (coil molding) |
| MQ-A14024-000001 | MQ-A17024-000001 | 24 VAC | | | | | |
| MQ-A1420E-000001 | MQ-A1720E-000001 | 208-240 VAC | | | | | |
| MQ-A1022S-000001 | - | 120/240 VAC - DUAL | | | | | |

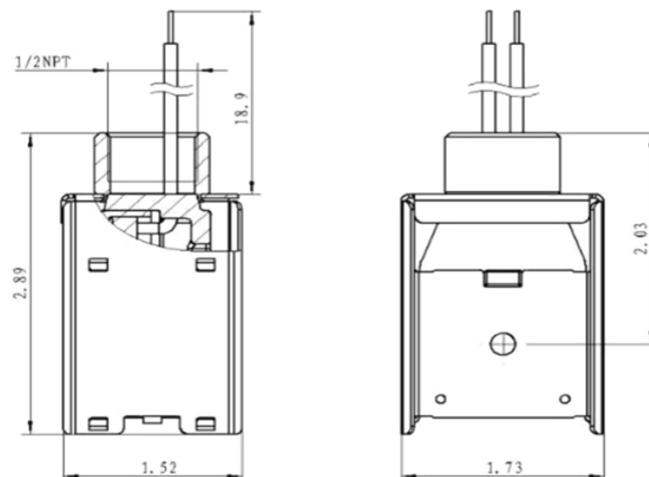
DIMENSIONS



Coils with Conduit Boss

| Model (Coil) | | Rated Voltage | Power | | Freq. | Insulation Class | Ingress Protection |
|------------------------|----------------------|---------------|------------------------------|-------------------------------|----------|------------------|---------------------|
| Normally Closed (N.C.) | Normally Open (N.C.) | | Normally Closed (N.C.) | Normally Open (N.C.) | | | |
| MQ-A14120-000701 | MQ-A17120-000701 | 120 VAC | 9.0 W (50Hz) 8.0 W (60Hz) | 11.0 W (50Hz) 9.0 W (60Hz) | 50/60 Hz | F | IP67 (coil molding) |
| MQ-A14024-000701 | MQ-A17024-000701 | 24 VAC | | | | | |
| MQ-A1420E-000701 | MQ-A1720E-000701 | 208-240 VAC | | | | | |

DIMENSIONS



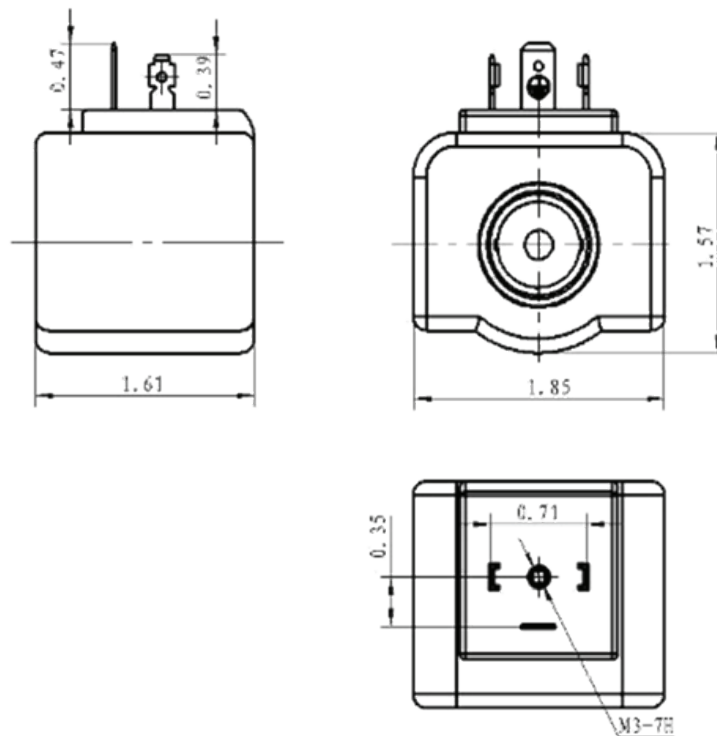
HDF SERIES | Solenoid Valve

TECHNICAL PARAMETERS OF COIL (CONTINUED)

Coils with DIN Connector

| Model (Coil) | | Rated Voltage | Power | | Freq. | Insulation Class | Ingress Protection |
|------------------------|----------------------|---------------|-------------------------------|-------------------------------|----------|------------------|---------------------|
| Normally Closed (N.C.) | Normally Open (N.C.) | | Normally Closed (N.C.) | Normally Open (N.C.) | | | |
| MQ-A0311A-011003 | - | 120 VAC | 10.0 W (50Hz) 9.0 W (60Hz) | 11.0 W (50Hz) 9.0 W (60Hz) | 50/60 Hz | F | IP67 (coil molding) |
| MQ-A03024-011003 | - | 24 VAC | | | | | |
| MQ-A0322G-011003 | - | 208-240 VAC | | | | | |

DIMENSIONS



HDF SERIES | Solenoid Valve

CROSS -REFERENCE

LEGACY HDF SERIES (HERMETIC) VS NEW HDF SERIES

Normally Closed

| Connections | Legacy Model | New Model |
|-------------|--------------|-----------|
| 1/4" ODF | | HDF2H52K |
| | HDF3H01 | HDF3H51K |
| | | HDF5H53K |
| 3/8" ODF | | HDF2H51K |
| | HDF3H02 | HDF3H52K |
| | HDF6H15 | HDF5H51K |
| | HDF6H02 | HDF6H52K |
| 1/2" ODF | | HDF9H53K |
| | | HDF5H52K |
| | HDF6H03 | HDF6H51K |
| | HDF10H19 | HDF9H52K |
| | HDF10H01 | HDF10H52K |
| 5/8" ODF | | HDF9H51K |
| | HDF10H02 | HDF10H51K |
| | HDF15H01 | HDF15H51K |
| | HDF20H07 | HDF19H02K |
| 7/8" ODF | | HDF15H52K |
| | HDF20H01 | HDF19H01K |
| | HDF22H01 | HDF25H01K |
| 1-1/8" ODF | HDF22H03 | HDF25H02K |
| 1-3/8" ODF | | HDF35H01K |
| 1-5/8" ODF | | HDF35H02K |
| 2-1/8" ODF | | HDF43H01K |
| | | HDF43H02K |

Normally Closed with Manual Lift Stem

| Connections | Legacy Model | New Model |
|-------------|--------------|------------|
| 3/8" ODF | HDF6HM02 | HDF6HM51K |
| | | HDF9HM53K |
| 1/2" ODF | HDF6HM03 | HDF6HM52K |
| | | HDF9HM51K |
| | HDF10HM01 | HDF10HM52K |
| 5/8" ODF | | HDF9HM52K |
| | HDF10HM02 | HDF10HM51K |
| | HDF15HM01 | HDF15HM51K |
| | HDF20HM02 | HDF19HM01K |
| 7/8" ODF | HDF15HM02 | HDF15HM52K |
| | HDF20HM01 | HDF19HM02K |
| | HDF22HM01 | HDF25HM01K |
| 1-1/8" ODF | HDF20HM03 | HDF19HM03K |
| | HDF22HM02 | HDF25HM02K |
| | | HDF35HM01K |
| 1-3/8" ODF | | HDF35HM02K |
| 1-5/8" ODF | | HDF43HM01K |
| 2-1/8" ODF | | HDF43HM02K |

Normally Open

| Connections | Legacy Model | New Model |
|-------------|--------------|------------|
| 3/8" ODF | | HDF9HC03K |
| 1/2" ODF | | HDF9HC01K |
| | | HDF10HC02K |
| 5/8" ODF | | HDF9HC02K |
| | | HDF10HC01K |
| | | HDF15HC01K |
| 7/8" ODF | HDF20HC01K | HDF19HC02K |
| | HDF22HC01K | HDF25HC01K |
| 1-1/8" ODF | HDF22HC02K | HDF25HC02K |
| | | HDF35HC01K |
| 1-3/8" ODF | | HDF35HC02K |
| 1-5/8" ODF | | HDF43HC01K |
| 2-1/8" ODF | | HDF43HC02K |

HDF SERIES | Solenoid Valve

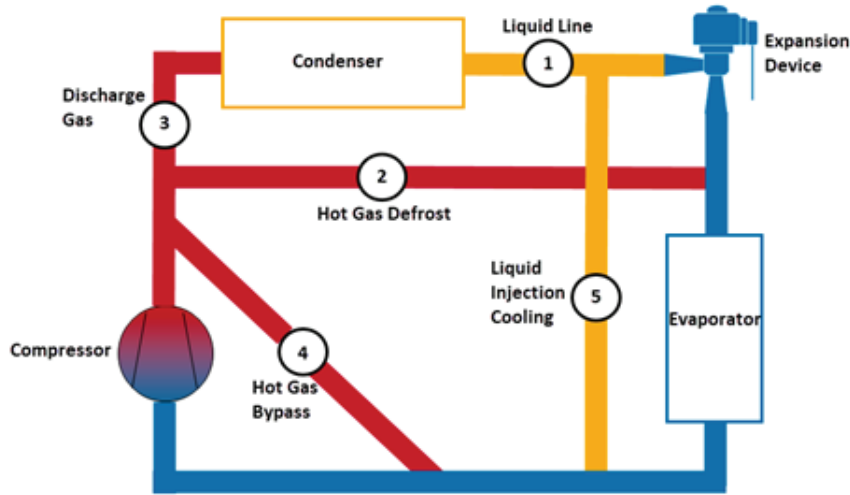
NECESSARY INFORMATION FOR CUSTOMIZING SOLENOID HDF VALVES

Solenoid Valve Request Form - HDF Series

Customer Name:

System Refrigerant:

Installation Position:



System Conditions:

Evaporator Capacity:

Evaporator Temperature:

Liquid Temperature:

Condensing Temperature:

Suction Vapor Temperature:

MOPD REQUIREMENT:

AMBIENT TEMPERATURE:

Coil Parameters:

| | | | | | |
|-------------------|-------------------------------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------|
| Rated Power: | <input type="checkbox"/> 220-240VAC | <input type="checkbox"/> 120VAC | <input type="checkbox"/> 24VDC | <input type="checkbox"/> 24VDC | <input type="checkbox"/> Other: |
| Insulation Class: | <input type="checkbox"/> "E" Level | <input type="checkbox"/> "B" Level | <input type="checkbox"/> "F" Level | <input type="checkbox"/> "H" Level | |
| IP Level: | <input type="checkbox"/> IP65 | <input type="checkbox"/> IP67 | <input type="checkbox"/> Other | | |

Valve Configuration/Options:

| | | | | |
|--------------------------------|---|--|--|---|
| <input type="checkbox"/> Angle | <input type="checkbox"/> Straight Through | <input type="checkbox"/> Normally Closed | <input type="checkbox"/> Normally Open | <input type="checkbox"/> Manual Lift Stem |
|--------------------------------|---|--|--|---|

Connection Sizes/Type (ODF, SAE Flare or Other)

Inlet:

Outlet:

Certifications Required:

| | | | | |
|-----------------------------|------------------------------|------------------------------|------------------------------|---------------------------------|
| <input type="checkbox"/> UL | <input type="checkbox"/> VDE | <input type="checkbox"/> TUV | <input type="checkbox"/> CQE | <input type="checkbox"/> Other: |
|-----------------------------|------------------------------|------------------------------|------------------------------|---------------------------------|

Please arrange a discussion with Sanhua R&D if the valve is used in an oil system or oil recycle.

EAU:

File No. MH25894

DS-HDF-EN-R2301-NA