

COMPRESSOR DEFINITION

| | |
|---------------------------|-------------|
| Designation | EM I70HER |
| Nominal Voltage/Frequency | 220 V 50 Hz |
| Engineering Number | 513307252 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220 / 50 | [V / Hz] | |
| 4 Application type | Low Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°F) | |
| 5 Motor type | RSIR/CSIR | | |
| 6 Starting torque | LST - Low Starting Torque | | |
| 7 Expansion device | Capillary tube | | |
| 8 Compressor cooling | Operating voltage range | | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32°C Ambient temperature) | - | - | - |
| 8.2 LBP (43°C Ambient temperature) | - | - | - |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing pressures/temperature | | | |
| 9.1 Operating (gauge) | 16.2 | [kgf/cm ²] (230 psig) | / °C - °F |
| 9.2 Peak (gauge) | 20.6 | [kgf/cm ²] (293 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1/5 | [hp] |
| 2 Displacement | 5.89 | [cm ³] (0.359 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 17.000 | |
| 3 Lubricant charge | 170 | [ml] (5.75 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 7.72 | [kg] (17.02 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELETRICAL DATA

| | | |
|--|--------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213514130/213515004 | |
| 3 Start capacitor | 72-88(210) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 5TM718RFBYY-53 | |
| 6 Start winding resistance | 27.80 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 13.70 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 12.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 1.35 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 565 | 142 | 166 | 140 | 1.08 | 3.21 | 4.04 | 1.02 | 1.18 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Static | | (Condensing temperature 45°C (+113°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 313 | 79 | 92 | 101 | 1.00 | 1.77 | 3.09 | 0.78 | 0.90 |
| -30 (-22) | 430 | 108 | 126 | 115 | 1.02 | 2.44 | 3.74 | 0.94 | 1.10 |
| -25 (-13) | 569 | 143 | 167 | 129 | 1.05 | 3.23 | 4.40 | 1.11 | 1.29 |
| -20 (- 4) | 736 | 185 | 216 | 145 | 1.09 | 4.19 | 5.09 | 1.28 | 1.49 |
| -15 (+ 5) | 939 | 237 | 275 | 161 | 1.13 | 5.36 | 5.85 | 1.47 | 1.71 |
| -10 (+14) | 1184 | 298 | 347 | 177 | 1.18 | 6.78 | 6.67 | 1.68 | 1.96 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Static | | (Condensing temperature 55°C (+131°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 258 | 65 | 76 | 103 | 1.00 | 1.46 | 2.53 | 0.64 | 0.74 |
| -30 (-22) | 372 | 94 | 109 | 117 | 1.02 | 2.11 | 3.17 | 0.80 | 0.93 |
| -25 (-13) | 507 | 128 | 149 | 133 | 1.06 | 2.88 | 3.81 | 0.96 | 1.12 |
| -20 (- 4) | 669 | 169 | 196 | 150 | 1.10 | 3.81 | 4.45 | 1.12 | 1.30 |
| -15 (+ 5) | 866 | 218 | 254 | 169 | 1.15 | 4.95 | 5.13 | 1.29 | 1.50 |
| -10 (+14) | 1105 | 278 | 324 | 188 | 1.22 | 6.33 | 5.86 | 1.48 | 1.72 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Static | | (Condensing temperature 65°C (+149°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 215 | 54 | 63 | 100 | 0.99 | 1.22 | 2.15 | 0.54 | 0.63 |
| -30 (-22) | 322 | 81 | 94 | 116 | 1.01 | 1.83 | 2.77 | 0.70 | 0.81 |
| -25 (-13) | 449 | 113 | 132 | 134 | 1.05 | 2.55 | 3.36 | 0.85 | 0.98 |
| -20 (- 4) | 603 | 152 | 177 | 153 | 1.10 | 3.43 | 3.94 | 0.99 | 1.15 |
| -15 (+ 5) | 790 | 199 | 232 | 175 | 1.17 | 4.51 | 4.52 | 1.14 | 1.32 |
| -10 (+14) | 1018 | 256 | 298 | 198 | 1.24 | 5.83 | 5.14 | 1.29 | 1.51 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted parallel to Base Plate | | |
| 3.2 DISCHARGE | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted | | |
| 3.3 PROCESS | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material | Copper | | |
| 3.3.2 Shape | Slanted parallel to Base Plate | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |