

COMPRESSOR DEFINITION

| | |
|---------------------------|-------------|
| Designation | EM I70HER |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number | 513307084 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220 / 60 | [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 | | |
| 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) | Fan | - | 187 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Fan | - | 187 to 242 V |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 14.2 | [kgf/cm ²] (202 psig) | / °C - °F |
| 9.2 Peak | 15.9 | [kgf/cm ²] (226 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 | 160 | [ml] (5.41 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 7.71 | [kg] (17.00 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 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213514130 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM739LFBYY-53 | |
| 6 Start winding resistance | 28.85 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 13.00 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 12.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.45 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - TUV - UKCA - UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAELBP32 Fan | | 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] |
| 705 | 178 | 207 | 154 | 1.08 | 4.01 | 4.58 | 1.15 | 1.34 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAE32 Fan | | (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) | 375 | 95 | 110 | 114 | 0.97 | 2.12 | 3.29 | 0.83 | 0.96 |
| -30 (-22) | 536 | 135 | 157 | 126 | 1.00 | 3.04 | 4.24 | 1.07 | 1.24 |
| -25 (-13) | 707 | 178 | 207 | 141 | 1.04 | 4.02 | 5.02 | 1.26 | 1.47 |
| -20 (- 4) | 904 | 228 | 265 | 159 | 1.10 | 5.14 | 5.69 | 1.43 | 1.67 |
| -15 (+ 5) | 1138 | 287 | 334 | 180 | 1.17 | 6.50 | 6.35 | 1.60 | 1.86 |
| -10 (+14) | 1425 | 359 | 418 | 202 | 1.25 | 8.17 | 7.06 | 1.78 | 2.07 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAE32 Fan | | (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) | 340 | 86 | 100 | 118 | 0.98 | 1.93 | 2.86 | 0.72 | 0.84 |
| -30 (-22) | 485 | 122 | 142 | 131 | 1.01 | 2.75 | 3.68 | 0.93 | 1.08 |
| -25 (-13) | 643 | 162 | 188 | 148 | 1.06 | 3.65 | 4.35 | 1.10 | 1.27 |
| -20 (- 4) | 827 | 208 | 242 | 169 | 1.13 | 4.71 | 4.93 | 1.24 | 1.44 |
| -15 (+ 5) | 1052 | 265 | 308 | 192 | 1.21 | 6.00 | 5.50 | 1.39 | 1.61 |
| -10 (+14) | 1330 | 335 | 390 | 216 | 1.30 | 7.62 | 6.14 | 1.55 | 1.80 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | | ASHRAE32 Fan | | (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) | 299 | 75 | 88 | 112 | 0.97 | 1.69 | 2.68 | 0.67 | 0.78 |
| -30 (-22) | 436 | 110 | 128 | 129 | 1.01 | 2.47 | 3.37 | 0.85 | 0.99 |
| -25 (-13) | 586 | 148 | 172 | 150 | 1.07 | 3.33 | 3.91 | 0.99 | 1.15 |
| -20 (- 4) | 765 | 193 | 224 | 174 | 1.15 | 4.36 | 4.39 | 1.11 | 1.29 |
| -15 (+ 5) | 987 | 249 | 289 | 202 | 1.24 | 5.63 | 4.87 | 1.23 | 1.43 |
| -10 (+14) | 1263 | 318 | 370 | 231 | 1.36 | 7.24 | 5.43 | 1.37 | 1.59 |

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 | Straight | | |
| 3.2 DISCHARGE | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 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 | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |