

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM IE30HJR |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513306168 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 115-127 / 60 | [V / Hz] | |
| 4 Application type | Low-Medium Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -5°C | (-31°F to 23°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) | Static | - | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 103 to 140 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 | 1/10 | [hp] |
| 2 Displacement | 2.83 | [cm ³] (0.173 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 2.2 Stroke [mm] | 10.000 | |
| 3 Lubricant charge | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 7.24 | [kg] (15.96 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 | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213514008 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | DRB31K61A* | |
| 6 Start winding resistance | 15.55 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 9.85 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 12.70 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.17 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IMTRO - TUV | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @127V60Hz | | | 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] |
| 301 | 76 | 88 | 73 | 1.04 | 1.71 | 4.10 | 1.03 | 1.20 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|---------------------------------------|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | | ASHRAE32 Static | | (Condensing temperature 35°C (+95°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) | 178 | 45 | 52 | 56 | 0.88 | 1.01 | 3.20 | 0.81 | 0.94 |
| -30 | (-22) | 257 | 65 | 75 | 63 | 0.96 | 1.46 | 4.08 | 1.03 | 1.20 |
| -25 | (-13) | 354 | 89 | 104 | 70 | 1.01 | 2.01 | 5.03 | 1.27 | 1.47 |
| -20 | (- 4) | 469 | 118 | 137 | 78 | 1.05 | 2.67 | 6.05 | 1.52 | 1.77 |
| -15 | (+ 5) | 601 | 151 | 176 | 85 | 1.08 | 3.43 | 7.11 | 1.79 | 2.08 |
| -10 | (+14) | 749 | 189 | 219 | 91 | 1.11 | 4.29 | 8.24 | 2.08 | 2.41 |
| -5 | (+23) | 912 | 230 | 267 | 97 | 1.14 | 5.25 | 9.41 | 2.37 | 2.76 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | | 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) | 150 | 38 | 44 | 55 | 0.94 | 0.85 | 2.74 | 0.69 | 0.80 |
| -30 | (-22) | 222 | 56 | 65 | 63 | 1.00 | 1.26 | 3.53 | 0.89 | 1.04 |
| -25 | (-13) | 314 | 79 | 92 | 72 | 1.04 | 1.78 | 4.36 | 1.10 | 1.28 |
| -20 | (- 4) | 426 | 107 | 125 | 81 | 1.07 | 2.42 | 5.22 | 1.32 | 1.53 |
| -15 | (+ 5) | 556 | 140 | 163 | 91 | 1.11 | 3.18 | 6.12 | 1.54 | 1.79 |
| -10 | (+14) | 705 | 178 | 207 | 100 | 1.15 | 4.04 | 7.04 | 1.77 | 2.06 |
| -5 | (+23) | 872 | 220 | 255 | 110 | 1.21 | 5.02 | 7.98 | 2.01 | 2.34 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | | 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) | 118 | 30 | 35 | 51 | 0.94 | 0.67 | 2.33 | 0.59 | 0.68 |
| -30 | (-22) | 181 | 46 | 53 | 60 | 0.99 | 1.03 | 3.07 | 0.77 | 0.90 |
| -25 | (-13) | 267 | 67 | 78 | 70 | 1.03 | 1.52 | 3.83 | 0.96 | 1.12 |
| -20 | (- 4) | 375 | 94 | 110 | 81 | 1.07 | 2.13 | 4.59 | 1.16 | 1.34 |
| -15 | (+ 5) | 503 | 127 | 147 | 94 | 1.12 | 2.87 | 5.35 | 1.35 | 1.57 |
| -10 | (+14) | 652 | 164 | 191 | 107 | 1.19 | 3.73 | 6.11 | 1.54 | 1.79 |
| -5 | (+23) | 820 | 207 | 240 | 120 | 1.28 | 4.72 | 6.86 | 1.73 | 2.01 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @127V60Hz | | 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) | 81 | 20 | 24 | 43 | 0.88 | 0.46 | 1.86 | 0.47 | 0.54 |
| -30 | (-22) | 135 | 34 | 39 | 53 | 0.92 | 0.76 | 2.60 | 0.65 | 0.76 |
| -25 | (-13) | 213 | 54 | 62 | 65 | 0.97 | 1.21 | 3.32 | 0.84 | 0.97 |
| -20 | (- 4) | 315 | 79 | 92 | 78 | 1.03 | 1.79 | 4.02 | 1.01 | 1.18 |
| -15 | (+ 5) | 440 | 111 | 129 | 94 | 1.11 | 2.51 | 4.70 | 1.18 | 1.38 |
| -10 | (+14) | 587 | 148 | 172 | 110 | 1.21 | 3.36 | 5.34 | 1.35 | 1.57 |
| -5 | (+23) | 756 | 191 | 222 | 127 | 1.35 | 4.35 | 5.96 | 1.50 | 1.75 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate | European Standard EG/F/AMEM Version 2 | | |
| 2 Tray holder | Yes | | |
| 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 42° up + 45° to Back | | |
| 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 30° up + 24° to Back | | |
| 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 45° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |