

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM I30HER |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513307970 |

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 | 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) | Static/Fan | - | 98 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | - | 98 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 | 3.00 | [cm ³] (0.183 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 2.2 Stroke [mm] | 10.600 | |
| 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) | 7.06 | [kg] (15.56 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELETRICAL DATA

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|--|------------------------------------|------------------------------------|
| 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 | 213515268 | |
| 3 Start capacitor | 108-130(140) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM734LFBYY-53 | |
| 6 Start winding resistance | 21.20 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 7.90 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| 305 | 77 | 89 | 74 | 0.99 | 1.73 | 4.10 | 1.03 | 1.20 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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) | 164 | 41 | 48 | 51 | 0.85 | 0.93 | 3.17 | 0.80 | 0.93 |
| -30 (-22) | 248 | 62 | 73 | 61 | 0.91 | 1.40 | 4.01 | 1.01 | 1.17 |
| -25 (-13) | 328 | 83 | 96 | 71 | 0.98 | 1.86 | 4.60 | 1.16 | 1.35 |
| -20 (- 4) | 414 | 104 | 121 | 82 | 1.04 | 2.36 | 5.09 | 1.28 | 1.49 |
| -15 (+ 5) | 519 | 131 | 152 | 93 | 1.10 | 2.96 | 5.62 | 1.42 | 1.65 |
| -10 (+14) | 652 | 164 | 191 | 102 | 1.17 | 3.73 | 6.35 | 1.60 | 1.86 |
| -5 (+23) | 824 | 208 | 241 | 111 | 1.24 | 4.74 | 7.42 | 1.87 | 2.17 |

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|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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) | 99 | 25 | 29 | 50 | 0.83 | 0.56 | 2.02 | 0.51 | 0.59 |
| -30 (-22) | 187 | 47 | 55 | 59 | 0.89 | 1.06 | 3.11 | 0.78 | 0.91 |
| -25 (-13) | 272 | 69 | 80 | 70 | 0.96 | 1.55 | 3.88 | 0.98 | 1.14 |
| -20 (- 4) | 366 | 92 | 107 | 82 | 1.04 | 2.08 | 4.47 | 1.13 | 1.31 |
| -15 (+ 5) | 479 | 121 | 140 | 95 | 1.13 | 2.74 | 5.03 | 1.27 | 1.47 |
| -10 (+14) | 622 | 157 | 182 | 108 | 1.22 | 3.57 | 5.71 | 1.44 | 1.67 |
| -5 (+23) | 806 | 203 | 236 | 121 | 1.32 | 4.64 | 6.67 | 1.68 | 1.95 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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) | 56 | 14 | 16 | 48 | 0.80 | 0.32 | 1.17 | 0.30 | 0.34 |
| -30 (-22) | 140 | 35 | 41 | 56 | 0.86 | 0.80 | 2.46 | 0.62 | 0.72 |
| -25 (-13) | 224 | 57 | 66 | 67 | 0.94 | 1.27 | 3.35 | 0.85 | 0.98 |
| -20 (- 4) | 318 | 80 | 93 | 80 | 1.03 | 1.81 | 4.00 | 1.01 | 1.17 |
| -15 (+ 5) | 433 | 109 | 127 | 95 | 1.14 | 2.47 | 4.54 | 1.14 | 1.33 |
| -10 (+14) | 580 | 146 | 170 | 112 | 1.26 | 3.32 | 5.13 | 1.29 | 1.50 |
| -5 (+23) | 769 | 194 | 225 | 130 | 1.40 | 4.42 | 5.91 | 1.49 | 1.73 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate | European Standard 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 | 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 | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |