

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 3Y60HLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513399999 |

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 Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°F) | |
| 5 Motor type | RSCR | | |
| 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 | 1/4 | [hp] |
| 2 Displacement | 5.19 | [cm ³] (0.317 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 15.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 7.3 | [kg] (16.09 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 | TSD | |
| 2.1 Starting device | TSD2-115V0.6 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(180)/15(180) | [µF(VAC minimum)] |
| 5 Motor protection | CP4TMC431K61 | |
| 6 Start winding resistance | 6.41 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.16 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 12.97 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.82 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.45 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| 648 | 163 | 190 | 109 | 1.06 | 3.68 | 5.95 | 1.50 | 1.74 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | 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) | 373 | 94 | 109 | 71 | 0.77 | 2.11 | 5.25 | 1.32 | 1.54 |
| -30 | (-22) | 500 | 126 | 146 | 82 | 0.84 | 2.83 | 6.15 | 1.55 | 1.80 |
| -25 | (-13) | 654 | 165 | 192 | 92 | 0.92 | 3.71 | 7.11 | 1.79 | 2.08 |
| -20 | (- 4) | 843 | 212 | 247 | 103 | 1.01 | 4.80 | 8.15 | 2.05 | 2.39 |
| -15 | (+ 5) | 1075 | 271 | 315 | 115 | 1.11 | 6.14 | 9.32 | 2.35 | 2.73 |
| -10 | (+14) | 1357 | 342 | 398 | 127 | 1.22 | 7.78 | 10.62 | 2.68 | 3.11 |

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|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | 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) | 339 | 85 | 99 | 73 | 0.77 | 1.92 | 4.64 | 1.17 | 1.36 |
| -30 | (-22) | 471 | 119 | 138 | 86 | 0.87 | 2.67 | 5.47 | 1.38 | 1.60 |
| -25 | (-13) | 626 | 158 | 184 | 100 | 0.98 | 3.56 | 6.32 | 1.59 | 1.85 |
| -20 | (- 4) | 813 | 205 | 238 | 113 | 1.09 | 4.63 | 7.21 | 1.82 | 2.11 |
| -15 | (+ 5) | 1038 | 262 | 304 | 127 | 1.21 | 5.92 | 8.17 | 2.06 | 2.39 |
| -10 | (+14) | 1308 | 330 | 383 | 141 | 1.33 | 7.50 | 9.22 | 2.32 | 2.70 |

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|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | 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) | 271 | 68 | 79 | 68 | 0.74 | 1.53 | 3.94 | 0.99 | 1.15 |
| -30 | (-22) | 413 | 104 | 121 | 86 | 0.87 | 2.34 | 4.78 | 1.21 | 1.40 |
| -25 | (-13) | 574 | 145 | 168 | 103 | 1.00 | 3.26 | 5.60 | 1.41 | 1.64 |
| -20 | (- 4) | 762 | 192 | 223 | 120 | 1.15 | 4.34 | 6.40 | 1.61 | 1.88 |
| -15 | (+ 5) | 984 | 248 | 288 | 137 | 1.29 | 5.62 | 7.23 | 1.82 | 2.12 |
| -10 | (+14) | 1248 | 315 | 366 | 154 | 1.44 | 7.15 | 8.09 | 2.04 | 2.37 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @115V60Hz | | 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) | 169 | 43 | 50 | 57 | 0.66 | 0.96 | 3.02 | 0.76 | 0.89 |
| -30 | (-22) | 325 | 82 | 95 | 80 | 0.83 | 1.85 | 3.95 | 1.00 | 1.16 |
| -25 | (-13) | 497 | 125 | 146 | 102 | 1.00 | 2.82 | 4.80 | 1.21 | 1.41 |
| -20 | (- 4) | 691 | 174 | 202 | 123 | 1.17 | 3.93 | 5.60 | 1.41 | 1.64 |
| -15 | (+ 5) | 915 | 231 | 268 | 145 | 1.35 | 5.22 | 6.36 | 1.60 | 1.86 |
| -10 | (+14) | 1176 | 296 | 345 | 166 | 1.54 | 6.74 | 7.12 | 1.79 | 2.09 |

F - EXTERNAL CHARACTERISTICS

| | |
|-------------------------|--|
| 1 Base plate | Universal |
| 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 0° up + 24° 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 0° up + 24° to Back |
| 3.3 PROCESS | 4.86 +0.07/+0.00 [mm] (0.191" +0.003"/+0.000") |
| 3.3.1 Material | Copper |
| 3.3.2 Shape | Straight |
| 3.4 Oil cooler (Copper) | No [mm] |
| 3.5 Connector sealing | Rubber Plugs |