

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 3Y60HLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513301610 |

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 | PTC | |
| 2.1 Starting device | 8EA14B3/8EA14C3/QPS2-A4R7MD3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(180)/15(180) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM427KFBYY-53 | |
| 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) | 1.70 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.42 | [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 | 112 | 1.05 | 3.68 | 5.79 | 1.46 | 1.70 |

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 | 73 | 0.76 | 2.11 | 5.15 | 1.30 | 1.51 |
| -30 | (-22) | 500 | 126 | 146 | 83 | 0.84 | 2.83 | 6.04 | 1.52 | 1.77 |
| -25 | (-13) | 654 | 165 | 192 | 94 | 0.92 | 3.71 | 6.99 | 1.76 | 2.05 |
| -20 | (- 4) | 843 | 212 | 247 | 105 | 1.01 | 4.80 | 8.04 | 2.03 | 2.36 |
| -15 | (+ 5) | 1075 | 271 | 315 | 116 | 1.11 | 6.14 | 9.20 | 2.32 | 2.70 |
| -10 | (+14) | 1357 | 342 | 398 | 129 | 1.22 | 7.78 | 10.50 | 2.65 | 3.08 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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 | 74 | 0.77 | 1.92 | 4.55 | 1.15 | 1.33 |
| -30 | (-22) | 471 | 119 | 138 | 88 | 0.87 | 2.67 | 5.38 | 1.36 | 1.58 |
| -25 | (-13) | 626 | 158 | 184 | 101 | 0.98 | 3.56 | 6.23 | 1.57 | 1.83 |
| -20 | (- 4) | 813 | 205 | 238 | 115 | 1.09 | 4.63 | 7.12 | 1.79 | 2.09 |
| -15 | (+ 5) | 1038 | 262 | 304 | 128 | 1.21 | 5.92 | 8.08 | 2.04 | 2.37 |
| -10 | (+14) | 1308 | 330 | 383 | 143 | 1.34 | 7.50 | 9.12 | 2.30 | 2.67 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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 | 70 | 0.74 | 1.53 | 3.85 | 0.97 | 1.13 |
| -30 | (-22) | 413 | 104 | 121 | 87 | 0.87 | 2.34 | 4.70 | 1.18 | 1.38 |
| -25 | (-13) | 574 | 145 | 168 | 104 | 1.01 | 3.26 | 5.52 | 1.39 | 1.62 |
| -20 | (- 4) | 762 | 192 | 223 | 121 | 1.15 | 4.34 | 6.32 | 1.59 | 1.85 |
| -15 | (+ 5) | 984 | 248 | 288 | 138 | 1.29 | 5.62 | 7.15 | 1.80 | 2.10 |
| -10 | (+14) | 1248 | 315 | 366 | 156 | 1.44 | 7.15 | 8.02 | 2.02 | 2.35 |

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 | 58 | 0.66 | 0.96 | 2.94 | 0.74 | 0.86 |
| -30 | (-22) | 325 | 82 | 95 | 81 | 0.83 | 1.85 | 3.88 | 0.98 | 1.14 |
| -25 | (-13) | 497 | 125 | 146 | 103 | 1.00 | 2.82 | 4.73 | 1.19 | 1.39 |
| -20 | (- 4) | 691 | 174 | 202 | 125 | 1.18 | 3.93 | 5.53 | 1.39 | 1.62 |
| -15 | (+ 5) | 915 | 231 | 268 | 146 | 1.36 | 5.22 | 6.29 | 1.59 | 1.84 |
| -10 | (+14) | 1176 | 296 | 345 | 168 | 1.54 | 6.74 | 7.05 | 1.78 | 2.07 |

F - EXTERNAL CHARACTERISTICS

| | |
|-------------------------|--|
| 1 Base plate | Universal |
| 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 |