

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 3Y60HLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513301666 |

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 | 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 | 1/4 | [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 | 8EA14B1/8EA14C1/QPS2-A4R7MG1 | |
| 3 Start capacitor | - | [μF(VAC minimum)] |
| 4 Run capacitor | - | [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) | 11.43 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 2.30 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.62 | [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 | 117 | 1.46 | 3.68 | 5.53 | 1.39 | 1.62 |

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) | 368 | 93 | 108 | 77 | 1.27 | 2.08 | 4.78 | 1.20 | 1.40 |
| -30 (-22) | 497 | 125 | 146 | 88 | 1.31 | 2.82 | 5.69 | 1.43 | 1.67 |
| -25 (-13) | 652 | 164 | 191 | 99 | 1.37 | 3.70 | 6.61 | 1.66 | 1.94 |
| -20 (- 4) | 839 | 212 | 246 | 110 | 1.44 | 4.78 | 7.57 | 1.91 | 2.22 |
| -15 (+ 5) | 1066 | 269 | 312 | 123 | 1.53 | 6.09 | 8.62 | 2.17 | 2.53 |
| -10 (+14) | 1337 | 337 | 392 | 136 | 1.62 | 7.66 | 9.79 | 2.47 | 2.87 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|-----------------------------|-------------------------------|--|---------------------------|-----------|-------|
| 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) | 336 | 85 | 98 | 79 | 1.27 | 1.90 | 4.26 | 1.07 | 1.25 |
| -30 (-22) | 469 | 118 | 137 | 92 | 1.33 | 2.66 | 5.10 | 1.28 | 1.49 |
| -25 (-13) | 622 | 157 | 182 | 106 | 1.40 | 3.53 | 5.90 | 1.49 | 1.73 |
| -20 (- 4) | 804 | 203 | 236 | 120 | 1.49 | 4.58 | 6.71 | 1.69 | 1.97 |
| -15 (+ 5) | 1020 | 257 | 299 | 135 | 1.60 | 5.82 | 7.55 | 1.90 | 2.21 |
| -10 (+14) | 1276 | 322 | 374 | 150 | 1.72 | 7.31 | 8.46 | 2.13 | 2.48 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|-----------------------------|-------------------------------|--|---------------------------|-----------|-------|
| 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) | 270 | 68 | 79 | 73 | 1.24 | 1.53 | 3.65 | 0.92 | 1.07 |
| -30 (-22) | 414 | 104 | 121 | 91 | 1.32 | 2.34 | 4.50 | 1.13 | 1.32 |
| -25 (-13) | 574 | 145 | 168 | 109 | 1.42 | 3.26 | 5.26 | 1.33 | 1.54 |
| -20 (- 4) | 757 | 191 | 222 | 128 | 1.54 | 4.31 | 5.98 | 1.51 | 1.75 |
| -15 (+ 5) | 969 | 244 | 284 | 146 | 1.67 | 5.53 | 6.69 | 1.69 | 1.96 |
| -10 (+14) | 1218 | 307 | 357 | 165 | 1.82 | 6.98 | 7.41 | 1.87 | 2.17 |

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) | 171 | 43 | 50 | 61 | 1.19 | 0.97 | 2.87 | 0.72 | 0.84 |
| -30 | (-22) | 333 | 84 | 98 | 85 | 1.30 | 1.89 | 3.79 | 0.95 | 1.11 |
| -25 | (-13) | 507 | 128 | 148 | 109 | 1.43 | 2.88 | 4.59 | 1.16 | 1.34 |
| -20 | (- 4) | 699 | 176 | 205 | 132 | 1.58 | 3.98 | 5.29 | 1.33 | 1.55 |
| -15 | (+ 5) | 915 | 231 | 268 | 155 | 1.74 | 5.22 | 5.93 | 1.49 | 1.74 |
| -10 | (+14) | 1163 | 293 | 341 | 179 | 1.92 | 6.66 | 6.54 | 1.65 | 1.92 |

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 |