

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 3U60HLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513301756 |

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) | 6.8 | [kg] (14.99 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 | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM427KFBYY-53 | |
| 6 Start winding resistance | 9.73 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 4.44 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 11.71 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 2.02 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.68 | [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 | 119 | 1.17 | 3.68 | 5.47 | 1.38 | 1.60 |

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 | 79 | 1.42 | 2.11 | 4.71 | 1.19 | 1.38 |
| -30 (-22) | 500 | 126 | 146 | 91 | 1.34 | 2.83 | 5.55 | 1.40 | 1.62 |
| -25 (-13) | 654 | 165 | 192 | 102 | 1.38 | 3.71 | 6.46 | 1.63 | 1.89 |
| -20 (- 4) | 843 | 213 | 247 | 113 | 1.50 | 4.80 | 7.47 | 1.88 | 2.19 |
| -15 (+ 5) | 1075 | 271 | 315 | 125 | 1.64 | 6.14 | 8.56 | 2.16 | 2.51 |
| -10 (+14) | 1357 | 342 | 398 | 138 | 1.75 | 7.78 | 9.75 | 2.46 | 2.86 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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 | 80 | 1.28 | 1.92 | 4.21 | 1.06 | 1.23 |
| -30 (-22) | 471 | 119 | 138 | 94 | 1.20 | 2.67 | 5.01 | 1.26 | 1.47 |
| -25 (-13) | 626 | 158 | 183 | 108 | 1.26 | 3.55 | 5.85 | 1.47 | 1.71 |
| -20 (- 4) | 813 | 205 | 238 | 121 | 1.40 | 4.63 | 6.72 | 1.69 | 1.97 |
| -15 (+ 5) | 1038 | 262 | 304 | 136 | 1.58 | 5.92 | 7.64 | 1.93 | 2.24 |
| -10 (+14) | 1309 | 330 | 383 | 151 | 1.75 | 7.50 | 8.61 | 2.17 | 2.52 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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 | 80 | 76 | 1.26 | 1.54 | 3.53 | 0.89 | 1.04 |
| -30 (-22) | 413 | 104 | 121 | 94 | 1.17 | 2.34 | 4.35 | 1.10 | 1.28 |
| -25 (-13) | 574 | 145 | 168 | 111 | 1.24 | 3.26 | 5.17 | 1.30 | 1.51 |
| -20 (- 4) | 762 | 192 | 223 | 128 | 1.40 | 4.33 | 5.97 | 1.50 | 1.75 |
| -15 (+ 5) | 984 | 248 | 288 | 146 | 1.61 | 5.62 | 6.77 | 1.71 | 1.99 |
| -10 (+14) | 1248 | 315 | 366 | 165 | 1.83 | 7.15 | 7.58 | 1.91 | 2.22 |

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) | 172 | 43 | 50 | 66 | 1.35 | 0.97 | 2.63 | 0.66 | 0.77 |
| -30 | (-22) | 327 | 82 | 96 | 90 | 1.26 | 1.85 | 3.53 | 0.89 | 1.03 |
| -25 | (-13) | 497 | 125 | 146 | 112 | 1.32 | 2.82 | 4.38 | 1.10 | 1.28 |
| -20 | (- 4) | 691 | 174 | 202 | 133 | 1.50 | 3.93 | 5.17 | 1.30 | 1.51 |
| -15 | (+ 5) | 915 | 231 | 268 | 156 | 1.74 | 5.22 | 5.91 | 1.49 | 1.73 |
| -10 | (+14) | 1176 | 296 | 345 | 179 | 1.99 | 6.74 | 6.61 | 1.67 | 1.94 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-----------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.2 +0.12/-0.08 | [mm] | (0.323" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Straight | | |
| 3.2 DISCHARGE | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 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 | | |