

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2U50HLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513305520 |

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 | 1/6 | [hp] |
| 2 Displacement | 4.50 | [cm ³] (0.275 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 13.000 | |
| 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) | 7.5 | [kg] (16.53 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 | 8EA14C1/QPS2-A4R7MG1 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM319NFBYY-53 | |
| 6 Start winding resistance | 6.65 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.56 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 12.75 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 2.13 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.47 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | NOM - 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] |
| 500 | 126 | 147 | 105 | 1.46 | 2.84 | 4.77 | 1.20 | 1.40 |

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) | 311 | 78 | 91 | 71 | 1.28 | 1.76 | 4.35 | 1.10 | 1.28 |
| -30 | (-22) | 414 | 104 | 121 | 81 | 1.34 | 2.34 | 5.12 | 1.29 | 1.50 |
| -25 | (-13) | 541 | 136 | 158 | 91 | 1.39 | 3.07 | 5.96 | 1.50 | 1.75 |
| -20 | (- 4) | 700 | 176 | 205 | 102 | 1.44 | 3.98 | 6.90 | 1.74 | 2.02 |
| -15 | (+ 5) | 900 | 227 | 264 | 112 | 1.50 | 5.14 | 7.99 | 2.01 | 2.34 |
| -10 | (+14) | 1149 | 290 | 337 | 124 | 1.56 | 6.59 | 9.24 | 2.33 | 2.71 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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) | 266 | 67 | 78 | 72 | 1.30 | 1.50 | 3.71 | 0.93 | 1.09 |
| -30 | (-22) | 375 | 95 | 110 | 84 | 1.36 | 2.13 | 4.48 | 1.13 | 1.31 |
| -25 | (-13) | 505 | 127 | 148 | 96 | 1.41 | 2.87 | 5.27 | 1.33 | 1.55 |
| -20 | (- 4) | 664 | 167 | 194 | 109 | 1.46 | 3.78 | 6.12 | 1.54 | 1.79 |
| -15 | (+ 5) | 859 | 216 | 252 | 122 | 1.53 | 4.90 | 7.05 | 1.78 | 2.06 |
| -10 | (+14) | 1099 | 277 | 322 | 135 | 1.62 | 6.30 | 8.09 | 2.04 | 2.37 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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) | 211 | 53 | 62 | 68 | 1.30 | 1.19 | 3.08 | 0.78 | 0.90 |
| -30 | (-22) | 327 | 82 | 96 | 83 | 1.36 | 1.86 | 3.90 | 0.98 | 1.14 |
| -25 | (-13) | 460 | 116 | 135 | 98 | 1.42 | 2.61 | 4.68 | 1.18 | 1.37 |
| -20 | (- 4) | 618 | 156 | 181 | 114 | 1.50 | 3.52 | 5.45 | 1.37 | 1.60 |
| -15 | (+ 5) | 808 | 204 | 237 | 129 | 1.59 | 4.61 | 6.25 | 1.58 | 1.83 |
| -10 | (+14) | 1039 | 262 | 304 | 146 | 1.71 | 5.95 | 7.11 | 1.79 | 2.08 |

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) | 147 | 37 | 43 | 61 | 1.26 | 0.83 | 2.43 | 0.61 | 0.71 |
| -30 | (-22) | 270 | 68 | 79 | 79 | 1.33 | 1.53 | 3.32 | 0.84 | 0.97 |
| -25 | (-13) | 406 | 102 | 119 | 98 | 1.42 | 2.31 | 4.11 | 1.04 | 1.20 |
| -20 | (- 4) | 563 | 142 | 165 | 117 | 1.53 | 3.20 | 4.84 | 1.22 | 1.42 |
| -15 | (+ 5) | 748 | 188 | 219 | 136 | 1.66 | 4.27 | 5.54 | 1.40 | 1.62 |
| -10 | (+14) | 970 | 244 | 284 | 156 | 1.83 | 5.55 | 6.25 | 1.57 | 1.83 |

F - EXTERNAL CHARACTERISTICS

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