

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 3U50HLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513301773 |

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 | 98 to 122 V | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 98 to 122 V | 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 | 1/5 | [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) | 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 | 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 | 7.37 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.18 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 12.30 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 2.53 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | 3.12 | [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] |
| 554 | 140 | 162 | 104 | 1.42 | 3.15 | 5.35 | 1.35 | 1.57 |

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) | 303 | 76 | 89 | 66 | 1.09 | 1.71 | 4.59 | 1.16 | 1.35 |
| -30 | (-22) | 425 | 107 | 125 | 78 | 1.15 | 2.41 | 5.44 | 1.37 | 1.59 |
| -25 | (-13) | 565 | 142 | 166 | 89 | 1.20 | 3.21 | 6.35 | 1.60 | 1.86 |
| -20 | (- 4) | 731 | 184 | 214 | 100 | 1.26 | 4.16 | 7.35 | 1.85 | 2.15 |
| -15 | (+ 5) | 933 | 235 | 273 | 110 | 1.31 | 5.33 | 8.48 | 2.14 | 2.49 |
| -10 | (+14) | 1180 | 297 | 346 | 120 | 1.36 | 6.76 | 9.76 | 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) | 281 | 71 | 82 | 69 | 1.11 | 1.59 | 4.05 | 1.02 | 1.19 |
| -30 | (-22) | 400 | 101 | 117 | 82 | 1.17 | 2.27 | 4.85 | 1.22 | 1.42 |
| -25 | (-13) | 535 | 135 | 157 | 95 | 1.23 | 3.04 | 5.66 | 1.43 | 1.66 |
| -20 | (- 4) | 695 | 175 | 204 | 107 | 1.29 | 3.95 | 6.51 | 1.64 | 1.91 |
| -15 | (+ 5) | 888 | 224 | 260 | 119 | 1.36 | 5.07 | 7.44 | 1.88 | 2.18 |
| -10 | (+14) | 1124 | 283 | 329 | 132 | 1.43 | 6.44 | 8.47 | 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) | 241 | 61 | 71 | 71 | 1.12 | 1.36 | 3.41 | 0.86 | 1.00 |
| -30 | (-22) | 361 | 91 | 106 | 85 | 1.18 | 2.05 | 4.21 | 1.06 | 1.23 |
| -25 | (-13) | 494 | 124 | 145 | 99 | 1.25 | 2.80 | 4.98 | 1.26 | 1.46 |
| -20 | (- 4) | 649 | 164 | 190 | 113 | 1.32 | 3.69 | 5.75 | 1.45 | 1.68 |
| -15 | (+ 5) | 836 | 211 | 245 | 128 | 1.41 | 4.77 | 6.53 | 1.65 | 1.91 |
| -10 | (+14) | 1064 | 268 | 312 | 144 | 1.50 | 6.09 | 7.37 | 1.86 | 2.16 |

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) | 185 | 47 | 54 | 69 | 1.12 | 1.05 | 2.68 | 0.68 | 0.79 |
| -30 | (-22) | 307 | 77 | 90 | 85 | 1.18 | 1.74 | 3.55 | 0.90 | 1.04 |
| -25 | (-13) | 440 | 111 | 129 | 101 | 1.26 | 2.50 | 4.34 | 1.09 | 1.27 |
| -20 | (- 4) | 594 | 150 | 174 | 117 | 1.35 | 3.38 | 5.07 | 1.28 | 1.49 |
| -15 | (+ 5) | 777 | 196 | 228 | 135 | 1.45 | 4.43 | 5.78 | 1.46 | 1.69 |
| -10 | (+14) | 999 | 252 | 293 | 154 | 1.56 | 5.72 | 6.48 | 1.63 | 1.90 |

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 | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-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 | | |