

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2Y50HLT |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513301510 |

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 pressures/temperature | | | |
| 9.1 Operating (gauge) | 16.2 | [kgf/cm ²] (230 psig) | / °C - °F |
| 9.2 Peak (gauge) | 20.6 | [kgf/cm ²] (293 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 | 8M4R7MD3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 15(180)/12(180) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM319KFBYY-53 | |
| 6 Start winding resistance | 6.50 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 8.28 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 7.75 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.10 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 1.43 | [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] |
| 517 | 130 | 151 | 94 | 0.81 | 2.94 | 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) | 300 | 76 | 88 | 61 | 0.53 | 1.70 | 4.94 | 1.24 | 1.45 |
| -30 | (-22) | 406 | 102 | 119 | 70 | 0.61 | 2.30 | 5.86 | 1.48 | 1.72 |
| -25 | (-13) | 533 | 134 | 156 | 79 | 0.69 | 3.03 | 6.77 | 1.71 | 1.98 |
| -20 | (- 4) | 690 | 174 | 202 | 89 | 0.78 | 3.93 | 7.73 | 1.95 | 2.27 |
| -15 | (+ 5) | 888 | 224 | 260 | 100 | 0.88 | 5.07 | 8.80 | 2.22 | 2.58 |
| -10 | (+14) | 1136 | 286 | 333 | 112 | 0.98 | 6.51 | 10.04 | 2.53 | 2.94 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---|-------------------------|---------------------------|-----------|-------|
| 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) | 261 | 66 | 76 | 62 | 0.55 | 1.47 | 4.25 | 1.07 | 1.24 |
| -30 | (-22) | 377 | 95 | 110 | 73 | 0.64 | 2.14 | 5.18 | 1.31 | 1.52 |
| -25 | (-13) | 509 | 128 | 149 | 84 | 0.74 | 2.89 | 6.06 | 1.53 | 1.78 |
| -20 | (- 4) | 668 | 168 | 196 | 97 | 0.84 | 3.80 | 6.93 | 1.75 | 2.03 |
| -15 | (+ 5) | 862 | 217 | 253 | 110 | 0.95 | 4.92 | 7.84 | 1.98 | 2.30 |
| -10 | (+14) | 1103 | 278 | 323 | 124 | 1.07 | 6.32 | 8.87 | 2.24 | 2.60 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---|-------------------------|---------------------------|-----------|-------|
| 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) | 204 | 51 | 60 | 57 | 0.52 | 1.15 | 3.55 | 0.89 | 1.04 |
| -30 | (-22) | 327 | 82 | 96 | 72 | 0.64 | 1.86 | 4.52 | 1.14 | 1.32 |
| -25 | (-13) | 462 | 116 | 135 | 86 | 0.76 | 2.62 | 5.36 | 1.35 | 1.57 |
| -20 | (- 4) | 619 | 156 | 181 | 101 | 0.88 | 3.52 | 6.14 | 1.55 | 1.80 |
| -15 | (+ 5) | 808 | 204 | 237 | 117 | 1.02 | 4.61 | 6.92 | 1.74 | 2.03 |
| -10 | (+14) | 1039 | 262 | 304 | 134 | 1.17 | 5.95 | 7.75 | 1.95 | 2.27 |

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) | 131 | 33 | 38 | 48 | 0.43 | 0.74 | 2.77 | 0.70 | 0.81 |
| -30 | (-22) | 258 | 65 | 76 | 66 | 0.58 | 1.46 | 3.77 | 0.95 | 1.11 |
| -25 | (-13) | 393 | 99 | 115 | 84 | 0.74 | 2.23 | 4.60 | 1.16 | 1.35 |
| -20 | (- 4) | 545 | 137 | 160 | 103 | 0.91 | 3.10 | 5.31 | 1.34 | 1.55 |
| -15 | (+ 5) | 724 | 183 | 212 | 123 | 1.08 | 4.13 | 5.95 | 1.50 | 1.74 |
| -10 | (+14) | 942 | 237 | 276 | 143 | 1.26 | 5.39 | 6.60 | 1.66 | 1.93 |

F - EXTERNAL CHARACTERISTICS

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