

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2S40CLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513304561 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 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) | 7.7 | [kgf/cm ²] (109 psig) | / °C - °F |
| 9.2 Peak (gauge) | 9.8 | [kgf/cm ²] (139 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | 1/8 | [hp] |
| 2 Displacement | 5.96 | [cm ³] (0.364 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 15.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 7.02 | [kg] (15.48 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

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 | 8EA14C3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(157) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM276KFBYY | |
| 6 Start winding resistance | 8.80 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 7.40 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 8.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | | |

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] |
| 391 | 99 | 115 | 72 | 0.65 | 1.23 | 5.43 | 1.37 | 1.59 |

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) | 235 | 59 | 69 | 50 | 0.47 | 0.74 | 4.65 | 1.17 | 1.36 |
| -30 | (-22) | 305 | 77 | 89 | 57 | 0.53 | 0.96 | 5.33 | 1.34 | 1.56 |
| -25 | (-13) | 397 | 100 | 116 | 65 | 0.59 | 1.25 | 6.12 | 1.54 | 1.79 |
| -20 | (- 4) | 516 | 130 | 151 | 73 | 0.66 | 1.62 | 7.08 | 1.78 | 2.07 |
| -15 | (+ 5) | 666 | 168 | 195 | 81 | 0.73 | 2.10 | 8.23 | 2.07 | 2.41 |
| -10 | (+14) | 852 | 215 | 250 | 89 | 0.79 | 2.69 | 9.61 | 2.42 | 2.82 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---|-------------------------|---------------------------|-----------|-------|
| 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) | 224 | 56 | 66 | 53 | 0.49 | 0.70 | 4.26 | 1.07 | 1.25 |
| -30 | (-22) | 293 | 74 | 86 | 59 | 0.54 | 0.92 | 4.93 | 1.24 | 1.44 |
| -25 | (-13) | 382 | 96 | 112 | 67 | 0.61 | 1.20 | 5.65 | 1.42 | 1.66 |
| -20 | (- 4) | 496 | 125 | 145 | 77 | 0.69 | 1.56 | 6.46 | 1.63 | 1.89 |
| -15 | (+ 5) | 640 | 161 | 188 | 86 | 0.78 | 2.01 | 7.38 | 1.86 | 2.16 |
| -10 | (+14) | 818 | 206 | 240 | 97 | 0.87 | 2.58 | 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) | 203 | 51 | 60 | 55 | 0.50 | 0.64 | 3.75 | 0.95 | 1.10 |
| -30 | (-22) | 270 | 68 | 79 | 60 | 0.55 | 0.85 | 4.48 | 1.13 | 1.31 |
| -25 | (-13) | 357 | 90 | 104 | 69 | 0.62 | 1.12 | 5.18 | 1.31 | 1.52 |
| -20 | (- 4) | 466 | 117 | 137 | 79 | 0.71 | 1.46 | 5.89 | 1.48 | 1.73 |
| -15 | (+ 5) | 603 | 152 | 177 | 90 | 0.81 | 1.90 | 6.65 | 1.68 | 1.95 |
| -10 | (+14) | 772 | 195 | 226 | 103 | 0.92 | 2.44 | 7.48 | 1.88 | 2.19 |

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) | 173 | 44 | 51 | 56 | 0.51 | 0.54 | 3.09 | 0.78 | 0.90 |
| -30 | (-22) | 238 | 60 | 70 | 61 | 0.56 | 0.75 | 3.92 | 0.99 | 1.15 |
| -25 | (-13) | 320 | 81 | 94 | 69 | 0.63 | 1.01 | 4.66 | 1.17 | 1.36 |
| -20 | (- 4) | 425 | 107 | 124 | 80 | 0.72 | 1.34 | 5.33 | 1.34 | 1.56 |
| -15 | (+ 5) | 555 | 140 | 163 | 93 | 0.84 | 1.75 | 5.97 | 1.50 | 1.75 |
| -10 | (+14) | 715 | 180 | 210 | 108 | 0.97 | 2.26 | 6.61 | 1.66 | 1.94 |

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 parallel BP+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 | | |