

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2S70CLP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513304536 |

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 | 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 | 6.9 | [kgf/cm ²] (98 psig) | / °C - °F |
| 9.2 Peak | 7.8 | [kgf/cm ²] (111 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | 1/5 | [hp] |
| 2 Displacement | 10.61 | [cm ³] (0.647 cu.in) |
| 2.1 Bore [mm] | 26.000 | |
| 2.2 Stroke [mm] | 20.000 | |
| 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) | 7.38 | [kg] (16.27 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 | 7M4R7MC1/8EA14C1/8M4R7MC1/QPS2-A4R7MG1/QPS2A4R7 | |
| 3 Start capacitor | - | [μF(VAC minimum)] |
| 4 Run capacitor | - | [μF(VAC minimum)] |
| 5 Motor protection | 5TM427KFBYY | |
| 6 Start winding resistance | 6.14 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 3.97 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 14.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 2.85 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 3.29 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IMTRO - TUV | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @127V60Hz | | | 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] |
| 716 | 180 | 210 | 134 | 1.72 | 2.25 | 5.35 | 1.35 | 1.57 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | 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) | 428 | 108 | 125 | 97 | 1.48 | 1.34 | 4.41 | 1.11 | 1.29 |
| -30 | (-22) | 581 | 147 | 170 | 110 | 1.53 | 1.82 | 5.29 | 1.33 | 1.55 |
| -25 | (-13) | 724 | 182 | 212 | 117 | 1.59 | 2.27 | 6.23 | 1.57 | 1.82 |
| -20 | (- 4) | 908 | 229 | 266 | 127 | 1.66 | 2.85 | 7.14 | 1.80 | 2.09 |
| -15 | (+ 5) | 1188 | 299 | 348 | 147 | 1.73 | 3.74 | 7.96 | 2.01 | 2.33 |
| -10 | (+14) | 1616 | 407 | 474 | 186 | 1.80 | 5.10 | 8.61 | 2.17 | 2.52 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | 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) | 416 | 105 | 122 | 96 | 1.50 | 1.30 | 4.30 | 1.08 | 1.26 |
| -30 | (-22) | 568 | 143 | 166 | 113 | 1.56 | 1.78 | 4.97 | 1.25 | 1.46 |
| -25 | (-13) | 703 | 177 | 206 | 123 | 1.64 | 2.21 | 5.73 | 1.44 | 1.68 |
| -20 | (- 4) | 875 | 220 | 256 | 136 | 1.72 | 2.75 | 6.50 | 1.64 | 1.91 |
| -15 | (+ 5) | 1137 | 286 | 333 | 158 | 1.81 | 3.58 | 7.22 | 1.82 | 2.12 |
| -10 | (+14) | 1541 | 388 | 452 | 197 | 1.88 | 4.86 | 7.79 | 1.96 | 2.28 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | 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) | 391 | 98 | 114 | 97 | 1.50 | 1.22 | 4.03 | 1.02 | 1.18 |
| -30 | (-22) | 543 | 137 | 159 | 117 | 1.59 | 1.70 | 4.54 | 1.14 | 1.33 |
| -25 | (-13) | 673 | 170 | 197 | 130 | 1.68 | 2.11 | 5.19 | 1.31 | 1.52 |
| -20 | (- 4) | 835 | 211 | 245 | 144 | 1.77 | 2.62 | 5.88 | 1.48 | 1.72 |
| -15 | (+ 5) | 1082 | 273 | 317 | 167 | 1.86 | 3.41 | 6.54 | 1.65 | 1.92 |
| -10 | (+14) | 1466 | 369 | 430 | 206 | 1.94 | 4.63 | 7.11 | 1.79 | 2.08 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @127V60Hz | | 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) | 351 | 88 | 103 | 99 | 1.49 | 1.10 | 3.59 | 0.91 | 1.05 |
| -30 | (-22) | 506 | 128 | 148 | 121 | 1.59 | 1.59 | 4.01 | 1.01 | 1.18 |
| -25 | (-13) | 635 | 160 | 186 | 136 | 1.70 | 1.99 | 4.59 | 1.16 | 1.34 |
| -20 | (- 4) | 790 | 199 | 231 | 151 | 1.80 | 2.48 | 5.25 | 1.32 | 1.54 |
| -15 | (+ 5) | 1024 | 258 | 300 | 174 | 1.89 | 3.22 | 5.93 | 1.49 | 1.74 |
| -10 | (+14) | 1390 | 350 | 407 | 214 | 1.97 | 4.39 | 6.53 | 1.65 | 1.91 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate | European Standard EG/F/AMEM Version 2 | | |
| 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 parallel BP+45°to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |