

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EM I40CNC |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513307100 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 3 Nominal voltage and frequency | 220-240 / 50-60 | [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 | 187 to 255 V | 187 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 187 to 255 V | 187 to 242 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 | 1/8 | [hp] |
| 2 Displacement | 6.36 | [cm ³] (0.388 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 16.000 | |
| 3 Lubricant charge | 160 | [ml] (5.41 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO32 | |
| 4 Weight (with oil charge) | 7.73 | [kg] (17.04 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|----------------------------------------------|--------------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50-60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 8EA17C3/8EA5B3/QPS2-A22MD3/QPS2-A22MD3 091 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 3(300) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM189KFBYY-53 | |
| 6 Start winding resistance | 21.55 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 21.10 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 5.00/4.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 0.80/0.70 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IRAM - TUV - UKCA | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|----------------------------------------------------|---------------------------|-------------------------------|-------|
| TEST CONDITIONS: @220V50Hz | | | CECOMAFLBP Static | | Evaporating temperature (Condensing temperature | | -25°C (-13°F) 55°C (131°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] |
| 265 | 67 | 78 | 83 | 0.52 | 1.01 | 3.20 | 0.81 | 0.94 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 213 | 54 | 62 | 67 | 0.46 | 0.68 | 3.18 | 0.80 | 0.93 |
| -30 | (-22) | 291 | 73 | 85 | 71 | 0.48 | 0.94 | 4.05 | 1.02 | 1.19 |
| -25 | (-13) | 386 | 97 | 113 | 77 | 0.50 | 1.24 | 4.96 | 1.25 | 1.45 |
| -20 | (- 4) | 497 | 125 | 146 | 84 | 0.53 | 1.60 | 5.90 | 1.49 | 1.73 |
| -15 | (+ 5) | 621 | 156 | 182 | 91 | 0.55 | 2.00 | 6.86 | 1.73 | 2.01 |
| -10 | (+14) | 758 | 191 | 222 | 98 | 0.57 | 2.44 | 7.81 | 1.97 | 2.29 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 161 | 41 | 47 | 66 | 0.46 | 0.56 | 2.51 | 0.63 | 0.73 |
| -30 | (-22) | 231 | 58 | 68 | 71 | 0.48 | 0.80 | 3.26 | 0.82 | 0.96 |
| -25 | (-13) | 318 | 80 | 93 | 78 | 0.51 | 1.11 | 4.07 | 1.02 | 1.19 |
| -20 | (- 4) | 422 | 106 | 124 | 86 | 0.53 | 1.47 | 4.90 | 1.24 | 1.44 |
| -15 | (+ 5) | 539 | 136 | 158 | 94 | 0.56 | 1.88 | 5.75 | 1.45 | 1.69 |
| -10 | (+14) | 671 | 169 | 196 | 102 | 0.59 | 2.35 | 6.61 | 1.67 | 1.94 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 130 | 33 | 38 | 68 | 0.46 | 0.50 | 1.90 | 0.48 | 0.56 |
| -30 | (-22) | 189 | 48 | 55 | 75 | 0.49 | 0.72 | 2.52 | 0.64 | 0.74 |
| -25 | (-13) | 265 | 67 | 78 | 83 | 0.52 | 1.01 | 3.20 | 0.81 | 0.94 |
| -20 | (- 4) | 358 | 90 | 105 | 92 | 0.55 | 1.37 | 3.91 | 0.98 | 1.14 |
| -15 | (+ 5) | 466 | 117 | 137 | 101 | 0.58 | 1.78 | 4.64 | 1.17 | 1.36 |
| -10 | (+14) | 588 | 148 | 172 | 110 | 0.62 | 2.25 | 5.39 | 1.36 | 1.58 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 104 | 26 | 31 | 65 | 0.46 | 0.43 | 1.57 | 0.39 | 0.46 |
| -30 | (-22) | 148 | 37 | 43 | 73 | 0.49 | 0.63 | 2.04 | 0.51 | 0.60 |
| -25 | (-13) | 210 | 53 | 62 | 83 | 0.53 | 0.90 | 2.57 | 0.65 | 0.75 |
| -20 | (- 4) | 290 | 73 | 85 | 93 | 0.56 | 1.23 | 3.14 | 0.79 | 0.92 |
| -15 | (+ 5) | 385 | 97 | 113 | 103 | 0.60 | 1.63 | 3.74 | 0.94 | 1.10 |
| -10 | (+14) | 494 | 124 | 145 | 114 | 0.63 | 2.10 | 4.35 | 1.10 | 1.28 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | Yes | | |
| 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 | 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 | | |