

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2C70CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304522 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [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 | 198 to 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 255 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 | 1/4 | [hp] |
| 2 Displacement | 11.14 | [cm ³] (0.680 cu.in) |
| 2.1 Bore [mm] | 26.000 | |
| 2.2 Stroke [mm] | 21.000 | |
| 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) | 8.36 | [kg] (18.43 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 7M220MD3/8EA17C3/QPS2-A22MD3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(300) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM232KFBYY-53 | |
| 6 Start winding resistance | 14.50 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 19.05 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 4.80 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.75 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | VDE | |

D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS: @220V50Hz | | | CECOMAF-LBP-NOFAN 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] |
| 482 | 121 | 141 | 100 | 0.45 | 1.84 | 4.82 | 1.21 | 1.41 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | | CECOMAF-NOFAN 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) | 364 | 92 | 107 | 71 | 0.35 | 1.16 | 5.10 | 1.28 | 1.49 |
| -30 (-22) | 484 | 122 | 142 | 82 | 0.39 | 1.55 | 5.91 | 1.49 | 1.73 |
| -25 (-13) | 634 | 160 | 186 | 93 | 0.44 | 2.04 | 6.81 | 1.72 | 2.00 |
| -20 (- 4) | 817 | 206 | 239 | 105 | 0.49 | 2.63 | 7.78 | 1.96 | 2.28 |
| -15 (+ 5) | 1033 | 260 | 303 | 117 | 0.54 | 3.32 | 8.79 | 2.22 | 2.58 |
| -10 (+14) | 1282 | 323 | 376 | 130 | 0.60 | 4.14 | 9.83 | 2.48 | 2.88 |

| TEST CONDITIONS: @220V50Hz | | | CECOMAF-NOFAN 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) | 319 | 80 | 93 | 72 | 0.36 | 1.11 | 4.43 | 1.12 | 1.30 |
| -30 (-22) | 424 | 107 | 124 | 84 | 0.41 | 1.48 | 5.06 | 1.27 | 1.48 |
| -25 (-13) | 558 | 141 | 164 | 97 | 0.46 | 1.94 | 5.76 | 1.45 | 1.69 |
| -20 (- 4) | 721 | 182 | 211 | 111 | 0.52 | 2.51 | 6.51 | 1.64 | 1.91 |
| -15 (+ 5) | 914 | 230 | 268 | 125 | 0.58 | 3.19 | 7.29 | 1.84 | 2.14 |
| -10 (+14) | 1138 | 287 | 333 | 141 | 0.65 | 3.98 | 8.08 | 2.04 | 2.37 |

| TEST CONDITIONS: @220V50Hz | | | CECOMAF-NOFAN 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) | 270 | 68 | 79 | 72 | 0.36 | 1.03 | 3.75 | 0.95 | 1.10 |
| -30 (-22) | 363 | 91 | 106 | 85 | 0.42 | 1.38 | 4.26 | 1.07 | 1.25 |
| -25 (-13) | 481 | 121 | 141 | 100 | 0.48 | 1.83 | 4.81 | 1.21 | 1.41 |
| -20 (- 4) | 625 | 158 | 183 | 116 | 0.54 | 2.39 | 5.40 | 1.36 | 1.58 |
| -15 (+ 5) | 797 | 201 | 234 | 133 | 0.61 | 3.05 | 6.00 | 1.51 | 1.76 |
| -10 (+14) | 997 | 251 | 292 | 151 | 0.69 | 3.83 | 6.59 | 1.66 | 1.93 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | CECOMAF-NOFAN 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) | 217 | 55 | 64 | 71 | 0.35 | 0.92 | 3.07 | 0.77 | 0.90 |
| -30 | (-22) | 299 | 75 | 88 | 85 | 0.42 | 1.26 | 3.49 | 0.88 | 1.02 |
| -25 | (-13) | 403 | 102 | 118 | 102 | 0.49 | 1.70 | 3.95 | 1.00 | 1.16 |
| -20 | (- 4) | 531 | 134 | 156 | 120 | 0.56 | 2.25 | 4.43 | 1.12 | 1.30 |
| -15 | (+ 5) | 683 | 172 | 200 | 140 | 0.64 | 2.90 | 4.90 | 1.23 | 1.44 |
| -10 | (+14) | 861 | 217 | 252 | 162 | 0.72 | 3.67 | 5.34 | 1.35 | 1.57 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | European Standard EUEM | | |
| 2 Tray holder | Yes | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 42° up + 45° to Back | | |
| 3.2 DISCHARGE | 5.1 +0.10/+0.00 | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted parallel BP+24°to Back | | |
| 3.3 PROCESS | 6 +0.08/-0.08 | [mm] | (0.236" +0.003"/-0.003") |
| 3.3.1 Material | Copper(OD) | | |
| 3.3.2 Shape | Slanted 43° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |