

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2C20CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304530 |

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 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 | 1/12 | [hp] |
| 2 Displacement | 3.97 | [cm ³] (0.242 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 2.2 Stroke [mm] | 14.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | MINERAL / ISO5 | |
| 4 Weight (with oil charge) | 8.21 | [kg] (18.10 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 | TSD | |
| 2.1 Starting device | TSD-220V | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 2(350)/2.5(350) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM110KFBYY-73 | |
| 6 Start winding resistance | 37.30 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 45.30 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 1.90 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.30 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IRAM - UKCA - VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------------|-------------------------------|--|-------------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | CECOMAFLBP-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] |
| 156 | 39 | 46 | 35 | 0.16 | 0.59 | 4.52 | 1.14 | 1.32 |

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) | 120 | 30 | 35 | 24 | 0.11 | 0.38 | 4.96 | 1.25 | 1.45 | |
| -30 (-22) | 165 | 42 | 48 | 28 | 0.13 | 0.53 | 5.90 | 1.49 | 1.73 | |
| -25 (-13) | 219 | 55 | 64 | 32 | 0.15 | 0.70 | 6.88 | 1.73 | 2.02 | |
| -20 (- 4) | 284 | 72 | 83 | 36 | 0.17 | 0.91 | 7.92 | 2.00 | 2.32 | |
| -15 (+ 5) | 361 | 91 | 106 | 40 | 0.19 | 1.16 | 9.00 | 2.27 | 2.64 | |
| -10 (+14) | 452 | 114 | 132 | 44 | 0.21 | 1.46 | 10.13 | 2.55 | 2.97 | |

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------------------|-----|-----------------------------|-------------------------------|--|---------------------------|-----------|-------|--|
| 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) | 97 | 24 | 28 | 24 | 0.12 | 0.34 | 3.98 | 1.00 | 1.17 | |
| -30 (-22) | 138 | 35 | 40 | 29 | 0.14 | 0.48 | 4.80 | 1.21 | 1.41 | |
| -25 (-13) | 187 | 47 | 55 | 33 | 0.16 | 0.65 | 5.64 | 1.42 | 1.65 | |
| -20 (- 4) | 246 | 62 | 72 | 38 | 0.18 | 0.86 | 6.50 | 1.64 | 1.90 | |
| -15 (+ 5) | 315 | 79 | 92 | 43 | 0.20 | 1.10 | 7.37 | 1.86 | 2.16 | |
| -10 (+14) | 397 | 100 | 116 | 48 | 0.23 | 1.39 | 8.27 | 2.08 | 2.42 | |

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------------------|-----|-----------------------------|-------------------------------|--|---------------------------|-----------|-------|--|
| 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) | 75 | 19 | 22 | 24 | 0.12 | 0.29 | 3.09 | 0.78 | 0.91 | |
| -30 (-22) | 113 | 28 | 33 | 29 | 0.15 | 0.43 | 3.82 | 0.96 | 1.12 | |
| -25 (-13) | 157 | 40 | 46 | 34 | 0.17 | 0.60 | 4.54 | 1.15 | 1.33 | |
| -20 (- 4) | 210 | 53 | 61 | 40 | 0.19 | 0.80 | 5.26 | 1.33 | 1.54 | |
| -15 (+ 5) | 272 | 68 | 80 | 45 | 0.22 | 1.04 | 5.97 | 1.50 | 1.75 | |
| -10 (+14) | 345 | 87 | 101 | 52 | 0.25 | 1.33 | 6.67 | 1.68 | 1.95 | |

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) | 55 | 14 | 16 | 24 | 0.12 | 0.23 | 2.28 | 0.57 | 0.67 |
| -30 | (-22) | 89 | 22 | 26 | 30 | 0.15 | 0.37 | 2.95 | 0.74 | 0.86 |
| -25 | (-13) | 128 | 32 | 38 | 36 | 0.17 | 0.54 | 3.59 | 0.91 | 1.05 |
| -20 | (- 4) | 175 | 44 | 51 | 42 | 0.20 | 0.74 | 4.20 | 1.06 | 1.23 |
| -15 | (+ 5) | 230 | 58 | 67 | 48 | 0.23 | 0.98 | 4.77 | 1.20 | 1.40 |
| -10 | (+14) | 295 | 74 | 86 | 56 | 0.26 | 1.26 | 5.31 | 1.34 | 1.55 |

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 90° up + 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 | | |