

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM D20CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 700KA77 |

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 | 187 to 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 187 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 | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 7.8 | [kg] (17.20 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 | TSD2-220V | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 2.5(350) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM129KFBYY | |
| 6 Start winding resistance | 22.16 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 51.44 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 2.10 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.36 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 0.44 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | 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] |
| 163 | 41 | 48 | 33 | 0.16 | 0.62 | 4.91 | 1.24 | 1.44 |

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) | 130 | 33 | 38 | 24 | 0.12 | 0.42 | 5.43 | 1.37 | 1.59 |
| -30 | (-22) | 175 | 44 | 51 | 27 | 0.13 | 0.56 | 6.49 | 1.64 | 1.90 |
| -25 | (-13) | 232 | 58 | 68 | 31 | 0.15 | 0.74 | 7.41 | 1.87 | 2.17 |
| -20 | (- 4) | 299 | 75 | 88 | 36 | 0.17 | 0.96 | 8.35 | 2.10 | 2.45 |
| -15 | (+ 5) | 376 | 95 | 110 | 40 | 0.18 | 1.21 | 9.45 | 2.38 | 2.77 |
| -10 | (+14) | 463 | 117 | 136 | 43 | 0.19 | 1.49 | 10.86 | 2.74 | 3.18 |

| | | | | | | | | | | |
|-------------------------------|-------|--------------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 99 | 25 | 29 | 24 | 0.12 | 0.34 | 4.23 | 1.07 | 1.24 |
| -30 | (-22) | 141 | 35 | 41 | 27 | 0.13 | 0.49 | 5.22 | 1.31 | 1.53 |
| -25 | (-13) | 193 | 49 | 56 | 32 | 0.15 | 0.67 | 6.01 | 1.51 | 1.76 |
| -20 | (- 4) | 255 | 64 | 75 | 37 | 0.17 | 0.89 | 6.76 | 1.70 | 1.98 |
| -15 | (+ 5) | 327 | 82 | 96 | 43 | 0.19 | 1.14 | 7.61 | 1.92 | 2.23 |
| -10 | (+14) | 407 | 103 | 119 | 47 | 0.21 | 1.43 | 8.71 | 2.19 | 2.55 |

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|-------------------------------|-------|--------------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 78 | 20 | 23 | 24 | 0.12 | 0.30 | 3.30 | 0.83 | 0.97 |
| -30 | (-22) | 115 | 29 | 34 | 27 | 0.14 | 0.44 | 4.23 | 1.07 | 1.24 |
| -25 | (-13) | 162 | 41 | 47 | 33 | 0.16 | 0.62 | 4.92 | 1.24 | 1.44 |
| -20 | (- 4) | 218 | 55 | 64 | 40 | 0.19 | 0.83 | 5.49 | 1.38 | 1.61 |
| -15 | (+ 5) | 284 | 71 | 83 | 46 | 0.21 | 1.08 | 6.11 | 1.54 | 1.79 |
| -10 | (+14) | 357 | 90 | 105 | 52 | 0.23 | 1.37 | 6.93 | 1.75 | 2.03 |

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) | 54 | 14 | 16 | 22 | 0.11 | 0.23 | 2.48 | 0.62 | 0.73 |
| -30 | (-22) | 86 | 22 | 25 | 26 | 0.13 | 0.36 | 3.38 | 0.85 | 0.99 |
| -25 | (-13) | 127 | 32 | 37 | 33 | 0.16 | 0.54 | 3.96 | 1.00 | 1.16 |
| -20 | (- 4) | 176 | 44 | 52 | 40 | 0.19 | 0.75 | 4.39 | 1.11 | 1.29 |
| -15 | (+ 5) | 234 | 59 | 69 | 48 | 0.22 | 0.99 | 4.80 | 1.21 | 1.41 |
| -10 | (+14) | 299 | 75 | 88 | 55 | 0.25 | 1.27 | 5.34 | 1.35 | 1.57 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 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 | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted 0° up + 45° to Back | | |
| 3.3 PROCESS | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 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 | | |