

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2C46CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304509 |

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 | | [hp] |
| 2 Displacement | 7.96 | [cm ³] (0.486 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 2.2 Stroke [mm] | 17.600 | |
| 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) | 7.68 | [kg] (16.93 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 | MI2021 | |
| 3 Start capacitor | - | [μF(VAC minimum)] |
| 4 Run capacitor | 4(310) | [μF(VAC minimum)] |
| 5 Motor protection | AE37FN | |
| 6 Start winding resistance | 20.60 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 23.30 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 4.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.60 | [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 | | | ASHRAE LBP-NOFAN 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] |
| 468 | 118 | 137 | 79 | 0.34 | 1.47 | 5.92 | 1.49 | 1.73 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|-------------------------------|---------------------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32-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) | 280 | 71 | 82 | 54 | 0.25 | 0.88 | 5.18 | 1.30 | 1.52 |
| -30 (-22) | 375 | 95 | 110 | 62 | 0.29 | 1.18 | 6.04 | 1.52 | 1.77 |
| -25 (-13) | 488 | 123 | 143 | 70 | 0.32 | 1.53 | 6.97 | 1.76 | 2.04 |
| -20 (- 4) | 623 | 157 | 183 | 78 | 0.36 | 1.96 | 8.00 | 2.02 | 2.34 |
| -15 (+ 5) | 784 | 198 | 230 | 86 | 0.39 | 2.47 | 9.13 | 2.30 | 2.68 |
| -10 (+14) | 975 | 246 | 286 | 94 | 0.42 | 3.07 | 10.39 | 2.62 | 3.04 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|-------------------------------|--|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32-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) | 251 | 63 | 74 | 55 | 0.26 | 0.79 | 4.60 | 1.16 | 1.35 |
| -30 (-22) | 344 | 87 | 101 | 64 | 0.30 | 1.08 | 5.39 | 1.36 | 1.58 |
| -25 (-13) | 456 | 115 | 134 | 73 | 0.34 | 1.43 | 6.23 | 1.57 | 1.82 |
| -20 (- 4) | 590 | 149 | 173 | 82 | 0.38 | 1.85 | 7.14 | 1.80 | 2.09 |
| -15 (+ 5) | 750 | 189 | 220 | 92 | 0.42 | 2.36 | 8.12 | 2.05 | 2.38 |
| -10 (+14) | 941 | 237 | 276 | 102 | 0.46 | 2.97 | 9.21 | 2.32 | 2.70 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|-------------------------------|--|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32-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) | 229 | 58 | 67 | 55 | 0.27 | 0.72 | 4.16 | 1.05 | 1.22 |
| -30 (-22) | 317 | 80 | 93 | 65 | 0.31 | 0.99 | 4.88 | 1.23 | 1.43 |
| -25 (-13) | 424 | 107 | 124 | 75 | 0.36 | 1.33 | 5.62 | 1.42 | 1.65 |
| -20 (- 4) | 554 | 140 | 162 | 86 | 0.40 | 1.74 | 6.41 | 1.61 | 1.88 |
| -15 (+ 5) | 711 | 179 | 208 | 98 | 0.45 | 2.24 | 7.25 | 1.83 | 2.12 |
| -10 (+14) | 899 | 227 | 263 | 110 | 0.50 | 2.84 | 8.16 | 2.06 | 2.39 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32-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) | 214 | 54 | 63 | 55 | 0.27 | 0.67 | 3.85 | 0.97 | 1.13 |
| -30 | (-22) | 294 | 74 | 86 | 65 | 0.31 | 0.92 | 4.50 | 1.13 | 1.32 |
| -25 | (-13) | 393 | 99 | 115 | 77 | 0.36 | 1.23 | 5.15 | 1.30 | 1.51 |
| -20 | (- 4) | 516 | 130 | 151 | 89 | 0.41 | 1.62 | 5.81 | 1.46 | 1.70 |
| -15 | (+ 5) | 666 | 168 | 195 | 102 | 0.47 | 2.10 | 6.51 | 1.64 | 1.91 |
| -10 | (+14) | 848 | 214 | 248 | 117 | 0.53 | 2.68 | 7.25 | 1.83 | 2.12 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard EUEM | | |
| 2 Tray holder | Yes | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.1 +0.10/+0.00 | [mm] | (0.319" +0.004"/+0.000") |
| 3.1.1 Material | Copper(OD) | | |
| 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 | | |