

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2C20CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304514 |

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 | | | 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] |
| 207 | 52 | 61 | 36 | 0.17 | 0.65 | 5.83 | 1.47 | 1.71 |

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) | 127 | 32 | 37 | 27 | 0.12 | 0.40 | 4.72 | 1.19 | 1.38 |
| -30 (-22) | 180 | 45 | 53 | 30 | 0.14 | 0.56 | 5.99 | 1.51 | 1.75 |
| -25 (-13) | 242 | 61 | 71 | 33 | 0.15 | 0.76 | 7.26 | 1.83 | 2.13 |
| -20 (- 4) | 313 | 79 | 92 | 37 | 0.17 | 0.98 | 8.52 | 2.15 | 2.50 |
| -15 (+ 5) | 394 | 99 | 115 | 40 | 0.18 | 1.24 | 9.76 | 2.46 | 2.86 |
| -10 (+14) | 485 | 122 | 142 | 44 | 0.19 | 1.53 | 10.97 | 2.76 | 3.21 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|
| 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) | 110 | 28 | 32 | 26 | 0.12 | 0.34 | 4.21 | 1.06 | 1.23 |
| -30 (-22) | 159 | 40 | 46 | 30 | 0.14 | 0.50 | 5.30 | 1.34 | 1.55 |
| -25 (-13) | 217 | 55 | 64 | 34 | 0.16 | 0.68 | 6.41 | 1.61 | 1.88 |
| -20 (- 4) | 286 | 72 | 84 | 38 | 0.17 | 0.90 | 7.51 | 1.89 | 2.20 |
| -15 (+ 5) | 366 | 92 | 107 | 43 | 0.19 | 1.15 | 8.61 | 2.17 | 2.52 |
| -10 (+14) | 457 | 115 | 134 | 47 | 0.21 | 1.44 | 9.68 | 2.44 | 2.84 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|
| 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) | 93 | 23 | 27 | 26 | 0.12 | 0.29 | 3.58 | 0.90 | 1.05 |
| -30 (-22) | 138 | 35 | 40 | 31 | 0.14 | 0.43 | 4.52 | 1.14 | 1.32 |
| -25 (-13) | 194 | 49 | 57 | 35 | 0.16 | 0.61 | 5.48 | 1.38 | 1.61 |
| -20 (- 4) | 261 | 66 | 76 | 40 | 0.19 | 0.82 | 6.45 | 1.63 | 1.89 |
| -15 (+ 5) | 340 | 86 | 100 | 46 | 0.21 | 1.07 | 7.42 | 1.87 | 2.17 |
| -10 (+14) | 431 | 109 | 126 | 52 | 0.23 | 1.36 | 8.37 | 2.11 | 2.45 |

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) | 76 | 19 | 22 | 26 | 0.12 | 0.24 | 2.90 | 0.73 | 0.85 |
| -30 | (-22) | 118 | 30 | 34 | 32 | 0.14 | 0.37 | 3.71 | 0.93 | 1.09 |
| -25 | (-13) | 171 | 43 | 50 | 38 | 0.17 | 0.54 | 4.54 | 1.14 | 1.33 |
| -20 | (- 4) | 237 | 60 | 69 | 44 | 0.20 | 0.74 | 5.39 | 1.36 | 1.58 |
| -15 | (+ 5) | 315 | 79 | 92 | 50 | 0.23 | 0.99 | 6.25 | 1.58 | 1.83 |
| -10 | (+14) | 407 | 102 | 119 | 57 | 0.26 | 1.28 | 7.11 | 1.79 | 2.08 |

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 | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted parallel BP+24°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 | | |