

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2C20CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304544 |

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) | 7.93 | [kg] (17.48 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 | MI.E-START 2021 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 2.5(350)/2(350) | [µF(VAC minimum)] |
| 5 Motor protection | AE23AHNX | |
| 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) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | - | [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 - 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] |
| -35 | (-31) | 118 | 30 | 35 | 24 | 0.11 | 0.37 | 4.97 | 1.25 | 1.46 |
| -30 | (-22) | 165 | 41 | 48 | 28 | 0.13 | 0.52 | 5.98 | 1.51 | 1.75 |
| -25 | (-13) | 220 | 55 | 65 | 31 | 0.15 | 0.69 | 7.01 | 1.77 | 2.05 |
| -20 | (- 4) | 286 | 72 | 84 | 35 | 0.17 | 0.90 | 8.08 | 2.04 | 2.37 |
| -15 | (+ 5) | 365 | 92 | 107 | 40 | 0.19 | 1.15 | 9.20 | 2.32 | 2.70 |
| -10 | (+14) | 458 | 115 | 134 | 44 | 0.21 | 1.44 | 10.37 | 2.61 | 3.04 |

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|-------------------------------|----------------------------|--------------------------|---------|-----------------------------|-------------------------------|--|---------------------------|--------|----------|-----------|
| 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] |
| -35 | (-31) | 103 | 26 | 30 | 24 | 0.12 | 0.32 | 4.34 | 1.09 | 1.27 |
| -30 | (-22) | 149 | 38 | 44 | 28 | 0.14 | 0.47 | 5.29 | 1.33 | 1.55 |
| -25 | (-13) | 204 | 51 | 60 | 33 | 0.16 | 0.64 | 6.25 | 1.57 | 1.83 |
| -20 | (- 4) | 269 | 68 | 79 | 37 | 0.18 | 0.84 | 7.21 | 1.82 | 2.11 |
| -15 | (+ 5) | 346 | 87 | 101 | 42 | 0.20 | 1.09 | 8.19 | 2.06 | 2.40 |
| -10 | (+14) | 437 | 110 | 128 | 47 | 0.22 | 1.38 | 9.19 | 2.31 | 2.69 |

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|-------------------------------|----------------------------|--------------------------|---------|-----------------------------|-------------------------------|--|---------------------------|--------|----------|-----------|
| 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] |
| -35 | (-31) | 88 | 22 | 26 | 24 | 0.12 | 0.27 | 3.68 | 0.93 | 1.08 |
| -30 | (-22) | 133 | 33 | 39 | 29 | 0.14 | 0.42 | 4.61 | 1.16 | 1.35 |
| -25 | (-13) | 186 | 47 | 55 | 34 | 0.16 | 0.59 | 5.51 | 1.39 | 1.61 |
| -20 | (- 4) | 250 | 63 | 73 | 39 | 0.18 | 0.79 | 6.39 | 1.61 | 1.87 |
| -15 | (+ 5) | 326 | 82 | 96 | 45 | 0.21 | 1.03 | 7.26 | 1.83 | 2.13 |
| -10 | (+14) | 416 | 105 | 122 | 51 | 0.24 | 1.31 | 8.12 | 2.05 | 2.38 |

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) | 71 | 18 | 21 | 24 | 0.12 | 0.22 | 3.01 | 0.76 | 0.88 |
| -30 | (-22) | 116 | 29 | 34 | 29 | 0.14 | 0.36 | 3.94 | 0.99 | 1.15 |
| -25 | (-13) | 169 | 43 | 49 | 35 | 0.17 | 0.53 | 4.81 | 1.21 | 1.41 |
| -20 | (- 4) | 232 | 58 | 68 | 41 | 0.20 | 0.73 | 5.64 | 1.42 | 1.65 |
| -15 | (+ 5) | 307 | 77 | 90 | 48 | 0.23 | 0.97 | 6.42 | 1.62 | 1.88 |
| -10 | (+14) | 395 | 100 | 116 | 55 | 0.26 | 1.25 | 7.17 | 1.81 | 2.10 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | Universal EUEM | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.2 +0.12/-0.08 | [mm] | (0.323" +0.005"/-0.003") |
| 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 | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material | Copper | | |
| 3.3.2 Shape | Slanted parallel BP+45°to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |