

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2C70CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304599 |

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 | 1/4 | [hp] |
| 2 Displacement | 11.14 | [cm ³] (0.680 cu.in) |
| 2.1 Bore [mm] | 26.000 | |
| 2.2 Stroke [mm] | 21.000 | |
| 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) | 8.36 | [kg] (18.43 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 | M.I.E-START 2021 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(300) | [µF(VAC minimum)] |
| 5 Motor protection | AE37FQ | |
| 6 Start winding resistance | 14.50 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 19.05 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 4.80 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.75 | [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] |
| 645 | 163 | 189 | 103 | 0.48 | 2.03 | 6.28 | 1.58 | 1.84 |

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) | 378 | 95 | 111 | 68 | 0.34 | 1.18 | 5.55 | 1.40 | 1.63 |
| -30 | (-22) | 500 | 126 | 146 | 79 | 0.38 | 1.57 | 6.32 | 1.59 | 1.85 |
| -25 | (-13) | 654 | 165 | 192 | 91 | 0.42 | 2.05 | 7.23 | 1.82 | 2.12 |
| -20 | (- 4) | 841 | 212 | 246 | 102 | 0.47 | 2.64 | 8.25 | 2.08 | 2.42 |
| -15 | (+ 5) | 1062 | 268 | 311 | 114 | 0.52 | 3.34 | 9.31 | 2.35 | 2.73 |
| -10 | (+14) | 1318 | 332 | 386 | 127 | 0.58 | 4.16 | 10.38 | 2.62 | 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] | [W/W] |
| -35 | (-31) | 358 | 90 | 105 | 69 | 0.34 | 1.12 | 5.16 | 1.30 | 1.51 |
| -30 | (-22) | 474 | 119 | 139 | 82 | 0.39 | 1.49 | 5.80 | 1.46 | 1.70 |
| -25 | (-13) | 622 | 157 | 182 | 95 | 0.44 | 1.95 | 6.57 | 1.66 | 1.92 |
| -20 | (- 4) | 804 | 202 | 235 | 108 | 0.50 | 2.53 | 7.42 | 1.87 | 2.18 |
| -15 | (+ 5) | 1019 | 257 | 298 | 122 | 0.57 | 3.21 | 8.32 | 2.10 | 2.44 |
| -10 | (+14) | 1268 | 320 | 372 | 138 | 0.64 | 4.00 | 9.21 | 2.32 | 2.70 |

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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] | [W/W] |
| -35 | (-31) | 332 | 84 | 97 | 69 | 0.34 | 1.04 | 4.81 | 1.21 | 1.41 |
| -30 | (-22) | 443 | 112 | 130 | 83 | 0.40 | 1.39 | 5.34 | 1.35 | 1.56 |
| -25 | (-13) | 586 | 148 | 172 | 98 | 0.46 | 1.84 | 5.99 | 1.51 | 1.75 |
| -20 | (- 4) | 763 | 192 | 223 | 113 | 0.53 | 2.40 | 6.72 | 1.69 | 1.97 |
| -15 | (+ 5) | 973 | 245 | 285 | 130 | 0.60 | 3.06 | 7.47 | 1.88 | 2.19 |
| -10 | (+14) | 1218 | 307 | 357 | 148 | 0.68 | 3.84 | 8.21 | 2.07 | 2.41 |

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) | 298 | 75 | 87 | 66 | 0.34 | 0.93 | 4.50 | 1.13 | 1.32 |
| -30 | (-22) | 406 | 102 | 119 | 82 | 0.40 | 1.27 | 4.95 | 1.25 | 1.45 |
| -25 | (-13) | 546 | 138 | 160 | 99 | 0.47 | 1.71 | 5.50 | 1.39 | 1.61 |
| -20 | (- 4) | 719 | 181 | 211 | 117 | 0.55 | 2.26 | 6.13 | 1.54 | 1.80 |
| -15 | (+ 5) | 926 | 233 | 271 | 137 | 0.63 | 2.92 | 6.77 | 1.71 | 1.98 |
| -10 | (+14) | 1167 | 294 | 342 | 158 | 0.72 | 3.68 | 7.38 | 1.86 | 2.16 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | Universal EUEM | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +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 45° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |