

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2C70CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304635 |

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 - ELECTRICAL 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 | 8EA17C3/QPS2-A22MD3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(300) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM232KFBYY-53 | |
| 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 - 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 (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 645 | 163 | 189 | 105 | 0.48 | 2.03 | 6.16 | 1.55 | 1.81 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32-NOFAN Static | | | | (Condensing temperature 35°C (+95°F)) | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|-------------------------------|--|-----------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 378 | 95 | 111 | 70 | 0.34 | 1.18 | 5.39 | 1.36 | 1.58 |
| -30 | (-22) | 500 | 126 | 146 | 81 | 0.38 | 1.57 | 6.16 | 1.55 | 1.81 |
| -25 | (-13) | 654 | 165 | 192 | 93 | 0.42 | 2.05 | 7.08 | 1.78 | 2.07 |
| -20 | (- 4) | 841 | 212 | 246 | 104 | 0.47 | 2.64 | 8.09 | 2.04 | 2.37 |
| -15 | (+ 5) | 1062 | 268 | 311 | 116 | 0.52 | 3.34 | 9.15 | 2.31 | 2.68 |
| -10 | (+14) | 1318 | 332 | 386 | 129 | 0.58 | 4.16 | 10.22 | 2.57 | 2.99 |

| TEST CONDITIONS: @220V50Hz | | ASHRAE32-NOFAN Static | | | | (Condensing temperature 45°C (+113°F)) | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|-------------------------------|---|-----------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 358 | 90 | 105 | 71 | 0.34 | 1.12 | 5.02 | 1.26 | 1.47 |
| -30 | (-22) | 474 | 119 | 139 | 84 | 0.39 | 1.49 | 5.66 | 1.43 | 1.66 |
| -25 | (-13) | 622 | 157 | 182 | 97 | 0.44 | 1.95 | 6.43 | 1.62 | 1.88 |
| -20 | (- 4) | 804 | 202 | 235 | 110 | 0.50 | 2.53 | 7.29 | 1.84 | 2.14 |
| -15 | (+ 5) | 1019 | 257 | 298 | 124 | 0.57 | 3.21 | 8.19 | 2.06 | 2.40 |
| -10 | (+14) | 1268 | 320 | 372 | 140 | 0.64 | 4.00 | 9.08 | 2.29 | 2.66 |

| TEST CONDITIONS: @220V50Hz | | ASHRAE32-NOFAN Static | | | | (Condensing temperature 55°C (+131°F)) | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|-------------------------------|---|-----------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 332 | 84 | 97 | 71 | 0.34 | 1.04 | 4.68 | 1.18 | 1.37 |
| -30 | (-22) | 443 | 112 | 130 | 85 | 0.40 | 1.39 | 5.21 | 1.31 | 1.53 |
| -25 | (-13) | 586 | 148 | 172 | 100 | 0.46 | 1.84 | 5.87 | 1.48 | 1.72 |
| -20 | (- 4) | 763 | 192 | 223 | 115 | 0.53 | 2.40 | 6.60 | 1.66 | 1.93 |
| -15 | (+ 5) | 973 | 245 | 285 | 132 | 0.60 | 3.06 | 7.36 | 1.85 | 2.16 |
| -10 | (+14) | 1218 | 307 | 357 | 150 | 0.68 | 3.84 | 8.10 | 2.04 | 2.37 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32-NOFAN Static | | | (Condensing temperature 65°C (+149°F)) | | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|---|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 298 | 75 | 87 | 68 | 0.34 | 0.93 | 4.37 | 1.10 | 1.28 |
| -30 | (-22) | 406 | 102 | 119 | 84 | 0.40 | 1.27 | 4.83 | 1.22 | 1.41 |
| -25 | (-13) | 546 | 138 | 160 | 101 | 0.47 | 1.71 | 5.39 | 1.36 | 1.58 |
| -20 | (- 4) | 719 | 181 | 211 | 119 | 0.55 | 2.26 | 6.02 | 1.52 | 1.76 |
| -15 | (+ 5) | 926 | 233 | 271 | 139 | 0.63 | 2.92 | 6.67 | 1.68 | 1.95 |
| -10 | (+14) | 1167 | 294 | 342 | 160 | 0.72 | 3.68 | 7.29 | 1.84 | 2.14 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | European Standard EUEM | | |
| 2 Tray holder | Yes | | |
| 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 | 6.35 +0.08/-0.08 | [mm] | (0.250" +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 | | |