**COMPRESSOR DEFINITION**

| | |
|---|---|
| Designation | **EM C3125U** |
| Nominal Voltage/Frequency | **220-240 V 50 Hz** |
| Engineering Number | **513304159** |

**A - APPLICATION / LIMIT WORKING CONDITIONS**

| | | | |
|---|---|---|---|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [ V / Hz ] | |
| 4 Application type | Low-Medium Back Pressure (Commercial Compressors) | | |
| 4.1 Evaporating temperature range | -35°C to 0°C | (-31°F to 32°F) | |
| 5 Motor type | RSCR | | |
| 6 Starting torque | LST - Low Starting Torque | | |
| 7 Expantion device | Capillary tube | | |
| 8 Compressor cooling | | Operating voltage range | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32ºC Ambient temperature) | - | - | - |
| 8.2 LBP (43ºC Ambient temperature) | - | - | - |
| 8.3 HBP (32ºC Ambient temperature) | - | - | - |
| 8.4 HBP (43ºC Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 18.4 | [kgf/cm²] (262 psig) | / ºC - ºF |
| 9.2 Peak | 20.6 | [kgf/cm²] (293 psig) | / ºC - ºF |
| 10 Maximum winding temperature | 130 | [ °C ] | |

**B - MECHANICAL DATA**

| | | |
|---|---|---|
| 1 Commercial designation | 1/3 | [hp] |
| 2 Displacement | 6.09 | [cm³] (0.372 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 17.600 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO22 | |
| 4 Weight (with oil charge) | 8.2 | [kg] (18.08 lb.) |
| 5 Nitrogen charge | - | [kgf/cm²] |

**C - ELECTRICAL 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 | TSD2-220V/TSD2-220V1.2/TSD2-D-220V | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(350) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM276JDBYY | |
| 6 Start winding resistance | 13.50 | [Ω at 25ºC (77ºF)] +/- 8% |
| 7 Run winding resistance | 13.70 | [Ω at 25ºC (77ºF)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 6.60 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.90 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 1.12 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - UKCA - VDE | |

## D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS: | | | EN12900LBP | | | Evaporating temperature | | -35°C (-31°F) |
|---|---|---|---|---|---|---|---|---|
| @220V50Hz | | | Fan | | | (Condensing temperature | | 40°C (104°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] |
| 581 | 147 | 170 | 112 | 0.53 | 1.95 | 5.21 | 1.31 | 1.53 |

## E - PERFORMANCE - CURVES

| TEST CONDITIONS: | | EN12900 | | | | | (Condensing temperature 35ºC (+95ºF) ) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| @220V50Hz | | Fan | | | | | | | | |
| 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) | 633 | 160 | 185 | 109 | 0.52 | 2.03 | 5.81 | 1.46 | 1.70 |
| -30 | (-22) | 790 | 199 | 232 | 122 | 0.59 | 2.54 | 6.48 | 1.63 | 1.90 |
| -25 | (-13) | 992 | 250 | 291 | 135 | 0.65 | 3.20 | 7.36 | 1.85 | 2.16 |
| -20 | (- 4) | 1238 | 312 | 363 | 147 | 0.71 | 4.01 | 8.43 | 2.12 | 2.47 |
| -15 | (+ 5) | 1528 | 385 | 448 | 158 | 0.76 | 4.98 | 9.67 | 2.44 | 2.83 |
| -10 | (+14) | 1863 | 469 | 546 | 168 | 0.80 | 6.11 | 11.06 | 2.79 | 3.24 |
| -5 | (+23) | 2242 | 565 | 657 | 178 | 0.84 | 7.40 | 12.60 | 3.18 | 3.69 |
| 0 | (+32) | 2665 | 672 | 781 | 187 | 0.87 | 8.88 | 14.26 | 3.59 | 4.18 |

| TEST CONDITIONS: | | EN12900 | | | | | (Condensing temperature 45ºC (+113ºF) ) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| @220V50Hz | | Fan | | | | | | | | |
| 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) | 532 | 134 | 156 | 114 | 0.54 | 1.87 | 4.71 | 1.19 | 1.38 |
| -30 | (-22) | 673 | 170 | 197 | 130 | 0.62 | 2.37 | 5.20 | 1.31 | 1.53 |
| -25 | (-13) | 852 | 215 | 250 | 145 | 0.69 | 3.01 | 5.85 | 1.47 | 1.71 |
| -20 | (- 4) | 1068 | 269 | 313 | 160 | 0.76 | 3.80 | 6.63 | 1.67 | 1.94 |
| -15 | (+ 5) | 1323 | 333 | 388 | 175 | 0.83 | 4.73 | 7.53 | 1.90 | 2.21 |
| -10 | (+14) | 1615 | 407 | 473 | 189 | 0.89 | 5.81 | 8.53 | 2.15 | 2.50 |
| -5 | (+23) | 1946 | 490 | 570 | 202 | 0.95 | 7.06 | 9.61 | 2.42 | 2.82 |
| 0 | (+32) | 2315 | 583 | 678 | 215 | 1.01 | 8.47 | 10.76 | 2.71 | 3.15 |

| TEST CONDITIONS: | | EN12900 | | | | | (Condensing temperature 55ºC (+131ºF) ) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| @220V50Hz | | Fan | | | | | | | | |
| 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) | 439 | 111 | 129 | 115 | 0.55 | 1.71 | 3.79 | 0.96 | 1.11 |
| -30 | (-22) | 562 | 142 | 165 | 134 | 0.64 | 2.20 | 4.19 | 1.06 | 1.23 |
| -25 | (-13) | 716 | 180 | 210 | 153 | 0.73 | 2.82 | 4.69 | 1.18 | 1.38 |
| -20 | (- 4) | 902 | 227 | 264 | 171 | 0.81 | 3.57 | 5.28 | 1.33 | 1.55 |
| -15 | (+ 5) | 1119 | 282 | 328 | 189 | 0.90 | 4.46 | 5.92 | 1.49 | 1.74 |
| -10 | (+14) | 1369 | 345 | 401 | 207 | 0.98 | 5.49 | 6.61 | 1.67 | 1.94 |
| -5 | (+23) | 1649 | 416 | 483 | 225 | 1.07 | 6.67 | 7.34 | 1.85 | 2.15 |
| 0 | (+32) | 1962 | 494 | 575 | 243 | 1.15 | 8.02 | 8.07 | 2.03 | 2.37 |

## F - EXTERNAL CHARACTERISTICS

| | | | |
|---|---|---|---|
| 1 Base plate | European Standard | | |
| 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 42º 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 0° up + 45° 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 | | |