

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM X70CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513309560 |

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 | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 8.6 | [kg] (18.96 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 | 8EA17C3/8EA17E64/QPS2-A22MD3/QPS2-A22MD3 091 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(300) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM232KFBYY-53 | |
| 6 Start winding resistance | 14.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 18.80 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 4.90 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.85 | [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 | | | ASHRAELBP32 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] |
| 652 | 164 | 191 | 114 | 0.55 | 2.05 | 5.70 | 1.44 | 1.67 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|--------------------|-----|--|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 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) | 314 | 79 | 92 | 87 | 0.48 | 0.98 | 3.60 | 0.91 | 1.06 |
| -30 | (-22) | 466 | 118 | 137 | 93 | 0.44 | 1.46 | 5.01 | 1.26 | 1.47 |
| -25 | (-13) | 623 | 157 | 182 | 104 | 0.47 | 1.95 | 5.99 | 1.51 | 1.75 |
| -20 | (- 4) | 795 | 200 | 233 | 119 | 0.55 | 2.50 | 6.70 | 1.69 | 1.96 |
| -15 | (+ 5) | 995 | 251 | 292 | 136 | 0.66 | 3.13 | 7.29 | 1.84 | 2.14 |
| -10 | (+14) | 1236 | 311 | 362 | 155 | 0.77 | 3.90 | 7.93 | 2.00 | 2.32 |

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|--------------------|-----|--|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 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) | 268 | 68 | 79 | 86 | 0.40 | 0.84 | 3.14 | 0.79 | 0.92 |
| -30 | (-22) | 428 | 108 | 125 | 94 | 0.37 | 1.34 | 4.53 | 1.14 | 1.33 |
| -25 | (-13) | 589 | 148 | 173 | 107 | 0.42 | 1.85 | 5.48 | 1.38 | 1.61 |
| -20 | (- 4) | 764 | 193 | 224 | 125 | 0.52 | 2.40 | 6.13 | 1.54 | 1.80 |
| -15 | (+ 5) | 966 | 243 | 283 | 145 | 0.65 | 3.04 | 6.65 | 1.68 | 1.95 |
| -10 | (+14) | 1205 | 304 | 353 | 167 | 0.78 | 3.80 | 7.19 | 1.81 | 2.11 |

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|--------------------|-----|--|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 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) | 231 | 58 | 68 | 85 | 0.48 | 0.72 | 2.71 | 0.68 | 0.80 |
| -30 | (-22) | 391 | 99 | 115 | 95 | 0.46 | 1.23 | 4.08 | 1.03 | 1.19 |
| -25 | (-13) | 551 | 139 | 162 | 111 | 0.51 | 1.73 | 4.97 | 1.25 | 1.46 |
| -20 | (- 4) | 723 | 182 | 212 | 131 | 0.62 | 2.27 | 5.56 | 1.40 | 1.63 |
| -15 | (+ 5) | 919 | 232 | 269 | 154 | 0.75 | 2.89 | 5.99 | 1.51 | 1.75 |
| -10 | (+14) | 1151 | 290 | 337 | 179 | 0.88 | 3.63 | 6.42 | 1.62 | 1.88 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | New Base Plate 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 parallel BP+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 30° up + 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 | | |