

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM X20CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 700IA92 |

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-Medium Back Pressure (Light Commercial) | | |
| 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 Expansion device | Capillary tube | | |
| 8 Compressor cooling | Operating voltage range | | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32°C Ambient temperature) | - | - | - |
| 8.2 LBP (43°C Ambient temperature) | - | - | - |
| 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 | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 7.1 | [kg] (15.65 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 ES1B | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 2(350)/2.5(350)/4(350) | [µF(VAC minimum)] |
| 5 Motor protection | AE23AHNX | |
| 6 Start winding resistance | 37.74 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 68.28 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 2.12 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.34 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 0.41 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | VDE | |

D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS: @220V50Hz | | | CECOMAFLBP-NOFAN Static | | Evaporating temperature (Condensing temperature | | -25°C (-13°F) 55°C (131°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] |
| 165 | 42 | 48 | 37 | 0.17 | 0.63 | 4.42 | 1.11 | 1.30 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | CECOMAF-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) | 119 | 30 | 35 | 25 | 0.13 | 0.38 | 4.72 | 1.19 | 1.38 |
| -30 | (-22) | 167 | 42 | 49 | 29 | 0.14 | 0.54 | 5.77 | 1.45 | 1.69 |
| -25 | (-13) | 224 | 57 | 66 | 33 | 0.15 | 0.72 | 6.85 | 1.73 | 2.01 |
| -20 | (- 4) | 292 | 73 | 85 | 37 | 0.17 | 0.94 | 7.98 | 2.01 | 2.34 |
| -15 | (+ 5) | 370 | 93 | 109 | 40 | 0.18 | 1.19 | 9.22 | 2.32 | 2.70 |
| -10 | (+14) | 461 | 116 | 135 | 44 | 0.20 | 1.49 | 10.60 | 2.67 | 3.11 |
| -5 | (+23) | 566 | 143 | 166 | 47 | 0.21 | 1.83 | 12.17 | 3.07 | 3.56 |
| 0 | (+32) | 685 | 173 | 201 | 49 | 0.22 | 2.22 | 13.95 | 3.52 | 4.09 |

| TEST CONDITIONS: @220V50Hz | | CECOMAF-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) | 107 | 27 | 31 | 28 | 0.13 | 0.37 | 3.82 | 0.96 | 1.12 |
| -30 | (-22) | 149 | 38 | 44 | 32 | 0.14 | 0.52 | 4.70 | 1.18 | 1.38 |
| -25 | (-13) | 199 | 50 | 58 | 36 | 0.16 | 0.69 | 5.55 | 1.40 | 1.63 |
| -20 | (- 4) | 258 | 65 | 76 | 40 | 0.18 | 0.90 | 6.42 | 1.62 | 1.88 |
| -15 | (+ 5) | 327 | 82 | 96 | 45 | 0.20 | 1.14 | 7.35 | 1.85 | 2.15 |
| -10 | (+14) | 407 | 103 | 119 | 49 | 0.22 | 1.43 | 8.37 | 2.11 | 2.45 |
| -5 | (+23) | 500 | 126 | 146 | 53 | 0.24 | 1.75 | 9.53 | 2.40 | 2.79 |
| 0 | (+32) | 605 | 152 | 177 | 56 | 0.26 | 2.13 | 10.86 | 2.74 | 3.18 |

| TEST CONDITIONS: @220V50Hz | | CECOMAF-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) | 84 | 21 | 25 | 28 | 0.13 | 0.32 | 2.96 | 0.74 | 0.87 |
| -30 | (-22) | 122 | 31 | 36 | 33 | 0.15 | 0.46 | 3.73 | 0.94 | 1.09 |
| -25 | (-13) | 166 | 42 | 49 | 37 | 0.17 | 0.63 | 4.43 | 1.12 | 1.30 |
| -20 | (- 4) | 218 | 55 | 64 | 43 | 0.19 | 0.83 | 5.11 | 1.29 | 1.50 |
| -15 | (+ 5) | 279 | 70 | 82 | 48 | 0.22 | 1.07 | 5.80 | 1.46 | 1.70 |
| -10 | (+14) | 349 | 88 | 102 | 53 | 0.25 | 1.34 | 6.53 | 1.65 | 1.91 |
| -5 | (+23) | 430 | 108 | 126 | 58 | 0.27 | 1.66 | 7.36 | 1.85 | 2.16 |
| 0 | (+32) | 523 | 132 | 153 | 63 | 0.30 | 2.02 | 8.31 | 2.10 | 2.44 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | CECOMAF-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) | 60 | 15 | 18 | 27 | 0.13 | 0.25 | 2.19 | 0.55 | 0.64 |
| -30 | (-22) | 95 | 24 | 28 | 32 | 0.15 | 0.40 | 2.93 | 0.74 | 0.86 |
| -25 | (-13) | 135 | 34 | 39 | 38 | 0.17 | 0.57 | 3.56 | 0.90 | 1.04 |
| -20 | (- 4) | 181 | 46 | 53 | 44 | 0.20 | 0.76 | 4.11 | 1.04 | 1.21 |
| -15 | (+ 5) | 234 | 59 | 69 | 51 | 0.23 | 0.99 | 4.63 | 1.17 | 1.36 |
| -10 | (+14) | 296 | 75 | 87 | 57 | 0.26 | 1.26 | 5.15 | 1.30 | 1.51 |
| -5 | (+23) | 367 | 93 | 108 | 64 | 0.30 | 1.57 | 5.72 | 1.44 | 1.68 |
| 0 | (+32) | 449 | 113 | 132 | 71 | 0.33 | 1.93 | 6.37 | 1.60 | 1.87 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 2 Tray holder | No | | |
| 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 42° up + 45° to Back | | |
| 3.2 DISCHARGE | 5.1 +0.10/+0.00 | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted 0° up + 45° to Back | | |
| 3.3 PROCESS | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 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 | | |