

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM U40CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 893DA76 |

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 | | |
| 4.1 Evaporating temperature range | -35°C to -5°C | (-31°F to 23°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 254 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 254 V | - |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing pressures/temperature | | | |
| 9.1 Operating (gauge) | 7.7 | [kgf/cm ²] (109 psig) | / °C - °F |
| 9.2 Peak (gauge) | 9.8 | [kgf/cm ²] (139 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|--|
| 1 Commercial designation | | [hp] |
| 2 Displacement | 7.23 | [cm ³] (0.441 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 2.2 Stroke [mm] | 16.000 | |
| 3 Lubricant charge | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | MINERAL / ISO7 | |
| 4 Weight (with oil charge) | 7.4 | [kg] (16.31 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELETRICAL 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 | MSDA3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 4(450) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM142NFBYY-53 | |
| 6 Start winding resistance | 30.42 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 28.11 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | - | [A] |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] |
| 11 Approval boards certification | VDE | |

D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS: @220V50Hz | | | CECOMAF 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] |
| 310 | 78 | 91 | 78 | 0.37 | 1.18 | 3.96 | 1.00 | 1.16 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 239 | 60 | 70 | 58 | 0.29 | 0.76 | 4.11 | 1.04 | 1.20 |
| -30 | (-22) | 323 | 81 | 95 | 65 | 0.32 | 1.04 | 4.95 | 1.25 | 1.45 |
| -25 | (-13) | 423 | 107 | 124 | 73 | 0.35 | 1.36 | 5.85 | 1.47 | 1.71 |
| -20 | (- 4) | 542 | 136 | 159 | 80 | 0.38 | 1.74 | 6.79 | 1.71 | 1.99 |
| -15 | (+ 5) | 681 | 172 | 200 | 88 | 0.41 | 2.19 | 7.78 | 1.96 | 2.28 |
| -10 | (+14) | 845 | 213 | 248 | 96 | 0.44 | 2.72 | 8.84 | 2.23 | 2.59 |
| -5 | (+23) | 1035 | 261 | 303 | 104 | 0.48 | 3.35 | 9.95 | 2.51 | 2.91 |

| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 208 | 53 | 61 | 59 | 0.30 | 0.72 | 3.51 | 0.88 | 1.03 |
| -30 | (-22) | 282 | 71 | 83 | 68 | 0.33 | 0.98 | 4.17 | 1.05 | 1.22 |
| -25 | (-13) | 370 | 93 | 109 | 76 | 0.36 | 1.29 | 4.87 | 1.23 | 1.43 |
| -20 | (- 4) | 476 | 120 | 139 | 85 | 0.40 | 1.66 | 5.60 | 1.41 | 1.64 |
| -15 | (+ 5) | 601 | 151 | 176 | 94 | 0.44 | 2.10 | 6.36 | 1.60 | 1.87 |
| -10 | (+14) | 748 | 188 | 219 | 104 | 0.48 | 2.62 | 7.17 | 1.81 | 2.10 |
| -5 | (+23) | 919 | 232 | 269 | 115 | 0.52 | 3.23 | 8.01 | 2.02 | 2.35 |

| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 169 | 43 | 50 | 59 | 0.30 | 0.64 | 2.88 | 0.72 | 0.84 |
| -30 | (-22) | 234 | 59 | 68 | 69 | 0.33 | 0.89 | 3.42 | 0.86 | 1.00 |
| -25 | (-13) | 311 | 78 | 91 | 78 | 0.37 | 1.18 | 3.97 | 1.00 | 1.16 |
| -20 | (- 4) | 404 | 102 | 118 | 89 | 0.41 | 1.54 | 4.54 | 1.14 | 1.33 |
| -15 | (+ 5) | 514 | 130 | 151 | 100 | 0.46 | 1.97 | 5.13 | 1.29 | 1.50 |
| -10 | (+14) | 645 | 163 | 189 | 112 | 0.51 | 2.48 | 5.74 | 1.45 | 1.68 |
| -5 | (+23) | 800 | 201 | 234 | 125 | 0.57 | 3.08 | 6.37 | 1.61 | 1.87 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | CECOMAF 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) | 131 | 33 | 38 | 58 | 0.29 | 0.55 | 2.25 | 0.57 | 0.66 |
| -30 | (-22) | 187 | 47 | 55 | 69 | 0.33 | 0.79 | 2.71 | 0.68 | 0.80 |
| -25 | (-13) | 254 | 64 | 74 | 80 | 0.38 | 1.07 | 3.18 | 0.80 | 0.93 |
| -20 | (- 4) | 335 | 84 | 98 | 92 | 0.43 | 1.42 | 3.64 | 0.92 | 1.07 |
| -15 | (+ 5) | 432 | 109 | 126 | 106 | 0.48 | 1.84 | 4.10 | 1.03 | 1.20 |
| -10 | (+14) | 548 | 138 | 160 | 120 | 0.54 | 2.34 | 4.57 | 1.15 | 1.34 |
| -5 | (+23) | 685 | 173 | 201 | 136 | 0.61 | 2.93 | 5.04 | 1.27 | 1.48 |

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° | | |
| 3.2 DISCHARGE | 5.02 +0.02/-0.02 | [mm] | (0.198" +0.001"/-0.001") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 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 42° | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |