

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM X20CLC |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513309536 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 3 Nominal voltage and frequency | 115-127 / 60 | [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 | - | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 103 to 140 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 | 1/12 | [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 | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 7.88 | [kg] (17.37 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|--|-------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Combo | |
| 2.1 Starting device | 8EA14E62/8EA14E63/8EA21E62/8EA21E63 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(165) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM142RFBYY-73 | |
| 6 Start winding resistance | 6.70 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 12.65 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 3.70 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 0.55 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - TUV - UKCA - UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @127V60Hz | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°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] |
| 262 | 66 | 77 | 49 | 0.51 | 0.82 | 5.31 | 1.34 | 1.56 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---------------------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | ASHRAE32 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) | 150 | 38 | 44 | 35 | 0.47 | 0.47 | 4.26 | 1.07 | 1.25 |
| -30 (-22) | 209 | 53 | 61 | 40 | 0.48 | 0.65 | 5.23 | 1.32 | 1.53 |
| -25 (-13) | 271 | 68 | 79 | 44 | 0.50 | 0.85 | 6.15 | 1.55 | 1.80 |
| -20 (- 4) | 344 | 87 | 101 | 48 | 0.51 | 1.08 | 7.12 | 1.79 | 2.09 |
| -15 (+ 5) | 436 | 110 | 128 | 53 | 0.54 | 1.37 | 8.22 | 2.07 | 2.41 |
| -10 (+14) | 553 | 139 | 162 | 57 | 0.57 | 1.74 | 9.55 | 2.41 | 2.80 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | ASHRAE32 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) | 135 | 34 | 39 | 35 | 0.47 | 0.42 | 3.84 | 0.97 | 1.12 |
| -30 (-22) | 196 | 49 | 57 | 40 | 0.48 | 0.61 | 4.86 | 1.22 | 1.42 |
| -25 (-13) | 259 | 65 | 76 | 45 | 0.50 | 0.81 | 5.76 | 1.45 | 1.69 |
| -20 (- 4) | 331 | 84 | 97 | 50 | 0.52 | 1.04 | 6.62 | 1.67 | 1.94 |
| -15 (+ 5) | 421 | 106 | 123 | 55 | 0.56 | 1.32 | 7.56 | 1.90 | 2.21 |
| -10 (+14) | 534 | 135 | 157 | 61 | 0.60 | 1.69 | 8.65 | 2.18 | 2.53 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|
| TEST CONDITIONS: @127V60Hz | | ASHRAE32 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) | 106 | 27 | 31 | 34 | 0.47 | 0.33 | 3.12 | 0.79 | 0.91 |
| -30 (-22) | 170 | 43 | 50 | 40 | 0.48 | 0.53 | 4.22 | 1.06 | 1.24 |
| -25 (-13) | 233 | 59 | 68 | 46 | 0.51 | 0.73 | 5.12 | 1.29 | 1.50 |
| -20 (- 4) | 305 | 77 | 89 | 52 | 0.54 | 0.96 | 5.93 | 1.49 | 1.74 |
| -15 (+ 5) | 391 | 99 | 115 | 58 | 0.58 | 1.23 | 6.73 | 1.69 | 1.97 |
| -10 (+14) | 501 | 126 | 147 | 65 | 0.63 | 1.58 | 7.61 | 1.92 | 2.23 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @127V60Hz | | ASHRAE32 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) | 79 | 20 | 23 | 33 | 0.47 | 0.25 | 2.39 | 0.60 | 0.70 |
| -30 | (-22) | 144 | 36 | 42 | 39 | 0.48 | 0.45 | 3.60 | 0.91 | 1.06 |
| -25 | (-13) | 209 | 53 | 61 | 46 | 0.51 | 0.65 | 4.55 | 1.15 | 1.33 |
| -20 | (- 4) | 279 | 70 | 82 | 53 | 0.54 | 0.88 | 5.32 | 1.34 | 1.56 |
| -15 | (+ 5) | 363 | 91 | 106 | 61 | 0.59 | 1.14 | 6.02 | 1.52 | 1.76 |
| -10 | (+14) | 469 | 118 | 137 | 70 | 0.65 | 1.48 | 6.72 | 1.69 | 1.97 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | New Base Plate EUEM | | |
| 2 Tray holder | No | | |
| 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 | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 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 | | |