

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM Y20CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513306519 |

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 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 | 1/12 | [hp] |
| 2 Displacement | 4.15 | [cm ³] (0.253 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 12.000 | |
| 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) | 7.88 | [kg] (17.37 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 | PTC | |
| 2.1 Starting device | V230 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 2.5(280)/3(280) | [µF(VAC minimum)] |
| 5 Motor protection | T0285/07 | |
| 6 Start winding resistance | 28.50 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 43.20 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 2.30 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.24 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | 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 +/- 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] |
| 215 | 54 | 63 | 45 | 0.22 | 0.68 | 4.81 | 1.21 | 1.41 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 110 | 28 | 32 | 37 | 0.31 | 0.34 | 2.95 | 0.74 | 0.87 |
| -30 (-22) | 149 | 37 | 44 | 41 | 0.32 | 0.47 | 3.66 | 0.92 | 1.07 |
| -25 (-13) | 197 | 50 | 58 | 45 | 0.33 | 0.62 | 4.37 | 1.10 | 1.28 |
| -20 (- 4) | 257 | 65 | 75 | 50 | 0.35 | 0.81 | 5.16 | 1.30 | 1.51 |
| -15 (+ 5) | 332 | 84 | 97 | 54 | 0.37 | 1.05 | 6.11 | 1.54 | 1.79 |
| -10 (+14) | 427 | 108 | 125 | 58 | 0.39 | 1.35 | 7.31 | 1.84 | 2.14 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 75 | 19 | 22 | 35 | 0.30 | 0.24 | 2.14 | 0.54 | 0.63 |
| -30 (-22) | 118 | 30 | 35 | 40 | 0.32 | 0.37 | 2.96 | 0.75 | 0.87 |
| -25 (-13) | 168 | 42 | 49 | 46 | 0.33 | 0.53 | 3.68 | 0.93 | 1.08 |
| -20 (- 4) | 230 | 58 | 67 | 53 | 0.36 | 0.72 | 4.38 | 1.10 | 1.28 |
| -15 (+ 5) | 307 | 77 | 90 | 59 | 0.38 | 0.97 | 5.15 | 1.30 | 1.51 |
| -10 (+14) | 401 | 101 | 118 | 66 | 0.41 | 1.27 | 6.07 | 1.53 | 1.78 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 35 | 9 | 10 | 31 | 0.30 | 0.11 | 1.11 | 0.28 | 0.33 |
| -30 (-22) | 83 | 21 | 24 | 38 | 0.31 | 0.26 | 2.19 | 0.55 | 0.64 |
| -25 (-13) | 138 | 35 | 40 | 45 | 0.33 | 0.43 | 3.07 | 0.77 | 0.90 |
| -20 (- 4) | 203 | 51 | 60 | 53 | 0.36 | 0.64 | 3.84 | 0.97 | 1.12 |
| -15 (+ 5) | 282 | 71 | 83 | 62 | 0.39 | 0.89 | 4.57 | 1.15 | 1.34 |
| -10 (+14) | 378 | 95 | 111 | 71 | 0.42 | 1.19 | 5.35 | 1.35 | 1.57 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | European Standard 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 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 | 6.1 +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 | | |