

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2X1121U |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513304074 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 115-127 / 60 | [V / Hz] | |
| 4 Application type | Low Back Pressure R290 | | |
| 4.1 Evaporating temperature range | -40°C to -10°C | (-40°F to 14°F) | |
| 5 Motor type | CSCR | | |
| 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/Fan | - | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | - | 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 | 18.4 | [kgf/cm ²] (262 psig) | / °C - °F |
| 9.2 Peak | 20.6 | [kgf/cm ²] (293 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|----------------------------------|
| 1 Commercial designation | 1/3 | [hp] |
| 2 Displacement | 5.54 | [cm ³] (0.338 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 16.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 8.03 | [kg] (17.70 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 | PTC | |
| 2.1 Starting device | 8EA14D7/QPS2-A4R7MB4 | |
| 3 Start capacitor | 124-149(220) | [µF(VAC minimum)] |
| 4 Run capacitor | 20(250) | [µF(VAC minimum)] |
| 5 Motor protection | DRB46N61A* | |
| 6 Start winding resistance | 3.18 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 3.06 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 17.23 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 3.18 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 3.83 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CCC - IMTRO - TUV - UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| 1097 | 276 | 321 | 185 | 1.63 | 3.27 | 5.93 | 1.49 | 1.74 |

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAELBP32 Fan | | 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] |
| 1097 | 276 | 321 | 185 | 1.63 | 3.27 | 5.93 | 1.49 | 1.74 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| -40 (-40) | 525 | 132 | 154 | 112 | 1.00 | 1.55 | 4.70 | 1.19 | 1.38 |
| -35 (-31) | 695 | 175 | 204 | 126 | 1.14 | 2.06 | 5.53 | 1.39 | 1.62 |
| -30 (-22) | 902 | 227 | 264 | 141 | 1.27 | 2.67 | 6.39 | 1.61 | 1.87 |
| -25 (-13) | 1146 | 289 | 336 | 157 | 1.39 | 3.41 | 7.31 | 1.84 | 2.14 |
| -20 (- 4) | 1430 | 360 | 419 | 172 | 1.51 | 4.27 | 8.33 | 2.10 | 2.44 |
| -15 (+ 5) | 1754 | 442 | 514 | 185 | 1.63 | 5.25 | 9.45 | 2.38 | 2.77 |
| -10 (+14) | 2119 | 534 | 621 | 198 | 1.76 | 6.38 | 10.72 | 2.70 | 3.14 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| -40 (-40) | 467 | 118 | 137 | 112 | 1.01 | 1.38 | 4.12 | 1.04 | 1.21 |
| -35 (-31) | 634 | 160 | 186 | 132 | 1.18 | 1.88 | 4.81 | 1.21 | 1.41 |
| -30 (-22) | 834 | 210 | 244 | 151 | 1.34 | 2.47 | 5.51 | 1.39 | 1.61 |
| -25 (-13) | 1067 | 269 | 313 | 170 | 1.50 | 3.17 | 6.25 | 1.58 | 1.83 |
| -20 (- 4) | 1335 | 336 | 391 | 189 | 1.65 | 3.98 | 7.06 | 1.78 | 2.07 |
| -15 (+ 5) | 1639 | 413 | 480 | 206 | 1.81 | 4.91 | 7.96 | 2.01 | 2.33 |
| -10 (+14) | 1980 | 499 | 580 | 221 | 1.97 | 5.96 | 8.98 | 2.26 | 2.63 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @115V60Hz | | 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] |
| -40 | (-40) | 403 | 101 | 118 | 110 | 0.98 | 1.19 | 3.66 | 0.92 | 1.07 |
| -35 | (-31) | 571 | 144 | 167 | 133 | 1.18 | 1.69 | 4.31 | 1.09 | 1.26 |
| -30 | (-22) | 767 | 193 | 225 | 155 | 1.36 | 2.27 | 4.96 | 1.25 | 1.45 |
| -25 | (-13) | 993 | 250 | 291 | 177 | 1.53 | 2.95 | 5.62 | 1.42 | 1.65 |
| -20 | (- 4) | 1250 | 315 | 366 | 198 | 1.71 | 3.73 | 6.32 | 1.59 | 1.85 |
| -15 | (+ 5) | 1538 | 388 | 451 | 217 | 1.90 | 4.61 | 7.09 | 1.79 | 2.08 |
| -10 | (+14) | 1859 | 469 | 545 | 233 | 2.09 | 5.59 | 7.95 | 2.00 | 2.33 |

| TEST CONDITIONS: @115V60Hz | | 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] |
| -40 | (-40) | 337 | 85 | 99 | 116 | 0.98 | 0.99 | 2.93 | 0.74 | 0.86 |
| -35 | (-31) | 511 | 129 | 150 | 140 | 1.19 | 1.51 | 3.65 | 0.92 | 1.07 |
| -30 | (-22) | 709 | 179 | 208 | 164 | 1.38 | 2.10 | 4.33 | 1.09 | 1.27 |
| -25 | (-13) | 932 | 235 | 273 | 186 | 1.57 | 2.77 | 5.00 | 1.26 | 1.47 |
| -20 | (- 4) | 1181 | 298 | 346 | 208 | 1.76 | 3.52 | 5.69 | 1.43 | 1.67 |
| -15 | (+ 5) | 1459 | 368 | 427 | 227 | 1.96 | 4.37 | 6.43 | 1.62 | 1.88 |
| -10 | (+14) | 1764 | 445 | 517 | 244 | 2.17 | 5.31 | 7.24 | 1.82 | 2.12 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | European Standard EUEM | | |
| 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 | 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 +0.08/-0.08 | [mm] | (0.236" +0.003"/-0.003") |
| 3.3.1 Material | Copper(OD) | | |
| 3.3.2 Shape | Slanted 45° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |