

COMPRESSOR DEFINITION

| | |
|---------------------------|------------------------|
| Designation | EM 2X3125U |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513304099 |

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-Medium Back Pressure (Light Commercial - Curves until T.Evap -4 | | |
| 4.1 Evaporating temperature range | -40°C to 0°C | (-40°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) | 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 | 6.09 | [cm ³] (0.372 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 17.600 | |
| 3 Lubricant charge | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO22 | |
| 4 Weight (with oil charge) | 7.84 | [kg] (17.28 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 | 8EA14C3/8EA14E63/QPS2-A4R7MD3/QPS2A4R7MD3 094 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 20(180) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM757UFBZZ-53 | |
| 6 Start winding resistance | 5.30 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 3.26 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 16.90 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.85 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.36 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | 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] | |
| 1299 | 327 | 381 | 211 | 1.89 | 3.87 | 6.16 | 1.55 | 1.81 | |

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) | 660 | 166 | 193 | 128 | 1.18 | 1.95 | 5.15 | 1.30 | 1.51 |
| -35 | (-31) | 835 | 210 | 245 | 144 | 1.32 | 2.47 | 5.79 | 1.46 | 1.70 |
| -30 | (-22) | 1047 | 264 | 307 | 161 | 1.46 | 3.11 | 6.49 | 1.63 | 1.90 |
| -25 | (-13) | 1300 | 328 | 381 | 179 | 1.62 | 3.87 | 7.28 | 1.83 | 2.13 |
| -20 | (- 4) | 1596 | 402 | 468 | 196 | 1.77 | 4.76 | 8.17 | 2.06 | 2.39 |
| -15 | (+ 5) | 1939 | 489 | 568 | 212 | 1.90 | 5.81 | 9.20 | 2.32 | 2.70 |
| -10 | (+14) | 2330 | 587 | 683 | 226 | 2.03 | 7.01 | 10.39 | 2.62 | 3.04 |
| -5 | (+23) | 2773 | 699 | 813 | 237 | 2.12 | 8.39 | 11.76 | 2.96 | 3.44 |
| 0 | (+32) | 3272 | 825 | 959 | 244 | 2.19 | 9.95 | 13.32 | 3.36 | 3.90 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 625 | 157 | 183 | 133 | 1.23 | 1.84 | 4.71 | 1.19 | 1.38 |
| -35 | (-31) | 803 | 202 | 235 | 151 | 1.37 | 2.38 | 5.32 | 1.34 | 1.56 |
| -30 | (-22) | 1017 | 256 | 298 | 170 | 1.54 | 3.02 | 5.95 | 1.50 | 1.74 |
| -25 | (-13) | 1270 | 320 | 372 | 191 | 1.72 | 3.78 | 6.61 | 1.67 | 1.94 |
| -20 | (- 4) | 1564 | 394 | 458 | 212 | 1.90 | 4.67 | 7.34 | 1.85 | 2.15 |
| -15 | (+ 5) | 1903 | 480 | 558 | 233 | 2.08 | 5.70 | 8.15 | 2.05 | 2.39 |
| -10 | (+14) | 2289 | 577 | 671 | 252 | 2.26 | 6.89 | 9.07 | 2.29 | 2.66 |
| -5 | (+23) | 2726 | 687 | 799 | 270 | 2.42 | 8.24 | 10.12 | 2.55 | 2.96 |
| 0 | (+32) | 3216 | 810 | 942 | 285 | 2.55 | 9.78 | 11.32 | 2.85 | 3.32 |

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) | 563 | 142 | 165 | 137 | 1.26 | 1.66 | 4.13 | 1.04 | 1.21 |
| -35 | (-31) | 743 | 187 | 218 | 156 | 1.41 | 2.20 | 4.78 | 1.20 | 1.40 |
| -30 | (-22) | 956 | 241 | 280 | 177 | 1.60 | 2.84 | 5.38 | 1.36 | 1.58 |
| -25 | (-13) | 1207 | 304 | 354 | 201 | 1.80 | 3.59 | 5.98 | 1.51 | 1.75 |
| -20 | (- 4) | 1498 | 377 | 439 | 226 | 2.02 | 4.47 | 6.59 | 1.66 | 1.93 |
| -15 | (+ 5) | 1831 | 461 | 537 | 252 | 2.25 | 5.48 | 7.23 | 1.82 | 2.12 |
| -10 | (+14) | 2210 | 557 | 648 | 277 | 2.48 | 6.65 | 7.94 | 2.00 | 2.33 |
| -5 | (+23) | 2638 | 665 | 773 | 302 | 2.70 | 7.98 | 8.72 | 2.20 | 2.56 |
| 0 | (+32) | 3117 | 786 | 913 | 325 | 2.91 | 9.47 | 9.61 | 2.42 | 2.81 |

| 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) | 475 | 120 | 139 | 140 | 1.28 | 1.40 | 3.36 | 0.85 | 0.98 |
| -35 | (-31) | 654 | 165 | 192 | 160 | 1.45 | 1.93 | 4.08 | 1.03 | 1.20 |
| -30 | (-22) | 865 | 218 | 254 | 184 | 1.65 | 2.57 | 4.72 | 1.19 | 1.38 |
| -25 | (-13) | 1112 | 280 | 326 | 211 | 1.88 | 3.31 | 5.30 | 1.34 | 1.55 |
| -20 | (- 4) | 1397 | 352 | 409 | 240 | 2.14 | 4.17 | 5.85 | 1.47 | 1.71 |
| -15 | (+ 5) | 1723 | 434 | 505 | 271 | 2.42 | 5.16 | 6.38 | 1.61 | 1.87 |
| -10 | (+14) | 2093 | 527 | 613 | 303 | 2.70 | 6.30 | 6.92 | 1.74 | 2.03 |
| -5 | (+23) | 2510 | 633 | 735 | 335 | 2.99 | 7.59 | 7.49 | 1.89 | 2.20 |
| 0 | (+32) | 2977 | 750 | 872 | 366 | 3.27 | 9.05 | 8.12 | 2.05 | 2.38 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | Universal 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 | 6.1 +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 | | |