

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 2X3125U |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513304165 |

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 - | | |
| 4.1 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 | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELECTRICAL 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/QPS2-A4R7MD3 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 | CE - ISI - TUV - UKCA - UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|---------------------------------|----------|-----|----------------------------|----------------------------|--|--------------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAELBP32 Fan | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 1325 | 334 | 388 | 211 | 1.89 | 3.94 | 6.28 | 1.58 | 1.84 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|----------------------------|---------------------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | ASHRAE32 Fan | | | | (Condensing temperature 35°C (+95°F)) | | | | |
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 680 | 171 | 199 | 129 | 1.20 | 2.01 | 5.25 | 1.32 | 1.54 |
| -35 | (-31) | 863 | 217 | 253 | 146 | 1.34 | 2.55 | 5.89 | 1.48 | 1.73 |
| -30 | (-22) | 1079 | 272 | 316 | 164 | 1.49 | 3.20 | 6.60 | 1.66 | 1.93 |
| -25 | (-13) | 1333 | 336 | 391 | 181 | 1.63 | 3.96 | 7.39 | 1.86 | 2.16 |
| -20 | (- 4) | 1630 | 411 | 478 | 198 | 1.78 | 4.86 | 8.28 | 2.09 | 2.43 |
| -15 | (+ 5) | 1974 | 497 | 578 | 213 | 1.91 | 5.91 | 9.31 | 2.35 | 2.73 |
| -10 | (+14) | 2370 | 597 | 694 | 227 | 2.03 | 7.13 | 10.50 | 2.65 | 3.08 |
| -5 | (+23) | 2822 | 711 | 827 | 238 | 2.14 | 8.54 | 11.87 | 2.99 | 3.48 |
| 0 | (+32) | 3336 | 841 | 978 | 247 | 2.22 | 10.14 | 13.44 | 3.39 | 3.94 |

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|----------------------------|--|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | ASHRAE32 Fan | | | | (Condensing temperature 45°C (+113°F)) | | | | |
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 632 | 159 | 185 | 134 | 1.23 | 1.86 | 4.76 | 1.20 | 1.39 |
| -35 | (-31) | 820 | 207 | 240 | 153 | 1.39 | 2.43 | 5.38 | 1.35 | 1.58 |
| -30 | (-22) | 1040 | 262 | 305 | 172 | 1.55 | 3.08 | 6.01 | 1.51 | 1.76 |
| -25 | (-13) | 1295 | 326 | 379 | 193 | 1.73 | 3.85 | 6.68 | 1.68 | 1.96 |
| -20 | (- 4) | 1591 | 401 | 466 | 213 | 1.91 | 4.75 | 7.42 | 1.87 | 2.17 |
| -15 | (+ 5) | 1931 | 487 | 566 | 233 | 2.09 | 5.79 | 8.24 | 2.08 | 2.41 |
| -10 | (+14) | 2322 | 585 | 680 | 253 | 2.26 | 6.99 | 9.17 | 2.31 | 2.69 |
| -5 | (+23) | 2767 | 697 | 811 | 270 | 2.42 | 8.37 | 10.23 | 2.58 | 3.00 |
| 0 | (+32) | 3270 | 824 | 958 | 287 | 2.56 | 9.94 | 11.46 | 2.89 | 3.36 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @115V60Hz | | ASHRAE32 Fan | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|---|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 561 | 141 | 164 | 136 | 1.25 | 1.66 | 4.16 | 1.05 | 1.22 |
| -35 | (-31) | 751 | 189 | 220 | 157 | 1.42 | 2.22 | 4.79 | 1.21 | 1.40 |
| -30 | (-22) | 969 | 244 | 284 | 179 | 1.61 | 2.87 | 5.40 | 1.36 | 1.58 |
| -25 | (-13) | 1221 | 308 | 358 | 203 | 1.82 | 3.63 | 6.00 | 1.51 | 1.76 |
| -20 | (- 4) | 1511 | 381 | 443 | 228 | 2.03 | 4.51 | 6.61 | 1.66 | 1.94 |
| -15 | (+ 5) | 1844 | 465 | 540 | 253 | 2.26 | 5.52 | 7.26 | 1.83 | 2.13 |
| -10 | (+14) | 2225 | 561 | 652 | 278 | 2.48 | 6.69 | 7.97 | 2.01 | 2.34 |
| -5 | (+23) | 2657 | 670 | 779 | 302 | 2.70 | 8.03 | 8.77 | 2.21 | 2.57 |
| 0 | (+32) | 3146 | 793 | 922 | 326 | 2.91 | 9.56 | 9.69 | 2.44 | 2.84 |

| TEST CONDITIONS: @115V60Hz | | ASHRAE32 Fan | | | (Condensing temperature 65°C (+149°F)) | | | | | |
|-------------------------------|-------|---------------------------------|----------|-----|---|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -40 | (-40) | 469 | 118 | 137 | 136 | 1.26 | 1.38 | 3.42 | 0.86 | 1.00 |
| -35 | (-31) | 655 | 165 | 192 | 159 | 1.44 | 1.94 | 4.11 | 1.04 | 1.21 |
| -30 | (-22) | 868 | 219 | 254 | 184 | 1.66 | 2.57 | 4.73 | 1.19 | 1.39 |
| -25 | (-13) | 1112 | 280 | 326 | 212 | 1.90 | 3.31 | 5.29 | 1.33 | 1.55 |
| -20 | (- 4) | 1392 | 351 | 408 | 241 | 2.15 | 4.15 | 5.81 | 1.47 | 1.70 |
| -15 | (+ 5) | 1713 | 432 | 502 | 272 | 2.42 | 5.13 | 6.33 | 1.60 | 1.86 |
| -10 | (+14) | 2079 | 524 | 609 | 303 | 2.70 | 6.25 | 6.87 | 1.73 | 2.01 |
| -5 | (+23) | 2494 | 629 | 731 | 334 | 2.98 | 7.54 | 7.45 | 1.88 | 2.18 |
| 0 | (+32) | 2964 | 747 | 869 | 366 | 3.26 | 9.01 | 8.09 | 2.04 | 2.37 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-----------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.2 +0.12/-0.08 | [mm] | (0.323" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Straight | | |
| 3.2 DISCHARGE | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 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 | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |