

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM X3125U |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513300752 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [V / Hz] | |
| 4 Application type | Low-Medium (Plus) Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to 5°C | (-31°F to 41°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) | - | - | - |
| 8.2 LBP (43°C Ambient temperature) | - | - | - |
| 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 | | [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 | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 7.65 | [kg] (16.87 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 | 8EA17C3/8EA17E61/8EA17E62/8EA17E63/QPS2-A22MD3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(450) | [µF(VAC minimum)] |
| 5 Motor protection | BT74-120A61D3 | |
| 6 Start winding resistance | | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CCC | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|---|-------|--|
| TEST CONDITIONS: @220V50Hz | | | 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] | |
| 1000 | 252 | 293 | 177 | 0.84 | 2.98 | 5.67 | 1.43 | 1.66 | |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Fan | | | | (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) | 702 | 177 | 206 | 122 | 0.60 | 2.15 | 5.73 | 1.44 | 1.68 |
| -30 | (-22) | 874 | 220 | 256 | 135 | 0.66 | 1.85 | 6.44 | 1.62 | 1.89 |
| -25 | (-13) | 1085 | 273 | 318 | 148 | 0.71 | 2.76 | 7.30 | 1.84 | 2.14 |
| -20 | (- 4) | 1338 | 337 | 392 | 161 | 0.77 | 4.28 | 8.34 | 2.10 | 2.44 |
| -15 | (+ 5) | 1640 | 413 | 480 | 172 | 0.82 | 5.82 | 9.58 | 2.42 | 2.81 |
| -10 | (+14) | 1993 | 502 | 584 | 181 | 0.86 | 6.77 | 11.07 | 2.79 | 3.24 |
| -5 | (+23) | 2402 | 605 | 704 | 189 | 0.90 | 6.56 | 12.81 | 3.23 | 3.76 |
| 0 | (+32) | 2871 | 724 | 841 | 194 | 0.92 | 4.57 | 14.85 | 3.74 | 4.35 |
| +5 | (+41) | 3406 | 858 | 998 | 197 | 0.93 | 0.21 | 17.20 | 4.33 | 5.04 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Fan | | | | (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) | 636 | 160 | 186 | 129 | 0.63 | 2.02 | 4.99 | 1.26 | 1.46 |
| -30 | (-22) | 810 | 204 | 237 | 145 | 0.70 | 1.65 | 5.61 | 1.41 | 1.64 |
| -25 | (-13) | 1020 | 257 | 299 | 160 | 0.77 | 2.51 | 6.33 | 1.59 | 1.85 |
| -20 | (- 4) | 1271 | 320 | 373 | 176 | 0.84 | 4.01 | 7.16 | 1.81 | 2.10 |
| -15 | (+ 5) | 1567 | 395 | 459 | 190 | 0.91 | 5.55 | 8.14 | 2.05 | 2.39 |
| -10 | (+14) | 1912 | 482 | 560 | 204 | 0.97 | 6.53 | 9.29 | 2.34 | 2.72 |
| -5 | (+23) | 2311 | 582 | 677 | 216 | 1.02 | 6.36 | 10.64 | 2.68 | 3.12 |
| 0 | (+32) | 2767 | 697 | 811 | 227 | 1.07 | 4.44 | 12.22 | 3.08 | 3.58 |
| +5 | (+41) | 3286 | 828 | 963 | 235 | 1.11 | 0.17 | 14.05 | 3.54 | 4.12 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Fan | | | (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) | 586 | 148 | 172 | 132 | 0.64 | 1.90 | 4.49 | 1.13 | 1.32 |
| -30 | (-22) | 759 | 191 | 222 | 150 | 0.73 | 1.46 | 5.10 | 1.29 | 1.49 |
| -25 | (-13) | 965 | 243 | 283 | 169 | 0.81 | 2.27 | 5.74 | 1.45 | 1.68 |
| -20 | (- 4) | 1209 | 305 | 354 | 188 | 0.89 | 3.75 | 6.43 | 1.62 | 1.88 |
| -15 | (+ 5) | 1496 | 377 | 438 | 207 | 0.98 | 5.29 | 7.20 | 1.81 | 2.11 |
| -10 | (+14) | 1829 | 461 | 536 | 225 | 1.06 | 6.29 | 8.08 | 2.04 | 2.37 |
| -5 | (+23) | 2213 | 558 | 649 | 242 | 1.14 | 6.16 | 9.10 | 2.29 | 2.67 |
| 0 | (+32) | 2653 | 668 | 777 | 257 | 1.21 | 4.31 | 10.29 | 2.59 | 3.01 |
| +5 | (+41) | 3152 | 794 | 924 | 271 | 1.28 | 0.14 | 11.66 | 2.94 | 3.42 |

| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Fan | | | (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) | 522 | 132 | 153 | 132 | 0.65 | 1.73 | 3.84 | 0.97 | 1.13 |
| -30 | (-22) | 690 | 174 | 202 | 154 | 0.74 | 1.22 | 4.50 | 1.13 | 1.32 |
| -25 | (-13) | 888 | 224 | 260 | 176 | 0.84 | 1.99 | 5.12 | 1.29 | 1.50 |
| -20 | (- 4) | 1121 | 283 | 329 | 198 | 0.94 | 3.44 | 5.73 | 1.45 | 1.68 |
| -15 | (+ 5) | 1395 | 351 | 409 | 221 | 1.05 | 4.97 | 6.37 | 1.60 | 1.87 |
| -10 | (+14) | 1712 | 431 | 502 | 244 | 1.15 | 5.99 | 7.05 | 1.78 | 2.06 |
| -5 | (+23) | 2078 | 524 | 609 | 266 | 1.26 | 5.91 | 7.80 | 1.97 | 2.29 |
| 0 | (+32) | 2497 | 629 | 732 | 287 | 1.35 | 4.13 | 8.65 | 2.18 | 2.54 |
| +5 | (+41) | 2973 | 749 | 871 | 307 | 1.45 | 0.04 | 9.63 | 2.43 | 2.82 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 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 40° up + 0° to Back | | |
| 3.2 DISCHARGE | 4.9 +0.10/-0.05 | [mm] | (0.193" +0.004"/-0.002") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted 0° up + 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 40° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |