

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EM X6165U |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513301828 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 220-240 / 50-60 | [V / Hz] | |
| 4 Application type | Medium Back Pressure (Commercial Compressors) | | |
| 4.1 Evaporating temperature range | -20°C to 10°C | (-4°F to 50°F) | |
| 5 Motor type | CSIR | | |
| 6 Starting torque | HST - Hight starting torque | | |
| 7 Expansion device | Capillary tube or Expansion valve | | |
| 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 | 1/4 | [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 | ALQUILB / 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 50-60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | MTRPH-0025-65 | |
| 3 Start capacitor | 64-77(330) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM319NFBYY-153 | |
| 6 Start winding resistance | 13.75 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 13.00 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 11.00/11.00 | [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 | CE - UKCA - VDE | |

D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS: @220V50Hz | | | EN12900MBP Fan | | Evaporating temperature (Condensing temperature | | -10°C (14°F) 45°C (113°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] |
| 1539 | 388 | 451 | 229 | 1.52 | 5.54 | 6.72 | 1.69 | 1.97 |

| TEST CONDITIONS: @220V60Hz | | | EN12900MBP Fan | | Evaporating temperature (Condensing temperature | | -10°C (14°F) 45°C (113°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] |
| 1845 | 465 | 541 | 265 | 1.49 | 6.64 | 6.95 | 1.75 | 2.04 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | EN12900 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] |
| -20 | (- 4) | 1191 | 300 | 349 | 186 | 1.43 | 3.86 | 6.39 | 1.61 | 1.87 |
| -15 | (+ 5) | 1463 | 369 | 429 | 198 | 1.46 | 4.77 | 7.38 | 1.86 | 2.16 |
| -10 | (+14) | 1789 | 451 | 524 | 208 | 1.48 | 5.87 | 8.59 | 2.16 | 2.52 |
| -5 | (+23) | 2167 | 546 | 635 | 217 | 1.50 | 7.16 | 10.02 | 2.52 | 2.94 |
| 0 | (+32) | 2599 | 655 | 762 | 223 | 1.52 | 8.65 | 11.67 | 2.94 | 3.42 |
| +5 | (+41) | 3085 | 777 | 904 | 228 | 1.54 | 10.37 | 13.55 | 3.42 | 3.97 |
| +10 | (+50) | 3623 | 913 | 1062 | 231 | 1.55 | 12.32 | 15.67 | 3.95 | 4.59 |

| TEST CONDITIONS: @220V50Hz | | EN12900 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] |
| -20 | (- 4) | 1015 | 256 | 298 | 200 | 1.45 | 3.61 | 5.09 | 1.28 | 1.49 |
| -15 | (+ 5) | 1254 | 316 | 367 | 217 | 1.50 | 4.48 | 5.79 | 1.46 | 1.70 |
| -10 | (+14) | 1539 | 388 | 451 | 231 | 1.54 | 5.54 | 6.63 | 1.67 | 1.94 |
| -5 | (+23) | 1870 | 471 | 548 | 244 | 1.58 | 6.78 | 7.63 | 1.92 | 2.24 |
| 0 | (+32) | 2247 | 566 | 659 | 256 | 1.62 | 8.23 | 8.78 | 2.21 | 2.57 |
| +5 | (+41) | 2671 | 673 | 783 | 265 | 1.65 | 9.88 | 10.08 | 2.54 | 2.95 |
| +10 | (+50) | 3141 | 792 | 920 | 273 | 1.67 | 11.77 | 11.55 | 2.91 | 3.39 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | EN12900 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] |
| -20 | (- 4) | 838 | 211 | 246 | 211 | 1.46 | 3.31 | 3.95 | 1.00 | 1.16 |
| -15 | (+ 5) | 1044 | 263 | 306 | 233 | 1.53 | 4.15 | 4.50 | 1.13 | 1.32 |
| -10 | (+14) | 1289 | 325 | 378 | 253 | 1.60 | 5.17 | 5.12 | 1.29 | 1.50 |
| -5 | (+23) | 1573 | 396 | 461 | 271 | 1.66 | 6.36 | 5.82 | 1.47 | 1.70 |
| 0 | (+32) | 1897 | 478 | 556 | 287 | 1.72 | 7.75 | 6.60 | 1.66 | 1.93 |
| +5 | (+41) | 2260 | 570 | 662 | 302 | 1.77 | 9.35 | 7.47 | 1.88 | 2.19 |
| +10 | (+50) | 2663 | 671 | 780 | 316 | 1.82 | 11.17 | 8.43 | 2.12 | 2.47 |

| TEST CONDITIONS: @220V60Hz | | EN12900 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] |
| -20 | (- 4) | 1425 | 359 | 418 | 204 | 1.26 | 4.62 | 6.99 | 1.76 | 2.05 |
| -15 | (+ 5) | 1749 | 441 | 512 | 221 | 1.32 | 5.70 | 7.92 | 2.00 | 2.32 |
| -10 | (+14) | 2139 | 539 | 627 | 237 | 1.38 | 7.01 | 9.04 | 2.28 | 2.65 |
| -5 | (+23) | 2595 | 654 | 760 | 251 | 1.44 | 8.57 | 10.34 | 2.61 | 3.03 |
| 0 | (+32) | 3116 | 785 | 913 | 264 | 1.49 | 10.37 | 11.82 | 2.98 | 3.46 |
| +5 | (+41) | 3704 | 933 | 1085 | 275 | 1.54 | 12.45 | 13.46 | 3.39 | 3.94 |
| +10 | (+50) | 4357 | 1098 | 1277 | 285 | 1.58 | 14.82 | 15.26 | 3.85 | 4.47 |

| TEST CONDITIONS: @220V60Hz | | EN12900 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] |
| -20 | (- 4) | 1213 | 306 | 356 | 222 | 1.33 | 4.31 | 5.47 | 1.38 | 1.60 |
| -15 | (+ 5) | 1495 | 377 | 438 | 245 | 1.42 | 5.35 | 6.12 | 1.54 | 1.79 |
| -10 | (+14) | 1833 | 462 | 537 | 265 | 1.50 | 6.60 | 6.90 | 1.74 | 2.02 |
| -5 | (+23) | 2229 | 562 | 653 | 285 | 1.58 | 8.08 | 7.81 | 1.97 | 2.29 |
| 0 | (+32) | 2681 | 675 | 785 | 303 | 1.65 | 9.81 | 8.84 | 2.23 | 2.59 |
| +5 | (+41) | 3189 | 804 | 934 | 320 | 1.72 | 11.80 | 9.98 | 2.51 | 2.92 |
| +10 | (+50) | 3754 | 946 | 1100 | 335 | 1.78 | 14.06 | 11.23 | 2.83 | 3.29 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V60Hz | | EN12900 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] |
| -20 | (- 4) | 1025 | 258 | 300 | 240 | 1.40 | 4.05 | 4.25 | 1.07 | 1.24 |
| -15 | (+ 5) | 1266 | 319 | 371 | 269 | 1.51 | 5.04 | 4.71 | 1.19 | 1.38 |
| -10 | (+14) | 1554 | 392 | 455 | 296 | 1.62 | 6.23 | 5.26 | 1.33 | 1.54 |
| -5 | (+23) | 1891 | 476 | 554 | 322 | 1.73 | 7.65 | 5.89 | 1.48 | 1.72 |
| 0 | (+32) | 2274 | 573 | 666 | 346 | 1.84 | 9.29 | 6.58 | 1.66 | 1.93 |
| +5 | (+41) | 2705 | 682 | 793 | 369 | 1.94 | 11.19 | 7.32 | 1.85 | 2.15 |
| +10 | (+50) | 3184 | 802 | 933 | 392 | 2.04 | 13.35 | 8.12 | 2.05 | 2.38 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 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 0° up + 45° 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 | | |