

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM X6181U |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513304123 |

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 | 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 - High 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 | 1/3 | [hp] |
| 2 Displacement | 6.99 | [cm ³] (0.427 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 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) | 7.45 | [kg] (16.42 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 | Current Relay | |
| 2.1 Starting device | QL2-6R2 | |
| 3 Start capacitor | 43-53(330)/64-77(330) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM319NFBYY-153 | |
| 6 Start winding resistance | 17.60 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 10.60 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 13.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 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] |
| 1816 | 458 | 532 | 252 | 1.74 | 6.54 | 7.20 | 1.81 | 2.11 |

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) | 1396 | 352 | 409 | 199 | 1.58 | 4.52 | 7.02 | 1.77 | 2.06 |
| -15 | (+ 5) | 1741 | 439 | 510 | 214 | 1.62 | 5.68 | 8.12 | 2.05 | 2.38 |
| -10 | (+14) | 2109 | 531 | 618 | 225 | 1.66 | 6.92 | 9.36 | 2.36 | 2.74 |
| -5 | (+23) | 2520 | 635 | 738 | 234 | 1.68 | 8.32 | 10.81 | 2.72 | 3.17 |
| 0 | (+32) | 2992 | 754 | 877 | 239 | 1.70 | 9.96 | 12.54 | 3.16 | 3.68 |
| +5 | (+41) | 3546 | 894 | 1039 | 242 | 1.72 | 11.92 | 14.65 | 3.69 | 4.29 |
| +10 | (+50) | 4201 | 1059 | 1231 | 243 | 1.74 | 14.29 | 17.21 | 4.34 | 5.04 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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) | 1203 | 303 | 352 | 216 | 1.63 | 4.27 | 5.59 | 1.41 | 1.64 |
| -15 | (+ 5) | 1510 | 381 | 443 | 236 | 1.69 | 5.40 | 6.40 | 1.61 | 1.87 |
| -10 | (+14) | 1832 | 462 | 537 | 252 | 1.74 | 6.59 | 7.24 | 1.82 | 2.12 |
| -5 | (+23) | 2187 | 551 | 641 | 266 | 1.78 | 7.93 | 8.19 | 2.06 | 2.40 |
| 0 | (+32) | 2594 | 654 | 760 | 277 | 1.82 | 9.50 | 9.33 | 2.35 | 2.73 |
| +5 | (+41) | 3073 | 774 | 901 | 286 | 1.86 | 11.37 | 10.73 | 2.70 | 3.14 |
| +10 | (+50) | 3644 | 918 | 1068 | 293 | 1.90 | 13.64 | 12.48 | 3.14 | 3.66 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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) | 984 | 248 | 288 | 229 | 1.67 | 3.90 | 4.28 | 1.08 | 1.25 |
| -15 | (+ 5) | 1264 | 319 | 370 | 254 | 1.74 | 5.02 | 5.00 | 1.26 | 1.46 |
| -10 | (+14) | 1549 | 390 | 454 | 275 | 1.81 | 6.20 | 5.65 | 1.42 | 1.66 |
| -5 | (+23) | 1857 | 468 | 544 | 295 | 1.87 | 7.51 | 6.31 | 1.59 | 1.85 |
| 0 | (+32) | 2208 | 556 | 647 | 312 | 1.93 | 9.03 | 7.06 | 1.78 | 2.07 |
| +5 | (+41) | 2622 | 661 | 768 | 328 | 2.00 | 10.86 | 7.97 | 2.01 | 2.34 |
| +10 | (+50) | 3118 | 786 | 914 | 342 | 2.06 | 13.06 | 9.12 | 2.30 | 2.67 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 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 42° up + 45° to Back | | |
| 3.2 DISCHARGE | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 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 | | |