

COMPRESSOR DEFINITION

| | |
|---------------------------|-------------|
| Designation | EM 2U60HLP |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number | 513305505 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220 / 60 | [V / Hz] | |
| 4 Application type | Low Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°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 | - | 198 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 198 to 242 V |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 14.2 | [kgf/cm ²] (202 psig) | / °C - °F |
| 9.2 Peak | 15.9 | [kgf/cm ²] (226 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1/5 | [hp] |
| 2 Displacement | 5.54 | [cm ³] (0.338 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 16.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 7.23 | [kg] (15.94 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELETRICAL DATA

| | | |
|--|---|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 8EA17C3/8EA17E61/8EA17E62/8EA17E63/QPS2-A22MD3/QPS3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 3(350)/4(350)/5(350) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM232NFBYY-53 | |
| 6 Start winding resistance | 26.16 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 19.35 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 7.00/6.65 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 1.33/1.02 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | 1.52/1.23 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IMTRO - TUV - UKCA | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V60Hz | | | 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] |
| 614 | 155 | 180 | 116 | 0.55 | 3.49 | 5.29 | 1.33 | 1.55 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | 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] |
| -35 | (-31) | 381 | 96 | 112 | 78 | 0.47 | 2.16 | 4.85 | 1.22 | 1.42 |
| -30 | (-22) | 520 | 131 | 152 | 91 | 0.49 | 2.95 | 5.71 | 1.44 | 1.67 |
| -25 | (-13) | 687 | 173 | 201 | 105 | 0.52 | 3.90 | 6.58 | 1.66 | 1.93 |
| -20 | (- 4) | 890 | 224 | 261 | 119 | 0.56 | 5.06 | 7.49 | 1.89 | 2.20 |
| -15 | (+ 5) | 1137 | 287 | 333 | 134 | 0.61 | 6.49 | 8.47 | 2.13 | 2.48 |
| -10 | (+14) | 1437 | 362 | 421 | 150 | 0.66 | 8.23 | 9.54 | 2.40 | 2.80 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | 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] |
| -35 | (-31) | 338 | 85 | 99 | 79 | 0.50 | 1.91 | 4.31 | 1.08 | 1.26 |
| -30 | (-22) | 470 | 118 | 138 | 92 | 0.51 | 2.67 | 5.08 | 1.28 | 1.49 |
| -25 | (-13) | 629 | 159 | 184 | 108 | 0.54 | 3.57 | 5.84 | 1.47 | 1.71 |
| -20 | (- 4) | 823 | 207 | 241 | 125 | 0.58 | 4.68 | 6.60 | 1.66 | 1.93 |
| -15 | (+ 5) | 1060 | 267 | 311 | 143 | 0.63 | 6.05 | 7.39 | 1.86 | 2.17 |
| -10 | (+14) | 1348 | 340 | 395 | 163 | 0.69 | 7.72 | 8.25 | 2.08 | 2.42 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V60Hz | | 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] |
| -35 | (-31) | 294 | 74 | 86 | 78 | 0.50 | 1.66 | 3.79 | 0.96 | 1.11 |
| -30 | (-22) | 419 | 106 | 123 | 93 | 0.51 | 2.38 | 4.51 | 1.14 | 1.32 |
| -25 | (-13) | 570 | 144 | 167 | 110 | 0.54 | 3.24 | 5.18 | 1.31 | 1.52 |
| -20 | (- 4) | 755 | 190 | 221 | 130 | 0.59 | 4.30 | 5.82 | 1.47 | 1.71 |
| -15 | (+ 5) | 981 | 247 | 287 | 151 | 0.65 | 5.60 | 6.47 | 1.63 | 1.89 |
| -10 | (+14) | 1257 | 317 | 368 | 176 | 0.72 | 7.20 | 7.15 | 1.80 | 2.10 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V60Hz | | 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] |
| -35 | (-31) | 247 | 62 | 72 | 75 | 0.48 | 1.40 | 3.27 | 0.82 | 0.96 |
| -30 | (-22) | 366 | 92 | 107 | 92 | 0.49 | 2.07 | 3.97 | 1.00 | 1.16 |
| -25 | (-13) | 509 | 128 | 149 | 111 | 0.53 | 2.89 | 4.57 | 1.15 | 1.34 |
| -20 | (- 4) | 684 | 172 | 200 | 134 | 0.59 | 3.89 | 5.13 | 1.29 | 1.50 |
| -15 | (+ 5) | 900 | 227 | 264 | 160 | 0.67 | 5.14 | 5.66 | 1.43 | 1.66 |
| -10 | (+14) | 1165 | 293 | 341 | 188 | 0.76 | 6.67 | 6.19 | 1.56 | 1.81 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | New Base Plate EUEM | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 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 30° up + 24° to Back | | |
| 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 | Slanted 45° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |