

COMPRESSOR DEFINITION

| | |
|---------------------------|-------------|
| Designation | EM 2U60HLP |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number | 513305583 |

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 | RSIR | | |
| 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) | 7.53 | [kg] (16.60 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 | 7M220MC1/8EA17C1/8EA17E61/8EA17E62/8EA17E63/8M220I | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [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) | 1.36/1.16 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | 1.53/1.35 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IMTRO - TUV | |

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] |
| 621 | 156 | 182 | 124 | 0.80 | 3.53 | 5.01 | 1.26 | 1.47 |

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 | 83 | 0.67 | 2.16 | 4.57 | 1.15 | 1.34 |
| -30 (-22) | 520 | 131 | 152 | 96 | 0.70 | 2.95 | 5.39 | 1.36 | 1.58 |
| -25 (-13) | 687 | 173 | 201 | 111 | 0.74 | 3.90 | 6.21 | 1.56 | 1.82 |
| -20 (- 4) | 890 | 224 | 261 | 126 | 0.80 | 5.06 | 7.06 | 1.78 | 2.07 |
| -15 (+ 5) | 1137 | 287 | 333 | 143 | 0.87 | 6.49 | 7.98 | 2.01 | 2.34 |
| -10 (+14) | 1437 | 362 | 421 | 160 | 0.94 | 8.23 | 9.00 | 2.27 | 2.64 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|
| 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 | 84 | 0.71 | 1.91 | 4.06 | 1.02 | 1.19 |
| -30 (-22) | 470 | 118 | 138 | 98 | 0.73 | 2.67 | 4.79 | 1.21 | 1.40 |
| -25 (-13) | 629 | 159 | 184 | 114 | 0.77 | 3.57 | 5.50 | 1.39 | 1.61 |
| -20 (- 4) | 823 | 207 | 241 | 132 | 0.83 | 4.68 | 6.22 | 1.57 | 1.82 |
| -15 (+ 5) | 1060 | 267 | 311 | 152 | 0.90 | 6.05 | 6.97 | 1.76 | 2.04 |
| -10 (+14) | 1348 | 340 | 395 | 173 | 0.98 | 7.72 | 7.78 | 1.96 | 2.28 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|
| 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 | 82 | 0.72 | 1.66 | 3.58 | 0.90 | 1.05 |
| -30 (-22) | 419 | 106 | 123 | 98 | 0.74 | 2.38 | 4.25 | 1.07 | 1.25 |
| -25 (-13) | 570 | 144 | 167 | 117 | 0.78 | 3.24 | 4.88 | 1.23 | 1.43 |
| -20 (- 4) | 755 | 190 | 221 | 137 | 0.85 | 4.30 | 5.49 | 1.38 | 1.61 |
| -15 (+ 5) | 981 | 247 | 287 | 161 | 0.93 | 5.60 | 6.10 | 1.54 | 1.79 |
| -10 (+14) | 1257 | 317 | 368 | 186 | 1.03 | 7.20 | 6.74 | 1.70 | 1.98 |

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 | 80 | 0.69 | 1.40 | 3.08 | 0.78 | 0.90 |
| -30 | (-22) | 366 | 92 | 107 | 97 | 0.71 | 2.07 | 3.74 | 0.94 | 1.09 |
| -25 | (-13) | 509 | 128 | 149 | 118 | 0.77 | 2.89 | 4.31 | 1.09 | 1.26 |
| -20 | (- 4) | 684 | 172 | 200 | 142 | 0.85 | 3.89 | 4.83 | 1.22 | 1.42 |
| -15 | (+ 5) | 900 | 227 | 264 | 169 | 0.96 | 5.14 | 5.33 | 1.34 | 1.56 |
| -10 | (+14) | 1165 | 293 | 341 | 200 | 1.09 | 6.67 | 5.84 | 1.47 | 1.71 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate | European Standard EG/F/AMEM Version 2 | | |
| 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 parallel BP+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 | 6.35 +0.08/-0.08 | [mm] | (0.250" +0.003"/-0.003") |
| 3.3.1 Material | Copper(OD) | | |
| 3.3.2 Shape | Slanted 43° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |