

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM YS60HEP |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513305033 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 115-127 / 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 | - | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 103 to 140 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 | 5.19 | [cm ³] (0.317 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 15.000 | |
| 3 Lubricant charge | 160 | [ml] (5.41 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 7.68 | [kg] (16.93 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 | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | MSC31X 115V | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(176) | [µF(VAC minimum)] |
| 5 Motor protection | MSC31F61F3 | |
| 6 Start winding resistance | 6.60 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 4.70 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 12.80 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.91 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 2.31 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - UKCA - UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| 607 | 153 | 178 | 121 | 1.24 | 3.45 | 5.04 | 1.27 | 1.48 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|----------|--------------------------------|----------------------------------|--|---------------------------|----------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | 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) | 338 | 85 | 99 | 81 | 0.94 | 1.91 | 4.19 | 1.06 | 1.23 | |
| -30 (-22) | 459 | 116 | 134 | 91 | 1.00 | 2.60 | 5.05 | 1.27 | 1.48 | |
| -25 (-13) | 614 | 155 | 180 | 103 | 1.08 | 3.49 | 5.98 | 1.51 | 1.75 | |
| -20 (- 4) | 805 | 203 | 236 | 115 | 1.18 | 4.58 | 6.97 | 1.76 | 2.04 | |
| -15 (+ 5) | 1035 | 261 | 303 | 128 | 1.28 | 5.91 | 8.02 | 2.02 | 2.35 | |
| -10 (+14) | 1304 | 329 | 382 | 142 | 1.39 | 7.47 | 9.13 | 2.30 | 2.68 | |

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|----------|--------------------------------|----------------------------------|---|---------------------------|----------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | 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) | 317 | 80 | 93 | 83 | 0.96 | 1.79 | 3.81 | 0.96 | 1.12 | |
| -30 (-22) | 436 | 110 | 128 | 96 | 1.04 | 2.47 | 4.58 | 1.15 | 1.34 | |
| -25 (-13) | 585 | 147 | 171 | 109 | 1.13 | 3.32 | 5.40 | 1.36 | 1.58 | |
| -20 (- 4) | 767 | 193 | 225 | 123 | 1.23 | 4.36 | 6.25 | 1.57 | 1.83 | |
| -15 (+ 5) | 982 | 248 | 288 | 137 | 1.34 | 5.61 | 7.13 | 1.80 | 2.09 | |
| -10 (+14) | 1234 | 311 | 362 | 152 | 1.47 | 7.07 | 8.06 | 2.03 | 2.36 | |

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|----------|--------------------------------|----------------------------------|---|---------------------------|----------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | 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) | 273 | 69 | 80 | 81 | 0.96 | 1.54 | 3.36 | 0.85 | 0.98 | |
| -30 (-22) | 394 | 99 | 116 | 97 | 1.05 | 2.23 | 4.09 | 1.03 | 1.20 | |
| -25 (-13) | 542 | 137 | 159 | 113 | 1.16 | 3.08 | 4.83 | 1.22 | 1.42 | |
| -20 (- 4) | 718 | 181 | 210 | 129 | 1.29 | 4.08 | 5.59 | 1.41 | 1.64 | |
| -15 (+ 5) | 924 | 233 | 271 | 146 | 1.42 | 5.27 | 6.35 | 1.60 | 1.86 | |
| -10 (+14) | 1163 | 293 | 341 | 164 | 1.56 | 6.66 | 7.13 | 1.80 | 2.09 | |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @115V60Hz | | 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) | 205 | 52 | 60 | 74 | 0.90 | 1.16 | 2.74 | 0.69 | 0.80 |
| -30 | (-22) | 333 | 84 | 98 | 94 | 1.03 | 1.89 | 3.47 | 0.87 | 1.02 |
| -25 | (-13) | 483 | 122 | 142 | 114 | 1.17 | 2.74 | 4.18 | 1.05 | 1.23 |
| -20 | (- 4) | 658 | 166 | 193 | 135 | 1.32 | 3.74 | 4.89 | 1.23 | 1.43 |
| -15 | (+ 5) | 859 | 217 | 252 | 155 | 1.49 | 4.90 | 5.57 | 1.40 | 1.63 |
| -10 | (+14) | 1089 | 275 | 319 | 175 | 1.66 | 6.24 | 6.23 | 1.57 | 1.83 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate | European Standard EG/F/AMEM Version 2 | | |
| 2 Tray holder | Yes | | |
| 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 | Straight | | |
| 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 | Straight | | |
| 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 | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |