

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM YS60HEP |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513305040 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [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 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 255 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 | 220-240 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 8EA17C1/QPS2-A22MG1 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM213PFBYY-53 | |
| 6 Start winding resistance | 21.78 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 22.22 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | - | [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 - IRAM - UKCA | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V50Hz | | | 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] |
| 492 | 124 | 144 | 117 | 0.91 | 2.80 | 4.22 | 1.06 | 1.24 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---------------------------------------|---------------------------|-----------|-------|--|
| TEST CONDITIONS: @220V50Hz | | 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) | 282 | 71 | 83 | 81 | 0.85 | 1.59 | 3.45 | 0.87 | 1.01 | |
| -30 (-22) | 397 | 100 | 116 | 93 | 0.87 | 2.25 | 4.27 | 1.08 | 1.25 | |
| -25 (-13) | 539 | 136 | 158 | 105 | 0.89 | 3.06 | 5.16 | 1.30 | 1.51 | |
| -20 (- 4) | 711 | 179 | 208 | 117 | 0.91 | 4.05 | 6.12 | 1.54 | 1.79 | |
| -15 (+ 5) | 912 | 230 | 267 | 128 | 0.94 | 5.21 | 7.17 | 1.81 | 2.10 | |
| -10 (+14) | 1144 | 288 | 335 | 138 | 0.96 | 6.56 | 8.31 | 2.09 | 2.44 | |

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|--|
| TEST CONDITIONS: @220V50Hz | | 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) | 254 | 64 | 74 | 82 | 0.85 | 1.43 | 3.10 | 0.78 | 0.91 | |
| -30 (-22) | 362 | 91 | 106 | 94 | 0.87 | 2.05 | 3.84 | 0.97 | 1.13 | |
| -25 (-13) | 499 | 126 | 146 | 108 | 0.89 | 2.83 | 4.62 | 1.16 | 1.35 | |
| -20 (- 4) | 665 | 168 | 195 | 122 | 0.92 | 3.79 | 5.44 | 1.37 | 1.59 | |
| -15 (+ 5) | 862 | 217 | 253 | 136 | 0.96 | 4.92 | 6.32 | 1.59 | 1.85 | |
| -10 (+14) | 1090 | 275 | 319 | 150 | 0.99 | 6.24 | 7.25 | 1.83 | 2.13 | |

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|--|
| TEST CONDITIONS: @220V50Hz | | 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) | 221 | 56 | 65 | 82 | 0.85 | 1.25 | 2.69 | 0.68 | 0.79 | |
| -30 (-22) | 322 | 81 | 94 | 95 | 0.87 | 1.83 | 3.40 | 0.86 | 1.00 | |
| -25 (-13) | 452 | 114 | 133 | 110 | 0.89 | 2.57 | 4.10 | 1.03 | 1.20 | |
| -20 (- 4) | 612 | 154 | 179 | 127 | 0.93 | 3.49 | 4.82 | 1.21 | 1.41 | |
| -15 (+ 5) | 803 | 202 | 235 | 144 | 0.98 | 4.59 | 5.55 | 1.40 | 1.63 | |
| -10 (+14) | 1027 | 259 | 301 | 162 | 1.03 | 5.88 | 6.32 | 1.59 | 1.85 | |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | 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) | 179 | 45 | 53 | 81 | 0.85 | 1.01 | 2.22 | 0.56 | 0.65 |
| -30 | (-22) | 272 | 69 | 80 | 94 | 0.86 | 1.54 | 2.92 | 0.74 | 0.86 |
| -25 | (-13) | 394 | 99 | 116 | 110 | 0.89 | 2.24 | 3.59 | 0.90 | 1.05 |
| -20 | (- 4) | 547 | 138 | 160 | 129 | 0.93 | 3.11 | 4.24 | 1.07 | 1.24 |
| -15 | (+ 5) | 732 | 184 | 214 | 150 | 0.99 | 4.18 | 4.87 | 1.23 | 1.43 |
| -10 | (+14) | 949 | 239 | 278 | 172 | 1.06 | 5.44 | 5.50 | 1.39 | 1.61 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate | Universal 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 | 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 | | |