

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM YS60HEP |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513305026 |

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-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 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 | MSC34X 220V | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(330)/4(330) | [µF(VAC minimum)] |
| 5 Motor protection | MSC34F39L3 | |
| 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) | 5.80 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.99 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 1.11 | [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 | 108 | 0.65 | 2.80 | 4.55 | 1.15 | 1.33 |

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) | 286 | 72 | 84 | 77 | 0.55 | 1.62 | 3.72 | 0.94 | 1.09 |
| -30 (-22) | 401 | 101 | 117 | 87 | 0.58 | 2.27 | 4.60 | 1.16 | 1.35 |
| -25 (-13) | 543 | 137 | 159 | 98 | 0.61 | 3.08 | 5.56 | 1.40 | 1.63 |
| -20 (- 4) | 714 | 180 | 209 | 109 | 0.64 | 4.07 | 6.59 | 1.66 | 1.93 |
| -15 (+ 5) | 915 | 231 | 268 | 119 | 0.67 | 5.22 | 7.72 | 1.94 | 2.26 |
| -10 (+14) | 1146 | 289 | 336 | 129 | 0.71 | 6.57 | 8.94 | 2.25 | 2.62 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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) | 255 | 64 | 75 | 77 | 0.55 | 1.44 | 3.31 | 0.83 | 0.97 |
| -30 (-22) | 363 | 92 | 106 | 88 | 0.58 | 2.06 | 4.11 | 1.03 | 1.20 |
| -25 (-13) | 501 | 126 | 147 | 101 | 0.61 | 2.84 | 4.95 | 1.25 | 1.45 |
| -20 (- 4) | 669 | 168 | 196 | 114 | 0.65 | 3.80 | 5.86 | 1.48 | 1.72 |
| -15 (+ 5) | 867 | 218 | 254 | 127 | 0.70 | 4.95 | 6.82 | 1.72 | 2.00 |
| -10 (+14) | 1097 | 276 | 321 | 140 | 0.75 | 6.28 | 7.86 | 1.98 | 2.30 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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) | 223 | 56 | 65 | 77 | 0.55 | 1.26 | 2.89 | 0.73 | 0.85 |
| -30 (-22) | 323 | 81 | 95 | 89 | 0.58 | 1.83 | 3.64 | 0.92 | 1.07 |
| -25 (-13) | 454 | 114 | 133 | 103 | 0.62 | 2.58 | 4.41 | 1.11 | 1.29 |
| -20 (- 4) | 616 | 155 | 181 | 118 | 0.67 | 3.51 | 5.21 | 1.31 | 1.53 |
| -15 (+ 5) | 810 | 204 | 237 | 134 | 0.73 | 4.63 | 6.04 | 1.52 | 1.77 |
| -10 (+14) | 1037 | 261 | 304 | 150 | 0.79 | 5.94 | 6.93 | 1.75 | 2.03 |

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) | 184 | 46 | 54 | 76 | 0.55 | 1.04 | 2.43 | 0.61 | 0.71 |
| -30 | (-22) | 275 | 69 | 81 | 88 | 0.58 | 1.56 | 3.15 | 0.79 | 0.92 |
| -25 | (-13) | 397 | 100 | 116 | 103 | 0.62 | 2.25 | 3.87 | 0.97 | 1.13 |
| -20 | (- 4) | 552 | 139 | 162 | 120 | 0.68 | 3.14 | 4.59 | 1.16 | 1.34 |
| -15 | (+ 5) | 740 | 186 | 217 | 139 | 0.74 | 4.22 | 5.32 | 1.34 | 1.56 |
| -10 | (+14) | 962 | 242 | 282 | 158 | 0.82 | 5.51 | 6.07 | 1.53 | 1.78 |

F - EXTERNAL CHARACTERISTICS

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