

COMPRESSOR DEFINITION

| | |
|---------------------------|-------------|
| Designation | EM YS70HEP |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number | 513305007 |

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 | | [hp] |
| 2 Displacement | 5.96 | [cm ³] (0.364 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 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) | 8.04 | [kg] (17.72 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 | MSC34X 220V | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | MSC34A49J3 | |
| 6 Start winding resistance | 30.70 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 11.12 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 8.20 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.44 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 1.63 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - 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] |
| 690 | 174 | 202 | 147 | 1.06 | 3.92 | 4.68 | 1.18 | 1.37 |

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) | 385 | 97 | 113 | 99 | 0.94 | 2.18 | 3.89 | 0.98 | 1.14 |
| -30 (-22) | 525 | 132 | 154 | 113 | 0.94 | 2.97 | 4.66 | 1.17 | 1.37 |
| -25 (-13) | 695 | 175 | 204 | 127 | 0.94 | 3.95 | 5.47 | 1.38 | 1.60 |
| -20 (- 4) | 903 | 228 | 265 | 143 | 0.95 | 5.14 | 6.32 | 1.59 | 1.85 |
| -15 (+ 5) | 1157 | 292 | 339 | 160 | 0.95 | 6.61 | 7.24 | 1.83 | 2.12 |
| -10 (+14) | 1464 | 369 | 429 | 177 | 0.95 | 8.39 | 8.25 | 2.08 | 2.42 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|
| 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) | 361 | 91 | 106 | 102 | 1.01 | 2.04 | 3.52 | 0.89 | 1.03 |
| -30 (-22) | 497 | 125 | 146 | 117 | 1.01 | 2.82 | 4.22 | 1.06 | 1.24 |
| -25 (-13) | 660 | 166 | 193 | 134 | 1.02 | 3.75 | 4.92 | 1.24 | 1.44 |
| -20 (- 4) | 858 | 216 | 251 | 152 | 1.03 | 4.88 | 5.65 | 1.42 | 1.66 |
| -15 (+ 5) | 1098 | 277 | 322 | 171 | 1.04 | 6.27 | 6.42 | 1.62 | 1.88 |
| -10 (+14) | 1388 | 350 | 407 | 191 | 1.05 | 7.95 | 7.25 | 1.83 | 2.12 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|
| 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) | 322 | 81 | 94 | 104 | 1.10 | 1.82 | 3.13 | 0.79 | 0.92 |
| -30 (-22) | 456 | 115 | 134 | 120 | 1.12 | 2.58 | 3.79 | 0.95 | 1.11 |
| -25 (-13) | 614 | 155 | 180 | 139 | 1.14 | 3.48 | 4.43 | 1.12 | 1.30 |
| -20 (- 4) | 803 | 202 | 235 | 159 | 1.15 | 4.57 | 5.07 | 1.28 | 1.48 |
| -15 (+ 5) | 1031 | 260 | 302 | 181 | 1.17 | 5.89 | 5.72 | 1.44 | 1.68 |
| -10 (+14) | 1306 | 329 | 383 | 204 | 1.19 | 7.48 | 6.40 | 1.61 | 1.88 |

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) | 277 | 70 | 81 | 106 | 1.23 | 1.57 | 2.62 | 0.66 | 0.77 |
| -30 | (-22) | 411 | 104 | 120 | 124 | 1.26 | 2.33 | 3.28 | 0.83 | 0.96 |
| -25 | (-13) | 566 | 143 | 166 | 145 | 1.29 | 3.21 | 3.89 | 0.98 | 1.14 |
| -20 | (- 4) | 749 | 189 | 219 | 167 | 1.32 | 4.26 | 4.48 | 1.13 | 1.31 |
| -15 | (+ 5) | 968 | 244 | 284 | 192 | 1.35 | 5.52 | 5.05 | 1.27 | 1.48 |
| -10 | (+14) | 1229 | 310 | 360 | 219 | 1.39 | 7.04 | 5.63 | 1.42 | 1.65 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.2 +0.12/-0.08 | [mm] | (0.323" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Straight | | |
| 3.2 DISCHARGE | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-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 | | |