

COMPRESSOR DEFINITION

| | |
|---------------------------|-------------|
| Designation | EM U30HSC |
| Nominal Voltage/Frequency | 115 V 60 Hz |
| Engineering Number | 513308046 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 115 / 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 | 85 to 110 V | 103 to 135 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 85 to 110 V | 103 to 135 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 | 1/10 | [hp] |
| 2 Displacement | 3.00 | [cm ³] (0.183 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 2.2 Stroke [mm] | 10.600 | |
| 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) | 7.16 | [kg] (15.78 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 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Combo | |
| 2.1 Starting device | 3ARR51V1L1 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(180) | [µF(VAC minimum)] |
| 5 Motor protection | 3ARR51V1L1 | |
| 6 Start winding resistance | 7.00 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 8.40 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 5.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.00 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [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] |
| 328 | 83 | 96 | 70 | 0.65 | 1.86 | 4.67 | 1.18 | 1.37 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 174 | 44 | 51 | 53 | 0.49 | 0.99 | 3.29 | 0.83 | 0.96 |
| -30 (-22) | 251 | 63 | 74 | 60 | 0.54 | 1.42 | 4.17 | 1.05 | 1.22 |
| -25 (-13) | 347 | 87 | 102 | 69 | 0.60 | 1.97 | 5.06 | 1.28 | 1.48 |
| -20 (- 4) | 462 | 116 | 135 | 77 | 0.67 | 2.63 | 5.98 | 1.51 | 1.75 |
| -15 (+ 5) | 596 | 150 | 175 | 86 | 0.74 | 3.40 | 6.96 | 1.75 | 2.04 |
| -10 (+14) | 749 | 189 | 219 | 94 | 0.81 | 4.29 | 8.01 | 2.02 | 2.35 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 137 | 34 | 40 | 51 | 0.47 | 0.77 | 2.66 | 0.67 | 0.78 |
| -30 (-22) | 211 | 53 | 62 | 60 | 0.54 | 1.20 | 3.55 | 0.89 | 1.04 |
| -25 (-13) | 305 | 77 | 89 | 69 | 0.61 | 1.73 | 4.41 | 1.11 | 1.29 |
| -20 (- 4) | 418 | 105 | 122 | 79 | 0.69 | 2.38 | 5.26 | 1.32 | 1.54 |
| -15 (+ 5) | 550 | 138 | 161 | 90 | 0.78 | 3.14 | 6.12 | 1.54 | 1.79 |
| -10 (+14) | 701 | 177 | 205 | 100 | 0.87 | 4.02 | 7.01 | 1.77 | 2.05 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 91 | 23 | 27 | 48 | 0.46 | 0.52 | 1.92 | 0.48 | 0.56 |
| -30 (-22) | 163 | 41 | 48 | 57 | 0.53 | 0.92 | 2.85 | 0.72 | 0.83 |
| -25 (-13) | 253 | 64 | 74 | 68 | 0.62 | 1.44 | 3.70 | 0.93 | 1.08 |
| -20 (- 4) | 363 | 91 | 106 | 80 | 0.71 | 2.06 | 4.50 | 1.13 | 1.32 |
| -15 (+ 5) | 492 | 124 | 144 | 93 | 0.82 | 2.81 | 5.26 | 1.33 | 1.54 |
| -10 (+14) | 640 | 161 | 188 | 106 | 0.92 | 3.67 | 6.02 | 1.52 | 1.76 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 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 | Slanted parallel to Base Plate | | |
| 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 | Slanted | | |
| 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 | Slanted parallel to Base Plate | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |