

COMPRESSOR DEFINITION

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|---------------------------|-----------------|
| Designation | EM U45HSC |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513308007 |

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 | 85 to 110 V | 98 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 85 to 110 V | 98 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 | 1/6 | [hp] |
| 2 Displacement | 3.77 | [cm ³] (0.230 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 2.2 Stroke [mm] | 13.300 | |
| 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) | 7.76 | [kg] (17.11 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 | Combo | |
| 2.1 Starting device | 3ARR51V4H/3ARR55V4H | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(160) | [µF(VAC minimum)] |
| 5 Motor protection | 3ARR51V4H | |
| 6 Start winding resistance | 5.60 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 6.70 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | - | [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] |
| 450 | 113 | 132 | 91 | 0.81 | 2.56 | 4.97 | 1.25 | 1.46 |

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) | 243 | 61 | 71 | 65 | 0.57 | 1.38 | 3.72 | 0.94 | 1.09 |
| -30 (-22) | 338 | 85 | 99 | 75 | 0.66 | 1.92 | 4.52 | 1.14 | 1.33 |
| -25 (-13) | 452 | 114 | 133 | 85 | 0.75 | 2.57 | 5.32 | 1.34 | 1.56 |
| -20 (- 4) | 590 | 149 | 173 | 96 | 0.85 | 3.36 | 6.13 | 1.54 | 1.80 |
| -15 (+ 5) | 754 | 190 | 221 | 108 | 0.94 | 4.30 | 7.00 | 1.76 | 2.05 |
| -10 (+14) | 946 | 238 | 277 | 119 | 1.04 | 5.42 | 7.95 | 2.00 | 2.33 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 197 | 50 | 58 | 64 | 0.57 | 1.11 | 3.08 | 0.78 | 0.90 |
| -30 (-22) | 294 | 74 | 86 | 75 | 0.67 | 1.67 | 3.92 | 0.99 | 1.15 |
| -25 (-13) | 409 | 103 | 120 | 87 | 0.77 | 2.32 | 4.70 | 1.18 | 1.38 |
| -20 (- 4) | 546 | 137 | 160 | 100 | 0.88 | 3.10 | 5.45 | 1.37 | 1.60 |
| -15 (+ 5) | 705 | 178 | 207 | 114 | 0.99 | 4.03 | 6.20 | 1.56 | 1.82 |
| -10 (+14) | 892 | 225 | 261 | 127 | 1.11 | 5.11 | 6.99 | 1.76 | 2.05 |

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|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 147 | 37 | 43 | 59 | 0.53 | 0.83 | 2.51 | 0.63 | 0.74 |
| -30 (-22) | 246 | 62 | 72 | 72 | 0.64 | 1.40 | 3.39 | 0.85 | 0.99 |
| -25 (-13) | 361 | 91 | 106 | 86 | 0.76 | 2.05 | 4.15 | 1.05 | 1.22 |
| -20 (- 4) | 495 | 125 | 145 | 102 | 0.90 | 2.81 | 4.84 | 1.22 | 1.42 |
| -15 (+ 5) | 650 | 164 | 190 | 119 | 1.04 | 3.71 | 5.49 | 1.38 | 1.61 |
| -10 (+14) | 830 | 209 | 243 | 136 | 1.19 | 4.75 | 6.12 | 1.54 | 1.79 |

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 | 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 | 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 | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |