

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM I45HER |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513307011 |

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 | 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 | 90 to 110 V | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 90 to 110 V | 103 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 | 1/8 | [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 / ISO22 | |
| 4 Weight (with oil charge) | 7.67 | [kg] (16.91 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELECTRICAL DATA

| | | |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213514040 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM757KFBYY-53 | |
| 6 Start winding resistance | 11.90 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.00 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 15.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.62 | [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 - TUV - 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 (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 420 | 106 | 123 | 98 | 1.30 | 2.39 | 4.29 | 1.08 | 1.26 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|--------------------|-----|--|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAE32 Static | | (Condensing temperature 45°C (+113°F)) | | | | | |
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 212 | 53 | 62 | 73 | 1.13 | 1.20 | 2.89 | 0.73 | 0.85 |
| -30 | (-22) | 308 | 78 | 90 | 82 | 1.19 | 1.74 | 3.80 | 0.96 | 1.11 |
| -25 | (-13) | 425 | 107 | 125 | 92 | 1.25 | 2.41 | 4.66 | 1.17 | 1.37 |
| -20 | (- 4) | 563 | 142 | 165 | 103 | 1.33 | 3.20 | 5.49 | 1.38 | 1.61 |
| -15 | (+ 5) | 720 | 181 | 211 | 114 | 1.41 | 4.11 | 6.30 | 1.59 | 1.85 |
| -10 | (+14) | 896 | 226 | 262 | 126 | 1.49 | 5.13 | 7.11 | 1.79 | 2.08 |

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|--------------------|-----|--|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAE32 Static | | (Condensing temperature 55°C (+131°F)) | | | | | |
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 157 | 40 | 46 | 70 | 1.11 | 0.89 | 2.24 | 0.56 | 0.66 |
| -30 | (-22) | 254 | 64 | 74 | 81 | 1.18 | 1.44 | 3.15 | 0.79 | 0.92 |
| -25 | (-13) | 372 | 94 | 109 | 93 | 1.26 | 2.11 | 3.97 | 1.00 | 1.16 |
| -20 | (- 4) | 512 | 129 | 150 | 108 | 1.35 | 2.91 | 4.74 | 1.20 | 1.39 |
| -15 | (+ 5) | 670 | 169 | 196 | 123 | 1.46 | 3.83 | 5.46 | 1.38 | 1.60 |
| -10 | (+14) | 848 | 214 | 248 | 138 | 1.57 | 4.86 | 6.16 | 1.55 | 1.80 |

| | | | | | | | | | | |
|-------------------------------|-------|---------------------------------|--------------------|-----|--|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAE32 Static | | (Condensing temperature 65°C (+149°F)) | | | | | |
| Evaporating temperature | | Cooling capacity (Qe) +/- 5% | | | Input power (We) +/- 5% | Electric current +/- 5% | Mass flow rate +/- 5% | Efficiency EER & COP +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 112 | 28 | 33 | 65 | 1.09 | 0.63 | 1.73 | 0.44 | 0.51 |
| -30 | (-22) | 206 | 52 | 60 | 78 | 1.16 | 1.17 | 2.64 | 0.67 | 0.77 |
| -25 | (-13) | 321 | 81 | 94 | 93 | 1.26 | 1.82 | 3.45 | 0.87 | 1.01 |
| -20 | (- 4) | 458 | 115 | 134 | 110 | 1.37 | 2.60 | 4.17 | 1.05 | 1.22 |
| -15 | (+ 5) | 614 | 155 | 180 | 128 | 1.49 | 3.50 | 4.81 | 1.21 | 1.41 |
| -10 | (+14) | 789 | 199 | 231 | 146 | 1.63 | 4.52 | 5.39 | 1.36 | 1.58 |

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 | | |