

COMPRESSOR DEFINITION

| | |
|---------------------------|----------------|
| Designation | EM I55HER |
| Nominal Voltage/Frequency | 220 V 50-60 Hz |
| Engineering Number | 513303818 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220 / 50-60 | [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-CSIR | | |
| 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/Fan | 198 to 255 V | 198 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | 198 to 255 V | 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 | 1/6 | [hp] |
| 2 Displacement | 4.60 | [cm ³] (0.281 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 13.300 | |
| 3 Lubricant charge | 200 | [ml] (6.76 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 7.6 | [kg] (16.75 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 50-60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213514059/213515001 | |
| 3 Start capacitor | 108-130(220) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM 718NFBYY-53 | |
| 6 Start winding resistance | 28.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 18.50 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 10.40/10.20 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 1.11/0.95 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - TUV - 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] | |
| 420 | 106 | 123 | 100 | 0.82 | 2.39 | 4.20 | 1.06 | 1.23 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS: @220V50Hz | | | ASHRAELBP32 Fan | | 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] | |
| 420 | 106 | 123 | 100 | 0.75 | 2.39 | 4.20 | 1.06 | 1.23 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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] | |
| 510 | 129 | 149 | 115 | 0.75 | 2.90 | 4.45 | 1.12 | 1.30 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS: @220V60Hz | | | ASHRAELBP32 Fan | | 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] | |
| 510 | 129 | 149 | 115 | 0.75 | 2.90 | 4.45 | 1.12 | 1.30 | |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|---------|--------------------------------|----------------------------------|--|---------------------------|--------|----------|-----------|
| 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] |
| -35 | (-31) | 244 | 61 | 71 | 73 | 0.79 | 1.38 | 3.32 | 0.84 | 0.97 |
| -30 | (-22) | 321 | 81 | 94 | 84 | 0.81 | 1.82 | 3.83 | 0.97 | 1.12 |
| -25 | (-13) | 422 | 106 | 124 | 95 | 0.83 | 2.40 | 4.45 | 1.12 | 1.31 |
| -20 | (- 4) | 553 | 139 | 162 | 106 | 0.85 | 3.15 | 5.19 | 1.31 | 1.52 |
| -15 | (+ 5) | 717 | 181 | 210 | 118 | 0.88 | 4.10 | 6.04 | 1.52 | 1.77 |
| -10 | (+14) | 920 | 232 | 269 | 131 | 0.91 | 5.27 | 6.99 | 1.76 | 2.05 |

E - PERFORMANCE - CURVES

| 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) | 195 | 49 | 57 | 72 | 0.79 | 1.10 | 2.69 | 0.68 | 0.79 | |
| -30 (-22) | 280 | 71 | 82 | 85 | 0.81 | 1.59 | 3.29 | 0.83 | 0.97 | |
| -25 (-13) | 384 | 97 | 113 | 98 | 0.83 | 2.18 | 3.95 | 0.99 | 1.16 | |
| -20 (- 4) | 512 | 129 | 150 | 111 | 0.86 | 2.92 | 4.64 | 1.17 | 1.36 | |
| -15 (+ 5) | 669 | 169 | 196 | 125 | 0.89 | 3.82 | 5.38 | 1.35 | 1.58 | |
| -10 (+14) | 860 | 217 | 252 | 140 | 0.93 | 4.92 | 6.15 | 1.55 | 1.80 | |

| 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) | 129 | 33 | 38 | 68 | 0.77 | 0.73 | 1.91 | 0.48 | 0.56 | |
| -30 (-22) | 227 | 57 | 67 | 83 | 0.80 | 1.29 | 2.69 | 0.68 | 0.79 | |
| -25 (-13) | 339 | 86 | 99 | 98 | 0.82 | 1.93 | 3.45 | 0.87 | 1.01 | |
| -20 (- 4) | 471 | 119 | 138 | 113 | 0.86 | 2.68 | 4.17 | 1.05 | 1.22 | |
| -15 (+ 5) | 626 | 158 | 184 | 129 | 0.89 | 3.57 | 4.87 | 1.23 | 1.43 | |
| -10 (+14) | 810 | 204 | 237 | 147 | 0.94 | 4.64 | 5.53 | 1.39 | 1.62 | |

| 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) | 266 | 67 | 78 | 78 | 0.65 | 1.51 | 3.39 | 0.85 | 0.99 | |
| -30 (-22) | 378 | 95 | 111 | 93 | 0.70 | 2.14 | 4.07 | 1.02 | 1.19 | |
| -25 (-13) | 513 | 129 | 150 | 107 | 0.74 | 2.91 | 4.77 | 1.20 | 1.40 | |
| -20 (- 4) | 675 | 170 | 198 | 123 | 0.79 | 3.84 | 5.51 | 1.39 | 1.61 | |
| -15 (+ 5) | 869 | 219 | 254 | 139 | 0.84 | 4.96 | 6.28 | 1.58 | 1.84 | |
| -10 (+14) | 1097 | 276 | 321 | 155 | 0.90 | 6.28 | 7.09 | 1.79 | 2.08 | |

| 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) | 225 | 57 | 66 | 77 | 0.66 | 1.27 | 2.91 | 0.73 | 0.85 | |
| -30 (-22) | 327 | 82 | 96 | 93 | 0.70 | 1.85 | 3.51 | 0.88 | 1.03 | |
| -25 (-13) | 455 | 115 | 133 | 110 | 0.75 | 2.58 | 4.14 | 1.04 | 1.21 | |
| -20 (- 4) | 612 | 154 | 179 | 128 | 0.81 | 3.48 | 4.79 | 1.21 | 1.40 | |
| -15 (+ 5) | 802 | 202 | 235 | 147 | 0.87 | 4.58 | 5.47 | 1.38 | 1.60 | |
| -10 (+14) | 1029 | 259 | 301 | 166 | 0.94 | 5.89 | 6.18 | 1.56 | 1.81 | |

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) | 178 | 45 | 52 | 72 | 0.63 | 1.00 | 2.47 | 0.62 | 0.72 |
| -30 | (-22) | 269 | 68 | 79 | 90 | 0.68 | 1.52 | 3.01 | 0.76 | 0.88 |
| -25 | (-13) | 388 | 98 | 114 | 109 | 0.74 | 2.20 | 3.56 | 0.90 | 1.04 |
| -20 | (- 4) | 538 | 136 | 158 | 130 | 0.81 | 3.06 | 4.14 | 1.04 | 1.21 |
| -15 | (+ 5) | 724 | 182 | 212 | 153 | 0.89 | 4.13 | 4.73 | 1.19 | 1.39 |
| -10 | (+14) | 948 | 239 | 278 | 177 | 0.98 | 5.43 | 5.36 | 1.35 | 1.57 |

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 | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-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 | | |