

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EM I30HER |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513307155 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220-240 / 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 | 198 to 255 V | 198 to 255 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 255 V | 198 to 255 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) | 7.15 | [kg] (15.76 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 | 220-240 V 50-60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | 213514000/213515006 | |
| 3 Start capacitor | 53-64(180) | [μF(VAC minimum)] |
| 4 Run capacitor | - | [μF(VAC minimum)] |
| 5 Motor protection | 4TM189KFBYY-53 | |
| 6 Start winding resistance | 41.20 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 27.80 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 7.50/7.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 0.68/0.64 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | 0.77/0.75 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IRAM - TUV - UKCA - VDE | |

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] |
| 245 | 62 | 72 | 64 | 0.56 | 1.39 | 3.84 | 0.97 | 1.13 |

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 305 | 77 | 89 | 74 | 0.52 | 1.73 | 4.10 | 1.03 | 1.20 |

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] | [W/W] |
| -35 | (-31) | 109 | 28 | 32 | 45 | 0.52 | 0.62 | 2.44 | 0.61 | 0.71 |
| -30 | (-22) | 164 | 41 | 48 | 53 | 0.54 | 0.93 | 3.14 | 0.79 | 0.92 |
| -25 | (-13) | 245 | 62 | 72 | 61 | 0.56 | 1.39 | 4.06 | 1.02 | 1.19 |
| -20 | (- 4) | 346 | 87 | 101 | 68 | 0.57 | 1.97 | 5.10 | 1.29 | 1.49 |
| -15 | (+ 5) | 464 | 117 | 136 | 75 | 0.59 | 2.65 | 6.18 | 1.56 | 1.81 |
| -10 | (+14) | 593 | 149 | 174 | 82 | 0.61 | 3.40 | 7.21 | 1.82 | 2.11 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 76 | 19 | 22 | 42 | 0.52 | 0.43 | 1.78 | 0.45 | 0.52 |
| -30 | (-22) | 130 | 33 | 38 | 52 | 0.54 | 0.74 | 2.53 | 0.64 | 0.74 |
| -25 | (-13) | 208 | 52 | 61 | 61 | 0.56 | 1.18 | 3.44 | 0.87 | 1.01 |
| -20 | (- 4) | 306 | 77 | 90 | 69 | 0.58 | 1.74 | 4.42 | 1.11 | 1.30 |
| -15 | (+ 5) | 417 | 105 | 122 | 78 | 0.60 | 2.38 | 5.38 | 1.36 | 1.58 |
| -10 | (+14) | 539 | 136 | 158 | 87 | 0.63 | 3.09 | 6.23 | 1.57 | 1.82 |

E - PERFORMANCE - CURVES

| 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] |
| -35 | (-31) | 34 | 9 | 10 | 40 | 0.52 | 0.19 | 0.88 | 0.22 | 0.26 |
| -30 | (-22) | 88 | 22 | 26 | 50 | 0.54 | 0.50 | 1.76 | 0.44 | 0.52 |
| -25 | (-13) | 165 | 42 | 48 | 59 | 0.56 | 0.94 | 2.75 | 0.69 | 0.81 |
| -20 | (- 4) | 259 | 65 | 76 | 69 | 0.58 | 1.47 | 3.75 | 0.94 | 1.10 |
| -15 | (+ 5) | 366 | 92 | 107 | 79 | 0.60 | 2.09 | 4.66 | 1.18 | 1.37 |
| -10 | (+14) | 480 | 121 | 141 | 90 | 0.63 | 2.75 | 5.41 | 1.36 | 1.58 |

| 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] |
| -35 | (-31) | 162 | 41 | 47 | 56 | 0.48 | 0.92 | 2.88 | 0.73 | 0.85 |
| -30 | (-22) | 224 | 56 | 66 | 64 | 0.50 | 1.27 | 3.58 | 0.90 | 1.05 |
| -25 | (-13) | 316 | 80 | 93 | 72 | 0.53 | 1.80 | 4.44 | 1.12 | 1.30 |
| -20 | (- 4) | 434 | 109 | 127 | 80 | 0.56 | 2.47 | 5.40 | 1.36 | 1.58 |
| -15 | (+ 5) | 570 | 144 | 167 | 89 | 0.60 | 3.25 | 6.39 | 1.61 | 1.87 |
| -10 | (+14) | 720 | 181 | 211 | 98 | 0.64 | 4.12 | 7.36 | 1.85 | 2.16 |

| 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] |
| -35 | (-31) | 108 | 27 | 32 | 54 | 0.45 | 0.61 | 2.02 | 0.51 | 0.59 |
| -30 | (-22) | 174 | 44 | 51 | 62 | 0.48 | 0.98 | 2.86 | 0.72 | 0.84 |
| -25 | (-13) | 268 | 68 | 79 | 71 | 0.52 | 1.52 | 3.78 | 0.95 | 1.11 |
| -20 | (- 4) | 385 | 97 | 113 | 81 | 0.57 | 2.19 | 4.70 | 1.18 | 1.38 |
| -15 | (+ 5) | 518 | 131 | 152 | 93 | 0.61 | 2.96 | 5.56 | 1.40 | 1.63 |
| -10 | (+14) | 662 | 167 | 194 | 105 | 0.66 | 3.79 | 6.31 | 1.59 | 1.85 |

| 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] |
| -35 | (-31) | 54 | 14 | 16 | 47 | 0.44 | 0.31 | 1.16 | 0.29 | 0.34 |
| -30 | (-22) | 120 | 30 | 35 | 56 | 0.48 | 0.68 | 2.15 | 0.54 | 0.63 |
| -25 | (-13) | 212 | 53 | 62 | 67 | 0.52 | 1.20 | 3.12 | 0.79 | 0.91 |
| -20 | (- 4) | 323 | 81 | 95 | 80 | 0.57 | 1.84 | 4.01 | 1.01 | 1.18 |
| -15 | (+ 5) | 449 | 113 | 132 | 95 | 0.62 | 2.56 | 4.76 | 1.20 | 1.40 |
| -10 | (+14) | 583 | 147 | 171 | 111 | 0.67 | 3.34 | 5.31 | 1.34 | 1.56 |

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 | | |