

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 30HNR |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513307105 |

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/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 | - | 98 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | - | 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 | 1/10 | [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 / ISO22 | |
| 4 Weight (with oil charge) | 7.14 | [kg] (15.74 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 | Current Relay | |
| 2.1 Starting device | 213514075 | |
| 3 Start capacitor | 88-108(115) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM283NHBYY-53 | |
| 6 Start winding resistance | 17.95 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 7.70 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 10.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 1.30 | [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] |
| 305 | 77 | 89 | 82 | 1.06 | 1.73 | 3.70 | 0.93 | 1.08 |

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) | 145 | 36 | 42 | 57 | 0.86 | 0.82 | 2.54 | 0.64 | 0.74 |
| -30 (-22) | 224 | 56 | 66 | 65 | 0.90 | 1.27 | 3.43 | 0.87 | 1.01 |
| -25 (-13) | 319 | 80 | 93 | 74 | 0.96 | 1.81 | 4.28 | 1.08 | 1.25 |
| -20 (- 4) | 430 | 108 | 126 | 85 | 1.02 | 2.44 | 5.08 | 1.28 | 1.49 |
| -15 (+ 5) | 557 | 140 | 163 | 95 | 1.09 | 3.18 | 5.85 | 1.47 | 1.71 |
| -10 (+14) | 699 | 176 | 205 | 106 | 1.17 | 4.01 | 6.60 | 1.66 | 1.93 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 104 | 26 | 30 | 56 | 0.85 | 0.59 | 1.84 | 0.46 | 0.54 |
| -30 (-22) | 177 | 45 | 52 | 64 | 0.89 | 1.01 | 2.77 | 0.70 | 0.81 |
| -25 (-13) | 268 | 68 | 79 | 74 | 0.95 | 1.52 | 3.61 | 0.91 | 1.06 |
| -20 (- 4) | 377 | 95 | 111 | 86 | 1.03 | 2.15 | 4.39 | 1.11 | 1.29 |
| -15 (+ 5) | 503 | 127 | 147 | 99 | 1.13 | 2.87 | 5.11 | 1.29 | 1.50 |
| -10 (+14) | 647 | 163 | 190 | 112 | 1.23 | 3.70 | 5.77 | 1.45 | 1.69 |

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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) | 66 | 17 | 19 | 52 | 0.84 | 0.37 | 1.28 | 0.32 | 0.38 |
| -30 (-22) | 134 | 34 | 39 | 60 | 0.88 | 0.76 | 2.24 | 0.57 | 0.66 |
| -25 (-13) | 221 | 56 | 65 | 71 | 0.94 | 1.25 | 3.09 | 0.78 | 0.91 |
| -20 (- 4) | 327 | 82 | 96 | 85 | 1.03 | 1.86 | 3.84 | 0.97 | 1.13 |
| -15 (+ 5) | 452 | 114 | 133 | 101 | 1.14 | 2.58 | 4.50 | 1.13 | 1.32 |
| -10 (+14) | 596 | 150 | 175 | 118 | 1.27 | 3.42 | 5.07 | 1.28 | 1.49 |

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 | 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 | | |