

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 30HNP |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513302004 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [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 | 198 to 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 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 | 170 | [ml] (5.75 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 6.73 | [kg] (14.84 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 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 8EA17C1/8EA5B1/QPS2-A22MG1 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM110NFBYY-53 | |
| 6 Start winding resistance | 38.40 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 34.60 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 3.10 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.58 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 0.54 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IRAM - 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] |
| 210 | 53 | 62 | 67 | 0.48 | 1.19 | 3.13 | 0.79 | 0.92 |

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) | 101 | 26 | 30 | 51 | 0.57 | 0.57 | 1.96 | 0.49 | 0.57 |
| -30 (-22) | 157 | 40 | 46 | 57 | 0.76 | 0.89 | 2.78 | 0.70 | 0.81 |
| -25 (-13) | 224 | 57 | 66 | 64 | 0.98 | 1.27 | 3.54 | 0.89 | 1.04 |
| -20 (- 4) | 307 | 77 | 90 | 72 | 1.21 | 1.75 | 4.27 | 1.08 | 1.25 |
| -15 (+ 5) | 406 | 102 | 119 | 81 | 1.45 | 2.32 | 5.02 | 1.27 | 1.47 |
| -10 (+14) | 525 | 132 | 154 | 90 | 1.70 | 3.01 | 5.82 | 1.47 | 1.71 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 68 | 17 | 20 | 46 | 0.38 | 0.39 | 1.49 | 0.38 | 0.44 |
| -30 (-22) | 122 | 31 | 36 | 55 | 0.57 | 0.69 | 2.21 | 0.56 | 0.65 |
| -25 (-13) | 188 | 47 | 55 | 65 | 0.78 | 1.07 | 2.88 | 0.73 | 0.84 |
| -20 (- 4) | 268 | 68 | 79 | 76 | 1.00 | 1.53 | 3.54 | 0.89 | 1.04 |
| -15 (+ 5) | 365 | 92 | 107 | 86 | 1.23 | 2.08 | 4.24 | 1.07 | 1.24 |
| -10 (+14) | 481 | 121 | 141 | 96 | 1.47 | 2.76 | 5.00 | 1.26 | 1.46 |

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|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 31 | 8 | 9 | 42 | 0.22 | 0.18 | 0.76 | 0.19 | 0.22 |
| -30 (-22) | 85 | 21 | 25 | 52 | 0.41 | 0.48 | 1.59 | 0.40 | 0.47 |
| -25 (-13) | 149 | 38 | 44 | 62 | 0.62 | 0.85 | 2.39 | 0.60 | 0.70 |
| -20 (- 4) | 228 | 57 | 67 | 72 | 0.83 | 1.30 | 3.19 | 0.80 | 0.93 |
| -15 (+ 5) | 323 | 81 | 95 | 80 | 1.06 | 1.84 | 4.04 | 1.02 | 1.18 |
| -10 (+14) | 437 | 110 | 128 | 88 | 1.28 | 2.50 | 4.97 | 1.25 | 1.46 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | Yes | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material | Copper plated steel | | |
| 3.1.2 Shape | Straight | | |
| 3.2 DISCHARGE | 5 +0.18/-0.06 | [mm] | (0.197" +0.007"/-0.002") |
| 3.2.1 Material | Copper plated steel | | |
| 3.2.2 Shape | Slanted | | |
| 3.3 PROCESS | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.3.1 Material | Copper plated steel | | |
| 3.3.2 Shape | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |