

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 40HNP |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513303845 |

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 | 3.77 | [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) | 7.12 | [kg] (15.70 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 | 4TM189NFBYY-53 | |
| 6 Start winding resistance | 39.50 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 28.60 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 4.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.67 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 0.77 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - UKCA - UL - 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] |
| 300 | 76 | 88 | 81 | 0.56 | 1.70 | 3.70 | 0.93 | 1.08 |

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) | 161 | 41 | 47 | 61 | 0.49 | 0.91 | 2.64 | 0.67 | 0.77 |
| -30 (-22) | 228 | 58 | 67 | 70 | 0.51 | 1.29 | 3.29 | 0.83 | 0.96 |
| -25 (-13) | 314 | 79 | 92 | 80 | 0.52 | 1.78 | 3.96 | 1.00 | 1.16 |
| -20 (- 4) | 420 | 106 | 123 | 90 | 0.54 | 2.39 | 4.69 | 1.18 | 1.37 |
| -15 (+ 5) | 550 | 138 | 161 | 100 | 0.57 | 3.14 | 5.48 | 1.38 | 1.61 |
| -10 (+14) | 704 | 177 | 206 | 110 | 0.62 | 4.03 | 6.37 | 1.61 | 1.87 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 108 | 27 | 32 | 57 | 0.48 | 0.61 | 1.89 | 0.48 | 0.55 |
| -30 (-22) | 179 | 45 | 52 | 67 | 0.51 | 1.01 | 2.67 | 0.67 | 0.78 |
| -25 (-13) | 267 | 67 | 78 | 79 | 0.54 | 1.51 | 3.40 | 0.86 | 1.00 |
| -20 (- 4) | 373 | 94 | 109 | 91 | 0.57 | 2.12 | 4.11 | 1.04 | 1.21 |
| -15 (+ 5) | 500 | 126 | 147 | 104 | 0.61 | 2.85 | 4.82 | 1.22 | 1.41 |
| -10 (+14) | 650 | 164 | 191 | 117 | 0.66 | 3.73 | 5.56 | 1.40 | 1.63 |

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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) | 53 | 13 | 16 | 50 | 0.47 | 0.30 | 1.05 | 0.27 | 0.31 |
| -30 (-22) | 127 | 32 | 37 | 62 | 0.50 | 0.72 | 2.02 | 0.51 | 0.59 |
| -25 (-13) | 215 | 54 | 63 | 74 | 0.53 | 1.22 | 2.87 | 0.72 | 0.84 |
| -20 (- 4) | 321 | 81 | 94 | 89 | 0.57 | 1.83 | 3.63 | 0.91 | 1.06 |
| -15 (+ 5) | 445 | 112 | 131 | 104 | 0.62 | 2.54 | 4.31 | 1.09 | 1.26 |
| -10 (+14) | 592 | 149 | 173 | 120 | 0.67 | 3.39 | 4.93 | 1.24 | 1.45 |

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 | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-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 | | |