

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM 3Z60HLT |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513301605 |

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-Medium Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -5°C | (-31°F to 23°F) | |
| 5 Motor type | RSCR | | |
| 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 | - | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 103 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 | 1/4 | [hp] |
| 2 Displacement | 5.19 | [cm ³] (0.317 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 15.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 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 | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Combo | |
| 2.1 Starting device | 5SP14X 115V | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(180)/15(180) | [µF(VAC minimum)] |
| 5 Motor protection | 5SP14X427KFX | |
| 6 Start winding resistance | 9.32 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.55 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | 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] |
| 648 | 163 | 190 | 110 | 0.97 | 3.68 | 5.92 | 1.49 | 1.73 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | ASHRAE32 Static | | (Condensing temperature 35°C (+95°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) | 367 | 93 | 108 | 73 | 0.65 | 2.08 | 5.13 | 1.29 | 1.50 |
| -30 | (-22) | 547 | 138 | 160 | 84 | 0.76 | 3.10 | 6.42 | 1.62 | 1.88 |
| -25 | (-13) | 696 | 175 | 204 | 94 | 0.85 | 3.95 | 7.31 | 1.84 | 2.14 |
| -20 | (- 4) | 850 | 214 | 249 | 105 | 0.93 | 4.83 | 8.06 | 2.03 | 2.36 |
| -15 | (+ 5) | 1043 | 263 | 306 | 117 | 1.02 | 5.95 | 8.93 | 2.25 | 2.62 |
| -10 | (+14) | 1310 | 330 | 384 | 128 | 1.12 | 7.51 | 10.17 | 2.56 | 2.98 |
| -5 | (+23) | 1687 | 425 | 494 | 141 | 1.24 | 9.70 | 12.02 | 3.03 | 3.52 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|---|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 353 | 89 | 103 | 73 | 0.66 | 2.00 | 4.71 | 1.19 | 1.38 |
| -30 | (-22) | 519 | 131 | 152 | 86 | 0.79 | 2.95 | 5.85 | 1.47 | 1.71 |
| -25 | (-13) | 656 | 165 | 192 | 100 | 0.90 | 3.72 | 6.56 | 1.65 | 1.92 |
| -20 | (- 4) | 798 | 201 | 234 | 113 | 1.01 | 4.54 | 7.11 | 1.79 | 2.08 |
| -15 | (+ 5) | 979 | 247 | 287 | 127 | 1.13 | 5.59 | 7.73 | 1.95 | 2.27 |
| -10 | (+14) | 1236 | 311 | 362 | 141 | 1.25 | 7.08 | 8.69 | 2.19 | 2.55 |
| -5 | (+23) | 1603 | 404 | 470 | 156 | 1.39 | 9.22 | 10.23 | 2.58 | 3.00 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|---|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 222 | 56 | 65 | 67 | 0.62 | 1.25 | 3.51 | 0.88 | 1.03 |
| -30 | (-22) | 386 | 97 | 113 | 84 | 0.77 | 2.19 | 4.63 | 1.17 | 1.36 |
| -25 | (-13) | 521 | 131 | 153 | 101 | 0.92 | 2.95 | 5.28 | 1.33 | 1.55 |
| -20 | (- 4) | 661 | 167 | 194 | 118 | 1.06 | 3.76 | 5.74 | 1.45 | 1.68 |
| -15 | (+ 5) | 842 | 212 | 247 | 136 | 1.20 | 4.81 | 6.24 | 1.57 | 1.83 |
| -10 | (+14) | 1099 | 277 | 322 | 154 | 1.36 | 6.30 | 7.04 | 1.77 | 2.06 |
| -5 | (+23) | 1466 | 369 | 430 | 172 | 1.53 | 8.43 | 8.39 | 2.12 | 2.46 |

E - PERFORMANCE - CURVES

| 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) | 179 | 45 | 52 | 57 | 0.52 | 1.01 | 2.96 | 0.74 | 0.87 |
| -30 | (-22) | 352 | 89 | 103 | 78 | 0.72 | 2.00 | 4.17 | 1.05 | 1.22 |
| -25 | (-13) | 496 | 125 | 145 | 100 | 0.90 | 2.81 | 4.89 | 1.23 | 1.43 |
| -20 | (- 4) | 646 | 163 | 189 | 121 | 1.08 | 3.67 | 5.37 | 1.35 | 1.57 |
| -15 | (+ 5) | 837 | 211 | 245 | 143 | 1.26 | 4.78 | 5.87 | 1.48 | 1.72 |
| -10 | (+14) | 1104 | 278 | 324 | 165 | 1.45 | 6.33 | 6.63 | 1.67 | 1.94 |
| -5 | (+23) | 1482 | 374 | 434 | 189 | 1.66 | 8.53 | 7.92 | 2.00 | 2.32 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 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 | | |