

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM D80CLT |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513300620 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 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 | 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 | - | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 187 to 255 V | - |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 6.9 | [kgf/cm ²] (98 psig) | / °C - °F |
| 9.2 Peak | 7.8 | [kgf/cm ²] (111 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | 1/4 | [hp] |
| 2 Displacement | 12.21 | [cm ³] (0.745 cu.in) |
| 2.1 Bore [mm] | 26.000 | |
| 2.2 Stroke [mm] | 23.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 8.6 | [kg] (18.96 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | TSD | |
| 2.1 Starting device | TSD-220V0.6 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(350) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM232KFBYY-53 | |
| 6 Start winding resistance | [Ω at 25°C (77°F)] +/- 8% | |
| 7 Run winding resistance | [Ω at 25°C (77°F)] +/- 8% | |
| 8 LRA - Locked rotor amperage (50 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CCC - 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] |
| 751 | 189 | 220 | 116 | 0.54 | 2.36 | 6.47 | 1.63 | 1.90 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | 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) | 432 | 109 | 127 | 74 | 0.35 | 1.35 | 5.87 | 1.48 | 1.72 |
| -30 | (-22) | 582 | 147 | 170 | 86 | 0.40 | 1.82 | 6.75 | 1.70 | 1.98 |
| -25 | (-13) | 763 | 192 | 224 | 100 | 0.46 | 2.39 | 7.65 | 1.93 | 2.24 |
| -20 | (- 4) | 978 | 247 | 287 | 115 | 0.53 | 3.07 | 8.57 | 2.16 | 2.51 |
| -15 | (+ 5) | 1227 | 309 | 360 | 130 | 0.60 | 3.86 | 9.52 | 2.40 | 2.79 |
| -10 | (+14) | 1510 | 381 | 443 | 145 | 0.67 | 4.76 | 10.48 | 2.64 | 3.07 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---|-------------------------|---------------------------|-----------|-------|
| 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) | 398 | 100 | 117 | 76 | 0.36 | 1.25 | 5.25 | 1.32 | 1.54 |
| -30 | (-22) | 538 | 136 | 158 | 89 | 0.41 | 1.69 | 6.03 | 1.52 | 1.77 |
| -25 | (-13) | 714 | 180 | 209 | 104 | 0.48 | 2.24 | 6.83 | 1.72 | 2.00 |
| -20 | (- 4) | 926 | 233 | 271 | 121 | 0.56 | 2.91 | 7.66 | 1.93 | 2.24 |
| -15 | (+ 5) | 1176 | 296 | 345 | 138 | 0.64 | 3.70 | 8.51 | 2.14 | 2.49 |
| -10 | (+14) | 1463 | 369 | 429 | 156 | 0.72 | 4.62 | 9.39 | 2.37 | 2.75 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---|-------------------------|---------------------------|-----------|-------|
| 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) | 373 | 94 | 109 | 79 | 0.37 | 1.17 | 4.72 | 1.19 | 1.38 |
| -30 | (-22) | 500 | 126 | 146 | 93 | 0.43 | 1.57 | 5.39 | 1.36 | 1.58 |
| -25 | (-13) | 665 | 168 | 195 | 109 | 0.50 | 2.09 | 6.08 | 1.53 | 1.78 |
| -20 | (- 4) | 870 | 219 | 255 | 127 | 0.58 | 2.74 | 6.81 | 1.72 | 2.00 |
| -15 | (+ 5) | 1116 | 281 | 327 | 147 | 0.67 | 3.51 | 7.57 | 1.91 | 2.22 |
| -10 | (+14) | 1403 | 354 | 411 | 168 | 0.77 | 4.43 | 8.37 | 2.11 | 2.45 |

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] | [W/W] |
| -35 | (-31) | 336 | 85 | 99 | 79 | 0.38 | 1.05 | 4.24 | 1.07 | 1.24 |
| -30 | (-22) | 445 | 112 | 130 | 94 | 0.44 | 1.39 | 4.80 | 1.21 | 1.41 |
| -25 | (-13) | 595 | 150 | 174 | 111 | 0.51 | 1.87 | 5.39 | 1.36 | 1.58 |
| -20 | (- 4) | 789 | 199 | 231 | 131 | 0.60 | 2.48 | 6.02 | 1.52 | 1.76 |
| -15 | (+ 5) | 1026 | 259 | 301 | 153 | 0.70 | 3.23 | 6.69 | 1.68 | 1.96 |
| -10 | (+14) | 1308 | 330 | 383 | 176 | 0.81 | 4.13 | 7.39 | 1.86 | 2.17 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.2 +0.05/+0.05 | [mm] | (0.244" +0.002"/+0.002") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 40° up + 45° to Back | | |
| 3.2 DISCHARGE | 4.9 +0.10/-0.05 | [mm] | (0.193" +0.004"/-0.002") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted 0° up + 24° to Back | | |
| 3.3 PROCESS | 6.2 +0.05/+0.05 | [mm] | (0.244" +0.002"/+0.002") |
| 3.3.1 Material | Copper | | |
| 3.3.2 Shape | Slanted 40° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |