

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM B46CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513300430 |

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 | 187 to 255 V | - |
| 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 | 1/5 | [hp] |
| 2 Displacement | 8.23 | [cm ³] (0.502 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 2.2 Stroke [mm] | 18.200 | |
| 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) | 8.1 | [kg] (17.86 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 | 4(300)/5(300) | [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] |
| 471 | 119 | 138 | 73 | 0.36 | 1.48 | 6.42 | 1.62 | 1.88 |

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) | 278 | 70 | 82 | 47 | 0.24 | 0.87 | 5.92 | 1.49 | 1.73 |
| -30 | (-22) | 378 | 95 | 111 | 55 | 0.27 | 1.18 | 6.83 | 1.72 | 2.00 |
| -25 | (-13) | 500 | 126 | 146 | 64 | 0.31 | 1.57 | 7.81 | 1.97 | 2.29 |
| -20 | (- 4) | 645 | 163 | 189 | 73 | 0.35 | 2.03 | 8.85 | 2.23 | 2.59 |
| -15 | (+ 5) | 814 | 205 | 238 | 82 | 0.39 | 2.56 | 9.95 | 2.51 | 2.92 |
| -10 | (+14) | 1007 | 254 | 295 | 91 | 0.42 | 3.18 | 11.11 | 2.80 | 3.25 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|---|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 258 | 65 | 76 | 48 | 0.25 | 0.81 | 5.35 | 1.35 | 1.57 |
| -30 | (-22) | 352 | 89 | 103 | 57 | 0.28 | 1.10 | 6.12 | 1.54 | 1.79 |
| -25 | (-13) | 470 | 118 | 138 | 67 | 0.32 | 1.47 | 6.94 | 1.75 | 2.03 |
| -20 | (- 4) | 611 | 154 | 179 | 78 | 0.37 | 1.92 | 7.80 | 1.96 | 2.28 |
| -15 | (+ 5) | 776 | 196 | 227 | 89 | 0.42 | 2.44 | 8.69 | 2.19 | 2.55 |
| -10 | (+14) | 966 | 243 | 283 | 100 | 0.47 | 3.05 | 9.62 | 2.42 | 2.82 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|---|----------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 225 | 57 | 66 | 47 | 0.24 | 0.70 | 4.80 | 1.21 | 1.41 |
| -30 | (-22) | 314 | 79 | 92 | 58 | 0.28 | 0.98 | 5.48 | 1.38 | 1.61 |
| -25 | (-13) | 426 | 107 | 125 | 69 | 0.32 | 1.34 | 6.19 | 1.56 | 1.81 |
| -20 | (- 4) | 563 | 142 | 165 | 81 | 0.38 | 1.77 | 6.91 | 1.74 | 2.02 |
| -15 | (+ 5) | 724 | 182 | 212 | 95 | 0.44 | 2.28 | 7.64 | 1.93 | 2.24 |
| -10 | (+14) | 911 | 229 | 267 | 108 | 0.50 | 2.87 | 8.39 | 2.11 | 2.46 |

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) | 199 | 50 | 58 | 46 | 0.24 | 0.62 | 4.25 | 1.07 | 1.25 |
| -30 | (-22) | 281 | 71 | 82 | 58 | 0.28 | 0.88 | 4.89 | 1.23 | 1.43 |
| -25 | (-13) | 388 | 98 | 114 | 70 | 0.33 | 1.22 | 5.53 | 1.39 | 1.62 |
| -20 | (- 4) | 520 | 131 | 152 | 85 | 0.39 | 1.64 | 6.16 | 1.55 | 1.80 |
| -15 | (+ 5) | 677 | 171 | 198 | 100 | 0.46 | 2.13 | 6.78 | 1.71 | 1.99 |
| -10 | (+14) | 860 | 217 | 252 | 116 | 0.53 | 2.72 | 7.40 | 1.86 | 2.17 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard EUEM | | |
| 2 Tray holder | Yes | | |
| 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 | | |