

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM R50HLC |
| Nominal Voltage/Frequency | 200-230 V 50 Hz |
| Engineering Number | 513300339 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 200-230 / 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 | 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 | 1/5 | [hp] |
| 2 Displacement | 4.85 | [cm ³] (0.296 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 14.000 | |
| 3 Lubricant charge | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 8 | [kg] (17.64 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 | 200-230V 50Hz 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(310) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM189KFBYY-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

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|-------------------------------|----------|-----|-----------------------------|-------------------------------|----------------------------------------------------|---------------------------|----------------------------------------|-------|
| 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] |
| 512 | 129 | 150 | 88 | 0.41 | 2.91 | 5.80 | 1.46 | 1.70 |

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) | 157 | 40 | 46 | 56 | 0.28 | 0.89 | 2.85 | 0.72 | 0.84 |
| -30 (-22) | 278 | 70 | 81 | 70 | 0.34 | 1.57 | 3.93 | 0.99 | 1.15 |
| -25 (-13) | 415 | 105 | 122 | 85 | 0.40 | 2.35 | 4.89 | 1.23 | 1.43 |
| -20 (- 4) | 575 | 145 | 169 | 100 | 0.47 | 3.27 | 5.75 | 1.45 | 1.68 |
| -15 (+ 5) | 766 | 193 | 224 | 117 | 0.54 | 4.37 | 6.57 | 1.66 | 1.92 |
| -10 (+14) | 993 | 250 | 291 | 134 | 0.62 | 5.69 | 7.39 | 1.86 | 2.16 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| 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) | 214 | 54 | 63 | 59 | 0.29 | 1.21 | 3.58 | 0.90 | 1.05 |
| -30 (-22) | 332 | 84 | 97 | 72 | 0.34 | 1.88 | 4.57 | 1.15 | 1.34 |
| -25 (-13) | 469 | 118 | 137 | 85 | 0.40 | 2.66 | 5.51 | 1.39 | 1.61 |
| -20 (- 4) | 632 | 159 | 185 | 98 | 0.46 | 3.59 | 6.43 | 1.62 | 1.88 |
| -15 (+ 5) | 828 | 209 | 242 | 112 | 0.52 | 4.72 | 7.37 | 1.86 | 2.16 |
| -10 (+14) | 1063 | 268 | 311 | 127 | 0.59 | 6.09 | 8.39 | 2.11 | 2.46 |

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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) | 263 | 66 | 77 | 61 | 0.30 | 1.49 | 4.31 | 1.09 | 1.26 |
| -30 (-22) | 375 | 95 | 110 | 72 | 0.34 | 2.13 | 5.21 | 1.31 | 1.53 |
| -25 (-13) | 510 | 128 | 149 | 84 | 0.39 | 2.89 | 6.12 | 1.54 | 1.79 |
| -20 (- 4) | 673 | 170 | 197 | 95 | 0.44 | 3.83 | 7.08 | 1.79 | 2.08 |
| -15 (+ 5) | 872 | 220 | 255 | 107 | 0.49 | 4.98 | 8.15 | 2.05 | 2.39 |
| -10 (+14) | 1113 | 281 | 326 | 119 | 0.55 | 6.38 | 9.35 | 2.36 | 2.74 |

F - EXTERNAL CHARACTERISTICS

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