

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM R40HLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513300309 |

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 | 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 | 1/6 | [hp] |
| 2 Displacement | 4.15 | [cm ³] (0.253 cu.in) |
| 2.1 Bore [mm] | 21.000 | |
| 2.2 Stroke [mm] | 12.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO7 | |
| 4 Weight (with oil charge) | 8.35 | [kg] (18.41 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 | 3(330) | [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

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| 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] |
| 396 | 100 | 116 | 70 | 0.32 | 2.25 | 5.66 | 1.43 | 1.66 |

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) | 252 | 64 | 74 | 46 | 0.22 | 1.43 | 5.46 | 1.38 | 1.60 |
| -30 | (-22) | 363 | 91 | 106 | 56 | 0.26 | 2.06 | 6.63 | 1.67 | 1.94 |
| -25 | (-13) | 461 | 116 | 135 | 63 | 0.29 | 2.62 | 7.44 | 1.87 | 2.18 |
| -20 | (- 4) | 518 | 131 | 152 | 63 | 0.29 | 2.95 | 7.62 | 1.92 | 2.23 |
| -15 | (+ 5) | 505 | 127 | 148 | 57 | 0.26 | 2.88 | 6.93 | 1.75 | 2.03 |
| -10 | (+14) | 393 | 99 | 115 | 42 | 0.19 | 2.24 | 5.10 | 1.29 | 1.50 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 180 | 45 | 53 | 43 | 0.20 | 1.02 | 4.37 | 1.10 | 1.28 |
| -30 | (-22) | 325 | 82 | 95 | 59 | 0.27 | 1.85 | 5.98 | 1.51 | 1.75 |
| -25 | (-13) | 496 | 125 | 145 | 74 | 0.34 | 2.82 | 7.52 | 1.90 | 2.20 |
| -20 | (- 4) | 662 | 167 | 194 | 85 | 0.39 | 3.77 | 8.74 | 2.20 | 2.56 |
| -15 | (+ 5) | 795 | 200 | 233 | 92 | 0.42 | 4.54 | 9.37 | 2.36 | 2.75 |
| -10 | (+14) | 866 | 218 | 254 | 92 | 0.42 | 4.96 | 9.16 | 2.31 | 2.69 |

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|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 52 | 13 | 15 | 28 | 0.13 | 0.29 | 2.31 | 0.58 | 0.68 |
| -30 | (-22) | 157 | 40 | 46 | 46 | 0.21 | 0.88 | 3.73 | 0.94 | 1.09 |
| -25 | (-13) | 323 | 82 | 95 | 65 | 0.30 | 1.83 | 5.38 | 1.35 | 1.58 |
| -20 | (- 4) | 523 | 132 | 153 | 83 | 0.38 | 2.98 | 6.99 | 1.76 | 2.05 |
| -15 | (+ 5) | 726 | 183 | 213 | 100 | 0.46 | 4.15 | 8.31 | 2.09 | 2.43 |
| -10 | (+14) | 905 | 228 | 265 | 111 | 0.51 | 5.18 | 9.09 | 2.29 | 2.66 |

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) | 106 | 27 | 31 | 12 | 0.06 | 0.61 | 1.44 | 0.36 | 0.42 |
| -30 | (-22) | 94 | 24 | 28 | 28 | 0.13 | 0.53 | 2.03 | 0.51 | 0.59 |
| -25 | (-13) | 181 | 46 | 53 | 48 | 0.22 | 1.02 | 3.13 | 0.79 | 0.92 |
| -20 | (- 4) | 338 | 85 | 99 | 70 | 0.32 | 1.92 | 4.50 | 1.14 | 1.32 |
| -15 | (+ 5) | 536 | 135 | 157 | 91 | 0.42 | 3.06 | 5.88 | 1.48 | 1.72 |
| -10 | (+14) | 746 | 188 | 219 | 111 | 0.51 | 4.27 | 7.01 | 1.77 | 2.05 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | Universal EUEM | | |
| 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 | 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 | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 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 | | |