

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM T45HDR |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 194LA47 |

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 | High Back Pressure (Commercial Compressors) | | |
| 4.1 Evaporating temperature range | -15°C to 10°C | (5°F to 50°F) | |
| 5 Motor type | CSIR | | |
| 6 Starting torque | HST - High starting torque | | |
| 7 Expansion device | Capillary tube or Expansion valve | | |
| 8 Compressor cooling | | Operating voltage range | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32°C Ambient temperature) | - | - | - |
| 8.2 LBP (43°C Ambient temperature) | - | - | - |
| 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 | | [hp] |
| 2 Displacement | 3.97 | [cm ³] (0.242 cu.in) |
| 2.1 Bore [mm] | 19.000 | |
| 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 / ISO10 | |
| 4 Weight (with oil charge) | 7.7 | [kg] (16.98 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 | Current Relay | |
| 2.1 Starting device | MTRP-0036 | |
| 3 Start capacitor | 64-77(280) | [μF(VAC minimum)] |
| 4 Run capacitor | - | [μF(VAC minimum)] |
| 5 Motor protection | T0043/G6 | |
| 6 Start winding resistance | 18.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 16.25 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 8.80 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 1.18 | [A] |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 1.37 | [A] |
| 11 Approval boards certification | VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAEHBP46 Static | | Evaporating temperature (Condensing temperature | | 7.2°C (44.96°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] |
| 1438 | 362 | 421 | 158 | 0.95 | 9.32 | 9.10 | 2.29 | 2.67 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE46 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] |
| -15 | (+ 5) | 734 | 185 | 215 | 98 | 0.82 | 3.96 | 7.49 | 1.89 | 2.20 |
| -10 | (+14) | 926 | 233 | 271 | 106 | 0.84 | 5.03 | 8.73 | 2.20 | 2.56 |
| -5 | (+23) | 1141 | 287 | 334 | 113 | 0.85 | 6.22 | 10.08 | 2.54 | 2.95 |
| 0 | (+32) | 1390 | 350 | 407 | 120 | 0.86 | 7.60 | 11.60 | 2.92 | 3.40 |
| +5 | (+41) | 1686 | 425 | 494 | 126 | 0.87 | 9.27 | 13.36 | 3.37 | 3.91 |
| +10 | (+50) | 2040 | 514 | 598 | 132 | 0.89 | 11.30 | 15.42 | 3.88 | 4.52 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|--------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE46 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] |
| -15 | (+ 5) | 637 | 160 | 187 | 102 | 0.82 | 3.72 | 6.24 | 1.57 | 1.83 |
| -10 | (+14) | 808 | 204 | 237 | 113 | 0.85 | 4.74 | 7.18 | 1.81 | 2.10 |
| -5 | (+23) | 999 | 252 | 293 | 122 | 0.87 | 5.88 | 8.18 | 2.06 | 2.40 |
| 0 | (+32) | 1220 | 307 | 358 | 131 | 0.89 | 7.22 | 9.31 | 2.35 | 2.73 |
| +5 | (+41) | 1485 | 374 | 435 | 139 | 0.91 | 8.84 | 10.63 | 2.68 | 3.12 |
| +10 | (+50) | 1804 | 455 | 529 | 148 | 0.94 | 10.81 | 12.21 | 3.08 | 3.58 |

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|-------------------------------|-------|----------------------------|--------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE46 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] |
| -15 | (+ 5) | 552 | 139 | 162 | 107 | 0.83 | 3.52 | 5.17 | 1.30 | 1.52 |
| -10 | (+14) | 705 | 178 | 207 | 120 | 0.86 | 4.51 | 5.90 | 1.49 | 1.73 |
| -5 | (+23) | 874 | 220 | 256 | 132 | 0.89 | 5.61 | 6.65 | 1.68 | 1.95 |
| 0 | (+32) | 1071 | 270 | 314 | 143 | 0.92 | 6.92 | 7.48 | 1.88 | 2.19 |
| +5 | (+41) | 1307 | 329 | 383 | 154 | 0.95 | 8.50 | 8.46 | 2.13 | 2.48 |
| +10 | (+50) | 1595 | 402 | 467 | 165 | 0.99 | 10.44 | 9.65 | 2.43 | 2.83 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 2 Tray holder | Yes | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 42° | | |
| 3.2 DISCHARGE | 4.86 +0.07/+0.00 | [mm] | (0.191" +0.003"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 3.3 PROCESS | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.3.1 Material | Copper | | |
| 3.3.2 Shape | Slanted 42° | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |