

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM T45HDR |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513306045 |

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 - Hight 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 | 1/7 | [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 / ISO22 | |
| 4 Weight (with oil charge) | 7.52 | [kg] (16.58 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 | 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 | DRB170K52AXF | |
| 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] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 1.37 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|----------------------------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900HBP_HH Static | | Evaporating temperature (Condensing temperature | | 5°C (41°F) 50°C (122°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] |
| 1280 | 323 | 375 | 147 | 0.93 | 8.75 | 8.74 | 2.20 | 2.56 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|---------------------|-----|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900HH 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) | 674 | 170 | 197 | 98 | 0.82 | 3.94 | 6.88 | 1.73 | 2.01 |
| -10 | (+14) | 845 | 213 | 248 | 106 | 0.84 | 4.96 | 7.97 | 2.01 | 2.33 |
| -5 | (+23) | 1040 | 262 | 305 | 113 | 0.85 | 6.13 | 9.20 | 2.32 | 2.69 |
| 0 | (+32) | 1270 | 320 | 372 | 120 | 0.86 | 7.52 | 10.61 | 2.67 | 3.11 |
| +5 | (+41) | 1544 | 389 | 452 | 126 | 0.87 | 9.20 | 12.24 | 3.08 | 3.59 |
| +10 | (+50) | 1872 | 472 | 548 | 132 | 0.89 | 11.24 | 14.14 | 3.56 | 4.14 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|---------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900HH 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) | 588 | 148 | 172 | 102 | 0.82 | 3.75 | 5.77 | 1.45 | 1.69 |
| -10 | (+14) | 744 | 188 | 218 | 113 | 0.85 | 4.76 | 6.61 | 1.67 | 1.94 |
| -5 | (+23) | 921 | 232 | 270 | 122 | 0.87 | 5.92 | 7.55 | 1.90 | 2.21 |
| 0 | (+32) | 1129 | 285 | 331 | 131 | 0.89 | 7.30 | 8.63 | 2.17 | 2.53 |
| +5 | (+41) | 1377 | 347 | 404 | 139 | 0.91 | 8.97 | 9.88 | 2.49 | 2.90 |
| +10 | (+50) | 1676 | 422 | 491 | 148 | 0.94 | 10.99 | 11.36 | 2.86 | 3.33 |

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|-------------------------------|-------|----------------------------|---------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900HH 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) | 503 | 127 | 147 | 107 | 0.83 | 3.55 | 4.72 | 1.19 | 1.38 |
| -10 | (+14) | 645 | 163 | 189 | 120 | 0.86 | 4.55 | 5.39 | 1.36 | 1.58 |
| -5 | (+23) | 804 | 203 | 235 | 132 | 0.89 | 5.70 | 6.11 | 1.54 | 1.79 |
| 0 | (+32) | 989 | 249 | 290 | 143 | 0.92 | 7.07 | 6.92 | 1.74 | 2.03 |
| +5 | (+41) | 1212 | 305 | 355 | 154 | 0.95 | 8.73 | 7.86 | 1.98 | 2.30 |
| +10 | (+50) | 1481 | 373 | 434 | 165 | 0.99 | 10.75 | 8.98 | 2.26 | 2.63 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | European Standard EUEM | | |
| 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° up + 45° to Back | | |
| 3.2 DISCHARGE | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted parallel BP+24°to Back | | |
| 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 45° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |