

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM T45HLR |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513300816 |

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 | RSIR | | |
| 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) | 7.2 | [kg] (15.87 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 | 213514164 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM739NFBYY-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) | 4.97 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 1.06 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | 1.18 | [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] |
| 496 | 125 | 145 | 111 | 0.78 | 2.82 | 4.45 | 1.12 | 1.30 |

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) | 339 | 85 | 99 | 78 | 0.71 | 1.92 | 4.30 | 1.08 | 1.26 |
| -30 (-22) | 442 | 111 | 130 | 87 | 0.73 | 2.51 | 5.08 | 1.28 | 1.49 |
| -25 (-13) | 572 | 144 | 168 | 97 | 0.75 | 3.25 | 5.94 | 1.50 | 1.74 |
| -20 (- 4) | 734 | 185 | 215 | 107 | 0.77 | 4.18 | 6.90 | 1.74 | 2.02 |
| -15 (+ 5) | 936 | 236 | 274 | 117 | 0.80 | 5.34 | 7.99 | 2.01 | 2.34 |
| -10 (+14) | 1183 | 298 | 347 | 128 | 0.83 | 6.78 | 9.22 | 2.32 | 2.70 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|
| 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) | 275 | 69 | 81 | 78 | 0.72 | 1.55 | 3.54 | 0.89 | 1.04 |
| -30 (-22) | 383 | 96 | 112 | 90 | 0.74 | 2.17 | 4.23 | 1.07 | 1.24 |
| -25 (-13) | 510 | 129 | 149 | 103 | 0.76 | 2.90 | 4.95 | 1.25 | 1.45 |
| -20 (- 4) | 663 | 167 | 194 | 116 | 0.79 | 3.77 | 5.71 | 1.44 | 1.67 |
| -15 (+ 5) | 847 | 214 | 248 | 130 | 0.83 | 4.84 | 6.53 | 1.64 | 1.91 |
| -10 (+14) | 1070 | 270 | 313 | 144 | 0.88 | 6.13 | 7.42 | 1.87 | 2.18 |

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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) | 216 | 54 | 63 | 76 | 0.72 | 1.22 | 2.83 | 0.71 | 0.83 |
| -30 (-22) | 324 | 82 | 95 | 91 | 0.74 | 1.84 | 3.51 | 0.88 | 1.03 |
| -25 (-13) | 444 | 112 | 130 | 107 | 0.77 | 2.52 | 4.14 | 1.04 | 1.21 |
| -20 (- 4) | 583 | 147 | 171 | 123 | 0.81 | 3.32 | 4.75 | 1.20 | 1.39 |
| -15 (+ 5) | 746 | 188 | 219 | 140 | 0.87 | 4.26 | 5.36 | 1.35 | 1.57 |
| -10 (+14) | 939 | 237 | 275 | 157 | 0.93 | 5.38 | 5.98 | 1.51 | 1.75 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 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 | | |