

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM TS2125U |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513300561 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [V / Hz] | |
| 4 Application type | Low Back Pressure (Curves until T.Evap -10°C / Peak 60°C) | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°F) | |
| 5 Motor type | CSIR | | |
| 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) | Fan | 187 to 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Fan | 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 | 18.4 | [kgf/cm ²] (262 psig) | / °C - °F |
| 9.2 Peak | 20.6 | [kgf/cm ²] (293 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|----------------------------------|
| 1 Commercial designation | 1/3 | [hp] |
| 2 Displacement | 5.96 | [cm ³] (0.364 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 15.000 | |
| 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) | 7.8 | [kg] (17.20 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-34 | |
| 3 Start capacitor | 43-53(330) | [μF(VAC minimum)] |
| 4 Run capacitor | - | [μF(VAC minimum)] |
| 5 Motor protection | 4TM276NFBYY-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) | 8.50 | [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 | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAELBP32 Fan | | 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] |
| 1031 | 260 | 302 | 197 | 1.21 | 3.07 | 5.23 | 1.32 | 1.53 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|-----|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Fan | | (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) | 757 | 191 | 222 | 135 | 1.01 | 2.24 | 5.58 | 1.41 | 1.63 |
| -30 | (-22) | 969 | 244 | 284 | 150 | 1.05 | 2.87 | 6.46 | 1.63 | 1.89 |
| -25 | (-13) | 1219 | 307 | 357 | 165 | 1.09 | 3.62 | 7.41 | 1.87 | 2.17 |
| -20 | (- 4) | 1509 | 380 | 442 | 179 | 1.14 | 4.50 | 8.45 | 2.13 | 2.48 |
| -15 | (+ 5) | 1843 | 465 | 540 | 193 | 1.19 | 5.52 | 9.59 | 2.42 | 2.81 |
| -10 | (+14) | 2223 | 560 | 651 | 205 | 1.24 | 6.69 | 10.84 | 2.73 | 3.18 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Fan | | (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) | 670 | 169 | 196 | 141 | 1.02 | 1.98 | 4.75 | 1.20 | 1.39 |
| -30 | (-22) | 859 | 217 | 252 | 158 | 1.07 | 2.55 | 5.42 | 1.37 | 1.59 |
| -25 | (-13) | 1084 | 273 | 318 | 176 | 1.13 | 3.22 | 6.14 | 1.55 | 1.80 |
| -20 | (- 4) | 1345 | 339 | 394 | 194 | 1.19 | 4.01 | 6.91 | 1.74 | 2.02 |
| -15 | (+ 5) | 1646 | 415 | 482 | 212 | 1.26 | 4.93 | 7.74 | 1.95 | 2.27 |
| -10 | (+14) | 1990 | 502 | 583 | 230 | 1.33 | 5.99 | 8.65 | 2.18 | 2.54 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Fan | | (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) | 575 | 145 | 169 | 146 | 1.03 | 1.70 | 3.96 | 1.00 | 1.16 |
| -30 | (-22) | 743 | 187 | 218 | 165 | 1.09 | 2.20 | 4.51 | 1.14 | 1.32 |
| -25 | (-13) | 941 | 237 | 276 | 186 | 1.16 | 2.80 | 5.05 | 1.27 | 1.48 |
| -20 | (- 4) | 1173 | 296 | 344 | 208 | 1.24 | 3.50 | 5.62 | 1.42 | 1.65 |
| -15 | (+ 5) | 1442 | 363 | 423 | 231 | 1.33 | 4.32 | 6.22 | 1.57 | 1.82 |
| -10 | (+14) | 1750 | 441 | 513 | 255 | 1.42 | 5.26 | 6.85 | 1.73 | 2.01 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Fan | | | (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) | 480 | 121 | 141 | 149 | 1.04 | 1.42 | 3.20 | 0.81 | 0.94 |
| -30 | (-22) | 625 | 157 | 183 | 170 | 1.11 | 1.85 | 3.68 | 0.93 | 1.08 |
| -25 | (-13) | 798 | 201 | 234 | 194 | 1.20 | 2.37 | 4.13 | 1.04 | 1.21 |
| -20 | (- 4) | 1000 | 252 | 293 | 220 | 1.29 | 2.98 | 4.56 | 1.15 | 1.34 |
| -15 | (+ 5) | 1237 | 312 | 362 | 249 | 1.40 | 3.70 | 4.99 | 1.26 | 1.46 |
| -10 | (+14) | 1508 | 380 | 442 | 278 | 1.52 | 4.54 | 5.42 | 1.37 | 1.59 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | Universal AMEM | | |
| 2 Tray holder | Yes | | |
| 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 74° up + 11° to Back | | |
| 3.2 DISCHARGE | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted 10° 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 | | |