

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM C3140U |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 721TA50 |

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-Medium Back Pressure (Commercial Compressors) | | |
| 4.1 Evaporating temperature range | -35°C to 0°C | (-31°F to 32°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) | - | - | - |
| 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 | 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 | 1/2 | [hp] |
| 2 Displacement | 9.04 | [cm ³] (0.552 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 2.2 Stroke [mm] | 20.000 | |
| 3 Lubricant charge | 150 | [ml] (5.07 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 8.2 | [kg] (18.08 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 | PTC | |
| 2.1 Starting device | MI2021/V230 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 8(330) | [µF(VAC minimum)] |
| 5 Motor protection | MRA-38172-3166 | |
| 6 Start winding resistance | 13.30 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 9.25 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 10.30 | [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 | VDE | |

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] |
| 1557 | 392 | 456 | 270 | 1.30 | 4.63 | 5.77 | 1.45 | 1.69 |

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) | 1042 | 263 | 305 | 185 | 0.93 | 3.08 | 5.62 | 1.42 | 1.65 |
| -30 (-22) | 1294 | 326 | 379 | 207 | 1.02 | 3.84 | 6.27 | 1.58 | 1.84 |
| -25 (-13) | 1610 | 406 | 472 | 227 | 1.11 | 4.79 | 7.09 | 1.79 | 2.08 |
| -20 (- 4) | 1991 | 502 | 583 | 247 | 1.20 | 5.94 | 8.05 | 2.03 | 2.36 |
| -15 (+ 5) | 2437 | 614 | 714 | 266 | 1.29 | 7.30 | 9.15 | 2.31 | 2.68 |
| -10 (+14) | 2948 | 743 | 864 | 285 | 1.37 | 8.87 | 10.37 | 2.61 | 3.04 |
| -5 (+23) | 3523 | 888 | 1032 | 302 | 1.45 | 10.66 | 11.68 | 2.94 | 3.42 |
| 0 (+32) | 4164 | 1049 | 1220 | 318 | 1.52 | 12.66 | 13.07 | 3.29 | 3.83 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 967 | 244 | 283 | 192 | 0.96 | 2.86 | 5.06 | 1.28 | 1.48 |
| -30 (-22) | 1216 | 307 | 356 | 218 | 1.07 | 3.61 | 5.60 | 1.41 | 1.64 |
| -25 (-13) | 1528 | 385 | 448 | 243 | 1.18 | 4.54 | 6.28 | 1.58 | 1.84 |
| -20 (- 4) | 1901 | 479 | 557 | 268 | 1.29 | 5.67 | 7.08 | 1.78 | 2.07 |
| -15 (+ 5) | 2336 | 589 | 685 | 292 | 1.40 | 7.00 | 7.98 | 2.01 | 2.34 |
| -10 (+14) | 2833 | 714 | 830 | 316 | 1.51 | 8.53 | 8.96 | 2.26 | 2.63 |
| -5 (+23) | 3392 | 855 | 994 | 339 | 1.61 | 10.26 | 10.01 | 2.52 | 2.93 |
| 0 (+32) | 4012 | 1011 | 1176 | 361 | 1.72 | 12.20 | 11.11 | 2.80 | 3.25 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|-----------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 866 | 218 | 254 | 195 | 0.98 | 2.56 | 4.44 | 1.12 | 1.30 |
| -30 (-22) | 1111 | 280 | 325 | 225 | 1.11 | 3.29 | 4.93 | 1.24 | 1.45 |
| -25 (-13) | 1414 | 356 | 414 | 256 | 1.24 | 4.20 | 5.53 | 1.39 | 1.62 |
| -20 (- 4) | 1776 | 448 | 520 | 286 | 1.37 | 5.30 | 6.21 | 1.56 | 1.82 |
| -15 (+ 5) | 2196 | 553 | 644 | 316 | 1.51 | 6.58 | 6.96 | 1.75 | 2.04 |
| -10 (+14) | 2676 | 674 | 784 | 345 | 1.64 | 8.05 | 7.76 | 1.96 | 2.27 |
| -5 (+23) | 3213 | 810 | 942 | 374 | 1.77 | 9.72 | 8.60 | 2.17 | 2.52 |
| 0 (+32) | 3810 | 960 | 1116 | 403 | 1.90 | 11.58 | 9.45 | 2.38 | 2.77 |

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° 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 0° up + 45° to Back | | |
| 3.3 PROCESS | 6 +0.08/-0.08 | [mm] | (0.236" +0.003"/-0.003") |
| 3.3.1 Material | Copper(OD) | | |
| 3.3.2 Shape | Slanted 43° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |