

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM U40CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 893DA73 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [V / Hz] | |
| 4 Application type | Low-Medium Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -5°C | (-31°F to 23°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) | Static | 198 to 254 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 254 V | - |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing pressures/temperature | | | |
| 9.1 Operating (gauge) | 7.7 | [kgf/cm ²] (109 psig) | / °C - °F |
| 9.2 Peak (gauge) | 9.8 | [kgf/cm ²] (139 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | | [hp] |
| 2 Displacement | 7.23 | [cm ³] (0.441 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 2.2 Stroke [mm] | 16.000 | |
| 3 Lubricant charge | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | MINERAL / ISO7 | |
| 4 Weight (with oil charge) | 7.65 | [kg] (16.87 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 | PTC | |
| 2.1 Starting device | MSDA3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 4(450) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM142NFBYY-53 | |
| 6 Start winding resistance | 30.42 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 28.11 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | - | [A] |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] |
| 11 Approval boards certification | 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] |
| 414 | 104 | 121 | 83 | 0.39 | 1.30 | 4.99 | 1.26 | 1.46 |

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) | 247 | 62 | 72 | 58 | 0.29 | 0.77 | 4.23 | 1.07 | 1.24 |
| -30 | (-22) | 330 | 83 | 97 | 66 | 0.32 | 1.03 | 5.02 | 1.26 | 1.47 |
| -25 | (-13) | 431 | 109 | 126 | 73 | 0.35 | 1.35 | 5.88 | 1.48 | 1.72 |
| -20 | (- 4) | 552 | 139 | 162 | 81 | 0.38 | 1.73 | 6.82 | 1.72 | 2.00 |
| -15 | (+ 5) | 696 | 175 | 204 | 89 | 0.41 | 2.19 | 7.84 | 1.98 | 2.30 |
| -10 | (+14) | 863 | 218 | 253 | 97 | 0.44 | 2.72 | 8.94 | 2.25 | 2.62 |
| -5 | (+23) | 1058 | 267 | 310 | 104 | 0.48 | 3.35 | 10.13 | 2.55 | 2.97 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 230 | 58 | 67 | 59 | 0.30 | 0.72 | 3.89 | 0.98 | 1.14 |
| -30 | (-22) | 311 | 78 | 91 | 68 | 0.33 | 0.97 | 4.59 | 1.16 | 1.35 |
| -25 | (-13) | 409 | 103 | 120 | 76 | 0.36 | 1.28 | 5.35 | 1.35 | 1.57 |
| -20 | (- 4) | 527 | 133 | 154 | 86 | 0.40 | 1.66 | 6.15 | 1.55 | 1.80 |
| -15 | (+ 5) | 667 | 168 | 195 | 95 | 0.44 | 2.10 | 7.01 | 1.77 | 2.05 |
| -10 | (+14) | 831 | 209 | 243 | 105 | 0.48 | 2.62 | 7.93 | 2.00 | 2.32 |
| -5 | (+23) | 1021 | 257 | 299 | 115 | 0.52 | 3.23 | 8.90 | 2.24 | 2.61 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 203 | 51 | 59 | 59 | 0.30 | 0.64 | 3.45 | 0.87 | 1.01 |
| -30 | (-22) | 281 | 71 | 82 | 69 | 0.33 | 0.88 | 4.09 | 1.03 | 1.20 |
| -25 | (-13) | 376 | 95 | 110 | 79 | 0.37 | 1.18 | 4.76 | 1.20 | 1.39 |
| -20 | (- 4) | 489 | 123 | 143 | 90 | 0.41 | 1.54 | 5.45 | 1.37 | 1.60 |
| -15 | (+ 5) | 625 | 157 | 183 | 101 | 0.46 | 1.97 | 6.18 | 1.56 | 1.81 |
| -10 | (+14) | 784 | 197 | 230 | 113 | 0.51 | 2.47 | 6.93 | 1.75 | 2.03 |
| -5 | (+23) | 969 | 244 | 284 | 125 | 0.57 | 3.06 | 7.72 | 1.95 | 2.26 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Static | | | (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) | 176 | 44 | 52 | 58 | 0.29 | 0.55 | 3.01 | 0.76 | 0.88 |
| -30 | (-22) | 250 | 63 | 73 | 69 | 0.33 | 0.78 | 3.62 | 0.91 | 1.06 |
| -25 | (-13) | 341 | 86 | 100 | 81 | 0.38 | 1.07 | 4.23 | 1.07 | 1.24 |
| -20 | (- 4) | 450 | 113 | 132 | 93 | 0.43 | 1.41 | 4.84 | 1.22 | 1.42 |
| -15 | (+ 5) | 580 | 146 | 170 | 107 | 0.48 | 1.83 | 5.45 | 1.37 | 1.60 |
| -10 | (+14) | 733 | 185 | 215 | 121 | 0.54 | 2.31 | 6.07 | 1.53 | 1.78 |
| -5 | (+23) | 912 | 230 | 267 | 136 | 0.61 | 2.89 | 6.70 | 1.69 | 1.96 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 2 Tray holder | No | | |
| 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 | 4.95 +0.05/+0.05 | [mm] | (0.195" +0.002"/+0.002") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Vertical | | |
| 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 42° | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |