

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | ES X55CBC |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 518102603 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 3 Nominal voltage and frequency | 115-127 / 60 | [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 | 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 | - | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 103 to 140 V |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 6.9 | [kgf/cm ²] (98 psig) | / °C - °F |
| 9.2 Peak | 7.8 | [kgf/cm ²] (111 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | 1/5 | [hp] |
| 2 Displacement | 7.87 | [cm ³] (0.480 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 19.800 | |
| 3 Lubricant charge | 115 | [ml] (3.89 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 5.28 | [kg] (11.64 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 8EA14C83 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 12(180) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM319KFBYY-53 | |
| 6 Start winding resistance | 7.54 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 7.07 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 7.91 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 0.96 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 1.35 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| 563 | 142 | 165 | 95 | 0.86 | 1.77 | 5.94 | 1.50 | 1.74 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|--|---------------------------|-----------|-------|--|
| TEST CONDITIONS: @115V60Hz | | 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) | 337 | 85 | 99 | 65 | 0.58 | 1.05 | 5.21 | 1.31 | 1.53 | |
| -30 (-22) | 449 | 113 | 131 | 74 | 0.66 | 1.41 | 6.08 | 1.53 | 1.78 | |
| -25 (-13) | 585 | 147 | 171 | 83 | 0.75 | 1.83 | 7.04 | 1.77 | 2.06 | |
| -20 (- 4) | 747 | 188 | 219 | 92 | 0.83 | 2.35 | 8.09 | 2.04 | 2.37 | |
| -15 (+ 5) | 937 | 236 | 275 | 102 | 0.91 | 2.95 | 9.23 | 2.33 | 2.70 | |
| -10 (+14) | 1158 | 292 | 339 | 111 | 0.99 | 3.65 | 10.48 | 2.64 | 3.07 | |

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|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|--|
| TEST CONDITIONS: @115V60Hz | | 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) | 306 | 77 | 90 | 66 | 0.59 | 0.96 | 4.67 | 1.18 | 1.37 | |
| -30 (-22) | 415 | 105 | 122 | 76 | 0.68 | 1.30 | 5.45 | 1.37 | 1.60 | |
| -25 (-13) | 549 | 138 | 161 | 87 | 0.78 | 1.72 | 6.27 | 1.58 | 1.84 | |
| -20 (- 4) | 710 | 179 | 208 | 99 | 0.89 | 2.23 | 7.14 | 1.80 | 2.09 | |
| -15 (+ 5) | 901 | 227 | 264 | 111 | 1.00 | 2.83 | 8.07 | 2.03 | 2.36 | |
| -10 (+14) | 1122 | 283 | 329 | 124 | 1.11 | 3.54 | 9.07 | 2.29 | 2.66 | |

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|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|--|
| TEST CONDITIONS: @115V60Hz | | 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) | 279 | 70 | 82 | 65 | 0.59 | 0.87 | 4.26 | 1.07 | 1.25 | |
| -30 (-22) | 382 | 96 | 112 | 77 | 0.69 | 1.20 | 4.97 | 1.25 | 1.46 | |
| -25 (-13) | 512 | 129 | 150 | 90 | 0.81 | 1.61 | 5.68 | 1.43 | 1.66 | |
| -20 (- 4) | 670 | 169 | 196 | 105 | 0.94 | 2.10 | 6.40 | 1.61 | 1.87 | |
| -15 (+ 5) | 857 | 216 | 251 | 120 | 1.08 | 2.70 | 7.14 | 1.80 | 2.09 | |
| -10 (+14) | 1076 | 271 | 315 | 136 | 1.22 | 3.40 | 7.92 | 2.00 | 2.32 | |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate | Universal ES/FMS | | |
| 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 parallel to Base Plate | | |
| 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 to Base Plate | | |
| 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 45° up | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |