

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>ES C55CBT</b>       |
| Nominal Voltage/Frequency | <b>115-127 V 60 Hz</b> |
| Engineering Number        | <b>518100007</b>       |

### 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 <sup>2</sup> ] (98 psig)  | / °C - °F    |
| 9.2 Peak                           | 7.8                               | [kgf/cm <sup>2</sup> ] (111 psig) | / °C - °F    |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |              |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      | 1/5            | [hp]                             |
| 2 Displacement                | 7.87           | [cm <sup>3</sup> ] (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)    | 5.2            | [kg] (11.46 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | TSD                                |                                    |
| 2.1 Starting device                          | TSD2.1-115V1.0                     |                                    |
| 3 Start capacitor                            | -                                  | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | 12(180)                            | [μF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM302KFBYY-53                     |                                    |
| 6 Start winding resistance                   | 7.36                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 7.28                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 7.80                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 0.94                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | 1.20                               | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | UL                                 |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |   |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|---|-------|
| TEST CONDITIONS:<br>@115V60Hz |          |     | <b>GEALBP</b><br>Static     |                               | Evaporating temperature<br>(Condensing temperature |                           | <b>-23.3°C (-9.94°F)</b><br><b>40.5°C (104.9°F)</b> |       |
| Cooling capacity<br>+/- 5%    |          |     | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                            | EFFICIENCY RATE<br>+/- 7% |   |       |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]   | [W/W] |
| 614                           | 155      | 180 | 85                          | 0.77                          | 1.93   | 7.27                      | 1.83  | 2.13  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                      |     |   |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------------------|-----|---|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                            | <b>GEA</b><br>Static |     | (Condensing temperature <b>35°C (+95°F)</b> ) |                               |                         |                           |           |       |
| Evaporating temperature       |       | Cooling capacity<br>+/- 5% |                      |     | Power consumption<br>+/- 5%                   | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h]             | [W] | [W]   | [A]                           | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 337                        | 85                   | 99  | 62  | 0.55                          | 0.00                    | 5.39                      | 1.36      | 1.58  |
| -30                           | (-22) | 449                        | 113                  | 131 | 71  | 0.62                          | 0.00                    | 6.35                      | 1.60      | 1.86  |
| -25                           | (-13) | 585                        | 147                  | 171 | 79  | 0.71                          | 0.00                    | 7.36                      | 1.85      | 2.16  |
| -20                           | (- 4) | 747                        | 188                  | 219 | 89  | 0.80                          | 0.00                    | 8.43                      | 2.12      | 2.47  |
| -15                           | (+ 5) | 937                        | 236                  | 275 | 98  | 0.88                          | 0.00                    | 9.58                      | 2.41      | 2.81  |
| -10                           | (+14) | 1158                       | 292                  | 339 | 107   | 0.96                          | 0.00                    | 10.83                     | 2.73      | 3.17  |

|                               |       |                            |                      |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                            | <b>GEA</b><br>Static |     | (Condensing temperature <b>45°C (+113°F)</b> ) |                               |                         |                           |           |       |
| Evaporating temperature       |       | Cooling capacity<br>+/- 5% |                      |     | Power consumption<br>+/- 5%                    | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h]             | [W] | [W]  | [A]                           | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 306                        | 77                   | 90  | 63   | 0.55                          | 0.00                    | 4.87                      | 1.23      | 1.43  |
| -30                           | (-22) | 415                        | 105                  | 122 | 73   | 0.63                          | 0.00                    | 5.72                      | 1.44      | 1.68  |
| -25                           | (-13) | 549                        | 138                  | 161 | 83   | 0.73                          | 0.00                    | 6.58                      | 1.66      | 1.93  |
| -20                           | (- 4) | 710                        | 179                  | 208 | 95   | 0.84                          | 0.00                    | 7.47                      | 1.88      | 2.19  |
| -15                           | (+ 5) | 901                        | 227                  | 264 | 107  | 0.96                          | 0.00                    | 8.42                      | 2.12      | 2.47  |
| -10                           | (+14) | 1122                       | 283                  | 329 | 119  | 1.07                          | 0.00                    | 9.43                      | 2.38      | 2.76  |

|                               |       |                            |                      |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                            | <b>GEA</b><br>Static |     | (Condensing temperature <b>55°C (+131°F)</b> ) |                               |                         |                           |           |       |
| Evaporating temperature       |       | Cooling capacity<br>+/- 5% |                      |     | Power consumption<br>+/- 5%                    | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h]             | [W] | [W]  | [A]                           | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 279                        | 70                   | 82  | 63   | 0.55                          | 0.00                    | 4.45                      | 1.12      | 1.30  |
| -30                           | (-22) | 382                        | 96                   | 112 | 74   | 0.64                          | 0.00                    | 5.19                      | 1.31      | 1.52  |
| -25                           | (-13) | 512                        | 129                  | 150 | 87   | 0.75                          | 0.00                    | 5.92                      | 1.49      | 1.74  |
| -20                           | (- 4) | 670                        | 169                  | 196 | 101  | 0.88                          | 0.00                    | 6.65                      | 1.68      | 1.95  |
| -15                           | (+ 5) | 857                        | 216                  | 251 | 116  | 1.02                          | 0.00                    | 7.40                      | 1.87      | 2.17  |
| -10                           | (+14) | 1076                       | 271                  | 315 | 131  | 1.17                          | 0.00                    | 8.19                      | 2.06      | 2.40  |

### F - EXTERNAL CHARACTERISTICS

|                         |                          |      |                          |
|-------------------------|--------------------------|------|--------------------------|
| 1 Base plate            | European Standard ES/FMS |      |                          |
| 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 45° up           |      |                          |
| 3.2 DISCHARGE           | 5.1 +0.10/+0.00          | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material          | Copper                   |      |                          |
| 3.2.2 Shape             | Slanted 45° up           |      |                          |
| 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             |      |                          |