

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | ES C55CBT       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 518102635       |

### 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 - ELECTRICAL 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                          | 5SP14X302K                         |                                    |
| 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             |                                    |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                                 |          |     |                            |                            |  |                                |                                       |       |
|---------------------------------|----------|-----|----------------------------|----------------------------|--|--------------------------------|---------------------------------------|-------|
| TEST CONDITIONS:<br>@115V60Hz   |          |     | <b>GEALBP</b><br>Static    |                            | Evaporating temperature<br>(Condensing temperature |                                | -23.3°C (-9.94°F)<br>40.5°C (104.9°F) |       |
| Cooling capacity (Qe)<br>+/- 5% |          |     | Input power (We)<br>+/- 5% | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5%                           | Efficiency EER & COP<br>+/- 7% |                                       |       |
| [Btu/h]                         | [kcal/h] | [W] | [W]                        | [A]                        | [kg/h]   | [Btu/Wh]                       | [kcal/Wh]                             | [W/W] |
| 614                             | 155      | 180 | 86                         | 0.78                       | 1.93   | 7.14                           | 1.80                                  | 2.09  |

### E - PERFORMANCE - CURVES

|                               |       |                                 |                      |     |                                       |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|----------------------|-----|---------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                                 | <b>GEA</b><br>Static |     | (Condensing temperature 35°C (+95°F)) |                            |                          |                                |           |       |
| Evaporating temperature       |       | Cooling capacity (Qe)<br>+/- 5% |                      |     | Input power (We)<br>+/- 5%            | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                         | [kcal/h]             | [W] | [W]                                   | [A]                        | [kg/h]                   | [Btu/Wh]                       | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 337                             | 85                   | 99  | 64                                    | 0.56                       | 0.00                     | 5.27                           | 1.33      | 1.54  |
| -30                           | (-22) | 449                             | 113                  | 131 | 72                                    | 0.64                       | 0.00                     | 6.22                           | 1.57      | 1.82  |
| -25                           | (-13) | 585                             | 147                  | 171 | 81                                    | 0.72                       | 0.00                     | 7.22                           | 1.82      | 2.12  |
| -20                           | (- 4) | 747                             | 188                  | 219 | 90                                    | 0.81                       | 0.00                     | 8.29                           | 2.09      | 2.43  |
| -15                           | (+ 5) | 937                             | 236                  | 275 | 100                                   | 0.89                       | 0.00                     | 9.43                           | 2.38      | 2.76  |
| -10                           | (+14) | 1158                            | 292                  | 339 | 109                                   | 0.97                       | 0.00                     | 10.68                          | 2.69      | 3.13  |

|                               |       |                                 |                      |     |  |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|----------------------|-----|--|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                                 | <b>GEA</b><br>Static |     | (Condensing temperature 45°C (+113°F)) |                            |                          |                                |           |       |
| Evaporating temperature       |       | Cooling capacity (Qe)<br>+/- 5% |                      |     | Input power (We)<br>+/- 5%             | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                         | [kcal/h]             | [W] | [W]                                    | [A]                        | [kg/h]                   | [Btu/Wh]                       | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 306                             | 77                   | 90  | 65                                     | 0.57                       | 0.00                     | 4.76                           | 1.20      | 1.39  |
| -30                           | (-22) | 415                             | 105                  | 122 | 74                                     | 0.65                       | 0.00                     | 5.60                           | 1.41      | 1.64  |
| -25                           | (-13) | 549                             | 138                  | 161 | 85                                     | 0.75                       | 0.00                     | 6.46                           | 1.63      | 1.89  |
| -20                           | (- 4) | 710                             | 179                  | 208 | 96                                     | 0.86                       | 0.00                     | 7.36                           | 1.85      | 2.16  |
| -15                           | (+ 5) | 901                             | 227                  | 264 | 108                                    | 0.97                       | 0.00                     | 8.30                           | 2.09      | 2.43  |
| -10                           | (+14) | 1122                            | 283                  | 329 | 120                                    | 1.09                       | 0.00                     | 9.31                           | 2.35      | 2.73  |

|                               |       |                                 |                      |     |  |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|----------------------|-----|--|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                                 | <b>GEA</b><br>Static |     | (Condensing temperature 55°C (+131°F)) |                            |                          |                                |           |       |
| Evaporating temperature       |       | Cooling capacity (Qe)<br>+/- 5% |                      |     | Input power (We)<br>+/- 5%             | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                         | [kcal/h]             | [W] | [W]                                    | [A]                        | [kg/h]                   | [Btu/Wh]                       | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 279                             | 70                   | 82  | 64                                     | 0.56                       | 0.00                     | 4.35                           | 1.10      | 1.27  |
| -30                           | (-22) | 382                             | 96                   | 112 | 75                                     | 0.65                       | 0.00                     | 5.09                           | 1.28      | 1.49  |
| -25                           | (-13) | 512                             | 129                  | 150 | 88                                     | 0.76                       | 0.00                     | 5.82                           | 1.47      | 1.71  |
| -20                           | (- 4) | 670                             | 169                  | 196 | 102                                    | 0.89                       | 0.00                     | 6.55                           | 1.65      | 1.92  |
| -15                           | (+ 5) | 857                             | 216                  | 251 | 117                                    | 1.03                       | 0.00                     | 7.31                           | 1.84      | 2.14  |
| -10                           | (+14) | 1076                            | 271                  | 315 | 133                                    | 1.18                       | 0.00                     | 8.09                           | 2.04      | 2.37  |

### 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             |      |                          |