

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | T 2155E         |
| Nominal Voltage/Frequency | 208-230 V 60 Hz |
| Engineering Number        | 116BD23         |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-22                              |                                   |           |
| 3 Nominal voltage and frequency            | 208-230 / 60                      | [ V / Hz ]                        |           |
| 4 Application type                         | Low Back Pressure R22             |                                   |           |
| 4.1 Evaporating temperature range          | -30°C to -10°C                    | (-22°F to 14°F)                   |           |
| 5 Motor type                               | CSCR                              |                                   |           |
| 6 Starting torque                          | HST - High starting torque        |                                   |           |
| 7 Expansion device                         | Capillary tube or Expansion valve |                                   |           |
| 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 pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 21.7                              | [kgf/cm <sup>2</sup> ] (309 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 24.2                              | [kgf/cm <sup>2</sup> ] (344 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                 |  |
|-------------------------------|-----------------|--|
| 1 Commercial designation      | 1/2+            | [hp]                                       |
| 2 Displacement                | 17.39           | [cm <sup>3</sup> ] (1.061 cu.in)           |
| 2.1 Bore [mm]                 | 34.120          |  |
| 2.2 Stroke [mm]               | 19.030          |  |
| 3 Lubricant charge            | 550             | [ml] (18.60 fl.oz.)                        |
| 3.1 Lubricants approved       |                 |  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO46 |  |
| 4 Weight (with oil charge)    | 15.6            | [kg] (34.39 lb.)                           |
| 5 Nitrogen charge             | 0.2 to 0.3      | [kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig) |

### C - ELETRICAL DATA

|  |                                   |                                    |
|--|-----------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 208-230 V 60 Hz 1~ (Single phase) |                                    |
| 2 Starting device type                       | Voltage Relay                     |                                    |
| 2.1 Starting device                          | 3ARR3B10A3                        |                                    |
| 3 Start capacitor                            | 72-88(330)                        | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | 15(450)                           | [μF(VAC minimum)]                  |
| 5 Motor protection                           | 3HM192-105                        |                                    |
| 6 Start winding resistance                   | 6.80                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.80                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 20.00                             | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 2.60                              | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                 | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | UL                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@200V50Hz |          |     | ASHRAELBP32<br>Fan          |                               | Evaporating temperature<br>(Condensing temperature |                           | -23.3°C (-9.94°F)<br>54.4°C (129.92°F) |       |
| 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] |
| 2048                          | 516      | 600 | 481                         | 2.55                          | 11.18  | 4.26                      | 1.07                                   | 1.25  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                 |      |                                       |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@200V50Hz |       |                            | ASHRAE32<br>Fan |      | (Condensing temperature 35°C (+95°F)) |                               |                         |                           |           |       |
| 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] |
| -30                           | (-22) | 1604                       | 404             | 470  | 309                                   | 1.55                          | 8.73                    | 5.19                      | 1.31      | 1.52  |
| -25                           | (-13) | 2210                       | 557             | 648  | 386                                   | 1.95                          | 12.06                   | 5.72                      | 1.44      | 1.68  |
| -20                           | (- 4) | 2972                       | 749             | 871  | 474                                   | 2.40                          | 16.27                   | 6.27                      | 1.58      | 1.84  |
| -15                           | (+ 5) | 3890                       | 980             | 1140 | 572                                   | 2.93                          | 21.38                   | 6.80                      | 1.71      | 1.99  |
| -10                           | (+14) | 4964                       | 1251            | 1455 | 681                                   | 3.51                          | 27.40                   | 7.29                      | 1.84      | 2.14  |

|                               |       |                            |                 |      |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@200V50Hz |       |                            | ASHRAE32<br>Fan |      | (Condensing temperature 45°C (+113°F)) |                               |                         |                           |           |       |
| 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] |
| -30                           | (-22) | 1460                       | 368             | 428  | 342                                    | 1.76                          | 7.95                    | 4.27                      | 1.08      | 1.25  |
| -25                           | (-13) | 2021                       | 509             | 592  | 420                                    | 2.17                          | 11.03                   | 4.81                      | 1.21      | 1.41  |
| -20                           | (- 4) | 2731                       | 688             | 800  | 508                                    | 2.65                          | 14.95                   | 5.37                      | 1.35      | 1.57  |
| -15                           | (+ 5) | 3590                       | 905             | 1052 | 607                                    | 3.20                          | 19.73                   | 5.91                      | 1.49      | 1.73  |
| -10                           | (+14) | 4597                       | 1158            | 1347 | 717                                    | 3.82                          | 25.37                   | 6.41                      | 1.62      | 1.88  |

|                               |       |                            |                 |      |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@200V50Hz |       |                            | ASHRAE32<br>Fan |      | (Condensing temperature 55°C (+131°F)) |                               |                         |                           |           |       |
| 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] |
| -30                           | (-22) | 1322                       | 333             | 387  | 374                                    | 1.97                          | 7.19                    | 3.53                      | 0.89      | 1.04  |
| -25                           | (-13) | 1840                       | 464             | 539  | 452                                    | 2.39                          | 10.04                   | 4.07                      | 1.03      | 1.19  |
| -20                           | (- 4) | 2500                       | 630             | 733  | 541                                    | 2.89                          | 13.68                   | 4.62                      | 1.16      | 1.35  |
| -15                           | (+ 5) | 3301                       | 832             | 967  | 641                                    | 3.46                          | 18.14                   | 5.15                      | 1.30      | 1.51  |
| -10                           | (+14) | 4244                       | 1069            | 1244 | 752                                    | 4.11                          | 23.42                   | 5.64                      | 1.42      | 1.65  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@200V60Hz |       | ASHRAE32<br>Fan            |          |      | (Condensing temperature 35°C (+95°F)) |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|------|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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] |
| -30                           | (-22) | 1877                       | 473      | 550  | 361                                   | 1.58                          | 10.22                   | 5.20                      | 1.31      | 1.52  |
| -25                           | (-13) | 2585                       | 652      | 758  | 452                                   | 1.99                          | 14.11                   | 5.73                      | 1.44      | 1.68  |
| -20                           | (- 4) | 3477                       | 876      | 1019 | 554                                   | 2.46                          | 19.04                   | 6.27                      | 1.58      | 1.84  |
| -15                           | (+ 5) | 4551                       | 1147     | 1334 | 669                                   | 2.99                          | 25.01                   | 6.80                      | 1.71      | 1.99  |
| -10                           | (+14) | 5808                       | 1464     | 1702 | 797                                   | 3.59                          | 32.06                   | 7.29                      | 1.84      | 2.14  |

| TEST CONDITIONS:<br>@200V60Hz |       | ASHRAE32<br>Fan            |          |      | (Condensing temperature 45°C (+113°F)) |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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] |
| -30                           | (-22) | 1708                       | 431      | 501  | 400                                    | 1.80                          | 9.30                    | 4.27                      | 1.08      | 1.25  |
| -25                           | (-13) | 2365                       | 596      | 693  | 491                                    | 2.22                          | 12.90                   | 4.81                      | 1.21      | 1.41  |
| -20                           | (- 4) | 3195                       | 805      | 936  | 595                                    | 2.71                          | 17.49                   | 5.37                      | 1.35      | 1.57  |
| -15                           | (+ 5) | 4200                       | 1058     | 1231 | 710                                    | 3.27                          | 23.08                   | 5.91                      | 1.49      | 1.73  |
| -10                           | (+14) | 5379                       | 1356     | 1576 | 839                                    | 3.89                          | 29.69                   | 6.41                      | 1.62      | 1.88  |

| TEST CONDITIONS:<br>@200V60Hz |       | ASHRAE32<br>Fan            |          |      | (Condensing temperature 55°C (+131°F)) |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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] |
| -30                           | (-22) | 1547                       | 390      | 453  | 437                                    | 2.01                          | 8.42                    | 3.54                      | 0.89      | 1.04  |
| -25                           | (-13) | 2153                       | 542      | 631  | 529                                    | 2.44                          | 11.75                   | 4.07                      | 1.03      | 1.19  |
| -20                           | (- 4) | 2924                       | 737      | 857  | 633                                    | 2.95                          | 16.00                   | 4.62                      | 1.16      | 1.35  |
| -15                           | (+ 5) | 3862                       | 973      | 1132 | 750                                    | 3.53                          | 21.22                   | 5.15                      | 1.30      | 1.51  |
| -10                           | (+14) | 4966                       | 1251     | 1455 | 879                                    | 4.19                          | 27.40                   | 5.65                      | 1.42      | 1.65  |

### F - EXTERNAL CHARACTERISTICS

|                         |                   |      |                          |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate            | European Standard |      |                          |
| 2 Tray holder           | No                |      |                          |
| 3 Connectors            |                   |      |                          |
| 3.1 SUCTION             | 9.6 +0.07/+0.00   | [mm] | (0.378" +0.003"/+0.000") |
| 3.1.1 Material          | Copper            |      |                          |
| 3.1.2 Shape             | Vertical          |      |                          |
| 3.2 DISCHARGE           | 6.42 +0.08/+0.00  | [mm] | (0.253" +0.003"/+0.000") |
| 3.2.1 Material          | Copper            |      |                          |
| 3.2.2 Shape             | Vertical          |      |                          |
| 3.3 PROCESS             | 9.6 +0.07/+0.00   | [mm] | (0.378" +0.003"/+0.000") |
| 3.3.1 Material          | Copper            |      |                          |
| 3.3.2 Shape             | Vertical          |      |                          |
| 3.4 Oil cooler (Copper) | No                | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs      |      |                          |