

### COMPRESSOR DEFINITION

|                           |                               |
|---------------------------|-------------------------------|
| Designation               | T 2155E                       |
| Nominal Voltage/Frequency | 200-220 V 50 Hz / 230 V 60 Hz |
| Engineering Number        | 116BK23                       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-22                              |                                   |           |
| 3 Nominal voltage and frequency            | 200-220 / 50                      | [ 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 | 200-220 V 50 Hz / 230 V 60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Voltage Relay                                    |                                    |
| 2.1 Starting device                          | 3ARR3B10AB3                                      |                                    |
| 3 Start capacitor                            | 72-88(330)                                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 15(450)  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 3HM193-105                                       |                                    |
| 6 Start winding resistance                   | 6.95   | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.55   | [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)     | 2.28   | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CCC  |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@230V60Hz |          |     | 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] |
| 2325                          | 586      | 681 | 550                         | 2.57                          | 12.70  | 4.23                      | 1.07                                   | 1.24  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                 |      |                                       |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@230V50Hz |       |                            | 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) | 1598                       | 403             | 468  | 359                                   | 1.72                          | 8.70                    | 4.46                      | 1.12      | 1.31  |
| -25                           | (-13) | 2230                       | 562             | 653  | 430                                   | 1.99                          | 12.17                   | 5.17                      | 1.30      | 1.52  |
| -20                           | (- 4) | 2981                       | 751             | 874  | 506                                   | 2.31                          | 16.32                   | 5.89                      | 1.48      | 1.73  |
| -15                           | (+ 5) | 3844                       | 969             | 1126 | 589                                   | 2.68                          | 21.12                   | 6.54                      | 1.65      | 1.92  |
| -10                           | (+14) | 4807                       | 1211            | 1409 | 680                                   | 3.10                          | 26.54                   | 7.06                      | 1.78      | 2.07  |

|                               |       |                            |                 |      |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@230V50Hz |       |                            | 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) | 1488                       | 375             | 436  | 377                                    | 1.76                          | 8.10                    | 3.95                      | 1.00      | 1.16  |
| -25                           | (-13) | 2010                       | 506             | 589  | 439                                    | 2.04                          | 10.97                   | 4.58                      | 1.15      | 1.34  |
| -20                           | (- 4) | 2696                       | 679             | 790  | 513                                    | 2.37                          | 14.76                   | 5.25                      | 1.32      | 1.54  |
| -15                           | (+ 5) | 3537                       | 891             | 1036 | 600                                    | 2.76                          | 19.43                   | 5.90                      | 1.49      | 1.73  |
| -10                           | (+14) | 4523                       | 1140            | 1325 | 700                                    | 3.20                          | 24.96                   | 6.46                      | 1.63      | 1.89  |

|                               |       |                            |                 |      |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@230V50Hz |       |                            | 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) | 1377                       | 347             | 403  | 395                                    | 1.80                          | 7.49                    | 3.47                      | 0.88      | 1.02  |
| -25                           | (-13) | 1789                       | 451             | 524  | 448                                    | 2.09                          | 9.76                    | 4.01                      | 1.01      | 1.18  |
| -20                           | (- 4) | 2410                       | 607             | 706  | 520                                    | 2.44                          | 13.19                   | 4.64                      | 1.17      | 1.36  |
| -15                           | (+ 5) | 3230                       | 814             | 946  | 611                                    | 2.84                          | 17.74                   | 5.28                      | 1.33      | 1.55  |
| -10                           | (+14) | 4238                       | 1068            | 1242 | 720                                    | 3.30                          | 23.39                   | 5.89                      | 1.48      | 1.72  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@230V60Hz |       | 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) | 1870                       | 471      | 548  | 420                                   | 2.01                          | 10.18                   | 4.46                      | 1.12      | 1.31  |
| -25                           | (-13) | 2609                       | 657      | 764  | 502                                   | 2.33                          | 14.24                   | 5.17                      | 1.30      | 1.52  |
| -20                           | (- 4) | 3488                       | 879      | 1022 | 592                                   | 2.70                          | 19.10                   | 5.89                      | 1.48      | 1.73  |
| -15                           | (+ 5) | 4497                       | 1133     | 1318 | 690                                   | 3.13                          | 24.71                   | 6.54                      | 1.65      | 1.92  |
| -10                           | (+14) | 5624                       | 1417     | 1648 | 796                                   | 3.63                          | 31.05                   | 7.06                      | 1.78      | 2.07  |

| TEST CONDITIONS:<br>@230V60Hz |       | 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) | 1740                       | 439      | 510  | 441                                    | 2.06                          | 9.47                    | 3.95                      | 1.00      | 1.16  |
| -25                           | (-13) | 2351                       | 592      | 689  | 514                                    | 2.39                          | 12.83                   | 4.58                      | 1.15      | 1.34  |
| -20                           | (- 4) | 3154                       | 795      | 924  | 600                                    | 2.77                          | 17.27                   | 5.25                      | 1.32      | 1.54  |
| -15                           | (+ 5) | 4138                       | 1043     | 1212 | 702                                    | 3.23                          | 22.74                   | 5.90                      | 1.49      | 1.73  |
| -10                           | (+14) | 5292                       | 1333     | 1551 | 819                                    | 3.74                          | 29.20                   | 6.46                      | 1.63      | 1.89  |

| TEST CONDITIONS:<br>@230V60Hz |       | 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) | 1611                       | 406      | 472  | 462                                    | 2.11                          | 8.77                    | 3.48                      | 0.88      | 1.02  |
| -25                           | (-13) | 2094                       | 528      | 614  | 524                                    | 2.45                          | 11.42                   | 4.01                      | 1.01      | 1.18  |
| -20                           | (- 4) | 2820                       | 711      | 826  | 608                                    | 2.85                          | 15.43                   | 4.64                      | 1.17      | 1.36  |
| -15                           | (+ 5) | 3779                       | 952      | 1107 | 714                                    | 3.32                          | 20.76                   | 5.28                      | 1.33      | 1.55  |
| -10                           | (+14) | 4959                       | 1250     | 1453 | 842                                    | 3.86                          | 27.36                   | 5.89                      | 1.48      | 1.73  |

### 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      |      |                          |