

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | NT 2170U        |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 842BA04         |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-290                             |                                   |           |
| 3 Nominal voltage and frequency    | 220-240 / 50                      | [ V / Hz ]                        |           |
| 4 Application type                 | Low Back Pressure R290            |                                   |           |
| 4.1 Evaporating temperature range  | -40°C to -10°C                    | (-40°F to 14°F)                   |           |
| 5 Motor type                       | CSCR                              |                                   |           |
| 6 Starting torque                  | HST - Hight 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 temperature   |                                   |                                   |           |
| 9.1 Operating                      | 18.4                              | [kgf/cm <sup>2</sup> ] (262 psig) | / °C - °F |
| 9.2 Peak                           | 20.6                              | [kgf/cm <sup>2</sup> ] (293 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |            |                                  |
|-------------------------------|------------|----------------------------------|
| 1 Commercial designation      | 1-         | [hp]                             |
| 2 Displacement                | 20.44      | [cm <sup>3</sup> ] (1.247 cu.in) |
| 2.1 Bore [mm]                 | 36.990     |                                  |
| 2.2 Stroke [mm]               | 19.030     |                                  |
| 3 Lubricant charge            | 450        | [ml] (15.22 fl.oz.)              |
| 3.1 Lubricants approved       |            |                                  |
| 3.2 Lubricants type/viscosity | AB / ISO32 |                                  |
| 4 Weight (with oil charge)    | 17.2       | [kg] (37.92 lb.)                 |
| 5 Nitrogen charge             | -          | [kgf/cm <sup>2</sup> ]           |

### C - ELECTRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Voltage Relay                      |                                    |
| 2.1 Starting device                          | RVA2AM3C-104                       |                                    |
| 3 Start capacitor                            | 53-64(330)                         | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 12.5(440)                          | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0634/G9                           |                                    |
| 6 Start winding resistance                   | 10.40                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.40                               | [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)     | -                                  | [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 - VDE                          |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                                 |          |     |                            |                            |  |                                |  |       |
|---------------------------------|----------|-----|----------------------------|----------------------------|--|--------------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz   |          |     | ASHRAELBP32<br>Fan         |                            | Evaporating temperature<br>(Condensing temperature |                                | -23.3°C (-9.94°F)<br>54.4°C (129.92°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] |
| 2836                            | 715      | 831 | 578                        | 2.90                       | 8.44   | 4.91                           | 1.24                                   | 1.44  |

### E - PERFORMANCE - CURVES

|                               |       |                                 |                 |      |                                       |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|-----------------|------|---------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                                 | ASHRAE32<br>Fan |      | (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] |
| -40                           | (-40) | 1405                            | 354             | 412  | 350                                   | 1.93                       | 4.15                     | 4.01                           | 1.01      | 1.18  |
| -35                           | (-31) | 1856                            | 468             | 544  | 403                                   | 2.15                       | 5.49                     | 4.61                           | 1.16      | 1.35  |
| -30                           | (-22) | 2421                            | 610             | 709  | 456                                   | 2.37                       | 7.18                     | 5.31                           | 1.34      | 1.56  |
| -25                           | (-13) | 3100                            | 781             | 908  | 507                                   | 2.59                       | 9.22                     | 6.11                           | 1.54      | 1.79  |
| -20                           | (- 4) | 3893                            | 981             | 1141 | 558                                   | 2.81                       | 11.62                    | 6.97                           | 1.76      | 2.04  |
| -15                           | (+ 5) | 4800                            | 1210            | 1406 | 609                                   | 3.03                       | 14.38                    | 7.88                           | 1.99      | 2.31  |
| -10                           | (+14) | 5822                            | 1467            | 1706 | 659                                   | 3.26                       | 17.52                    | 8.83                           | 2.22      | 2.59  |

|                               |       |                                 |                 |      |  |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|-----------------|------|--|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                                 | ASHRAE32<br>Fan |      | (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] |
| -40                           | (-40) | 1246                            | 314             | 365  | 352                                    | 1.96                       | 3.68                     | 3.54                           | 0.89      | 1.04  |
| -35                           | (-31) | 1679                            | 423             | 492  | 412                                    | 2.20                       | 4.97                     | 4.07                           | 1.03      | 1.19  |
| -30                           | (-22) | 2218                            | 559             | 650  | 472                                    | 2.45                       | 6.58                     | 4.69                           | 1.18      | 1.37  |
| -25                           | (-13) | 2865                            | 722             | 840  | 533                                    | 2.70                       | 8.52                     | 5.37                           | 1.35      | 1.57  |
| -20                           | (- 4) | 3620                            | 912             | 1061 | 593                                    | 2.96                       | 10.80                    | 6.10                           | 1.54      | 1.79  |
| -15                           | (+ 5) | 4482                            | 1130            | 1313 | 654                                    | 3.23                       | 13.43                    | 6.85                           | 1.73      | 2.01  |
| -10                           | (+14) | 5452                            | 1374            | 1598 | 716                                    | 3.51                       | 16.40                    | 7.62                           | 1.92      | 2.23  |

|                               |       |                                 |                 |      |  |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|-----------------|------|--|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                                 | ASHRAE32<br>Fan |      | (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] |
| -40                           | (-40) | 1085                            | 273             | 318  | 350                                    | 1.93                       | 3.20                     | 3.10                           | 0.78      | 0.91  |
| -35                           | (-31) | 1492                            | 376             | 437  | 417                                    | 2.21                       | 4.41                     | 3.58                           | 0.90      | 1.05  |
| -30                           | (-22) | 2000                            | 504             | 586  | 485                                    | 2.49                       | 5.93                     | 4.12                           | 1.04      | 1.21  |
| -25                           | (-13) | 2609                            | 657             | 764  | 554                                    | 2.79                       | 7.76                     | 4.71                           | 1.19      | 1.38  |
| -20                           | (- 4) | 3318                            | 836             | 972  | 625                                    | 3.10                       | 9.90                     | 5.31                           | 1.34      | 1.56  |
| -15                           | (+ 5) | 4129                            | 1040            | 1210 | 697                                    | 3.43                       | 12.36                    | 5.93                           | 1.49      | 1.74  |
| -10                           | (+14) | 5040                            | 1270            | 1477 | 771                                    | 3.77                       | 15.16                    | 6.53                           | 1.64      | 1.91  |

### F - EXTERNAL CHARACTERISTICS

|                         |                  |      |                          |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate            | Universal        |      |                          |
| 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             | 6.42 +0.08/+0.00 | [mm] | (0.253" +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     |      |                          |