

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>NE U2178GK</b>      |
| Nominal Voltage/Frequency | <b>220-240 V 50 Hz</b> |
| Engineering Number        | <b>9590A51</b>         |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-404A                            |                                   |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                      | [ V / Hz ]                        |           |
| 4 Application type                         | Low Back Pressure R404A           |                                   |           |
| 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 pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 25.7                              | [kgf/cm <sup>2</sup> ] (365 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 28.7                              | [kgf/cm <sup>2</sup> ] (408 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |               |                                  |
|-------------------------------|---------------|----------------------------------|
| 1 Commercial designation      | 1             | [hp]                             |
| 2 Displacement                | 16.80         | [cm <sup>3</sup> ] (1.025 cu.in) |
| 2.1 Bore [mm]                 | 31.190        |                                  |
| 2.2 Stroke [mm]               | 22.000        |                                  |
| 3 Lubricant charge            | 350           | [ml] (11.84 fl.oz.)              |
| 3.1 Lubricants approved       |               |                                  |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |                                  |
| 4 Weight (with oil charge)    | 11.6          | [kg] (25.57 lb.)                 |
| 5 Nitrogen charge             | -             | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL 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                          | RVA6M3C-114                        |                                    |
| 3 Start capacitor                            | 88-108(330)                        | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 15(400)                            | [µF(VAC minimum)]                  |
| 5 Motor protection                           | MSP18LJ-3261                       |                                    |
| 6 Start winding resistance                   | 11.03                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 5.15                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 21.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 4.27                               | [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 |          |     | EN12900LBP_HH<br>Fan           |                                  | Evaporating temperature<br>(Condensing temperature |                           | -35°C (-31°F)<br>40°C (104°F) |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|-------------------------------|-------|
| Cooling capacity<br>+/- 5%    |          |     | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5% | Gas flow<br>rate<br>+/- 5%                         | EFFICIENCY RATE<br>+/- 7% |                               |       |
| [Btu/h]                       | [kcal/h] | [W] | [W]                            | [A]                              | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]                     | [W/W] |
| 1709                          | 431      | 501 | 441                            | 2.10                             | 12.58  | 3.88                      | 0.98                          | 1.14  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       |                            | EN12900HH<br>Fan |      | (Condensing temperature 35°C (+95°F) ) |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|------------------|------|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| Evaporating<br>temperature    |       | Cooling capacity<br>+/- 5% |                  |      | Power<br>consumption<br>+/- 5%         | Current<br>consumption<br>+/- 5% | Gas flow<br>rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h]         | [W]  | [W]                                    | [A]                              | [kg/h]                     | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -40                           | (-40) | 1390                       | 350              | 407  | 370                                    | 1.78                             | 9.64                       | 3.74                      | 0.94      | 1.10  |
| -35                           | (-31) | 1845                       | 465              | 541  | 426                                    | 2.03                             | 12.84                      | 4.34                      | 1.09      | 1.27  |
| -30                           | (-22) | 2408                       | 607              | 706  | 486                                    | 2.30                             | 16.81                      | 4.96                      | 1.25      | 1.45  |
| -25                           | (-13) | 3079                       | 776              | 902  | 550                                    | 2.58                             | 21.59                      | 5.60                      | 1.41      | 1.64  |
| -20                           | (- 4) | 3858                       | 972              | 1131 | 618                                    | 2.88                             | 27.19                      | 6.24                      | 1.57      | 1.83  |
| -15                           | (+ 5) | 4746                       | 1196             | 1391 | 690                                    | 3.21                             | 33.66                      | 6.87                      | 1.73      | 2.01  |
| -10                           | (+14) | 5742                       | 1447             | 1683 | 766                                    | 3.55                             | 41.02                      | 7.49                      | 1.89      | 2.20  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | EN12900HH<br>Fan |      | (Condensing temperature 45°C (+113°F) ) |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|------------------|------|---|----------------------------------|----------------------------|---------------------------|-----------|-------|
| Evaporating<br>temperature    |       | Cooling capacity<br>+/- 5% |                  |      | Power<br>consumption<br>+/- 5%          | Current<br>consumption<br>+/- 5% | Gas flow<br>rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h]         | [W]  | [W]                                     | [A]                              | [kg/h]                     | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -40                           | (-40) | 1141                       | 287              | 334  | 382                                     | 1.82                             | 8.88                       | 2.99                      | 0.75      | 0.88  |
| -35                           | (-31) | 1524                       | 384              | 447  | 443                                     | 2.08                             | 11.92                      | 3.45                      | 0.87      | 1.01  |
| -30                           | (-22) | 2001                       | 504              | 586  | 510                                     | 2.38                             | 15.70                      | 3.92                      | 0.99      | 1.15  |
| -25                           | (-13) | 2569                       | 647              | 753  | 584                                     | 2.71                             | 20.26                      | 4.39                      | 1.11      | 1.29  |
| -20                           | (- 4) | 3231                       | 814              | 947  | 664                                     | 3.07                             | 25.63                      | 4.86                      | 1.22      | 1.42  |
| -15                           | (+ 5) | 3985                       | 1004             | 1168 | 751                                     | 3.46                             | 31.84                      | 5.31                      | 1.34      | 1.56  |
| -10                           | (+14) | 4832                       | 1218             | 1416 | 844                                     | 3.89                             | 38.92                      | 5.73                      | 1.44      | 1.68  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | EN12900HH<br>Fan |      | (Condensing temperature 55°C (+131°F) ) |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|------------------|------|---|----------------------------------|----------------------------|---------------------------|-----------|-------|
| Evaporating<br>temperature    |       | Cooling capacity<br>+/- 5% |                  |      | Power<br>consumption<br>+/- 5%          | Current<br>consumption<br>+/- 5% | Gas flow<br>rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                    | [kcal/h]         | [W]  | [W]                                     | [A]                              | [kg/h]                     | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -40                           | (-40) | 890                        | 224              | 261  | 386                                     | 1.83                             | 8.01                       | 2.30                      | 0.58      | 0.67  |
| -35                           | (-31) | 1204                       | 304              | 353  | 453                                     | 2.13                             | 10.89                      | 2.65                      | 0.67      | 0.78  |
| -30                           | (-22) | 1596                       | 402              | 468  | 529                                     | 2.47                             | 14.49                      | 3.01                      | 0.76      | 0.88  |
| -25                           | (-13) | 2064                       | 520              | 605  | 614                                     | 2.85                             | 18.86                      | 3.36                      | 0.85      | 0.99  |
| -20                           | (- 4) | 2610                       | 658              | 765  | 707                                     | 3.28                             | 24.00                      | 3.70                      | 0.93      | 1.08  |
| -15                           | (+ 5) | 3232                       | 814              | 947  | 810                                     | 3.75                             | 29.97                      | 4.00                      | 1.01      | 1.17  |
| -10                           | (+14) | 3932                       | 991              | 1152 | 921                                     | 4.26                             | 36.79                      | 4.26                      | 1.07      | 1.25  |

### F - EXTERNAL CHARACTERISTICS

|                         |                   |      |                          |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate            | European Standard |      |                          |
| 2 Tray holder           | No                |      |                          |
| 3 Connectors            |                   |      |                          |
| 3.1 SUCTION             | 8.1 +0.10/+0.00   | [mm] | (0.319" +0.004"/+0.000") |
| 3.1.1 Material          | Copper            |      |                          |
| 3.1.2 Shape             | Slanted 42°       |      |                          |
| 3.2 DISCHARGE           | 6.1 +0.10/+0.00   | [mm] | (0.240" +0.004"/+0.000") |
| 3.2.1 Material          | Copper            |      |                          |
| 3.2.2 Shape             | Straight          |      |                          |
| 3.3 PROCESS             | 6.1 +0.10/+0.00   | [mm] | (0.240" +0.004"/+0.000") |
| 3.3.1 Material          | Copper            |      |                          |
| 3.3.2 Shape             | Slanted 42°       |      |                          |
| 3.4 Oil cooler (Copper) | No                | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs      |      |                          |