

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | NE K6181U       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 861FA41         |

### 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                 | Medium Back Pressure (Commercial Compressors) |                                   |           |
| 4.1 Evaporating temperature range  | -20°C to 10°C                                 | (-4°F to 50°F)                    |           |
| 5 Motor type                       | CSIR                                          |                                   |           |
| 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      | 1/3           | [hp]                             |
| 2 Displacement                | 7.28          | [cm <sup>3</sup> ] (0.444 cu.in) |
| 2.1 Bore [mm]                 | 26.497        |                                  |
| 2.2 Stroke [mm]               | 13.200        |                                  |
| 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)    | 10            | [kg] (22.05 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                       | Current Relay                      |                                    |
| 2.1 Starting device                          | MTRP-0029                          |                                    |
| 3 Start capacitor                            | 43-53(330)                         | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0186/G6                           |                                    |
| 6 Start winding resistance                   | 28.20                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 6.10                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 12.00                              | [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             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |                                                    |                           |                                      |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|----------------------------------------------------|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | ASHRAEHBP46<br>Fan          |                               | Evaporating temperature<br>(Condensing temperature |                           | 7.2°C (44.96°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] |
| 3238                          | 816      | 949 | 386                         | 2.44                          | 11.08                                              | 8.39                      | 2.11                                 | 2.46  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                 |      |                                       |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE46<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] |
| -20                           | (- 4) | 1590                       | 401             | 466  | 231                                   | 1.93                          | 0.38                    | 6.86                      | 1.73      | 2.01  |
| -15                           | (+ 5) | 1852                       | 467             | 543  | 250                                   | 1.98                          | 4.34                    | 7.43                      | 1.87      | 2.18  |
| -10                           | (+14) | 2226                       | 561             | 652  | 264                                   | 2.03                          | 6.71                    | 8.44                      | 2.13      | 2.47  |
| -5                            | (+23) | 2698                       | 680             | 791  | 275                                   | 2.06                          | 8.14                    | 9.82                      | 2.48      | 2.88  |
| 0                             | (+32) | 3255                       | 820             | 954  | 283                                   | 2.09                          | 9.30                    | 11.49                     | 2.90      | 3.37  |
| +5                            | (+41) | 3883                       | 979             | 1138 | 290                                   | 2.11                          | 10.86                   | 13.37                     | 3.37      | 3.92  |
| +10                           | (+50) | 4569                       | 1151            | 1339 | 297                                   | 2.12                          | 13.48                   | 15.37                     | 3.87      | 4.50  |

|                               |       |                            |                 |      |                                        |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|----------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE46<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] |
| -20                           | (- 4) | 1369                       | 345             | 401  | 248                                    | 1.97                          | 0.29                    | 5.53                      | 1.39      | 1.62  |
| -15                           | (+ 5) | 1610                       | 406             | 472  | 273                                    | 2.05                          | 4.14                    | 5.89                      | 1.49      | 1.73  |
| -10                           | (+14) | 1951                       | 492             | 572  | 293                                    | 2.11                          | 6.40                    | 6.64                      | 1.67      | 1.95  |
| -5                            | (+23) | 2378                       | 599             | 697  | 309                                    | 2.17                          | 7.76                    | 7.68                      | 1.94      | 2.25  |
| 0                             | (+32) | 2878                       | 725             | 843  | 322                                    | 2.21                          | 8.86                    | 8.94                      | 2.25      | 2.62  |
| +5                            | (+41) | 3438                       | 866             | 1007 | 333                                    | 2.25                          | 10.37                   | 10.33                     | 2.60      | 3.03  |
| +10                           | (+50) | 4043                       | 1019            | 1185 | 344                                    | 2.28                          | 12.97                   | 11.77                     | 2.97      | 3.45  |

|                               |       |                            |                 |      |                                        |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|------|----------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE46<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] |
| -20                           | (- 4) | 1166                       | 294             | 342  | 261                                    | 2.01                          | 0.23                    | 4.48                      | 1.13      | 1.31  |
| -15                           | (+ 5) | 1389                       | 350             | 407  | 293                                    | 2.11                          | 3.96                    | 4.74                      | 1.20      | 1.39  |
| -10                           | (+14) | 1699                       | 428             | 498  | 319                                    | 2.19                          | 6.14                    | 5.31                      | 1.34      | 1.56  |
| -5                            | (+23) | 2084                       | 525             | 611  | 341                                    | 2.27                          | 7.41                    | 6.10                      | 1.54      | 1.79  |
| 0                             | (+32) | 2529                       | 637             | 741  | 360                                    | 2.35                          | 8.46                    | 7.04                      | 1.77      | 2.06  |
| +5                            | (+41) | 3022                       | 762             | 886  | 377                                    | 2.41                          | 9.94                    | 8.03                      | 2.02      | 2.35  |
| +10                           | (+50) | 3549                       | 894             | 1040 | 393                                    | 2.47                          | 12.52                   | 9.01                      | 2.27      | 2.64  |

### 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      |      |                          |