

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | NE U2155U       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 862KA51         |

### 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 Pressuure R290           |                         |           |
| 4.1 Evaporating temperature range          | -40°C to -10°C                    | (-40°F to 14°F)         |           |
| 5 Motor type                               | CSIR                              |                         |           |
| 6 Starting torque                          | HST - Hight starting torque       |                         |           |
| 7 Expantion 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)                      | 19.1                              | [kgf/cm²] (272 psig)    | / °C - °F |
| 9.2 Peak (gauge)                           | 21.2                              | [kgf/cm²] (301 psig)    | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                  |           |

### B - MECHANICAL DATA

|                               |               |                                            |
|-------------------------------|---------------|--------------------------------------------|
| 1 Commercial designation      | 3/4           | [hp]                                       |
| 2 Displacement                | 13.54         | [cm <sup>3</sup> ] (0.826 cu.in)           |
| 2.1 Bore [mm]                 | 29.362        |                                            |
| 2.2 Stroke [mm]               | 20.000        |                                            |
| 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)    | 11.1          | [kg] (24.47 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 | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Current Relay                      |                                    |
| 2.1 Starting device                          | MTRP-49-65                         |                                    |
| 3 Start capacitor                            | 64-77(330)                         | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [μF(VAC minimum)]                  |
| 5 Motor protection                           | T0056/G6                           |                                    |
| 6 Start winding resistance                   | 19.29                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 5.98                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 17.50                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 3.13                               | [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  |          |     | ASHRAELBP32<br>Fan                 |                                      | Evaporating temperature<br>(Condensing temperature |                               | -23.3°C (-9.94°F)<br>54.4°C (129.92°F)) |       |
| Cooling capacity<br><br>+/- 5% |          |     | Power<br>consumption<br><br>+/- 5% | Current<br>consumption<br><br>+/- 5% | Gas flow<br>rate<br><br>+/- 5%                     | EFFICIENCY RATE<br><br>+/- 7% |                                         |       |
| [Btu/h]                        | [kcal/h] | [W] | [W]                                | [A]                                  | [kg/h]                                             | [Btu/Wh]                      | [kcal/Wh]                               | [W/W] |
| 2137                           | 539      | 626 | 442                                | 2.55                                 | 6.36                                               | 4.83                          | 1.22                                    | 1.42  |

|                                |          |     |                                    |                                      |                                                    |                               |                                |       |
|--------------------------------|----------|-----|------------------------------------|--------------------------------------|----------------------------------------------------|-------------------------------|--------------------------------|-------|
| 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><br>+/- 5% |          |     | Power<br>consumption<br><br>+/- 5% | Current<br>consumption<br><br>+/- 5% | Gas flow<br>rate<br><br>+/- 5%                     | EFFICIENCY RATE<br><br>+/- 7% |                                |       |
| [Btu/h]                        | [kcal/h] | [W] | [W]                                | [A]                                  | [kg/h]                                             | [Btu/Wh]                      | [kcal/Wh]                      | [W/W] |
| 1241                           | 313      | 364 | 301                                | 2.06                                 | 3.92                                               | 4.12                          | 1.04                           | 1.21  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                 |                                |                                       |                         |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | ASHRAE32<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 rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
|                               | [Btu/h]                    | [kcal/h] | [W]             | [W]                            | [A]                                   | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -40 (-40)                     | 1086                       | 274      | 318             | 257                            | 0.00                                  | 3.21                    | 4.22                      | 1.06      | 1.24  |
| -35 (-31)                     | 1392                       | 351      | 408             | 294                            | 0.00                                  | 4.12                    | 4.75                      | 1.20      | 1.39  |
| -30 (-22)                     | 1781                       | 449      | 522             | 330                            | 0.00                                  | 5.28                    | 5.40                      | 1.36      | 1.58  |
| -25 (-13)                     | 2255                       | 568      | 661             | 366                            | 0.00                                  | 6.71                    | 6.16                      | 1.55      | 1.80  |
| -20 (- 4)                     | 2811                       | 708      | 824             | 402                            | 0.00                                  | 8.39                    | 7.00                      | 1.76      | 2.05  |
| -15 (+ 5)                     | 3452                       | 870      | 1011            | 437                            | 0.00                                  | 10.34                   | 7.89                      | 1.99      | 2.31  |
| -10 (+14)                     | 4176                       | 1052     | 1224            | 473                            | 0.00                                  | 12.57                   | 8.83                      | 2.23      | 2.59  |

|                               |                            |          |                 |                                |                                        |                         |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | ASHRAE32<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 rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
|                               | [Btu/h]                    | [kcal/h] | [W]             | [W]                            | [A]                                    | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -40 (-40)                     | 1020                       | 257      | 299             | 270                            | 0.00                                   | 3.01                    | 3.77                      | 0.95      | 1.11  |
| -35 (-31)                     | 1316                       | 332      | 386             | 312                            | 0.00                                   | 3.89                    | 4.23                      | 1.06      | 1.24  |
| -30 (-22)                     | 1690                       | 426      | 495             | 354                            | 0.00                                   | 5.01                    | 4.77                      | 1.20      | 1.40  |
| -25 (-13)                     | 2143                       | 540      | 628             | 397                            | 0.00                                   | 6.37                    | 5.40                      | 1.36      | 1.58  |
| -20 (- 4)                     | 2674                       | 674      | 783             | 440                            | 0.00                                   | 7.98                    | 6.07                      | 1.53      | 1.78  |
| -15 (+ 5)                     | 3283                       | 827      | 962             | 485                            | 0.00                                   | 9.83                    | 6.77                      | 1.71      | 1.98  |
| -10 (+14)                     | 3971                       | 1001     | 1164            | 531                            | 0.00                                   | 11.95                   | 7.48                      | 1.88      | 2.19  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:        |       | ASHRAE32         |          |      | (Condensing temperature 55°C (+131°F) ) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|-----------------------------------------|---------------------|---------------|-----------------|-----------|-------|
| @220V50Hz               |       | Fan              |          |      |                                         |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                       | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                  | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                     | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 913              | 230      | 268  | 275                                     | 0.00                | 2.69          | 3.33            | 0.84      | 0.97  |
| -35                     | (-31) | 1210             | 305      | 355  | 322                                     | 0.00                | 3.58          | 3.75            | 0.95      | 1.10  |
| -30                     | (-22) | 1580             | 398      | 463  | 372                                     | 0.00                | 4.68          | 4.24            | 1.07      | 1.24  |
| -25                     | (-13) | 2022             | 510      | 593  | 423                                     | 0.00                | 6.01          | 4.78            | 1.20      | 1.40  |
| -20                     | (- 4) | 2538             | 640      | 744  | 477                                     | 0.00                | 7.57          | 5.33            | 1.34      | 1.56  |
| -15                     | (+ 5) | 3127             | 788      | 916  | 533                                     | 0.00                | 9.36          | 5.88            | 1.48      | 1.72  |
| -10                     | (+14) | 3789             | 955      | 1110 | 591                                     | 0.00                | 11.40         | 6.40            | 1.61      | 1.88  |

| TEST CONDITIONS:        |       | EN12900HH        |          |      | (Condensing temperature 35°C (+95°F) ) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|----------------------------------------|---------------------|---------------|-----------------|-----------|-------|
| @220V50Hz               |       | Fan              |          |      |                                        |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 1068             | 269      | 313  | 258                                    | 1.89                | 3.23          | 4.12            | 1.04      | 1.21  |
| -35                     | (-31) | 1360             | 343      | 399  | 294                                    | 2.00                | 4.12          | 4.64            | 1.17      | 1.36  |
| -30                     | (-22) | 1738             | 438      | 509  | 330                                    | 2.12                | 5.28          | 5.28            | 1.33      | 1.55  |
| -25                     | (-13) | 2201             | 555      | 645  | 366                                    | 2.25                | 6.70          | 6.01            | 1.52      | 1.76  |
| -20                     | (- 4) | 2750             | 693      | 806  | 402                                    | 2.38                | 8.40          | 6.84            | 1.72      | 2.00  |
| -15                     | (+ 5) | 3384             | 853      | 992  | 438                                    | 2.52                | 10.38         | 7.73            | 1.95      | 2.26  |
| -10                     | (+14) | 4104             | 1034     | 1203 | 473                                    | 2.66                | 12.65         | 8.67            | 2.19      | 2.54  |

| TEST CONDITIONS:        |       | EN12900HH        |          |      | (Condensing temperature 45°C (+113°F) ) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|-----------------------------------------|---------------------|---------------|-----------------|-----------|-------|
| @220V50Hz               |       | Fan              |          |      |                                         |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                       | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                  | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                     | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 906              | 228      | 266  | 269                                     | 1.91                | 2.98          | 3.38            | 0.85      | 0.99  |
| -35                     | (-31) | 1179             | 297      | 345  | 310                                     | 2.04                | 3.90          | 3.80            | 0.96      | 1.11  |
| -30                     | (-22) | 1519             | 383      | 445  | 353                                     | 2.19                | 5.04          | 4.30            | 1.08      | 1.26  |
| -25                     | (-13) | 1927             | 486      | 565  | 396                                     | 2.35                | 6.41          | 4.85            | 1.22      | 1.42  |
| -20                     | (- 4) | 2402             | 605      | 704  | 440                                     | 2.52                | 8.02          | 5.44            | 1.37      | 1.60  |
| -15                     | (+ 5) | 2944             | 742      | 863  | 486                                     | 2.70                | 9.87          | 6.06            | 1.53      | 1.78  |
| -10                     | (+14) | 3554             | 896      | 1041 | 532                                     | 2.90                | 11.97         | 6.69            | 1.69      | 1.96  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | EN12900HH<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] |
| -40                           | (-40) | 756                        | 191      | 222 | 275                                     | 1.94                          | 2.76                    | 2.75                      | 0.69      | 0.81  |
| -35                           | (-31) | 1009                       | 254      | 296 | 323                                     | 2.09                          | 3.69                    | 3.12                      | 0.79      | 0.91  |
| -30                           | (-22) | 1311                       | 330      | 384 | 373                                     | 2.26                          | 4.81                    | 3.51                      | 0.89      | 1.03  |
| -25                           | (-13) | 1663                       | 419      | 487 | 424                                     | 2.46                          | 6.12                    | 3.92                      | 0.99      | 1.15  |
| -20                           | (- 4) | 2064                       | 520      | 605 | 478                                     | 2.67                          | 7.62                    | 4.33                      | 1.09      | 1.27  |
| -15                           | (+ 5) | 2515                       | 634      | 737 | 534                                     | 2.90                          | 9.33                    | 4.72                      | 1.19      | 1.38  |
| -10                           | (+14) | 3015                       | 760      | 883 | 592                                     | 3.15                          | 11.26                   | 5.08                      | 1.28      | 1.49  |

## 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      |      |                          |