

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | NE U2168U       |
| Nominal Voltage/Frequency | 208-230 V 60 Hz |
| Engineering Number        | 863ID92         |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-290                             |                                   |           |
| 3 Nominal voltage and frequency    | 208-230 / 60                      | [ 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      | 3/4        | [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 | AB / ISO32 |                                  |
| 4 Weight (with oil charge)    | 11.5       | [kg] (25.35 lb.)                 |
| 5 Nitrogen charge             | -          | [kgf/cm <sup>2</sup> ]           |

### C - ELECTRICAL DATA

|  |                                   |                                    |
|--|-----------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 208-230 V 60 Hz 1~ (Single phase) |                                    |
| 2 Starting device type                       | Voltage Relay                     |                                    |
| 2.1 Starting device                          | RVA2AM3C-104                      |                                    |
| 3 Start capacitor                            | 88-108(330)                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 10(400)                           | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0645/G9                          |                                    |
| 6 Start winding resistance                   | 9.27                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.39                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 30.00                             | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | -                                 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                 | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | UL                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                                 |          |     |                            |                            |  |                                |  |       |
|---------------------------------|----------|-----|----------------------------|----------------------------|--|--------------------------------|--|-------|
| TEST CONDITIONS:<br>@230V60Hz   |          |     | ARILBP<br>Fan              |                            | Evaporating temperature<br>(Condensing temperature |                                | -23.3°C (-9.94°F)<br>48.9°C (120.02°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] |
| 2551                            | 643      | 748 | 618                        | 3.18                       | 10.36  | 4.13                           | 1.04                                   | 1.21  |

### E - PERFORMANCE - CURVES

|                               |       |                                 |             |      |                                       |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|-------------|------|---------------------------------------|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@230V60Hz |       |                                 | ARI4<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) | 1410                            | 355         | 413  | 398                                   | 2.51                       | 4.89                     | 3.54                           | 0.89      | 1.04  |
| -35                           | (-31) | 1827                            | 460         | 535  | 452                                   | 2.66                       | 6.36                     | 4.04                           | 1.02      | 1.19  |
| -30                           | (-22) | 2351                            | 593         | 689  | 507                                   | 2.82                       | 8.22                     | 4.64                           | 1.17      | 1.36  |
| -25                           | (-13) | 2983                            | 752         | 874  | 561                                   | 3.00                       | 10.47                    | 5.31                           | 1.34      | 1.56  |
| -20                           | (- 4) | 3722                            | 938         | 1091 | 617                                   | 3.19                       | 13.14                    | 6.04                           | 1.52      | 1.77  |
| -15                           | (+ 5) | 4567                            | 1151        | 1338 | 672                                   | 3.39                       | 16.24                    | 6.80                           | 1.71      | 1.99  |
| -10                           | (+14) | 5519                            | 1391        | 1617 | 728                                   | 3.61                       | 19.79                    | 7.58                           | 1.91      | 2.22  |

|                               |       |                                 |             |      |  |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|-------------|------|--|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@230V60Hz |       |                                 | ARI4<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) | 1164                            | 293         | 341  | 407                                    | 2.53                       | 4.46                     | 2.87                           | 0.72      | 0.84  |
| -35                           | (-31) | 1523                            | 384         | 446  | 464                                    | 2.70                       | 5.85                     | 3.29                           | 0.83      | 0.96  |
| -30                           | (-22) | 1980                            | 499         | 580  | 523                                    | 2.89                       | 7.64                     | 3.78                           | 0.95      | 1.11  |
| -25                           | (-13) | 2535                            | 639         | 743  | 585                                    | 3.09                       | 9.83                     | 4.32                           | 1.09      | 1.27  |
| -20                           | (- 4) | 3186                            | 803         | 934  | 649                                    | 3.32                       | 12.44                    | 4.90                           | 1.24      | 1.44  |
| -15                           | (+ 5) | 3934                            | 991         | 1153 | 715                                    | 3.57                       | 15.48                    | 5.50                           | 1.39      | 1.61  |
| -10                           | (+14) | 4779                            | 1204        | 1400 | 784                                    | 3.84                       | 18.97                    | 6.10                           | 1.54      | 1.79  |

|                               |       |                                 |             |      |  |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|-------------|------|--|----------------------------|--------------------------|--------------------------------|-----------|-------|
| TEST CONDITIONS:<br>@230V60Hz |       |                                 | ARI4<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) | 953                             | 240         | 279  | 416                                    | 2.54                       | 4.09                     | 2.28                           | 0.58      | 0.67  |
| -35                           | (-31) | 1254                            | 316         | 367  | 476                                    | 2.72                       | 5.41                     | 2.64                           | 0.66      | 0.77  |
| -30                           | (-22) | 1643                            | 414         | 481  | 540                                    | 2.93                       | 7.13                     | 3.04                           | 0.77      | 0.89  |
| -25                           | (-13) | 2119                            | 534         | 621  | 608                                    | 3.16                       | 9.25                     | 3.48                           | 0.88      | 1.02  |
| -20                           | (- 4) | 2682                            | 676         | 786  | 681                                    | 3.43                       | 11.79                    | 3.94                           | 0.99      | 1.15  |
| -15                           | (+ 5) | 3332                            | 840         | 976  | 759                                    | 3.72                       | 14.77                    | 4.40                           | 1.11      | 1.29  |
| -10                           | (+14) | 4069                            | 1025        | 1192 | 841                                    | 4.04                       | 18.21                    | 4.84                           | 1.22      | 1.42  |

### F - EXTERNAL CHARACTERISTICS

|                         |                  |      |                          |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate            | Universal        |      |                          |
| 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           | 6.45 +0.10/+0.00 | [mm] | (0.254" +0.004"/+0.000") |
| 3.2.1 Material          | Copper           |      |                          |
| 3.2.2 Shape             | Straight         |      |                          |
| 3.3 PROCESS             | 6.45 +0.10/+0.00 | [mm] | (0.254" +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     |      |                          |