

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>NB U1114Y</b>       |
| Nominal Voltage/Frequency | <b>220-240 V 50 Hz</b> |
| Engineering Number        | <b>853BA12</b>         |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-600a                            |                                   |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                      | [ V / Hz ]                        |           |
| 4 Application type                         | Low Back Pressure                 |                                   |           |
| 4.1 Evaporating temperature range          | -35°C to -10°C                    | (-31°F to 14°F)                   |           |
| 5 Motor type                               | RSCR                              |                                   |           |
| 6 Starting torque                          | LST - Low Starting Torque         |                                   |           |
| 7 Expansion device                         | Capillary tube                    |                                   |           |
| 8 Compressor cooling                       | Operating voltage range           |                                   |           |
|  |                                   | 50 Hz                             | 60 Hz     |
| 8.1 LBP (32°C Ambient temperature)         | Static                            | 198 to 254 V                      | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 254 V                      | -         |
| 8.3 HBP (32°C Ambient temperature)         | -                                 | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature)         | -                                 | -                                 | -         |
| 9 Maximum condensing pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 7.7                               | [kgf/cm <sup>2</sup> ] (109 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 9.8                               | [kgf/cm <sup>2</sup> ] (139 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      |                | [hp]                             |
| 2 Displacement                | 9.99           | [cm <sup>3</sup> ] (0.610 cu.in) |
| 2.1 Bore [mm]                 | 26.497         |                                  |
| 2.2 Stroke [mm]               | 18.120         |                                  |
| 3 Lubricant charge            | 350            | [ml] (11.84 fl.oz.)              |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 10.2           | [kg] (22.49 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                       | PTC                                |                                    |
| 2.1 Starting device                          | 2019                               |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(450)                             | [µF(VAC minimum)]                  |
| 5 Motor protection                           | AD25FQ10                           |                                    |
| 6 Start winding resistance                   | 19.70                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 19.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 4.40                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.45                               | [A]                                |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A]                                |
| 11 Approval boards certification             | CCIB - VDE                         |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | ASHRAELBP32<br>Static          |                                  | Evaporating temperature<br>(Condensing temperature |                           | -23.3°C (-9.94°F)<br>54.4°C (129.92°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] |
| 577                           | 145      | 169 | 104                            | 0.47                             | 1.81   | 5.56                      | 1.40                                   | 1.63  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                                |  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE32<br>Static         |          |     |                                | (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] |
| -35                           | (-31) | 334                        | 84       | 98  | 71                             | 0.33                                   | 1.05                       | 4.68                      | 1.18      | 1.37  |
| -30                           | (-22) | 444                        | 112      | 130 | 78                             | 0.37                                   | 1.39                       | 5.33                      | 1.34      | 1.56  |
| -25                           | (-13) | 576                        | 145      | 169 | 91                             | 0.41                                   | 1.81                       | 5.97                      | 1.50      | 1.75  |
| -20                           | (- 4) | 735                        | 185      | 215 | 103                            | 0.45                                   | 2.31                       | 7.15                      | 1.80      | 2.10  |
| -15                           | (+ 5) | 925                        | 233      | 271 | 108                            | 0.50                                   | 2.91                       | 9.46                      | 2.38      | 2.77  |
| -10                           | (+14) | 1151                       | 290      | 337 | 99                             | 0.54                                   | 3.63                       | 13.44                     | 3.39      | 3.94  |

|                               |       |                            |          |     |                                |   |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE32<br>Static         |          |     |                                | (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] |
| -35                           | (-31) | 312                        | 79       | 91  | 73                             | 0.34                                    | 0.98                       | 4.51                      | 1.14      | 1.32  |
| -30                           | (-22) | 421                        | 106      | 124 | 80                             | 0.39                                    | 1.32                       | 5.20                      | 1.31      | 1.52  |
| -25                           | (-13) | 551                        | 139      | 161 | 95                             | 0.44                                    | 1.73                       | 5.48                      | 1.38      | 1.61  |
| -20                           | (- 4) | 705                        | 178      | 207 | 110                            | 0.49                                    | 2.21                       | 5.92                      | 1.49      | 1.73  |
| -15                           | (+ 5) | 887                        | 224      | 260 | 121                            | 0.54                                    | 2.79                       | 7.07                      | 1.78      | 2.07  |
| -10                           | (+14) | 1104                       | 278      | 323 | 120                            | 0.60                                    | 3.48                       | 9.51                      | 2.40      | 2.79  |

|                               |       |                            |          |     |                                |   |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE32<br>Static         |          |     |                                | (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] |
| -35                           | (-31) | 282                        | 71       | 83  | 70                             | 0.33                                    | 0.88                       | 4.18                      | 1.05      | 1.23  |
| -30                           | (-22) | 395                        | 99       | 116 | 79                             | 0.39                                    | 1.24                       | 5.26                      | 1.33      | 1.54  |
| -25                           | (-13) | 525                        | 132      | 154 | 96                             | 0.45                                    | 1.65                       | 5.53                      | 1.39      | 1.62  |
| -20                           | (- 4) | 677                        | 171      | 198 | 117                            | 0.51                                    | 2.13                       | 5.56                      | 1.40      | 1.63  |
| -15                           | (+ 5) | 855                        | 216      | 251 | 134                            | 0.58                                    | 2.69                       | 5.90                      | 1.49      | 1.73  |
| -10                           | (+14) | 1064                       | 268      | 312 | 142                            | 0.65                                    | 3.36                       | 7.14                      | 1.80      | 2.09  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE32<br>Static         |          |     | (Condensing temperature 65°C (+149°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] |
| -35                           | (-31) | 222                        | 56       | 65  | 70                                      | 0.33                          | 0.70                    | 2.81                      | 0.71      | 0.82  |
| -30                           | (-22) | 341                        | 86       | 100 | 81                                      | 0.39                          | 1.07                    | 4.62                      | 1.16      | 1.35  |
| -25                           | (-13) | 476                        | 120      | 139 | 103                                     | 0.46                          | 1.49                    | 5.22                      | 1.31      | 1.53  |
| -20                           | (- 4) | 629                        | 159      | 184 | 130                                     | 0.54                          | 1.98                    | 5.18                      | 1.30      | 1.52  |
| -15                           | (+ 5) | 806                        | 203      | 236 | 156                                     | 0.62                          | 2.54                    | 5.06                      | 1.28      | 1.48  |
| -10                           | (+14) | 1012                       | 255      | 296 | 174                                     | 0.70                          | 3.19                    | 5.44                      | 1.37      | 1.59  |

### F - EXTERNAL CHARACTERISTICS

|                         |                   |      |                          |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate            | European Standard |      |                          |
| 2 Tray holder           | No                |      |                          |
| 3 Connectors            |                   |      |                          |
| 3.1 SUCTION             | 6.1 +0.10/+0.00   | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material          | Copper            |      |                          |
| 3.1.2 Shape             | Slanted 42°       |      |                          |
| 3.2 DISCHARGE           | 5.1 +0.10/+0.00   | [mm] | (0.201" +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      |      |                          |