

### COMPRESSOR DEFINITION

|                           |                          |
|---------------------------|--------------------------|
| Designation               | <b>NB T1118Y</b>         |
| Nominal Voltage/Frequency | <b>100 V 50 Hz 60 Hz</b> |
| Engineering Number        | <b>812BQ47</b>           |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-600a                            |                                   |           |
| 3 Nominal voltage and frequency            | 100 / 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                               | RSIR                              |                                   |           |
| 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                            | 90 to 110 V                       | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 90 to 110 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                | 14.28          | [cm <sup>3</sup> ] (0.871 cu.in) |
| 2.1 Bore [mm]                 | 30.157         |                                  |
| 2.2 Stroke [mm]               | 20.000         |                                  |
| 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)    | 10.7           | [kg] (23.59 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |                                   |                                    |
|--|-----------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 100 V 50/60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | PTC                               |                                    |
| 2.1 Starting device                          | V115                              |                                    |
| 3 Start capacitor                            | -                                 | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                 | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0764/07                          |                                    |
| 6 Start winding resistance                   | 8.90                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 1.40                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | -                                 | [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             |                                   |                                    |

### D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS:<br>@100V50Hz |          |     | 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] |
| 783                           | 197      | 229 | 162                            | 2.56                             | 2.46   | 4.83                      | 1.22                                   | 1.42  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@100V50Hz |       | 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) | 463                        | 117      | 136 | 112                                    | 2.28                             | 1.45                       | 4.12                      | 1.04      | 1.21  |
| -30                           | (-22) | 611                        | 154      | 179 | 127                                    | 2.36                             | 1.92                       | 4.81                      | 1.21      | 1.41  |
| -25                           | (-13) | 789                        | 199      | 231 | 142                                    | 2.44                             | 2.47                       | 5.55                      | 1.40      | 1.63  |
| -20                           | (- 4) | 1002                       | 253      | 294 | 158                                    | 2.54                             | 3.15                       | 6.34                      | 1.60      | 1.86  |
| -15                           | (+ 5) | 1259                       | 317      | 369 | 175                                    | 2.64                             | 3.96                       | 7.18                      | 1.81      | 2.10  |
| -10                           | (+14) | 1566                       | 395      | 459 | 194                                    | 2.77                             | 4.94                       | 8.07                      | 2.03      | 2.37  |

| TEST CONDITIONS:<br>@100V50Hz |       | 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) | 436                        | 110      | 128 | 116                                     | 2.30                             | 1.37                       | 3.76                      | 0.95      | 1.10  |
| -30                           | (-22) | 584                        | 147      | 171 | 133                                     | 2.39                             | 1.83                       | 4.39                      | 1.11      | 1.29  |
| -25                           | (-13) | 758                        | 191      | 222 | 150                                     | 2.48                             | 2.38                       | 5.05                      | 1.27      | 1.48  |
| -20                           | (- 4) | 966                        | 243      | 283 | 168                                     | 2.59                             | 3.03                       | 5.75                      | 1.45      | 1.68  |
| -15                           | (+ 5) | 1214                       | 306      | 356 | 187                                     | 2.72                             | 3.82                       | 6.47                      | 1.63      | 1.90  |
| -10                           | (+14) | 1510                       | 380      | 442 | 208                                     | 2.88                             | 4.76                       | 7.23                      | 1.82      | 2.12  |

| TEST CONDITIONS:<br>@100V50Hz |       | 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) | 406                        | 102      | 119 | 118                                     | 2.31                             | 1.27                       | 3.45                      | 0.87      | 1.01  |
| -30                           | (-22) | 556                        | 140      | 163 | 137                                     | 2.41                             | 1.74                       | 4.03                      | 1.02      | 1.18  |
| -25                           | (-13) | 728                        | 184      | 213 | 157                                     | 2.52                             | 2.29                       | 4.63                      | 1.17      | 1.36  |
| -20                           | (- 4) | 932                        | 235      | 273 | 178                                     | 2.66                             | 2.93                       | 5.23                      | 1.32      | 1.53  |
| -15                           | (+ 5) | 1173                       | 296      | 344 | 201                                     | 2.82                             | 3.69                       | 5.85                      | 1.47      | 1.71  |
| -10                           | (+14) | 1460                       | 368      | 428 | 225                                     | 3.00                             | 4.61                       | 6.48                      | 1.63      | 1.90  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@100V50Hz |       | 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) | 356                        | 90       | 104 | 115                                     | 2.29                          | 1.12                    | 3.11                      | 0.78      | 0.91  |
| -30                           | (-22) | 509                        | 128      | 149 | 138                                     | 2.41                          | 1.60                    | 3.66                      | 0.92      | 1.07  |
| -25                           | (-13) | 683                        | 172      | 200 | 162                                     | 2.55                          | 2.14                    | 4.19                      | 1.06      | 1.23  |
| -20                           | (- 4) | 884                        | 223      | 259 | 188                                     | 2.72                          | 2.78                    | 4.72                      | 1.19      | 1.38  |
| -15                           | (+ 5) | 1121                       | 282      | 328 | 214                                     | 2.92                          | 3.53                    | 5.24                      | 1.32      | 1.53  |
| -10                           | (+14) | 1400                       | 353      | 410 | 243                                     | 3.15                          | 4.42                    | 5.76                      | 1.45      | 1.69  |

### 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           | 4.94 +0.08/-0.08               | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material          | Copper                         |      |                          |
| 3.2.2 Shape             | Slanted parallel to Base Plate |      |                          |
| 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                   |      |                          |