

**COMPRESSOR DEFINITION**

|                           |                    |
|---------------------------|--------------------|
| Designation               | <b>NJ9238GK</b>    |
| Nominal Voltage/Frequency | <b>230 V 50 Hz</b> |
| Engineering Number        | <b>943RV01</b>     |

**A - APPLICATION / LIMIT WORKING CONDITIONS**

|                                            |                                                     |                         |           |
|--------------------------------------------|-----------------------------------------------------|-------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor                   |                         |           |
| 2 Refrigerant                              | R-404A                                              |                         |           |
| 3 Nominal voltage and frequency            | 230 / 50                                            | [ V / Hz ]              |           |
| 4 Application type                         | Medium Back Pressure (Commercial Compressors R404A) |                         |           |
| 4.1 Evaporating temperature range          | -20°C to 0°C                                        | (-4°F to 32°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 pressures/temperature |                                                     |                         |           |
| 9.1 Operating (gauge)                      | 25.7                                                | [kgf/cm²] (365 psig)    | / °C - °F |
| 9.2 Peak (gauge)                           | 28.7                                                | [kgf/cm²] (408 psig)    | / °C - °F |
| 10 Maximum winding temperature             | 130                                                 | [ °C ]                  |           |

**B - MECHANICAL DATA**

|                               |               |                                           |
|-------------------------------|---------------|-------------------------------------------|
| 1 Commercial designation      | 1 1/2         | [hp]                                      |
| 2 Displacement                | 32.67         | [cm <sup>3</sup> ] (1.994 cu.in)          |
| 2.1 Bore                      | 41.770        |                                           |
| 2.2 Stroke                    | 11.925        |                                           |
| 3 Lubricant charge            | 750           | [ml] (25.36 fl.oz.)                       |
| 3.1 Lubricants approved       |               |                                           |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |                                           |
| 4 Weight(with oil charge)     | 22.1          | [kg] (48.72 lb.)                          |
| 5 Nitrogen charge             | 0.2 to 0.3    | [kgf/cm <sup>2</sup> ](2.84 to 4.27 psig) |

**C - ELECTRICAL DATA**

|                                              |                                |                                    |
|----------------------------------------------|--------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 230 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Voltage Relay                  |                                    |
| 2.1 Starting device                          | 3ARR3B10AT3                    |                                    |
| 3 Start capacitor                            | 130-156(330)                   | [µf(VAC minimum)]                  |
| 4 Run capacitor                              | 25(440)                        | [µf(VAC minimum)]                  |
| 5 Motor protection (external)                | T0878/C9 OR MRA3764-           |                                    |
| 6 Start winding resistance                   | 5.40                           | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 1.75                           | [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             | IMQ                            |                                    |

## D - PERFORMANCE - CHECK POINT DATA

|                               |          |      |                             |                               |                                                                                       |                           |
|-------------------------------|----------|------|-----------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------|
| TEST CONDITIONS:<br>@230V50Hz |          |      | ASHRAEHBP46<br>Fan          |                               | Evaporating temperature 7.2°C (44.96°F)<br>(Condensing temperature 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]  |
| 15768                         | 3974     | 4620 | 2216                        | 10.10                         | 129.81                                                                                | 7.12 1.79 2.09            |

## E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@230V50Hz |       |                            |          | 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) | 7254                       | 1828     | 2126            | 1190                        | 5.76                                   | 46.04                   | 6.09                      | 1.54      | 1.79  |
| -15                           | (+ 5) | 9297                       | 2343     | 2724            | 1320                        | 6.30                                   | 59.35                   | 7.04                      | 1.78      | 2.06  |
| -10                           | (+14) | 11635                      | 2932     | 3409            | 1438                        | 6.79                                   | 74.74                   | 8.09                      | 2.04      | 2.37  |
| -5                            | (+23) | 14266                      | 3595     | 4180            | 1547                        | 7.24                                   | 92.31                   | 9.22                      | 2.32      | 2.70  |
| 0                             | (+32) | 17190                      | 4332     | 5037            | 1646                        | 7.64                                   | 112.19                  | 10.44                     | 2.63      | 3.06  |

| TEST CONDITIONS:        |       | ASHRAE46         |          |      |                   | (Condensing temperature 45°C (+113°F) ) |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|-------------------|-----------------------------------------|---------------|-----------------|-----------|-------|
| @230V50Hz               |       | 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] |
| -20                     | (- 4) | 6060             | 1527     | 1776 | 1214              | 5.86                                    | 42.47         | 5.00            | 1.26      | 1.47  |
| -15                     | (+ 5) | 7798             | 1965     | 2285 | 1360              | 6.46                                    | 54.96         | 5.73            | 1.44      | 1.68  |
| -10                     | (+14) | 9821             | 2475     | 2878 | 1503              | 7.05                                    | 69.68         | 6.53            | 1.65      | 1.91  |
| -5                      | (+23) | 12128            | 3056     | 3554 | 1642              | 7.63                                    | 86.77         | 7.38            | 1.86      | 2.16  |
| 0                       | (+32) | 14718            | 3709     | 4313 | 1778              | 8.20                                    | 106.34        | 8.29            | 2.09      | 2.43  |

| TEST CONDITIONS:<br>@230V50Hz |       | ASHRAE46<br>Fan  |          |      |                   |                     | (Condensing temperature 55°C (+131°F) ) |                 |           |       |
|-------------------------------|-------|------------------|----------|------|-------------------|---------------------|-----------------------------------------|-----------------|-----------|-------|
| 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] |
| -20                           | (- 4) | 4815             | 1213     | 1411 | 1237              | 5.97                | 37.86                                   | 3.89            | 0.98      | 1.14  |
| -15                           | (+ 5) | 6235             | 1571     | 1827 | 1402              | 6.62                | 49.37                                   | 4.45            | 1.12      | 1.30  |
| -10                           | (+14) | 7931             | 1999     | 2324 | 1570              | 7.31                | 63.29                                   | 5.06            | 1.27      | 1.48  |
| -5                            | (+23) | 9900             | 2495     | 2901 | 1740              | 8.04                | 79.74                                   | 5.69            | 1.43      | 1.67  |
| 0                             | (+32) | 12144            | 3060     | 3558 | 1914              | 8.80                | 98.84                                   | 6.34            | 1.60      | 1.86  |

**F - EXTERNAL CHARACTERISTICS**

|                         |                   |      |                          |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate            | American Standard |      |                          |
| 2 Tray holder           | No                |      |                          |
| 3 Connectors            |                   |      |                          |
| 3.1 SUCTION             | 12.77 +0.08/+0.00 | [mm] | (0.503" +0.003"/+0.000") |
| 3.1.1 Material          | Copper            |      |                          |
| 3.1.2 Shape             | Vertical          |      |                          |
| 3.2 DISCHARGE           | 8 +0.07/+0.00     | [mm] | (0.315" +0.003"/+0.000") |
| 3.2.1 Material          | Copper            |      |                          |
| 3.2.2 Shape             | Slanted J         |      |                          |
| 3.3 PROCESS             | 9.6 +0.07/+0.00   | [mm] | (0.378" +0.003"/+0.000") |
| 3.3.1 Material          | Copper            |      |                          |
| 3.3.2 Shape             | Vertical          |      |                          |
| 3.4 Oil cooler (Copper) | No                | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs      |      |                          |