

### COMPRESSOR DEFINITION

|                           |                                   |
|---------------------------|-----------------------------------|
| Designation               | NJ 7240P                          |
| Nominal Voltage/Frequency | 380-420 V 50 Hz / 440-480 V 60 Hz |
| Engineering Number        | 147CM11                           |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-22                              |                                   |           |
| 3 Nominal voltage and frequency    | 380-420 / 50                      | [ V / Hz ]                        |           |
| 4 Application type                 | Air Conditioning                  |                                   |           |
| 4.1 Evaporating temperature range  | 0°C to 15°C                       | (32°F to 59°F)                    |           |
| 5 Motor type                       | 3PHASE                            |                                   |           |
| 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                      | 21.7                              | [kgf/cm <sup>2</sup> ] (309 psig) | / °C - °F |
| 9.2 Peak                           | 24.2                              | [kgf/cm <sup>2</sup> ] (344 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                 |  |
|-------------------------------|-----------------|--|
| 1 Commercial designation      |                 | [hp]                                       |
| 2 Displacement                | 34.38           | [cm <sup>3</sup> ] (2.098 cu.in)           |
| 2.1 Bore [mm]                 | 42.850          |  |
| 2.2 Stroke [mm]               | 23.850          |  |
| 3 Lubricant charge            | 750             | [ml] (25.36 fl.oz.)                        |
| 3.1 Lubricants approved       |                 |  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO46 |  |
| 4 Weight (with oil charge)    | 21.4            | [kg] (47.18 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 | 380-420 V 50 Hz / 440-480 V 60 Hz 3 ~ (Three phase) |                                    |
| 2 Starting device type                       | 3PHASE  |                                    |
| 2.1 Starting device                          |   |                                    |
| 3 Start capacitor                            | -   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -   | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 34HM260   |                                    |
| 6 Start winding resistance                   |   | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 8.40  | [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>@440V60Hz |          |      | ASHRAEHBP46<br>Fan          |                               | Evaporating temperature<br>(Condensing temperature |                           | 7.2°C (44.96°F)<br>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] |
| 19366                         | 4880     | 5675 | 2362                        | 3.86                          | 119.60   | 8.20                      | 2.07                                 | 2.40  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                 |                             |                                       |                         |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@440V50Hz |                            |          | 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] |
| 0 (+32)                       | 14845                      | 3741     | 4350            | 1415                        | 3.10                                  | 78.81                   | 10.49                     | 2.64      | 3.07  |
| +5 (+41)                      | 18387                      | 4633     | 5388            | 1559                        | 3.24                                  | 99.35                   | 11.79                     | 2.97      | 3.46  |
| +10 (+50)                     | 22467                      | 5662     | 6583            | 1639                        | 3.32                                  | 120.73                  | 13.72                     | 3.46      | 4.02  |
| +15 (+59)                     | 27087                      | 6826     | 7937            | 1657                        | 3.35                                  | 0.21                    | 16.34                     | 4.12      | 4.79  |

|                               |                            |          |                 |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@440V50Hz |                            |          | ASHRAE46<br>Fan |                             | (Condensing temperature 45°C (+113°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] |
| 0 (+32)                       | 13635                      | 3436     | 3995            | 1586                        | 3.26                                   | 77.72                   | 8.61                      | 2.17      | 2.52  |
| +5 (+41)                      | 16828                      | 4241     | 4931            | 1753                        | 3.46                                   | 96.50                   | 9.59                      | 2.42      | 2.81  |
| +10 (+50)                     | 20460                      | 5156     | 5995            | 1856                        | 3.60                                   | 118.20                  | 11.01                     | 2.78      | 3.23  |
| +15 (+59)                     | 24532                      | 6182     | 7189            | 1895                        | 3.68                                   | 0.08                    | 12.95                     | 3.26      | 3.80  |

|                               |                            |          |                 |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@440V50Hz |                            |          | ASHRAE46<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] |
| 0 (+32)                       | 12375                      | 3119     | 3626            | 1765                        | 3.42                                   | 76.15                   | 7.00                      | 1.77      | 2.05  |
| +5 (+41)                      | 15201                      | 3831     | 4454            | 1955                        | 3.69                                   | 93.25                   | 7.79                      | 1.96      | 2.28  |
| +10 (+50)                     | 18367                      | 4628     | 5382            | 2081                        | 3.89                                   | 115.35                  | 8.82                      | 2.22      | 2.59  |
| +15 (+59)                     | 21873                      | 5512     | 6409            | 2144                        | 4.03                                   | - 0.29                  | 10.20                     | 2.57      | 2.99  |

|                               |                            |          |                 |                             |                                       |                         |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@440V60Hz |                            |          | 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] |
| 0 (+32)                       | 17369                      | 4377     | 5090            | 1665                        | 3.16                                  | 92.21                   | 10.43                     | 2.63      | 3.06  |
| +5 (+41)                      | 21513                      | 5421     | 6304            | 1826                        | 3.31                                  | 116.23                  | 11.78                     | 2.97      | 3.45  |
| +10 (+50)                     | 26286                      | 6624     | 7703            | 1921                        | 3.39                                  | 141.25                  | 13.69                     | 3.45      | 4.01  |
| +15 (+59)                     | 31691                      | 7986     | 9286            | 1950                        | 3.41                                  | 0.24                    | 16.25                     | 4.09      | 4.76  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@440V60Hz |       | ASHRAE46<br>Fan            |          |      | (Condensing temperature 45°C (+113°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] |
| 0                             | (+32) | 15953                      | 4020     | 4675 | 1866                                   | 3.32                          | 90.93                   | 8.56                      | 2.16      | 2.51  |
| +5                            | (+41) | 19688                      | 4961     | 5769 | 2053                                   | 3.53                          | 112.90                  | 9.58                      | 2.41      | 2.81  |
| +10                           | (+50) | 23938                      | 6032     | 7014 | 2173                                   | 3.67                          | 138.29                  | 11.01                     | 2.77      | 3.23  |
| +15                           | (+59) | 28703                      | 7233     | 8411 | 2226                                   | 3.76                          | 0.10                    | 12.90                     | 3.25      | 3.78  |

| TEST CONDITIONS:<br>@440V60Hz |       | ASHRAE46<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] |
| 0                             | (+32) | 14479                      | 3649     | 4243 | 2076                                   | 3.49                          | 89.10                   | 6.97                      | 1.76      | 2.04  |
| +5                            | (+41) | 17784                      | 4482     | 5211 | 2289                                   | 3.76                          | 109.10                  | 7.78                      | 1.96      | 2.28  |
| +10                           | (+50) | 21489                      | 5415     | 6297 | 2435                                   | 3.97                          | 134.96                  | 8.82                      | 2.22      | 2.59  |
| +15                           | (+59) | 25592                      | 6449     | 7499 | 2514                                   | 4.12                          | - 0.34                  | 10.18                     | 2.56      | 2.98  |

### 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             | 6.42 +0.08/+0.00  | [mm] | (0.253" +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      |      |                          |