

COMPRESSOR DEFINITION

| | |
|---------------------------|--|
| Designation | NJ 9238GS |
| Nominal Voltage/Frequency | 380-420 V 50 Hz / 440-480 V 60 Hz |
| Engineering Number | 947RM01 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-404A | | |
| 3 Nominal voltage and frequency | 380-420 / 50 | [V / Hz] | |
| 4 Application type | Medium Back Pressure (Commercial Compressors) | | |
| 4.1 Evaporating temperature range | -20°C to 10°C | (-4°F to 50°F) | |
| 5 Motor type | 3PHASE | | |
| 6 Starting torque | HST - High 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 | 25.2 | [kgf/cm ²] (358 psig) | / °C - °F |
| 9.2 Peak | 28.3 | [kgf/cm ²] (402 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1 1/2 | [hp] |
| 2 Displacement | 32.67 | [cm ³] (1.994 cu.in) |
| 2.1 Bore [mm] | 41.770 | |
| 2.2 Stroke [mm] | 23.850 | |
| 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) | 21.7 | [kg] (47.84 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (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 | 34HM260-42 | |
| 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 (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|------|-----------------------------|-------------------------------|--|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS: @420V60Hz | | | ASHRAEHBP46 Fan | | Evaporating temperature (Condensing temperature | | 7.2°C (44.96°F) 54.4°C (129.92°F) | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 19320 | 4869 | 5661 | 2223 | 4.10 | 159.06 | 8.69 | 2.19 | 2.55 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @420V50Hz | | ASHRAE46 Fan | | | | (Condensing temperature 35°C (+95°F)) | | | | |
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -20 | (- 4) | 7555 | 1904 | 2214 | 1043 | 2.23 | 47.95 | 7.24 | 1.82 | 2.12 |
| -15 | (+ 5) | 9685 | 2441 | 2838 | 1156 | 2.50 | 61.83 | 8.38 | 2.11 | 2.45 |
| -10 | (+14) | 12120 | 3054 | 3552 | 1260 | 2.76 | 77.85 | 9.62 | 2.42 | 2.82 |
| -5 | (+23) | 14861 | 3745 | 4355 | 1355 | 3.00 | 96.16 | 10.97 | 2.77 | 3.22 |
| 0 | (+32) | 17906 | 4512 | 5247 | 1441 | 3.20 | 116.87 | 12.42 | 3.13 | 3.64 |
| +5 | (+41) | 21256 | 5357 | 6229 | 1517 | 3.35 | 140.11 | 13.96 | 3.52 | 4.09 |
| +10 | (+50) | 24911 | 6277 | 7299 | 1584 | 3.42 | 166.01 | 15.57 | 3.92 | 4.56 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @420V50Hz | | ASHRAE46 Fan | | | | (Condensing temperature 45°C (+113°F)) | | | | |
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -20 | (- 4) | 6310 | 1590 | 1849 | 1062 | 2.29 | 44.22 | 5.95 | 1.50 | 1.74 |
| -15 | (+ 5) | 8123 | 2047 | 2380 | 1191 | 2.57 | 57.24 | 6.82 | 1.72 | 2.00 |
| -10 | (+14) | 10230 | 2578 | 2998 | 1316 | 2.86 | 72.58 | 7.76 | 1.96 | 2.28 |
| -5 | (+23) | 12633 | 3183 | 3702 | 1438 | 3.13 | 90.38 | 8.78 | 2.21 | 2.57 |
| 0 | (+32) | 15330 | 3863 | 4492 | 1556 | 3.38 | 110.77 | 9.86 | 2.48 | 2.89 |
| +5 | (+41) | 18322 | 4617 | 5369 | 1671 | 3.59 | 133.86 | 10.99 | 2.77 | 3.22 |
| +10 | (+50) | 21609 | 5445 | 6332 | 1782 | 3.74 | 159.79 | 12.17 | 3.07 | 3.57 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @420V50Hz | | ASHRAE46 Fan | | | | (Condensing temperature 55°C (+131°F)) | | | | |
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -20 | (- 4) | 5014 | 1264 | 1469 | 1083 | 2.35 | 39.43 | 4.62 | 1.17 | 1.36 |
| -15 | (+ 5) | 6495 | 1637 | 1903 | 1227 | 2.64 | 51.42 | 5.30 | 1.34 | 1.55 |
| -10 | (+14) | 8261 | 2082 | 2421 | 1374 | 2.95 | 65.92 | 6.01 | 1.52 | 1.76 |
| -5 | (+23) | 10312 | 2599 | 3022 | 1524 | 3.26 | 83.06 | 6.77 | 1.71 | 1.98 |
| 0 | (+32) | 12648 | 3187 | 3706 | 1676 | 3.56 | 102.95 | 7.54 | 1.90 | 2.21 |
| +5 | (+41) | 15268 | 3848 | 4474 | 1830 | 3.83 | 125.73 | 8.34 | 2.10 | 2.44 |
| +10 | (+50) | 18173 | 4580 | 5325 | 1987 | 4.05 | 151.53 | 9.15 | 2.31 | 2.68 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @420V60Hz | | ASHRAE46 Fan | | | (Condensing temperature 35°C (+95°F)) | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -20 | (- 4) | 8839 | 2227 | 2590 | 1220 | 2.17 | 56.10 | 7.24 | 1.83 | 2.12 |
| -15 | (+ 5) | 11332 | 2856 | 3320 | 1352 | 2.53 | 72.34 | 8.38 | 2.11 | 2.46 |
| -10 | (+14) | 14181 | 3574 | 4155 | 1474 | 2.83 | 91.09 | 9.62 | 2.43 | 2.82 |
| -5 | (+23) | 17387 | 4382 | 5095 | 1586 | 3.08 | 112.51 | 10.97 | 2.76 | 3.22 |
| 0 | (+32) | 20950 | 5279 | 6139 | 1686 | 3.27 | 136.74 | 12.42 | 3.13 | 3.64 |
| +5 | (+41) | 24870 | 6267 | 7288 | 1775 | 3.40 | 163.93 | 13.96 | 3.52 | 4.09 |
| +10 | (+50) | 29148 | 7345 | 8541 | 1853 | 3.46 | 194.25 | 15.58 | 3.93 | 4.57 |

| TEST CONDITIONS: @420V60Hz | | ASHRAE46 Fan | | | (Condensing temperature 45°C (+113°F)) | | | | | |
|-------------------------------|-------|----------------------------|----------|------|---|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -20 | (- 4) | 7383 | 1860 | 2163 | 1243 | 2.31 | 51.74 | 5.95 | 1.50 | 1.74 |
| -15 | (+ 5) | 9503 | 2395 | 2785 | 1393 | 2.62 | 66.97 | 6.82 | 1.72 | 2.00 |
| -10 | (+14) | 11969 | 3016 | 3507 | 1540 | 2.92 | 84.92 | 7.77 | 1.96 | 2.28 |
| -5 | (+23) | 14780 | 3725 | 4331 | 1682 | 3.19 | 105.75 | 8.78 | 2.21 | 2.57 |
| 0 | (+32) | 17937 | 4520 | 5256 | 1821 | 3.44 | 129.60 | 9.86 | 2.48 | 2.89 |
| +5 | (+41) | 21439 | 5403 | 6282 | 1955 | 3.66 | 156.62 | 11.00 | 2.77 | 3.22 |
| +10 | (+50) | 25286 | 6372 | 7410 | 2084 | 3.85 | 186.97 | 12.18 | 3.07 | 3.57 |

| TEST CONDITIONS: @420V60Hz | | ASHRAE46 Fan | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|-------------------------------|-------|----------------------------|----------|------|---|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -20 | (- 4) | 5866 | 1478 | 1719 | 1267 | 2.45 | 46.13 | 4.62 | 1.17 | 1.35 |
| -15 | (+ 5) | 7599 | 1915 | 2227 | 1436 | 2.72 | 60.16 | 5.30 | 1.34 | 1.55 |
| -10 | (+14) | 9665 | 2436 | 2832 | 1608 | 3.01 | 77.13 | 6.01 | 1.52 | 1.76 |
| -5 | (+23) | 12065 | 3040 | 3535 | 1783 | 3.31 | 97.17 | 6.76 | 1.70 | 1.98 |
| 0 | (+32) | 14798 | 3729 | 4336 | 1961 | 3.62 | 120.45 | 7.54 | 1.90 | 2.21 |
| +5 | (+41) | 17866 | 4502 | 5235 | 2141 | 3.94 | 147.12 | 8.35 | 2.10 | 2.45 |
| +10 | (+50) | 21267 | 5359 | 6232 | 2323 | 4.26 | 177.32 | 9.17 | 2.31 | 2.69 |

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 | | |