

COMPRESSOR DEFINITION

| | |
|---------------------------|--|
| Designation | NJ 2212GS |
| Nominal Voltage/Frequency | 380-420 V 50 Hz / 440-480 V 60 Hz |
| Engineering Number | 947AM11 |

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 | Low Back Pressure R404A | | |
| 4.1 Evaporating temperature range | -40°C to -10°C | (-40°F to 14°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 pressures/temperature | | | |
| 9.1 Operating (gauge) | 25.7 | [kgf/cm ²] (365 psig) | / °C - °F |
| 9.2 Peak (gauge) | 28.7 | [kgf/cm ²] (408 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1 1/2 | [hp] |
| 2 Displacement | 34.38 | [cm ³] (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 | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 20.4 | [kg] (44.97 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 | [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 | CCC - UL - VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|------|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @380V50Hz | | | ASHRAELBP32 Fan | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°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] |
| 5053 | 1273 | 1481 | 1139 | 1.96 | 34.26 | 4.44 | 1.12 | 1.30 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @380V50Hz | | | ASHRAE32 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] |
| -40 | (-40) | 1980 | 499 | 580 | 1083 | 1.46 | 13.31 | 1.82 | 0.46 | 0.53 |
| -35 | (-31) | 3017 | 760 | 884 | 1084 | 1.59 | 20.34 | 2.78 | 0.70 | 0.82 |
| -30 | (-22) | 4230 | 1066 | 1239 | 1092 | 1.73 | 28.61 | 3.88 | 0.98 | 1.14 |
| -25 | (-13) | 5657 | 1426 | 1658 | 1107 | 1.88 | 38.43 | 5.11 | 1.29 | 1.50 |
| -20 | (- 4) | 7340 | 1850 | 2151 | 1131 | 2.04 | 50.13 | 6.48 | 1.63 | 1.90 |
| -15 | (+ 5) | 9317 | 2348 | 2730 | 1165 | 2.22 | 64.02 | 7.98 | 2.01 | 2.34 |
| -10 | (+14) | 11628 | 2930 | 3407 | 1210 | 2.42 | 80.43 | 9.62 | 2.42 | 2.82 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @380V50Hz | | | ASHRAE32 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] |
| -40 | (-40) | 1461 | 368 | 428 | 1090 | 1.40 | 9.80 | 1.34 | 0.34 | 0.39 |
| -35 | (-31) | 2532 | 638 | 742 | 1094 | 1.55 | 17.05 | 2.31 | 0.58 | 0.68 |
| -30 | (-22) | 3734 | 941 | 1094 | 1103 | 1.71 | 25.21 | 3.39 | 0.85 | 0.99 |
| -25 | (-13) | 5105 | 1287 | 1496 | 1119 | 1.88 | 34.61 | 4.56 | 1.15 | 1.34 |
| -20 | (- 4) | 6687 | 1685 | 1959 | 1144 | 2.08 | 45.57 | 5.85 | 1.47 | 1.71 |
| -15 | (+ 5) | 8517 | 2146 | 2496 | 1177 | 2.29 | 58.41 | 7.23 | 1.82 | 2.12 |
| -10 | (+14) | 10638 | 2681 | 3117 | 1221 | 2.52 | 73.44 | 8.71 | 2.20 | 2.55 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @380V50Hz | | | ASHRAE32 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] |
| -40 | (-40) | 957 | 241 | 281 | 1098 | 1.35 | 6.40 | 0.88 | 0.22 | 0.26 |
| -35 | (-31) | 2065 | 520 | 605 | 1103 | 1.52 | 13.88 | 1.86 | 0.47 | 0.55 |
| -30 | (-22) | 3259 | 821 | 955 | 1114 | 1.69 | 21.97 | 2.92 | 0.74 | 0.86 |
| -25 | (-13) | 4578 | 1154 | 1341 | 1131 | 1.89 | 30.97 | 4.05 | 1.02 | 1.19 |
| -20 | (- 4) | 6061 | 1527 | 1776 | 1156 | 2.11 | 41.22 | 5.25 | 1.32 | 1.54 |
| -15 | (+ 5) | 7749 | 1953 | 2271 | 1190 | 2.35 | 53.02 | 6.51 | 1.64 | 1.91 |
| -10 | (+14) | 9682 | 2440 | 2837 | 1233 | 2.63 | 66.71 | 7.85 | 1.98 | 2.30 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @380V60Hz | | ASHRAE32 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] |
| -40 | (-40) | 2312 | 583 | 678 | 1264 | 1.49 | 15.55 | 1.82 | 0.46 | 0.53 |
| -35 | (-31) | 3526 | 889 | 1033 | 1268 | 1.62 | 23.78 | 2.78 | 0.70 | 0.81 |
| -30 | (-22) | 4946 | 1246 | 1449 | 1278 | 1.77 | 33.45 | 3.88 | 0.98 | 1.14 |
| -25 | (-13) | 6617 | 1667 | 1939 | 1296 | 1.92 | 44.95 | 5.11 | 1.29 | 1.50 |
| -20 | (- 4) | 8586 | 2164 | 2516 | 1323 | 2.08 | 58.64 | 6.48 | 1.63 | 1.90 |
| -15 | (+ 5) | 10900 | 2747 | 3194 | 1362 | 2.26 | 74.90 | 7.99 | 2.01 | 2.34 |
| -10 | (+14) | 13604 | 3428 | 3986 | 1414 | 2.46 | 94.10 | 9.63 | 2.43 | 2.82 |

| TEST CONDITIONS: @380V60Hz | | ASHRAE32 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] |
| -40 | (-40) | 1705 | 430 | 500 | 1273 | 1.43 | 11.44 | 1.34 | 0.34 | 0.39 |
| -35 | (-31) | 2959 | 746 | 867 | 1279 | 1.58 | 19.92 | 2.31 | 0.58 | 0.68 |
| -30 | (-22) | 4366 | 1100 | 1279 | 1291 | 1.75 | 29.48 | 3.38 | 0.85 | 0.99 |
| -25 | (-13) | 5971 | 1505 | 1750 | 1310 | 1.92 | 40.48 | 4.56 | 1.15 | 1.34 |
| -20 | (- 4) | 7822 | 1971 | 2292 | 1338 | 2.12 | 53.31 | 5.85 | 1.47 | 1.71 |
| -15 | (+ 5) | 9965 | 2511 | 2920 | 1377 | 2.33 | 68.33 | 7.23 | 1.82 | 2.12 |
| -10 | (+14) | 12446 | 3136 | 3647 | 1429 | 2.57 | 85.93 | 8.72 | 2.20 | 2.55 |

| TEST CONDITIONS: @380V60Hz | | ASHRAE32 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] |
| -40 | (-40) | 1117 | 282 | 327 | 1281 | 1.37 | 7.47 | 0.88 | 0.22 | 0.26 |
| -35 | (-31) | 2414 | 608 | 707 | 1290 | 1.54 | 16.23 | 1.86 | 0.47 | 0.55 |
| -30 | (-22) | 3811 | 960 | 1117 | 1303 | 1.72 | 25.69 | 2.92 | 0.74 | 0.86 |
| -25 | (-13) | 5354 | 1349 | 1569 | 1324 | 1.92 | 36.23 | 4.05 | 1.02 | 1.19 |
| -20 | (- 4) | 7091 | 1787 | 2078 | 1352 | 2.15 | 48.22 | 5.25 | 1.32 | 1.54 |
| -15 | (+ 5) | 9066 | 2285 | 2657 | 1392 | 2.40 | 62.04 | 6.51 | 1.64 | 1.91 |
| -10 | (+14) | 11327 | 2854 | 3319 | 1443 | 2.68 | 78.05 | 7.85 | 1.98 | 2.30 |

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 | | |