

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | J 2212GK |
| Nominal Voltage/Frequency | 208-230 V 60 Hz |
| Engineering Number | 963BD01 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-404A | | |
| 3 Nominal voltage and frequency | 208-230 / 60 | [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 | 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/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 | 890 | [ml] (30.10 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 21.77 | [kg] (47.99 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 | 208-230 V 60 Hz 1~ (Single phase) | |
| 2 Starting device type | Voltage Relay | |
| 2.1 Starting device | 3ARR3B3AV3 | |
| 3 Start capacitor | 88-108(330) | [µF(VAC minimum)] |
| 4 Run capacitor | 20(450) | [µF(VAC minimum)] |
| 5 Motor protection | 3HM198-105 | |
| 6 Start winding resistance | 5.66 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 1.21 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 40.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 6.20 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|------|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @208V60Hz | | | 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] |
| 5911 | 1490 | 1732 | 1154 | 5.43 | 40.07 | 5.12 | 1.29 | 1.50 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @208V50Hz | | 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 | 429 | 2.50 | 13.31 | 4.54 | 1.14 | 1.33 |
| -35 | (-31) | 3017 | 760 | 884 | 603 | 3.42 | 20.34 | 5.06 | 1.28 | 1.48 |
| -30 | (-22) | 4230 | 1066 | 1239 | 775 | 4.34 | 28.61 | 5.52 | 1.39 | 1.62 |
| -25 | (-13) | 5657 | 1426 | 1658 | 949 | 5.27 | 38.43 | 5.97 | 1.50 | 1.75 |
| -20 | (- 4) | 7340 | 1850 | 2151 | 1125 | 6.21 | 50.13 | 6.46 | 1.63 | 1.89 |
| -15 | (+ 5) | 9317 | 2348 | 2730 | 1306 | 7.18 | 64.02 | 7.07 | 1.78 | 2.07 |
| -10 | (+14) | 11628 | 2930 | 3407 | 1491 | 8.18 | 80.43 | 7.86 | 1.98 | 2.30 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @208V50Hz | | 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 | 372 | 2.08 | 9.80 | 3.89 | 0.98 | 1.14 |
| -35 | (-31) | 2532 | 638 | 742 | 553 | 3.05 | 17.05 | 4.57 | 1.15 | 1.34 |
| -30 | (-22) | 3734 | 941 | 1094 | 739 | 4.05 | 25.21 | 5.09 | 1.28 | 1.49 |
| -25 | (-13) | 5105 | 1287 | 1496 | 931 | 5.09 | 34.61 | 5.51 | 1.39 | 1.61 |
| -20 | (- 4) | 6687 | 1685 | 1959 | 1131 | 6.19 | 45.57 | 5.90 | 1.49 | 1.73 |
| -15 | (+ 5) | 8517 | 2146 | 2496 | 1341 | 7.36 | 58.41 | 6.32 | 1.59 | 1.85 |
| -10 | (+14) | 10638 | 2681 | 3117 | 1562 | 8.60 | 73.44 | 6.82 | 1.72 | 2.00 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @208V50Hz | | 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 | 318 | 1.70 | 6.40 | 3.10 | 0.78 | 0.91 |
| -35 | (-31) | 2065 | 520 | 605 | 506 | 2.69 | 13.88 | 3.97 | 1.00 | 1.16 |
| -30 | (-22) | 3259 | 821 | 955 | 704 | 3.76 | 21.97 | 4.60 | 1.16 | 1.35 |
| -25 | (-13) | 4578 | 1154 | 1341 | 913 | 4.92 | 30.97 | 5.05 | 1.27 | 1.48 |
| -20 | (- 4) | 6061 | 1527 | 1776 | 1137 | 6.17 | 41.22 | 5.37 | 1.35 | 1.57 |
| -15 | (+ 5) | 7749 | 1953 | 2271 | 1375 | 7.53 | 53.02 | 5.64 | 1.42 | 1.65 |
| -10 | (+14) | 9682 | 2440 | 2837 | 1630 | 9.00 | 66.71 | 5.91 | 1.49 | 1.73 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @208V60Hz | | 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) | 2312 | 583 | 678 | 502 | 2.55 | 15.55 | 4.53 | 1.14 | 1.33 | |
| -35 (-31) | 3526 | 889 | 1033 | 705 | 3.49 | 23.78 | 5.06 | 1.28 | 1.48 | |
| -30 (-22) | 4946 | 1246 | 1449 | 907 | 4.43 | 33.45 | 5.52 | 1.39 | 1.62 | |
| -25 (-13) | 6617 | 1667 | 1939 | 1110 | 5.37 | 44.95 | 5.96 | 1.50 | 1.75 | |
| -20 (- 4) | 8586 | 2164 | 2516 | 1317 | 6.33 | 58.64 | 6.46 | 1.63 | 1.89 | |
| -15 (+ 5) | 10900 | 2747 | 3194 | 1528 | 7.32 | 74.90 | 7.07 | 1.78 | 2.07 | |
| -10 (+14) | 13604 | 3428 | 3986 | 1745 | 8.35 | 94.10 | 7.86 | 1.98 | 2.30 | |

| TEST CONDITIONS: @208V60Hz | | 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) | 1705 | 430 | 500 | 436 | 2.12 | 11.44 | 3.89 | 0.98 | 1.14 | |
| -35 (-31) | 2959 | 746 | 867 | 647 | 3.11 | 19.92 | 4.56 | 1.15 | 1.34 | |
| -30 (-22) | 4366 | 1100 | 1279 | 864 | 4.13 | 29.48 | 5.09 | 1.28 | 1.49 | |
| -25 (-13) | 5971 | 1505 | 1750 | 1089 | 5.19 | 40.48 | 5.51 | 1.39 | 1.61 | |
| -20 (- 4) | 7822 | 1971 | 2292 | 1323 | 6.32 | 53.31 | 5.90 | 1.49 | 1.73 | |
| -15 (+ 5) | 9965 | 2511 | 2920 | 1569 | 7.50 | 68.33 | 6.32 | 1.59 | 1.85 | |
| -10 (+14) | 12446 | 3136 | 3647 | 1828 | 8.77 | 85.93 | 6.82 | 1.72 | 2.00 | |

| TEST CONDITIONS: @208V60Hz | | 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) | 1117 | 282 | 327 | 373 | 1.72 | 7.47 | 3.09 | 0.78 | 0.90 | |
| -35 (-31) | 2414 | 608 | 707 | 592 | 2.75 | 16.23 | 3.96 | 1.00 | 1.16 | |
| -30 (-22) | 3811 | 960 | 1117 | 823 | 3.84 | 25.69 | 4.60 | 1.16 | 1.35 | |
| -25 (-13) | 5354 | 1349 | 1569 | 1069 | 5.02 | 36.23 | 5.05 | 1.27 | 1.48 | |
| -20 (- 4) | 7091 | 1787 | 2078 | 1330 | 6.30 | 48.22 | 5.37 | 1.35 | 1.57 | |
| -15 (+ 5) | 9066 | 2285 | 2657 | 1609 | 7.68 | 62.04 | 5.64 | 1.42 | 1.65 | |
| -10 (+14) | 11327 | 2854 | 3319 | 1907 | 9.19 | 78.05 | 5.92 | 1.49 | 1.73 | |

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 | | |