

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | J 2192GK |
| Nominal Voltage/Frequency | 208-230 V 60 Hz |
| Engineering Number | 963AD01 |

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 - 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 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 | 11/4 | [hp] |
| 2 Displacement | 26.11 | [cm ³] (1.593 cu.in) |
| 2.1 Bore [mm] | 41.770 | |
| 2.2 Stroke [mm] | 19.066 | |
| 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) | 21.8 | [kg] (48.06 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) | 5.40 | [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] |
| 4502 | 1135 | 1319 | 1011 | 4.91 | 30.52 | 4.45 | 1.12 | 1.30 |

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) | 1471 | 371 | 431 | 524 | 2.56 | 9.89 | 2.77 | 0.70 | 0.81 |
| -35 | (-31) | 2405 | 606 | 705 | 629 | 3.07 | 16.22 | 3.83 | 0.97 | 1.12 |
| -30 | (-22) | 3402 | 857 | 997 | 724 | 3.55 | 23.02 | 4.73 | 1.19 | 1.39 |
| -25 | (-13) | 4473 | 1127 | 1311 | 814 | 4.02 | 30.39 | 5.51 | 1.39 | 1.61 |
| -20 | (- 4) | 5629 | 1418 | 1649 | 906 | 4.47 | 38.44 | 6.19 | 1.56 | 1.81 |
| -15 | (+ 5) | 6880 | 1734 | 2016 | 1004 | 4.92 | 47.27 | 6.82 | 1.72 | 2.00 |
| -10 | (+14) | 8238 | 2076 | 2414 | 1113 | 5.35 | 57.00 | 7.43 | 1.87 | 2.18 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 974 | 246 | 286 | 396 | 1.94 | 6.53 | 2.45 | 0.62 | 0.72 |
| -35 | (-31) | 1885 | 475 | 552 | 546 | 2.64 | 12.69 | 3.42 | 0.86 | 1.00 |
| -30 | (-22) | 2876 | 725 | 843 | 683 | 3.32 | 19.42 | 4.23 | 1.07 | 1.24 |
| -25 | (-13) | 3957 | 997 | 1160 | 811 | 3.97 | 26.83 | 4.91 | 1.24 | 1.44 |
| -20 | (- 4) | 5140 | 1295 | 1506 | 936 | 4.59 | 35.03 | 5.50 | 1.39 | 1.61 |
| -15 | (+ 5) | 6434 | 1621 | 1885 | 1064 | 5.20 | 44.12 | 6.03 | 1.52 | 1.77 |
| -10 | (+14) | 7851 | 1978 | 2301 | 1200 | 5.79 | 54.20 | 6.53 | 1.65 | 1.91 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 478 | 120 | 140 | 268 | 1.31 | 3.20 | 1.91 | 0.48 | 0.56 |
| -35 | (-31) | 1366 | 344 | 400 | 463 | 2.22 | 9.18 | 2.85 | 0.72 | 0.84 |
| -30 | (-22) | 2351 | 592 | 689 | 641 | 3.08 | 15.84 | 3.63 | 0.92 | 1.06 |
| -25 | (-13) | 3442 | 867 | 1009 | 807 | 3.91 | 23.29 | 4.28 | 1.08 | 1.25 |
| -20 | (- 4) | 4651 | 1172 | 1363 | 967 | 4.72 | 31.63 | 4.83 | 1.22 | 1.42 |
| -15 | (+ 5) | 5988 | 1509 | 1755 | 1125 | 5.49 | 40.98 | 5.33 | 1.34 | 1.56 |
| -10 | (+14) | 7464 | 1881 | 2187 | 1287 | 6.24 | 51.42 | 5.79 | 1.46 | 1.70 |

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) | 1721 | 434 | 504 | 614 | 3.00 | 11.57 | 2.77 | 0.70 | 0.81 | |
| -35 (-31) | 2814 | 709 | 825 | 736 | 3.58 | 18.98 | 3.83 | 0.97 | 1.12 | |
| -30 (-22) | 3980 | 1003 | 1166 | 847 | 4.15 | 26.93 | 4.73 | 1.19 | 1.39 | |
| -25 (-13) | 5233 | 1319 | 1533 | 953 | 4.70 | 35.55 | 5.51 | 1.39 | 1.61 | |
| -20 (- 4) | 6586 | 1660 | 1930 | 1060 | 5.23 | 44.97 | 6.19 | 1.56 | 1.81 | |
| -15 (+ 5) | 8050 | 2029 | 2359 | 1174 | 5.75 | 55.31 | 6.82 | 1.72 | 2.00 | |
| -10 (+14) | 9639 | 2429 | 2824 | 1302 | 6.26 | 66.68 | 7.43 | 1.87 | 2.18 | |

| 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) | 1140 | 287 | 334 | 464 | 2.27 | 7.64 | 2.45 | 0.62 | 0.72 | |
| -35 (-31) | 2206 | 556 | 646 | 639 | 3.09 | 14.85 | 3.42 | 0.86 | 1.00 | |
| -30 (-22) | 3365 | 848 | 986 | 799 | 3.88 | 22.72 | 4.23 | 1.07 | 1.24 | |
| -25 (-13) | 4630 | 1167 | 1357 | 949 | 4.64 | 31.39 | 4.91 | 1.24 | 1.44 | |
| -20 (- 4) | 6013 | 1515 | 1762 | 1095 | 5.37 | 40.98 | 5.50 | 1.39 | 1.61 | |
| -15 (+ 5) | 7528 | 1897 | 2206 | 1245 | 6.09 | 51.62 | 6.03 | 1.52 | 1.77 | |
| -10 (+14) | 9186 | 2315 | 2692 | 1404 | 6.78 | 63.42 | 6.53 | 1.65 | 1.91 | |

| 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) | 559 | 141 | 164 | 314 | 1.54 | 3.74 | 1.91 | 0.48 | 0.56 | |
| -35 (-31) | 1598 | 403 | 468 | 542 | 2.60 | 10.74 | 2.85 | 0.72 | 0.84 | |
| -30 (-22) | 2750 | 693 | 806 | 750 | 3.61 | 18.53 | 3.63 | 0.92 | 1.06 | |
| -25 (-13) | 4027 | 1015 | 1180 | 944 | 4.58 | 27.25 | 4.28 | 1.08 | 1.25 | |
| -20 (- 4) | 5441 | 1371 | 1594 | 1131 | 5.52 | 37.01 | 4.83 | 1.22 | 1.42 | |
| -15 (+ 5) | 7006 | 1765 | 2053 | 1316 | 6.42 | 47.94 | 5.33 | 1.34 | 1.56 | |
| -10 (+14) | 8733 | 2201 | 2559 | 1506 | 7.30 | 60.17 | 5.79 | 1.46 | 1.70 | |

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 | | |