

COMPRESSOR DEFINITION

| | |
|---------------------------|------------------------|
| Designation | J 6220Z |
| Nominal Voltage/Frequency | 208-230 V 60 Hz |
| Engineering Number | 164HD01 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|---|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 208-230 / 60 | [V / Hz] | |
| 4 Application type | High Back Pressure (Commercial Compressors) | | |
| 4.1 Evaporating temperature range | -15°C to 10°C | (5°F to 50°F) | |
| 5 Motor type | CSIR | | |
| 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) | 16.2 | [kgf/cm ²] (230 psig) | / °C - °F |
| 9.2 Peak (gauge) | 20.6 | [kgf/cm ²] (293 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1 | [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) | 20.25 | [kg] (44.64 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 | Current Relay | |
| 2.1 Starting device | 3ARR2KCP78S | |
| 3 Start capacitor | 88-108(330) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | T0736/C9 | |
| 6 Start winding resistance | 8.09 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 1.45 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 42.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | 7.40 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|------|-----------------------------|-------------------------------|--|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS: @208V60Hz | | | 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] |
| 10169 | 2563 | 2980 | 1220 | 7.41 | 65.93 | 8.34 | 2.10 | 2.44 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @208V50Hz | | 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] |
| -15 | (+5) | 3918 | 987 | 1148 | 586 | 5.33 | 21.22 | 6.66 | 1.68 | 1.95 |
| -10 | (+14) | 4851 | 1222 | 1421 | 640 | 5.49 | 26.32 | 7.62 | 1.92 | 2.23 |
| -5 | (+23) | 6149 | 1550 | 1802 | 701 | 5.69 | 33.47 | 8.78 | 2.21 | 2.57 |
| 0 | (+32) | 7814 | 1969 | 2290 | 770 | 5.91 | 42.73 | 10.13 | 2.55 | 2.97 |
| +5 | (+41) | 9844 | 2481 | 2885 | 845 | 6.16 | 54.16 | 11.62 | 2.93 | 3.40 |
| +10 | (+50) | 12240 | 3085 | 3587 | 928 | 6.45 | 67.79 | 13.22 | 3.33 | 3.87 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @208V50Hz | | 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] |
| -15 | (+5) | 3287 | 828 | 963 | 563 | 5.26 | 19.16 | 5.83 | 1.47 | 1.71 |
| -10 | (+14) | 4321 | 1089 | 1266 | 653 | 5.56 | 25.35 | 6.62 | 1.67 | 1.94 |
| -5 | (+23) | 5605 | 1412 | 1642 | 743 | 5.89 | 33.04 | 7.55 | 1.90 | 2.21 |
| 0 | (+32) | 7141 | 1799 | 2092 | 833 | 6.23 | 42.29 | 8.58 | 2.16 | 2.51 |
| +5 | (+41) | 8928 | 2250 | 2616 | 922 | 6.60 | 53.15 | 9.69 | 2.44 | 2.84 |
| +10 | (+50) | 10965 | 2763 | 3213 | 1011 | 6.98 | 65.66 | 10.84 | 2.73 | 3.18 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @208V50Hz | | 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] |
| -15 | (+5) | 2638 | 665 | 773 | 539 | 5.18 | 16.83 | 4.92 | 1.24 | 1.44 |
| -10 | (+14) | 3767 | 949 | 1104 | 666 | 5.64 | 24.09 | 5.62 | 1.42 | 1.65 |
| -5 | (+23) | 5032 | 1268 | 1475 | 786 | 6.10 | 32.31 | 6.38 | 1.61 | 1.87 |
| 0 | (+32) | 6434 | 1621 | 1885 | 898 | 6.57 | 41.53 | 7.18 | 1.81 | 2.10 |
| +5 | (+41) | 7972 | 2009 | 2336 | 1002 | 7.05 | 51.81 | 7.99 | 2.01 | 2.34 |
| +10 | (+50) | 9646 | 2431 | 2827 | 1098 | 7.54 | 63.20 | 8.76 | 2.21 | 2.57 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @208V60Hz | | 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] |
| -15 (+5) | 4584 | 1155 | 1343 | 700 | 5.43 | 24.82 | 6.52 | 1.64 | 1.91 | |
| -10 (+14) | 5676 | 1430 | 1663 | 761 | 5.60 | 30.79 | 7.50 | 1.89 | 2.20 | |
| -5 (+23) | 7195 | 1813 | 2108 | 829 | 5.80 | 39.16 | 8.69 | 2.19 | 2.55 | |
| 0 (+32) | 9142 | 2304 | 2679 | 906 | 6.03 | 50.00 | 10.07 | 2.54 | 2.95 | |
| +5 (+41) | 11517 | 2902 | 3375 | 989 | 6.29 | 63.36 | 11.61 | 2.93 | 3.40 | |
| +10 (+50) | 14321 | 3609 | 4196 | 1080 | 6.58 | 79.31 | 13.28 | 3.35 | 3.89 | |

| TEST CONDITIONS: @208V60Hz | | 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] |
| -15 (+5) | 3846 | 969 | 1127 | 680 | 5.36 | 22.41 | 5.65 | 1.42 | 1.66 | |
| -10 (+14) | 5055 | 1274 | 1481 | 780 | 5.68 | 29.66 | 6.49 | 1.63 | 1.90 | |
| -5 (+23) | 6558 | 1653 | 1922 | 880 | 6.01 | 38.66 | 7.46 | 1.88 | 2.18 | |
| 0 (+32) | 8355 | 2106 | 2448 | 979 | 6.36 | 49.48 | 8.53 | 2.15 | 2.50 | |
| +5 (+41) | 10446 | 2632 | 3061 | 1079 | 6.73 | 62.18 | 9.69 | 2.44 | 2.84 | |
| +10 (+50) | 12830 | 3233 | 3759 | 1178 | 7.12 | 76.83 | 10.89 | 2.74 | 3.19 | |

| TEST CONDITIONS: @208V60Hz | | 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] |
| -15 (+5) | 3087 | 778 | 904 | 660 | 5.29 | 19.69 | 4.70 | 1.18 | 1.38 | |
| -10 (+14) | 4407 | 1111 | 1291 | 800 | 5.75 | 28.19 | 5.47 | 1.38 | 1.60 | |
| -5 (+23) | 5888 | 1484 | 1725 | 932 | 6.22 | 37.81 | 6.30 | 1.59 | 1.85 | |
| 0 (+32) | 7528 | 1897 | 2206 | 1056 | 6.70 | 48.60 | 7.15 | 1.80 | 2.09 | |
| +5 (+41) | 9327 | 2351 | 2733 | 1172 | 7.19 | 60.62 | 7.99 | 2.01 | 2.34 | |
| +10 (+50) | 11287 | 2844 | 3307 | 1280 | 7.69 | 73.95 | 8.80 | 2.22 | 2.58 | |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate | American Standard | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 9.6 +0.07/+0.00 | [mm] | (0.378" +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 | | |