

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------------------------|
| Designation | NJ 6220ZX |
| Nominal Voltage/Frequency | 380-420 V 50 Hz / 440-480 V 60 Hz |
| Engineering Number | 148HM96 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 380-420 / 50 | [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 | 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 | 14.2 | [kgf/cm ²] (202 psig) | / °C - °F |
| 9.2 Peak | 15.9 | [kgf/cm ²] (226 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 | 750 | [ml] (25.36 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 19.6 | [kg] (43.21 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 | 34HM272-50 | |
| 6 Start winding resistance | | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 18.67 | [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 | UL | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|------|--------------------------------|----------------------------------|--|---------------------------|--------------------------------------|-------|
| TEST CONDITIONS: @440V60Hz | | | 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 | 1021 | 1.65 | 65.93 | 9.96 | 2.51 | 2.92 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @440V50Hz | | 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 | 476 | 1.07 | 21.22 | 8.20 | 2.07 | 2.40 |
| -10 | (+14) | 4851 | 1222 | 1421 | 534 | 1.16 | 26.32 | 9.12 | 2.30 | 2.67 |
| -5 | (+23) | 6149 | 1550 | 1802 | 590 | 1.24 | 33.47 | 10.45 | 2.63 | 3.06 |
| 0 | (+32) | 7814 | 1969 | 2290 | 642 | 1.31 | 42.73 | 12.15 | 3.06 | 3.56 |
| +5 | (+41) | 9844 | 2481 | 2885 | 692 | 1.37 | 54.16 | 14.21 | 3.58 | 4.16 |
| +10 | (+50) | 12240 | 3085 | 3587 | 738 | 1.41 | 67.79 | 16.59 | 4.18 | 4.86 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @440V50Hz | | 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 | 484 | 1.10 | 19.16 | 6.81 | 1.72 | 2.00 |
| -10 | (+14) | 4321 | 1089 | 1266 | 557 | 1.20 | 25.35 | 7.76 | 1.96 | 2.27 |
| -5 | (+23) | 5605 | 1412 | 1642 | 628 | 1.29 | 33.04 | 8.91 | 2.24 | 2.61 |
| 0 | (+32) | 7141 | 1799 | 2092 | 697 | 1.38 | 42.29 | 10.22 | 2.58 | 3.00 |
| +5 | (+41) | 8928 | 2250 | 2616 | 763 | 1.46 | 53.15 | 11.69 | 2.95 | 3.43 |
| +10 | (+50) | 10965 | 2763 | 3213 | 828 | 1.54 | 65.66 | 13.27 | 3.34 | 3.89 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @440V50Hz | | 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 | 492 | 1.13 | 16.83 | 5.37 | 1.35 | 1.57 |
| -10 | (+14) | 3767 | 949 | 1104 | 581 | 1.23 | 24.09 | 6.45 | 1.63 | 1.89 |
| -5 | (+23) | 5032 | 1268 | 1475 | 668 | 1.34 | 32.31 | 7.52 | 1.90 | 2.20 |
| 0 | (+32) | 6434 | 1621 | 1885 | 754 | 1.45 | 41.53 | 8.56 | 2.16 | 2.51 |
| +5 | (+41) | 7972 | 2009 | 2336 | 838 | 1.56 | 51.81 | 9.55 | 2.41 | 2.80 |
| +10 | (+50) | 9646 | 2431 | 2827 | 921 | 1.68 | 63.20 | 10.44 | 2.63 | 3.06 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @440V60Hz | | 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] |
| -15 | (+ 5) | 4584 | 1155 | 1343 | 572 | 1.09 | 24.82 | 7.98 | 2.01 | 2.34 |
| -10 | (+14) | 5676 | 1430 | 1663 | 636 | 1.19 | 30.79 | 8.96 | 2.26 | 2.63 |
| -5 | (+23) | 7195 | 1813 | 2108 | 697 | 1.27 | 39.16 | 10.34 | 2.61 | 3.03 |
| 0 | (+32) | 9142 | 2304 | 2679 | 755 | 1.34 | 50.00 | 12.09 | 3.05 | 3.54 |
| +5 | (+41) | 11517 | 2902 | 3375 | 811 | 1.39 | 63.36 | 14.19 | 3.58 | 4.16 |
| +10 | (+50) | 14321 | 3609 | 4196 | 863 | 1.43 | 79.31 | 16.60 | 4.18 | 4.86 |

| TEST CONDITIONS: @440V60Hz | | 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] |
| -15 | (+ 5) | 3846 | 969 | 1127 | 584 | 1.12 | 22.41 | 6.61 | 1.66 | 1.94 |
| -10 | (+14) | 5055 | 1274 | 1481 | 665 | 1.22 | 29.66 | 7.61 | 1.92 | 2.23 |
| -5 | (+23) | 6558 | 1653 | 1922 | 743 | 1.32 | 38.66 | 8.80 | 2.22 | 2.58 |
| 0 | (+32) | 8355 | 2106 | 2448 | 820 | 1.41 | 49.48 | 10.17 | 2.56 | 2.98 |
| +5 | (+41) | 10446 | 2632 | 3061 | 894 | 1.49 | 62.18 | 11.68 | 2.94 | 3.42 |
| +10 | (+50) | 12830 | 3233 | 3759 | 966 | 1.57 | 76.83 | 13.31 | 3.35 | 3.90 |

| TEST CONDITIONS: @440V60Hz | | 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] |
| -15 | (+ 5) | 3087 | 778 | 904 | 596 | 1.15 | 19.69 | 5.19 | 1.31 | 1.52 |
| -10 | (+14) | 4407 | 1111 | 1291 | 695 | 1.26 | 28.19 | 6.31 | 1.59 | 1.85 |
| -5 | (+23) | 5888 | 1484 | 1725 | 792 | 1.37 | 37.81 | 7.43 | 1.87 | 2.18 |
| 0 | (+32) | 7528 | 1897 | 2206 | 887 | 1.48 | 48.60 | 8.51 | 2.15 | 2.49 |
| +5 | (+41) | 9327 | 2351 | 2733 | 981 | 1.60 | 60.62 | 9.54 | 2.40 | 2.80 |
| +10 | (+50) | 11287 | 2844 | 3307 | 1073 | 1.72 | 73.95 | 10.49 | 2.64 | 3.07 |

F - EXTERNAL CHARACTERISTICS

| | |
|-------------------------|--|
| 1 Base plate | American Standard |
| 2 Tray holder | No |
| 3 Connectors | |
| 3.1 SUCTION | 12.7 +0.25/-0.25 [mm] (0.500" +0.010"/-0.010") |
| 3.1.1 Material | Steel |
| 3.1.2 Shape | ROTOLOCK(Ex. thr. 1"-14UNS-2A) |
| 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 |