

COMPRESSOR DEFINITION

| | |
|---------------------------|------------------------|
| Designation | NE 6210Z |
| Nominal Voltage/Frequency | 208-230 V 60 Hz |
| Engineering Number | 262FD71 |

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 | 1/2- | [hp] |
| 2 Displacement | 13.54 | [cm ³] (0.826 cu.in) |
| 2.1 Bore [mm] | 29.362 | |
| 2.2 Stroke [mm] | 20.000 | |
| 3 Lubricant charge | 350 | [ml] (11.84 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 11.05 | [kg] (24.36 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 | MTRP-59 | |
| 3 Start capacitor | 64-77(330) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | T0634/G6 | |
| 6 Start winding resistance | 21.25 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 3.40 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 23.80 | [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) | 3.90 | [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] |
| 4932 | 1243 | 1445 | 683 | 3.80 | 31.98 | 7.22 | 1.82 | 2.12 |

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) | 2011 | 507 | 589 | 315 | 2.43 | 10.88 | 6.38 | 1.61 | 1.87 |
| -10 | (+14) | 2535 | 639 | 743 | 348 | 2.56 | 13.75 | 7.30 | 1.84 | 2.14 |
| -5 | (+23) | 3200 | 807 | 938 | 384 | 2.71 | 17.43 | 8.32 | 2.10 | 2.44 |
| 0 | (+32) | 3988 | 1005 | 1169 | 424 | 2.88 | 21.82 | 9.40 | 2.37 | 2.75 |
| +5 | (+41) | 4877 | 1229 | 1429 | 466 | 3.06 | 26.84 | 10.46 | 2.63 | 3.06 |
| +10 | (+50) | 5848 | 1474 | 1713 | 511 | 3.27 | 32.37 | 11.45 | 2.88 | 3.35 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 1720 | 433 | 504 | 320 | 2.47 | 10.05 | 5.37 | 1.35 | 1.57 |
| -10 | (+14) | 2194 | 553 | 643 | 362 | 2.62 | 12.87 | 6.07 | 1.53 | 1.78 |
| -5 | (+23) | 2800 | 706 | 821 | 407 | 2.79 | 16.49 | 6.88 | 1.73 | 2.02 |
| 0 | (+32) | 3517 | 886 | 1031 | 454 | 2.99 | 20.81 | 7.74 | 1.95 | 2.27 |
| +5 | (+41) | 4325 | 1090 | 1267 | 504 | 3.20 | 25.74 | 8.59 | 2.16 | 2.52 |
| +10 | (+50) | 5203 | 1311 | 1525 | 555 | 3.44 | 31.18 | 9.37 | 2.36 | 2.75 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 1428 | 360 | 418 | 325 | 2.51 | 9.09 | 4.39 | 1.11 | 1.29 |
| -10 | (+14) | 1854 | 467 | 543 | 377 | 2.67 | 11.86 | 4.93 | 1.24 | 1.44 |
| -5 | (+23) | 2400 | 605 | 703 | 430 | 2.87 | 15.42 | 5.58 | 1.41 | 1.63 |
| 0 | (+32) | 3046 | 768 | 893 | 485 | 3.10 | 19.67 | 6.28 | 1.58 | 1.84 |
| +5 | (+41) | 3773 | 951 | 1105 | 541 | 3.35 | 24.52 | 6.98 | 1.76 | 2.04 |
| +10 | (+50) | 4558 | 1149 | 1336 | 599 | 3.62 | 29.86 | 7.61 | 1.92 | 2.23 |

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) | 2424 | 611 | 710 | 380 | 2.94 | 13.11 | 6.37 | 1.60 | 1.87 | |
| -10 (+14) | 3054 | 770 | 895 | 420 | 3.08 | 16.57 | 7.29 | 1.84 | 2.14 | |
| -5 (+23) | 3856 | 972 | 1130 | 464 | 3.26 | 21.00 | 8.32 | 2.10 | 2.44 | |
| 0 (+32) | 4805 | 1211 | 1408 | 511 | 3.46 | 26.30 | 9.39 | 2.37 | 2.75 | |
| +5 (+41) | 5876 | 1481 | 1722 | 562 | 3.68 | 32.34 | 10.45 | 2.63 | 3.06 | |
| +10 (+50) | 7046 | 1775 | 2065 | 616 | 3.93 | 39.00 | 11.44 | 2.88 | 3.35 | |

| 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) | 2073 | 522 | 607 | 386 | 2.98 | 12.11 | 5.36 | 1.35 | 1.57 | |
| -10 (+14) | 2644 | 666 | 775 | 437 | 3.16 | 15.51 | 6.06 | 1.53 | 1.78 | |
| -5 (+23) | 3374 | 850 | 989 | 491 | 3.37 | 19.87 | 6.87 | 1.73 | 2.01 | |
| 0 (+32) | 4238 | 1068 | 1242 | 548 | 3.60 | 25.08 | 7.73 | 1.95 | 2.27 | |
| +5 (+41) | 5211 | 1313 | 1527 | 607 | 3.87 | 31.02 | 8.58 | 2.16 | 2.52 | |
| +10 (+50) | 6269 | 1580 | 1837 | 669 | 4.15 | 37.57 | 9.37 | 2.36 | 2.74 | |

| 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) | 1721 | 434 | 504 | 392 | 3.02 | 10.96 | 4.39 | 1.11 | 1.29 | |
| -10 (+14) | 2234 | 563 | 655 | 454 | 3.23 | 14.30 | 4.93 | 1.24 | 1.44 | |
| -5 (+23) | 2892 | 729 | 847 | 518 | 3.48 | 18.58 | 5.58 | 1.41 | 1.63 | |
| 0 (+32) | 3671 | 925 | 1076 | 584 | 3.75 | 23.70 | 6.28 | 1.58 | 1.84 | |
| +5 (+41) | 4545 | 1145 | 1332 | 653 | 4.05 | 29.54 | 6.97 | 1.76 | 2.04 | |
| +10 (+50) | 5492 | 1384 | 1609 | 722 | 4.37 | 35.97 | 7.60 | 1.92 | 2.23 | |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.03 +0.07/+0.00 | [mm] | (0.316" +0.003"/+0.000") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 42° | | |
| 3.2 DISCHARGE | 6.45 +0.10/+0.00 | [mm] | (0.254" +0.004"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 3.3 PROCESS | 6.45 +0.10/+0.00 | [mm] | (0.254" +0.004"/+0.000") |
| 3.3.1 Material | Copper | | |
| 3.3.2 Shape | Slanted 42° | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |