

COMPRESSOR DEFINITION

| | |
|---------------------------|------------------------|
| Designation | NT 2170U |
| Nominal Voltage/Frequency | 208-230 V 60 Hz |
| Engineering Number | 842BD04 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 208-230 / 60 | [V / Hz] | |
| 4 Application type | Low Back Pressure R290 | | |
| 4.1 Evaporating temperature range | -40°C to -10°C | (-40°F to 14°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) | 19.1 | [kgf/cm ²] (272 psig) | / °C - °F |
| 9.2 Peak (gauge) | 21.2 | [kgf/cm ²] (301 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|----------------------------------|
| 1 Commercial designation | 3/4 | [hp] |
| 2 Displacement | 20.44 | [cm ³] (1.247 cu.in) |
| 2.1 Bore [mm] | 36.990 | |
| 2.2 Stroke [mm] | 19.030 | |
| 3 Lubricant charge | 450 | [ml] (15.22 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 17 | [kg] (37.48 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELECTRICAL 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 | MTRPH61-65 | |
| 3 Start capacitor | 64-77(330) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | T0748/J5 | |
| 6 Start winding resistance | 10.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 1.75 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 30.00 | [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) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | VDE | |

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] |
| 3142 | 792 | 921 | 707 | 4.54 | 9.35 | 4.44 | 1.12 | 1.30 |

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) | 1638 | 413 | 480 | 421 | 3.46 | 4.84 | 3.88 | 0.98 | 1.14 |
| -35 | (-31) | 2075 | 523 | 608 | 476 | 3.64 | 6.14 | 4.37 | 1.10 | 1.28 |
| -30 | (-22) | 2659 | 670 | 779 | 537 | 3.86 | 7.89 | 4.95 | 1.25 | 1.45 |
| -25 | (-13) | 3389 | 854 | 993 | 604 | 4.12 | 10.08 | 5.60 | 1.41 | 1.64 |
| -20 | (- 4) | 4266 | 1075 | 1250 | 677 | 4.41 | 12.73 | 6.30 | 1.59 | 1.85 |
| -15 | (+ 5) | 5291 | 1333 | 1550 | 756 | 4.75 | 15.85 | 7.00 | 1.76 | 2.05 |
| -10 | (+14) | 6465 | 1629 | 1894 | 841 | 5.12 | 19.45 | 7.69 | 1.94 | 2.25 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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) | 1447 | 365 | 424 | 433 | 3.49 | 4.27 | 3.36 | 0.85 | 0.99 |
| -35 | (-31) | 1867 | 471 | 547 | 494 | 3.70 | 5.52 | 3.79 | 0.95 | 1.11 |
| -30 | (-22) | 2426 | 611 | 711 | 563 | 3.96 | 7.19 | 4.30 | 1.08 | 1.26 |
| -25 | (-13) | 3123 | 787 | 915 | 640 | 4.26 | 9.29 | 4.87 | 1.23 | 1.43 |
| -20 | (- 4) | 3961 | 998 | 1161 | 724 | 4.61 | 11.82 | 5.47 | 1.38 | 1.60 |
| -15 | (+ 5) | 4939 | 1245 | 1447 | 815 | 5.00 | 14.79 | 6.06 | 1.53 | 1.78 |
| -10 | (+14) | 6057 | 1526 | 1775 | 915 | 5.45 | 18.22 | 6.62 | 1.67 | 1.94 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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) | 1334 | 336 | 391 | 444 | 3.51 | 3.94 | 2.99 | 0.75 | 0.88 |
| -35 | (-31) | 1720 | 433 | 504 | 513 | 3.76 | 5.09 | 3.35 | 0.85 | 0.98 |
| -30 | (-22) | 2237 | 564 | 655 | 590 | 4.05 | 6.63 | 3.79 | 0.95 | 1.11 |
| -25 | (-13) | 2885 | 727 | 845 | 676 | 4.40 | 8.58 | 4.27 | 1.08 | 1.25 |
| -20 | (- 4) | 3665 | 924 | 1074 | 771 | 4.81 | 10.93 | 4.76 | 1.20 | 1.39 |
| -15 | (+ 5) | 4578 | 1154 | 1341 | 876 | 5.27 | 13.71 | 5.24 | 1.32 | 1.53 |
| -10 | (+14) | 5624 | 1417 | 1648 | 990 | 5.79 | 16.92 | 5.67 | 1.43 | 1.66 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 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 | 6.42 +0.08/+0.00 | [mm] | (0.253" +0.003"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Vertical | | |
| 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 | | |