

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | NT 2180U |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 843PA04 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-290 | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [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 | CSCR | | |
| 6 Starting torque | HST - Hight 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 | 18.4 | [kgf/cm ²] (262 psig) | / °C - °F |
| 9.2 Peak | 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 | 22.37 | [cm ³] (1.365 cu.in) |
| 2.1 Bore [mm] | 36.990 | |
| 2.2 Stroke [mm] | 20.830 | |
| 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) | 16.6 | [kg] (36.60 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Voltage Relay | |
| 2.1 Starting device | RVA4AH3C-648 | |
| 3 Start capacitor | 43-53(330) | [µF(VAC minimum)] |
| 4 Run capacitor | 15(400) | [µF(VAC minimum)] |
| 5 Motor protection | MRA38170-3261 | |
| 6 Start winding resistance | 7.31 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 2.87 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 28.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CCC - UKCA - VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V50Hz | | | 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] |
| 3192 | 804 | 935 | 642 | 3.28 | 9.50 | 4.97 | 1.25 | 1.46 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 1701 | 429 | 499 | 401 | 2.28 | 5.02 | 4.24 | 1.07 | 1.24 |
| -35 | (-31) | 2174 | 548 | 637 | 455 | 2.49 | 6.43 | 4.79 | 1.21 | 1.40 |
| -30 | (-22) | 2782 | 701 | 815 | 509 | 2.72 | 8.25 | 5.46 | 1.38 | 1.60 |
| -25 | (-13) | 3524 | 888 | 1033 | 564 | 2.95 | 10.48 | 6.24 | 1.57 | 1.83 |
| -20 | (- 4) | 4400 | 1109 | 1289 | 619 | 3.18 | 13.13 | 7.10 | 1.79 | 2.08 |
| -15 | (+ 5) | 5412 | 1364 | 1586 | 675 | 3.42 | 16.21 | 8.02 | 2.02 | 2.35 |
| -10 | (+14) | 6557 | 1652 | 1921 | 731 | 3.67 | 19.73 | 8.98 | 2.26 | 2.63 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 1476 | 372 | 432 | 402 | 2.31 | 4.36 | 3.67 | 0.93 | 1.08 |
| -35 | (-31) | 1929 | 486 | 565 | 463 | 2.55 | 5.71 | 4.17 | 1.05 | 1.22 |
| -30 | (-22) | 2508 | 632 | 735 | 526 | 2.80 | 7.44 | 4.77 | 1.20 | 1.40 |
| -25 | (-13) | 3213 | 810 | 942 | 590 | 3.07 | 9.55 | 5.44 | 1.37 | 1.59 |
| -20 | (- 4) | 4044 | 1019 | 1185 | 656 | 3.35 | 12.06 | 6.16 | 1.55 | 1.81 |
| -15 | (+ 5) | 5000 | 1260 | 1465 | 723 | 3.64 | 14.98 | 6.92 | 1.74 | 2.03 |
| -10 | (+14) | 6082 | 1533 | 1782 | 791 | 3.94 | 18.30 | 7.68 | 1.94 | 2.25 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|-----------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | 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) | 1245 | 314 | 365 | 399 | 2.27 | 3.67 | 3.12 | 0.79 | 0.91 |
| -35 | (-31) | 1690 | 426 | 495 | 469 | 2.55 | 5.00 | 3.61 | 0.91 | 1.06 |
| -30 | (-22) | 2252 | 568 | 660 | 541 | 2.85 | 6.68 | 4.16 | 1.05 | 1.22 |
| -25 | (-13) | 2931 | 739 | 859 | 615 | 3.17 | 8.71 | 4.76 | 1.20 | 1.40 |
| -20 | (- 4) | 3727 | 939 | 1092 | 692 | 3.50 | 11.12 | 5.39 | 1.36 | 1.58 |
| -15 | (+ 5) | 4639 | 1169 | 1359 | 771 | 3.85 | 13.89 | 6.02 | 1.52 | 1.77 |
| -10 | (+14) | 5668 | 1428 | 1661 | 853 | 4.21 | 17.05 | 6.64 | 1.67 | 1.95 |

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 | | |