

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | NE U2168U |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 863KA51 |

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 | 3/4 | [hp] |
| 2 Displacement | 16.80 | [cm ³] (1.025 cu.in) |
| 2.1 Bore [mm] | 31.190 | |
| 2.2 Stroke [mm] | 22.000 | |
| 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) | 10 | [kg] (22.05 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 | 220-240 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Voltage Relay | |
| 2.1 Starting device | RVA3AN3C-647 | |
| 3 Start capacitor | 88-108(330) | [µF(VAC minimum)] |
| 4 Run capacitor | 10(400) | [µF(VAC minimum)] |
| 5 Motor protection | MST30AMK-3261 | |
| 6 Start winding resistance | 11.03 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.15 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 21.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 3.25 | [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 - VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|-------------------------------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900LBP_HH Fan | | Evaporating temperature (Condensing temperature | | -35°C (-31°F) 40°C (104°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] |
| 1558 | 393 | 457 | 359 | 1.76 | 4.93 | 4.34 | 1.09 | 1.27 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|------------------|------|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900HH 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) | 1270 | 320 | 372 | 305 | 1.52 | 3.84 | 4.16 | 1.05 | 1.22 |
| -35 | (-31) | 1657 | 417 | 485 | 346 | 1.69 | 5.02 | 4.79 | 1.21 | 1.40 |
| -30 | (-22) | 2138 | 539 | 626 | 388 | 1.87 | 6.49 | 5.51 | 1.39 | 1.62 |
| -25 | (-13) | 2713 | 684 | 795 | 430 | 2.06 | 8.26 | 6.31 | 1.59 | 1.85 |
| -20 | (- 4) | 3384 | 853 | 991 | 473 | 2.25 | 10.34 | 7.15 | 1.80 | 2.10 |
| -15 | (+ 5) | 4148 | 1045 | 1215 | 517 | 2.45 | 12.73 | 8.03 | 2.02 | 2.35 |
| -10 | (+14) | 5007 | 1262 | 1467 | 562 | 2.65 | 15.43 | 8.91 | 2.24 | 2.61 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|------------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900HH 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) | 1088 | 274 | 319 | 321 | 1.58 | 3.59 | 3.40 | 0.86 | 1.00 |
| -35 | (-31) | 1420 | 358 | 416 | 366 | 1.78 | 4.69 | 3.88 | 0.98 | 1.14 |
| -30 | (-22) | 1841 | 464 | 540 | 413 | 1.98 | 6.10 | 4.45 | 1.12 | 1.30 |
| -25 | (-13) | 2353 | 593 | 689 | 463 | 2.20 | 7.82 | 5.07 | 1.28 | 1.49 |
| -20 | (- 4) | 2953 | 744 | 865 | 514 | 2.44 | 9.85 | 5.74 | 1.45 | 1.68 |
| -15 | (+ 5) | 3644 | 918 | 1068 | 568 | 2.68 | 12.21 | 6.42 | 1.62 | 1.88 |
| -10 | (+14) | 4424 | 1115 | 1296 | 624 | 2.93 | 14.90 | 7.10 | 1.79 | 2.08 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|------------------|------|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | EN12900HH 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) | 924 | 233 | 271 | 331 | 1.63 | 3.37 | 2.79 | 0.70 | 0.82 |
| -35 | (-31) | 1195 | 301 | 350 | 381 | 1.85 | 4.37 | 3.14 | 0.79 | 0.92 |
| -30 | (-22) | 1552 | 391 | 455 | 435 | 2.09 | 5.69 | 3.57 | 0.90 | 1.04 |
| -25 | (-13) | 1994 | 502 | 584 | 493 | 2.34 | 7.33 | 4.04 | 1.02 | 1.18 |
| -20 | (- 4) | 2520 | 635 | 738 | 554 | 2.61 | 9.31 | 4.55 | 1.15 | 1.33 |
| -15 | (+ 5) | 3131 | 789 | 917 | 618 | 2.90 | 11.62 | 5.07 | 1.28 | 1.49 |
| -10 | (+14) | 3827 | 964 | 1121 | 686 | 3.21 | 14.28 | 5.57 | 1.40 | 1.63 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.1 +0.10/+0.00 | [mm] | (0.319" +0.004"/+0.000") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 42° | | |
| 3.2 DISCHARGE | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 3.3 PROCESS | 6.1 +0.10/+0.00 | [mm] | (0.240" +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 | | |