

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | NE K2160U |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 863FA51 |

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 - 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 | 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) | 11.9 | [kg] (26.23 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELECTRICAL 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 | RVA2L3C | |
| 3 Start capacitor | 53-64(330) | [µF(VAC minimum)] |
| 4 Run capacitor | 10(440) | [µF(VAC minimum)] |
| 5 Motor protection | T0660/G9 | |
| 6 Start winding resistance | 11.19 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 3.96 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 18.00 | [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 | 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] |
| 2488 | 627 | 729 | 505 | 2.56 | 7.41 | 4.93 | 1.24 | 1.44 |

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) | 1245 | 314 | 365 | 308 | 1.70 | 3.68 | 4.04 | 1.02 | 1.18 |
| -35 | (-31) | 1605 | 404 | 470 | 349 | 1.87 | 4.75 | 4.61 | 1.16 | 1.35 |
| -30 | (-22) | 2062 | 520 | 604 | 391 | 2.05 | 6.12 | 5.28 | 1.33 | 1.55 |
| -25 | (-13) | 2615 | 659 | 766 | 434 | 2.24 | 7.78 | 6.03 | 1.52 | 1.77 |
| -20 | (- 4) | 3266 | 823 | 957 | 478 | 2.43 | 9.75 | 6.84 | 1.72 | 2.00 |
| -15 | (+ 5) | 4013 | 1011 | 1176 | 523 | 2.63 | 12.02 | 7.67 | 1.93 | 2.25 |
| -10 | (+14) | 4857 | 1224 | 1423 | 570 | 2.83 | 14.61 | 8.53 | 2.15 | 2.50 |

| 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) | 1163 | 293 | 341 | 317 | 1.75 | 3.43 | 3.66 | 0.92 | 1.07 |
| -35 | (-31) | 1502 | 378 | 440 | 361 | 1.94 | 4.44 | 4.16 | 1.05 | 1.22 |
| -30 | (-22) | 1934 | 487 | 567 | 408 | 2.14 | 5.74 | 4.74 | 1.19 | 1.39 |
| -25 | (-13) | 2460 | 620 | 721 | 457 | 2.36 | 7.31 | 5.37 | 1.35 | 1.57 |
| -20 | (- 4) | 3078 | 776 | 902 | 510 | 2.59 | 9.18 | 6.04 | 1.52 | 1.77 |
| -15 | (+ 5) | 3790 | 955 | 1111 | 565 | 2.84 | 11.35 | 6.72 | 1.69 | 1.97 |
| -10 | (+14) | 4596 | 1158 | 1347 | 623 | 3.10 | 13.83 | 7.38 | 1.86 | 2.16 |

| 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) | 1065 | 268 | 312 | 327 | 1.77 | 3.14 | 3.26 | 0.82 | 0.95 |
| -35 | (-31) | 1387 | 349 | 406 | 374 | 1.97 | 4.10 | 3.71 | 0.93 | 1.09 |
| -30 | (-22) | 1799 | 453 | 527 | 427 | 2.20 | 5.33 | 4.22 | 1.06 | 1.24 |
| -25 | (-13) | 2301 | 580 | 674 | 483 | 2.45 | 6.84 | 4.76 | 1.20 | 1.39 |
| -20 | (- 4) | 2892 | 729 | 848 | 545 | 2.72 | 8.63 | 5.32 | 1.34 | 1.56 |
| -15 | (+ 5) | 3574 | 901 | 1047 | 610 | 3.02 | 10.70 | 5.86 | 1.48 | 1.72 |
| -10 | (+14) | 4346 | 1095 | 1273 | 681 | 3.34 | 13.07 | 6.38 | 1.61 | 1.87 |

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 | | |