

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------------------------|
| Designation | NB 2121GK |
| Nominal Voltage/Frequency | 200-240 V 50 Hz / 230 V 60 Hz |
| Engineering Number | 995BN42 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-404A | | |
| 3 Nominal voltage and frequency | 200-240 / 50 | [V / Hz] | |
| 4 Application type | Low Back Pressure R404A | | |
| 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) | 25.7 | [kgf/cm ²] (365 psig) | / °C - °F |
| 9.2 Peak (gauge) | 28.7 | [kgf/cm ²] (408 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1/4+ | [hp] |
| 2 Displacement | 6.05 | [cm ³] (0.369 cu.in) |
| 2.1 Bore [mm] | 21.996 | |
| 2.2 Stroke [mm] | 15.920 | |
| 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) | 11.1 | [kg] (24.47 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 | 200-240 V 50 Hz / 230 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | Current Relay | |
| 2.1 Starting device | MTRP-0029 | |
| 3 Start capacitor | 53-64(330) | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | T0168/G5 | |
| 6 Start winding resistance | 34.82 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 5.67 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 2.13 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IMQ | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @230V60Hz | | | 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] |
| 1130 | 285 | 331 | 282 | 2.18 | 7.66 | 4.01 | 1.01 | 1.18 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @230V50Hz | | 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) | 445 | 112 | 130 | 162 | 1.64 | 2.99 | 2.73 | 0.69 | 0.80 |
| -35 | (-31) | 620 | 156 | 182 | 188 | 1.68 | 4.18 | 3.31 | 0.83 | 0.97 |
| -30 | (-22) | 820 | 207 | 240 | 214 | 1.75 | 5.55 | 3.85 | 0.97 | 1.13 |
| -25 | (-13) | 1051 | 265 | 308 | 241 | 1.82 | 7.14 | 4.37 | 1.10 | 1.28 |
| -20 | (- 4) | 1319 | 332 | 386 | 268 | 1.92 | 9.01 | 4.90 | 1.24 | 1.44 |
| -15 | (+ 5) | 1631 | 411 | 478 | 297 | 2.02 | 11.21 | 5.48 | 1.38 | 1.60 |
| -10 | (+14) | 1993 | 502 | 584 | 326 | 2.12 | 13.79 | 6.13 | 1.54 | 1.80 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @230V50Hz | | 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) | 358 | 90 | 105 | 135 | 1.61 | 2.40 | 2.65 | 0.67 | 0.78 |
| -35 | (-31) | 538 | 136 | 158 | 166 | 1.66 | 3.62 | 3.24 | 0.82 | 0.95 |
| -30 | (-22) | 738 | 186 | 216 | 197 | 1.74 | 4.99 | 3.75 | 0.95 | 1.10 |
| -25 | (-13) | 966 | 243 | 283 | 229 | 1.83 | 6.55 | 4.22 | 1.06 | 1.24 |
| -20 | (- 4) | 1228 | 309 | 360 | 263 | 1.94 | 8.37 | 4.66 | 1.18 | 1.37 |
| -15 | (+ 5) | 1529 | 385 | 448 | 298 | 2.06 | 10.49 | 5.12 | 1.29 | 1.50 |
| -10 | (+14) | 1877 | 473 | 550 | 335 | 2.19 | 12.96 | 5.61 | 1.41 | 1.65 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @230V50Hz | | 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) | 274 | 69 | 80 | 109 | 1.58 | 1.84 | 2.53 | 0.64 | 0.74 |
| -35 | (-31) | 459 | 116 | 134 | 144 | 1.64 | 3.08 | 3.14 | 0.79 | 0.92 |
| -30 | (-22) | 660 | 166 | 193 | 181 | 1.73 | 4.45 | 3.64 | 0.92 | 1.07 |
| -25 | (-13) | 885 | 223 | 259 | 219 | 1.83 | 5.99 | 4.06 | 1.02 | 1.19 |
| -20 | (- 4) | 1140 | 287 | 334 | 258 | 1.96 | 7.75 | 4.43 | 1.12 | 1.30 |
| -15 | (+ 5) | 1431 | 361 | 419 | 300 | 2.10 | 9.79 | 4.78 | 1.20 | 1.40 |
| -10 | (+14) | 1764 | 445 | 517 | 343 | 2.26 | 12.16 | 5.13 | 1.29 | 1.50 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @230V60Hz | | 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] |
| -40 | (-40) | 520 | 131 | 152 | 190 | 1.90 | 3.50 | 2.72 | 0.69 | 0.80 |
| -35 | (-31) | 725 | 183 | 212 | 220 | 1.95 | 4.89 | 3.31 | 0.83 | 0.97 |
| -30 | (-22) | 959 | 242 | 281 | 251 | 2.03 | 6.49 | 3.84 | 0.97 | 1.13 |
| -25 | (-13) | 1229 | 310 | 360 | 282 | 2.12 | 8.35 | 4.36 | 1.10 | 1.28 |
| -20 | (- 4) | 1543 | 389 | 452 | 314 | 2.22 | 10.54 | 4.89 | 1.23 | 1.43 |
| -15 | (+ 5) | 1909 | 481 | 559 | 348 | 2.34 | 13.11 | 5.47 | 1.38 | 1.60 |
| -10 | (+14) | 2332 | 588 | 683 | 382 | 2.46 | 16.13 | 6.12 | 1.54 | 1.79 |

| TEST CONDITIONS: @230V60Hz | | 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] |
| -40 | (-40) | 419 | 106 | 123 | 158 | 1.87 | 2.81 | 2.65 | 0.67 | 0.78 |
| -35 | (-31) | 629 | 159 | 184 | 194 | 1.93 | 4.24 | 3.24 | 0.82 | 0.95 |
| -30 | (-22) | 864 | 218 | 253 | 231 | 2.02 | 5.83 | 3.76 | 0.95 | 1.10 |
| -25 | (-13) | 1130 | 285 | 331 | 268 | 2.12 | 7.66 | 4.22 | 1.06 | 1.24 |
| -20 | (- 4) | 1436 | 362 | 421 | 308 | 2.25 | 9.79 | 4.66 | 1.17 | 1.37 |
| -15 | (+ 5) | 1789 | 451 | 524 | 349 | 2.39 | 12.26 | 5.11 | 1.29 | 1.50 |
| -10 | (+14) | 2195 | 553 | 643 | 392 | 2.54 | 15.16 | 5.61 | 1.41 | 1.64 |

| TEST CONDITIONS: @230V60Hz | | 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] |
| -40 | (-40) | 321 | 81 | 94 | 128 | 1.84 | 2.15 | 2.52 | 0.64 | 0.74 |
| -35 | (-31) | 537 | 135 | 157 | 169 | 1.90 | 3.61 | 3.14 | 0.79 | 0.92 |
| -30 | (-22) | 772 | 195 | 226 | 211 | 2.00 | 5.21 | 3.65 | 0.92 | 1.07 |
| -25 | (-13) | 1035 | 261 | 303 | 256 | 2.13 | 7.01 | 4.07 | 1.02 | 1.19 |
| -20 | (- 4) | 1333 | 336 | 391 | 302 | 2.27 | 9.07 | 4.43 | 1.12 | 1.30 |
| -15 | (+ 5) | 1674 | 422 | 490 | 351 | 2.44 | 11.45 | 4.77 | 1.20 | 1.40 |
| -10 | (+14) | 2064 | 520 | 605 | 402 | 2.62 | 14.22 | 5.12 | 1.29 | 1.50 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate | European Standard | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 42° | | |
| 3.2 DISCHARGE | 4.86 +0.07/+0.00 | [mm] | (0.191" +0.003"/+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 | | |