

COMPRESSOR DEFINITION

| | |
|---------------------------|------------------------|
| Designation | NB 1116Z |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 294SA66 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--------------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [V / Hz] | |
| 4 Application type | Low Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°F) | |
| 5 Motor type | RSIR | | |
| 6 Starting torque | LST - Low Starting Torque | | |
| 7 Expansion device | Capillary tube | | |
| 8 Compressor cooling | Operating voltage range | | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32°C Ambient temperature) | Static | 198 to 254 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 254 V | - |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing pressures/temperature | | | |
| 9.1 Operating (gauge) | 16.2 | [kgf/cm ²] (230 psig) | / °C - °F |
| 9.2 Peak (gauge) | 20.6 | [kgf/cm ²] (293 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|----------------------------------|
| 1 Commercial designation | | [hp] |
| 2 Displacement | 8.39 | [cm ³] (0.512 cu.in) |
| 2.1 Bore [mm] | 24.282 | |
| 2.2 Stroke [mm] | 18.120 | |
| 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 | - | [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 | PTC | |
| 2.1 Starting device | MSDA3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM276SFBYY-153 | |
| 6 Start winding resistance | 55.20 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 11.30 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 9.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 1.14 | [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: @220V50Hz | | | ASHRAELBP32 Static | | 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] |
| 611 | 154 | 179 | 169 | 1.14 | 3.47 | 3.61 | 0.91 | 1.06 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|-----------------------------|-------------------------------|---------------------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Static | | | | (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] |
| -35 (-31) | 359 | 91 | 105 | 116 | 0.99 | 2.03 | 3.09 | 0.78 | 0.91 |
| -30 (-22) | 492 | 124 | 144 | 134 | 1.04 | 2.79 | 3.69 | 0.93 | 1.08 |
| -25 (-13) | 654 | 165 | 192 | 154 | 1.10 | 3.71 | 4.26 | 1.07 | 1.25 |
| -20 (- 4) | 850 | 214 | 249 | 177 | 1.18 | 4.84 | 4.82 | 1.21 | 1.41 |
| -15 (+ 5) | 1084 | 273 | 318 | 201 | 1.27 | 6.19 | 5.39 | 1.36 | 1.58 |
| -10 (+14) | 1362 | 343 | 399 | 228 | 1.37 | 7.80 | 5.97 | 1.50 | 1.75 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|-----------------------------|-------------------------------|----------------------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Static | | | | (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] |
| -35 (-31) | 313 | 79 | 92 | 115 | 0.99 | 1.77 | 2.72 | 0.69 | 0.80 |
| -30 (-22) | 443 | 112 | 130 | 135 | 1.05 | 2.51 | 3.28 | 0.83 | 0.96 |
| -25 (-13) | 601 | 151 | 176 | 158 | 1.12 | 3.41 | 3.80 | 0.96 | 1.11 |
| -20 (- 4) | 791 | 199 | 232 | 184 | 1.21 | 4.50 | 4.29 | 1.08 | 1.26 |
| -15 (+ 5) | 1016 | 256 | 298 | 212 | 1.31 | 5.80 | 4.77 | 1.20 | 1.40 |
| -10 (+14) | 1282 | 323 | 376 | 244 | 1.43 | 7.35 | 5.25 | 1.32 | 1.54 |

| | | | | | | | | | |
|-------------------------------|----------------------------|--------------------|-----|-----------------------------|-------------------------------|----------------------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Static | | | | (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] |
| -35 (-31) | 272 | 68 | 80 | 111 | 0.98 | 1.54 | 2.45 | 0.62 | 0.72 |
| -30 (-22) | 399 | 100 | 117 | 133 | 1.04 | 2.26 | 2.99 | 0.75 | 0.88 |
| -25 (-13) | 551 | 139 | 161 | 159 | 1.12 | 3.13 | 3.46 | 0.87 | 1.01 |
| -20 (- 4) | 732 | 185 | 215 | 188 | 1.22 | 4.17 | 3.89 | 0.98 | 1.14 |
| -15 (+ 5) | 948 | 239 | 278 | 221 | 1.35 | 5.41 | 4.28 | 1.08 | 1.26 |
| -10 (+14) | 1202 | 303 | 352 | 258 | 1.49 | 6.89 | 4.67 | 1.18 | 1.37 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Static | | | (Condensing temperature 65°C (+149°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] |
| -35 | (-31) | 228 | 57 | 67 | 104 | 0.94 | 1.29 | 2.19 | 0.55 | 0.64 |
| -30 | (-22) | 350 | 88 | 103 | 129 | 1.01 | 1.98 | 2.70 | 0.68 | 0.79 |
| -25 | (-13) | 495 | 125 | 145 | 158 | 1.11 | 2.81 | 3.13 | 0.79 | 0.92 |
| -20 | (- 4) | 668 | 168 | 196 | 191 | 1.22 | 3.80 | 3.50 | 0.88 | 1.03 |
| -15 | (+ 5) | 872 | 220 | 256 | 229 | 1.37 | 4.98 | 3.83 | 0.96 | 1.12 |
| -10 | (+14) | 1113 | 281 | 326 | 271 | 1.54 | 6.38 | 4.12 | 1.04 | 1.21 |

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 | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted parallel to Base Plate | | |
| 3.3 PROCESS | 6 +0.08/-0.08 | [mm] | (0.236" +0.003"/-0.003") |
| 3.3.1 Material | Copper(OD) | | |
| 3.3.2 Shape | Slanted 42° | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |