Laboratory Gas Generators

Claind UHP Nitrogen Generator

Claind nitrogen gas generators use **PSA (Pressure Swing Adsorption) technology** to produce a continuous supply of high purity nitrogen.

High purity nitrogen generators for laboratory application include three models: **NG 2081, NG 2301** both available with built in compressor, NG 2300 with external compressor.

The NG 2081 can also be equipped with a **catalytic reactor for hydrocarbon removal** (NG 2081 HC).

Claind nitrogen generators are unique among competitors'. They are featured with the ***Fastart***™ system which allows high purity to be reached after few minutes from start up.

Independence is the main feature of these generators. They only require a supply of mains electricity for automatic, unattended operation. Pressing a button is the only operation to start up the generator, which operates automatically 24 hours a day, 365 days a year.

Maintenance is limited to changing a few filter elements taking less than 30 minutes per year. The system regenerates itself automatically giving you a continuous, uninterrupted supply of gas.

The NG series is **microprocessor controlled**. The operator can check and set the operating parameters. The maintenance program is embedded in the control system, so the operator is informed at a proper time of the maintenance schedule.

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SHIMATZU

Main Applications

The Claind nitrogen generators have been projected to satisfy all the applications in laboratory where UHP nitrogen is required.

NG 2081 is tailored specifically for **gas chromatography** (carrier gas, Make-Up, ECD)

NG 2301 and 2300 are addressed to the needs of **ICP** applications.

Working Principle

Thanks to the **PSA (Pressure Swing Adsorption)** principle the generator produces nitrogen by compressing ambient air and passing it into a Carbon Molecular Sieve bed (CMS).

Inside the CMS bed, oxygen, moisture, CO_2 and other 'contaminants' are trapped allowing nitrogen to pass through into a holding reservoir.

Nitrogen from the holding reservoir is regulated to a fixed flow and pressure before exiting the generator.

Claind is one of the worldwide major manufacturer of the PSA technology.

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NG 2000 series

Gas characteristics

Nitrogen purity better than 99,9995 % *
Outlet pressure: 4 barg

* max O_2 content 5 ppm
adjustable from the operator. 6 barg available on demand

HC feature (hydrocarbons removal)

Total Hydrocarbons residual < 0,1 ppm

HC removal efficiency:

> 99% methane (CH_4);

> 99,5% aromatics (BTX) and hydrocarbons starting from C_3H_n ;

> 99,9% carbon dioxide (CO_2), hydrogen (H_2) ethylene and propylene.

Available models

built in air compressor: NG 2081, NG 2081HC, NG 2301
external air supply: NG 2300

Technical specifications

Technical specifications	NG 2081	NG 2081HC	NG 2301	NG 2300
FLOW RATE	800 Nml/min	800 Nml/min	3000 Nml/min	3000 Nml/min
POWER RATING	600 VA	700 VA	850 VA	100 VA
ELECTRICAL SUPPLY	230 Vac - 50 Hz *	230 Vac - 50 Hz *	230 Vac - 50 Hz *	230 Vac - 50 Hz *

* 115 Vac - 60 Hz available on demand

Noise level: <60 dB
Operating temperature: between 5°C and 40°C
Consumables: filters and silencers

AIR SUPPLY CHARACTERISTICS*

Inlet Air flow: .....min 55 Nl/min

Inlet Air pressure: ..min 8,5 / max 10 barg

Dew point: .....< +3 °C

Particles: .....< 0,01 mm

Oil vapors: .....< 0,01 mg/m^3

* Only for NG 2300

Dimensions

	NG 2081	NG 2081HC	NG 2301	NG 2300
Height	83 cm	83 cm	119 cm	119 cm
Width	40 cm	40 cm	40 cm	40 cm
Depth	58 cm	58 cm	80 cm	80 cm
Weight	62 kg	67 kg	112 kg	112 kg

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