



# NITROGEN GAS GENERATOR for ICP applications



F-DGS's Nitrogen Gas Generators are some of the best designed PSA Nitrogen Gas Generators available. Utilizing the reliable and efficient PSA technique of separating Nitrogen and Oxygen is used to produce ultra high quality Nitrogen Gas suitable for optic, source and plasma torch purge applications, maximising instrument uptime, productivity and enhancing spectroscopic resolution.

Our Nitrogen Gas Generator employs robust, field proven technology to meet the complete purge gas requirements of today's latest ICP instrumentation.



The generator is controlled using the latest in HMI touch screen technology to display the process in real time, inlet/outlet pressures and oxygen level (optional).

## Benefits and Savings

### Increased laboratory efficiency

A constant, uninterrupted gas supply of guaranteed purity eliminates interruptions of analyses to change cylinders and reduces the amount of instrument re-calibrations required.

### Improved economy

Pure nitrogen gas produced as standard

### Improved safety

Nitrogen produced at low pressure and ambient temperature removes the need for high pressure cylinders

### Security of supply

Integral oil free air compressor as an option guarantees continuous gas supply, independent of in house compressed air supply

### Simple installation

Gas generators can be installed in the laboratory eliminating the need for long gas lines from cylinders secured elsewhere

## Standard Features

- \* **Flow rate : 3, 5 or 10 L/min @ 5.5bar**
- \* **Purity > 99,9995%**
- \* **Options:**
  - Integral oil free air compressor
  - Oxygen analyser
- \* **Auto start**
- \* **Alarm display with help menu**
- \* **Audible alarm sounder**
- \* **Outlet flow indicator**
- \* **Trend graphs for QA reporting**
- \* **Energy saving Mode**
- \* **Compressor over temperature alarm**
- \* **Remote access to screen using internet or GSM**

### ENERGY SAVING MODE:

The generator has a real-time calendar and clock which can be easily updated no matter where you are in the World. By using the Auto-Run function you can select when the generator runs giving you complete control of your gas supply and saving energy.

Example: If your laboratory working hours is 8am to 6pm, set the generator to start at 5am to ensure you have high quality gas at 8am and have it switch off at 7pm, reducing running time and energy by some 55%.

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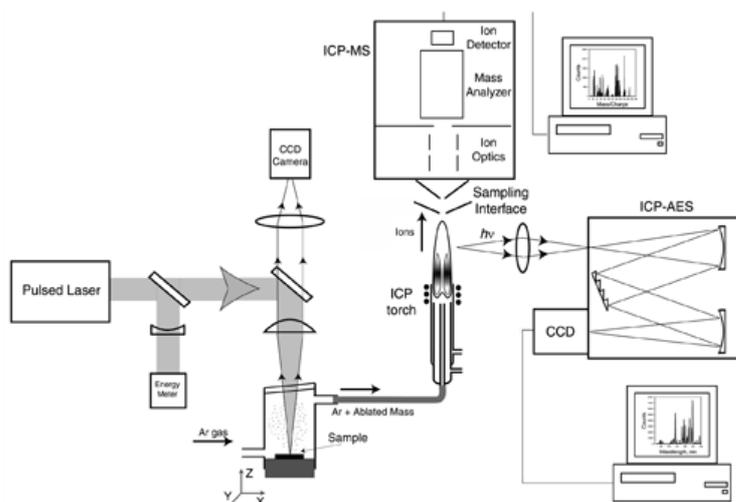
## Why using Ultra High purity Nitrogen generator for ICP purge Applications?

Inductively coupled plasma atomic emission spectrometry (ICP-AES) continues to grow in popularity as a powerful analytical technique for a wide variety of samples owing to its simultaneous multi-element determination capability, low detection limits for most elements, large linear dynamic range, high tolerance to matrix effects and, relative ease of operation. However, it has limitations for the determination of the non-metals including sulfur. The resonance lines of many of the non-metals lie in the vacuum ultraviolet (VUV) spectral region less than 200 nm. Observation of these resonance lines with conventional instrumentation is complicated by absorption of radiation by oxygen in the atmosphere and by the mirrors and/or windows employed in the optical transfer system.

The nitrogen is used to purge the optical system from the ICP source to the entrance slit of the monochromator and

inside the monochromator installed with the photomultiplier tube (PMT) housing box. The flow of nitrogen purge gas flowing both in the region from the ICP source to the monochromator and in the PMT housing box is referred to as the light cell purge gas flow. This purge system permits extension of the operating range to the VUV spectral region between 170 and 190 nm.

Generally Nitrogen purge gas flow rates for Light cell is 6L/min and for Monochromator 8L/min (depend on ICP manufacturer).



### Technical Specifications

Model	NG3/0	NG3/1	NG6/0	NG6/1	HPNG10/1	MNG104L/0
flowrate (L/min)	3	3	5	5	10	10
Outlet pressure	5.5 bar					
Purity	> 99.9995%					
Air inlet flow rate requirement	40	N/A	80	N/A	N/A	120
Dimensions (H, W, D) mm	725 x 450 x 665				800 x 550 x 700	980 x 400 x 560
Weight kg	80				140	
Inlet / Outlet connections	G 1/4" (BSP) Female					
Electrical Supply	220v a.c. / 1ph / 50Hz or 110v a.c. / 1ph / 50-60Hz					

### Technical Data

Ambient Temp range	5-35 °C (41-95 °F)
Maximum air Inlet Pressure	7 Bar
Air Inlet Requirement (units without compressor)	Dewpoint: -40 °C (-40 °F)
	Particulate: <1 micron
	Oil: <0.01 mg/m <sup>3</sup>