



# Nitrogen generators

## Serie Maximus



The nitrogen generators serie Maximus offer to you a unique, innovative solution to nitrogen gas supply. A reliable, secure source of nitrogen can be produced from your existing compressed air supply, eliminating the need for liquid nitrogen or high pressure gas cylinders.

Conceived for a continuous operation, the MAXIMUS nitrogen generator can produce flow rates from a few liters per minutes to over NM<sup>3</sup>/H at purities in oxygen content residual from 10 ppm to 5%.



The generator is controlled using the latest in HMI touch screen technology to display the process, pressures, inlet air dewpoint and oxygen levels with continuous monitoring complete with alarms.

**Applications:** food packaging, laser cutting, wine making and brewing, oil and gas, pharmaceutical and laboratory, electronic assembly/soldering, injection moulding

### Benefits and Savings

#### Economy saving

- Quick return on investment < 1 year
- After installation, the generator require minimal attention and Maintenance

#### Reliability and safety of use

- Nitrogen produced at low pressure and ambient temperature removes the hazards associated with high pressure cylinders and liquid Dewar's.
- Nitrogen available on request 24H per day ensuring the walk of the process in a regular and uninterrupted way

#### Compact design and flexible modular option

- The system demands less floor space
- The modular concept means the generators can be multi banked if required (Master/Slave configuration) Evolutionary System adapting as your business grows and gas requirements change

### Standard Features

*Varying flow rates and purities*

*HMI touch screen*

*O<sub>2</sub> display and alarm*

*Air inlet dewpoint display and alarm*

*Maintenance indication*

*Visual and audible alarm*

*Analogue connections*

*Ethernet output via RJ45 connection*

*IP address for remote access via internet connection*

*Quick and easy maintenance:*

*Access from front, no rear access required*

*Automatic economy mode*

*Option: Hazardous area version*



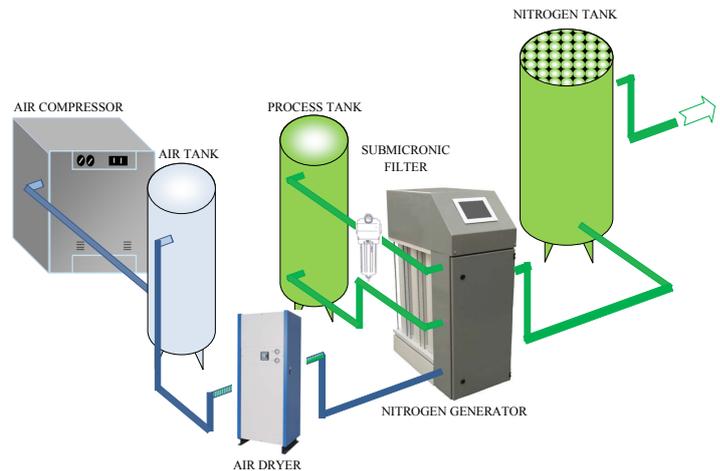
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### Operating mode

The nitrogen generator operate on the Pressure Swing Adsorption (PSA).

This technique uses pairs of extruded aluminium columns, filled with carbon molecular sieve (CMS). Pre-treated compressed air enters the bottom of the one line bed and flows up through the CMS. Oxygen and other trace gases are preferentially adsorbed by the CMS, allowing nitrogen to pass through. After a pre-set time when the on-line bed is almost saturated with adsorbed gases, the system automatically switches the bed to regenerative mode, venting the contaminants from the CMS. The second CMS bed then comes on-line and takes over the separation process. The pair of beds switches between separation and regeneration modes to ensure continuous nitrogen production.



### Technical Specifications

Model	Nitrogen flow rate m3/hr vs purity (oxygen concentration)										
	10ppm	50ppm	100ppm	500ppm	0,10%	0,5%	1,0%	2,0%	3,0%	4,0%	5,0%
MNG104	2,0	3,8	5,5	8,6	9,0	14,1	17,8	22,0	25,8	29,0	32,2
MNG106	3,0	5,8	8,5	13,0	13,5	21,2	26,6	32,8	38,7	43,5	48,3
MNG108	4,0	7,8	11,0	17,3	18,0	28,3	35,5	43,8	51,6	58,0	64,4
MNG110	5,0	9,6	14,0	21,6	22,5	35,5	44,4	54,7	64,5	72,5	80,4
MNG112	6,0	11,5	16,5	26,0	26,8	42,4	53,5	65,7	77,4	87,1	96,5
MNG116	8,0	14,5	21,0	32,8	34,0	53,7	67,5	83,2	98,1	110,3	122,3
MNG120	10,0	17,5	25,3	39,7	41,2	65,0	81,7	100,7	118,7	133,5	148,0
AIR /N2 RATIO	10,8	8	5,9	3,6	3,4	2,8	2,6	2,4	2,2	2,1	2

Specification are based on 7barg air inlet pressure @ 20-25°C ambient air temperature

For other inlet pressures please find the table to calculate the new flow rate :

Air inlet pressure in barg	7.5	8	8.5	9	9.5
Correction factor	1.14	1.21	1.29	1.36	1.43

### Technical Data

Ambient Temp range	5-50°C (41-95°F)
Air Inlet Pressure	6 to 18 Bar
Air Inlet Quality Requirement	Dewpoint: -40°C (-40°F)
	Particulate: <0.1 micron
	Oil: <0.01 mg/m <sup>3</sup>
Inlet/outlet connections	G ½ (BSP) F

F-DGSi SAS

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