domnick hunter

MAXIGAS Nitrogen Supply
for Coffee Packaging

www.domnickhunter.com

Coffee Packaging

improving product quality and extending shelf-life

After roasting, coffee begins to oxidise, which destroys its flavour. Packaging coffee in a nitrogen atmosphere helps to maintain the integrity of speciality ground coffee by displacing the oxygen inside packs.

Nitrogen is an odourless and tasteless gas that is heavier than oxygen; therefore it pushes oxygen out from inside packs.

Nitrogen flushed packaging is often preferred over vacuum packaging because it gives a smoother packaging result. It is typically used for square bottom packs that have a one way valve to prevent air entering and pillow packs.

The shelf-life of roasted and ground coffee packed in nitrogen with a metallised film and residual oxygen content of between 2% and 3% can be doubled.

Benefits of using nitrogen:

- **Preservation of product flavour and aroma**
- **Improved product colour and texture**
- **Extended shelf-life**
- **Increased production efficiency through less downtime**

"We are set to recoup the capital cost of the nitrogen generator within 18-24 months, which is great because we will effectively be able to produce our own free nitrogen then, without the risk of production downtime."

James Sweeting, Lincoln & York, UK

Why MAXIGAS?

MAXIGAS is a cost effective alternative to other nitrogen gas sources, with no on-going costs such as refills, order processing or delivery charges. It is an effective gas delivery system for applications that require high flow rates and pressure levels. It is also a safer alternative that eliminates manhandling of high-pressure cylinders or cryogenic gas tanks.

Production downtime is minimised due to the permanent availability of an on-demand nitrogen supply.

Maxigas gives manufacturers increased control over flow rates and requires minimal maintenance. It can also bring valuable space saving advantages.

MAXIGAS benefits

- Nitrogen purity of up to 10ppm oxygen content
- On-demand nitrogen
- Increased control
- No reliance on gas deliveries in remote or congested areas
- Modular space saving design
- Ability to add extra banks of generators
- Simplicity
- Innovative regeneration feature requires minimal maintenance
- domnick hunter global service and support
- Easily retrofitted

MAXIGAS model N2MAX116

Dependable nitrogen supply for improved packaging efficiency

How it works

MAXIGAS is constructed from pairs of extruded aluminium columns filled with carbon molecular sieve (CMS) and operates on the pressure swing adsorption (PSA) principle to produce a continuous stream of nitrogen gas from compressed air. Oxygen and other trace gases are preferentially adsorbed by the CMS, allowing nitrogen to pass through.

Carbon molecular sieve differs from ordinary activated carbons in that it has a much narrower range of pore openings. This allows small molecules such as oxygen to penetrate the pores and be separated from the air stream. The larger molecules of nitrogen by-pass the CMS and emerge as the product gas.

After a pre-set time when the online bed is almost saturated with adsorbed gases, the system automatically switches to regenerative mode, venting the contaminants from the CMS. The second CMS bed then comes online and takes over the separation process. The pair of CMS beds switch between separation and regeneration modes to ensure continuous and uninterrupted nitrogen production.

Carbon molecular sieve

Performance data

	Model	With Compressor	Without Compressor	Nitrogen Outlet Flowrate - Nm³/hr (ATP) v Oxygen Content						
				10ppm	100ppm	0.1%	0.5%	1%	2%	3%
MAXIGAS MIDI	N2MID350		•	0.6	1.0	1.6	2.6	3.1	4.0	N/a
	N2MID351	•								
	N2MID600		•	0.9	1.5	2.6	3.9	4.6	6.1	N/a
	N2MID601	•								
SINGLE BANK MAXIGAS	N2MAX104		•	1.3	2.2	4.5	7.6	9.0	11.8	13.8
	N2MAX106		•	1.9	3.2	6.7	11.4	13.5	17.7	20.7
	N2MAX108		•	2.6	4.4	9.0	15.3	18.0	23.6	27.6
	N2MAX110		•	3.2	5.3	11.3	19.1	22.6	29.5	34.5
	N2MAX112		•	5.2	8.4	18.4	30.8	36.4	41.2	47.8
	N2MAX116		•	6.9	11.2	24.5	41.0	48.5	52.9	61.4

Performance data based on 6barg (87psig) air inlet pressure, 20°-25°C (68°-77°F) ambient temperature.
Consult domnick hunter for performance under other specific conditions.

MAXIGAS installation

Technical specifications

Ambient temp. range	5°-45°C (41-113°F)
Nitrogen outlet pressure	5 barg (72.5psig)
Min. air inlet pressure	6 barg (87psig)
Max. air inlet pressure	9.5 barg (138psig)
Inlet air quality	Dewpoint: -40°C (-40°F) Particulate: <0.1 micron Oil: <0.01 mg/m³
Electrical supply	220V/1ph/50Hz or 110V/1ph/60Hz
Inlet/outlet connections	G½

Weights and dimensions

Model	Height (mm)	Width (mm)	Depth (mm)	Weight (Kg)
N2MID350	1100	590	600	145
N2MID600	1100	590	600	180
N2MAX104	1650	500	810	250
N2MAX106	1650	500	980	330
N2MAX108	1650	500	1150	410
N2MAX110	1650	500	1320	490
N2MAX112	1760	600	1717	674
N2MAX116	1760	600	2055	837

Standard accessories

Oxygen analyser for continuous monitoring of nitrogen purity.

Flow verification kit.

Analogue outputs for remote monitoring alarm connections.

Other dh products

- Compressed air filters
- Sterile air filters
- Compressed air dryers
- Laboratory gas generators
- Oil/water separators
- Condensate drains

MAXIGAS MIDI

The MAXIGAS MIDI range is designed to offer the most compact solution for smaller scale nitrogen requirements. These units are available with the option of an integral oil-free air compressor, giving a more flexible and convenient nitrogen supply.

MAXIGAS modular concept

For higher flow rate applications, MAXIGAS can be multibanked to offer the most cost effective solution.
The modular design of the MAXIGAS system means you can simply add extra banks as your business grows and your gas requirements increase.

ISO 9001:2000
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