domnick hunter

gas generators

maxigas Nitrogen Supply

For Snack Food Packaging

www.domnickhunter.com

Snack Food Packaging

maintaining product quality and extending shelf-life

Benefits of using Nitrogen

Spoilage occurs from the moment food is produced. Flushing packaged foods with high purity nitrogen gas, which is odourless and tasteless, retards aerobic spoilage and oxidative deterioration by typically reducing oxygen levels to below 1%. Nitrogen is also used to prevent bag collapse for more attractive packaging. The principle spoilage mechanism affecting fried foods is oxidative rancitity

Due to achievable shelf lives being very long, MAP materials must have very high moisture barriers as well as gas barriers.

Benefits of using MAP

- Preservation of product flavour, aroma, texture and nutritional value
- Extended shelf-life and maintain just packed taste
- Increased sales through improved product quality
- Fewer product returns
- Improved export opportunities to new geographic markets

Snack foods – MAP is suitable for a wide range of snack foods including potato crisps, extruded corn snacks, nuts and savoury mixes. Typical shelf-life with MAP is 1-2 years.

Recommended gas mix: 100% N2

Gas Analysis – domnick hunter offers a gas analysis service to check the quality of existing gas supplies and accurately monitor residual oxygen content in the bag. This procedure should be included in quality assurance programmes to ensure shelf-life estimates are achieved.

HACCP and Air Quality – domnick hunter is a leading supplier of filtration and purification solutions, the OIL-X EVOLUTION range of compressed air filters are independently validated to ISO 8573.1:2001 quality standards and also meet recommendations of the British Compressed Air Society (BCAS) / British Retail Consortium (BRC) Code of Practice on Food Grade Compressed Air, designed to help food manufacturers comply with Hazard Analysis Critical Control Point (HACCP) regulations. domnick hunter also offers a range of sterile air and liquid filters, which can give point of use sterile/bacterial free N_2 gas as an option.

domnick hunter's unique product offering can provide you with sterile point of use Nitrogen, providing peace of mind quality control.

"When we investigated the cost of bulk cylinder supplies it was about 10 times more expensive than gas from MAXIGAS."

Sterile Filters

Compressed Air Filters

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

MAXIGAS has many advantages over traditional nitrogen supplies including:

- Enhanced safety without the need to store or handle high-pressure cylinders
- Reduced downtime owing to an on-demand supply
- Cost savings following payback of up to 90%
- Food grade nitrogen at consistent flow, pressure and purity
- Compact space saving design
- Flexible modular design
- Very low cost of ownership
- No need for expensive civil works prior to installation
- Proven reliability
- Standard purities up to 10ppm as standard
- Runs off a smaller compressor for even greater energy savings
- Obtains outlet pressures up to 16 bar without a booster

MAXIGAS120

MAXIGAS nitrogen - helping to ensure quality at point of use

How it works

MAXIGAS operates on the Pressure Swing Adsorption (PSA) principle to produce a continuous stream of nitrogen gas from compressed air.

Pairs of extruded aluminium columns are filled with carbon molecular sieve (CMS). Pre-treated compressed air enters the bottom of the 'on-line' column 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 the on-line column automatically switches to regenerative mode, venting contaminants from the CMS.

Carbon molecular sieve

✔ **FDA** Materials of construction independently verified to comply with FDA code of federal regulations title 21 'Food & Dairy'.

✔ **EIGA** Meets European Industrial Gas Association Standards; nitrogen gas approved for use as a food additive.

Product Selection

Performance data is based on 7 bar g (100 psi g) air inlet pressure and 20º -25ºC (66º - 77ºF) ambient temperature. Consult Parker domnick hunter for performance under other specific conditions.

Nitrogen Outlet Capacity (Nm^3 / hour) V Oxygen Content

Model	10ppm	50ppm	100ppm	250ppm	500ppm	0.1%	0.5%	1.0%	2.0%	3.0%	4.0%	5.0%
MIDIGAS 2	0,55	-	1,2	1,5	1,9	2,4	3,4	4,3	5,8	7,2	8,4	9,4
MIDIGAS 4	1,2	-	2,4	3,2	3,9	4,7	6,9	8,5	11,6	14,3	16,7	18,8
MIDIGAS 6	1,5	-	3,2	4,2	5,3	6,5	9,5	11,5	15,2	18,7	21,7	24,5
MAXIGAS 104	2	3,8	5,5	7,1	8,6	9	14,1	17,8	22	25,8	29	32,2
MAXIGAS 106	3	5,7	8,3	10,7	13	13,4	21,2	26,6	32,8	38,7	43,5	48,3
MAXIGAS 108	4	7,6	11	14,3	17,3	18	28,3	35,5	43,8	51,6	58	64,4
MAXIGAS 110	5	9,5	13,8	17,8	21,6	22,4	35,3	44,4	54,7	64,5	72,5	80,4
MAXIGAS 112	6	11,3	16,5	21,4	25,9	26,8	42,4	53,3	65,7	77,4	87,1	96,5
MAXIGAS 116	7,9	14,4	20,9	27,1	32,8	34	53,7	67,5	83,2	98,1	110,3	122,3
MAXIGAS 120	9,8	17,4	25,3	32,8	39,7	41,2	65	81,7	100,7	118,7	133,5	148

Weights and Dimensions

Model	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
MIDIGAS 2	1034	450	471	98
MIDIGAS 4	1034	450	640	145
MIDIGAS 6	1034	450	809	196
MAXIGAS 104	1894	550	692	336
MAXIGAS 106	1894	550	861	394
MAXIGAS 108	1894	550	1029	488
MAXIGAS 110	1894	550	1198	582
MAXIGAS 112	1894	550	1368	676
MAXIGAS 116	1894	550	1765	864
MAXIGAS 120	1894	550	2043	1052

Technical Data

Ambient Temperature Range		: 5-50 °C
Max. Nitrogen Outlet Pressure		: 16,5 barg
Min. /Max. Air Inlet Pressure (MAXIGAS)		: 6-18 barg
Min. /Max. Air Inlet Pressure (MIDIGAS)		: 6-13 barg
Inlet Air Quality:	Dewpoint	: - 40 °C
	Particulate	: < 0,1 micron
	Oil	: < 0,01 mg/m3
Electrical Suply		: 220 V/1ph/50 Hz
Inlet /Outlet Connections		: Air G1 – Nitrogen G½

MIDIGAS Nitrogen Generator

MAXIGAS Nitrogen Generator