

NOVAIR

NITROGEN & OXYGEN ON SITE PRODUCTION

Solutions for the Food and
Beverage Industries



- Food grade nitrogen
- High purity oxygen
- Production on-demand
- Constant quality control



GROUPE NOVAIR



Founded in 1977 in France, NOVAIR is specialized in the design and manufacturing of air & gas separation, treatment and compression solutions.

The company is focused on on-site generation of nitrogen and oxygen through customized systems designed to help industries reduce their operating costs and increase their autonomy. NOVAIR headquarters are located in France, near Paris.

The group includes an R&D and production site at its Italian subsidiary -NOVAIR Noxerion Gas Systems - and is operating in over 100 countries through a wide network of certified local distributors.

BECOME YOUR OWN GAS SUPPLIER: WHAT ADVANTAGES?

Nitrogen & oxygen are traditionally supplied to industrial sites by trucks, and stored in high pressure cylinders or cryogenic tanks.

This method of supply is costly, polluting and generates constraints and risks for users.

Oxygen production on site by generator is a safe, efficient alternative, a source of autonomy and significant savings.



No logistic
constraints



No cylinders
handling



No explosion
risk



Proven
savings



Eco-friendly
solution



NITROGEN AND OXYGEN GENERATORS FOR FOOD INDUSTRY

wide choice of solutions

MODULN₂[®]



ModulN2[®] is a compact nitrogen generator ensuring an on-site production of up to 3,8m³/h nitrogen, with a purity ranging from 1 to 0,35% residual oxygen content. Based on the membrane technology, this generator is a perfect solution for industrials looking for a convenient, reliable and economical nitrogen supply.

- Nitrogen Output : from 0.5 to 3.8 Nm³/h
- Gas Purity : from 1 to 0.35% vol. residual O₂
- Nitrogen Outlet Pressure : up to 8.6 barg / 116 PSIG

- Plug&Play generator
- Mobile & compact
- Fully automatic

NITROSWING[®]



NITROSWING[®] is a modular PSA generator, designed after years of R&D within NOVAIR Noxerion Gas Systems. The full range offers the highest standards in terms of efficiency, flexibility and reliability. The modular technology allows an easy upgrade of nitrogen production capacities through the simple addition of PSA modules or the addition of a secondary generator (Dual Bank) commanded by the main one.

- Nitrogen Output: from 5 to 150 Nm³/h
- Gas purity: from 3% vol. to 5ppm Oxygen residual
- Nitrogen Outlet Pressure : from 6 to 11 barg / 101 to 159 PSIG

- Patented PSA process
- High efficiency
- Evolutive capacity

NITROSWING[®] FOODPACK



Newly designed by NOVAIR in collaboration with end users, NITROSWING[®] FOODPACK is an integrated solution combining a nitrogen PSA generator and a specific gas mixer for Modified Atmosphere Packaging applications. While the generator offers a continuous control over the nitrogen purity, the gas mixing system easily provides the mixtures settings required and a constant mix quality, as required by flow packing machines or other continuous packaging processes in the food industry.

- Nitrogen Output : from 5 to 150 Nm³/h
- Gases allowed in mixer: Nitrogen, CO₂, Oxygen
- Mix range : 0-100%

- Autonomous supply of mixed gas for MAP
- Constant purity control
- High process reliability

OXYSWING[®]



For industries looking for a flexible and autonomous supply of oxygen, NOVAIR introduces OXYSWING[®], modular oxygen generator delivering a continuous flow of oxygen 95% produced on-site.

- Nitrogen Output : from 2.5 to 44.4 Nm³/h
- Gas Purity: up to 95% Oxygen
- Oxygen Pressure : 6 barg / 87 PSIG

- Oxygen up to 95% purity
- Patented PSA modular process
- Evolutive capacity

APPLICATIONS

A nitrogen generator for all needs

With decades of experience with nitrogen supply for food and beverage applications, NOVAIR and NOXERIOR can assist you with a detailed consultancy on the specific nitrogen consumption of any kind of packaging machine:

- HFFS (horizontal form-fill-seal)
- VFFS (vertical form-fill-seal)
- With semi rigid packages
- With "pillow-pack" pouches

Novair Group also enjoys a wide experience with the particular conditions of nitrogen supply to either thermo-forming packaging machines or vacuum chamber machines. We are able to calculate a reliable nitrogen consumption with limited information such as bag volume or package size, product volume and packing speed.

For beverage applications we can provide an adapted on-site nitrogen supply for both standard and isobaric bottling machines.

Modified Atmosphere Packaging (MAP)

Modified Atmosphere Packaging (MAP) stands for packaging of foodstuff under a protective atmosphere by using nitrogen or gas mixtures consisting of nitrogen, carbon dioxide and/or oxygen. This technology is widely used in the food packaging industry to prevent spoilage, preserve freshness, maintain flavour and greatly extend product shelf life. Nitrogen is also used in soft packages that must retain their shape in order to preserve fragile products such as potato chips. The application of a nitrogen / carbon dioxide mixture as filling gas for MAP neutralises the carbon dioxide's absorption effect and also reduces the vacuum effect.

Beverages storage, mixing, transportation and dispensing

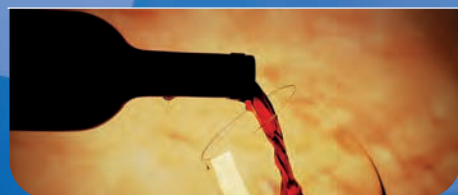
Nitrogen is used for a variety of applications, like beverage storage, CO2 mixing, beverage transport and beverage dispensing to end users. To avoid discoloration and off-flavours of non-carbonated beverages, like wine, iced tea, fruit juices or milk type beverages, nitrogen may be used for sparging (introduction of very fine bubbles) or inerting purposes. Nitrogen is also used during wine bottling to purge the bottles before and after filling.



Controlled atmosphere fruit storage



Vinification



Blanketing of silos and bulk storage tanks



Pressure transfer



Inerting of dairy products

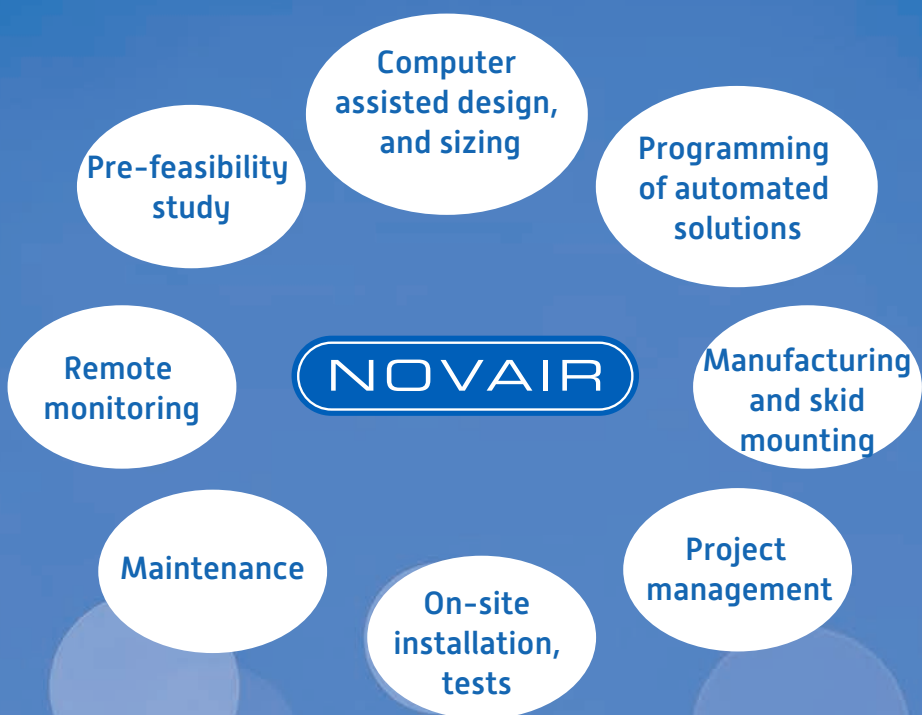


Coffee packaging



AN EXPERT SUPPORT AT EACH STEP OF YOUR PROJECT

NOVAIR offers a complete service panel to support industries in the research of dedicated solutions. NOVAIR nitrogen & oxygen plants are customized after a careful analysis of the needs of each client:



FOOD GRADE NITROGEN

The nitrogen produced with NOVAIR / NOXERIOR generators complies with the requirements of all European regulations in force regarding food additives.

A certificate issued by an external laboratory attests the E941 food quality of the nitrogen produced.

In addition, the nitrogen produced by the generators is continuously analyzed.

Purity requirements	Regulation (EU) No 231/2012 of 9 March 2012	NITROSWING® Modular PSA Nitrogen Generators
Water (H ₂ O)	Not more than 0.05%	< 0.015%
Carbon Monoxide (CO)	Not more than 10 µl/l	Ambiant air concentration (0.1 µl/l normally, < 10 µl/l in urban areas)
Methane & Other hydrocarbons (C _m H _n)	Not more than 100 µl/l (calculated as Methane)	Ambiant air concentration (1.8 µl/l normally, 10 – 60 µl/l in urban areas)
Nitrogen Oxide (NO) & Nitrogen Dioxide (NO ₂)	Not more than 10 µl/l	Ambiant air concentration (0.01 – 0.05 µl/l normally, 0.4 – 0.6 µl/l in urban areas)
Oxygen (O ₂)	Not more than 1%	< 1%

Nitrogen & Oxygen Generators

- PSA
- DS-PSA
- Membrane



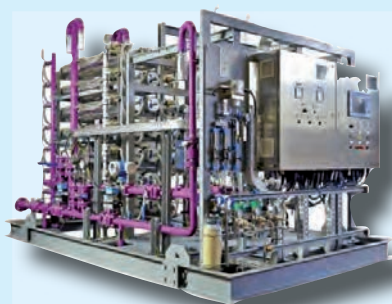
Feed Air Units



Medium & High Pressure Gas Boosters



Engineered Packages



NOXERIOR
GAS
SYSTEMS

Via Genova, 5 - Grosseto-Italy

Tel : +39 (0564) 45 8041/42

Fax : +39 (0564) 45 80 43

Email : info@noxerior.com

www.novairindustries.com