NITROGEN *ON-SITE* GENERATION SYSTEMS

INDUSTRIAL

For FOOD INDUSTRY

Throughout history, food industry has undergone countless changes and updates, regarding distributors and consumers level of demands, concerning the shelf time of fresh products packaging and the maintenance of the organoleptic qualities of food (appearance, smell and taste).

One of the main elements responsible for fresh food degradation is Oxygen. The level of uncontrolled Oxygen causes food oxidation and allows the development of microorganisms, leading to the degradation of their essential characteristics.

The most used technique for Oxygen level control when in contact with packaged foods, is the use of Nitrogen, that allows significant advantages.

APPLICATIONS

- FRENCH FRIES/CHIPS
- CEREALS
- COFFEE BEANS AND GROUND COFFEE
- BAKERY AND PASTRY
- SUGAR
- DRIED FRUITS
- HIGH ACTIVITY FRUIT
- LOW ACTIVITY FRUIT
- VEGETABLES
- CHEESE
- YOGURT
- MILK
- SAUSAGES
- FRESH MEATS

ADVANTAGES FOR THE PRODUCT

- REDUCES PRODUCT OXIDATION;
- ELIMINATES UNWANTED CONSEQUENCES FROM BACTERIA AND FUNGI EXPOSURE;
- ELIMINATES UNWANTED CONSEQUENCES FROM INSECT EXPOSURE.

ADVANTAGES FOR THE MANUFACTURER

- INCREASES THE PRODUCT SHELF LIFE;
- REDUCES FAULTY PRODUCTS RETURN;
- ALLOWS PRODUCT EXPEDITION TO DISTANT MARKETS.

SYSADVANCE offers a wide range of Nitrogen Generators – NITROGEN, for various needs and applications. Producing Nitrogen from compressed air through PSA technology (*Pressure Swing Adsorption*), is an economical and effective solution for low cost and autonomous Nitrogen production.

In some specific applications, such as sausage packaging and fresh meats, some experts advise atmosphere composed by Nitrogen and CO_2. For these cases **SYSADVANCE** has developed a gas mixing system – GASMIX, which allows the use of a nitrogen generator in conjunction with a conventional CO_2 supply system, allowing huge savings in the mixing cost.

Contact us, or one of our distributors, to identify the best solution, suited to your company's needs.











ON-SITE NITROGEN GENERATION SYSTEMS with PSA Technology

LEGAL FRAMEWORK

– Commission Regulation (EU) n.º 231/2012 of 9 March 2012 laying down specifications for food additives listed in Annexes II and III of the Regulation (EC) n.º 1333/2008 of the European Parliament and of the Council;

This regulation establishes the following specifications for Nitrogen as an additive used as an inert packaging gas or propellant (E-941):

DEFINITION

Einecs: 231-783-9
Chemical name: Nitrogen
Chemical formula: N_2
Molecular weight: 28
Composition: Content not less than 99 %

DESCRIPTION

Colourless, odourless, non-flammable gas

IDENTIFICATION

PURITY

- Water: Not more than 0.05 %
- Carbon monoxide:
  Not more than 10 µl/l
- Methane and other hydrocarbons:
  Not more than 100 µl/l, expressed as methane
- Nitrogen dioxide and Nitrogen oxide:
  Not more than 10 µl/l
- Oxygen ≤ 1%



QUALITY CONTROL CARRIED OUT ON NITROGEN PRODUCED BY NITROGEN GENERATORS

The Nitrogen produced by **SYSADVANCE**'s Nitrogen range generators is subjected to rigorous quality control tests in the factory, using calibrated measuring equipment and analytical methods suitable for the food industry, in order to guarantee that the gas meets the specifications defined by the legislation.

The results obtained are duly recorded in a report, which is sent to the client together with the equipment documentation.

SYSADVANCE also offers its customers the service of periodically monitoring the specifications of the Nitrogen produced by the Nitrogen range of generators already installed and in operation.

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