Nitromat basic

nitrogen generators

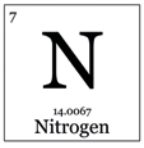
Nitrogen is an inert gas, colourless and odourless and present in large quantities in the air around us. The air we breathe consists of approximately 78% nitrogen and 21% oxygen. The oxygen component is unwanted in many applications. In many situations, nitrogen is used to counteract the unwanted reaction of oxygen. SOTEX offers the possibility of in-house nitrogen production using NitroMat nitrogen generators. The SOTEX NitroMat nitrogen generators are supplied in every conceivable capacity, starting from 0.9 Nm^3/h at purities of 95% to 99.99%.

To complement the nitrogen generator, SOTEX supplies a specific compressed air unit and nitrogen storage tanks. Each SOTEX nitrogen generator is equipped with a sophisticated compressed air treatment unit. The compressed air is dried and cleaned of dust particles and any oil vapour. Once the oxygen, moisture and any oil vapour have been removed from the air, the remaining gaseous nitrogen is compressed and stored in a nitrogen storage tank.

SOTEX NitroMat nitrogen generators are a customer-specific product due to any requirements regarding purity and capacity. SOTEX uses two highly reliable and proven techniques for making nitrogen from compressed air: type M with gas separation membrane and type P with pressure swing adsorption (PSA).

SOTEX NitroMat nitrogen generators can be supplied as required with compressor, nitrogen storage tank, pipework, additional attachments (e.g. residual oxygen monitor, isolating valves, etc.) as well as installation and commissioning.

The range of applications is enormous! SOTEX offers good advice for each application and would be pleased to provide you with a sound and competent proposal.



Packing of foodstuffs
The nitrogen is used in this area to replace or expel the air, which considerably reduces the chance of decay. The lower the concentration of oxygen, the smaller the risk of oxidation. In fruit juices, the vitamins are preserved better. In wine production, nitrogen is used not only for production and storage, but also for bottling. This means the wine needs fewer additives, which preserves the colour, aroma, acidity and final taste very well.

Electronics industry
Oxidation also has to be avoided here. The nitrogen expels the oxygen-rich air during the lead-free soldering of printed circuit boards and other electronic components.

Gas & oil industry
Nitrogen is used as 'blanketing'. A nitrogen blanket in storage tanks. Nitrogen is also used to purge pipework, reactors and compressor systems. This reduces the risks of fire and/or explosions.

Fruit sector
The production of fruit is heavily dependent on the seasons. Yet there are ways of extending the shelf-life of fresh fruit for months using smart storage systems. In addition to cooling these storage areas, the oxygen level is also dramatically reduced by nitrogen generators.

Pharmacy & laboratories
Nitrogen is used in many analytical methods. Highly pure nitrogen is also used as a carrier gas in various instruments..

Cargo ships
In the shipping industry, nitrogen is used in the kinds of applications mentioned above. These include the protected transportation of foodstuffs and/or the reduction of fire and explosion risks.

Fire prevention
A fire requires flammable material as well as an ignition source and, of course, oxygen. If the oxygen percentage is adjusted (lowered), it is no longer possible for a fire to break out.

Energy and horticulture sectors
In the energy and horticulture sectors, nitrogen is often used as a form of 'blanketing'. Applied on large warm water storage tanks. This means that a nitrogen blanket is inflated and used above the heating water in these tanks. The nitrogen blanket above the water has a purity of 99% and prevents oxygen from acting on the heating water. It also prevents corrosion of the steel tank wall.

Transport and waste management sector
Within these sectors, nitrogen is used for the protected transport of products that are sensitive to the effects of oxygen and/or for reducing the risks of fire and explosion. For example, tankers are held continuously in a nitrogen atmosphere during and after filling or emptying, and waste containers with suspicious contents are first rendered inert by means of injecting them with nitrogen.

Other industries
There are many more applications we can mention. In the metal industry, nitrogen is used in many heat treatment processes for metals, for the laser cutting of stainless steel, so that there is no discolouration, carbonising, etc. In general for the prevention of oxidation. Similarly in injection moulding processes. Here, the nitrogen is an auxiliary gas, once again used to prevent the oxidation of the plastic. In particular, this delivers a better surface result. Finally, we should mention the use of nitrogen for the treatment of water, for the raising expansion vessels to pre-pressure, and also in car, lorry and tractor tyres.

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