Instrument Presentation

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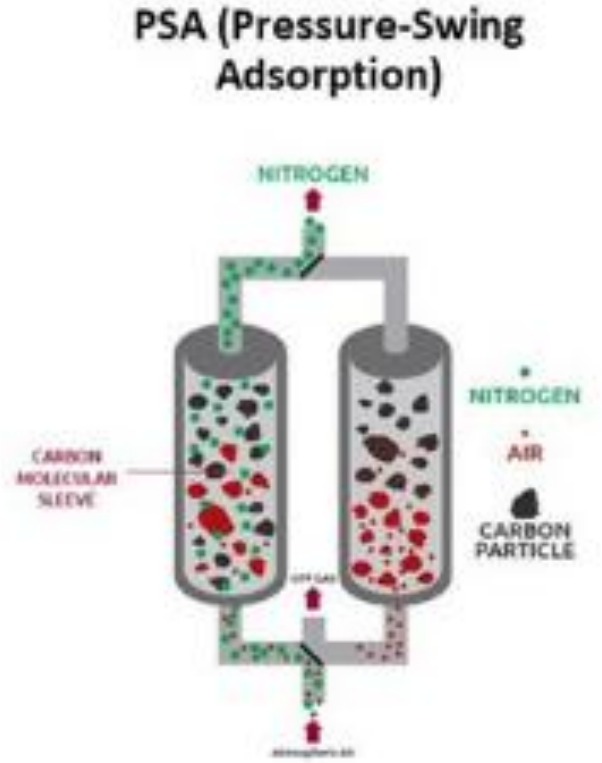
Nitrogen Generator

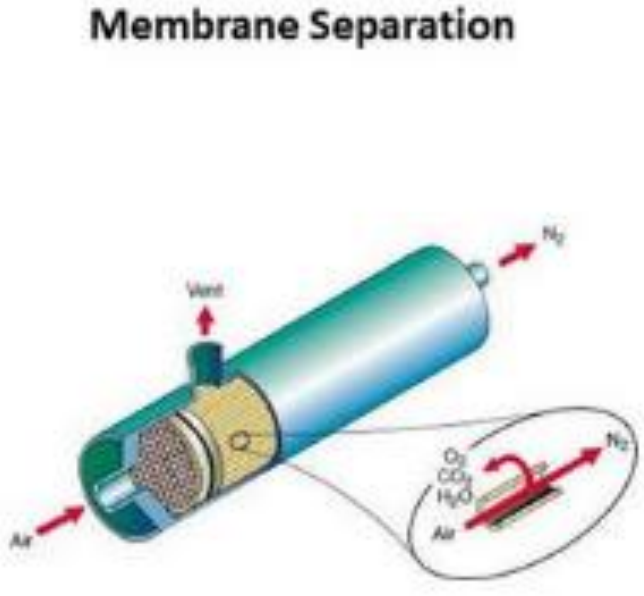
Genius NM32LA

- The NM32LA has become the proven and reliable nitrogen generator of choice in countless laboratories across the world.
- For labs using any Single Quad LC-MS systems, the Genius NM32LA nitrogen gas generator delivers a high purity nitrogen supply. With a compact size to fit under most lab benches and flow rates of up to 32 L/min.

Applications of Nitrogen generators

- Food packaging
- Chemical Blanketing
- Modified Atmospheric Packaging
- Coffee Packaging
- Pharmaceuticals
- LCMS
- Laser Cutting - beam purge
- Plasma Cutting Systems





PSA Nitrogen Generator

These generators use pretreated compressed air that is filtered through a carbon molecular sieve (CMS). Oxygen and trace gases get absorbed through the CMS letting nitrogen to pass through. This filtration takes place in two towers both of which contain a CMS.

Membrane Nitrogen Generator

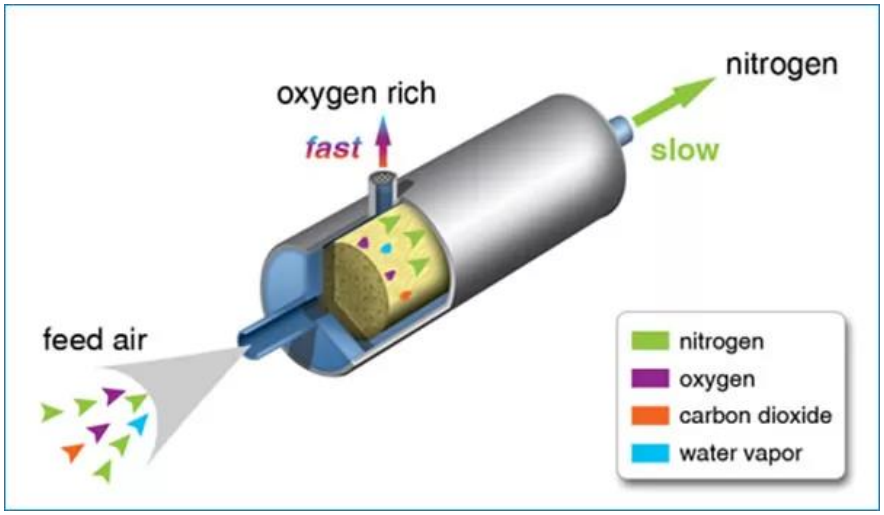
In a Membrane Nitrogen generator, the air gets filtered and passes through various technically advanced membranes.

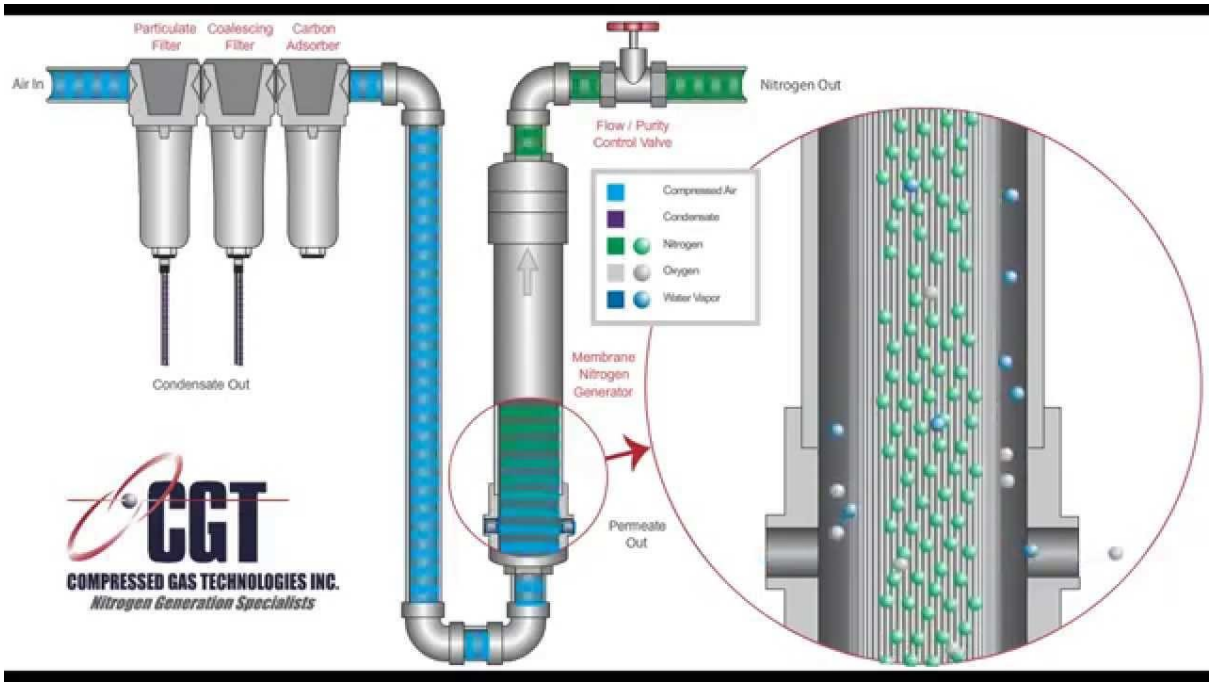
Comparison of PSA and Membrane Nitrogen Generator

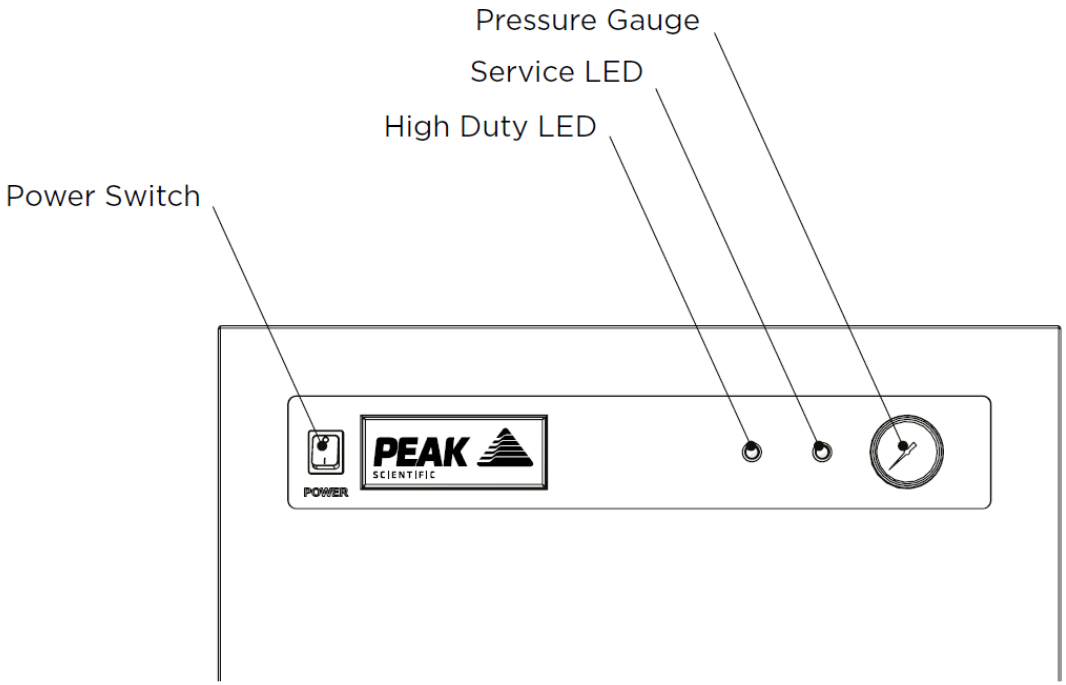
Topic	Pressure Swing Adsorption	Membrane Technology
Purity Level	1. These have higher purity levels. 2. Its user can achieve a set purity level between 95% and 99.9995%.	1. These can achieve the purity level between 95% and 99.9% only.
Reliability	1. These are slightly complicated to maintain when compared with Membrane Generators. 2. There are only a few moving parts in it and, if proper maintenance is done, these types of generators can last for several years.	1. These are easy to maintain and operate. 2. There are no to only a few moving parts in a membrane generator and if it is properly maintained, it can work perfectly for many years.
Maintenance	1. This require zero to a little maintenance. 2. The only maintenance required in it is simply changing filter cartridge. 3.Molecular sieves, where most of the gas filtering process takes place, can last for more than 10 years.	1. This require very little maintenance. 2. Simply with dry & clean feed air, the only maintenance required is changing filter cartridges.
Consistency	1. This can deliver the same high volume of pure Nitrogen throughout the life of the generator.	1. The capacity reduces significantly as the demand for pure gas increases.

Working principle of Membrane Nitrogen Generator

- In a Membrane Nitrogen generator, the air gets filtered and passes through various technically advanced membranes. These have hollow fibers that work like reverse fibers & through permeation, nitrogen gets separated.
- The purity of nitrogen varies with the number of membranes the system has. By using different sizes of the membrane and by increasing or decreasing the pressure, results in different degree of nitrogen purity levels. The purity level of nitrogen is slightly less than the level obtained with a PSA generator.







Technical Specification

Minimum Operating Ambient Temperature- 5°C (41°F)

Maximum Operating Ambient Temperature- 30°C (86°F)

Maximum Altitude- 3000 m

Maximum Relative Humidity- 80% Non-Condensing

Minimum Storage Temperature*- -20°C (-4°F)

Maximum Storage Temperature*- 60°C (140°F)

Maximum Gas Output Pressure- 6.9 bar (100 psi)

Maximum Outlet Flow Rate- 32 L/min (1.13 cfm)

Advantages of membrane Nitrogen generator

- Small in size – fits under a standard lab bench
- Compressor based solution – no need for an external air supply
- Anti-vibration – maximum reduction of vibration
- Service indication – allowing you to plan your maintenance and keep your application uptime at a maximum
- Improved drainage – reduction of moisture carry over and thus increased reliability
- Re- heat technology – improves membrane performance and reliability
- Robust control system – improves safety and reliability of units
- Highly economical source of nitrogen gas with low lifetime running costs.
- Gas is supplied on demand so generator works to your schedule
- Minimal set-up required- Easy to use

Thank You