

# Peak Blog

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## Multi-stage purification™, for when only exceptional will do

**Discover how Genius XE's patented Multi-Stage Purification™ technology works to provide analytical grade nitrogen gas.**

Genius XE is our most advanced nitrogen generator yet, designed to provide nitrogen gas for LC-MS and ELSD instruments. With analytical instruments increasingly becoming more sophisticated and sensitive, we designed Genius XE to be a premium standalone nitrogen solution, capable of providing critical laboratory applications with analytical grade nitrogen gas.

In order to produce the analytical grade nitrogen gas required for LC-MS and ELSD, Peak developed an innovative new technology for Genius XE in the form of **Multi-Stage Purification™**. Comprising a total of 4 different stages, Genius XE's **Multi-Stage Purification™** allows this advanced nitrogen gas generator to deliver factory certifiable purity up to 99.5% on-demand, 24/7.

A Triplex Particulate Filter, with three sequential stages of micro-particulate and coalescing filtration, ensures the nitrogen gas is as clean and high purity as possible from a generator, so that you can have the greatest confidence in your analytical results with minimal interference, even at high resolution.

In addition to the Triplex Particulate Filter, Genius XE also employs two-stage moisture removal. This unique reheat technology and proprietary lock-and-drain moisture removal with redundancy ensures your application is extra protected

against any risk of moisture in the gas stream, delivering ultra-dry nitrogen gas into your instrument.

Genius XE also features custom advanced polymer hollow fibre nitrogen membrane technology. Developed in collaboration with a world leading nitrogen membrane manufacturer, this technology ensures a consistently high purity of nitrogen gas from Genius XE, even at high flow rates.

As a final purity safeguard, Genius XE's **Multi-Stage Purification™** includes NMHC Capture. This proprietary non-methane hydrocarbon (NMHC) filtration stage is designed to remove ambient long-chain hydrocarbons (down to <1ppm), which can cause spectral interference in some analytical results, depending on the method. The innovative design has been optimized for efficiency, performance and service life.

**Designed from the ground up to deliver maximum performance for labs that can't afford to compromise, Genius XE's Multi-Stage Purification™ ensures that nitrogen gas purity is never compromised. By utilising a triplex particulate filter, two-stage moisture removal, a custom-designed advanced polymer hollow fibre nitrogen membrane and NMHC capture, Genius XE is able to produce high purity analytical grade nitrogen gas for LC-MS and ELSD applications.**