

Your local *gas generation* partner



i-FlowLab

Scalable, high-flow, high-purity
nitrogen gas solution for laboratories

Total on-site laboratory nitrogen gas generation solution

Key Features

- **Consistent & Convenient** - Constant, reliable, stable & on-demand gas supply that eliminates the inconvenience of changing cylinders or dewars.
- **Economical & Sustainable** - A cost effective & total laboratory nitrogen gas supply solution that eliminates the need for bulk delivery.
- **Expandable & Scalable** - i-FlowLab has the capacity to meet and exceed your current gas demands with the ability to expand as your laboratory grows.
- **Energy Efficient** - An innovative 'Eco-mode' ensures the lowest running costs by automatically managing production based on your daily demands.
- **Safe Supply** - Eliminate the handling of cylinders or storage of highly pressurized gases.
- **Verified Compliance** - Exceeds standards of EIGA, EC Food Grade, European Pharmacopoeia, JEFCA and US Food & Drug Administration (CFR Title 21) . Peak IQ/OQ certification also available.
- **High Quality Engineering** - Peak is an ISO 9001 certified manufacturer and i-FlowLab is expertly engineered to ensure performance and reliability.

i-FlowLab is a modular & scalable nitrogen generation system that is capable of producing a continuous supply of nitrogen gas at a stable purity to meet the full and varying demands of your research facility. Harnessing the latest in gas purification technologies, i-FlowLab is the most cost effective, efficient and economical nitrogen gas generation system available on the market. It is capable of delivering nitrogen at a wide range of purities and flow rates that can be pre-configured depending on your laboratory's needs. i-FlowLab can supply your entire laboratory to provide gas for LC-MS, gloveboxes, GC, sample preparation, headspace and many other applications.

i-FlowLab is the culmination of Peak Scientific's innovation and technological expertise. It builds upon two decades of experience as industry leading gas generation specialists for laboratory applications. Designed & engineered in the UK by an ISO 9001 accredited manufacturer, i-FlowLab utilizes the latest pressure swing adsorption (PSA) technologies, optimized for maximum energy efficiency, with over 100 preconfigured flow rates (21 - 4253 l/min) and purities (up to 99.9995%) specifications.

Our expert consultants design systems around your facility's needs, ensuring supply meets demands effectively, whilst leaving room for future expansion with the addition of Peak CMS banks or generator modules.



i-FlowLab offers a **complete nitrogen gas solution** for facilities with **high flow & high purity requirements**, replacing the need for bulk delivery with **consistent & convenient**, on-demand nitrogen generation that is far **safer** as well as more **cost effective** in the long run.

Bulk Supply vs On-site Generation

Beyond the highly variable cost of laboratory gas, there are a number of hidden costs associated with cylinders or dewars, which are not only economic, but also impact on laboratory work flow.

Added costs

- Cylinder or dewar rental & supply delivery charges
- Bulk liquid storage planning permission, installation, rental & upkeep
- Multi-year purchase contract commitments, with long notice periods


Logistics & safety

- Frequent hazardous truck deliveries to facility
- High pressure storage, with risk of explosive decompression or leaks
- Heavy manual handling of cylinders or dewars
- Potential danger of large volume leak of nitrogen which can be a health hazard to staff

Product losses & wastage

- Unpredictable supply timescales
- Bulk supply needs frequent changing & monitoring of supply lines
- 10% gas returned to supplier & 20% lost to 'off-gassing'
- Downtime = lost productivity

Why buy bulk nitrogen gas when you can make your own?




Convenience
Gas on-demand, no cylinders to change or supply stocks to maintain



Consistency
Consistent gas quality and supply, no impurities or running out of gas



Economy
Eliminate on-going costs of cylinders, manage lifetime running costs



Safety
No pressurized compressed gas cylinders in your lab



Green
No repeated gas deliveries, energy efficient



Protected
Comprehensive on-site warranty & service contracts

Why Peak Scientific

Global leader

Peak is the leading global manufacturer of nitrogen generators, with nearly two decades of experience creating gas generation systems.



Turnkey solutions

Our team of highly experienced consultants are experts in designing solutions that meet the complete gas demands of your laboratory.



Expertise and support

Our vast industry and technological expertise, coupled with world-class aftercare support means we define the benchmark for customer service, innovation, quality and product reliability.



Project management

Our project teams manage every stage of the process, through initial consultation, system design, procurement, installation, commissioning and ensure you are kept fully informed at each step.



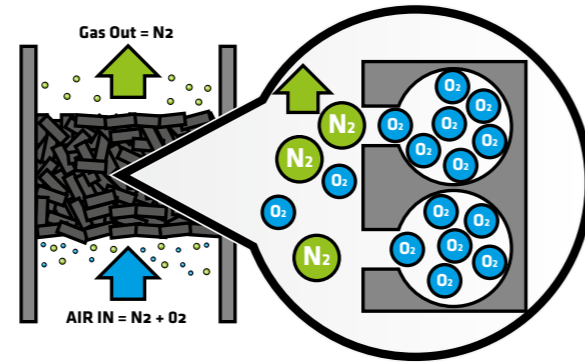
Global partnerships

Together with our industry leading partners in compression & filtration technologies, we offer the best and most diverse mix of technological solutions available on the market.



Reliable and robust technology

Based on the latest Pressure Swing Adsorption (PSA) technology that utilizes a Carbon Molecular Sieve (CMS), i-FlowLab is optimized with the capacity to deliver a continuous supply of nitrogen gas to applications, whilst maximizing its energy efficiency with an innovative 'Eco-mode'.



High flow-rates

i-FlowLab's highly robust PSA system generates nitrogen gas using simple principle methods. Compressed air is fed into the dual pressure CMS vessels and undergoes a cycle of compression & decompression, where oxygen is adsorbed and nitrogen is passed downstream. This not only delivers continuous nitrogen gas flow-rates on a large scale (21 - 4253 l/min*), it also guards against abrasive breakdown, preventing gas supply contamination and ensures a CMS lifespan of around 20 years.

*Over 100 flow rate and purities available, depending on system design requirements and commissioned specifications.

Ideal flow rates for multiple analytical, discovery and research instruments running simultaneously. **Maximize your facility productivity** with i-FlowLab

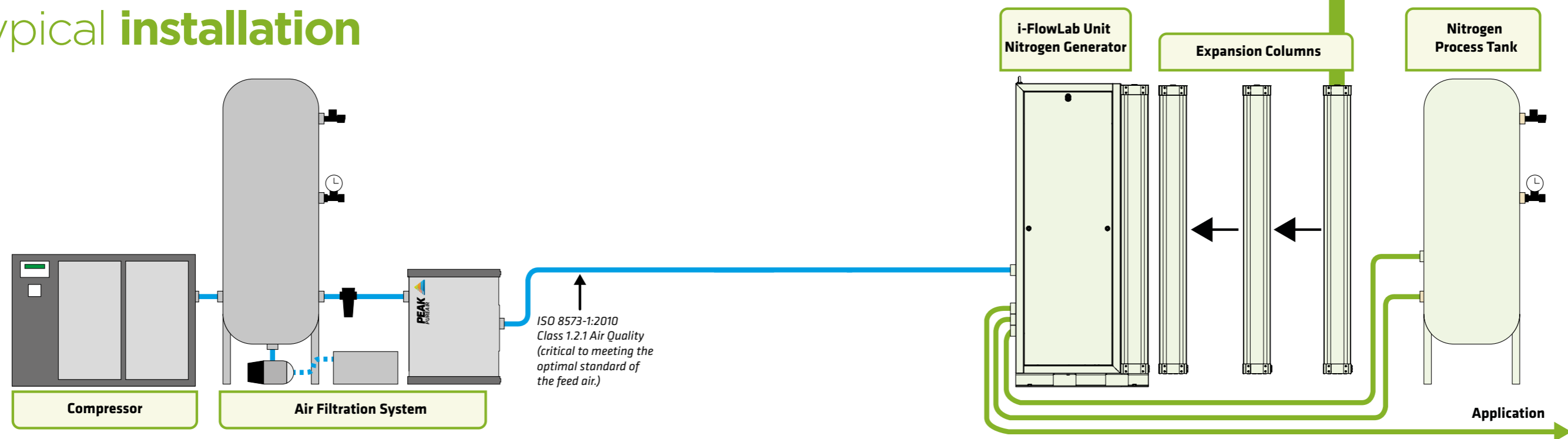


High purity nitrogen

Our CMS banks are packed using a 'snowstorm' filling technique, allowing for around 18% more carbon to be compacted into the carbon bed. This ultimately prevents gas channeling and ensures i-FlowLab can deliver maximum levels of nitrogen purity (up to 99.9995% or 5 ppm oxygen*). Furthermore, integrating i-FlowLab with our compressed air pre-filtration system, PureAir, guarantees the highest quality output by cleaning air before it enters the generator.

*Over 100 flow-rate and purities available, depending on system design requirements and commissioned specifications.

Typical installation



Adaptable, future-proof design

Peak Scientific's i-FlowLab nitrogen generation systems are designed to be a future-proof, space-saving and sustainable solution. To accommodate the full and varying future demands of your research facility, i-FlowLab can be scaled out retrospectively, with additional Peak CMS banks or modular units. This offers your facility the flexibility to adapt with changing demands, instead of being limited by increasingly expensive & inconvenient method of nitrogen gas supply.



Modular

Multiple units can be synchronized to meet demands based on application flow-rates and purity requirements (more units = greater flow-rates at specified purity).

95 - 99.9995% purity 21 - 4253 l/min



Scalable

Up to ten CMS column banks can be added to each single i-FlowLab unit in less than a day, increasing nitrogen production capacity with minimal downtime.

Consultative design & project management

Alongside technological innovation and expertise, Peak also provide an industry-leading, wrap around consultative system design and project management service. Peak Scientific's highly trained and dedicated specialists are experts at designing turnkey solutions that perfectly meet current and future needs.

Our project teams professionally manage each step of the process, including:

- Consultation
- System design
- Procurement
- Installation & commission

Coupled with Peak's world-class aftercare service **[Peak Protected]** and an ongoing commitment to a global & local technical support, ensures customers experience minimum downtime in the unlikely event of breakdown, with engineers capable of being on-site in under 72 hours.



Dana Farber, Cancer Institute, Boston, MA

Typical applications

Peak Scientific nitrogen generators are being used in laboratories across the globe to supply numerous analytical, discovery & research instruments. Below are just some of the applications that i-FlowLab can offer a combined gas supply solution for, whilst helping to maximize workflow efficiencies and increase productivity.



LC-MS (Multiple)

Liquid chromatography-mass spectrometry (LC-MS) is used within various industries, such as Food & Beverage, Pharmaceuticals, Oil & Gas for compound detection and mass analysis. i-FlowLab is capable of meeting the demands of several LC-MS instruments running simultaneously, delivering high volume nitrogen gas and helping to maximize workflow.



Glovebox

When working with hazardous substances, such as infectious diseases or radioactive materials, gloveboxes require N₂ to provide an O₂-free environment. i-FlowLab is capable of meeting the demands of multiple instruments running side by side, ensuring a consistent nitrogen supply is always available on-demand.



Sample Evaporators

Depending on workflow requirements, evaporators can consume a large quantity of nitrogen when concentrating compound samples in preparation for further analysis. i-FlowLab can easily meet the needs of multiple evaporators running simultaneously with other gas hungry instruments in your lab.



Fume Hoods

Built-in N₂ gas taps allow the supply of gas to instruments within the fume hoods. i-FlowLab's high flow production capabilities are ideal for ensuring a consistent and convenient gas supply is available on tap for multiple units.



NMR Spectroscopy

With large quantities of nitrogen required during Nuclear Magnetic Resonance spectroscopy, i-FlowLab is the perfect solution for meeting the high volume demands of your analysis, delivering a highly cost effective solution.

Technical specifications

Product Name	LPM *									
	601X	602X	603X	604X	605X	606X	607X	608X	609X	610X
Oxygen Content 5ppm	30	62	95	113	137	173	199	225	248	278
Oxygen Content 10ppm	40	80	120	150	182	230	265	300	330	370
Oxygen Content 50ppm	58	116	174	230	285	345	400	455	510	565
Oxygen Content 100ppm	65	135	202	270	335	405	462	532	591	644
Oxygen Content 500ppm	89	190	283	362	452	545	634	724	812	900
Oxygen Content 1000ppm	105	205	305	406	508	600	700	795	890	989
Oxygen Content - 0.50%	155	305	450	585	730	874	1015	1160	1300	1450
Oxygen Content - 1%	190	380	530	725	885	1062	1238	1415	1574	1748
Oxygen Content - 2%	245	490	665	845	1065	1280	1480	1685	1885	2090
Oxygen Content - 3%	305	578	810	1025	1278	1574	1815	2065	2330	2580
Oxygen Content - 4%	362	651	915	1115	1420	1704	1988	2272	2556	2840
Oxygen Content - 5%	402	750	1100	1385	1649	2045	2478	2778	3045	3402
Dimensions										
Width mm (inch)	500 (19.68)									
Height mm (inch)	1738 (68.42)									
Depth mm (inch)	760 (29.92)	920 (36.22)	1080 (42.52)	1240 (42.52)	1400 (55.12)	1560 (61.42)	1720 (67.72)	1880 (74.02)	2040 (80.31)	2200 (86.61)
Weight kg (lbs)	197 (433)	282 (620)	367 (807)	452 (994)	537 (1181)	622 (1368)	707 (1555)	792 (1742)	877 (1929)	962 (2116)
Shipping weight kg (lbs)	277 (609)	364 (801)	452 (992)	538 (1184)	625 (1375)	712 (1566)	799 (1758)	886 (1949)	973 (2141)	1060 (2333)
Noise Level	59dBa @ 1m									

*Performance data is based on 7 bar (G) inlet air pressure and 20 - 25 deg C ambient temperature.

(Flow reference conditions, 20 deg C, 1013 millibar (a), 0% Relative Humidity)

Find out how Peak Scientific's **i-FlowLab nitrogen generation system** can deliver massive **cost & efficiency benefits**, enhancing your organisation's productivity, and helping you meet the **future demands of your lab**.

[PEAK Protected]TM

Peak Scientific has experienced & fully certified Field Service Engineers, located in over 20 countries in every continent across the globe. This further highlights our commitment to providing local sales & service support to customers worldwide. Coupled with industry-leading service response times, Peak Scientific can demonstrate that protecting your organization's productivity is our top priority.



Contact us today to discover more!

North America

Tel: +1 866 647 1649

China

Tel: +86 21 5079 1190

Web: www.peakscientific.com

Europe

Tel: +44 (0)141 812 8100

India

Tel: +91 40 2780 0663

Email: marketing@peakscientific.com