

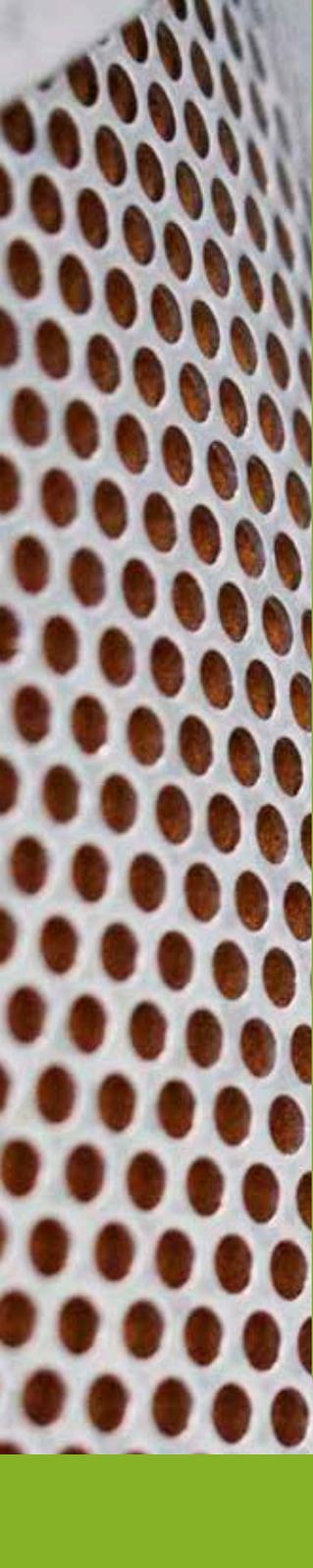
Your local **gas generation** partner



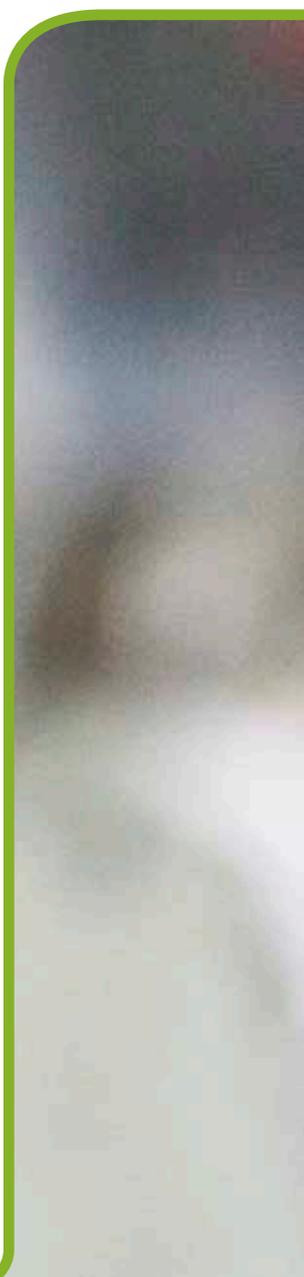
i-FlowLab

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

Discover more at www.peakscientific.com



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 'standby-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.
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Total on-site laboratory nitrogen gas generation solution

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 (1l - 5590 l/min) and purities (up to 99.9995%) specifications.



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
- Cylinders & dewars require heavy manual handling

Losses & wastage

- Unpredictable supply timescales
- Bulk supply needs frequent switching & monitoring
- 10% gas returned to supplier & 20% lost to 'off-gassing'
- Downtime = lost revenue.

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



Convenience

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



Increased safety

No need for pressurized gas storage so safer than bulk delivery options



Less wastage

Consistent and reliable supply means fewer product defects or rejections



Eliminate on-going costs

No more equipment rental, long contracts or re-supply ordering



More sustainable

Reduced carbon footprint by eliminating trucking of cylinders to your site



Future proof

Expandable on-demand N2 generation that meets future needs

Why Peak Scientific

Global leader

Peak is the leading global manufacturer of nitrogen generators, with over 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.

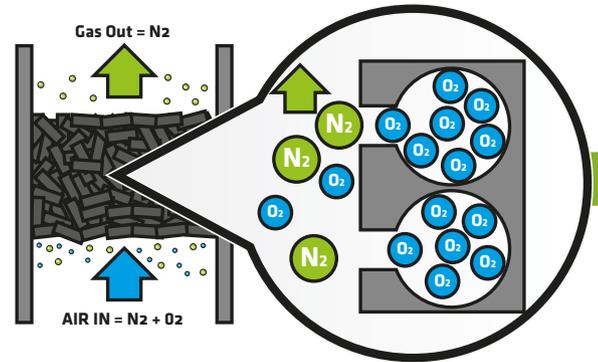
Global partnerships

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'.

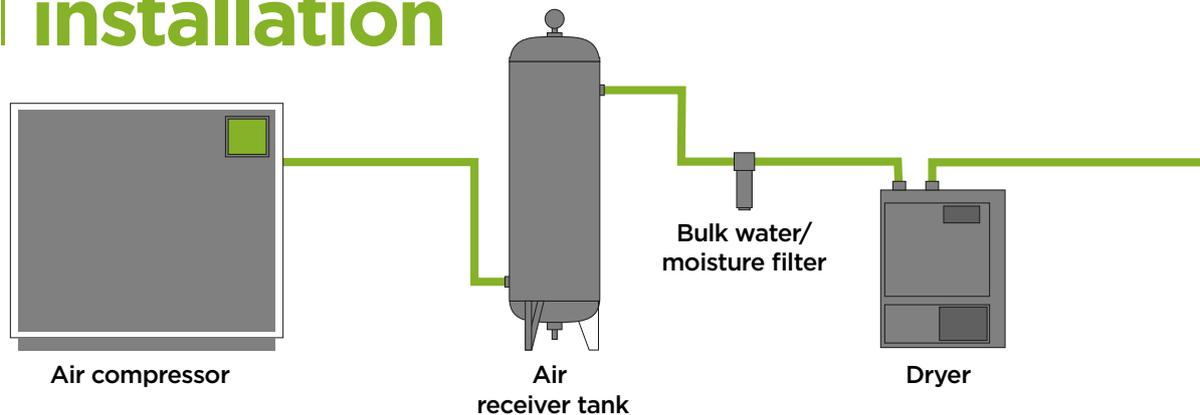


High purity nitrogen

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 consistent levels of nitrogen purity (up to 99.9995% or 5 ppm oxygen*). Furthermore, with our built-in PurityGuard™ gas monitoring & application safeguard system, along with integrated air filtration technology, we guarantee your application gas supply is never compromised & always of the highest quality.

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

Typical installation

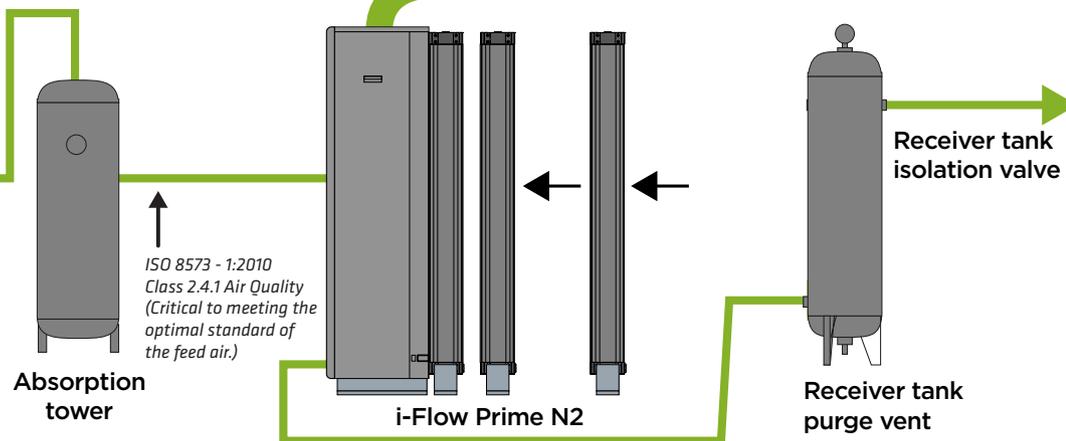


High flow-rates

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 (11 - 5590 l/min*), it also guards against abrasive breakdown, preventing gas supply contamination and ensures an expected CMS lifespan of up to 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



Adaptable, future-proof design

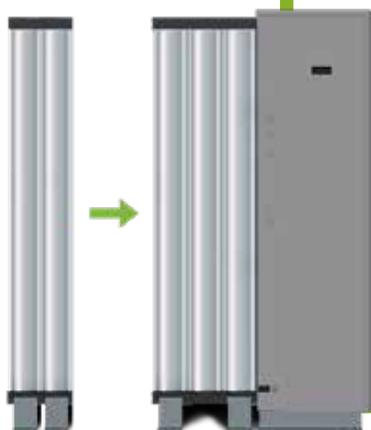
Peak Scientific's i-FlowLab nitrogen generation systems are designed to be a future-proof, space-saving and sustainable solution. To accommodate the full and varying future demands of your research facility, i-FlowLab can be scaled out retrospectively, with additional Peak CMS banks or modular units. 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 11 - 5590 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 and Commissioning Solutions
- ▶ Ongoing commitment to global and local technical support partners

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.



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 - Prime

Flow Rates L/min *											
Product Name		Prime 701X	Prime 702X	Prime 703X	Prime 704X	Prime 705X	Prime 706X	Prime 707X	Prime 708X	Prime 709X	Prime 710X
N2 Purity	O2 Content	i-Flow 7XX3									
99.9995%	5ppm	43	90	137	163	198	250	288	325	359	402
99.999%	10ppm	58	116	174	217	263	333	383	434	477	535
99.995%	50ppm	84	168	252	333	412	499	578	658	737	817
99.99%	100ppm	94	188	282	376	470	564	658	752	846	931
N2 Purity	O2 Content	i-Flow 7XX2									
99.95%	500ppm	129	257	386	515	643	772	901	1030	1158	1287
99.9%	1000ppm	152	296	441	587	735	868	1012	1150	1287	1430
N2 Purity	O2 Content	i-Flow 7XX1									
99.5%	0.50%	224	441	651	846	1056	1264	1468	1677	1880	2097
99%	1%	275	549	766	1048	1280	1536	1790	2046	2504	2780
98%	2%	354	709	962	1222	1540	1851	2140	2436	2726	3022
97%	3%	441	836	1171	1482	1848	2276	2624	2986	3369	3731
96%	4%	523	941	1323	1612	2053	2464	2875	3285	3696	4106
95%	5%	581	1084	1591	2003	2384	2957	3583	4017	4403	4919
Width mm (inch)		418 (16.5)									
Height mm (inch)		1953 (76.9)									
Depth mm (inch)		730 (28.7)	892 (35.1)	1054 (41.5)	1216 (47.9)	1378 (54.3)	1540 (60.6)	1702 (67)	1864 (73.4)	2026 (79.8)	2188 (86.1)
Weight kg (pounds)		179 (394)	257 (566)	335 (737)	413 (909)	501 (1102)	579 (1274)	657 (1446)	735 (1617)	813 (1789)	891 (1960)
Shipping weight kg (pounds)		203 (447)	285 (627)	366 (805)	447 (984)	539 (1186)	620 (1364)	701 (1542)	783 (1723)	864 (1901)	945 (2079)
Noise Level		80dBa @ 1m									

*Performance data is based on a stable 8.5 bar(g) inlet pressure & 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 range of nitrogen generation systems** can deliver massive **cost & efficiency benefits**, protecting your company's bottom line and help to meet the **future demands of your business**.

Technical specifications - Mini

Flow Rates L/min *					
Product Name		Mini 701X	Mini 702X	Mini 703X	Mini 704X
N2 Purity	O2 Content	i-Flow 7XX3-M			
99.9995%	5ppm	14	29	43	52
99.999%	10ppm	19	37	56	70
99.995%	50ppm	27	53	77	99
99.99%	100ppm	30	59	87	114
N2 Purity	O2 Content	i-Flow 7XX2-M			
99.95%	500ppm	41	84	120	160
99.9%	1000ppm	49	95	142	188
N2 Purity	O2 Content	i-Flow 7XX1-M			
99.5%	0.50%	72	142	209	272
99%	1%	88	176	246	332
98%	2%	114	226	319	402
97%	3%	142	268	376	476
96%	4%	168	302	425	518
95%	5%	187	348	511	643
Width mm (inch)	418 (16.5)				
Height mm (inch)	853 (33.6)				
Depth mm (inch)	830 (32.7)	992 (39.1)	1154 (45.4)	1316 (51.8)	
Weight kg (pounds)	96 (211)	132 (291)	178 (392)	214 (471)	
Shipping weight kg (pounds)	115 (253)	153 (337)	202 (444)	240 (528)	
Noise Level	59dBa @ 1m				

*Performance data is based on a stable 8.5 bar(g) inlet pressure & 20-25 deg C ambient temperature. (Flow reference conditions, 20 deg C, 1013 millibar (a), 0% Relative Humidity)

Contact us today to discover more!

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