

i-FLOW Nitrogen Solutions for **Laser Cutting**



PEAK 
INDUSTRIAL

// Modified Atmospheric Packaging for foods & pharmaceuticals // Inert storage & blanketing
// Laser cutting // Soldering // Gas assisted injection moulding
// High pressure cylinder filling // Large scale laboratory // And more...

Laser Cutting

High-powered laser cutting machines are the preferred option for repeatable, high quality cutting in a variety of materials.



Why Nitrogen...

Nitrogen is used as an 'assist' gas, to blow molten material away from the cut area. Critically, Nitrogen gas displaces Oxygen and prevents the formation of an oxide layer; leaving a bright, burr-free cut edge that requires no further processing prior to painting or welding.

Materials cut using Nitrogen assist gas will have little or no bevel or taper.

Benefits of using Nitrogen...

Increased productivity through higher cutting speeds
No oxide layer on cut edge making it easy to weld and paint or powder-coat
Burr-free edges with no discolouration
A 'true' cut edge with no bevel or taper distortion
High pressure Nitrogen helps cool the metal and reduces the heat affected zone

Laser Cutting

High-powered lasers operate at higher pressures and consume greater volumes of Nitrogen.

With a Nitrogen gas generator you can eliminate the costs associated with traditional gas supply methods:

- No more rental costs, delivery charges, ever-increasing gas costs
- Produce only the Nitrogen you need, when you need it
- Gas available 24/7/365 so no machine downtime
- No more reliance on external suppliers
- No manual handling and safety concerns
- Fast return on investment

Why i-Flow....

Peak Industrial understands the importance of reliability and value for money. We know that downtime equates with revenue loss. That is why we have created the i-Flow range of industrial gas generators. Every generator is hand built and performance tested in our factory in Scotland to fit into new or existing working environments. i-Flow eradicates the uncertainties associated with bulk or liquid gas supplies.

i-Flow brings customer focussed, solution-based benefits to Nitrogen gas users in the laser cutting industry.

Service - Industry leading technical support from our worldwide distributor network



Laser Cutting

i-Flow 6000 Modular Nitrogen Generator...

i-Flow modular gas generators provide the flexibility to expand in line with your business needs by increasing Nitrogen production capacity as your business grows. Compact in size, i-Flow enables you to make the best use of limited production space. Highly efficient, i-Flow provides on-demand Nitrogen gas with purities from 95% to 99.999% and flow-rates between 2Nm³/hr and 115Nm³/hr as standard. Higher capacities are available on request. i-Flow is the reliable, convenient, cost effective and safe alternative to other bulk gas supplies.

Cost Saving -

Innovative Eco-mode ensures the lowest possible running costs by efficiently managing compressed air production to meet Nitrogen demand.

Flexibility to Expand -

Our systems are modular which means we can grow with your business needs.

Industry Experience -

Peak has extensive experience in tailoring products to meet bespoke requirements. Whatever your needs we will try to assist you.



Space Saving -

Much smaller than bulk LN₂ tanks and does not compromise valuable workspace.

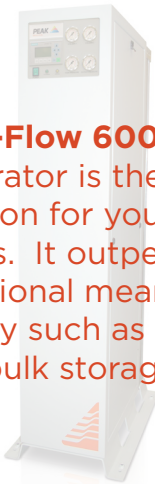
Environmentally Friendly - No more deliveries, Energy efficient and has an economy mode.

i-FLOW

Technical Specifications

Model	Height		Width		Depth		Weight	
	mm	In	mm	In	mm	In	kg	lb
i-Flow 6010	1738	68.42	500	19.68	760	29.92	197	433
i-Flow 6020	1738	68.42	500	19.68	920	36.22	282	620
i-Flow 6030	1738	68.42	500	19.68	1080	42.52	367	807
i-Flow 6040	1738	68.42	500	19.68	1240	48.82	452	994
i-Flow 6050	1738	68.42	500	19.68	1400	55.12	537	1181
i-Flow 6060	1738	68.42	500	19.68	1560	61.42	622	1368

The **i-Flow 6000** generator is the best solution for your gas needs. It outperforms traditional means of supply such as cylinders and bulk storage.



Model		99.999%	99.990%	99.950%	99.900%	99.500%	99.000%	98.000%	97.000%	96.000%	95.000%
		10ppm	100ppm	500ppm	1,000ppm	5,000ppm	10,000ppm	20,000ppm	30,000ppm	40,000ppm	50,000ppm
i-Flow 6010	Nm³/hr	2.1	3.2	4.5	5.3	8.1	10.7	13.6	16.5	18.8	21
	scfm	1.2	1.9	2.6	3.1	4.8	6.3	8	9.7	11.1	12.4
	L/min	35	54	75	88	135	178	226	275	313	350
	Air : N2	10.8	7.2	3.4	3.3	2.7	2.6	2.3	2.2	2.1	2
i-Flow 6020	Nm³/hr	4	6.2	8.6	10.1	15.4	20.3	25.8	31.3	35.6	39.8
	scfm	2.4	3.6	5	5.9	9	11.9	15.2	18.4	21	23.4
	L/min	67	103	143	168.4	256	338	430	522	594	664
	Air : N2	10.8	7.2	3.4	3.3	2.7	2.6	2.3	2.2	2.1	2
i-Flow 6030	Nm³/hr	6.1	9.4	13.1	15.4	23.5	30.9	39.4	47.8	54.4	60.8
	scfm	3.6	5.5	7.7	9	13.8	18.2	23.2	28.1	32	35.8
	L/min	102	157	218	256	391	515	656	796	906	1014
	Air : N2	10.8	7.2	3.4	3.3	2.7	2.6	2.3	2.2	2.1	2
i-Flow 6040	Nm³/hr	8.2	12.9	17.6	18.6	30.9	41.1	52.8	64.5	72	81
	scfm	4.8	7.6	10.4	10.9	18.2	24.2	31.1	38	42.4	47.7
	L/min	137	215	294	310	515	685	880	1075	1200	1350
	Air : N2	10.8	7.2	3.4	3.3	2.7	2.6	2.3	2.2	2.1	2
i-Flow 6050	Nm³/hr	9.5	14.6	20.3	23.9	36.4	47.9	61	74.1	84.4	94.4
	scfm	5.6	8.6	11.9	14.1	21.4	28.2	35.9	43.6	49.7	55.5
	L/min	158	243	338	398	607	799	1017	1235	1406	1573
	Air : N2	10.8	7.2	3.4	3.3	2.7	2.6	2.3	2.2	2.1	2
i-Flow 6060	Nm³/hr	11.6	17.8	24.6	29.2	44.5	58.6	74.6	90.6	103.1	115.4
	scfm	6.8	10.5	14.5	17.2	26.2	34.5	43.9	53.3	60.7	67.9
	L/min	193	297	410	486	742	977	1244	1510	1719	1923
	Air : N2	10.8	7.2	3.4	3.3	2.7	2.6	2.3	2.2	2.1	2

Other Nitrogen uses for Laser Applications

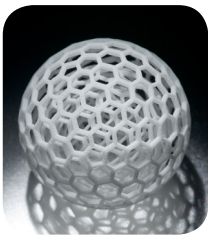


Laser Welding ...

- Provides a concentrated heat source, allowing for narrow, deep welds and high welding rates
- Nitrogen shield gas maintains proper weld temperatures and removes Oxygen and moisture from the weld area

Beam Purging ...

- Beam guidance systems are purged with high purity Nitrogen gas to ensure there are no impurities in the beam path
- Impurities such as oxygen and moisture affect the intensity of the laser and the shape of the beam
- It is essential that the laser optical path is free from contaminants in order to ensure high quality cutting results



Selective Laser Sintering ...

- SLS is a common technology used in 3D printing
- Tiny particles of plastic, ceramic or glass are fused together by heat from a high-powered laser to form a solid, three-dimensional object.
- Nitrogen gas is used to create an inert atmosphere in the fabrication chamber to prevent oxidation and also to prevent the possibility of explosion in the handling of large quantities of powder

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Your local distributor is...

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