

X-Nitro

PSA Nitrogen Generator

- Up to 99.99% High Purity
- Cost-effective and Stable Nitrogen Supply
- Compact & Flexible
- Plug-and-play



TYSUM INDUSTRIAL TECHNOLOGY CO LTD

Website: tysum.com

Email: x-nitro@tysum.com

01. Why N₂ Matters in Metal Laser Welding?



Nitrogen plays a critical role in laser welding by shielding the molten weld pool from oxygen and atmospheric contamination.



By reducing oxidation and surface discoloration, nitrogen helps achieve cleaner welds, better appearance, and more consistent results.

Application



New Energy

Used for lithium battery tab and cell welding, requiring up to 99.99% purity to create a low-oxygen environment and enhance joint reliability.



Automotive Manufacturing

Used in body and component welding to reduce deformation and improve structural strength and yield rate.



Precision Electronics

Applied in micro-component welding such as sensors and connectors to ensure weld integrity and electrical conductivity.



Aerospace

Suitable for titanium and aluminum alloy welding; nitrogen can be blended with argon to optimize shielding performance and cost efficiency.



02. From Problem to X-Nitro

X-Nitro replaces unreliable cylinders with continuous, on-site nitrogen. Engineered for stability, output, and simplicity, this compact PSA generator delivers 99.99% purity for flawless metal welding.

Compact design. No layout changes required.

Plug-and-Play. Ready for immediate use.

Trailer-mounted. Move with ease.



PSA-Driven Purity. Up to 99.99%. No more oxidation worry.

Supports clean weld finishes across a wide range of metals—from steel to highly reflective materials like aluminum and copper.

Clear visual status. Red light for Generating, Green for Ready.

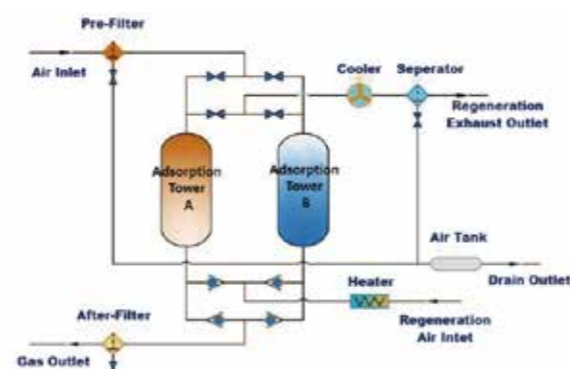
General Specification

Flow rate	≥ 2.5 m ³ /h at purity ≥ 99.5%
Output pressure	0.4MPa
N₂ purity	up to 99.99%
Power supply	220V / 50Hz
Inlet pressure	0.7 Mpa ~ 0.9 Mpa
Gas storage tank (L)	10 L

Proven PSA Technology

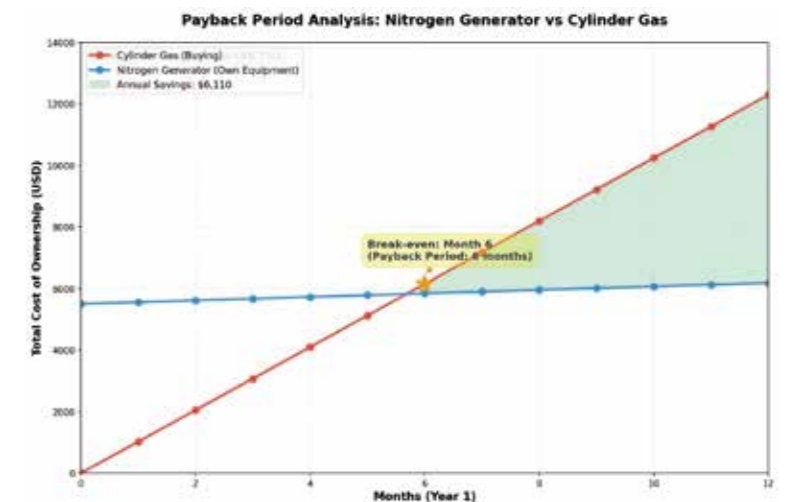
PSA (Pressure Swing Adsorption) technology is a proven method used in nitrogen generators to separate nitrogen from compressed air.

In X-Nitro PSA nitrogen generator, compressed air flows through CMS-filled towers where oxygen is adsorbed under pressure, allowing nitrogen to pass through. Alternating adsorption and regeneration cycles enable a continuous supply of 99.99% high-purity nitrogen on site.



03. A Smarter Alternative to Traditional Nitrogen Supply

- No cylinder rental, refilling, transport, and handling fees.
- Stable nitrogen flow, consistent weld performance.
- Improved safety with no high-pressure cylinders to store or handle.
- From “waiting on delivery” to “Nitrogen on demand.”



Technical Details

Model	XN002
Nitrogen Purity	Up to 99.99% purity; ≥99.9% in operation.
Nitrogen Output	≥ 2.5 m ³ /h at purity ≥ 99.5%
Power Supply	220V / 50Hz
Power Consumption	Max. 0.026 kW
Air Consumption	0.3 m ³ /min (18 m ³ /h)
Dimensions	520 × 360 × 1240 mm (20.47×14.17×48.82 in)
Weight	95 kg
Inlet Air Pressure	0.7 MPa - 0.9 MPa
Nitrogen Outlet Pressure	0.4 MPa
Recommended Welding Machines	2 automatic welding machines or 2 handheld welders
Applicable Welding Materials	Stainless steel, mirror-finish stainless steel, copper, titanium
Air Tank	10 L
Filter	Optional
External Air Tank	Optional