

Laser Cutting Nitrogen Supply

- Onsite PSA Nitrogen Generation Package

Laser cutters rely on non-reactive (inert) gases as assist gas. Nitrogen would be the typical choice in the process of cutting stainless steels, aluminum and its alloys, etc. Cutting with non-reactive gases is often referred to clean cutting or high-pressure cutting. Here, the material is melted solely by the laser power and blown out of the cutting kerf by the kinetic energy of inert gas jet.



CAN Gas Delivers Pure N₂ Gas for Optimum Results in Laser Cutting

Purity of N₂ gas is vital to cutting quality. Even a wee bit of O₂ contamination in cutting kerf will affect appearance of the cut, causing a yellowing of the metal or forming dross that has to be removed. With an N₂ generator from CAN Gas, you never have to worry about these. N₂ gas is produced at 99.95% to 99.999% purity without sacrificing the N₂ pressure required by the laser cutting machines.

CAN Gas Lowers Your N₂ Gas Costs Dramatically

With an N₂ generator at jobsite, users don't have to worry about the logistics problems or expenses associated with bulk nitrogen or LN₂ supply. Instead, they can save up to 80% of their future investment. Even if the capital and maintenance costs of the N₂ generator was factored in, hundreds of thousands of dollars still can be saved. With these facts, most laser cutting companies say that switching to onsite nitrogen gas supply for their laser cutters is clearly imminent.

CAN Gas Customizes the Best Solution of N₂ Supply for Your Laser Cutting Factory

Provide following information, we deliver suitable solution to you.

1. Daily bulk nitrogen consumption or laser machine manufacturer's instruction for required nitrogen flow.
2. Type and thickness of materials to be cut and rated power of laser machine.
3. Available compressed air (if any) at site for nitrogen production in m³/min.
4. Required N₂ pressure. N₂ Pressure of up to 500 psi is available from CAN Gas for the most powerful laser cutter.

Specialized N₂ generator models dedicated for laser cutting

Other capacities not listed are available or customizable.

Model	CAPN HP-30	CAPN HP-50	CAPN HP-80	CAPN HP-100	CAPN HP-150
N ₂ Purity	99.95~99.999%				
N ₂ Flow	40 ~ 18.2 Nm ³ /h	65 ~ 28 Nm ³ /h	105 ~ 44.8 Nm ³ /h	125 ~ 52.5 Nm ³ /h	200 ~ 88.2 Nm ³ /h
	23.8 ~ 10.8 sefm	38.7 ~ 16.7 sefm	62.8 ~ 26.7 sefm	74.4 ~ 31.3 sefm	119 ~ 52.5 sefm
N ₂ Pressure	15.0 ~ 35.0 bar (218 ~ 500 psi) customizable				

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FAQ

Q: How much nitrogen do I need?

A: To get a rough idea, review your bulk nitrogen purchased over a period of several months. However, the average will not reflect your instantaneous N₂ consumption. For exact requirements, refer to user manual or contact the manufacturer of laser cutter.

Q: Can I produce nitrogen at pressures high enough for laser cutting? (Up to 500 psi)

A: Gaseous nitrogen is typically produced at pressures of 85~100 psi. CAN Gas will include an N₂ booster compressor in the package to achieve the desired pressure.

Q: Can I keep liquid nitrogen as a backup?

A: Absolutely! However, you can send back your large rented liquid storage tank and get much smaller one which will particularly reduce the amount of liquid nitrogen loss at the evaporator. You will still save significant expenses and have liquid nitrogen available for unexpected peak usage and if there is downtime for compressor maintenance.

Q: Is ambient air temperature important?

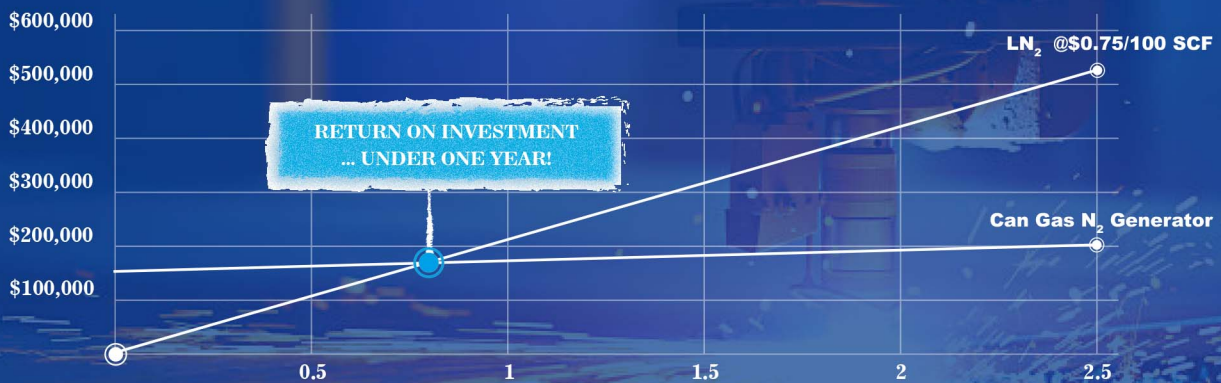
A: Yes. Temperature will affect the working condition of on-site nitrogen production. CAN Gas always ensure that your actual jobsite conditions are taken into consideration during design stage.



Q: Can I have an exact comparison between the N₂ supply by LN₂ and onsite N₂ generator regarding all costs?

A: Refer to the chart below and you will make an wise choice.

Cumulative spend for liquid nitrogen compared with a CanGas N₂ Generator *



* Assumes 99.99% purity required, 50 SCFM (84Nm³/h) Nitrogen demand (24/7), 500 psig nitrogen output

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