

# Innovative gas supply solutions for laser applications

Cost-effective and consistent industrial gas supply for uninterrupted operations

## Benefits

- Guaranteed purity to ensure cutting and welding quality
- Continuous flow of gas for around-the-clock operation
- Flexible supply options for all volumes



Reliable gas supply is critical to any laser cutting and welding machine in order to have the most optimal performance. Air Products understands the importance of continuous operation for you to achieve return on investment as quickly as possible. This is why we offer a full range of pure assist gases for laser cutting and welding of different types of materials, backed by our innovative technologies and various supply modes. Our consistent and uninterrupted high volume gas supply for laser cutting and welding machine helps users achieve superior uptime and productivity.

## Laser Cutting

Materials	Gas
Carbon and low alloy steel	Oxygen or nitrogen (high pressure)
Stainless steel, aluminium and alloys	Nitrogen (high pressure)
Magnesium, titanium and other reactive materials	Argon (high pressure)

## Laser Welding

Category	Gas
Resonator gases	Helium Carbon dioxide Nitrogen Specialty gas mixtures
Shielding gases	Argon Carbon dioxide Helium Shielding mixtures
Ultra high purity (UHP) gases	Nitrogen BIP® Helium BIP

## Specifications of Air Products' laser gas solutions

Product	Purity %	Specifications (ppm)				
		H <sub>2</sub> O	O <sub>2</sub>	THC	CO	N <sub>2</sub>
Helium	99.9992%	3	1	0.5	1	2
Helium BIP	99.9997%	0.02	0.01	0.1	0.5	1
Nitrogen	99.9992%	2	3	0.5	2.5	
Nitrogen BIP	99.9997%	0.02	0.01	0.1	0.5	1
Argon	99.9992%	2	1.5	1		4
Argon BIP	99.9997%	0.02	0.01	0.1	0.1	1
High purity CO <sub>2</sub> *	99.995%	7	10	5	2	25
Oxygen	99.995%	3		1	1	10
Oxygen	99.9992%	1		0.5	0.5	5

\*High purity CO<sub>2</sub> is only available in 40L cylinders.

## Need a specially blended gas mixture? Air Products can offer . . .

Other than offering various readily available gas mixtures to the market, Air Products can also blend specialty gases with different gas components based on customer requirement for their specific use. Please contact us to learn more.

## Flexible supply options to suit the needs of different volumes and space

Small volume

Large volume



Cylinder



Cylinder pack



CryoEase®  
Microbulk  
Solutions



Liquid bulk



## Shinier weld surface with innovative BIP technology

Air Products' award-winning BIP purification technology enables you to use argon, nitrogen and helium that are up to 300 times purer than conventional 5.0 grade cylinder gases. With impurity levels as low as 10ppb oxygen and 20ppb moisture, BIP gases help avoid damaging the lifespan of laser equipment for better operation. BIP purification technology makes material surface shinier after laser cutting and welding, reduces spatter and post-weld cleaning, and increases productivity. BIP technology received the Queens Award for Innovation in the UK and the Ringier Technology Innovation Awards for the laser industry in China.

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