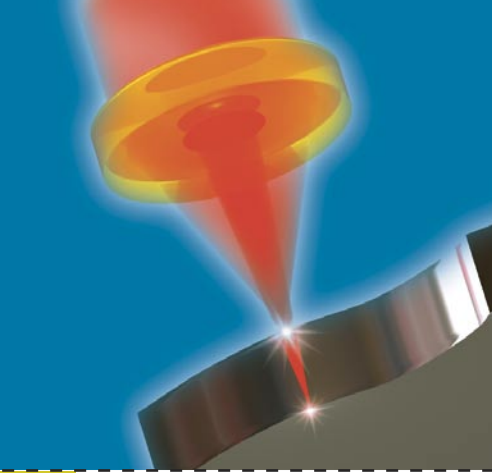


LASAL™

laser cutting and welding technologies



Solutions for laser cutting and welding.



Air Liquide field specialists deliver solutions to optimize your laser processing operation.

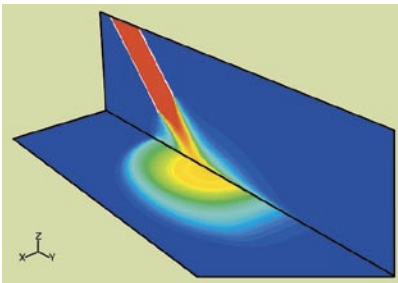
With over 100 years of sustained leading edge research and development, Air Liquide delivers unparalleled, user-friendly technologies and innovations through our network of field specialists.

Laser Cutting Technology

BIFOCAL™ service enables double digit percent gains in cutting speed, assist gas usage efficiency, cutting capability enhancement and production cost savings.

Laser Welding Technology

LASAL MIX advanced shielding gases and delivery for superior keyhole weld seam quality, improved uptime and reduced scrap rate.

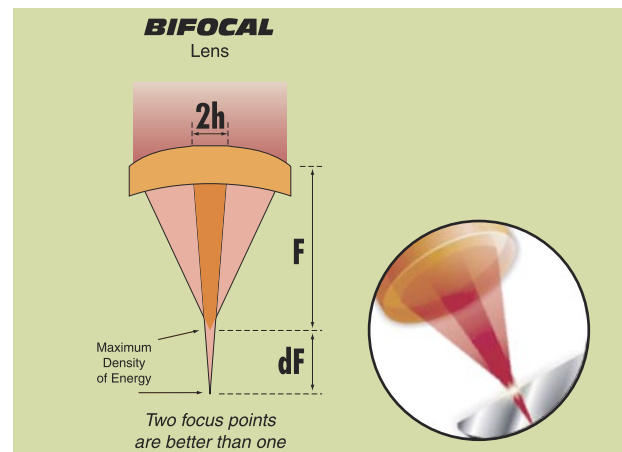


More efficient shielding for laser welding.

Air Liquide technologies are field proven.



Advancements in laser cutting technology.



Solutions for assist gas.

Air Liquide offers a turn-key solution for delivering and maintaining assist gases and shielding gases.



Air Liquide's various high purity assist gas modes of delivery provide steady flow of consistent pressure. This allows maximum cutting speed, clean burr-free cuts and increased cutting speed and cleanliness. Air Liquide can provide the necessary equipment and expertise in order to minimize the risk of contamination.

Cutting Assist Gas

- Nitrogen (N₂)
- Oxygen (O₂)
- Argon (Ar)

Welding Shielding Gas

- LASAL MIX
- Helium (He)
- Argon (Ar)

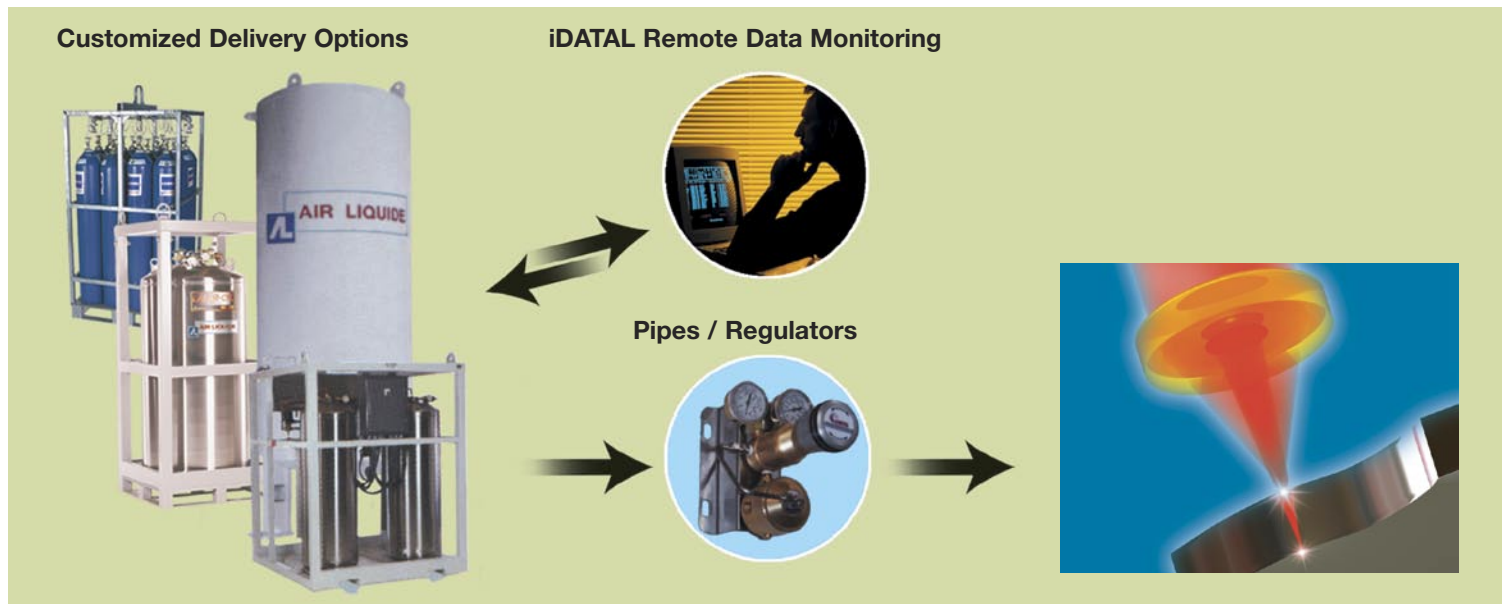
iDATAL™

Our telemonitoring service, iDATAL, is offered with all of our assist gas supply options. iDATAL is a unique Air Liquide proprietary computerized system which is connected to your gas supply to monitor levels and initiate automatic reordering. Customers may also opt for extended supervisory control which includes:

- Consumption monitoring
- On-screen consultation
- Web access to system data

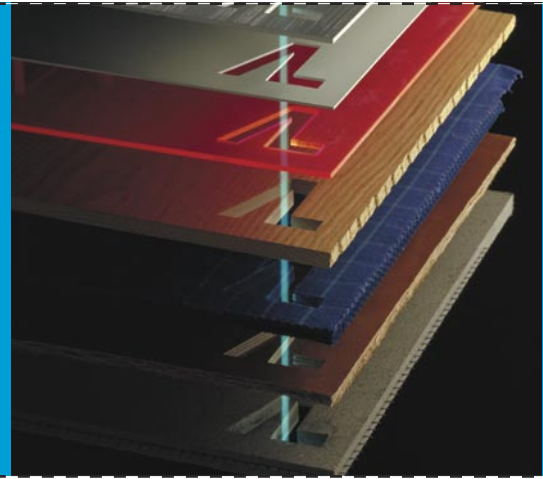
Gas Distribution

It is not enough to purchase high purity gases, the integrity of the gases must be maintained from supply system to the point of use. Air Liquide can provide you with a cost-effective solution that delivers your laser gases at the flow-rate, pressure and purity that your laser demands.



Solutions for lasing gas.

Air Liquide provides a full range of lasing gases with the industry's highest purity standards for every laser resonator.



Air Liquide pioneered today's industry standard for smart control of impurities for resonator lasing gas. The choice of lasing gas will determine the reliability of your laser, the lifespan of your optics and output power. Our complete LASAL range of pure and multi-component mixtures are designed with this in mind.

LASAL Specifications

		1	P2	4	39	P51/61	53	83	101	105/106	155
Laser Manufacturer		Trumpf Bystronic Rofin Sinar PRC	Trumpf Bystronic Rofin Sinar PRC	Trumpf Bystronic Rofin Sinar PRC	Rofin Sinar	Panasonic Mazak	Lumonics Verco Rofin Sinar	Mazak Cincinnati Amada Fanuc Strippit LVD	Coherent	Mitsubishi	Lumonics
Components	Nitrogen (N ₂)	100%			•	•	•	•	•	•	•
	Carbon Dioxide (CO ₂)		100%			•	•	•	•	•	•
	Helium (He)			100%		•	•	•	•	•	•
	Carbon Monoxide (CO)								•	•	•
	Hydrogen (H ₂)										•
	Oxygen (O ₂)				•						
Global Purity		99.999%	99.995%	99.997%							
Controlled Impurities	Moisture (ppm)	< 3	< 3	< 3	< 5	< 5	< 5	< 5	< 5	< 5	< 5
	THC (ppm)	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	Oxygen (ppm)	O ₂ < 3	O ₂ < 2	O ₂ < 3							
	Particulate	All LASAL cylinders are cleaned and prepared for dedicated lasing gas service. The operational procedures utilized by Air Liquide, including 10-micron filtration, virtually eliminate potentially damaging particulate from being present within the cylinder.									
CGA Connection:		CGA580	CGA320	CGA580	CGA590	CGA580	CGA580	CGA580	CGA350	CGA350	CGA350
Volume Per Cylinder		230 scf	50 lbs	219 scf	232 scf	228 scf	224 scf	233 scf	175 scf	180 scf	176 scf

Note: This is a sampling of the most popular LASAL pure gases and mixtures

Solutions for packaging.

LASAL offers the most advanced cylinder packaging, designed for safer and leaner operation.



All LASAL gases are strictly controlled for content of impurities such as moisture, hydrocarbon and particulates. Every cylinder or cylinder pack is a strictly dedicated package for the LASAL product line to ensure product purity.

LASAL cylinders feature:

SCANDINA™ Cap

- Provides continuous valve and regulator protection
- Designed for easy maneuvering to reduce risk of accidents
- Permanently attached cap prevents loss and thread misalignment

Chrome Residual Pressure Valve (RPV) / Check Valve

- Ensures gas quality
- Restricts back flow into cylinder
- Designed to prevent cylinder contamination
- Shrink-wrapped for quick visual tamper-evidence

Traceable Batch Analysis

- Particulate free cylinder
- Completely uniform, stable gas mixtures
- Stringent impurity tolerance

SCANDINA cap designed for easy maneuvering

Chrome Residual Pressure Valve

Traceable batch analysis

LASAL

Contacts

For cylinder gases contact

AIR LIQUIDE AMERICA LP
2700 Post Oak Boulevard
Houston, Texas 77056-8229
Phone (713) 402-2166
Fax (713) 402-2096
us.info@airliquide.com

For bulk gases contact

AIR LIQUIDE INDUSTRIAL U.S. LP
2700 Post Oak Boulevard
Houston, Texas 77056-8229
Phone (800) 820 2522
Fax (877) 715 4799
us.info@airliquide.com



Founded in 1902 and now present in 70 countries with nearly 36,000 employees, **Air Liquide** is the **world leader** in industrial and medical gases and related services. The Group offers **innovative solutions** based on constantly enhanced **technologies** to help manufacture many indispensable everyday products and preserve life.

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