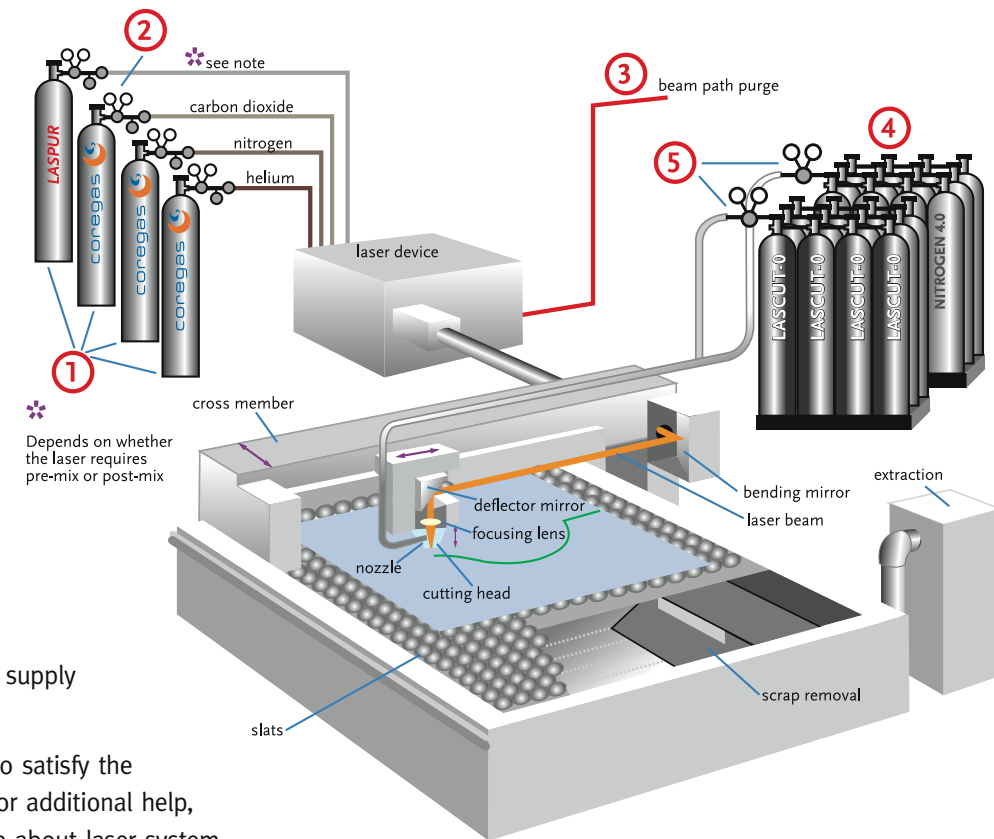


Coregas

This brochure aims to introduce the gases and gas supply equipment needed to operate your laser system. Before making your first cut or weld you will need to:

- 1 Use high purity laser resonator gases (He, N₂, CO₂ or LASPUR mix).
- 2 Connect the high purity resonator gases to the laser using high purity supply equipment.
- 3 Decide how you would like to purge the beam path.
- 4 Provide the right assist gases for cutting or welding.
- 5 Connect the assist gases with the machine using high pressure high flow supply equipment.

Coregas offers everything you will need to satisfy the gas requirements of your laser system. For additional help, customised supply solutions or to inquire about laser system packages just call Coregas.



In the LASPUR product line, Coregas offers a wide assortment of precisely manufactured gas mixtures, pure gases and gas supply systems specially tailored for industrial lasers. LASPUR has been developed in close collaboration with leading laser manufacturers. Through strict cylinder preparation, filling, homogenisation and analytic controls, the requisite gas qualities are surpassed. High quality and short delivery time mean that the LASPUR products satisfy the essential preconditions for the optimal functioning and trouble-free operation of lasers.

LASPUR comes in many sizes and configurations.

E.g. D size, G size and pack sizes.



*LASPUR 208 to suit slab lasers

GAS MIXTURES FOR CARBON DIOXIDE LASERS

PRODUCT NAME	CO ₂	N ₂	He	H ₂	CO	O ₂	Xe	CYLINDER SIZE
LASPUR 101		•				•		G
LASPUR 207	•	•	•					G
LASPUR 208	•	•	•					D
LASPUR 110	•	•	•			•	•	D, G, 6pk
LASPUR 216	•	•	•					G
LASPUR 124	•	•	•					G
LASPUR 219	•	•	•					G
LASPUR 225	•	•	•	•				G
LASPUR 226	•	•	•					G
LASPUR 228	•	•	•					G
LASPUR 144	•	•	•					G
LASPUR 252	•	•	•		•			G
LASPUR 258	•	•	•	•	•			G
LASPUR 260	•	•	•	•	•			G
LASPUR 262	•	•	•		•			G
LASPUR 264	•	•	•		•			G
LASPUR 266	•	•	•		•			G
LASPUR 278	•	•	•		•			G
LASPUR 519	•	•	•					G
LASPUR 606	•	•	•					G
LASPUR 259	•	•	•					G
LASPUR 296	•	•	•					G

EXCIMER LASERS

PRODUCT NAME	F ₂	HCl	H ₂	He
LASPUR E80	•			•
LASPUR E85		•		•
LASPUR E87		•	•	•

PURE GASES IN LASPUR QUALITY

CO ₂ laser gases		
Carbon Dioxide	CO ₂	4.5
Nitrogen	N ₂	5.0
Helium	He	4.6

Assist gases for material treatment

Lascut-O (low moisture)	O ₂	2.5
Nitrogen	N ₂	4.0
Argon	Ar	4.2
Helium	He	4.6

Pure gases for excimer lasers

Helium	He	4.6/5.0
Neon	Ne	3.5/4.5
Argon	Ar	4.8/5.0
Krypton	Kr	4.0/4.8
Xenon	Xe	4.0/4.8

Please refer to the manufacturers manual when selecting LASPUR.

Part number CS 142



Lascut-O



- Good cutting speed and quality in mild steel
- Less risk of contaminating the optics

TYPICAL ANALYSIS

	2.5
O ₂	99.5
H ₂ O	≤25ppm

Nitrogen 4.0



- High cutting quality in stainless steel avoids oxidation (discoloration) of cut surfaces
- Oxide free cut surfaces in mild steel
- High cutting quality in aluminium
- Less risk of contaminating the optics

TYPICAL ANALYSIS

	4.0
N ₂	99.99
O ₂	≤10ppm
H ₂ O	≤10ppm

Argon 4.2



- High cutting quality in titanium, zirconium etc.
- Less risk of contaminating the optics

TYPICAL ANALYSIS

	4.2
Ar	99.992
O ₂	≤5ppm
H ₂ O	≤10ppm

PRINCIPAL LASER CUTTING PROCESSES

Laser cutting with oxygen

The material is heated up to ignition temperature at the top sheet surface and combusted with the oxygen cutting gas jet.



Laser cutting with nitrogen

The material is melted by the laser beam and blown out of the kerf by the nitrogen cutting gas jet.



DISCOLORATION (OXIDATION) DEPENDING ON CUTTING NITROGEN PURITY

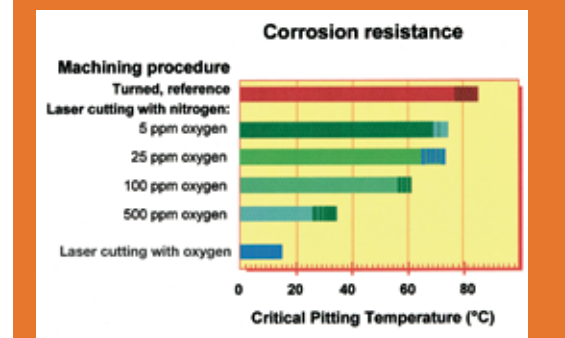
Pure nitrogen



100ppm oxygen in the nitrogen

2000ppm oxygen in the nitrogen

LASER CUTTING QUALITY EFFECTED BY NITROGEN PURITY



Coregas solutions

In laser cutting, oxygen and nitrogen are commonly used as cutting gases. Since it is the task of the cutting gas to expel the molten metal out of the cut kerf, a certain amount of kinetic energy is needed. Therefore, volume and pressure requirements are high, especially when cutting with nitrogen. In this case supply pressures can go up to 35-40 bar and volume requirements can be high. They require sophisticated supply models illustrated below.



Lascut-Lin 300: the right solution

Lascut-Lin 300 was designed by Coregas over ten years ago to meet the ever-increasing demands on higher pressures and flows in nitrogen-assist gas laser cutting. The Lascut-Lin 300 is now being used around the world as a solution for nitrogen-assist cutting.

Lascut-Lin 300 provides an automatic 200 bar gaseous nitrogen buffer system. The system uses a cryogenic pump in a thermosiphon configuration to automatically stop and start based on buffer pressure. Lascut-Lin 300 can supply the pressure and flow for your clean-cut requirements. It is fully automatic and gives you flexibility in all your laser cutting.

High pressure bulk systems, typically rated at 29 bar, are the optimal solution for customers who predominantly perform nitrogen cutting or use nitrogen in multiple shift operation. High pressure tank solutions must however be equipped with a backup supply system (6 or 12) in order not to lead to machine downtime during the tank filling process.

Regardless of the application, Coregas products and services can offer the best form of supply depending on volume, pressure requirements and your pattern of operation.



Coregas has manufactured and distributed high quality industrial, medical and speciality gases in Australia since 1976.

Core to our business is providing outstanding customer service and advice.

Please call Coregas today and ask for details of our FREE evaluation and audit services.



Coregas – part of Wesfarmers Industrial and Safety

Superior products. Trusted advice.



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Complete laser gas supply solutions



Coregas – part of Wesfarmers Industrial and Safety

process gas applications