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applications and equipment

## Gas delivery systems

High purity “laser” gases are used in the laser resonator where the laser beam is created. Laser process gases are used through the laser nozzle as a shielding gas or as a

cutting gas. Corequip equipment is designed specifically to meet the purity demands for laser resonator gases and the pressure and flow requirements for process gases.



## Equipment for laser gases

### Cutting gas supply regulators

The purpose of Corequip cutting gas supply equipment is to meet the pressure and volume demands which are required for today's cutting operations. The Corequip program therefore features:

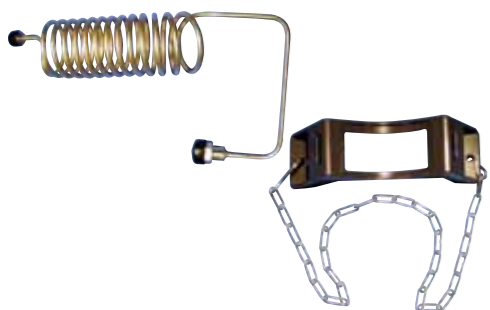
- different regulators depending on whether the cutting gas is supplied out of high pressure compressed gas cylinders or bulk tanks which hold the product in liquid form
- hoses with sufficient inner diameter for highest flow at reduced pressure drop.

### Beam path purge

After the laser beam is generated in the resonator cavity it leaves the resonator through the output coupler and enters the beam path. Within the beam path is it guided from the resonator to the focusing head using reflective copper mirrors. The purpose of the purge gas is to keep the entire path under positive pressure to avoid contamination entering into the beam path. Suitable gases for pressurising the beam path are:

- filtered, dry compressed air
- nitrogen

Compressed air may be used after running it through a drier and filter systems. However, it may be difficult to determine whether the compressed air is sufficiently clean. Corequip follows manufacturers' specifications and will use the type and size of regulator required for your laser's needs.



Please use the following codes when ordering your Corequip equipment:

PRODUCT DESCRIPTION	Corequip PRODUCT NAME	Corequip PART#
High pressure, high flow gas regulators for gas supplied out of compressed gas cylinders or packs	Oxygen	600218
	Nitrogen	600219
	Nitrogen/Oxygen	60199
	Nitrogen	600199

NB When ordering your Corequip equipment please specify gas type and ask your Coregas representative about available options.



COREGAS 600218  
200/10 BAR



COREGAS 600219  
300/50 BAR



COREGAS 60199  
200/20 BAR



COREGAS 600199  
AM 55-300K

## Cut your laser costs

### Keep your laser optics clean

Each time a cylinder is changed air may enter the gas supply system. If only a small amount of contamination enters the laser resonator with this air, damage to the laser may result. Corequip equipment allows air to be “purged” or expelled from the system after a cylinder is changed.

### Prevent permeation

The laser resonator may become contaminated by impurities entering the gas supply system by permeating rubber or plastic components in the gas supply system. Corequip equipment is constructed of materials which limit permeation.

For additional information on purging and permeation, ask for a copy of our brochure “Facts about laser gas supply systems”.

### Ensure continuous gas supply

A system supplied by a single regulator requires the laser to be shut down each time a cylinder becomes empty. Corequip's automatic changeover manifold systems switch from empty to full cylinders without interrupting laser operation.

### A system to grow with you

Corequip manifold systems may be expanded to accommodate the supply of more than one laser. The system will not become obsolete as laser gas volume requirements increase.

## Regulators for resonator gases

Please use the following codes when ordering your Corequip equipment:

PRODUCT DESCRIPTION	Corequip PRODUCT NAME	Corequip PART#
Ultra high purity gas regulators for gas supplied out of compressed gas cylinders or packs	Helium, nitrogen, carbon dioxide	600212
		600004
		600001
		600002

NB When ordering your Corequip equipment please specify gas type and ask your Corequip representative about available options.

When ordering Corequip autocharge system, please specify if alarm and line regulator are required.



COREGAS 600212



COREGAS 600004



COREGAS 600001



COREGAS 600002

## Gas supply system for laser processing

