LASER GASES

Hong Kong Specialty Gases offers a complete line of laser mixtures. We are looking at the laser manufacturer's gas specifications for purity. To meet these demands, all of our supplied laser gases are produced and certified to meet or exceed the tightest specifications for moisture and hydrocarbon content. The most common mixtures are listed below. Please call us for particular requirements.

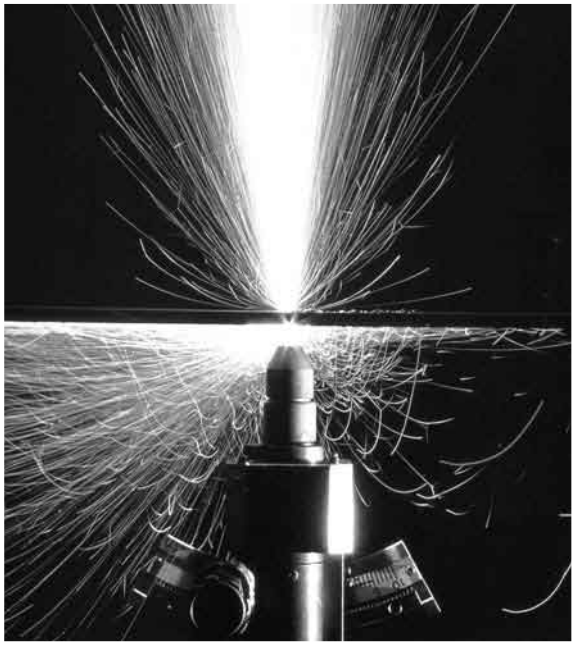
MIXTURE FOR FLOW THROUGH CARBON DIOXIDE LASER*

COMPONENTS	CYLINDER SIZE	CONTENT	PRESSURE PSIG	CGA CONN.
4.5% Carbon Dioxide, 13.5% Nitrogen, Balance Helium	049 044	6.8 m^3 6.0 m^3	2000 2000	580 580
2% Carbon Monoxide, 6-8% Carbon Dioxide, 6-8% Nitrogen, Balance Helium	049 044	6.8 m^3 6.0 m^3	2000 2000	350 350
0.4% Hydrogen, 4% Carbon Monoxide, 8% Carbon Dioxide, 8% Nitrogen, Balance Helium	049 044	6.8 m^3 6.0 m^3	2000 2000	350 350
0.4% Hydrogen, 4% Carbon Monoxide, 6% Carbon Dioxide, 12% Nitrogen, Balance Helium	049 044	6.8 m^3 6.0 m^3	2000 2000	350 350

* Customer mixtures are available, please contact HSG representatives for your particular requirement.

MIXTURES FOR HELIUM-NEON LASER

COMPONENTS	CYLINDER SIZE	CONTENT	PRESSURE PSIG	CGA CONN.
2-20% Neon Balance Helium	049 044	6.8 m^3 6.0 m^3	2000 2000	580 580
6.25% Argon, 3.0% Helium Balance Helium	049 044	6.8 m^3 6.0 m^3	2000 2000	580 580



Laser gases are commonly used in laser cutting and laser marking industry.

LASER GASES

Excimer Premixes

The name "Excimer" is a contraction of "Excited Dimer", a description of diatomic molecules in which the component atoms are bound in the excited state, but not in the ground state. The important gas molecules include Argon Fluoride, Krypton Fluoride and Xenon Chloride. Hong Kong Specialty Gases works closely with many worldwide excimer laser manufacturers to enhance the performance, reliability and safety of these devices. Our supplied excimer premixes provide the following advantages:

- Very low percentage of toxic, corrosive halogen gases
- Precise mixtures analyzed and guaranteed to each manufacturer's special specifications.
- Superior reproducibility

Some typical applications for excimer laser include:

- In Semiconductor industry: Deep Ultra Violet (DUV) Lithography, Micromachining, Annealing cleaning, Marking, Drilling and Etching
- Laser Photo refractive Karatectomy (PRK)
- Laser Angioplasty
- Transmyocardial Revascularisation (TMR)

COMPONENTS	CYLINDER SIZE	CONTENT	PRESSURE PSIG	CGA CONN.
Ar F (193nm): 0.20% Fluorine, 9.0% Argon Balance Helium and/or Neon	049 016 008	7.5 m^3 2.0 m^3 1.0 m^3	2400 1925 2000	679
Kr F (248nm): 0.10% Fluorine, 1.0% Krypton Balance Helium or Neon	049 016 008	7.5 m^3 2.0 m^3 1.0 m^3	2400 1925 2000	679
Xe Cl (308nm): 0.06% Hydrogen Chloride, 0.03% Hydrogen, 1.5% Xenon, Balance Helium or Neon	049 016 008	7.5 m^3 2.0 m^3 1.0 m^3	2400 1925 2000	330
*Above are some typical excimer premixes, others include Xe F (351nm) and Kr Cl (222nm). For your particular requirements and application, please contact us for details.				

Xenon, fluorine, krypton, argon, neon, and helium are some of the specialty gases used in lasers for eye operation. Through methodical mixing, they exactly determine the beam's energy for the desired surgical effect.

LASER GASES

STANDARD HALOGEN EXCIMER LASER GAS MIXTURES				
COMPONENTS	**CYLINDER SIZE**	**CONTENT**	**PRESSURE PSIG**	**CGA CONN.**
1% Fluorine Balance Neon	044 016	5.0 m^3 2.0 m^3	1760 1925	679
5% or 10% Fluorine Balance Helium	049 044 016 008	1.7 m^3 1.5 m^3 566 L 283 L	500 500 500 500	679
5% or 10% Hydrogen Chloride, Balance Helium or Neon	016 008	1.1 m^3 566 L	1000 1000	330
5% Hydrogen Chloride, 1% Hydrogen Balance Helium or Neon	016 008	1.1 m^3 566 L	1000 1000	330
Safety Recommendation: Periodically inspect the cylinder value for signs of corrosion.				

LASER RARE GASES				
GAS / PURITY	**CYLINDER SIZE**	**CONTENT**	**PRESSURE PSIG**	**CGA CONN.**
Argon, Research Grade, Purity: 99.9995% min.	044 016	6.4 m^3 2.3 m^3	2200 2200	580
Krypton, Research Grade Purity: 99.999% min.	049 016	10 m^3 2.0 m^3	2300 1500	580
Xenon, Research Grade Purity: 99.999% min.	E01	200 L	900	580
Helium, Research Grade Purity: 99.9995% min.	049 016	8.0 m^3 2.0 m^3	2200 2200	580
Neon, Research Grade Purity: 99.999% min.	044 016	6.0 m^3 2.0 m^3	2000 1925	580
Isotopic gases: ^3He, ^{20}Ne, ^{22}Ne	Various enrichment and purity grades are available. For your particular requirements and application, please contact us for details.			