Zechlaser Austria

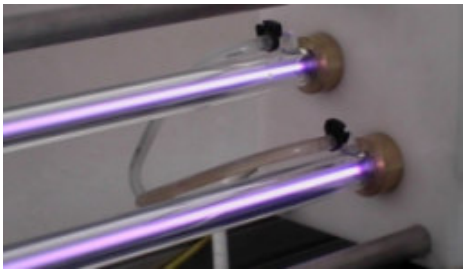
SLOW FLOW CO^2 LASER – Made in Austria

ZL200
ZL400

Technical Futures

Output wavelength 10.59 microns
Output power 200 watt, 400 watt
Electrical power input 380-400 VAC, 50 Hz
PC controlled CO^2 Laser floating resonator

Low service and spare parts costs
Minimal electrical power consumption
Minimum gas consumption 10 l/h



Resonator

Electric-Case

ZL400

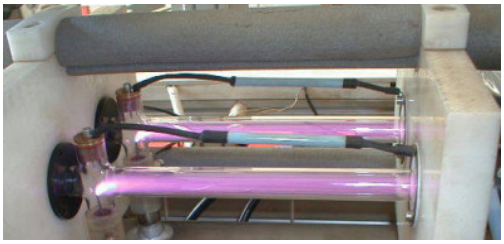
Automatic start-up
Continuous power variation
Output power control
Gas, temperature and interlock alarms
Microprocessor controlling/LCD display
extern PC controlled (Windows2000)

Microprocessor

ZECHLASER CO^2 Laser - specifications	SLOW FLOW LASER	
Model	**ZL-200**	**ZL-400**
Output range [W]	50 - 200	50 - 400
Rated power [W]	200	400
Output power stability [%]	+/-2	+/-2
Output wavelength [n m]	10.6	10.6
Beam diameter ($1/e^2$)[mm]	14	15
Beam divergence [mrad]	<1.5	<1.5
M^2 factor at rated power		
(Mode Master)	<1.4	<1.4
Polarization	linear	linear
Beam pointing stability [mrad]	≤ 0,2	≤ 0,2
Operation	cw	cw
Pulse repetition (Hz)	10 - 1000	10 - 1000
Minimum pulse duration [m s]	150	150
Gas composition	82/13,5/4,5	82/13,5/4,5
[He/N^2/CO^2]		
Gasconsumption l/hour	10	15
Dimensions [mm]	2750x400x600	2750x600x800
Weight (kg)	280	470
Water - Cooling	2kW - 8l/min	4kW - 12l/min
2 Bar	18° +/- 1°	18° +/- 1°
Electrical power	3x400V/3kW	3x400V/5kW
Microprocessor controlling		
extern PC controlled (Windows 2000)		

HIGH POWER AXIAL FLOW CO^2 LASERS
600 – 3000 WATT

ZLX6
ZLX10
ZLX20
ZLX30

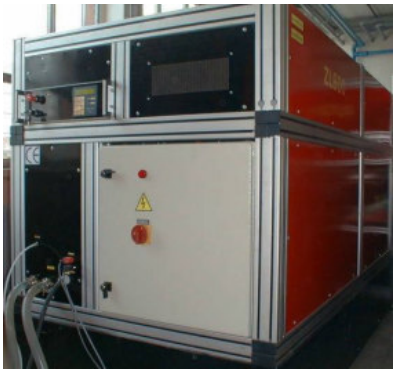


Laser Power ON

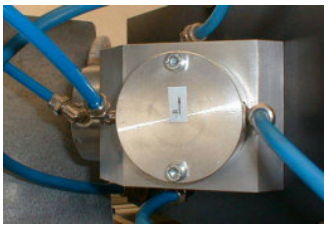
Technical Futures

New Resonator design
Output wavelength 10.59 microns
Output power 700 watt up to 3000 watt
Electrical power input 380-400 VAC, 50 Hz
Low service and spare parts costs
Minimal electrical power consumption
Minimum gas consumption 30 l/h

Automatic start-up
Continuous power variation
Output power control
Gas, temperature and interlock alarms
Microprocessor controlling/LCD display – extern PC controlled (Windows2000)



High Power Laser



High precision part

High tech components for a long Life time. We have specialised in providing for your solutions. Our equipment reduces your costs and ensures the perfection of your products.

CO^2 INDUSTRIAL FAST FLOW LASER CHARACTERISTICS

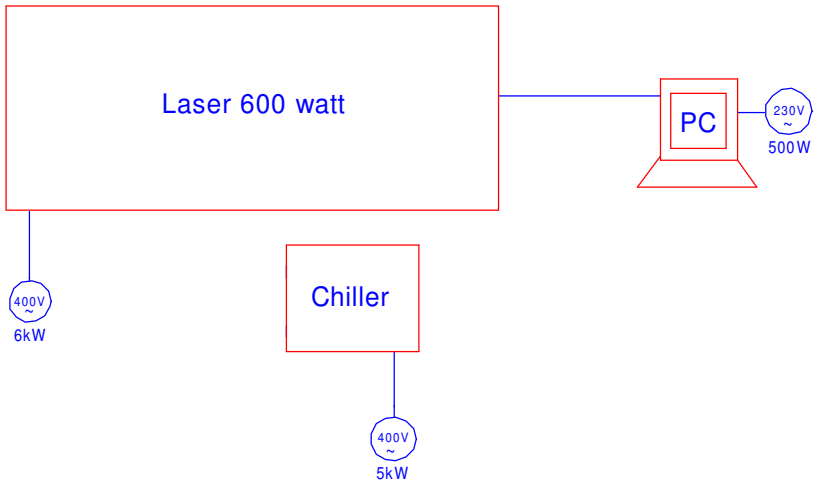
ZECHLASER

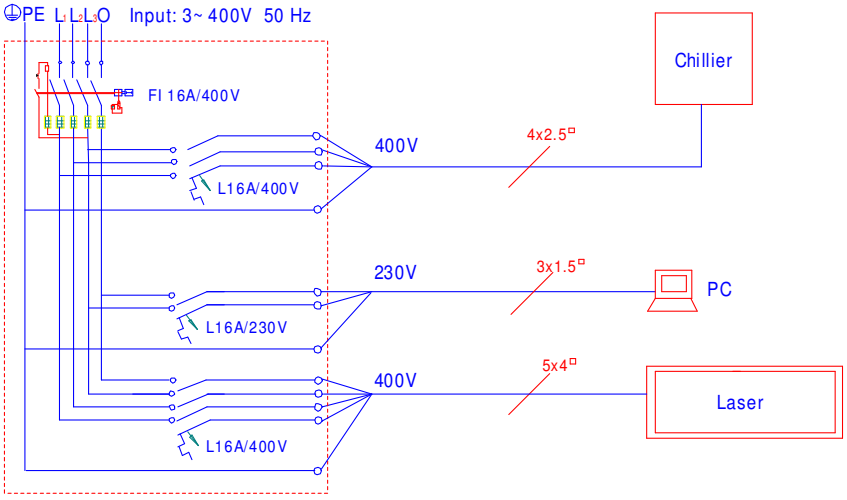
Model	ZLX6	ZLX10
Rated output power [W] cw range max.	600	1000
Wavelength nm	10600	10600
Beam diameter ($1/e^2$)[mm]	14	16
Beam divergence [mrad]	2	2
Mode structure	TEM 01	TEM01
Operation	cw	cw
Pulse mode	10 Hz - 2000 Hz	10 Hz - 2000 Hz
Minimum pulse duration	100	100
Beam pointing stability [mrad]	0,2	0,2
Gas mixture CO^2 - N^2 - He	6-20-74	6-20-74
Gas mixture consumption	30 l/h	35 l/h
Electrical power	400V 50 Hz 16A	400V 50 Hz 16A
Water cooling	16-18°C, 12 liters/min	16-18°C, 15 liters/min
Cooling power required [kW]	6	10
Weight [Kg]	630	720
Dimension [mm]	2380x750x1100	2380x750x1100

Automatic start-up
Continous power variation
Output power control
Gas, temperature and interlock alarms

Microprocessor controlling/LCD display - extern PC controlled (Windows2000)

Energy supply equipment for ZL6X





Type ZL6X			
Zech Laser Austria	Name: stromZL6X		

SERVICING AND SAFETY INSTRUCTIONS

Cooling unit

Make sure that the water reservoir is always filled sufficiently and that the water pressure is kept constant during operation. The water pressure should be 2 bar and the temperature should be 18° +/- 1° C.

Laser

The laser itself does not need maintenance. For trouble-free functioning, it is sufficient to ensure that the water pressure is as required (2 bar) and that all connections are fastened properly.
If you notice that there is water of condensation in the laser, because a high humidity of air you must prepare a correspond air conditioning.
Should this measure not be enough to avoid condensation of water, you must raise the cooling temperature of the cooling.
Avoid the operation of the laser, if there is water of condensation or operate with max. 50% of the total laser power until the water of condensation is totally dried. Follow strictly these instructions to avoid damages on the laser.

Gas mix

The laser beam represents a source of ignition. It is therefore mandatory to check all gas reservoirs and conduits regularly for tightness to exclude the possibility of fires or explosions.
Gas types : Laser gas mix, 7% CO^2, 28% N^2, 65% He, or other gas mix.

Safety

The possibility must be absolutely excluded that the laser light can hit the eyes or the skin of personnel. Blinding and irreversible damages in the form of burns, respectively, can result from contact with laser light. Setting and maintenance work should be carried out by skilled personnel only. Before any such work, definitely make sure that the machine and in particular the laser is off. It is good practice to keep away from the beam path even when the laser is turned off.

Follow strictly all maintenance/servicing/safety instructions in order to ensure smooth and risk-free operation of your system.

Putting the laser into operation

Before the laser is put into service, all power and control connections should be checked in order to ensure trouble free operation of the laser unit. Also check the water level in the cooling unit and proper connection of the water hoses to avoid damaging of the laser tube which can be the result of insufficient cooling. After these checks, the cooling unit is first turned on. Verify proper working pressure (max. 2 bar) and make sure that the EMEGENCY OFF switch is unlocked. The temperature should be on the cooling should be 18° C. In the next step, proper functioning of the laser control system is verified by turning the key-operated switch in position 1. The line "ZECH LASER Austria" should appear on the display. If an error message is shown instead, clear the faulty condition (if caused by an operating error), or contact our customer service in case the problem is unclear. After the above steps, the laser unit can be made ready for operating by turning the key into position 2. Also check the fan for proper functioning.

IMPORTANT WARNING:

Before attempting to clear any of the above faults, the equipment must always be turned off, and the laser must be started anew (by means of the key-operated switch) after clearing of the problem.
Faults which require work inside the laser housing (HV errors, etc.) must be handled by specially trained service personal. The high voltage used by the device is dangerous to life.

Also mind that improper repair attempts void all warranties.

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