

Aurel Model ASL200

Scribing & Cutting / Drilling CO2 laser system



The AUREL ALS200 Laser System has been designed for scribing, drilling and cutting of ceramic substrates for thin film and thick film hybrid circuits.

The system is compact, reliable, safe and easy to use.

This is the result of the technical collaboration between AUREL and **EL.EN**, two companies with many years of experience in the production of YAG and CO2 laser generators & systems for electronic.

The basic components of ALS200 is the Laser Mainframe and the Electronic control.

The first one consists of an enclosure cabinet containing the following modules:

- The LASER SOURCE with gas (CO2) plasma tubes
- The OPTICAL HEAD

LASER SOURCE

The LASER SOURCE with gas (CO₂) plasma tubes that emits laser radiation at 10.6 μm wavelength.

These tubes are mounted on a frame to ensure high output power stability.

The laser output power is 200W nominal in continuous wave mode and can reach a peak power up to 600W in pulsed mode.

The frequency and the pulse width are programmable and real-time controlled by the electronic control.

OPTICAL HEAD

The optical head includes optical focal lens and bending mirror, Built-in beam shutter with radiometric sensor for output power measurement.

Focusing group has 30 mm vertical adjustment, Gas jet nozzle for lens protection and exhaust hood for ceramic particles.

HEAD

X-Y Table

The beam is fix and the substrate moves by a high accuracy XY table.

The stroke is 200x200 mm and is driven by DC servomotors with encoders.

The system accepts substrate up to 6"x6".

ELECTRONIC CONTROL

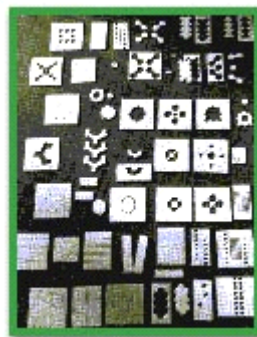
Standard PC with Windows operating system. GUI interface for cutting, drilling and scribing line and circular interpolation.

PLC with I/O for automations and handlings optional.

AUTO LOADERS

AUREL has designed several systems from stack to stack for blank substrates or from cassette to cassette for printed & fired substrates.

Some solutions includes shuttles with two or more magazines or multi cassette system.



Working Samples

Specifications	
Generator	
Wavelength	10.6 μm
Working mode	continuous or pulsed wave
Output power (cw)	200W continuously wave
Peak output power	600W max
Output power range (cw)	from 5 up to 150W
Beam diameter	11 mm
Beam divergence	1,8 mrad
Pulse width	from 10 μs up to 900 μs (adjustable)
X-Y Table	
Stroke	200 x 200mm (*)
Speed	up to 200mm/sec
Resolution	1 μm
Precision	10 μm
Repeatability	$\pm 4 \mu\text{m}$
Dimensions	
Length	3180 mm
Width	950 mm (1362 with stack Autoloder)
Height	1815 mm
Weight	Approx 700 kg

