

## **ALS200** CO<sub>2</sub> LASER SYSTEM



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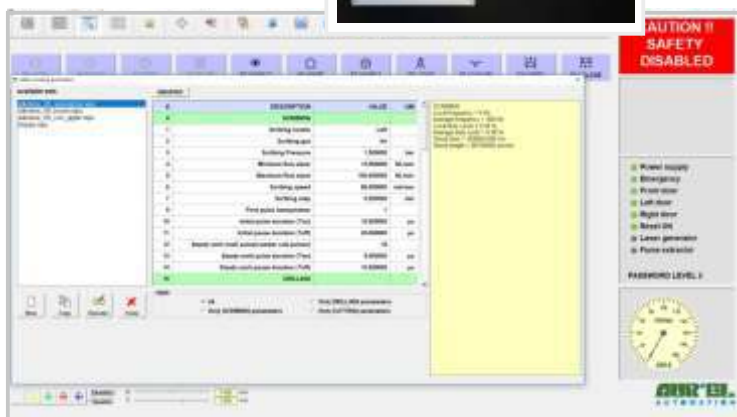
ALS200 is a very high accuracy laser system that is designed for scribing, drilling and cutting of ceramic substrates for thin and thick film hybrid circuits up to 6" x 6" ( Typical Al<sub>2</sub>O<sub>3</sub> and AlN).

The System is equipped with double nozzle (automatic switching): one for cutting and one for scribing.

ALS200 lasers are offered as basic system (with manual loading/unloading) or with optional modules from/to stack or cassette magazine for high volume production.

## APPLICATIONS

- Cutting
- Scribing
- Drilling



USER-FRIENDLY INTERFACE

## HEAD

- One fixed head with double nozzle
- Motorized focus to adjust the Z-axis according to the substrate thickness.
- High resolution Camera for work area vision with cross-hair for manual alignment of the substrates.

## LASER SOURCE

- High power semisealed CO<sub>2</sub>Laser 350-1000W type RF333
  - Gas CO<sub>2</sub>plasma tubes mounted on a frame with a granite plane to ensure high output power stability
  - RF excitement technology, high peak power, high frequency modulation, compactness
- Factory service free with easy gas cartridge replacement
- Frequency and pulse width programmable and real-time controlled by the electronic control

## CONTROL SYSTEMS

- The machine is PC controlled and allows a great deal of flexibility on all functions
- Windows © Operating System
- Wide screen monitor and industrial keyboard
- Menù Program for cutting, drilling and scribing (linear and circular interpolation)
- Machine diagnostic
- Machine hood & lifting and locking safety switches
- Work recipes storing and data logging



CO<sub>2</sub>LASER SOURCE



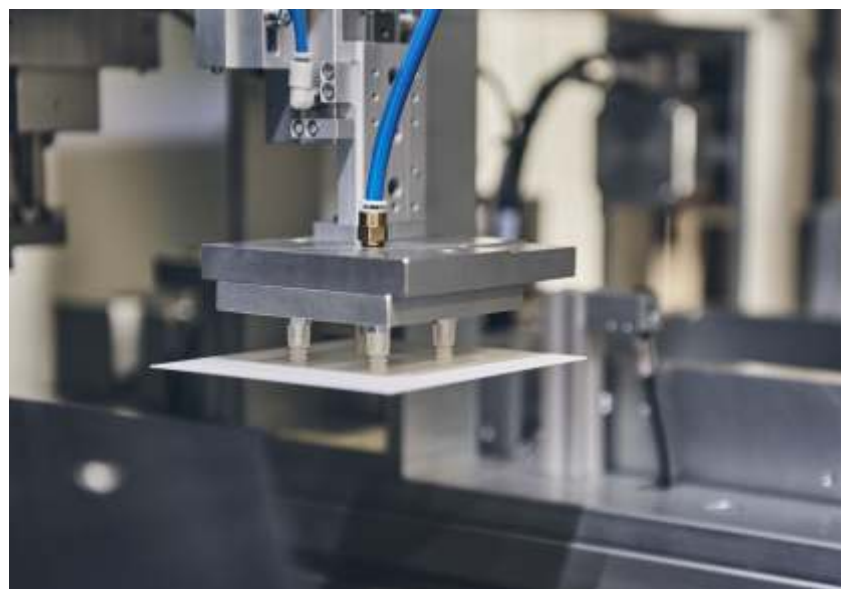
DOUBLE NOZZLES HEAD



## ALS200 with automatic Loading/Unloading

### OTHER OPTIONS

- PRS Vision System for automatic substrate alignment
- Water chiller (stand alone)
- Exhaust aspiration and filtering
- Automatic loading/unloading system from magazine for substrate up to 6"x6", two stack magazines, one for loading, one for unloading



AUTOMATIC LOADING/UNLOADING

**FEATURES LASER GENERATOR**

Weavelength	10.6µm
Rated Power	350W (Continuous mode)
Peak Output power	850W
Power stability (long term)	±4%
Mode quality	1.1 M2
Pulse width range	2 ÷ 1.000 µs
Pulse frequency	Up to 50 KHz
Gas mix consumption	<24 NI/year (cartridge)
Heat dissipation	5 kW max

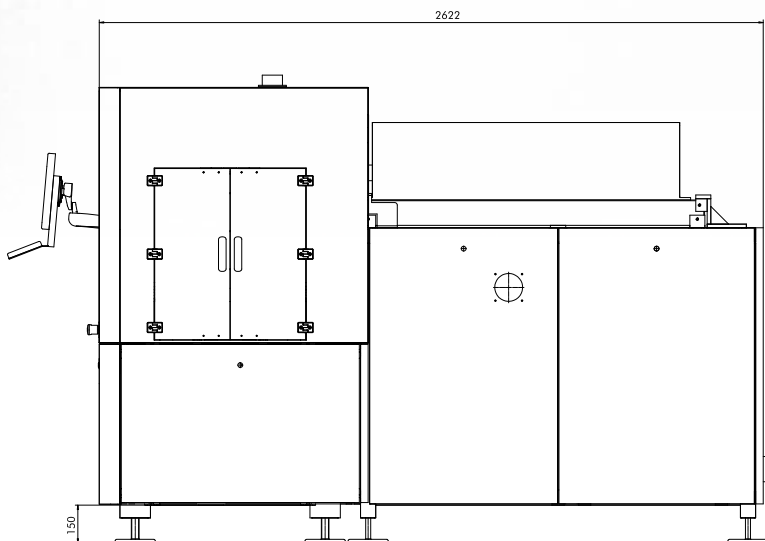
**X-Y TABLE**

X-Y Linear drive work table	
Optical linear encoders	
Stroke	300 x300 mm
Speed	Up to 500 mm/s
Resolution	0.1 µm
Accuracy	±5 µm
Repeatability	±4 µm
Max substrate size	6"x6"
Max thickness (ALQ) <sub>3</sub>	Up to 2 mm
Standard cutting speed	4 ÷ 7 mm/s
Standard scribing speed	100 ÷ 200 mm/s

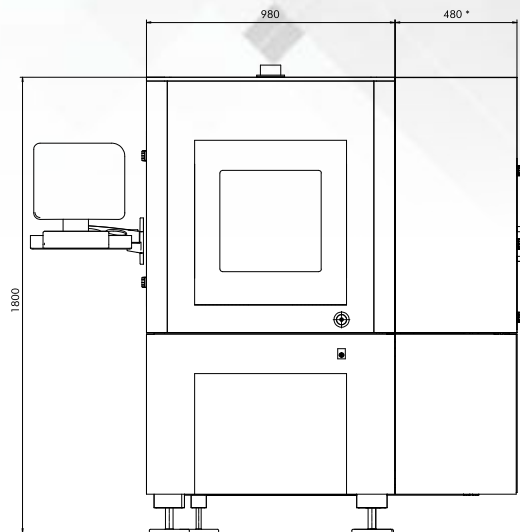
**DIMENSIONS & UTILITIES**

Dimensions*	980W x 2620L x 1800H mm (with manual loading) 1460W x 2620L x 1800H mm (with loader/unloader)
Weight	1500 Kg (with manual loading) 1700 Kg (with loader/unloader)
Compressed Air Supply	5 bar, consumption: 100 NI/min
Power	230V, 1ph, 50 Hz
Exhaust flow rate	approx. 3 m3/min; 1500 mm H2O
Cooling water	20±1°C; flow 10±12 l/min (Optional water chiller)

**SIDE VIEW**



**FRONT VIEW**



(\* With autoloader system)

