



# Alpharex

## Large Plate Laser Cutting

ESAB, the industry leader in plasma and oxy-fuel cutting, has joined forces with the leading laser manufacturer, TRUMPF, to produce the Alpharex large plate laser cutting machine.

With working widths of up to 17' (5 M), the Alpharex has no theoretical restriction in working length. The specially designed laser resonator is mounted on the machine and moves with the machine in the longitudinal direction. In the transverse direction, the beam is delivered by flying optics to the workpiece. This design feature eliminates beam divergence along the longitudinal axis, and ensures that the laser intensity and the cut quality remain constant over the full work space.

ESAB's Alpharex laser cutting machine is fitted with a CO<sub>2</sub> laser system supplied by TRUMPF. The TLF-turbo lasers, featuring power selections of 3.2 up to 6 kw, enable ESAB to guarantee high precision cutting of carbon steel up to 1.0" (25 mm) thick. The Alpharex may also be configured with a laser bevel head for cutting up to 45° bevels on parts.

As with all ESAB cutting machines, the laser process is fully controlled and automated through ESAB's Vision CNC. All laser parameters, such as power, frequency, piercing routines, gas pressures, and cutting height, are set automatically by the CNC. The Vision CNC also controls the adaptive optics which provides autofocus and also ensures consistent beam quality.

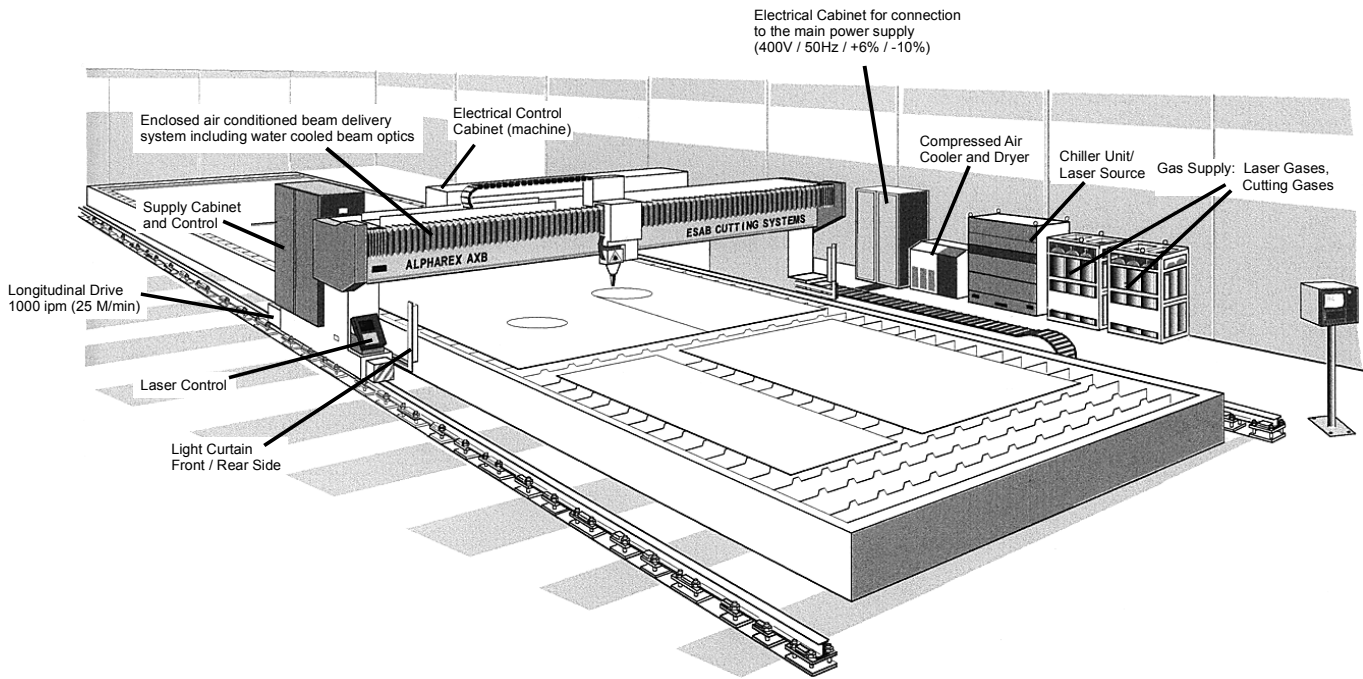


- **Large working area increases plate utilization when nesting and cutting large parts.**
- **Class 1 Laser protection with the optional PRO-LAS enclosure.**
- **Optional Laser Contour Beveling up to 45° facilitates welding preparation.**
- **Production cutting to 1" Carbon Steel, 5/8" Stainless Steel, 1/2" Aluminum.**
- **Cutting and marking with the same laser tool.**
- **Video camera monitoring of the process at the operator's console.**
- **Complete process control and automation through ESAB's Vision CNC.**
- **Oversized AC Drives for high dynamic response and excellent positioning accuracy.**
- **CNC controlled auto-focus using adaptive optics for highest reliability.**
- **Pierce detect & cut loss detection.**
- **Safety Light Barriers front and rear.**

### Specifications

Alpharex	5000	6000	7000
Cutting Width	120" (3000 mm)	157" (4000 mm)	198" (5000 mm)
Cutting Length	No Theoretical Limit (1 meter increments)		
Parking Length	177" (4500 mm)		
Maximum Positioning Speed	1000 ipm (25400 mm/min)		

## System Overview

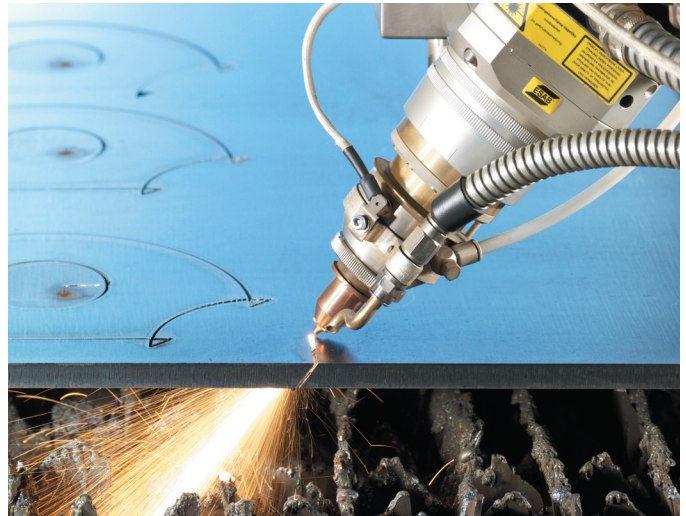


The Laser Cutting Table may be either a stationary table or a pallet changer system, with integrated fume extraction and conveyors for slag and small components.

## System Options



The PRO-LAS enclosure option provides Class 1 laser protection. It is optional on machines with a straight cutting head, but mandatory on machines with a bevel head.



The optional laser bevel head allows fully automated variable bevel angle contour cutting from 0 to 45 degrees.

Specifications are subject to change without notice. Please contact ESAB Cutting Systems for the most current specifications, numerical control, and available equipment.



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