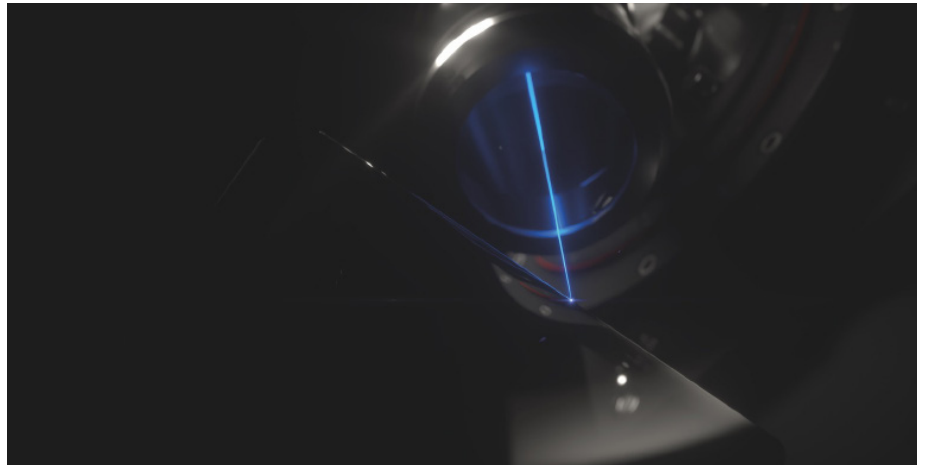


CORNING

Laser Technologies



CLT 43D

Laser cutting of 3D shaped glass

There is a world wide trend towards cover glasses and glass dashboards with curved surfaces. These new designs have high requirements for freeform and 3D cutting, which are difficult to meet with traditional mechanical scribe and break (MS&B) processes.



Creative 3D Designs

When cutting 3D forms, the laser beam always has to be perpendicular to the glass surface. This is achieved through a specially developed, fast and highly precise CLT 5-axis beam delivery system.

Allowing freeform, near netshape cutting, the CLT solution gives you the freedom to realize innovative 3D designs for mobile devices, automotive dashboards, displays, consumer electronics and more.

Key Benefits

- Cuts straight, perpendicular and free-form lines
- Cuts extremely fast to maximize throughput
- Superior edge quality
- Precise cutting of 3D shaped glass
- Minimal particle generation



nanoPerforation Cutting

To meet these demands, Corning Laser Technologies (CLT) has further improved its unique nanoPerforation glass cutting technology. Using ultrashort pulsed lasers, it cuts glass through localized perforation rather than material ablation. This results in smooth, very high quality cuts at high processing speeds.

CLT has further developed the nanoPerforation to also allow the cutting of 3D shaped glass. Thanks to the high edge quality of the nanoPerforation process, there is little or no post processing required. As laser cutting is contact-free, it does not need process fluids and there is no tool wear. All this reduces the total cost of ownership and makes CLT nanoPerforation not only more flexible, but also more cost effective than traditional MS&B processes.

Your Solution

Our application lab will work with you to provide a complete solution tailored to your specific requirements. The CLT experts have many years of experience in laser technology and use state of the art metrology equipment for application development.

Technical Specifications

Axes	5-axis system	
	3D-processing volume Length x Width x Height	1,200 x 700 x 300 mm ¹⁾
	Accuracy	< +/- 100 µm for parts cut out of a substrate ²⁾
CNC-Control	TwinCat 3 CNC control for all machine functions	
Operator Interface	Based on Microsoft Windows 10 with CLT HMI	
Machine Vision	CLT vision system integrated in standard configuration	
Laser Source	Integration of up to two (2) different laser sources Setups for different wavelengths available	
Process Head	Swivel Head Flying optics Combination of both	
Loading/Unloading	Manual loading of substrates / unloading of parts	
Electrical Supply	Rating: Power consumption (peak/ average)	400 Volts, 3Ph+N+PE, 50/60Hz (transformer available) 10.0 kW
Cooling	Rating (peak/ average): Consumption: :	7.0 kW/ 4.0 kW ³⁾ min. 20 l/min, max. 25 l/min ³⁾
Compressed Air	Supply pressure: Consumption:	min. 6 bar / max. 8 bar ³⁾ typ. 560 NI/min
Exhaust Air from Machine Enclosure	Volume:	min. 450 m ³ /h exhaust air ³⁾
Machine Vacuum	No requirement at customer site. Will be provided by a side channel blower inside the equipment.	
Machine Size and Weight	Size: Width x Depth x Height ³⁾ Weight	3,100 x 2,566 x 2,850 mm approx. 6,400 kg
Temperature	20 °C, Deviation +/- 2 °C , non condensing	

¹⁾ Nominal travel range. Effective travel range may be reduced by use of multiple process heads and/or cameras.

²⁾ Environmental controlled room required.

³⁾ These values may vary, depending on the tool configuration, e.g. type of laser source.

Specifications are subject to change without notice.

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