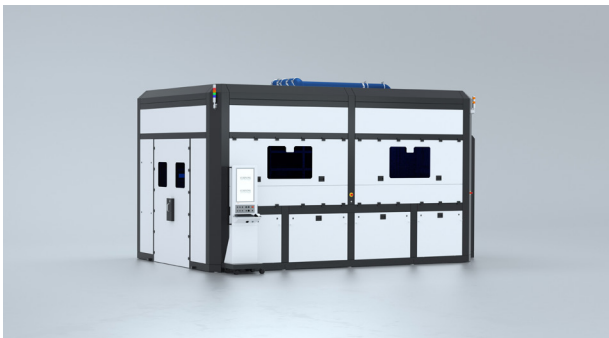


CLT 63D

Advanced laser cutting of 3D shaped glass

In addition to the worldwide trend towards 3D shaped cover glasses, e.g. for automotive displays, there is an increasing demand for 3D cutting of larger substrates such as automotive exterior glazing. To meet these new design and substrate size requirements, at Corning Laser Technologies (CLT) – building on the successful establishment of the CLT43D – we have scaled our 3D laser cutting technology to introduce the CLT63D.



nanoPerforation Cutting

Based on CLT's patented nanoPerforation process we can perforate and separate 3D-shaped substrates of up to 1,900 mm x 1,300 mm x 400 mm. Using ultrashort pulse lasers, this process cuts glass through localized material modification rather than material ablation. When cutting 3D formed glass, the laser beam must remain perpendicular to the glass surface. This is achieved through a specially developed, fast and highly precise CLT 5-axis beam delivery system. This results in smooth, high-quality cuts at high processing speeds. In addition to 3D-shaped glass, our highly versatile CLT 63D can also cut any contour in flat glass. The substrates are then loaded at a loading table to a customized substrate carrier.

Options for high volume manufacturing such as a second loading table, which enables parallel loading and unloading are available.

Sophisticated 3D measurement is integrated into the standard configuration to compensate for dimensional tolerances of the 3D shaped substrates, ensuring consistently

high process stability and precision.

CLT offers a remote access solution for remote customer support by our CLT experts. This high-security data access is controlled by you, the customer.

This contact-free process does not need process fluids and there is also no tool wear. These advantages reduce the total cost of ownership and makes our CLT nanoPerforation technology not only more flexible, but also a more cost-effective and sustainable process than traditional mechanical score and break processes.

Key Benefits

- Large 3D shaped substrate sizes with 3D envelope of up to 1,900 mm x 1,300 mm x 400 mm
- Cuts straight, perpendicular, and free-form lines
- Cuts extremely fast to maximize throughput
- Superior edge quality
- Precise cutting of 3D shaped glass
- Contact-free process
- Minimal particle generation
- Little or no post processing



Your Solution

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

Technical Specifications

Axes	5-axis system	
	3D-processing volume Length x Width x Height	1,300 x 1,900 x 400 mm ¹⁾
	Accuracy Repeatability	< +/- 100 µm ^{2) 4)} < +/- 5 µm 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/unloading of parts	
Electrical Supply	Rating:	400 Volts +/- 10%, 3Ph+N+PE, 50/60Hz (transformer available)
	Power consumption (peak/ average):	18.4 kVA / 15.3 kVA
Cooling	Rating (peak/ average):	15 kW ³⁾
	Consumption:	min. 40 l/min ³⁾
Compressed Air	Supply pressure:	min. 6 bar / max. 8 bar ³⁾
	Consumption:	typ. 120 NI/min
Exhaust Air from Machine Enclosure	Volume:	min. 350 m ³ /h exhaust air ³⁾
Machine Vacuum	No requirement at customer site.	
Machine Size and Weight	Size: Width x Depth x Height ³⁾	11,000 x 3,580 x 3,175 mm
	Weight	approx. 19,000 kg
Temperature	22 °C, Deviation +/- 2 °C, non condensing	

1) Nominal 3D processing volume. Effective 3D processing volume 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.

4) Vision systems deviation (if vision needed) and specific pattern dynamics will influence the above-mentioned accuracy.

Specifications are subject to change without notice.

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