CLT 45G NX:
A multipurpose high-precision laser processing tool

The CLT 45G NX laser tool is designed for 24/7 production in an industrial environment. Its versatility also makes it an ideal R&D tool. The Corning Laser Technologies systems are developed in close cooperation with the specialists at Corning, the world’s leading innovators in specialty glass.

Superior Technology
Corning’s material science and optic capabilities add unique advantages to the laser glass cutting process. The CLT 45G NX offers not only distinct advantages over conventional cutting processes, but also over other laser cutting systems. Using ultra-short laser pulses, the material is cut by material disassociation rather than ablation. The result is a very low surface roughness, increased as-cut bend strength and faster throughput. The Corning laser process enables cutting fully strengthened glass, un-strengthened glass, as well as other transparent glass and crystalline materials.

Key Benefits
- Cuts holes, radius form factors, complex geometries, vias, blind holes, slots and more
- Cuts functional multi-layer stacks
- Cuts glass from 0.4mm up to 6mm thickness
- Eliminates fluids and tooling required in traditional processing methods

Applications
Advanced multi purpose laser machining systems:
Processing Glass Substrates
- Display technologies
- Coated substrates
- Sandwich applications
- Cutting “thin” substrates
- Strengthened Glass
- Cover glasses of mobile devices
- Cover glasses of tablet PC’s
- Camera protection glasses
- Drilling of Through Holes in Glass Substrates
- Mobile Devices (camera aperture, home button, loudspeaker, etc.)
- Electronic components
- Tablet PC’s and computers
Micro Materials Processing
- Cutting and drilling of OLED, PI, Wafer, Ceramic, Plastic, etc.

Your Solution
Our application lab will work with you to provide a complete solution tailored to your specific requirements. An extensive base of state of the art tools includes a wide variety of laser sources and extensive optical, electrical, and mechanical metrology equipment for application development.
## CLT 45G NX Technical Specifications

### Mechanics

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine base and vertical structure</td>
<td>Made from solid granite blocks</td>
</tr>
<tr>
<td>X-Y-split axis design</td>
<td>(CNC-axis)</td>
</tr>
<tr>
<td>Z-axis motorized</td>
<td>(CNC-axis)</td>
</tr>
<tr>
<td>Machine optimized for high precision processing at high speed</td>
<td>Class 1 laser safety chamber</td>
</tr>
</tbody>
</table>

### Axes

<table>
<thead>
<tr>
<th>Axis</th>
<th>Range</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-axis</td>
<td>920 - 1,200 mm</td>
<td>Drive: linear motor ¹</td>
</tr>
<tr>
<td>Y-axis</td>
<td>730 - 880 mm</td>
<td>Drive: linear motor ¹</td>
</tr>
<tr>
<td>Z-axis</td>
<td>50 mm</td>
<td>Drive: rotation motor ¹, up to 1,000 mm/s (pattern dependent), up to 10 m/s² (pattern dependent), &lt; 10 µm per 200 mm range ², &lt; 2 µm ³</td>
</tr>
<tr>
<td>Positioning accuracy</td>
<td>&lt; 10 µm per 200 mm range ²</td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>&lt; 2 µm ³</td>
<td></td>
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</tbody>
</table>

### CNC-Control

- TwinCat 3 CNC control for all machine functions (G-code)

### Operator Interface

- Based on Microsoft Windows 10 with CLT HMI and touch screen

### Machine Vision

- CLT vision system integrated in standard configuration

### Laser Source

- Integration of up to three (3) different laser sources
- Setups for different wavelengths available

### Process Head

- Fixed optics
- Galvanometer scanner
- Combination of both

### Options

- Handling units for semi-automated or fully automated loading and unloading

### Electrical Supply

- Rating: 400 Volts, 3Ph+N+PE, 50/60 Hz (transformer available)
- Power consumption: 7.0 - 12.0 kVA / 6.3 - 10.8 kVA ³

### Cooling

- Rating (peak/ average): 9.3 - 14.6 kW / 6.0 - 10.4 kW ³
- Consumption: min. 16 l/min; max. 28 l/min ³

### Compressed Air

- Supply pressure: min. 6 bar / max. 8 bar ³
- Consumption: typ. 500 Nl/min

### Exhaust Air from Machine Enclosure

- Volume: min. 100 m³/h exhaust air ³
- Connector size / type at machine: 1x connector at 90 mm nominal diameter (OD)

### Exhaust Air from Vacuum Production

- Volume: up to 250 m³/h exhaust air ³
- Connector size / type at machine: 1x connector at 90 mm nominal diameter (OD)

### 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: 1,750 x 2,450 x 2,400 mm ³
- Weight: 4,500 kg ³

### Temperature

- 22 °C, Deviation +/- 2 °C, non condensing

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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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Corning Laser Technologies

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