CLT 80G:
High-precision laser glass processing for up to Gen 8

The CLT 80G laser glass processing tool is designed for 24/7 manufacturing in an industrial environment, supporting a glass substrate size of up to 2300 mm x 2500 mm. The Corning Laser Technologies systems are developed in close cooperation with the speciality glass experts at Corning. Their material science and optics knowledge adds unique advantages to this laser glass cutting process.

Using ultra-short laser pulses, the CLT 80G cuts by material disassociation rather than ablation. The result is a very low surface roughness, increased as-cut edge strength and faster throughput. The Corning Laser Technologies process enables cutting fully strengthened glass, Corning® Gorilla® glass, un-strengthened glass, as well as other transparent glass and crystalline materials.

Key Benefits
• Free-form, net-shape or near net-shape cutting at up to 1m/s
• Cuts: curved, straight, perpendicular and angled lines as well as holes and slots
• Cuts glass from <50µm up to 6 mm in thickness
• Automatic/touch-free separation process
• Eliminates fluids and tooling required in traditional processing methods

Applications
Advanced multi purpose and flexible laser machining system for:
Processing Glass Substrates
• Automotive windshields, roofs
• Automotive windshields, roofs, sidelites, backlites
• Automotive interior glass

Other Materials
• Consumer electronics
• Architectural glass
• Display technologies
• Coated substrates
• Thin glass
• Strengthened and non-strengthened glass
• Drilling of through holes and vias
• Electronic components

This system is also extremely well suited for different kinds of Micro Material Processing, such as:

Other Materials
• Cutting of OLED, PI, wafer, ceramic, plastic, and other brittle materials.
# CLT 80G Technical Specifications

## Mechanics
Machine base and vertical structure are made from solid granite blocks
X-Y single or double gantry design available
Z-axis motorized (CNC-axis)
Machine optimized for high precision processing at high speed
Class 1 laser safety chamber

## Axes
<table>
<thead>
<tr>
<th>Axis</th>
<th>Range</th>
<th>Drive</th>
<th>Max. Traverse Speed</th>
<th>Max. Acceleration</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-axis</td>
<td>2300 mm</td>
<td>Linear motor 1)</td>
<td>up to 1000 mm/s</td>
<td>(pattern dependent)</td>
</tr>
<tr>
<td>Y-axis</td>
<td>2500 mm</td>
<td>Linear motor 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z-axis</td>
<td>100 mm</td>
<td>Rotation motor 3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Accuracy
Pattern accuracy: < +/- 100 µm for parts cut out of a GEN8 substrate 4)
Accuracy depends on pattern geometry and process speed

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

## Operator Interface
Based on Microsoft Windows 7 with CLT HMI

## Machine Vision
Integrated in standard configuration for fiducial recognition

## Loading / Unloading
Manual loading of substrates / unloading of parts

## Options
Automation available for loading and unloading (e.g. tilt table, parts picking unit)
Glass waste management
MES connection

## Electrical Supply
Rating (peak/ average)
 Consumption
400 Volts, 3Ph+N+PE, 50/60 Hz (transformer available)
23 kVA / 15 kVA i); 13 kW / 9 kW ii)

## Cooling
Rating (peak/ average)
 Consumption
7.0 kW / 4.0 kW i)
min. 20 l/min, max. 25 l/min ii)

## Compressed Air
Supply pressure
 Consumption
min. 6 bar / max. 8 bar iii)
typ. 80 l/min, peak: 150 std. liter/min at 50% duty cycle

## Exhaust Air from Machine Enclosure
Volume
min. 450 m³/h iii)

## Exhaust Air from Process Head
Volume
up to 200 m³/h exhaust air iii)

## Machine Vacuum
No requirement at customer site
Will be provided by a side channel blower inside the equipment

## Machine Size and Weight
Dimensions, including electrical/ supporting cabinets, load/ unload units and waste glass management
Size: Width x Depth x Height 1)
Weight
14,600 x 6,500 x 2,700 mm
approx. 13,500 kg (depending on configuration)

Dimensions, including service area
Size: Width x Depth x Height 1)
17,600 x 8,500 x 4,000 mm

## Temperature
18 °C min., 22 °C max., non condensing
Deviation +/- 2 °C

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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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