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 specialty 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

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 I laser safety chamber

**Axes**
- **X-axis** range 2300 mm
- **Y-axis** range 2500 mm
- **Z-axis** range 100 mm
- Max. traverse speed x/y-axis: up to 10 m/s² (pattern dependent)
- Max. acceleration: up to 1000 mm/s² (pattern dependent)

**Accuracy**
- Pattern accuracy: < +/- 100 µm for parts cut out of a GEN8 substrate
- 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**
  - Power consumption (peak/ average): 400 Volts, 3Ph+N+PE, 50/60 Hz (transformer available)
  - Consumption: 23 kVA / 15 kVA \(^1\); 13 kW / 9 kW \(^2\)

**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 \(^4\)
  - Typ. 80 l/min, peak: 150 std. liter/min at 50% duty cycle

**Exhaust Air from Machine Enclosure**
- **Volume**
  - Consumption: min. 450 m³/h \(^5\)

**Exhaust Air from Process Head**
- **Volume**
  - Consumption: up to 200 m³/h exhaust air \(^5\)

**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 \(^6\)
  - Weight: approx. 13,500 kg (depending on configuration)
- **Dimensions, including service area**
  - Size: Width x Depth x Height \(^6\)
  - Weight: 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.

For more information:
Tel: +49 89 / 899 48 28-0
E-Mail: CLT-info@corning.com
www.corning.com/lasertechnologies

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One Riverfront Plaza, Corning, NY 14831-0001

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