

CORNING



CLT 8oG:

High-precision laser glass processing for up to Gen 8

The CLT 8oG 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.

Key Benefits

- Free-form, 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 $50\mu\text{m}$ up to 6 mm in thickness
- Automatic/touch-free separation process
- Eliminates fluids and tooling required in traditional processing methods



Using ultra-short laser pulses, the CLT 8oG 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.

Applications

Advanced multi purpose laser machining systems:
Processing Glass Substrates

- Automotive windshields, roofs, sidelites, backlites
- Automotive interior glass
- Consumer electronics
- Architectural glass
- Display technologies
- Coated substrates
- Thin glass
- Strengthened and non-strengthened glass
- Drilling of through holes and vias
- Electronic components

Micro Materials Processing

- Cutting and drilling of OLED, PI, wafer, ceramic, plastic, etc.



CLT 80G Technical Specifications

| | | |
|------------------------------------|--|---|
| Mechanics | Machine base and vertical structure are made from solid granite blocks X-Y single or double gantry design Z-axis motorized (CNC-axis) Machine optimized for high precision processing at high speed Class 1 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 Axis positioning accuracy Axis repeatability Combined X-Y-axis accuracy | Drive: linear motor ¹ Drive: linear motor ¹ Drive: rotation motor ¹ up to 1000 mm/s (pattern dependent) < 5 µm per 200 mm range ² < 2 µm ² < 5 µm per 200 x 200 mm envelope ² |
| 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) 23 kVA / 15 kVA ³ |
| 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. 80 l/min, peak: 150 std. liter/min at 50% duty cycle |
| Exhaust Air from Machine Enclosure | Volume: Connector size / type at machine: | min. 450 m ³ /h ³ 1x connector at 90 mm nominal diameter (OD) |
| Exhaust Air from Process Head | Volume: Connector size / type at machine: | up to 200 m ³ /h exhaust air ³ 1x connector at 90 mm nominal diameter (OD) |
| Machine Vacuum | No requirement at customer site. Will be provided by a side cannel blower inside the equipment. | |
| Machine Size and Weight | Size: Width x Depth x Height ³ : Weight: | 14500 x 6500 x 2700 mm approx. 13,500 kg |

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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