JENOPTIK
GERMANY

Laser Separation of Float Glass Direct on the Float Line

Laser cutting improves the quality of float glass:

- No cutting oil required
- Contact-less processing
- Scribing process without particles or damage
- Cutting independent of tension in the glass

Mechanically scribed edge

Laser-scribed edge

VOTAN™ JENOPTIK

Application

Fit for trim cutting of sodalime or borosilicate glass with thicknesses of 0.7 mm – 19 mm. Suitable for different throughput rates, glass colours, glass surfaces, and structures on glass.

System description

When cutting the edge of the sheet in the production of float glass, the laser processing system JENOPTIK-VOTAN™ G Integra works according to the patented principle of Thermal Laser Separieren (TLS). With this technique, the glass is irradiated locally with the laser. The radiation energy is absorbed in the surface volume. This heats the material and induces compressive stress. Directly after the laser beam, a coolant is applied to the surface, causing tensile stress in the material. Starting from the initial crack, a crack propagates along the working line which allows the workpiece to be broken mechanically in a separate step. Thus, an optimal glass edge is achieved - at all glass densities and float speeds. The configuration and conception of JENOPTIK-VOTAN™ G Integra ideally match production requirements and environment conditions at the cold end of the float line. The compact, freestanding construction ensures easy integration into existing production lines.

Specification

Machine specifications		
Dimension (width x depth x height)	(2040) 2800 mm x 2200 mm x 1275 mm	((80) 110" x 86" x 50")
Working field	max. 1300 mm	(max. 51")
Absolute positioning accuracy	0.1 mm	(3.9 mil)
Float line (width)	for all float widths	
Laser		
Laser wavelength	10.6 µm (CO_2)	
Laser power	250 W	
Laser protection class	1	
Site requirements		
Glass temperature for laser cutting	50 °C - 70 °C	(122 °F - 158 °F)
Climatic conditions	+ 5 °C to + 55 °C	(41 °F - 131 °F)
Max. energy consumption	16 kW	
Air pressure for process cooling	6 bar	
Water flow rate for laser cooling	10 l/min at max. 14 °C	(57 °F)

We reserve the right to make changes in the interest of technical progress.

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