

Flexible Laser Cell (FLC) – Maximum flexibility in laser material processing



05 2022

Proven system technology for the highest flexibility and quality requirements: The highly flexible laser processing cell combines the innovative concept of 3D laser cutting and welding in one machine. Smart automation solutions allow autonomous production with loading and unloading parallel to production time. The highest quality requirements are met by ideally matched processing optics and the use of laser technology.

Highly flexible

The combination of up to three laser processing optics allows 3D cutting and welding operations with just one clamping. Cutting and welding processes can be implemented independently of each other with up to six degrees of freedom. There are thus almost no limits to the design of three-dimensional assemblies.

Precise and economical

By combining work sequences in one processing station, non-value-adding setup and transport times and buffering are eliminated. The quick-change system enables the production of a wide variety of components, even in small batch sizes. The laser management system supplies all processing optics from the same laser beam source in a cost-optimized manner. The flexible configuration of processing optics and beam sources allows the cutting and welding task to be optimally mapped. The result is maximum precision and quality.



You would like to learn more?
Contact us!
www.weil-technology.com



Experience the FLC
live in the application!

The FLC – Advantages at a glance

Quick change system for the clamping devices by quick coupling of the entire media supply

- Shortened setup times during product changeover by up to 40 %
- Short response times to fluctuating incoming orders or changing batch sizes

3D laser processing, simultaneously with up to three processing optics in one machine

- High cost-effectiveness due to reduction of setup and transport times
- No Buffering

Maximum accessibility for 3D machining due to additional three axes per clamping device

- Additional degrees of freedom for required motion sequences
- Precise cutting and welding in one set-up for the production of even very complex components

Technical data

Processing focus	Cutting and welding (simultaneously)
Work space X/Y/Z	1000/700/350 mm
Max. repeating accuracy	±0,03 mm
Max. positioning speed linear	X/Y/Z → 60/60/30 m/min
Max. positioning speed rotative (rotary optics)	200 rpm
Acceleration X/Y/Z	20/20/10 m/s ²
Jerk X/Y/Z	300/300/300 m/s ³
Control/Interface	Siemens: NC, Sinumeric One
Dimensions L × W × H	6000/2200/3306 mm
Possible materials	Mild steel, stainless steel, aluminum, copper
Laser power (min – max)	500 – 8.000 W
Maximum cutting speed (2 KW 3 KW) mild steel, 2 mm	200 rpm
Maximum welding speed (2 KW 3 KW) mild steel, 2 mm	±0,03 mm
Clamping/work table movable (yes/no)	Yes
Material feed (automation capability)	Good
Optics flying (yes/no)	No
Beam guidance (options)	Laser management, bifocal technology, beam profile shaping
Process steps that can be integrated into the plant concept	Laser machining process, cutting, welding, buildup welding, marking, hardening, structuring, pressure testing process

Visit us in the Tech Center and let us convince you of the innovative system technology live.