

# Laser Welding Module (LWM) – Maximum productivity in sheet metal processing



Single module



Customized interlinked system

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The Laser Welding Module (LWM) is the solution for sheet metal assemblies that need to be produced in standardized, high batch sizes. The modular design of the overall system includes integration and interlinking of all process steps required for the assembly.

## Individually configurable

The LWM concept reduces complex tasks to simpler work steps that are implemented on individual modules. The modules are interlinked by means of a goods carrier system. Mechanical processing stations can be inserted as well as combinations of assembly, welding and testing tasks or leak testing stations and laser marking stations. Since each module can be used and configured individually, the production of even the most complex assemblies is possible. Robust clamping devices guarantee maximum accuracy in the process.

## Highly productive and cost optimized

By dividing the overall task into individual work steps, potential bottlenecks become visible. Where necessary, the output quantity is optimized by means of modules connected in parallel, thereby thus achieving the target lot size. The standardized modules can be combined in a cost-optimized manner.



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## The LWM – Advantages at a glance

### Modular structure

- Process steps can be separated from each other
- Significantly optimized batch size/output
- Even complex assemblies are ideally brought together by a cycle-time-optimized division of production steps, which are ideally combined
- Individual modules can be retrofitted as required; the line can grow with its requirements; downstream processes can be optimally connected

### Parallel processing of time-intensive work steps at different stations

- Optimized overall productivity of the plant
- Cycle time-limiting process steps are implemented on several modules in parallel
- Increased reproducibility of results
- Improved machine availability, as difficult processes can be divided into several work steps and several process steps

### Technical Data

Processing focus	Welding
Work space X/Y/Z	Customer specific
Max. repeating accuracy	±0,03 mm
Max. positioning speed linear	-
Max. positioning speed rotative (rotary optics)	-
Acceleration X/Y/Z	-
Jerk X/Y/Z	-
Control/Interface	Siemens: Technology Control (SPS)
Dimensions L × W × H	Customer specific
Possible materials	Mild steel, stainless steel, aluminum, copper, ...
Laser power (min – max)	Up to 8.000 W
Maximum cutting speed (2 KW   3 KW) mild steel, 2 mm	-
Maximum welding speed (2 KW   3 KW) mild steel, 2 mm	-
Clamping/work table movable (yes/no)	Optional yes
Material feed (automation capability)	Very good, standard
Optics flying (yes/no)	Not typical
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 processes, forming processes (bending, stamping), punching, additionally resistance welding, combination of laser and subsequently arc processing

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