

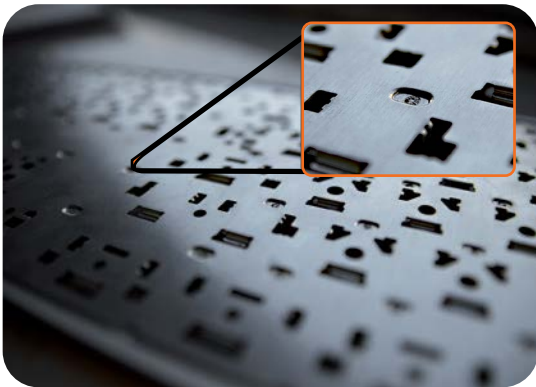
## Entry Level

Cost-efficient laser welding system for  
small series and individual parts



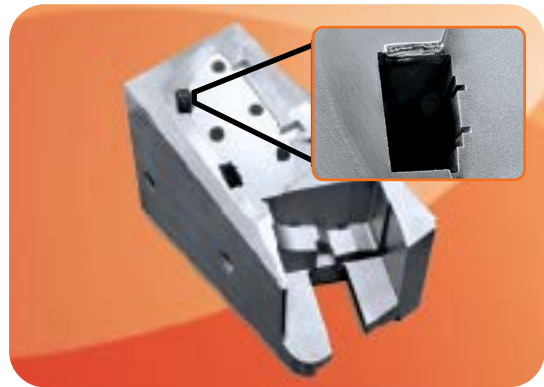
## Various industries, always ready for use: LRS

### Electronics



Point welding of keyboards

### Tool and mold making



Mold insert injection tool

### Medical



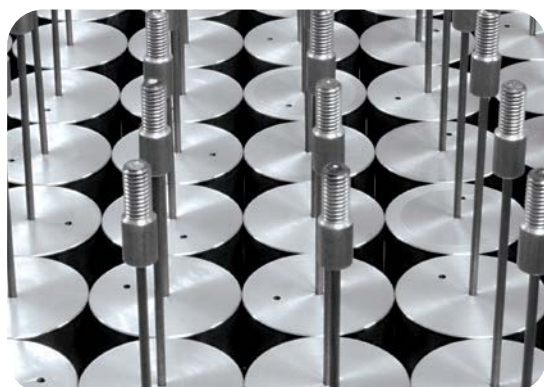
Implants for invasive transplants

### Aeronautical engineering



Engine components for the aviation industry

### Mechanical engineering



Machine components with complex alloys

## Cost effectiveness meets ergonomic design

The rising demand for inexpensive laser welding solutions for very small series or individual parts motivated us to develop a new laser welding system for individual needs.

In addition to our own practical experience, we also implemented suggestions from our customers.

The practically-oriented operation of the laser welding system offers sufficient user comfort for efficient laser welding.



dimensions: width 472 mm x height 1270 mm x length 1160 mm  
weight: 190 kg netto



## The LRS System: Uncompromisingly cost-efficient

This new development offers an inexpensive introduction to laser welding, particularly for small-sized companies and young entrepreneurs who make their first steps in this field. Of course, this laser welding system is also suitable for experts who would like to expand their welding capacities.

The motor-controlled table (x/y/z) with a carrying capacity of 150 kg allows axis-synchronous laser welding. This is also possible with 4 axes in connection with the motorised rotary axis.

It is small and compact, can be quickly readied for use and is extremely precise in order to satisfy rising user requirements, such as in tool and the manufacturing. No compromises were made in the area of user comfort in particular.

### Joystick

Always at hand and as individual as your working style. Along with the display, the joystick functions as the central operating element. It can be used directly for selecting and executing important functions. This increases the efficiency during laser welding since all laser parameters are directly modified via the joystick.



## Effective even with small workpieces

Constructive use of laser welding in tool and mold making



### Basic workpiece

Mold core for the production of bottle caps. Consisting of tool steel 1.2343 combined with CuBe insert.



### First step

Protect edges through material application.



### Second step

Connect mold core to insert.



### Third step

Complete application of a 0.2 mm thick protective and wear layer.

## Innovative display

The laser system is intuitively operated via a 10" touchscreen display. All important parameters are clearly arranged, and the most important functions can be reached with a touch of a finger. In addition, all technical parameters can be stored and recalled again when needed.



## Useful accessories

For the ECO LASER system we offer a whole range of accessories to facilitate your work.



Magnetic ball

The ideal accessory for simple handling of your welding parts.



Rotating device

Rotating device with fully adjustable 3-Jaw chuck, 90° tilting and 360° swivel makes working on tools quick and easy..



Telescope optics

The telescopic extension allows continuous real time changes in focal positions up to 20 mm.

**Not enough? We will be happy to send you the current accessories catalogue by e-mail or post.**

## Technical data

### POWER

|                        | Type: F150             | Type: F300             | Type: F450             | Type: F600             |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| Lasertype              | <b>Yb: YAG (Fiber)</b> | <b>Yb: YAG (Fiber)</b> | <b>Yb: YAG (Fiber)</b> | <b>Yb: YAG (Fiber)</b> |
| Max. mean power        | 150 W                  | 300 W                  | 450 W                  | 600 W                  |
| Pulse peak power       | 3,5 kW                 | 6 kW                   | 7,5 kW                 | 9 kW                   |
| Max. pulse energy      | 60 J                   | 70 J                   | 80 J                   | 100 J                  |
| Pulse duration         | 0,1 – 20 ms            | 0,1 – 20 ms            | 0,1 – 20 ms            | 0,1 – 20 ms            |
| Pulse frequency        | 0,1 – 100 Hz           | 0,1 – 100 Hz           | 0,1 – 100 Hz           | 0,1 – 100 Hz           |
| Focus diameter         | 0,05 – 2,0 mm          | 0,05 – 2,0 mm          | 0,05 – 2,0 mm          | 0,05 – 2,0 mm          |
| Line voltage (V/Ph/Hz) | 230 / 1 / 50           | 230 / 1 / 50           | 230 / 1 / 50           | 230 / 1 / 50           |

### SYSTEM EQUIPMENT

#### Lasersystem

- Laser resonator inclusive resonator mechanics
- Pump chamber
- Laser rod
- Cavity
- Resonator mirror
- Safety shutter
- Beam extension
- Power supply including circuit breaker
- Power disconnecting switch
- Emergency stop switch
- Motor protection switch
- Extra low voltage power supply 24 VDC
- Interface with hardware monitoring function
- Lamp switch
- Industry controller for setting and display of power, pulse duration, pulse frequency with external trigger via foot switch
- Capacitor bank
- Internal water-air cooling system

#### Processing optics

- Variable beam expansion
- Beam deflection
- Safety glass
- LCD anti-glare
- Binoculars 10x
- Focussing lens

#### Linear system

- 4-axis controller
- Operation via joystick
- Traverse range z-axis: 400 mm (table)
- x-y axis for working table with stepper motor
- Positioning speed 0,5 - 15 mm/s
- Travel: x-axis: 200 mm / y-axis: 120 mm
- LED lightening
- Inert gas supply directly controlled via magnetic valve

#### Dimensions and weight

- Dimensions: width 472 mm x height 1270 mm x length 1160 mm
- Weight: 190 kg net

# wORLD of LASER



**Welcome to our partner network  
Let's deliver better laser welding side by side!**

## HEADQUARTERS

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**YOUR ENGINEERING QUALITY IS ALWAYS ON OUR FOCUS**