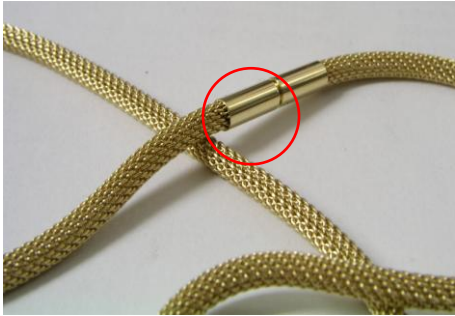


NEW



# VL 50

High-power compact welding laser with the latest technology



Laserschweißtechnik Birkenfeld

The **VL 50** is a compact and universal desktop welding laser. With its precise laser welding in laboratories and in workshops can easily be carried out.

The laser delivers excellent results when welding **fine mechanical parts, components for medical technology and sensors**. Material deposit on **small moulds** is also possible.

All weldable metals, including **silver** and **titanium** can be joined in a reliable and efficient manner so that creation and **repair of jewellery** and **dentures** is a further field of application for this "allrounder".

The laser offers an even, powerful but nevertheless soft welding behaviour.

A **high mean power** of 50 Watt enables a fast pulse frequency (up to 25 Hz). This guarantees a homogeneous fusion of the materials.

The control, especially developed for this laser, together with a new power supply increase the setting range of pulse energy and pulse power considerably - even better

suited for fine welding but also for massive silver compounds – this all with highest pulse stability.

With the new resonator concept of the **VL 50** the working area in the vertical axis (depth of focus) is extended and thus minimizes welding mistakes. This is a big advantage for "welding novices" when starting with this new joining-technology. While working with a high pulse frequency, the enhanced shutter-control offers a good visibility during the welding process.

The **spacious working chamber** offers a well illuminated working area. It gets loaded via the big front door.

The regulation of the welding spot diameter is motorized and extremely precise.

A fixed Argon nozzle allows a continuous and even supply of protection gas which guarantees an oxide free



weld seam. A second flexible nozzle can be turned on if required. The argon consumption is very low.

For welding complex alloys the **VL 50** is equipped with a pulse shaping-function.

Optionally the **VL 50** can be equipped with a Micro Welding Device. This allows the joining of very fine parts such as thin foils or wires.

The **VL 50** is serially delivered with a welding fume extraction. The internal cooling circuit is laid out for continuous operation.

It takes its power from a standard 230 V socket.

The ergonomic design of the machine and the well-thought-out placement of the display, the keypad and the joysticks allow fatigue-free work over a long period of time.

Laser Welding for dental labs, jewellery production and medical technology

# VL 50



## Technical Data

Mechanical Dimension (W x D x H)	510 x 645 x 430 mm
Total weight	approx. 50 kg
Electrical supply	1-phase 200 V – 240 V / 50 – 60 Hz / 10 A

## Laser

Laser crystal	Nd:YAG, lamp pumped
Wave length	1064 nm
Average power	50 W
Peak pulse power	5 kW
Pulse energy	40 J
Pulse frequency	single pulse -25 Hz
Pulse duration	0,5 ms – 20 ms
Welding spot Ø	0,2 mm – 2,0 mm
Focus adjustment	integrated, motorized
Optical viewing system	Binocular Magnification 15-fold, visual field Ø 16mm, high quality laser objective with long focal length for optimal welding characteristics and a very good image
Pulse shape	3 preset pulse forms
Programming memory	39 storable parameter sets
Cooling air nozzle	integrated
Protection gas supply	1 fixed and 1 flexible protection gas nozzle, can be locked individually
Extraction	integrated, with a special mechanical filter class EU 13/K2
Cooling	air-cooled with integrated cooling water circuit, no external cooler required

## Options:

- Ergo wedge
- Camera system
- Binocular Leica
- Micro Welding Device for welding spot Ø < 100µm

Laser welding with the VL 50 is done:

- contact free and precise
- with minimal heat affected zone
- without noticeable material distortion
- without endangering temperature sensitive materials

Laser welding with the VL 50 is:

- stable and firm, similar to the original material
- oxide- and pore-free
- biocompatible without material mix
- free of crevice corrosion

Laser welding with the VL 50 can reduce the expenditure of time by up to 80% in comparison to conventional joining technologies.



This laser product complies with standard EN 60825 (IEC 825-1) and with FDA Performance radiation Standards 21 CFR Chapter 1 Part 1040.10



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