

## Brilliant achievement in practice

Laser technology for dental technicians and jewelers



# Here comes precision and efficiency in a modern design

## Highlights

- High pulse peak power
- Joystick control of all functions
- Motorised travel in x/y/z axes
- Direct laser beam source
- Ultimate flexibility



*Dimensions: Width 450 x Height 1000 x Length 950 mm  
Weight: 70 kg net*

## Compact, mobile and yet strong

Thanks to its high level of precision, laser welding equipment is already being used on a regular basis in today's in the aerospace and automotive industry as well as for tool and mold making. However, its ability to handle extremely small details also makes it the ideal tool for Dental Technicians, Goldsmiths and Jewelers. OR Laser has developed a particularly compact piece of laser equipment especially for this target group: the PICCOLASER. Finally there is

a piece of equipment that combines the toughest quality requirements with extreme cost efficiency. The PICCOLASER is constructed very compact: The four integrated motorized axes allow a repeat accuracy of 0.1 mm. An accurate control system handles movement in the x, y and z axes as well as the rotational axis. Thanks to its modular design, the system can be matched exactly to the particular technical requirements preferred.



*The internal water-air cooling system ensures homogeneous beam quality.*

## Pinpoint accuracy

The PICCOLASER replaces the conventional methods of soldering, welding and fusing, but is far quicker, more precise and has repeat accuracy: Set parameters can be easily called up again at any time. In contrast to normal soldering or conventional gas welding, a homogeneous melt is produced at the fusion point of the materials to be joined.

Accurate point or area laser welding, therefore, delivers an optimum result without discolouration, spots or beads. This makes physical or optical quality defects and costly reprocessing a thing of the past, saving time and money. Laser instant adjustments can be carried out immediately.

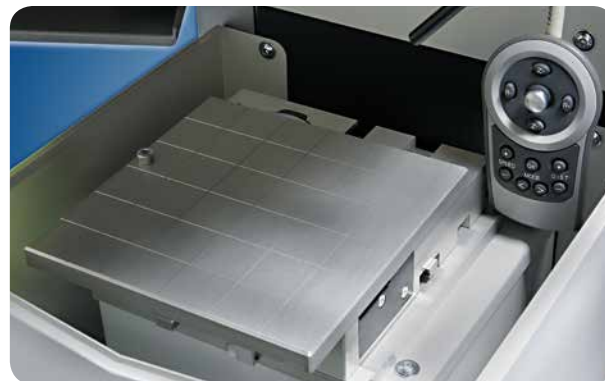
## Convincing arguments of the PICCOLASER system



All functions can be controlled simply via the joystick.



The high quality binoculars enable you to work accurately down to the smallest detail.



Motorized x/y table (100 mm travel) optional



Ergonomic hand ports guarantee absolute freedom of movement and prevent fatigue.



The touchscreen is used to input programs and displays data such as power, pulse duration and pulse repetition frequency during operation. Pulsing is triggered via a footswitch.

## Useful accessories

For the PICCOLASER 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 work 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.**

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*The PICCOLASER system is not only a technical highlight, it is also convincing in terms of design and construction.*

## Perfectly suited for Jewelers and Goldsmiths

The PICCOLASER was not only developed for laser experts but also for technicians intending to simply bond metal to metal. The use of this laser system is quick and easy to learn and you will have the support of our OR Laser Team. The handiness and mobility of

the PICCOLASER makes any job that calls for detail and artistry, quicker, easier and programmable to ensure consistency. The results exceed conventional processes for all welding and joining tasks.




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# Time savings of up to 70%

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## Highest quality for dental laboratories

For combining casted parts made of dental alloys a „second“ or „third“ alloy with a low melting point is needed. The melting point or melting range of the solder has to be lower than the solidus point of the alloys to be soldered. Otherwise the parts to be combined would be deformed and melt during the soldering.

The PICCOLASER system offers accurate influence of precise energy packets. By limiting the welding zone it is possible to work directly on the master model. Furthermore does the trend towards laser-instant-corrections offer new opportunities for your business.



# Technical data

## POWER

|                     | TYP: PL 40   | TYP: PL 55   | TYP: PL 55 B | TYP: PL 100  |
|---------------------|--------------|--------------|--------------|--------------|
| Lasertype           | Nd: YAG      | Nd: YAG      | Nd: YAG      | Nd: YAG      |
| Max. mean power     | 40 W         | 55 W         | 55 W         | 100 W        |
| Pulse peak power    | 7 kW         | 9 kW         | 11 kW        | 11 kW        |
| Max. pulse energy   | 60 J         | 80 J         | 100 J        | 100 J        |
| Pulse duration      | 0,4 – 30 ms  | 0,4 – 30 ms  | 0,4 – 30 ms  | 0,4 – 30 ms  |
| Pulse frequency     | 0,5 – 20 Hz  | 0,5 – 20 Hz  | 0,5 – 20 Hz  | 0,5 – 50 Hz  |
| Focus diameter      | 0,2 – 2,0 mm | 0,2 – 2,0 mm | 0,2 – 2,0 mm | 0,2 – 2,0 mm |
| Line voltage (V/Hz) | 230/1/50     | 230/1/50     | 230/1/50     | 230/1/50     |

## SYSTEM EQUIPMENT

### Laser system

- Laser resonator inclusive resonator mechanic
- 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

### Mechanics

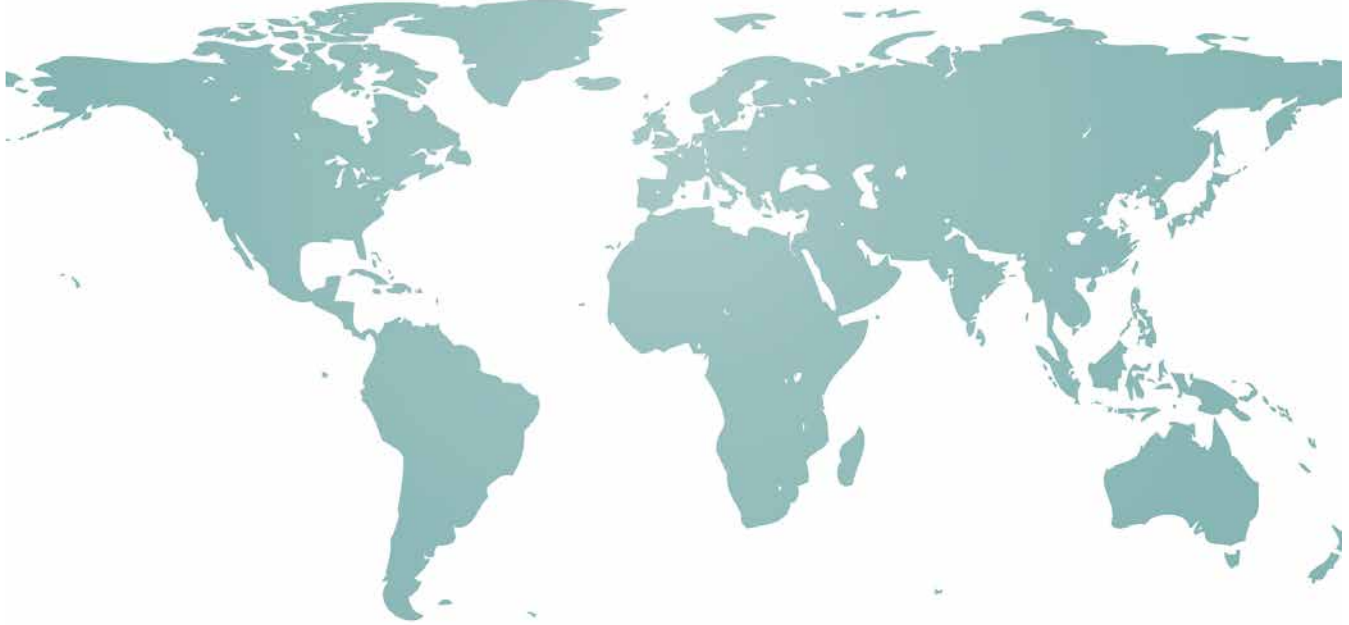
- Motorized z axis (85 mm rise) optional
- Motorized x/y table (100 mm travel) optional
- 10 kg maximum load
- Joystick control of all functions

### Dimensions and weight

Dimensions: Width 450 mm / Height 1000 mm / Length 950 mm

Weight: 70 kg net

# wORLD of LASER



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