

# PUK welding microscope

## Microscope and eye protection system.

### PUK WELDING MICROSCOPE SM5.1



High-quality microscope optics with 10-fold magnification and individual setting establishes the prerequisites for precise work.

Bright PUK eye protection system with integrated LED lighting and four adjustable brightness levels offers optimum illumination of the working area.

Simply moving the handpiece holder away from the field of view increases the action area of the SM5.1, turning it into a multi-purpose microscope.

Padded hand supports simplify the guidance of the workpiece for fatigue-free and ergonomic working.

Height and tilt adjustment provides optimum workplace comfort and an ergonomic working position. At the same time, a spacer sleeve assures the correct distance between the objective lens and the workpiece.

The retaining clip on the microscope fastens the connecting hose in place.

### PUK HANDPIECE

The intelligent handpiece enables the execution of the welding tasks and combines the technology of the PUK welding device with the craftsmanship of the dental specialists.

No disruptive influence from a gas supply hose to impair the precise execution of the welding process. This ensures that even complex tasks can be carried out without fatigue.

The sharpening or replacement of the electrodes can be carried out quickly and easily in just a few steps.



# PUK system accessories

## for individual requirements.



### PUK FLOW REGULATOR

An important prerequisite for reliable welding results is the correct gas flow of the inert argon gas.



### PUK ELECTRODES

Available in various qualities and diameters (0.5 mm, 0.6 mm and 0.8 mm), cost-effective quantities in packs of 10 or 100. The right electrode for every application.



### PUK ELECTRODE GRINDING MOTOR

The electrode is often neglected in the welding process. The right angle, a smooth surface, correct grinding direction and the correct selection of thickness and the quality are essential prerequisites for a professional implementation of the welding task. Diamond discs are available in different qualities.



### PUK UNIVERSAL CLEANER

Correct welding results can only be achieved, if the welding area is free of contaminants.

Using the PUK universal cleaner prior to the welding process should be part of the habitual preparations.

# PUK D5 - The Original

## Latest fine welding technology for dental applications.



**PUK D5**

Further information about our equipment, accessories and consumables are available on our website:

[www.lampert.info](http://www.lampert.info)

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## PUK welding

### STABLE JOINING TECHNOLOGY - APPROVED TECHNOLOGY

In contrast to soldering, whereby two metals are joined together with a thin diffusion layer by means of low-melting-point solder, with PUK welding a homogeneous metal connection is made. The joint is melted at several points thus joining the workpieces to one another in a stable manner. The strength of a PUK weld connection is far stronger than a soldered connection.

### BIO-COMPATIBILITY - FOR THE BENEFIT OF THE PATIENT

Avoiding unnecessary mixing of metals is the great advantage of PUK welding compared to soldering. Soldering can lead to a difference in potential and thus to corrosion - particularly in the oral environment. This is particularly apparent with soldering and older dentures - it can result in a significant discolouration and porosity on the surfaces, which simultaneously increases the likelihood of plaque formation. In contrast, PUK welding uses welding wire of the same material type, avoiding exactly this problem. In this way, bio-compatible dentures can be produced without any health risks - for the benefit of the patient.

### PRODUCTIVITY - PUK WELDING IS EFFICIENT

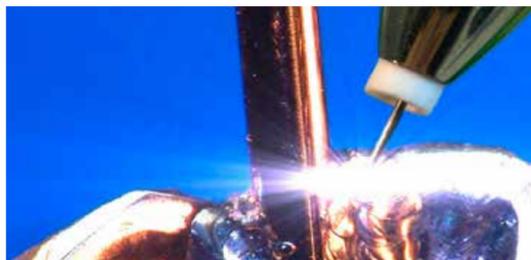
Soldering requires extreme heating of the workpiece. Prior to soldering the parts must often be fastened in place and a solder model needs to be prepared. In some repair situations, a silicone index must be created, veneers or acrylic parts removed before soldering and then re-established subsequently. This is very time-consuming and material-intensive. Idle times between the various working processes also extend the overall procedure. In contrast to this, the PUK welding can often be carried out directly on the model. The heat development is very tightly localised and controllable so that it is possible to weld even in the immediate proximity of acrylic parts or ceramic materials. In many cases it is not necessary to create an additional model. This results in a significant time saving, gaining valuable working time.

### COMPACT AND VERSATILE TIG-PULSE FINE-WELDING DEVICE

The PUK D5 is the first choice in all areas of dental technology where precision, reliability and controllability are required for the joining work. In combination with the latest processes such as CAD/CAM production, 3D printing or precision casting techniques, the PUK D5 is the ideal finishing touch for any dental laboratory. Expertly crafted unique items and high-quality dentures can thus be created for the benefit of the patients.



Controlled welding work in the vicinity of acrylic parts



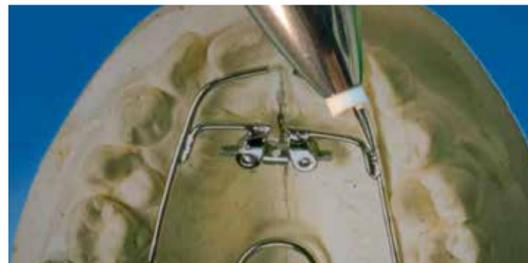
Time-savings with high strength and bio-compatibility



## The new PUK D5

### PUK WELDING IS THE ORIGINAL - INGENIOUS AND UNIQUE

Our expertise garnered through more than 17 years of development work, is integrated into our fine-welding devices. Our technology has been used with great success in the dental sector since 2003. Since then we have been continuously developing micro-pulse arc welding. The latest result of this development work is our PUK D5 - a state-of-the-art fine-welding device suitable for diverse dental applications, equipped with optimised welding parameters, a user-friendly control interface, comparatively low operating costs and maintenance-free technology.



Welding orthodontic support structures



Connecting stainless steel wires



Working on precision elements



Welding orthodontic bands

### THE TECHNOLOGY BEHIND THE SCENES

As soon as the tip of the electrode of the handpiece touches the workpiece, the welding process starts automatically. The inert argon gas flows through the handpiece only during the working process, at a rate of two to three litres per minute, forming a protective gas atmosphere around the welding point and preventing disruptive external influences. The current pulse, which is optimised to suit the welding task, ignites an electric arc creating a controlled spot-melting of the metal – and it does so as often and as precisely as desired.

### THE NEW EASE OF WELDING

With the PUK D5, the user is able to achieve perfect welding results in all common dental alloys, without a great depth of knowledge in metallurgy being required. The PUK D5 is even able to weld titanium and stainless steel. The device takes control of the correct welding parameters for perfect results. Special proficiency certificates or additional qualifications are not required. There are no spatial limits for the welding tasks. A magnifying microscope with certified eye protection system ensures precise and safe working.

## This is new:

### MICRO-WELDING

The application range of the PUK D5 is further expanded with material thickness down to less than 0.2 mm allowing the welding of wires and thin structures like orthodontic bands, for example, with even greater control.

### IMPROVED SMOOTHING MODE

A significantly faster welding cycle enables an even more continuous work flow. With this setting, there is an opportunity to shape the material added as desired and to significantly improve the welding characteristics for highly thermally conductive dental alloys.

### OPTIMISED WELDING PARAMETERS

The result of the development work enabled an improvement in the welding parameters with newly defined recommended adjustment ranges for all common dental alloys.

## Well-proven feature:

### RETENTION WELDING

Simple and time-saving process to weld on stable retention pins (1.2 to 2.0 mm in diameter) in just a few seconds.

## For us, „Made with a PUK“ means:

### SUPERIOR WELDING RESULTS

- Reproducible and high-quality welding results
- Suitable for all weldable materials
- Precise positioning of the welding spots
- Electrode diameter from 0.5 mm to 0.8 mm
- Very low, controllable heat generation
- Welding of the thinnest materials

### USABILITY AND ERGONOMICS

- Working with the PUK is fun!
- The latest welding technology applicable within the smallest footprint
- No additional noise created by motors or ventilation
- Touchscreen and convenient swipe functions for simple settings
- Intuitive, easy to understand and multilingual menu guidance
- Practical presettings for all common dental alloys and welding situations
- 10-fold magnification with microscope support and perfect illumination of the working area
- Diverse and intelligent range of accessories

### SAFETY, QUALITY AND RESPONSIBILITY

- DIN CERTCO-certified eye protection in all PUK optical systems
- Tested device safety with CE symbol
- Warranty period of 3 years
- Durable and maintenance-free product quality
- Environmentally-friendly packaging, using no plastic
- Low costs for consumables
- No special proficiency certificates or additional qualifications required