

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-WELDING MICROSCOPE WITH ARTICULATED ARM SMG5

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 supports the optimum illumination of the working area.

The articulated arm can be rotated and swivelled in all directions creating a particularly ergonomic working environment even for large and bulky objects.

Stable bench stand for simple bench mounting. Individually adjustable head rest for fatigue-free and ergonomic working.



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.



COMPREHENSIVE ASSORTMENT OF WELDING WIRES

The alloys and dimensions of the welding wires are ideally tailored to suit welding with the PUK fine welding device. Colour-true, easily flowing, for homogeneous joints, optimum wire thicknesses.



PUK ELECTRODES

Available in various qualities and diameters (0.6 mm, 0.8 mm and 1.0 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.

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

www.lampert.info

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PUK Fine welding

Simplicity in welding
for industrial solutions.

LAMPERT.
PRECISION WELDING



PUK U5

Where other joining techniques reach their limits, we start.

THE CLASSICAL PROBLEM AREAS WHEN JOINING

High and long-lasting heat effects during conventional TIG welding, soldering or other classical joining techniques cause stress on the workpiece. This manifests itself in the form of thermal distortion, undesirable color variations or micro-structural changes in the metal grid with negative deviations of the electrical and physical properties, even the destruction of temperature-sensitive components or electronic components in the immediate vicinity.

THE PUK TECHNIQUE SOLVES THESE PROBLEMS - GENIOUS AND UNIQUE

The PUK technique is based on the micro-impulse method, in which the arc is ignited electronically. The energy concentration acts under argon protective gas atmosphere with a special non-consumable tungsten electrode in the millisecond range only selectively and concentrated on the welding spot. The solution of the classical problems in joining technology, whether at stapling tasks or preparing longer welding seams of all geometries.

Our know-how inside, successfully applied for more than 17 years, and consistently developed further across device generations. Initially, the PUK technique was only used in goldsmithing and then in the dental field. Now, we have optimized our fine-welding machine for industrial use and offer our application know-how for all applications in the industrial environment.

COMPACT AND VERSATILE TIG PULSE PRECISION WELDER

For all joining tasks in the industrial production, in the electronics department, in the R&D lab, in the repair shop or in mobile applications directly at the customer's location, when precision, reliability and controllability is mandatory - e.g. in the area of quick repair, prototyping or automated batch processes - the PUK solves your joining task, and that with all weldable materials e.g. stainless steel, Hastelloy, Invar, Inconel, Permalloy, MU-metals, titanium, copper, platinum, gold and silver and partially aluminium with material thicknesses even below 0.2 mm as wire, metal sheet or various material-mixes. Thus, all common types of metal and welding geometries in the sectors of medical technology, vacuum technology, electronics, sensor technology, food industry, boiler construction, chemical industry, etc. are addressed.

SIMPLICITY - NOT ONLY FOR WELDING PROFESSIONALS

With the PUK, users are able to achieve desired welding results with the mentioned materials without in-depth knowledge of metallurgy. The PUK takes control of the suitable welding parameters for perfect results. As soon as the electrode tip of the handpiece touches the workpiece, the welding process starts automatically. The protective gas argon forms a protective gas atmosphere above the welding spot and prevents interfering influences from the outside. The specially tailored and shaped current pulse ignites the arc and creates a controlled melting of the metal - as frequently and precisely as desired.

Made with a PUK

SAMPLE APPLICATIONS

The following examples of use are showing only a small scope of the vast range of possibilities and fields of application for utilising a PUK welder. The PUK shows its full performance e.g. when welding on thin sheet metal or joining delicate wires of different material compositions (e.g. thermocouples), even on material thicknesses below 0.2 mm, and it is possible to weld adjacent to heat-sensitive components. The PUK can be used just for stapling prior to further processing but also for a speedy final assembly with ease, achieving a reliable connection.



Weld seam on a workpiece made of Hastelloy



Fine welding of electronic components such as thermocouples of different types and sizes



Orbital welding, highly vacuum-tight joining of a stainless steel sleeve (Ø 12 mm)



Material mixes of different alloys are possible. (Photo showing stainless steel and copper)

KNOW-HOW FOR NUMEROUS APPLICATIONS

See for yourself: Feel free to contact our support team for any kind of information. We will gladly check and work out an individual solution for your specific welding task, and, if applicable, you could try out one of our demo welding systems.

The PUK highlights:

MICRO MODE

Controlled welding process when welding on material thicknesses below 0.2 mm on wires and sheet metal with lowest and precise dosing and impact of the welding energy.

SPEED MODE

- Shorter welding sequences and serial impulses e.g. for automated deployment
- e.g. usage for orbital welding or in the production environment
- Modelling of the welding area after having added filler material on workpiece edges or surfaces
- Economically reasonable mechanisation or automation of the welding process

RESISTANCE AND FIXATION WELDING MODE

- Resistance welding function as an additional operation level for easy tack or fixation welding (of poor conductors)
- No local limitation e.g. due to the geometry of resistance welding tongs

OPTIMISED MATERIAL PRESELECTIONS FOR THE INDUSTRIAL FIELD OF APPLICATION

Preadjusted welding parameters for a wide variety of weldable metals and alloys (such as stainless steel, Hastelloy, various precious metals, titanium and much more).

For us „Made with a PUK“ means:

SUPERIOR WELDING RESULTS

- Reproducible and high-quality welding results
- Suitable for all weldable materials
- Precise positioning using a welding microscope
- Special tungsten electrodes (Ø 0.6 mm up to 1.0 mm) with high endurance
- Very low, controllable heat generation
- Welding of thinnest materials

USABILITY AND ERGONOMICS

- Working with the PUK is fun!
- The latest welding technology applicable within the smallest footprint
- Touchscreen and convenient swipe functions for simple settings
- Intuitive, easy to understand and multilingual menu guidance
- Plug & go: Welding without prior knowledge
- Practical presettings for all common materials and welding situations
- 10-fold magnification with microscope support
- Perfect illumination of the working area
- Diverse and intelligent range of accessories

SAFETY, QUALITY AND RESPONSIBILITY

- DIN CERTCO-certified eye protection
- Tested device safety with CE-certification
- Durable and maintenance-free product quality
- Environmentally-friendly packaging, using no plastic