



# MICRO ARC WELDER.

Innovative precision welding  
for industrial applications



# Superior results for high-precision weldings

DEVELOPED FOR HIGHEST ACCURACY – RENOWNED IN THE INDUSTRY



## **Powerful, solid, versatile**

Highest possible power spectrum for stable mastering of challenging precision welding applications

## **Ergonomical Lampert user interface**

Reliable device control even under the toughest environments through one-hand joystick with turn-push-tilt function

## FUNCTIONALITY

- Tried and tested welding curves for all common weldable metals and alloys
- High maximum power on demand for penetration depths up to 1 mm, enabled by new 1 mm electrode
- Three-stage selectable welding spot sequence up to > 3 Hz
- Weight-optimized handpiece with high-precision electrode fence
- Wireless connectivity for connection of mobile eye protection systems

## OPERATION

- Clear and simple device operation with single screen interface
- Intuitive One-hand operation even with gloves
- Exact adjustment of power output in the lower power range for perfect results when welding filigree and complex shapes and structures
- Newly designed and patented welding process control prevents welding errors and enables quicker learning of the Micro Arc Welding – easier start for the Micro Arc beginner

## QUALITY

- Premium quality, solid metal body with convenient carrying handle, ruggedized edge protections and robust, durable surfaces
- High end connection sockets and operating controls, designed for heavy duty operation
- High-resolution color display with excellent viewing angle also in poor lighting conditions

# The proven Lampert welding principle – from day one



## THE MICRO ARC WELDER'S OPERATING PRINCIPLE IS AS SIMPLE AS IT IS INGENIOUS

Argon gas is emitted protecting the welding area from oxidation. An electric arc is created from the point where the electrode touches the work piece, and as the electrode retracts, the arc is drawn up from the point of contact. Exactly here, a melting occurs of between 0.2 and 4.0 mm in diameter (depending on the material and parameters being used). The result is a clean and stable weld.

This high degree of precision is made possible by touching the work piece with the tip of the electrode. The electrical arc necessary for welding is thus generated from exactly this point of contact.

The Lampert welding principle allows easy adding of metal, especially where material is missing, e.g. in fractures, dents or pores. With the aid of welding wire, material can simply be added and built up.

By varying the angle at which the electrode tip touches the work piece, the flow of energy can be influenced. Thus, welds can be accurately steered in the desired direction and previously applied metal can be distorted or modelled.

### The Micro Arc Welder opens up a variety of applications, e.g.:

- Welding of thinnest materials
  - Welding of complex shapes and structures
  - Liquid- and gastight connection of metals and alloys
  - Repair welding and weld cladding
  - Electrical contacting of conductive wires and electronic components
  - Fixing/tacking workpieces for automated brazing or welding
  - Bonding of sensitive surfaces without unfavorable structural or visual impact
- ... and many more

Generally speaking, all metals or alloys that are suitable for TIG welding, are also suitable for welding with the Micro Arc Welder. Amongst these are many types of steel, titanium, nickel and copper alloys as well as numerous precious metal alloys.

Feel free to have a look at [www.lampert.info/en/media/workshop-news](http://www.lampert.info/en/media/workshop-news) for getting an idea about possible applications or how to use the **MICRO ARC WELDER** the right way.



# Where other joining techniques reach their limits, we start.



## CLASSICAL PROBLEM AREAS WHEN JOINING

High and long-lasting heat exposure during conventional TIG welding, soldering or other classical joining techniques causes stress on the workpiece. This can lead to thermal distortion, unfavorable discoloration, micro-structural changes in the metal grid, as well as detrimental changes of electrical and physical properties, even the destruction of nearby temperature-sensitive or electronic components.



## THE MICRO ARC WELDER PRINCIPLE – GENIOUS AND EXCEPTIONAL

The Micro Arc Welder uses a micro-impulse-method, which ignites the arc electronically. The welding energy impacts the welding spot directly and highly focused for just a few milliseconds via a non-melting tungsten electrode under an argon protective gas atmosphere. This reduces heat input to a minimum and creates a durable, almost distortion-free connection without the disadvantages of classical joining or bonding techniques.



## COMPACT AND VERSATILE USE

The Micro Arc Welder accomplishes your joining tasks in industrial metal processing, in the production of electronics, in R&D labs, in repair shops or in mobile applications directly at the customer's location wherever precision, reliability, and process controllability is mandatory. It has been developed for all weldable materials, e.g., stainless steel, Mu-metals, various nickel-based alloys, titanium, copper, platinum, gold, silver, and partially also aluminum with material thicknesses even below 0.2 mm as wire, metal sheet or various material-mixes.



## EXCELLENT RESULTS – NOT ONLY FOR PROFESSIONALS

As soon as the tip of the electrode in the handpiece touches the workpiece, the welding process starts automatically. The Micro Arc Welder provides optimal pre-set and user-adjustable parameters for each alloy. A protective argon gas atmosphere above the welding spot prevents unwanted external interference and disturbances. The patented welding process control avoids getting the electrode stuck if pressed onto the workpiece too strongly by the user.

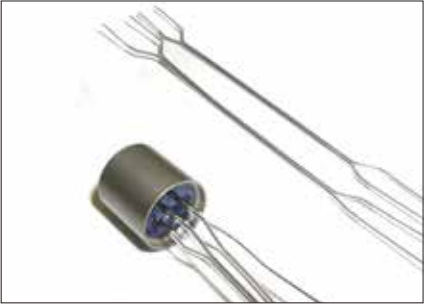
# Made with a MICRO ARC WELDER.

## BREAKING LIMITS – PUSHING BOUNDARIES

The Micro Arc Welder opens up new possibilities of joining even with challenging shapes and geometries. The following application examples just show a selection of the manifold opportunities you get with a Micro Arc Welder. Add your own Micro Arc Welding chapter to the multifarious world of precision welding.



Weld seam for tube corner joint



Fine welding of electronic components, e.g., thermocouples



Tight welding of pressure lines



Weld cladding of edges



Welded joints of different materials



Manufacturing of temperature sensors (Illustration shows gilded platinum sensor)

## APPLICATION KNOW-HOW

You are still unsure whether the Micro Arc Welder will be a perfect solution to your joining challenges? Feel free to contact our application support team for more information. We will gladly check and work out an individual solution for your specific welding tasks and create test welding samples on demand.

Check it out!  
support@lampert.info

# Original welding microscopes – crucial for precision and eye protection



## WELDING MICROSCOPE WITH ARTICULATED ARM SMG

- Perfectly tailored to the Micro Arc Welder
- Articulated arm, rotary and pivot action in every direction, making work particular ergonomic, even on bulky objects
- Individually adjustable headrest
- Bench stand for individual bench mounting
- Powerful LED lighting in the microscope head, adjustable in 4 brightness levels, optimal illumination of the working area
- High precision with 10-fold magnification (15-fold optional)
- Electronically controlled LCD eye protection system
- Can also be used as a workplace or observation microscope at any time



## WELDING MICROSCOPE SM 6

- Perfectly tailored to the Micro Arc Welder
- Height and tilt adjustment for optimum workplace comfort and an ergonomic working position on small and medium-sized workpieces
- Cushioned hand supports for comfortable operation
- Powerful LED lighting in the microscope head, adjustable in 4 brightness levels, optimal illumination of the working area
- High precision with 10-fold magnification (15-fold optional)
- Electronically controlled LCD eye protection system
- Can also be used as a workplace or observation microscope



# Original accessories for your individual requirements



## ..... FLOW REGULATOR

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

## ELECTRODE GRINDING MOTOR .....

Simple and rapid grinding of the PUK electrodes. Regular maintenance and care of the electrode tips is vital to very good welding results and can be performed by the grinding motor in the blink of an eye.



## ..... ELECTRODES

Available in various diameters: 0.5 mm, 0.6 mm, 0.8 and 1.0 mm  
Packages include 10 tungsten electrodes.  
The right electrode for every application.

## ASSORTMENT OF PUK WELDING WIRES .....

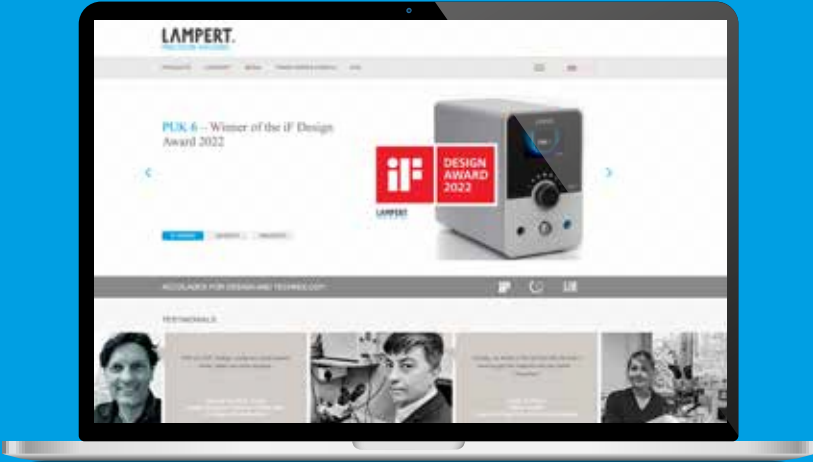
The alloys and dimensions of the welding wires have been specially selected for welding with the Micro Arc Welder. The new packaging is not only eco-friendly but also a practical accessory that can be used as a wire dispenser.



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20 years of precision welding –  
highly precise, innovative, reliable



Instant Engineering, Maudsland, Qld 4210 Tel: 07 3103 3558  
service@instantengineering.com.au <https://instantengineering.com.au/micro-arc-welder/>

