

SWISS FLEXIBLE AUTOMATION SOLUTION



INDUSTRY 4.0
— R E A D Y —

Laser micro-welding workstation of micro-technical parts

DESCRIPTION

Designed for laser micro-welding of small parts, the **Microparts laser welder** workstation is an extremely high precision machine. It is perfect for small to medium volume production runs, for individual parts or lots. The machine has a high precision scanner fitted on a gantry

motorised along 3 axes. The integrated smart vision system is used to automatically identify the orientation of the parts and adjust the position of the laser beam to ensure it always welds in the correct location. The machine can be equipped with a back-up system, a fume extractor and a protective nozzle for inert gas welding (as options).

ADVANTAGES



Repositioning

Repositioning of the scanner for ultra-precise automatic localisation of parts.



Upgradable

The machine can be upgraded with all the standard elements from the CP Series platform.



Flexibility

Option to use several types of laser. Interchangeable fibre diameters for different laser spot sizes to facilitate all types of welding.



Precision

XYZ-axis gantry and high precision scanner enabling quality micro-welding to be performed.



Design

Compact, flexible machine design, based on the CP Series platform.



Service

Remote assistance for diagnostics and intervention.

APPLICATION EXAMPLES

1 Welding of a spiral spring to a collet

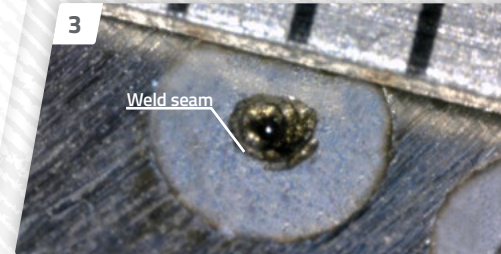
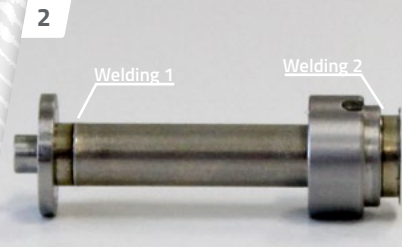
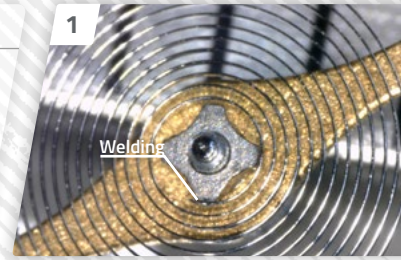
Ultra-precise invisible micro-welding of the spiral spring on the collet. Welding with no deformation, no incipient cracks and no loss of centring.

2 Welding of revolving parts

Sealed micro-welding of all types of revolving part, e.g. sensors, valves, tubes, etc.

3 Welding of appliques to a dial

Welds are 10x more resistant than a driven-in assembly. No damage to the surface of the dial, or the appliques.



TECHNICAL FEATURES

Cell dimension	1000 x 1100 x 2250 mm (L x D x H)
Power supply	3 x 400 VAC / 25 A / 50 Hz
Weight	800 kg
Door opening	Automatic / vertical
Available laser systems	Fiber laser 100W CW, 200W CW, 300W CW, 400W CW, 1000W CW and 150 W QCW
Galvanometric head	Advanced scanning head with thermal drift compensation
Camera	Laser beam coaxial camera/Images taken in mosaic form to ensure ultra-high resolution.
Positioning	Motorised linear XYZ axes
User interface	Intuitive, user-friendly software enabling control of the laser, the positioning axes and the scanning head
Options	Fume extractor, shielding gas protection, automatic repositioning of parts, laser pulse shaping, fibre-to-fibre coupler

TECHNICAL DRAWING

