

LASER S.O.S. GROUP

A world class service from a world class company



JWL SERIES JEWELLERY LASER SPOTWELDERS



LASER S.O.S.
JWEL SERIES



JEWELLERY LASER SOLDERING

Lasers can weld all precious metals and their alloys without any filler or soldering material. Robust, invisible repairs of high quality can be achieved within a short time: cleaning porous surfaces of platinum and gold cast parts, repair of claws, or processing of ring sizes. The laser optimizes the production process and opens up possibilities for completely new designs. The comparatively narrow processing window for highly reflective materials such as silver and gold, requires a perfect and consistent beam quality in order to keep the weld quality constant.

FINE WELDING WITH LASER SPOT WELDER

The laser is an excellent tool for seam, butt and overlap welding of almost all common metals and their alloys. The wide range of tried and tested applications includes stainless steel, gold, silver, platinum and titanium, as well as shape memory alloys. Amongst these are some materials which are difficult, if not impossible, to join with conventional techniques. The Laser spot welder give extraordinary quality of laser welded joints from a machine that is quick and easy to use. Within a few minutes spot and seam welds can be realized with an accuracy in the micron range – even in complicated areas. The rule of thumb is: if you can see the joint, it can be laser welded. With a laser, experienced users can join filigree work-pieces with a fineness and precision which no other method can even remotely achieve.

PERFECT RESULTS BY EXCELLENT PERFORMANCE

By matching the parameters and shape of the laser pulses to each material, the laser generates a minimal heat affected zone, thus meeting the precondition for welding temperature-sensitive components. Another positive effect of the low thermal load of the two parts is, that unwanted modifications of the joint by the welding process can almost always be avoided. Laser welded joints are of high strength and resist even high mechanical strain without any wear. Other than adhesive seals, they are temperature-resistant and show pore-free surfaces. Compared to other joining techniques, post processing of laser weld is reduced to only a few simple steps, or can be ignored completely.

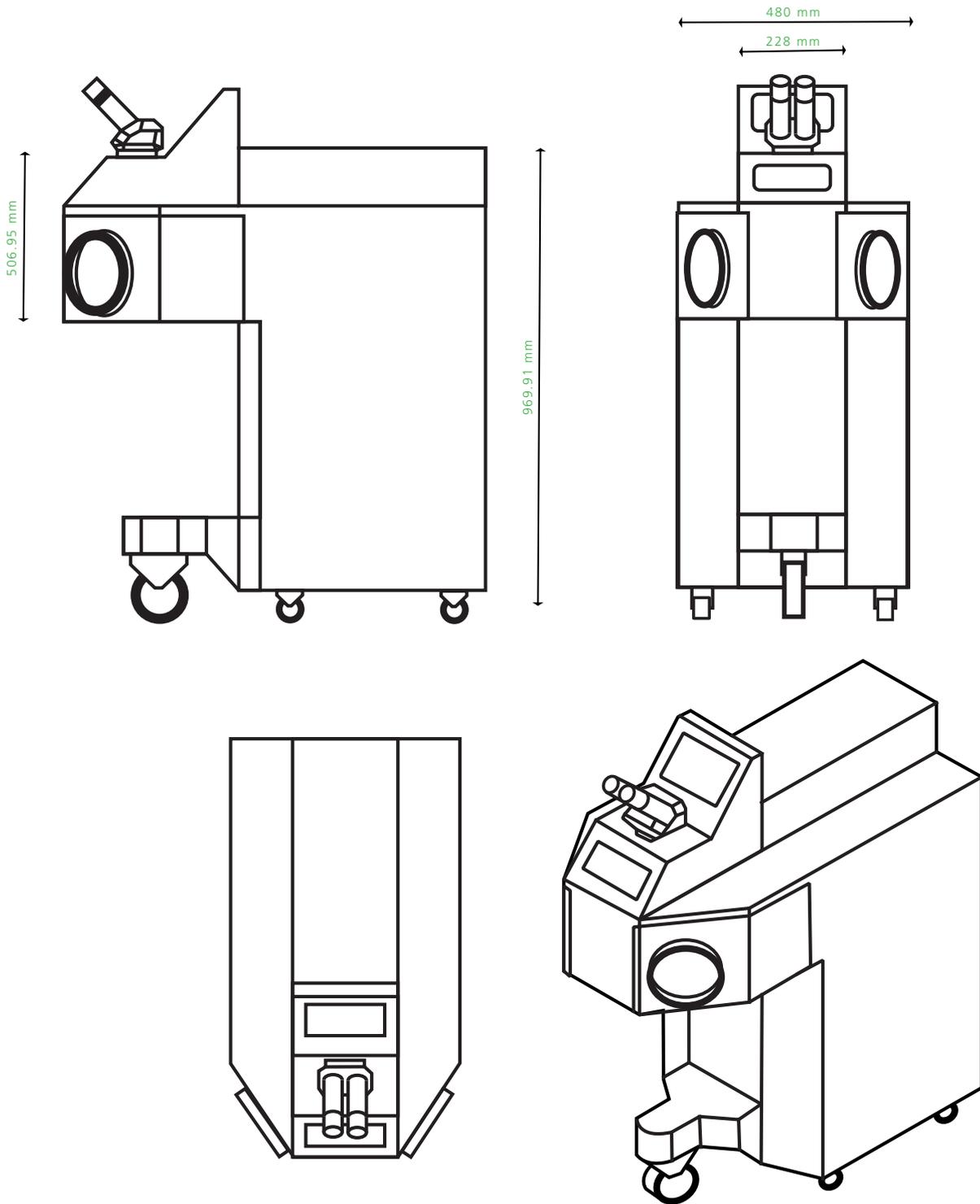


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BENEFITS

- SIMPLE WORKPIECE HANDLING
Easy handling and fast operational readiness with extremely short training periods
- MULTIFUNCTIONAL
Spot, seam, overlap and deposit welding
- HIGH FLEXIBILITY
Perfect welds – even in complicated areas
- MANY DIFFERENT MATERIALS
Such as stainless steel, gold, silver, platinum, titanium, shape memory alloys
- PRECISION
Spot-accurate positioning and visual control via stereo microscope
- MINIMAL HEAT INPUT
No distortion, no damage to temperature-sensitive components
- MICRO WELDING
Weld seams smaller than 50 microns with high pulse-to-pulse stability
- FILIGREE AND ROBUST
Welds of 50 micron to 2 mm seam depth
- HIGH-STRENGTH JOINTS
Robust joints for high-strain work-pieces
- FLAWLESS SURFACES
Pore-free, oxidation-free, no burn-off
- TIME AND COST-EFFICIENT
No set-up times, short welding periods, minimal or no post-processing

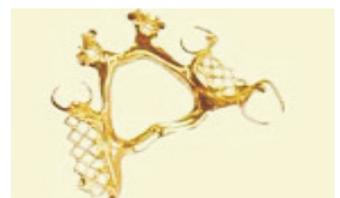


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SPECIFICATIONS

MODEL TYPE	JWL 100	JWL 150	JWL 200
MAX OUTPUT	100W	150W	200W
LASER WAVELENGTH	1064nm	1064nm	1064nm
MAX PULSE ENERGY	80j	100j	120j
PULSE FREQUENCY	≤15Hz	≤50Hz	≤50Hz
PULSE WIDTH	0.1-10ms	0.1-20ms	0.1-20ms
FOCAL DIAMETER	0.1-3.0mm	0.1-3.0mm	0.1-3.0mm
RATED POWER	≤5kW	≤6kW	≤8kW
POWER SUPPLY	AC220V/50Hz - AC110V/60Hz (OPTIONAL)		
CONTROL SYSTEM	MICROCHIP CPU	MICROCHIP CPU	MICROCHIP CPU
COOLING SYSTEM	WATER COOLING (INTERNAL COOLING SYSTEM OPTIONAL)		
WEIGHT	70kg NET / 90kg GROSS	70kg NET / 90kg GROSS	100kg NET / 130kg GROSS

EXAMPLES





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