

**sisma**  
**LASER**  
**WELDERS**

FOR MOLD REPAIR  
ULTRA-PRECISION,  
FAST RESULTS



**PCS**  
**COMPANY**

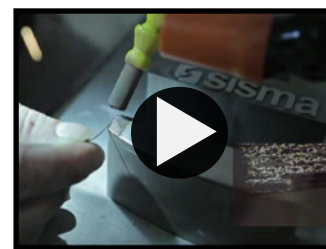
Turn To The Industry Experts

**Gesswein®**



### Key Features:

- Weld Any Mold Size
- Sisma's Most Flexible Laser Welder
- Advanced Fiber Transport of Laser Beam
- Programmable Path Settings – Overlap, Line, Radius, Oblique, Fill, Rotating Spindle and More
- Motorized Control of X, Y, and Z Axes (via Joystick)
- Internet Connection for Remote Service Management and Free Upgrades



See video at  
[www.gesswein.com](http://www.gesswein.com)



**Remote Service Management  
and Free Upgrades**

### SISMA SWA 150 and SWA 300 - With Motorized Welding Arm

The SWA series is the top-of-the-line laser welder and offers the maximum working range! With the SWA, you can repair any mold size - large or small. The adjustable laser arm and head provides the most flexibility. The range of movement is 20" on the Z-axis, 12" on the X-axis, and 33.5" on the Y-axis. All motorized movements are controlled by joystick. Additionally, the microscope head has the ability to rotate 360 degrees, head tilt up to 45 degrees, and head rotate 90 degrees.

The SWA 150 and 300 units are powered by a flash lamp-pumped Nd:YAG that generates a laser beam, which is then transmitted through an optical fiber-coupled cable. This transport system creates an extremely stable and consistent laser beam, without significant power

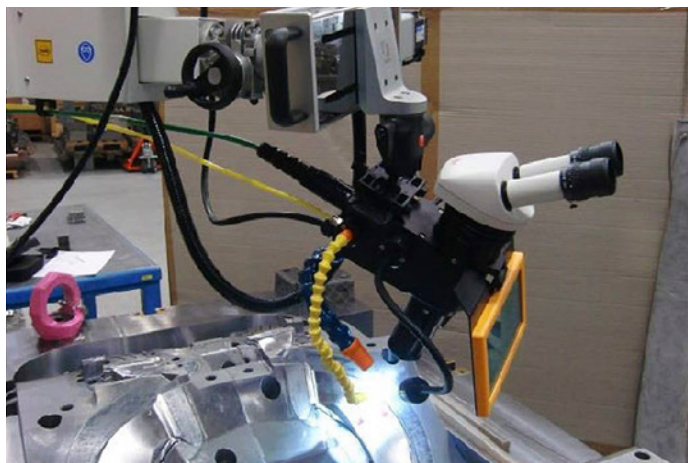
loss. The end result is a laser weld spot that is precisely located and consistent, which is exceedingly important when precision is a must. A fully integrated cooling system allows for extended use.

Control all the welding parameters with the touch of the control screen or via joystick. The SWA features a multitude of programs and settings to help you get the job done quickly and accurately. Program features include Laser Pulse Shaping, Measuring, Overlaps, Line Paths, Fill Paths, Radius Paths, Oblique Paths and more! The memory will store up to 250 welding parameters.

Made in Italy. Backed by a 1-year manufacturer's warranty. Installation, training, and service provided by Gesswein Company.



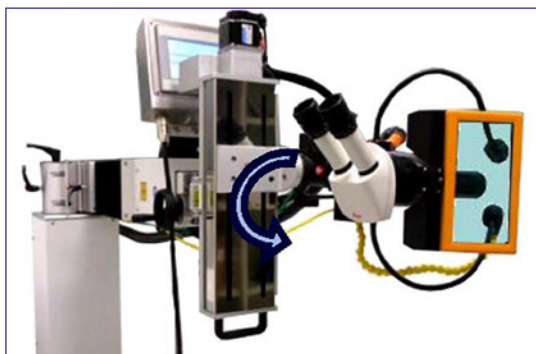
## Flexible Positioning



Welding Head Tilt  $0 \pm 45^\circ$



Microscope 360° Rotation



Welding Head Rotation  $0 \pm 90^\circ$

Technical Data	SWA 150	SWA 300
Item #	<b>833-1710</b>	<b>833-1715</b>
Source Type	Nd:YAG (flash lamp)	Nd:YAG (flash lamp)
Average Power	150W	300W
Peak Power	10.5kW	12kW
Pulse Energy	75J	100J
Pulse Frequency	0-100Hz	0-100Hz
Pulse Duration	0.3-25ms	0.3-25ms
Spot Diameter	0.6-2mm	0.6-2mm
Laser Beam Transport	Fiber-coupled	Fiber-coupled
Focusing Optics	120mm	120mm
Vision System	Leica Binocular (10X)	Leica Binocular (10X)
Axis Speed	0-25mm/s	0-25mm/s
X Axis Stroke	11.8" (300mm)	11.8" (300mm)
Y Axis Stroke	700mm manual travel + 150mm motorized travel	
Z Axis Stroke	19.7" (500mm)	19.7" (500mm)
Cooling	Water & Air	Water & Air
Dimensions (L x W x H)	83" x 44" x 64" (2100x1100x1610mm)	77" x 47" x 64" (1950x1200x1610mm)
Weight	596 lbs. (270kg)	683 lbs. (310kg)
Power Supply SWA 150	230V, 1 Ph, 50/60Hz - 1kW 400V, 3 Ph, 50/60Hz - 3.5kW	
Power Supply SWA 300	230V, 1 Ph, 50/60Hz - 1kW 400V, 3 Ph, 50/60Hz - 8kW	

### Replacement Parts for SWA 150 & SWA 300

Flash Lamp	Item # 833-0799
Deionizing Water Filter	Item # 833-1797
Protection Glass For Lens	Item # 833-0796



## Key Features:

- Available Open or Closed Configuration
- Medium to Small Size Molds
- Sturdy, Integrated Platform  
Minimizes Vibrations
- Ergonomic Design for  
Maximum User Comfort
- Programmable Path Settings –  
Overlap, Line, Radius, Oblique,  
Fill, Rotating Spindle and More
- Motorized Control of  
X, Y, and Z Axes (via Joystick)
- Internet Connection for Remote Service  
Management and Free Upgrades



Remote Service Management  
and Free Upgrades



Class 1

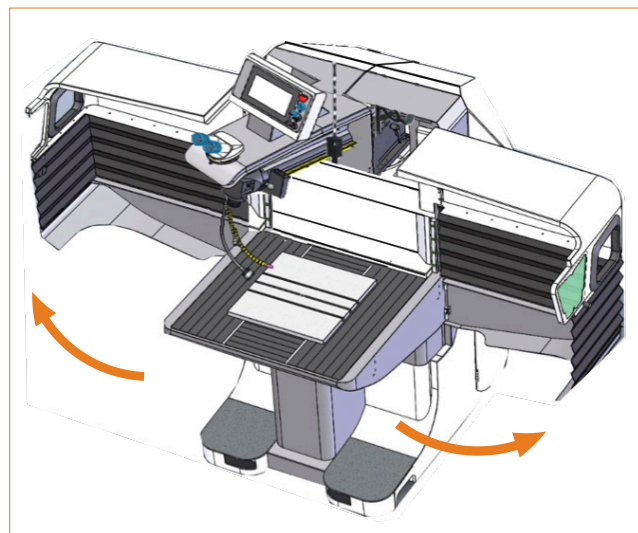
## SISMA SWT 100 and SWT 150 – Class 4 and Class 1

The SWT laser welder is available in 2 configurations: Class 1 (closed) or Class 4 (open). Choose what works best for your shop! The SWT is specifically designed for the maintenance of medium to small sized molds up to 15.75" square (400mm). The robust design and sturdy working platform gives the operator outstanding comfort and minimal vibration. Controlled via joystick, the working platform moves up or down on the Z-axis with a range of 12.5" (320mm). The X and Y-axis movements are 11.75" and 7.75" respectively (300 x 200mm).

The ergonomic design of the SWT Class 1 (closed) is ideal for prolonged use. Soft armrests, adjustable doors, and adjustable footboard create a comfortable working environment. The stable working platform, on both Class 1 and Class 4 models, minimizes any vibrations, even at the full load capacity of 264 lbs. (120kg).

Control all the welding parameters with the touch of the control screen or via joystick. The SWT features a multitude of programs and settings to help you get the job done quickly and accurately. Program features include Laser Pulse Shaping, Measuring, Overlaps, Line Paths, Fill Paths, Radius Paths, Oblique Paths and more! The memory will store up to 250 welding parameters.

Made in Italy. Backed by a 1-year manufacturer's warranty. Installation, training, and service provided by Gesswein Company.



Swings opens for loading of large workpieces



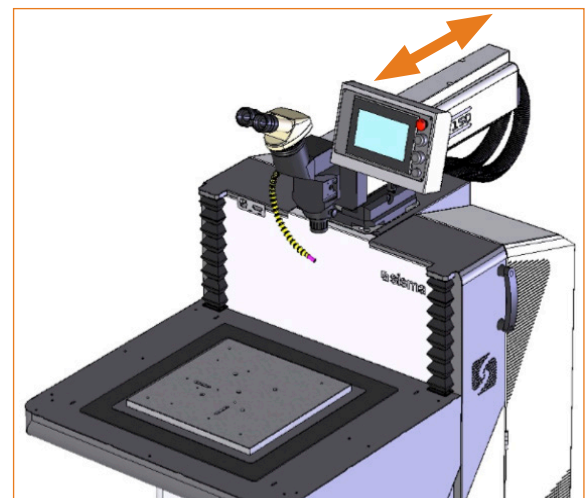


See video at  
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**Class 4**

Technical Data	SWT 100	SWT 150
Item # Class 4	<b>833-1720</b>	<b>833-1725</b>
Item # Class 1	<b>833-1740</b>	<b>833-1745</b>
Source Type	Nd:YAG (flash lamp)	Nd:YAG (flash lamp)
Wavelength	1064 nm	1064 nm
Average Laser Power (max)	100W	150W
Peak Power	9kW	10.5kW
Max Pulse Energy	70J	75J
Pulse Frequency	0-50Hz	0-50Hz
Pulse Duration	0.3ms -25ms	0.3ms -25ms
Laser Spot Diameter	0.3mm - 2mm	0.3mm - 2mm
Axis Speed	0.1mm/s - 25mm/s	0.1mm/s - 25mm/s
X Axis Stroke	11.8" (300mm)	11.8" (300mm)
Y Axis Stroke	7.9" (200mm)	7.9" (200mm)
Z Axis Stroke	12.6" (320mm)	12.6" (320mm)
Cooling	Water & Air	Water & Air
Max Load Weight	264 lbs. (120kg)	264 lbs. (120kg)
Max Mold Size (L x W x H)	15.7" x 15.7" x 12.6" (400 x 400 x 320mm)	15.7" x 15.7" x 12.6" (400 x 400 x 320mm)
Power Supply	400V±10%, 3 Ph, 50/60Hz,	380V±10%, 3 Ph, 50/60Hz
Dimensions (L x W x H)	33" x 47" x 59" (850 x 1200 x 1500mm)	33" x 47" x 59" (850 x 1200 x 1500mm)
Weight, Class 4	1,169 lbs. (530kg)	1,169 lbs. (530kg)
Weight, Class 1	1,235 lbs. (560kg)	1,235 lbs. (560kg)



**Retracts for loading large workpieces.**

#### Replacement Parts for SWT 100 & SWT 150

<b>Flash Lamp</b>	Item # 833-0799
<b>Water Filter</b>	Item # 833-0728
<b>Protection Glass 52mm Lens</b>	Item # 833-1833

# **LM-B, LM-C, LM-CV**

These high precision Nd: YAG (Class 4 open) laser welders are designed for small molds, 11.75" x 11.75" (300 x 300mm) under 55 lbs. Featured characteristics are ease of use, reduced maintenance, and precise movement along the X, Y, and Z axes. All versions have Smart Spot technology which yields a greater depth of field and a stable laser shot starting from the first pulse. Included ECO Mode saves energy by switching off unused components during idle times, thereby reducing power consumption.

The LM-B uses a joystick to control the motorized working platform and 10X stereo microscope complete with eye protection.

The LM-C and LM-CV both allow the motorized working platform to be programmed for automatic, consistent results or controlled via joystick when preferred. The LM-C offers the 10X stereo microscope while the LM-CV features the patented Syncro View system for a fluid and stress-less view of the work during welding.

All units are made in Italy. Backed by a 1-year manufacturer's warranty. Installation, training, and service provided by Gesswein.

## Key Features:

- Designed for Small Molds
- Motorized Control of X, Y, and Z Axes
- Fast Setting of Welding Parameters (via Keyboard)

Technical Data	180	210
<b>LM-B</b>	<b>833-1730</b>	<b>833-1735</b>
<b>LM-C</b>	<b>833-1850</b>	<b>833-1853</b>
<b>LM-CV</b>	<b>833-1855</b>	<b>833-1857</b>
Source Type	Nd:YAG (flash lamp)	Nd:YAG (flash lamp)
Wavelength	1064 nm	1064 nm
Average Laser Power	80W	85W
Peak Power	9kW	10.5kW
Pulse Frequency	0-50Hz	0-50Hz
Max Pulse Energy	180J (@ 20ms)	210J (@ 20ms)
Pulse Duration	0.3ms -20ms	0.3ms -20ms
Laser Spot Diameter	0.2-2mm	0.2-2mm
Axis Speed	0.1mm/s - 15mm/s	0.1mm/s - 15mm/s
X, Y Axis Stroke	5.9" (150mm)	5.9" (150mm)
Z Axis stroke	6.9" (175mm)	6.9" (175mm)
Cooling	Water & Air	Water & Air
Max Load Weight	55 lbs (25kg)	55 lbs (25kg)
Max Mold Size (L x W x H)	11.8" x 11.8" x 10.6" (300 x 300 x 270mm)	11.8" x 11.8" x 10.6" (300 x 300 x 270mm)
Power Supply	230V±10%, 1 Ph, 50/60Hz	230V±10%, 1 Ph, 50/60Hz
LM-B Dimensions (L x W x H)	27.5" x 31.5" x 57.7" (698 x 801 x 1465mm)	27.5" x 31.5" x 57.7" (698 x 801 x 1465mm)
LM-C Dimensions (L x W x H)	44.7" x 31.5" x 57.7" (1136 x 801 x 1465mm)	44.7" x 31.5" x 57.7" (1136 x 801 x 1465mm)
LM-CV Dimensions (L x W x H)	44.7" x 31.5" x 60.4" (1136 x 801 x 1534mm)	44.7" x 31.5" x 60.4" (1136 x 801 x 1534mm)
Weight	441 lbs. (200kg)	441 lbs. (200kg)

LM-B



LM-C

LM-CV



**Remote Service Management  
and Free Upgrades**

## Replacement Parts for LM-B, LM-C, and LM-CV

<b>Flash Lamp</b>	Item # 833-1770
<b>Water Filter</b>	Item # 833-0793
<b>Protection Glass 40mm Lens</b>	Item # 833-0796



## Magnetic Ball Vise, 6" dia.

Made of the highest quality anodized aluminum and is used to hold workpieces for polishing, grinding, welding and a variety of other general purpose applications. Tilts from 180° to 90° without losing stability. Made in USA.

**Item # 814-0101**



## Rotary Axis Spindle - LM-(B,C,CV) / SWT / SWA

This spindle connects to the Sisma laser welders for welding cylinders, pins, and cores. Used in combination with the welding programs on the SWT and SWA. Made in Italy.

**Item # 833-0703**



## Argon Flow Regulator - LM-(B,C,CV) / SWT / SWA

Particularly suitable for work where flow measurement requires greater immediacy and reading precision of Argon shielding gas for welding applications. Made in Italy.

**Item # 833-1791**



## Polyurethane Hose for Sisma Regulator - LM-B / SWT / SWA

Sold by the meter. This polyurethane hose is used to connect the gas source (Argon) to the welder. Outside diameter is 6mm, inside diameter is 4mm and the tube wall is 1mm. Made in Italy.

**Item # 833-1799**



## Console Support - SWA / SWT

This metal adjustable lectern can be placed directly on your mold thanks to a magnetic base. Platform measures 7.75"L x 5.875"H with a 1.125" wide lip. The control panel (joystick not included) is also magnetic so it stays in place. Weighs 2.2 lbs (1kg). Made in Italy.

**Item # 833-1834**



## Water Chiller - SWT / SWA

The Water Chiller is necessary for the SWA and SWT when the unit is located in environments where the temperature can reach above 86°F (30°C). Made in Italy.

SWA 150 **Item # 833-1835 & 833-1769**

SWA 300 **Item # 833-1835**

SWT 100 **Item # 833-1835**

SWT 150 **Item # 833-1835 & 833-1768**



## Aspirator - LM-(B,C,CV) / SWT / SWA

Aspiration unit complete with outside prefilter and main aspirator as shown. Max. Aspiration Volume: 250 cm/h. (cubic meter per hour). Electrical: 230V, 50/60Hz, 1 Ph. Made in Germany.

**Item # 833-0702**

Repl. Cartridge Filter

**Item # 821-6276**

Repl. Fiber Filter (pkg 10)

**Item # 821-6277**

Repl. Particle Filter

**Item # 821-6286**

Repl. Carbon Filter

**Item # 821-6278**



## Lens Spacer - SWT / SWA

Ideal for deep channels and slots. Attach to the laser microscope lens for extended reach. Stack up to 4 Spacers for maximum reach. Made in Italy.

**Item # 833-0713 - For SWT**

**Item # 833-0714 - For SWA**



## Flexible Ergonomic Module - LM-(B,C,CV) / SWT / SWA

Provides ergonomic position adjustment for your microscope viewing. Made in Germany.

**Item # 833-1796**



## 21.5" Full High Definition Screen Monitor - LM-(B,C,CV) / SWT / SWA

Large external monitor which allows others to view the welding process. Made in Italy.

**Item # 833-1795**



## Leica Digital Camera - LM-(B,C,CV) / SWT / SWA

Used to see where the laser beam is working. The image can be shown on a monitor (833-1795) for clearer viewing. Made in Germany.

**Item # 833-1802**



## Swivel Optical Attachment - SWT / SWA

Capable of diverting the laser beam at multiple angles (90 degrees, 45 degrees, etc). Makes it possible to weld in difficult areas to reach. Made in Italy.

**Item # 833-0716 - For SWT**

**Item # 833-0717 - For SWA**



## 16X Lens Set - LM-(B,C) SWT / SWA

The 16X lens set allows you to upgrade from the standard oculars of 10X to 16X. Made in Italy.

**Item # 833-1838**



## Focus Lens F200 - SWT / SWA

Focusing lens kit F200 for SWT and SWA help to increase the focus length which is necessary for specific applications when welding. The standard focal length of the SWA is 120mm and SWT is 150mm, the focus lens (F200) increase the focal length to 200mm. Made in Italy.

SWT **Item # 833-1837**

SWA **Item # 833-1836**





## Wire Holder

Made of anodized aluminum, holder feeds wire from 0.004" to 0.025" diameter during the welding process. Ergonomic holder is comfortable to grip and the wire feeds effortlessly by means of two wheels. Made in Germany.

**Item # 830-2500**



## Deluxe Extra-Large Adjustable Saddle Stool

Seat measures 16" by 17" and 2" thick to provide maximum comfort. Base is 26" wide to provide extra stability. Foot-rest ring is 18.5" in diameter. Height-adjustable 8" to 13.5". Seat height ranges from 25" to 35". Five smooth rolling casters. Made in China.

**Item # 810-1816**



## Laser Safety Glasses

Laser glasses should always be worn by bystanders while the laser is in use. Our green polycarbonate laser safety glasses meet or exceed the ANSI Z136.1 and ANSI Z87.1 standards and protect for the wavelength of 1064 nm which is the wavelength of our Sisma welders. Made in the USA.

**Item # 816-1790**



## Laser Barrier

Suitable for the SWT 100 and SWT 150 Class 4 units and both the SWA 150 and SWA 300 units (1064 nm wavelength). Available in 7 or 8 foot heights and either 8 or 10 foot widths. Modular mobile unit is on casters. Made in the USA.

**Contact our Industrial Team for your custom configuration.**



## Three-Phase Autotransformer

9000VA three-phase autotransformer including box and electrical panel. This autotransformer is for the adaptation to USA line (voltages 480V-460V-240V-208V). Electrical panel size is approximately 5.5" X 16.14" (140 X 410mm). To be used with the SWA and SWT ECO (YAG). Made in Italy.

**Item # 833-1703**

**Warning - Laser eyewear should always be worn while laser is in use.**



**Turn To The Industry Experts**

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