

NOVOLAS μ

laser welding



**Lasersystems for
Plastic Welding**

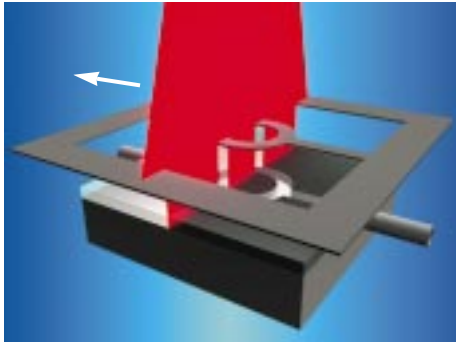
**Precision Welding for
Micro Components**



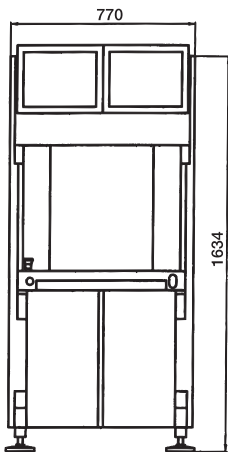
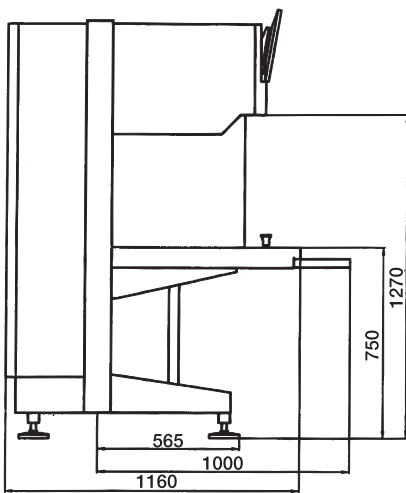
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Dimensions in mm



Mask Welding with NOVOLAS μ

The concept of **Mask Welding** is based on the principal of **Laser Transmission Welding**. A curtain of laser light sweeps over a customer defined mask pattern. The components are precisely joined where the laser is allowed to pass through the mask.

The precision of the mask design and software controlled laser power allow for the assembly of microstructures plastic parts with weld lines as narrow as 100 μ m. Covered areas are not exposed to thermal stress. Though the mask process is perfect for high-speed production, the mask can be easily changed allowing for production flexibility.

Technical Information

An intelligent **Adjustment System**, incorporating a state-of-the-art **Vision System**, provides for precise alignment of the parts and mask.

The graphical user interface of the μ -WIN, control software, provides graphical visualization to assist in the setting of parameters.

The NOVOLAS μ Systems were ergonomically designed to simplify handling and allow for increased throughput. The system is suitable for clean-room-conditions.

Customized masks, manufactured by a photolithographic process, are available as requested.

| | |
|---|--|
| Laser Type | High Power Diode Laser |
| Laser Power Output | 70 W |
| Image Processing | Optical |
| Max. Component Size | 110×50×30 mm |
| Max. Welding Area | 110×50 mm |
| Max. Top Comp. Thickness | 2 mm |
| Axis | 9, stepping motors |
| Clamp Device | Pneumatic |
| Control | PC Control for Laser and Axis, Process Control |
| Line Voltage | 230 VAC +/- 10% (optional 200 VAC) (Single phase with ground contact) |
| Frequency | 50 / 60 Hz |
| Current Consumption | Max. 10 A |
| Air Pressure | Min. 6 bar, 1/4" Tube |
| Cooling | Air stream, Exhaust Air max. 130°F (55°C) |
| Environment Conditions | 60-105°F (15 – 40°C) |
| Weight | ~1450 lb (ca. 650 kg) |
| CE conform | |
| Technical data subject to change | |
| Further options on request | |



Lasersystems

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ISO 9001:2000

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