SIGMA LASER®
SYSTEMS & APPLICATIONS

Laser Welding
closer to perfect solutions

# QMax

systems designed
for mould repairing

laser power
up to 300 Watt

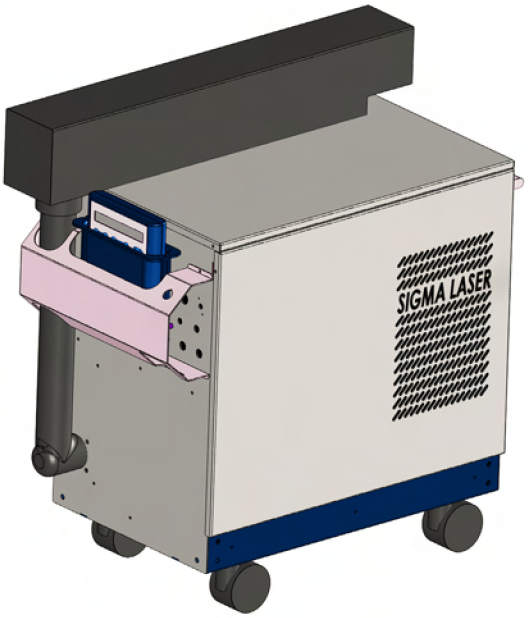
Laser Innovations
Made in Germany

www.sigma-laser.com

## Precise. Intelligent. Reliable.

Our systems are designed to satisfy the specific requirements of the tool- and the mould making industry for efficient laser deposit welding. **QMax** provides an intelligent solution to process on parts regardless of the geometry with the integrated **3-axes** movement into the welding head.

The laser beam is delivered to the welding head by **fiber optic cable**.




Laser beam source Nd.YAG: available with **120, 160 and 300** Watt output power and up to 20 meter fiber optic cable.

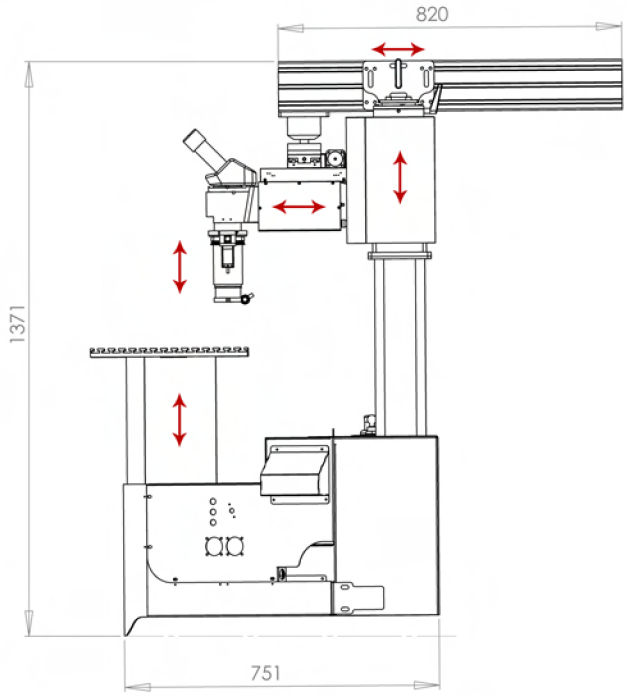
## Flexible. Compact. Ergonomic.

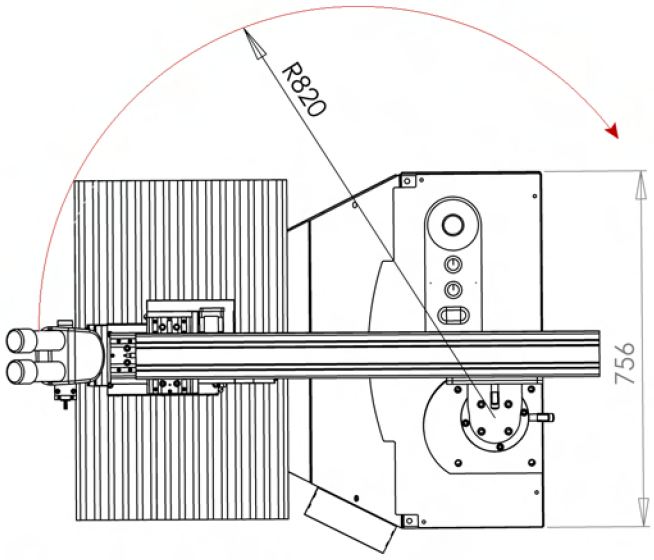
The pivoting welding head allows easy positioning and flexible operation.

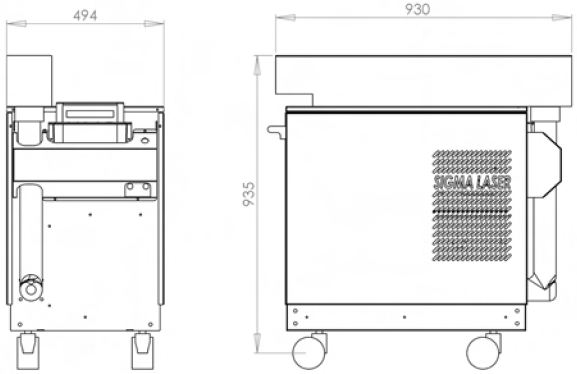
QMax is equipped with a detachable welding head and has the ability to weld **inside the injection moulding machine.**

## Mechanical features:

- 3 operational moving axes integrated into the welding head: 150, 100, 100 mm (x,y,z)
- 2 additional moving z-axes for the working table and ergonomically positioning of the welding head
- All operational movements are operated by joystick
- Load capacity of working table up to 500 kg
- Pivoting arm can be rotated 180° with a radius of 820 mm




## Features of the laser:

- Industrial fiber optic with protective tube and connectors
- 2-lamp-system for stable permanent performance of the laser
- Remote diagnostic with electronic error detection integrated
- Motor-operated focussing
- High pulse peak power
- Parameter memory
- Available from 120 Watt and upgradeable to 300 Watt at any time
- External cooling system

## Technical Data*

| Specification | QMax 120 | QMax 160 | QMax 300 |
|---|---|---|---|
| laser type | flash lamp Nd.YAG with 2 lamps | | |
| wavelength | 1064 nm | 1064 nm | 1064 nm |
| max. mean power | 120 Watt | 160 Watt | 300 Watt |
| max. pulse energy | 80 Joule | 100 Joule | 100 Joule |
| pulse peak power | 9 kW | 9 kW | 9 kW |
| pulse duration | 0.5 - 20 ms | 0.5 - 20 ms | 0.5 - 50 ms |
| repetition rate | 0.5 - 20 Hz | 0.5 - 20 Hz | 0.5 - 100 Hz |
| focus diameter | 0.6 - 1.5 mm | 0.6 - 1.5 mm | 0.6 - 1.5 mm |
| cooling system | water/air - external | water/air - external | water/air - external |
| total weight | 300 kg | 300 kg | 350 kg |
| line voltage | 380 V / 3 Ph / 50 Hz | 380 V / 3 Ph / 50 Hz | 380 V / 3 Ph / 50 Hz |
| fiber optics | industrial protective tubes with connectors | | |
| beam expander | motorized | motorized | motorized |
| remote diagnostic | ✓ | ✓ | ✓ |
| upgrade to higher power | ✓ | ✓ | ✗ |
| pulse shaping function | ✓ | ✓ | ✗ |
| memory function | 50 | 50 | 50 |

## Worldwide references

em·pi·es Master·Part·Systems

**Thessalonica**
Naousis 77, Evosmos
Tel. 2310778083
info@em-pi-es.com
www.em-pi-es.com

NOVAPAX HELLAS

**Piraeus**
Alkiviadou 51, 18532
Tel. 210 4112589, Fax. 210 4137529
info@novapax.gr
www.novapax.gr

## Contact



SIGMA Laser GmbH
Sossenheimer Weg 5-7
65929 Frankfurt
Germany

Fon +49(0) 69-3003 8905-0
Fax +49(0) 69-3003 8905-9
www.sigma-laser.com
info@sigma-laser.com