

## A new way of repairing

Fast and economic: On-site repair welding



# The taskforce for repair welding



*Dimensions: width 420 mm x height 500 mm x length 636 mm  
Weight: 30 kg net*

## **IQ Laser: ready to operate any time, any place**

The IQ LASER was specially developed to carry out localized smaller repairs on site, for example on injection molding machines. The 5 m long glass fiber cable makes it possible to reach any location on larger moldings and components. Even precision components such as turbines, medical

components and rollers can be quickly repaired without complications. There are also no limits on the materials: aluminium, steel, and copper alloys can also be processed by the IQ LASER without problems. The 10" touchdisplay ensures an excellent overview and guarantees safe and precise welding.

## Flexibility pays off

With the IQ LASER, OR Laser presents a laser welding system which sets new standards in repair welding. The experience gained by our customers in practice, in addition to several years of research and development, have been incorporated into the construction of this mobile laser system.

The IQ LASER is compact, quickly ready for operation, precise, and combines the highest technical demands with practice-oriented ease of operation and enables repair welding „on the spot“.



*Repair welding on an injection mold*

## Save time and money

OR Laser has always been an ideal partner if you are looking for economic efficiency and flexibility in tool and mold making. The new IQ LASER is a complete ready-to-operate solution which can result in enormous savings for any company.

In future, expensive transport costs and long downtimes can be avoided by carrying out repair work on your tools at the jobsite, at any time. This means that the IQ LASER saves time and money even with low usage.

## Concept: IN LINE LASER REPAIR

OR Laser presents an innovative concept with *In Line Laser Repair*. Your benefits: The component to be repaired no longer needs to be removed.

Simply weld on the spot, job done. The process is ready to start again once you have carried out inspection and postworking.



*An injection mold for the automotive industry*



*The mold to be welded*



*Simple, safe and precise welding...*



*...using the LCD display*

## Control via touchscreen

Via the 10" touchscreen all parameters are accessible and there are reams of possibilities to adjust important settings which can also be stored directly. Saved data can be accessed anytime.



### EXAMPLES:



#### Laser parameters

Configured easily and accurately.



#### Pulse shaping

Program the ideal setting.



#### Video

1:1 tracking of the welding process and saved along with all technical parameters.

## Useful accessories

For the IQ LASER system we offer accessories which optimize your work and ensure your safeness.



#### Laser safety glasses

- Laser safety goggles specified to DIN EN 207
- Spectable frame exist from Polyamid
- D L5 & IR L7



#### Laser safety curtain

- Mobile laser protection curtain from robust material
- Dimensions: 2 x 2 m (6,56 x 6,56 inch)



#### Pressure reducer

- For protective regulation of gas pressure
- Optimum setting for the required gas amount
- Adjustable by 0,1 - 1,5 l/min

Not enough? We will be happy to send you the current accessories catalogue by e-mail or post.

## IQ LASER vs. Conventional repair methods

In our example, a 10 t injection mold needs to be welded. The conventional operations required are very costly: About 5 hours are required to remove the mold, transport and handling to the workshop takes a further 1 hour. It then takes half an hour to dismantle the mold and remove any inserts, another half an hour to carry out the welding and 1 hour for

the die-spotting presses and post-work. Then the same again, in reversed order: 1 hour for handling and transport, then 5 hours for refitting. On top of all this, another 1 hour is required to restart the process. This makes a total of 15 hours, and on top of this there is the downtime of for the injection molding machine plus the transport costs etc.



## Repairs using the IQ LASER

This is how quickly and simply repairs can be made using the IQ laser. Setting up the laser around 20 minutes, welding operations half an hour, post-processing half an hour and 1 hour to restart

the process. This makes a total of 2.5 hours. The downtime of the injection molding machine is considerably reduced, and further costs are avoided.



## The result

When making a direct comparison between the IQ LASER and standard repairs, the clear winner is the IQ LASER system in almost all categories.

The welding quality is identical for both methods. The remaining points are clearly awarded to the IQ LASER system.

# Technical data

## POWER

	TYP: 55 W
Lasertype	Nd: YAG
Max. mean power	55 W
Pulse peak power	5 kW
Max. pulse energy	60 J
Pulse duration	0,4 - 20 ms
Pulse frequency	1,0 - 20 Hz
Focus diameter	0,4 - 0,8 mm
Line voltage (V/Ph/Hz)	230/1/50

## SYSTEM EQUIPMENT

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### Laser system

- 10" Touchdisplay
  - Laser resonator inclusive laser mechanics
  - Laser rod
  - Cavity
  - Resonator mirror
  - Safety shutter
  - Mains isolator
  - Emergency stop
  - Interface with hardware monitoring function
  - Lamp switch
  - Industry controller for setting and display of power, pulse duration, pulse repetition frequency with external trigger via footswitch
  - C-bank
  - Internal water-air cooling system
  - Shielding gas supply direct
  - Video Interface
- 

### Processing optics

- Variable beam expansion
  - Safety glass
  - LCD anti-glare
  - CCD Camera 10 x
  - Focussing lens
  - Inert gas supply directly
  - distance sensor
  - LED lighting
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### Dimensions and weight

Dimensions: width 420 mm x height 500 mm x length 636 mm  
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# wORLD of LASER



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