



# Innovation by Design

## Industrial Laser Systems for Industry Leaders

DILAS Industrial Laser Systems, a business unit of DILAS Diodenlaser GmbH, offers advanced industrial laser solutions that facilitate more powerful manufacturing processes for leading companies all over the world.

High-power diode laser systems from DILAS Industrial Laser Systems are manufactured in an ISO 9001 certified environment at the company's state-of-the-art production facility in Mainz, Germany.

With a worldwide service and support network and dedicated application labs located in different regions

of the world, DILAS Industrial Laser Systems provides its customers with fast and comprehensive support in developing reliable, high-performance solutions for use in manufacturing.

As one of the very first companies in this field, DILAS Industrial Laser Systems has built up a large installed base of diode laser systems and gained considerable expertise. The company is committed to delivering the highest quality, longevity and reliability available from anywhere in the industry. Contact us to learn more about how high-quality products from the industry leader give you competitive advantages.

### Diode Laser Systems

DILAS Industrial Laser Systems manufactures high-performance industrial laser systems in a wide range of output powers and wavelengths, including fiber-coupled, direct beam or line source solutions. Our light-weight products can be transported easily and only require 230V electrical power. In addition, our air-cooled systems are extremely compact and require no additional cooling units.

The COMPACT Series product line gives you complete control of your production processes. And, what could be easier than its plug and play functionality? The compact design can be easily equipped with optional controls and feedback loops for integration into demanding production configurations.



Product	Laser Power at Workpiece	Fiber Diameter	Fiber Plug	Cooling Medium
COMPACT 25/200	25W	200µm	Mode strip SMA	Air-Cooled
COMPACT 50/200	50W	200µm	Mode strip SMA	Air-Cooled
COMPACT 40/400	40W	400µm	SMA	Air-Cooled
COMPACT 60/400	60W	400µm	SMA	Air-Cooled
COMPACT 100/400	100W	400µm	SMA	Air-Cooled
COMPACT 100/200	100W	200µm	HP - SMA	Water-Cooled
COMPACT 200/200	200W	200µm	QBH	Water-Cooled
COMPACT 200/400	200W	400µm	QBH	Water-Cooled
COMPACT 300/400	300W	400µm	QBH	Water-Cooled
COMPACT 400/400	400W	400µm	QBH	Water-Cooled
COMPACT 500/400	500W	400µm	QBH	Water-Cooled

Standard delivery of all COMPACT diode laser systems includes 980nm wavelength. Other wavelengths, like for example 808nm, are delivered upon request.

Product	Laser Power at Workpiece	Fiber Diameter	Fiber Plug	Cooling Medium
COMPACT 12/400-1470	12W	400µm	SMA	Air-Cooled
COMPACT 40/400-1470	40W	400µm	SMA	Air-Cooled
COMPACT 80/400-1470	80W	400µm	SMA	Water-Cooled
COMPACT 6/600-1940	6W	600µm	SMA	Air-Cooled
COMPACT 12/600-1940	12W	600µm	SMA	Air-Cooled
COMPACT 18/600-1940	18W	600µm	SMA	Air-Cooled

Specific application requirements, for instance in the field of polymer welding, may require longer wavelengths. DILAS Industrial Laser Systems offers at 1470nm and 1940nm the above-shown turnkey systems.

The delivery of all COMPACT diode laser systems includes 5m fiber and a focusing unit with  $f=100\text{mm}$  focal length.

## Superior Controls and Accessories

DILAS Industrial Laser Systems has just the right accessories to support your application and integrates its products into high-quality production lines for industrial applications. For this reason, we offer a wide range of sophisticated accessories, including devices for quasi-simultaneous welding and pyrometer based process control.

### Basic Optical Imaging Unit PHF-0

Basic processing heads are used for imaging the fiber output onto the work-piece. Available with  $f=100$  standard focal length (other focal lengths available upon request), these devices are a standard component of the COMPACT and represent just the right tool to start with for materials processing.



### Optical Imaging Unit Including Pyrometer and Camera PHF-9-CS

This unit offers on-axis vision and temperature control for materials processing applications. The integrated pyrometer can be used for closed-loop operation, thus, allowing exact control of the thermal energy supplied. Optical filters also allow for simultaneous observation of the process itself through an integrated on-axis camera.

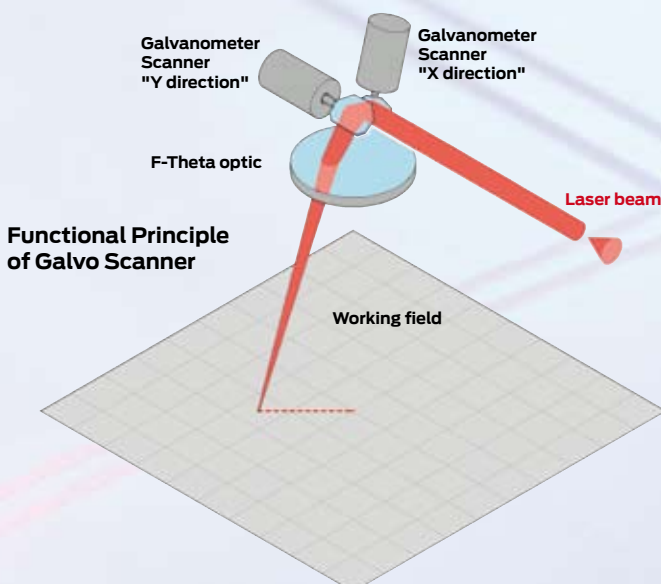
The pyrometer signal can also be used for online control and traceability of quality-relevant processes in medical or automotive production processes, for example.

This unit also provides the best results in combination with soldering techniques and plastics welding applications and ensures high process stability and reliability.



### Galvo Scanner DL. S20

The galvo scanner is particularly well-suited for applications, such as quasi-simultaneous plastics welding or selective soldering. When used together with a fiber-coupled diode laser system, the laser spot can address any point inside the working field.



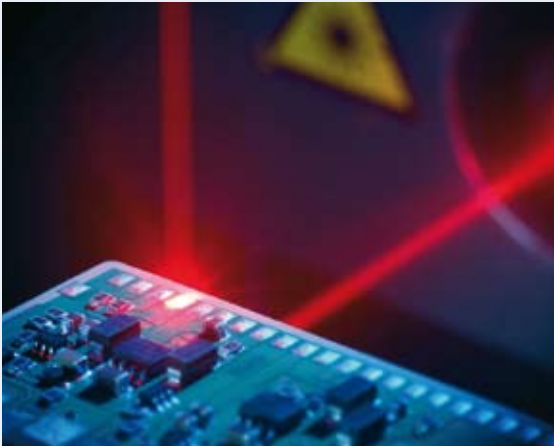
### Galvo Scanner with Integrated Pyrometer DL.S20P

Combining the galvo scanner and pyrometer offers you the advantages of flexible treatment geometry and on-axis temperature control and, thus, the highest possible control over your materials processing application.

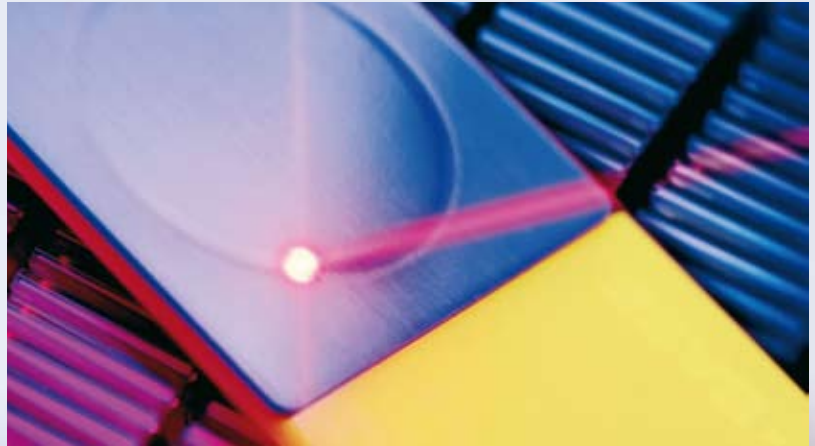
Both galvo options come complete with F-Theta optic, collimation and control unit. In addition, these products generally offer higher versatility due to the powerful scanner software they use.

## Applications

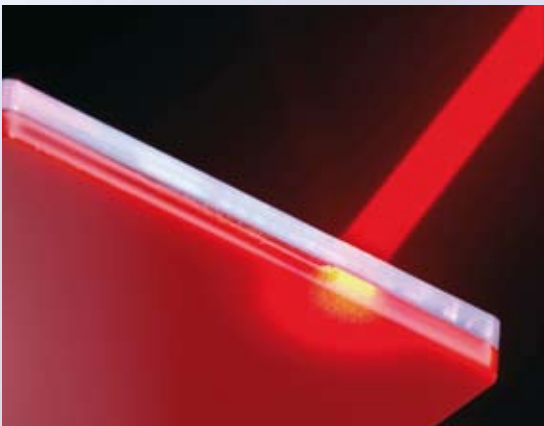
DILAS Industrial Laser Systems supports customers all over the world in a wide range of different applications, including plastics welding in automotive and medical device manufacturing, soldering in electronics and the automotive industry, soldering in photovoltaic applications, as well as hardening of metals.



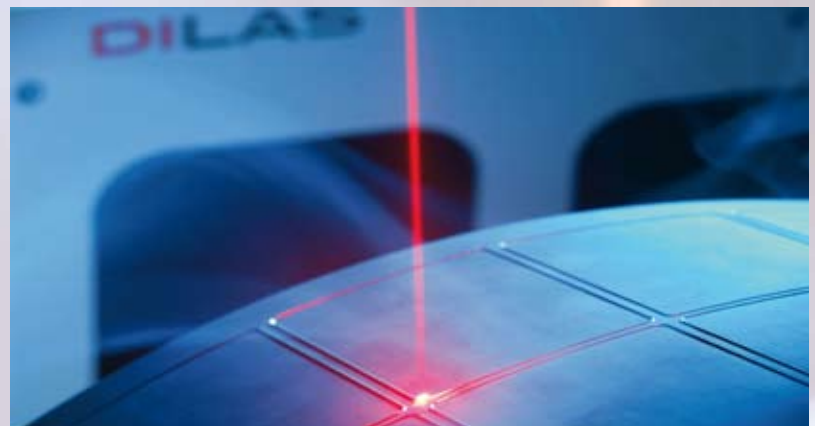
**Soldering on Printed Circuit Board (PCB)**



**Plastics Welding - All Colors**



**Plastics Welding with Mid-IR Wavelength**



**Heat Treatment of Metal**

## Around the World, Around the Clock

DILAS Industrial Laser Systems has a unique expertise in the fields of diode lasers, applications and integration, as well as optics and laser systems' designs. In addition, our company works within a network of machine integrators and material compounders. Our highly-qualified sales and service partners all around the world support you to integrate the laser process into your production line.

To learn more about DILAS Industrial Laser Systems or obtain contact details of your local service partners, please visit our website [www.dilas-ils.com](http://www.dilas-ils.com).

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Industrial Laser Systems

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