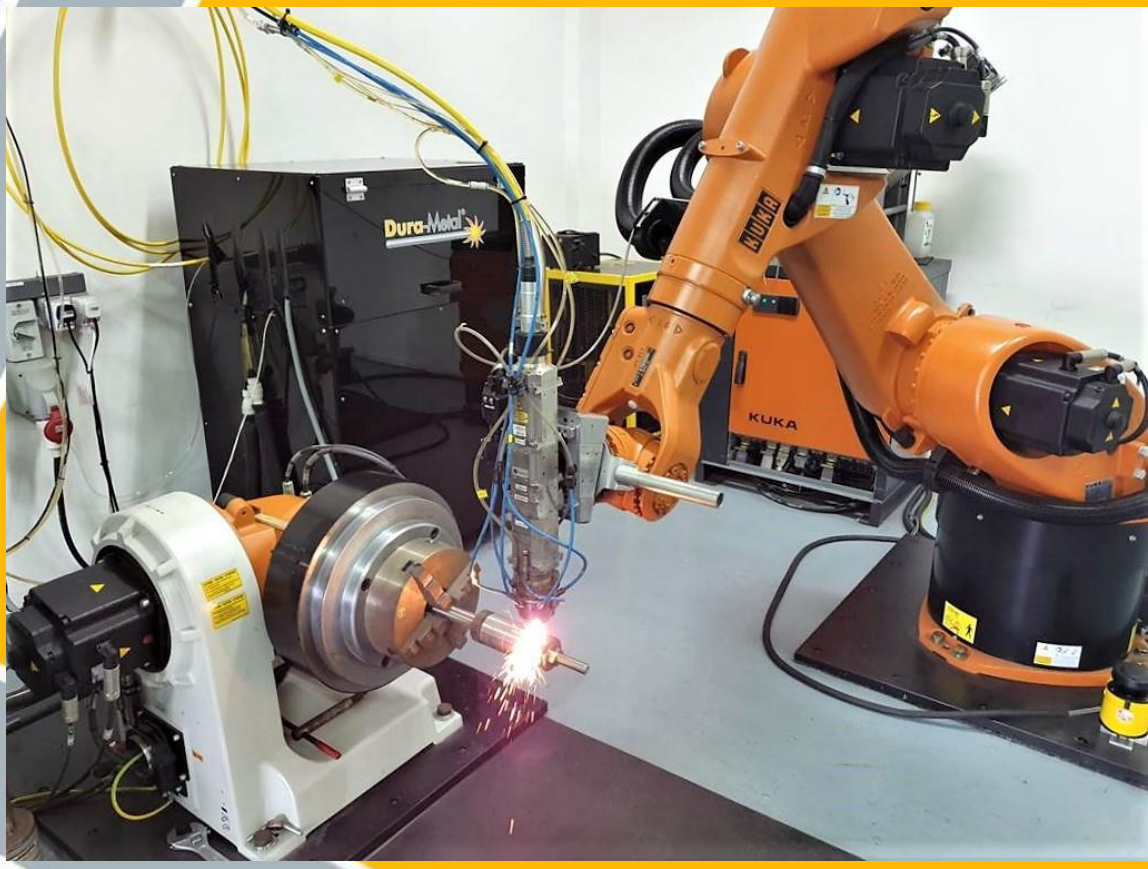


Duralase Laser Cladding System

Dura-Metal®

DURALASE LASER CLADDING SYSTEM INTRODUCTION

Compact

The 19-inch rack mount technology offers a significant simplification of the laser integration in machines or systems. The compact module combines the laser head, the power supply of the diodes, the controller for monitoring, as well as the cooling system. The innovative, small footprint design allows the diode laser to be easily integrated within the production area.

Powerful

The beam quality of the fiber-coupled diode laser is comparable to that of a lamp-pumped solid-state laser, with a tenfold higher outlet efficiency at a fraction of the size. The system is easy to use thanks to the functional, standardized signal interface that highlights our user-centered product philosophy.

Reliable

The compact module is based on the proven and continually improved diode technology that has been successfully used for many years in different applications.

Application in focus

The miniaturization of the laser system leads to a significant reduction in the cost of investment and operation. Our diode lasers therefore have significant potential not only when replacing existing laser applications, but also for conventional welding, repair or heat treatment processes.

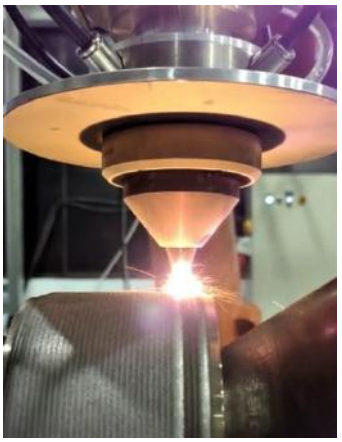
Independent servicing in the application

To ensure high availability of the Duralase laser system, users are supported worldwide by teleservice via the Internet – around the clock. At the same time, the new system generation has been specifically designed for fast maintenance and independent on-site servicing. Thus, the essential components of the system – laser head, cooling unit as well as power supply and control unit – are quickly and easily interchangeable as modules, if necessary, in the field. These sub components increase the modularity of the rack system.

LASER CLADDING SYSTEM TECHNICAL DATA

Laser Optical Specifications	
Output Power	1,500 W to 8,000 W (Other laser output powers available)
Beam Quality	20 mm mrad to 100 mm mrad
Optical Fier	400 µm to 1,000 µm
Fiber-coupling Bunit	LLK-D/Auto or other types on request
Fiber Length	10 m, 20 m, 30 m, 50 m, 100 m or other lengths on request
Power Stability	<+/- 2% over 2 h
Wavelength Range	900 nm to 1,080 nm
Diode Cooling	Active for highest power density and reliability
Uptime	Typically > 99.5%
Warranty	5 years on diode laser elements, 2 years on laser system

LASER SYSTEM TECHNICAL DATA



Mechanical Specifications

- 19" rack mount, 5U (220 mm), depth 636 mm, weight 50kg
- 19" rack mount, 7U (312 mm), depth 766 mm, weight 110kg

Optional
- Interface: Profibus DP, Ethernet, RS232, USB
- Others: Pilot laser, Pyrometer, CMOS camera, software for PC, beam scanner, etc

Connection Data	
Voltage	400 - 480 V, 3 phases, PE, 50 or 60 Hz
	210 - 230 VAC, 1 or 3 phases, PE, 50 or 60 Hz on request
Power Consumption	5.8 kW to 20.6 kW
External Inputs	Digital 24 V, analog power control 0 - 10 V, safety interlocks

Operating Conditions	
Temperature	10 - 45 °C operational, 5 - 65 °C storage
Humidity:	Max. 70% @ 25 °C, non-condensing
Protection rating	IP54
Safety class	Class 1 (EN 60825-1) Level D (DIN EN ISO 13849-1)

LASER CHILLER FEATURES

- Plug and Play unit, easy to connect
- Compact design due to micro-channel technology
- Optimized footprint: 160kW cooling capacity in a 2 m² package
- Energy efficient: reduced power consumption
- Low noise level: for indoor factory hall usage
- Environmentally friendly: up to 60% less refrigerant gas

LASER CHILLER TECHINICAL DATA

Laser Chiller Specification	
Cooling Capacity	5kW to 160kW

For application specific guidance on proper welding procedures and parameters, please contact us at tech.support@durametal-alloy.com