WELDING LASERCELL

AUTOMATED LASER WELDING SYSTEM

FEATURES

- Automated laser welding system with proven weld process developed by IPG
- IPG laser source and beam delivery optimized for the application
- Manual and automated part loading and positioning options
- Single and dual robot configurations
- Part positioning and multi station load unload options to meet specific manufacturing needs

BENEFITS

- Typically 5X-10X faster than alternative technologies for lower production costs
- IPG process knowledge accelerates implementation and reduces schedule risk
- Optional real-time weld measurement ensures good welds, preventing part failures and recalls
- Optional tooling development services from IPG increases part yield and accelerates time to first part
- Single-vendor solution from experts in both laser processing and tooling development

The **Welding LaserCell** is configurable with virtually all IPG lasers and beam delivery heads. IPG will provide guidance on the best equipment selection for specific applications and material-thickness combinations based on proven welding implementations.

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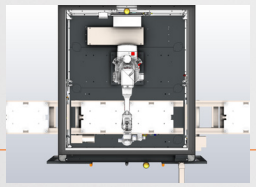
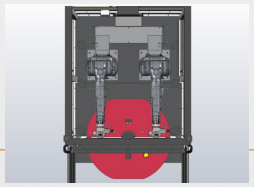
Part Loading and Positioning Options

CONVEYOR LOADING



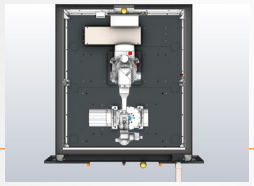
Working Volume:
500 mm × 400 mm × 250 mm (LxWxH)
Max Part Weight: 500 kg/pallet

TURNTABLE



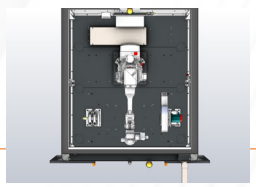
Working Volume:
1000 mm × 400 mm × 500 mm (LxWxH)
Max Part Weight: 350 kg/side

TWO AXIS POSITIONER
for Large-Heavy Parts & Complex Shapes



Working Volume:
1000 mm × 600 mm (LxW)
Max Part Weight: 500 kg

HEAD & TAIL STOCK
for Shafts & Long Cylinders



Working Volume:
1000 mm × 600 mm (LxW)
Max Part Weight: 500 kg

System Specifications

Laser Source	2 - 6 kW IPG industrial CW fiber lasers
Beam Delivery	IPG D30 or High Power Scanning Welding Heads
Dimensions (L × W × H) , mm	4200 × 2200 × 3000
System Control	Industrial PLC controller with HMI using IPG Core
Safety	Class 1
Robot Configuration	Industrial 6-Axis robot with Motion Package and Safety Position Check
Reach/Repeatability, mm	~1800 +/- 0.025

System Options

Laser Source (Options)	Single and Multi-mode 2/4 kW Adjustable Mode Beam lasers with independent core & ring power control	1-2 kW Single-mode and 4-6 kW Multi-mode Rack Mounted or Cabinet Lasers
Real-Time Weld Measurement	Integrated real-time inline coherent imaging (ICI) weld monitoring system measuring weld penetration depth, transverse profile	
Vision	Integrated vision imaging and correction system providing typical weld-to-part accuracy of +50 µm	
Part Loading Options	Manual part loading via system front doors, optional conveyor pass-through or servo turntable with automated entry/exit doors	
Fume Extraction	Integrated fume extraction contained within the laser cell	
Power Meter	Integrated power meter for automatic, programmable measurement of laser power	

Contact Us:

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