



Integral

The Flexible System for All Laser Welding Tasks

The Integral is a fully integrated system: ergonomically optimized manual welding laser, joystick-controlled deposit welding system or high-precision CNC system – a unique welding concept with four high-precision axes, short setup times and easy CNC programming. As much automation as you want, with the minimal complexity you need. All parameters can easily be adjusted without any special know-how via a multi-functional joystick and large color touch-screen.



FEATURES & BENEFITS

- Laser class 1
- 4 axes system
- CNC programming
- Joystick control
- Swivel optics
- SweetSpot Resonator®
- SPEEDmode™

OPTIONS

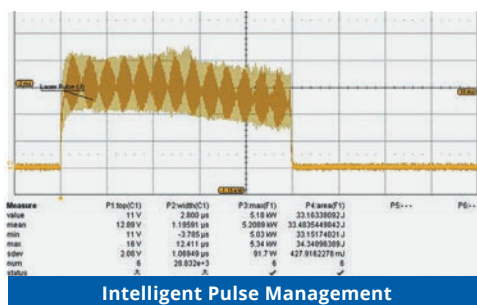
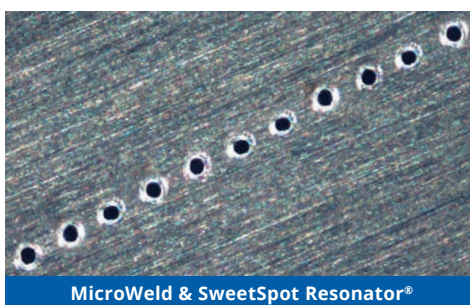
- Laser class 4 operation
- Rotation axis
- MicroWeld™

APPLICATIONS

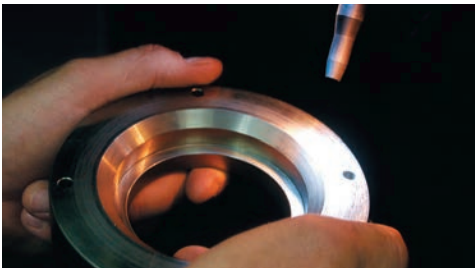
- Laser Welding of Metals
- Deposit Repair Welding

SPECIFICATIONS	Integral	
	SweetSpot Resonator® II	SweetSpot Resonator® III
Type	Lamp pumped Nd:YAG 1064 nm	
Nominal Power (with SPEEDmode™) (W)	100 (200)	200 (400)
Pulse Peak Power (max.) (kW)	10	12
Pulse Energy (max.) (J)	100	
Pulse Duration (msec)	0.3 to 50	
Pulse Frequency (with SPEEDmode) (Hz)	single pulse - 50 (100)	
Focus Length (mm)	150	
Focal Diameter (with MicroWeld) (mm)	0.3 to 2.5 (0.1 - 0.5)	0.4 to 3.0 (na)
USER INTERFACE		
Display and Operation	Color TFT multi-touch screen	
Data Interfaces	USB, Ethernet	
UTILITIES		
Electrical	230/400 V, 50/60 Hz, 16 A, 3 + N Ph	
Power Consumption at Nominal Power (kW)	6	
Cooling (internal water-air cooling) (kW)	5.0	
DIMENSIONS & WEIGHT		
Weight	750 kg (1653.5 lbs)	
Dimensions (L x W x H)	1200 x 1400 x 1600 mm (47.24 x 55.12 x 63.99 in.)	
Workpiece Dimensions (approximate) (L x W x H)	600 x 350 x 400 mm (23.62 x 13.78 x 15.75 in.)	
POSITIONING AXES		
Linear System Travel (x-y-z)	350 x 190 x 390 mm (13.78 x 7.48 x 16.35 in.)	
Pay Load	50 kg / optional 500 (110.2 / optional 1102.3 lbs)	
Resolution/Repeatability per Axis (µm)	1.0/±30	
Speed (mm/sec.)	x-y: 60 / z: 20	
Rotation Axis	Choice of "Type O" or "Type F"	
Chuck Width (depends on axis choice)	1 to 130 mm (0.04 to 5.12 in.)	
CONFIGURATION		
MicroWeld (SweetSpotResonator® required)	optional	na
Exhaust System	included	
Dynamic Footswitch	optional	
Swivel Optic	optional	

UNIQUE LASER FEATURES



THREE OPERATION MODES



Manual

- No set-up time
- Flexible also for complex situations
- Single pieces, repair and process development



Joystick

- Direct axes-control
- Easy semi-automatic laser welding
- Single pieces, small batch series, and repair welding
- Process and prototype development



CNC

- Programming via touch screen, teach-in, or data import
- Semi or full automation
- Joystick programming of CNC process

SYSTEM OPTIONS & HIGHLIGHTS



Integral

- Laser class 1
- Laser class 4 operation possible
- Highest flexibility also for bulky parts



Joystick Box

- Can be configured individually with 4 axes and parameter display



Swivel Optics

- The patented swivel optics allows to swivel the laser beam in two different levels in any angle



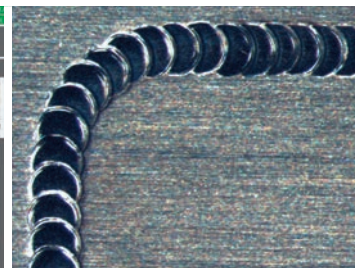
Axes System

- Servo motor-driven linear axes for high dynamics and high precision



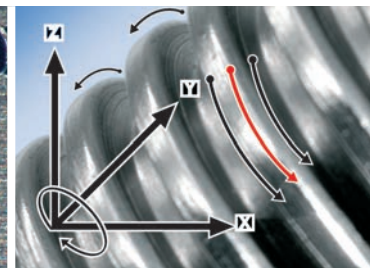
Teach-Functions

- Extensive library of teaching functions optimized for laser processing



SynchroWeld™

- Consistent pulse overlap on seam welds independent of path contour and welding speed

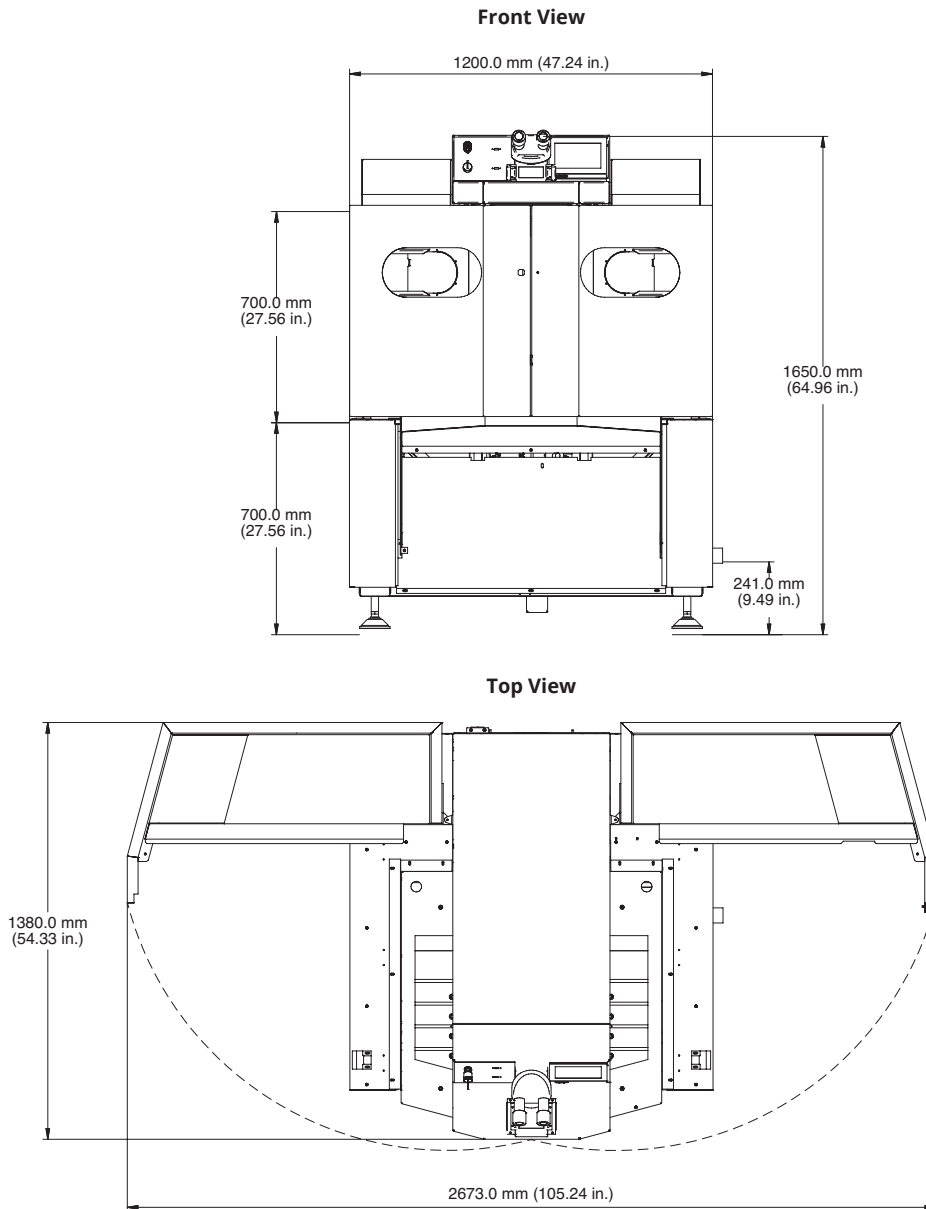


V-Track

- Various optimized teach modes for semi-automatic laser welding of single workpieces or small batch series

MECHANICAL SPECIFICATIONS

Integral



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Integral Laser Welding Systems. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative. MC-031-20-0M0920 Copyright ©2020 Coherent, Inc.