

Performance



The Benchmark Manual Welding Laser



The Performance Family

Manual Laser Welding

Precision for Challenging Jobs

- The SweetSpot Resonator® assures constant weld quality from the very first pulse and there with a reliable welding process
- The MicroWeld™ feature provides for extremely thin welds especially on delicate workpieces.

Stronger: Enough Power at Any Time

- Up to 100 W output power and 50 Hz pulse frequency significantly increase welding speed.
- Manual laser welding systems are frequently used as workhorses in rough workshop environments. The cooling unit of the Performance is designed for a 100% duty cycle even at high ambient temperature.
- The embedded control unit and state-of-the-art power supply enhance long-term stability and reliability – guaranteeing reliable 24/7 operation.

Smarter: Weld-Assist Systems for a New Level of Control and User Friendliness

- The Performance is clever it takes advantage of welding intermissions for workpiece handling. The new SPEEDmode™ increases the maximum pulse frequency significantly and uses work-piece handling time for reloading.
- The ECOMode™ saves energy during longer intermissions.
- BURSTmode™ and Pulse Ramping: simplify welding tasks or jobs asking for high concentration, like welding of delicate medical devices. They offer a new level of control and sensitiveness.
- The dynamic foot switch provides an intuitive control of welding speed or strength on-the-fly.

Performance



Performance Unlimited



Performance Open





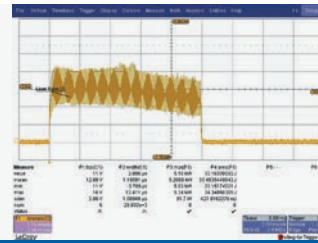
SweetSpot Resonator®

- Patented resonator design
- No first-pulse effect
- Constant weld quality from the very first pulse
- Assures a reliable welding process



MicroWeld™

- Weld spots with less than 0.1 mm diameter
- For extremely fine welds and delicate workpieces



IPMmode™/Pulse Shaping

- IPMmode™ guarantees high pulse to pulse stability
- Especially suited for micro welds
- Pulse shaping to preset pulse shapes for many materials
- Perfect welds even of highly reflective metals and alloys



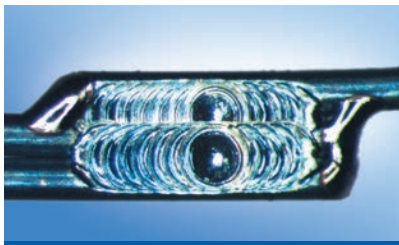
Dynamic Foot Switch

- Offers sensitive control of an arbitrary laser parameter
- Acts like a foot throttle and is easy to configure
- Triggers start and end-ramp when using Pulse Ramping mode
- Adjusts welding speed or power during welding



SPEEDmode™

- Significant power increase within a certain timespan
- Shorter process time through higher pulse frequencies
- System reloading during welding intermissions for workpiece handling



BURSTmode™

- Fires laser pulses with a predefined number
- Stops automatically when number of pulses is reached
- Risk-free working with fast pulse sequences
- Increased processing speed



Pulse Ramping

- Successively increases/ decreases the power of first/last laser pulses
- Ideally suited for closed seam welds and gas-tight housings
- A good choice for starting a weld on highly reflective material
- Reduced risk of piercing thin material



TrueView™

- Ensures a 100 % hit-rate even when working out of focus
- The laser beam is always aligned to the crosshair
- No parallax misalignment



ECOmode™

- Switches off system components during idle times
- Only 10 W power consumption vs. 200 W in standby mode
- Fast restart within less than 1 sec at any time
- Reduced costs due to less lamp wear



Housing/Working Chamber

- Easy, barrier-free access through wide opening door
- Slender foot area offers comfortable seating position
- Single-handed opening, other hand may stay in working position



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- Mechanical rocker as hand rest
- Laser proofed safety curtain
- High flexibility combined with high laser safety



Performance Open

- Open class 4 concept
- It allows a high degree of freedom while working on long and bulky parts

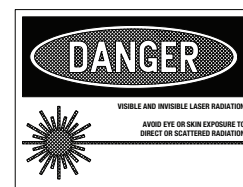
The Performance Family Manual Laser Welding

LASER SOURCE	Classic	SweetSpot Resonator®
Type	pulsed Nd:YAG; 1064 nm	
Nominal Power (W)	70	55
Max. Power with SPEEDmode™ (W)	150	150
Pulse Peak Power (kW)	8	8
Pulse Energy (J)	90	70
Pulse Duration (ms)	0.3 bis 50	
Pulse Frequency (Hz) with SPEEDmode™	single pulse up to 50 100	
Focal Diameter (mm)	0.3 to 2.0	0.2 to 2.0
With MicroWeld™ (mm)		0.1 to 0.5
Pulse Shaping	15, graphic editor	
Memory (kB)	32	
USER INTERFACE		
Display and Operation	5.7" color TFT touch display, joystick in working chamber	
Interfaces	USB Device optional	
UTILITIES		
Electrical	230 V (50/60 Hz), 16/13 A, 1 Ph	
Power Consumption (kW)		
Nominal Power	2.2	
ECOmode™	0.01	
Cooling	integrated water-air heat exchanger	
MEASUREMENTS		
Weight	125 kg (275.5 lbs)	
Dimensions (W x H x D)	530 x 1240 x 994 mm (20.87 x 48.82 x 39.13 in.)	
Ambient Temperature (Max.)	35°C (95°F)	
CONFIGURATION		
Dynamic Foot Switch	optional	
MicroWeld™	optional	
ECOmode™	included	
SPEEDmode™	included	
Processing Gas Supply	fixed and flexible gas nozzle	
Cooling Air	optional flexible cooling air nozzle	
LED Ring Light	optional	
Exhaust	integrated, filtration efficiency 99.997% acc. DIN24184	
Microscope	LEICA 10x, optional 16x	



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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 Performance Lasers. 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.
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