



Monaco UV

Industrial UV Femtosecond Laser

Monaco UV is the ideal tool for high precision, ultra-low heat affected zone (HAZ) laser processing. The 345 nm, <350 fs laser is designed and optimized to efficiently match the femtosecond ablation thresholds of materials. The matched energy in single pulse or seeder burst mode, coupled with high repetition rates, drives 24/7 high-volume manufacturing. The Monaco UV THG stage is built on the industrial Monaco IR fiber laser platform, and is designed to and tested under the Coherent industry leading HASS/HALT reliability protocols. Monaco UV sets the standard for high performance industrial femtosecond laser machining.

FEATURES & BENEFITS

- Energy matched to material ablation thresholds for high efficiency material removal
- >1 MHz rep rates and UV seeder burst mode for high throughput
- 345 nm, <350 fs for ultra-low HAZ in thin films, foils, and semiconductor wafers
- Proprietary integrated THG stage for stable long-life UV output
- HALT/HASS testing protocols for industry leading reliability
- PulseEQ pulse-on-demand for constant pulse spacing in contour cutting with stages and galvos

APPLICATIONS

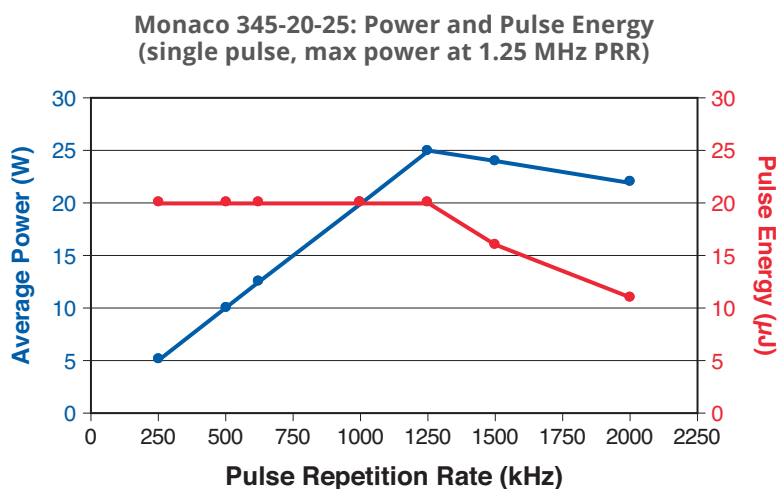
- OLED Module and Contour Cutting
- Semiconductor Wafer Cutting
- Thin-Film and Foil Cutting
- Display Touch Sensor Cutting
- Flex Material Processing



OPTICAL SPECIFICATIONS ¹	Monaco 345-20-25
Fundamental Center Wavelength (nm)	345 ±2
Output Power (W)	≥25
Energy (μJ)	≥20 (1.25 MHz)
Residual Harmonic Power IR & SHG (%)	≤0.25
Fundamental Pulse Repetition Rate (FPRR in MHz)	>1
Range of Operation	Single-shot to FPRR
Seeder Burst Mode (pulses)	2 to 4
PulseEQ Operation	Up to 1 MHz rep rate, optimized at 800 kHz
Pulse Width (fs)	≤350
Pulsewidth Tuning Range	NA
Spacial Mode	TEM ₀₀ , M ² <1.3
Beam Divergence (mrad, 2θ)	≤0.25
Beam Diameter at Output ² (mm, 1/e ²)	5.0 ±0.5
Beam Circularity ² (%)	≥85
Polarization Ratio ³	>100:1
Polarization Direction	Horizontal
Pulse-to-Pulse Stability ⁴ (% rms, ±σ)	<3
Average Power Stability ⁴ over 8h (% rms, ±σ)	<2
Beam Pointing Stability (urad/K)	≤25
Warm-up Time (minutes)	
Cold Start	≤45
Warm Start	≤15
External Comms	RS-232, Ethernet, USB
Power Consumption ⁵ (typical)	48 VDC, <500 W
Warranty	1-year, unlimited hours

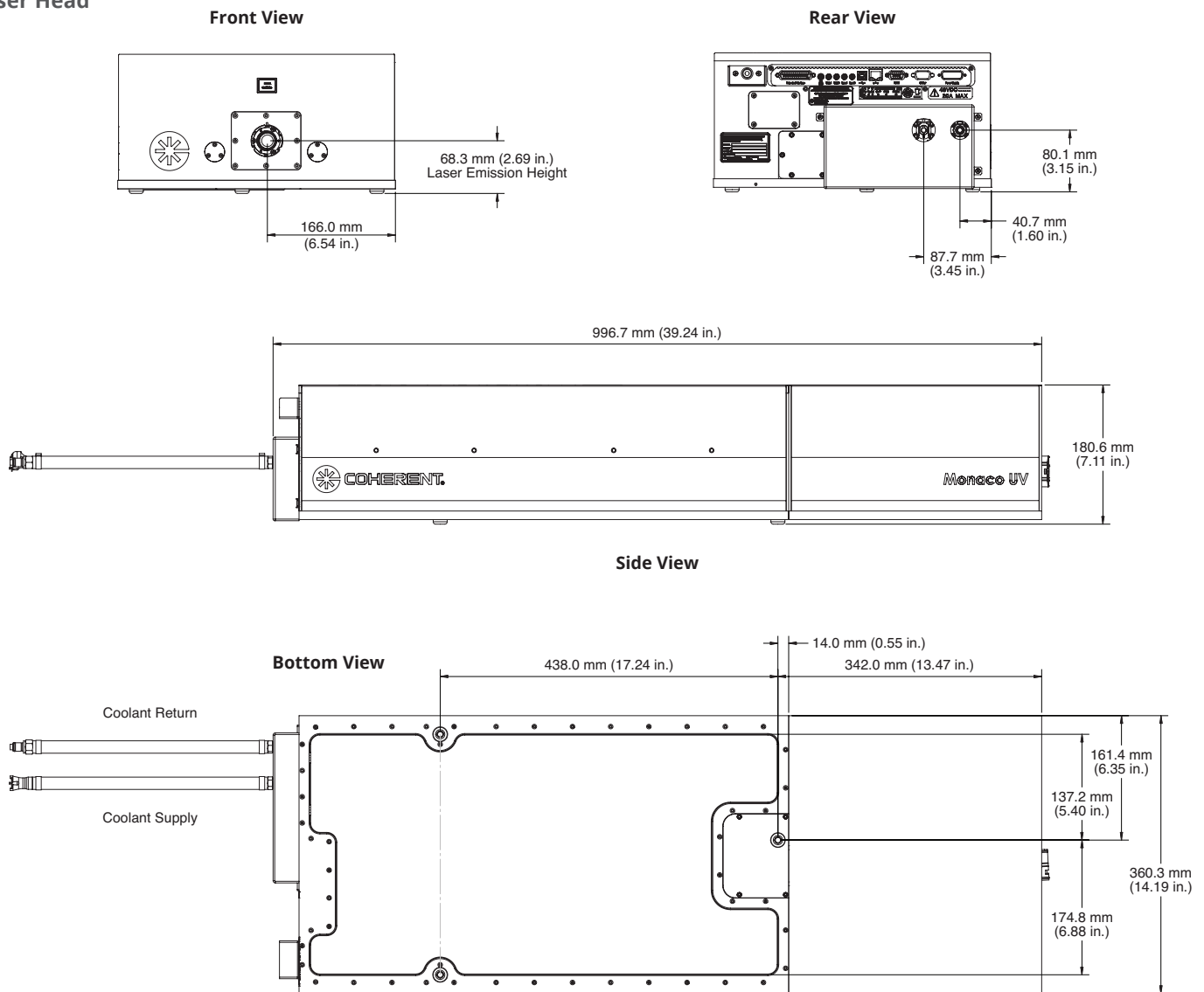
1 All specifications at maximum pulse energy.
 2 Measured 1 m ahead of laser front.
 3 External isolation required depending on application.
 4 External temp held to ±1°C.
 5 Optional 110 to 240 VAC power supply available.

TYPICAL PERFORMANCE DATA



MECHANICAL SPECIFICATIONS

Monaco UV Laser Head



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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 Monaco UV 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. MC-024-19-0M0619 Copyright ©2019 Coherent, Inc.

