



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 femtosecond 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

- 30 W, 800 kHz model for legacy ps tool environments
- 25 W high rep rate model tailored to material ablation thresholds
- 345 nm 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

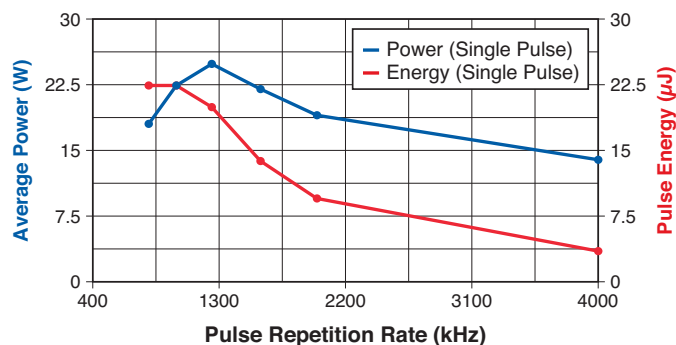


OPTICAL SPECIFICATIONS ¹	Monaco 345-20-25	Monaco 345-38-30
Fundamental Center Wavelength (nm)	345 ±2	
Output Power (W)	25	30
Energy (μJ)	20 (1.25 MHz)	37.5 (800 kHz)
Repetition Rate (kHz)	Single-Shot to 4 MHz	
Pulse Width (fs)	≤350	≤500
Pulsethrough Tuning Range	N/A	
Spatial Mode	M ² <1.3	
Burst Mode (pulses at 800 and 1000 kHz)	3, 5	
PulseEQ Operation	Up to 1 MHz rep rate	
Beam Divergence (mrad, 2θ)	≤0.25	
Beam Diameter at Output ² (mm, D4σ)	5.0 ±0.5	
Beam Circularity ² (%)	≥85	
Polarization Ratio ³	>100:1	
Polarization Direction	Horizontal	
Beam Pointing Stability (urad/K)	≤25	
Pulse Energy Stability ⁴ (% rms, ±σ)	<3	
Warm-up Time (minutes)		
Cold Start	≤45	≤60
Warm Start	≤15	≤15
Long-Term Pointing Stability (μrad)	±25 over 8 hours	
Head Weight	57 kg (125.6 lbs)	60 kg (132.3 lbs)
Power Consumption ⁵ (typical) (W)	<500, 48 VDC	<800, 48 VDC
Energy Switching Time (s)	<1	

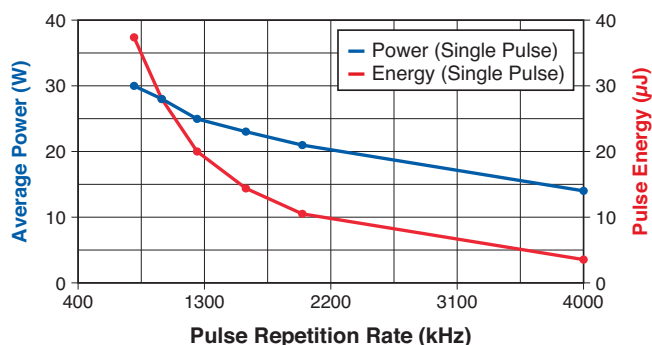
1 All specifications at maximum pulse energy.
 2 Measured 2 m ahead of laser front.
 3 External isolation required depending on application.
 4 External temp held to ±1°C.
 5 Optional 110 to 240 VAC power supply available.

TYPICAL PERFORMANCE DATA

Monaco 345-20-25



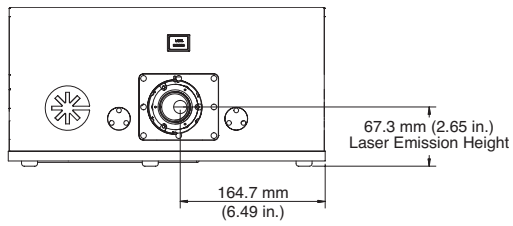
Monaco 345-38-30



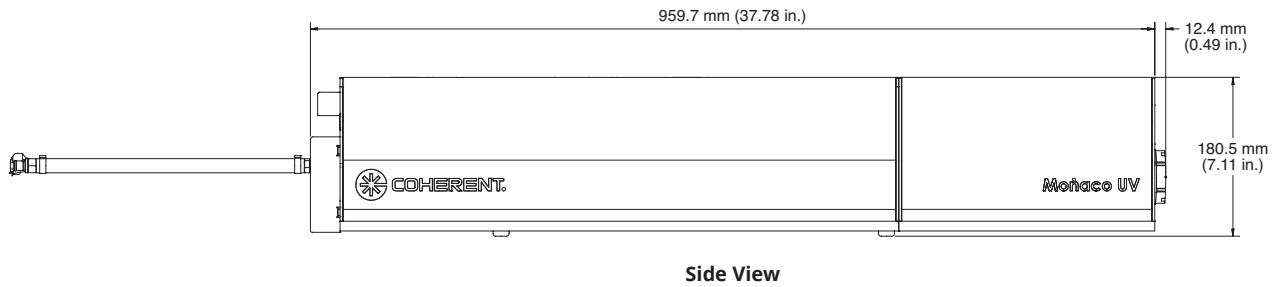
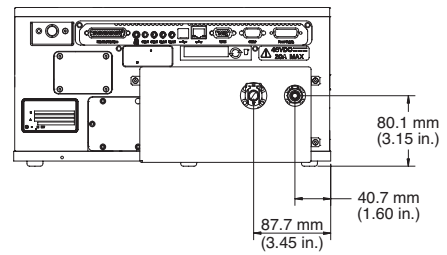
MECHANICAL SPECIFICATIONS

Monaco UV 345-20-25 Laser Head

Front View



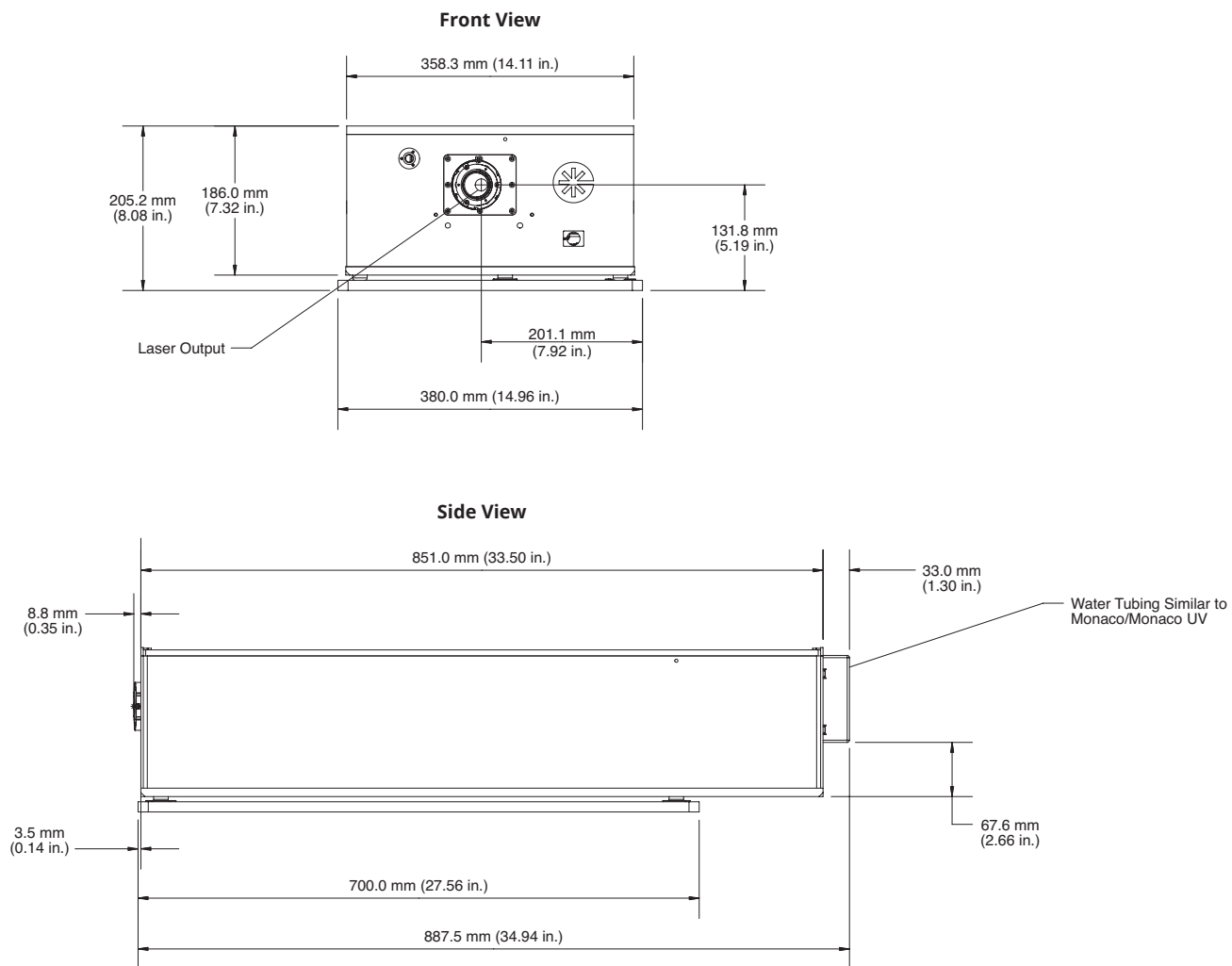
Rear View



Side View

MECHANICAL SPECIFICATIONS

Monaco UV 345-38-30 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.
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