

# Atlantic HR



The Atlantic HR diode pumped picosecond laser introduces a high repetition rate solution for material processing and other industrial applications.

Diode pumped solid state laser technology combined with EKSPLA's 20 years of experience in picosecond lasers has enabled the design and manufacture of a reliable cost effective tool.

A rugged design ensures stable and reliable operation in diverse ambient conditions. Short pulse duration ( $< 8$  ps) and good beam quality ( $M^2 < 1.3$ ) make this laser an excellent choice for many industrial as well as R&D applications.

A high repetition rate allows for fast processes with multiple meters per second scanning speed.

## Industrial High Repetition Rate Picosecond DPSS Laser

### FEATURES

- ▶ Up to **16 W** output power
- ▶ High **88 MHz** repetition rate
- ▶ **< 8 ps** pulse duration
- ▶ High stability and excellent beam quality  $M^2 < 1.3$
- ▶ **1064 nm, 532 nm or 355 nm** output wavelengths
- ▶ Compact, sealed and rugged design
- ▶ Low maintenance
- ▶ Single-phase powering
- ▶ No external cooling water

### APPLICATIONS

- ▶ Patterning
- ▶ Structuring
- ▶ Ablation
- ▶ Micromachining
- ▶ Inspection
- ▶ Amplifier seeding
- ▶ OPO pumping

SPECIFICATIONS <sup>1)</sup>

	Atlantic HR-1064	Atlantic HR-532	Atlantic HR-355
<b>GENERAL SPECIFICATIONS</b>			
Wavelength <sup>2)</sup>	1064 nm	532 nm	355 nm
Output power	16 W	8 W	>2 W
Repetition rate	88 ± 2 MHz		
Pulse length	< 8 ps	< 7 ps	< 7 ps
Spatial mode	TEM <sub>00</sub>		
M <sup>2</sup>	<1.3		< 1.5
Beam diameter	1.8 mm	1.5 mm	~ 3 mm
Beam divergence	< 0.8 mRad	< 0.8 mRad	< 1.5 mRad
Beam ellipticity	> 0.8	> 0.8	> 0.7
Beam pointing stability better than	50 µRad		
Polarization	vertical		
Long term power stability <sup>3)</sup>	2 %	2 %	3 %
Amplitude noise	< 1 %	< 2 %	< 2 %
Maximum warm-up time	1 h		
Static alignment tolerances relative to laser mount			
Beam position	± 1 mm		
Beam angle	± 2.5 mRad		
<b>OPERATING REQUIREMENTS</b>			
Operation ambient temperature	20–25 °C		
Operating voltage	100/115/208/230 V AC selectable, single phase 50 or 60 Hz		
<b>PHYSICAL CHARACTERISTICS</b>			
Laser head dimensions (W×H×L)	164 × 170 × 664 mm		214 × 161 × 681 mm
Power supply dimensions (W×H×L)	561 × 841 × 861 mm		
Laser head weight	25 kg		30 kg
Power supply weight	90 kg		
Umbilical length	3 m		
<b>CLASSIFICATION</b>			
Classification according EN60825-1	CLASS 4 laser product		

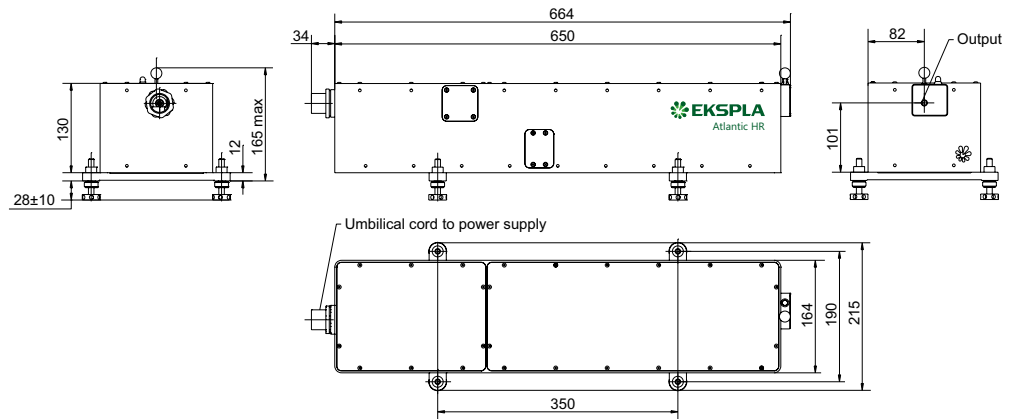
<sup>1)</sup> Due to continuous improvement, all specifications are subject to change without notice. Parameters marked typical are not specifications. They are indications of typical performance and will vary with each unit we manufacture. Unless stated otherwise, all specifications are measured at 1064 nm.

<sup>2)</sup> 266 nm version is available on request.

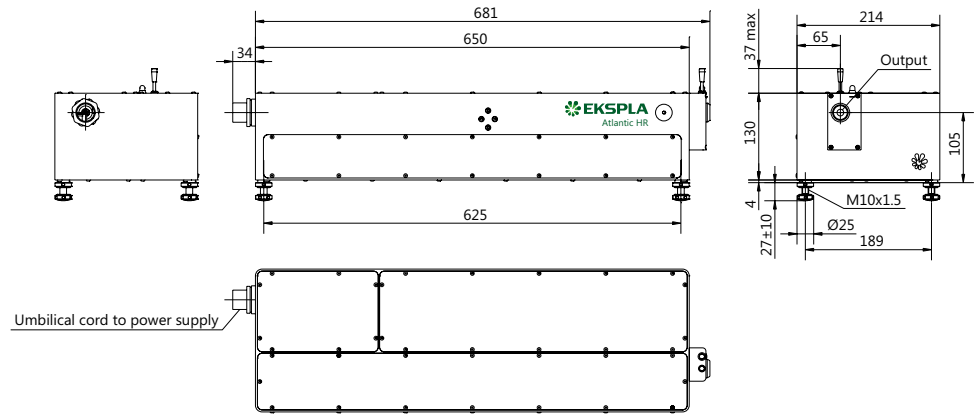
<sup>3)</sup> For 2 hours at constant temperature.



LASER HEAD OUTLINE DRAWINGS

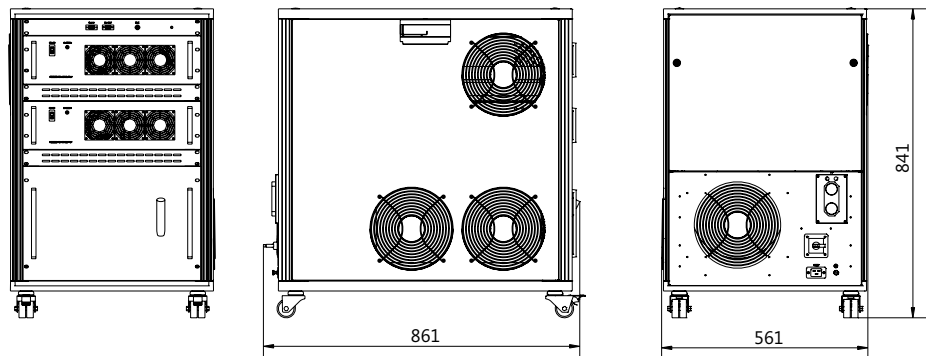


Atlantic HR-1064 and Atlantic HR-532 laser head outline drawings



Atlantic HR-355 laser head outline drawings

POWER SUPPLY OUTLINE DRAWINGS



Atlantic HR power supply outline drawings