monocrom

lighting the future

Nanosecond DPSS Laser

ABLON

CORE FEATURES

Pulse energy up to **220 mJ**

Repetition rate up to **150 Hz**

Excellent **beam focusability**

Long lifetime due to **DPSS** technology

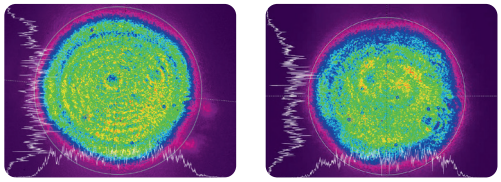
Extremely robust and stable design

Dust-sealed optical chamber

APPLICATIONS

Material ablation | LIBS element analysis | OPO, Ti:Sa, dye pumping
Laser ultrasound | SLR satelite ranging | Atmosphere LiDAR
Pulsed Laser Deposition | Direct Laser Interference Patterning

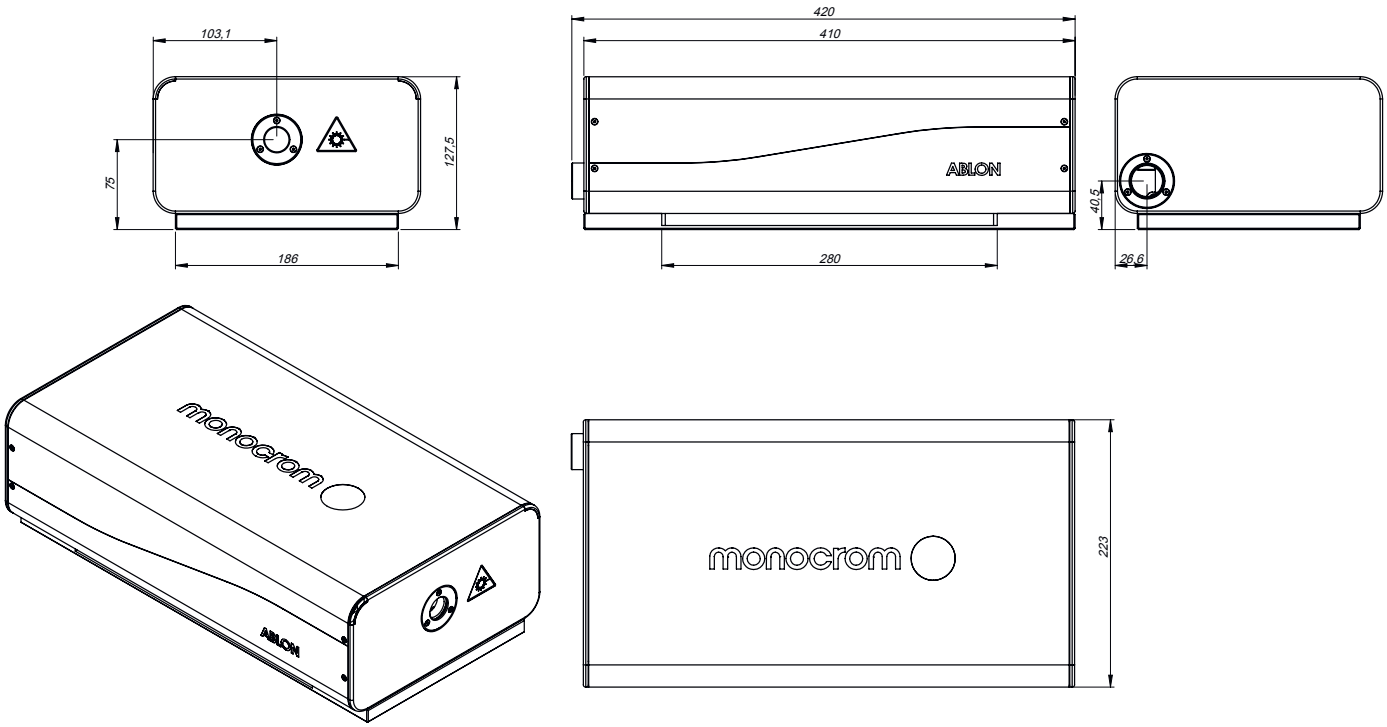
PERFORMANCE EXAMPLES



"Top Hat" (high fill factor) Super-Gaussian (smooth)

Typical near field beam profiles at 100 Hz pulse repetition rate.

we care for the environment



All dimensions are in millimeters.

PRELIMINARY SPECIFICATIONS [1,2,3,4]

	TH 50	TH 100	TH 150	SG 50	SG 100	SG 150
Pulse repetition rate [Hz]	50	100	150	50	100	150
Pulse energy [mJ]:						
at 1064 nm	220	200	150	180	160	120
at 532 nm	110	100	75	90	80	60
at 355 nm	60	55	40	50	45	30
Pulse duration [ns]	7 ± 3					
Optical jitter [ns]	< 0.5					
Pulse energy stability, RMS [%]						
at 1064 nm	< 1					
at 532 nm	< 1.5					
at 355 nm	< 2.5					
Long term power drift [%] [5]	± 3					
Beam profile	"Top Hat" in the near filed, close to Gaussian in the far field			Super-Gaussian in the near filed, close to Gaussian in the far field		
Beam diameter [mm]	5.0 ± 0.5			4.5 ± 0.5		
Beam divergence [mrad] [6]	< 1					
Beam pointing [µrad]	< 70					
Polarization	linear, PER > 85 %			linear, PER > 98 %		
Cooling type	water (chiller included)					
Laser head dimensions (L×W×H) [mm]	360 × 160 × 120					
Control unit dimensions	19" rack, 6U					
Operating voltage	100 – 240 V AC, single phase, 50/60 Hz					
Power consumption [kW]	< 1.0					
Operational temperature [°C]	18 – 35 (non-condensing)					
Expected lifetime[7] [shots]	1 billion					
Laser product class (EN-60825)	4					

1. This is a preliminary specification sheet; validation of specification is in process.
2. All specifications are at 1064nm, at least it is stated otherwise.
3. Specifications at 25°C, at the beginning of the lifetime.
4. Specifications are subject to change without notice.
5. Measured over 8 hours after 20 min warm-up when ambient temperature variation is less than ± 2 °C.
6. Full angle measured at the $1/e^2$ level.
7. Reduced lifetime if used in conflict to nominal operational conditions.