

Lasers for Defense & Aerospace Applications

- life-science & medical
- industrial
- defense & aerospace

Security and Target Aquisition

Lasers greatly improve the accuracy and efficiency of defense systems. The uses of lasers include applications such as temporarily blinding and desorientating (laser dazzlers), laser guidance, laser sight, target designation and ranging, defensive cuntermeasures. Lasers can also be used in underwater communications for secure and timely transmission of information.



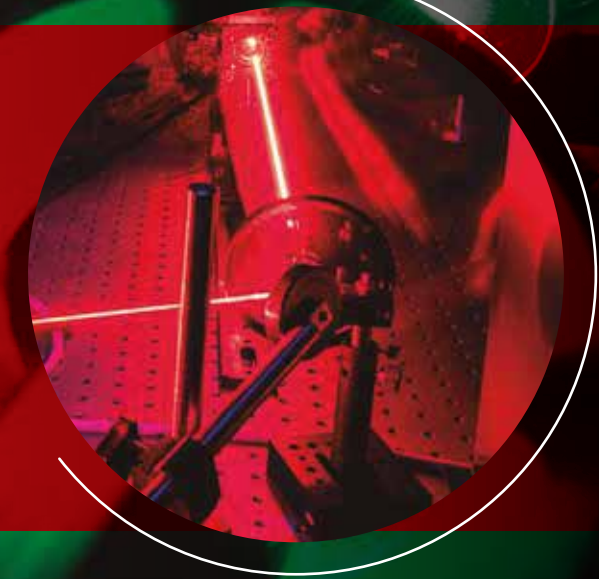
- Dazzling
- Guidance
- Target designation
- Ranging
- Defensive countermeasures
- Underwater communications



Technical Specifications	
Wavelength	640 - 2900 nm
Power per bar	up to 600 W at QCW
Bar to bar pitch	down to 0.4 mm
Optics	FAC / SAC (VBG option available)
Bars per stack	1-16 (pitch dependent)
Smile	< 0.1 μ m
Duty cycle	> 3% passively cooled

Pumping Sources

Diode lasers offer unsurpassed wall-plug efficiency and wavelength versatility when it comes to optical pumping solutions. Our pump heads are based on emitter arrays (laser bars and mini-bars) and laser bar arrays (vertical and horizontal stacks). We offer also single emitters to explore exotic wavelengths in solid state lasers (Pr:YLF)



- _____ Ti:Sa
- _____ DYE
- _____ OPO
- _____ OPA
- _____ OPCPA



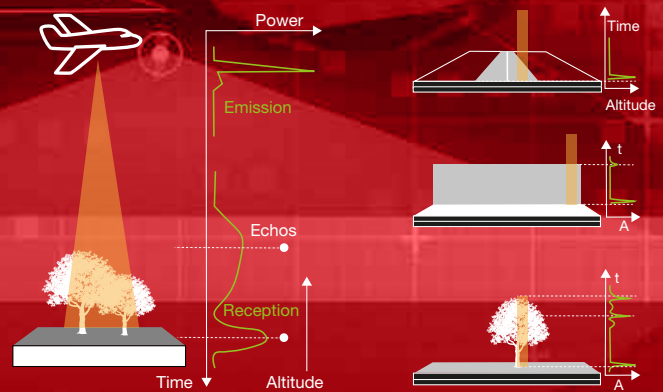
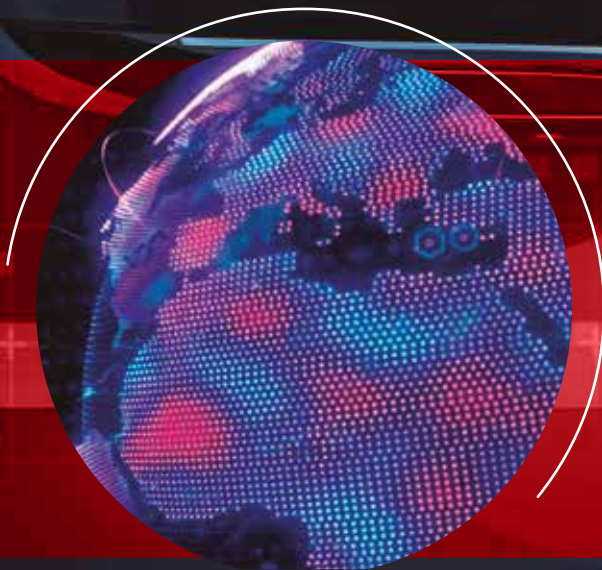
Technical Specifications	
Wavelength*	808/825/880/888 nm (Nd:YAG / Nd:YLF) 960/1450 nm (Er:YAG) 915/940/969/976 nm (Yb:YAG) 785 nm (Tm:YAG)
Power	up to 250 W / laser bar (CW) up to 600 W / laser bar (QCW)
Rod diameter	customized
Slab dimensions	customized

Possible host materials:
YAG / YLF / YVO₄
Dopings:
Nd / Er / Tm / Ho / Yb

*VBG option available

Light Detecting and Ranging (LiDAR)

LiDAR is used for different kinds of measurements in an array of sectors and industries. The automotive and aerospace industry are the main users of this versatile laser technology. LiDAR is also successfully used for improving weather forecasts in meteorology, for quality control of fields in agriculture and also for supporting renewable-energy technologies.



Application	Wavelength (nm)	Repetition rate (Hz)	Pulse energy (mJ)	Host material
Seabed mapping / bathymetry	405 / 445 / 527 / 532	10 - 1000	1 - 10	SHG (Nd:YLF / YAG / YVO) / direct diode
Automotive / autonomous driving cars	905 / 15xx	CW - 10000	1 - 10	Er:Glass / direct diode
Agricultural industry	905 / 10xx	10 - 10000	1 - 10	Nd:YLF / YAG / YVO / direct diode
Meteorology - velocity profile of wind	10xx / 15xx	10 - 1000	< 1000	Nd:YLF / YAG / YVO / direct diode
Meteorology - temperature profile of atmosphere	10xx / 15xx	10	< 1000	Nd:YLF / YAG / YVO / direct diode
Meteorology - trace gas detection	2000 - 3000	1000 - 10000	5 - 50	Tm:YAG / Ho:YAG / direct diode
Electricity producing industry - wind profile determination	10xx / 15xx	CW - 200	< 100	Nd:YLF / YAG / YVO Er:Glass / direct diode
Aerospace industry - turbulences and wake - vortexes	905 / 10xx / 2010	> 10000	1 - 10	Nd:YLF / YAG / YVO / Tm:YAG / direct diode

DESTINATION MARS

ESA ExoMars Project

Monocrom has developed a miniaturized and extremely robust diode-pumped solid state laser (DPSSL) with second harmonic generation (SHG) for the ESA ExoMars (2020) mission on Mars. The device will be part of the Raman LIBS equipment included in the Mars exploration rover.



OEM Laser Solutions for Aerospace & Defense

Robust. Resistant. Accurate

Laser devices in the aerospace and defense industries are subject to strict regulations and requirements. Monocrom lasers show inherent advantages due to the implementation of unrivalled advanced technologies kept for exclusive use of the company. They have also proven to be compliant with the military standard MIL-STD-810.

We have a solid expertise in lasers for aerospace and defense applications. Our commitment to innovation, quality and excellence allow us bring to fruition any product development: from a simple pointing laser device to a complex diode-pumped solid state laser for outerspace exploration.

We offer a high degree of flexibility and versatility for your developments.



Main headquarters

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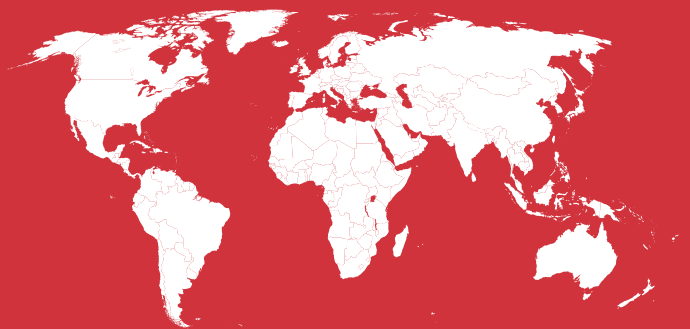
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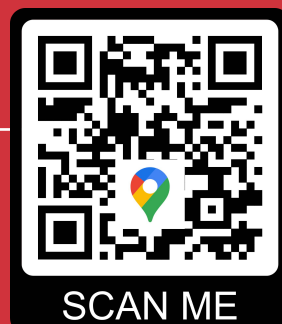
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We are global



SCAN ME