Monocrom Portfolio

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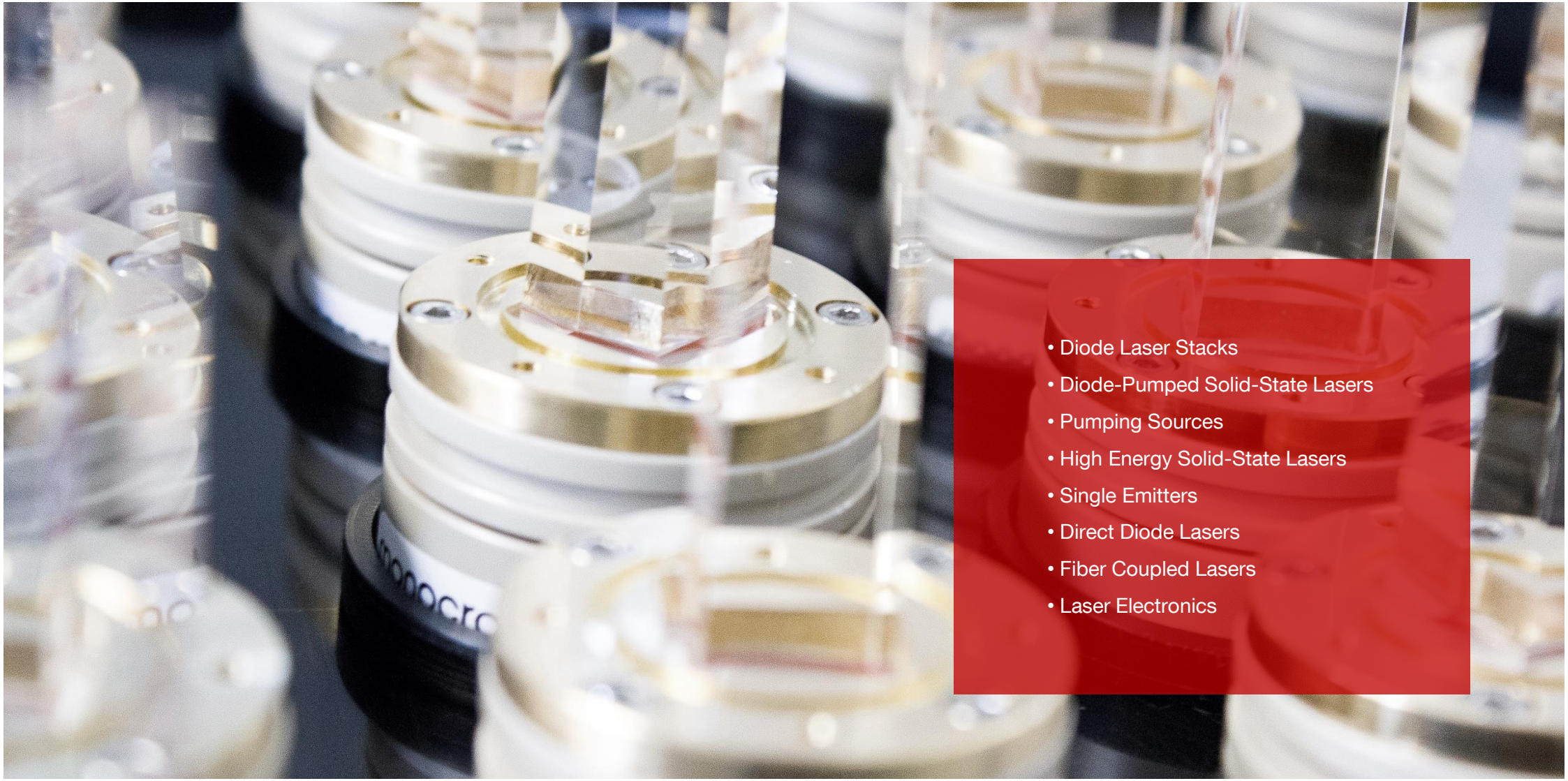
Product overview



- Diode Laser Stacks
- Diode-Pumped Solid-State Lasers
- Pumping Sources
- High Energy Solid-State Lasers
- Single Emitters
- Direct Diode Lasers
- Fiber Coupled Lasers
- Laser Electronics

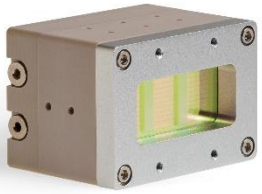
Diode Lasers

Technical parameters
Wavelength: 640 nm - 2300 nm
Power: 20 W - multiple kW with stacks
Solder-free laser bar mounting technology
A variety of cooling solutions
Integration level: laser heads, plug & play laser units, OEM systems

Diode Lasers

Parameters	Figures
Wavelengths	640 nm – 2300 nm
Power	CW- up 250W (successful lab tests up to 310W) QCW- Up to 500W (successful lab tests up to 900W)
Bar 2 Bar pitch	Down to 0,7mm (C-Stack) YTE- 0.4mm Down to 1,88mm (A-Stack) YTE- 1.50mm
Optics	FAC/SAC/BT
Bars per stack	1-15 Bars (pitch dependent)
Smile	<0.5µm (successful lab tests down to 0.1µm)

Laser Diode Modules for Hair Removal



Technical parameters

Liquid Fiber Laser Diodes	Encapsulated Laser Diode Stacks	Laser Diode Stacks with Prism	Encapsulated Laser Diode Stacks with Cooling Tip
Wavelength [nm]: 760, 808, 1064	Wavelength [nm]: 760, 808, 1064	Wavelength [nm]: 760, 808, 1064	Wavelength [nm]: 760, 808, 1064
Power [W]: 800 - 6000	Power [W]: 800 - 6000	Power [W]: 800 - 6000	Power [W]: up to 2500
Cooling: Active/Passive	Cooling: Active/Cunductive	Cooling: Active/Conductive	Pulse width [ms]: up to 500
Operation mode: QCW	Operation mode: QCW	Operation mode: QCW	Optical Transmission Efficiency [%]: up to 90
Spot size [mm2]: 7x7 - 30x10		Tip: TEC or water cooled	Spot size [cm2]: 1,5 - 2,0
Fluency: Up to 75 J/cm2		Wight [g]: 150 – 500	Aiming beam (included as standard) [nm]: 520

Diode-pumped Solid-State Lasers (DPSSL)

Technical parameters
Wavelength: 1064 / 1053 / 1047 / 532 / 527 nm
Operation mode: CW / Q-pulse
Solder-free Clamping™ technology
Excellent performance in medical and industrial applications

Diode-pumped Solid-State Lasers (DPSSL)

	Multipath 532-3W	LQ 527-12	LU LPQ 1064-mJ
Wavelength	532nm	527nm	1064nm
Power	Up to 5W CW/ 8W QCW		
Pulse energy		Up to 1mJ	Up to 20mJ
Beam Quality	$M^2 = 1.7$		TEM00
Pulse length		1.7µs	2ns
Repetition rate		Up to 200Hz	100Hz
Dual Pulse delay			50µSec
	** 50µm Fiber coupling is available		

Single Emitters

Technical parameters	
S series	• Wavelength: 405 nm- 1940 nm • Power: µW - W • TEC stabilized • Fiber coupled optional
T series	• Wavelength: 405 nm- 1940 nm • Power: µW – mW • Adjustable focused
C series	• Wavelength: 405 nm- 1940 nm • Power: µW - W • Fiber coupled
D series	• Wavelength: 405 nm- 1940 nm • Power: µW - mW • Fixed focus, • Collimated

Pumping Sources

Technical parameters
Wavelength: 808 nm (Nd:YAG) 960 /1450 nm (Er: YAG) 785 nm (Tm: YAG)
Power: 120 W – 5400 W
Operation mode: CW / QCW

Intended for:

Industrial

Defense

Entertainment

Pumping Sources at CW

Model	Ø rod (mm)	Current (A)	Pumping λ (nm)	Size	Peak power (W) *	Max PP achieved (W) *
PH120-6	3	20	806±2	Ø54x56mm	40	60
PH120-3	3	44	806±2	Ø54x56mm	40	40
PH240	3	44	806±2	Ø54x56mm	80	84
PH300	3	50	806±2	Ø54x56mm.	100	120
PH720	5	55	806±2	105 x 91,7 x 92,7	220	240

- With 0.6% Nd:YAG rod and plane/plane resonator OC=85%

Pumping Sources at QCW

Model	Ø rod [mm]	Current [A]	Pumping λ [nm]	Dimensions	Peak power [W]*	Max PP achieved [W]*	Max f validated with 200µs pulses [Hz]
PH450	3	150	806±2	Ø54x56mm	150	180	100
PH900	3	150	806±2	Ø54x56mm	300	380	100
PH1200	4	180	806±2	Ø54x56mm	400	435	1000
PH1800	3	270	806±2	Ø54x56mm	600	750	300
PH3600	5	90	806±2		1200	1280	1000
PH5400	5	125	806±2		1800		500

- With 0.6% Nd:YAG rod and plane/plane resonator OC=85%

High Energy Diode-pumped SSLs

Technical parameters
Active medium: Nd:YAG or Nd:YLF
High energy per pulse (1 J)
High repetition rate (300 Hz)
High average power (300 W)
High peak power (30 kW)
Unprecedented laser properties in IR, green and UV

High Energy Diode-pumped SSLs - IR

IR			
Active material		Nd: YAG - Nd YLF	
Wavelength		1064 nm - 1053 nm	
Repetition rate		Min 10 Hz - Max 200 Hz	
PRODUCT	**HiEN PULS IR-4**	**HiEN PULS IR-5**	**HiEN PULS IR-6**
Max Energy per shot at 10 ns	600 mJ	1000 mJ	1400 mJ
Max Energy per shot at 20 ns	800 mJ	1400 mJ	2000 mJ
Max Energy per shot at 30 ns	1000 mJ	1700 mJ	2400 mJ
Energy stability	< 1% rms	< 1% rms	< 1% rms
Spatial beam mode	Multimode	Multimode	Multimode
Beam Divergence (M^2)	> 5	> 7	> 10
Polarization	Linear (1:100)	Linear (1:100)	Linear (1:100)

High Energy DPSSLS - GR

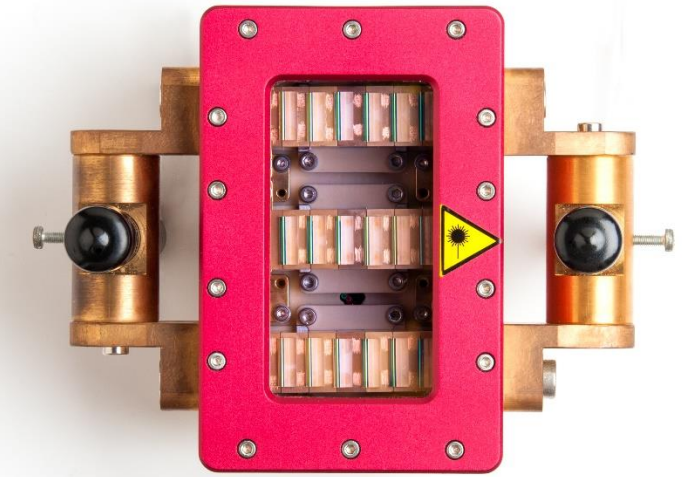
GR			
Active material		Nd: YAG - Nd YLF	
Wavelength		532 nm - 527 nm	
Repetition rate		Min 10 Hz - Max 200 Hz	
PRODUCT	**HiEN PULS GR-4**	**HiEN PULS GR-5**	**HiEN PULS GR-6**
Max Energy per shot at 10 ns	330 mJ	550 mJ	770 mJ
Max Energy per shot at 20 ns	440 mJ	770 mJ	1100 mJ
Max Energy per shot at 30 ns	550 mJ	940 mJ	1300 mJ
Energy stability	< 1% rms	< 1% rms	< 1% rms
Spatial beam mode	Multimode	Multimode	Multimode
Beam Divergence (M^2)	> 5	> 7	> 10
Polarization	Linear (1:200)	Linear (1:200)	Linear (1:200)

High Energy Diode-pumped SSLs - UV

UV			
Active material	Nd: YAG - Nd YLF		
Wavelength	355 nm - 351 nm		
Repetition rate	Min 10 Hz - Max 200 Hz		
PRODUCT	**HiEN PULS UV-4**	**HiEN PULS UV-5**	**HiEN PULS UV-6**
Max Energy per shot at 10 ns	180 mJ	300 mJ	420 mJ
Max Energy per shot at 20 ns	240 mJ	420 mJ	600 mJ
Max Energy per shot at 30 ns	300 mJ	510 mJ	720 mJ
Energy stability	< 1% rms	< 1% rms	< 1% rms
Spatial beam mode	Multimode	Multimode	Multimode
Beam Divergence (M^2)	> 5	> 7	> 10
Polarization	Linear (1:200)	Linear (1:200)	Linear (1:200)

Direct Diode Lasers

Technical parameters
Power: up to 8 kW in CW
Solder-free laser bar Clamping™ technology
Efficient cooling: conduction or active
Real macro channels in water cooling
Low maintenance cost
Intended for industrial applications



Fiber-Coupled Lasers

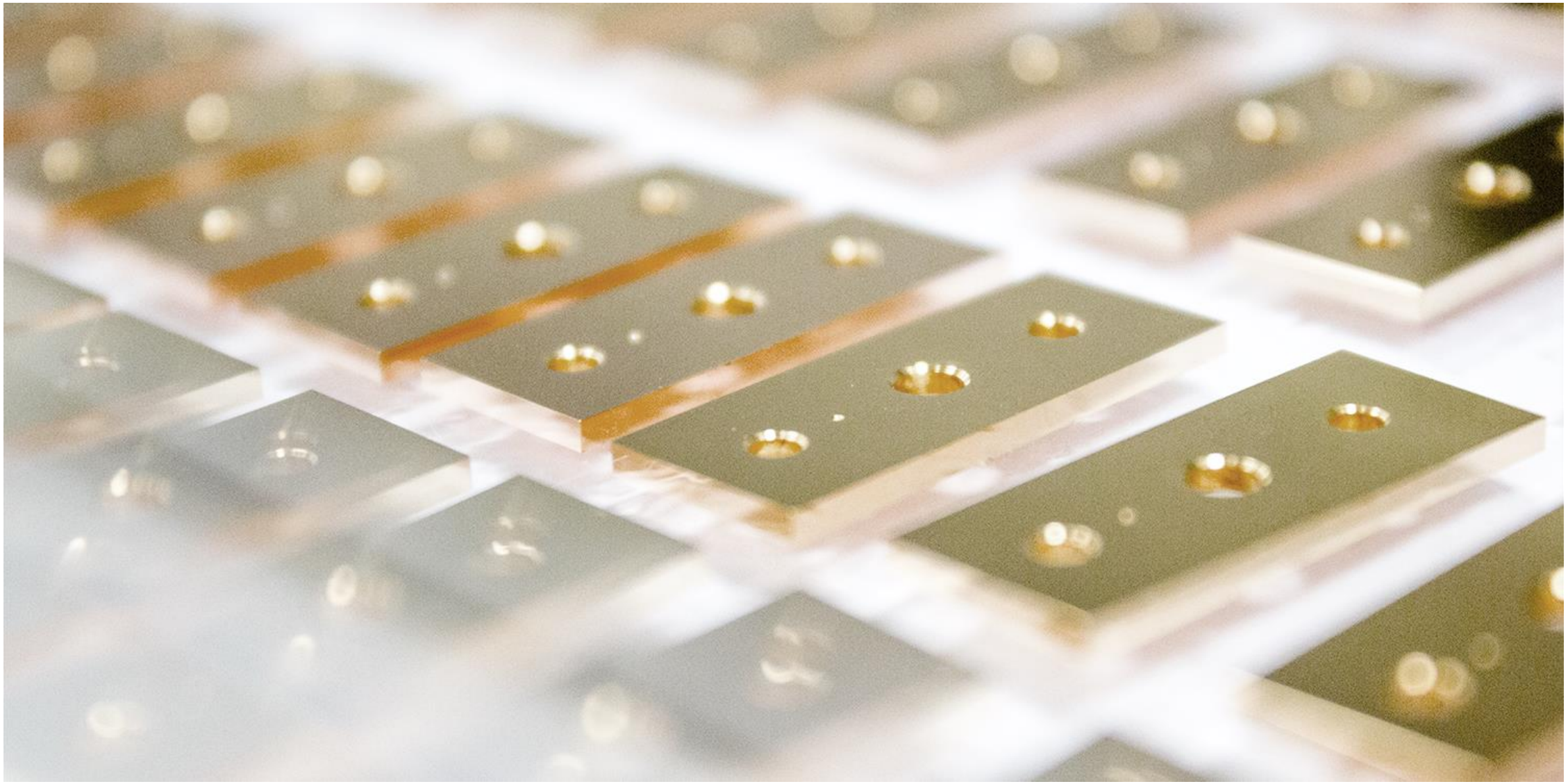
Technical parameters
Wavelength stabilized with a grating for wavelength locking
Power: 1 kW in CW at a single wavelength
Solder-free laser bar mounting technology (Clamping™)
Optimum fiber coupling efficiency
Intended for high brightness (radiance) demanding applications

Laser Electronics

Monocrom offers digital and analog TEC and laser drivers that improve laser diode performance and reliability and has 25 years of experience in laser electronics design.

Thank you!

Visit us at www.monocrom.com



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