

Applications

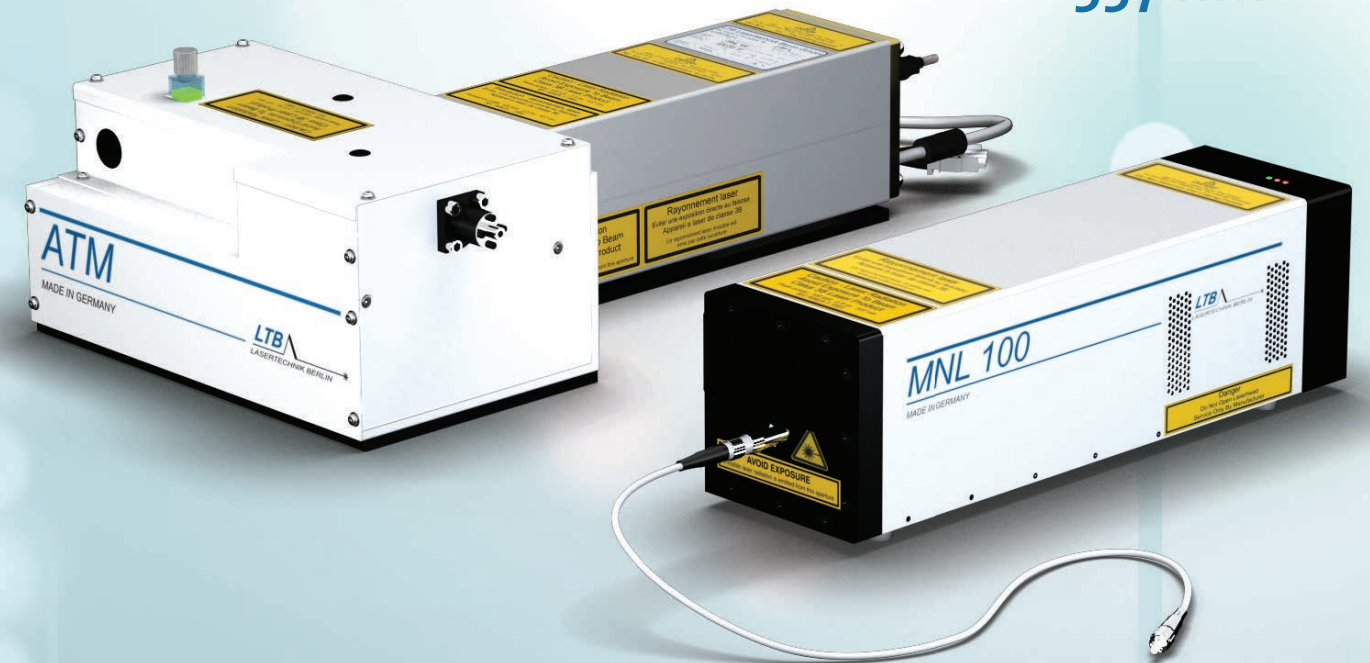
- MALDI-TOF mass spectroscopy
- MALDI Imaging
- Bioreaders
- Ion trap mass spectroscopy
- LIF spectroscopy
- Time-resolved spectroscopy
- Micro-LIBS
- Laser ablation
- Microstructuring
- Dissecting cells under the microscope
- Laser acoustics
- Detector calibration
- Pump source for dye lasers
- Amplification of ultra-short laser pulses
- Technological applications such as laser induced bonding, hardening and cleaning

Accessories

- Fiber couplings and fibers
- μ -Joule Meter PEM 250 / PEM 500
- Dye lasers / SHG
- Trigger converter TWE

225 - 950 nm

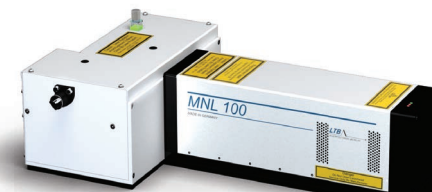
337 nm



for industrial demands

Lasers in the ns-range

MALDI-TOF - TR-FRET - LIF-spectroscopy - Micro-LIBS



MNL 100 Mini-Nitrogen-Laser

MNL 300 Low cost Nitrogen Laser

MNL 330 High Rep. Rate Nitrogen Laser

Dye Laser UDL / Frequency Doubler SHG

µJoule Meter PEM 250 / 500

Wavelength	337.1 nm	337.1 nm	337.1 nm	400-950/225-400 nm
Pulse energy max.	225 µJ	85 µJ	40 µJ (up to 20 Hz)	30 % conversion efficiency
Pulse width (FWHM)	3 ns	3 ns	3 ns	follows the pump laser
Peak power	75 kW	28 kW	10 kW	30 % conversion efficiency
Repetition rate max.	60 Hz	80 Hz	300 Hz	60 Hz
Pulse energy @ max. rep. rate	135 µJ	75 µJ	25 µJ	depending on the pump laser
Average power max.	8 mW	6 mW	8.4 mW	depending on the pump laser
Stability	2 %	2 %	2 %	3 %
Warranty - standard version	60 million / 2 years	40 million / 2 years	200 million / 2 years	1 year
Warranty - long life version	120 million / 3 years	60 million / 3 years		
Dimensions	321 x 95 x 95 mm ³	300 x 87 x 87 mm ³	300 x 87 x 87 mm ³	145 x 100 x 100 mm ³ 200 x 200 x 100 mm ³ with SHG
Weight	3.5 kg	2.8 kg	2.8 kg	1.5 kg

500 Hz	Max. repetition rate
0.25 - 250 µJ / 0.25 - 500 µJ	Measuring ranges
3 ps - 50 µs	Pulse width
30 nJ	Detection threshold
10 MW / cm ²	Max. peak density
0.19 - 1.2 µm	Spectral sensitivity
Ø 8 mm	Sensor area
355 + 100 nm	Calibration wavelength**
< 1 %*	Linearity
± 4 %**	Accuracy
14 bit	Dynamic range
1 year	Warranty
100 x 27 x 14.5 mm ³	Dimensions
0.2 kg	Weight

* for the calibration wavelength range
** customization possible

MNL 100 Our Marathon laser - for highest demands on efficiency and reliability

The ideal OEM UV-light source
for applications in the field of
industrial detection methods and
scientific research

- Long operational life through a sealed discharge cartridge in metal-ceramic technology
- High precision through a directly switching solid state power switch
- Longlife version with 120 million pulses / 3 years warranty
- Integrated laser controller for easy incorporation in different applications
- Patented and certified CE, ETL-INTERTEK (UL, CSA, VDE, Semco) ROHS, FDA

Options:
Energy monitor, beam attenuator unit, fiber coupling and fibers, dye lasers / SHG

Low-cost UV-laser,
rugged and easy to use,
for various applications

- Long operational life through a sealed discharge cartridge in metal-ceramic technology
- High precision through a directly switching solid state power switch
- Warranty up to 60 million pulses / 3 years
- Maintenance-free
- High quality alternative to all other low-cost UV-lasers
- Only an external trigger signal required to run the laser
- Patented and certified CE, ETL* (ANSI/UL 61010-1, CAN/CSA C22.2#61010-1), FDA

Options:
Fiber coupling + fibers,
dye lasers

UV-laser with high repetition
rate for high-throughput
applications

- Long operational life through a sealed discharge cartridge in metal-ceramic technology
- High precision through a directly switching solid state power switch
- Only an external trigger signal required to run the laser
- Maintenance-free
- Alternative to flash lamps due to the high rep. rate, the easy-to-use operation and the low purchase price

Options:
Fiber coupling + fibers,
dye lasers

Pulsed miniature
dye lasers/SHG
for the UV-VIS-NIR tuning

- Compact, modular, efficient, easy to use
- Manual and automated wavelength tuning
- 10 mm quartz dye cells, no dye circulators required
- Lifetime of dye solution in the dye cells typ. 6 months
- Wavelength range extension through SHG (225 nm - 950 nm)
- MNL nitrogen lasers, but also excimer or Nd:YAG lasers (with pulse energies up to 300 µJ) are well suited as pump lasers.

Options:
Energy monitor, beam attenuator unit, fiber coupling and fibers

Very compact energy
measurement module
for pulsed lasers

- USB-powered
- Pyroelectrical sensor
- High sensitivity (30 nJ)
- High dynamics 14 bit
- Several modules can be connected to one PC
- Measurement via light fibers or free beam
- Applied in on-line monitoring in laser-induced industrial analytics and medical diagnostics, development of systems and methods, simultaneous monitoring of processes, system calibration and service

Options:
Software development kit (SDK)
based on our DLL

LTB Lasertechnik Berlin GmbH

established in 1990, is an innovative developer and manufacturer of short-pulse lasers in the whole optical spectral range, different spectrometers and laser-based measuring technique, marketing its products world-wide.

We provide you:

* Laser sources for the industrial analytics and medical diagnostics

* Highest-resolution spectrometers for the development and production of lasers, esp. diode lasers and laser diodes, and for the laser lithography

* Laser-based measuring technique for the spectroscopic material analysis, process analytics and medical diagnostics (LIBS and LIF)