

for industrial  
demands  
**Lasers** in the  
ns-range

Interaction of light and matter –  
induced and analyzed with lasers  
and measuring systems of LTB



**MNL 100**  
Mini-Nitrogen-Laser

**MNL 300**  
Low cost Nitrogen Laser

**MNL 330**  
High Rep. Rate Nitrogen Laser

Wavelength	337.1 nm	337.1 nm	337.1 nm
Pulse energy max.	160 µJ	90 µJ	35 µJ
Peak power	55 kW	30 kW	12 kW
Repetition rate max.	60 Hz	100 Hz	300 Hz
Pulse energy @ max. rep. rate	135 µJ	50 µJ	22 µJ
Average power max.	8 mW	5 mW	7.5 mW
Stability	2 %	2 %	2 %
Warranty - standard version	60 million / 2 years	40 million / 2 years	200 million / 2 years
Warranty - longlife version	120 million / 3 years	60 million / 3 years	
Dimensions	321 x 95 x 95 mm	290 x 87 x 87 mm	290 x 87 x 87 mm
Weight	3.5 kg	2.2 kg	2.2 kg

**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
- Lifetime of the cartridge 180 million pulses
- 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

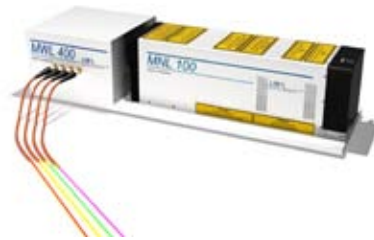
- Long operational life through a sealed discharge cartridge in metal-ceramic technology
- High precision through a directly switching solid state power switch
- Warranty up to 60 million pulses / 3 years
- Maintenance-free
- High quality alternative to all other low-cost UV-lasers
- Only an external trigger signal required to run the laser

Options:  
Fiber coupling

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
- Equipped with fiber coupling and fiber
- Only an external trigger signal required to run the laser
- Maintenance-free
- Unrivaled alternative to flash lamps due to the high rep. rate, the easy-to-use operation and the low purchase price

Options:  
Free beam



## Dye Laser UDL / Frequency Doubler SHG

400-950/205-400 nm  
30 % conversion efficiency  
30 % conversion efficiency  
60 Hz  
depending on the pump laser  
depending on the pump laser  
3 %  
2 years

## MWL 400 Multi-Wavelength Laser

337nm + 3 x VIS, e.g. 488/530/650  
10 µJ @ each output  
3 kW @ each output  
300 Hz  
depending on the pump laser  
depending on the pump laser  
3 %  
2 years

Wavelength  
Pulse energy  
Peak power max.  
Max. repetition rate  
Pulse energy @ max. rep. rate  
Average power max.  
Stability  
Warranty

145 x 100 x 100 mm  
200 x 200 x 100 mm with SHG  
1.5 kg

115 x 250 x 170 mm  
1.5 kg

Dimensions  
Weight

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

- compact, modular, very 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 extension through SHG (205 nm - 950 nm)
- MNL nitrogen lasers, but also excimer or Nd:YAG lasers (with pulse energies up to 30 mJ) are well suited as pump lasers.

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

### Compact multi-wavelength laser with 4 outputs - 337 nm and 3 x VIS-NIR with fiber couplings

- compact, modular, very efficient, easy to use
- 4 wavelengths are provided simultaneously or sequentially at one or at 4 outputs
- Any wavelength in the range between 360 and 950 nm can be chosen
- Controlling manual or wire trigger inputs
- Efficient coupling into fibers of  $\varnothing 100 - 1000 \mu\text{m}$  (> 80 %)
- Unrivaled alternative to flash lamps used in combination with filters or monochromator due to the high variability, the easy-to-use operation and the low purchase price

Options:  
Fibers from 100 µm up to 1000 µm, coupling into fiber bundles

### 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 (LIF and LIBS)

**We deliver complete solutions**

## Applications

- MALDI-TOF mass spectroscopy
- 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
- $\mu$ -Joule Meter PEM 250
- Dye lasers / SHG
- Trigger converter TWE

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