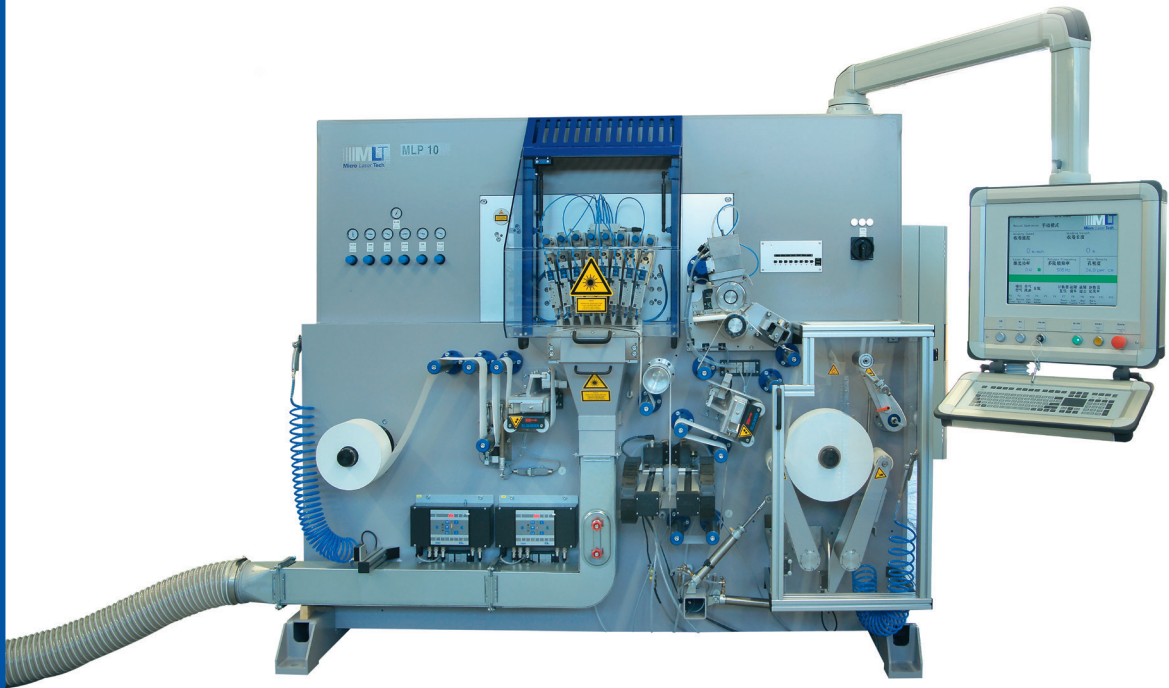


## Laser Perforation for Tipping Paper



*Picture shows the turnkey MLP-10 system including the Unwinder, the Micro Perforator, the Rewinder.*

The MLP-10 System is a turnkey Laser Perforator Systems which offers highly attractive state-of-the-art technology for offline perforation of single bobbin of cigarette tipping paper.

The MLP-10 System perforates a maximum of 8 rows (max. 4 rows per perforation zone) and up to 228.800 holes/second at a maximum web speed of 600 m/min. The maximum web width is 100 mm. Additional configuration are possible on request.

The MLP-10 System perforates an extremely consistent hole-to-hole quality which results into a minimum standard deviation giving the MLP-10 System the highest reliability.

## Technical details of the MLP-10 System:

### Rewinder:

- Max. bobbin diameter: 450 mm
- Paper length unwind: max. 3500 m
- Max. bobbin / paper width: max. 100 mm
- Ramp up time: 0 – 600 m/min below 3 sec.
- Max. winding speed: 600 m/min
- Printed and un-printed paper: 35 to 45 gr./sqm.
- Web guide: 2 web guiding systems with ultrasonic edge sensor
- Slitter: no slitting operations for single bobbin
- Base plate: solid steel base plate for perfect long term stability
- Optional "Zero-Meter"-device

### Micro Perforator:

- Based on MLT patented Vario-Polygon System
- Rotating speed: up to 24.000 RPM or 66.000 RPM
- Max. optical pulse frequenz: up to 80.000 holes/sec or 228.000 holes/sec
- Hole density: range from 5 – 30 holes
- Typ. Porosity: 50 to over 1000 Coresta Units
- Hole diameter: adjustable from 50 – 150 µm

### Focusing Heads:

- Max. 8 perforation heads
- All heads can be moved across the whole web
- Each focusing lens is adjustable with 0,01 mm resolution
- Each head with individual shutter

### CO<sub>2</sub> – Laser source with 10,6 µm wavelength:

- Typical Laser power of 200 Watt up to 1000 Watt, other power levels on request
- Optimised power stabilisation

### Chiller:

- Water-to-Air or Water-to-Water cooling
- +/- 1°C temperature regulation

### Exhaust dust Filter system:

- Various models are available, suitable to the demand in production
- Removes and filters debris of the perforation process