BioTray
Microtechnology for Life Science & Chemistry Applications

# "Technological Breakthrough in the production of microstructured surfaces"

BioTray is a French company based in Lyon which is specialized in the field of Microtechnologies for Life Science and Chemistry Applications.

In order to answer to the customer demand, BioTray's R&D team has developed special equipment dedicated to microstructured surfaces production.

Their flagship product, the MS10-100™v2 is a technological breakthrough performing the work of 6 different machines essential for the production of microstructured surfaces without the need of a dust-free environment.

The MS10-100™v2 is entirely automated and programmable. As a fact, 9 process step essential for the microstructured surfaces are proposed: Surface Preparation, Photoresist Application, Soft Bake, UV Exposure, Developing, Hard Bake, Wet Etching, Photoresist Removal and Cleaning. All those parameters are programmable in order to optimize the chips production.

This technology is modular, accommodating almost all commonly-used materials and adaptable to many substrate sizes, shape and thickness.

The substrate is placed on a perfluoroelastomer Kalrez® prehensor which resists over 1800 different chemicals while offering the high temperature stability of PTFE (327°C).

The other strength of the MS10-100™v2 is its maskless lithography system that permits the exposure of all types of micropattern.

## How does it work?

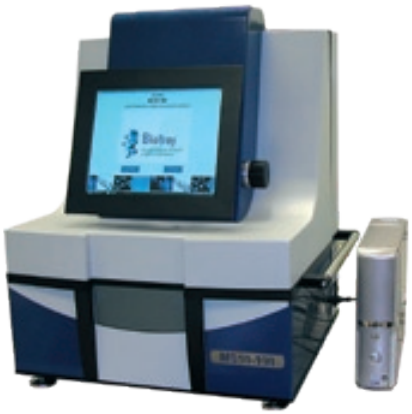
The photoresist is exposed to an intense light. The laser beam is like a pen and moves according to the patterns' trajectories.

In addition to the MS10-100™v2, BioTray offers two easy-to-use software:

• SamLight™: Laser & scanner control.
It allows the control of both the laser and scanner needed for the photoresist exposure according to the pattern. All parameters are modifiable in order to determine the exact photoresist exposure protocol (power, scan and jump speeds, number of insolation cycle…) The software allows X, Y positioning and angular correction.

• µPCLight™: Micro Patterning Computer Aided Manufacturing Software.
«µPCLight™» allows the users to create accurate and detailed micro-pattern from the most simple to the most complex microstructures. Its «pocket cycles» system allows the creation of microchannels of different sizes without the hassles of an expensive CAD program.

The programming parameters are saved for later use, modification or other users.



The "all-in-one" MS10-100™v2
Source: BioTray

The capabilities and flexibility of the MS 10-100™v2 make it the essential lithography research tool in MEMS, Bio-MEMS, Microfluidics systems, Sensors, Optical components, MicroPatterning, Lab-on-chip, CMOS and all other applications that require microstructures.
It is the ideal partner for cutting edge academic and industrial research laboratories.
The MS 10-100™v2 offers an enabling technology for everyone.

*« Special Thanks to Vincent Dugas, Phd and Morel Techniques SARL»*

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## Such achievements possible:

Lithographed chips:

Etched chips:

Sealed chips:

Optical reticles:

Source: BioTray