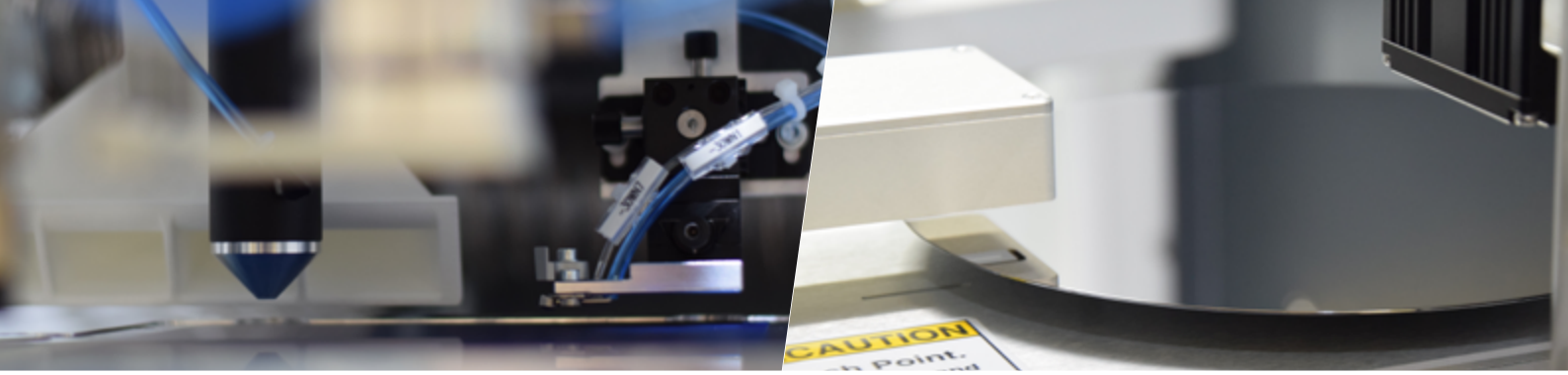# microPRO™

INDUSTRIAL LASER SYSTEM FOR ALL MICROMACHINING APPLICATIONS

3D-Micromac's microPRO™ is an adaptable laser micromachining system mainly used in industrial production. Its high versatility makes the system perfectly suited for industrial laser micromachining tasks such as laser structuring, cutting, and drilling applications. Furthermore, it is suitable for a variety of materials, e.g. metals, alloys, transparent and biological subtrates, ceramics, and thin-film compound systems. The microPRO™ is available with an automatic handling system for wafers, cassettes, trays, etc.

HIGHLIGHTS

- Flexible, stable, and repeatable machining results
- Integration of different laser sources
- Various optical setups
- Quick changing of workpiece clamping unit
- User-friendly, flexible, upgradeable system control and high range of software functions
- Automatic handling systems for industrial applications on request

3D MICROMAC

microPRO™ - SYSTEM OVERVIEW
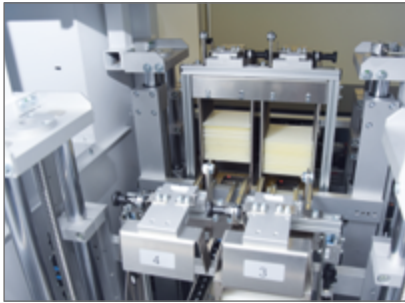
The microPRO™ enables the laser processing of various substrates. Due to the integration of different technology modules, the platform can be adapted to customers' requirements. Configuration packages may include:

- High-speed cutting
- Drilling
- Engraving
- Structuring and modification

- Laser-Lift-Off (LLO)
- Cylindrical machining
- Customized solutions

Laser sources	- One laser source (ns/fiber/fs/ps/CO_2)
Beam delivery unit	- One beam path with different options - 2D- and 3D-galvo scanner models or fixed optics - Power measurement at workpiece level
Positioning system	- Direct-driven XY positioning system - Travel distance 600 mm x 500 mm - Positioning accuracy ± 0.003 mm - Repeatability ± 0.001 mm
Working area	- One working area - Max. substrate size 400 mm x 400 mm (larger sizes on request)
Handling	- Automatic handling as an option - Loading- and unloading handling according to customers' specification - RFID or Data matrix reader (DMC)
Alignment	- Manual, semi-automated or fully-automated workpiece alignment with XY system and optical measurement system - Automatic Z positioning
Software microMMI™	- Control and supervise of all hardware components and machining parameters - Different user levels (administrator, supervisor, operator) - Data input file types: DXF, CSV, Gerber, CLI, GDSII
Safety	- Laser class 1 housing with integrated control panel - Certified laser window or overview camera (webcam) - Active exhaust system included
System dimensions	- 3,010 mm x 1,490 mm x 2,270 mm (L x W x H) - Approx. 4 t