

# microPRO™

## Industrial Laser System for all Micromachining Applications

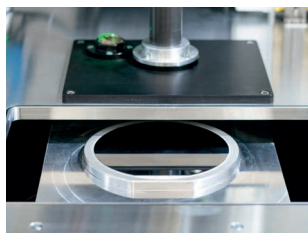
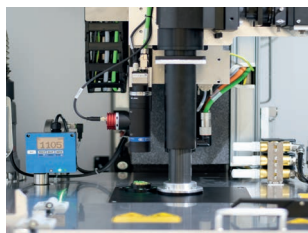
3D-Micromac's microPRO™ is an adaptable laser micromachining system mainly used in industrial production. Its high versatility makes the system perfectly suited for all industrial laser micromachining tasks such as laser structuring, cutting, drilling applications. Furthermore, it is suitable for a variety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

microPRO™ offers:

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



# microPRO™ - System Configuration



## Configuration packages

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
- Cylindrical machining
- Customized solutions

## Options:

- Automatic handling system
- Loading- and unloading handling according to customers' specification
- RFID or Data matrix reader (DMC)

Laser sources	<ul style="list-style-type: none"> <li>▪ The system is prepared for integration of one laser source (ns/fiber/fs/ps/CO<sub>2</sub>)</li> </ul>
Beam delivery unit	<ul style="list-style-type: none"> <li>▪ One beam path with different options</li> <li>▪ 2D and 3D galvo scanner models or fixed optics</li> <li>▪ Power measurement at work piece level</li> </ul>
Positioning system	<ul style="list-style-type: none"> <li>▪ Direct-driven XY positioning system</li> <li>▪ Travel distance 500 mm x 400 mm</li> <li>▪ Positioning accuracy ± 0.005 mm</li> <li>▪ Repeatability ± 0.002 mm</li> </ul>
Working area	<ul style="list-style-type: none"> <li>▪ One working area</li> <li>▪ Max. substrate size 400 x 350 mm<sup>2</sup> (larger sizes on request)</li> </ul>
Handling	<ul style="list-style-type: none"> <li>▪ Automatic handling as option</li> </ul>
Alignment	<ul style="list-style-type: none"> <li>▪ Manual, semi-automated or fully-automated work piece alignment with XY system and optical measurement system</li> <li>▪ Automatic Z positioning</li> </ul>
Software (microMMI)	<ul style="list-style-type: none"> <li>▪ Control and supervise of all hardware components and machining parameters</li> <li>▪ Different user levels (administrator, supervisor, operator)</li> <li>▪ Data input file types: DXF, CSV, Gerber, CLI, others on request</li> </ul>
Safety	<ul style="list-style-type: none"> <li>▪ Laser class 1 housing with integrated control panel</li> <li>▪ Certified laser window or overview camera (web cam)</li> <li>▪ Active exhaust system included</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>▪ 2290 x 1020 x 1754 mm</li> <li>▪ 2290 x 1020 x 2430 mm (with safety lights on top)</li> <li>▪ Approx. 3,5 t</li> </ul>