

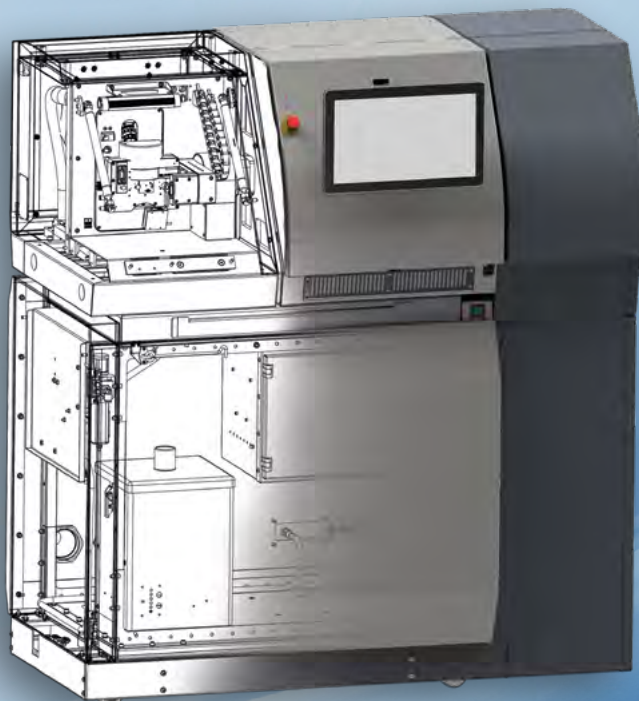
# microPREP™ PRO FEMTO

## MACHINE SPECIFICATIONS

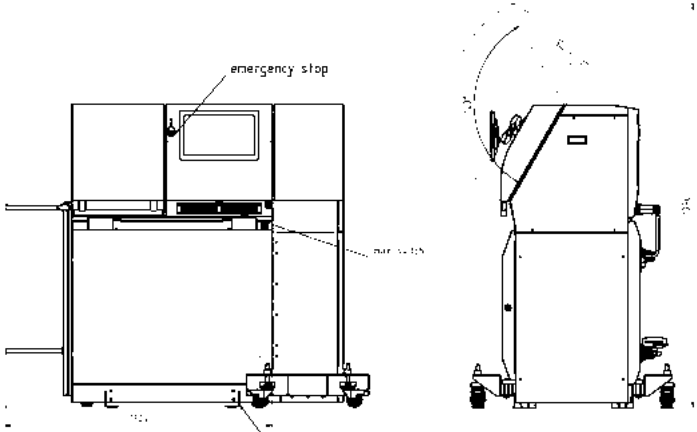
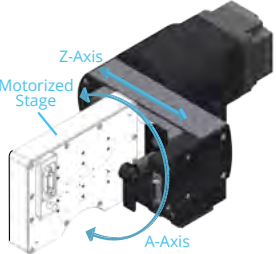

The main component of the microPREP™ PRO FEMTO system is the femtosecond laser source. This ultrashort pulsed laser source and an optimized optical setup enable fast material removal with nanometer precision. microPREP™ PRO FEMTO's excellent positioning system with piezo actuators and two cameras allows the user to bring specimens straightforwardly into the ultra-precise position for the desired preparation task. microPREP™ PRO FEMTO can prepare APT microtip coupons directly from the sample material with automated workflows.

### TECHNICAL HIGHLIGHTS

- Femtosecond laser source
- Compact design and laser class 1 (IEC 60825-1)
- Telecentric objective
- Piezo-driven positioning system
- Overview and high-resolution detail camera
- Air-cooled
- Short warm-up phase - immediately usable
- Powerful, intuitive microPREP™ software



# microPREP™ PRO FEMTO - SYSTEM DETAILS

<p>Machine Dimensions</p>	<ul style="list-style-type: none"> <li>• Height: 1,615 mm incl. rolls</li> <li>• Width: 1,380 mm</li> <li>• Depth: 780 mm</li> <li>• Weight: 400 kg</li> </ul>	
<p>Laser Unit</p>	<ul style="list-style-type: none"> <li>• Max. power: 2.5 W</li> <li>• Wavelength: 515 nm</li> <li>• Frequency: 60 - 1,000 kHz</li> <li>• Pulsepicker: optional</li> <li>• Pulse duration: &lt; 300 fs</li> <li>• Pulse energy: up to 50 µJ</li> </ul>	<p>Scanner:</p> <ul style="list-style-type: none"> <li>• Scanner with f-theta lens</li> <li>• Focal length: <math>f = 100 \text{ mm}</math></li> <li>• Scanning field: up to 40 mm x 40 mm (telecentrical)</li> <li>• Spot diameter: &lt; 10 µm</li> </ul>
<p>Positioning System for Base/Retainer</p>	<p>Z-Axis (stage/fixture retainer):</p> <ul style="list-style-type: none"> <li>• Travel distance: max. 25 mm</li> <li>• Positioning accuracy: 5 µm</li> </ul> <p>A-Axis (rotational axis for Z):</p> <ul style="list-style-type: none"> <li>• Working area around focal point up to 160°</li> <li>• Positioning accuracy (output side): 16 µrad</li> </ul>	
<p>Camera and Vision System</p>	<p>Overview Camera:</p> <ul style="list-style-type: none"> <li>• Field of view: 160 mm x 120 mm</li> <li>• Resolution: 1,850 x 970 px</li> <li>• Auto-focus field covers working area completely</li> <li>• Magnification: 2.5 px</li> </ul>	<p>Process Camera to Find the POI:</p> <ul style="list-style-type: none"> <li>• Field of view: 3.2 mm x 2.3 mm</li> <li>• Resolution: 3,850 x 2,580 px</li> <li>• Depth of field: ~ 30 µm absolute</li> <li>• Magnification: 85x</li> </ul>
<p>Standards</p>	<ul style="list-style-type: none"> <li>• CE (2006/42/EG, 2014/30/EU, 2014/35/EU)</li> <li>• IEC 61010-1 (UL 61010)</li> <li>• Semi S2 / Semi S8 (optional)</li> </ul>	

## Requirements

<p>Electrical</p>	<ul style="list-style-type: none"> <li>• Rated Voltage: 110 - 230 VAC</li> <li>• Frequency: 50/60 Hz</li> <li>• Power: 0.6 kW</li> </ul>	
<p>Ambient Conditions</p>	<ul style="list-style-type: none"> <li>• Temperature: 18 to 24 °C (64 to 76 °F)</li> <li>• Temperature for maximum accuracy: 21 °C (70 °F)</li> <li>• Vibration class: Minimum VC-B</li> </ul>	
<p>Cleaning System</p>	<p>Standard:</p> <ul style="list-style-type: none"> <li>• Compressed dry air supply: 5.5 - 6 bar</li> <li>• Consumption: up to 250 l/min (adjustable between 0 - 5 bar)</li> <li>• Compressed dry air quality: 1 (particle) - 1 (oil) - 4 (water) according to ISO 8573-1</li> </ul>	<p>CO<sub>2</sub> Snow Jet (optional):</p> <ul style="list-style-type: none"> <li>• Consumables: liquid CO<sub>2</sub></li> <li>• Requires gas cylinder with siphon tube</li> <li>• Consumption: &lt; 10 g per cleaning cycle</li> </ul>