

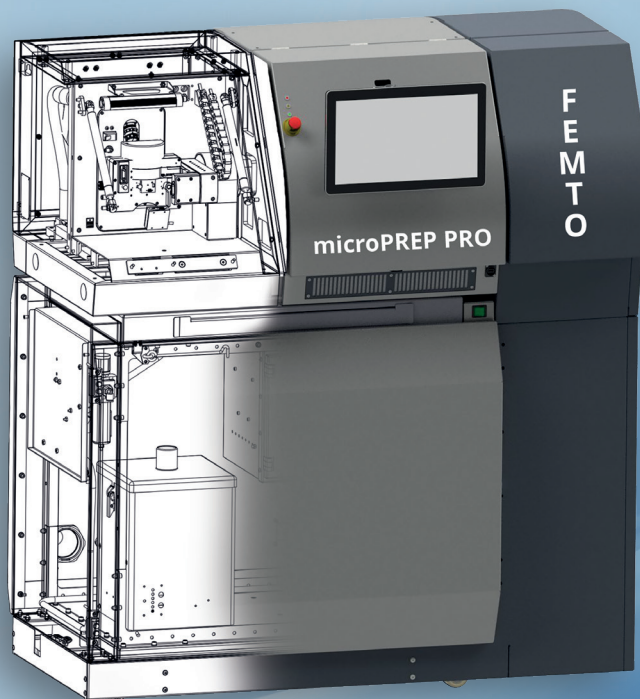
microPREP® PRO FEMTO

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

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

Requirements

Electrical	<ul style="list-style-type: none"> Rated Voltage: 110 - 230 VAC Frequency: 50/60 Hz Power: 0.6 kW 	
Ambient Conditions	<ul style="list-style-type: none"> Temperature: 18 to 24 °C (64 to 76 °F) Temperature for maximum accuracy: 21 °C (70 °F) Vibration class: Minimum VC-B 	
Cleaning System	<p>Standard:</p> <ul style="list-style-type: none"> Compressed dry air supply: 5.5 - 6 bar Consumption: up to 250 l/min (adjustable between 0 - 5 bar) Compressed dry air quality: 1 (particle) - 1 (oil) - 4 (water) according to ISO 8573-1 	<p>CO₂ Snow Jet (optional):</p> <ul style="list-style-type: none"> Consumables: liquid CO₂ Requires gas cylinder with siphon tube Consumption: < 10 g per cleaning cycle