

Benchtop Stylus Profilers



Tencor™ P-Series



Alpha-Step® D-Series

Optical and Stylus Profilers

Measure the topography of any surface with our range of benchtop and automated wafer handling optical and stylus profilers. Find out more at kla-instruments.com/stylus-profilers and kla-instruments.com/optical-profilers.



Zeta-20



Profil3D®



Zeta-300
Zeta-388



Tencor™ P-170
HRP®-260



Tencor™ P-7,
P-17, P-170F



Alpha-Step® D-500
Alpha-Step® D-600

KLA SUPPORT

Maintaining system productivity is an integral part of KLA's yield optimization solution. Efforts in this area include system maintenance, global supply chain management, cost reduction and obsolescence mitigation, system relocation, performance and productivity enhancements, and certified tool resale.

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The tables below present key specification comparisons between the Alpha-Step® and Tencor™ stylus profilers offered by KLA Instruments™. Please refer to detailed product specification sheets for additional information.

Sample, Stage and Optics Specifications				
Parameter	Alpha-Step D-500	Alpha-Step D-600	Tencor P-7	Tencor P-17
Scan Length	30mm	55mm	150mm	205mm
Sample Stage Diameter	140mm	200mm	150mm	200mm (300mm OF)
Stage Translation	80 x 20mm	150 x 178mm	156mm	205mm
Sample Positioning	Manual	Motorized	Motorized	Motorized
Theta Stage	Manual	Manual	Manual or Motorized	Motorized
Sample Thickness	20mm	30mm	55mm	55mm
Field of View	3.8 x 3.1mm	3.8 x 3.1mm	1.7 x 1.4mm	1.4 x 1.4mm
Zoom	4X digital	4X digital	4X digital	3.5X optical
Sample Chucks	Universal Nickel-plated Flat black Stress	Universal Nickel-plated Stress	Universal 150mm Universal 200mm Solar Stress	Universal 200mm Disk Stress OF: 240 x 240mm OF: 300mm
Chuck Vacuum	Universal chuck only	Standard	Standard	Standard

Performance Specifications				
Parameter	Alpha-Step D-500	Alpha-Step D-600	Tencor P-7	Tencor P-17
Step Height Repeatability	5Å for 1µm step	5Å for 1µm step	4Å for 1µm step	4Å for 1µm step
Z Range	1200µm	1200µm	Standard: 327µm Low force: 131µm Extended range: 1000µm	Standard: 327µm Low force: 131µm Extended range: 1000µm
Vertical Resolution	0.38Å @ 2.5µm	0.38Å @ 2.5µm	0.01 – 0.06Å	0.01 – 0.06Å
Stylus Force Range	0.03 – 15mg	0.03 – 15mg	0.5 – 50mg (SR, XR) 0.03 – 50mg (LF)	0.5 – 50mg (SR, XR) 0.03 – 50mg (LF)
Profile Data Points	400,000	400,000	1,000,000	1,000,000

Software				
Parameter	Alpha-Step D-500	Alpha-Step D-600	Tencor P-7	Tencor P-17
3D Scan Data	Not available	Optional	Optional	Optional
Automated Sequencing	Not available	✓	✓	✓
Pattern Recognition	Not available	Not available	Optional	Optional
Stress Software	✓ Chuck optional	✓ Chuck optional	2D & 3D Optional	2D & 3D Optional
Profile Stitching	✓	✓ Automated	✓	✓
Auto Leveling and Step Height	✓	✓	✓	✓
Filtering and Roughness	✓	✓	✓	✓
Arc Correction	✓	✓	✓	✓
Computer Operating System	Windows 10, 64-bit	Windows 10, 64-bit	Windows 10, 64-bit	Windows 10, 64-bit