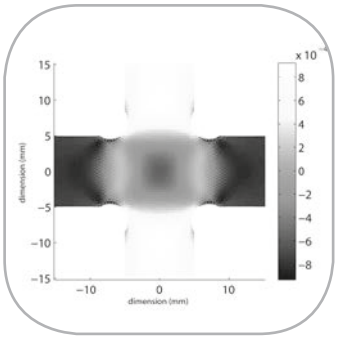
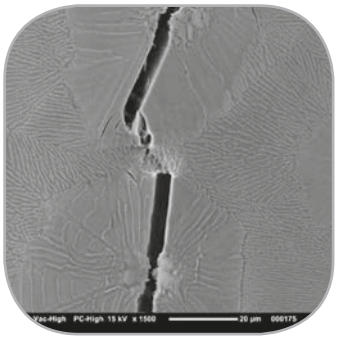
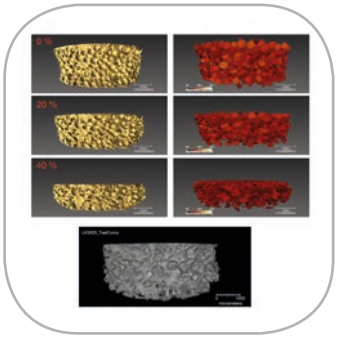
DEBEN

Tensile Testing | E-Beam Instrumentation | Detectors







In-situ Tensile Stages

Applications:

- Materials, polymers, composites
- Biological, life science, geology
- Foodstuff, textiles

Features:

- Loads from mN to 25kN
- Compatible with SEM, Optical microscopy, XRD, XRM (µXCT), Beam line
- Tensile, compression, bending & torsion
- Heating & cooling
- Software controlled

Conventional tensile testing provides information on the tensile and compressive strength of a material but no information on physical changes to the internal structure while under load. In-situ tensile testing and heating/cooling allows dynamic microstructural observations and can provide new insights into materials research. Systems are specifically available for use with SEM, Optical Microscopes, XRD, XRM (µXCT) and beam lines, most stages (other than those for XRM) can also be used on the bench-top. All stages are available with optional three & four point bending clamps and are controlled from comprehensive Windows software via USB.

Range summary:

MT200 Available with exchangeable loadcells from 2N with mN resolution and up to a maximum load of 200N. Suitable for testing fibres, polymers, thin films, biological & life science samples. Compatible with most SEMs & optical microscopes as well as XRD systems. Many versions of this stage are available with Peltier heating/cooling (-25°C to +160°C) and petri-dish for in liquid testing being the most common options.

MT300 Our smallest stage, similar applications to MT200 but with 75N as the smallest loadcell.

MT2000/5000 Higher load stages suitable for SEMs with medium to large chambers, optical microscopes and XRD systems. Applications include metals & ceramics as well as composites and fibres. System options include peltier heating/cooling (-25°C to +160°C).

MT1000 An up-rated version cf MT300 with a low profile suitable for high angle XRD applications with an exchangeable 1kN loadcell.

MT2000DL/MT5000DL Larger dual leadscrew stages providing increased rigidity, exchangeable clamps and clear line of sight through the specimen for transmitted illumination. Suitable for optical microscopes, transmitted XRD and beam line applications.

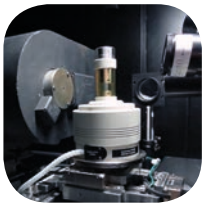
MT2000B/MT300B Vertical three and four point bending stages commonly used for Raman spectroscopy with SEM and optical microscopes.

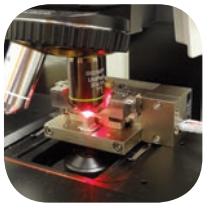
MT2000ES A stage designed specifically for EBSD applications in the SEM. Horizontal and 70 degree specimen clamps, available with fixed 1kN or 2kN loadcells and heating cooling options.

CT500 A low load stage for cabinet based XRM (µXCT) systems with a polymer support tube holding the top jaws. Suitable for high resolution imaging of small samples under tension or compression.

CT5000 A flexible 5kN stage for cabinet based XRM (µXCT) systems with exchangeable loadcells. Available in room temperature, heating/cooling or heating only configurations as well as with a liquid bath. Applications include observation of rock cores, composite materials, man-made foams & metallic samples.

CT10KN/CT25KN Large open frame tension/compression/torsion stages suitable for large cabinet or room based XRM (µXCT) systems and beam lines. No support tube providing high resolution, rotation controlled by the stage. Applications include observation of turbine blades, rock cores, composite materials as well as testing of new super alloys and composites for aerospace and power generation industries.





Stage	Max load	Exchangeable Loadcells	Compatibility				System Options			
			SEM	Optical	XRD	XRM	Loadcell options	Heating	Cooling	In-Liquid
MT200	200N	✓	✓	✓	✓		2N, 5N, 10N, 20N, 50N, 100N, 200N	✓	✓	✓
MT300	300N	✓	✓	✓	✓		75N,150N, 300N			
MT2000	2KN	✓	✓	✓	✓		660N, 2kN	✓	✓	
MT5000	5KN	✓	✓	✓	✓		660N, 2kN, 5kN	✓	✓	
MT1000	1KN	✓	✓	✓	✓		500N, 1kN			
MT2000DL	2KN	✓		✓	✓		200N,1kN,2kN	✓	✓	
MT5000DL	5KN	✓		✓	✓		200N, 1kN, 2kN, 5kN	✓	✓	
MT300B	300N	✓	✓	✓			75N,150N, 300N			
MT2000B	2KN	✓	✓	✓			1kN, 2kN			
MT2000ES	2KN		✓				1kN, 2kN	✓	✓	
CT500	500N					✓	50N, 200N, 500N			
CT5000	5kN	✓				✓	1kN, 2kN, 5kN	✓	✓	✓
CT10KN	10kN/0.1kNm					✓	10kN/0.1kNm	✓	✓	✓
CT25KN	25kN/0.1kNm	✓				✓	(10kN,25kN)/0.1kNm	✓	✓	✓

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