

EasyLift NanoManipulator system for TEM sample lift-out

For consistent, high quality, ultra-thin TEM lamellae

FEI DualBeam™ systems, known for fast creation of precise and consistent TEM lamellae, can now be equipped with the new EasyLift™ NanoManipulator system for *in situ* sample lift-out.

The EasyLift system allows operators to extract the lamella and attach it to a TEM grid, all within the DualBeam chamber. In the DualBeam, FEI's iFAST™ software guides the process of easy, repeatable creation of ultra-thin TEM lamellae, allowing even novice operators to create high-quality TEM samples with tremendous confidence.

EasyLift's low-drift, high-precision movements allow you to easily create traditional TEM lamella or ultra-thin lamella using the backside thinning technique. All EasyLift models are integrated with the microscope's xT software to provide a simple, intuitive method for lift-out and transfer of TEM samples to a grid, all within the DualBeam chamber. With its highly accurate and fast motorized rotation, the EasyLift EX model is ideally suited for high speed inverted or plan view sample preparation.

The established leader in TEM sample preparation technology, FEI solutions like EasyLift are designed to give you the confidence that you will achieve the results you need today while providing a roadmap to meet your future needs. And with this strong foundation, you can be confident you'll achieve solid results to meet your industry's growing demands.

KEY BENEFITS

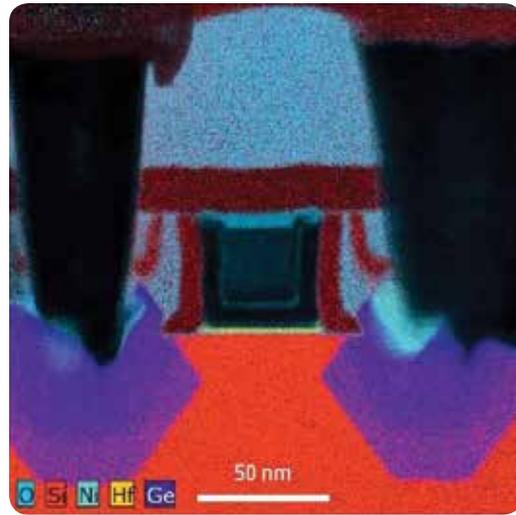
- Enables precise, site-specific preparation of ultra-thin TEM lamellae
- Promotes operator confidence for *in situ* TEM sample lift-outs—critical for one-of-a-kind samples
- Pairs with iFAST software for consistent, repeatable preparation and lift-out of ultra-thin TEM samples
- Allows simple “click and drag” movement due to EasyLift's full integration with Dualbeam xT UI
- Supported by FEI's expert applications knowledge in TEM lamella prep solutions



↑ Control of the EasyLift is integrated into the DualBeam UI. Movement of the probe can be done on screen with the mouse.



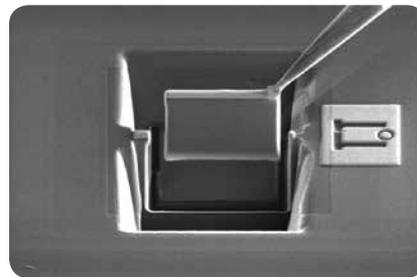
↑ FEI EasyLift NanoManipulator



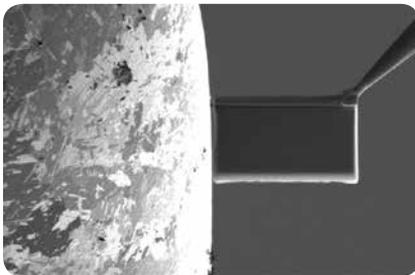
↑ EDS Map of High k metal gate transistor taken on FEI's Tecnai Osiris™



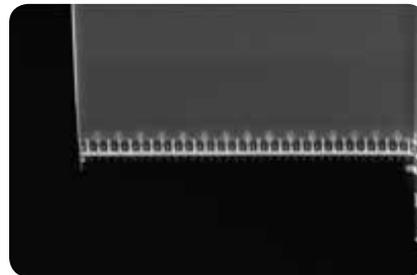
← Sample transferred to the TEM Grid with fine precision movement



← Sample cut free and lifted out using the EasyLift



← Bulk milling done using the iFAST TEM prep recipe



← Final thinning to create an ultra-thin sample

EasyLift comes in three varieties to meet different applications needs.

	EasyLift LT	EasyLift	EasyLift EX
Drift	<50 nm / min	<50 nm / min	<50 nm / min
Smallest step size	400 nm	50 nm	50 nm
True 'z' movement over 5 um move	<1 μm	<500 nm	<500 nm
Vibration	<15 nm	<15 nm	<15 nm
Omnidirectional repeatability	<+/- 500 nm	<+/-150 nm	<+/-150 nm
Rotation	Manual	Manual	Motorized

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TÜV Certification for design, manufacture, installation, and support of focused ion- and electron-beam microscopes for the electronics, life sciences, materials science, and natural resources markets.

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