

For Immediate Release

TESCAN announces new MultiVac module to add both conventional low vacuum and variable pressure capabilities to TESCAN SEMs

Brno, Czech Republic, March 29, 2021

MultiVac improves efficiency for topographic characterization of non-conductive, beam-sensitive or outgassing samples when using low keV imaging

TESCAN ORSAY HOLDING a.s. announces the release of their new MultiVac module to provide the option for adding low vacuum and variable pressure capability to TESCAN SEMs. Varying the in-chamber atmosphere is an established technique for mitigating charge, imaging samples in their native states and, in combination with a gaseous secondary electron detector (GSE), enabling high magnification topographic imaging at low keV or low beam current.

“Samples containing light elements are more transparent under the electron beam, which makes them more prone to charging, but using low beam voltage alone to address charging means that you will likely miss important topographic information from your sample,” states Petr Klimek, Product Marketing Manager. “We developed MultiVac to address both charge control and the need for high magnification low keV imaging that reveals fine surface details on non-conductive, beam sensitive and outgassing samples.” MultiVac operates in N₂ and H₂O atmospheres as well as at extended variable pressure (3–500 Pa).

MultiVac’s GSD, when used in H₂O atmosphere, excels at enhancing contrast and enabling high resolution imaging at low keV and low current for detailed topographic characterization. Unlike in low vacuum mode, where gas molecules decrease signal collection efficiently, the GSD in a variable pressure H₂O atmosphere detects ionized molecules, which act as a signal enhancer, and sample emitted electrons to produce images easily at low keV and low beam current.

MultiVac seamlessly integrates with TESCAN SEMs and is compatible with other TESCAN features like Essence™ EDS, TESCAN Collision Model, Optical Navigation and Correlation Camera and TESCAN Wide Field Imaging mode. As with other TESCAN hardware and software solutions, MultiVac is controlled directly from TESCAN’s Essence™ software, to make high quality characterization effortless and accessible to all users.

Learn more using TESCAN’s MultiVac in your instrument [here](#).

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About TESCOAN

TESCAN enables nanoscale investigation and analysis within the geosciences, materials science, life sciences and semiconductor industries. The company has a 30-year history of developing innovative electron microscopy, micro-computed tomography, and related software solutions for customers in research and industry worldwide. As a result, TESCOAN has earned a leading position in micro- and nanotechnology. For more information visit: www.tescan.com.

TESCAN ORSAY HOLDING was established in 2013 as a result of long-term expansion and establishment of subsidiaries worldwide, including France-based ORSAY PHYSICS, a world leader in customized focused ion and electron beam technology. TESCOAN ORSAY HOLDING maintains its headquarters, production and R&D in Brno, Czech Republic. Every TESCOAN microscope is expertly produced in Brno and shipped to customers worldwide.

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