

Solutions for Innovation



JSM-IT810(HL)  
TECHNICAL DATA SHEET



## 1. FIELD EMISSION SCANNING ELECTRON MICROSCOPE

### 1.1. JSM- IT810 ORIGINAL FEATURES

The JSM-IT810 is a versatile automated FESEM designed for high-resolution observation and a wide range of analytical applications. It features an in-lens Schottky Plus field emission electron gun (FEG) and a powerful hybrid excitation conical objective lens, known as Hybrid Lens (HL), along with a cutting-edge electron optical control mechanism—the New Electron Optical Engine (Neo Engine). Developed to enhance automation capabilities, the JSM-IT810 brings you advanced features that streamline your workflow and elevate your analysis.

Emittor factory warranty: 36 months.

**Neo Action:** Our innovative automation workflows empower novice users to effortlessly set up a series of imaging and analysis tasks that can be completed without any user intervention. With the ability to configure multiple beam and scan settings, stage coordinates, and detectors, imaging and analysis become streamlined and efficient, making advanced capabilities accessible to everyone. Experience the future of automated microscopy with Neo Action.

Since the electron optical system equipped with an in-lens Schottky Plus field emission gun can deliver a finely-focused electron beam even with large probe current, high accuracy results can be acquired quickly, including element analysis with EDS/WDS, crystal orientation analysis with EBSD, analysis of lightweight elements and chemical bonding with Soft X-ray Emission Spectrometry (SXES)..

The JSM-IT810 features an advanced objective lens that minimizes aberration, even at low accelerating voltages. This allows for the observation and analysis of a wide range of samples—from magnetic materials to insulators—with exceptional resolution. Additionally, the integration of the Neo Engine enhances the capabilities of the electron optical system, significantly improving the accuracy of automated functions such as Auto Focus, Auto Stigmator, and electron beam control. Experience precision and versatility like never before with the JSM-IT810.

The operating system enables real-time display of high-definition images on Windows®11. Since it is also possible to simultaneously observe the images acquired with up to four separate detectors, the differences between images obtained with each detector can be seen instantly.

Adding an optional integrated EDS system enables tasks from SEM observation and EDS analysis to the output of reports to be performed seamlessly and with a minimum operations. Moreover SEM observation and EDS analysis can be automated by simply setting the analysis conditions and selecting the areas to measure (Neo Action function).

**Live 3D :** Choose our multi-segmented semiconductor type VBSE detector (option)to create a Live 3D reconstruction of the sample surface. View the 3D image in real-time to check the sample topology.

The JSM-IT810 also incorporates an environmentally friendly, energy-saving mode to reduce power consumption while the SEM is not being used.

### 1.2. PERFORMANCE

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