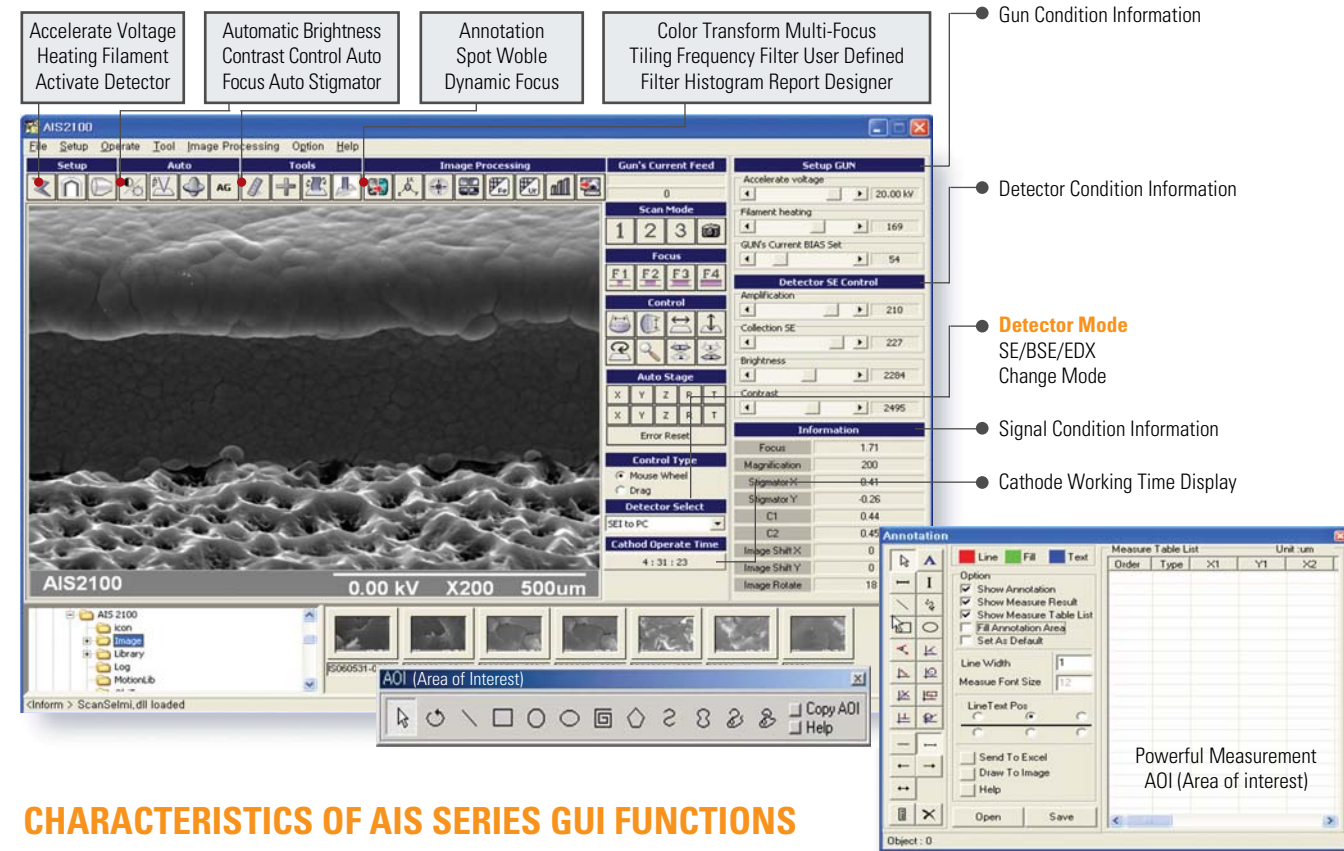


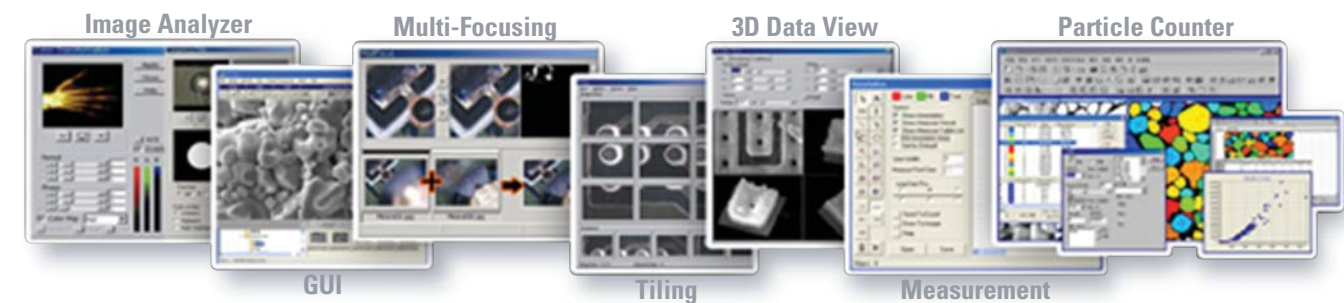
Professional Image analysis software for perfect inspection package with AIS Series

AIS series' GUI includes the application structure concepts and a commercializing specific image process software packaging. The GUI S/W operating system, Image Process and Image Analysis S/W that SERON Technologies has invented so that extension may be possible setting on customer's selection specification. AIS S/W includes function defined manage edit, processing, analysis administration. Also, it supports various analysis S/W function to embody image analysis effectively installing image enhancement function of Measurement, Histogram, Frequency filter, User filter etc.



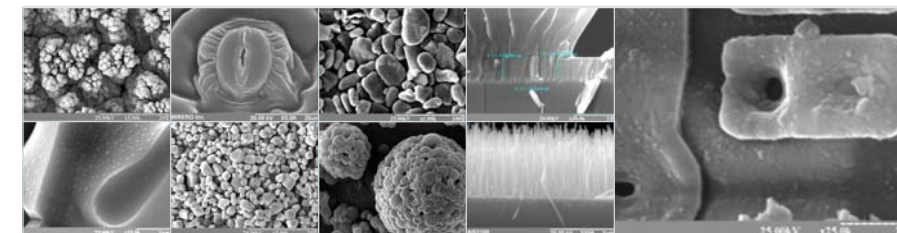
CHARACTERISTICS OF AIS SERIES GUI FUNCTIONS

- Many different filters can be applied to provide an optimal image analysis.
- User friendly window environment for operating (Fully PC-based control)
- Display of each parameter value display
- Support function for Flip group administration, offer with Directory Browsing function that basic function such as file open, save, format amendment, printing and Thumbnail view.
- Various viewer are offered for customer to work conveniently with zoom In/Out, panning, macro view.
- Offer measuring function of length, area, angle, etc., and tracing function etc.
- For measurement of object. It supports image edit function using region of interest establishment and cut, basis edit function of paste etc. and arrow, letter, circle, quadrilateral, free-formed curve etc.
- It can be applied condition setting of parameter, setting of lens and estimator and amplifier of detector and collector etc. according to operator's necessity directly for special image security.



SPECIFICATION

MODEL	AIS2100C	AIS2200	AIS2300C
●ELECTRON OPTIC SYSTEM			
Resolution	3.0 nm @30KeV SE/ 4.0nm @BSE		
Magnification	10 ~ 300,000X	10 ~ 1,000,000X	
Image	Secondary Electron Image SEI Backscattered Electron Image Color Optical Microscope Image (Option)		
Beam Scan Mode	Search, Inspection, Photo (3step)		
Accelerating	Voltage0.5kV~30kV		
Electron Gun Type	Tungsten Filament		
Bias System	Linked with Acc. Voltage plus continuous voltage control		
Gun Alignment	Pre-centered cartridge		
Condenser Lens	Electromagnetic 2 stages		
Objective Lens	Electromagnetic 1 stages		
Stigmator	8 Pole Electromagnetic Type		
Detector	Bar Type SE Detector (SE-BSE Conversion Mode Without BSE detector for Non-coating sample inspection)		
Image Shift	4 Pole Electromagnetic Type		
Automation Function	Auto-Focus, Auto-Stigmatism, Auto Contrast/Brightness, Emission Current etc.		
●DISPLAY			
Digital Image	Area mode : 320 x 240 Inspection mode : 1024 x 960	Search mode : 640 x 480 Photo mode : 4096 x 4096	
●IMAGE ANALYZER			
Image Analyzer Particle Counter	Multi-Focusing/ Image Tiling/ 3D-View/Enhancement/ Color Transformation/Filters/ Blob Analysis (Single/Multiple/Grouping), Histogram, Excel Data, Point Measurement		
●STAGE SYSTEM			
Movement (X/Y/Z)	50/ 60/ 57mm		
Tilt	-30~60° (Max 90°)		
Rotation	360°		
Stage Motorization	5-axis Manual Stage Motorization (Option)	3-axis Motorized stage (standard)	5-axis Motorized stage (Option)
●VACUUM SYSTEM (Low Vacuum System : Option)			
Vacuum	High Vacuum Mode(-10-5 Torr) / Low Vacuum Mode		
Vacuum Control Type	Full automation with safety system		
Vacuum System	Rotary Pump + Diffusion Pump or Rotary Pump + Turbo Pump (Option)		
●CONTROL SYSTEM			
Computer System	Intel Pentium 4(Dual Co-Processor)		
Memory	≥ 1G MB, Control Data Interface		
Operation System	Image Acquisition		
●OPTION			
BSE/ EDS (Energy Dispersive Spectrometer)/ WDS/ EBSD/ Nano Manipulator/ Optic or IR CCD/ Etc.			
●INSTALLATION ENVIRONMENT			
Temperature 22 ± 2°C (Fluctuation should be less than 5°C) and Humidity should be below 70%			
Electric condition : Single phase, 220~230V AC 5KW, 60Hz			
Vibration : 3 um/sec Max. @ < 5~10Hz & EMI. The detail information is refer to Instruction Manual			



- High resolving power imaging capability
- Strong image analysis S/W support
- Capable image acquisition on Non-Coating
- Wide range of available options



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Invest Novel Thinking Create Novel Value

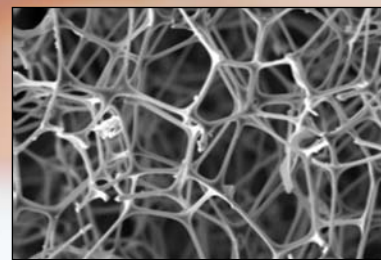
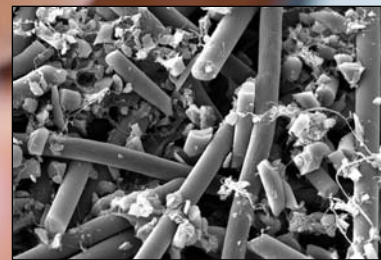
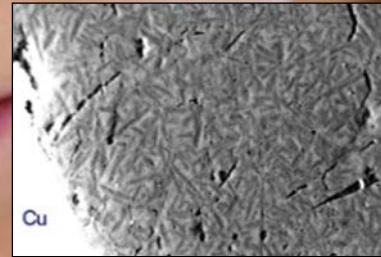
Scanning Electron Microscope Series



SERON TECHNOLOGIES INC. is, since its foundation in 2000, based on Nano Division of Mirero Inc. who developed the visual system for the scanning electron microscope(SEM) for the first time in Korea. On the basis of unique technology structured in the image processing and visual analysis fields, the company launched the nano business division in 2000 and became the first Korea SEM manufacturer in 2002 through successful mass production. The first SEM was introduced into the domestic market. On the basis of the accumulated technology, "Seron Technologies Inc." was founded in 2007 with the purpose of strengthening EM business. We have released upgraded SEM models in time to meet the diverse demands from industrial and institutional fields, and steadily focused on the development of the next generation high technology in a way to contribute to the development of future nano industry.

AIS2100C is the upgrade model based on AIS2100, which obtained high customer reputation for its performance both from domestic and from overseas market for a long time.

AIS2100C's thermal type cathode combines high beam brightness and low energy spread of other tip together with long term current stability and low beam noise. The electronic optic of AIS2100C possesses a dual slit lens in order to reduce aberrations, and made of specific compound material like μ -metal to ensure quality sensitivity by reducing magnetization of optics. The incident beam is focused by a combination of magnetic lens with an axial gap that avoids field leakage to the specimen together and the grounded pole piece. AIS2100C is a PC controlled digital SEM with user-friendly operating condition based on window environment. All of the alignment information is kept in each user's configuration so that their actions don't have any influence over the other users. Automated image archiving increases productivity and reduces errors, especially on projects where large amounts of image data are collected. A set of automated image adjustment functions make it easy for new users to quickly acquire crisp, noise-free images. Even experienced users benefit from the automated contrast, brightness, stigmatism and focus because they work so well. Automation extends into image archiving where a single button acquires an image with user-selectable size, shape and scan speed parameters independent of the live image parameters.



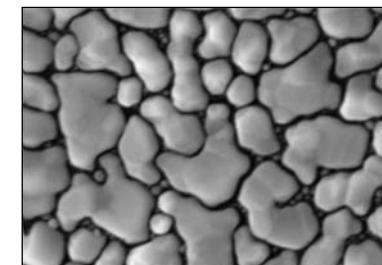
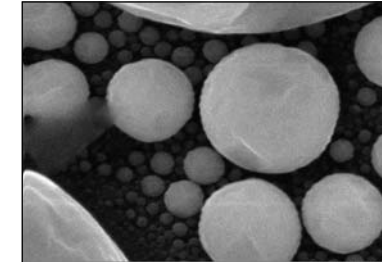
FEATURES

- High resolving power imaging capability 3.0nm resolution & 300,000 × (Max.)
- Capable image acquisition on Non-Coating
- Low Price & High Performance
- Strong image analysis S/W support
- Wide range of options available

AIS2200 is a powerful analytical instrument with all the versatile analysis tools in one. In addition to the extraordinary surface-sensitive imaging performance, this SEM integrates various analytical capabilities such as EDS, WDS and EBSD to help lab.users to turn images into actionable information. AIS2200 easily adapts different analytical tasks. AIS2200 has high compatibility with any analysis tool because of a conical lens over 60 μ to meet versatile attachments. It has high accomplishment in a technical view-point against other competitors as analytical instrument. AIS2200 provides 3nm resolution with beam currents that range from 1kV to as high as 30 kV accelerating voltage without compromising the analytical capabilities, sample flexibility or ease of use of a traditional analytical SEM. New and innovative electron-optical elements together with field-Proven. A full set of automated image adjustment functions make it easy for new users to quickly acquire crisp, noise-free images.

AIS2200 AIS2300C

AIS2300C clearly shows SERON's the state-of-art. With its rock-solid reliability, the fully automated control functions provide customer with the maximized analytical capability. AIS2300C pursues compact SEM which be familiar to office environment. AIS2300C provides high scan speed and pixel resolution and realize high performance control driver with new PCI board. A full set of automated image adjustment functions make it easy for new users to quickly acquire crisp, noise-free images. Even experienced users benefit from the automated contrast, brightness, and focus as well. Alignment of the AIS2200 is completely electronic and automatic, with no mechanical adjustments for gun or the final aperture. All of this alignment information is kept in each user's configuration so that their actions don't have any influence over the other users. It can be help to specialist for a variable application



FEATURES

- Field proven image quality
- Upgraded scan speed and pixel resolution. Photo 4096 × 4096 Search 1280 × 960
- Wide variety of optional instrument
- Resolution 3.0 nm
- Magnification ~1,000,000 ×
- Full automatic control system

ELECTRON OPTICS

- Cartridge type thermal emission gun for easy tip exchange and for high quality image by stable high voltage power supply
- Dual slit objective lens for spherical aberration reduction
- E-T bar type SE detector for efficient detection.
- SE/BSE mode available by controlling impressed voltage on detector faraday cage.
- High accuracy of EDS analysis by relatively strong emission beam current.

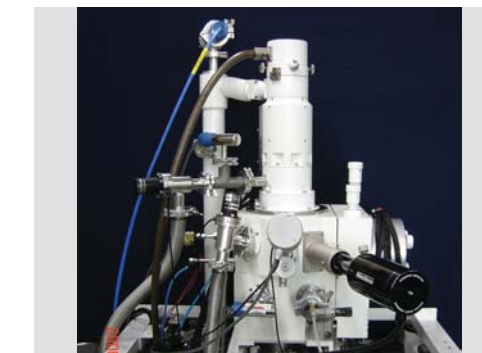


MECHANICAL STAGE/ VACUUM CHAMBER

- 5 axis (X,Y,Z, tilt, rotation), mechanical eucentric tilting
- Optimized tilt angle up to 90 degrees for cross section inspection.
- E-T bar type SE detector for efficient detection.
- SE/Multi sample loading & inspection due to the long moving stroke and space.
- High Automatic safety Vacuum protection
- Expansion ports for SE detector, EDS, BES, EBSD and etc.

LOW VACUUM SYSTEM (OPTION)

- 4nm BSE resolution at low vacuum mode
- Vacuum System R.P+T.M.P or D.P.
- 300 Pascal Low Vacuum Degree.
- Isolation type using small diaphragm
- The right side picture is SEM photograph of herb leaf and seed at 1 Torr low vacuum.



AIS Series allows SE & BSE mode detection through SE without Detector even BSE detector

Backscattered electron(BSE) image provides image contrast as function of elemental composition as well as surface topography. Our SEM can perform BSE image without any optional BSE detector. That is, AIS ϕ s SE detector obtains BSE/ SE images through the bias voltage conversion. Below images clearly show the matrix including elements of two phases visible by BSE image. It is also possible to observe insulating samples on non-coating condition at BSE mode which possessed in AIS series.

