



Aquarius Starter Kit

Start a New Era of In-Situ Liquid SEM



About FlowVIEW

FlowVIEW spun off from ITRI National Measurement Laboratory in 2017. Having experienced exponential growth with our solid team members and devoted to developing more accurate and faster liquid inspection, we have since become the unrivaled system integrator.

Patented by multiple countries, our self-developed AI liquid inspection technology has been applied to semiconductor, energy battery, and biomedical cosmetics industries. It assists our customers to conduct more in-depth research, improve efficiency and reduce costs simultaneously, thus we have built an enormous amount of trust and received widespread adoption from leading companies all over the world.

FlowVIEW Tek offers a more competitive advantage compared to other foreign competitors. You can use our AI liquid inspection technology to observe sample's physical and chemical properties, such as force, light, electronic, and magnetic properties without dilution or other tedious preparation. It can analyze liquid samples and deliver instantaneous data such as size and shape distribution, concentration, aggregation and dispersity, composition, and other essential factors. We have set an unprecedented inspection standard in the nano era.

FlowVIEW Tek has co-founded Advanced Nano-material Inspection Lab with iST Inc. since 2018, offering the most precise SEM inspection service to satisfy all sorts of needs of our customers.

In 2020, FlowVIEW is proud to gain enormous favor and significant investment from Sumitomo Corporation and National Development Council. The global recognition from numerous leading companies is definitely a driving force behind our rapid development of nano inspection technology.

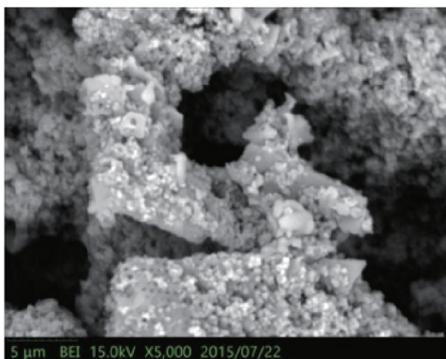
Current Market Conditions & Product Positioning

Limitations of Present Liquid Sample Inspection

Several centuries after the optical microscope being developed, object sized in micrometer is the smallest scale humans can observe. It was not until the electronic microscope been invented that allows modern technology to make rapid progress.

However, people still use an optical microscope to test the materials at present time since the vacuum chamber of the electronic microscope would dry out and thus distort the sample.

With the deficiency of optical inspection, the semiconductor industry, energy & battery industry, and bio cosmetics industry are all striving to reach the nano-scale development. However, the in-situ inspection ranging from 1 to 200nm remains absent.



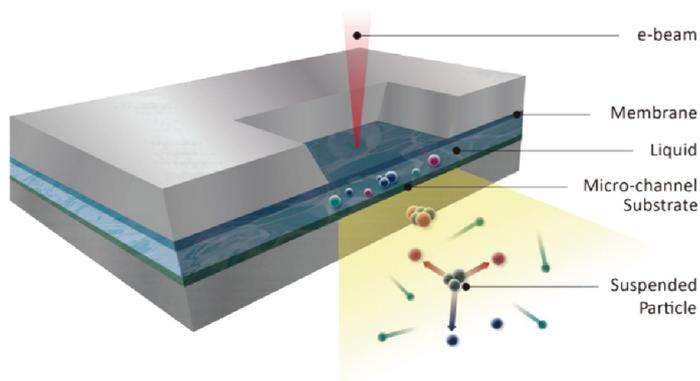
Aggregate particles after dry up



Original image of liquid material

Expert of Liquid Sample Inspection

FlowVIEW Tek combines the experience in the National Measurement Laboratory of ITRI and 3 core technologies to break through the technical barrier and develop the total solution of liquid sample inspection. Our technology can create an atmospheric environment in the vacuum chamber of SEM and help you observe the original sample in situ under SEM. Combined with AI image analysis software, we offer you wet sample total analysis services and help global customers research more efficiently and improve product qualities.



Three Core Technologies

Aquarius Starter Kit



An Entry Level Product that is Easy-to-Operate

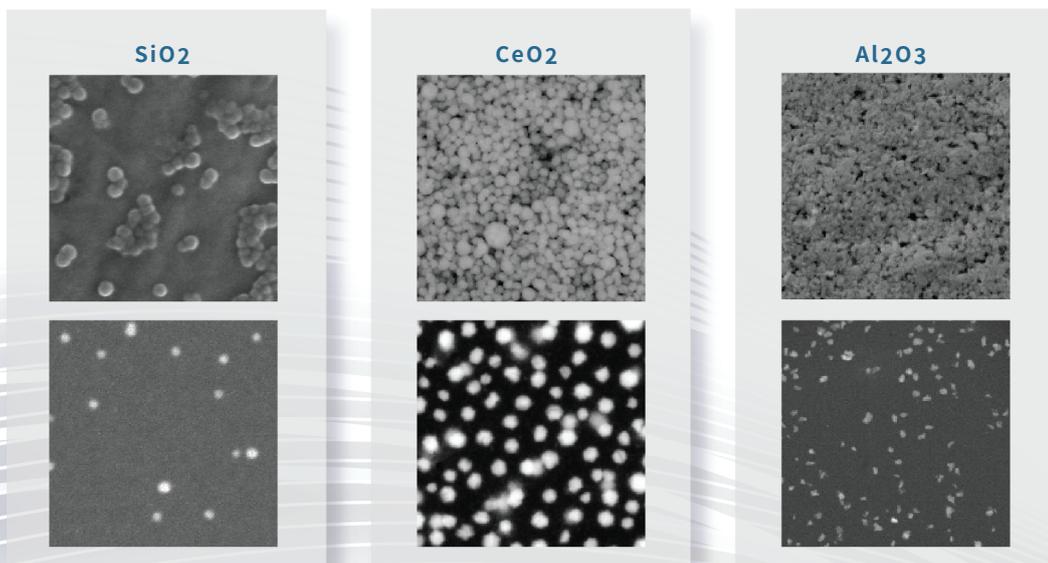
If you'd like to observe in-situ liquid sample inspection, this product is designed to satisfy basic observation needs and is customizable to various brands of SEMs.

The anti-vacuum sample holder of Aquarius Starter Kit possesses nano-membrane and microfluid channels, which can create an atmospheric environment in the SEM and keep the liquid sample remain its original state.

Place a drop of stock solution onto the sample holder, you can complete the sample packaging in 30 seconds without any preprocessing such as dilution, drying, or frozen section procedures. The e-beam can fully penetrate since the nano-membrane is merely 20 to 50 nanometer and provides you a 7-nm resolution. Combined with FlowVIEW Lite software, you can receive a complete analysis of the material such as size distribution, aggregation/diffusion, concentration, shape, and composition, etc. In the future, the wet nano-scale material beyond optical inspection is destined to become universal. The in-situ inspection is the greatest weapon for you to stay ahead of the curve.

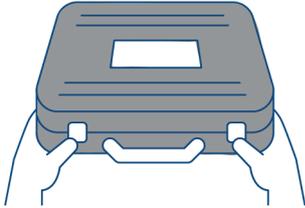
Observe CMP Slurry with SEM

Image of distorted and aggregate particles, upper. The actual image of slurry with Aquarius holder, bottom.

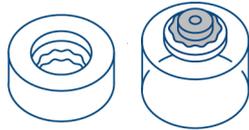


USER GUIDE

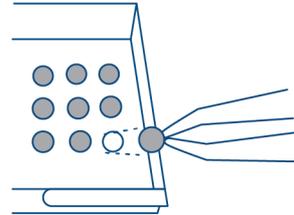
1 Open up starter kit.



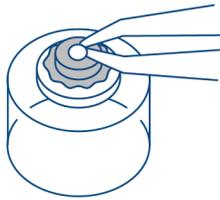
2 Take out acrylic case equipped with holder.



3 Take out chip with tweezers.



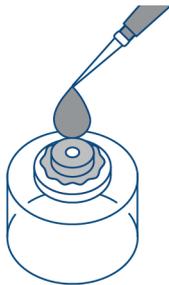
4 Put chip onto the center of holder and align the chip with tangent line.



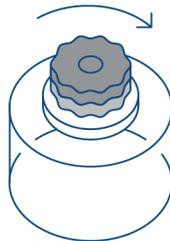
5 Use pipette and install tip.



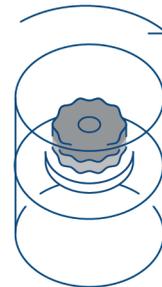
6 Draw up liquid sample and drip liquid sample onto center of chip. (1 μ L at a time)



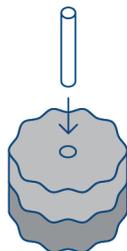
7 Cover holder with lid and twist slightly.



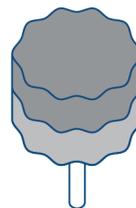
8 Twist acrylic case to fit holder. (Make sure upper and lower lines align)



9 Assemble adapter.



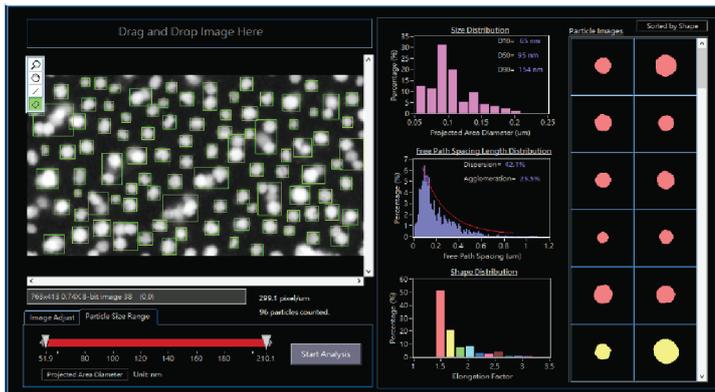
10 Finished!



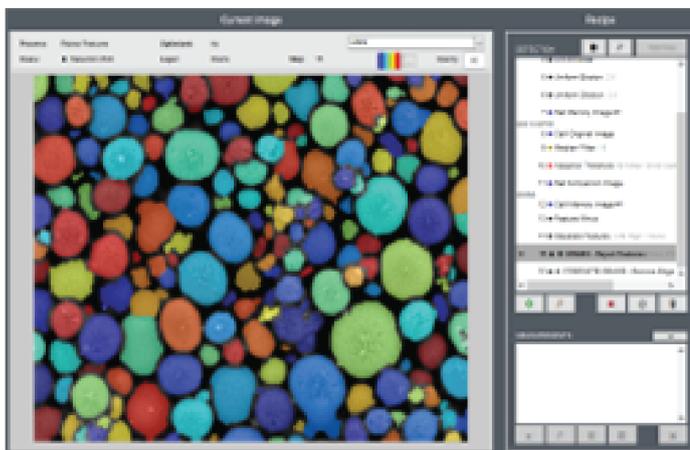
Automated Particle Analysis Software

FlowVIEW responds to customers' needs. After you receive a sample image from Aquarius Starter Kit, FlowVIEW Lite can generate crucial results, for example, particle size, dispersity/composition, aggregation, size distribution, to help you make sound scientifically sound decisions about research.

In the case of SEM images that contains overlapped aggregate particles, MIPAR can help generate more accurate results. MIPAR is an image analysis software designed exclusively for material scientists. It is capable of identifying and measuring image features and generating results quickly, making it the top choice for researchers.



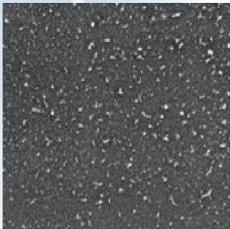
Actual image of FlowVIEW Lite operation
Generated statistics like particle distribution, dispersity/aggregation, etc.



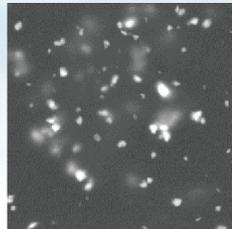
Actual image of MIPAR operation.
Segmentation of overlapped aggregate particles in SEM image.

Actual SEM Image

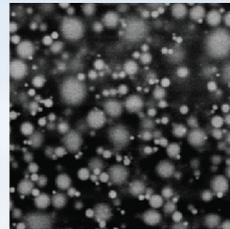
•Semiconductor & Electron



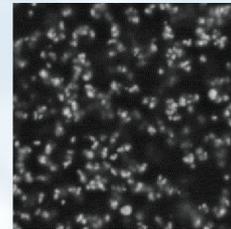
Metal Planning



Coating Material

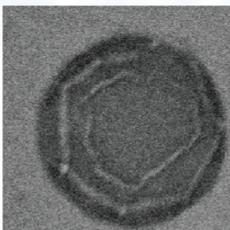


Solder Paste

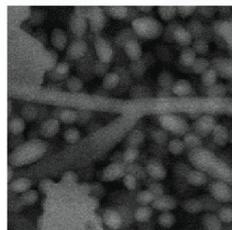


CMP Slurry

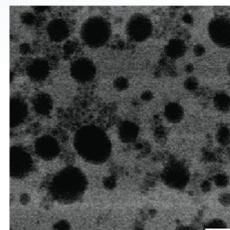
•Biotics & Cosmetics



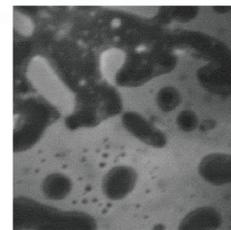
Probiotocs



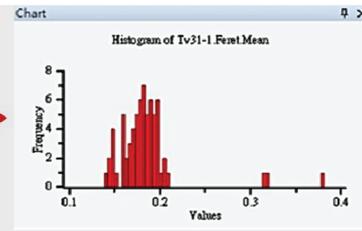
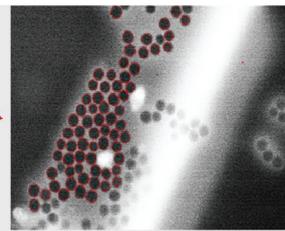
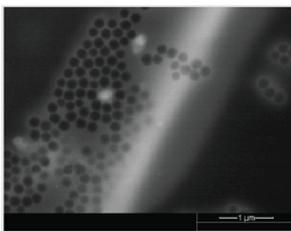
Black Mold



Pheromone

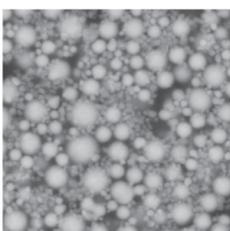


Recognize Manufacturing Process Errors

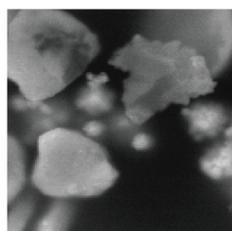


Enhance Polystyrene Manufacturing Process

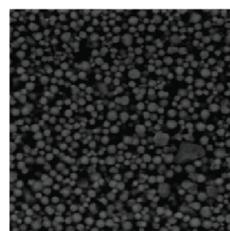
•Battery & Energy



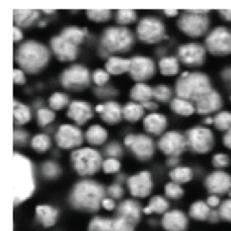
Battery Material



Copper Paste

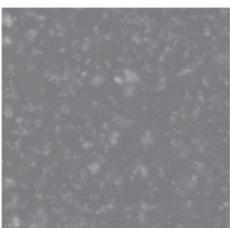


Silver Paste

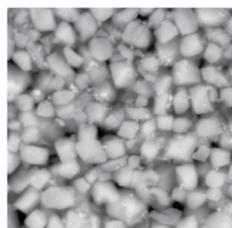


Aluminum Paste

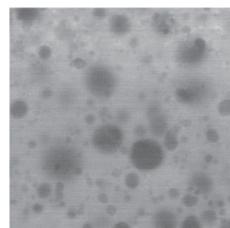
•Others



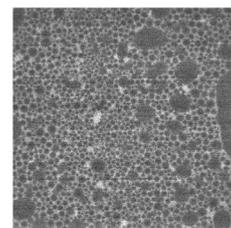
Abrasives of Toothpaste



Nanomaterials



Whole-Fat Milk



Mayonnaise

Content & Product Specs

	Standard	High Mag.	Large window
Applicable Sample	For (metal) samples with high atomic number and greater-than-100nm particle size. eg. silver paste	Samples with low atomic numbers and less-than-100nm particle size require High mag. version regardless of the size. eg. biological samples, carbon black, SiO ₂	Designated for EDS analysis, low-concentration samples, or dry magnetic powders.
Chip Window (Si₃N₄)	Chip thickness: 50 nm Window size: 150 um * 150 um	Chip thickness: 20 nm Window size : 20 um * 20 um	Chip thickness: 30 nm Window size 250 um * 250 um
Contents	24 Microscopic Fluid Chips / 24 Micro-Channel Substrate / 24 Tips / 1 Adapter / 1 O-Ring / 1 Tweezer / 1 Pipette / 1 Acrylic Case with Holder / 1 Lite Software		
Supplementary Pack	12 Microscopic Fluid Chips / 12 Micro-Channel Substrate		

Sample Preparation & Preprocessing Equipment	Surface Treatment
	Sonicator
	Sample Dispenser
	Inkjet Printer

Testing Service	First-time Inspection	
	Standard	Single sample
		Project with 35 samples
	High Mag.	Single sample
		Project with 20 samples
Composition Analysis		