

## BeVision M1

### Image scanning and particle size and shape analyzer

BeVision M1 is an automatic image scanning system for filter paper cleanliness analysis. Equipped with a metallurgical microscope, programmable motorized stage, autofocus function, and high-resolution CCD, BeVision M1 can capture and recognize each and every particle, automatically stitching the images to a large panoramic image.

BeVision M1 filter paper cleanliness analysis system (hereinafter referred to as BeVision M1) is an automated image analysis system for residual particles on the filter paper, which was developed by Bettersize Instrument Ltd. in 2014.

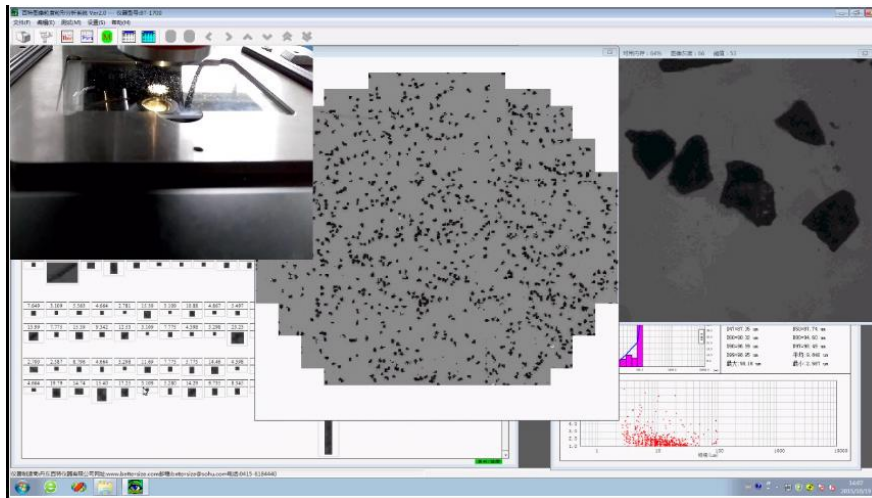


### Features/Benefits:

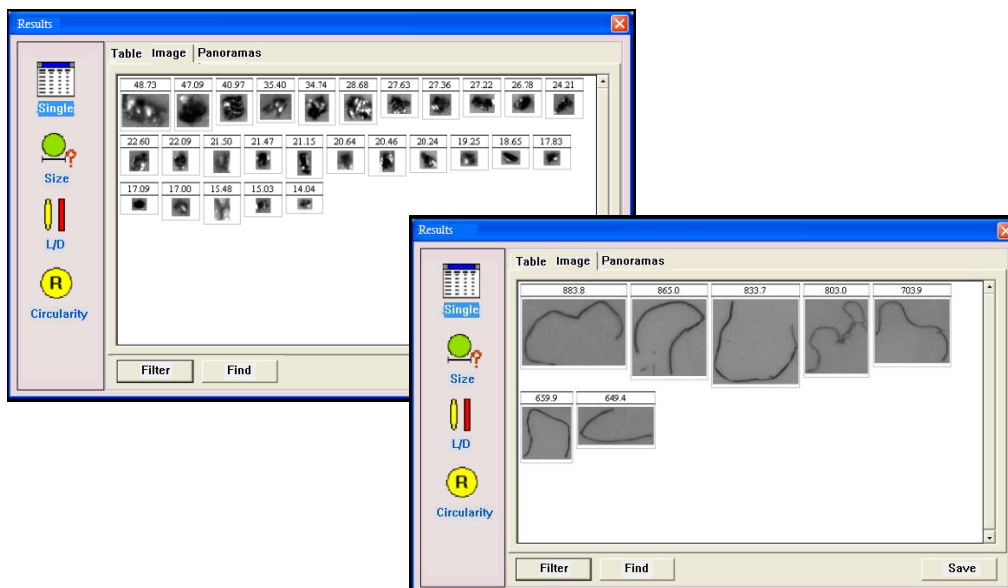
- Measuring range: 1 $\mu$ m to 10000 $\mu$ m
- Magnification: 30-1000 times
- Repeatability:  $\leq 1\%$  (GBRM D50)
- Accuracy:  $\leq 1\%$  (GBRM D50)
- Measuring time:  $\leq 10$  minutes
- Omission ratio:  $\leq 3\%$  (no missing detection for particles more than 10 $\mu$ m in size)
- Particle recognition speed:  $\geq 10000$  pcs/min
- Scanned area: a 55mm diameter circle
- Recognition accuracy of metal particles:  $\geq 90\%$
- Recognition accuracy of fiber particles:  $\geq 92\%$
- CCD imaging speed: 120frames/s

## Outstanding Advantages

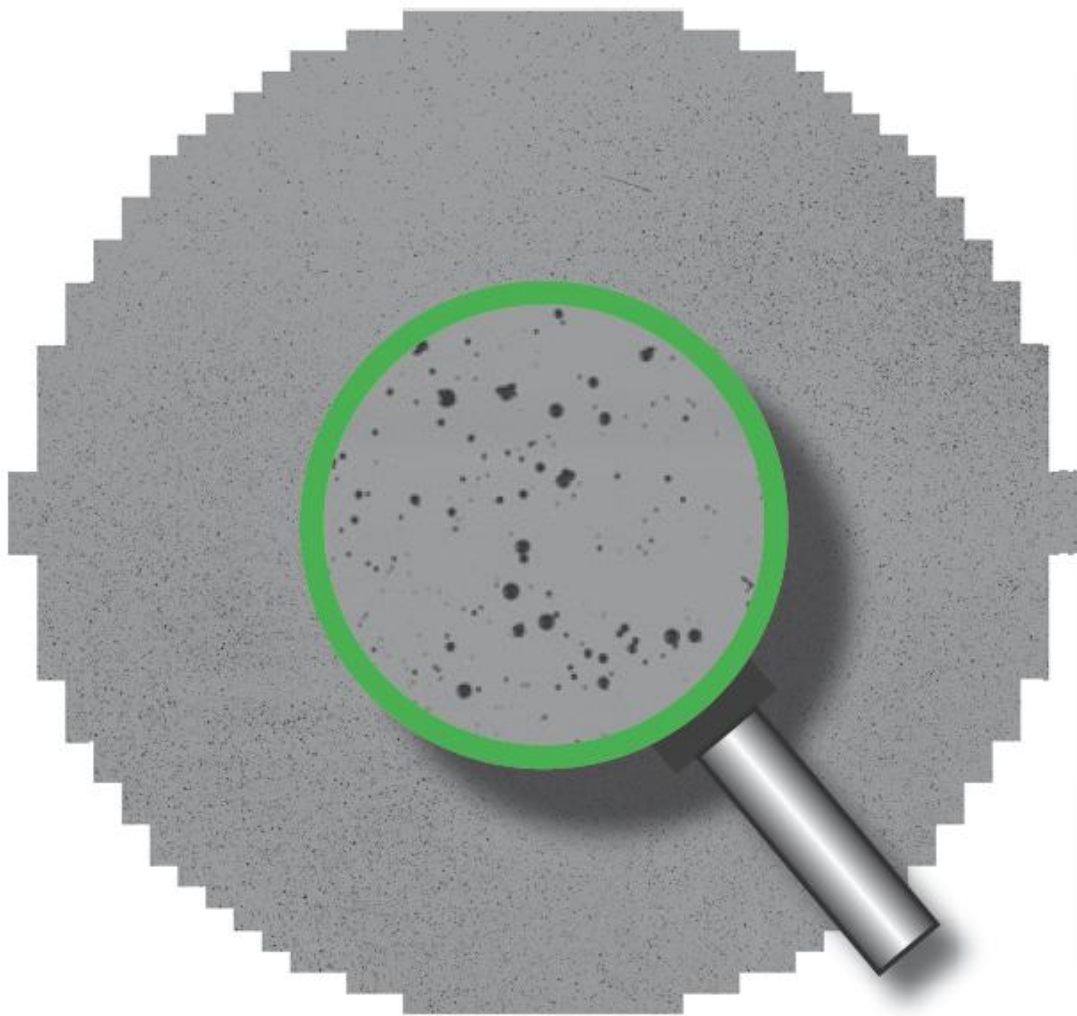
1. The microscope of BeVision M1 equipped with programmable automatic object stage. BeVision M1 is easy to operate and capture pictures automatically.
- **Automatic capturing images:** the system will automatically capture images on different positions as long as the sample is placed on the stage.



- **Metal and fiber particles recognition:** if the sample has metal or fiber particles, BeVision M1 can automatically recognize and give the content and other quantitative indicators.

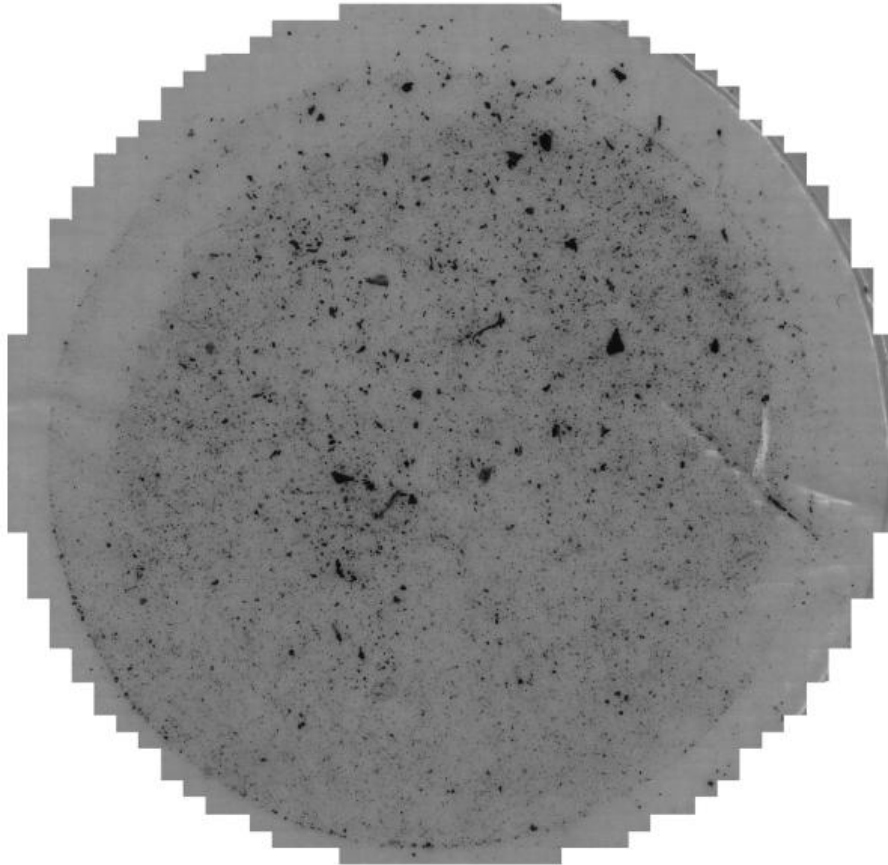


2. BeVision M1 can capture and recognize each individual particle, automatically stitching the images to a large panoramic image.
- **Image reconstruction technology:** systematically stepping and scanning of a defined region, capturing an image at every stepping interval. The software will seamlessly stitch the captured images into one high-resolution panoramic image.



### 3. Cleanliness analysis of BeVision M1 comply with cleanliness standards.

- Comply with the cleanliness standards: ISO 4406:1987, ISO 4406:1999, ISO 4407:1991, ISO 16232, NF E 48-651, NF E 48-655.



- Application in manufacturing industries: cleanliness is most used in the aerospace industry, has now been extended to the automotive, instrumentation and other precision manufacturing industries. It is used to represent the amount of dirt residue on the surface of parts or products. The instrument evaluates the cleanliness by measuring the number of particles.

## Example of Report

BeVision M1 can provide a professional report which integrates a whole set of solutions. Report is automatically generated by the relevant measured results, in accordance with all the selected standards. Report can be customized according to user's demand.

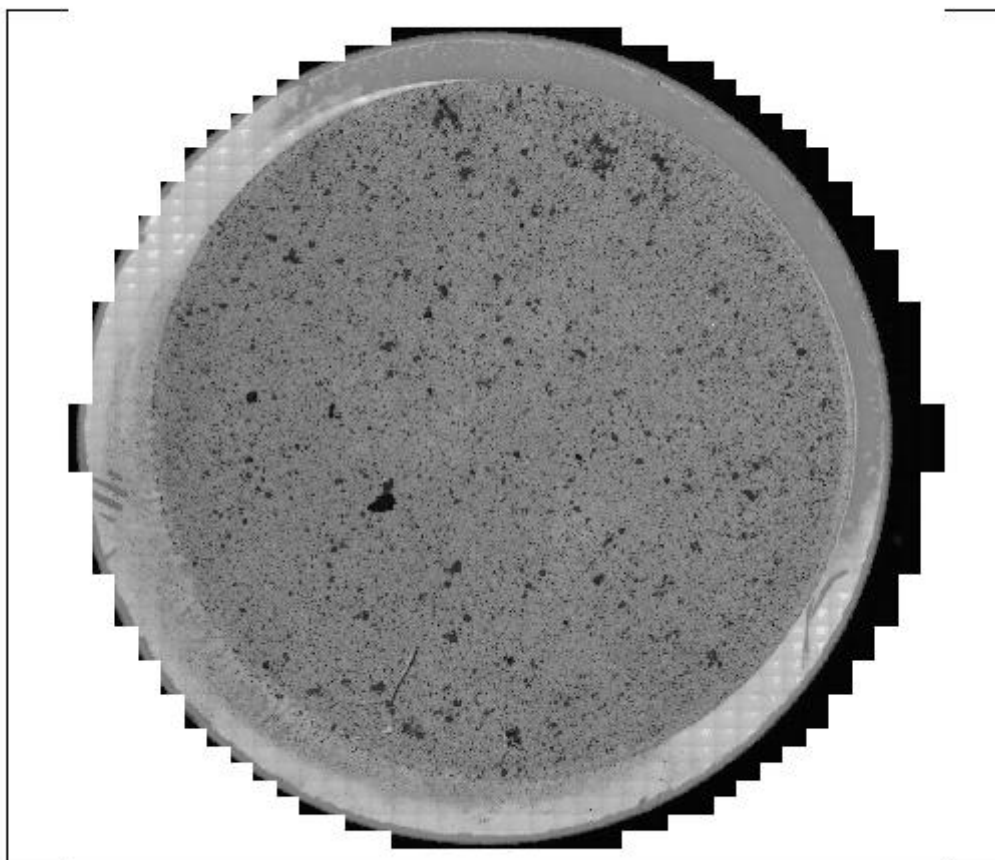
### Cleanliness Analysis Report(NAS-1638)

Range : 1 - 10000  $\mu$ m

Sample: 2#	Sample Owner: Betersize
Operator: LC	Date: 2017-02-24 Time: 10:21:36
Remark:	

Size Range( $\mu$ m)	Particle Number(by Test)	Particle Number(100ml)	Cleanliness Level
5 $\leq$ X < 15	40672	203360.00	10
15 $\leq$ X < 25	10969	54845.00	11
25 $\leq$ X < 50	7322	36610.00	12
50 $\leq$ X < 100	2541	12705.00	12
100 $\leq$ X < 150	1729	8645.00	12

Total Number: 96943	Metallic Particle: 785	Number of Fibre: 3	Max Dia.: 1818 $\mu$ m
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Company: Betersize Instruments Ltd. Http://www.betersize.com E-mail: info@betersize.com Tel: 0086-415-6163800

## Specifications

Testing parameter	Material
Particle size distribution	Suspension, emulsion, dry powder
General	BeVision M1
Typical measurement time	Less than 10min
CCD	Imaging speed 120frames/s
Measuring speed	10000pcs/min
Size	
Size range	1-10000 $\mu$ m
Accuracy	$\leq 1\%$ (GBRM D50)
Repeatability	$\leq 1\%$ (GBRM D50)
Magnification	30-1000 times
System	
Supply voltage	220VAC
Computer specification	
Computer interface	At least a USB2.0 port required
Operation system	Windows XP, Windows 7,8 or 10 (only 32 bits)
Hardware specification	500GB HD, CPU: i7 2600 or above; Memory: 4GB or above; Mainboard: With PCI-E (long and short card slot) and PCI interface. Monitor resolution: 1680*1050 or above