

MIKRO AIR JET SIEVE™

Particle Size Analyzer



BETATEK INC.

Instrumentation Superbly Supported

L'instrumentation à son meilleur

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ACCURATE PARTICLE SIZE ANALYSIS

THE MIKRO AIR JET SIEVE™—MODEL X

is a highly accurate and reliable particle size analyzer designed for determining the particle size distribution of dry powder ranging from 20 μm to 4,750 μm .



FEATURES:

- Economical solution to particle size analysis
- Highly accurate & reliable particle size analysis
- Suitable for Chemicals, Minerals, Pharmaceuticals, Food, Plastics & Cosmetic materials
- Determines particle size for dry powders from 20 μm to 4,750 μm
- Automatic data recording and storage with network capability
- Output graphs available in linear, logarithmic, and Rosin-Rammler formats
- Capable of calculating particle size points at 0.01 to 99.99% using the Rosin-Rammler Law
- Save completed analyses for future retrieval direct to computer
- Pneumatic sieving deagglomerates the sample while continuously cleaning test sieve
- Samples 10 to 100 grams/cycle

DESIGN:

- Integrated analysis computer with touch screen controls
- User friendly software with step by step instructions
- Automatic pressure differential gauge built in
- 100-230 volt, 50/60 Hz power
- Stainless steel sieve pan & ducting
- Rotating wand disperses the sample across the surface of the screen
- Suitable for use with ASTM Certified test sieve screens
- 16.5" wide x 10.5" deep x 7.5" tall
- Light weight - only 21 lbs
- Long life & minimal downtime
- Ergonomic & user friendly design
- Isolated inlet air & outlet air connections



ACCESSORIES & OPTIONS:

- Cyclone for 98% product recovery over 10 μm
- Sieve adaptor suitable for 200 mm and 203 mm (8 inches) test sieve screens
- Multi-screen adaptor capable of analyzing 3 samples simultaneously
- Vacuum system designed for safe, consistent and reliable performance
- HEPA vacuum available for high containment operation
- Brush, sieve cover and tapping hammer included
- Electronic balance for accurate & complete particle size analysis
- Validation services available upon request

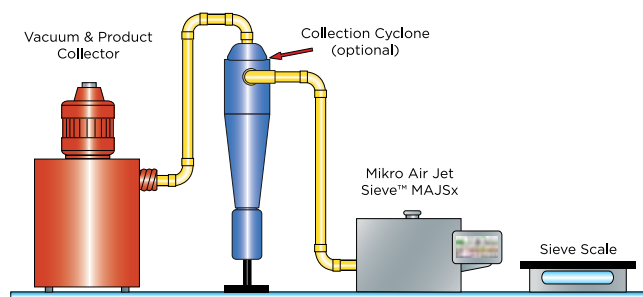
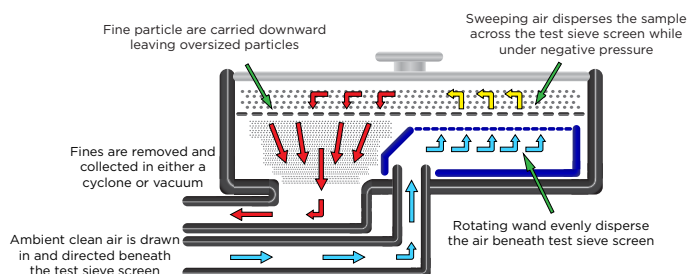


SUITABLE FOR CHEMICALS, MINERALS, FOOD & PHARMACEUTICALS

OPERATION

The Mikro Air Jet Sieve™ – Model X is easy to operate and quickly determines particle size with a short series of sieve test screens. The system utilizes the pneumatic sieving principle that enhances the accuracy and reproducibility of particle size analysis. Use of this device has become a preferred method for such tasks as quality assurance of incoming raw materials and the confirmation of final product specifications.

While negative pressure draws all the particles below a defined particle size down through a sieve screen, a positive airflow is introduced upwards through a rotating wand. This airflow deagglomerates and disperses undersized particles and carries them to the vacuum collector.



Standard MAJS_x setup with optional cyclone.

Precise particle size from 20 to 4,750 µm can quickly be determined. This unique rotating wand method also eliminates the need for tapping or brushing and increases reproducibility with controlled measurements of pressure drop and duration. Overall the system is designed to operate cleaner, quieter and requires less space than other types of similar analytical equipment.



SIMPLE & EASY OPERATION

CONTROLS & TOUCH SCREEN PLC

The MAJSx features an integrated analysis computer with touch screen controls and display. The system is easy to operate and includes step by step instructions to ensure test performance. The Mikro Air Jet Sieve™ - Model X automatically calculates particle size and data can be stored, analyzed and compared.

READY TO SIEVE

START

Sample: REUSE

Pressure: 10 inH₂O

% Mode: PASS

Input Parameters		Measurements			Calculations		
micron size	sieving time	empty screen	total wt before	total wt after	avg press	% cumm	% diff
20	15	123.45	145.57	0.00	0	0.00	0.00
32	15	0.00	0.00	0.00	0	0.00	0.00
75	15	0.00	0.00	0.00	0	0.00	0.00

Test Setup

Testing

Report

Options

BODY

The Mikro Air Jet Sieve™ is an ergonomically designed to make particle analysis more efficient than ever. Constructed in durable cast aluminum, the Mikro Air Jet Sieve™ frame is lightweight and has a high polish finish, yet is tough enough to withstand frequent use in harsh environments.



WAND

The wand is a rotating slotted nozzle that focuses incoming air to continuously swipe the test sieve while washing any lodged particles. Additionally, it produces a smooth, constant air flow preventing sample agglomeration.



BALANCES

Accurate sieve screen weighing is critical in determining particle size. Hosokawa can provide reliable and proven balances with your particle size analyzer that can be integrated into the process and directly networked with the Mikro Air Jet Sieve™ - Model X.



VACUUMS

Hosokawa Micron Powder Systems strongly encourages customers to purchase and utilize industrial HEPA filtered vacuums provided through Hosokawa. The vacuums offered are specifically selected to ensure performance and guaranteed results.



CYCLONE

The Hosokawa High Efficiency Cyclone is a laboratory scale particle collection device, often paired with the Mikro Air Jet Sieve™. In order to recover up to 98% of materials over 10 µm, the Mikro Air Jet Sieve™ must be installed prior to the vacuum. This option allows operators to collect materials after particle sizing for further analysis. The cyclone is constructed in stainless steel with a clear glass collection jar. The lid can easily be removed for cleaning and inspection.



MEASURE POWDERS 20 – 4,750 µm

TEST SIEVE SCREENS

Microns	Mesh Size	Inches	mm
20	635	0.0008	0.020
25	500	0.0010	0.025
32	450	0.0012	0.032
38	400	0.0015	
45	325	0.0017	0.045
50			0.050
53	270	0.0021	
63	230	0.0024	0.063
75	200	0.0029	
80			0.080
90	170	0.0035	0.090
100			0.100
106	140	0.0041	
125	120	0.0049	0.125
150	100	0.0059	
160			0.160
180	80	0.0070	0.180
200			0.200
212	70	0.0083	
250	60	0.0098	0.250
300	50	0.0117	
355	45	0.0138	0.355
425	40	0.0165	
500	35	0.0197	0.500
600	30	0.0232	
710	25	0.0280	0.710
850	20	0.0331	
1000	18	0.0394	1.0
1180	16	0.0469	
1400	14	0.0555	1.4
1700	12	0.0661	
2000	10	0.0787	2.0
2360	8	0.0937	
3350	6	0.132	
4750	4	0.187	

SIEVE SCREENS

Hosokawa Micron Powder Systems only offers spun frame test sieve screens. These screens are highly accurate, supplied with a certificate of conformance, a certified histogram, and meet ASTM-E11 standards. These sieve screens are built to the highest standards possible and are guaranteed to be at least 99.5% accurate down to 20 µm. Hosokawa has a wide selection of sieve screen mesh sizes ranging from 635 mesh up to 4 mesh.



MULTI-SIEVE ADAPTOR (MSA)

A multi-sieve adaptor is available for particle size analysis where test samples need to be smaller than traditional sieve testing or for users that prefer to run fewer test cycles to achieve results. The multi-sieve adaptor can accommodate up to three 63 mm diameter test sieve screens without affecting the particle size analysis.

