



EIE INSTRUMENTS PVT. LTD.
(An ISO 9001:2015 Certified Company)

AIR JET SIEVING MACHINE - EIE-AIR-200



Compliance with Standards

The equipment will be compatible with the following standards:

- **ISO standards for particle size analysis**
- **ASTM standards (air jet sieving methods)**
- **USP / EP Pharmacopoeia requirements**

Applications

Pharmaceutical Industry

- API and excipient particle size analysis
- Compliance with pharmacopeia requirements

Food Industry

- Flour, additives, spices, and powders

Other Industries

- Fine chemicals
- Powder metallurgy
- Materials with electrostatic or agglomeration behavior

Special Advantages

- High accuracy for **ultra-fine powders**
- Eliminates **manual sieving errors**
- Suitable for **GMP-regulated environments**

- Compact and energy-efficient design
- Advanced data integrity and traceability features

Principle of Operation

The system operates on the **air jet sieving principle**, wherein:

- A controlled **negative pressure vortex** is generated.
- Powder is dispersed through a **rotating nozzle** across the sieve surface.
- Fine particles pass through the sieve and are collected.
- Coarser particles remain on the sieve.
- Continuous **airflow prevents mesh clogging**, ensuring high accuracy and repeatability.

Construction & System Design

- Compact, bench-top design with robust housing
- Integrated **negative pressure generation system**
- Precision **vortex air jet nozzle system**
- Transparent inspection cover for monitoring
- Controlled by **microprocessor-based intelligent system**

Control & Display System

- **7-inch HD LCD touch screen interface**
- Fully automated test control with:
 - SOP-based operation
 - Real-time monitoring
 - Intelligent parameter setting
- User-friendly graphical interface for:
 - Test setup
 - Data management
 - Result analysis

Technical Specifications

Measurement Parameters

- Measurement Range: **5 μm to 5000 μm**
- Measurement Accuracy: **< 1%**
- Repeatability Error: **< 1%**

Operating Parameters

- Nozzle Rotation Speed:
 - Fixed: **~18 rpm**
 - Adjustable modes: Low / Medium / High / Variable
- Timer Range: **0 – 9999 min 59 sec**
- Negative Pressure Range: **0 – 10 kPa**

Electrical Requirements

- Power Supply: **220 V, 50 Hz**
- Power Consumption: **~70 W**

Physical Parameters

- Dimensions: **Approx. 350 × 350 × 580 mm**
- Weight: **Approx. 14.8 kg**

Functional Features

Intelligent Operation

- Fully automated test cycle
- Adjustable sieving time and speed
- Real-time cleaning of sieve during operation

Anti-Clogging System

- Continuous air jet prevents mesh blockage
- Suitable for ultra-fine and cohesive powders

SOP Management

- Storage of up to **200 SOPs**
- Predefined and customizable test procedures

Data Management

- Storage capacity: **Up to 8000 test results**
- Functions include:
 - Data storage
 - Retrieval
 - Printing
 - Export (via RS-232 interface)

Result Processing

- Automatic calculation of:
 - Particle size distribution
 - Percentage retained/passed
- Automatic comparison with nominal/standard values
- Pass/Fail indication

Compliance & Traceability

- **Audit Trail (GMP compliant features):**
 - User login control
 - Administrator access levels
 - Operation history tracking
- Supports regulatory requirements in pharmaceutical applications

Advanced Screening Function

- OPEN MESH functionality for extended measurement range
- Screening suspension for intermediate processing

Standard Supply (Scope of Delivery)

The system will be supplied complete with:

- Air Jet Sieving Machine – 1 No.
- Negative Pressure Generation Unit – 1 No.
- Transparent Cover – 1 No.
- Cleaning Brush – 1 No.
- Sampling Spoon – 1 No.
- Sample Collection System – 1 Set
- Wooden Hammer (for sieve handling) – 1 No.
- Fuse Set – 3 Nos.
- Power Cable – 1 No.

Optional Accessories (Not Included in Standard Supply)

- Standard Test Sieves:

100 µm

- 50–100 µm
- 32–50 µm

- 10–32 µm
- Electronic Balance:
 - Capacity: up to 600 g
 - Least Count: 0.01 g
- Automatic Sieve Recognition System
- External Dust Collection / Vacuum System (if required)

None

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