



6. Operating instructions: Air Sizer 200



Technical specifications

SIEVING MACHINE MODEL:

Air Sizer 200

General Information

The Air Sizer 200 has an air nozzle, which is set rotating. The sieve with a Plexiglas lid is put on top of that. A vacuum unit generates a jet of air, which disperses the particles through the air nozzle on the sieve.

The material, which is smaller than the mesh size of the air jet sieve, is transported by the backflow of the air into the filter unit or directly into the vacuum cleaner. The jet of air de-agglomerates the particles and cleans the sieve mesh constantly.

The Air Sizer 200 is specially designed for the dry sieving and the particle size determination of fine-grained, dry, pourable and dispersed bulk materials. The sieve holder is suitable for 8" (203 mm) diameter test sieves (premium air jet sieves)

Advantages

- Compact and portable (weighing only 14 kg)
- Requires only small storage space due to small footprint
- The device is essentially maintenance free if cleaned regularly
- Easy to use
- Ideal for electrostatic materials
- Wide range voltage supply
- Can reduce the average sieving times in samples with a high fine fraction
- Variable vacuum control



The Air Sizer 200 **is not recommended for any wet sieving operations!**



WHEN PARTICLE SIZE MATTERS

Specifications

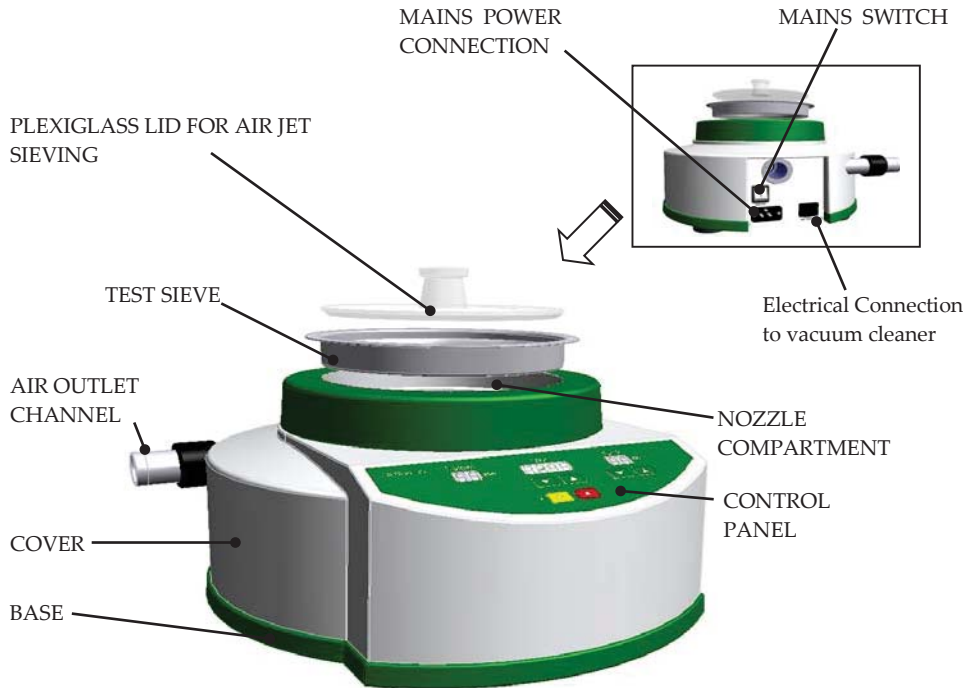
1. Technical specifications

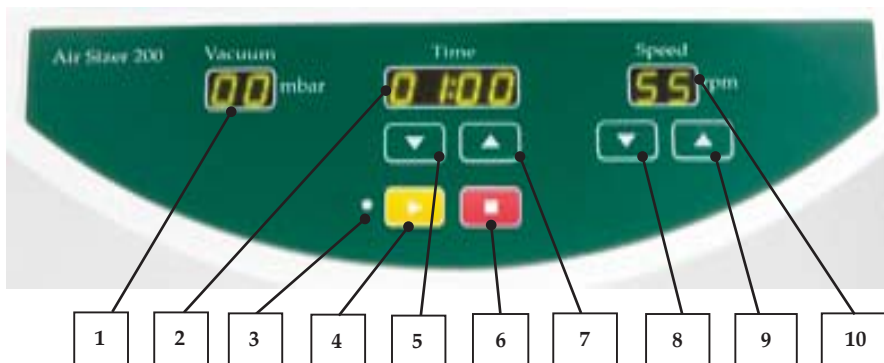
Range	20 µm to 4 mm
Drive / sieving motion	stepping motor
Max. Batch / feed capacity	100 g (depending on material and mesh)
Max. Number of fractions	1
Amplitude	N/A
Speed	5 to 55 rpm
Time display	digital, 00:10 – 99:50 min
Suitable for dry sieving	yes
Suitable for wet sieving	no
Sieve diameter	203 mm = 8" (premium air jet sieves)
Clamping device	N/A
Model	bench top
Protection code	IP 40
Electrical supply	100 - 240V 50/60 Hz
Power connection	1-phase
W x H x D	430 x 235 x 435 mm
Net weight	14 kg
Standards	CE

1. Setting up

Controls and functions

Operators should be familiar with and fully understand the controls and indicators before operating this machine.





1	Vacuum pressure in mbar
2	Display shows the preselected sieving time, 00:10 – 99:50 min
3	LED light to indicate START button “>” ON.
4	Start the machine by pressing the START button “>”.
5 & 7	“v” and “^” button reduces/increases the sieving time, 00:10 – 99:50 min
6	Stop the machine by pressing the STOP button “□”.
8 & 9	“v” and “^” button reduces/increases the rpm, 5-55rpm, with digital display
10	Display speed shows the speed of 5-55rpm

Setting Up

Electrical connections

- Ensure that the voltage and frequency on the rating label, at the rear of the Air Sizer 200 correspond with the local electrical mains supply.
- Connect the Air Sizer 200 to the power supply using the connection cable provided.



Do not connect to any other supply other than stated on the rating label, otherwise electrical and mechanical components can be damaged.

Ambient temperature: 5°C to 40°C



If the ambient temperature is exceeded or drops below the specified value the electrical and mechanical components may become damaged and the performance data can change to an unknown degree.

Atmospheric humidity:

Maximum relative humidity 80% at temperatures up to 31°C, with linear reduction down to 50% relative humidity at 40°C.



At high atmospheric humidity the electrical and mechanical components may become damaged and the performance data can change to an unknown degree.

- ***Mains power connection***
Mains power connection with integral line filter. Ensure the IEC connector on the mains lead is pushed fully into the mains inlet at the rear of the machine.
- ***Mains Connection Indication***
If the power of the Air sizer 200 is switched “ON”, the display LED lights up.
- ***Process Timer***
The process timer is a digital 00:10-99:50 minute timer. Operating periods are increased by pressing the “^” button and decreased by pressing the “v” button.

Start-up and commissioning

The machine should be set up according to the following procedure.

The following items should be removed from the carton and checked before the Air Sizer 200 is operated (Take Care the Air sizer 200 weighs 14 kg):

- 1 off Set-up Instructions.
- 1 off Mains Cable.
- 1 off Air Sizer fitted
- 1 off Plexiglas lid
- Soft-Faced Mallet
- Test Sieving Manual.

Position the Air Sizer 200 on a level, rigid and robust bench, suitable for the operation of the Air Sizer. Being placed on a level surface ensures symmetrical distribution of the sample over the sieve, during operation.

Operating Instructions

Switching On and Off

- Press the on/off switch at the back to turn on the device.

When the switch is in the "off" position, the device must be disconnected completely from the mains power supply (f.e. before cleaning the device).

Inserting the test sieve

The Air Sizer 200 is intended for test sieves with a diameter of 203mm (8 inches). The range of mesh fineness extends from 10 μ m to approx. 4mm.

- Place the sieve in the nozzle compartment.
- Fit the Plexiglas lid provided.

NOTE:

The Air Sizer 200 cannot be started until the sieve has been inserted and the lid put on.









Soft-faced mallet – Application and Use

Any caking that has built up during the sieving process is knocked off the inside of the lid by means of the soft-faced mallet.

Tap lightly, striking the centre of the knob as far as possible.

Use of the machine for the intended purpose

	<p>Risk of explosion or fire</p> <ul style="list-style-type: none"> On account of its design, the device is not suitable for use in hazardous (potentially explosive) atmospheres. Do not operate the device in a hazardous atmosphere.
	<p>Risk of explosion or fire</p> <p>Changing sample characteristics</p> <ul style="list-style-type: none"> Note that the characteristics and accordingly the danger presented by a sample can change during sieving. Do not sieve any potentially explosive or combustible materials in this device.
	<p>Danger of personal injury</p> <p>Dangerous nature of the sample</p> <ul style="list-style-type: none"> Depending on the dangerous nature of your sample, take the necessary measures to rule out any danger to persons. Observe the safety guidelines and datasheets of your sample material.
<p>Note:</p>	<p>Area of use of the machine</p> <ul style="list-style-type: none"> This machine is a laboratory machine designed for 8-hour single-shift operation. This machine may not be used as a production machine nor is it intended for continuous operation.
<p>Note:</p>	<p>Defects in components due to liquids</p> <p>Penetration of liquids inside the housing</p> <ul style="list-style-type: none"> Components are damaged and the correct functioning of the device is no longer assured. Do not use this device for any wet sieving.
	<p>Hearing damage or hearing loss</p> <p>Suction noise at the suction opening</p> <ul style="list-style-type: none"> The volume and/or force of drawn-in air can damage hearing or cause hearing loss. Keep your ears away from the air inlet in the channel. Use hearing protection. 
	<p>Failure to hear acoustic signals</p> <p>Loud suction noise on the air inlet</p> <ul style="list-style-type: none"> It is possible that some acoustic warnings and voice communication may not be noticed. Take the strength of the suction noise into consideration when designing your acoustic signals in the working environment. Possibly additionally use visual signals.

Noise characteristics:

The Air Sizer 200 itself is constructed in a manner that prevents any significant development of noise. The noise characteristics of the connected industrial vacuum cleaner depend on the set suction force and suction load.

Note: Ensure that the differential pressure or vacuum generated by your vacuum cleaner or the suction is not greater than 99 mbar.
The maximum quantity of material to be sieved depends on the mesh size and sieve size.

Rated Power: Air Sizer 200 : maximum 50 watts
Air Sizer 200 + vacuum cleaner: maximum 1450 watts



When connecting the power cable to the mains supply, use an external fuse that complies with the regulations applicable to the place of installation .

- Please check the rating label for details on the necessary voltage and frequency for the device.
- Make sure the levels agree with the existing mains power supply.
- Use the supplied connection cable to connect the device to the mains power supply.

The external fuse must be at least T15A (230V) T15A (100/120V).



Danger to life through electric shock

- An electric shock can lead to burns and to cardiac arrhythmias or to respiratory arrest and cardiac arrest.
- The device may only be operated with plugs that have a protective conductor (earthed).

Connecting the external Industrial Vacuum cleaner



Electric shock

Faulty power cable

- When you switch the device on there is danger of an electrical shock if the power cable for the external suction device is damaged.
- Before use, check the power cable between the sieve device and the suction device for possible damage.
- Never use a damaged power cable!



Objects thrown-out or falling down

Connection of compressed air instead of vacuum cleaner

- If compressed air is connected to one of the two air openings, the sieve lid and the sieve will be hurled out.
- This device may not be operated with compressed air.

The Air Sizer 200 can be operated only with a suction extractor, such as for example a vacuum cleaner.



Connection of the industrial vacuum cleaner

- Connect your vacuum cleaners suction tube to the air outlet channel
- Insert the type F IEC C14 connector on the vacuum cleaner into the IEC C13 panel-mounted outlet. **The power for the industrial vacuum cleaner is supplied from the Air Sizer 200.**

Negative Pressure

Display shows the neg. Pressure..... (Range from 00 to 99 mbar)

NOTE:

If the neg. pressure is more than 99 mbar -> sensor could be destroyed
The air jet can be changed by turning the manual air jet setting.

[1] Air entry opening closed è maximum air jet

[2] Air entry opening open è minimum air jet

The difference in air pressure (differential pressure) between the air inlet and air outlet at a given moment is displayed.

Operating Software

The operating software version is displayed for 5 seconds having switched on the machine.

➤ Starting, Stopping

- Switch the device on by pressing the on/off switch at the back.
- set the sieving parameters you want.
- Put the test sieve with the sample onto the nozzle compartment.
- Place the lid on the sieve.

NOTE:

The sieving will not start if the lid is not on.

- Start sieving by pressing the START button “>”.
- Stop the sieving by pressing the STOP button “□”.

Filter (Option)

Electrostatic charge inside the devices is prevented by earthing the device via the protective conductor on the electrical connection. Ensure the correct assembly of filter unit in order to guarantee sufficient earthing.

NOTICE:

Despite this, electrostatic charge separation may however still occur between the sample and receptacle wall inside the collecting receptacle depending on the sample property, flow speed and air humidity.

Cleaning and service

WARNING:

Risk of a fatal electric shock

- An electric shock can cause injuries in the form of burns and cardiac arrhythmia, respiratory arrest or cardiac arrest.
- Do not clean the machine under running water. Use only a cloth dampened with water.
- Disconnect the power supply plug before cleaning the blender.

➤ **Cleaning**

We recommend ultrasonic baths for thorough, gentle and time-saving cleaning of your test sieves.

Clean the air outlet channel regularly using a brush to remove any deposits.

- Vacuum cleaner – changing the vacuum cleaner bag
 - Change the vacuum cleaner bag or empty the dust container on your vacuum cleaner regularly as required.



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- Check the degree of soiling of the vacuum cleaner filter regularly and change the filter where applicable.
- The vacuum or differential pressure generated by the vacuum cleaner may otherwise be too low for sieving.
- Maintenance

This device is essentially maintenance-free if cleaned regularly.

E11	MOTOR FAULTY/BLOCKED	Service required
E83	VACUUM TOO LOW	Check whether <ul style="list-style-type: none">• the suction apparatus is connected;• the suction apparatus is generating sufficient vacuum;• The collecting receptacle in the suction apparatus is full;• the sieve cover is attached.
E84	DROP IN VACUUM	Check whether <ul style="list-style-type: none">• the sieve cover is attached;• the suction hose has been connected;• the vacuum cleaner bag is full.



CERTIFICATE OF CE-CONFORMITY
ANALYTICAL SIEVE SHAKER
Air Sizer 200

Certificate of CE-Conformity according to:

EC Mechanical Engineering Directive 2006/42/EC

Applied harmonized standards, in particular:
EN ISO 12100 Security of machines

EC Directive Electromagnetic Compatibility 2004/108/EC

Applied standards, in particular:

EN55011:2009+A1:2010, Group 1, Class B Radio disturbance characteristics –
Limits and methods of measurement

EN 61000-3-2:2006+A1:2009+A2:2009
EN 61000-3-3:2008
EN61326-1:2006

Additional applied standards, in particular

EN 61010 Safety prescriptions concerning measuring, operating, controlling and laboratory equipment

Authorised for the compilation of technical documents:

Endecotts Ltd (technical documentation)

The following records are held by Endecotts Ltd in the form of Technical Documentation:

Detailed records of engineering development, construction plans, study (analysis) of the measures required for conformity assurance, analysis of the residual risks involved and operating instructions in due form according to the approved regulations for preparation of user information data.

The CE-conformity of the Endecotts Analytical Sieve Shaker Type Air Sizer 200 is assured herewith.

In case of a modification to the machine not previously agreed with us as well as the use of not licensed spare parts and accessories this certificate will lose its validity.

Endecotts Ltd

London, July 2014

