Manual

Sieving machine Octagon 200

Original

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1 Notes on the manual

This manual provides technical guidelines for the safe operation of the device. Read this manual through carefully before installing, putting into service and operating the device. Reading and understanding this manual is essential for handling the device safely and as intended.

This manual does not contain any repair instructions. Please contact your supplier or contact Endecotts Limited directly if anything is unclear or you have questions about these guidelines or the device, or in the case of any faults or necessary repairs.

You can find further information about your device at **http://www.endecotts.com** on the pages for the specific device concerned.

Amendment status:
The document amendment 0001 of the "Sieving machine Octagon 200" manual has been prepared in accordance with the Directive of Machinery 2006/42/EC and the Supply of Machinery (Safety) Regulations 2008.

1.1 Disclaimer

This manual has been prepared with great care. We reserve the right to make technical changes. We assume no liability for personal injuries resulting from the failure to follow the safety information and warnings in this manual. No liability will be assumed for damage to property resulting from the failure to follow the information in this manual.

1.2 Copyright

1.3 Explanation of signs and symbols

In this document the following **signs and symbols** are being used:

Signs and symbols	Meaning
ⓘ	Indicates a recommendation and/or important information.
Bold type	Indicates an important term.
(A), (B), (C) (1), (2), (3)	The relevant components are labelled with letters or numbers in the instructions for better orientation.
• • •	List of equivalent points.
- - -	List of equivalent points.
1. (…) 2. (…) 3. (…)	Actions in an instruction.
➔	Result of an action.

	The **Endecotts Octagon 200 sieving machine** is usually described in the explanations in this Manual as **device**.

1.4 Explanations of the Safety Instructions

The following **warnings** in this manual warn of possible risks and damage:

⚠ DANGER D1.0000

Risk of fatal injuries
Source of danger
– Possible consequences if the danger is ignored.
• **Instructions and information on how to avoid the risk.**

Fatal or serious injuries may result if the “Danger” sign is disregarded. There is a **very high risk** of a life-threatening accident or lasting personal injury. The signal word **⚠ DANGER** is additionally used in the running text or in instructions.

⚠ WARNING W1.0000

Risk of life-threatening or serious injuries
Source of danger
– Possible consequences if the danger is ignored.
• **Instructions and information on how to avoid the risk.**

Life-threatening or serious injuries may result if the “Warning” sign is disregarded. There is an **increased risk** of a serious accident or of a possibly fatal personal injury. The signal word **⚠ WARNING** is additionally used in the running text or in instructions.

⚠ CAUTION C1.0000

Risk of injuries
Source of danger

– Possible consequences if the danger is ignored.
- **Instructions and information on how to avoid the risk.**

Average to slight injuries may result if the “Caution” sign is disregarded. There is an average or slight risk of an accident or personal injury. The signal word **⚠ CAUTION** is additionally used in the running text or in instructions.

NOTICE N1.0000

Type of damage to property
Source of the damage to property

– Possible consequences if the information is ignored.
- **Instructions and information on how to avoid the damage to property.**

Damage to property may result if the information is disregarded. The signal word ***NOTICE*** is additionally used in the running text or in instructions.

2 Safety

⚠ CAUTION

C2.0002

Risk of injury
Lack of knowledge of the manual

- The manual contains all safety-related information. Disregarding the manual can therefore lead to injuries.
- **Read the manual carefully before operating the device.**

Target group:
The Sieving machine Octagon 200 is intended for use in the preparation of samples in a laboratory environment. This Manual is therefore directed at those working with this device in such an environment, who already have experience using similar equipment.

This device is a modern, efficient, cutting-edge product from Endecotts Limited. If used correctly and with knowledge of this technical documentation, it can be operated safely.

2.1 Use of the Device for the Intended Purpose

This sieving machine of Endecotts Limited is a laboratory device. It is suitable for dry and wet sieving of free flowing, disperse materials in the particle size range from 20 µm to 125 mm.

The device is designed for stationary operation in a dry and clean working environment.

As a laboratory device, the sieving machine Octagon 200 may only be used to prepare samples. The sieving machine Octagon 200 is not a production machine. The laboratory device has been designed for an 8-hour, single shift operation at 30 % duty cycle.

The operating company and operating staff must have read the Manual and be familiar with the entire functional scope of the device.

The particle size distribution of soils, building materials, chemicals, fertilizers, fillers, powders, coffee, plastics, flour, metal powders, minerals, nuts, seeds, sand, washing powder, cement clinker and many other substances can be easily and quickly analysed.

The sieving machines of Endecotts Limited are successfully deployed in almost all areas of industry and research within the scope of quality control, especially where there are high demands regarding easy operability, speed, precision and reproducibility.

The Octagon 200 is specially designed for test sieves with an outer diameter from 100 mm to 203 mm or 3″ to 8″. For an optimum measurement result it is recommended to exclusively use test sieves from Endecotts Limited.

2.2 Improper use

The device may only be used as intended.

Uses other than those described under intended use are deemed to be improper.

The Octagon 200 is **not** suitable for sieving sample materials that can form explosive air mixtures.

Damage claims in any form for damage to property and personal injuries that result from improper use and/or the failure to follow the safety information shall be ruled out.

2.3 Obligations of the operating company

2.3.1 Provisions

The user bears responsibility for ensuring that people working with the device and the corresponding equipment have taken note of and understood all relevant safety regulations.

2.3.2 Personnel

- Ensure that only skilled personnel are deployed who, due to their training and experience, are qualified to recognise risks and avoid potential hazards.
- Personnel should be instructed regularly on handling the device, particularly in the occurrence of sudden events.
- Trainee personnel should only be allowed to work on the device when supervised by qualified skilled personnel.
- Check the safety awareness of staff regularly.
- Define responsibilities of personnel according to qualification and job description.
- Provide personnel with personal protective equipment (PPE).
- Ensure that the following prerequisites have been met:
  - Personnel have read and understood this Manual, and in particular the chapter on “Safety”.
  - Personnel know and follow the pertinent accident prevention and safety regulations.
  - Personnel wear the designated personal protective equipment (PPE) when working with the device.

2.3.3 Workstation and device

- Place the device on a vibration-free, plane, stable and clear surface
- All signs on the device must be maintained in a legible state.
- Ensure that all checks and maintenance work prescribed in this Manual are carried out.

2.3.4 Qualification of personnel

Work/operating phase	Qualification
Transport Installation Commissioning Operation Controlling Servicing Disposal	Qualified employee who has been trained in the safe use of the device.
Work on the electrical equipment on the device	Electrician who, on the basis of his/her training, knowledge and experience is able to evaluate the work assigned and recognise potential hazards.

2.3.5 Personal protective equipment (PPE)

Work/operating phase	Personal protective equipment (PPE)
Transport Installation	Safety footwear
Commissioning Installation of additional equipment Servicing	No PPE needed.
Disposal	Safety footwear
Normal operation (operation and control)	No PPE needed.

2.4 Structural modifications and repairs

⚠ CAUTION C3.0015

Risk of injury
Improper modifications to the device

- Improper modifications to the device can result in injuries.
- **Do not make any unauthorised changes to the device.**
- **Only use the spare parts and accessories approved by Endecotts Limited!**

This manual does not contain any repair instructions. For safety reasons, repairs may only be carried out by Endecotts Limited or an authorised representative or by qualified service technicians.

In case of repair, please inform…
…the Endecotts Limited representative in your country,
…your supplier, or
…Endecotts Limited directly.

Service address:

Distributors affix alternative address/
contact details here

2.5 Safety equipment

Emergency stop switch

The device is not fitted with a pre-installed emergency stop switch. In an emergency, the device must be switched off by pressing the main switch or by disconnecting the device from the power supply.

Fuse (Fuse holder)

The fuse is a ceramic fuse. It is important that the recommended current rating is not exceeded and the fuse is replaced with the same type and size. If the fuse blows after replacement, then a fault exists in the equipment which must be rectified.

2.6 Emergencies

The device can be switched off at any time by the main switch at the back of the device.

2.6.1 Switching the device off in an emergency

Perform the following steps if there is a fault or unexpected interruption to operation:

1. Switch the device off by the main switch on the back of the device and disconnect it from the power supply.
2. Have the fault rectified.

2.6.2 Putting the device back into service following a fault or unexpected interruption

➔ Fault has been rectified.

1. Connect the device to the power supply again
2. Switch the device on by the main switch on the back of the device.

2.7 Preventing risks during normal operation

Disregarding the following safety instructions constitutes improper and represents a risk to personnel and a risk to operational reliability.

Transport and installation

- Wear safety shoes when transporting and installing the device.
- Only connect the device to sockets with protective earth conductor (PE).
- When connecting the device, the values on the type plate must correspond to those for the power connection.

Operation

- Read the Manual before putting the device into service.
- Only operate the device where it can stand securely on a sufficiently large workstation.
- Check the mains lead for damage before operation.
- Never operate the device if damage is visible or suspected.
- Only operate the device in line with the technical application limits.
- Do not wear loose items of clothing and tie long hair back when operating the device.
- Prepare for limited communication while operating the device.
- Do not operate the device in potentially explosive atmospheres.
- Take note of the safety data sheets for samples and follow instructions by taking appropriate action in advance.
- Do not sieve any explosive and/or flammable materials.
- Do not sieve any materials which can become explosive and/or flammable during sieving.
- Be aware of surroundings during sieving because background noise makes it difficult to discern acoustic signals.

Maintenance and repair

- Switch the device off by the main switch before maintenance work.
- Do not clean the device with running water.
- Do not clean the device with compressed air.
- Have all repairs to the device carried out by the device manufacturer or an authorised representative.

2.8 Avoiding damage to property

- Observe the specifications for the maximum load of the machine.
- Handle test sieves with care.
- When filling the sieves, adhere to the specified maximum feed quantities and feed sizes. Too large a filling quantity or task size can damage the sieve and lead to a falsification of the result.
- Use a damp cloth for cleaning.
- Do not use any solvent or aggressive cleaning agent when cleaning.
- Only use original spare parts for servicing.
- Clean the sieves after each use to avoid corrosion of the sieve.

2.9 Confirmation Form for the Managing Operator

This manual contains essential instructions for operating and maintaining the device which must be strictly observed. It is essential that they be read by the user and by the qualified staff responsible for the device before the device is commissioned. This manual must be available and accessible at the place of use at all times.

The user of the device herewith confirms to the managing operator (owner) that he has received sufficient instructions about the operation and maintenance of the system. The user has received the manual, has read and taken note of its contents and consequently has all the information required for safe operation and is sufficiently familiar with the device.

The managing operator should for legal protection have the user confirm the instruction about the operation of the device.

I have read and taken note of the contents of all chapters in this manual as well as all safety instructions and warnings.

User
Surname, first name (block letters)
Position in the company
Place, date and signature

Managing operator or service technician
Surname, first name (block letters)
Position in the company
Place, date and signature

3 Sieving machine Octagon 200

The Octagon 200 from Endecotts Limited is a laboratory device used to sieve samples.

The device is suitable for dry and wet sieving in the particle size range from 20 µm to 125 mm.

Due to the effective sieving process the Octagon 200 guarantees gentle sieving of samples for analysis in a very short time.

Fig. 1: The Sieving machine Octagon 200

3.1 Principle of Operation

The Octagon 200 performs a vibratory sieving operation, where the sample material is thrown upwards by the vibrations of the sieve bottom and subsequently falls back down onto the sieve mesh fabric due to gravitation forces. Thereby, the sample material is subjected to a three-dimensional movement, i.e. a horizontal circular motion superimposes the vertical throwing motion. Hence, the sample material is spread uniformly across the entire surface of the sieve bottom, whereas the particles are subjected to an acceleration in vertical direction. In this process, they perform free rotations and are compared with the mesh sizes when falling back down statistically orientated. In the sieving machines of Endecotts Limited, an electromagnetic drive sets a spring-mass system in motion and transfers the oscillations to the sieve stack. The amplitude can be adjusted within a few millimetres.

NOTICE

N2.0007

Range of application of the device
Long-term operation

- This laboratory device is designed for eight-hour single-shift operation with a duty cycle of 30 %.
- **This device may not be used as a production machine nor is it intended for continuous operation.**

3.2 Technical data

General information	
Applications	For dry and wet sieving
Area of application	Agriculture, biology, chemicals, plastics, building materials, engineering, electrical engineering, environment, foodstuffs, geology, metallurgy, glass, ceramics, medicine, pharmaceuticals
Feed material	Hard, medium-hard, soft, brittle, elastic, fibrous

Specifications	
Drive / sieving motion	Electromagnetic 3D (Throw with angular momentum)
Suitable for dry sieving	Yes
Suitable for wet sieving	Yes
Operation	Control panel
Interval operation	Yes (one mode)
Range	20 µm to 125 mm
Max. sample quantity	3 kg
Max. sieve stack weight	4 kg
Max. payload	7 kg
Max. sieve stack height	450 mm
Max. number of fractions	8 full height / 16 half height (200 mm or 8″)
Suitable sieve diameter	100 / 200 mm or 3″ / 8″
Clamping device	Quick-release clamping system (included)
Model	Bench top
Time setting	Digital, 0:10 – 99:50 min
Dimensions W x H x D	418 x 232 x 435 mm
Required floor space (W x D)	500 mm x 500 mm
Weight (without sieve stack and clamping device)	35 kg
Conformity	CE, UKCA

Electrical specifications	
Power connection	230 V, 50 Hz, 1-phase 230 V, 60 Hz, 1-phase 110 V, 50 Hz, 1-phase 110 V, 60 Hz, 1-phase 100 V, 50 Hz, 1-phase 100 V, 60 Hz, 1-phase
Power consumption	~290 VA
Amplitude	0 – 3 mm (depending on load), digital setting in 10 steps
Degree of protection	IP21
Electromagnetic compatibility (EMC)	EMC class B according to DIN EN 55011 and IEC CISPR 11. Strong electromagnetic interference fields, such as high-power radio transmitters, can have an adverse influence on the amplitude control of the Octagon 200. Once the source of the interference is eliminated, the Octagon 200 will return to normal operation by itself.

3.3 Receptacle Volume

The maximum volume of material depends on various factors such as number and aperture size of the test sieves, maximum particle size and width of distribution of the sample material.

Nominal width of aperture (200 mm diameter)	Recommended sample volume according to ISO 2591-1	Max. volume of sample residue after the completion of sieving according to ISO 2591-1
22.4 mm	1600 cm^3	800 cm^3
16 mm	1000 cm^3	500 cm^3
11.2 mm	800 cm^3	400 cm^3
8 mm	500 cm^3	250 cm^3
5.6 mm	400 cm^3	200 cm^3
4 mm	350 cm^3	175 cm^3
2.8 mm	240 cm^3	120 cm^3
2 mm	200 cm^3	100 cm^3
1.4 mm	160 cm^3	80 cm^3
1 mm	140 cm^3	70 cm^3
710 µm	120 cm^3	60 cm^3
500 µm	100 cm^3	50 cm^3
355 µm	80 cm^3	40 cm^3
250 µm	70 cm^3	35 cm^3
180 µm	60 cm^3	30 cm^3
125 µm	50 cm^3	25 cm^3
90 µm	42 cm^3	21 cm^3
63 µm	35 cm^3	17 cm^3
45 µm	30 cm^3	15 cm^3
32 µm	26 cm^3	13 cm^3
25 µm	22 cm^3	11 cm^3

3.4 Feed Particle Size

Traditional dry sieving is performed in the particle size range of 40 µm to 125 mm. With wet sieving the measurement range can be extended to 20 µm. The maximum feed particle size depends on the sample material, the number and aperture size of the test sieves and the type of the sieving machine.

Nominal of aperture (200 mm diameter)	Approx. size of largest particle
25 mm	95 mm
4 mm	26 mm
1 mm	10 mm
250 µm	3.8 mm
45 µm	1.2 mm

3.5 Emissions

⚠ CAUTION

C4.0011

Possibility of acoustic signals not being heard
Loud sieving noises

- Possible acoustic alarms and voice communication might not be heard.
- **Consider the volume of the sieving noise in relation to other acoustic signals in the work environment. Additional visual signals may be used.**

⚠ CAUTION

C5.0017

Hearing damage
A high sound level may be generated depending on the type of material, the number of sieves, the sieving aid used, the amplitude set and the duration of the sieving

- Excessive noise in terms of level and duration can cause impairments or permanent damage to hearing.
- **Ensure suitable noise protection measures are taken or wear ear protection.**

Sound parameters:
The sound parameters are also influenced by the set amplitude, the number of test sieves and the properties of the sample material.

Example 1	
Number of test sieves:	5
Amplitude:	1.5 mm
Feed material:	Quartz sand (< 1 mm)
Sieve clamping unit:	Quick-release clamping system

At these operating conditions, the workplace related equivalent continuous sound level L_{eq} = 63 dB(A).

Example 2	
Number of test sieves:	5
Amplitude:	3 mm
Feed material:	Quartz sand (< 1 mm)
Sieve clamping unit:	Quick-release clamping system

At these operating conditions, the workplace related equivalent continuous sound level L_{eq} = 67 dB(A).

3.6 Views of the device

3.6.1 Front

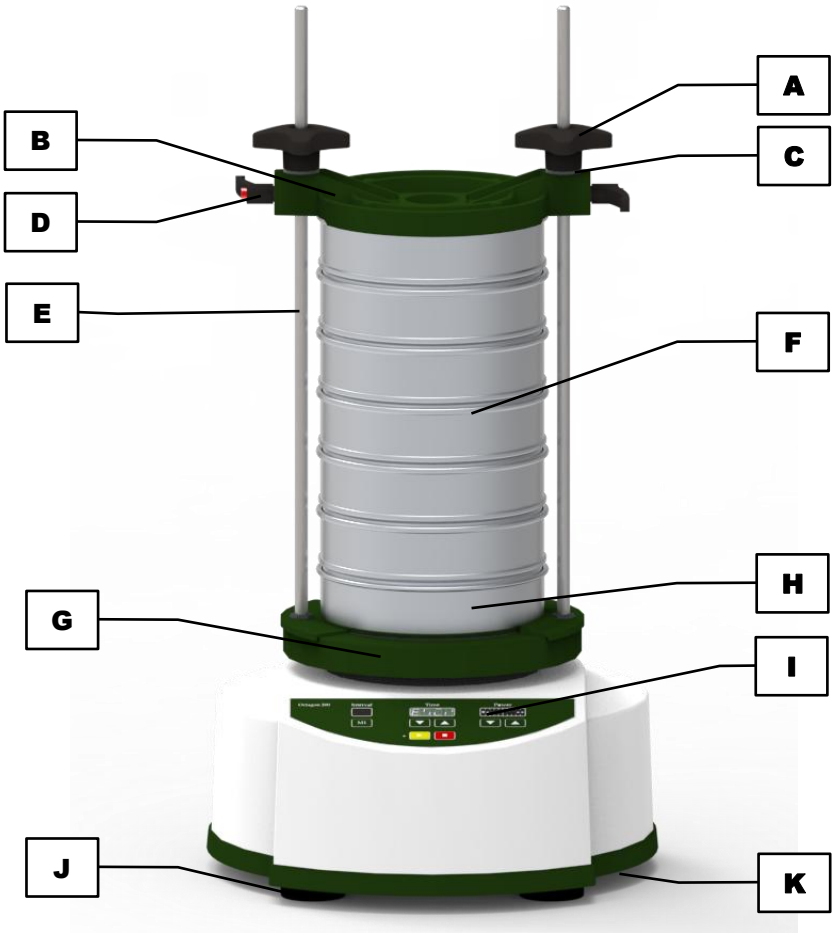


Fig. 2: Front view of the device with different sieve clamping units

Element	Description	Function
A	Clamp hand wheels	Fixes the quick-release clamping system during sieving process.
B	Clamp plate	Covers the top test sieve and fixes the sieve stack (**F**).
C	Large plain clamp washers	To reduce risk of damage and even load distribution of clamp hand wheels (**A**).
D	Side handle lever	For manual tightening of quick-release clamping system.
E	Round clamp rods	For mounting the quick-release clamping system.
F	Sieve stack	Selection of sieves to sieve samples.
G	Location plate	Place for receiver (**H**) and sieve stack (**F**).
H	Receiver	A pan which fits snugly beneath a sieve to receive the whole of the passing sample.
I	Control panel	Setting sieving parameters.
J	Anti-vibration feet	To dampen vibrations (oscillations), shocks and contributes to noise reduction.

K	Transport protection (beneath the device)	Protect the mechanical parts from vibrations (oscillations) and shocks due transportation.

3.6.2 Back

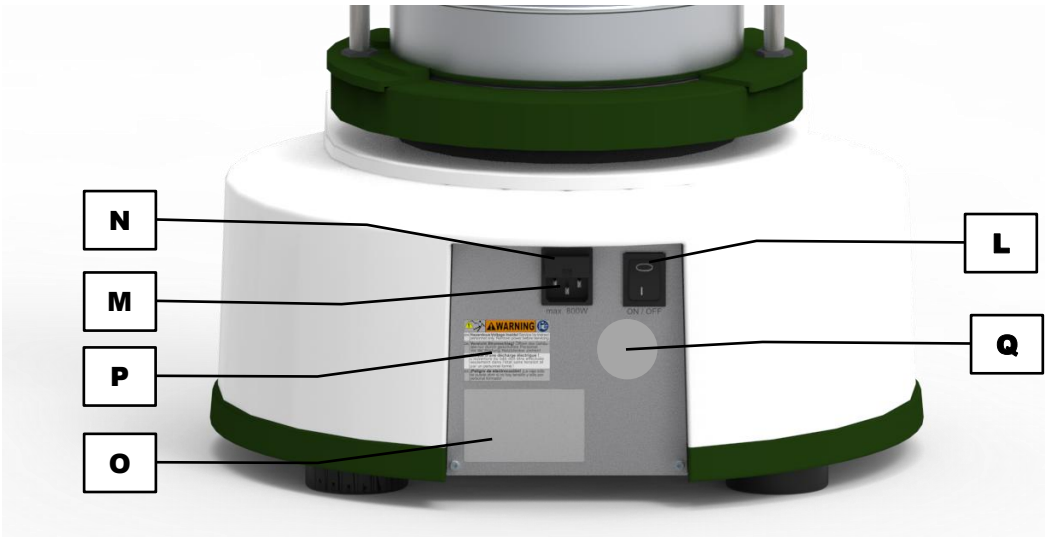


Fig. 3: Back view of the device

Element	Description	Function
L	Mains switch	Switches the device on and off, disconnects the device from the mains.
M	Mains connection	Connection for the power cable.
N	Fuse drawer	Contains the fuses protecting against overvoltage.
O	Type plate	Lists, among others, the voltage type, the serial number and the type of the device.
P	Power warning	Caution – Beware of electric shock! The housing of the device may only be opened by trained personnel. Pull the power plug before opening.
Q	Read operating manual carefully	Safety notice: The operating manual of the device must be read carefully before commissioning and operation.

3.7 Operating Controls, Displays and Functions

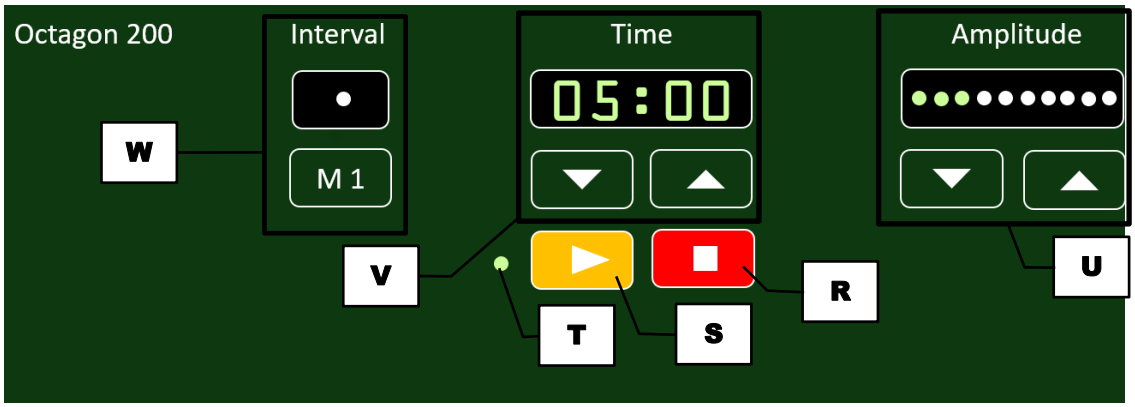


Fig. 4: Operating controls and functions

Element	Description	Function
R	Stop	Stops the sieving process.
S	Start	Starts the sieving process.
T	L.E.D.	Indicates Start button is on.
U	Amplitude setting	Decreases or increases the amplitude by pressing the "▲" or "▼" button, respectively in the range of 0 – 3 mm
V	Time setting	Reduces or extends the sieving time by pressing the "▲" or "▼" button, respectively in the range of 0:10 – 99:50 min
W	Interval	Switches the interval operation on (L.E.D. lights up) and off. During interval operation the device is 10 sec on and 2 sec off

3.8 Description of the type plate

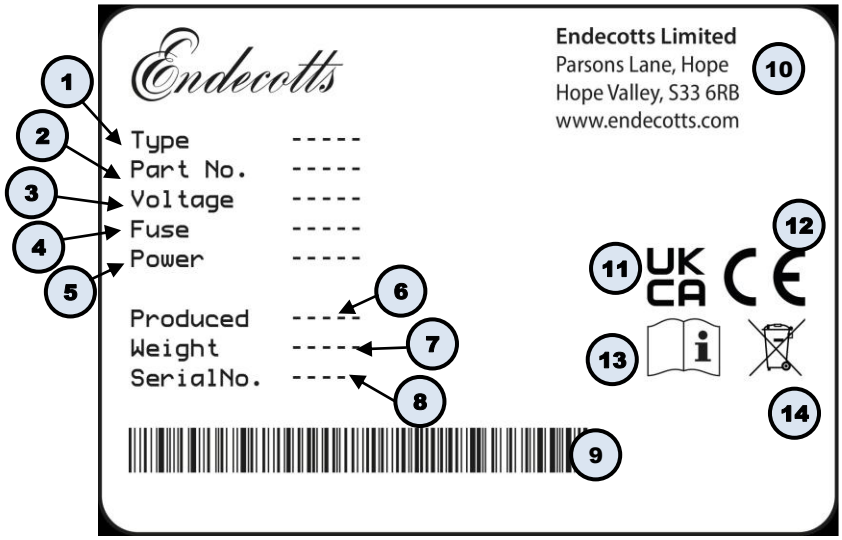


Fig. 5: Type plate

1 Device designation
2 Part number
3 Power version, Mains frequency
4 Fuse type and fuse strength
5 Capacity, Amperage
6 Year of production
7 Weight
8 Serial number
9 Bar code
10 Manufacturer’s address
11 UKCA marking
12 CE marking
13 Safety warning: Read the manual
14 Disposal label

ⓘ In the case of queries please provide the device designation (**1**) or part number (**2**), as well as the serial number (**8**) of the device.

4 Packaging, Transport and Installation

4.1 Accessories included with delivery

Octagon 200 (item number dependent on voltage selected)
Item No: OCT200/10050
Item No: OCT200/10060
Item No: OCT200/11050
Item No: OCT200/11060
Item No: OCT200/23050
Item No: OCT200/23060

Quick-release clamping system
Item No: ZMAUP-PLA3

4.2 Packaging

The packaging has been adapted to the mode of transport. It complies with the generally applicable packaging guidelines.

NOTICE N3.0001

Complaint or return
Keeping the packaging
– Inadequate packaging and insufficient securing of the device can jeopardise the warranty claim in the event of a complaint or return.
- **Keep the packaging for the duration of the warranty period.**

4.3 Transport

⚠ CAUTION C6.0000

Risk of injury caused by the device falling down
Incorrect transport of the device
– Due to its weight, the device can cause injuries if it falls down.
- **Do not transport the device by yourself.**

⚠ CAUTION C7.0000

Risk of injury caused by the device falling
Incorrect transport of the device
– Due to its weight, the device can cause injuries if it falls.
- **Wear safety shoes during transport.**

NOTICE N4.0017

Damage to components
Transport
– Mechanical or electronic components may be damaged during transport. The device must not be knocked, shaken or thrown during transport.
- **Move the device gently during transport**.

NOTICE N5.0014

Complaints
Incomplete delivery or transport damage

- The forwarding agent and Endecotts Limited must be notified immediately in the event of transport damage. It is otherwise possible that subsequent complaints will not be recognised.
- **Please check the delivery on receipt of the device for its completeness and intactness.**
- **Notify your forwarding agent and Endecotts Limited within 24 hours.**

4.4 Temperature Fluctuations and Condensation

NOTICE N6.0016

Damaged components due to condensation
Temperature fluctuations

- The device may be exposed to substantial fluctuations in temperature during transport. The ensuing condensation can damage electronic components.
- **Wait until the device has acclimatised before putting it into service.**

Temporary storage:
In case of an interim storage the device must be stored dry and within the specified ambient temperature range.

4.5 Conditions for the Installation Site

⚠ CAUTION C8.0047

Risk of injury caused by the device falling
Incorrect installation of the device

- Due to its weight, the device can cause injuries if it falls.
- **Only operate the device on a sufficiently large, strong and stable workstation.**
- **Ensure that all of the device feet are securely supported.**

NOTICE N7.0021

Ambient temperature
Temperatures outside the permitted range

- Electronic and mechanical components may be damaged.
- The performance data alters to an unknown extent.
- **Do not exceed or fall below the permitted temperature range (5 °C to 40 °C ambient temperature) of the device.**

NOTICE N8.0004

Setting up the device
Vibrations during operation

- Depending on the operating mode of the device, slight vibrations may occur.

- **Set up the device only on a vibration-free, plane and stable surface.**

– Installation height: max. 2 000 m above sea level

– Ambient temperature: 5 °C – 40 °C

– Width of the base: 500 mm
– Depth of the base: 500 mm
– No safety clearances required

Location requirements:
The device must be placed on a vibration-free, plane, stable and clear surface to avoid transmission of vibrations. A level base ensures the uniform distribution of the sample over the sieve mesh fabric, as well as the stability of the device.

– Maximum relative humidity < 80 % (at ambient temperatures ≤ 31 °C)

For ambient temperatures U_T between 31 °C and 40 °C, the maximum relative humidity value L_F linearly decreases according to $L_F = -(U_T - 55) / 0.3$:

Ambient temperature	Max. rel. humidity
≤ 31 °C	80 %
33 °C	73.3 %
35 °C	66.7 %
37 °C	60 %
39 °C	53.3 %
40 °C	50 %

NOTICE N9.0015

Humidity
High relative humidity

– Electronic and mechanical components may be damaged.
– The performance data alters to an unknown extent.
- **The relative humidity in the vicinity of the device should be kept as low as possible.**

4.6 Removing the Transportation Lock

WARNING W2.0005

Risk of injury due to the device falling down
Lifting the device above head height

– The device can fall causing serious injuries when lifted above head height.
- **Never lift the device above head height!**

NOTICE

N10.0018

Transportation lock

Transport without transportation lock, or operation with transportation lock

- Mechanical components may be damaged.
- **Only transport the device with mounted transportation lock.**
- **Do not operate the device with built-in transportation lock.**

Remove the transport protection (**K**) lock as described below:

ⓘ	The transport protection (**K**) consists of two hexagonal screws (**KA**) on the bottom of the sieve shaker.

1. Lay the device down.
2. Loosen the hexagonal screws (**KA**) on both sides on the bottom of the sieve shaker by means of a 17 mm open ended spanner and remove them.
3. Keep the transport protection for later transport.

NOTICE The weight without sieve stack and sieve clamping unit amounts approx. 35 kg. The device must only be lifted by two people.

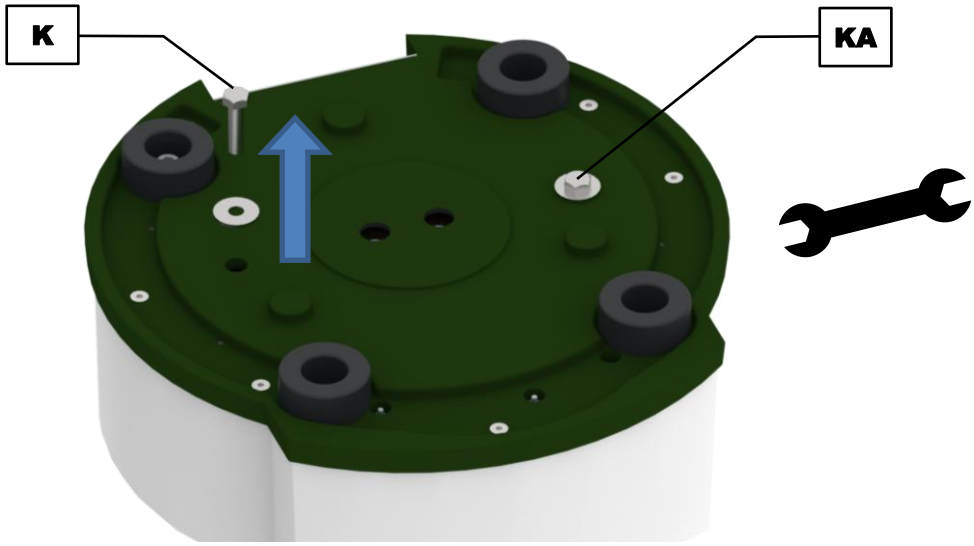


Fig. 6: Removing the transport protection

Element	Description
K	Transport protection
KA	Hexagonal screws

5 First Commissioning

5.1 Electrical Connection

⚠ WARNING W3.0015

Risk to life caused by an electric shock
Connection to socket without a protective earth conductor

- Connecting the device to sockets without a protective earth conductor can lead to life-threatening injuries caused by an electric shock.
- **Always operate the device using sockets with a protective earth conductor (PE).**

⚠ WARNING W4.0002

Danger to life through electric shock
Damaged power cable

- Operating the device with a damaged power cable or plug can lead to life-threatening injuries caused by an electric shock.
- **Before operating the device, check the power cable and plug for damage.**
- **Never operate the device with a damaged power cable or plug!**

NOTICE N11.0022

Electrical connection
Failure to observe the values on the type plate

- Electronic and mechanical components may be damaged.
- **Connect the device only to a mains supply matching the values on the type plate.**

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

- Check the type plate for details on the necessary voltage, frequency, and maximum external current source fuse for the device.
- The listed values must agree with the existing mains supply.
- Only use the supplied power cable to connect the device to the mains supply.

The Octagon 200 must be connected to the power supply on site for initial commissioning.

Ensure the following before connecting the device to the power supply:

- The application site complies with the installation requirements.
- The device is securely and firmly in place.
- The power values for the device (type plate) correspond to the values of the power supply at the site.

5.2 Connecting the device to the power supply

Connect the device to the power supply as described below:

1. Compare the voltage and frequency on the type plate (**O**) of the device to the values on site.
2. Plug the supplied mains lead into the mains connection (**M**).

3. Plug the other end of the mains lead into a socket at the installation site.
4. Provide external fusing according to the regulations at the installation site.

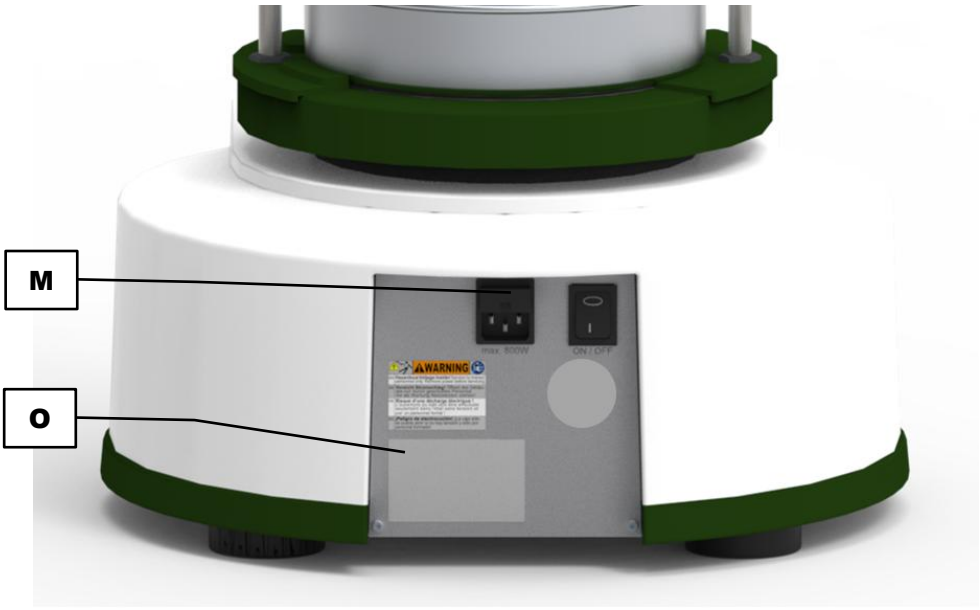


Fig. 7: Connecting to the power supply

Element	Description
M	Mains connection
O	Type plate

5.3 Installation of Sieve Clamping Unit

⚠ CAUTION C9.0012

Contusions and bruises
Overturning of the sieve stack

– The sieve stack can overturn and cause personal injury.
- **Only operate the device with a securely clamped sieve stack.**

Before first commissioning the quick-release clamping system must be installed.

The Octagon 200 is suitable for test sieves of 100 mm to 203 mm or 3″ to 8″ outer diameter. Up to 16 fractions (15 test sieves plus receiver with a height of 25 mm), or 8 fractions (7 test sieves plus receiver with a height of 50 mm) can be clamped.

NOTICE A high number of test sieves can significantly increase the total weight of the load (sieve stack and sample material). Make sure not to exceed the maximum payload of 7 kg.

Install the Sieve Clamping Unit as described below:

1. Screw one hexagonal nut (**EA**) on the lower end of each of the round clamp rods (**E**).
2. Screw both round clamp rods (**E**) into the designated threaded holes (**EB**) and lock them with the hexagonal nuts (**EA**).

3. Firmly tighten the hexagonal nuts (**EA**) by means of a 19 mm open-end wrench.
4. Place the receiver (**H**) centrally on the location plate (**G**).
5. Stack the required test sieves on top of the receiver (min. 1x receiver + 2x sieves + 1x clamp plate).
6. Put the sample in the top sieve.
7. Lay the quick-release clamping system over the round clamp rods (**E**) onto the top test sieve.
8. Align the locking assemblies, the two side handle levers of the clamp plate with the round clamp rods. Slide the clamp plate (**B**) down squarely onto the lid at the top of the sieve stack.
9. Ensure that the clamp hand wheels (**A**) at the top are loose and the locking assemblies are fully pushed down. There should be a 5mm gap between the large plain clamp washer (**C**) and the face of the hand wheel.
10. Place one hand on the top of the clamp plate (**B**) and hold square while locking one side handle lever (**D**). Repeat for the opposite side handle lever.

NOTICE The side handle levers can be set vertically downwards by pressing on the red button and pulling the handle outwards to release.

11. Turn the handle to a safe, convenient angle downwards and release to engage the teeth. Screw the two clamp hand wheels (**A**) down simultaneously to ensure the clamping plate is square.
12. Continue until the clamp hand wheels (**A**) are tight against the internal stop. Hand tightness must be exerted so that the assembly does not loosen during vibration.

NOTICE The locking side handle levers and clamping hand wheels must be tightened sufficiently to ensure that the sieves and receiver are clamped securely during operation.

Fig. 8: Installation of the quick-release clamping system

NOTICE To clamp a maximum of five test sieves and a receiver, shorter threaded rods are available for the sieve clamping system. For sieving processes with only one to three test sieves, the shorter threaded rods should be used. Long, projecting threaded rods disturb the spreading of the sample material due to their natural vibration behaviour.

Fig. 9: Installed quick-release clamping system

Element	Description
A	Clamp hand wheels
B	Clamp plate
C	Large plain clamp washers
D	Side handle levers
E	Round clamp rods
EA	Hexagonal nut
EB	Threaded holes
G	Location plate
H	Receiver

6 Operating the Device

⚠ WARNING W5.0002

Danger to life through electric shock
Damaged power cable

– Operating the device with a damaged power cable or plug can lead to life-threatening injuries caused by an electric shock.
- **Before operating the device, check the power cable and plug for damage.**
- **Never operate the device with a damaged power cable or plug!**

⚠ CAUTION C10.0005

Risk of injury
Potentially explosive atmosphere

– The device is not suitable for use in potentially explosive atmospheres. Operating the device in a potentially explosive atmosphere can lead to injuries caused by an explosion or fire.
- **Never operate the device in a potentially explosive atmosphere!**

⚠ CAUTION C11.0006

Risk of injury
Sample material that is harmful to health

– Sample material that is harmful to health can injure people (illness, contamination).
- **Use suitable extraction systems with sample material that is harmful to health.**
- **Use suitable personal protective equipment with sample material that is harmful to health.**
- **Take note of the safety data sheets for the sample material.**

⚠ CAUTION C12.0003

Risk of explosion or fire
Changing sample properties

– The properties and therefore also the hazardousness of the sample can alter during the sieving process.
- **Do not use any substances in this device which carry the risk of explosion or fire.**
- **Observe the material safety data sheets of the sample material.**

NOTICE N12.0000

Handling of food, pharmaceutical and cosmetic products
Analysed products

– Food, pharmaceutical and cosmetic products, which were analysed with the device must not be consumed, used or circulated.
- **Dispose of these substances in accordance with the applicable regulations.**

6.1 Switching On / Off

Switch the device on as described below:

1. Make sure the device is connected to the mains power.
2. Turn on the device with the mains switch (**L**) on the back side of the device.

➔ The device is then ready for use.

Switch the device off as described below:

1. Switch the device off by the mains switch (**L**) on the back of the device.

➔ The device is switched off.

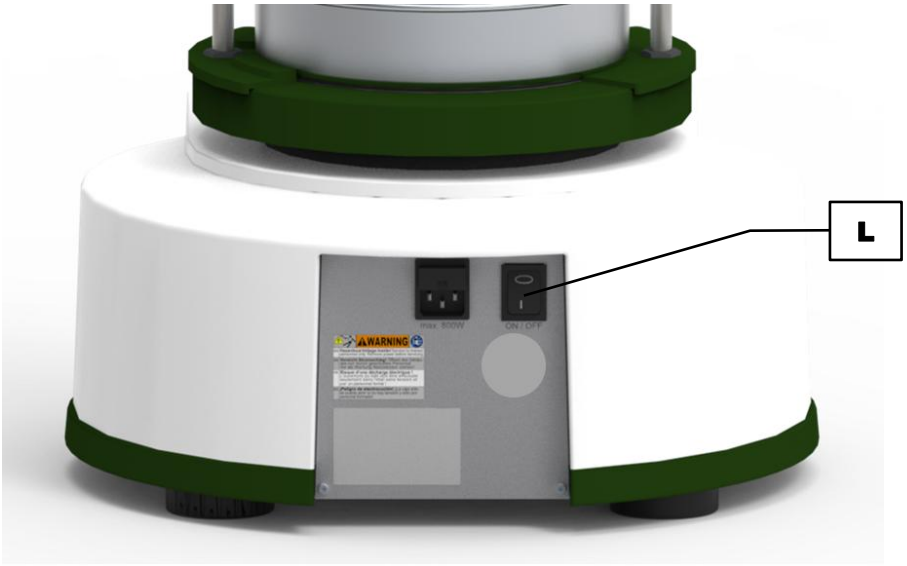


Fig. 10: mains switch

Element	Description
L	Mains switch

6.2 Selection of the Test Sieves

The selection of the test sieves depends on the sample quantity as well as the particle size distribution. The gradation of mesh sizes and accordingly the measurement points should be selected in such a way that the complete particle size range of the sample is covered at regular intervals. The wider the particle size range, the more test sieves should be used.

6.3 Performing a Test Sieving Operation

Performing a Test Sieving Operation as described below:

1. Determine the empty weights of the test sieves and the receiver.
2. Place the sieve stack with **increasing** mesh size on the receiver.

ⓘ	Each 200 mm / 8″ stainless steel test sieve is provided with an O-ring, which serves as a seal to prevent dust emission during the sieving.

3. Weigh the sample and put it on the uppermost test sieve (biggest mesh size). Make sure not to exceed the maximum feed quantity.
4. Place the complete sieve stack centrally on the device and clamp the sieve stack.
5. Set the optimum sieving time.
6. Start the sieving process.
7. After the end of the sieving process, weigh the individual test sieves and the receiver including the particle size fractions present therein.
8. Determine the mass of the particle size fractions (weight after the sieving minus the respective empty weight).

7 Controlling the Device

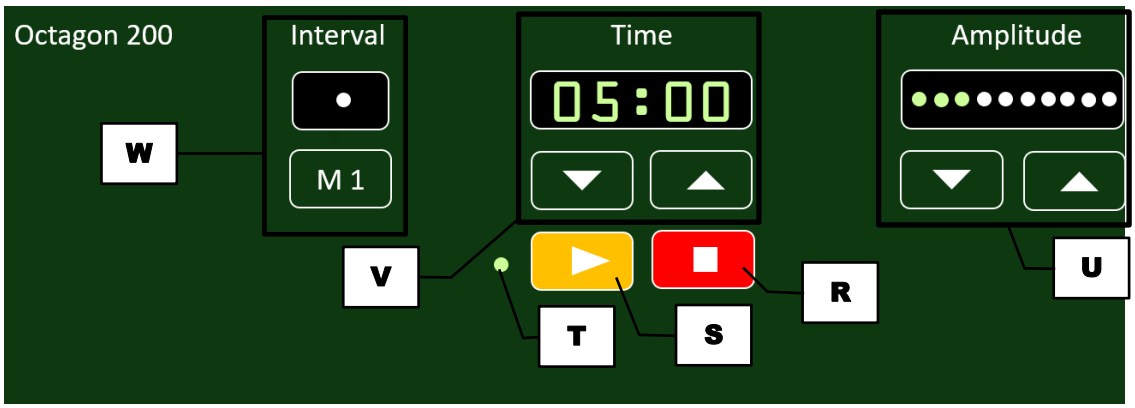


Fig. 11: Operating controls and functions

Element	Description
R	Stop
S	Start
T	L.E.D.
U	Amplitude setting
V	Time setting
W	Interval

7.1.1 Start Process

Start the sieving process as described below:

1. Make sure the device is connected to mains power.
2. To start the sieving process, press the button (**S**).
3. The sieving process ends when the timer is up.

➔ The green L.E.D. (**T**) lights up and the sieving process is started. If a process time has been set beforehand, the time in the display "time" (**V**) starts to count down by pressing the button.

7.1.2 Stop Process

The sieving process will stop automatically after the set process time has elapsed. However, the sieving process can be stopped manually at any time.

End the sieving process as described below:

1. Press the button (**R**).

➔ The sieving process stops and the green L.E.D. (**T**) of the button (**S**) turns off.

7.2 Amplitude

The amplitude display (**U**) shows the set amplitude value in 10 steps in form as L.E.D. lights. The amplitude value is adjustable between 0 mm and 3.0 mm. When the device is switched on, the last used amplitude is preset.

Set the amplitude as described below:

1. Press the "▲" button in the amplitude display (**U**) to increase or the "▼" button to decrease the desired amplitude.

The amplitude can also be changed during operation by pressing the "▲" or ▼-" button. An exceeding or falling below of 0 mm or 3.0 mm, respectively is not possible.

NOTICE If the set amplitude is not reached, the amplitude display (**U**) flashes. In this case, decrease the set amplitude, or adjust the load.

During the sieving process, the amplitude is kept constant within a predetermined tolerance of 0.1 mm.

7.3 Time

The device can be operated for a certain time between 0:10 and 99:50 minutes. When the device is switched on, the last used setting is displayed.

Set the time as described below:

1. Press the "▲" or "▼" button of the time display (**V**) to set the desired process time.
2. Hold the "▲" or "▼" button (**V**) to extend or reduce the process time in steps of 0:10 minutes, respectively.

The process time can also be changed during operation by pressing the "▲" or "▼" button.

7.4 Optimisation of Time and Amplitude

The settings of the optimum sieving time and amplitude depend on the sample material. These settings have a substantial influence on the measurement result. Generally, national and international standards, internal regulations and standards provide detailed information on product-specific sieve analyses and the associated sieving parameters. If such basic information cannot be obtained, the sieving time and amplitude must be determined experimentally.

With the Octagon 200 the amplitude is defined as the total lifting height (**SH**) of the test sieve. For example, with a set amplitude of 1.2 mm, the test sieve is displaced in the range of -0.6 mm and +0.6 mm around the zero point (= stationary sieve plate (**ST**)).

An **optimum amplitude** has been found, when a state of statistical resonance is being reached during the sieving process. Then, the particles have the biggest probability of passing, as the throw time of a particle corresponds to the oscillation period of the test sieve. In this case, the particle (**PA1**) will be moved with a different orientation to a different mesh every time the test sieve (**SH**) lifts. At too low amplitudes, the particles (**PA2**) do not lift off high enough from the sieve mesh fabric, and are therefore not able to orientate freely and move freely over the sieve mesh fabric. At too high amplitudes, the particles (**PA3**) are thrown up very high, and thus have

fewer opportunities to compare themselves with the sieve meshes. The best results are generally achieved with amplitudes from 1.0 to 1.5 mm.

The **optimum sieving time** is in accordance with ISO 2591 achieved, if less than 0.1 % of the feed quantity passes the test sieve after one minute of sieving duration. In practice, the individual test sieves are weighed after the sieving process including the respective particle size fraction. Then, the sieve stack is sieved again for one minute. The weights of the individual test sieves of the second weighing must not differ substantially from those of the first weighing.

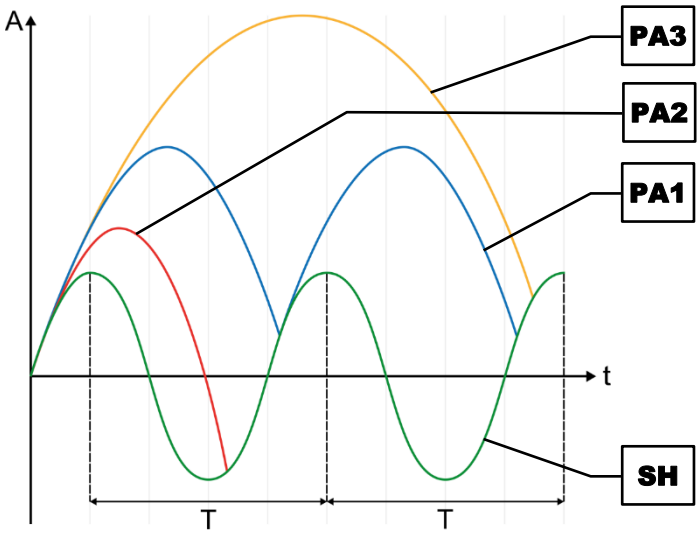


Fig. 12: Movement of the particles on the test sieve

7.5 Interval

The device has the continuous operation mode and one interval mode.

Set the interval mode as described below:

1. Press the M1 button (**W**) to change to the interval operation. The upper green L.E.D. is lit.
2. Press the M1 button (**W**) again, to change back to the continuous operation. The green L.E.D. no longer lights up.

In interval operation, the interval times (pause times) are included in the displayed process time (**V**). The interval operation can be switched on and off at any time during the sieving process.

During the interval operation, the sieving process is periodically interrupted for two seconds. The sieving time between the interval pauses amounts ten seconds.

Both, the pause time as well as the sieving time, are not changeable.

8 Wet Sieving

Usually, sieving processes are carried out dry. However, when agglomerates, electrostatic charges or a high degree of fines impede the sieving process, either sieving aids can be used, or a wet sieving operation can be performed.

For wet sieving, a liquid, preferably water, is supplied to the sample material during the sieving process. A condition for wet sieving, however, is that the material to be sieved does not swell, dissolve or otherwise change in the liquid. Wet sieving is particularly suitable for materials which are already in suspension and may not be dried.

⚠ WARNING W6.0001

Danger to life through electric shock
Wet sieving

- An electric shock can cause burns, cardiac arrhythmia, respiratory arrest, as well as cardiac arrest.
- **Never operate the device in a water drain basin!**
- **Do not touch the device, if water has entered the interior!**
- **Always operate the device with a mains socket protected by a residual current circuit breaker (RCCB).**

⚠ WARNING W7.0008

Risk of death caused by an electric shock
Penetration of water if the mains plug is not fully plugged in

- If the IEC connector is not fully plugged in to the IEC appliance socket, water may enter the socket causing an electric shock.
- **Only operate the device with the IEC connector fully plugged in.**

NOTICE N13.0049

Damage to the sieve mesh fabric
Fluid retention during wet sieving

- Fluid retention can lead to overload and therefore to the damage or destruction of the sieve mesh fabric.
- **Observe the recommended flow rate.**
- **Always dose the quantity of liquid applied in such a way that no fluid retention can occur.**
- **Use venting rings, if necessary.**

8.1 Optional Wet Sieving Adaptor Kit

The Wet Sieving Adaptor Kit is supplied as an optional extra for 200 mm or 8” diameter sieves and should be ordered separately.

The Wet Sieving Adaptor Kit consists of the following items:
- 1 off Special Wet Sieving Clamp Plate
- 1 Set off O-ring Seals (One required for each sieve in the stack)
- 1 off Special Wet Sieving Receiver with a spout (Specify for 200 mm or 8” diameter sieves)

8.2 Performing the Wet Sieving Operation

In addition to the test sieves, a receiver (**H**) with a spout (**HA**) and a wet sieving clamp plate (**BA**) with spray nozzle (**BB**) are required for wet sieving. During the sieving process liquid is introduced via the spray nozzle (**BB**) situated on top of the upper most test sieve into the sieve stack and, subsequently, leaving it again together with the last fraction via the spout (**HA**) of the receiver (**H**).

Perform wet sieving as described below:

1. Locate the receiver with spout central on the location plate.
2. Position the device in the vicinity of the drain point (e.g. drain in the floor). The distance between the spout (**HA**) and the drain point should not be too large.
3. Connect the spray nozzle (**BB**) of the wet sieving clamp plate (**BA**) with the liquid supply (e.g. water tap).
4. Connect the spout (**HA**) of the receiver (**H**) with the drain point or a corresponding receptacle. Make sure that the drain point or the receptacle are located **below** the receiver (**H**) and that the hose has a **continuous slope down**.
5. Suspend the sample material in a beaker containing the liquid intended for the wet sieving. To reduce the surface tension and to facilitate the screenings of the material later on, a few drops of surfactant may be added.
6. Moisten each test sieve with the liquid intended for wet sieving.
7. Place the sieve stack with **increasing** mesh size on the receiver with spout.
8. Place O-ring seals (**FA**) between each sieve in the stack.
9. Place the complete sieve stack (**F**) centrally on the location plate (**G**).
10. Enter the sample suspension on the uppermost test sieve with the wet sieving clamp plate (**BA**) open.
11. Clamp the sieve stack (**F**).
12. Set the optimum amplitude value and sieving time.
13. Start the sieving process.
14. Turn on the liquid supply. The quantity of liquid applied should only be of such amount that the sieve mesh area is completely sprayed. The pressure must be 3KP/cm2 (42 PSI) approx. with a maximum flow rate of 1.5 litres/min. The flow rate may need regulating if liquids appear to fill the sieves completely.
15. The sieving process is considered as terminated when the exiting liquid no longer shows turbidity.

If the smallest fraction, that leaves the receiver should also be weighted, it must be appropriately collected. After the sieving process, the individual fractions are transferred on suitable tared filters (paper filter) and dried in an oven at 80 °C until the weight remains constant.

NOTICE Used test sieves must be cleaned immediately after the sieving process. Depending on the sample material flash rust can form in the sieve mesh fabric.

Fig. 13: Wet Sieving Adaptor Kit

Element	Description
BA	Wet sieving clamp plate
BB	Spray nozzle
F	Sieve stack
FA	O-ring seals
G	Location plate
H	Receiver
HA	Spout

Recommended parameters for wet sieving:

- Amplitude: 1 mm to 1.2 mm
- Interval operation: yes
- Time: 5 min

9 Cleaning, Wear and Maintenance

This chapter contains descriptions on cleaning and servicing the device.

	This Manual does not contain repair instructions. All repairs must be conducted by Endecotts Limited, an authorised representative or by Endecotts service technicians.

⚠ CAUTION C13.0013

Risk of injury
Improper repairs

- Unauthorised and improper repairs can cause injuries.
- **Repairs to the device may only be carried out by Endecotts Limited , an authorised representative or by qualified service technicians.**
- **Do not carry out any unauthorised or improper repairs to the device!**

⚠ CAUTION C14.0015

Risk of injury
Improper modifications to the device

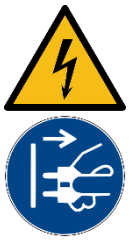
- Improper modifications to the device can result in injuries.
- **Do not make any unauthorised changes to the device.**
- **Only use the spare parts and accessories approved by Endecotts Limited!**

9.1 Cleaning

⚠ WARNING W8.0003

Risk to life caused by an electric shock
Cleaning live parts with water

- Cleaning the device with water can lead to life-threatening injuries caused by an electric shock if the device has not been disconnected from the power supply.
- **Only carry out cleaning work on the device when it has been disconnected from the power supply.**
- **Use a cloth moistened with water for cleaning.**
- **Do not clean the device under running water!**



NOTICE N14.0009

Damage to the housing and device
Use of organic solvents

- Organic solvents may damage plastic parts and the coating.
- **The use of organic solvents is not permitted.**

9.1.1 Cleaning the outside of the device

Clean the housing of the device with a damp cloth and if necessary, with a household cleaning agent. Pay attention that no water or cleaning agent enters the interior of the device.

When using the quick-release clamping system it is recommended to clean the support rods from time to time with a damp cloth and if necessary, with a household cleaning agent. Pay attention that no water or cleaning agent enters the interior of the device.

9.1.2 Cleaning of Test Sieves

Test sieves are measuring instruments and should be treated with due care before, during and after the sieving process. It is recommended to clean new test sieves before the first use from possible preservative residues with ethanol or isopropanol and to store them in a dry, dust-free place when unused.

Before cleaning or drying the test sieves, the O-rings have to be removed. Before using and after the cleaning the test sieves should be visibly inspected for possible damages and impurities.

Near-mesh or trapped particles can often be removed dry after the sieving process by slightly tapping the test sieve upside down with the sieve frame on a table. For test sieves with mesh sizes > 500 µm a fine hair brush can be used to sweep over the outer side of the mesh fabric.

9.1.2.1 Cleaning of Test Sieves with Mesh Sizes > 500 µm

Coarse mesh fabrics with mesh sizes > 500 µm can be cleaned dry or wet easily and effectively with a hand brush with plastic bristles (at not too high applied pressure).

9.1.2.2 Cleaning of Test Sieves with Mesh Sizes < 500 µm

Test sieves with mesh sizes < 500 µm should generally only be cleaned in an ultrasonic cleaning-bath. As a cleaning agent, water together with a standard surfactant is recommended. Cleaning in the ultrasonic bath usually takes two to three minutes. After that, the test sieves should be thoroughly rinsed with water and dried. Cleaning with strong bases or acids is generally not recommended.

9.1.2.3 Drying of Test Sieves

Drying ovens of various sizes can be used for drying test sieves (drying temperature < 80 °C).

Additional information concerning ultrasonic cleaning-baths can be found on the Endecotts Limited homepage (http://www.endecotts.com) as can the free expert guide - *Test Sieving Manual – A guidance to the terminology and general information for test sieves and equipment for particle analysis*.

NOTICE N15.0028

Damage of the sieve mesh fabric
Drying temperature > 80 °C

- At higher temperatures, especially fine metal wire meshes can become warped, leading to a reduced tension of the mesh fabric inside the sieve frame and hence, makes the test sieve less efficient during the sieving process.

- **The drying temperature for test sieves must not exceed 80 °C!**

9.2 Wear

⚠ CAUTION C15.0013

Risk of injury
Improper repairs

- Unauthorised and improper repairs can cause injuries.

- **Repairs to the device may only be carried out by Endecotts Limited , an authorised representative or by qualified service technicians.**
- **Do not carry out any unauthorised or improper repairs to the device!**

9.2.1 Wear test sieves and sealing gaskets

Even with the proper handling of the test sieves, a wearing of the sieve mesh fabric depending on the frequency of the sieving operation and on the sample material is unavoidable. The test sieves should be regularly checked for wear and damage and be replaced if necessary.

Likewise, all existing sealing gaskets should be checked for wear on a regular basis and replaced if necessary.

9.2.2 Wear support rods

Furthermore, after a certain time the quick-release clamping system produces unavoidable, function-related clamping grooves on the round clamp rods, which may impede secure clamping. Therefore, it is necessary to examine the round clamp rods at regular intervals for clamping grooves in the clamping area and, if required, to turn them by 90°.
Examine the round clamp rods as described below:

1. Loosen the hexagonal nut (**EA**).
2. Turn the round clamp rods (**E**) by 90°.
3. Then, tighten the hexagonal nut again.

If the rotation of the support rods does not expose a clamping groove free area, the support rods should be replaced.

If wet sieving is executed, a quarterly examination for tightness of the fluid hoses should be performed.

9.3 Maintenance

The device is maintenance-free if cleaned regularly.

9.3.1 Replacing the Fuses

WARNING

W9.0014

Risk to life caused by an electric shock
Exposed contacts

- Replacing the fuses without pulling out the mains plug can lead to life threatening injuries caused by an electric shock on contact with the fuse holder or the live contacts on the fuse.
- **Pull out the mains plug before replacing the fuses.**

NOTICE Depending on the mains supply different fuses are used. The correct electrical protection is listed on the type plate (**O**).

Voltage	Fuse
100 V, 50 Hz	T 4A delay-action
100 V, 60 Hz	T 4A delay-action
110 V, 50 Hz	T 4A delay-action
110 V, 60 Hz	T 4A delay-action
230 V, 50 Hz	T 4A delay-action
230 V, 60 Hz	T 4A delay-action

Two fuses are located in the fuse drawer (**N**) on the backside of the device. Fuses can be replaced by trained qualified personnel as described below:

1. Remove the fuse drawer by pressing the latch on the bottom side of the fuse drawer.
2. Replace the defective fuse in the fuse drawer.
3. Slide the fuse drawer back in again, until it audibly locks in place.

9.4 Returning for repair and maintenance

Fig. 14: Return form

The acceptance of devices and accessories of Endecotts Limited for repair, maintenance or calibration can only be effected, if the return form and the decontamination declaration service has been correctly and fully completed.
Download the return form located in the download section "Miscellaneous" on the Endecotts Limited homepage (https://www.endecotts.com/downloads/miscellaneous/).
When returning a device, attach the return form and the decontamination declaration form to the outside of the packaging.

In order to eliminate any health risk to the service technicians, Endecotts Limited reserves the right to refuse the acceptance and to return the respective delivery at the expense of the sender.

10 Accessories

Information on available accessories as well as the respective manuals are accessible directly on the Endecotts Limited homepage (http://www.endecotts.com) under the heading "Downloads" of the device.

Information on wear parts and small accessories can be found in the Endecotts Limited general catalogue also available on the homepage.

In case of any questions concerning spare parts please contact the Endecotts Limited representative in your country, or Endecotts Limited directly.

10.1 Test Sieves

Critical for the accuracy and reliability of the measurement result is, in addition to the reproducible operating sieving machine the quality of the test sieve. Test sieves of Endecotts Limited are high quality measuring instruments for which only mesh fabrics and perforated sheets of the corresponding standards are used. Each test sieve is given a serial number, as well as a quality certificate after the final check.

Fig. 15: Test sieves

The different versions of the test sieves of Endecotts Limited are supplied in accordance with all current national and international standards:

- available standards: DIN, ISO, ASTM, BS, NF
- available diameters: 3" / 100 mm / 200 mm / 8" (203 mm) / 300 mm / 12" (305 mm) / 400 mm / 450 mm / 18"
- available sieve surfaces: sieve mesh fabric (20 µm to 125 mm) and perforated screens (round or square holes) of stainless steel
- on request with an individual test certificate for the inspection of measuring and testing equipment monitoring according to ISO 9000 series.

Among the various test sieves matching receivers, receivers with outlet, intermediate pans, intermediate rings, venting rings and sieve lids are available.

10.1.1 Certificate

Before delivery, each test sieve is optically surveyed according to the standards DIN ISO 3310-1 and ASTM E 11 and provided a certificate of compliance with the order.

10.1.2 Calibration and Inspection Service

As a special service Endecotts Limited offers the calibration and inspection of test sieves, documenting the measurement results in tabular and graphical form, hence representing a certificate with more detailed statistics. All relevant information is recorded during the standard measuring process of the test sieve and confirmed in the required certificate.

10.2 Sieving Aids

NOTICE N16.0027

Damage of the sieve mesh fabric
Use of mechanical sieving aids

- When using mechanical sieving aids, there is a danger that fine sieve mesh fabrics might be damaged.
- **Ensure that no overstretching of the sieve mesh fabric occurs due to overloading with sieving aids.**
- **If in doubt, please contact your local distributor or Endecotts Limited directly.**

By electrostatic and Van-der-Waals forces, as well as by fluid bridges, single particles can combine to form agglomerates. Since in this case not the individual primary particles, but particle collectives are measured, there is a distortion of the particle size distribution (a higher coarse fraction results). In order to prevent the formation of agglomerates or dissolve them, sieving aids can be used.

Mechanical sieving aids:
Mechanical sieving aids cause a destruction of agglomerates and dislodge wedged particles from the sieve meshes. Depending on the mesh size of the test sieve and the preselected amplitude, balls of agate, rubber, steatite or cubes of polyester urethane rubber, and nylon brushes or stainless-steel chain rings can be used for this purpose.

NOTICE For very soft sample material, an undesired crushing of primary particles might occur.

Solid additives:
Solid additives, such as talcum or Aerosil® can be admixed to fatty, moist, sticky or oily sample materials. They attach themselves to the particle surface and counteract the formation of agglomerates. Their particle size is so small that they have no sustainable influence on the actual particle size analysis of the sample material. However, the measurement results will be distorted depending on the added amount of additive.

Liquid sieving aids:
Antistatic spray, benzine, alcohol and surfactants can be used as liquid sieving aids, though benzine and alcohol are only to be used during sample preparation. They reduce the electrostatic charges, wash out fatty or oily components of the sample material, or diminish the surface tension during the wet sieving operation.

10.3 Add-on Weight

If the mass of the sieve stack is too low, the necessary amplitude required for the sieve analysis cannot always be reached. To compensate for this, an additional mass of 200 g for test sieves with a diameter ≤ 203 mm can be placed underneath the sieve stack on the sieve plate and be clamped together with the sieve stack.

11 Disposal

In the case of a disposal, the respective statutory requirements must be observed. In the following, information on the disposal of electrical and electronic devices in the United Kingdom and European Community are given.

Within the United Kingdom the disposal of electronic equipment is legislated by The Waste Electrical and Electronic Equipment Regulations 2013.

Within the European Community the disposal of electrically operated devices is regulated by national provisions that are based on the EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE).

Accordingly, in both United Kingdom and the European Community, all devices supplied after August 13th 2005 in the business-to-business area, to which this product is classified, may no longer be disposed of with municipal or household waste. To document this, the devices are provided with the disposal label.

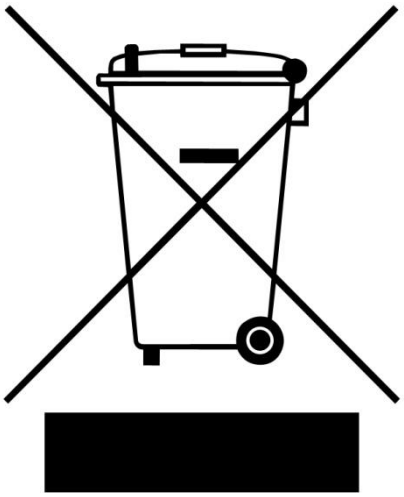


Fig. 16: Disposal label

Since the disposal regulations worldwide and within the EU may differ from country to country, the supplier of the device should be consulted directly in case of need.

As per the above United Kingdom and European Community regulations, the manufacturer must provide an adequate possibility of returning all devices delivered since August 13th 2005. For all devices delivered before August 13th 2005 the end user is solely responsible for the proper disposal.

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EU Declaration of Conformity

Original

VIBRATORY SIEVE SHAKER

Octagon 200 | OCT200/***

EU DECLARATION OF CONFORMITY

We, represented by the undersigned, hereby declare that the above device complies with the following directives and harmonised standards:

Machinery Directive 2006/42/EC

Applied standards, in particular:

DIN EN ISO 12100	Machine Safety - General Design Principles
DIN EN 61010-1	Safety Regulations for Electrical Measurement, Control, Regulation and Laboratory Devices

Electromagnetic compatibility 2014/30/EU (tested at 230 V, 50 Hz)

Applied standards, in particular:

EN 55011	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement
DIN EN 61326-1	Electrical equipment for measurement, control and laboratory use - EMC requirements

Restriction of hazardous substances (RoHS) 2011/65/EU

Authorised person for compilation of the technical documentation:
Julia Kürten (Technical Documentation), Haan (Germany)

Furthermore, we declare that the relevant technical documentation for the above device has been prepared in accordance with Annex VII Part A of the Machinery Directive and we undertake to submit the documentation to the market surveillance authorities on request.

In the event of a modification of the device not agreed on by Endecotts Ltd, as well as the use of non-approved spare parts or accessories, this declaration loses its validity.

Endecotts Ltd

Hope, 09/2024

Tom Gould, Managing Director

CE

UKCA Declaration of Conformity

Original

VIBRATORY SIEVE SHAKER

Octagon 200 | OCT200/***

UKCA DECLARATION OF CONFORMITY

Herewith we declare, represented by the signatory, that the above mentioned device complies with the following directives and UK designated standards:

Supply of Machinery (Safety) Regulations 2008

Applied standards, in particular:

BS EN ISO 12100	Safety of machinery - General principles for design
BS EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use.

Electromagnectic Compatibility Regulations 2016 (tested at 230 V, 50 Hz)

Applied standards, in particular:

CISPR 11	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement
BS EN IEC 61326-1	Electrical equipment for measurement, control and laboratory use. EMC requirements

The Restriction of The Use of Certain Hazardous Substances in Electrical Electronic Equipment Regulations 2012

Authorised person for compilation of the technical documentation:

Hayley Davies (Production & Design Engineer)

In the event of a modification of the device not agreed on by Endecotts Ltd, as well as the use of non-approved spare parts or accessories, this declaration loses its validity.

Endecotts Ltd

Hope, 09/2024

Tom Gould, Managing Director