

# Precision Test Sieves | Sieve Shakers



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Whether you are looking for test sieves, sieve shakers or sample collection, ENDECOTTS offer the world's finest particle analysis equipment designed and produced in London. Endecotts sieves not only look good but are designed and manufactured to offer qualities that make them extremely precise and accurate whilst offering good handling, nesting and strength.

No matter if it's a standard test sieve, or something special for industries such as the diamond, coffee or agriculture you'll find the same meticulous quality in design and manufacture. Endecotts sieves are supplied in a complete range of aperture sizes, diameter sizes, depths, choice of materials and certified degrees of inspection to meet virtually every requirement.

You can be sure of Endecotts quality - it's guaranteed.



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# The same outstanding quality in sampling equipment

Endecotts offer much more than a range of extremely high quality sieves. The company's expertise in sample analysis has enabled them to develop a wide range of shakers suitable for all types of sieving and samples - shakers designed to produce the optimum sieving action for fast reproducible results.

They also produce sample preparation equipment and sample dividers, and can supply everything from sample collection, drying equipment to an extensive range of test sieves and related particle sizing equipment.



# Manufactured to exceptional standards of quality and accuracy

Each Endecotts sieve is individually made under the most stringent quality control procedures using only the finest materials.

The wire cloth is checked at every stage of manufacture either by optical projection or highly sophisticated computer scanning techniques. The final inspection is a precision measurement of apertures, and sieve frame dimensions. Only when we are satisfied it meets our exacting standards do we give it an Endecotts certificate of compliance.

The company has an enviable reputation as manufacturers of the world's finest test sieves. Skill, experience and modern production techniques help to ensure the finished product not only looks and feels right from the moment you open the box, but provides accuracy second to none.













### Major Industries using Test Sieves

Industry	Application	
Construction	Quality Control Analysis and Grading of Soils, Aggregate, Minerals, Cement, etc.	
General Laboratories	Miscellaneous application of particle analysis and determination of particle size, Powder Process Industries, etc.	
Chemical and Pharmaceutical	Oil Exploration (analysis of minute fossils), Fuels, Explosives, Drugs, Medical & Pharmaceutical applications (Powders etc.)	
Mining	Quarries (Gravel and Sand), Coal Mines (Air pollution control), Grading and Particle Size Determination. Diamond Mines, Grading of Diamonds and Industrial Diamonds.	
Agriculture/Food	Confectionery and Food Manufacture, Miscellaneous Applications including Kernels, etc.	
Education	Schools, Universities (training of techniques in particle size analysis and determination of particle size). Geological etc.	
Research	Research establishments engaged in original and general research. Various applications.	
Engineering	Steel Manufacturing Organisations, Foundries, Iron Works, etc. (Determination of particle size of sand moulds, grading of coke, etc.)	
Abrasive Grain Industries	Producers of precision materials for abrasive applications, i.e. grinding wheels and sandpaper.	

### What to look for in a precision test sieve

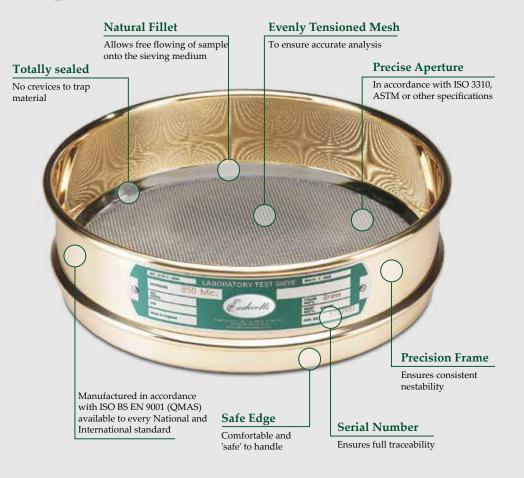
Sieves can often look alike, but take a closer look and you'll find they are not all the same. In fact there can be some very important differences that may affect the results, performance or life of the sieve.

The illustration shows some of the important features of an Endecotts sieve and gives a good idea of what to look for whenever you specify or re-order.

Endecotts test sieves are of the highest quality and are designed for accurate and efficient particle analysis.



Certificate of Compliance Supplied with every test sieve



Endecotts test sieves can be supplied to a variety of different inspection levels depending on the information requirements specified.

#### Certified Test Sieves

All test sieves manufactured to a National or International Specification are supplied with a Certificate of Compliance and individually serial numbered to provide full traceability.

### **Calibrated Test Sieves**

Test sieves inspected and calibrated in accordance with procedures listed in clause 5.2 and table column 4 & 5 of ISO 3310: BS:410-1:2000. Each sieve is supplied with a calibration certificate recording the number of aperture and wire diameters measured, the average aperture size and standard deviation separately for the warp and weft direction. The type of weave will also be stated.

#### Mid Point Sieves

Test sieves with the sieving medium specification tolerances reduced by 30%. Each sieve is supplied with a Calibration Certificate giving the range of tolerances and measurements taken.

#### **Matched Sieves**

Two or more test sieves each fitted with a sieving medium having similar aperture characteristics. Each is supplied with a Calibration Certificate marked "Matched with sieve serial No..."



### **Inspected Test Sieves**

Test sieves inspected in accordance with the procedures listed in clause 5.2 and table 4 column 2 & 3 of ISO 3310: BS:410-1:2000. Each sieve is supplied with an Inspection Certificate stating separately the values for the average aperture in both the warp and weft direction of the wirecloth.

#### **Re-Inspection Service**

Used sieves are examined and inspected in accordance with the appropriate specification. Complying sieves are issued with a Compliance, Inspection or Calibration Certificate as requested by the customer.

The widest range of test sieves available

Made to every National and International Standard

#### **Woven Wire Mesh Sieves**

Endecotts woven wire mesh sieves are the most widely used test sieves for all types of laboratory sampling and particle size analysis. They are made with only the highest quality materials and are available in diameter sizes of 38, 100, 150, 200, 250, 300, 315, 350, 400, and 450 mm or in 3, 8, 12 or 18 inches.

They can be supplied with aperture sizes ranging from 125 mm down to 20 microns in full or half height versions. Woven wire mesh sieves are available in frame materials of either brass or stainless steel (315, 350, 400 and 450 mm only available in stainless steel).

#### **Perforated Plate Sieves**

Endecotts manufacture a wide range of perforated plate sieves for the many industries that require them. These are available in diameter sizes of 200, 300, 315, 350, 400 and 450 mm. Aperture sizes range from 125 mm to 4 mm in square hole and 125 mm to 1 mm in round hole. Perforated plate sieves can be supplied in frame materials of brass or stainless steel. They are manufactured to the highest engineering standards to ensure quality and accuracy.

Woven wire sieves and perforated plate sieves are available to every national and international standard. Other materials and sizes can be produced to order.



### Specials

#### **Half Height Sieves**

Where smaller quantities of sample are being analysed half height sieves are often used. These are available in diameters of 100, 200 or 300 mm and 3", 8" or 12" with the complete range of woven wire mesh or perforated plate sieving media. Other height options also available.

#### **Air Jet Sieves**

These sieves are specifically designed for use with air jet systems. They are available in 200 mm or 8" diameter brass or stainless steel frames and an extensive range of aperture sizes. Supplied to meet the needs of your equipment. More on page 19.

#### Extra Depth Sieves

Extensively used by the construction and cement industries. These extra depth sieves are available with a diameter size of 450 mm and a depth of 300 mm. Made from steel with woven wire mesh or perforated plate sieving mediums.







### **Precision Test Sieves**





#### Microplate Sieves

For very fine particle analysis Endecotts produce a range of microplate sieves made from electro-formed nickel plate in stainless steel frames of 100 mm or 200 mm diameter. Available with unique self clearing apertures sizes from 75 to 5 microns. Microplate sieves are supplied with either round or square holes.

Other aperture sizes, sieve diameters and sieve depths can be supplied as required. It is recommended that microplate sieves are used in conjunction with a liquid medium to assist the passage of extremely fine particles through the apertures.

In certain cases where this is not possible it is often found that a compatible shaker can speed up the analysis, while maintaining a high degree of accuracy.

Endecotts standard lids & receivers can be used with the microplate sieves



Endecotts Standard Woven Wire Mesh & Perforated Plate Sieves are available in all the sizes and materials specified in these tables

International Test Sieve Series / British Standard Sieve Series **Woven Mesh Series** 

### 7.10 mm Perforated PlateSeries

9.50 mm

9.00 mm

8.00 mm

50.00 mm 11.20 mm

45.00 mm 10.00 mm

40.00 mm

37.50 mm

35.50 mm

31.50 mm

ISO 3310-2:2013 / BS410-2:2000

### Nominal Aperture Sizes Round & Square Holes

2.50 mm

2.36 mm

2.24 mm

2.00 mm

1.80 mm

600 um

560 µm

500 um

450 μm

425 µm

140 um

125 μm

112 µm

106 µm

100 µm

125.00 mm	71.00 mm	37.50 mm	20.00 mm	11.20 mm	6.30 mn
112.00 mm	63.00 mm	35.50 mm	19.00 mm	10.00 mm	5.60 mn
106.00 mm	56.00 mm	31.50 mm	18.00 mm	9.50 mm	5.00 mn
100.00 mm	53.00 mm	28.00 mm	16.00 mm	9.00 mm	4.75 mn
90.00 mm	50.00 mm	26.50 mm	14.00 mm	8.00 mm	4.50 mn
80.00 mm	45.00 mm	25.00 mm	13.20 mm	7.10 mm	4.00 mn
75.00 mm	40.00 mm	22.40 mm	12.50 mm	6.70 mm	

#### Nominal Aperture Sizes Round Hole Only

3.55 mm	2.80 mm	2.24 mm	1.70 mm	1.25 mm	1.00 mm
3.35 mm	2.50 mm	2.00 mm	1.60 mm	1.18 mm	
3.15 mm	2.36 mm	1.80 mm	1.40 mm	1.12 mm	

Designation

#### American Standard Sieve Series



32 µm

20 μm

### Wire Mesh Series

**ASTM E11:13** 

	Designation				
Standard	Altern.	Standard	Altern.	Standard	Altern.
125.00 mm	5.00	9.50 mm	3/8	425 μm	No.40
106.00 mm	4.24	8.00 mm	5/16	355 µm	No.45
100.00 mm	4	6.70 mm	0.265	300 µm	No.50
90.00 mm	3 1/2	6.30 mm	1/4	250 µm	No.60
75.00 mm	3	5.60 mm	No. 3 1/2	212 µm	No.70
63.00 mm	2 ½	4.75 mm	No. 4	180 μm	No.80
53.00 mm	2.12	4.00 mm	No. 5	150 µm	No.100
50.00 mm	2	3.35 mm	No. 6	125 µm	No.120
45.00 mm	1 3/4	2.80 mm	No. 7	106 μm	No.140
37.50 mm	1 1/2	2.36 mm	No. 8	90 μm	No.170
31.50 mm	1 1/4	2.00 mm	No.10	75 μm	No.200
26.50 mm	1.06	1.70 mm	No.12	63 µm	No.230
25.00 mm	1	1.40 mm	No.14	53 µm	No.270
22.40 mm	7/8	1.18 mm	No.16	45 μm	No.325
19.00 mm	3/4	1.00 mm	No.18	38 µm	No.400
16.00 mm	5/8	850 μm	No.20	32 µm	No. 450
13.20 mm	0.530	710 µm	No.25	25 μm	No. 500
12.50 mm	1/2	600 µm	No.30	20 μm	No. 635
11.20 mm	7/16	500 µm	No.35		

#### **Wet Washing Sieves**

Extremely useful sieves where samples need to be separated with the help of wet washing. Available in 8 inch diameter by 4 or 8 inches deep or their metric equivalent with brass or stainless steel frames. A complete range of aperture sizes with optional support medium for fine mesh.

#### **Lids & Receivers**

Lids, receiving pans and intermediate receiving pans are available in brass or stainless steel with the following diameters: 38, 100, 150, 200, 250, 300, 315, 400 and 450 mm as well as 3, 8, 12 or 18 inches. Half height receivers are also available.





### Sieve Diameters and Frame Materials

Diameter	Full Height	Half Height	Frame Material
3"	1 1/4"	1"	Stainless Steel / Brass
8"	2"	1"	Stainless Steel / Brass
12"	3"	1"	Stainless Steel / Brass
18"	3 1/2"	-	Stainless Steel
38 mm	19 mm	-	Stainless Steel
100 mm	40 mm	20 mm	Stainless Steel / Brass
150 mm	38 mm	-	Stainless Steel
200 mm	50 mm	25 mm	Stainless Steel / Brass
250 mm	60 mm	-	Stainless Steel
300 mm	75 mm	40 mm	Stainless Steel / Brass
315 mm	75 mm	-	Stainless Steel
350 mm	60 mm	-	Stainless Steel
400 mm	65 mm	-	Stainless Steel
450 mm	100 mm	-	Stainless Steel

### **Coffee Sieves**



These sieves are specially designed for the coffee industry and used for grading coffee beans. They are manufactured with brass or stainless steel frames of 8" or 200 mm and fitted with round hole, stainless steel perforated plate. A complete range is available in standard measurements. Other specifications and designations are also available.

### **Diamond Sieves**



Sieves are high precision measuring instruments

specially manufactured to meet the strict requirements of the diamond industry. They are produced from stainless steel and offer a rapid and extremely accurate method of

Fixed plate sieves are available in stainless steel bodies of 200 mm or 8" in full or half height. These can be nested for ease of use. Fixed plates are available in a range of aperture

Coffee Sieves				
64th inch	Central nch Classification America and Mexic		Columbia	Africa and India
20/64	Very large	Superior	Supremo	AA
19.5/64	Very large	Superior	Supremo	AA
19/64	Very large	Superior	Supremo	AA
18.5/64	Large	Superior	Supremo	AA
18/64	Large	Superior	Supremo	A
17/64	Large	Superior	Excelso	A
16/64	Medium	Segundas	Excelso	В
15/64	Medium	Segundas	Excelso	В
14/64	Small	Terceras	Excelso	С
13/64	Shells	Caracol	Excelso	PB
12/64	Shells	Caracol	Excelso	PB
11/64	Shells	Caracolli	Excelso	PB
10/64	Shells	Caracolli	Excelso	PB
9/64	Shells	Caracolillo	Excelso	PB
8/64	Shells	Caracolillo	Excelso	PB

Diamond Sieves					
Plate Size	Aperture	Plate Size	Aperture		
1	1.09	11	3.45		
2	1.32	12	4.09		
3	1.47	13	4.52		
4	1.78	14	4.75		
5	1.83	15	5.41		
6	2.16	17	5.74		
7	2.46	19	6.35		
8	2.52	21	7.93		
9	2.85	23	10.31		
10	3.28				

### **Grid Sieves**



Used to determine the flakiness index of aggregates. Endecotts grid sieves are manufactured to fully conform to the requirements of EN 933-3:1997. The  $300 \times 300$  mm sieves are made entirely of stainless steel and are strong, durable and anti-corrosive. They can be supplied as a single item or as a set of 13 sieves.

### **Grain Sieves**



Endecotts Grain Sieves are specially manufactured to meet the requirements of ISO 5223.

They are used by Government Intervention Boards and similar organisations worldwide for testing grains and cereals. They are available in 200 mm diameter brass or stainless steel frames in full or half height depths with mild or stainless steel slotted plate. Slot sizes as table below.

Grid Sieves			
Slot Width	Particle Size Fraction		
50.0 mm	100 mm - 80 mm		
40.0 mm	80 mm - 63 mm		
31.5 mm	63 mm - 50 mm		
25.0 mm	50 mm - 40 mm		
20.0 mm	40.0 mm - 31.5 mm		
16.0 mm	31.5 mm - 25.0 mm		
12.5 mm	25 mm - 20 mm		
10.0 mm	20 mm - 16 mm		
8.0 mm	16.0 mm - 12.5 mm		
6.3 mm	12.5 mm - 10.0 mm		
5.0 mm	10 mm - 8 mm		
4.0 mm	8.0 mm - 6.3 mm		
3.15 mm	6.3 mm - 5.0 mm		
2.5 mm	5 mm - 4 mm		

Grain Sieves				
Slot Size	Sieve Height	Plate Material		
3.55 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
2.50 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
2.24 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
2.20 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
2.00 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
1.90 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
1.80 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
1.70 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
1.00 mm x 20.0 mm	Full or Half	Mild or Stainless Steel		
Slot widths	Slot widths of 2.25 mm are available on request			

Slot widths of 2.25 mm are available on reques

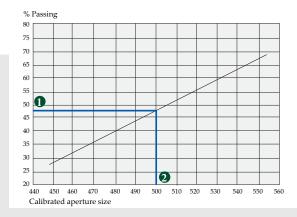
### Calibration Samples

### For accurate test sieve calibration

Endecotts calibration samples are microspheres formed of soda- lime glass that range from 3.35 mm down to 20 micron sizes. Because of the precise nature and extent of the range of spheres, samples can be supplied to enable the accurate calibration of individual sieves to an accuracy of approx 1  $\mu$ m. The microspheres pass over, almost, the total surface of the sieve enabling more apertures to be examined than with any other method. Consequently, calibration samples are one of the most accurate methods of sieve calibration available.

Endecotts glass microspheres are calibrated by an external laboratory who are recognised as one of the leading particle analysis laboratories by the BCR, and by 20 other leading European particle size analysis laboratories.

The table opposite lists the nominal aperture size of a specific sieve and the appropriate Calibration Sample required. The samples are supplied in 'Single Use' vials complete with calibration certificate.



# How to accurately calibrate test sieves in a matter of minutes

- 1) Select the calibration sample size that matches the aperture size of the sieve.
- 2) Place a weighed sample on the sieve under test and shake for 2 minutes.
- 3) Weigh the sample again and calculate the percentage passing through the sieve.
- 4) Simply read off the percentage passing along the graph supplied with every Calibration Sample. ①
- 5) The mean average aperture size in microns can be read off against the graph. 2



Calibration Samples			
Nominal Aperture	Aperture Range	No. of Vials	Nominal Weight
20 μm	15 - 25 μm	5 vials	0.8 g each
25 μm	20 - 32 μm	5 vials	0.8 g each
32 μm	25 - 38 μm	5 vials	1.0 g each
38 μm	32 - 45 μm	5 vials	1.0 g each
45 μm	38 - 53 μm	5 vials	1.0 g each
53 μm	45 - 63 μm	5 vials	1.0 g each
63 µm	53 - 75 μm	5 vials	1.0 g each
75 μm	63 - 90 μm	5 vials	1.0 g each
90 μm	75 - 106 μm	5 vials	1.0 g each
106 μm	90 - 125 μm	5 vials	1.0 g each
125 μm	106 - 150 μm	5 vials	1.0 g each
150 μm	125 - 180 μm	5 vials	1.5 g each
180 μm	150 - 212 μm	5 vials	1.5 g each
212 μm	180 - 250 μm	5 vials	1.5 g each
250 μm	212 - 300 μm	5 vials	2.5 g each
300 μm	250 - 355 μm	5 vials	2.5 g each
355 μm	300 - 425 μm	5 vials	2.5 g each
425 μm	355 - 500 μm	5 vials	2.5 g each
500 μm	425 - 600 μm	5 vials	2.5 g each
600 μm	500 - 710 μm	5 vials	2.5 g each
710 μm	600 - 850 μm	5 vials	2.5 g each
850 μm	710 µm - 1 mm	5 vials	2.5 g each
1 mm	850 μm - 1.18 mm	5 vials	7.0 g each
1.18 mm	1.0 - 1.4 mm	5 vials	10.0 g each
1.4 mm	1.18 - 1.7 mm	5 vials	15.0 g each
1.7 mm	1.4 - 2.0 mm	5 vials	15.0 g each
2 mm	1.7 - 2.36 mm	5 vials	20.0 g each
2.36 mm	2.0 - 2.8 mm	5 vials	20.0 g each
2.8 mm	2.36 - 3.35 mm	5 vials	25.0 g each
3.35 mm	2.84 - 4.0 mm	5 vials	25.0 g each

### Ultrasonic Cleaner

### The best way to clean your sieves



Sieves should be cleaned after each analysis and replaced in their storage containers. Most of the "near mesh size" particles which block the apertures can usually be removed by inverting the sieve and gently tapping the frame. If this fails the underside of the mesh may be stroked gently with an Endecotts sieve brush specially designed for use on test sieves with apertures over 1 mm.

For sieves with smaller apertures and almost any other application the most efficacious method is the use of an ultrasonic cleaner

Endecotts ultrasonic cleaner has been specially designed for cleaning test sieves and is also suitable for general laboratory use.

- It is easy to operate and extremely efficient to use.
- The all stainless steel construction is ergonomically designed to give a long, trouble free life.
- Endecotts ultrasonic cleaner is environmentally friendly, operating on 5.7 litres of organic solvent free water. It is equipped with 4 high frequency transducers 35 KHz at 2 x 240 W.
- A sieve up to 200 mm or 8" in diameter is placed in the basket in order to commence with the cleaning procedure.
- The control panel enables the user to set the operating time: Cycle time: 0-15 minutes or continuous.

Specifications	
Suitable for	1 sieve 200 mm x 50 mm, 8" x 2" or smaller
Time setting	0-15 minutes or continuous
Container volume	5.7 litres
Oscillating tank (Dia. x H)	245 x 130 mm
HF continuous maximum output	35 kHz, 2 x 240 W
Power connection:	1-phase
Overall size (Dia. x H):	260 x 260 mm
Net weight	5 kg
Current consumption:	0.5 A

### Sieve Accessories

### Endecotts offers different accessories to make your sieving application easy and fast:

#### **Sieve Brushes**

These double ended sieve brushes are specially designed for cleaning sieves with medium or large apertures. They have coarse bristles at one end and fine at the other.

Lids & Receivers are available for all sieve diameters Endecotts offers. Make sure to order them with your sieves if required.

Sieve brushes, specially designed for cleaning sieves with medium or large apertures (coarse bristles at one end, fine at the other).

Rubber sieve balls, used to improve the sieving of cohesive material.

### Wet sieving conversion A wet sieving kit includes a top clamping plate with a Perspex cover and spray rose, watertight O-ring seals and a stainless steel receiver with drainage spout. O-ring seals may also be ordered separately.

# What to look for in a good sieve shaker

It should generate an effective sieving action for tests to reach an ultimate end point. The end point should be reached in the shortest possible time. The results achieved should be reproducible.

The construction of the shaker is all important too if it is to provide a long, trouble free life. One powered by an electromagnet has the distinct advantage of no mechanical parts that might need servicing or replacing.

Other useful features that can increase performance, shorten sieving time or simply make life easy are: amplitude control, continuous or intermittent vibration control, timer, correct and consistent clamping pressure, anti-vibration feet and low noise level.

At Endecotts we design and engineer our shakers around the key features listed above. We ensure that the design performance provides the optimum sieving action to the sieves to give rapid accurate results.

As manufacturers of test sieves we understand how sieves and shakers interrelate. This knowledge is built into every model. So too are the same skills and exacting engineering standards that have made Endecotts the finest test sieves in the world.

# MODERN & REVOLUTIONARY

The **fab four** from our new line

of laboratory sieve shakers:

precise & efficient, easy to operate, featuring a fresh look





### Laboratory

	Air Sizer 200	Minor 200
For Range:	20 μm - 2 mm	$38  \mu m$ to $125  mm$
Drive / sieving motion:	dispersion by air jet	electromagnetic
Amplitude / Speed:	5 - 55 rpm (nozzle speed)	~ 1.6 mm (depending on loading), fixed
Sieve diameter:	203 mm / 8" premium air jet sieves	100 mm / 200 mm, 3" / 8"

### **Features**

#### 3D Performance



Vertical vibration is generated by the on/off frequency of an electromagnet. However, vertical vibration is not enough to impart the correct movement for sieving. The shaker also needs to twist the sieve stack - this rotating action ensures the sample passes over the full surface of the sieve and the maximum number of apertures to give rapid accurate results.

### Avoiding blocked apertures



A feature of the 3D sieving action is the rapid vertical movement imparted by the shaker. The movement is continuously helping to clear apertures and avoid them blinding.

### **Anti-Vibration Feet**



Anti-Vibration Feet maintain optimum performance and avoid shaker 'walking'.



### Laboratory

### Heavy Duty

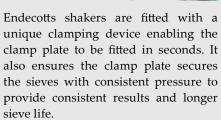
Octagon 200	Octagon 200CL	EFL2000	D300 Digital	D450 Digital
20 μm to 125 mm	$20 \ \mu m$ to $125 \ mm$	38 μm to 125 mm	$20 \ \mu m$ to $125 \ mm$	$20  \mu m$ to 125 mm
electromagnetic 3D	electromagnetic 3D	imbalance drive	electromagnetic 3D	electromagnetic 3D
0 - 3 mm, digital setting in 10 steps	0 - 3 mm, digital setting in 0.1 mm steps, "Closed Loop" amplitude control	1.2 mm, no setting	0 - 2.5 mm, digital setting in 10 steps	0 - 2 mm, digital setting in 10 steps
100 mm / 200 mm, 3" / 8"	100 mm / 200 mm, 3" / 8"	100 / 150 / 200 / 250 / 300 / 315 mm, 3" / 8" / 12"	100 / 150 / 200 / 250 / 300 / 315 mm, 3' / 8' / 12"	250 / 300 / 315 / 350 / 400 / 450 mm, 12" / 18"

### **Unique Clamping**

#### **Extensive Control**









A number of Endecotts shakers are fitted with a high degree of control over all shaker functions - a feature extremely useful for many materials and in many industries.

### Air Sizer 200

The new Air Sizer 200 is ideal for sieving very fine dry particles, which require efficient dispersion and desagglomeration via air jet technology (e.g. electrostatic material).

It is also the perfect instrument to quickly provide sieving of powdered materials.

The Air Sizer 200 is only compatible with the "Premium" air jet sieves.

#### Advantages

- Advanced air jet technology for fine particles, usable for dry material 20 µm upwards
- Adjustable nozzle speed, 5 55 rpm
- Extremely efficient & fast sieving times
- Sieving action keeps apertures clear
- Air flow fluidises and helps to separate sample
- Ideal for electrostatic materials
- Pre filter unit & industrial vacuum available as accessories
- Maintenance-free



Air Sizer 200	
20 μm - 2 mm	
dispersion by air jet	
1	
5 - 55 rpm (nozzle speed)	
digital, 0:10-99:59 min	
20 - 99 mbar	
yes	
-	
suitable for 203 mm (8") "premium air jet sieves"	
1 sieve	
pre filter unit / industrial vacuum	
benchtop	
IP 40	
100 - 240 V , 50/60Hz	
1 - phase	
418 x 235 x 435 mm	
~ 14 kg	
CE	

#### **Function**

An Endecotts Airjet sieve of the appropriate aperture size is placed in the airtight mounting plate bracket and a sealed lid is placed on top of the sieve. Vacuum is applied to the chamber beneath the sieve drawing air out of the sieve through the apertures and carrying with it any undersize particles. To create a continuous flow, positive pressure air is drawn into the sieve through a channel in a rotating arm placed immediately below the microplate or sieve mesh. The incoming air creates a wave within the sample helping to fluidise the sample and clear any blocked apertures. Any undersize sample is discharged into the vacuum unit.

### Air Jet Sieves

Specifically designed for the use with air-jet systems, Endecotts offer two types of air jet sieves:

#### Premium air jet sieves

available with a diameter of 203 mm (8") only, in stainless steel frame.

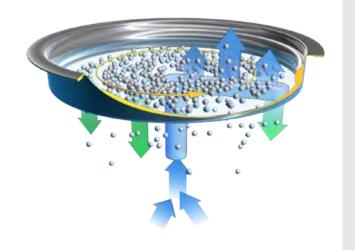
#### Standard air jet sieves

Available with a 200 mm diameter (8" on request), in stainless steel or brass frame.

Both styles of the air jet sieves are available in an extensive range of aperture sizes to meet the needs of your equipment.

- Precision frame ensures consistent nestability
- Precise aperture in accordance with ISO 3310, ASTM or other specifications
- Natural fillet for free flowing of sample
- Totally sealed no crevice to lose material
- Evenly tensioned mesh ensures accurate analysis
- Manufactured in accordance with ISO BS EN 9001 (QMAS)
- Safe edge comfortable handling due to big radius
- Serial number ensures full traceability





Aperture Sizes Air Jet Sieves				
Premium & Standard				
1.00 mm	400 μm	150 μm	56 μm	
900 μm	355 μm	140 μm	53 µm	
850 μm	315 μm	125 μm	50 μm	
800 μm	300 μm	112 μm	45 μm	
710 µm	280 μm	106 μm	40 μm	
630 µm	250 μm	100 μm	38 μm	
600 μm	224 μm	90 μm	36 μm	
560 μm	212 μm	80 μm	32 µm	
500 μm	200 μm	75 μm	25 μm	
450 μm	180 μm	71 μm	20 μm	
425 μm	160 μm	63 µm		

### Minor 200

The Minor 200 has been developed and manufactured to combine low cost with the benefits of a well-designed and engineered shaker. It incorporates many features usually found only on larger, more expensive models.

It is ideal for the use in laboratories and plants since it is compact and genuinely portable (weighing only 17 kg). The sieve stack is held firmly in position by a clamping belt system. Removing it allows the whole unit to be stored in a space less than 200 mm high.

There are no rotating parts in the Minor 200 - consequently it is quiet in operation and maintenance free.



#### Advantages

- Electromagnetic drive for quiet and virtually maintenance free operation
- Compact & portable (weighing only 17 kg)
- Requires only small storage space due to small footprint and easily removable clamping belt system (included)
- Easy to use
- Different voltages available
- Complies with the requirements of AASHTO T 27

### Octagon 200

The sieve shaker Octagon 200 is suitable for all sieving tasks in laboratories as well as onsite and provides optimum sieving action for fast and reproducible results.

It is robust, compact and sufficiently lightweight to be portable. Its electromagnetic drive combined with a 3D sieving motion ensures excellent separation efficiency in a short amount of time.

A digital display as well as a quick-release clamping system make operation very easy and straightforward.



- Easy-to-use sieve clamping system
- Accepts up to 8 full height 200 mm (8") diameter sieves
- Dry and wet sieving
- 10 amplitude settings & digital timer
- 3D sieving motion allows for high separation efficiency and non blinding sieving action
- Different voltages available
- No mechanical moving parts
- Compact & portable
- Complies with the requirements of AASHTO T 27

38 µm to 125 mm
co parit to 120 min
electromagnetic
3 kg
8 full height / 16 half height (200 mm sieves)
~ 1.6 mm*, fixed
analog, 0 - 60 min
-
yes
-
-
100 / 200 mm, 3" / 8"
-
clamping belt system (included)
benchtop
IP 54
different voltages available
1-phase
315 x 126 x 287 mm
~ 17 kg
CE

Specifications	Octagon 200
Range	20 μm to 125 mm
Drive / sieving motion	electromagnetic 3D
Max. batch / feed capacity	3 kg
Max. number of sieves	8 full height / 16 half height (200 mm sieves)
Amplitude	0 - 3 mm, digital setting in 10 steps
Time display	digital, 0:10-99:59 min
Interval operation	yes (one mode)
Suitable for dry sieving	yes
Suitable for wet sieving	yes
Serial interface	-
Sieve diameter	100 / 200 mm, 3" / 8"
Max. height of sieve stack	up to 450 mm
Clamping device	quick-release clamping system (included)
Model	benchtop
Protection code	IP 54
Electrical supply	different voltages available
Power connection	1 - phase
WxHxD	418 x 232 x 435 mm
Net weight	~ 43 kg
Standards	CE

<sup>\*</sup> depending on loading

# Endecotts

Laboratory Sieve Shakers

### Octagon 200CL

The new Octagon 200CL for precise, reproducible and error-free sieving processes competes with the most advanced sieve shakers in the world.

Several unique features have been developed specifically for this machine, including the "Closed Loop" amplitude control for ultimate reproducibility.

The Octagon 200CL is designed to work with Endecotts' SieveWare, the new software for easy evaluation and documentation of the sieving process.

- "Closed Loop" total amplitude control ensures reproducible sieving
- Digital controls for easy and reliable operation
- Easy-to-use sieve clamping system
- Accepts up to 8 full height 200 mm (8") diameter sieves
- Suitable for dry and wet sieving
- 3D sieving motion allows for high separation efficiency and non blinding sieving action
- Full compatibility with new SieveWare evaluation and control software via RS232 Port (printed or digital protocols)
- Voltage-independent
- No mechanical moving parts
- Compact & portable
- Complies with the requirements of AASHTO T 27

Specifications	Octagon 200 CL
Range	20 μm to 125 mm
Drive / sieving motion	electromagnetic 3D
Max. batch / feed capacity	3 kg
Max. number of sieves	8 full height / 16 half height (200 mm sieves)
Amplitude	0 - 3 mm, digital setting in 0.1 mm steps, "Closed Loop" amplitude control
Time display	digital, 0:10-99:59 min
Interval operation	yes (two modes)
Suitable for dry sieving	yes
Suitable for wet sieving	yes
Serial interface	yes (RS232)
Sieve diameter	100 / 200 mm, 3" / 8"
Max. height of sieve stack	up to 450 mm
Clamping device	quick-release clamping system (included)
Model	benchtop
Protection code	IP 54
Electrical supply	Electrical supply 100-240 V, 50/60 Hz
Power connection	1 - phase
WxHxD	418 x 232 x 435 mm
Net weight	~ 43 kg
Standards	CE





### EFL2000

The Sieve Shaker EFL2000 has been specially designed to operate with heavy samples without the loss of performance.

It is equipped with a dynamic power source (imbalance drive) that ensures the right vibration is imparted to the sample for fast, accurate and reproducible tests.



### Advantages

- Heavy duty shaker
- Simple to operate
- 0 60 minute timer or continuous setting
- Quick release clamping system ensures consistent clamping pressure
- Low noise level
- Compatible with various sieve sizes
- Fitted with anti-vibration feet
- Suitable for wet or dry sieving
- AASHTO T 27 compliant

### D300 Digital

The D300 Sieve Shaker bridges the gap between the Octagon 200 and D450.

The D300 is extremely versatile accommodating both 200~mm / 8" and 300~mm / 12" diameter sieves. The complete vibration system has been built to handle the sample weights involved with larger diameter sieves eliminating the problems involved with lighter weight machines.

Like the Octagon 200 and D450, this machine gives full operating control of the sieving process to the user.



- Electromagnetic drive for quiet and virtually maintenance free operation
- Easily set to maximum efficiency
- Digital controls for easy and reliable operation via external interface
- Compatible with various sieves sizes
- Suitable for wet or dry sieving
- AASHTO T 27 compliant

Specifications	EFL2000
Range	38 μm to 125 mm
Drive / sieving motion	imbalance drive
Max. batch / feed capacity	6 kg
Max. number of sieves	6 full height / 12 half height (300 mm sieves)
Amplitude	1.2 mm, no setting
Time display	analog, 0 - 60 min
Suitable for dry sieving	yes
Suitable for wet sieving	yes
Sieve diameter	100 / 150 / 200 / 250 / 300 / 315 mm, 3" / 8" / 12"
Clamping devices	quick-release clamping system (included)
Model	floor
Protection code	IP 54
Electrical supply	different voltages available
Power connection	1- phase
ØxH	510 x 330 mm
Net weight	~ 83 kg
Standards	CE

Specifications	D300 Digital
Range	20 μm to 125 mm
Drive / sieving motion	electromagnetic 3D
Max. batch / feed capacity	10 kg
Max. number of sieves	7 full height / 13 half height (300 mm sieves)
Amplitude	0 - 2.5 mm, digital in 9 steps
Time display	digital, 0 - 99 min (external unit)
Suitable for dry sieving	yes
Suitable for wet sieving	yes
Sieve diameter	100 / 150 / 200 / 250 / 300 / 315 mm, 3" / 8" / 12"
Clamping devices	turn and twist clamping system (included)
Model	floor
Protection code	IP 54
Electrical supply	different voltages available
Power connection	1 - phase
ØxH	506 x 210 mm
Net weight	~ 86 kg
Standards	CE

### D450 Digital

The Endecotts D450 Digital is a vibrating shaker that is used to carry out sieve tests in conjunction with sieve stacks for particle sizing of various material samples.

As Endecotts' most powerful sieve shaker, it is built for large sieve diameters and can take up to  $7 \times 450 \text{ mm} / 18$ " test sieves!

It is based on an electromagnetic drive, with special carbon fibre springs that are set at a calculated angle to provide a horizontal twist, as well as a vertical movement to carry out efficient sieve tests.

The D450 has a remote control unit that houses a digital controller to vary the vibration, process time and intermittent settings.

- Electromagnetic drive for quiet and virtually maintenance free operation
- Easily set to maximum efficiency
- Digital controls for easy and reliable operation via external interface
- No mechanical moving parts
- Compatible with various diameter sieve sizes
- Suitable for wet or dry sieving
- AASHTO T 27 compliant

Specifications	D450 Digital	
Range	20 μm to 125 mm	
Drive / sieving motion	electromagnetic 3D	
Max. batch / feed capacity	20 kg	
Max. number of sieves	7 full height (450 mm sieves)	
Amplitude	0 - 2 mm, digital in 9 steps	
Time display	digital, 0 - 99 min (external unit)	
Suitable for dry sieving	yes	
Suitable for wet sieving	yes	
Sieve diameter	250 / 300 / 315 / 350 / 400 / 450 mm 12" / 18"	
Clamping devices	turn and twist clamping system (included)	
Model	floor	
Protection code	IP 54	
Electrical supply	different voltages available	
Power connection	1- phase	
ØxH	685 x 280 mm	
Net weight	~ 140 kg	
Standards	CE	



### Sonic Sifter

The Sonic Sifter is a precision instrument for the rapid separation of a wide variety of dry particles and powders in the fine micron range.

It will successfully separate samples down to 5 micron in as little as one minute, sometimes less, with consistent repeatability.

### Advantages

- Outstanding value
- Simple to operate
- Unique action
- Very quick cycle time typically less than one minute
- Virtually no attrition of sample
- Virtually no screen wear
- Very quiet operation

#### **Function**

The Sonic Sifter sieving action, which can be varied for different densities and textures of material, is unique. A vertical column of air is created to oscillate through a sieve or set of sieves. The motion of the air alternately lifts the sample and then assists it through the sieve apertures. The oscillation amplitude is variable.

A vertical mechanical pulse may also be applied to the sieves at regular intervals to break down any clustered particles and help eliminate any blinding of the apertures.

An important feature of the Sonic Sifter is that it causes very little attrition of the sample and virtually no screen wear.

Specifications	Sonic Sifter
Range	20 μm - 2 mm
Sieve Diameter	3"
Sieving motion	ultrasonic vibrating
Max. number of fractions	1 - 6
Process time	0 - 119 min
Model	benchtop
Electrical supply	different voltages available
WxHxD	254 mm x 508 mm x 254 mm
Net weight	~ 16.8 kg
Standards	CE



Sieves for the Sonic Sifter				
Aperture	Standard Sieves	Special Sieves	Precision Sieves	
	Stainless steel woven wire mesh Max six per column	Stainless steel woven wire mesh Double depth max three per column	Electroformed nickel plate Only one sieve per stack recommended	
150 μm	•	-	•	
125 μm	•	-	•	
106 μm	•	-	•	
105 μm	-		•	
100 μm	-	-	•	
95 μm	-	-	•	
90 μm	•	-	•	
85 μm	-	-	•	
80 μm	-	-	•	
75 μm	•	-	•	
70 μm	-	-	•	
65 µm	-	-	•	
63 μm	•	-	•	
60 μm	-	-	•	
55 μm	-	-	•	
53 µm	•	-	•	
50 μm	-	-	•	
45 μm	•	-	•	
40 μm	-	-	•	
38 µm	•	-	•	
35 μm	-	-	•	
32 μm	•	•	•	
30 μm	-	-	•	
25 μm	•	•	•	
20 μm	•	•	•	
15 μm	-	-	•	
	-	-	•	
5 μm	-	-	•	



SieveWare, the software for particle size analyses, exceeds manual evaluation in many aspects, due to the fact that the software is able to automatically control the necessary measurement and weighing procedures – from the registration of the weight of the sieve up to the evaluation of the data.

#### **Advantages**

- Automatic registration, evaluation and administration of measurement data
- Logical, self-explanatory interface
- Measurement protocol in accordance with different standards
- Complex transformation into charts and tables
- Data link to different measurement instruments
- Automatic detection and configuration of common analytical scales
- Comprehensive data export
- Comprehensive help texts & detailed manual

All available parameters as well as the characteristics, which may have to be calculated, can be entered.

The program accepts automatic and manual data entries from both scale and sieve systems. The Octagon 200CL can be automatically controlled with SieveWare via RS232 communication.

SieveWare calculates all common particle distributions as well as the characteristic values of the particle size, thus making it possible to present the results in standard presentation forms, such as tables and charts. Cumulative throughput or residual values, distribution density and histograms can be included in the standard particle size distributions.

All measured data can be printed, saved and exported as tables and charts.

SieveWare	
General Information	
Windows®, interface	Windows® 2000/XP/Vista (others on request)
ASTM and Tyler Mesh	X
Password protection for sieve analysis	X
Serial no. for sieves	X
Sieve analysis with	
nominal mesh size	X
actual mesh size	X
Automatic simultaneous data transfer	X
Administration of measurement data	unlimited
Data import and export	X
PDF manual on CD-ROM	X
Measurement protocol (according to DIN 66165)	X
Language selection English/German	Х
Tables	
Throughput values Q3 (x)	Х
Residual values (1-Q3(x))	Х
Fraction p3	X
Fraction ∆m (proportional masses)	X
Distribution density q3(x)	Х
log. distribution density q3*(x)	х
Actual mesh size	Х
Diagram	
Combined representation of several analyses	х
Curve representation	х
Graphic presentation	
• x-axis	lin, log
y-axis	lin, log, RRSB
Windowing (Zoom)	x
Cumulative curve (throughput) Q3 (x)	X
Residual curve (1-Q3 (x))	Х
Fraction p3/histogram	Х
Lin. Division density q3(x)	Х
Log. Division density q3*(x)	Х
Trend analysis	X
Limit value graph with specifications limits	X
2 representation possibilities	
(including right y-axis)	X
Reference particles	х
(registration of external particle size division)	X
Parameters	
Fineness parameters, 3 values Q3 (x)	X
Quantile particle size, 3 values x (Q3)	X
RRSB parameters	X
Sauter mean diameter X St	X
Splinter value	X
Specific surface	
volume related Sv	X
	X
volume related Sv	

### Consistometer

### The economical, accurate method of checking viscosity

The Consistometer is a low cost, durable, instrument for accurately checking laboratory or production samples against consistency, viscosity or flow rate standards.

It uses little bench space yet is probably the simplest, most accurate method of conducting a variety of flow associated tests. It is already widely used in the chemical, paint, cosmetic and food processing industries.

It provides a single parameter for a variety of flow tests which can be carried out over any period under as near identical conditions as possible.

The Consistometer is manufactured from stainless steel engraved with a series of precise graduations at 0.5 cm intervals.

To ensure accurate reproducibility the instrument is levelled using the adjustment screws and spirit level.

This instrument is sometimes known as a "Bostwick Consistometer".

#### Advantages

- Low cost
- Ease of use
- Suitable for a variety of tests
- Provides a consistent platform for tests
- Requires only 75 ml of sample
- Stainless steel construction
- Engraved graduations for accurate results
- Levelling screws and spirit level enable accurate set up
- Available in 2 versions Standard or Extended

Specifications	Standard Consistometer	Extended Consistometer
Length	300 mm	414 mm
Trough length	240 mm	354 mm
Width:	88 mm	88 mm
Height:	104 mm	104 mm
Material	stainless steel	stainless steel

### Method of use



A measured sample, usually 75 ml, is placed in the reservoir behind the gate.



The gate is released, by pressing the lock release lever - the spring action ensures it opens instantaneously.



As the fluid flows down the instrument its progress can be accurately measured using the graduated scale. By comparing the flow rate to specified time periods the physical properties of the sample can be calculated.



### Fluid Bed Dryer FBD 2000

### Simply the most efficient method of drying samples for analysis

A bench top unit for the rapid drying of chemicals, foodstuffs and minerals prior to sieve analysis and other tests.

#### Advantages

- Fast: Drying times range from a few seconds to minutes.
- Efficient: High rates of heat transfer ensure faster and more homogeneous drying than oven, microwave or vacuum drying.
- Versatile: Suitable for most granular and powder materials.
- Reproducible results: Precise controls ensure uniform and reproducible results.
- Easy to use: Manageable controls with straightforward settings



Single tubs come in 2 and 5 litre sizes in either stainless steel or glass. A multi-tub unit with 4 x 300 ml tubs is also available for drying four samples simultaneously.

Glass tubs are particularly useful for observing the fluidisation process to establish optimum settings.

An attachment is also available for the efficient drying of test sieves.



Specifications	Fluid Bed Dryer
Max. Sample Weight:	5 kg
Voltage Rating:	115 V or 230 V 50 Hz or 60 Hz
Power Consumption:	2.6 KVA
Dimensions (H x W x D):	260 x 340 x 495 mm
Weight:	19 kg

### The FBD 2000 offers significant advantages over conventional drying techniques.

The FBD 2000 is a compact, portable dryer. Its powerful air delivery system makes drying a very fast operation. The fluidisation mixes and separates the particles minimising the risk of abrasion and the creation of lumps resulting in a truly representative sample.

The comprehensive set of controls makes it ideal for use in the laboratory on a wide selection of materials.

High air flow rates provide high rates of heat transfer and ensure much faster and more homogeneous drying than other methods such as oven, microwave and vacuum drying. Drying times range from a few seconds to minutes. Complete drying is usually achieved in under 15 minutes.

#### How the FBD 2000 operates

A powerful fan delivers the high volume air flow from the base unit into a special tub assembly which holds the sample material. The flow of heated air passes through a diffuser gauze which supports the bed and evenly distributes the air as it passes into the tub.

A filter bag at the top of the tub keeps the sample in while allowing the air, moisture and gases to escape.

#### **Air Flow**

The air flow rate and fluidisation velocity are infinitely variable from 0.4 to 2.4 m/min volume (0.9 to 5 m/sec speed).

Optimum levels can be set by observing the sample behaviour within the glass tubs.

#### **Timed Cycle**

A built in digital timer enables the drying time to be pre-set and the drying operation to be carried out unattended. At the end of the cycle time an alarm sounds and the unit switches off automatically.

#### **Temperature Control**

Air is heated by a 2 kW electric heater and can be set to any temperature up to 200 °C.

### **Filter Bag Material**

Filter bags are usually nylon or terylene with other materials available for more aggressive conditions such as sustained high temperature drying.



# Size Reduction Equipment



WWW.GLENCRESTON.COM



Glen Creston Ltd. is an associate company of Endecotts Ltd and was established in 1955 in a small office/factory in North London. The company remained in that area of London for over 55 years, relocating to more spacious and modern facilities in South West London during 2008.

We are a leading manufacturer and supplier for an extensive range of quality standard machines for grinding, mixing, crushing and dispersion applications.

We also design and manufacture bespoke machines to customer's specific requirements for grinding and crushing applications.

These machines are suitable for processing a wide range of materials such as chemicals, minerals, pharmaceuticals, soil, cement, coal, aggregates, agricultural products, plus many more.

Our experienced staff are always available to offer technical support, customer and after sales service. Our policy is constantly to review and identify the requirements of our customers. We strive to develop and introduce new products and therefore welcome all enquiries and suggestions that will assist in enhancing our range and existing services.

We have our own in-house laboratory where we conduct ongoing research and trials with the aim of continually improving the performance of our machines.

We also process and evaluate customer materials on our demonstration machines and provide detailed test reports along with samples of the processed material. Usually there is no charge for this service.

### **Light Industrial Machines**

For the preparation of larger laboratory samples or for light industrial applications, Glen Creston offers a range of machines that can cope with higher throughputs whilst still producing reasonable particle sizes.

From our jaw crusher, for primary sample breakage prior to further processing, to the mortar and pestle mill range, which will grind to analytical fineness.

The machines can cope with a wide range of materials including: aggregates, rocks, ores, coal, cement, chemicals, resins, pigments, dried organic material, waste material and grains at feed rates of anything from less than a kilo to several hundred kilos per hour.

Several of the machines can be used either as stand alone machines for a laboratory or incorporated into process lines for in-line processing of material.

Various methods of reduction are available with grinding media mostly of steel but stainless steel and ceramic options are available on most machines for use in food or pharmaceutical processing.



### Roll Crusher Mill

### For de-lumping and pre-crushing prior to processing or finer grinding

Particularly suitable for de-agglomeration of materials from sacks or silos and for granulating coarse lumpy, caked or compacted materials.

This rugged, slow running mill is equipped with either single or double roller shafts fitted with crushing cams. The cams rotate between crushing and stripping combs. Different shaped crushing elements are available depending on material.

#### Features include

- Robust construction
- Minimal maintenance
- Single, double or multiple shaft versions
- Compact design allows retro-fitting into existing process lines
- Parts easily removable for maintenance / repair



Chemicals & agrochemicals ■ Pigments & resin ■ Food & pharmaceuticals ■ Coal ■ Waste materials & ash ■ Minerals ■ Glass



### Swing Hammer Mill

### Robust and versatile for a wide range of applications

Material is fed via the inlet hopper into the grinding chamber. It is ground by the action of freely swinging hammers against a serrated face. The ground material then passes through a screen into a receptacle. The mill body is constructed from cast iron with carbon steel inlet hopper and hardened steel hammers. Mounted on a stand, the unit comes complete with belt drive, guard and starter. Hammers have four grinding edges and can be rotated to give maximum life.

#### Features include

- Large inlet hopper ideal for bulky material
- Easily interchangeable screens
- 180° full-width screen area
- Bottom or blower discharge versions
- Easy access for cleaning
- Interlock safety switch

### Suitable for:

Chemicals & resins ■ Grain ■ Clay ■ Seaweed ■ Fruit (dried) ■ Domestic waste ■ Glass



### Jaw Crusher JC75

### A compact machine for initial size reduction

The JC75 is used for both laboratory and production purposes to crush various hard, semi-hard, and soft friable materials to a minimum particle size of <6 mm. Construction is of cast iron incorporating a feed chute protective grid and cover.

The jaw gap is adjustable by the means of a locking hand wheel. The drive motor is controlled by a push button switch incorporating no-volt and overload protection in the event of uncrushable material in the feed.

#### Features include

- Convenient high input chute
- Simple jaw adjustment
- Adjustable locking hub
- Manganese steel, tungsten carbide or stainless steel jaw plates
- Hardened steel wear plates
- Self lubricating bearings
- Overload release mechanism



Aggregates ■ Rock ■ Coal & coke ■ Cement ■ Alloys ■ Chemicals ■ Clay



### Mortar and Pestle Mills

### Rapid micro-fine particle size reduction

The rotating mortar drives the self adjusting pestle by friction. MP1, MP2 and MP3 are fittied with either stainless steel or cast iron mortar and pestle. MP1 is also available with porcelain mortar and pestle.

MP4 has a weighted self adjusting pestle.

MP5 has a driven pestle and is fitted with polished agate or tool steel mortar and pestle. Grinding pressure is adjusted by quick release clamps.

Mortar heaters available on selected models.

Wet or dry grinding in all models.

#### Features include

- Floor standing version
- Bench mounted models
- Choice of mortars & pestles
- Safety interlock guards
- Mortar heating facility on selected models

#### Suitable for:

Rock  $\blacksquare$  Minerals & ores  $\blacksquare$  Soil  $\blacksquare$  Pharmaceuticals  $\blacksquare$  Chemicals  $\blacksquare$  Spices  $\blacksquare$  Leaves



### **Cross Beater Mill**

### A versatile mill for universal use in laboratory or production areas

This compact yet powerful mill is designed for crushing and grinding all types of materials up to the medium-hard range within a variety of industries, including construction, environmental, mineral, chemical, argicultural and ceramic.

The mill is available with a variety of options including chamber and door linings in cast iron, chrome steel or stainless steel. Beater arms are available in cast iron or stainless steel and beater tips in chrome steel, stainless steel and low chrome.

#### Features include

- Stand or bench mounted
- Simple screen replacement
- choice of liners / screens
- Adjustable beater tips
- Brake motor
- Door lock safety feature

#### Suitable for:

Chemicals ■ Soil ■ Coal ■ Glass ■ Grain & spices ■ Ceramics ■ Cement



### Gy-Ro Dish / Puck Mill GM100

### Precision sample preparation to analytical fineness

The Gy-Ro Mill has a unique mechanism enabling the optimum grinding amplitude to be set for different materials which ensures the best possible results for the feed characteristics and required fineness.

The machine provides a smooth horizontal grinding action with minmal vertical vibration. The puck and rings are designed to avoid bouncing off the lid and base of the dish thereby minimizing wear and contamination.

Suitable for sample preparation for XRF, XRD, and AA Analysis also geological / mineral assay work.

#### Features include

- Easy to operate
- Noise insulation
- Built-in timer, overload relay & cover interlock switch
- Adjustable amplitude settings
- Accomodates a complete range of grinding dishes
- Short grinding time
- Minimal maintenance



Suitable for:

Chemicals ■ Cement ■ Glass & Ceramics ■ Soil ■

Dried Plants ■ Paint & Pigments ■

Coal, minerals & ores

### McCrone Micronising Mill

### Rapid particle size reduction for qualitative & quantitative analysis

The McCrone Micronising Mill is acknowledged to be leading means of milling to sub-micron sizes for XRD, XRF, AAS and Infra-Red Spectroscopy.

The unique grinding action of the cylinders produces both linear contact blows and planar shearing, resulting in a short grinding time with virtually no sample loss and exceptionally even particle size distribution. There is little chemical degradation of the particles and crystal lattice disturbance is significantly reduced. The mill is indispensable for geologists, chemists, mineralogists and materials scientists.

#### Features include

- Minimises sample damage and contamination
- Ensures narrow range, reproducible particle size
- Minimal maintenance
- Bench mounted
- Timer up to 30 minutes
- Choice of grinding elements
- Wet and dry grinding



Carbides ■ Nitrides ■ Borides ■ Cement ■ Clay ■ Shale ■ Mica ■ and many other materials



### Roller Ball Mill

### The ideal range of ball mills for laboratory or pilot plant use

A range of laboratory scale tumbling ball mills comprising three standard models each with variable speed control and fitted with electrically interlocked roller guards to prevent access to the rollers whilst the mill is in operation.

Supply voltage for all three models is 230V / 1ph / 50 Hz. Flameproof drive units available on selected models. Other models including multi tier units to accomodate up to 35 litre capacity are also available. Timers are an optional extra for all models.

#### Features include

- Protective cover
- Bench mounted models
- Variable speed
- Safety interlock guard
- Range of mill pots
- Range of charges
- Timer (optional)

### Suitable for:

Ceramics ■ Chemicals ■ Cosmetics ■ Pharmaceuticals ■ Plastics ■ Minerals ■ Paint ■ Glass







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HIGH PERFORMANCE SIEVE SHAKERS

- Sieve Shakers
- Air Jet Sizer
   Sonic Sifter
- **Evaluation Software**

SIEVE SHAKERS

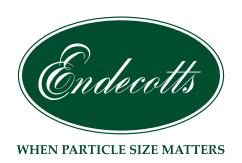


SAMPLE PROCESSING EQUIPMENT

- Consistometer
- DryerSampler

SAMPLE PROCESSING





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