

**Cole-Parmer®**

 **environmental  
express®**

## Sample Preparation Equipment and Environmental Testing Products

**Marketing Materials**

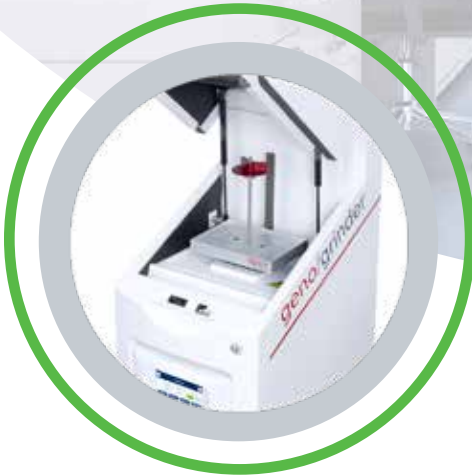


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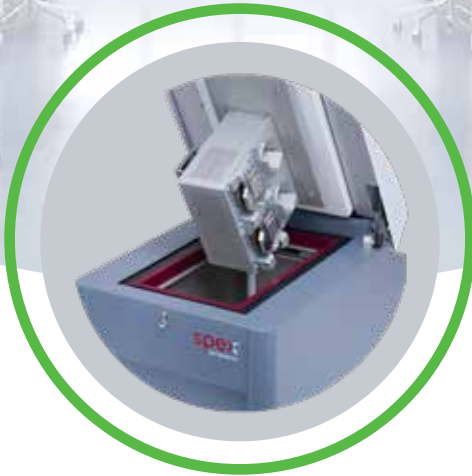
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# Cole-Parmer®

## Sample Preparation



Homogenization



Cryogenic Grinding



Mixing and Milling



Tissue Homogenizer  
and Cell Lyser



Cryogenic  
Grinders



Ball Mills and  
Planetary Mills



Ring and  
Puck Mills



Laboratory  
Pellet Presses

## Spex SamplePrep 2010 Geno/Grinder® Tissue Homogenizer and Cell Lyser



- Enables increased throughput, improved extraction efficiency and reproducibility
- Designed for rapid cell disruption, cell lysis and tissue homogenization through bead beating
- Ideal tool for QuEChERS method

The Geno/Grinder is a high-throughput plant and animal tissue homogenizer and cell lyser. It is equipped with an adjustable clamp that accommodates a full range of sample vials from 2 mL to 50 mL centrifuge tubes or up to six deep-well titer plates. It is specifically designed for rapid cell disruption, cell lysis and tissue homogenization through bead beating. This enables fast and efficient extraction of nucleic acids, proteins and other molecules. The Geno/Grinder incorporates a password-protected, touch screen control panel, enabling the user to program run time, rate, cycles and pause time.

A full range of Kryo-Tech accessories are available to preserve temperature-sensitive samples such as proteins and RNA. The Geno/Grinder is also recognized as an excellent automatic axial extractor. It is the ideal tool for the QuEChERS method used for extracting pesticide residues and other organic compounds.

The Geno/Grinder enables increased throughput, improved extraction efficiency and reproducibility over traditional sample preparation methods. A full range of pre-loaded sample vials for different sample types is also available for fast and simple setup.

**Typical applications include:** tissue homogenization, DNA/RNA research and extraction, cell lysis, pesticide residue extraction, protein and metabolite extraction, biofuel research, and QuEChERS.

### Before & After Samples – Seeds





# 2010 Geno/Grinder®

## Features



Programmable  
touch screen



Mechanical disruption  
through bead beating



Designed for vigorous  
up-and-down shaking



Easy  
data transfer

## Sample Types Include



Plant Tissue



Animal Tissue



Fruit



Cannabis



Yeast

## Specifications

Clamp Movement	3.2 cm (1.25 in) vertical
Clamp Speed	Adjustable from 500 to 1750 strokes/minute
Timer	Digital display in minutes:seconds (max 20:00)
USB Port	Run history is recorded and can be exported
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
CE Approved	Yes
Motor	1/2 HP
Dimensions (W x D x H)	35.6 cm x 57.2 cm x 71.1 cm (14 in x 22.5 in x 28 in)
Net Weight	45.5 kg (100 lb)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong grounded plug for 230 VAC

# 2010 Geno/Grinder®

## Ordering Information

Description	Item Number
2010 Geno/Grinder Tissue Homogenizer and Cell Lyser, 115 VAC, 60 Hz	04500-17
2010 Geno/Grinder Tissue Homogenizer and Cell Lyser, 230 VAC, 50 Hz	04576-84

## Need a Demo?

- Virtual sample processing – virtual demonstration of the equipment and sample processing
- Physical sample processing – physical testing of your sample with shared results
- Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

Contact us today at [sampleprep@antylia.com](mailto:sampleprep@antylia.com) for details.

## Spex SamplePrep 2030 Geno/Grinder® Automated Tissue Homogenizer and Cell Lyser



- Integrates with automated robotic systems
- Enables increased throughput, improved extraction efficiency and reproducibility
- Ideal for the isolation of nucleic acids (RNA/DNA), enzymes, yeast, proteins, viruses, and bacteria
- Accommodates all standard titer plates
- Complete cycle time is less than two minutes

The 2030 Geno/Grinder is an automated plant and animal tissue homogenizer and cell lyser that integrates with automated, robotic systems. It has the same vigorous, vertical grinding motion as the 2010 Geno/Grinder. The average processing time for each cycle is two minutes or less. Versatile clamp accommodates titer plates, vials, and all standard SPE plates.

This automated homogenizer is ideal for high-throughput processing of agricultural, biological, environmental, and clinical samples. It allows users to run a large number of preloaded stacked titer plates simultaneously. Samples can be pulverized with or without a buffer using a variety of grinding media.

### Features



Automated  
bead beating



Designed for vigorous  
vertical grinding



Ideal for isolation of  
DNA, RNA & proteins



Cycle time is complete  
in two minutes or less



# 2030 Geno/Grinder®

## Sample Types Include



Plant Tissue



Animal Tissue



Fruit



Microorganisms



Yeast

## Specifications

Clamp Movement	3.18 cm (1.25 in) vertical
Clamp Speed	500 to 1750 strokes/minute
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
Motor	3-phase servo motor
Dimensions	32.8 cm x 48 cm x 91.2 cm (12.9 in x 18.9 in x 35.9 in)
Net Weight	58.5 kg (129 lb)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong grounded plug for 230 VAC

## Ordering Information

Description	Item Number
2030 Automated High-Throughput Homogenizer with Clamp for One Microwell Plate	04575-42
2030 Automated High-Throughput Homogenizer with Clamp for Two Microwell Plates	61031-68

## Need a Demo?

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- Physical sample processing – physical testing of your sample with shared results
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# Spex SamplePrep 1600 MiniG® Tissue Homogenizer and Cell Lyser



- Light and portable with a small footprint that minimizes bench space
- Vigorous clamp movement results in increased yields
- Consistent vertical motion of the clamp ensures equal conditions for all samples
- Kryo-Tech® accessories are available to preserve temperature-sensitive samples

The 1600 MiniG is the ideal solution for labs that want a compact, yet powerful tissue homogenizer and cell lyser. It is equipped with an adjustable clamp that accommodates a full range of sample vials from 2 mL to 50 mL centrifuge tubes or up to two deep-well titer plates. It is specifically designed for cell lysis and tissue homogenization through bead beating, enabling fast and efficient extraction of nucleic acids, proteins and other molecules of interest.

**Typical applications include:** tissue homogenization, DNA/RNA research and extraction, cell lysis, protein extraction, biofuel research, pesticide residue extraction using QuEChERS or the SweEt method.

## Before & After Samples – Plant Tissue



# 1600 MiniG<sup>®</sup>

## Features



Programmable  
LCD screen



Automated mechanical  
disruption through  
bead beating



Designed for vigorous  
up-and-down shaking



Easy  
data transfer

## Sample Types Include



Plant Tissue



Animal Tissue



Fruit



Cannabis



Yeast

## Specifications

Clamp Movement	3.2 cm (1.25 in) vertical
Clamp Speed	Adjustable from 500 to 1500 strokes/minute
Timer	Digital display in minutes:seconds (max 20:00)
USB Port	Run history is recorded and can be exported
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
CE Approved	Yes
Motor	1/2 HP
Dimensions	35.6 cm x 57.2 cm x 71.1 cm (14 in x 22.5 in x 28 in)
Net Weight	45.5 kg (100 lb)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong grounded plug for 230 VAC

# 1600 MiniG®

## Ordering Information

Description	Item Number
1600 MiniG Tissue Homogenizer and Cell Lyser, 115/230 VAC, 50/60 Hz	04500-08

## Need a Demo?

- Virtual sample processing – virtual demonstration of the equipment and sample processing
- Physical sample processing – physical testing of your sample with shared results
- Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

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## Spex SamplePrep 1200 GenoLyte® Compact Tissue Homogenizer and Cell Lyser



- Interchangeable sample vial holders hold vials ranging from 2 mL to 12 mL
- Speeds range from 750 to 4000 rpm for slow speed mixing to high speed homogenization for tough samples
- Safety interlock stops the motor if the lid is opened during the homogenization process
- Clear lid allows you to see the grinding process

The 1200 GenoLyte® is the ideal solution for labs that want a compact, yet powerful tissue homogenizer and cell lyser. It is equipped with interchangeable sample vial holders allowing a variety of vial types from 2 mL to 12 mL. It is specifically designed for rapid cell disruption, cell lysis and tissue homogenization through bead beating, enabling fast and efficient extraction of nucleic acids, proteins and other molecules of interest. The GenoLyte® can also be used to grind harder materials such as soil, rocks and minerals.

**Typical applications include:** tissue homogenization, DNA/RNA research and extraction, cell lysis, protein extraction, and biofuel research.

### Features



Automated  
bead beating



High-intensity  
oscillating motion



Safe for DNA, RNA  
& proteins



Programmable  
control panel



# 1200 GenoLyte®

## Sample Types



Plant Tissue



Animal Tissue



Soil



Bacteria



Yeast

## Specifications

Voltage	115/230 VAC, 50/60 Hz
CE Approved	Yes
Motor	1/7 HP
Clamp Speed	2000, 2500, 3000 rpm
Dimensions	38 cm x 20.5 cm x 30 cm (15 in x 8 in x 11 in)
Net Weight	11 kg (24 lb)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong European plug for 230 VAC

## Ordering Information

Description	Item Number
1200 GenoLyte Compact Tissue Homogenizer and Cell Lyser, 115/230 VAC, 50/60 Hz	04500-05

## Need a Demo?

- Virtual sample processing – virtual demonstration of the equipment and sample processing
- Physical sample processing – physical testing of your sample with shared results
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## Spex SamplePrep Freezer/Mill® 6875D, 6875, 6775 Cryogenic Grinders



- Maintenance-free design with only one moving part
- Equipped with liquid nitrogen level sensor, insulated case and lid safety interlock switch for operator protection (liquid nitrogen required for operation)
- Grinds samples in the 0.1 gram to 200 gram range
- Each grinding chamber holds one large grinding vial, one mid-size vial, four standard grinding vials, or four microvial sets

Some samples are impossible to grind at ambient temperatures. The Freezer/Mill is a programmable cryogenic grinder specifically designed for milling and grinding of tough or temperature-sensitive samples. Samples are placed in sealed cryogenic grinding vials then immersed in liquid nitrogen. The samples are cooled to cryogenic temperatures then ground by a magnetically shuttling impactor.

Since the vials are sealed, the cryogenic grinder maintains the integrity of its contents. Volatile compounds are retained, hazardous or critical samples are easily controlled, clean-up is simplified, and cross-sample contamination is eliminated.

**Typical applications include:** DNA/RNA extraction, forensic/drug testing, RoHS/WEEE, consumer product testing, food safety, materials research, and medical research.

### Before & After Samples – Bottle Caps



# 6875D, 6875, 6775 Freezer/Mill®

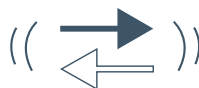
## Features



Intuitive color LCD  
touch screen controller



Magnetic grinding  
mechanism; no  
mechanical moving  
parts



Designed for vigorous  
horizontal milling



Continuous cooling with  
liquid nitrogen sample  
vial immersion

## Sample Types Include



Plastics & Polymers



Animal Tissue



Pharmaceuticals



Cannabis



Yeast

## Specifications – 6875D Freezer/Mill

Large, cryogenic mill with dual grinding and cooling chambers. It can grind and cool up to 200 g of samples (0.5 to 100 g per chamber). Each grinding chamber holds one large grinding vial, one mid-size vial, four small grinding vials, or four microvial sets each. Comes equipped with liquid nitrogen auto-fill.

Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
Dimensions	50.8 cm x 54.6 cm x 64.8 cm (20 in x 21.5 in x 25.5 in)
Net Weight	35.4 kg (78 lb)

## Specifications – 6875 Freezer/Mill

High-capacity cryogenic mill that accommodates up to 100 g of samples. It has one dual-purpose chamber that precools and grinds samples. Its grinding chamber holds one large grinding vial, one mid-size vial, four small grinding vials, or four microvial sets. The 6875 is available with manual liquid nitrogen fill or with auto-fill (6875A).

Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
Dimensions	52 cm x 55 cm x 46 cm (20.5 in x 21.5 in x 18 in)
Net Weight	20 kg (44 lb)

# 6875D, 6875, 6775 Freezer/Mill®

## Specifications – 6775 Freezer/Mill

Compact cryogenic mill that accommodates samples from 0.1 to 5 g. It has one dual purpose chamber that precools and grinds samples, and a separate grinding chamber to increase throughput. It can hold one small grinding vial, or one microvial set.

Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
Dimensions	48 cm x 27 cm x 32 cm (19 in x 10.5 in x 12.75 in)
Net Weight	8.6 kg (18.9 lb)

## Ordering Information

Description	Item Number
6875D Freezer/Mill, Dual Chamber Cryogenic Grinder, 115 VAC, 60 Hz	04500-42
6875D Freezer/Mill, Dual Chamber Cryogenic Grinder, 230 VAC, 50 Hz	04577-94
6875 Freezer/Mill, High-Capacity Cryogenic Grinder, 115 VAC, 60 Hz	04500-40
6875 Freezer/Mill, High-Capacity Cryogenic Grinder, 230 VAC, 50 Hz	04577-92
6875A Freezer/Mill, High Capacity Cryogenic Grinder with Auto-Fill, 115 VAC, 60 Hz	04500-41
6875A Freezer/Mill, High Capacity Cryogenic Grinder with Auto-Fill, 230 VAC, 50 Hz	04577-93
6775 Freezer/Mill, Compact Cryogenic Grinder, 115 VAC, 60 Hz	04500-39
6775 Freezer/Mill, Compact Cryogenic Grinder, 230 VAC, 50 Hz	04577-77

## Need a Demo?

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## Cole-Parmer® CG-900 Cryo-Blade™ Cryogenic Grinder



Breakthrough, automated processing from bulk  
to test portions in 15 minutes or less

- **High-throughput** – process up to 1 kg of sample per run
- **Efficient** – complete a method in 15 minutes or less
- **Versatility** – capability to use liquid nitrogen or dry ice to process your sample
- **Safety** – automated dispensing of liquid nitrogen eliminates the handling and manipulation of liquid nitrogen (patent pending)

### More Sample, Less Time, Better Yield

The Cryo-Blade is an ultra high-capacity cryogenic grinder for comminution and processing capability up to 1 kg. The homogeneity of the sample is very efficient. Only 1 g is needed as a representative test sample from a 1 kg ground batch. The high-throughput capability saves valuable time for your laboratory and meets Food and Drug Administration (FDA) regulations. The Cryo-Blade automatically dispenses liquid nitrogen to allow the sample to reach cryogenic temperatures and then activates a grinding phase to pulverize samples, resulting in repeatable and reproducible sample preparation. No liquid nitrogen handling required.

When liquid nitrogen is not desired or available, the unit can be used with dry ice to achieve desired results.

Automatic and programmed modes are available. In automatic mode, parameters are set based on the volume of the sample. Programmed mode allows users to save up to 10 methods. The intuitive interface includes 12 languages.



# CG-900 Cryo-Blade™

The insulated outer bowl, mechanical locking lever, and sensors provide the user with a safe, consistent, and reliable sample each use. The removable 5 L inner bowl can accommodate samples up to 1 kg and allows samples to be stored in the freezer, giving the user the option of using a second bowl to prepare a new batch. The outer bowl is insulated to allow safe touch at all times, although it is recommended to use protective gloves.

**Typical applications include:** analysis of organic pollutants in food products (pesticide residues), QuEChERS

The unit accommodates an extensive range of both dry and wet samples from watermelon to the toughest of samples such as muscle tissue.

## Sample Types Include



Fruits



Vegetables



Seeds



Fungi



Animal Tissue

## Before & After Samples – Broccoli



## Before & After Samples – Watermelon



# CG-900 Cryo-Blade™

## Specifications

Max Grinding Speed	3600 rpm
Mixing Speed	180 rpm
Sample Volume	1 kg
Interface	12 languages
Voltage	115 VAC, 20 A or 230 VAC, 10 A
Dimensions	91.4 cm x 68.6 cm x 101.6 cm (36 in x 27 in x 40 in)
Net Weight	50 kg (110 lb) (without grinding bowl)
Warranty	3 years
What's Included	Cryo-Blade unit, insulated outer bowl, inner bowl, cryogenic processor lid with blade, USB memory stick, and instruction manual

## Ordering Information – Equipment

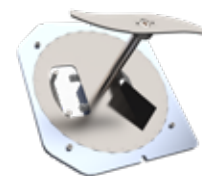
Description	Electrical	Item Number
Cryo-Blade Cryogenic Grinder	115 V	61211-71
Cryo-Blade Cryogenic Grinder	230 V	61211-72

## Ordering Information – Accessory

Description	Item Number
Cryogenic Processor Inner Bowl, 5 L	61211-70
Cryogenic Processor Blade	61211-69



Cryogenic Processor  
Inner Bowl, 5 L



Cryogenic Processor  
Blade

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## Spex SamplePrep Mixer/Mill® 8000D, 8000M High-Energy Ball Mills



- High-energy ball mill that pulverizes hard or brittle samples to analytical fineness
- Equipped with forced-air cooling and safety interlock system for operator protection
- Steel housing protects the clamp mechanism and rugged construction ensures a long life of heavy use
- Shock-mounted motor enables benchtop operation

The Mixer/Mill is a high-energy ball mill available with a single clamp, or dual clamps for double capacity, that grinds from 0.2 to 10 grams (per clamp) of dry, brittle samples, reducing them to analytical fineness. Samples in grinding vials are shaken with grinding media in a complex motion that combines back-and-forth swings with short lateral movements in a “figure-8” pattern. This motion produces strong G-forces that can pulverize the toughest rocks, slags and ceramics.

**Typical applications include:** mechanical alloying, nanomilling, slurry grinding, blending powders, mixing emulsions, and mechanochemistry.

### Before & After Samples – Stone



# 8000D, 8000M Mixer/Mill®

## Features



LCD screen with manual start/stop buttons



Capable of pulverizing the toughest samples



Clamp swings in a back-and-forth lateral “figure-8” movement



Vibration detection switch shuts the mill down in the event of mechanical failure

## Sample Types Include



Plant Tissue



Cement



Pharmaceuticals



Minerals



Glass

## Specifications – 8000D Dual-Clamp Mixer/Mill

Clamp Movement	5.9 cm (2 5/16 in) back-and-forth, 2.5 cm (1 in) side-to-side
Clamp Speed	1060 cycles/minute (115 VAC) or 875 cycles/minute (230 VAC)
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
CE Approved	Yes
Motor	1/3 HP, 1725 rpm at 60 Hz, 1425 rpm at 50 Hz
Dimensions	64 cm x 54 cm x 36 cm (25 in x 21 in x 14 in)
Net Weight	42 kg (93 lb)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong European plug for 230 VAC

# 8000D, 8000M Mixer/Mill®

## Specifications – 8000M Single-Clamp Mixer/Mill

Clamp Movement	5.9 cm (2 5/16) in back-and-forth, 2.5 cm (1 in) side-to-side
Clamp Speed	1060 cycles/minute (115 VAC) or 875 cycles/minute (230 VAC) Alternate pulley supplied with 230 VAC model for 1060 cpm operation
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
CE Approved	Yes
Motor	1/3 HP, 1725 rpm at 60 Hz, 1425 rpm at 50 Hz
Dimensions	53 cm x 56 cm x 36 cm (21 in x 22 in x 14 in)
Net Weight	35 kg (77 lb)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong European plug for 230 VAC

## Ordering Information

Description	Item Number
8000D Mixer/Mill Dual-Clamp, 115 VAC, 60 Hz	04578-10
8000D Mixer/Mill Dual-Clamp, 230 VAC, 50 Hz	04578-11
8000M Mixer/Mill Single-Clamp, 115 VAC, 60 Hz	04578-12
8000M Mixer/Mill Single-Clamp, 230 VAC, 50 Hz	04578-13

## Need a Demo?

- Virtual sample processing – virtual demonstration of the equipment and sample processing
- Physical sample processing – physical testing of your sample with shared results
- Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

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## Spex SamplePrep 5120 Mini Mixer/Mill® Compact Ball Mill



- Interchangeable sample vial holders for agate, steel, and tungsten carbide vials
- Four speeds over the 750 to 3500 rpm range for slow-speed mixing to high-speed milling for tough samples
- Safety interlock stops the motor if the lid is opened during the homogenization process
- Can be operated remotely with a portable battery pack (optional)

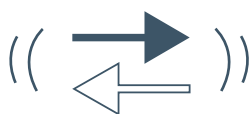
Ideal for pulverizing the toughest rocks, mineral, cement, and ceramics; rapidly reducing samples to analytical fineness; blending powders; and making emulsions. Finely grinding the sample increases the surface area to improve acid dissolution for ICP, and pellet pressing or fusion bead for XRF.

**Typical applications include:** size reduction, nanomilling, powder blending, emulsion, and slurry grinding.

### Features



Automated  
bead beating



High-intensity  
oscillating motion



Safe for environmental  
samples and materials  
science



Programmable  
control panel

# 5120 Mini Mixer/Mill®

## Sample Types Include



Rocks



Ceramics



Minerals



Glass

## Specifications

Clamp Speed	750, 2000, 3000, 3500 rpm
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
CE Approved	Yes
Motor	1/7 HP
Dimensions	38 cm x 20.5 cm x 30 cm (15 in x 8 in x 11 in)
Net Weight	10.4 kg (23 lb)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong European plug for 230 VAC

## Ordering Information

Description	Item Number
5120 Mini Mixer/Mill, Compact Ball Mill	04576-27

## Need a Demo?

- Virtual sample processing – virtual demonstration of the equipment and sample processing
- Physical sample processing – physical testing of your sample with shared results
- Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

Contact us today at [sampleprep@antylia.com](mailto:sampleprep@antylia.com) for details.

## Spex SamplePrep 8200 Planetary Mill High-Energy Planetary Mill



- Planetary motion rotates sun wheel in one direction while the sample jar rotates in the opposite direction
- Single grinding station for one 250 mL or one 500 mL grinding jar
- Unique, easy-to-operate jar clamping system
- Programmable touch screen interface capable of storing up to 10 run protocols
- Ergonomic design makes loading a grinding jar into the mill easy

The 8200 Planetary Mill grinds samples with a mechanical motion, rotating the jar in one direction while the platform (sun wheel) is rotated in the opposite direction. The mechanical milling is performed at a 2:1 ratio causing the container to rotate twice relative to every single rotation of the sun wheel. As the container is moved, the relative centrifugal force is transferred to the grinding balls causing them to move in a circular motion, into each other, and against the container wall, grinding the sample.

**Typical applications include:** size reduction, nanomilling, powder blending, emulsion, and slurry grinding.

### Sample Types



Rocks



Minerals



Ceramics



Glass



Pharmaceuticals

# 8200 Planetary Mill

## Specifications

Speed	Adjustable range: 300 to 600 rpm
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
CE Approved	Yes
Motor	1.5 HP, maximum speed 3500 rpm, maximum power 220 V
Dimensions	61 cm x 70 cm x 48.3 cm (24 in x 27.5 in x 19 in)
Net Weight	113 kg (250 lb) (empty, without jar)
Power Cord	3-prong grounded plug for 115 VAC or 2-prong European plug for 230 VAC

## Ordering Information

Description	Item Number
8200 Planetary Mill, 115 VAC, 60 Hz	04900-16
8200 Planetary Mill, 230 VAC, 50 Hz	04900-17

## Need a Demo?

- Virtual sample processing – virtual demonstration of the equipment and sample processing
- Physical sample processing – physical testing of your sample with shared results
- Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

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# Spex SamplePrep 8550 ShatterBox® Versatile Ring & Puck Mill



- Automated locking dish and guided dish positioning
- Pulverize up to 150 grams of brittle material to analytical fineness
- Grinding times range from two to five minutes, with resultant particle size under 200  $\mu\text{m}$
- LCD touchscreen with easy navigation

The ShatterBox is a versatile ring and puck mill that can crush and grind many types and sizes of samples with minimal sample loss and increased safety. Our 8550 ShatterBox features an automated locking dish and guided dish positioning with an automatic elevation of the dish for ease of use and greater flexibility. The versatility of sample containers allows for grinding within smaller dishes without the ring, as well as the ability to increase sample sizes and capacity with our ring and puck system.

**Typical applications include:** agriculture and plant research, pharmaceuticals and biomedical research.

## Features



Variable speed



Durable



Programmable  
methods



Automated  
safety features



# 8550 ShatterBox®

## Sample Types Include



Cement



Glass



Ceramics



Grains



Pigments

## Specifications

Ambient Temperature	4-35 °C (40-90°F)
Humidity	0-95%
Operating Rate	800 to 1200 rpm (1050 rpm max for tungsten carbide dish)
Electrical	115 VAC, 60 Hz (10-amp fuse) or 230 VAC, 50/60 Hz (5-amp fuse)
Motor	1/2 HP, 1200 rpm (maximum speed)
Dimensions	67.5 cm x 66 cm x 138 cm (26.6 in x 26 in x 54.3 in) high
Weight	200 kg (440 lb) (without grinding container)

## Ordering Information

Description	Item Number
8550 ShatterBox, Ring and Puck Mill, 115 VAC, 60 Hz	41010-83
8550 ShatterBox, Ring and Puck Mill, 230 VAC, 50/60 Hz	41010-84

# 8550 ShatterBox®

## Ordering Information – Accessories

Description	Item Number
Hardened Steel Grinding Container with Handles	41010-85
Tungsten Carbide Grinding Container Handles	41010-87
Alumina Ceramic Grinding Container Handles	41010-89
Zirconia Ceramic Grinding Container Handles	41010-91
Large Hardened Steel Grinding Container with Handles	41010-92

## Need a Demo?

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- Physical sample processing – physical testing of your sample with shared results
- Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

Contact us today at [sampleprep@antylia.com](mailto:sampleprep@antylia.com) for details.

## Spex SamplePrep 3636 X-Press® 35-Ton Laboratory Pellet Press



- Presses samples in minutes and accepts all standard die sets
- Programmable parameters include pressure, well time and release time
- Safety interlock locks door during operation
- Automatic pump shut-off safety valve

The 3636 X-Press is a 35-ton (31.8 metric ton) hydraulic laboratory pellet press that accepts 13 mm, 31 mm, 35 mm, and 40 mm pellet die sets. Automatic and fully programmable, this unit is designed for repetitive pressing of sample pellet dies for XRF, IR, and other analytical techniques.

**Typical applications include:** pressed pellets for XRF/XRD and IR.

### Features



Automated  
hydraulic press



LCD touch screen with  
programmable  
control panel



Safe for materials  
science

# 3636 X-Press®

## Sample Types Include



Cement



Minerals



Rocks



Pharmaceuticals



Soil

## Specifications

Force	10 to 35 tons ram pressure (9.1 to 31.8 metric tons or 20,000-70,000 lb)
Dwell Time	0 to 10 minutes
Release Time	0 to 10 minutes
Platen Movement	2.5 cm (1 in)
Platen Size	8 cm (3.25 in) diameter
Daylight	Adjustable 5 to 15 cm (2 to 6 in)
Screw Adjustment	9 cm (3.5 in)
Voltage	115 VAC, 60 Hz or 230 VAC, 50 Hz
CE Approved	Yes
Dimensions	50.8 cm x 33 cm x 57.2 cm (20 in x 13 in x 22.5 in) deep
Net Weight	65 kg (142 lb)

# 3636 X-Press®

## Ordering Information

Description	Item Number
3636 X-Press. 35-Ton Laboratory Pellet Press, 115 VAC, 60 Hz	04577-46
3636 X-Press. 35-Ton Laboratory Pellet Press, 230 VAC, 50 Hz	04577-47

## Need a Demo?

- Virtual sample processing – virtual demonstration of the equipment and sample processing
- Physical sample processing – physical testing of your sample with shared results
- Physical equipment testing – a demo unit can be sent to your facility to test before purchasing

Contact us today at [sampleprep@antylia.com](mailto:sampleprep@antylia.com) for details.



## Did You Know?

Cole-Parmer has a comprehensive product range that can accommodate all of your laboratory needs.

With hundreds of items guaranteed Always in Stock, you can rely on us to get you what you need when you need it.

Our team of knowledgeable experts are available to offer guidance when you need it. You can be confident that we will help you make the right choice for your specific requirements.

### Products Include:

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- Shakers
- Mixers and Blenders
- Ovens and Incubators
- Baths and Circulators
- Microscopes
- Balances
- Cryogenic Grinders
- Homogenizers
- Fume Hoods and Desiccators
- Refrigerators and Freezers
- and More!

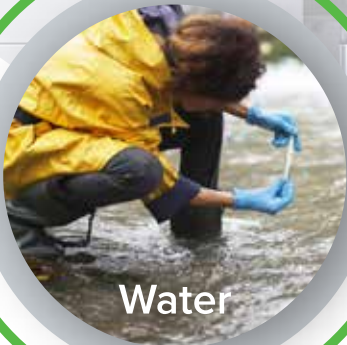


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# environmental express®



Water



Air



Soil



Sample  
Collection



Wet  
Chemistry



Metals  
Analysis



Inorganic & Organic  
Chromatography  
/ Mass Spec



Microbiology



TCLP

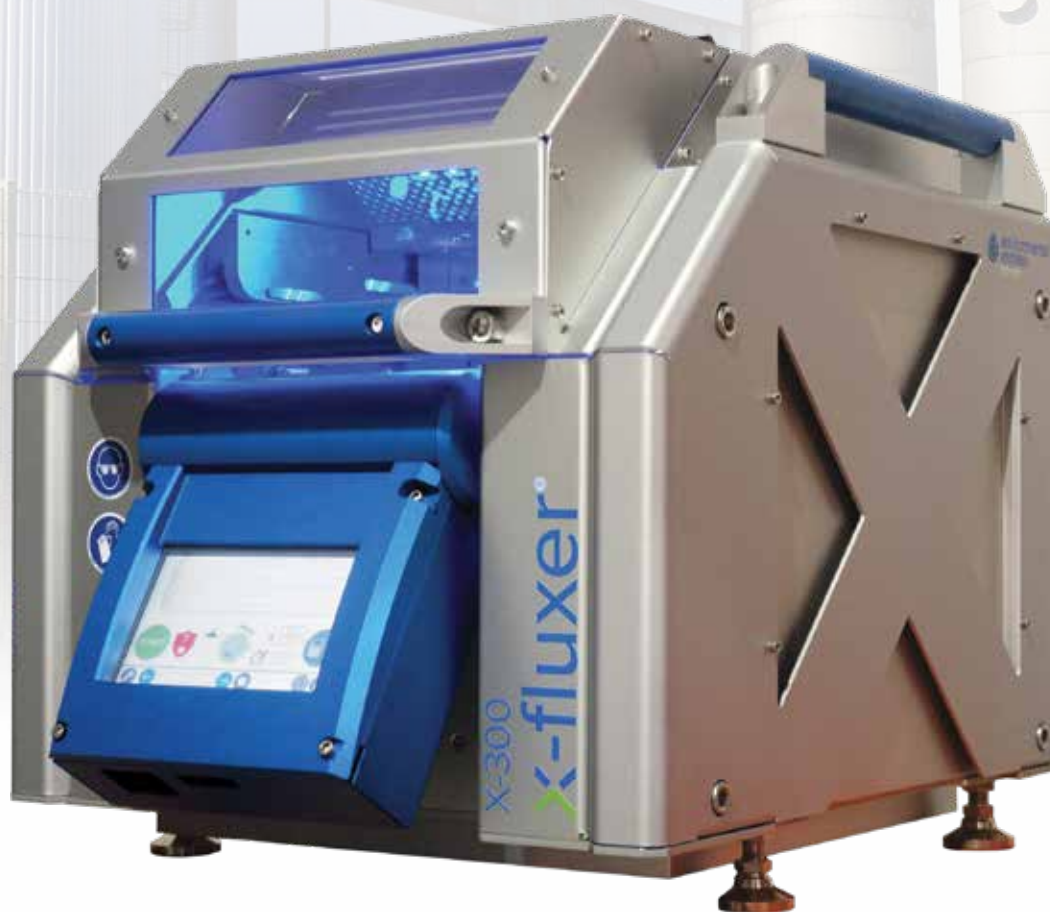


Industrial Hygiene  
& Indoor Air  
Quality Analysis

# x-fluxer®

## Multi-Position Fluxer

Electric Fusion Fluxer for XRF and ICP Analysis



### Sample Preparation for XRF and ICP Analysis



Soil



Alloys



Slag



Minerals



Ceramics



Glass

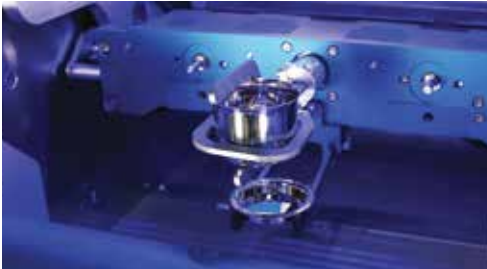


Cement



## Versatile, Compact & Safe. It's the Fusion Fluxer that expands with your needs.

The Katanax X-300 Fusion Fluxer is an electric fusion fluxer available with one, two or three positions. Versatile and easily adaptable to the needs of today's modern laboratories.



Single Position (X-300M)



Dual Position (X-300D)



Triple Position (X-300T)

## Features

- ① High performance furnace
  - Heating elements impervious to flux
  - No exposed metal in furnace
  - Heats up quickly
- ② Integrated auto-locking safety shield protects the user during the fusion process.
- ③ Low noise level during standby, heating, melting and cooling.
- ④ Easy clean, ceramic crucibles and mold holders inert to flux. Mold holder system is user-configurable to 30, 32, 35 or 40 mm molds.
- ⑤ Extraction chimneys allows for direct ventilation of halogens from each crucible position.
- ⑥ Control panel is adjustable to user's height and features a USB connection for firmware updates.

## Specifications

- Voltage: 195-250 VAC single phase
- Frequency: 50-60 Hz
- Height: 51 cm / 20 in
- Maximum Power: 3000 Watts
- Breaker: Built in (15A)
- Width: 48 cm / 19 in
- Maximum temperature: 1200 °C
- Weight: 45 kg (99 lbs)
- Depth: 63 cm / 25 in

## X-300 Benefits

**High Throughput** – Used for preparing glass disks (beads) for XRF, or for preparing peroxide or pyrosulfate fusions. You can also do solid oxidations with the X-300. This unit allows you to run up to 3 samples at a time achieving a throughput of up to 15 samples per hour. Since the molds are in the furnace with the crucibles, you also have optimum conditions for pouring.

**Expandable** – This fusion fluxer can be pre-configured to your needs. It also allows the user to expand the unit to two or three positions.

**Safety** – Electric fluxers do not use gas, so there is no risk of gas leakage or open flames.

**Accuracy** – Precise electric temperature control achieved by our proprietary dynamic temperature profile (DTP) and individual element compensation. Analysts will benefit from temperature homogenization across all three sample positions in the furnace offering better reproducibility and more precise analysis.

**Reliability** – Built with the most demanding lab in mind. Its design incorporates robust heating elements, full ceramic platinumware holders, industrial grade motors and electronics that withstand continuous usage.

**Simplicity** – Sleek, intuitive, LCD touch-screen interface with icons and menus makes operation easy and efficient. It is entirely automated and comes pre-loaded with various fusion programs that can be used as is or customized for your particular protocol. Pre-loaded programs include Oxide, Solution, Metal Peroxide and Ramping. All programs can be saved, renamed, deleted or copied, just like computer files. The software is also pre-installed with multiple languages.

**Solutions Module** – Optional solutions stirrer with variable speed allows the X-300 to produce solutions for ICP/AA analysis in up to three beakers simultaneously.

**Connectivity** – Connects remotely on the system to monitor or interact with the interface via smartphone, computer or a tablet. When connected, the user can activate an option to let a Katanax engineer inside the system for diagnostic/debugging purposes.

**Data Logging** – Allows sample tracking using the screen keyboard or a barcode reader. Data can be retrieved manually using a USB key, or remotely by FTP over ethernet as well as integrated to an automated LIMS system.



Scan the QR code  
to watch the X-300  
informational video





## Advantages of the X-300

### Heating Elements:

- Impervious to flux and other additives
- Robust and non-brittle; unit can be moved without damaging the elements
- Automatic power calibration maintains uniform position to position temperature
- Cartridge type is simple to replace; no need for conditioning procedures
- Elements can be changed individually; no need to change all at once

### Furnace:

- Individual element compensation; allows uninterrupted operation even if one element is failing
- Dynamic Temperature Profile (DTP) control to maintain uniform temperature
- Furnace heats up quickly
- Use of ceramics eliminates metal contamination
- Configurable to single, dual or triple position

### Other Features:

- Low noise during standby, heating, melting and cooling
- No external supplies required; no power supply box or cooling fluids
- Industrial PLC interface; does not depend on Windows updates
- Single phase power; no need for 3-phase
- Ambient status light; red when processing, blue when completed

## Method Development Program

Our free method development program allows you to send your samples to us and our application chemists will develop a fusion protocol for you. Contact us for more information.



### Fusion Flux

Superior micro-bead and pre-fused. Available with or without integrated non-wetting agents (LiBr or LiI).

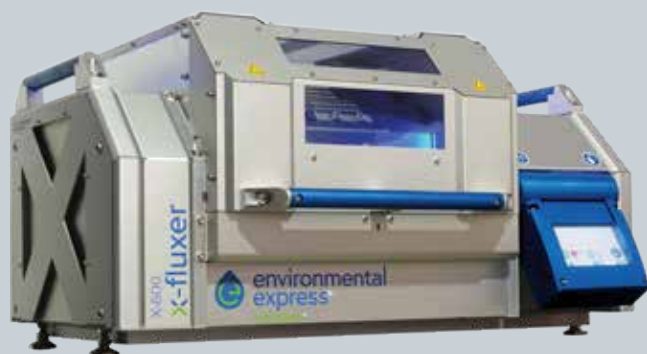


### Platinumware

Platinum crucibles and molds are available in standard or reinforced varieties.

## Service & Maintenance

The X-Fluxer units are designed to be operated with limited maintenance. Servicing these units is made simple with easy component access, backed up with support from our dedicated service team.



X-600  
x-fluxer®

Scan the QR  
code to watch  
the X-600  
informational  
video



Built with the most demanding lab in mind, the Katanax X-600 Fluxer is the next generation in electric fusion offering enhanced features for unparalleled results. It is used to prepare glass disks (beads) for XRF analysis and solutions for ICP/AA analysis or for preparing peroxide and pyrosulfate fusions. This unit allows you to run up to six samples at the same time.

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sales@environmentalexpress.com  
2345A Charleston Regional Pkwy  
Charleston, SC 29492



# x-fluxer®

## Six-Position Electric Fusion Fluxer

High Throughput Electric Fusion Fluxer



### Sample Preparation for XRF and ICP Analysis



Soil



Alloys



Slag



Minerals



Ceramics



Glass



Cement



SCAN ME

Scan the QR code to watch the X-600 informational video

The **Katanax X-600 X-Fluxer®** is the next generation in electric fusion offering enhanced features for unparalleled results. Our fluxers combine exceptional fusion accuracy with all the advantages of electric power with speed, simplicity and a robust design for the experienced or novice user.

## Features

- ① High performance furnace
  - Heating elements impervious to flux
  - No exposed metal in furnace
  - Heats up quickly
- ② Integrated auto-locking safety shield protects the user during the fusion process.
- ③ Low noise level during heating, melting and standby.
- ④ Easy clean, ceramic mold holders inert to flux. Mold holder system is user-configurable to 30, 32, 35 or 40 mm molds.
- ⑤ Extraction chimneys allows for direct ventilation of halogens from each crucible position.
- ⑥ Control panel is adjustable to user's height and features a USB connection for firmware updates.

## Specifications

- Voltage: 205-250 VAC single phase
- Frequency: 50-60 Hz
- Height: 56 cm / 22 in
- Maximum Power: 4000 Watts
- Breaker: Built in (16A)
- Width: 105 cm / 41 in
- Maximum temperature: 1200 °C
- Weight: 95 kg (210 lbs)
- Depth: 69 cm / 27 in



## X-600 Benefits

**High Throughput** – Used for preparing glass disks (beads) for XRF, or for preparing peroxide or pyrosulfate fusions. You can also do solid oxidations with the X-600. This unit allows you to run up to 6 samples at a time achieving a throughput of up to 30 samples per hour. Since the molds are in the furnace with the crucibles, you also have optimum conditions for pouring.

**Safety** – Electric fluxers do not use gas, so there is no risk of gas leakage or open flames.

**Accuracy** – Precise electric temperature control achieved by dynamic temperature profile (DTP) and individual element compensation (patents pending). Analysts will benefit from temperature homogenization across all six sample positions in the furnace offering better reproducibility and more precise analysis.

**Reliability** – Built with the most demanding lab in mind. Its design incorporates robust heating elements, full ceramic platinumware holders, industrial grade motors and electronics that withstand continuous usage.

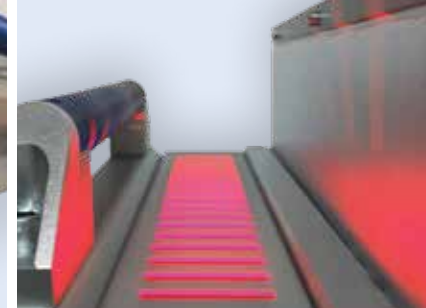
**Simplicity** – Sleek, intuitive, LCD touch-screen interface with icons and menus makes operation easy and efficient. It is entirely automated and comes pre-loaded with various fusion programs that can be used as is or customized for your particular protocol. Pre-loaded programs include Oxide, Solution, Metal Peroxide and Ramping. All programs can be saved, renamed, deleted or copied, just like computer files. The software is also pre-installed with multiple languages.

**Solutions Module** – Optional solutions stirrer with variable speed allows the X-600 to produce solutions for ICP/AA analysis in up to six beakers simultaneously.

**Connectivity** – Connects remotely on the system to monitor or interact with the interface via smartphone, computer or a tablet. When connected, the user can activate an option to let a Katanax engineer inside the system for diagnostic/debugging purposes.

**Data Logging** – Allows sample tracking using the screen keyboard or a barcode reader. Data can be retrieved manually using a USB key, or remotely by FTP over ethernet as well as integrated to an automated LIMS system.





## Advantages of the X-600

### Heating Elements:

- Impervious to flux and other additives
- Robust and non-brittle; unit can be moved without damaging the elements
- Automatic power calibration maintains uniform position to position temperature
- Cartridge type is simple to replace; no need for conditioning procedures
- Elements can be changed individually.

### Furnace:

- Individual element compensation; allows uninterrupted operation even if one element is failing
  - Dynamic Temperature Profile (DTP) control to maintain uniform temperature
  - Fast heat-up
- Use of ceramics eliminates metal contamination

### Other Features:

- Low noise during heating, melting and standby
- Industrial PLC interface; does not depend on Windows updates
- Single phase power; no need for 3-phase
- No external supplies required; no power supply box, no cooling fluids, no compressed air

## Method Development Program

Our free method development program allows you to send your samples to us and our application chemists will develop a fusion protocol for you. Contact us for more information.



### Fusion Flux

Superior micro-bead and pre-fused. Available with or without integrated non-wetting agents (LiBr or LiI).



### Platinumware

Platinum crucibles and molds are available in standard or reinforced varieties.

## Service & Maintenance

The X-Fluxer units are designed to be operated with limited maintenance. Servicing these units is made simple with easy component access, backed up with support from our dedicated service team.



Scan the QR code to watch the X-300 informational video



This automated, heavy-duty, electric fusion machine has a throughput of up to 15 samples per hour. The X-300 can be pre-configured to your needs and allows the user to expand the unit to two or three positions. Used to prepare glass disks (beads) for XRF, solutions for ICP/AA and peroxide or pyrosulfate fusions. It combines speed, simplicity and a robust design ideal for the experienced or novice user.



Single Position



Dual Position



Triple Position

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# Environmental Express® Digestion and Transport Tubes

Sampling and extraction of trace metals supporting all method requirements



- Certified for multiple levels of metals background meeting all international regulatory requirements for metals analysis, i.e. EPA, ASTM, NIOSH
- Disposable tubes eliminate the need for glassware and associated cleanup
- Acid washing is not required prior to use
- Accessories available for use as reflux, filtration or storage purposes

All Environmental Express disposable digestion tubes are molded from clarified homopolymer polypropylene assuring safe high temperature extractions and greater chemical resistance than the commonly used co-polymer polypropylene. Each vessel type is suited for sampling, transport and/or digestion, and fits perfectly into the HotBlock® or AutoBlock® systems.



Select the tube that meets your analysis requirements		
Tube Name	Description	Cap Colors
Eco Transfer Tube	Certified for lead and beryllium only	Mint green
Certi Digestion Tube	Low level certification for 68 elements and volume certified	White, Yellow, Orange, Red, Pink, Green, Clear
Ulti Digestion Tube	Trace level certification for 68 elements to both ppb and ppt levels and volume certified	Natural clear

### Eco Transfer Tube

A single, easy-to-use container for both transfer and digestion of field-collected wipe samples.

- Economical choice for sample collection and digestion
- Certified for lead and beryllium using ICP-MS analysis
- Perfect for transporting GhostWipe® surface wipes from the field to the lab for digestion



Eco Transfer Tube

### Certi Digestion Tube

A workhorse digestion tube used for routine regulated methods that eliminates the need for time-intensive cleaning activities and contamination reruns.

- Certified for 68 elements at low concentration levels
- Bulk quantities available for high-throughput labs
- Approved for HotBlock digestions



Certi Digestion Tubes

### Ulti Digestion Tube

Ultimate digestion tube is certified for trace level metal analysis using mass spectrometry. On delivery, a COA for 68 elements is provided, ensuring low levels of background contamination for accurate quantitation where it is needed most.

- Certificate of volume accuracy and metals background analysis for 68 elements to both ppb and ppt (parts per trillion) levels!
- Volume graduations for accurate sample filling
- Specially designed packaging ensure tubes arrive ready to use

Ultimate Digestion Tube Specifications	
Volume	50 mL
Tube material	Polypropylene, clean
Tube bottom	Flat shape
Tube color	Transparent
Cap type	Screw-thread
Cap material	Polypropylene
Cap color	Natural clear



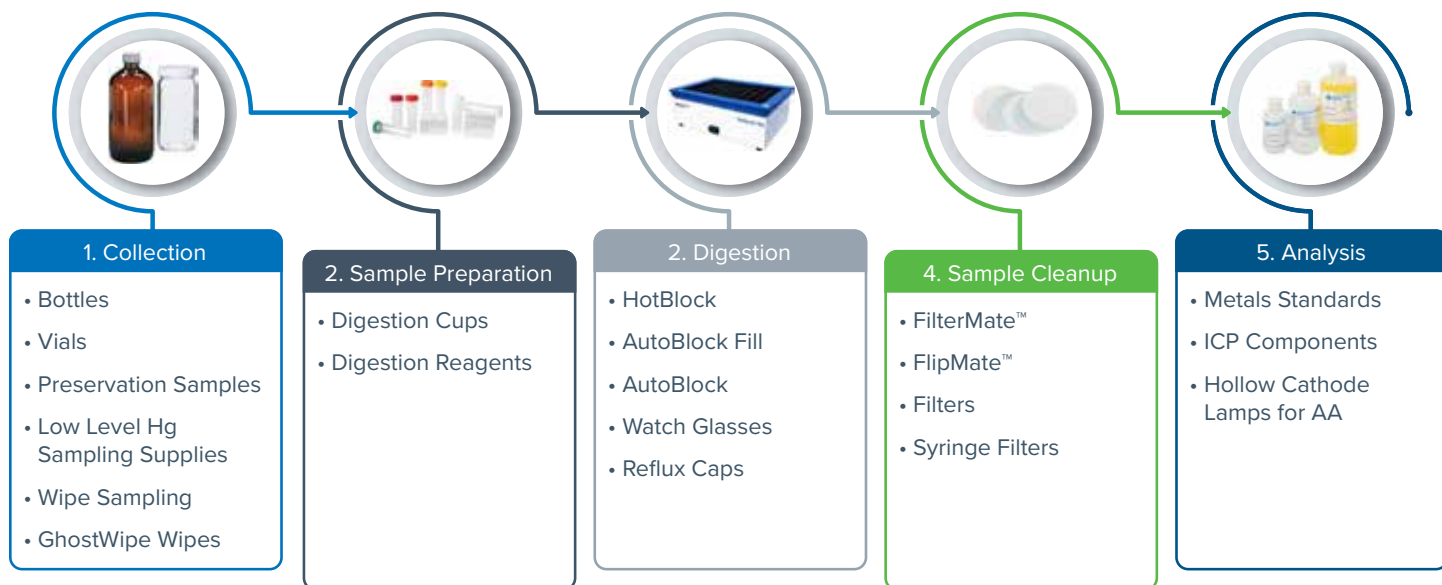
Ulti Digestion Tube

### Assorted Tube Caps

Screw thread caps help eliminate transfer requirements and provide an efficient yet cost-saving solution for digestion, filtration, and storage of samples. Plus, having a choice of color allows quick identification of sample type when aligned with lab SOPs.

- Lined and linerless caps available
- Accessories such as reflux caps, watch glasses, and filtration devices available

## Trace metals analysis: From sample collection to results



Environmental Express provides a full line of Metals Digestion single-use consumables and equipment to support thorough digestion, extraction and analysis of metals from air, water and soil matrices.

The combination of our innovative products provide repeatable performance and overall time savings that allow labs to meet sample throughput demands and deliver results on time.

Popular metals digestion products	Item numbers
Collection bottles	BPC1406, BPC1147
Certi Tube	UC475-NL, SC490, SC415
Ulti Tube	UCC000-50
HotBlock	SC154, SC2050-54, SC1831
Reflux caps	SC506, SC505, SC610
FlipMate	SC0601, SC0301
FilterMate	SC0401, SC0421, SC0408
Multi element (Metals), ICP-MS standard	We offer a vast standards selection. Visit <a href="http://environmentalexpress.com">environmentalexpress.com</a> to view all.



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Germany: +49 (0) 9377 92030

India: +1.800.266.1244  
Italy: +39 (0) 1313 89513  
UK: +44 (0) 1480.272279  
All other countries: +1.843.881.6560





# 1500 and 2000 Series Benchtop Meters

Versatile benchtop meters  
for any laboratory

- Seamless method compliance for EPA, ISO, and other global regulatory standards
- Developed using extensive feedback from laboratory staff
- Various configurations available to meet the demands of measuring pH, ORP/mV, ions, conductivity, TDS, salinity, resistivity, dissolved oxygen, and BOD parameters



## 1500 and 2000 Series Benchtop Meters

Our multiparameter benchtops include functionality to meet the highly specific and/or broad ranging needs of wastewater, drinking water, food and beverage, chemical and pharmaceutical testing labs.

### Key features

- Various configurations available to meet the demands of measuring pH/mV, EC, Ion, PC, PD, DO, and BOD parameters
- Large display and small footprint—ideal for labs with limited bench space
- Automatic functions like buffer recognition and auto calibration for ease of use at any skill level
- Available as a kit so you are ready to calibrate and measure right out of the box!

### Audit trail and regulatory compliance functions (2000 series only)

- Automatic record retention and accessibility for continuous compliance with regulatory requirements
- High-capacity internal memory for capture and storage of 2000 data points with time-and-date stamp
- Time-based automatic data log with GLP-compliant real-time clock—lets you capture and store data based on a defined time interval
- Password access protection secures the setup mode from unauthorized access



Visit our website for additional information and valuable water quality measurement tips to help you obtain optimal results in your laboratory.

### Comparison of 1500 Series and 2000 Series Meters

	1500 Series	2000 Series
Level	Entry level	Research grade
Parameters	pH, ORP/mV, EC, PC	pH, ORP/mV, Ion, EC, PC, DO, PD
Resolution	0.01	0.001
Compliance	1000 data points	2000 data points
	Data logging with download	Data logging with download
	—	Real-time clock
	—	GLP compliant
	—	Password protection

EC = Conductivity, TDS, Salinity, Resistivity

PC = pH, ORP/mV, Conductivity, TDS, Salinity, Resistivity

PD = pH, ORP/mV, Dissolved Oxygen



# 1500 Series Benchtop Meters

## Comparison of Measurement Capabilities by Model

Parameters			Models		
			PH 1500	EC 1500	PC 1500
pH	Range	–2.00 to 16.00 pH	•		•
	Resolution	0.01 pH	•		•
	Accuracy	±0.01 pH	•		•
	Calibration	Up to 5 (USA, NIST); up to 6 (DIN)	•		•
ORP	Range	±2000.0 mV	•		•
	Resolution	0.1 mV (< ±1000 mV), 1 mV (≥ ±1000mV)	•		•
	Accuracy	±0.3 mV (< ±1000 mV), 0.3% of reading (≥ ±1000mV)	•		•
	Calibration	Yes, up to ±200 mV	•		•
Conductivity	Range	0.00 µS/cm to 200.0 mS/cm, autoranging		•	•
	Resolution	0.01, 0.1, 1 µS; 0.01, 0.1 mS		•	•
	Accuracy	±0.6% full scale; ±1.5% full scale >18.0 mS/cm		•	•
	Calibration	Up to 4 (auto); up to 5 (manual)		•	•
TDS	Range	0.00 ppm to 100 ppt		•	•
	Resolution	0.01, 0.1, 1 ppm; 0.01, 0.1 ppt		•	•
	Accuracy	±0.1% full scale		•	•
Salinity	Range	0.0 to 100.0 ppt; 0.00 to 10.00%		•	•
	Resolution	0.1 ppt; 0.01%		•	•
	Accuracy	±0.2% full scale		•	•
Resistivity	Range	0.00 Ω•cm to 20.0 MΩ•cm		•	•
	Resolution	0.5% full scale		•	•
	Accuracy	±0.6% full scale; ±1.5% full scale >1.80 MΩ•cm		•	•
Temperature	Range	–30.0 to 130.0 °C (–22.0 to 266.0 °F)	•	•	•
	Resolution	0.1 °C/°F	•	•	•
	Accuracy	±0.5 °C (±0.9 °F)	•	•	•
	Calibration	Yes, ±10.0 °C (±18.0 °F) range in 0.1 °C increments	•	•	•

## Additional Water Quality Standards and Solutions for Benchtop Meters

Description	Item number
pH buffer standard pack: 500 mL each of 4.01 (red), 7.00 (yellow), and 10.01 (blue)	<b>05942-10</b>
pH electrode storage solution, 500 mL	<b>00653-04</b>
pH electrode cleaning solution, 500 mL	<b>00653-06</b>

Description	Item number
Conductivity and TDS standard, 84 µS, 500 mL	<b>00653-16</b>
Conductivity and TDS standard, 1413 µS, 500 mL	<b>00653-18</b>
Conductivity and TDS standard, 2764 µS, 500 mL	<b>00653-20</b>
Conductivity and TDS standard, 12,880 µS, 500 mL	<b>00606-10</b>
Conductivity probe storage solution, 500 mL	<b>00652-80</b>



# 1500 Series Benchtop Meters

## Specifications

**Data logging:** 1000 data points  
**Automatic data logging:** yes  
**Real-time clock:** no  
**Date-and-time stamp:** no  
**Measurement modes:** auto stable, auto hold, real time  
**Electrode status:** on-screen display  
**Calibration alarm:** no  
**Password setting:** no  
**Software upgradeable:** no  
**PC/printer communication:** phono jack (USB/RS-232)  
**Meter inputs:** BNC, phono (ATC), DC sockets  
**Display:** LCD with backlight  
**Auto shutoff:** yes, programmable up to 30 minutes  
**Diagnostics:** yes  
**Power:** 100 to 240 VAC, 50/60 Hz  
**Dimensions (L x W x H):** 15.5 x 15.0 x 6.7 cm (6.1 x 5.9 x 2.6 in.)



## Ordering Information



Model	Parameters	Meter	Kit
PH 1500	pH, ORP/mV, temperature	35419-41	35419-40
EC 1500	Conductivity, TDS, salinity, resistivity, temperature	35419-46	35419-45
PC 1500	pH, ORP/mV, conductivity, TDS, salinity, resistivity, temperature	35419-51	35419-50

Meter comes with integrated electrode holder and universal power adapter (with six plugs). Kit option adds on electrode(s) or probe(s), and calibration solutions.

## Related Products

Description	Item number
All-in-one pH electrode with ATC; 0 to 14 pH range	35419-42
Conductivity probe with temperature element; K = 1.0, 0.1 mS/m to 10 S/m range	35419-47
ORP electrode, 1-m cable, BNC connector	35419-82



Scan the QR code to find out more about our 1500 series benchtop meters.



# 2000 Series Benchtop Meters

## Comparison of Measurement Capabilities by Model

Parameters			Model					
			PH 2000	ION 2000	EC2000	PC 2000	DO 2000	PD 2000
pH	Range	–2.000 to 20.000 pH	•	•		•		•
	Resolution	0.001, 0.01, 0.1 pH	•	•		•		•
	Accuracy	±0.003 pH	•	•		•		•
	Calibration	Up to 5 (USA, NIST, NIST2); up to 6 (DIN, custom)	•	•		•		•
ORP	Range	±2000.0 mV	•	•		•		•
	Resolution	0.1 mV	•	•		•		•
	Accuracy	±0.2 mV	•	•		•		•
	Calibration	Yes, up to ±200 mV	•	•		•		•
ISE	Range	0.000 µg/L to 9999 g/L		•		•		•
	Resolution	4 Significant digits		•		•		•
	Accuracy	±0.3% full scale or ±0.2 mV, whichever is higher		•		•		•
	Calibration	Up to 5		•		•		•
Conductivity	Range	0.000 µS/cm to 2.000 S/cm, autoranging			•	•		
	Resolution	0.05% full scale			•	•		
	Accuracy	±0.6% full scale; ±1.5% full scale > 18.0 mS/cm			•	•		
	Calibration	Up to 4 (auto); up to 5 (manual)			•	•		
TDS	Range	0.01 mg/L (ppm) to 100 g/L (ppt)			•	•		
	Resolution	0.01, 0.1, 1			•	•		
	Accuracy	±0.1% full scale			•	•		
	Calibration	Up to 4 (auto); up to 5 (manual)			•	•		
Salinity	Range	0.0 to 100.0 ppt; 0.00 to 10.00%			•	•		
	Resolution	0.1 ppt; 0.01%			•	•		
	Accuracy	±0.2% full scale			•	•		
Resistivity	Range	0.000 Ω•cm to 20.0 MΩ•cm			•	•		
	Resolution	0.5% full scale			•	•		
	Accuracy	±0.6% full scale; ±1.5% full scale > 1.80 MΩ•cm			•	•		
DO	Range	0.0 to 60.00 mg/L; 0.0 to 600.0%					•	•
	Resolution	0.01 mg/L; 0.1%					•	•
	Accuracy	±0.1 mg/L; ±1.0%					•	•
	Calibration	Up to 2					•	•
	BOD	5-day BOD with seed correction option					•	•
Temperature	Range	–30.0 to 130.0 °C (–22.0 to 266.0 °F)	•	•	•	•	•	•
	Resolution	0.1 °C/°F	•	•	•	•	•	•
	Accuracy	±0.5 °C (±0.9 °F)	•	•	•	•	•	•
	Calibration	Yes, ±10.0 °C (±18.0 °F) range in 0.1 °C increments	•	•	•	•	•	•

# 2000 Series Benchtop Meters

## Specifications

Data logging: 2000 data points  
 Automatic data logging: yes  
 Real-time clock: yes  
 Date-and-time stamp: yes  
 Measurement modes: auto stable, auto hold, real time  
 Electrode status: on-screen display  
 Calibration alarm: yes, programmable up to 90 days  
 Password setting: yes  
 Software upgradeable: yes  
 PC/printer communication: phono jack (USB/RS-232)  
 Meter inputs: BNC, phono (ATC), DC sockets  
 Display: 12.7 cm (5 in.) custom LCD with backlight  
 Auto shutoff: yes, programmable up to 30 minutes  
 Diagnostics: yes  
 Power: 100 to 240 VAC, 50/60 Hz  
 Dimensions (L x W x H): 15.5 x 15.0 x 6.7 cm (6.1 x 5.9 x 2.6 in.)



## Ordering Information



Model	Parameters	Meter	Kit
<b>PH 2000</b>	pH, ORP/mV, temperature	<b>35419-55</b>	<b>35419-54</b>
<b>ION 2000</b>	pH, ORP/mV, ISE, temperature	<b>35419-72</b>	<b>35419-70</b>
<b>EC 2000</b>	Conductivity, TDS, salinity, resistivity, temperature	<b>35419-62</b>	<b>35419-60</b>
<b>PC 2000</b>	pH, ORP/mV, conductivity, TDS, salinity, resistivity, temperature	<b>35419-67</b>	<b>35419-65</b>
<b>DO 2000</b>	DO, BOD, temperature	<b>35419-76</b>	<b>35419-74</b>
<b>PD 2000</b>	pH, ORP/mV, ISE, DO, BOD, temperature	<b>35419-80</b>	<b>35419-78</b>

Meter comes with integrated electrode holder and universal power adapter (with six plugs). Kit option adds on electrode(s) or probe(s), BOD stirrer (for DO and PD only), and calibration solutions.

## Related Products

Description	Item number
All-in-one pH electrode with ATC; 0 to 14 pH range	<b>35419-42</b>
Conductivity probe with temperature element; K = 1.0, 0.1 mS/m to 10 S/m range	<b>35419-47</b>
ORP electrode, 1-m cable, BNC connector	<b>35419-82</b>
Dissolved oxygen sensor	<b>35419-75</b>
Dissolved oxygen tip	<b>35419-79</b>
BOD stirrer with holder for DO tip	<b>35419-77</b>



Scan the QR code to find out more about our 2000 series benchtop meters.

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# Environmental Express® IAQ 15 Connect™

The most compact, portable sampling pump with the longest battery life, designed to make doing your job easier.

The IAQ 15 Connect is an advanced portable, battery-powered air sampling pump designed for exclusive use with Air-O-Cell® and Via-Cell® cassettes for fast sample collection.

- **Most compact design**—allows sampling of crawl spaces, HVAC vents and other confined sampling areas
- **Longest lasting battery life**—up to 99 five-minute samples on new, fully charged battery
- **IAQ specific calibration**—the only sampling pump with calibration verification and accuracy at 15 L/min
- **Mobile device data access**—connect via Bluetooth® for access to pump sampling event information on your phone or mobile device
- **Fit for purpose sampling modes**—various sampling durations including 1, 2, 5, or 10 minutes to meet any sampling need







IAQ 15 Connect Pump  
with Air-O-Cell Cassette

Each IAQ 15 Connect Kit includes an IAQ 15 Connect pump, 10 Air-O-Cell cassettes, an Air-O-Cell air flow indicator, battery pack, battery cover key, AC power adapter, and carrying case.

## Features & Specifications

- Flow rate: 15 LPM
- Accuracy:  $\pm 5\%$
- Housing: PC/ABS plastic
- Battery: rechargeable nickel metal hydride (NiMH), 9.6 V, 2500 mAh
- Run time: 99 five-minute samples on new, fully charged battery
- Dimensions: 3.75" W x 2.55" H x 6.85" D (9.5 x 6.5 x 17.4 cm)
- Weight: 1.25 lb (0.57 kg)
- Operating temperature: 41 to 104°F (5 to 40°C)
- Max humidity: 80% RH up to 88°F (31°C), decreasing linearly to 50% RH at 104°F (40°C)
- Altitude: up to 10,000 ft (3,100 m)
- Ingress protection: IPX0
- Use: indoor and outdoor
- Pollution degree: 2
- Electrical rating: 15 V, 1.2 A

## Retrieve Sampling Records with the IAQ 15 App

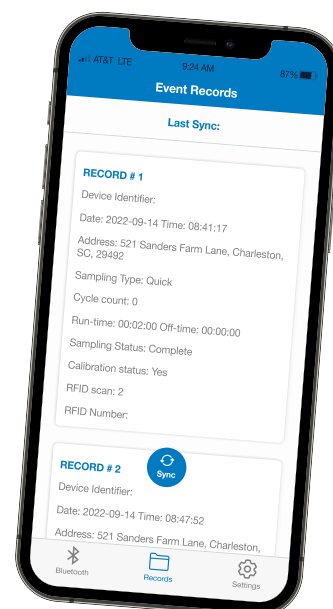
The IAQ 15 Connect pairs with our IAQ 15 app, available on the Apple App Store and Google Play.

Connect the app to the pump using Bluetooth® to retrieve multiple records, including location, sampling type, cycle count, run-time, calibration status, RFID information, and more.



SCAN ME

Scan the QR code to download the IAQ 15 App



IAQ 15 Connect Pump with  
Air-O-Cell Air Flow Indicator



IAQ 15 Connect Pump  
with TSI 4046 Calibrator Kit

Related Products & Accessories	
IAQ 15 Connect Kit	IAQ 15 CONNECT
IAQ 15 Connect Pro Kit with Accessories Includes an IAQ 15 Connect pump, 10 Air-O-Cell cassettes, 25 Bio-Tape™ slides, an Air-O-Cell air flow indicator, tripod stand, battery pack, battery cover key, AC power adapter, and carrying case.	IAQ 15 CONNECT-PROKI
TSI® 4046 Flow Calibrator Kit	ZBP-200-CAL
Air-O-Cell Air Flow Indicator for IAQ 15 Connect	02398
Via-Cell Air Flow Indicator for IAQ 15 Connect	02399
Air-O-Cell Cassettes (50/pk)	AOC050
Air-O-Cell Cassettes (10/pk)	AOC010
Via-Cell Cassettes (10/pk)	VIA010
Heavy-duty Tripod Sampling Stand	ZA0043
Remote Extension Tubing, 5 ft	ZBP-310

For more information, contact your local Environmental Express sales rep or call **1.800.343.5319**.

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