

# AutoBlock™ Plus Digestion System



## Automated sample prep for metals digestions

The AutoBlock Plus digestion system automates sample prep all the way through a final fill-to-volume step but takes up less space and costs less than previous models and competing products. Since 1997, laboratories worldwide have relied on Environmental Express for dependable, well-engineered equipment and consumables to simplify and improve the metals digestion process. This latest generation of AutoBlock is the most efficient one yet!

The AutoBlock Plus system digests up to 54 samples simultaneously, adding up to ten reagents, while controlling sample temperatures and digestion times. Easy-to-install software comes programmed with common EPA Methods and records all digestion procedures and data.

### Improved features add flexibility:

**Advanced User-Friendly Software.** Preprogrammed EPA Methods including 200.2, 200.7, 200.8, 3050B, 7470.A, 7471, and 245.1 plus an easy-to-use procedure for creating custom methods. Software runs on a PC, away from the acidic environment of the digestion process.

**Single X, Y, Z Injection Probe.** This single probe automates reagent addition for up to 54 samples. The AutoBlock Plus unit has 8 reagent and 2 DI water ports.

**Final Fill-to-Volume Function.** After digestion, the unit adds deionized water to the digestates to achieve the final volume you choose.

**Flexible Batch Size.** Operate any batch size up to 54 samples, providing more economical use of reagents.

**Optional Fume Hood.** Place the AutoBlock Plus unit in your existing fume hood or use the optional HEPA-filtered fume hood to vent into your existing duct work.

**Smaller Footprint.** The compact unit measures 36"W x 38.5"H x 24"D.

**Increased Safety.** Leak and pressure detectors minimize analyst contact with acids.

 AutoBlock™ Plus



## Getting consistent results and freeing up analyst's time has never been easier. The analyst initiates a method and AutoBlock Plus system does the rest.

To operate, the analyst simply chooses a method, loads samples into the AutoBlock Plus system, and presses the start button. The dispensing arm with probe robotically adds the appropriate amount of the specified reagent to each sample. The samples are lowered into the heated block and the temperature is held at the desired level for the allotted time period.

When the procedure calls for additional reagents the system lifts the samples, turns off the heat, and cools the samples with HEPA-filtered air. After cooling, the additional reagents are added. The samples are lowered back into the graphite block, the block re-heats and digestion continues. When all digestion procedures are complete, the samples are lifted and cooled. A special probe sensor determines the level of the digestate in each vessel.

The AutoBlock Plus automatically calculates the volume necessary and fills each sample to the specified final volume. A visual alarm alerts the analyst that the digestion procedure is complete. After each reagent addition, the entire fluid delivery system is purged with DI water to flush corrosive reagents from the system.

With the AutoBlock Plus, reagent additions and digestion intervals are scheduled and timed automatically. This uniformity in process improves productivity and provides consistent results. The analyst is free to perform other tasks and can monitor the digestion progress by viewing the control screen at any time.



A PTFE thermocouple, placed in a designated reference well continually tracks sample temperature

## Robust construction ensures durability and longevity.

All components of the AutoBlock Plus unit are manufactured to withstand the harsh environment of the metals lab. Metal components are kept to an absolute minimum to eliminate corrosion and avoid sample contamination.

- The AutoBlock Plus features a 54-well PTFE-coated graphite block in a rugged, corrosion-resistant casing and utilizes silicone mat heating technology.
- The guide rod of the reagent dispensing arm is PTFE coated to prevent corrosion and sample contamination.
- The AutoBlock Plus cabinet is continually purged with inert gas, removing acidic fumes that could potentially cause corrosion.

## Superior engineering enhances performance.

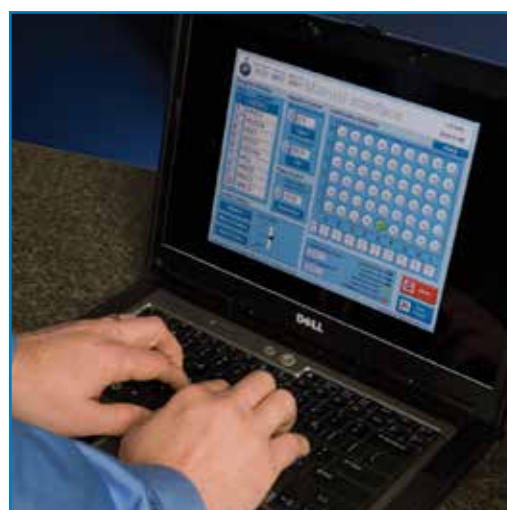
- **State-of-the-Art Delivery System.** Reagent addition and final fill-to-volume steps are controlled by peristaltic pumps. Delivery is precise and accurate to <2%.
- **Reagent Segregation.** The system segregates reagents containing metals (used in mercury digestions) from the reagents used in digestions for trace metals.
- **Convenient Racking System.** Three 18-place polycarbonate racks allow for convenient loading of up to 54 samples. Racks with samples are raised and lowered into the wells of the heating block by a precisely engineered lift system.
- **Convenient Venting.** The benchtop unit is easily vented via a 4" duct system. Internal exhaust blowers are controlled automatically.



## Intuitive software is easy to install and understand.

The AutoBlock Plus software comes programmed with common EPA methods for metals digestions and automatically performs all digestion steps; alerts the user of scheduled maintenance procedures; and records and date/time stamps all digestion data through final fill-to-volume for easy reference or download to a PC or other backup device.

- **Service Interface Screen** provides access to items such as reagent configuration, temperature calibration, pump calibration, maintenance schedule, supplies status, and data logging options.
- **Operator Test Screen** allows the analyst to select a programmed method, view the method, start the method, and view progress as the method is performed.
- **Method Creation Screen** allows the analyst to easily create customized methods or modify existing methods.
- **Maintenance Tab** periodically prompts the analyst to perform routine maintenance. Default settings can be modified to customize the maintenance schedule.
- **Data Viewer Screen** displays the recorded data in a .dat file and allows the analyst to convert the file to other file formats if desired.



## Ordering Information

### AutoBlock Plus Specifications

<b>Sample capacity:</b> 54	<b>Temperature:</b> ambient to 150°C (302°F)
<b>Sample cup size:</b> 50 mL	<b>Communication:</b> USB
<b>Number of reagents:</b> 8	<b>Computer requirements:</b> Windows® 7
<b>Footprint:</b> 36"W x 38.5"H x 24"D	operating system; Intel Core i3-2330M
<b>Clearance:</b> 2" all sides	processor @ 2.20 GHz or better;
<b>Weight:</b> 250 lb (300 lb crated)	4 GB of DDR3 SDRAM memory

Description	Catalog number
AutoBlock Plus digestion system, 120 VAC	AB4001
AutoBlock Plus digestion system, 240 VAC	AB4001-240
Optional fume hood	AB4210
Replacement reagent rack kit	ABP110
Replacement 10-L carboy assembly with cap and tubing	ABP149

**System includes:** AutoBlock Plus digestion unit, two reagent rack kits, and a 10-L waste carboy assembly. Each reagent rack kit includes a six-place bottle rack, five reagent caps, and five lengths of 1/8" PTFE tubing suitable for drawing reagents directly from acid bottles.



Optional fume hood attaches to the AutoBlock Plus system and is easily vented



## Consumables ensure clean, accurate digestions

### The Ultimate Cup™ for Metals Digestion

Our improved 50-mL digestion cups are still molded from the cleanest polypropylene resin you've come to trust! The Ultimate Cup features increased wall strength, graduation lines on both sides of cup for easier filling, a tighter sealer, and wobble-free design. Our digestion cups are certified for 68 elements—the most on the market. Each box includes a Certificate of Analysis for background metals and volume accuracy.

Description	Catalog number	Qty
Ultimate Cup, 50 mL, with green cap	<b>UC475-GN</b>	500/pk
Ultimate Cup, 50 mL, with natural linerless cap	<b>UC475-NL</b>	500/pk
Ultimate Cup, 50 mL, with white cap	<b>UC475-WH</b>	500/pk
Reflux cap, 34 mm	<b>SC506</b>	1000/cs



## Filtration Devices

We carry a complete selection of FilterMate™ and FlipMate™ filtration products designed to work with our 50-mL digestion cups. Filtration systems come with a variety of filter options.

### Acids, Bases, Bulk Reagents for Metals Digestion

Our assortment includes acetic acid, hydrochloric acid, hydrogen peroxide, hydroxylamine hydrochloride, nitric acid, phosphoric acid, potassium permanganate, potassium persulfate, sodium hydroxide, sulfuric acid, and more.



FlipMate (left) and FilterMate Filtration Devices make filtration of samples easy