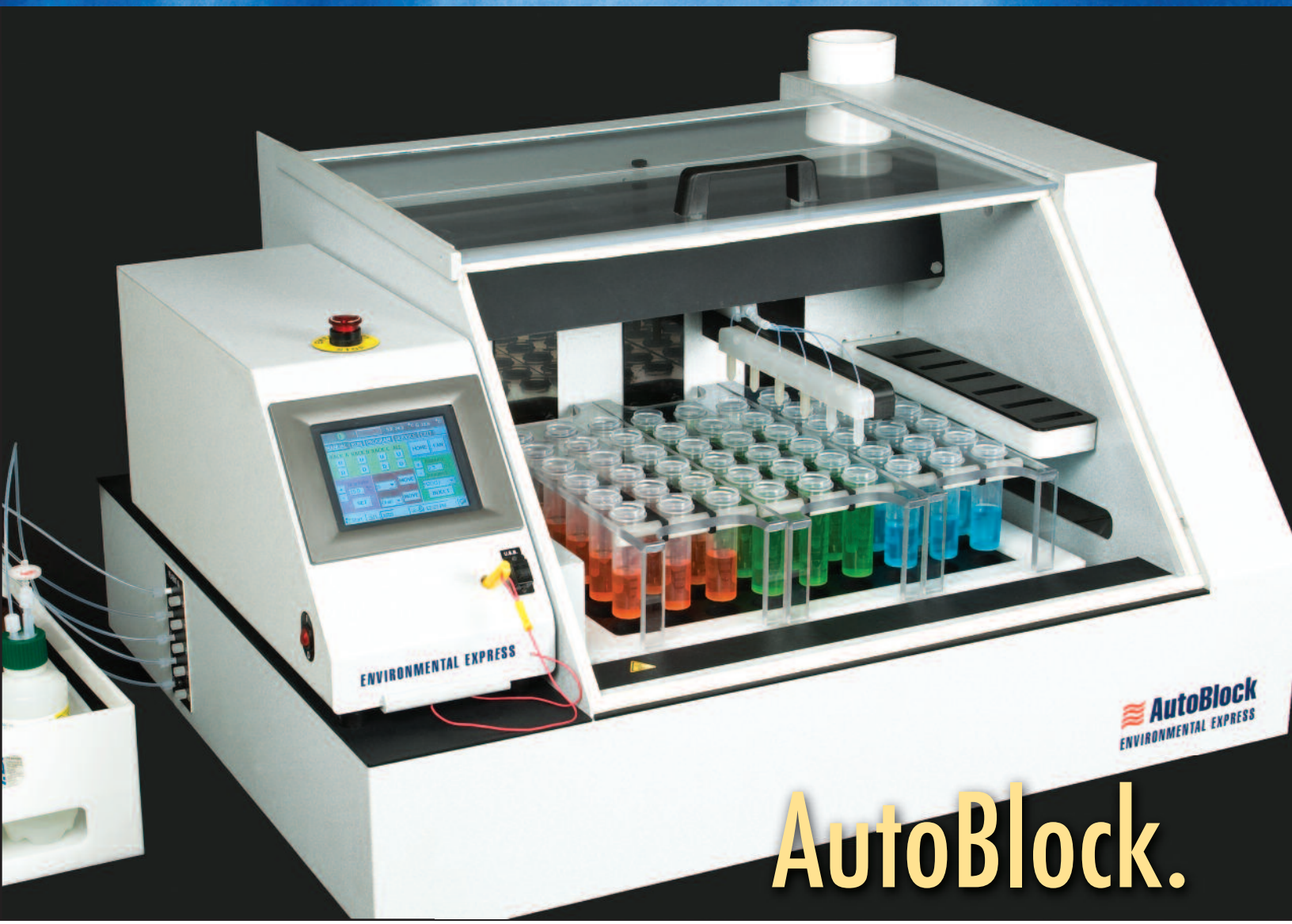
The REVOLUTIONARY Approach to Metals Digestions –



Automate your metals digestions with the AutoBlock™ from Environmental Express.

Evolution has been defined as *"A gradual process in which something changes into a different and usually more complex or better form."* If you've been performing metals digestions with a hotplate or HotBlock or even an earlier version of the Environmental Express AutoBlock, you'll be amazed at this revolutionary transformation.

Since 1997 laboratories throughout the US and worldwide have relied on Environmental Express to provide dependable, well-engineered products and equipment for metals digestion technology. The AutoBlock is a robust, state-of-the-art system offering total automation of your metals digestions.

Innovative features include:

- Programmable Touch Screen Controller
- Accurate Addition of Acids and Reagents
- Benchtop HEPA-Filtered Environment
- Independent Racking System

ENVIRONMENTAL EXPRESS

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Automated Metals Digestions

With the AutoBlock reagent additions and digestion times are timed automatically and performed on schedule. This uniformity improves productivity and provides consistent results.

Using programmed procedures the AutoBlock digests up to 54 samples in accordance with EPA digestion protocols or user-defined digestion parameters. Custom methods can easily be programmed and saved by the analyst for future use.

The AutoBlock accurately adds concentrated acids and heats and cools samples in a HEPA-filtered environment.

Optimal airflow, touch screen control and sample temperature monitoring are just a few benefits of the totally automated block for metals digestions. Using programmed procedures the AutoBlock digests up to 54 samples in accordance with EPA digestion protocols or user-designed digestion parameters. Provided digestion temperatures are the same, the AutoBlock can perform up to three methods concurrently using the independent rack system.

The AutoBlock controls temperature and digestion times while automatically adding up to ten different reagents during the digestion process. All programmed steps are automatically timed and performed in a self-contained, HEPA-filtered environment.

The touch-screen controller provides easy, intuitive operation.

- The controller automatically or manually controls functions including *Reagent Injection, Heating/Cooling Times and Temperatures, Alarm Control, Elevator Operation and Injection Arm Movement.*
- The controller records all digestion parameters and places a date/time stamp on all steps including: injection volume, true sample temperature, heating and cooling times, and start/finish times. Data can easily be transferred to a PC or other backup device via the USB port.
- Pre-programmed methods stored in permanent memory include EPA 200.2, 200.7, 200.8, and 3050B, as well as methods 7470A, 7471, and 245.1 for mercury.
- Custom methods can easily be programmed and saved by the analyst for future use.

The analyst initiates a method or multiple methods and the AutoBlock does the rest.

To operate, the analyst chooses up to three pre-programmed methods, loads samples into the AutoBlock, closes the door and presses the start button. Depending on the method being run, the dispensing arm adds the appropriate amount of the specified reagent to the samples, 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 to be added, the AutoBlock lifts the samples, turns off the heat and cools the samples to <40°C with HEPA-filtered air. After cooling, additional reagents are safely added to the samples. The samples are then lowered back into the graphite block, the block re-heats and digestion continues. A visual alarm alerts the analyst when the digestion procedure is complete.

With the AutoBlock, reagent additions and digestion times are timed automatically and performed on schedule. This uniformity improves productivity and provides consistent results. The analyst can monitor progress or check the status of the digestion procedure by viewing the control screen at any time.

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in a HEPA-filtered Environment.

Superior construction and design expands functionality and minimizes corrosion.

- Three 18-place racks can be operated independently allowing the analyst to perform up to three programmed digestion methods during one digestion cycle, using up to ten reagents per method.
- Constructed from Teflon®, graphite, Kydex® and other corrosion-resistant materials, all components are designed to withstand the harsh environment of the metals lab.
- The benchtop unit is easily vented via a 4" duct system. Internal exhaust blowers are controlled automatically.
- The detachable control module isolates and protects electronics from corrosive chemicals.

After each reagent addition, the entire fluid delivery system is purged with DI water to prevent corrosive reagents from remaining in the system. The reagent delivery system and dispensing arm motors are isolated from the acid environment of the digestion chamber.

To eliminate corrosion and avoid sample contamination, metal components of the AutoBlock are kept to an absolute minimum. The HEPA-filtered enclosure which houses the AutoBlock is formed of thermoplastics, Kydex and Acrylic. The heated block is milled from graphite and coated with Teflon. Even the guide rod of the reagent dispensing arm is Teflon-coated to prevent corrosion and sample contamination. The AutoBlock is vented and purged continuously with HEPA-filtered air during and after operation. The corrosion free ventilation system that drives the air is activated automatically any time the unit is in operation or whenever the block temperature rises above 40°C. All components are designed to withstand the harsh environment of the metals lab.

Disposable digestion vessels provide clean, contaminant-free digestions.

The same low-cost, disposable digestion vessels are used with the AutoBlock as with Environmental Express HotBlocks. These polypropylene vessels require no pre-cleaning, are graduated and can be used as sample storage containers after digestion. After samples are added to the vessels and placed in the AutoBlock, they are not handled again until digestion is complete. Samples are maintained in a HEPA-filtered environment during the course of the digestion.

Different AutoBlock configurations are available to meet the needs of your laboratory.

Our standard AutoBlock system is the five reagent system. For laboratories that perform digestions for mercury and trace metals or need additional reagent capacity, the 10 reagent delivery option is available. This system segregates metal-containing reagents (used in mercury digestion) from the reagents used in digestions for trace metals. With this system, 10 total reagents (five from each pump) can be used. The 54-well system accommodates 50mL samples. Typical reagents include $HN0_3$, HCL, H_2SO_4 and DI water.

An external Teflon thermocouple measures sample temperature in a reference well. Data is logged in 15 minute intervals.

The controller logs and records all digestion procedures, step by step. Data can easily be transferred to a PC or other back up device via the USB port.

AutoBlock Specifications—

Overall Size:	38" W. x 32" D. x 22" H.
Weight:	160 pounds
Shipping Weight:	250 pounds
Sample Capacity:	54-well, 50mL
Controller:	Windows XP Touch Screen
Electrical:	120 Volt 12 Amp
Air Flow:	Internal 150 cfm blower

The AutoBlock is also available in 220VAC with CE mark.

To Order:

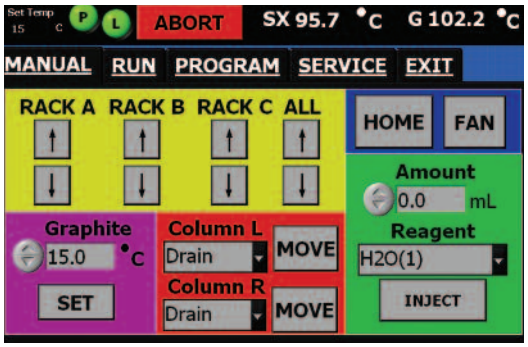
54-well, 5 Reagent AutoBlock System	**AB1001**
54-well, 10 Reagent AutoBlock System	**AB1002**
Reagent Kit with Caps and Rack	**ABP142**

AutoBlock Replacement Parts:

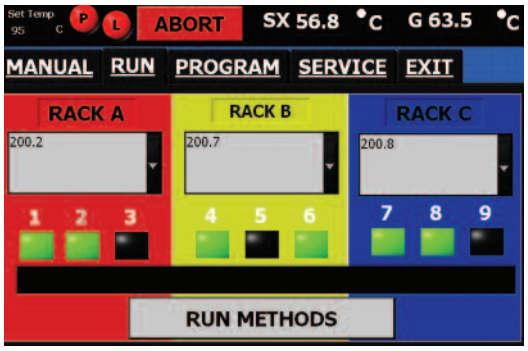
Replacement HEPA Filter	**ABP151**
18-place Polycarbonate Racks (set of three)	**ABP163**

Touch-screen Controller with Windows® XP Software Provides Easy, Intuitive Operation.

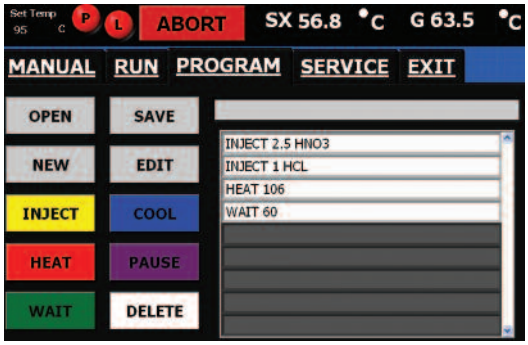
Controller screens are easy to navigate for fast and easy operation.



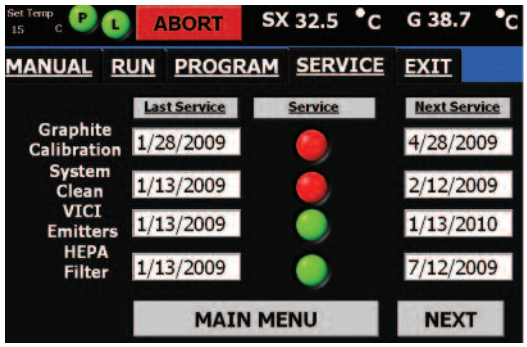
The AutoBlock can be operated in Manual Mode, allowing the analyst to perform a variety of functions independently.



The independent racking system enables the analyst to perform up to three digestion methods simultaneously.



Using the AutoBlock software, the analyst can easily create and save custom-designed methods.



The AutoBlock software will alert the analyst and perform a variety of maintenance and calibration procedures as required.

Accurately and efficiently add concentrated acids to 54 samples for accurate, hands-free digestions in a HEPA filtered environment.

SC475 Disposable Digestion Vessels Contain No Detectible Background Contaminants

These carefully engineered digestion vessels provide premium performance in your AutoBlock. Vessels are molded of clarified homopolymer polypropylene, providing a higher working temperature and greater chemical resistance than commonly used co-polymer polypropylene. Each vessel is graduated to 50mL and has a total capacity of 68mL. Molded-in graduations are extremely accurate, allowing analysts to easily reproduce volumes to within 0.5%. Using the vessels' graduations for sample measurement reduces the need for graduated cylinders and volumetric flasks while eliminating sample transfers. The result is a "one-cup" system that greatly reduces labor and costs associated with metals preparation. The 33mm threaded cap is lined with a 0.040" polyethylene faced foam liner for a leak-proof seal. Only the metals-free polyethylene liner comes into contact with the sample. A certificate of analysis is provided with each box of SC475s.

Quantity discounts are available. Contact our Customer Service Department or visit our web site for more information.

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