

HotBlock™ Pro Digestion System Operation & Instruction Manual



ENVIRONMENTAL EXPRESS

800.343.5319 or 843.881.6560 ■ Fax 843.881.3964 ■ www.environmentalexpress.com

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The manufacturer,

Environmental Express, Inc.
490 Wando Park Blvd., Mt. Pleasant, SC 29464

declares that the following products:

AutoBlock™, HotBlock™ and HotBlock™ Pro Model Numbers SC810, SC812, SC196, SC154, SC150, SC151, SC100, SC180, SC181 and SC182

conform to the requirements of the directives

73/23/EEC & 89/336/EEC.

Standards to which conformity is declared:

- Safety:** EN 61010-1
Safety requirements for electrical equipment for measurement, control and laboratory use, Part 1: General requirements.
- EN 61010-2-10
Safety requirements for electrical equipment for measurement, control and laboratory use, Part 2: Particular requirements for laboratory equipment for the heating of materials (with Amendments).
- EMC:** EN 50082-1: 1997
Electromagnetic Compatibility – Generic immunity standard, Part 1: Residential, commercial and light industry.

Signed  _____
Dennis Pope, Chief Executive Officer

PRODUCT INFORMATION:	
<u>Item #</u>	<u>Date of Purchase</u>
<u>HotBlock Pro Serial #</u>	
(Please record the serial # of your HotBlock Pro here for easy reference. Your serial # is located on the back of your block.)	

HotBlock™ Pro LIMITED WARRANTY

The HotBlock Pro blocks and controller are warranted against defects in materials and workmanship when used in accordance with applicable instructions, for a period of one year from the date of shipment. This warranty extends to parts, labor, and any approved transportation charges. This warranty applies only to damage or failure caused by normal laboratory use. The warranty is limited to product repair. If Environmental Express, Inc. is unable to repair the HotBlock Pro, the customer may, at his or her option, receive a replacement unit or a full refund. ***Operating the HotBlock Pro at temperatures higher than 180°C will void the warranty.***

Environmental Express, Inc. makes no other warranty, expressed or implied for this product with respect to merchantability, fitness for a particular use or any other matter. Environmental Express, Inc. is not liable for any consequential or compensatory damages arising from use of, or in conjunction with this product. The maximum liability shall be the invoice price of this product.

REPAIR POLICY — Under Warranty Repair:

If the HotBlock Pro should fail to operate within the warranty period (one year from date of shipment) Environmental Express Inc. will repair it and ship it back to the customer at our expense. The remainder of the warranty period will be honored from the original ship date. Environmental Express, Inc. will bear the cost of ground transportation both to and from the customer's location, and bear the cost of any parts, labor and cleanup required. However, if it is determined that the damage to the HotBlock Pro was caused by negligence or improper use, this warranty will not apply. The warranty is also void if the system is used beyond its intended purpose or in the event of any unauthorized repair. In such cases, reasonable and customary repair charges will apply. Repair charges will be quoted prior to work being done.

REPAIR POLICY — Out of Warranty Repair:

If the HotBlock Pro fails after the warranty period has lapsed, the repair procedure is as follows:

First, notify an Environmental Express, Inc. customer service representative of product's failure and place an order for repair. Whenever possible, our customer service technician will walk you through possible troubleshooting scenarios which may enable you to repair your block on site.

If on-site repair is not possible, the customer may return the non-working unit to Environmental Express, Inc. using appropriate shipping containers and insurance. Repair charges will be assessed and estimated prior to work being done. Repair charges will include all freight costs as well as reasonable and customary charges for parts and labor.

A manually operated HotBlock loaner MAY be available during the repair period. There are only a limited number of these units. A reasonable charge for "cleanup" will be charged if a loaner is issued. The customer will be responsible for all shipping charges associated with a loaner unit.

E N V I R O N M E N T A L E X P R E S S

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HotBlockPro Controller SC180

HotBlock Pro SC181



External Thermocouple SC183

Specifications :

Block Footprint:	21.5"w x 15"d x 6.5"h
Block Weight:	58 lb.
Sample Capacity/Sample Size:	SC181 - 54 sample, 50mL
Electrical:	110V, 9A per block
Block Temperature Range:	Ambient to 180°C
Block Temperature Resolution:	0.1°C
Block Temperature Uniformity:	± 0.2°C (measured across block)
Controller Dimensions:	12"w x 10.5"d x 8"h
Controller Weight:	13 lb.
Internal Thermocouple:	Type K
External Thermocouple:	Records sample temperature Part Number SC183

Above, the 54-well HotBlock Pro for 50mL samples is shown with the external controller. The optional external thermocouple (shown right, in a specially designed holder) can be used to monitor and record sample temperatures. The separate controller is designed to work with one or two blocks. See individual block specifications. For digestion vessels and accessories, see pages 13-16.



HotBlock Pro Controller SC180

HotBlock Pro SC182

Above, the 35-well HotBlock Pro for 100mL samples is shown with the external controller. The separate controller is designed to work with one or two blocks. See individual block specifications. For digestion vessels and accessories, see pages 13-16.

Specifications :

Block Footprint:	21.5"w x 15"d x 6.5"h
Block Weight:	54 lb.
Sample Capacity/Sample Size:	SC182 - 35 sample, 50mL
Electrical:	110V*, 9A per block
Block Temperature Range:	Ambient to 180°C
Block Temperature Resolution:	0.1°C
Block Temperature Uniformity:	± 0.2°C (measured across block)
Controller Dimensions:	12"w x 10.5"d x 8"h
Controller Weight:	13 lb.
Internal Thermocouple:	Type K
External Thermocouple:	Records sample temperature Part Number SC183

Environmental Express HotBlock™ Pro Series

Environmental Express HotBlock Pro Series provides an efficient method of digesting and storing water, wastewater, soil and sludge samples for metals analysis. These innovative digestion systems allow samples to be digested in a corrosion-free environment using an external touch screen controller. Samples are handled in a small area with minimal radiant heat loss. Users should be aware of potential dangers from heating certain types of compounds. Such hazards may include the release of toxic or flammable gases or explosion.

Definitions/Markings

Each HotBlock Pro displays certain markings and symbols. All personnel working with the HotBlock Pros should have an understanding of the following symbols and definitions:

Definitions and Symbols:

- | | |
|---------------------------|---------------|
| ▪ V = voltage | = mains on |
| ▪ ~ = alternating current | ○ = mains off |
| ▪ Hz = frequency | ≡ = ground |
| ▪ A = amperes | |



This symbol means “**Caution Hot Surface**”. The surface of the HotBlock may be too hot to safely touch with bare hands.



This symbol means “**Read and become familiar with instructions before operation of instrument**”.

Installation Requirements

Locate the HotBlock Pro under a fume hood with a minimum face velocity of 100fpm, and allow a minimum of 2" of space on all sides. The following environmental conditions should be observed:

- Ambient temperature range: 5-45°C
- Ambient relative humidity: 0-100%RH
- Altitude: sea level to 2500 meters

HotBlock Pros are rated as **Pollution Degree 2** and **Installation Category 2**.

The HotBlock Pro Controller **MUST** be located outside the fume hood. Failure to do so will void your product warranty.

Electrical Requirements

- Required Voltage: 120 volts, ~60Hz,
- Current: 9A per block
(all HotBlock Pros are also available in 240V with CE mark)

The HotBlock Pro controller is supplied with a 20A male electrical plug. This safety feature requires that the unit is connected to a 20A receptacle.

Power should not vary greater than $\pm 10\%$. Connecting to the power supply must be done with the supplied heat-resistant power cord or equivalent.

For safety reasons, a separate power receptacle should be provided for HotBlock Pro system. Do not use extension cords or outlet adaptors. Make certain that power outlets are earth-grounded at the grounding pin.

Installation of your HotBlock Pro:

Plug the controller into an appropriate outlet. The HotBlock Pro must be plugged into a 20AMP receptacle. The cord running from Block 1 plugs into the corresponding receptacle on the back of the controller. If using two blocks, attach the cord from Block 2 to the controller in the appropriate receptacle. If external thermocouple probes (optional) are NOT being used insert the two plugs included into the RTD1 and RTD2 receptacles on the back of the controller. If external thermocouple probes ARE to be used insert your probe plugs into these receptacles. RTD1 receptacle corresponds to Block 1. The HotBlock or blocks should be located in a vented enclosure while the controller must remain outside the enclosure for ease of operation and to keep the controller removed from the corrosive digestion environment. (See installation requirements, page 6). **Failure to locate your HotBlock controller outside the fume hood will void your product warranty.**

Potential Hazards:

The HotBlock Pro should only be operated by properly trained personnel using standard laboratory safety practices.

Use extreme caution when operating the HotBlock Pro digestion blocks. Plastic and graphite surfaces of the blocks may be too hot to safely touch with bare hands.

The HotBlock Pro components contain electrical circuits and devices and compounds operating at dangerous voltages. Contact with these circuits, devices and components can cause serious injury or painful electric shock.

Proper grounding is essential to avoid a potentially serious electric shock hazard. Ensure that there is an internal ground connection between the metal base of the system and the 3-pin earth-grounded receptacle.

For safety reasons a separate power outlet receptacle should be provided for each HotBlock Pro system. Do not use extension cords or outlet adaptors. Make certain each power outlet is earth-grounded at the grounding pin.

See individual block specifications for power requirements, pages 4-5.

Application of the wrong supply voltage can create a fire hazard and a potentially serious shock hazard, and could seriously damage the HotBlock Pro system. See specifications for individual components.

Users should be aware of potential dangers from heating certain types of compounds. Such dangers may include the release of toxic or flammable gases or explosion.

Maintenance:

Any service inquiries should be directed to Environmental Express Inc. Technical Service Department. After each use, clean exterior surfaces with a damp sponge to remove acid residue. For acid spills, sponge with a diluted solution of sodium bicarbonate followed by distilled water. Acid that is spilled directly into the digestion wells should be neutralized and removed. Before using any cleaning or decontamination methods except those recommended, check with Environmental Express to confirm the proposed method will not damage your HotBlock Pro.

Avoid excessive spills, as liquid allowed to overflow into the HotBlock Pro casing can seriously damage electronic components.

Easy, Intuitive Operation Using the HotBlock™ Pro Controller

The HotBlock Pro controller, catalog # SC180, provides operational control of either one or two HotBlock Pro digestion blocks simultaneously. The two blocks controlled may be either the SC181 for 50mL samples, the SC182 for 100mL samples or any combination of the two styles. The SC180 controller also works with just one digestion block and does not have to have two digestion blocks connected. The controller continually measures block temperature throughout the digestion process. The optional external thermocouple (SC183) may be used to measure sample temperature. These temperatures are continually displayed on the full color screen in the STATUS mode.

The full color, touch screen is easy to navigate. To move from screen to screen simply touch the name of the desired screen at the top of the touch pad with your finger (see screen illustrations below).

The color touch pad controller has four operating screens. They are the STATUS screen, CALIBRATE screen, METHOD screen and TIMER screen.

Following are descriptions and illustrations of these screens and their functions.

The Status Screen Continually Displays Current Operating Conditions.

The first screen to appear will give you the option of choosing BLOCK 1 or BLOCK 2. Choose the appropriate Block.

Next, the STATUS screen will appear. When operating two blocks you can toggle between the two by pressing the strip at the top of the screen. BLOCK 1 STATUS is shown in the sample screen pictured bottom right. To view the status of two blocks simultaneously, press the STATUS key in the lower right corner of your screen. The STATUS screen continually displays current operating conditions of each digestion block throughout the digestion process. This screen allows the analyst easy access to essential information including the method in progress, block temperature, set point temperature and sample temperature.

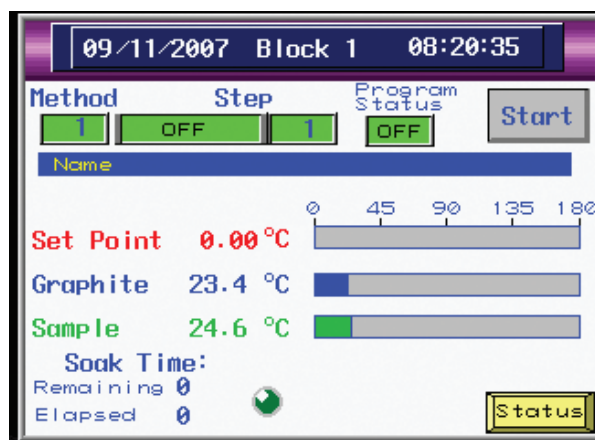
- The top of the STATUS screen displays the method number and the step number of the method being performed for each block. Individual blocks may perform different methods simultaneously.
- The STATUS screen continually displays the actual temperature of each graphite block in operation as well as the set point temperature of each block.
- When an external thermocouple is used, the STATUS screen displays the sample temperature. When the external thermocouple is NOT in use, the SAMPLE TEMP field displays *****.

Please note that the HotBlock Pro does not control the sample temperature directly, only the block temperature. The relation of the sample temperature to the block temperature is affected by variables including sample type, environmental conditions and use of watch glasses or similar devices.

- If there is a programmed SOAK time, the STATUS screen displays the time remaining in the SOAK period. The SOAK cycle will not begin until the temperature is within 3°C of SET POINT temperature. The flashing green light (bottom left)



The first screen to appear when you turn on your block gives you the option of choosing Block 1 or Block 2. Choosing either block will take you to the STATUS screen.



When you choose the Block you want to monitor, The STATUS screen will appear. You have the option of monitoring either Block 1 or Block 2 or both Blocks simultaneously.

The Calibrate Screen Allows the Operator to Calibrate Block and Sample Temperatures.

- To calibrate the **Graphite Block Temperature**, run a method (see page 10) to achieve an appropriate temperature. For most labs 90°C should work. Allow the block temperature to stabilize. This may take 20-30 minutes.

Measure the temperature of the block at several points with a surface thermometer or IR thermometer and take an average of the readings. If wells are filled with DI water please note that the temperature cannot be higher than 100°C. Do not use cups for this calibration.

Once an average and stable temperature is achieved, press Offset Adj (Graphite Temp 1). A keypad will pop up prompting you to enter the appropriate temperature in degrees. Use your set point and your average measured temperature to calculate your Offset Adj. To decrease the temperature press (-). When you have correctly entered the appropriate temperature, press ENTER. You will automatically return to your CALIBRATION screen.

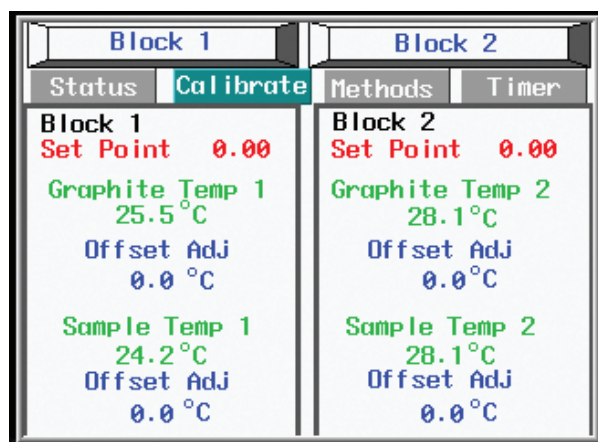
Example: Set Point = 90°C
 Measured Temperature (Actual) = 91.2
 Offset Adj = (-) 1.2

- To calibrate the **External Thermocouple**, the use of a NIST traceable thermometer is recommended. First fill several digestion vessels with a representative sample or a reagent blank and place them in random wells in your block. Insert both the external thermocouple and the NIST thermometer in each sample. Calculate an average of these sample temperatures.

Once an average and stable temperature is achieved, press Offset Adj (Sample Temp 1). A keypad will pop up prompting you to enter the appropriate temperature in degrees. Use your set point and your average measured temperature to calculate your Offset Adj. To decrease the temperature press (-). When you have correctly entered the appropriate temperature, press ENTER. You will automatically return to your CALIBRATION screen.

Example: Set Point = 90°C
 Measured Temperature (Actual) = 91.2
 Offset Adj = (-) 1.2

Note: Each external thermocouple-to-block connection is unique. An external thermocouple can only be calibrated to one port of one controller at a time. If the external temperature controller is used in a different port, then the calibration procedure must be repeated.



Calibration of blocks and samples in fast and easy using the CALIBRATE function of your controller.

Digestion Methods Can Be Created and Stored Using the Method Configuration Screen.

Individual digestion methods can be created and stored by the HotBlock Pro. Each method can have up to six steps. Each step is a combination of temperature, ramp rate and soak time. The HotBlock Pro can store as many as 15 individual methods. Methods can be saved by number for future use.

- To program a method, select the METHODS tab on the controller. Select the Method Number you wish to program, then select View / Edit (Figure 1).
- This takes you to the screen (shown right, Figure 2) which displays six steps and programmable parameters for each step. Program each parameter individually from this screen.
- To program your first step, select (Y) STEP ONE (see Figure 2). Program each parameter of Step one. As you press each parameter, a keypad will appear prompting you to enter the appropriate data.

For example, press the TEMP field, type the appropriate temperature in the pop-up box (range 20-180°C) and press ENTER.

Follow this procedure for RAMP (maximum ramp is 3.0°C/min).

Select SOAK and type in the hours HH (99 maximum) followed by the minutes MM (59 maximum).

If no (0:00) SOAK TIME is set, the step is automatically inactive and the controller will skip to the next step in the method. If all subsequent steps have no SOAK TIME, the program is ended and the block will stop heating.

- After entering all your parameters for Step 1, proceed to Step 2 of your method. Continue programming up to six steps for each method.
- If an automatic PAUSE is necessary before continuing to the next step, program the pause by changing NO to YES in the PAUSE column (see Figure 2). At the appropriate time in the method, the sequence will PAUSE. A pop-up box will show you that the method is paused. Press CONTINUE to continue to the next step.

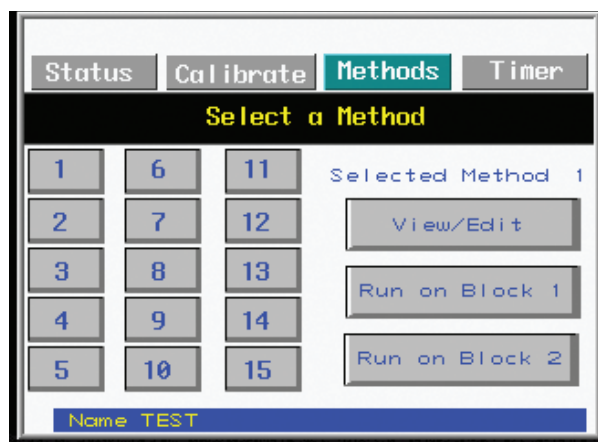


Figure 1. Selecting METHOD from the main menu will take you to the screen shown above (Figure 1). Click on the METHOD NUMBER you wish to program.

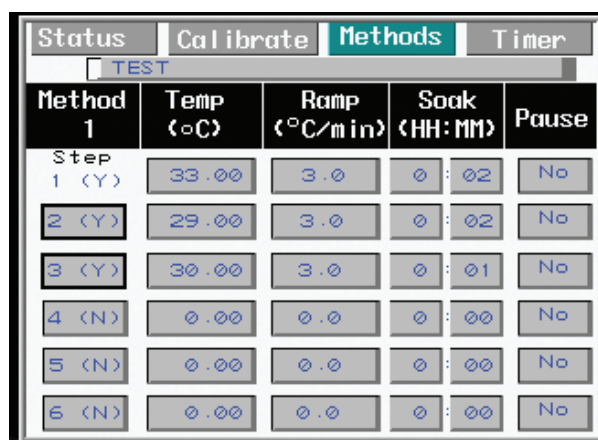
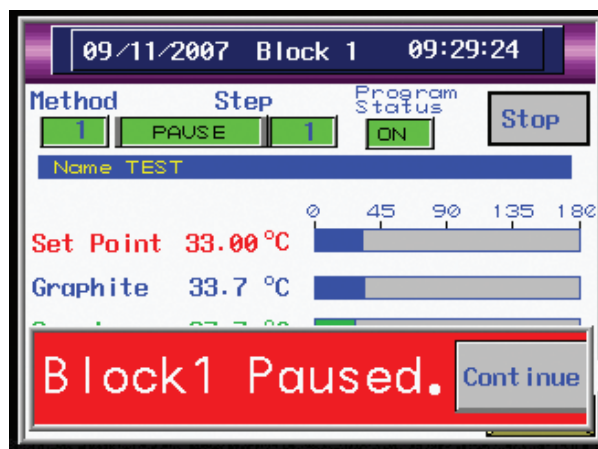


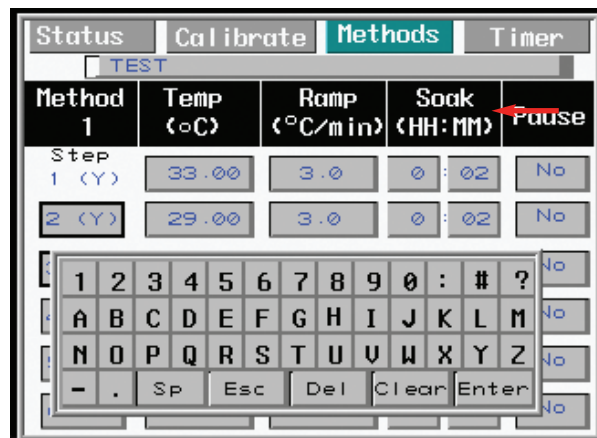
Figure 2. From this screen you will program each step of your method. Select Step 1, select the parameter you wish to set. Enter the appropriate data in the pop-up keypad and press ENTER. Continue to the next parameter.



A pop up box will show you that your method has PAUSED as programmed. Press CONTINUE to continue to the next step in your method.

Easily Name Your Programmed Methods.

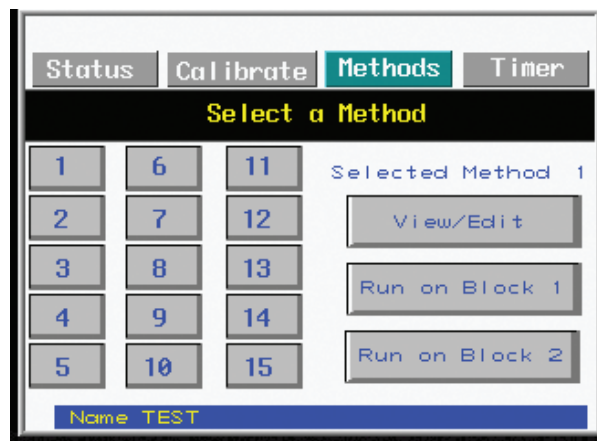
Name your method AFTER programming all your steps and parameters as described on page 10. To name a method, go to the METHOD tab. Select the method number you wish to name, then click on VIEW/EDIT. This will take you to the screen shown here (Figure 1). Click on the GRAY BAR (indicated in figure 1 by the red arrow) at the top of the screen under the TABS. When you click on this bar, a pop-up keypad will allow you to type in the method name. Then press ENTER. When you choose the METHOD NUMBER you wish to run, the METHOD NAME will appear in the BLUE BOX at the bottom of the METHOD screen (see METHOD screen, Figure 2).



Method Screen, Figure 1. When you click on the gray bar, a pop-up keypad will enable you to type in the method name.

Easily Initiate a Stored Method.

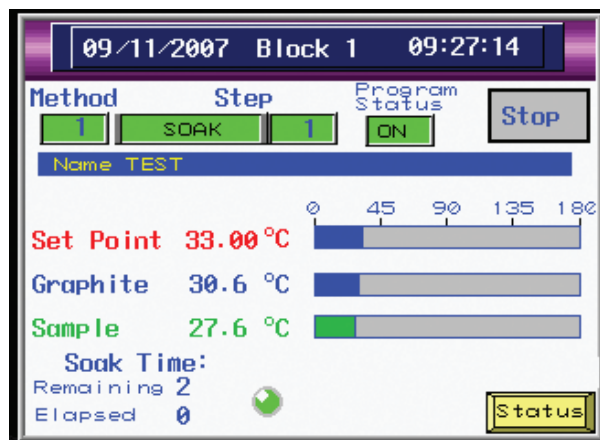
To start a stored method go to the METHOD screen. Press the METHOD button you wish to use, Then press RUN ON BLOCK 1 or RUN ON BLOCK 2 accordingly. Please note that the SOAK timer will not appear on the STATUS screen or start counting down until the block temperature is within 3°C of SET POINT temperature.



Method Screen, Figure 2. To initiate a stored method go to the METHOD screen and select the number of the method you wish to run. The method name will appear in the blue box at the bottom of the screen.

A Method Can Be Aborted at Any Time During the Digestion Process.

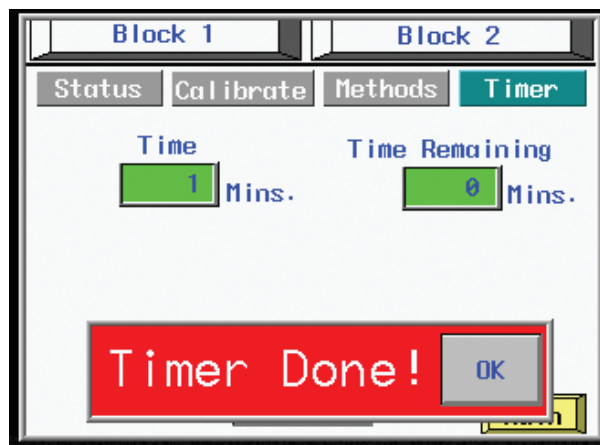
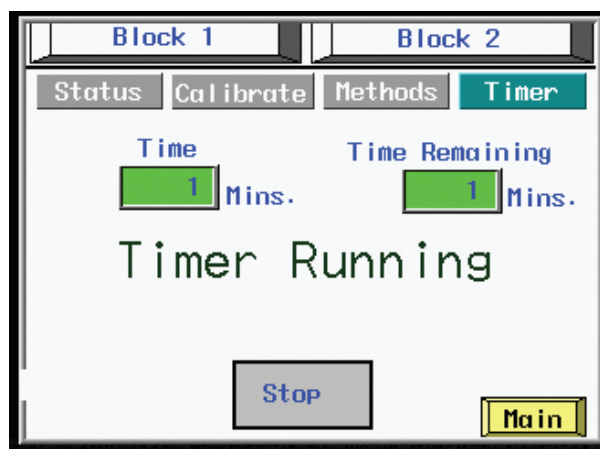
If you need to abort a digestion procedure during the program, press the STOP button on the STATUS screen.



Abort a method at any time from the STATUS screen.

The Timer Screen Can Be Used to Time Manual Digestions or Other Laboratory Functions.

The timer screen is an independent countdown timer that can be used to time manual digestions or other laboratory functions. Press the TIMER box, then press TIME. Program the time in minutes using the pop-up keypad and press ENTER. To start the timer press START. To cancel, press STOP. There is no pause function on the timer. A pop-up box will appear when the timed cycle is complete. TIME REMAINING continually shows progress of the timed cycle.



Monitor progress of a timed method on the TIMER screen. A pop up box alerts you when the timed cycle is complete.

SC475 — Polypropylene Screw Cap Digestion Vessels for Use With HotBlock Pro SC181

These carefully engineered digestion vessels provide premium performance in your HotBlock Pro. Molded of clarified homopolymer polypropylene, these vessels provide 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 graduated vessels for sample measurement reduces the need for graduated cylinders and volumetric flasks and eliminates 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. SC475 vessels come in cases of 500 and are packaged to ship as a standard size UPS package, keeping shipping costs at a minimum. Vessels come standard with green caps. White caps are also available (SC480-W).



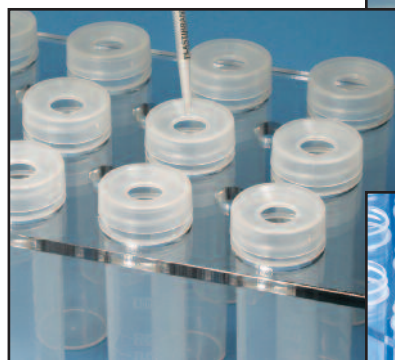
- Certified for low metals background
- Lined closure system ensures leak-free performance with no contamination
- Compact packaging reduces shipping costs
- Accurate graduations eliminate the need for graduated cylinders

SC505 — Ribbed Watch Glasses

44mm ribbed watch glasses fit all 50mL digestion vessels. Polypropylene construction is naturally free of contaminant's. Ribbed design allows partial reflux during digestion. Watch glass has a center stem to aid in handling. Pack of 1,000.

SC506 — Reflux Caps

Special cap has a 0.5" hole in its center to allow the addition of reagents while cap remains in place on the SC475 digestion vessel. The reflux cap does not have to be removed during the digestion process. The cap is not ribbed, but fits over the top of the SC475 digestion vessel to maintain a centered position. Tests have shown equal reflux between SC506 reflux cap and SC505 watch glass. Pack of 1000.



SC200 — Polycarbonate Transfer Racks

Each sample transfer rack for the HotBlock is designed to hold and handle eighteen SC475 50mL digestion vessels. Racks are made of polycarbonate for heat and acid resistance and fit over the HotBlock to facilitate handling of samples and improve temperature and evaporation uniformity.



SC446 — Plastic Storage Racks (not pictured)

24 cup capacity plastic racks neatly hold the SC475 digestion cup. Made of polypropylene, racks accommodate any tube up to 30mm and are stackable for efficient storage.

SC446 — Urethane Foam Storage Racks (not pictured)

Low cost storage system uses high density urethane foam for semi-permanent storage of digested samples. Each rack holds 25 capped SC475 digestion cups. Racks with cups may be stacked to save space. Overall size of rack is 10" x 10" x 1". Pack of 5.

Accessories for SC182 HotBlock Pro

SC490 — Polypropylene Screw Cap Digestion Vessels for use with SC182 HotBlock

This 125mL, wide-mouth digestion vessel is supplied with a 48mm screw cap. The cap is lined with coextruded polyethylene foam for leak-proof performance. Made of homopolymer polypropylene, the SC490 digestion vessel is designed for use in the SC182 HotBlock. Vessels are graduated at 10mL, 25mL and 50mL, 75mL and 100mL and are packaged in cases of 200.

SC225 — Polycarbonate Racks for SC182 HotBlock

This set of two polycarbonate racks was designed to fit the SC150 Hot Block (see photo page 4). A 15-place rack paired with a 10-place rack give you 25 sample capacity. Racks fit the SC150 HotBlock securely for safe accurate digestions.

SC7150 — Wire Storage Rack for SC490s

Powder coated wire rack shown above is for storing SC490 cups. Rack has an 18 cup capacity.

SC610 — Ribbed Watch Glass

52mm ribbed watch glass is designed for use with SC490, 125mL digestion vessel. Polypropylene watch glass has a stem in its center to aid in handling.

FilterMate™ Filtration Systems For Use With SC475 Digestion Vessels

Dirty or particulate-laden samples may require that the digested sample be filtered prior to analysis. This is especially true with sludge, wastewater and soil samples.

FilterMate Systems provide a convenient and inexpensive method of filtration that requires no transfer steps. The FilterMate fits directly into the digestion cup and is pushed through the liquid being filtered to the bottom of the cup with a detachable plunger. After the filtration is complete, the plunger is removed and discarded while the filter assembly remains in the bottom of the cup. This arrangement does not interfere with storage or use of the cup in an autosampler. FilterMates are available with different choices of filters:

- **SC0401 — Standard 2µm Teflon®-faced Polypropylene Filter**

The popular SC0401 has the highest dirt holding capacity. The SC0401 is the most popular FilterMate and is suitable for most laboratory applications.

- **SC0408 — Certified 2µm Teflon Filter**

The SC0408 FilterMate utilizes a pure expanded fiber Teflon filter. This high dirt trapping FilterMate is especially suitable for trace level analysis and is supplied with lot certification for trace metals by ICP/MS.

- **SC0407 — 0.45µm Teflon Membrane Filter**

The SC0407 FilterMate uses a Teflon prefilter in addition to a 0.45µm final filter. This model is not recommended for particulate laden samples.



■ SC0404 — 0.7µm Glass Fiber FilterMate for TCLP

For filtering small volumes of TCLP extract, we offer the SC0404 FilterMate with acid-washed glass fiber filter material suitable for TCLP filtrations. The 0.7µm filter is supported by a porous polyethylene frit.

Use FilterMate for Field Filtrations

If your method requires filtration in the field prior to analysis, the FilterMate offers an easy and inexpensive alternative to cumbersome pumps and devices commonly used for this procedure. With just two SC475 digestion cups and one SC0407 FilterMate, you can meet the requirements of field filtrations. Simply take your sample in one SC475 cup, filter with a SC0407 FilterMate, pour the filtrate into another cup and cap.

SC0510 — *Holder for FilterMate Filtrations*

This machined HDPE fixture adds stability when performing FilterMate filtrations. Digestion cup is placed into center hole of FilterMate Holder prior to beginning filtration. The holder secures the digestion cup as the FilterMate is depressed through the liquid sample.

SC801 — AirLite™ HEPA-Filtered Enclosure

This bench-top enclosure for the HotBlock Pro provides HEPA-filtered air for cleaner, more uniform digestions. The AirLite uses a quiet, 117 CFM internal PVC coated fan that is easily accessible by the technician. The cabinet of the AirLite is constructed from PET-G for exceptional clarity. The door of the hood opens a full 180° to allow unrestricted access to the chamber. The body of the enclosure rests in a thermoformed Kydex® bottom that traps spills and can easily be removed for cleaning.

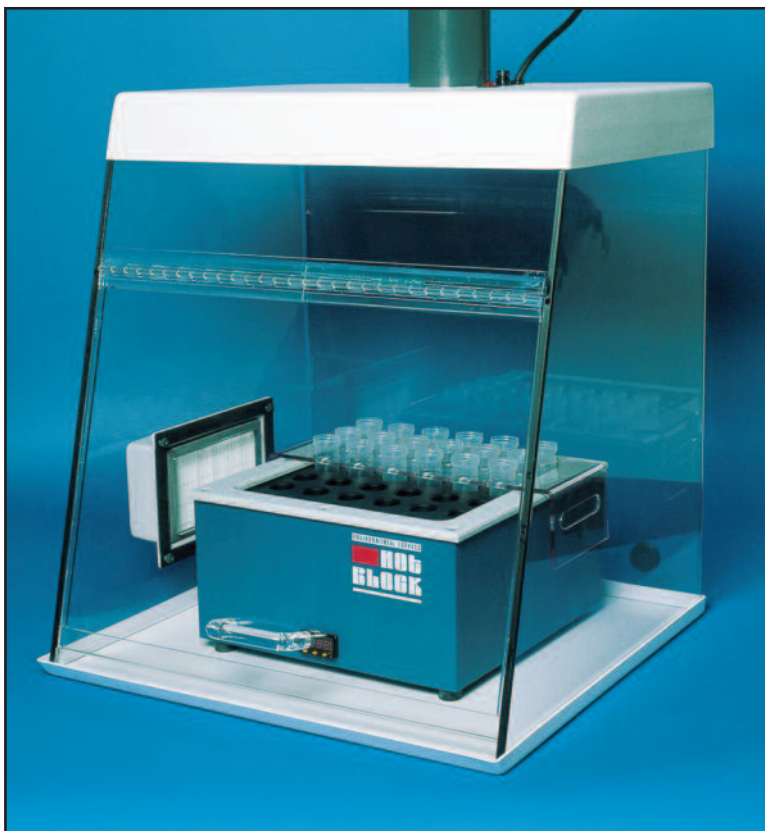
The AirLite is designed to enhance the use of the HotBlock Pro, and can reduce sample contamination during the digestion process. The HEPA filter can be changed in minutes. The AirLite can be used anywhere a clean environment is required. It can be exhausted with standard 4" flexible duct to the outside or into existing ductwork. Spare 117CFM fan included.

Specifications —

Size: 25.5" h X 32" w X 24" d

Door Opening Size: 32" W X 17" h

Materials: Acrylic walls and door, Kydex® top and bottom plates



Fan: 117CFM, PVC Coated

Electrical: 120VAC, 1 amp, 3-Prong plug

Ghost Wipe™ For Surface Sampling, Including Lead and Beryllium Testing

This revolutionary product eases sample preparation and analysis of surface lead or surface dust. The Ghost Wipe is a sturdy wiping material moistened with DI water that holds together even on the roughest wiping surfaces. In the lab, the Ghost Wipe readily and completely dissolves during the digestion process. This feature provides more complete dispersion of analytes and more uniform recoveries.

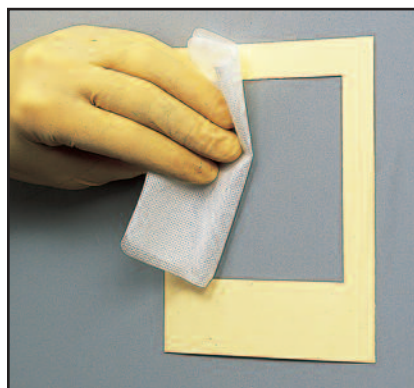
In addition, there is no messy fibrous material to clog sample uptake capillary or nebulizer. Ghost Wipes meet all ASTM Designation E 1792 specifications for sampling materials for lead in surface dust. Wipes are 15cm x 15cm and are supplied in individual sealed packets.

SC4210 — Case of 500 Ghost Wipes

SC4250 — Case of 1,000 Ghost Wipes

C1010 — Dust Sampling Template, 10cm x 10cm, pack of 250

C1012 — Dust Sampling Template, 12" x 12", pack of 100



Take a sample with Ghost Wipe.



Digest as usual in acid solution.



Ghost wipes totally dissolve during digestion for easy analysis.

Lead Wipe Standard in Screw-Cap, Rigid-walled Cup (SC475)

The lead wipe standard is a Ghost Wipe spiked with in-situ dust. Using an NIST traceable solid sample, known amounts of lead are placed on a wipe and each sample is individually labeled with the exact amount of lead the wipe contains. Each spike sample contains 175-250 micrograms of lead per wipe and come with a certificate of analysis showing the Sample ID# and the starting concentration of the dust.

Catalog #SC4252 Box of 10



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 31 1998

OFFICE OF
WATER

John Stone
Vice President
Environmental Express
490 Wando Park Blvd.
Mt. Pleasant, SC 29464

Dear Mr. Stone:

This letter responds to your letter dated February 23, 1998 regarding the use of the Hot Block™ digestion system for EPA approved methods that use conventional hot plate digestion technique. EPA does not approve or endorse specific instrumentation. However, EPA does not restrict the use of instruments or equipment that employ technology which is different from the EPA approved methods as long as the user follows the procedures required in the EPA methods, as well as the manufacturer's operating instructions for proper use. Therefore, provided the above conditions are met, the Hot Block™ digestion system which is manufactured by your company is acceptable for use with EPA approved methods.

If I can be of additional assistance on this and other matters, please write or call me at (202) 260-1639 at your convenience.

Sincerely,

A handwritten signature in blue ink that reads "Maria Gomez-Taylor".

Maria Gomez-Taylor, Ph.D.
Analytical Method Staff
Engineering and Analysis Division (4303)

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