SPE-Express® 2

Operating & Instruction Manual

SCAN ME

environmental express®
an antylia scientific company

T: +1.800.343.5319, 1.843.881.6560
W: environmentalexpress.com

LA03109 Rev 1

Contents

Section 1 - Warranty Information

LIMITED WARRANTY

The Environmental Express SPE-Express 2 is 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 costs. This warranty applies only to damage or failure caused by normal laboratory use. The warranty is limited to product repair. If Environmental Express is unable to repair the SPE-Express 2, the customer may, at his or her option, receive a replacement unit or a full refund.

In no event shall Environmental Express have any obligation to make repairs, replacements, or corrections required, in whole or in part, as the result of (i) normal wear and tear, (ii) accident, disaster or event of force majeure, (iii) abuse, neglect, misuse, fault, or negligence of or by customer, (iv) use of the product in a manner for which it was not designed, (v) causes external to the product such as, but not limited to, power failure or electrical power surges, (vi) improper storage and handling of the product, (vii) use of the product in combination with equipment or software not supplied by Environmental Express, (viii) ordinary maintenance, (ix) alterations, repairs or installations that have not been performed by Environmental Express or its authorized representative or (x) failure to maintain product in accordance with Environmental Express' written instructions.

Environmental Express makes no other warranty, expressed or implied for this product with respect to merchantability, fitness for a particular use or any other matter and expressly disclaims all other warranties. Environmental Express is not liable for any consequential, special, indirect, or compensatory damages arising from use of, or in conjunction with this product. The maximum liability of Environmental Express (whether by reason of breach of contract, tort, indemnification, or otherwise provided herein) shall be the invoice price of this product.

REPAIR POLICIES

Under Warranty Repair

If the SPE-Express 2 should fail to operate as warranted within the warranty period (one year from date of shipment), Environmental Express will repair it and ship it back to the customer at Environmental Express' expense. The remainder of the warranty period will be honored from the original ship date. Environmental Express 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.

If, however, it is determined that the damage to the SPE-Express 2 was caused by negligence or improper use or by another excluded cause as set forth above, 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.

Out of Warranty Repair

If the SPE-Express 2 fails after the warranty period has lapsed, the repair procedure is as follows:

First, notify an Environmental Express Technical Service Representative of the 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 unit on-site. **After any repairs are performed, contact Environmental Express on how to verify a safe operation.**

If on-site repair is not possible, the customer may return the non-working unit to Environmental Express 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.

NOTE: *This warranty does not apply to any consumable items associated with the SPE-Express 2.*

Loaner SPE-Express 2 units 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.

Section 2 - Declaration of Conformity

The manufacturer, Environmental Express, 2345A Charleston Regional Pkwy, Charleston, SC 29492 declares that the following product, SPE-Express 2 Catalog numbers G9047 and G9090, is in conformity with:

SPE-Express 2 is manufactured by Environmental Express. See the proper contact information below:

US Manufacturing location	**EU Representative address**	**UK Representative address**
Environmental Express 2345A Charleston Regional Parkway Charleston, SC 29492 +1.843.881.6560 +1.800.343.5319 info@environmentalexpress.com	Antylia Scientific GmbH Futtererstraße 16 97877 Wertheim Deutschland Tel: +49 9377 9203-0 Email: sales@coleparmer.de	Antylia Scientific 9 Orion Court Ambuscade Road Colmworth Business Park St. Neots PE19 8YX United Kingdom Tel: +44 (0) 1480 277339 Email: enquiries@antylia.com

Section 3 - SPE-Express 2 Specifications

Intended Use

- SPE-Express 2 is to be used for the extraction of Oil & Grease material following US EPA Method 1664. The unit is designed to filter a sample through a Solid Phase Extraction (SPE) disk, direct the filtrate to waste, elute the material trapped by the SPE disk using n-Hexane, collect the dissolved Oil & Grease plus hexane in an aluminum pan, and then evaporate the n-Hexane from the pan leaving the Oil & Grease residue behind.
- If the equipment is not used in a manner specified by the manufacturer then the projection and safety provided by the equipment may be impaired.

Technical Specifications

- Required voltage 120/240 VAC, ~50/60 Hz, Current – 10 A
- Dimensions: 9” W x 32” H (with bottle installed) x 23” D
- Weight: 35 lbs
- Power should not vary greater than +/- 10%. Connecting to the power supply must be done with the supplied power cord.
- For safety reasons, do not use extension cords or outlet adaptors. Make certain that power outlets are earth-grounded at the grounding pin.
- Pollution degree 2
- Over voltage category II

Power Supply information

Input & Output Configuration	
Standard Input Cable	Not Provided Separately (P/N 67400-185-EB)
Connection on Power Supply Body	IEC 320 C14 Receptacle
Standard Output Cable	4ft for 12V 6ft for 15V, 18V, 24V, 48V
Output Cable Cord Size	4x18awg (12V, 15V, 18V, 24V, 48V)
Output Cable Connector	Switchcraft DIN-8, P/N 15BL8M Switchcraft DIN-5, P/N 05GM5MX
Output Cable Mating Connector	Switchcraft 62GB8FX(8 pin) or equivalent(12V, 15V) Switchcraft 57GB5FX (5 pin) or equivalent(18V, 24V, 48V)

Output Pin Assignments		
Pin 1	Return	DIN-5 
Pin 2	Return	
Pin 3	+V1	
Pin 4	Return	
Pin 5	+V1	

Operating Conditions

The SPE-Express 2 is designed for safe functioning under the following conditions:

- For indoor use in a well-ventilated area
- Ensure equipment is used on a dry, non-combustible, solid work surface with at least 300mm suitable clearance all around from other equipment
- Ambient temperature +5°C to +40°C
- Altitude up to 2000m
- Relative humidity not exceeding 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C

Potential Hazards

The SPE-Express 2 should only be operated by properly trained personnel using standard laboratory safety practices.

- All proper PPE should be worn when operating or servicing SPE-Express 2.
- Use extreme caution when operating. Plastic and metal surfaces of the unit may be too hot to safely touch with bare hands.
- If any service is to be performed on the unit, one should contact Environmental Express prior to conducting any work to ensure all safety measures are followed and to fully understand the risks of the work.
- All components contain electrical circuits and devices and components cooperating 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.
- Application of the wrong supply voltage can create a fire hazard and a potentially serious shock hazard and could seriously damage the system. See specifications for individual components.
- Users should be aware of potential dangers from various solvents and reagents used in the analytical methods. Such dangers may include the release of toxic or flammable gases or explosion. The SPE-Express 2 should always be used in a properly vented environment with proper ventilation of the solvents.
- SPE-Express 2 is intended to be uses with n-hexane, a dangerous and flammable solvent. SPE-Express 2 performs a low-heating event to evaporate n-hexane and therefore the unit should be well ventilated. Ensure an exhaust hose is properly attached to the unit and fumes are directed into a fume hood. Follow all local regulatory requirements for proper ventilation.

Number	Symbol	Publication	Description
101	 Background colour – yellow (optional, not green); symbol and outline – black (optional).	ISO 7010 – W021	Warning; Flammable material

Commissioning / De-Commissioning the SPE-Express 2

- It is important to understand the potential hazards when commissioning and/or de-commissioning the SPE-Express 2.
    - Be aware that the unit may have residual solvents such as n-Hexane, Methanol, and acidified water left in the tubing of the unit.
    - Properly disconnect all tubing from all reagent bottles prior to moving the unit.
    - Ensure all liquids have been properly purged from the tubing prior to working on the unit or moving the unit from one location to another.
    - Ensure all sample bottles are removed from the unit and no liquid sample is left in any tubing or waste containers.
    - Properly unplug the unit prior to moving.

Maintenance

- Any service inquiries should be directed to the Environmental Express Technical Service Department at 1-800-745-8218 or 1-843-881-6560 or info@environmentalexpress.com.
- After each use, clean exterior surfaces with a damp sponge, wetted with water to remove any residue.
- Avoid excessive spills as liquid allowed to overflow into the SPE-Express 2 can seriously damage electronic components.
- Monitor the waste receptacle during use to ensure it does not overflow.

Section 4 - Items / Tools you will need

- 5/32 hex nut driver
- 3/32 hex nut driver
- 2” exhaust hose and clamp (compatible with hexane)
- Compressed air or nitrogen (must be inert gas). Incoming gas to the unit must be no more than 40 psi and no less than 20 psi. Incoming gas at higher pressures than 40 psi will potentially damage the on-board regulator in the unit and cause over-pressurization of the solvent containers which can lead to bottle breakage. Under pressurized gas may lead to inadequate

volumes of solvent dispensed during the extraction procedure which can result in poor analytical results.

- Vacuum pump capable of pulling at least 15” of Hg

Section 5 - What Is Included

- Either a 47mm or a 90mm extraction head
- Tygon tubing to connect the vacuum pump to the unit (3/8” ID)
- A quick-disconnect for the compressed gas (barb to fit 3/8” tubing)
- 2 x Extraction Head Clamps
- 1 x bottle adapter, 53mm (G9153)
- 1 x USB Cable (ABPUSB)
- 1 x Stylus
- 2 x 5/32 hex screws
- 1 x glass chamber clamp
- 1 x glass chamber (G9001)
- 1 x safety shield
- 1 x waste carboy + tubing (G3070)
- 1 x box of SPE disks (depends on the extraction head ordered)
- 1 x box of G1065 drying cartridges
- 1 x pack of 40mg/L HEM Standard (G3025)
- 1 x pack of MDL HEM Standard (G3023)
- 1 x pack of aluminum pans (F93140DSH)
- 1 x set of fluidics tubing, nuts, and ferrules (G9004)
- 1 x Reagent manifold (G9002)
- 1 x Reagent Bottle Rack (G9003)
- 1 x ¼” hose barb “T” connector (G9007)
- 3 x 4-port Reagent Caps (G9005)
- 2 x Port Plugs (G9006)

Section 6 - Unpacking the Unit

6.1 The SPE-Express 2 is designed to run off of voltage from 100 – 240V using the included power brick and the appropriate plug cord for your outlet.

6.2 Carefully remove the SPE-Express 2 unit from its packaging and place onto a firm, level, steady surface.

6.2.1 Lift the SPE-Express 2 unit out of the shipping box by grasping the case on the top of the unit. DO NOT LIFT THE UNIT USING THE TUBING LINES AS YOU WILL DAMAGE THE UNIT.

6.2.2 When moving the SPE-Express 2 after installation of the unit grasp the unit by the outer case at the base of the unit to lift or slide.

6.3 Hook up the three different reagent lines to the back of the unit. Ensure the correct line is connected to the correct port by matching up the labels on the unit to the label on the line. If connecting multiple units, connect the outlet line from the different bottles to the side port of a 3-way manifold. Connect each of the three outlet ports to the proper port on the back of the unit. Install a dead plug if a port is not being used.

6.3.1 If the UltraPrep extraction disks are to be used you will not need Methanol. Install the dead plug into the empty Methanol port

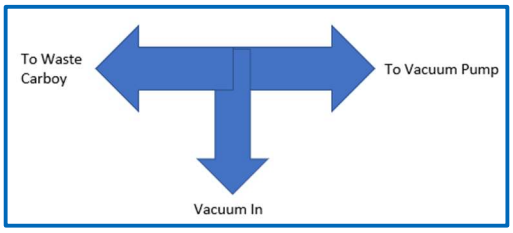
6.3.2 If the UltraFlow extraction disks are to be used you will need Methanol to activate the disks. Install the methanol and water reagent lines as indicated above.

6.4 Hook up the vacuum by connecting the vacuum tubing from the vacuum to the barbed "T" connector. All vacuum tubing lines should be secured with hose clamps.

6.5 Connect one end of the "T" connector to the "Vacuum In" port on the back of the unit. If connecting multiple units, use additional "T" connectors to branch the tubing to the "Vacuum In" port to the other unit(s).

6.6 Connect the other end of the "T" connector to one of the barbed fittings on the cap of the waste carboy.

6.7 Connect the other fitting on the waste carboy cap to the "Waste Out" port on the back of the unit.



6.8 Using a male quick-disconnect, hook up the inert gas to the female receptacle in the back of the unit. Ensure the flip valve is turned perpendicular to the fitting. Incoming gas should not exceed 40 psi entering the unit! There is a regulator inside the unit that will ensure the proper pressure is applied to the bottles and the ideal range of incoming gas is 20 – 40 psi. When supplying gas to more than one instrument use the three-way quick-disconnect fitting on the gas supply. Send a separate line to each of up to three units. Do NOT connect more than three units to a single gas supply.

6.9 Remove the safety shield and take out the wrapped glass chamber.

6.10 Remove the power cord and brick from its box and connect the power cord to the back of the unit and plug the cord into the wall.

6.11 Turn the unit on.

Section 7 - Installing the Glass Chamber

7.1 Taking the glass chamber and the glass chamber clamp, hold the chamber in place with one hand and tuck the clamp onto the neck below the vacuum port. The vacuum port should face away from the unit. See picture below.

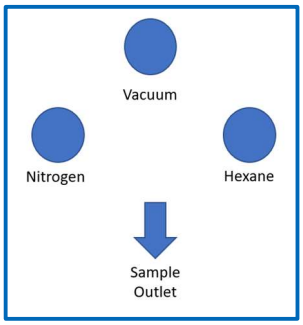
7.2 Begin threading in the 2 x 5/32 hex nut screws into the white block behind the glass chamber.

7.3 Using a 5/32 hex nut driver, tighten the 2 screws to secure the glass chamber in place.

7.4 Do not tighten one nut in all the way before starting on the second or the chamber will not be secured – tighten the first nut in partially, then the second, and so on until secure

7.5 WARNING – do not overtighten these screws or you can break the glass chamber. It does not require force to ensure the chamber is secured.

7.6 Following the diagram below, install the 4 system lines into the glass chamber by threading the nuts into the appropriate port of the glass chamber.



7.7 Installing the nuts in an incorrect manner will cause improper function of the unit.

7.8 WARNING – do not overtighten the nuts. The nut will stop at the lip of the glass chamber – this will indicate you have installed them correctly and sufficiently.

Section 8 - Installing the Exhaust Line

8.1 The exhaust port is found on top of the SPE-Express 2 unit and is a 2” diameter port.

8.2 The laboratory will need to provide exhaust tubing and a proper clamp / connector. Consult your local and federal Health & Safety Regulations for proper ventilation.

8.3 Ensure proper ventilation prior to running SPE-Express 2.

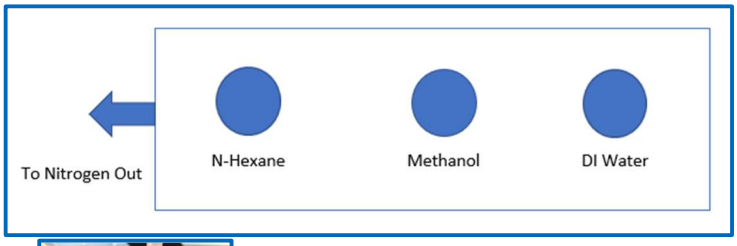
Section 9 - Installing the Reagents

9.1 Install the manifold onto the reagent rack using the screws included.

9.2 Connect the fluid lines from the back of the unit (installed in Section 6.3) into one of the empty ports in the cap of the corresponding bottle. Make sure to insert the tubing so that it reaches just to the bottom of the bottle. Do not push it flush against the bottom as this will restrict the flow of liquid through the tubing. Tighten down using the locking nut and ferrule.

9.3 Connect tubing to the “Nitrogen Out” port on the back of the unit using a locking nut and ferrule. Connect the other end to the end of the manifold block on the reagent rack.

9.4 Connect a line from the face of the manifold block to each of the bottles being used. If UltraPrep discs are being used, install a dead plug into one of the open spots. This tubing should be just long enough to be flush with the port on the bottle cap.



9.5 Any open spots on the caps should be filled in using the dead stops.

9.6 Turn the flip valve on the “Nitrogen In” line to the open position so the lines become pressurized. **ENSURE THE INCOMING PRESSURE OF THE GAS IS BETWEEN 20 - 40 PSI!**

Section 10 - Instrument Start-Up Procedure

10.1 From the Main Menu, click on “Status”

10.2 Check state of the Ball Valve

10.3 If the status shows “NOT HOMED”, click “Home Ball Valve” button to home the ball valve.

10.4 You will be brought back to the Main Menu once the ball valve is homed

10.5 To ensure ball valve is closed, go back to the Status menu and the Pressure will be “LOW (CLOSED)” and the ball valve will state “CLOSED”

10.6 Perform the Pre-Check procedure

10.7 Click on “Precheck”

10.8 Click “OK”

10.9 Follow the instructions of the Precheck to ensure proper set-up.

10.10 The Precheck will ensure your unit is ready to run samples. Once the unit determines everything is set up correctly it will take the user back to the Main Menu

10.11 Click on “Prime” to get all reagent lines full to ensure the proper volumes of reagents are dispensed. The Prime function must be done with an empty sample bottle and empty aluminum pan in place!

10.12 Excess hexane will be dispensed into the empty aluminum pan and should be disposed of properly prior to analyzing any further samples.

10.13 After priming the SPE-Express the unit is ready to analyze samples.

Section 11 - Choosing the Proper Analytical Method

11.1 The SPE-Express II will come with 4 pre-programmed methods loaded onto the onboard touchscreen. The methods are as follows:

11.2 Method 1: 47mm UltraFlow Disk

11.3 Method 2: 47mm UltraPrep Disk

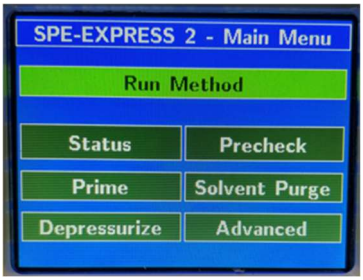
11.4 Method 3: 90mm UltraFlow Disk

11.5 Method 4: 90mm UltraPrep Disk

11.6 All analytical methods are designed to follow US EPA Method 1664 and are based on the type of SPE disk used and the size disk employed.

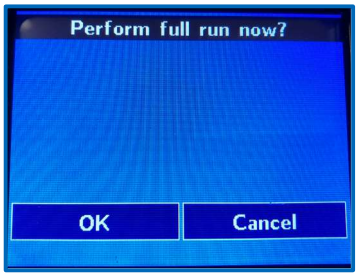
11.7 The same method should be used for an entire analytical batch.

11.8 From the main screen, click on "Run Method".



11.9 Choose the appropriate method you want to run.

11.10 If you are ready to run the sample, click on OK.



11.11 Follow the on-screen prompts to ensure that everything is properly set up to run a sample. See sections 13, 14, and 16 for detailed instructions on using the correct bottle adaptor, attaching the sample bottle, and inserting the drying cartridge.

Section 12 - Creating or Modifying Analytical Methods

12.1 Contact Environmental Technical Support if any modifications to analytical methods are required.

Section 13 - Securing the Sample Bottle to the SPE-Express 2

13.1 The SPE-Express II comes with a 53mm bottle adapter that can be used with sample collection bottles from Environmental Express, item APC1213.

13.2 If one needs a bottle adapter of a different size, EE offers these as follows:

13.3 G9170 = 70mm bottle adapter

13.4 G9189 = 89mm bottle adapter

13.5 G9133-1430 = 33mm bottle adapter for neck size 33/430

13.6 G9133-1500 = 33mm bottle adapter for neck size 33/400

13.7 Unscrew the lid on the sample collection bottle containing sample that is needed to analyze.

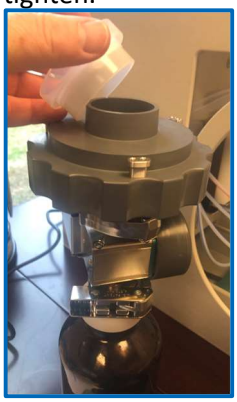
13.8 Screw on the bottle adapter.

13.9 Remove the Extraction Head Assembly by turning counterclockwise and lifting the assembly off the unit.

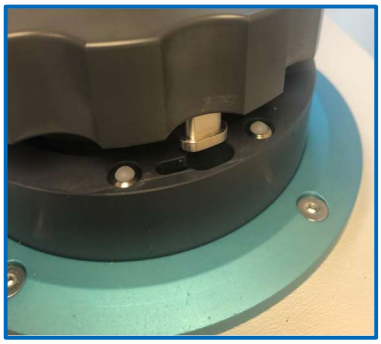
13.10 Place the sample collection bottle on a firm surface near the unit.

13.11 Place the black o-ring onto the opening of the bottle adapter and secure with the HPS clamp. If the correct bottle adapter is already in place one may simply twist on the sample collection bottle to avoid removing the HPS clamp.

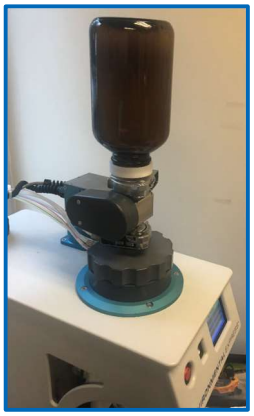
13.12 Place an SPE disk assembly onto the extraction head (47mm or 90mm) and twist to tighten.



13.13 Lift the entire assembly onto the top of the unit and line up the pin inserts into the slots on top of the unit.



13.14 Twist clockwise until you feel a click to secure the assembly in place.



Section 14 - Analyzing a Sample on SPE-Express 2

14.1 Once the correct analytical method has been selected, click “OK” to begin the analysis run.

14.2 Go through instrument checklist prompts and properly load the SPE disk (13.2), drying cartridge (16.0), pre-weighed pan (17.0), and sample bottle (13.0) onto the unit.

14.3 Press “OK” and you will be prompted to enter a Sample ID.

14.4 You will then be prompted to either prime the unit with reagent or to skip this step. If the reagent lines on the unit are full and the unit has been recently primed press “Skip”

14.5 SPE-Express will then begin the analysis by either performing the “Disk Clean” step (UltraPrep) or the “Disk Condition” step (UltraFlow).

14.6 Once the SPE disk has been cleaned or conditioned the sample will be filtered through the SPE disk.

14.7 To elute the disk(s) removed during sample filtration, follow the software prompts to elute these disks into the same pre-weighed pan.

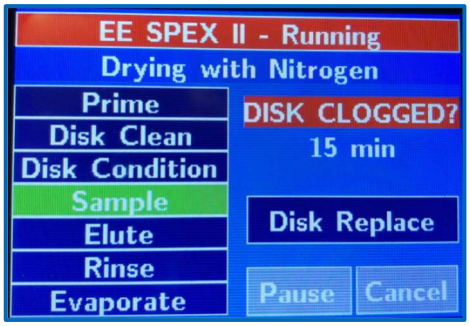
14.8 When the sample is fully filtered through the SPE disk the unit will begin the disk drying step (15 min drying time).

14.9 The unit will then begin the first of three (3) elution and bottle rinsing steps to pull the HEM from the UltraPrep or UltraFlow disk.

14.10 All hexane will be captured in the pre-weighed aluminum pan which will be slowly evaporated during and after the elution steps.

14.11 After the 3rd elution step an evaporation step will commence. This is intended to evaporate most of the n-Hexane used in eluting the disk. After the first evaporation step is complete the unit will flush the glass chamber with more n-Hexane to recover any HEM that may adhere to the glass. The unit will then perform another evaporation step. To avoid any potential loss of analyte from over-heating, the evaporation step should leave a small amount of n-Hexane in the pan. This can be evaporated by sitting the pan under a hood or with a small puff of clean, compressed air/gas.

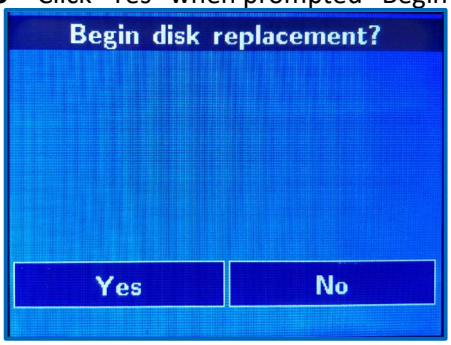
14.12 If a sample is too turbid to properly filter through the SPE disk, the sensors in SPE-Express 2 will recognize that sample remains in the sample bottle while no sample flow is going through the SPE disk. In this case a message will display stating that the unit has detected a clogged disk:



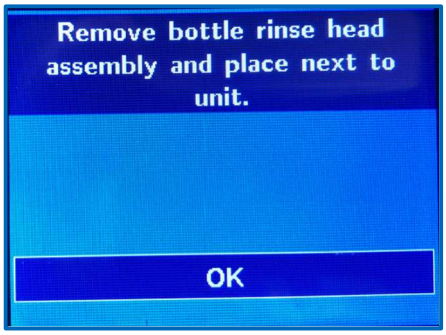
14.13 The SPE-Express 2 will allow the user to replace the SPE disk with a fresh disk and retain the original disk for future elution.

14.14 To replace the SPE disk with a fresh disk click on “Disk Replace”

14.15 Click “Yes” when prompted “Begin disk replacement

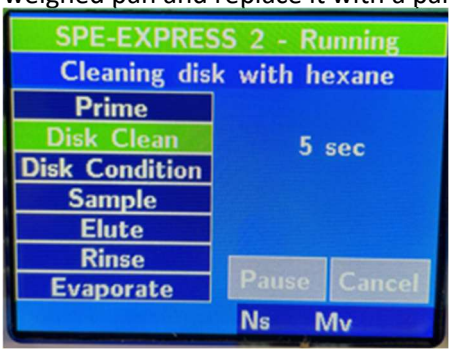


14.16 You will be prompted to remove the bottle rinse head assembly and to place it next to the unit. Place the bottle on a secure area as there will still be sample left in it.



14.17 Remove the first SPE disk and store in a secure area so no HEM loss occurs. Replace with the same type of SPE disk and reattach the bottle rinse head assembly to the SPE-Express 2.

14.18 If the unit is running the UltraFlow method, the unit will go through a disk cleaning procedure and a disk conditioning procedure. If running the UltraPrep method the unit will only undergo the disk cleaning procedure. It is important at this step to remove the pre-weighed pan and replace it with a pan to collect the waste hexane from the cleaning step.



Section 15 - Trouble-shooting SPE-Express 2

15.1 Hexane is hung up in the glass chamber

15.2 From Main Menu, click on “Advanced”

15.3 Click on “Clean Chbr” to clean the glass chamber. Click “OK”.

15.4 Any liquid trapped in the glass chamber will be pushed into the aluminum pan.

15.5 Solvent Purge

15.6 If having to move the unit or perform maintenance one should remove all solvents from the reagent lines.

15.7 To empty the reagent lines, click on “Solvent Purg”

15.8 This will push all reagent in reagent lines to either waste or the aluminum pan

15.9 Depressurizing the SPE-Express

15.10 If having to move the unit or perform maintenance one should depressurize the SPE-Express

15.11 From the Main Menu, click on “Depressurize”.

15.12 Click OK and the unit will be depressurized.

15.13 Turn off the Nitrogen gas.

15.14 Changing extraction heads (47mm to a 90mm or a 90mm to a 47mm).

15.15 If any reagent is in the reagent lines one must remove the reagent by clicking on “Sovent Purg” from the Main Menu

15.16 The unit should be depressurized prior to swapping out the extraction heads.

15.17 Click on “Depressurize” from the main menu

15.18 Click on “OK” when prompted to depressurize the unit.

15.19 Turn off the nitrogen gas

15.20 Remove the ball valve assembly by taking off the lower HPS clamp and setting the assembly on top of the unit.

15.21 Remove the 5 reagent lines from the PVC extraction head.

15.22 Take the new extraction head and screw in the corresponding reagent lines to the ports in the back of the new extraction head.

15.23 Connect the ball valve assembly to the new extraction head using the HPS clamp.

Section 16 - Adding a Drying Cartridge In-Line

16.1 The drying cartridge is installed in-line between the glass chamber and the exit port from the extraction head.

16.2 To install, lower the glass chamber assembly by loosening the wheel screw on the right side of the assembly.

16.3 Once lowered, thread the drying cartridge into place by twisting it counterclockwise onto the nut at the exit port of the extraction head.

16.4 Lift the glass chamber assembly up and ensure the tip of the drying cartridge slips into place in the nut at the sample entry port of the glass chamber.

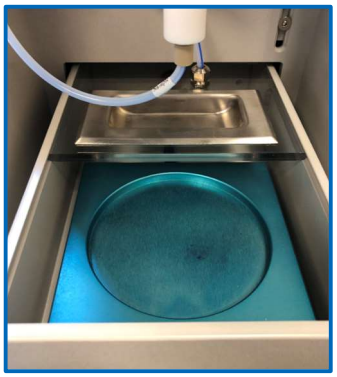
16.5 Tighten the wheel screw to lock the glass chamber assembly into place.

Section 17 - Weighing and Adding the Aluminum Weigh Dish to the SPE-Express 2

17.1 Follow US EPA Method 1664 to ensure you condition your weigh pans properly and are obtaining an accurate pre-weight.

17.2 Weigh the aluminum pan to the nearest 0.0001g and record the weight.

17.3 Slide the protective cover toward the back of the unit and place the aluminum pan on the heating platform in the SPE-Express II.



17.4 Close the cover to ensure the hexane fumes are directed out of the unit via the exhaust system. Failure to do so can cause harm to the analyst if hexane fumes are inhaled. Failure to close the cover will prevent hexane from getting into the aluminum pan and cause sample loss.

17.5 The SPE-Express 2 will continuously heat the eluted hexane + HEM at a low temperature (~40 °C). After the third elution step monitor the aluminum weigh dish to ensure all hexane is fully evaporated prior to removal.

17.6 Remove the aluminum pan and place in a desiccator until you are ready to perform the post-weight event. Follow US EPA Method 1664 to ensure proper procedure.

Section 18 - Cleaning SPE-Express 2

18.1 After use, SPE-Express 2 should be wiped down with a wet cloth (wetted with water) to remove any residual solvents, acids, or other liquids and debris from normal use.

18.2 No decontamination or cleaning agents are to be used that can cause a hazard as a result of the cleaning process on the equipment or material contained within it. If there are any doubts as to what cleaning agents are appropriate please contact Environmental Express immediately.

18.3 When following US EPA Method 1664, the sample analyzed is acidified to a pH of <2. If one spills sample on or around the unit, neutralize the spill with proper materials such as baking soda and clean up with paper towels. Dispose of properly.

18.4 If the unit needs to be moved from one location to another, the solvent lines will need to be purged.

18.5 From the main screen, click on “Solvent Purg”

18.6 Follow the instructions to void the reagent lines of solvent for safe transport.

Section 19 - Glossary

19.1  Refer to user manual

19.2  Warning – flammable material

19.3  Warning – hot surface