HPX Series Inert Hotplate

User's Manual

HPX-100
HPX-200

**For units shipped after November 15,2023*

Table of Contents

1.0 Introduction

This manual describes the Savillex HPX Series hotplates (referred to as HPX) and contains product specific information, current as of the date of publication, for the safe use and operation of this equipment. HPX units are available in different voltages. Before initial use, check that the unit received is the correct voltage for the location. **Contact info@savillex.com for a HPX manual for units shipped prior to November 15, 2023.**

The user must read all the information in this manual carefully and familiarize themselves with the HPX prior to operating the equipment. Any questions regarding this product, or the contents within this manual should be directed to Savillex or its authorized distributor.

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1.1 Purpose

The HPX units are general purpose heating devices designed for laboratory procedures requiring precise control of temperature. The HPX can produce accurately controlled heating surface temperatures up to 240°C, depending on the model.

The HPX may be used for general purpose heating applications and/or general analytical laboratory sample preparation tasks, including heating, sample dissolution and sample evaporation.

Do not use this product for anything other than its intended purpose.

1.2 Liability Disclaimer

Every effort has been made in the preparation of this manual to provide the user with the most current, correct and clearly expressed information and instructions required for use and operation of the HPX . Savillex assumes no liability or responsibility for damages resulting from errors, omissions and accuracy of the information in this manual. The information included has been compiled from a variety of sources and is subject to change without notification. Savillex makes no warranties or representations regarding the quality, content, completeness, suitability, adequacy, sequence, accuracy, or timeliness of such information. Any errors or omissions found should be reported to Savillex immediately.

We actively request comments regarding improvements to this manual and the HPX itself. We reserve the right to make technical changes as deemed necessary.

2.0 Safety Information

This manual contains important operating and safety information. The user must carefully read and understand the contents of this manual prior to the use of this equipment. In addition, the equipment itself also has labeling and information that must be followed to ensure proper use and safe operation.

This unit is intended as an experimental tool for research and development in the laboratory by qualified personnel. Only those individuals that have adequate technical training, knowledge and demonstrated expertise should attempt operation of this unit. Observe all safety procedures and best laboratory practices to assure safe operation. As in all laboratory operations, the user must assure that adequate safety procedures are established to protect all personnel from the potential hazards in the use of this product. Failure to use this product according to this user's manual may degrade or defeat the protection normally provided by this product.

The HPX has been designed with function, reliability and safety in mind. It is the user's responsibility to install this product in conformance with local electrical codes. For safe operation, please pay attention to the danger categories and signal words throughout the manual.

2.1 Danger Categories and Signal Words – User's Manual

WARNING!	Denotes less severe hazards. Failure to follow safety instructions may cause severe personal injury, death or severe property damage.
	This symbol indicates important information regarding the product or refers to a part of the manual that requires emphasis.

2.2 Danger Categories and Signal Words – Product Markings

	Hot surfaces alert the possibility of personal injury by contacting the surface during use or for prolonged periods after use.
	Use extreme caution if the heater output cable is unplugged from the receptacle on the control box. High voltage is present when energized.

2.3 Electrical Shock Hazard

- Use a properly grounded electrical outlet of correct voltage and current handling capacity
- Disconnect the power cord prior to maintenance and servicing
- Use only the power cord supplied with the product
- Position the product for use so that the power cord can be easily disconnected without having to move the product
- Use extreme caution if the heater output cable is unplugged from the receptacle on the control box. High voltage is present when energized.

2.4 Personal Injury Warnings

- Do not use this product in a manner other than as stated in this manual as the protection provided by the equipment may be impaired
- This product is designed for use in laboratory environments by persons knowledgeable in safe laboratory practices
- Do not lift the product by the PTFE protective side guards. If the HPX is still warm, allow to cool then lift and carry the HPX by placing hands under the main graphite body.
- Use appropriate hand and eye protection when handling hazardous chemicals as recommended on the material safety datasheets
- Do not use in the presence of flammable or combustible materials – fire or explosion may result. This device contains components which may ignite such materials. Not rated for use in hazardous atmospheres. This device is not explosion or spark proof.
- Use caution when heating volatile materials. This device can reach the flash point temperature of many chemicals.
- Always install this device in a chemical fume hood when using hazardous chemicals
- The HPX power control unit is intended for installation outside the fume hood by remotely locating the temperature controller via the 2 m (6 ft) wiring harness
- When using a temperature setting of 200°C or greater, ensure that the work surface area directly beneath the HPX is a material that will not become damaged by high temperatures
- The surfaces of the HPX will remain hot for some time after use. Avoid contact until the surface temperatures cool to below 50°C.
- PTFE protective side guards and underside heat protection will be hot during and for a period of time after use
- Refer servicing to qualified personnel
- Reaction plans should be developed and safety precautions put in place based on the worst case scenario that any materials placed on the top surface could be subjected to a continuous supply of heat, raising the material temperature to levels in excess of 240°C

2.5 Product Damage Warnings

- Keep the top surface clean. Use a non-abrasive cleaning method to protect the Teflon™ PFA surface coating.
- Unplug the unit and remove spills promptly after it has cooled down. Do not immerse unit for cleaning. Keep this unit dry and clean.
- Do not use this product with a metal vessel
- Protect the Teflon™ PFA surface coating from scratches, gouges or other damage. Avoid using items that have sharp corners or edges. Do not drop items or slide heavy objects on the top surface.
- Do not use aluminum foil or other materials to cover the surface of the HPX
- The maximum gross weight placed on the top surface must not exceed 12 kg (26 lbs)

3.0 About the HPX

3.1 Dimensional Specifications

Model	Heated Working Surface Dimension	Overall Dimensions	Weight	Power Cord Length
HPX-100 *All models*	292 mm x 212 mm (11.5 in x 8.3 in)	**Length**: 40.4 cm (15.9 in) **Width:** 27.2 cm (10.7 in) **Height:** 14.8 cm (5.8 in)	11.61 kg (25.6 lbs)	1.8 m (6.0 ft) to temperature control unit
HPX-200 *All models*	415 mm x 292 mm (16.3 in x 11.5 in)	**Length:** 40.4 cm (15.9 in) **Width:** 47.5 cm (18.7 in) **Height:** 14.8 cm (5.8 in)	19.09 kg (42.1 lbs)	1.8 m (6.0 ft) to temperature control unit
Temperature Controller *All models*	N/A	**Length:** 30.2 cm (11.9 in) **Width:** 20.0 cm (7.9 in) **Height:** 7.6 cm (3.0 in)	1.96 kg (4.3 lbs)	2 m (6.6 ft) control unit to outlet

3.2 Electrical Ratings

Model	Savillex Part #	Volts	Amps	Watts	Freq.	Fuse	Phase	Max. Temp.
HPX-100	550-100-100	100 +/- 10%	12.5	1250	50/60 Hz	15 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	200°C
HPX-100	550-100-120	120 +/- 10%	12.5	1500	50/60 Hz	15 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C
HPX-100	550-100-230	230 +/- 10%	7.8	1800	50/60 Hz	12.5 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C
HPX-100 UK 3-pin fused plug	550-100-230UK	230 +/- 10%	7.8	1800	50/60 Hz	12.5 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C
HPX-100	550-100-230CN	230 +/- 10%	7.8	1800	50/60 Hz	12.5 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C
HPX-200	550-200-120	120 +/- 10%	12.5	1500	50/60 Hz	15 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	200°C
HPX-200 North America	550-200-230NA	230 +/- 10%	10.4	2400	50/60 Hz	12.5 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C
HPX-200	550-200-230	230 +/- 10%	10.4	2400	50/60 Hz	12.5 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C
HPX-200 UK 3-pin fused plug	550-200-230UK	230 +/- 10%	10.4	2400	50/60 Hz	12.5 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C
HPX-200	550-200-230CN	230 +/- 10%	10.4	2400	50/60 Hz	12.5 Amp Fast Acting 6.3 mm D x 32 mm L	1Ø	240°C

To minimize line voltage changes, it is recommended to install the HPX only in premises having a service current capacity equal to or greater than 100 A per phase.

3.3 Unpacking and Inspection

Open the shipping carton and remove all HPX components. Check the components against the following packing list and for shipping damage such as cracks, scratches, dents, etc. Should any components be missing or damaged, contact your local dealer or Savillex. We recommend retaining all packaging until it is determined that the equipment is functioning properly.

For safety reasons, never operate the unit if it exhibits visible signs of damage.

NOTE: If the shipping carton and contents are damaged, retain the packaging for inspection by the freight company. Notify your dealer or Savillex for assistance in filing an insurance claim.

Savillex HPX Packing List

- (1) HPX assembly with wiring harness and PTFE protective side guards and underside protection
- (1) Temperature controller with detachable power cord
- (1) Manual download instructions card

3.4 Product Controls and Indicators

1. **Power Switch**
   - Used to switch power ON/OFF to the HPX
2. **Indicator Light**
   - When illuminated, signals that the “Push To Start” button must be depressed to initiate start-up of the HPX or to restart the HPX when an overheat event has occurred
3. **Heating Temperature Control and Display**
   - Used to program temperature set points and displays process values
4. **Countdown Timer**
   - Used to program timed heating functions and displays time remaining in timed heating cycle
5. **Push To Start Button**
   - Pressed to initiate start-up of the HPX, or re-sets the HPX after an overheat event has occurred

**** If you require a manual for HPX units shipped prior to November 15, 2023, contact info@savillex.com.***

3.5 Product Connections

1. **Power Cord Inlet**
   - Mating receptacle for supplied power cord
2. **Heater Output**
   - Heater output connector for HPX wiring harness
3. **Data Label** (located on bottom of control box)
   - Displays product part number, operating voltage, wattage, frequency, serial number and certification authority

4.0 Preparation for Use

The HPX are designed to provide safe and reliable operation under the following conditions:

4.1 Installation

1. Place the HPX on a flat, stable surface at least 30.5 cm (12 in) from combustible materials

WARNING!	Always install this device in a chemical fume hood when using hazardous chemicals and isolated from flammable vapors. *See Section 4.2:* Operating Conditions

2. Run the 2 m (6 ft) wiring harness from the HPX to outside the fume hood
3. Connect the wiring harness connector to the heater output connector on the back of the temperature controller
   NOTE: The heater output connector is keyed to the appropriate voltage
4. Place the temperature controller within 2 m (6 ft) of an appropriately rated voltage and grounded outlet. *See Section 3.2:* Electrical Ratings.
5. Attach the power cord to the receptacle on the rear of the temperature controller
6. Plug the power cord into a properly grounded electrical outlet of correct voltage and current handling capacity

4.2 Operating Conditions

- Indoor use
- Altitude up to 2000 meters (6,500 feet)
- Ambient temperatures of 17°C to 27°C
- HPX installed on a flat surface at least 30.5 cm (12 in) from walls, 122 cm (48 in) from ceilings, and 30.5 cm (12 in) from other HPX if using multiple units
- Relative humidity 20% to 80%, non-condensing
- Pollution Degree 2: Any foreign matter that may accumulate on or within the HPX during normal use is not electrically conductive
- Installation Category II: the HPX is designed for connection to an electrical branch circuit inside a building with main supply voltage fluctuations not exceeding ±10% of the nominal voltage

4.3 Storage Conditions

- Ambient temperatures of -25°C to 65°C
- Relative humidity 10% to 85%

5.0 Operation of the HPX

The HPX is a general purpose heating plate designed for laboratory procedures requiring precise control of process temperatures. Electric heating elements and a temperature sensor are located below the surface and within the graphite heating surface of the HPX. A microprocessor controlled digital PID temperature controller with closed-loop feedback monitors the sensed temperature and accurately controls the amount of power applied to the heating elements to maintain precise temperature control. The HPX temperature may be set up to 240°C (200°C on some models).

	Items or solutions placed on the HPX may not be at the same temperature as the chosen temperature setting due to thermal transfer inefficiencies.
WARNING!	When using a temperature setting of 200°C or greater, ensure that the work surface area directly beneath the HPX is a material that will not become damaged by exposure to high temperatures.
Key Symbols	**Numeric Slider With + and − Keys**  **Back–Forward Arrow Keys**  **Home Key**  **Function Key** 

HPX Properties

- The HPX is constructed of ISO-molded carbon graphite material for quick thermal conduction and uniform surface temperature
- The Teflon™ PFA surface coating is corrosion proof, temperature resistant and resists aggressive chemicals
- This product utilizes a microprocessor controlled digital PID temperature controller with closed-loop feedback for accurate temperature control up to 240°C (200°C on some models)
- The PID temperature controller incorporates a countdown timer option to allow users to program timed heating events
- An independent overheat protection circuit with automatic shutdown is incorporated for additional safety

5.1 Setting the Temperature

1. Switch the Power button to the ON position. The **Indicator Light** should be illuminated.
2. Depress the **Push To Start** button one time to energize the temperature controller. The **Indicator Light** will shut off.
3. The Heating Temperature Control and Display should now display two sets of numbers. This is the home display screen. The upper red number displays the current HPX temperature. The lower green number displays the user set temperature (***Figure 1***).

Figure 1. Home Display Screen

!	The maximum temperature setting for the HPX is either 200°C or 240°C depending on model and voltage. Please see section 3.2 for details.

4. The temperature will be displayed in either °F or °C, as indicated on the display. Temperature units can be adjusted to user preference.
   - See 5.2 - Changing Units - °F or °C
5. Use the **Numeric Slider** or **+ and − Keys** to set the desired temperature in the lower green display
6. The HPX temperature (red number) will change to meet the set temperature value. The set temperature will be accurately maintained until further changes are made.

5.2 Changing Units - °F or °C

1. Toggle the **Forward Arrow Key** until the Display Units screen is displayed (***Figure 2***).
2. Press the **+ or − Keys** to toggle between °F or °C.
3. Press the **Home Key** to return to the Home Display Screen.

Figure 2. Changing Temperature Units

5.3 Setting Countdown Timer Function (optional)

The temperature controller can be programmed to perform a timed heating function. The user programs a low temperature setting, a high temperature setting, and a total heating time up to 99 hours and 59 minutes. The countdown timer can be displayed to show total heating time remaining.

1. From the Home Display Screen (***Figure 1***) choose the low temperature setting by Using the **Numeric Slider** or **+ and − Keys**.. The low temperature setting is the temperature that the HPX will cool to after the timed heating cycle has finished.

	The minimum low temperature setting for all HPX units is 20°C and the maximum temperature setting for the HPX is either 200°C or 240°C depending on model and voltage. Please see section 3.2 for details on maximum temperature.

2. Toggle the **Forward Arrow Key** three times to display the high temperature screen as indicated by the digital readout **Closed Loop Timer SP** (***Figure 3***). Use the **Numeric Slider** or **+ and − Keys** to set the desired high temperature setting. The high temperature setting is the temperature that the HPX will heat to and maintain during the timed heating cycle.

Figure 3. High temperature setting for timed heating cycle

3. Press the **Forward Arrow Key** to display the hour screen as indicated by the digital readout **Hours** (***Figure 4***). Use the **Numeric Slider** or **+ and − Keys** to set the number of hours (up to 99) for which the countdown timer will maintain the high temperature setting.

Figure 4. Digital hour readout for timed heating cycle

	The timer will only begin counting down when the HPX temperature has reached ±5°C of the high temperature setting.

4. Press the **Forward Arrow Key** to display the minutes screen as indicated by the digital readout **Minutes** (***Figure 5)***. Use the **Numeric Slider** or **+ and − Keys** to set the number of minutes (up to 59) for which the countdown timer will hold high temperature setting.

Figure 5. Digital minute readout for timed heating cycle

5. Press the **Home Key** to return to the Home Display Screen.
6. Press the **Function Key** to start the programmed countdown timer heating cycle. The set temperature will change to the high temperature set in step 2. The set temperature cannot be adjusted while in timer heating cycle.

	The timer will only begin counting down when the HPX temperature is within ±5°C of the high temperature setting.

7. When the HPX temperature is within ±5°C of the high temperature setting a green profile icon appears on the home screen indicating that the timer countdown is in progress ***(Figure 6***).

Figure 6. Home screen with green profile icon

8. Press the **Forward Arrow Key** two times to see the length of time remaining in the timed heating cycle (hours:minutes). A flashing colon mark in the Time Remaining display indicates that the timed cycle is running ***(Figure 7).***

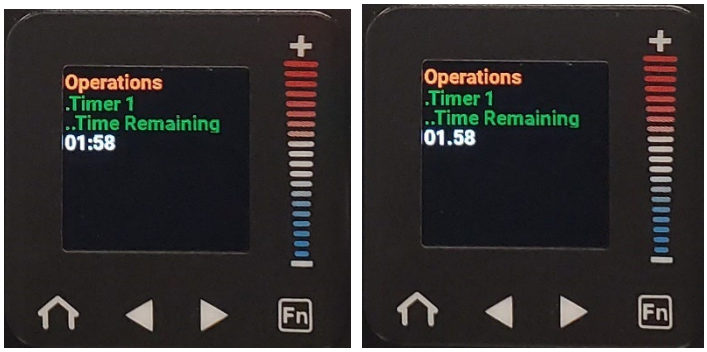


Figure 7. Time Remaining display with flashing colon mark

9. Press the **Home Key** to return to the Home Display Screen.
10. When the programmed time has elapsed, the HPX will automatically revert to the low temperature setting (step 1) and hold indefinitely
11. To cancel the timed heating function, press the **Function Key**. This allows for simple temperature set point operation.
12. The timed heating cycle can be restarted by pressing the **Function Key** again. This will restart the timed cycle from the initial time setting.

5.4 Bluetooth® Wireless Operation (optional)

The Watlow EZ-LINK™ app can be downloaded from the app store to any Apple® or Android™ device. The user can connect to the Hotplate via Bluetooth® wireless technology to monitor and change temperature and timer settings from up to 70 feet away ***(Figure 8)***. The app can connect to, monitor, and control multiple devices. Each device can be given a unique name for identification.

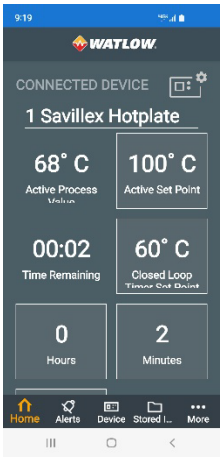


Figure *8.* EZ-LINK™ app

5.5 Resetting and Restarting the HPX – Over Temperature Condition

If there is a malfunction of the HPX and the temperature rises to 250°C ±8°C, an independent circuit will trigger the automatic shutdown of the HPX. When this occurs all electrical power is interrupted to the HPX heaters, and the red **Indicator Light** on the front panel will be lit. The HPX is prevented from being re-energized until its temperature has cooled to 220°C ± 10°C and must be manually re-started. When it has cooled simply press the "**Push to Start**" button to re-energize.

Note: On models that have a maximum temperature setting of 200°C, the overheat circuit will trigger the automatic shutdown at 215°C ± 7°C. When the HPX has cooled to a temperature of 185°C ± 10°C, the unit can be re-started by pressing the "**Push to Start**" button.

WARNING!	The original fault condition should first be diagnosed and repaired before putting the HPX back into service or the same automatic over temperature shutdown will occur. Multiple occurrences of the automatic shutdown feature may indicate an unsafe operating condition. Disconnect and discontinue use of the HPX and contact Savillex or its authorized distributor.

6.0 Maintenance, Troubleshooting and Repair

6.1 Product Maintenance

The HPX requires little maintenance to provide a reliable means of performing laboratory procedures at accurately controlled temperatures. The few simple tasks listed below will keep the unit maintained and ensure that it is ready for next use.

Power

- Inspect the power cord regularly and replace if damaged. Use only replacement power cords available from Savillex.
- Disconnect power to the unit by unplugging the power cord before performing any maintenance or inspection services

Coated Graphite Surface

- The Teflon™ PFA coated graphite surface is easy to clean and highly resistant to corrosion or chemical attack
- Keep the surface clean. A nonabrasive cleaner may be used to clean the surface.
- Inspect the graphite for damage during cleaning. Discontinue use if the graphite is chipped, cracked or shows excessive scratching.
- Take caution when handling the HPX. The graphite may crack or break if dropped or impacted.

General

- It is important to keep this unit dry and clean
- Remove minor exterior liquid spills promptly
- Clean the exterior surfaces with a damp cloth and a mild cleansing agent suitable for the laboratory environment, such as dilute Micro-90
- Gently wipe down the exterior of the unit and do not immerse the HPX or temperature control box in water or any other cleaning agent
- Do not spray the unit with water to clean the exterior

- If liquid or wet solid material gets inside the product, immediately disconnect power and discontinue use. Contact Savillex or its authorized distributor for additional instructions regarding interior spills.
- Do not reconnect the product to power until all cleaned surfaces have dried
- Do not disassemble, modify or revise this product. This may cause a malfunction and/or electrical fire.

6.2 Troubleshooting

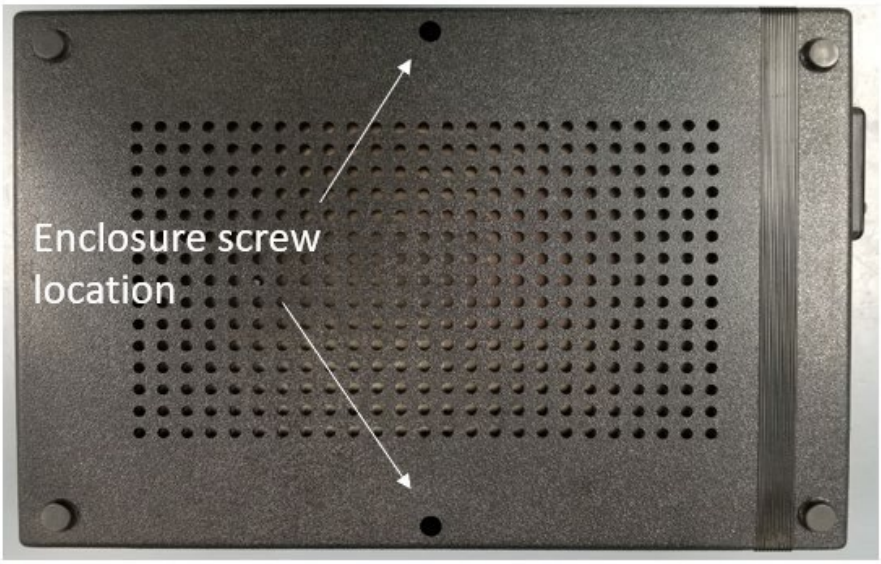
Fault	Possible Cause	Corrective Action
No Heat To HPX	Disconnected power cord or cable	Check power cords and cable connections
	Overheat shutdown	Allow HPX to cool and restart (Section 5.4)
	Power control fuse blown	Inspect and replace fuse (Section 3.5)
Excessive Heat-up Time	Voltage out of specification	Check input voltage
Temperature Controller Operating Erratically or Incorrectly	Failure of heating element	Contact Savillex
	Faulty temperature sensor	Contact Savillex
	Faulty temperature controller	Contact Savillex

6.3 Service and Repair

6.3.1 Fuse Replacement Instructions

1. Disconnect the power cord and heater output cables from the back of the temperature control unit and remove from installed location to an appropriate workspace for removing the fuse.

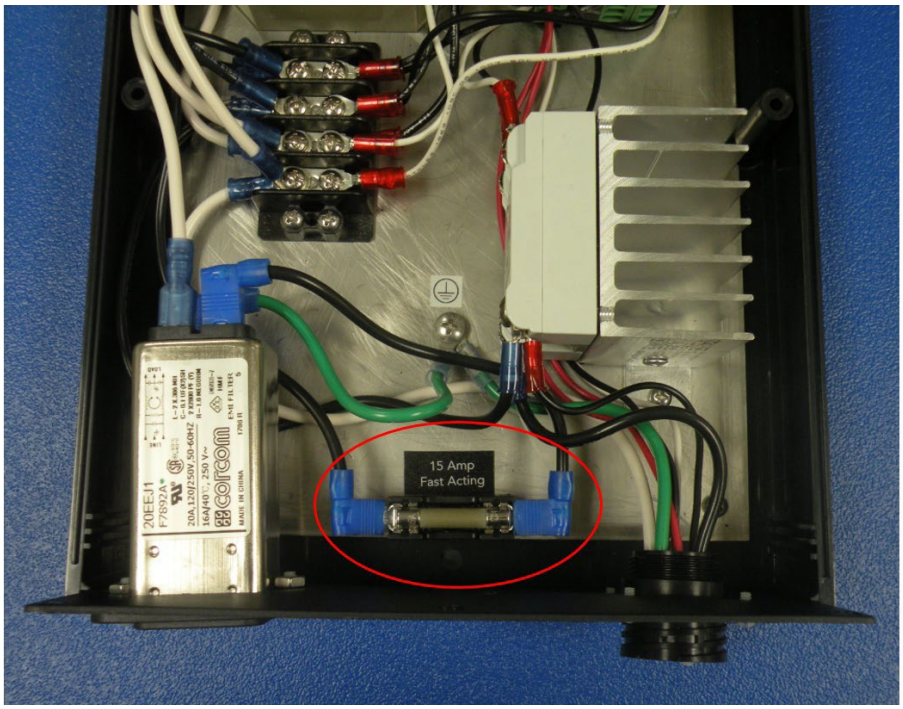
2. Turn the temperature control upside down to access the enclosure screws. Remove the 2 screws from the underside of the temperature control unit using a Philips #1 screwdriver.



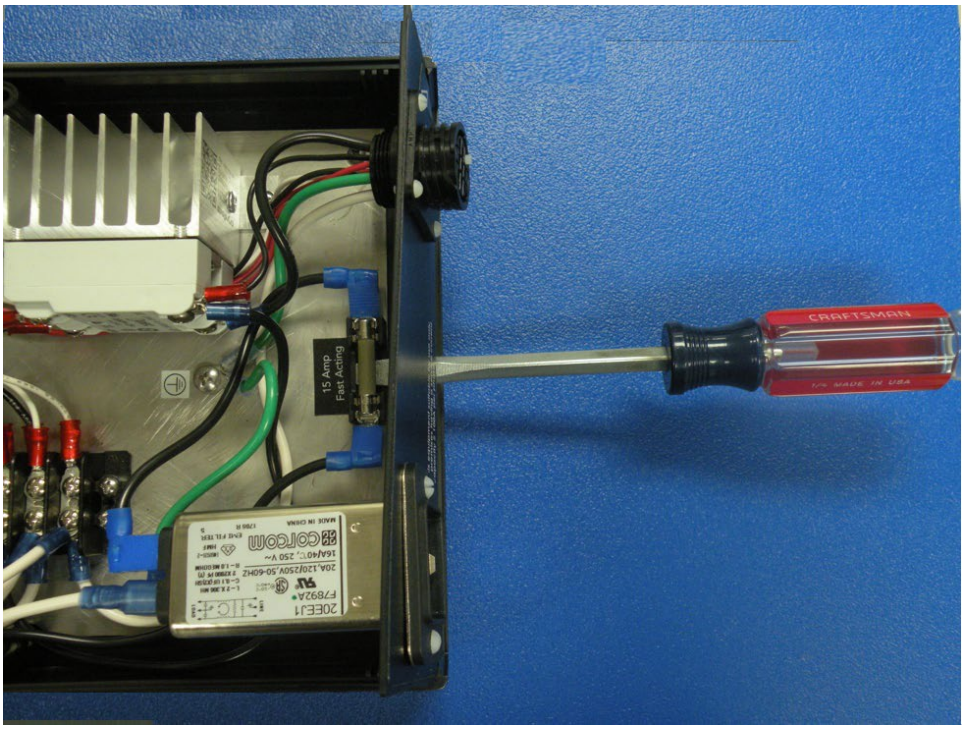
3. Grasp the top and bottom of the temperature control unit and turn the temperature control box right-side-up.

4. Carefully lift and remove the top half of the enclosure to expose the wiring inside.

5. Locate the fuse at the back of the temperature control unit. There will be a label to indicate the type of fuse next to the fuse.



6. Slightly raise the back panel of the control box so that a standard screwdriver can be used to pry the fuse out of the fuse holder as shown below



7. Securely press the replacement fuse into the fuse holder. Make sure the fuse is properly sized and rated for the fuse holder (see section 3.2). Contact Savillex for information if you are unsure of the fuse.

8. Reassemble the temperature control unit and place back into service.

6.3.2 Other Service and Repair

Service and/or parts may be obtained from Savillex. Service should always be performed by qualified technicians using Savillex parts and instructions. Please contact Savillex or its authorized distributor with any service or repair issues.

Please provide the unit's serial number with all repair questions or repair orders. The serial number is located on the data label (located on the underside of the temperature control box).
Phone: +1 952.935.4100
Fax: +1 952.936.2292
Email: info@savillex.com

7.0 Equipment Disposal

This equipment must not be disposed of with unsorted waste. It is the user's responsibility to correctly dispose of the equipment at life-cycle-end by handing it over to an authorized facility for separate collection and recycling. It is also the user's responsibility to decontaminate the equipment in case of biological, chemical and/or radiological contamination, so as to protect the persons involved in the disposal and recycling of the equipment from health hazards.

For more information about properly disposing of waste of equipment, please contact the local waste disposal authorities. By doing so, it will help to conserve natural and environmental resources and will ensure that equipment is recycled in a manner that protects human health.

8.0 Appendix

8.1 Warranty Statement

LIMITED WARRANTY

Savillex warrants the HPX against defects in materials and workmanship for two years from the time of shipment to the end user. Warranty coverage excludes product damage which Savillex determines is due to accident, misuse, lack of reasonable care or physical modification of the product. Savillex makes no warranty, express or implied, with respect to any components, products, information or services provided by any third party.

CLAIMS

The end-user's warranty rights are subject to Savillex being promptly notified in writing upon discovery of a warranty claim with a detailed explanation of the defect and verification of the defect by Savillex. Savillex will consider claim submitted during the warranty period and up to 30 days thereafter. Upon confirmation of defects by Savillex, the end-user's EXCLUSIVE REMEDY shall be for Savillex, at its option, to repair or replace the defective product, or to refund the price paid by the Buyer for such product. This remedy is subject to return of the defective product to Savillex or its agent, freight prepaid. **EXCEPT AS STATED IN THIS DOCUMENT, NO OTHER WARRANTY, EXPRESS OR IMPLIED, IS GIVEN OR AUTHORIZED BY SAVILLEX. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. ALL REPRESENTATIONS MADE OF SAVILLEX PRODUCTS CONTAINED IN CATALOGS, ADVERTISING, OR REPRESENTATIONS MADE BY REPRESENTATIVES OF THE COMPANY ARE NOT EXPRESSED WARRANTIES AND DO NOT REPRESENT TO THE BUYER THAT A PRODUCT WILL PERFORM TO PARTICULAR SPECIFICATIONS.**

LIMITATION OF LIABILITY

SAVILLEX DISCLAIMS AND IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE OR TYPE, WHETHER ARISING OUT OF WARRANTY OR OTHER CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE, INCLUDING WITHOUT LIMITATION, FORESEEABLE LOSS, LOST PROFITS AND RELIANCE DAMAGES. IN NO EVENT SHALL SAVILLEX'S LIABILITY UNDER ANY CAUSE OF ACTION RELATING TO A PRODUCT EXCEED THE PURCHASE PRICE OF THE PRODUCT.

8.2 Calibration Offset of Temperature Display

Authorized Personnel Only!

The following instructions allow a user to add a calibration offset to the input of the temperature controller. Calibration offset provides a means of calibrating the controller to an external sensor or other device that may more accurately display the actual surface temperature of the HPX. A positive offset increases the input value and a negative offset decreases the input value.

WARNING!	In the event that the programmer inadvertently makes a change to parameters that should not have been changed, the controller may not function as intended. Contact Savillex or its authorized distributor for instructions on how to restore the controller to the original settings.
Key Symbols	**Numeric Slider With + and – Keys**  **Back–Forward Arrow Keys**  **Home Key**  **Function Key** 

1. Unlock the Controller

1. Press the **Forward Arrow Key** one time to enter the Operations Menu
2. Press the **– Key** to select Factory (Figure 9).
3. Press the **Forward Arrow Key** to enter the Factory Menu.
4. Lock is Selected.
5. Press the **Forward Arrow Key** to enter the Lock Menu.
6. Press the **– Key** to select Read Lock.
7. Press the **Forward Arrow Key** to enter the Read Lock Menu.
8. Use the **Numeric Slider** or **+ and – Keys** to change the Read Lock from "1" to "5"
9. Press the **Home Key** to return to the Home Screen.

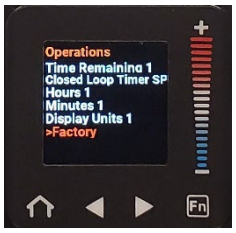


Figure 9.

2. Program a Calibration Offset.

1. Press the **Forward Arrow Key** one time to enter the Operations Menu
2. Press the **– Key** to select Setup (Figure 10).
3. Press the **Forward Arrow Key** to enter the Setup Menu.
4. Analog Input is selected.
5. Press the **Forward Arrow Key** to enter the Analog Input Menu.
6. Press the **– Key** to select Calibration Offset.
7. Press the **Forward Arrow Key** to enter the Calibration Offset Menu.

Figure 10.

8. Use the **Numeric Slider** or **+ and − Keys** to enter the desired calibration offset. A positive offset value increases the displayed HPX temperature, a negative offset value decreases the displayed HPX temperature.
9. Press the **Home Key** to return to the Home Screen.

3. Lock the Controller

1. Press the **Forward Arrow Key** one time to enter the Operations Menu
2. Press the **− Key** to select Factory (Figure 9).
3. Press the **Forward Arrow Key** to enter the Factory Menu.
4. Press the **− Key** to select Lock.
5. Press the **Forward Arrow Key** to enter the Lock Menu.
6. Press the **− Key** to select Read Lock.
7. Press the **Forward Arrow Key** to enter the Read Lock Menu.
8. Use the **Numeric Slider** or **+ and − Keys** to change the Read Lock from “5” to “1”
9. Press the **Home Key** to return to the Home Screen.

8.3 CE Declaration of Conformity

The Undersigned, representing the manufacturer

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Herewith declare that the products: HPX-100 (all models), HPX-200 (all models) laboratory hotplates conform to the essential requirements of the following EC Directive(s) when installed in accordance with the installation instructions contained in the product documentation

EMC Directive 2004/108/EC
Low Voltage Directive 2006/95/EC

The standards and/or technical specifications referenced below have been applied:

EN 61000-3-2: 2014	*Electromagnetic Compatibility – Part 3-2: Limits – Limits for Harmonic Current Emissions (Equipment Input Current ≤ 16 Amps per Phase)*
EN61000-3-3: 2013	*Electromagnetic Compatibility – Part 3-3: Limits – Limitation of Voltage Changes, Voltage Fluctuations and Flicker in Public Low-Voltage Supply Systems for Equipment with Rated Current ≤ 16 Amps Per Phase NOTE: Subject to Conditional Connection*
EN 61010-1: 2010	*Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements*
EN 61010-2-010: 2014	*Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 2-010: Requirements for Laboratory Equipment for the Heating of Materials*
EN 61326-1: 2013	*Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements – Part 1: General Requirements*
EN 55011: 2009 + A1: 2010	*Industrial, Scientific and Medical Equipment– Radio-Frequency Disturbance Characteristics-Limits and Methods of Measurement*

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