

XH-2002 SMALL SLIDE WARMER

12857 and 12857-220

Operation Manual



 **TED PELLA, INC.**
Microscopy Products for Science and Industry



WARNING: If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

DISCLAIMER:

Ignorance of the warnings contained in this manual, that is, use of the 12857 and 12857-220 Small Slide Warmer in a manner that exceeds the given warnings, is an action that falls outside the specifications for the use of the equipment. In such a case, the distributor and manufacturer disclaim any and all liability (whether based in contract tort, strict liability, or otherwise), for any damages whatsoever, including direct, incidental, consequential, loss of business profits, or special damages, resulting from the misuse of these products, even if the distributor/manufacturer has been advised of the possibility of such damages.

XH-2002 Small Slide Warmer

Prod. No. 12857 and 12857-220

Operation Manual

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IMPORTANT SAFETY INSTRUCTIONS



Recognize this symbol as a SAFETY message indicating risk of **danger**.



Recognize this symbol as a SAFETY message indicating risk of **electrocution**.

Electrical Requirements



WARNING! Having water near or in contact with the power supply may cause electrical shock. To prevent fire or shock hazard, do not expose the electrical unit to moisture.



CAUTION! No user-serviceable parts inside. Refer servicing to qualified service personnel.



WARNING! The Small Slide Warmer must be grounded. The power/mains plug is considered the primary disconnect device of the instrument and should be readily identifiable and easily accessible at all times.

- The Small Slide Warmer is equipped with a cord having a grounding wire with a grounding plug. **DO NOT** use a two-prong adapter or operate this system with a damaged cord.
- The Small Slide Warmer Product No. 12857 should be plugged into 110VAC, 60Hz.
- The Small Slide Warmer Product No. 12857-220 should be plugged into 230VAC, 50Hz.



Do not, under any circumstances, cut or remove the round grounding prong from the plug or bend the power prongs to fit a receptacle other than the one shown for the Small Slide Warmer. Such abuse of the plug can result in electrical shocks, overheating, electromagnetic interference/radio – frequency interference (EMI/RFI) or death. Consult a qualified electrician or servicer if grounding instructions are not completely understood, or if doubt exists as to whether the Small Slide Warmer is properly grounded.



WARNING! Unplug the Small Slide Warmer before replacing fuses.

- Fuse configuration: 6A, 250V, Fast Acting. *See Page 11 for Fuse Replacement.*

Declaration of Conformity

The Small Slide Warmer conforms to the following European directive:

- LVD 2006/95/EC Low Voltage Directive (LVD)
- EMC 2004/1108/EC Electromagnetic Compatibility Directive (EMC)

The Small Slide Warmer conforms to the directives supported by testing to the following standards:

Standard	Description
UL - 61010A CSA - 61010-1	Safety Requirements for Electrical Equipment for Measurement Control and Laboratory Use
CE - EN/IEC EN61010-1	Safety
CE - EN61326	Immunity
CE - EN5501 1	Emissions
CE - EN61000-3-3	Voltage Fluctuation / Flicker
CE - EN61000-3-2	Harmonic Distortion

INTRODUCTION

XH-2002 Small Slide Warmer

To ensure safety and obtain optimum performance, be fully familiar with the use of this instrument. Ted Pella, Inc. recommends that you review this manual thoroughly before operating the instrument. Retain this instruction manual in an easily accessible place near the instrument for future reference.

SPECIFICATIONS

Dimensions:	262mm x 203mm x 86mm (10.3" W x 8" L x 3.4" H)
Temperature:	Room temperature to 100°C ± 2°C (212°F ± 3.6°F)
Power:	110VAC, 60Hz, 100W or 230VAC, 50Hz, 100W
Net weight:	3.2kg (7lb)

UNPACKING

The Small Slide Warmer package contains the instrument, Operation Manual, Warranty Card and Power Cord.

1. Remove the Operation Manual, Warranty Card and Power Cord from the shipping carton.
2. Remove the Small Slide Warmer from the shipping carton and place the instrument on a safe and secure work surface. Keep all original packaging.

INSPECTING for DAMAGE

If any damage is found, immediately notify the Customer Service Department at Ted Pella, Inc. Phone: 800-237-3526; Fax: 530-243-3761. For domestic U.S.A., email to sales@tedpella.com and for international inquiries outside the U.S.A, to isales@tedpella.com and supply the following information located on the Packing Slip:

1. Ted Pella, Inc. Packing Slip Order Number;
2. Your Purchase Order Number;
3. Your Customer Account Number;
4. Product Number and quantities of the damaged items;
5. Instrument Serial Number;
6. A short description of the damage.

Retain the shipping container and all contents including the packaging material.

Also if there is any damage found, immediately contact the commercial carrier and request an inspection. Obtain a copy of the completed inspection report from the commercial carrier inspector or representative and send it to the Customer Service Department at Ted Pella, Inc.

Do not return damaged shipments to Ted Pella, Inc. until a commercial carrier inspection report has been completed, and a copy of the inspection/damage report has been received and sent to Ted Pella, Inc.

Obtain an RMA number from our Customer Service Department who will assist you with return/replacement details. Please fill out the warranty card and return it to us.

SETUP

See Figures 1 and 2 below and pages 7-11.



Figure 1



Figure 2

OPERATION



WARNING! Having water near or in contact with the power supply may cause electrical shock. To prevent fire or shock hazard, do not expose electrical unit to excessive moisture.

1. Insert the power cord into the back of the instrument. *See Figure 2.* Plug the cord into the electrical outlet. Turn ON the **Power Switch**, located on the right side of the instrument. *See Figures 1 and 2.*

The display panel and **Power Switch** will illuminate to indicate the power is on. *See Figure 3.*

2. Use the three buttons on the right side of the display panel to adjust the warming surface temperature. The **Temperature Adjustment ▲ or ▼ Buttons** adjust the warming surface temperature. The **○** is the **Temperature Set Button**. *See Figure 3.*



Figure 3

3. To adjust the warming surface temperature follow the steps below. *See Figure 3.*
 - 3.1 Press the **○ Temperature Set Button**. The number to the right of the decimal on the display panel will flash.
 - 3.2 Press the **Temperature Adjustment ▲ or ▼ Buttons** to increase or decrease the warming surface set temperature.

Note: Holding the **Temperature Adjustment ▲ or ▼ Buttons** down will rapidly increase or decrease the warming surface set temperature adjustment.

While the instrument is heating, a red **LED Status Light** will illuminate on the left side of the display panel. This red **LED Status Light** will flash ON/OFF indicating the set temperature has been reached.

4. The temperature setting range is from room temperature to $100^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ($212^{\circ}\text{F} \pm 3.6^{\circ}\text{F}$).



WARNING! The warming surface will be hot.

CARE and MAINTENANCE

1. Turn the **Power Switch** OFF, unplug the Small Slide Warmer and let cool before moving or cleaning.
2. Unplug the Small Slide Warmer when not in use.
3. After the Small Slide Warmer has cooled, wipe with a lint-free cloth or damp sponge when necessary. Avoid using any type of instrument, tool or chemical that can scratch or damage the surface.



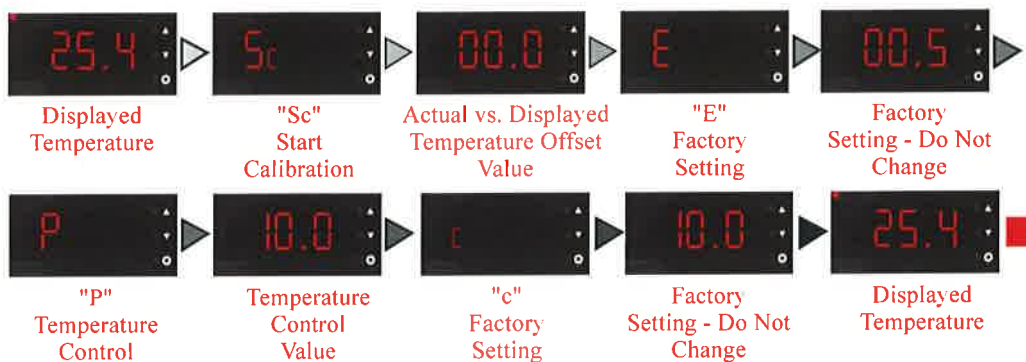
WARNING! Having water near or in contact with the power supply may cause electrical shock. To prevent fire or shock hazard, do not expose electrical unit to excessive moisture.

TROUBLESHOOTING

1. Instrument will not turn on:
 - 1.1 Make sure the power cord is plugged into the back of the instrument.
 - 1.2 Make sure the **Power Switch** on the side of the instrument is in the ON position.
2. If the instrument is still not working:
 - 2.1 Replace the fuse in the back of the instrument. The fuse compartment is located directly under the Power Cord Connection. *See page 11 for Fuse Replacement.*
3. If inconsistency in slide warming temperature is suspected or warming rate appears too fast or too slow:
 - 3.1 When the instrument is on (at least 15 minutes or more), use a surface or infrared thermometer to measure the temperature of the warming surface and proceed to take the average between the edge and the center. If the deviation between the average and the actual temperature is more than 5°C, it is necessary to recalibrate the instrument. *See page 9 for Calibration Procedure.*

CALIBRATION PROCEDURE

1. During the calibration procedure each of the screens below will be displayed:



It is necessary to cycle from the displayed temperature screen through each screen shown in order to save changes to any calibration setting in the sequence. Use the steps below to adjust the difference between the actual warming surface temperature and the LED displayed temperature and to adjust the warming rate.

2. To adjust the difference between actual/measured warming surface temperature and the LED displayed temperature, use the numerical difference between the two to create an offset value between -9.9°C and 9.9°C and follow steps 2.1 - 2.5.

- 2.1 Press and hold the **○ Temperature Set Button** until “Sc” is shown on the LED display panel. See Figure 4.



Figure 4

- 2.2 Press the **○ Temperature Set Button** again; “00.0” (factory offset temperature setting) is displayed and flashing. See Figure 5.



Figure 5

- 2.3 Press the **▲ or ▼ Temperature Adjustment Buttons** between -9.9°C and 9.9°C until the numerical difference value is shown on the LED display panel. See Figure 6.



Figure 6

- 2.4 Once the temperature offset value has been set, press the **○ Temperature Set Button** again and “E” will appear on the LED display panel. Following “E”, “00.5” will appear on the LED display panel. The value of “00.5” for “E” is a factory setting – do not change this setting. See Figures 7 and 8.



Figure 7



Figure 8

- 2.5 To save the temperature offset value press the **○ Temperature Set Button**, cycling through the remaining screens shown below until the displayed temperature screen reappears.



It is necessary to cycle through each of these screens in order to save the temperature offset value. Note: "E" = "00.5" and "c" = "10.0" values are factory settings – do not change these settings.

3. To adjust the warming rate of the instrument if it is heating too slowly or too quickly *follow steps 3.1 - 3.7.*

Note: "P" is the temperature control value which equals $P/10^{\circ}\text{C}$. Example: If the set temperature is 50°C and the "P" value is "10.0", this means that the heater will turn off and on at $P/10^{\circ}\text{C} = 10/10^{\circ}\text{C} = 1^{\circ}\text{C}$. So, the heater will turn off at 51°C and will turn on again at 49°C .

- 3.1 Press and hold the **○ Temperature Set Button** until "Sc" is displayed. Cycle through the screens shown below and stop when "P" appears on the LED display panel. *See Figure 9.*



Figure 9

- 3.2 Press the **○ Temperature Set Button** again, "10.0" (factory setting) is displayed and flashing. *See Figure 10.*



Figure 10

- 3.3 If the temperature rises too slowly or cannot reach the set temperature value, adjust the value of "P" to a higher number by pressing the **▲ Temperature Adjustment Button**. *See Figure 11.*



Figure 11

- 3.4 If the temperature rises too quickly or passes the set temperature value, adjust the value of "P" to a lower number by pressing the **▼ Temperature Adjustment Button**. *See Figure 12.*



Figure 12

- 3.5 Once the new "P" value has been set, press the **○ Temperature Set Button** again and "c" will appear on the LED display panel. Following "c", "10.0" will appear on the LED display panel. The value of "10.0" for "c" is a factory setting – do not change this setting. *See Figures 13 and 14.*



Figure 13



Figure 14

- 3.6 To save the new "P" value press the **○ Temperature Set Button** until the set temperature appears on the LED display panel.



- 3.7 Monitor the instrument temperature for 10 minutes and make further adjustments if necessary.

FUSE REPLACEMENT



WARNING! Unplug the Small Slide Warmer before replacing fuses.

1. Using a small flat blade screwdriver in the slot below the Power Cord Connection, pry and remove the fuse holder. *See Figures 15 and 16.*



Figure 15



Figure 16

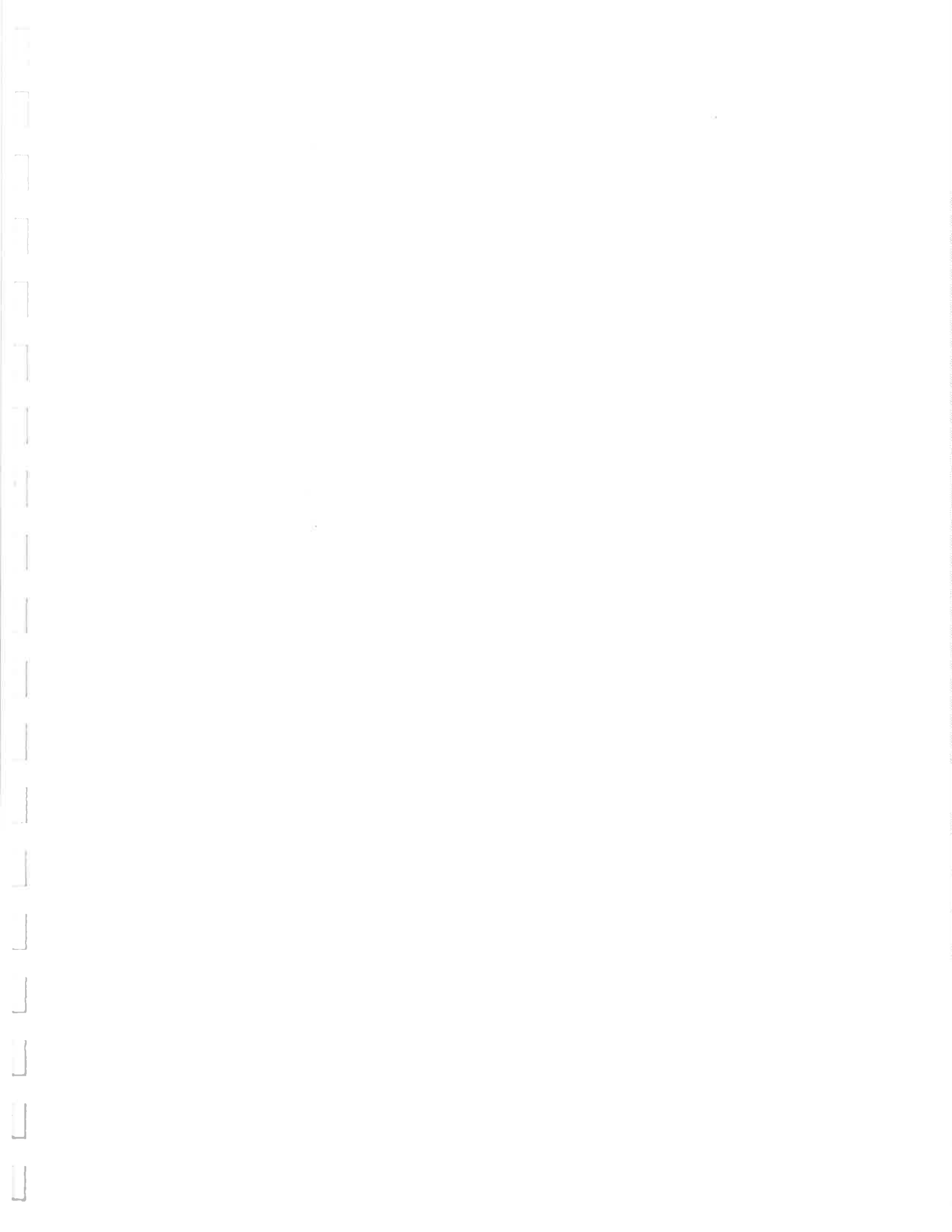


Figure 17

2. Remove and replace the faulty fuse. *See Figure 15.*
3. Reinsert the fuse holder below the Power Cord Connection.

CONSUMABLES/ACCESSORIES

Product Number	Description	Unit
260440 through 260442	Microscope Slides	pkg/144
2105, 2107, 2102-1 through 2102-6	Slide Storage Boxes	each
2110, 2113	Slide Holder Trays	each





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