



# Thermo Scientific Slimline Wax Dispenser

## User Guide

A84610300 Issue 4

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### Anatomical Pathology

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## Company information

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These instruments conform to the essential requirements of:

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU

## Symbols

The following symbols and conventions may be used throughout this document and on the instrument:



This symbol is used on the equipment, or in a document, to indicate that instructions must be followed for safe and correct operation. If this symbol appears on the instrument always refer to the operator guide.



This symbol indicates that a surface is hot. If this symbol appears on the instrument or in the documentation always refer to the operator guide. Take suitable precautions.



Manufacturer

A warning is given in the documentation if there is a danger of personal injury or damage to equipment or samples.

Note: Notes give additional information about a job or instruction, but do not form part of the instruction.



## Thermo Scientific™ PrintMate™ Cassettes

| Color  | Tube<br>(Cassettes Only) | Tube<br>(Cassettes & Lids) | Case<br>(Cassettes Only) | Combi Case<br>(Cassettes & Lids) |
|--|--------------------------|----------------------------|--------------------------|----------------------------------|
| <b>Thermo Scientific Embedding Cassettes</b> |                          |                            |                          |                                  |
|  | Aqua A84210010           | A84210100                  | A84210040                | A84210070                        |
|  | Blue A84210011           | A84210101                  | A84210041                | A84210071                        |
|  | Green A84210012          | A84210102                  | A84210042                | A84210072                        |
|  | Grey A84210013           | A84210103                  | A84210043                | A84210073                        |
|  | Lilac A84210014          | A84210104                  | A84210044                | A84210074                        |
|  | Orange A84210015         | A84210105                  | A84210045                | A84210075                        |
|  | Pink A84210016           | A84210106                  | A84210046                | A84210076                        |
|  | Tan A84210017            | A84210107                  | A84210047                | A84210077                        |
|  | White A84210018          | A84210108                  | A84210048                | A84210078                        |
|  | Yellow A84210019         | A84210109                  | A84210049                | A84210079                        |
| <b>Thermo Scientific Embedding Cassettes</b> |                          |                            |                          |                                  |
|  | Aqua A84210020           | A84210110                  | A84210050                | A84210080                        |
|  | Blue A84210021           | A84210111                  | A84210051                | A84210081                        |
|  | Green A84210022          | A84210112                  | A84210052                | A84210082                        |
|  | Grey A84210023           | A84210113                  | A84210053                | A84210083                        |
|  | Lilac A84210024          | A84210114                  | A84210054                | A84210084                        |
|  | Orange A84210025         | A84210115                  | A84210055                | A84210085                        |
|  | Pink A84210026           | A84210116                  | A84210056                | A84210086                        |
|  | Tan A84210027            | A84210117                  | A84210057                | A84210087                        |
|  | White A84210028          | A84210118                  | A84210058                | A84210088                        |
|  | Yellow A84210029         | A84210119                  | A84210059                | A84210089                        |
| <b>Thermo Scientific Embedding Cassettes</b> |                          |                            |                          |                                  |
|  | Aqua A84210030           | A84210120                  | A84210060                | A84210090                        |
|  | Blue A84210031           | A84210121                  | A84210061                | A84210091                        |
|  | Green A84210032          | A84210122                  | A84210062                | A84210092                        |
|  | Grey A84210033           | A84210123                  | A84210063                | A84210093                        |
|  | Lilac A84210034          | A84210124                  | A84210064                | A84210094                        |
|  | Orange A84210035         | A84210125                  | A84210065                | A84210095                        |
|  | Pink A84210036           | A84210126                  | A84210066                | A84210096                        |
|  | Tan A84210037            | A84210127                  | A84210067                | A84210097                        |
|  | White A84210038          | A84210128                  | A84210068                | A84210098                        |
|  | Yellow A84210039         | A84210129                  | A84210069                | A84210099                        |

## Recommended consumables

From cassettes and paraffins to slides and stains, we offer a full line of Thermo Scientific consumables designed to fit the needs of today's most-demanding labs. Availability varies by region. For complete details, please contact your local Thermo Fisher Scientific representative or visit [www.thermofisher.com/pathology](http://www.thermofisher.com/pathology).



### Thermo Scientific Paraffin

|  | Volume | Quantity | Order No. |
|--|--------|----------|-----------|
| <b>Thermo Scientific Signature Series Paraffin</b> |        |          |           |
| Type H, high polymer                               | 0.9 kg | 10/cs    | 8338      |
| Type L, low polymer                                | 0.9 kg | 10/cs    | 8339      |
| <b>Thermo Scientific Histoplast PE, IM, L P</b>    |        |          |           |
| Histoplast PE                                      | 1 kg   | 8/cs     | 8330      |
| Histoplast IM                                      | 1 kg   | 8/cs     | 8331      |
| Histoplast LP                                      | 1 kg   | 8/cs     | 8332      |
| <b>Paraffin Type 1, 3, 6, 9</b>                    |        |          |           |
| Type 1   | 0.9 kg | 10/cs    | 8334      |
| Type 3   | 0.9 kg | 10/cs    | 8335      |
| Type 6   | 0.9 kg | 10/cs    | 8336      |
| Type 9   | 0.9 kg | 10/cs    | 8337      |



## General notes

This product is designed for laboratory use only. Always follow good laboratory practice.

If this product is not used in accordance with these instructions then basic safety protection may be affected.

The mains supply cord fitted to this product is heat resistant and should be replaced with an equivalent type.

Before using any cleaning or decontamination method please refer to the Maintenance and Cleaning section to ensure the proposed method will not damage the unit.

Connect only to a power supply with the corresponding voltage to that specified on the rating label positioned on the rear of the unit.

Ensure that the power supply has an earth (ground) terminal.

### Specimen safety

It is the user's responsibility, to ensure that the temperature set on the instrument, is at a level where no damage is caused to diagnostic specimens used with the equipment. In the event of this instrument malfunctioning, all specimens within the device should be checked to ensure no harm or damage to the specimen has been caused.

### User safety

The equipment you have purchased complies with the following European EMC Directive and Low Voltage Directive as indicated in the EC Declaration of Conformity included in the document. This instrument has been designed and constructed in a manner which minimises the risk of electrical shock to the operator, offers maximum protection from overheating and provides clear and adequate labelling of instrument controls.

The instrument requires no regular servicing, but Nickel-Electro Ltd do recommend an annual inspection, as detailed in the manual which will prolong the life of the instrument to ensure continued safety.



Do not touch any electrical contacts or open any closure plates.  
**RISK OF ELECTRIC SHOCK!!**

## Specification

Dimensions: Width 181 mm x Depth 420.5 mm x Height 435.5 mm

Tap Height (from Bench): 153.0 mm

Weight: 7.0 Kgs (15.4 lbs)

Temperature range: Ambient to 70 °C (+/-1 °C) at 20 °C ambient

Display: Digital display with 1.0 °C accuracy

Safety: Class 1 cut out

Heater power: 480 watts

Power supply: 220-240 V 50/60 Hz - A84600001

110-120 V 50/60 Hz - A84600002

220-240 V 50/60 Hz (China) - A84600003

## Environment

This instrument is required to comply with the European Union's Waste Electrical and Electronic Instrument (WEEE) Directive 2002/96/EC. It is marked with the following symbol:



Thermo Fisher Scientific has contracts with one or more recycling / disposal companies in each EU Member State, and this product should be disposed of or recycled through them. For further information contact your Thermo Fisher Scientific service representative.





## EC Declaration of Conformity

We herewith confirm the following products:

- Slimline Wax Dispenser 230 V A84600001
- Slimline Wax Dispenser 110 V A84600002
- Slimline Wax Dispenser 230 V (China Mains Lead) A84600003

Conforms with requirements outlined by the following European Directives:

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- RoHS Directive 2011/65/EU

We confirm the declaration:

Nickel Electro Ltd  
Oldmixon Crescent  
Weston Super Mare  
North Somerset  
BS24 9BL  
United Kingdom

Conforms with the requirements of the following standards:

- BS EN 61010:1:2010
- BS EN 61010:2.010:2014
- Safety requirements for electrical equipment for measurement, control and laboratory use.
- BS EN 61326-1:2013
- Electrical equipment for measurement control and laboratory use - EMC requirements.

## Do's and don't's

**DO NOT** allow molten wax to accumulate on the surface of the wax dispenser.

**DO NOT** use without pelletized wax placed in the internal tank.

**DO NOT** operate the tap while the wax is cold as this may dislodge the piston from the seal recess.

**DO NOT** use metal instruments or scouring agents to clean the surface of the wax dispenser or the internal tank.

**DO NOT** immerse in water.

**DO NOT** touch the inside of the tank, it can be hot!

**DO NOT** use without appropriate training.

**DO position the unit so it can be disconnected from the power supply with ease.**

**DO** maintain the instrument in a reasonably clean condition.

**DO** switch off before removing the plug.

**DO** ensure that replacement fuses are of the correct specification.

**DO** use in a safe and stable location, where the tap cannot be knocked by accident.

**DO** position tap in locked position when not in use to avoid accidental dispensing of molten wax.

**Do** ensure when melting pelletized wax that the quantity of wax is above the MIN FILL (minimum fill) and below the Max FILL (maximum fill) levels marked in the tank.

**DO** retain the original packaging over the warranty period.

## Power lead and connection to electrical supply



Check the electrical supply is compatible with the rating label.

IF IN DOUBT CONSULT AN ELECTRICIAN. THE PRODUCT MUST BE EARTHED!

Where the mains supply or plug connection differs, refer to local regulations or consult an electrician.

## Location

The product must be placed on a smooth, level and sturdy work surface. Suitable for use in ambient temperatures 5 °C to 40 °C with a maximum humidity 80% (temperature 31 °C) decreasing to 50% (temperature 40 °C).

# Operating instructions

1. Ensure that the power cable is pushed fully into the power supply socket of the wax dispenser and connect the mains plug to the electrical supply.
2. Pour pelletized wax to be melted into tank, ensuring that the quantity of wax added is greater than the MILL FILL level and below the MAX FILL level marked in the tank.
3. Switch on the Slimline Wax Dispenser.
4. Set the desired temperature. Users are recommended to set the temperature 3-4 °C above the melting point being used.
  - A. Press button P then release it (do not hold down button P for 5 seconds). If you hold it for 5 seconds, do not press any button for 20 seconds.
  - B. The display will show SP alternating with the current set temperature.
  - C. Use the UP and DOWN arrow keys to change the set temperature. Press the P key to save. Setting will save automatically after 15 seconds.
5. The display returns to the normal function mode and the heater indicator will illuminate to show heater activity.
6. The instrument will then warm up to the desired temperature as indicated on the display.
7. The high capacity wax dispenser is designed to melt bulk quantities of pelletized wax in as quick a time as possible. When set at 65 °C the instrument will take roughly 90 minutes to fully melt 5 Kg of pelletized wax, with significant quantities of molten wax available for use after as little as 30 minutes.
8. Dispense wax by pulling the tap lever: the tap has two positions:
  - a. On demand push dispense.
  - b. Continuous flow - tap locked open.



## Warning



THE DISPENSING TAP LEVER SHOULD NOT BE OPERATED WHILE THE SLIMLINE WAX DISPENSER IS COLD AS THIS MAY DISLodge THE PISTON FROM THE SEAL RECESS.

| Symptom   | Possible Cause  | Action Required   |
|---|---|---|
| 5. Temperature of the instrument shown on the controller, is different to the temperature of measured by a reference probe. | A. Not enough wax has been placed into the tank to be melted.<br>B. External temperature probe being used is not suitable for wax temperature measurements or external probe is not calibrated.<br>C. Position of the external temperature probe is not at the calibration point. | A. If a tank is empty, it is recommended that at least 2.0kg of pelletized wax is added to the tank for melting.<br>B. Check correct probe is being used for measurement and that the probe is calibrated.<br>C. Measure temperature at the position where the instrument is calibrated, using a calibrated probe.<br><br>Users should melt wax until the wax dispenser tank is filled to the ridge of the tank with molten wax. Once the tank is filled with molten wax the user should wait at least 3 hours before taking a measurement to allow the temperature of the wax in the tank to equilibrate.<br><br>If the temperature is reading is significantly different, the instrument may need to be re-calibrated. Follow the calibration instructions. |
| 6. Temperature of the wax dispenser continues to rise when not expected.  | A. Desired temperature is lower than the set temperature.<br>B. Temperature control circuit fault.  | A. Check the set temperature.<br>B. Instrument should be checked by a competent person.   |
| 7. Molten wax is not dispensed from tap.  | A. Instrument is not operating at the correct voltage for your region.<br>B. Heated tap has not reached working temperature.<br>C. Wax is not molten in tank.<br>D. Tap heater failure.<br>E. Blocked filter<br>F. Tap failure.   | A. Check that the voltage selectors at the rear of the instrument are set to the correct voltage for your region.<br>B. Allow additional time for the tap to reach its working temperature.<br>C. Allow additional time for wax in the tank to melt.<br>D. Is the tap hot to touch? If the tap is cold after an hour of the instrument being turned on the heater will need to be replaced by a competent person.<br>E. Clean filter in the bottom of the tank.<br>F. Tap will need to be replaced by a competent person.   |

## Troubleshooting Guide

| Symptom  | Possible Cause  | Action Required  |
|--|---|--|
| 1. Unit does not operate/ No power to the instrument<br><br>(Illuminated On/Off button not lit, temperature controller not lit.)   | A. Unit is not switched on.<br>B. Unit not plugged into power supply.<br>C. Circuit breakers have been triggered and need to be re-set.<br>D. Fuse in instrument lead plug has failed.<br>E. Power supply failure.                          | A. Switch On<br>B. Plug in, and switch on unit.<br>C. Re-set circuit breakers.<br>D. Replace fuse or use a new lead set.<br>E. Check that other electrical instruments on the same circuit are working. Check distribution board for a tripped circuit breaker or blown fuse.  |
| 2. Power is supplied to the instrument, but the instrument does not heat (wax does not melt)<br><br>(Temperature does not rise on the controller and the orange heater light does not operate) | A. Latching thermal cut out has triggered.<br>B. Temperature of instrument is set too low.<br>C. Heating element has failed.<br>D. Failure of temperature controller.   | A. Re-set the thermal cut-out.<br>B. Check the set temperature of the instrument.<br>C. Instrument should be checked by a competent person.<br>D. Instrument should be checked by a competent person.  |
| 3. Instrument does not reach working temperature as quickly as expected.   | A. Instrument does not operate at the correct voltage for your region.  | A. Check that the voltage selectors at the rear of the instrument are set to the correct voltage for your region.  |
| 4. Wax takes longer than expected to melt.   | A. Instrument does not operate at the correct voltage for your region.<br>B. Temperature of tank is not set high enough.<br>C. Large quantity of pelletized wax being melted<br>D. Wax in tank is solid due to instrument being turned off. | A. Check that the voltage selectors at the rear of the instrument are set to the correct voltage for your region<br>B. Temperature of tank should be set at least 5 degrees above the melting point of the wax.<br><br>Example<br>For a histology wax (m.p. 56-58°C) the recommended set temperature for the tank is 65°C.<br>C. When melting large quantities of pelletized wax an extended amount of time will be required to melt the wax.<br><br>Example:<br>2.5kg of pelletized wax (m.p. 56-58°C) takes between 3 – 4 hours to fully melt when tank set to 65°C.<br>D. When melting a solid tank of wax, it is recommended that the temperature of the tank be set to 70°C, to allow wax to be melted in a convenient timescale.<br><br>Example:<br>A solid tank of wax m.p. 56-58°C filled to the ride of the tank wax (takes roughly 6 – 7 hours to fully melt, when tank set to 70°C. |

## Cleaning instructions

Regular cleaning of the instrument according to the cleaning instructions enclosed in this user manual will ensure that the instrument continues to operate efficiently and safely in normal everyday use. Cleaning or decontamination methods, other than those recommended in this guide, should be checked with your instrument supplier to ensure that the proposed method will not damage the instrument.

- The lower case work of the Slimline Wax Dispenser, including the control panel, may be wiped using small quantities of mild detergent or polishes applied with a soft cloth.
- The internal tank can be emptied by locking the delivery tap into the continuous flow position. Any residual wax at the bottom of the tank can be removed using absorbent tissues and wiped clean.
- The filter (0.5mm mesh) situated at the bottom of the tank can be cleaned in-situ using a toothbrush or similar brush, or lifted out once the bolts are removed for more thorough cleaning using solvents. (If removing the filter it is recommended that protective gloves are worn).



SCOURING PADS OR DE-SCALING AGENTS MUST NOT BE USED TO CLEAN THIS INSTRUMENT.



DO NOT USE SOLVENTS TO CLEAN THIS INSTRUMENT!

### Miniature circuit breakers

Located on the rear of the instrument. In the event of a fault, push back in to reset. If fault condition continues, please contact your Service Engineer.

### Portable appliance testing

Portable appliance testing should be carried out by a qualified person.



THIS EQUIPMENT MUST NOT BE FLASH TESTED!

### Routine inspection recommendations

Nickel-Electro Ltd recommend that a simple annual inspection be made for all Thermo Scientific laboratory equipment. This is to ensure user safety and prolong instrument life span.

Recommended checks to be made:

- Condition of Power Lead: a visual inspection to ensure the insulation is not damaged and that the correct fuse is fitted.
- Functioning of Heater On Lamp: heater lamp should be on when the instrument is warming up.
- Condition of the wax dispenser tank and filter (0.5mm mesh): both tank and filter should be in good condition with no evidence of corrosion and no damage visible to the filter screen.
- Dispensing Tap Seal: the dispensing tap should seal correctly, with no occurrence of constantly dripping wax when the tap is not in use.

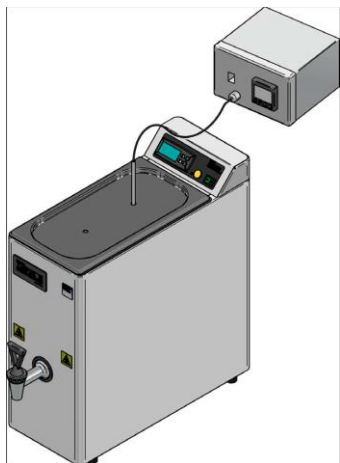
## Calibration and Offset Instructions

Wax dispensers have a factory offset value programmed into the temperature controller, this aligns the set temperature with actual factory setting 70°C +/-1°C. To calibrate the instrument for your application:

1. Fill tank with pelletized histology wax to the MAX FILL level.
2. Turn on the Wax Dispenser.
3. Set the desired temperature following the Operating Instructions.
4. Allow the instrument to warm up and melt the wax pellets fully.
5. Remove one screw securing the handle on the lid. This allows the handle to be twisted aside revealing a hole in the lid. Refit the lid. This hole allows the insertion of the calibrated measuring probe into the molten wax. At least half your measuring probe length should be immersed in molten wax. We recommend the measuring probe is now left immersed during the following steps to gain uniform probe readings because wax responds slowly to temperature change.
6. Allow the instrument to settle at least 8 hours or overnight with lid on and probe in place to ensure the molten wax is uniformly heated throughout the tank.
7. Take a temperature reading from your probe just as the heater indicator illuminates ON at set temperature, this is the lowest reading and then wait to record a maximum reading. The "calibration temperature" is the value midpoint between these two readings.

There are two ways to adjust the set temperature of the molten wax being heated in the tank:

1. Adjust the set temperature to a new value by reducing or increasing this value until molten wax aligns with your desired temperature.
2. Entering the difference between current set temperature and calibration value to adjust the offset in the controller. For example, if actual measured reading 72°C and set temperature 70°C, the offset value should be increased by 2°C. To adjust the controller offset please follow these instructions.
3. Please refit the handle when complete.



### Setting Controller Offset Parameters

1. Press and hold the P button until 0 is displayed.
2. Use the Up-arrow button to increase the number to 146.
3. When 146 is displayed press the P button. SPL is now displayed.
4. Press the DOWN arrow button to cycle through the sub menu until OFS is displayed.
5. When OFS is displayed, press the P button.
6. Using the UP/DOWN arrow buttons enter the new offset and then press the P button.
7. Press the P button again the press and hold the UP arrow to return to the main menu.