73 Series Spectrophotometer

JENWAY

Accessory fitting and operation manual

Bibby Scientific

061 672 REV B/08-14

Safety

Please read this information carefully prior to installing or using this equipment.

1. The unit described in this manual is designed be operated only by trained personnel. Any adjustments, maintenance and repair must be carried out as defined in this manual, by a person qualified to be aware of the hazards involved.
2. It is essential that both operating and service personnel employ a safe system of work, in addition to the detailed instructions specified in this manual.
3. Other than for those items defined in the maintenance procedures herein there are no user serviceable items in this instrument. Removal of covers and attempted adjustment or service by unqualified personnel will invalidate the warranty and may incur additional charges for repair.
4. References should always be made to the Health and Safety data supplied with any chemicals used. Generally accepted laboratory procedures for safe handling of chemicals should be employed.
5. If it is suspected that safety protection has been impaired in any way, the unit must be made inoperative and secured against any intended operation. The fault condition should immediately be reported to the appropriate servicing authority.

Merci de lire attentivement ces informations avant d'installer ou d'utiliser cet appareil.

1. L'appareil décrit dans ce manuel est conçu pour être utilisé uniquement par des personnes formées. Tout réglage, maintenance ou réparation doit être effectué comme décrit dans ce manuel, par une personne qualifiée consciente des risques encourus.
2. Il est essentiel que les personnes utilisant et intervenant sur cet appareil respectent les règles de sécurité de travail, en plus des instructions détaillées précisées dans ce manuel.
3. En-dehors des éléments décrits dans les procédures de maintenance ci-incluses, cet appareil ne contient aucun élément réparable par l'utilisateur. L'enlèvement des capots et les tentatives de réglage ou de réparation par des personnes non qualifiées invalide toute garantie et entraîne un risque de frais de réparation supplémentaires.
4. Toujours se référer aux fiches techniques de santé et de sécurité accompagnant tout produit chimique utilisé. Respecter les procédures de laboratoire généralement acceptées pour la manipulation en toute sécurité des produits chimiques.
5. Si l'utilisateur suspecte qu'un problème quelconque puisse mettre en cause la sécurité, l’appareil doit être rendu inopérant en empêchant son utilisation. Communiquer la défaillance constatée au service de maintenance compétent.

Bitte lesen Sie diese Hinweise vor Installation oder Gebrauch dieser Ausrüstung sorgfältig durch.

1. Das in diesem Handbuch beschriebene Gerät darf nur von geschultem Personal bedient werden. Alle Anpassungen, Wartungsarbeiten und Reparaturen müssen entsprechend der Vorgaben in diesem Handbuch und von einer kompetenten Person, die mit den damit verbundenen Gefahren vertraut ist, durchgeführt werden.
2. Es ist wichtig, dass sowohl das Bedienungs- als auch das Service-Personal zusätzlich zu den detaillierten Anweisungen in diesem Handbuch ein sicheres Arbeitssystem einsetzen.
3. Mit Ausnahme der Teile, deren Wartungsverfahren in diesem Handbuch beschrieben sind, enthält dieses Gerät keine weiteren Teile, die vom Benutzer gewartet werden können. Das Entfernen von Abdeckungen und Versuche von hierfür unqualifiziertem Personal, Anpassungen oder Wartungsarbeiten durchzuführen, haben zur Folge, dass die Garantie verfällt und können zusätzliche Reparaturkosten auslösen.
4. Es ist jederzeit auf die sicherheitsrelevanten Daten sämtlicher verwendeter Chemikalien Bezug zu nehmen. Allgemein anerkannte Labormethoden zum sicheren Umgang mit Chemikalien sollten eingesetzt werden.
5. Besteht der Verdacht, dass die Sicherheitsvorrichtungen in irgendeiner Weise beschädigt wurden, muss das Gerät außer Betrieb genommen und gegen weiteren Gebrauch gesichert werden. Die Störung sollte der zuständigen Serviceeinrichtung unverzüglich gemeldet werden.

Leggere attentamente queste istruzioni prima di installare o utilizzare il dispositivo.

1. L'unità descritta nel presente manuale è stata realizzata per essere utilizzata solo da personale che ha ricevuto l'apposita formazione. Qualsiasi operazione di regolazione, manutenzione e riparazione deve essere effettuata sulla base di quanto indicato nel presente manuale da personale qualificato consapevole dei rischi connessi.
2. È fondamentale che il personale operativo e il personale addetto alla manutenzione utilizzino un sistema di lavoro sicuro, oltre a seguire le istruzioni specificate nel presente manuale.
3. Oltre a quelli indicati nelle procedure di manutenzione, all'interno di questo dispositivo non sono presenti altri elementi sui quali è possibile effettuare interventi. La rimozione delle protezioni e qualsiasi tentativo di regolazione o di manutenzione posto in essere da personale non qualificato invaliderà la garanzia. In questi casi, sarà necessario pagare un importo per le riparazioni effettuate.
4. È sempre necessario fare riferimento ai dati sulla salute e sulla sicurezza forniti con le sostanze chimiche utilizzate. Adottare le procedure di laboratorio generalmente accettate per la gestione delle sostanze chimiche.
5. Nel caso in cui si sospetti che la salute possa essere pregiudicata in qualsiasi modo, disattivare l'unità per renderla inutilizzabile. Qualsiasi condizione di errore deve essere immediatamente segnalata al responsabile per la manutenzione.

Lea esta información atentamente antes de instalar o utilizar este equipo.

1. La unidad descrita en este manual está diseñada para que solamente la utilice personal con formación. Cualquier operación de ajuste, mantenimiento y reparación debe llevarse a cabo del modo indicado en este manual y debe realizarla una persona cualificada que sea consciente de los peligros que implica.
2. Es fundamental que tanto los operarios como el personal de servicio utilicen un sistema de trabajo seguro, así como las instrucciones detalladas que se especifican en este manual.
3. Cualquier elemento que no se encuentre entre los definidos en los procedimientos de mantenimiento aquí descritos no podrá utilizarse en este instrumento. La extracción de las tapas y los intentos de ajuste o reparación por parte de personal no cualificado invalidarán la garantía y pueden incurrir en cargos adicionales por reparación.
4. Siempre deberían consultarse los datos sobre Salud y Seguridad que se suministran con cualquier producto químico que se utilice. Es necesario llevar a cabo los procedimientos de laboratorio de aceptación generalizada para la manipulación segura de productos químicos.
5. Si existe la sospecha de que las medidas protectoras de seguridad han quedado dañadas en cualquier modo, la unidad debe inutilizarse y protegerse contra toda operación que se intente llevar a cabo. El estado de fallo debe comunicarse inmediatamente a la autoridad de servicio de mantenimiento y reparación pertinente.

Contents

SECTION 1 – Accessories and Spare Parts

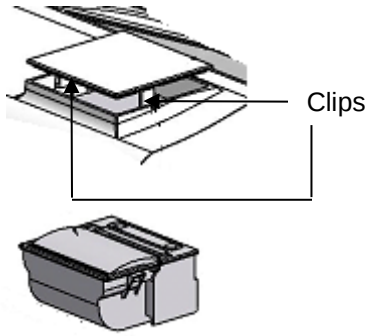
1.1 OPTIONAL ACCESSORIES

Part Code	Description of Accessory
660 101	Internal printer
735 401	Automatic 8 cell turret
735 201	Sipper pump
735 301	Peltier
735 701	Combined sipper Peltier pump
735 801	10x10mm path length cuvette holder
735 901	16/24mm test tube holder
736 001	10x100mm path length cuvette holder
736 101	10x10mm path length micro-cuvette holder
736 201	Water heated 10x10 single cell holder
035 088	Visible calibration set
035 091	UV/Visible calibration set
060 422	Molded cuvette rack for 16 10x10mm cuvettes
735 001	Dust cover
019 146	4GB USB memory sticks for external memory
037 551	RS232 to USB converter for use with computer without a serial port

1.2 CONNECTING THE ACCESSORIES

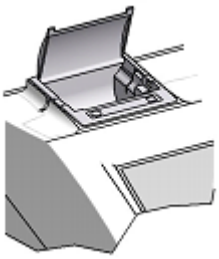
There are two types of accessories which can be fitted in the sample chamber – passive or active accessories. The range of passive accessories includes 10 x 10mm single cuvette holders, single water heated cuvette holders, adjustable path length (10 to 100 mm) cuvette holders, test tube holders, boiling tube holders and micro-cuvette holders. The range of active accessories includes an automated 8 cell changer, sipper pump, Peltier and combined Peltier sipper pump. The instrument must be turned off before any accessories are fitted.

1.2.1 INTERNAL PRINTER

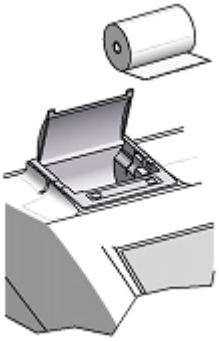


Use a small screw driver to lift the blanking panel on the top of the instrument. Squeeze the two clips in order to remove the blanking panel. Disconnect the printer wires which are secured to the underside of the blanking plate.

Unpack the printer from the packaging. Turn the printer upside down and connect the printer wires by clipping into the connector on the printer.

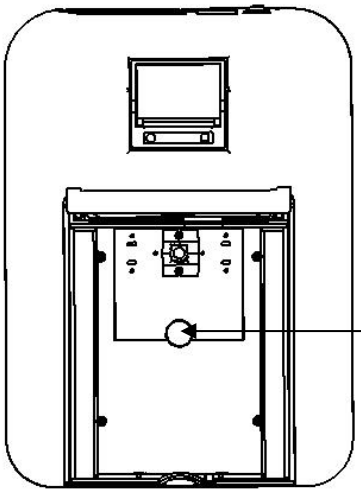


Squeeze the grey plastic clips together so that the printer top opens. Slot the printer into the top of the instrument and push down until it fits flush to all four sides.



Insert the paper roll into the printer – ensuring that there is some paper sticking out of the printer before clicking the grey plastic back into place. Switch the instrument on. The power and error lights on the printer will flash. Once the instrument power on tests are complete press the feed button to check that the paper is fed correctly.

1.2.2 PASSIVE ACCESSORIES

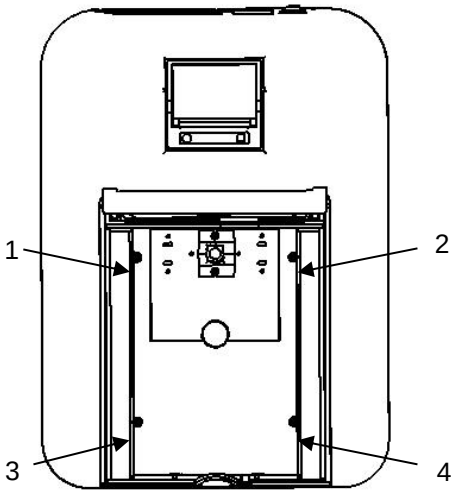


Unscrew the thumb screw to undo the passive accessory. Lift out the passive accessory. To fit a different passive accessory simply place the accessory in the correct orientation, align the thumb screw and tighten to fix in place.

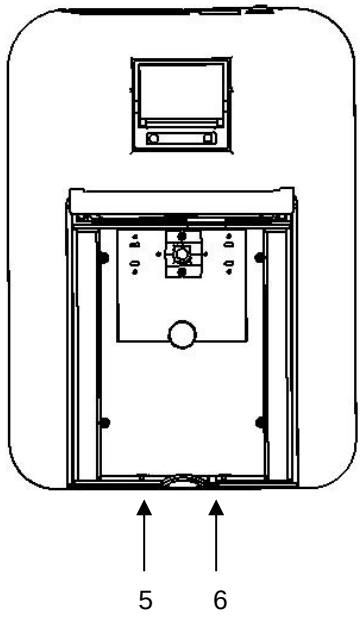
To replace the passive accessory with an active accessory refer to section 11.2.3.

1.2.2.1 Water-heated cuvette holder

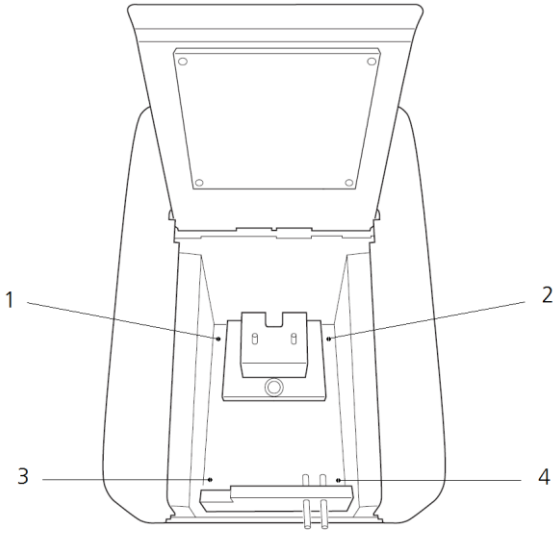
The water heated cuvette holder is supplied with an additional front panel which also needs to be fitted.



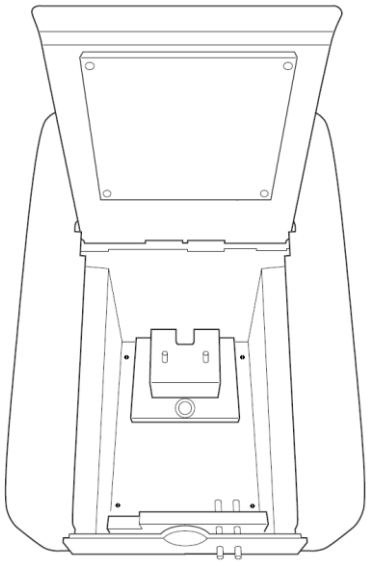
The water heated cuvette holder is already fitted to a base plate so the base plate in the instrument must be removed before installation. Unscrew screws 1 to 4 and lift out the metal base plate.



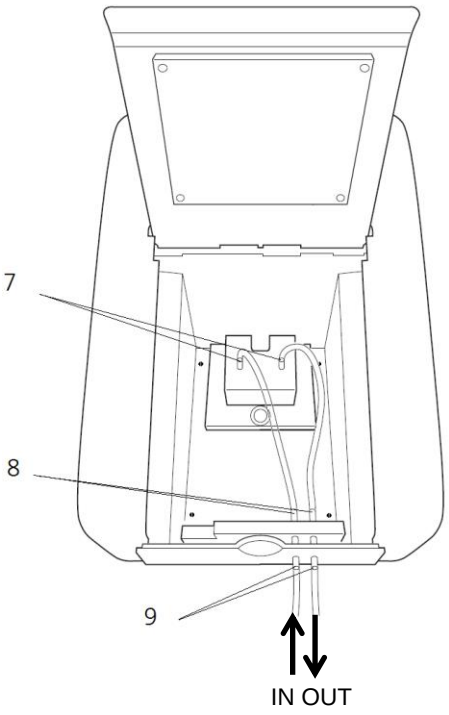
For this accessory as well as removing the passive accessory base plate, the front panel of the instrument must also be removed. Loosen screws 5 and 6 until the front panel can be lifted out in the forwards direction.



Once the base plate and front panel have been removed insert the water-heated cuvette holder into the chamber, ensuring the base plate rests flat in the unit. Replace the screws 1 to 4, securing the accessory in place.



Fit the custom front panel to the unit ensuring the metal pipes on the accessory are aligned and fed through the two holes in the front panel. The metal pipes should protrude from the outer casing. Secure the custom accessory front plate to the unit with screws 5 and 6.

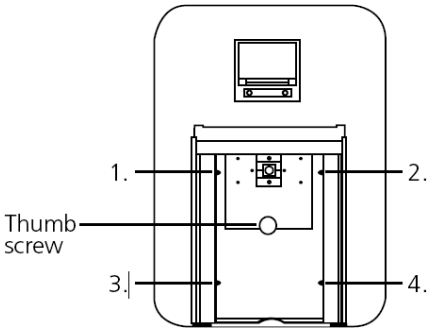


From the rubber tubing supplied, cut two shorter lengths of tubing and use these to connect the internal metal pipes of the cell block (7) to the internal metal pipes on the outer casing (8).

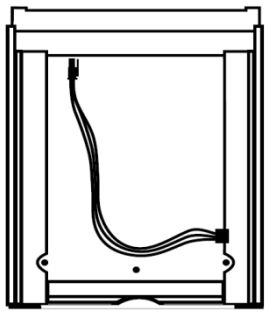
Using two separate pieces of rubber tubing connect the two external metal tubes (9) to an external water bath and pump. Ensure that the water is pumped **in** through the left hand side of the cell block and **out** through the right hand side of the cell block.

All tubing must be kept as short as possible and the tubing must not be allowed to obstruct the ligth path.

1.2.3 ACTIVE ACCESSORIES

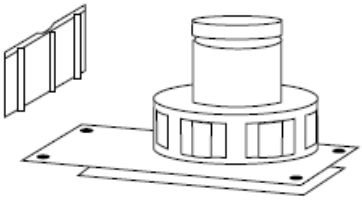


Unscrew the thumb screw to undo the passive accessory. Lift out the passive accessory. To fit an active accessory unscrew screws 1 to 4 and lift out the metal base plate.

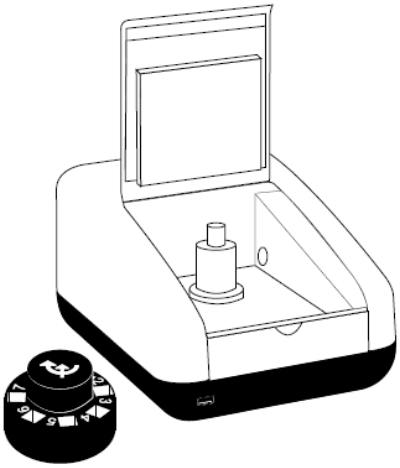


This will expose the bottom of the sample chamber with the power supply connection needed to operate the active accessories.

1.2.3.1 Automatic 8 cell turret



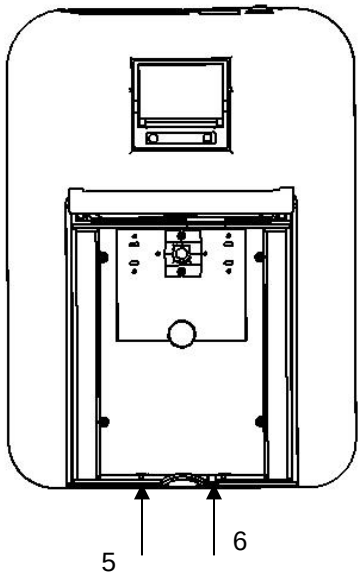
Take the 8 cell turret base plate. Connect the power supply in the bottom of the sample chamber to the connector on the underside of the base plate. Place the base plate in the sample chamber. Replace screws 1 to 4.



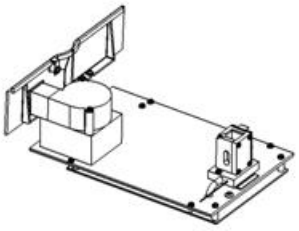
Take the 8 cell carousel and place on top of the motor, taking care to align the three ball bearings with the grooves on the motor shaft. Gently push the carousel down onto the motor shaft until it is located into place. Gently rotate the carousel until there is some resistance. The carousel is now in the correct position.

If the fitting is too tight use a small screw driver to loosen the ball bearings before pushing the carousel down onto the shaft.

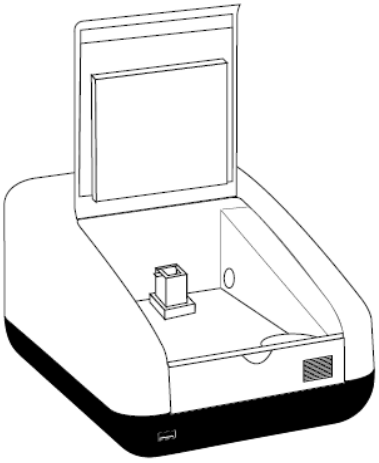
1.2.3.2 Peltier



For this accessory as well as removing the passive accessory base plate, the front panel of the instrument must also be removed. Loosen screws 5 and 6 until the front panel can be lifted out in the forwards direction.

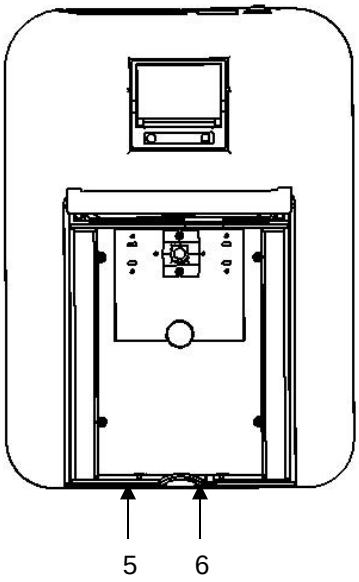


Take the Peltier base plate. Connect the power supply in the bottom of the sample chamber to the connector on the underside of the base plate. Place the base plate in the sample chamber. Replace screws 1 to 4. Take the Peltier front panel and slot into place before retightening screws 5 and 6.

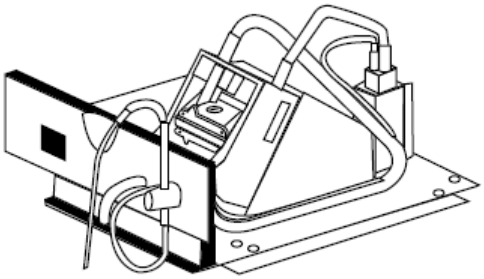


When the accessory is fitted the instrument will look like this.

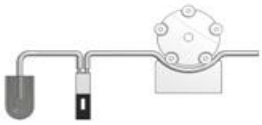
1.2.3.3 Sipper pump



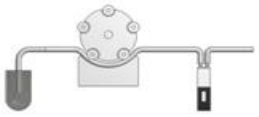
For this accessory as well as removing the passive accessory base plate, the front panel of the instrument must also be removed. Loosen screws 5 and 6 until the front panel can be lifted out in the forwards direction.



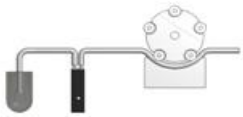
Take the sipper base plate. Connect the power supply in the bottom of the sample chamber to the connector on the underside of the base plate. Place the base plate in the sample chamber. Replace screws 1 to 4. Take the sipper Peltier front panel and slot into place before retightening screws 5 and 6.



Bi directional flow A (sipping)

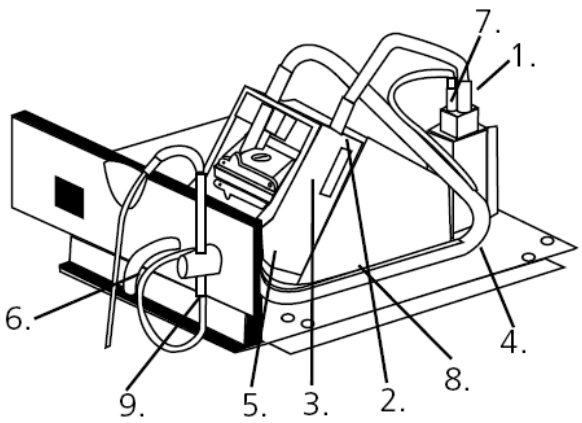


Bi directional flow B (pumping)



Continuous flow

The tubing should be connected depending on the function that the sipper pump is going to perform. All tubing must be kept as short as possible and the tubing must not be allowed to obstruct the ligth path.



For sipping:

1. Connect the sipper pump tubing to the outlet port on the flow-through cuvette.

2. Secure the tubing using the clip on the righthand side of the pump head.

3. Ease the tubing round the rollers by carefully rotating them clockwise, by hand. Clamp the tubing into the clip on the left hand side of the motor.

4. Once secured, ensure the tubing is routed into the two retaining clips located on the base plate at the side of the pump head.

5. Cut the tubing at the point where it fits comfortably onto the left hand tube located on the inside of the front bulk head.

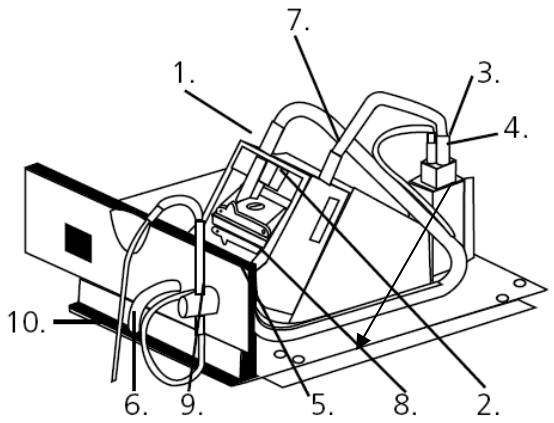
6. Connect a suitable length of this tubing to the external waste pipe.

7. Cut a small length of the sipper pump tube and push this over one end of the capillary tube.

Connect this to the inlet port of the flow-through cuvette.

8. Route the tube into the two retaining clips located on the base plate at the side of the pump head.

9. Fit the sipper probe and secure using the thumbscrew. Feed the capillary tubing through the tube and up through the sipper probe, allowing sufficient length for it to pass into a suitable receptacle.



For pumping:

1. Cut two pieces of sipper pump tubing approximately 300mm in length. Take one length of tubing and fit this to the pump head, as shown, securing the tubing using the clip on the right hand side of the pump head.

2. Ease the tubing round the rollers carefully rotating them clockwise, by hand. Clamp the tubing into the clip on the left hand side of the motor.

3. Fit the other end onto the inlet port on the flow-through cuvette.

4. Fit the second 300mm length of tubing to the outlet port of the flow-through cuvette. Once secured, ensure the tubing is routed into the two retaining clips located on the base plate at the side of the pump head.

5. Fit the other end of the tubing onto the outlet port, located on the inside of the front bulkhead.

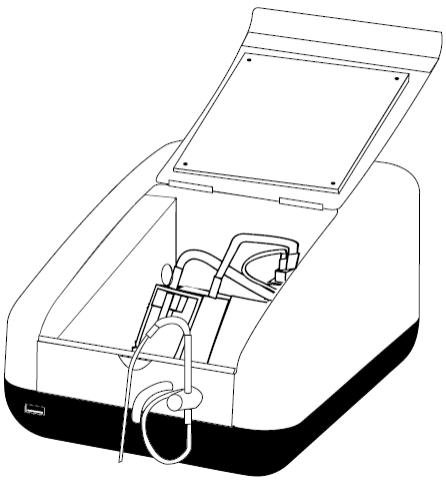
6. Connect a suitable length of sipper pump tubing to the external outlet port.

7. Insert one end of the capillary tube into the sipper pump tubing, as shown.

8. Feed the other end through the inlet port located on the inside of the bulkhead.

9. Fit the sipper probe and secure using the thumbscrew.

10. Carefully feed the tubing through the sipper probe, allowing sufficient length for it to pass into a suitable receptacle.



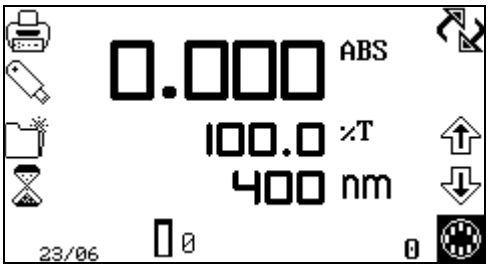
When the sipper accessory has been fitted and the tubing has been connected the instrument will look like this.

1.2.3.4 Combined sipper Peltier pump

Refer to section 11.2.3.3 for more details.

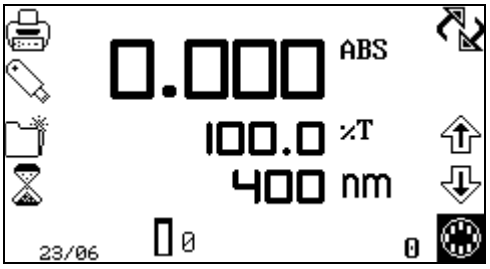
1.3 USING THE ACCESSORIES

1.3.1 Automatic 8 cell turret



When the automatic 8 cell turret is in use the 8 cell turret icon is displayed in the bottom right hand corner of the screen. The current cell position is displayed adjacent to the 8 cell turret icon. The 0 position should always be used for the zero calibration sample.

To perform measurements using the automatic 8 cell turret, insert the cuvettes containing the samples into turret positions 1 to 7. Insert the cuvette containing the blank solution into turret position 0. Enter the required measurement mode and set up the required measurement parameters. Press the key below the calibrate to zero icon. The instrument will automatically move the turret around to position zero to perform the measurement. Once the calibration is complete the measure sample icon will appear and the turret will return to its original starting position.

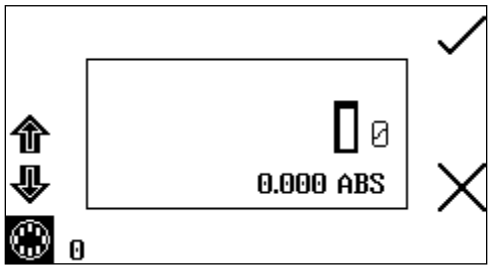


Press the key below the 8 cell turret icon to highlight the icon and the two arrow icons above. Press the keys adjacent to the arrow icons to increase or decrease the current cell position of the turret, until the required sample position has been selected. Press the key below the measure sample icon. The instrument will

perform a reading and display the result on the screen. To measure the next sample select the next turret position and press the key below the measure sample icon. Repeat this process until all the samples have been measured. To adjust the wavelength press the key below the 8 cell turret icon and use the arrow icons to adjust the wavelength.

1.3.1.1 Automatic 8 cell turret – supporting creation of a standard curve in quantitation

The 8 cell turret can be used to support creation of a new standard curve in the quantitation measurement mode. Refer to section 8.2.3.1 for more details.



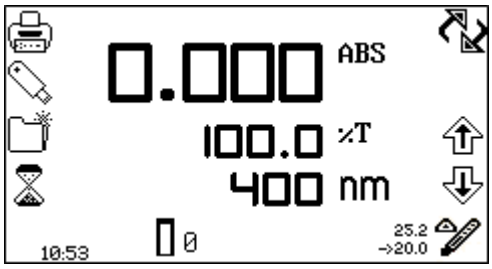
When the standard measurement screen is open the 8 cell turret icon will be displayed in the bottom left hand corner of the screen. The current cell position is displayed adjacent to the 8 cell turret icon. The 0 position should always be used for the zero calibration sample.

To measure the standards using the automatic 8 cell turret, insert the cuvettes containing the standards into turret positions 1 to 6 (depending on how many standards needed). Insert the cuvette containing the blank solution into turret position 0. Press the key adjacent to the tick icon to perform an initial calibration to zero absorbance.

Use the keys adjacent to the arrow icons to increase the turret position, until the required standard position has been selected. Press the key adjacent to the tick icon to measure the standard. The standard concentration and photometric value will then be displayed. The standard can be re-measured by pressing the key adjacent to the back icon.

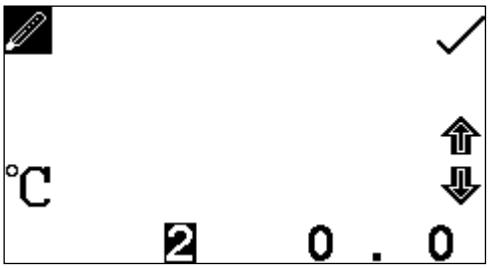
To measure the next standard select the next turret position and press the key adjacent to tick icon. Repeat this process until all the standards have been measured.

1.3.2 Peltier

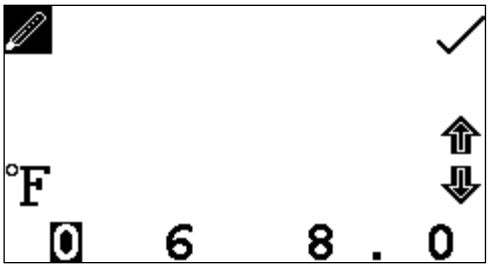


When the Peltier is in use the Peltier icon is displayed in the bottom right hand corner of the screen. The current temperature is displayed above the set point temperature adjacent to the Peltier icon. An arrow icon is displayed above or below the Peltier icon depending on if the current temperature is above or below the set

temperature. To adjust the set point temperature hold the key below the Peltier icon for 2 seconds.

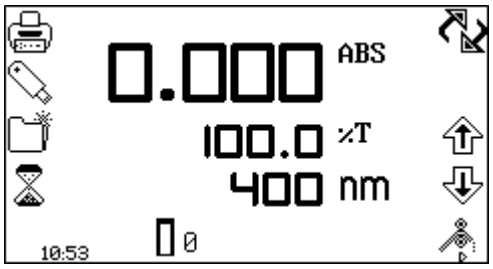


This opens the Peltier settings screen. Use the keys at the bottom of the screen to select the digit to be changed and use the arrow icons to increase or decrease the number. The temperature can be set in °C or °F by pressing the key adjacent to the °C icon.

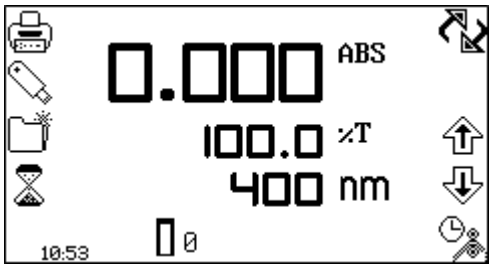


Repeat presses will cycle between °C and °F. Once the required temperature has been selected press the key adjacent to the tick icon to save and return to the operating menu. The Peltier will begin to heat or cool depending on the current temperature.

1.3.3 Sipper pump



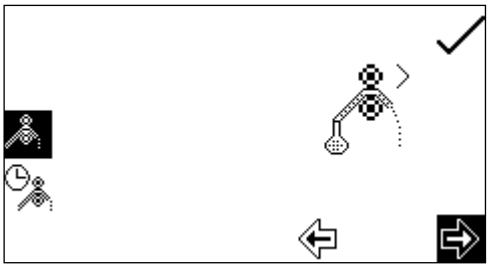
When the sipper is in use the sipper pump icon is displayed in the bottom right hand corner of the screen. The sipper pump can operate in manual or timed mode, depending on the option selected in sipper pump settings. If the manual mode is selected an arrow icon indicating pump direction will be displayed below the sipper pump icon.



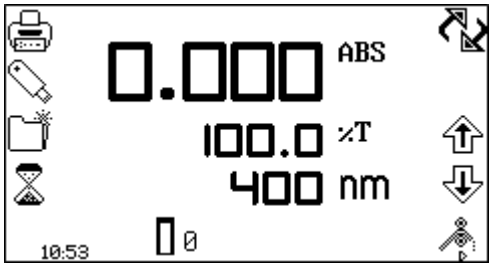
If the time mode is selected a clock icon will be displayed adjacent to the sipper pump icon.

To open the sipper pump settings hold the key below the sipper pump icon for 2 seconds.

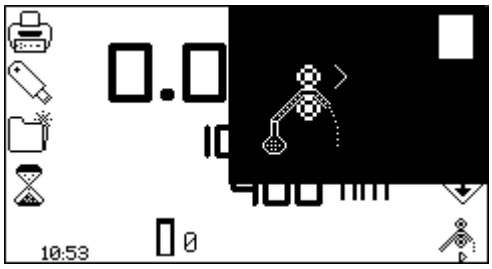
1.3.3.1 Manual Sipper Pump Settings



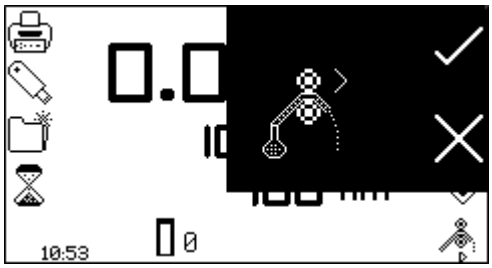
To operate the sipper pump in manual mode press the key adjacent to the manual sipper icon. Select the preferred pump direction by pressing the key below the forwards or backwards arrow. Press the key adjacent to the tick icon to save and return to the operating menu.



To perform a measurement place the sipper tubing into the sample and press the key below the sipper pump icon.

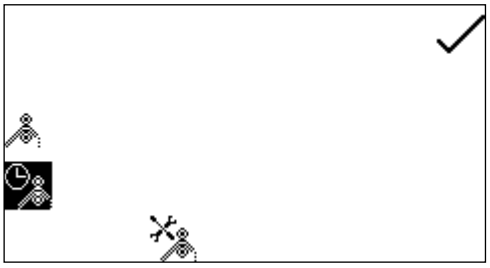


Confirmation will be needed to start the sipper pump. Press the key adjacent to the tick icon to confirm and start the sipper pump. Press the key adjacent to the cross icon to cancel and return to the operating menu.

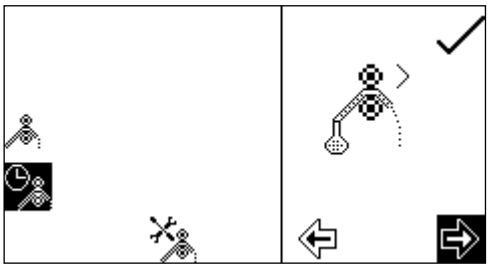


To stop the sipper pump press the key adjacent to the stop icon. Ensure that the flow through cuvette contains enough sample before pressing the key below the measure sample icon.

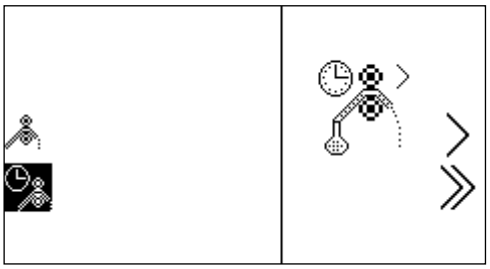
1.3.3.2 Timed Sipper Pump Settings



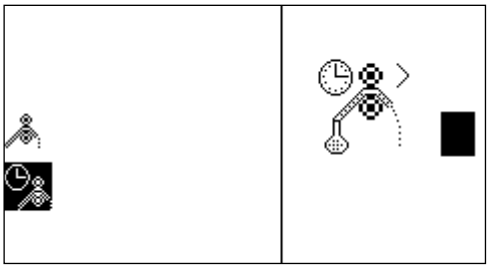
To operate the sipper pump in timed mode press the key adjacent to the timed sipper pump icon.



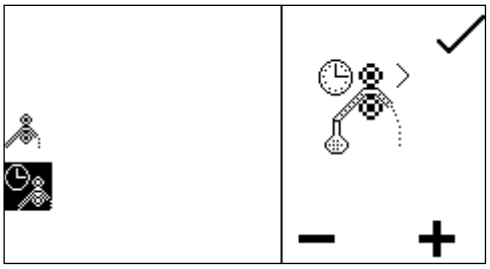
Press the key below the calibrate timed sipper icon. Select the required pump direction by pressing the key below the forwards or backwards arrow. Press the key adjacent to the tick icon to continue to the next stage of the calibration sequence.



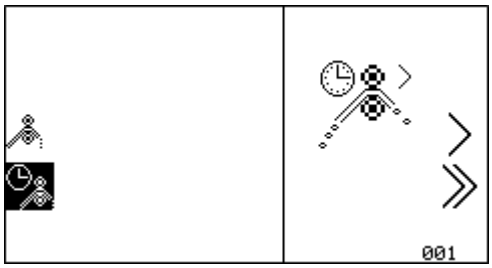
Insert the inlet tubing into the sample container and press the key adjacent to the single greater than icon. The sipper pump will start and the sample will be pumped through the tubing to the flow through cuvette. It is possible to skip this setup stage by pressing the key adjacent to the double greater than icon.



Once the cuvette is full press the key adjacent to the stop icon to stop the sipper pump. The time taken for sample uptake is recorded.

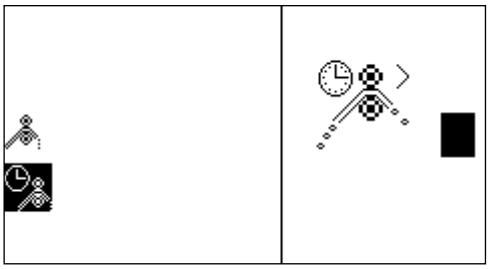


To fine tune the amount of sample uptake press the key below the plus or minus icon to increase or decrease the amount of sample taken up. The recorded time will be adjusted accordingly. Once the fine tuning is complete, or if none is required, press the key adjacent to the tick icon to move to the next stage of the calibration sequence.

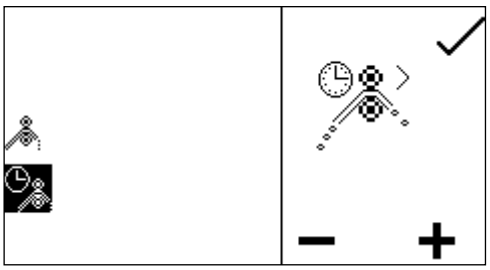


This stage allows an air gap to be added to the calibration sequence. If an air gap is not required press the key below the 001 icon to set the air gap to one. If a previously programmed air gap is to be used press the key adjacent to the double greater than icon to skip this stage and retain the current air gap time.

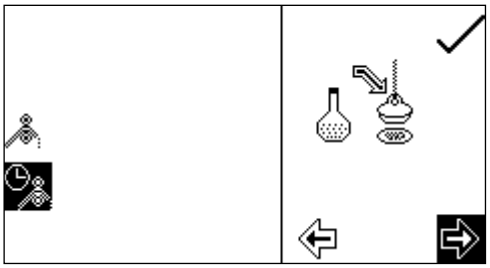
To program an air gap remove the inlet tubing from the sample container and press the key adjacent to the single greater than icon. The sipper pump will start and air will be pumped through the tubing to the flow through cell.



Once the required amount of air has been taken up press the key adjacent to the stop icon. The time taken for air uptake is recorded.

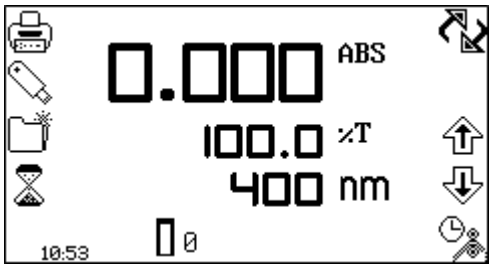


To fine tune the amount of air uptake press the key below the plus or minus icon to increase or decrease the amount of air taken in. The recorded time will be adjusted accordingly. Once the fine tuning is complete, or if none is required press the key adjacent to the tick icon to move to the next stage of the calibration sequence.

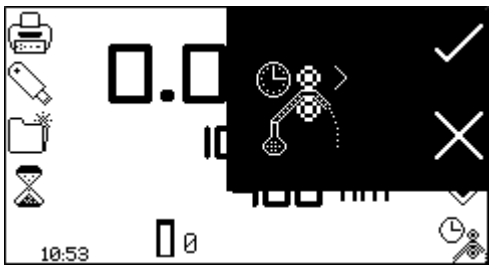


Once the sample uptake and air gap have been programmed the preferred disposal of the sample can be set. There are two options, the sample can either be sent back to the sample container or it can be sent to the waste pipe. Press the key below the forward or backward arrow to select what happens to the sample after measurement.

If the original pump direction selected was forwards, selecting the forwards direction at this stage will send the sample to waste and selecting the backwards direction will send the sample back to the sample container. Once the required direction has been selected press the key adjacent to the tick icon to save the calibration sequence and return to the operating menu. To exit the sipper calibration sequence without saving any changes press the back key at any point during the calibration sequence.

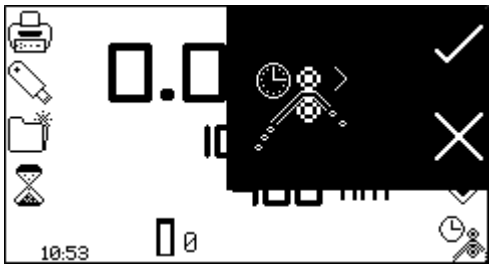


To perform a measurement place the sipper tubing into the sample and press the key below the sipper pump icon.

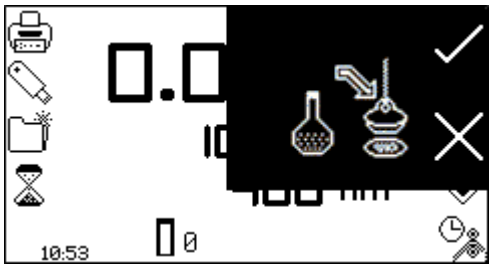


Confirmation will be needed to start the sipper pump. Press the key adjacent to the cross icon to cancel and return to the operating menu. Press the key adjacent to the tick icon to confirm and start the sipper pump. The pump will run for the previously recorded sample take up time. Ensure that the flow through cuvette contains enough sample before pressing the key below the measure sample icon.

Once the measurement has been performed remove the tubing from the sample and press the key below the sipper pump icon to perform the next stage of the calibration sequence.



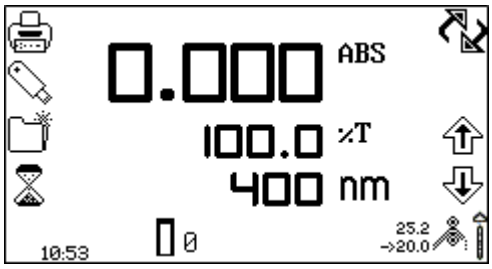
Confirmation will be needed to start the sipper pump. Press the key adjacent to the cross icon to cancel and return to the operating menu. Press the key adjacent to the tick icon to confirm and start the sipper pump. The pump will run for the previously recorded air gap take up time. If an air gap of zero was previously selected this screen will not appear and the calibration sequence will continue to sample disposal.



Once this stage of the calibration sequence is complete press the key below the sipper pump icon to dispose of the sample. Confirmation will be needed to start the sipper pump. Press the key adjacent to the cross icon to cancel and return to the operating menu. Press the key adjacent to the tick icon to confirm and start the sipper pump.

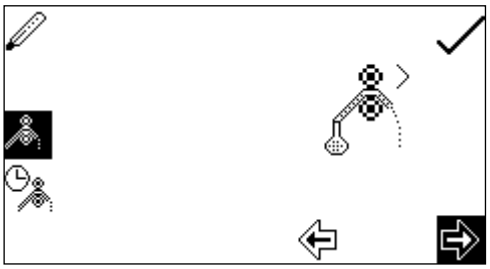
Depending on the disposal route previously selected the sample will either go to drain or back to the sample container.

1.3.4 Combined sipper Peltier pump



When the combined sipper Peltier is in use the sipper Peltier icon is displayed in the bottom right hand corner of the screen. The current temperature is displayed above the set point temperature adjacent to the sipper Peltier icon. Adjacent to the Peltier icon is an arrow to indicate if the current temperature is below or above

the set temperature. The pump direction is displayed by an arrow icon below the sipper Peltier icon. The combined sipper Peltier pump combines the functionality of the Peltier and sipper pump. To open the sipper Peltier settings hold the key below the sipper Peltier icon for 2 seconds.



The settings menu is the same as the sipper pump settings except for the Peltier icon in the top left hand corner. Pressing the key adjacent to the Peltier icon will open the Peltier settings enabling the temperature to be set. Refer to section 11.3.2 for more details. The sipper pump can operate in a manual or timed mode. Refer to section 11.3 for more details.

1.4 SPARES

Part Code	Description of Spare Part
012 075	Tungsten halogen lamp
730 545	Xenon lamp module
735 801	10x10mm path length cuvette holder
060 084	Pack of 100 disposable plastic visible wavelength 10x10 cuvettes
060 230	Pack of 100 disposable plastic UV wavelength 10x10 cuvettes
037 702	Paper roll for printer
021 060	24V 65W power supply unit with various plug attachments

Bibby Scientific Ltd
Beacon Road Stone
Staffordshire ST15 0SA
United Kingdom
Tel: +44 (0)1785 812121
Fax: +44 (0)1785 813748
e-mail: info@bibby-scientific.com
www.bibby-scientific.com

Bibby Scientific France SAS
ZI du Rocher Vert - BP 79
77793 Nemours Cedex
France
Tel: +33 1 64 45 13 13
Fax: +33 1 64 45 13 00
e-mail: bsf@bibby-scientific.fr
www.bibby-scientific.com

Bibby Scientific Ltd. – Singapore
Prudential Tower, Level 26,
30 Cecil Street 049712
Singapore
Tel: +65 6631 2976
Fax: +44 (0) 1785 810405
e-mail: bibby@bibby-scientificasia.com
www.bibby-scientific.com

Bibby Scientific Middle East Ltd
BPO Box 27842
Engomi 2433
Nicosia Cyprus
Tel: +357 22 660 423
Fax: +357 22 660 424
e-mail: sales@bibby-scientificme.com
www.bibby-scientific.com

Bibby Scientific US Ltd
3 Terri Lane Suite 10
Burlington NJ 08016
USA
Tel: 800-225-9243
Fax: 609-589-2571
www.bibby-scientific.com