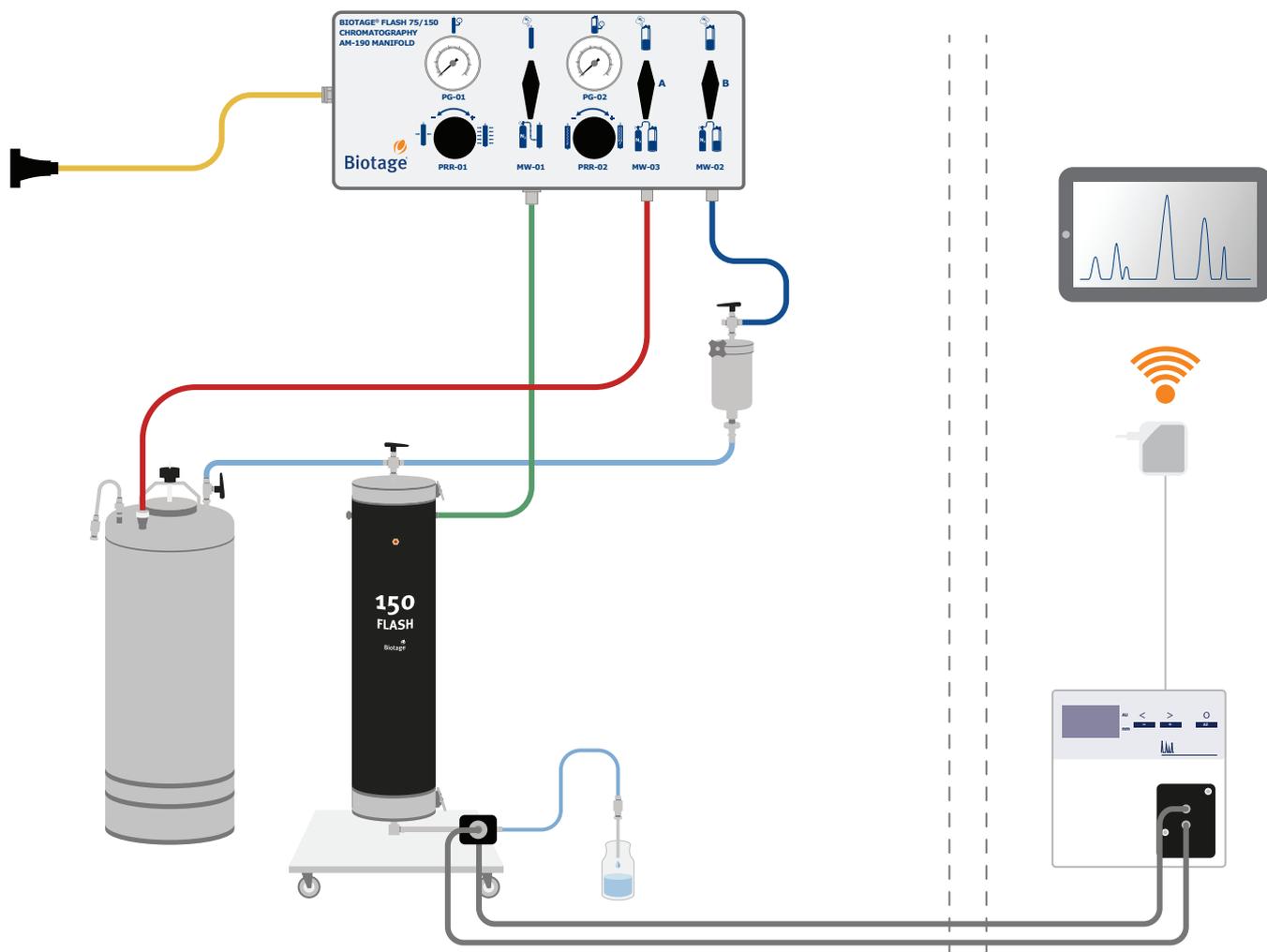


UV Monitor for Biotage® Flash 150/400

Getting Started Guide



UV Monitor for Biotage® Flash 150/400

Getting Started Guide

CONTENTS

- 1** Site Requirements
- 2** Installation
 - 3 Connect the Flow Cell to the Flash System
 - 4 Connect the UV Monitor to the Flow Cell
 - 4 Turn On the UV Monitor
 - 5 Set Up the Wireless Network
 - 5 Set Up Mobile Control
 - 5 Position the Tablet
- 6** Safety
 - 6 Intended Use
 - 6 Education, Training, and Competence
 - 6 Warranty and Liability
 - 6 Service
 - 6 Labels
 - 6 Safety Requirements
 - 6 WEEE Compliance Statement
- 7** Operation
 - 7 Wake Up the UV Monitor from Standby Mode
 - 7 Add a Program
 - 7 Start Data Acquisition
 - 7 Stop Data Acquisition
 - 7 Turn Off or Put the UV Monitor in Standby Mode
 - 7 More Information
- 8** Maintenance and Troubleshooting
 - 8 Maintenance
 - 8 Troubleshooting
 - 8 Spare Parts

Site Requirements

Note: For information on the site requirements for your Biotage® Flash 150/400 system, see the user manual supplied with the flash system.

Before the UV monitor is installed, the installation site should be prepared as follows:

UV Monitor

Location	<p>The UV monitor must be placed on a flat and stable surface.</p> <p>Protect the UV monitor against exposure to heavy ventilation and direct sunlight.</p> <p>The flow cell can be used in the same environment as the flash system when used with fiber optic cables supplied by Biotage but the UV monitor must be placed either in a non-explosive atmosphere (using long enough fiber optic cables) or inside an ATEX box. Please contact your local Biotage representative for more information.</p>
Weight	<p>The total weight of the package including the UV monitor is 10 kg (22 lbs).</p> <p>The UV monitor weighs 1.5 kg (3.3 lbs).</p>
Dimensions	<p>The dimensions of the UV monitor are (W x D x H): 121 x 187 x 129 mm (4.8" x 7.4" x 5.1").</p> <p>The UV monitor requires the following clearance for proper air circulation:</p> <ul style="list-style-type: none"> » A minimum distance of 15 cm (5.9") between the rear of the UV monitor and any solid objects. » A minimum distance of 5 cm (2") on each side of the UV monitor if there is another device on one side, and 10 cm (3.9") if there are devices set up on both sides.
Operating Temperature	4°C to 40°C (39.2°F to 104°F)
Humidity	< 90% non-condensing
Altitude	Maximum 2000 meters
Protection Type	IP 20
Electrical Supply	100 to 240 VAC, 50/60 Hz to power adaptor (sec: 24 VDC, 60 W)
External Fire Protection	External fire protection should be installed according to local regulations for equipment operating unattended.

Tablet

Location

The tablet is ATEX classed* and can be used in such an atmosphere but must not be fixed/stored or charged there.

* ATEX / IECEx zone 2/22,
II 3G Ex ic IIC T4 Gc,
II 3D Ex ic IIIB T130°C Dc

Installation

Warning

- » Follow regional safety practices when handling and moving shipping boxes and containers, and when moving the equipment.
- » You must observe all safety requirements when installing and operating the equipment; see the "Safety" chapter on page 6.

Note: This section only describes how to connect the UV monitor to your flash system and how to set up the wireless network. Please refer to the user manual for the UV monitor for more information.

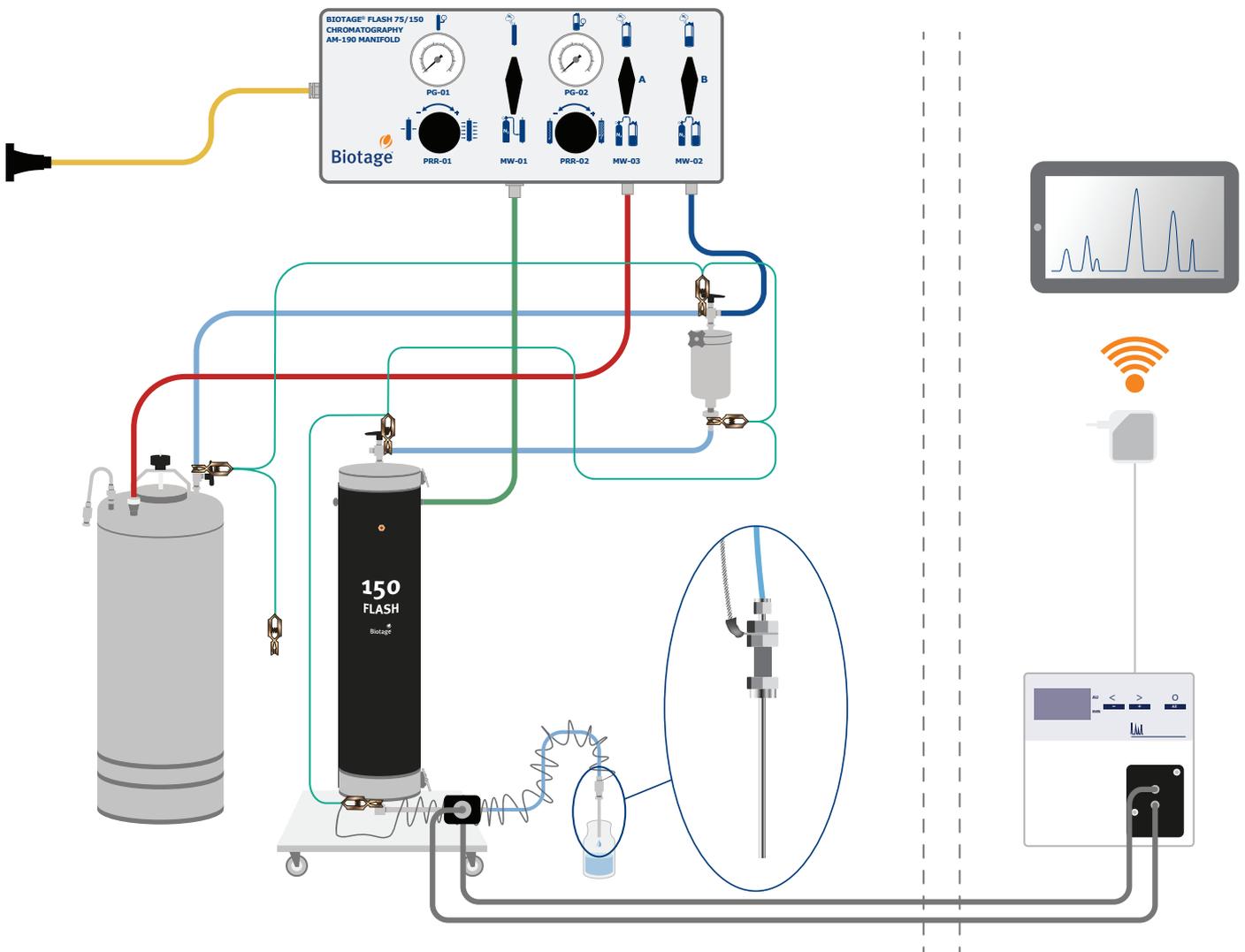


Figure 1. Flash 150 system with UV monitor and grounding kit.

Connect the Flow Cell to the Flash System

Note: Only use the fiber optic cables supplied with the system. If you need longer cables, please contact Biotage.

Note: Do not touch the ends of the fiber optics with your fingers as this could falsify the measurement.

Connect the UV Flow Cell to a Flash 150 System

1. On the system, disconnect the fraction collection assembly tube (transparent 1/4" PTFE tube) from the radial compression module outlet.
2. Connect the flow cell inlet to the radial compression module outlet using the supplied SWAGELOK union connection; see Figure 2. Note that flow cell is not unidirectional.
3. Connect the flow cell outlet to the fraction collection assembly tube using the supplied SWAGELOK union connection; see Figure 2.
4. Verify that the system and ancillary containers are grounded. Nominal resistance must be below 5 Ohm between ground and each metal point in the system. See the proper grounding setup in Figure 1.

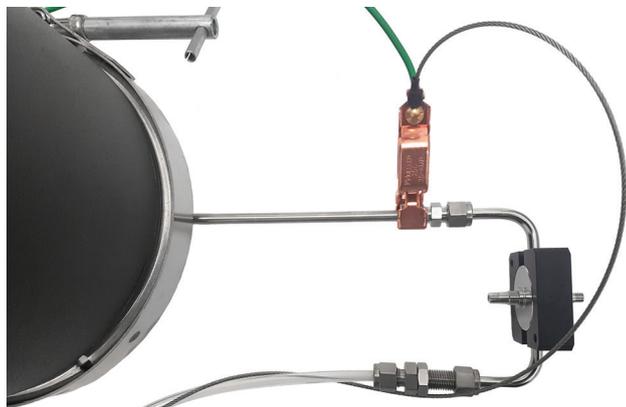


Figure 2. The flow cell connected to the Flash 150 system.

Connect the UV Flow Cell to a Flash 400 System

The flow cell, tri-clamp hose tails (2), seals (2), tri-clamps (2), and 1/2" Swagelok union are supplied with the UV monitor.

1. On the system, disconnect the overbraided outlet tube from the outlet select valve underneath the control panel.
2. Insert one of the tri-clamp hose tails into the 1/2" Swagelok connection on the outlet select valve and tighten.
3. Attach the flow cell outlet to the tri-clamp hose tail on the outlet select valve by placing a seal between the tri-clamp fittings and then securing the connection using a tri-clamp; see Figure 3. Ensure to get a tight seal.



Figure 3. Place a seal (orange) between the tri-clamp fittings on the tri-clamp hose tail (dark grey) and the flow cell (black).

4. Connect the second tri-clamp hose tail to the overbraided outlet tube using the 1/2" Swagelok union.
5. Attach the flow cell inlet to the outlet tube by placing a seal between the tri-clamp fittings and then securing the connection using a tri-clamp. Ensure to get a tight seal.

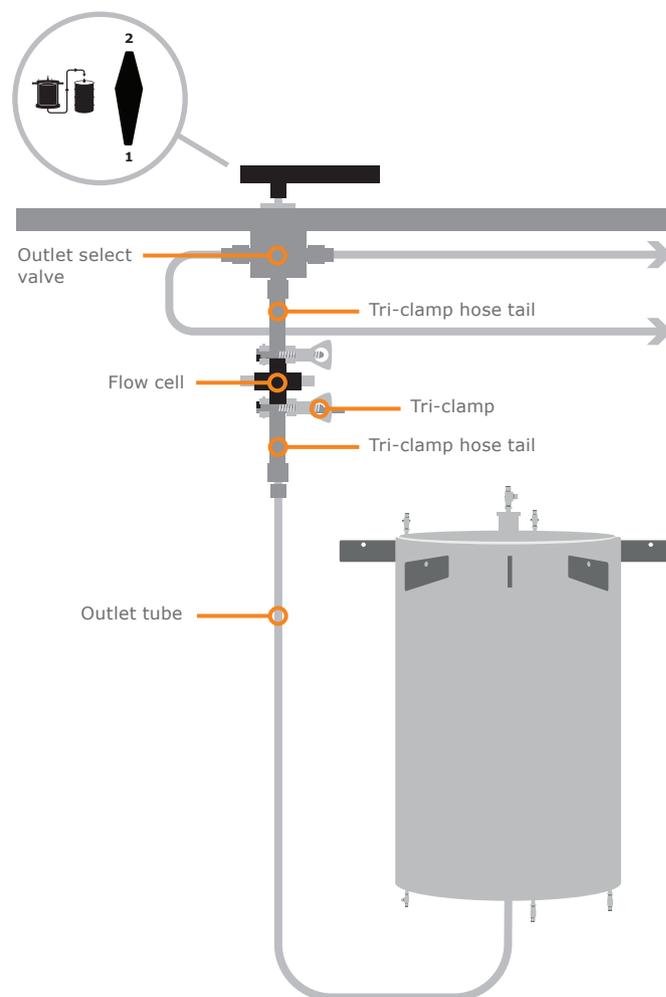


Figure 4. The flow cell connected to the Flash 400 system.

Connect the UV Monitor to the Flow Cell

1. Connect the two fibre optic cables to the flow cell, one at the time:
 - a. Remove the protective cap from one end of the fibre optic cable.
 - b. Insert the cable into one of the fiber optics fittings on the flow cell and finger-tighten; see Figure 5.
 - c. Repeat the procedure to connect the second cable to the fiber optics fitting on the opposite side of the flow cell.

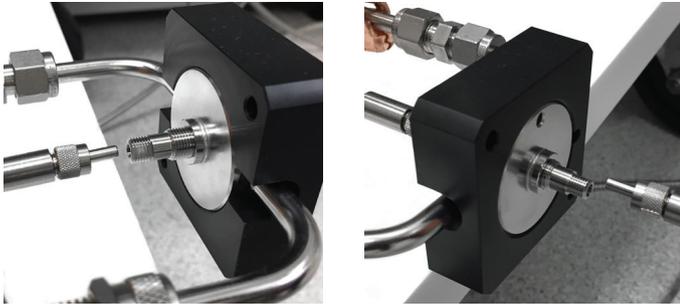


Figure 5. Connecting the fiber optic cables to the flow cell.

2. Connect the fiber optic cables to the UV monitor, one at the time:
 - a. Remove the protective cap from the other end of the fibre optic cable.
 - b. Remove the protective cap from one of the fiber optic connectors on the front of the UV monitor.
 - c. Insert the fibre optic cable into the screw thread connector and finger-tighten; see Figure 6.
 - d. Repeat the procedure to connect the other fiber optic cable.



Figure 6. Connecting the fiber optic cables to the UV monitor.

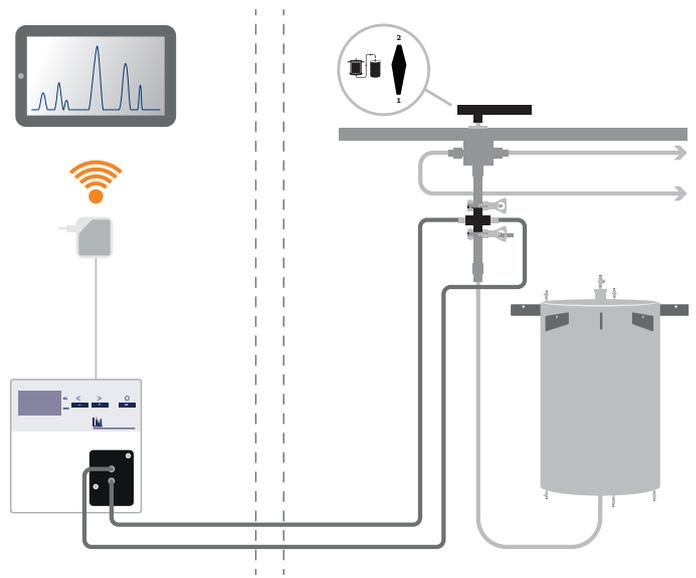


Figure 7. Flash 400 system with UV monitor.

Turn On the UV Monitor

1. Connect the power supply adapter to the power inlet at the rear of the UV monitor; see A in Figure 8.
2. Connect the adapter end of the power cord to the power supply adapter.
3. Connect the power cord plug to a power outlet.
4. Turn on the UV monitor using the power switch on the power supply adapter. The UV monitor will now automatically run through an internal setup (“UVD” is displayed) and calibration (“CAL” is displayed) before settling to a standard UV display showing absorption reading and wavelength (see Figure 9).



Figure 8. The rear of the UV monitor. A = power inlet and B = LAN port.



Figure 9. Wavelength and autozero can be selected on the front of the UV monitor using the +, - and AZ buttons.

Set Up the Wireless Network

To control the device using the supplied tablet, the tablet must be connected to the wireless LAN router.

1. Set the operation mode switch on the upper side of the router to **Router/AP**; see Figure 10.
2. Connect the router to a power outlet. A blue LED will signal that the router is switched on.
3. Connect the tablet to the wireless network:
 - a. Press the Wifi icon (📶) on the taskbar.
 - b. Select the network “TP-Link_XXXX”.
 - c. Press **Connect** and enter the password.
 - d. Press **Next**.

Note: The network name (SSID) and password is displayed on a label on the side of the router.

4. Connect one end of the LAN cable to the **LAN** port on the router (see Figure 10) and the other end to the **LAN** port on the UV monitor (see B in Figure 8).

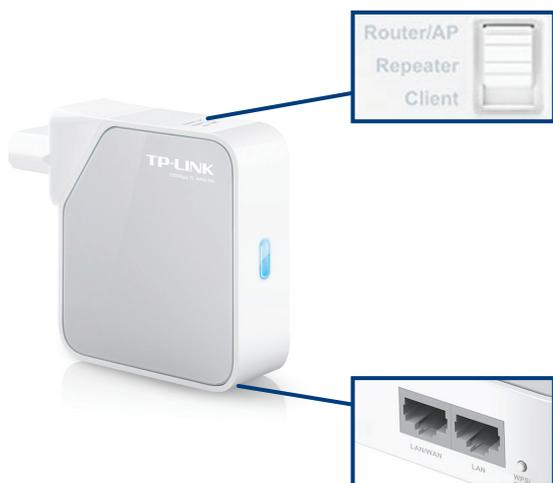


Figure 10. The router.

Set Up Mobile Control

1. Press the Mobile Control icon on the desktop (📱).
2. Enter the user name “Admin” and the password “12345”, and then press **Login**. This default user has full access to Mobile Control and can create additional users; see the software’s user manual.
3. Select the  tab.
4. Press **System Configuration** and then **Auto Config** to detect the connected devices in the network.
5. When the system has detected the UV monitor, press the device symbol to enter the detail view (see Figure 11).



Figure 11. Detailed view of the UV monitor in the Mobile Control app.

Position the Tablet

The tablet supplied by Biotage is ATEX classed and can be used in such an atmosphere but must not be fixed/stored or charged there.

Safety

Intended Use

The UV monitor supplied by Biotage is intended solely to be used with Biotage® flash systems and Biotage cartridges by trained professionals in laboratory environment.

Education, Training, and Competence

It is your responsibility to provide all applicable health and safety regulations to your personnel. You must also ensure that all personnel involved in the operation and maintenance of the equipment fulfill the following criteria:

- » Have the necessary education, training, and competence required for the intended use of the equipment.
- » Observe general and specific safety regulations for the use of the equipment and its accessories at all times in order to reduce the risk of personal injury, fire, and explosion.

Warranty and Liability

See the “Biotage Terms & Conditions of Sale” document at www.biotage.com.

Service

All service must be performed by an authorized Biotage service engineer. Before handing over the equipment for service, it should be emptied of all liquid and cleaned from harmful residues.

It is the responsibility of the customer to inform Biotage® 1-Point Support™ representatives if the equipment has been used with hazardous biological, radioactive, or toxic samples and/or solvents, prior to any service being performed. If returning equipment to Biotage, this should be done in accordance with the material return procedures supplied separately by Biotage.

Only genuine Biotage spare parts must be used in the equipment.

Labels

For information on the labels used on the equipment, see the user manual supplied with the equipment.

Safety Requirements

- » Ensure that there is no solvent in the flash system’s radial compression module before connecting the flow cell to the radial compression module outlet.
- » Only connect the UV monitor to the flash system using fiber optic cables supplied by Biotage.
- » Ensure that there is no risk of stepping or tripping over the fiber optic cables.

- » Ensure that the power cord and the fiber optic cables cannot come in contact with water or chemicals. Corrosives and solvents can degrade the cord/cable insulation. There is a risk of electric shock, fire, and/or equipment damage.
- » Only use an ATEX classed tablet supplied by Biotage to control of the UV monitor.
- » The tablet supplied by Biotage is ATEX classed and can be used in such an atmosphere but must not be fixed/stored or charged there.
- » The flow cell can be used in the same environment as the flash system when used with fiber optic cables supplied by Biotage but the UV monitor must be placed either in a non-explosive atmosphere (using long enough fiber optic cables) or inside an ATEX box.
- » Read and follow the safety requirements for the flash system; see the user manual supplied with the flash system.
- » Read and follow the safety requirements for the UV monitor; see the user manual supplied with the UV monitor.
- » Follow all generally-accepted lab safety procedures and applicable laws and regulations.
- » Personnel working with or near the flash system must wear applicable safety clothing and gear (such as solvent-resistant clothing and gloves, steel toe shoes, and hearing, face, and eye protection) that comply with local and national safety regulations.
- » The flash system uses solvents. Always follow local and national safety regulations and the solvent manufacturer’s safety, handling, storage, and disposal recommendations; see solvent manufacturer’s SDS sheets.

WEEE Compliance Statement

Valid for customers in EU countries



We are committed to being a good corporate citizen. As part of that commitment, we strive to maintain an environmentally conscious manufacturing operation. The European Union (EU) has enacted a directive on product recycling (Waste Electrical and Electronic Equipment, WEEE).

Products falling under the scope of the WEEE Directive are identified with a crossed over “wheeled bin” symbol on the product label, as indicated to the left. To forward a product for recycling or proper disposal, use an authorized collection system or return it to Biotage Sweden AB. Before forwarding a product for recycling or disposal, it should be emptied of all liquid and cleaned from harmful residues. When returning a product to Biotage, this should be done in accordance with the material return procedures supplied separately by Biotage.

Operation

The UV monitor can be operated in two different ways:

- » Control via the **+**, **-** and **AZ** buttons on the UV monitor's front panel.
- » Control via the Mobile Control app, which is pre-installed on the tablet supplied with the UV Monitor.

Wake Up the UV Monitor from Standby Mode

1. In the Mobile Control app, select the  tab.
2. Press the **Power Up** button. Note the waiting period which the lamp of the monitor needs to be ready for use.

Add a Program

1. In the Mobile Control app, select the  tab.
2. Press **+** and then **Add program**.
3. Select the **Settings** tab. In the **Reports** field, select the information to be displayed for the run in the system report. The report will be available in PDF format.
4. Select the **Detection** tab and enter the program name, run time, and wavelength. See Figure 12.



Figure 12. The Detection tab.

5. When the program setup is completed, press **Save**.

Start Data Acquisition

1. In the Mobile Control app, select the  tab.
2. Select the **Programs** tab and select the desired program.
3. Press the **Load** button and then enter sample ID and filename (include a suffix); see Figure 13.

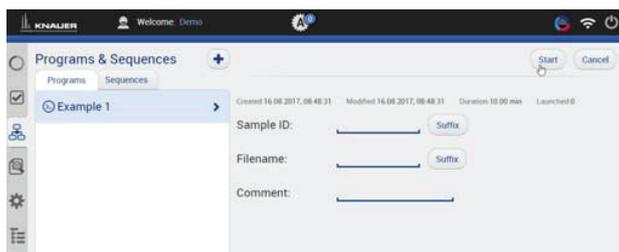


Figure 13. The Programs & Sequences view after pressing Load.

4. To start data acquisition, press the **Start** button.
5. To view a chromatogram with the UV signal, auxiliary and method traces, select the  tab.

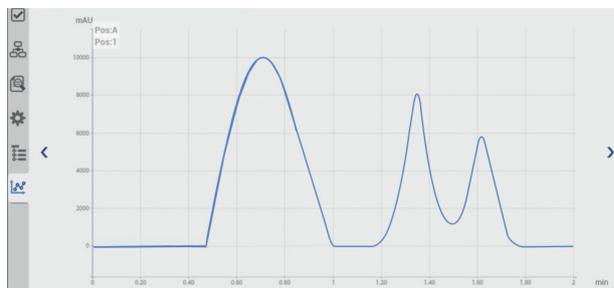


Figure 14. The chromatogram view.

Stop Data Acquisition

The progress of a run is shown in the upper part of the screen. You can stop the program by pressing **Stop**.

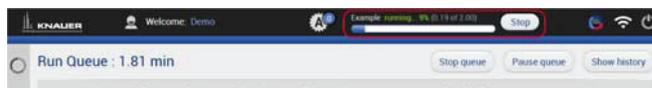


Figure 15. The Stop button.

Turn Off or Put the UV Monitor in Standby Mode

1. In the Mobile Control app, select the  tab.
2. In the detail view of the UV monitor (see Figure 11), press the **Standby** button. When the device is in standby mode, the lamp is switched off.
3. Close down the tablet.
4. For a long period of non-usage, turn off the UV monitor using the power switch on the power supply adapter.

More Information

For more information on the Mobile Control app; refer to the software user manual supplied with the tablet.

Maintenance and Troubleshooting

Maintenance

For more maintenance instructions, refer to the user manual supplied with the UV monitor.

Clean the Flow Cell

Increased baseline noise and reduced sensitivity can be a result of a dirty flow cell. Often it is sufficient to rinse the flow cell to restore optimal sensitivity.

Note: Dirty lenses or fiber optic connectors could falsify the measurement. Do not touch the lens or the fiber optic connector lenses with bare hands. Wear gloves.

Required material: Syringe and flushing solvent. Suitable solvents are HCl(aq), NaOH(aq), Ethanol, and Acetone.

1. Fill the syringe with the flushing solution; see suitable solvents above.
2. Inject the flushing solution into the flow cell inlet and allow it to act for 5 minutes.
3. Fill the syringe with water and inject again.
4. Remove the flow cell and use a nitrogen stream to dry it.

Troubleshooting

First measures:

1. Check all cabling.
2. Check all screw fittings.
3. Check whether air has gotten into the solvent supply lines.
4. Check the UV monitor for leaks.
5. Observe system messages on the display.
Error number 56: Low light, inspect the flow cell.
All other errors: Please contact Biotage 1-Point Support.

Operating Problems

Problem	Solution
Baseline drift	Maintain constant temperature conditions during the measurement.
UV monitor will not turn on	Inspect the power cable to ensure that it is plugged into the power supply.
UV monitor cannot be calibrated	<ol style="list-style-type: none"> 1. Check that the lamp is switched on. 2. Check for air bubbles in the flow cell or cracks in the lens.
Baseline noise	<ol style="list-style-type: none"> 1. Inspect the flow-cell assembly. 2. Exchange defective flow cell. 3. Check for air bubbles in the flow cell.
The relationship of the signal to the light path reference is very low	<ol style="list-style-type: none"> 1. Flush the flow cell. 2. Clean the flow cell window.

Spare Parts

To order spare parts, see contact information on the back of this document or visit our website www.biotage.com.

Your Complete Partner for Effective Chemistry

Biotage is a worldwide supplier of instruments and accessories designed to facilitate the work of laboratory and process chemists. With our deep knowledge of the industry, academic contacts and in-house R&D teams, we can deliver the best solutions to your challenges. We take great pride in our flexibility and ability to meet our customer's individual needs. With strong foundations in both analytical, organic and process chemistry, we can offer the widest range of solutions available on the market.

EUROPE

Main Office: +46 18 565900
Toll Free: +800 18 565710
Fax: +46 18 591922
Order Tel: +46 18 565710
Order Fax: +46 18 565705
order@biotage.com
Support Tel: +46 18 56 59 11
Support Fax: + 46 18 56 57 11
eu-1-pointsupport@biotage.com

NORTH & LATIN AMERICA

Main Office: +1 704 654 4900
Toll Free: +1 800 446 4752
Fax: +1 704 654 4917
Order Tel: +1 704 654 4900
Order Fax: +1 434 296 8217
ordermailbox@biotage.com
Support Tel: +1 800 446 4752
Outside US: +1 704 654 4900
us-1-pointsupport@biotage.com

JAPAN

Tel: +81 3 5627 3123
Fax: +81 3 5627 3121
jp_order@biotage.com
jp-1-pointsupport@biotage.com

CHINA

Tel: +86 21 68162810
Fax: +86 21 68162829
cn_order@biotage.com
cn-1-pointsupport@biotage.com

KOREA

Tel: + 82 31 706 8500
Fax: +82 31 706 8510
korea_info@biotage.com
kr-1-pointsupport@biotage.com

Distributors in other regions
are listed on www.biotage.com

Part Number: 416215-A

© 2018 Biotage. All rights reserved. No material may be reproduced or published without the written permission of Biotage. Information in this document is subject to change without notice and does not represent any commitment from Biotage. E&OE. A list of all trademarks owned by Biotage AB is available at www.biotage.com/legal. Other product and company names mentioned herein may be trademarks or registered trademarks and/or service marks of their respective owners, and are used only for explanation and to the owners' benefit, without intent to infringe.

