UVP UV/White Transilluminators

Instruction Manual

analytikjena

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81-0286-01 Rev E

Introduction

The UVP Transilluminator offers the researcher uniform and intense sources of ultraviolet light (radiation) and white light in one unit. UV and white light 20x20cm filter areas side by side.

The special UV design emits high intensity excitation UV wavelength for back-illumination of transparent fluorescent materials. The UV back-illumination provides a highly sensitive method to detect double-stranded nucleic acids that have been labeled with fluorescent dyes such as ethidium bromide or acridine orange. Single stranded nucleic acids may be detected, but with excitation wavelength sensitive for nucleic acid visualization.

White light is used to illuminate coommassie blue, silver stain and protein gels.

The transilluminator is uniquely designed with increased UV intensity and uniformity, instant on capabilities, no lamp flicker and reduced electrical consumption.

NOTE: Though the manual refers to the midrange UV waveband as 302nm, others refer to this region as 300nm or 312nm. The spectral output of all these regions is the same.

A Word of Caution: UV Transilluminators are powerful sources of UV radiation that will cause damage to unprotected eyes and skin. Before operating any unit, be sure all personnel in the area are properly protected. If not using the transilluminator with an imaging system darkroom, a UV Blocking Cover should be attached to the transilluminator. Even though this cover blocks the ultraviolet radiation emitted by the unit, UV Blocking Eyewear should be worn as well.

The UVP UV/White Transilluminator features:

Specifications

UVP UV/White Transilluminators

UVP UV/White Transilluminator models are designed with **white light and one or two UV wavelengths**. Units are equipped with a high efficiency electronic ballast.
Dimensions: 13.25D x 19.13W x 5.64H in. (337 x 486 x 143mm)

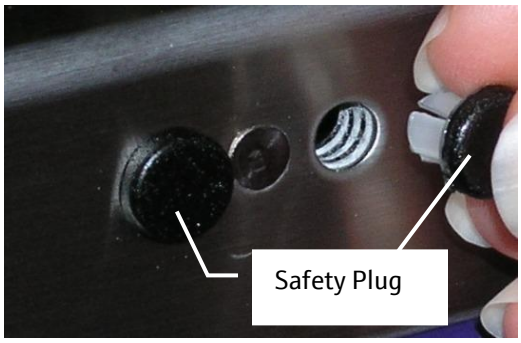
Model	*Part Number*	*Volt/Hz*	*Wavelength*	*Filter Size*	*No. of Tubes /Watts*
TLW-20	95-0415-01	100-115/60	365nm	20 x 20cm	4 x 8W
	95-0415-02	230/50	White	20 x 20cm	2 x 8W
TMW-20	95-0415-04	100-115/60	302nm	15 x 15cm	4 x 8W
	95-0415-05	230/50	White	20 x 20cm	2 x 8W
LMW-20	95-0418-01	100-115/60	302/365nm	20 x 20cm	4 x 8W
	95-0418-02	230/50	White	20 x 20cm	2 x 8W

Transilluminator Operation

Safety Precautions

When the UV Blocking Cover is not being used, UV light may escape through the holes dedicated to accepting the bracket pins of the UV Blocking Cover.

- Remove the black safety plugs from their package
- Insert the safety plugs through the holes as shown.



Setting Up the Transilluminator

- Place the transilluminator on a level work surface. Be sure that an air space exists around the bottom of the work surface. This space allows for the proper air circulation through the unit.
- Plug the female end of the power cord into the transilluminator. For 230 volt models, or those requiring special power cord connectors, ensure that the proper configuration of male connector or plug has been properly connected to the power cord.
- Plug the male end of the power cord into a properly grounded electrical outlet. The proper voltage of the transilluminator is found on the product information label. If using the transilluminator with an imaging system, a jumper cable is required for connecting to the darkroom. Refer to the imaging system documentation for additional instructions.
- The transilluminator is equipped with a UV Blocking Cover. Remove the brown protective paper from the cover. Insert the bracket pins on the cover into the holes on the front of the transilluminator. The cover is adjustable to varying angles for access to the filter surface.

NOTE: Do not operate the unit without securing the cover. If the cover is missing, a UV Blocking Faceshield must be worn to avoid UV exposure to the skin. UV Blocking Eyewear should be worn even with the cover in place to avoid accidental UV exposure.

Permanently Installing the Safety Cover *(Optional)*

Your UVP transilluminator includes a UV-blocking safety shield which can be installed temporarily (as described elsewhere in this manual) or permanently, if desired. The following instructions will explain the process of permanently installing the Analytik Jena-supplied UV blocking cover onto the UVP transilluminator.

To complete this procedure, the following tools and parts will be required:

- Phillips-head screwdriver
- 5/16" nut driver
- 3/8" narrow walled nut driver
- (4) hollow 3/8" nuts (supplied with safety cover)

CAUTION: This procedure requires a moderate level of technical competence. If you are not comfortable working with electronics, tools and/or related components, contact AJ for assistance.

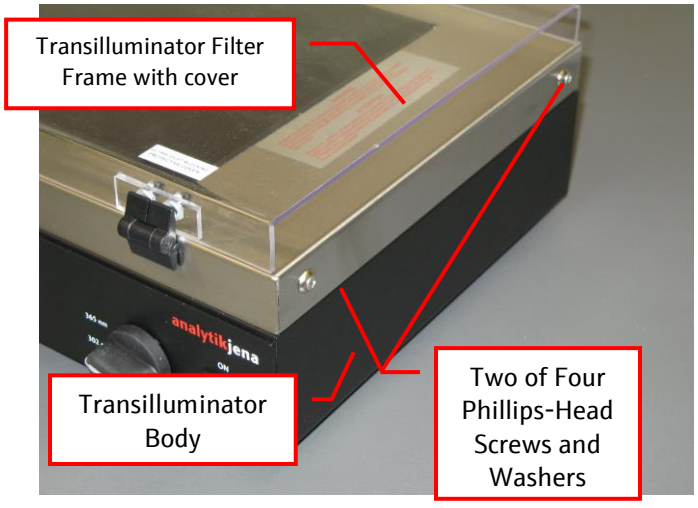
Note: *The transilluminator images shown in this procedure may differ in appearance from your transilluminator. However, the procedure is the same.*

Removal Procedure

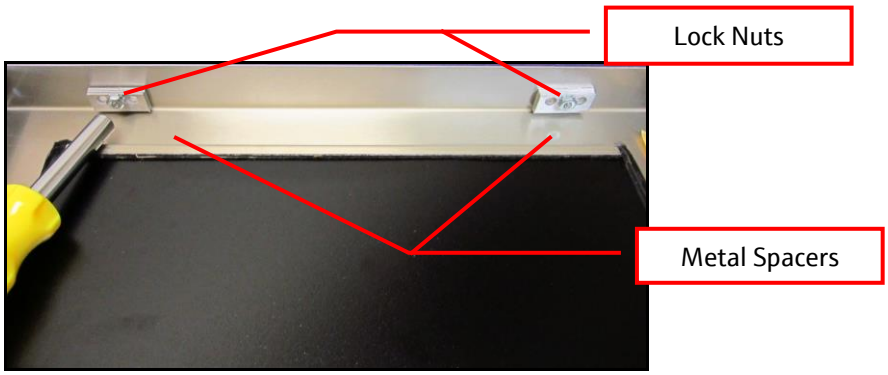
When performing the following procedure, place all components (screws, nuts, etc.) in a secure location, as some will be reused for installation.

1. Turn off the transilluminator by placing the power switch on the front of the unit in the OFF position. Then, unplug the unit from the wall power.

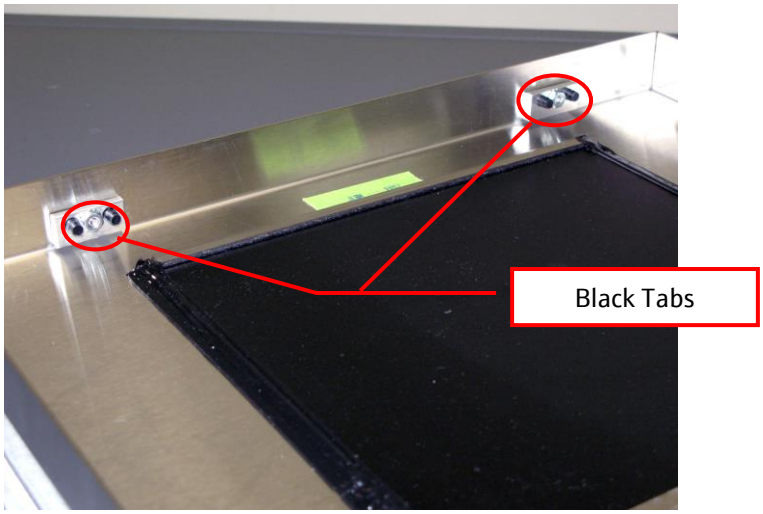
2. Remove the four Phillips-head screws and washers securing the transilluminator filter frame to the body of the transilluminator. Lifting up, remove the transilluminator filter frame from the transilluminator body and place it upside-down on a flat, smooth surface to avoid scratching the filter glass.



3. Locate the two sets of lock nuts and three metal spacers on the inside of the transilluminator filter frame, as shown in the image below. Use the 5/16" nut driver to remove the two sets of lock nuts and spacers.



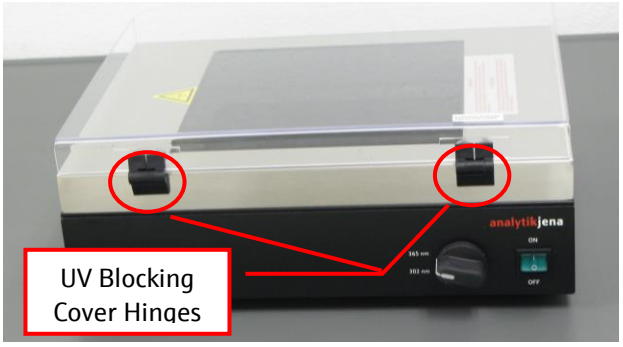
4. Lift the transilluminator filter frame and place the UV blocking cover below the frame. Insert the black tabs, located on the UV blocking cover's hinges, through the filter frame as shown.



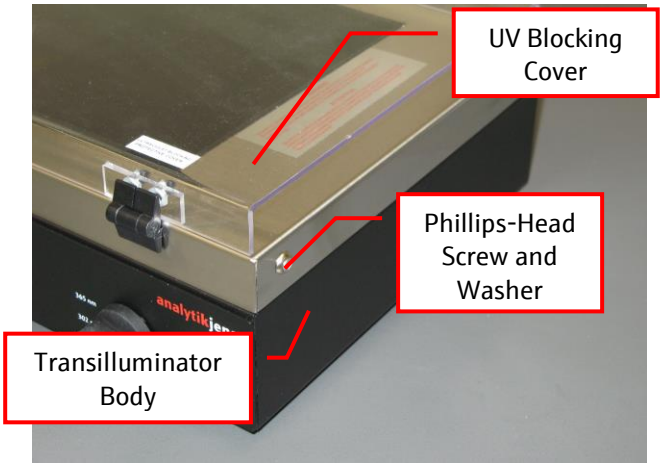
5. Use the narrow walled 3/8" nut driver to secure the four supplied 3/8" hollow nuts to the black UV blocking cover hinge tabs.

Installation Procedure

1. With the UV blocking cover hinges at the front of the unit, replace the transilluminator filter frame on top of the body of the transilluminator.



2. Reinstall the four Phillips-head screws and washers on the sides of the transilluminator to secure the transilluminator filter frame to the transilluminator body.



Using the Transilluminator

Place gel/sample on the filter area. It is recommended that researchers place the gels on a Gel-Tray to protect the filter surface from cuts and scratches. It is recommended that gloves be worn to prevent skin contact with gel and staining agents.

- The transilluminator can be turned on with the wavelength selector knob pointing in any position. Press the ON/OFF switch to ON. The tubes within the unit will begin glowing beneath the filter.
- Dial the knob to the appropriate wavelength setting. After viewing the sample, turn the transilluminator off.

Maintenance/Repair/Technical Assistance

Cleaning and Care of the Transilluminator

Clean unit surface with a damp soft cloth or sponge. Never use abrasive cleaners (can damage the filter surface). To protect the filter glass and minimize moisture and liquids on the glass, it is recommended that you use a UV transmitting Gel-Tray. Refer to the Replacement Parts for ordering information.

Replacing Tubes in the Transilluminator

- Disconnect the transilluminator for the electrical supply.
- Remove the filter cover: Use a Phillips head screwdriver to remove the four screws on the sides of the unit. Lift the filter cover off the unit.
- Remove the reflectors on the left and right side. Slide the reflectors up out of the unit.
- Remove the tube: Carefully rotate the tube and slide out of the socket. Replace with a new tube by sliding the tube into the socket and rotating into place. Insert the reflectors back into place and reattach the filter cover.

Replacement Parts/Accessories

For replacement parts or components not shown here, please call Analytik Jena Customer Service or place of purchase. Please have the transilluminator model number available when you call.

Replacement Part Description	**Part Number**
UVP Filter Assembly (LMW-20, TMW-20)	38-0189-05
UVP Filter Assembly (TLW-20)	38-0189-08
UVP Cover, UV blocking	19-0112-01
UVP Tube, 8 Watt, 302nm midrange UV (FL8E)	34-0042-01 ***(Qty. 4 Required)***
UVP Tube, 8 Watt, 365nm longwave UV (F8T5/BL)	34-0006-01 ***(Qty. 4 Required)***
UVP Tube, 8 Watt, cool white (T8T5/CW)	34-0056-01 ***(Qty. 2 Required)***
White/UV Selector Switch	53-0196-02

Accessories Description	**Part Number**
UVP Gel-Cutter	85-0002-01
UVP Gel-Scooper	85-0006-01
UVP Gel-Tray, UV Transmitting, Lg. 16.5"W x 10.5"D (42 x 27cm)	85-0005-01
UVP Gel-Tray, UV Transmitting (25 x 26cm)	38-0296-03
UVP Gel-Ruler, UV Fluorescing	85-0003-01
UVP Spectacles, UV Blocking	98-0002-01
UVP Goggles, UV Blocking	98-0002-02
UVP Faceshield, UV Blocking	98-0002-04

Technical Support

Analytik Jena offers technical support for all of its products. If you have any questions about the product's use or, operation, please contact AJ's offices at the following locations.

If you are in North America, South America, East Asia or Australia:

Call (909) 946-3197
Customer Service regular business days, between 7 am and 5 pm PST

E-Mail: info@us.analytik-jena.com

Fax Customer Service**:** (909) 946-3597

Write to: Analytik Jena US
2066 W. 11th Street
Upland, CA 91786 USA

If you are in Europe, Africa, the Middle East, Western Asia:

Call +44(0) 1223-420022 Customer
regular business days, between 9 am and 5:30 pm

E-Mail: uvp@uvp.co.uk

Fax Customer Service**:** +44(0)1223-420561

Write to: Ultra-Violet Products Ltd.
Unit 1, Trinity Hall Farm Est., Nuffield Rd.
Cambridge CB4 1TG UK

Note: A **Returned Goods Authorization (RGA) number** must be obtained from AJ Customer Service before returning any product.

Warranty

Analytik Jena warrants its Ultraviolet Transilluminators to be free of detects in materials and workmanship for a period of two (2) years from date of purchase. The foregoing warranty of AJ shall be of no force and effect if buyer has modified or damaged the product. Tubes and filters are warranted for 90 days.

All warranties or merchantability and fitness for any purpose and all other warranties, expressed or implied, except those expressly set forth herein, are deemed waived and excluded.

AJ's duty under the warranty is limited to replacement and/or repair of the defective part at the option of AJ. AJ shall not be liable for any expenses or damages incurred by the purchaser except as expressly set forth herein, and in no event shall AJ be liable for any special, incidental or consequential damages of any kind. This warranty does not supersede any statutory rights that may be available in certain countries.