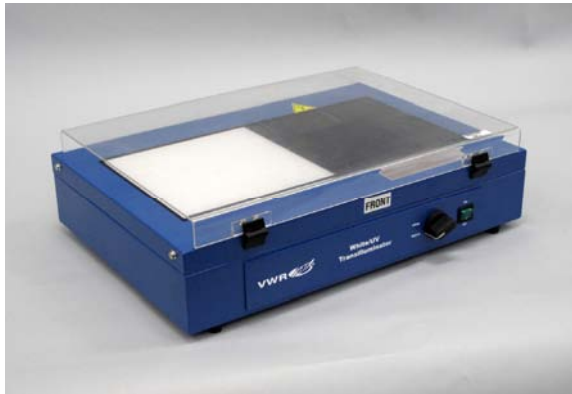
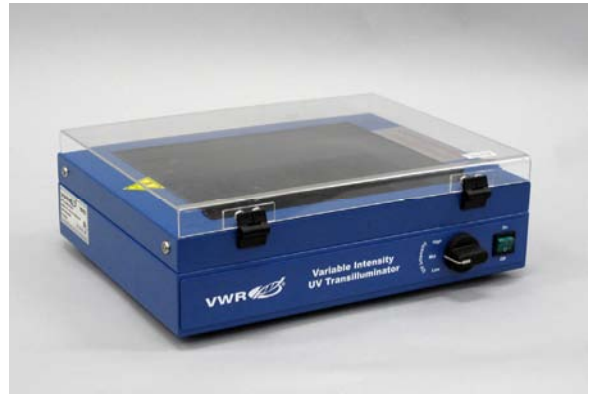


Transilluminators

Installation and User Instructions



White/UV Transilluminator



UV Transilluminator



vwr.com
1.800.932.5000

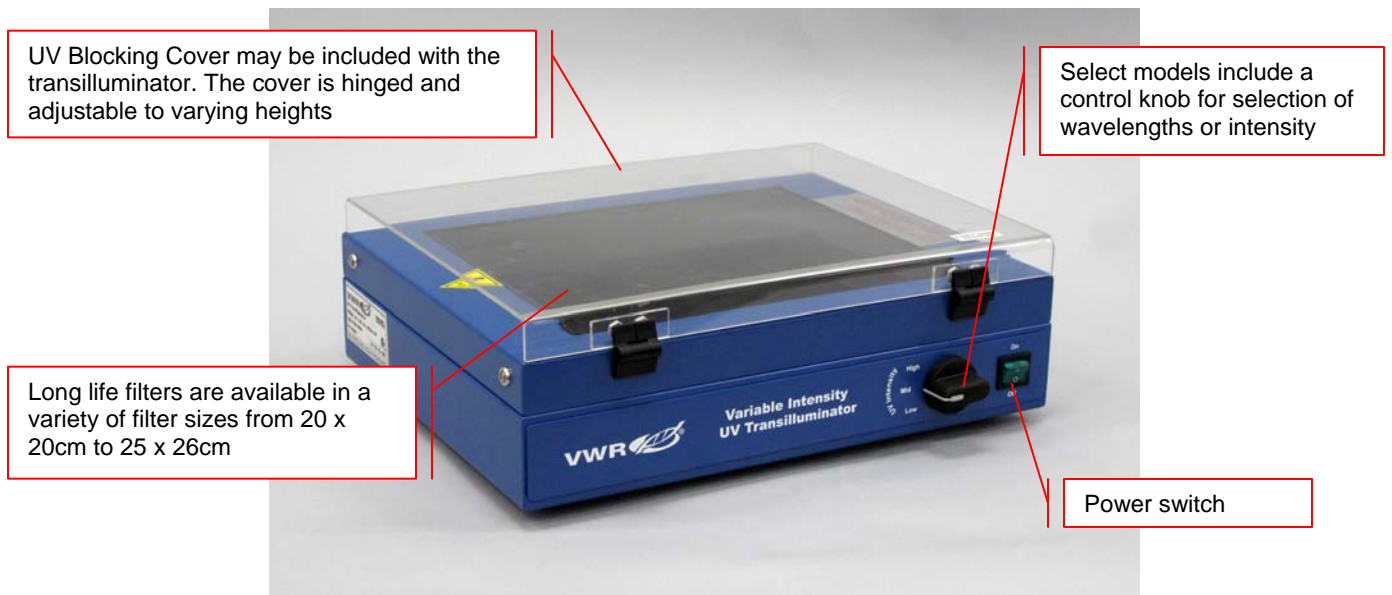
Introduction

UV Transilluminators

The UV Transilluminator offers the researcher uniform and intense sources of ultraviolet light (radiation) in a compact package. The special design emits high intensity excitation UV wavelength for back-illumination of transparent fluorescent materials. The 302nm 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 a lower excitation wavelength more sensitive for nucleic acid visualization than the 365nm model. The transilluminator is uniquely designed with increased UV intensity and uniformity, instant on capabilities, no lamp flicker and reduced electrical consumption.

UV Transilluminator Options:

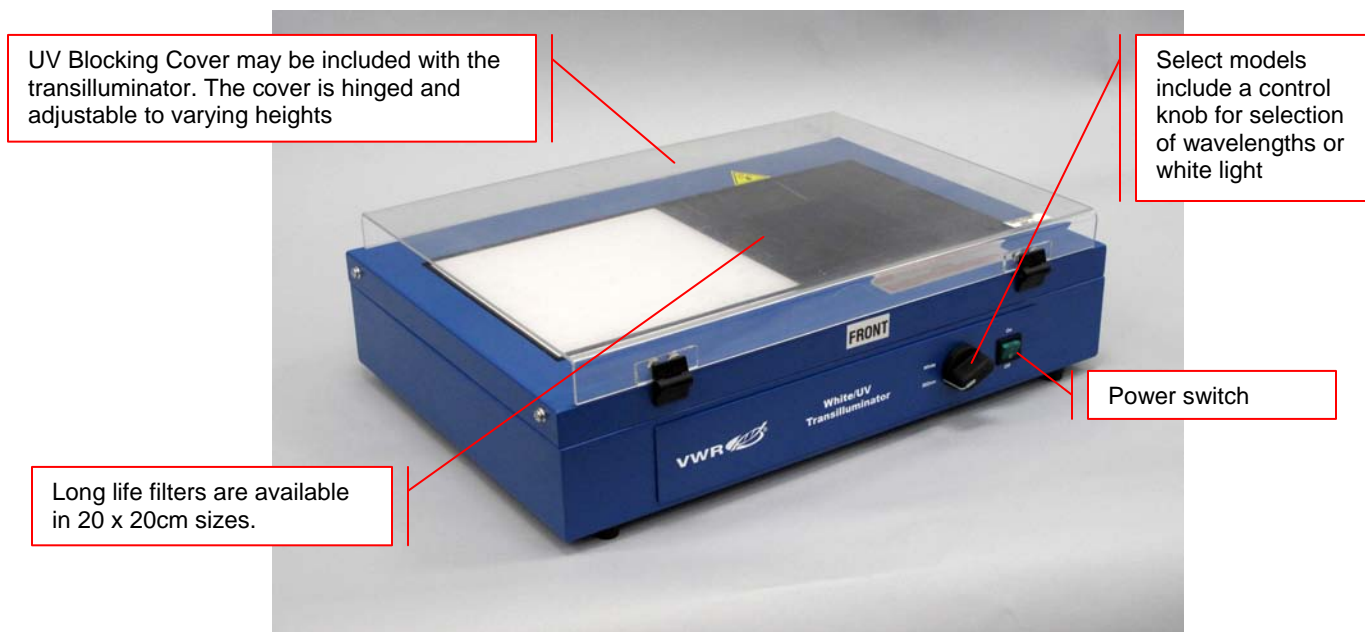
- Single wavelength (302nm)
- Dual wavelength (302 and 365nm)
- Variable intensity (302nm model only)



Variable Intensity UV Transilluminator shown

White/UV Transilluminator

The White/UV Transilluminator offers the researcher uniform and intense sources of ultraviolet light (radiation) and white light in one unit. UV and white light containing a 20 x 20cm filter are fitted side by side for ease of use.



White/UV Transilluminator

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 the transilluminator, 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.

White Light Transilluminator

The White Light Transilluminator illuminates white light samples such as Coomassie blue, silver stain and protein gels. This transilluminator should not be used to illuminate gels that respond to UV excitation light sources.

Specifications

UV Transilluminators

Part Number	Volt/Hz	Wavelength	Filter Size	No. of Tubes/Watts
89131-440 89131-442	100-115/60 230/50	302nm	20 x 20cm	4 x 8W
89131-444 89131-446	100-115/60 230/50	302nm	21 x 26cm	4 x 8W
89131-448 89131-450	100-115/60 230/50	302nm	25 x 26cm	4 x 8W

Variable Intensity UV Transilluminators

Part Number	Volt/Hz	Wavelength	Filter Size	No. of Tubes/Watts	Intensity
89131-452 89131-454	100-115/60 230/50	302nm	20 x 20cm	4 x 8W	Variable
89131-456 89131-458	100-115/60 230/50	302nm	21 x 26cm	4 x 8W	Variable
89131-460 89131-462	100-115/60 230/50	302nm	25 x 26cm	4 x 8W	Variable

Dual UV Transilluminators

Part Number	Volt/Hz	Wavelength	Filter Size	No. of Tubes/Watts
89131-464 89131-466	100-115/60 230/50	302nm and 356nm	20 x 20cm	4 x 8W
89131-468 89131-470	100-115/60 230/50	302nm and 365nm	21 x 26cm	4 x 8W

White Light Transilluminators

Part Number	Volt/Hz	Filter Size	No. of Tubes/Watts
89131-472 89131-474	100-115/60 230/50	21 x 26cm	2 x 8W

White/UV Transilluminators

Part Number	Volt/Hz	Wavelength	Filter Size	No. of Tubes/Watts
89131-476	100-115/60	302nm and white light	20 x 20cm 20 x 20cm	4 x 8W 2 x 8W
89131-478	230/50	302nm and white light	20 x 20cm 20 x 20cm	4 x 8W 2 x 8W

White/Dual UV Transilluminators

Part Number	Volt/Hz	Wavelength	Filter Size	No. of Tubes/Watts
89131-480	100-115/60 230/50	302nm, 365nm and white light	20 x 20cm 20 x 20cm	4 x 8W 2 x 8W
89131-482	100-115/60 230/50	302nm, 365nm and white light	20 x 20cm 20 x 20cm	4 x 8W 2 x 8W

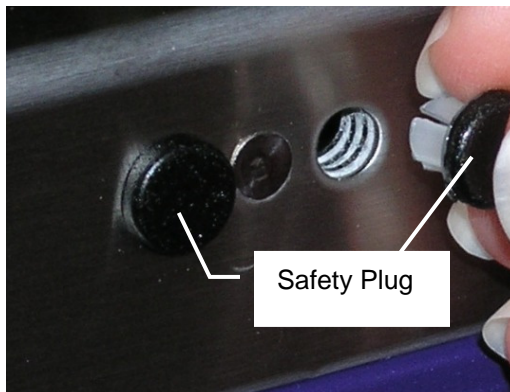
Note: UV Units are equipped with an electronic ballast and UV blocking cover.

Transilluminator Operation

Safety Precautions for UV Transilluminators

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.



Set-Up

- 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 may be 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.
- If not using the transilluminator with an imaging system darkroom, 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.

Using the Transilluminator

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

Press the ON/OFF switch to ON. The UV tubes within the unit should be glowing beneath the filter. If using the transilluminator with an imaging system, the system's main power is required to be in the ON position.

When using a transilluminator with multiple UV wavelengths, dial the knob to the appropriate wavelength setting.

When using the Variable Intensity models, use the variable intensity settings as follows:

- **High:** allows for UV excitation of fluorophores on gels for routine photography and for excitation of gels with low sample concentration
- **Medium:** Excellent for viewing and quick single-band excision
- **Low:** Allows for positioning and preparation of gels, excising multiple bands and focusing for photography

After viewing/photographing the sample, turn the transilluminator off.

Service Procedures

Replacement Parts/Accessories

For replacement parts or components not shown here, please call VWR Customer Service at **(800) 932-5000**. Please have the transilluminator model number available when calling.

<u>Replacement Part Description</u>	<u>Part Number</u>
UV Tube, 8 Watt, 254nm shortwave	21474-943 – Qty 4
UV Tube, 8 Watt, 302nm midrange (FL8E)	21474-965 – Qty 4
UV Tube, 8 Watt, 365nm longwave UV (F8T5/BL)	21474-921 – Qty 4
White Light Tube, 8 Watt	21474-915 – Qty 2

<u>Accessories Description</u>	<u>Part Number</u>
Gel-Cutter	21476-000
Gel-Ruler	74690-026
Gel-Scooper	21475-522
Gel-Tray, small	82020-766
White Light Converter Plate, 21x26cm	21474-892
White Light Converter Plate, 25x26cm	82026-878
Visi-Blue Converter Plate, 21x26cm	15000-088
Visi-Blue Converter Plate, 25x26cm	82026-880
Spectacles, UV Blocking (UVC-303)	33002-067
Goggles, UV Blocking (UVC-503)	33002-078
Faceshield, UV Blocking (UVC-803)	33007-151

Cleaning and Care of the Transilluminator

Clean unit surface with a damp soft cloth or sponge. Never use abrasive cleaners (can damage the UV filter surface).

To protect the filter glass and minimize moisture and liquids on the glass, it is recommended that a UV transmitting Gel-Tray is utilized. Refer to the Replacement Parts for ordering information.

Replacing Tubes in the Transilluminator

Disconnect the transilluminator from 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 of the unit: 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.

Technical Support

VWR's Technical Resource Center is committed to providing you with real-time response and proven industry solutions. Contact them at 1-888-VWR-LINE (1-888-897-5463) or Equipment_Instruments@vwr.com.

Warranty

UVP's quality instruments are guaranteed to be free of defects in materials, workmanship, and manufacture for one (1) year from date of purchase. Transilluminators are similarly warranted for two (2) years from the date of purchase. Consumable and disposable products, including, but not limited to lamps or light tubes, filters, or rechargeable batteries are guaranteed to be free from defects in manufacture and materials for ninety (90) days from date of purchase. If equipment failure or malfunction occurs during the warranty period, UVP shall examine the inoperative equipment and have the option of repairing or replacing any part(s) which, in the sole and absolute discretion of UVP, were originally defective or became so under conditions of normal usage and service. No warranty shall apply to any instrument, or part thereof, that has been subject to accident, negligence, alteration, abuse or misuse by the end user. Moreover, UVP makes no warranties whatsoever with respect to parts not supplied by UVP or that have been installed, used and/or serviced other than in strict compliance with the instructions appearing in this installation and instruction manual. In no event shall UVP be responsible to the end-user for any incidental or consequential damages, whether foreseeable or not, including but not limited to property damage, inability to use equipment, loss of business, loss of profits, or inconvenience arising out of or connected with the use of instruments produced by UVP. Nor is UVP liable or responsible for any personal injuries occurring as a result of the use, misuse, installation and/or servicing of equipment. Representations and warranties made by any person, including dealers and representatives of UVP which are inconsistent or in conflict with the terms of this warranty (including but not limited to the limitations of the liability of UVP as set forth above), shall not be binding upon UVP unless reduced to writing and approved by an expressly authorized representative of UVP. THIS WARRANTY IS EXPRESSED IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON UVP'S PART AND UVP NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR UVP ANY OTHER LIABILITIES IN CONNECTION WITH THE SALE OF THE SAID PRODUCTS.