MacroVue UVis-20

transilluminator

um 80-6304-39/Rev. C0/02-00

Amersham Biosciences

Page finder

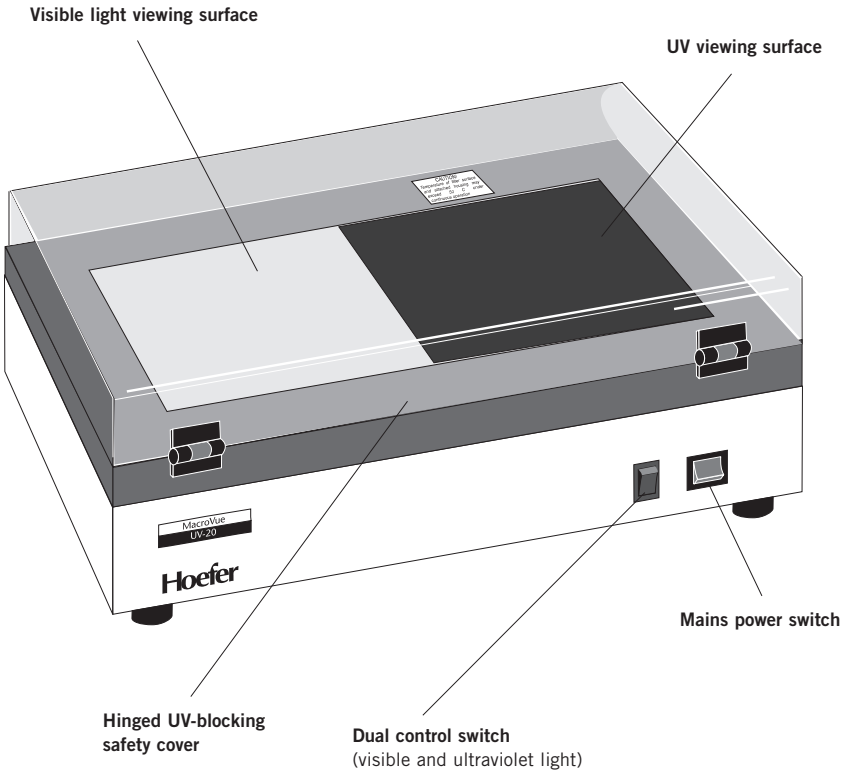
UV and visible light transilluminator function

The Hoefer™ MacroVue™ UVis-20* combination UV and visible light transilluminator provides two back-illuminated 20 × 20 cm work surfaces. The left half of the viewing surface provides visible light for viewing and photographing visible-stain gels, and the right half provides a uniform and intense source of 302 nm ultraviolet (UV) light to back-illuminate transparent fluorescent materials.

Nucleic acids stained with fluorescent dyes such as ethidium bromide and acridine orange can be detected under UV illumination. This visualization method is especially suitable for double-stranded nucleic acids, but is less sensitive for visualizing single-stranded nucleic acids. The UV transilluminator can be converted from 302 nm (medium wavelength) to 254 nm (short wavelength) by replacing the UV lamps as described in the Care and Maintenance section.

**Note:* The Hoefer MacroVue UVis-20 is equivalent to the Hoefer UVVis 20 Mighty Bright Double Vision Transilluminator.

MacroVue UVis-20 main components



Unpacking

Unwrap all packages carefully and compare contents with the packing list, making sure all items arrived. If any part is missing, contact your local Amersham Biosciences sales office. Inspect all components for damage that may have occurred while the unit was in transit. If any part appears damaged, contact the carrier immediately. Be sure to keep all packing material for damage claims or to use should it become necessary to return the unit.

Specifications

Lamps

- UV — Five 8 W 302 nm UV
- White light — Two 8 W visible light

Filter

- The factory-installed UV filter is for 254 nm and 302 nm lamps only. Do not use with 365 nm lamps.
- The expected life of the UV filter is 5 000 hours.

Note: Swirl patterns in the UV filter, if present, do not interfere with viewing or photo documentation of gels.

Input fuses

- 115 V: T 1A/250V 5 × 20 mm (2 fuses)
- 230 V: T 1A/250V 5 × 20 mm (2 fuses)

Dimensions (h × d × w)

External, with cover: 14.3 × 33.7 × 48.6 cm (5.6 × 13.3 × 19.1 in.)

Weight

- 7.5 kg (15.5 lbs)

Safety

- All electric components are HYPOT tested to 1 500 V.
- The hinged cover blocks UV light.

Important safety information

- **When working near UV radiation, always wear at least a UV-blocking face shield and cover all exposed skin. For added eye protection, wear goggles. Make sure all persons in the area are also properly protected.**

- Lower the UV-blocking safety cover before switching the UV lamps on. Always wear protective clothing even with the cover closed to prevent accidental exposure to UV radiation. If the cover has been removed, **you must wear a safety shield and gloves to prevent damage to eyes and skin.**
- If possible, locate the transilluminator in a controlled environment such as a darkroom.
- Always disconnect the mains power cord before cleaning the unit or replacing fuses or lamps.

Operating instructions

1. Place the unit on a stable and level surface. Allow space around the unit so that air can circulate freely.
2. Plug the power cord into the receptacle at the back of the unit and into a properly-grounded electrical outlet of the proper voltage rating. (The voltage rating of the unit is indicated on the label above the power cord receptacle.)
3. Place the sample on the selected filter. Do not mar the filter surface by cutting gel on it or scraping gel away.
4. To view the sample under:

   White light: Switch the dual control to the 'visible' setting and then set the power switch to on (I).

   UV light: Don goggles, a UV-blocking face shield, and gloves. Cover all exposed skin. Lower the UV-blocking safety cover. Switch the dual control to the 'ultra-violet' setting and then set the power switch to on (I). After a momentary flickering the UV lamps should be visible beneath the filter.

To remove the safety cover for photography, lift the lid into the up position and pull out both inserts in the hinge assembly.

5. After viewing the sample, turn the unit off and clean according to the instructions in the care and maintenance section.

Note: To protect the filter from cuts and corrosive buffers, cover it with a protective surface such as the Hoefer UV transmitting work surface before placing the sample.

Care and maintenance

Cleaning

Caution: Always turn off the transilluminator and disconnect the plug from the mains power before cleaning.

- Clean the filter surface after each use.
- Use a mild detergent and water on a soft cloth or sponge to clean the unit exterior.
- Never use abrasive cleaners, solvents, or chloroform on any part.

Replacing lamps

The lamps in both sections of the transilluminator are replaced according to the same instructions. The transilluminator is originally equipped with 302 nm UV lamps. If 254 nm wavelength is required, replace all UV lamps with 254 nm lamps of the specified wattage.

Visually check that all five UV lamps or both white lamps are illuminated. If one or more lamps are burned out, it is recommended that all lamps be replaced at the same time to ensure even light intensity. To replace each lamp:

1. ***Caution:*** Turn the unit off and disconnect the power cord from the mains power.
2. Remove the lamp cover by unscrewing the four retainer screws located on the sides of the unit.
3. If present, remove the tape that secures the lamps during shipping. Remove each lamp by carefully rotating it about 1/4 turn counter-clockwise until the pins align vertically. Carefully pull the lamp upward.
4. To insert a new lamp, hold it so that the metal pins align vertically. Place the lamp in the sockets at each end of the unit and lightly push it into place. Rotate the tube 1/4 turn clockwise until it locks into place.
5. Replace the cover and fasten the retainer screws.

Replacing fuses

Fuses protect equipment by disconnecting loads too large for the instrument's circuit design. For continued protection, **only replace with fuses of the specified voltage and current rating.**

Each of two round modules on the left side of the control panel (above the mains power cord receptacle) holds one T 1A/250V 5 × 20 mm (Slow blo) fuse.

1. ***Caution!*** Set the power switch to off and detach the power cord before replacing fuses.
2. Insert a small flat-blade screwdriver into the slot on the fuse module and turn it 1/4 turn counterclockwise. The spring-loaded module cap will loosen. Pull the cap/fuse holder out.
3. Pull the fuse out of its holder and inspect. If the fuse element is burned or broken, replace the fuse with an identical type. If the fuse appears to be intact, check it with an ohmmeter.
4. Insert a good fuse into the holder and then insert this assembly back into the unit. Seat the module by inserting the screwdriver into the slot, pressing gently, and turning the cap 1/4 turn clockwise.

Troubleshooting

Unit does not operate when power is turned on

- Check that the power cord is plugged into a working electrical outlet.
- Remove and inspect the fuses.
- Check that the lamps are properly installed.

Lamps flicker excessively

- Check for proper line voltage.

Filter surface feels warmer than usual

- Ensure that there is enough space around the unit so that air can circulate freely.

Bibliography

DNA crosslinking

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Customer service information

Technical service and repair

Amersham Biosciences offers complete technical support for all our products. If you have any questions about how to use this product, or would like to arrange to repair it, please call or fax your local Amersham Biosciences representative.

Important! Request a copy of the Amersham Biosciences "Contamination Clearance Certificate" Form before returning the item. No items can be accepted for servicing or return unless this form is properly completed.

Ordering information

	Quantity	Code No.
MacroVue UVis-20 Transilluminator. Dual 20 × 20 cm viewing surfaces: 302 nm, 8000 µW/cm^2, and cool white light. Includes five 8 W UV lamps and two 8 W white lamps.		
115V, 60 Hz	1	80-6225-16
230 V, 50 Hz	1	80-6225-35
302 nm UV lamp, 8-W	1	80-6223-26
254 nm UV lamp, 8-W	1	80-6223-64
UV-transmitting work surface	1	80-6224-21
Fuses for 115 V and 230 V models	5	80-6109-83

Printed in the USA.

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