

# MacroVue UV-20 and UV-25

transilluminators







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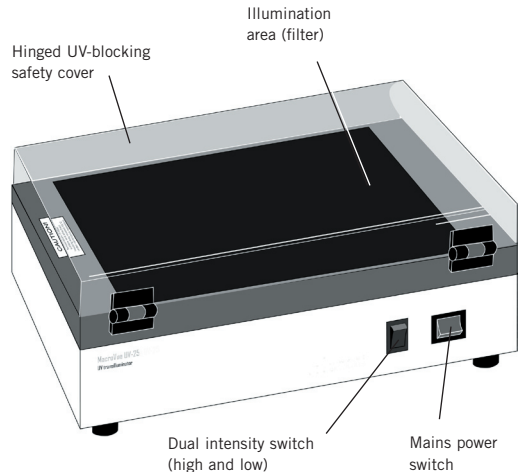
## UV transilluminator function

*\*Note:* The Hoefer MacroVue UV-20 replaces the Hoefer UVTM-19 Mighty Bright. The viewing surface of the new model is larger (20 × 20 cm) than the surface of the previous model (15 × 20 cm). The Hoefer MacroVue UV-25 is equivalent to the Hoefer UVTM-25 Mighty Bright.

The Hoefer™ MacroVue™ Dual-intensity UV transilluminator provides a uniform and intense source of 302 nm ultraviolet 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 MacroVue UV-20\* filter surface is 20 × 20 cm and the MacroVue UV-25\* filter surface is 21 × 25 cm. The light intensity level can be set to either high or low. Either 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.

**Fig 1.** MacroVue Transilluminator main components.



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## 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 Hoefer, Inc. 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

### Ultraviolet lamps

- UV-20: Five 8-W 302 nm UV dual bi-pin discharge type tubes
- UV-25: Six 8-W 302 nm UV dual bi-pin discharge type tubes

### Filter

- The factory-installed filter is for 254 nm and 302 nm lamps only. Do not use with 365 nm lamps.
- The expected life of the filter is 5000 hours.

### 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: 12.1 × 24.1 × 33.7 cm  
(4.75 × 9.50 × 13.25 in.)

### Safety

- All electric components are HYPOT tested to 1500 V.
- The filter is covered by a 3 mm (1/8")-thick UV blocking safety shield
- CE certified
- EN 61010-1, UL 3101-1, CSA C22.2 1010.1, EN 50082-1

### Features

- The dual-intensity switch toggles to a lower UV intensity for preparative work.
- Removable power cord
- Lighted power switch

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

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## 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 for air to 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

Don goggles, a UV-blocking face shield, gloves and cover all exposed skin.

4

Place the sample on the filter and lower the UV-blocking clear protective cover. *Note:* To remove the safety cover for photography, lift the lid into the up position and pull out both inserts in the hinge assembly. Take extra precautions to prevent skin and eye exposure if the protective cover is removed.

5

Set the dual intensity switch to high and switch the power to on (I). The indicator lamp in the on/off switch should light, and after a momentary flickering, the UV lamps should light and be visible beneath the protective cover.

The high-intensity setting is for analytical documentation and the low setting is for preparative work (the lower setting reduces photonicking and photobleaching).

6

To reduce the UV intensity, set the dual intensity switch to low. The drop in intensity will diminish the level of sample fluorescence.

7

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.

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## Care and maintenance

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

### 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.

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## Replacing UV lamps

The transilluminator is originally equipped with 302 nm UV lamps. If 254 nm wavelength is required, replace all lamps with 254 nm lamps of the specified wattage.

Visually check that all 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**

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**Important!** Turn the unit off and disconnect the power cord from the mains power.

**2**

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Remove the filter/cover by unscrewing the four retainer screws located on the sides of the cover.

**3**

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If present, remove the tape that secures the lamps during shipping. Remove each lamp by carefully rotating it 1/4 turn and then carefully pulling it upward.

**4**

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To insert the new lamp, hold it so that the metal pins at the end are vertical. Place the lamp in the socket and lightly push it up into place. Rotate the tube 1/4 turn until it locks into place.

**5**

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Replace the filter/cover and screw in the retainer screws.

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## Replacing fuses

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

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**

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**Caution!** Set the power switch to off and detach the power cord before replacing fuses.

**2**

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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**

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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**

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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.

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## 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 that the dual intensity switch is in the “high” position.
- Check for proper line voltage.

### **UV filter surface feels warmer than usual**

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

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## Ordering information

product	quantity	code number
<b>MacroVue UV-20 Transilluminator</b>		
20 × 20 cm viewing surface, 302 nm.		
115 V	1	UV20-115V
230 V	1	UV20-230V
<b>MacroVue UV-25 Transilluminator</b>		
21 × 25 cm viewing surface, 302 nm		
115 V	1	UV25-115V
230 V	1	UV25-230V
302 nm UV lamp, 8-W	1	UVL8-254
254 nm UV lamp, 8-W	1	UVLW-8
UV-transmitting work surface	1	UVT-WS
Fuses for 115 V and 230 V models	5	PSF1A-5B-5X20





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