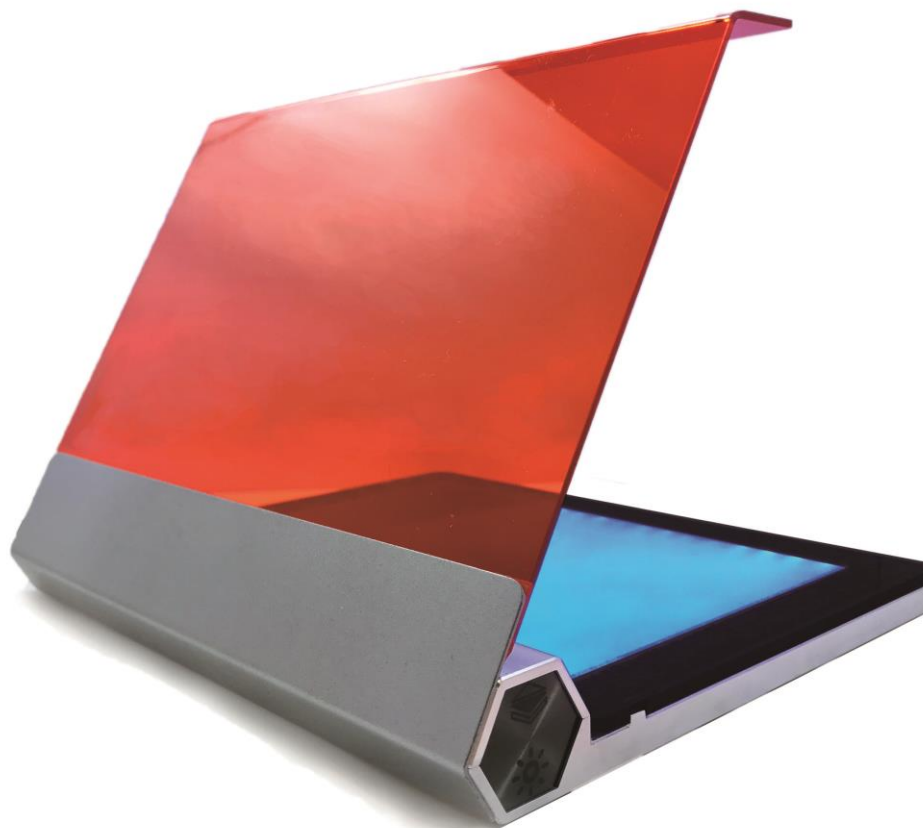




ZEPHYRUS[®] BLUE LED PAD Illuminator

Instructions for Use

Ref. No.: Z-LED-501





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Safety Information

- The ZEPHYRUS[®] BLUE LED PAD Illuminator is an electrical device.
- Never touch the power cord or outlet with wet hands.
- Do not use this device in damp areas or while standing on damp floors.
- Do not attempt to open the ZEPHYRUS[®] BLUE LED PAD Illuminator.
- The ZEPHYRUS[®] BLUE LED PAD Illuminator should be used with the supplied power cord. Only these power cords should be used to power the device. Attach the power cord to the at the back of the device. Plug the other end of the power cord into a properly grounded electrical outlet, ensuring the correct plug adaptor is attached.
- Always disconnect the instrument from the electrical outlet before cleaning.
- The ZEPHYRUS[®] BLUE LED PAD Illuminator does not produce UV- light; however, it does utilize an intense blue light for viewing gels. It should be noted that published literature has identified blue light as a possible risk factor for macular degeneration; however, no clinical studies have been published. Therefore, the amber filter unit provided with this device should be used to protect your eyes while viewing gels.
- The amber filter unit is NOT a safety screen for UV emission, and will NOT protect your eyes when viewing gels on UV transilluminators.
- After viewing and documenting the gel or sample, always press the unit off.
- Please position and use the ZEPHYRUS[®] BLUE LED PAD Illuminator on the level laboratory benchtop. If the transilluminator is positioned on the unlevelled laboratory benchtop or platform, it may cause the sample gel to slide, thus making the user unable to observe the gel.
- After the LED illuminator is switched on for 5 minutes, the automatic disconnecting device will automatically switch off the power source.

Product description

Innovatively designed transilluminator with dual light sources, is applicable in various Life Science research areas for visualization of nucleic acids and proteins. It is designed to provide the researchers with a brand-new comfortable, convenient, and safe experience. The illuminator is also suitable for gel cutting.



Mode

Blue Light Mode

With the 470nm LED light wavelength as the excitation light source (Figure1.), the Blue Light mode is applied for observing the qualitative and quantitative nucleic acid or protein experiments using the fluorescent staining reagents. Compatible with a majority of fluorescent staining products on the market, such as EliDNA™, Midori, SYBR Gold, SYBR Green I & II, SYPRO Ruby, SSYPRO Orange Coomassie Fluor Orange, GelStar, and GelGreen stains, GelStar, GelGreen. The feature of allowing light intensity adjustment at three different levels enables the user to make the light intensity

contrast adjustment based on the sample concentration for achieving the best imaging quality. Further, the magnetic amber filter, with the hinges-free design, offers simplicity, safety, and convenience when opening and closing the filter.

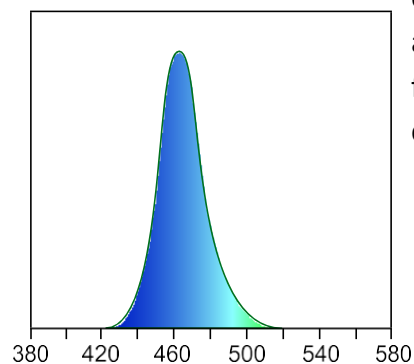


Figure 1.

Excitation and Emission Spectra for Dual LED Blue/White Light Transilluminator.

Wavelength (nm)

White Light Mode

By using the whole-wavelength white LED light as the excitation light source, the White Light mode exhibits softness and uniformity and is applicable for observing or imaging the SDS-PAGE gels that are stained with the Coomassie Blue or Silver Stain. It can also be employed as a simple film-viewing transilluminator for checking the X-Ray film for the research or clinical purpose. With the light intensity adjustment function, the contrasting adjustment of the light intensity is enabled at three levels according to the observational requirements for achieving the best imaging quality.

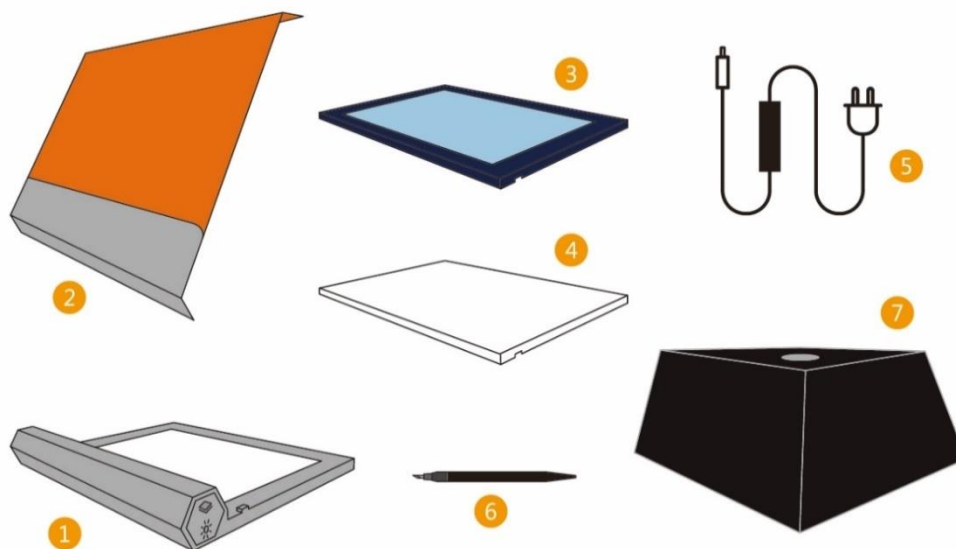


Technical specification

Dimensions (W x D x V)	185 x 220 x 30 mm
Gel Viewing Area	120 x 180 mm
Weight	2.4 kg
Input Voltage	100 – 240 V
Input Current	2.0 A
LED Source	Built-in LED blue light & white light modules
LED life	> 30,000 hours
Automatic Power-Off	5 min
Emission Maxima	470 nm
Filter Type	Amber Filter (580 nm)
Certification	CE/ETL

Content of the package

- 1) ZEPHYRUS[®] BLUE LED PAD Illuminator
- 2) Amber Filter with magnetic attachment
- 3) Blue Uniform Plate
- 4) White Uniform Plate
- 5) Power Cord
- 6) Gel-Cutting Knife and Replacement Blade
- 7) miniDarkroom



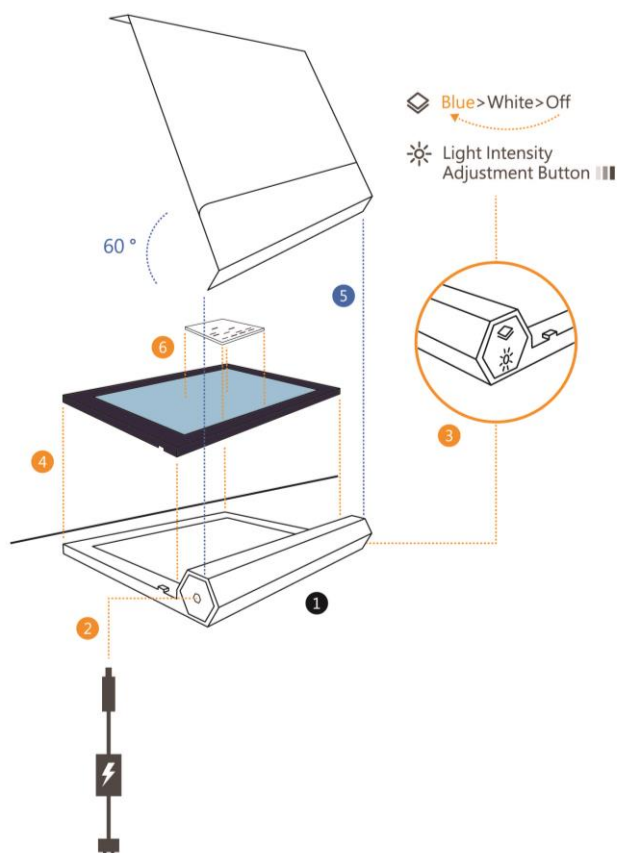


Operation – Nucleic Acids Detection (Gel Cutting)

1. Place the ZEPHYRUS[®] BLUE LED PAD Illuminator on a level operational bench, with enough space around the unit for allowing air circulation and preventing overheating.
2. Connect the power cord to the power socket.
3. Press the ON/OFF switch to the Blue Light Mode.
4. Place the blue filter (including the scratch-proof glass) in position.
5. Position the amber filter at an angle of 60 degrees for magnetically connecting with the transilluminator's base.
6. Upon placing the gel sample in the transparent glass area of the blue filter, the gel-observing and cutting experiment can be immediately conducted.

*Caution : For the automatic power-off feature at 5 minutes, please press the power switch again to switch on the indicator light once the LED indicator light is off.
Press the light intensity adjustment button based on the sample condition.*

7. Upon completing the operation, turn the transilluminator off.
8. Please use the clean and wet cotton cloth to wipe the surfaces of the transilluminator and filter.



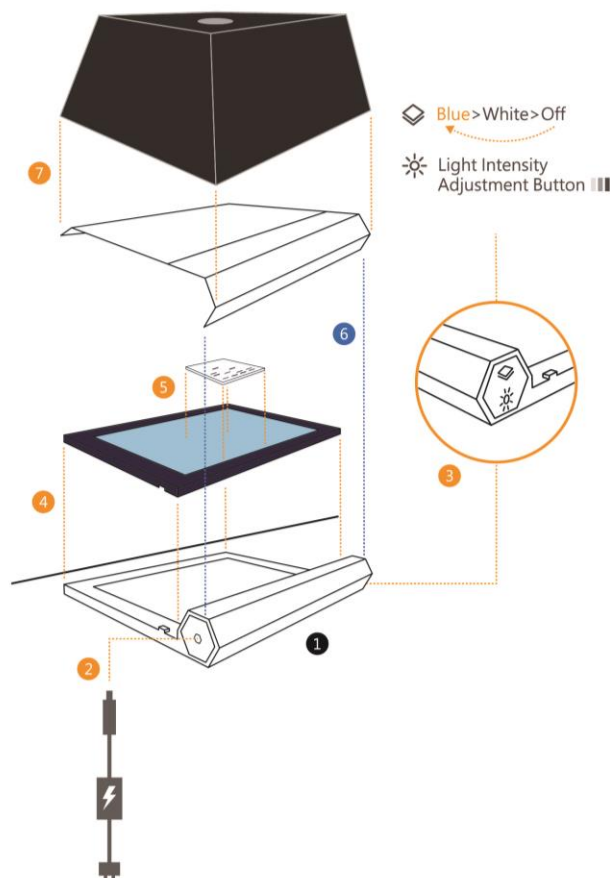


Operation – Nucleic Acids Detection (Imaging)

1. Place the ZEPHYRUS® BLUE LED PAD Illuminator on a level operational bench, with enough space around the unit for allowing air circulation and preventing overheating.
2. Connect the power cord to the power socket.
3. Press the ON / OFF switch to the Blue Light Mode.
4. Place the blue filter in position (including the scratch-proof glass).
5. Upon placing the gel sample in the transparent glass area of the blue filter, the gel-observing and cutting experiment can be immediately conducted.

Caution: For the automatic power-off feature at 5 minutes, please press the power switch again to switch on the indicator light once the LED indicator light is off.

6. Position the amber filter at an angle of 0 degree for magnetically connecting with the transilluminator's base.
7. Upon placing the miniDarkroom on the top of the amber filter, observation and imaging can be performed immediately.
8. Please switch off the power upon completing the operation.
9. Please use the clean and wet cotton cloth to wipe the surfaces of the transilluminator and filter.

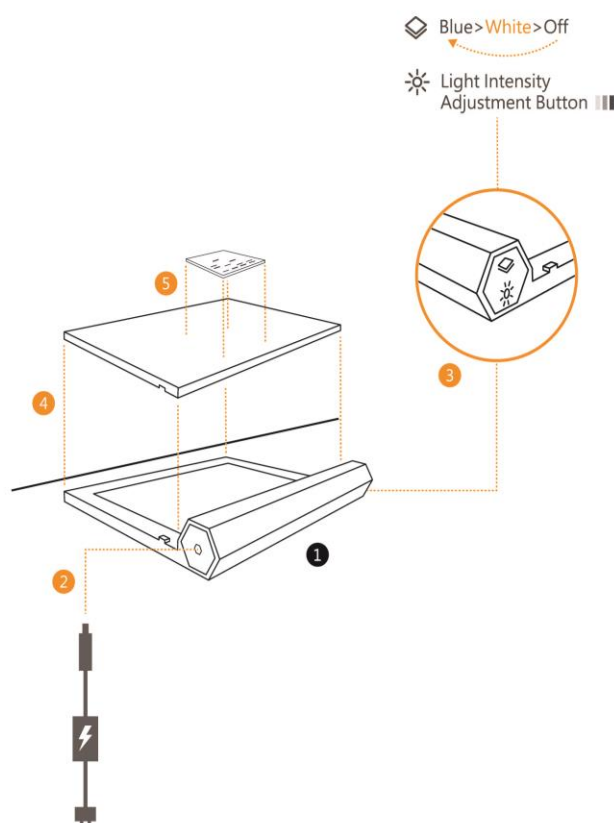




Operation – Protein Detection

1. Place the ZEPHYRUS® BLUE LED PAD Illuminator on a level operational bench, with enough space around the unit for allowing air circulation and preventing overheating.
2. Connect the power cord to the power socket.
3. Press the ON / OFF switch to the White Light Mode.
4. Place the white filter in position.
5. Upon placing the gel sample or X-ray film in the white filter area, gel-observation can be immediately conducted.

Caution: For the automatic power-off feature at 5 minutes, please press the power switch again to switch on the indicator light once the LED indicator light is off.



Cleaning and Maintenance

Cleaning

The transilluminator should be damply wiped off with a soft cotton cloth. The cloth should not be too wet. Do not use aggressive cleaning detergents or solvents. After using the transilluminator, we



recommend to wipe off the frame and the filter glass with a damp cloth. Take care that the cloth is not soaked with scrubbing or corrosive detergents as this could damage the filter glass. We suggest using alcohol, glass cleaners or similar mild detergents. Pay attention to wearing appropriate gloves when cleaning areas (such as the filter plate of the transilluminator, switches, protection shield) which may have been in contact with carcinogenic or toxic reagents. The protection shield is made of tempered glass and must only be cleaned with a damp cloth.

Replacing the Blade

When replacing with the new blade, unscrew the silver handling part of the knife counter clockwise from the head part. Push out the head part's blade-holding section. Remove the old blade, and open the "SPARE BLADE" for taking out the new replacement blade. Insert it into the X-shaped blade insertion hole. Restore the silver connector back into the original position, and then screw tight the head part with the silver handling part clockwise.

Caution: The blade is quite sharp. Please act with caution to avoid cuts.

Trouble-Shooting

Refer to the table below to troubleshoot problems that you may encounter when viewing with the ZEPHYRUS® BLUE LED PAD Illuminator.

Problem	Cause	Solution
Low sensitivity	The fluorescent staining reagents selected and used do not exhibit wavelengths within the 400nm - 450nm range.	Replace the fluorescent staining reagent.
	Insufficient sample concentration.	Adjust the light intensity and check for improvement. Please increase the sample concentration if no improvement is observed.
The sample is not observed under the Blue Light Mode.	Incorrect light source.	Please confirm the selected light source is the blue light, NOT the WHITE Light.



Disposal

Caution risk of danger.

Consult the User Guide for further safety information.

Do not dispose of this product in unsorted municipal waste.

To minimize negative environmental impact from disposal of electronic waste, do not dispose of electronic waste in unsorted municipal waste. Follow local municipal waste ordinances for proper disposal provision and contact customer service for information about responsible disposal options.

Warranty

The ZEPHYRUS® BLUE LED PAD Illuminator is warranted against defects in materials, workmanship and normal use for 1 year. If any defects occur in the instrument or accessories during this warranty period, Elisabeth Pharmacon Ltd. will repair/replace the defective parts/replace the instrument at its discretion without charge. Warranty is excluded in the case of following:

- unauthorized repair
- use of spare parts by anyone other than Elisabeth Pharmacon Ltd.
- used in the manner not described in this manual
- damage caused by accident, neglect, misuse, improper service, natural forces or other causes not arising from defects in original material or workmanship

Manufacturer:

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