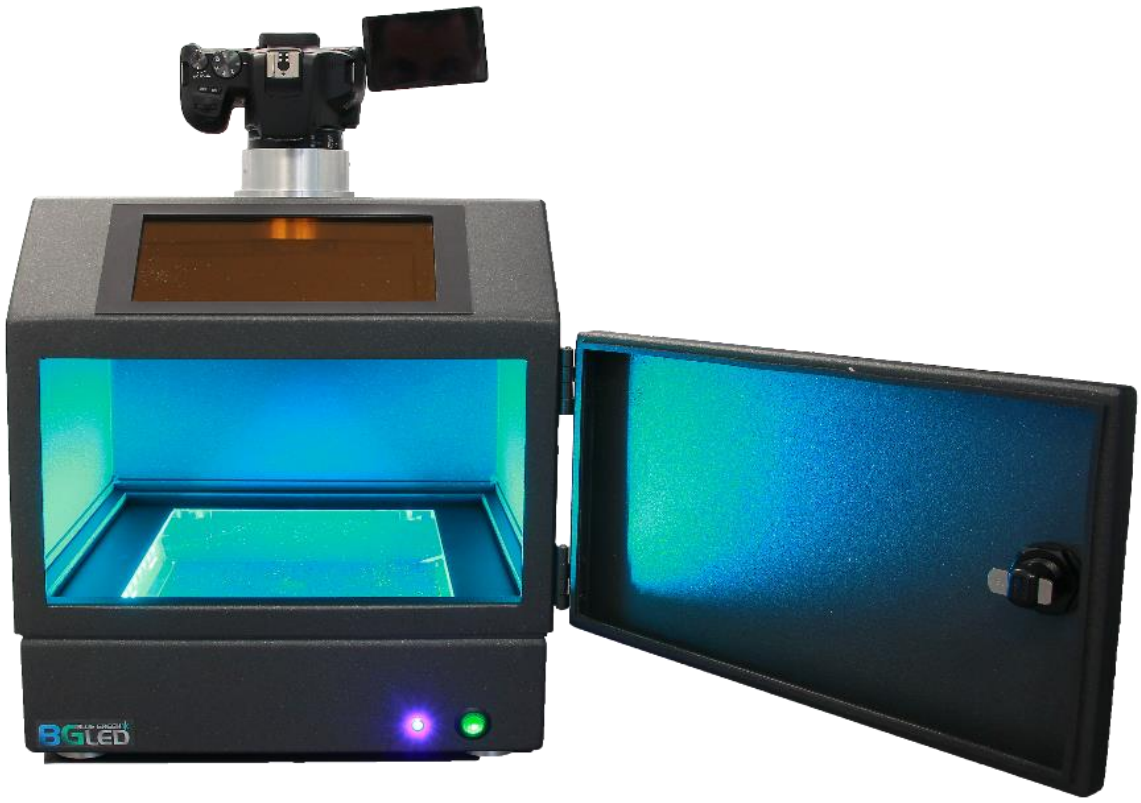
NIPPON EUROPE Genetics

Product	**FastGene® FAS-DIGI Compact**
Cat. No.	GP-08LED
Category	*Gel Documentation System*



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Content

General Information

SAFETY INFORMATION

Please read carefully the following notes to be able to properly use the FastGene® FAS-DIGI Compact imaging system.

- Please wear the appropriate personal protective equipment.
- Please read the safety precautions stated in the camera operating manual.
- Using FastGene® Blue/Green LED-Transilluminator DE instrument will normally not injure eyes, skins, and samples. However, prolonged exposure of human naked eyes with light irradiation in the blue spectrum may increase the probability of suffering from retina diseases. Therefore, we recommend using the amber filter included in the box, when handling the transilluminator while the FastGene® FAS-DIGI Compact box is open.
- The transilluminator and the switch will heat up due to the operation. The temperature is not harmful and will not cause any defects.
- Operate the FAS-DIGI Compact only if it is connected to a safety socket.
- Place the unit on a level surface with minimal chance of dropping.

WARRANTY

The FastGene® Blue/Green LED-Transilluminator DE and the FastGene® FAS-DIGI Compact is warranted against defects in materials and workmanship for 1 year. In case of any defects occurring in the instrument or accessories during this warranty period, Nippon Genetics Europe will repair or replace the defective parts at its discretion without charge.

The following defects, however, are specifically excluded:

- Defects caused by improper operation.
- Repair or modification done by anyone other than Nippon Genetics Europe or an authorized agent.
- Damage caused by substituting alternative parts.
- Use of fittings or spare parts supplied by anyone other than Nippon Genetics Europe.
- Damage caused by accident or misuse.
- Damage caused by disaster.
- Corrosion caused by improper solvent or sample.

For any inquiry or request for repair service, contact Nippon Genetics Europe or your local distributer. Please send a message containing information about the model and serial number of your instrument.

REGULATORY NOTICE

IMPORTANT: This Nippon Genetics Europe instrument is designed and certified to meet safety standards and EMC regulations. Certified products are safe to use when operated in accordance with the instruction manual. This instrument must not be modified or altered in any way. Alteration of this instrument will:

- Void the manufacturer's warranty
- Void the safety and EMC certification
- Create a potential safety hazard

Nippon Genetics Europe is not responsible for any injury or damage caused by the use of this instrument for purposes other than those for which it is intended, or by modifications of the instrument not performed by Nippon Genetics Europe or an authorized agent.

IMPORTANT NOTICE

Please, read the installation instruction carefully before installing the FastGene® Blue/Green LED-Transilluminator DE and the FastGene® FAS-DIGI Compact Imaging System. This instrument is intended for clinical and research laboratory use with DNA gel activation and it must be operated only by specialized personnel aware of the potential risks associated with the chemical and biological agents normally used with this unit and the health risks associated with blue light radiation.

Please make sure to connect the instrument only to a protective current!

Camera

Camera type	Scientific grade Canon Camera. For camera details visit: https://www.nippongenetics.eu/en/product/fastgene-fas-compact/
Filter on lens	FastGene® amber filter attached by magnets
Storage capacity	64 GB SD card (included in delivery)

Darkbox

Access	Front door, 180° opened
Filter	FastGene® amber filter shield
Cover for observation window	Cover plate attached by magnets

Transilluminator

Built-in Blue-Green light source	470-520 nm
View Area	26 x 21 cm

White light transilluminator (Optional, e.g. FG-07CE)

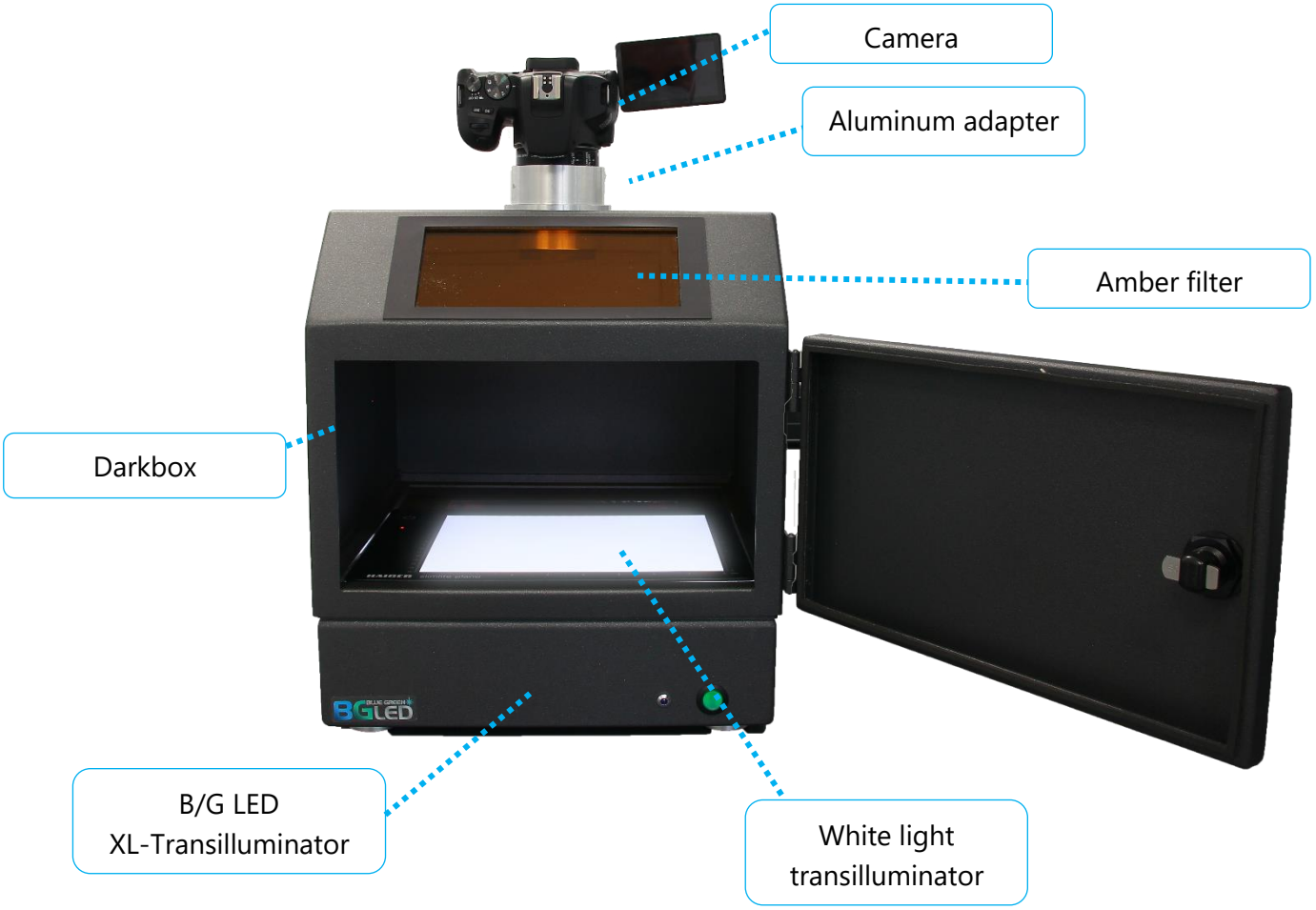
External white light transilluminator	Build-in battery or power supply via USB port
Dimension	29 x 20 x 0.8 cm
View area	22 x 16 cm
LEDs	Daylight LEDs, color temp.: 5000 K, CRI = 95
Weight	570 g

Unit

Material	Painted aluminum metal
Rated Voltage	100-240 V~, 50/60 Hz
Dimension (H x L x W)	50 x 35 x 32.5 cm
Weight	7,4 kg

Nomenclature

- Blue/Green LED-Transilluminator DE
- Darkbox
- FastGene ® amber filter shield attached in the viewing window
- Coverplate attached by magnets
- White light transilluminator (optional)
- Powercable for Transilluminator
- Camera:
    a. Attached to the aluminum adapter (Please do not remove the aluminum adapter)
    b. FastGene® amber filter attached by magnets to the lens



Part I

Installation

Installation Guide – Setting up the FAS-DIGI Compact

Place the unit on a level surface with minimal chance of dropping.

1. Place the Darkbox on top of the Transilluminator
2. Place the camera with its aluminum adapter in its final position, by adding it to the hole in the top part of the Darkbox.
3. Add the Battery to the camera. Please note that only one direction is possible.

4. Close the battery compartment completely. Please note: the camera will not turn on if the battery compartment is not completely closed.
5. Align the camera, so that the image of the position is straight. The control buttons should be facing toward the door of the Darkbox.
6. Connect the power cord of the transilluminator with a power socket.

The FAS-DIGI Compact is now powered and set up. The transilluminator should be turned on by using the switch.

Setting up the camera

Preparation:

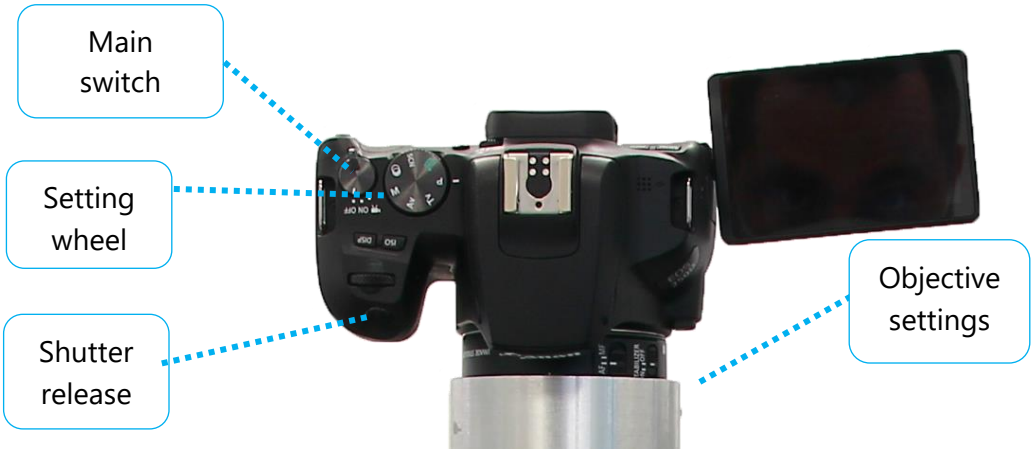
- The camera is used manually, so you can use all the available settings which are described in the manual of the camera.
- Recommended camera settings:
  - Focus set on AF
  - Image stabilization: Off
  - Setting wheel: P
  - Exposure compensation: -1
  - Please note: The exposure compensation will be set back to 0 after switching off the camera.

Part III

Manual

Using the System

- Switch the camera on by using the "main switch"
- Check if the "Objective setting" is switch to AF and Stabilizer OFF
- Turn the "Setting wheel" to your preferred option. We recommend to turn to P.
- Make the final settings on the touch screen (e.g. Exposure compensation -1)
- If the picture on the display is satisfying, press the "shutter release"
- Pictures will be saved on the SD card



Using the transilluminator

Place gel/sample on the transparent glass support area. It is recommended that researchers place the gels on a Gel Tray to protect the glass surface from cuts and scratches, caused by the use of a scalpel for cutting the gel. It is recommended that gloves are to be worn to prevent skin contact with gel and staining agents. Press the switch to turn the transilluminator ON. The LEDs within the unit will begin glowing beneath the glass surface. After viewing the sample, turn the transilluminator off. For taking pictures, place the magnetic cover plate on the observation window to avoid scattered light.

Heat Protection:

The FastGene® Blue/Green LED Transilluminator DE is equipped with a heat protection function. The LEDs will shut off for 5 minutes if a specific temperature is detected. During the "cooling phase" a blue LED is shining. After cooling down, the LEDs will switch on automatically. After 5 of these cycles, the transilluminator is turned off until the main switch is used. During shut down phase the blue status LED is blinking.

Excising DNA Bands

Turn on the transilluminator and remove the cover plate. Now look through the observation window and excise the DNA band using a scalpel or our FastGene® Agarose Gel Band Cutter (FG-830). Please keep in mind, the usage of a scalpel can damage the glass plate of the transilluminator, which can lead to artefacts in the pictures.

Taking pictures

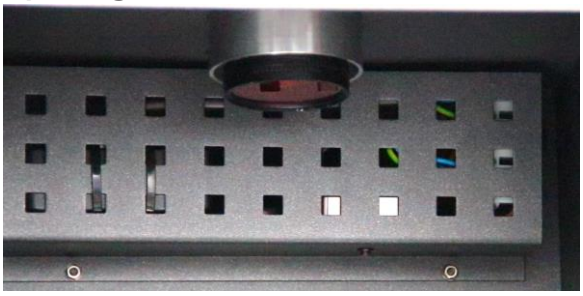
Place a gel on the transilluminator and switch on the device. Attached the cover plate on the observation window to avoid scattered light. Set up the camera with the recommended camera settings (p. 10).
Take a picture by pressing the shutter release.
Change the camera settings if the picture is not satisfying.
Pictures are saved on the SD card.

Taking Images using a white light source

Taking images of protein gels

Recording images of protein gels or petri dishes are possible by adding a white light source and removing the FastGene® amber filter from the lens. The procedure is shown in the next steps

Exposing the filter



Extend the lens barrel by zooming out. The lens is now exposed and the filter is ready to be removed. The filter is hold in place using a magnetic filter holder. After removing the filter, add the white light source (e.g. FG-07CE).

Removing the filter

After zooming out, you can remove the amber filter from the lens, by using 2 fingers, as shown in the left image. The amber filter should now be stored in a safe, clean storage space and be added as soon as the image is taken. To add the filter to the lens, just hold the amber filter close to the lens and the magnet will pull the amber filter to the correct position.

White Light Transilluminator

Add the white LED transilluminator to the central area of the Blue/Green LED Transilluminator DE as shown in the picture and place the cover plate on the observation window. Turn the switch to battery. Make sure that the transilluminator is charged, otherwise connect the transilluminator to a power source using the USB charger cable. Select the required brightness by pressing the switch button. Record your image.

Trouble shooting

Problem	Possible causes and/or corrective action
B/G LEDs and status LEDs are not shining	The power cable is not plugged into a power socket or is not connected to the Power Supply.
B/G LEDs are not shining. Blue LED is shining	The Transilluminator is in the "heat protection" mode. Please wait 5 minutes. The LEDs will switch on automatically.
B/G LEDs are not shining. Blue LED is blinking	The Transilluminator has switched off. Please use the main switch to restart the transilluminator. Remember to switch off the device after work.

Contact Details

Please contact us for additional information: info@nippongenetics.eu

Please contact our support: support@nippongenetics.eu

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