

foodproof[®] D-Light Product Instructions

Revision A, February 2024

Product No. MCH230039





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1. Intended Use

1.1 foodproof® D-Light

The foodproof D-Light is designed to eliminate free DNA and DNA from dead cells by photoactivation. This treatment prevents false-positive PCR results by ensuring only DNA from living cells is detected. The use of the D-Light is a preliminary sample treatment step before DNA extraction. With no exception, the instrument can only be used by trained personnel and only with liquids, substances and lab materials appropriate for the instrument. Any use other than that mentioned above does not apply to the system's intended use and Hygiena® Diagnostics shall not be liable for any damage resulting from such unintended use. Intended use also includes compliance with any safety and environmental laws and regulations as well as the instructions in the manual to prevent any harm to the user and the environment. Any liability will become void when no or inadequate maintenance of the system has been performed. For questions, contact Hygiena Diagnostics.

1.2 Intended Use of Accessories on the foodproof D-Light

Any accessories used on the foodproof D-Light must have been recommended by Hygiena Diagnostics and can only be used according to the description given by Hygiena Diagnostics. Any additional equipment or accessories not recommended by Hygiena Diagnostics will not be regarded as intended use. Hygiena Diagnostics is not liable for any damage resulting from such unintended use. The connection between the foodproof D-Light and any accessory must follow the regulations outlined in the documents delivered or outlined in this manual. Hygiena Diagnostics is not liable for any damage resulting from inadequate connection of accessories. For questions, contact Hygiena Diagnostics.

1.3 Changes to the foodproof D-Light

The foodproof D-Light, as a complete system, is tested according to safety regulations and can only be used according to the intended use. Any changes or modifications to the foodproof D-Light can only be performed with permission from Hygiena Diagnostics and only on the scale for which permission has been granted. If the foodproof D-Light is altered without the written permission of Hygiena Diagnostics, any liability and warranty will be void. Hygiena Diagnostics is not liable for any damage resulting from changes to the foodproof D-Light. For questions, contact Hygiena Diagnostics.

2. Safety Information

It is essential that the warnings, cautions and safety requirements contained in this manual are read and understood by the operator before operating the system.

Warning symbols have been placed on the system to draw your attention to potential hazard areas.



The following symbols and markings appear on the type label and the type plate on the side of the instrument itself:

Symbol and Markings	Location	Description
	Type Label and Type Plate	CE mark for European Conformity
	Type Label	Legal manufacturer
	Type Plate	Manufacturer
	Type Label and Type Plate	Waste electrical and electronic equipment
	Type Label and Type Plate	Direct current
Serial Number (S/N)	Type Label	Instrument identifier

The following symbols and markings appear in this user manual:

Symbol and Markings	Description
	Warning: Risk of electric shock.
	Warning: Biohazard risk.
	Warning: Risk of injury to the user(s).

Read the operating manual: Operating the foodproof D-Light without first reading the entire Operating Manual may constitute a risk to your health. Only a person capable of handling electrical equipment should use the foodproof D-Light.

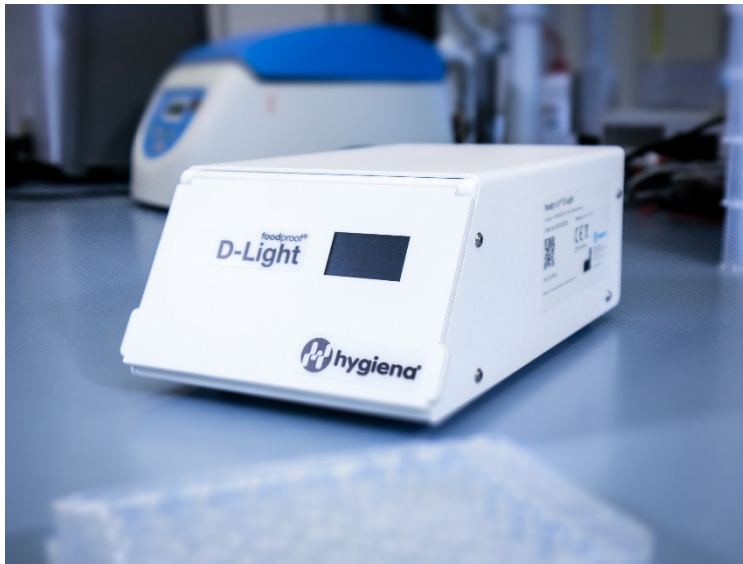
Do not attempt to repair the system: Do not remove any parts of the system. Do not try to repair or replace broken components, which can put you at risk for electrical shock. Replacing or removing components will void the warranty. Contact customer service or your local distributor if your system is malfunctioning.

Do not tamper with electronics: Coming into contact with the electronics, even when the system is off or unplugged, may cause an electrical shock or harm.

Do not use flammable, hazardous or radioactive liquids with the foodproof D-Light.

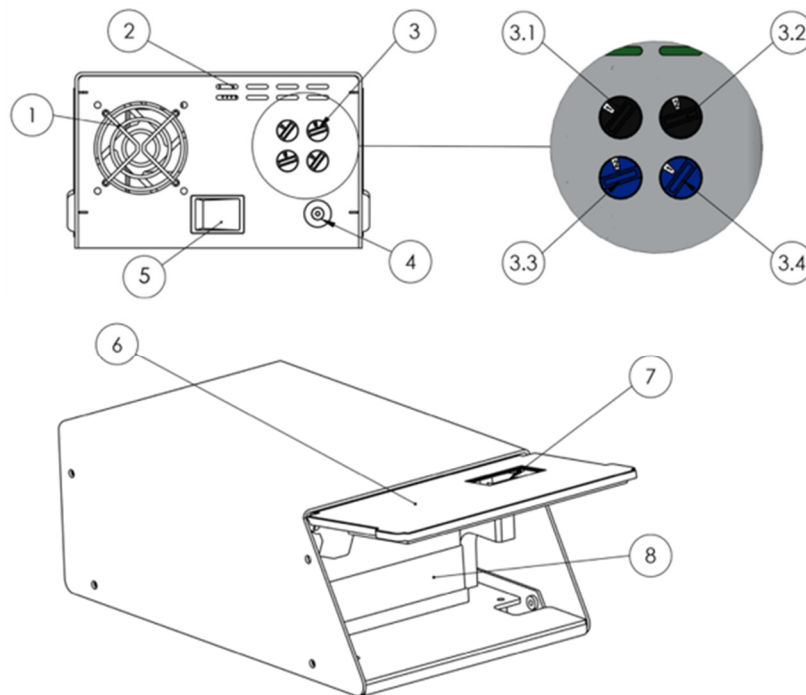
3. Instrument Overview

Front View:



Back View:





Position	Part	Description
1	Fan	Fan discharge duct
2	Fan	Fan inlet slots
3	Counter	Adjustment of time for dark and light phases (0 – 99 min)
3.1	Black rotary switch	Incubation phase in the dark, decade position (0 – 9)
3.2	Black rotary switch	Incubation phase in the dark, unit position (0 – 9)
3.3	Blue rotary switch	Exposure phase with blue light, decade position (0 – 9)
3.4	Blue rotary switch	Exposure phase with blue light, unit position (0 – 9)
4	DC socket	For connecting the instrument to the power supply
5	On/off switch	For turning the instrument on and off
6	Front lid	Insertion for adapters of samples with provided adapters
7	Display	Shows program, time counter
8	Sample tray	Provided adapters for single tubes or microtiter plates – a SBS plate format is required for use. The 48-well adapter plate for holding 1.5/2 ml tubes is provided with the instrument.



4. Specifications

Specification	Description
Dimensions (W x D x H)	140 mm x 232 mm x 90 mm
Weight	1.6 kg (3.5 lb.)
Electrical data	100 – 240 V AC, 50/60 Hz, 1.0 – 0.5 A 15 V DC, 0.8 A
Power demand (standby)	0.3 W
Power demand (while running)	9.0 W
Working temperature range, humidity	5 to 40 °C (41 to 104 °F) 35 – 75% relative humidity
Storage temperature range, humidity	0 to 65 °C (32 to 149 °F) 35 – 75% relative humidity
Time set for dark and blue phases	0 – 99 minutes for dark and blue phases individually
Acoustic signals	Signal after initialization and when the program is finished
Temperature control	Active control, shutdown at 50 °C (122 °F)
Voltage control	14.2 – 15.8 V
Outage detection	LED outage

5. Setting Up the Instrument

Unpack the instrument, cables and adapters and place the foodproof D-Light on a stable and dry surface in the laboratory. Ensure the power connector can be reached easily. Maintain at least 10 cm between the back of the instrument and the walls to guarantee the ventilator can perform under ideal conditions.

After connecting the power supply with the DC socket, turn on the instrument using the on/off switch on the back; the instrument initializes automatically. During the initialization time (5 s), all LEDs will be automatically run with low power at no risk to the user. To check the LEDs, open the lid and examine the instrument to see if the LEDs are working properly.

After the initialization process, the foodproof D-Light is ready to operate. The display will show the times that have been programmed at the back of the instrument. To change the set times, simply turn the blue and black rotary switches on the back until the desired times are achieved.

**Warning:**

Only authorized technical service personnel are allowed to disassemble the instrument.

**Warning:**

Do not touch switches or electrical outlets with wet hands. Switch the instrument off before disconnecting it from the main power supply.



6. Operating the Instrument

1. When the setup procedure of the foodproof D-Light is complete, set the time for each dark and blue phase.
2. Prepare the samples.
3. Seal the samples to avoid potential contamination of the inside of the instrument.
4. Place the samples in 1.5/2 mL tubes into the 48-well adapter plate provided with the instrument.
5. Open the front lid and insert the plate adapter until it has reached its final position and you hear a slight clicking sound.
6. Close the front lid of the instrument. The program will start automatically displaying a countdown timer.

ATTENTION!

Any interference by the user while the program is running by opening the lid will stop the program immediately. By closing the lid again with the adapter inserted, the program will automatically restart, running the complete amount of time programmed.

7. Remove samples from the instrument when the program is finished. Completion is indicated by an acoustic signal and a 'ready!' sign on the display.



Biohazard:

Samples can be potentially infectious. Dispose of all used disposable materials [e.g., ultra-thin wall (UTW) vessels, strips, tubes, syringes, disposable tips, disposable gloves] as biohazardous waste. Be cautious and always wear gloves.



Warning:

Do not touch switches or electrical outlets with wet hands. Switch the instrument off before disconnecting it from the main power supply.

7. Cleaning the Instrument

If you have spilled infectious agents, carry out the decontamination procedure as described.



Warning:

The decontamination procedure should be performed by authorized and trained personnel only in a well-ventilated room, wearing disposable gloves as well as protective glasses and clothing.

Decontamination should be performed in accordance with normal laboratory procedures. Any decontamination instructions provided with the reagents used should be followed.

Before moving the instrument to another laboratory, it is strongly recommended that you follow the decontamination procedure below.

Instrument Decontamination Procedure

1. Switch off the power and disconnect the power supply cable.
2. Wear disposable gloves to protect yourself.
3. Prepare the decontaminant/disinfectant.
4. Remove adapters and vessels containing samples from the instrument.
5. To disinfect the inside of the instrument or to remove stains, carefully rub the surface using a lint-free cloth dampened with 70% ethanol.





ATTENTION!

During disinfection, take care that the light unit at the top of the inside of the instrument is not touched and does not come into contact with the decontaminant/disinfectant!

- Let the instrument dry thoroughly before the next use.

8. Troubleshooting

Issue	Action
Display does not work	<ul style="list-style-type: none"> Check the connection with the power supply and connector (input voltage 15 V DC, 0.8 A).
	<ul style="list-style-type: none"> Disconnect from the power supply, wait for 5 seconds, then reconnect with the power supply.
	<ul style="list-style-type: none"> Contact technical support.
Displayed times are frozen	<ul style="list-style-type: none"> Disconnect from the power supply, wait for 5 seconds, then reconnect with the power supply.
	<ul style="list-style-type: none"> Contact technical support.
Displayed time does not start to count down	<ul style="list-style-type: none"> Ensure the sample adapter is completely pushed to the back of the instrument. Check by listening for the clicking sound.
	<ul style="list-style-type: none"> Check that the front lid is completely closed.
	<ul style="list-style-type: none"> Contact technical support.
Display shows incorrect numbers of voltage supply (over- or under-voltage)	<ul style="list-style-type: none"> Check the connection with the power supply and connector (input voltage 15 V DC, 0.8 A).
	<ul style="list-style-type: none"> Use a different power supply.
	<ul style="list-style-type: none"> Contact technical support.
LEDs are not working	<ul style="list-style-type: none"> Check the cable connection with the main power supply as well as in the DC socket at the back of the instrument.
	<ul style="list-style-type: none"> Contact technical support.
Display Error Messages:	
	<p>Electrical power supply (power supply unit): under-/over-voltage</p> <ol style="list-style-type: none"> Ensure that the power supply line is properly connected. If OK, then the power supply unit is defective. Contact technical support.
	<p>LED-ON-Status defective:</p> <ol style="list-style-type: none"> Switch off the instrument, open the front lid and switch on the instrument. Check if all 140 now dimmed LEDs are OK. If some LEDs fail, contact technical support.



9. Warranty and Disclaimer of Liability

Limited Warranty and Disclaimer of Liability. Hygiena Diagnostics GmbH warrants that this product is free from defects in materials and workmanship for 12 months and only if the following are complied with:

- (1) The product is used according to the guidelines and instructions set forth in the product literature.
- (2) Hygiena Diagnostics GmbH does not warrant its product against any and all defects when: the defect is as a result of material or workmanship not provided by Hygiena Diagnostics GmbH; defects caused by misuse or use contrary to the instructions supplied, or if the product is contaminated by improper storage or handling.
- (3) All warranties of merchantability and fitness for a particular purpose, written, oral, expressed or implied, shall extend only for a period of one year from the date of manufacture. There are no other warranties that extend beyond those described on the face of this warranty.
- (4) Hygiena Diagnostics GmbH does not undertake responsibility to any purchaser of its product for any undertaking, representation or warranty made by any dealers or distributors selling its products beyond those herein unless expressed in writing by an officer of Hygiena Diagnostics.
- (5) Hygiena Diagnostics GmbH does not assume responsibility for incidental or consequential damages, including but not limited to responsibility for loss of use of this product, removal or replacement labor, loss of time, inconvenience, expense for telephone calls, shipping expenses, loss or damage to property or loss of revenue, personal injuries or wrongful death.
- (6) Hygiena Diagnostics GmbH reserves the right to replace or allow credit for any modules returned under this warranty.

10. Supplementary Information

10.1 Ordering Information

Hygiena Diagnostics offers a broad range of instruments, reagents and services. For a complete overview or for more information, visit our website at www.hygiena.com or contact us directly.

10.2 Trademarks

foodproof[®], **microproof**[®], **vetproof**[®], **ShortPrep**[®], **StarPrep**[®], **RoboPrep**[®] and **LyoKit**[®] are registered trademarks of Hygiena Diagnostics GmbH. **Hygiena**[®] is a registered trademark of Hygiena. Other brand or product names are trademarks of their respective holders.

10.3 Contact and Support

If you have questions about this or any other product of Hygiena Diagnostics, contact our Technical Support staff (www.hygiena.com/support). Our commitment is to provide our customers with rapid and effective assistance. Contact us if you have suggestions for enhancing our product performance or using our products in new or specialized ways. Such customer information has repeatedly proven invaluable to us and the worldwide research community.

10.4 Reference Number

The reference number and original Hygiena Diagnostics GmbH article number: D 110 45 22.



11. Change Index

Version 1, January 2016:

First version of the package insert.

Version 2, August 2016:

Page 5: Type plate moved from back to side.

Pages 6 – 8: Back side of instrument adapted with switch.

Page 12: Display Error Messages added.

Version A, February 2024:

Rebranding and new layout.

Updated instrument photographs with updated branding.

D 110 45 22 -> INS-MCH230039-REVA.



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