

Manual

UV Decontamination

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1 Introduction

1.1 Conventions

1.1.1 Textual Markups

Work instructions involving a timed sequence are numbered and merged to action units to specify related results.

Enumeration involving no timed sequence is shown as a bullet-style list, sub-level numbering or as a dash-style list.

Safety notes are marked by a pictogram and a signal word (→ “Warning Signs” on page 3).

Specific action-related safety notes will **precede** the actual instruction.

Instructions, commands, control buttons, text fields, check boxes and the like are marked as shown for “Load” command sample.

Optional outfit components or versions are marked with *.

For graphic design styles of cross-references, you are referred to the table below:

Table 1: Graphic design styles of cross-references

Type of cross-reference	Graphic style	Explanatory note
Reference to an illustration	→ Fig. 1	Illustration is on the same page
Reference to an illustration and a page	→ Fig. 1 on page 17	Illustration is on another page
Reference to a position (within an illustration)	Pos. 2, → Fig. 1	Provides reference to a position within a specified illustration – illustration is on the same page
Reference to a position (within an illustration and a page)	Pos. 2, → Fig. 1 on page 17	References a position within a specified illustration – illustration is on another page
Reference to a page	→ page 1	References a given page
Reference to a headline and a page	→ “Conventions” on page 2	References a given page, supplemented by a headline
Reference to a table and a page	→ Table 2, “Scope of delivery (depending on selected model option)”, on page 7	References a given table

1.1.2 Warning Signs



WARNING

Indicates a potentially hazardous situation.

May result in death or serious injury if not avoided.



CAUTION

Dangerous situation!

Potential consequences: light or moderate physical injury.

NOTICE

Dangerous situation!

Potential consequences: material damage.



NOTE

Useful application advice, no potential danger involved.



NOTE

Note regarding environmental protection.

1.2 Warranty & Liability

The period of warranty and scope of liabilities will be as stipulated under binding law and provided for in the General Terms of Business of Analytik Jena AG.

Warranty will be limited to repair services or replacement of damaged parts. It will exclude consequential damage of any kind. Damage to wear & tear parts and cases of glass breakage are not covered by warranty.

Any deviation from conforming use as defined in this User Manual (operating requirements, process sequences) will result in restricted acceptance of warranty or liability claims in the event of damage.

In the event of personal injury or material damage, no claim for warranty and liability will be accepted, unless the accessories is operated as specified in section → *"Intended Use"* on page 5.



NOTE

This loss-of-warranty clause shall apply to potential periods of interruption in business and to any component that had not been directly affected by authorized warranty work.

1.3 General Safety Notes



NOTE

Affixed warning signs and safety symbols are integral parts of the station and must be followed!

Check warning labels and safety symbols for intactness and completeness before you begin any kind of start-up action. Do not proceed to start-up if you have identified a missing or damaged warning note or safety symbol!

Damaged or missing warnings or safety symbols may lead to maloperation or faulty action with personal injury or material damage as a consequence! Warnings or safety symbols must not be removed! A damaged warning note or safety symbol must be promptly replaced!

1.4 Waste Disposal



NOTE

Unless otherwise agreed, the pipettor system, including any of its components, must be disposed in accordance with currently binding regulations of law on termination of use. Action for disposal will be the responsibility of the system owner.

The procedures to be followed for disposal, including parts thereof, are legally based on these EC Directives and related rules for implementation in national legislations within the EC:

- EC Directive RoHS
- EC Directive waste electrical and electronic equipment

2 UV Decontamination

2.1 Intended Use

The UV Decontamination Unit provides an accessory module to the CyBio[®]-FeliX (30-5015-100-24) pipetting system. Its designated purpose is to extend the range of available pipetting capabilities by applications of molecular and cellular biology.

The conforming use of this unit is distinguished by UV-radiation being employed to sterilize working surfaces (decks).

The conforming use is further distinguished by the use of a compact low-pressure mercury-vapor discharge lamp with a socket base on one side.

2.2 General Safety Notes (UV-Radiation)

**NOTE**

The lamp emits radiation that can damage the eye or skin. For this reason, the lamp is built into a completely shielded enclosure.

Where available, safety advice by UV-lamp manufacturers must also be followed as a compulsory requirement. Since the UV-lamp has a limited service life, it needs to be replaced as part of scheduled maintenance.

2.3 Technical Specifications


General characteristics	
Designation	UV Decontamination
Drawing number	30-5015-950-24 30-5015-954-24 ¹
Dimensional & weight details	
Width x height x depth	620 x 100 x 350 mm
Weight	5 kg


1 from SN 305015 10 1001 (CyBio®-FeliX)

Operating data	
Line voltage	230 V \pm 10 %, 50 Hz
Power consumption	< 50 VA ¹
Protective fusing	2 piece G-fuse 5 x 20 mm T1,25 A 250 V AC
Type of UV-radiation emission/power	UV-C/12 W
UV-Lamp power	36 W

1 Preliminary value available at the moment of going to press

2.4 Danger Zones & Relevant Marking

Safety symbol	Meaning	Explanatory note
	Warns of dangerous electrical voltage	There is life-threatening danger or danger of serious physical injury if notes of this type are disregarded!

Safety symbol	Meaning	Explanatory note
	Warns of dangerous electrical voltage	Refrain from opening the controller in all cases! Have repair work always carried out by qualified expert personnel!
<div style="border: 1px solid black; padding: 2px; width: fit-content;">werkseitig 230 V eingestellt factory set 230 V</div> <p style="text-align: center;">oder</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">werkseitig 115 V eingestellt factory set 115 V</div>	Indicates that permissible supply voltage is factory-set	Connection to supply voltage of any other level may result in the destruction of electrical or electronic components! No claim for warranty or liability will be accepted in such cases!

2.5 Operation

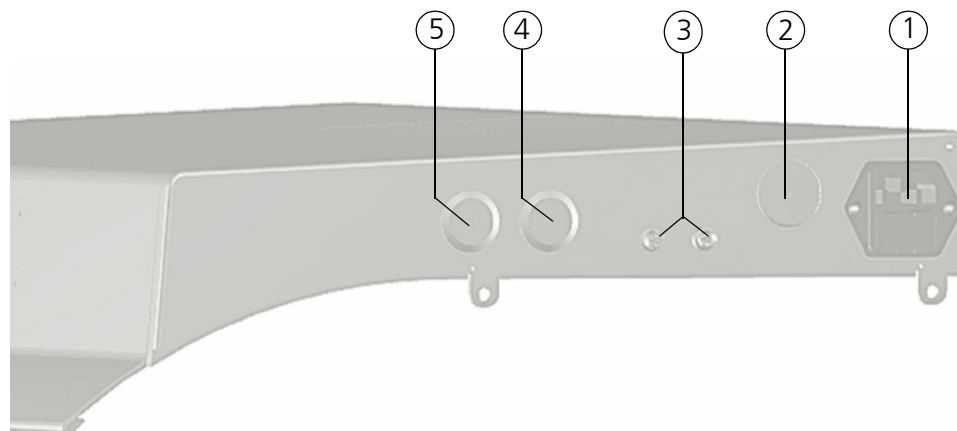


Fig. 1: Operation control elements

- 1 Line power inlet with fuse
- 2 Blank cap (for service)
- 3 Connector/jack for monitoring circuit
- 4 On/Off switch for UV-lighting
- 5 On/Off switch for LED-lighting

Preparatory action

Make sure that CyBio[®]-FeliX is powered on (and monitoring circuit connected).



WARNING

It must be ensured that the CyBio[®]-FeliX is turned on and ready for operation before turning on UV-lighting. Please refer to the CyBio[®]-FeliX user manual for how readiness for operation can be verified. If the CyBio[®]-FeliX is not switched on and ready for operation, UV radiation may escape when UV-lighting is turned on and the blind of the CyBio[®]-FeliX is opened.

Remove all lab ware and any accessories from the decks before using the UV lamp. Close blinds.

The UV-lamp can only be turned on if the ring light of pushbutton 4 (green) lights steady – readiness for operation is reported.

Turn UV-lighting on

Keep pushbutton 4 (→ Fig. 1) depressed for (at least) 1 to (no more than) 3 seconds. The ring light will change from green (steady) to green (blinking). The fan will automatically cut in.

Factory-set maximum lighting time: Approx. 1.5 h

Turn UV-lighting off

Keep pushbutton 4 depressed for 6 seconds or more. The fan will continue for a defined time length in after-run mode before it automatically turns off

Turn LED-lighting on/off

Press pushbutton 5 to turn LED-lighting on. Press this pushbutton again to turn LED-lighting off.

Execute Decontamination Program

Open decontamination program in software.

The program is located in the CyBio Composer user data directory in:

...libraries

\\ScriptRepository\CyBiFelix Family\Maintenance\UV Decontamination Program

After starting the program a message box will require to activate the UV-lighting.

The message needs to be acknowledged to start the decontamination program.

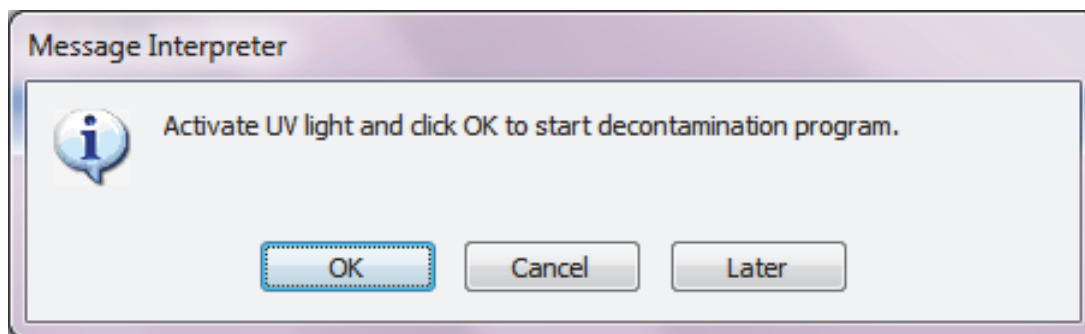


Fig. 2: Window – start decontamination program

The completion of the decontamination program will be signaled by a message box. The UV-lighting will turn off automatically within a few minutes.

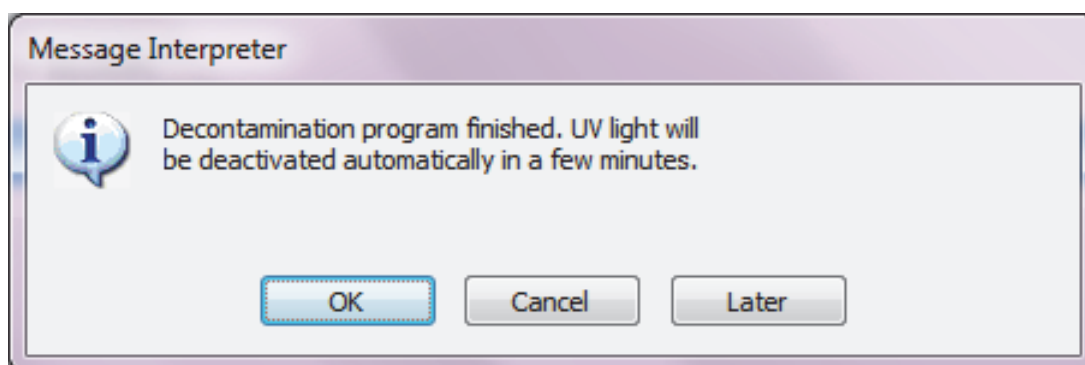


Fig. 3: Window – program finished



NOTE

Opening the blind or manually turning off of the UV-lighting while the decontamination program is running will decrease the duration of exposure. Secure decontamination can only be guaranteed by complete execution of the decontamination program.

2.6 Maintenance & Care

2.6.1 Maintenance

Fuse replacement

NOTICE

Use only the type of fuse that is specified for this operating voltage (→ "Technical Specifications" on page 6)!

Make sure that the combi-seal is installed in correct position (follow instructions on combi-seal labeling)!

1. Turn controller off
2. Disconnect line-power plug
3. Detach combi-seal from socket mount
4. Replace fuse
5. Mount combi-seal

2.6.2 Care



WARNING

For safety reasons, use button 4 (→ Fig. 1 on page 8) to switch off the UV lighting and pull the mains plug before commencing with any of the following work steps!

Scheduled maintenance/care	Periodicity	Comment
Cleaning	as necessary	Observe all applicable instructions on this in chapter 9.3.1 "Cleaning the basic unit (including decks)" in the CyBio®-FeliX manual!
UV-lamp replacement ¹		Under maintenance contract – after four years at the latest
Filter replacement	as necessary	number: 3007901-00

¹ To be performed by Manufacturer's service personnel or partners specifically authorized by Manufacturer in all cases