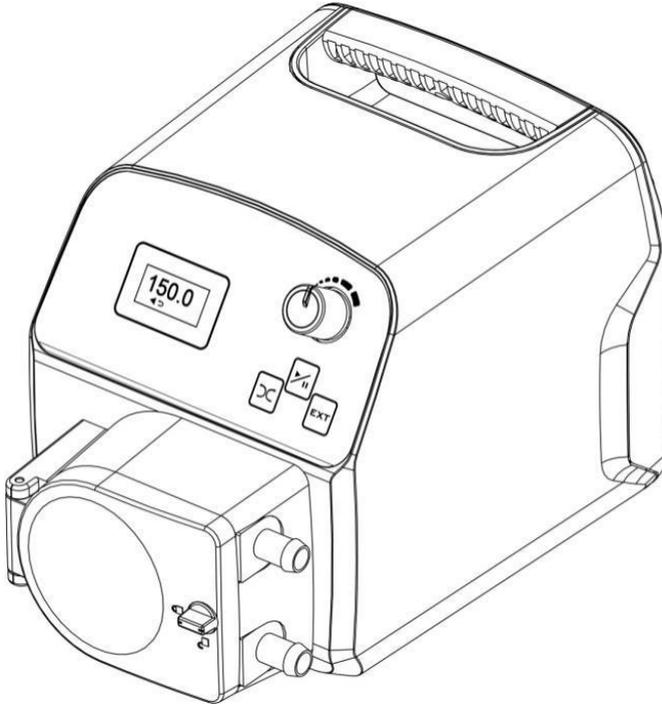


# INSTRUCTION MANUAL



## **LLG-uniperistaltic pump 3**

Please read the manual carefully before use, and follow all operating and safety instructions!

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**Warning!**

- The tubing may have cracks due to wear. This could result in the overflow of fluid from tubing and may cause damages, so the user must check regularly and change tubings in time.
- Connect the power cable directly to the wall socket and avoid using an extension cable.
- If the power line or plug is damaged, please hold the plug to unplug it, not hold the line.

## 1. Product Introduction

LLG-uni*PERISTALTICPUMP* 3 uses a step motor, has a small size and low noise emission. It adopts an OLED high-definition display and has an external control interface for remote control. The pump can communicate with computers and is used with a variety of analytical instruments.

LLG-Labware offers 3 different PharMed® tubings with an inner diameter of 3,1 mm, 4,8 mm, or 6,4 mm and a wall thickness of 1,6 mm. All tubings are equipped with a corresponding connector to connect the customers tubing.

Part numbers of the pump heads can be found at the end of the manual.

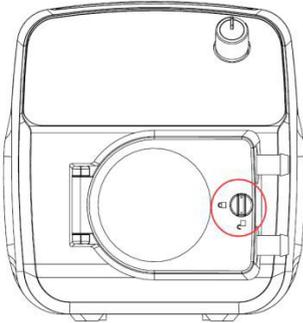
**Features:**

- Easy installation of pump head, stable flow rate
- OLED high-definition display
- Digital speed control knob
- Power down memory function
- Scope of supply:  
LLG-uni*PERISTALTICPUMP* 3, pump head,  
tubing with connector  
ID = 6.4 mm, OD = 9.6 mm

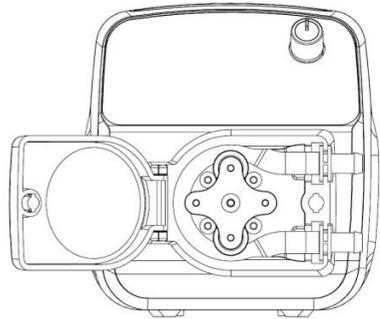
## 2. Installation instruction

Head tubing installation and replacement:

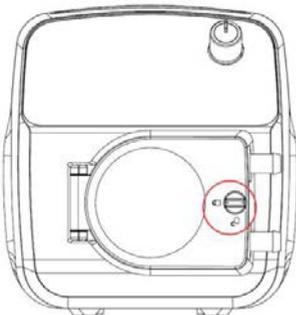
1. Put LLG-uniPERISTALTICPUMP 3 on the table and open the pump head cover lock as shown in picture 1.
2. Open the pump head cover and install the tubing as in picture 2.
3. Close the pump head cover and clock as in picture 3.



**Picture 1**



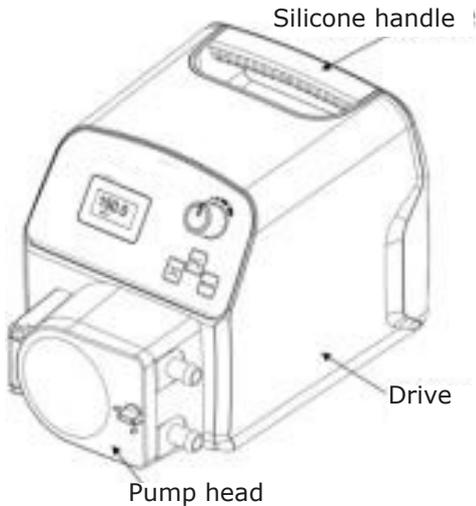
**Picture 2**



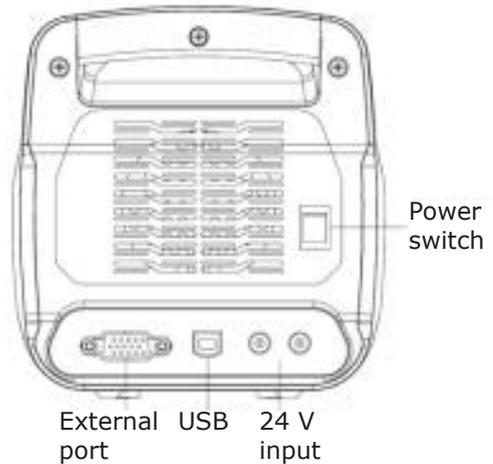
**Picture 3**

## 3. Operation instruction

### 3.1 Product Appearance



**Picture 4**

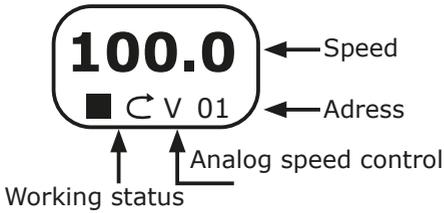


**Picture 5**

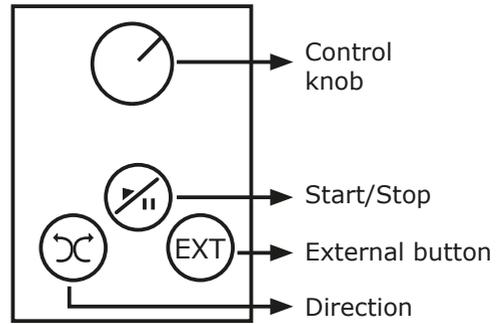
LLG-uniPERISTALTICPUMP 3 peristaltic pump has an ABS plastic casing that is anti-static and prevents corrosion. On the back there are a fan, a power switch, a power interface, a USB interface and an external control interface.

The two power connectors on the back can be cascaded with up to two other LLG-uniPERISTALTICPUMP 3 pumps. In this case, please select the power adapter with power supply greater than or equal to 24V/3A.

### 3.2 Screen and keypad



**Picture 6**



**Picture 7**

The LLG-uniPERISTALTICPUMP 3 pump has a mechanical keypad with a life of 300,000 cycles to fully meet the needs of various environments.

1. **Digital knob:** Turn the speed control knob to the left or right to decrease or increase the speed. The speed range is 0.1-150 rpm.
2. Continuously pressing the knob will let the motor run at the highest speed in the current direction. The display shows the full speed and maximum speed. Release the button to stop, the screen displays the stop state and the original speed.
3. Press the knob in the stop state to enter the RS485 communication address adjustment. The two digits in the lower right corner of the screen flash, turn the knob left or right to decrease or increase the communication address. The address adjustment range is 1-32. After adjusting, press the knob again to exit the address adjustment state.
4. **Start/stop button:** Change the motor status. Press once, the pump will start, press again, the pump will stop.
5. **Direction button:** Change the direction of the motor. Pressing the button again changes to the other direction.

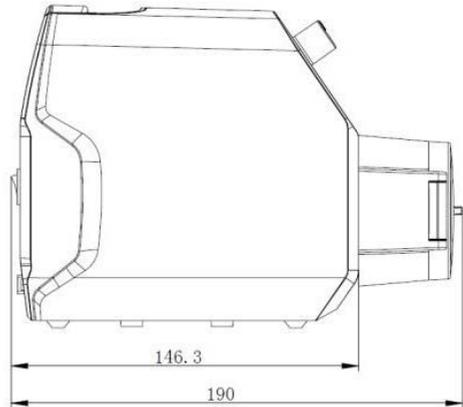
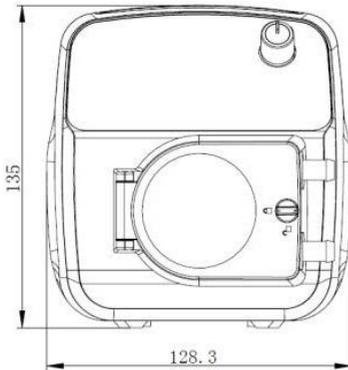
### 3.3 Communication interface

We use standard modbus protocol (RTU mode). Communication modes are RS485 and USB. You can control the start/stop, direction and motor speed. You can also read the current running status.

- USB communication mode is enabled with a USB cable, connected to the computer through the pump USB interface.

- For RS485 communication mode connect the A+ pin (5 pin) together with T/R+ pin of the RS485 module: Connect the B- pin (4 pins) together with T/R- of the RS485 module.

## 4. Dimension Drawing



## 5. Specifications

Model	Peristaltic Pump LLG-uniPERISTALTICPUMP 3	
Adaptor	Input: AC100-240V, 50/60Hz Output: DC24V/1A	
Power	<20W	
Display	OLED screen	
Operation mode	Mechanical keypad	
Motor speed	0.1-150 RPM	
Flow rate	0,08 - 398 ml/min (depends on the tubing)	
Working environment	Temperature	0-40 °C
	Relative humidity	<80 %
Dimension	190 x 128 x 135 mm	
Weight	1100 g	

Tubing		Speed Range (rpm)	Flow Rate (ml/min)
Tubing Art. No.	ID x WallThickness (mm)		
6.263 552	3.1 x 1.6	0.1 ~ 150	0.08 ~ 120
6.263 553	4.8 x 1.6		0.16 ~ 240
6.263 554	6.4 x 1.6		0.26 ~ 398

## 6. Ordering Information

Cat No.	Descriptions
6.263 550	Peristaltic Pump LLG-uniPERISTALTICPUMP 3, with EU plug, pump head with hose connection ID 6.4 mm
6.263 551	Peristaltic Pump LLG-uniPERISTALTICPUMP 3, with UK Plug, pump head with hose connection ID 6.4 mm
6.263 552	PharMed® tubing (ID = 3,1 mm, OD = 6,3 mm) with connector for LLG-uniPERISTALTICPUMP 3
6.263 553	PharMed® tubing (ID= 4,8 mm, OD= 8,0 mm) with connector for LLG-uniPERISTALTICPUMP 3
6.263 554	PharMed® tubing (ID = 6,4 mm, OD= 9,6 mm) with connector for LLG-uniPERISTALTICPUMP 3

## 7. Warranty

This product is warranted to be free from defects in material and workmanship for a period of three (3) years from date of purchase.

This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in this instruction manual. This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces or other causes not arising from defects in original material or workmanship. This warranty does not cover any incidental or consequential damages, commercial loss or any other damages from the use of this product.

The warranty does not cover damage to paint or finish and defects or damages caused by physical and chemical abuse or normal wear and tear. The warranty is invalidated by any non-factory modification, which will immediately terminate all liabilities on us for the products or damages caused by its use. The buyer and its customer shall be responsible for the product or use of products as well as any supervision required for safety. If requested the products must be returned to the distributor in well packed and insured manner and all shipping charges must be paid.

Information on the disposal of electrical and electronic devices in the European Community:

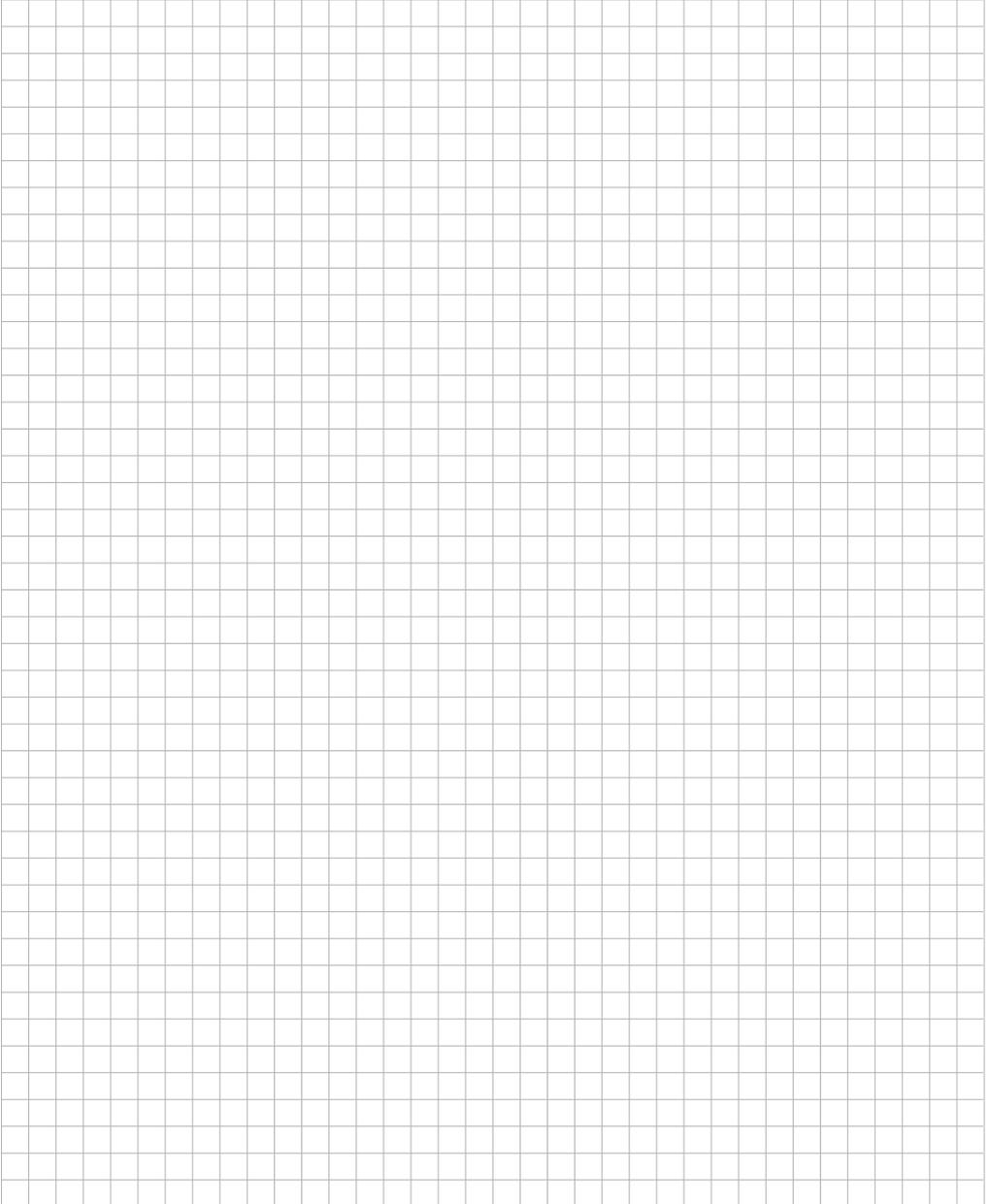
The disposal of electrical devices is regulated within the European Community by national regulations based on the European Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). According to these regulations, any devices supplied after 13.06.05 in the business to business sphere, to which this product is assigned, may no longer be disposed of in municipal or domestic waste. They are marked with the following symbol to indicate this. As disposal regulations within the EU may vary from country to country, please contact your supplier if necessary.

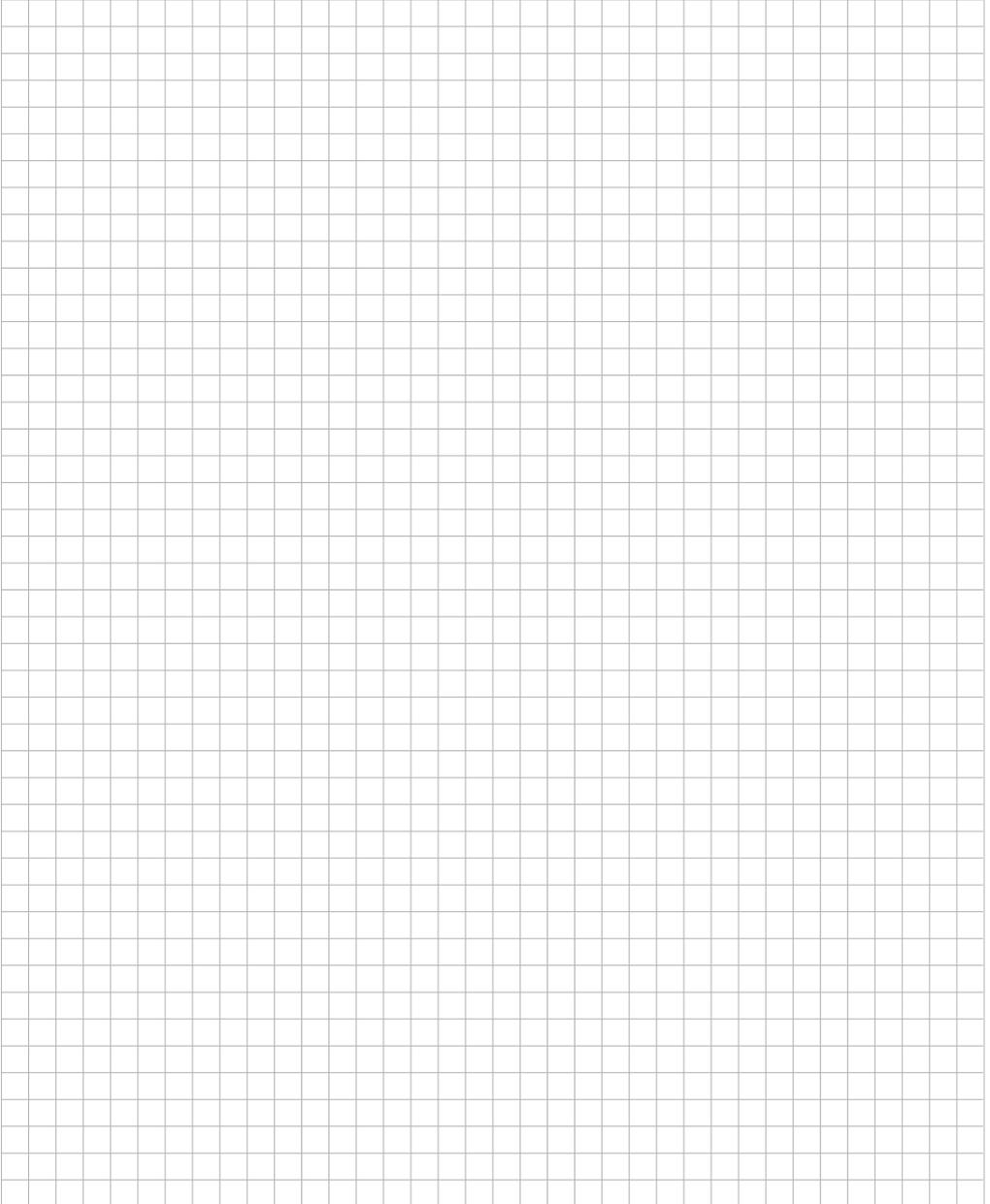
### PRODUCT DISPOSAL



In case the product is to be disposed of, the relevant legal regulations are to be followed.

Notes

A large, empty grid of small squares, typical of graph paper, occupying the majority of the page. The grid is composed of 20 columns and 30 rows of squares.





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