

KZ10-24/KZ15-14 Operating Manual



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Please read this operating manual carefully before using the product.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, Longer accepts no liability for errors or omissions.

Longer reserves the right to modify or improve the designs or specifications of such products at any time without notice. Please contact with Longer or certified distributor for up-to-date manuals.

1 General Information

1.1 Precaution

If tubing leaks or bursts, fluid may spray from the tubing and pump head. Take reasonable practicable measures to ensure the operators' safety. Check the tubing frequently and replace the tubing if necessary to protect the operators and device.

Make sure fluid in the tubing has been drained out, no pressure in the pipeline and disconnect pump from mains power, while removing or replacing the tubing.

Do not open the pump head while the pump is running.

Remove the tubing when pump stop running for a long time to avoid tubing deformation caused by squeezing.

Keep the rotor clean and dry to avoid tubing excessive wear and premature failure of pump head or drive.

The pump head housing surface can be scratched easily because of the plastic material. Please clean the pump head by water flushing or a soft cotton cloth wiping.

Do not disassemble, change or repair the pump head by yourself. Please contact Longer Pump or the distributor if the repair is necessary.

1.2 Warranty and Service

1.2.1 Warranty Service

(1) Longer, obligation under this warranty is limited to a period of three (3) years from the date of original purchase. Within the 3 years of warranty period, Longer will replace or repair any defective parts free of charge. This warranty doesn't cover consumable part (tubing).

(2) Warranty does not cover:

- The repair or exchange of the entire unit after the warranty period.
- Any damage or failure caused by improper installation, storage, maintenance or usage, not in compliance with operating manual.
- Beyond or violate the conditions listed in contract or technical agreement.
- Any damage or failure caused by attempts by personnel other than authorized Longer representatives to install, repair, modify or remove the product.
- Any damage or failure caused by non-Longer parts, or user-replaceable parts purchased from unauthorized distributors.
- Any damage or failure caused by accidents or human errors (including wrong power supply voltage, corrosion, fall-off, etc.)
- Any damage or failure caused by natural disaster or other irresistible force (earthquake, fire, etc.).
- Other product damage or failure not caused by defects in design, material and workmanship.

1.2.2 Maintenance Service

- Customer will be charged for the repair or replacement of the parts or accessories after warranty period.
- Parts can be replaced within 3 working days. Longer will inform customer of the date in advance if out of 3 working days.

1.2.3 Service Commitment

- Longer commits to provide customer solutions to any quality complaint within 2 working days.
- Longer commits to reply to customer's requirement of on-site technical supports or training within 2 working days.

1.2.4 Dispute Settlement

Dispute over product quality or service will be handled according to contract or agreement. If there is no related contract or agreement, it shall be resolved by the disputing parties through consultation. Otherwise, it will be resolved according to relevant national laws and regulations.

1.3 Repair Notes

Please contact Longer or its distributor, and provide the product serial number before returning the product. Products which has been contaminated with, or exposed to, toxic chemicals or any other substance hazardous to health must be decontaminated before returning to Longer or its distributor. You must ship the product in its original packaging or better, to insure it against possible damage or loss during the transport.

1.4 Contacts Information

Baoding Longer Precision Pump Co., Ltd
3rd/4th Floor, Building 6B, University Science Park Baoding National,
High - Tech Industrial Development Zone
Baoding, Hebei, China 071051
Email: longer@longerpump.com
Tel: 86-312-3110087
Fax: 86-312-3168553
www.longerpump.com

2 Product Introduction

KZ10-24 and KZ15-14 are OEM peristaltic pump heads. Mainly designed for medium flow and low flow fluid transfer. Up to four heads can be stacked for multi-channel applications. With flexible compression block, tubing can be easily loaded and replaced. KZ10-24 can accept tubings with ID≤3.17mm and wall thickness of 0.86mm. KZ15-14 can accept tubings with wall thickness of 1.6mm. These pump heads are very suitable for OEM application.

Table 1: Product Model Table

Series Model	Product Model	Product Description	Product Code
KZ15-14	KZ15-14-A	Material of housing, compression block and roller: POM. Short shaft.	050128A
	KZ15-14-B	Material of housing, compression block and roller: POM. Long shaft.	050128B
	KZ15-14-C	Material of housing, compression block and roller: PVDF. Short shaft.	050128C
	KZ15-14-D	Material of housing, compression block and roller: PVDF. Long shaft.	050128D
KZ10-24	KZ10-24-A	Material of housing, compression block and roller: POM. Short shaft.	050127A
	KZ10-24-B	Material of housing, compression block and roller: POM. Long shaft.	050127B
	KZ10-24-C	Material of housing, compression block and roller: PVDF. Short shaft.	050127C
	KZ10-24-D	Material of housing, compression block and roller: PVDF. Long shaft.	050127D

2.1 Main Features

- Small size, compact structure, nice appearance, outline dimension is only 55mm*50mm*38mm.
- Compression block can be placed into or take off from the pump head very easily by one hand.
- 4 rollers, shaft support on both ends
- Two to four pump heads can be stacked for multi-channel application
- Can accept multiple tubing sizes with a wide flow rate.
- Tubing can be loaded and replaced easily.
- Can be driven by step motor, DC motor and AC motor.
- Good corrosion resistance.
- Mainly for OEM application.

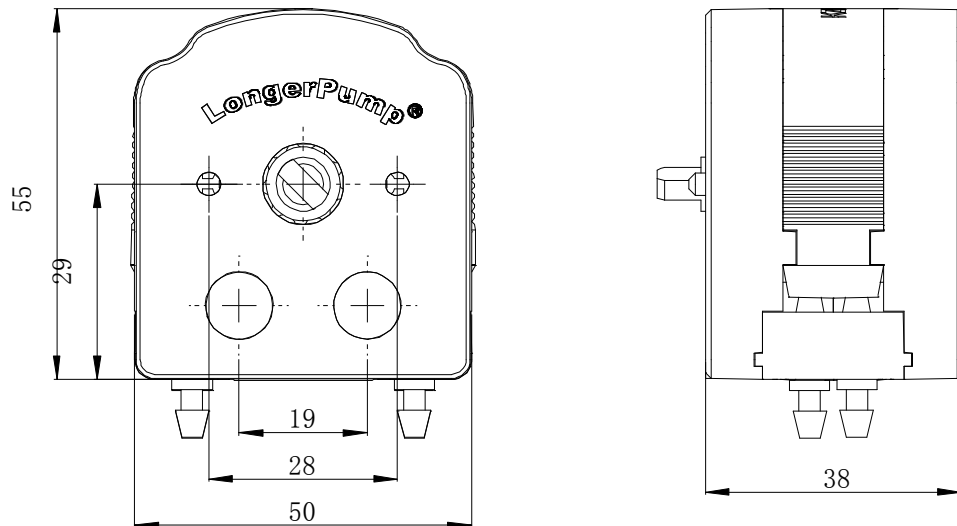
2.2 Unpacking

To unpack the pump head, follow below steps:

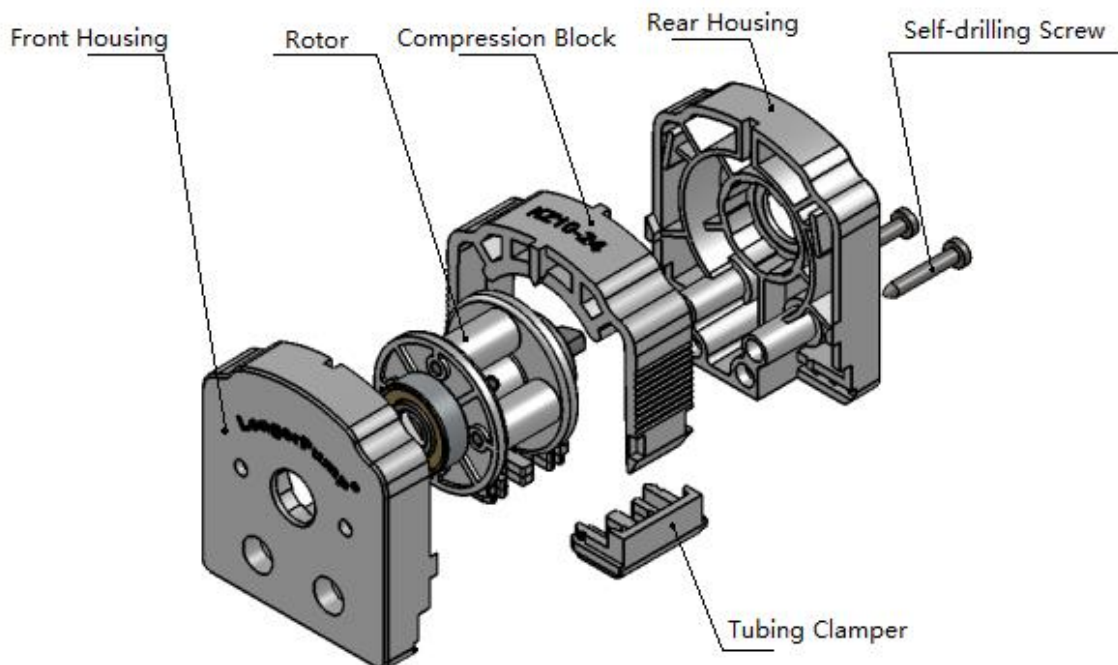
- 1) Take out the pump head and accessories from the shipping carton.
- 2) Check the packing list to make sure all components are present.
- 3) Contact Longer Pump or distributor for any question.

2.3 Structure

2.3.1 Outline Drawing



2.3.2 Pump Head Structure



2.4 Performance and Capability

2.4.1 Pump Head Mounting Capability

Pump head can be mounted on pump drive through mounting plate. The pump head can

be driven by step motor, DC motor and AC motor.

2.4.2 Tubing Loading Capability

Tubing available for KZ10-24: ID \leq 3.17(mm), 0.86mm wall thickness

Tubing available for KZ15-14: 13#, 14#, 19#, 16#

Tubing fitting assembly is recommended, which can be fitted into the tubing clamped tightly. The tubing will not move along with rotor running. Tubing can be loaded and replaced easily.

2.4.3 Stackable Capability

Up to four pump head can be stacked for multi-channel application.

KZ10-24: 2, 4, 6, 8 channels

KZ15-14: 1, 2, 3, 4 channels

2.4.4 Pressure Capacity

KZ15-14: When the pump runs, the output pressure of the tubing is up to 0.20Mpa. When the pump stops, the holding pressure is higher than 0.14Mpa.

KZ10-24: When the pump runs, the output pressure of the tubing is up to 0.17Mpa. When the pump stops, the holding pressure is higher than 0.10Mpa.

2.4.5 KZ10-24/KZ15-14 Specification

Table 2: Pump Head Main Specification

Model	Channel	Speed Range	Tubing	Flow Rate Silicone	Flow Rate PharMed-P
KZ10-24	2 per set	1-450(rpm)	2.79*0.90	A/N	0.23~104ml/min
			2.06*0.85		0.18~81ml/min
			1.52*0.85		0.11~50ml/min
			1.02*0.85		0.05~23ml/min
KZ15-14	1 per set	1-450(rpm)	13#	0.03~13.5ml/min	0.035~15.8ml/min
			14#	0.113~51ml/min	0.12~54ml/min
			19#	0.235~106ml/min	0.24~108ml/min
			16#	0.42~190ml/min	0.39~180ml/min

2.5 Working Condition

Environment Temperature: 0°C-40°C

Environment Relative Humidity: \leq 98%

3 Installation

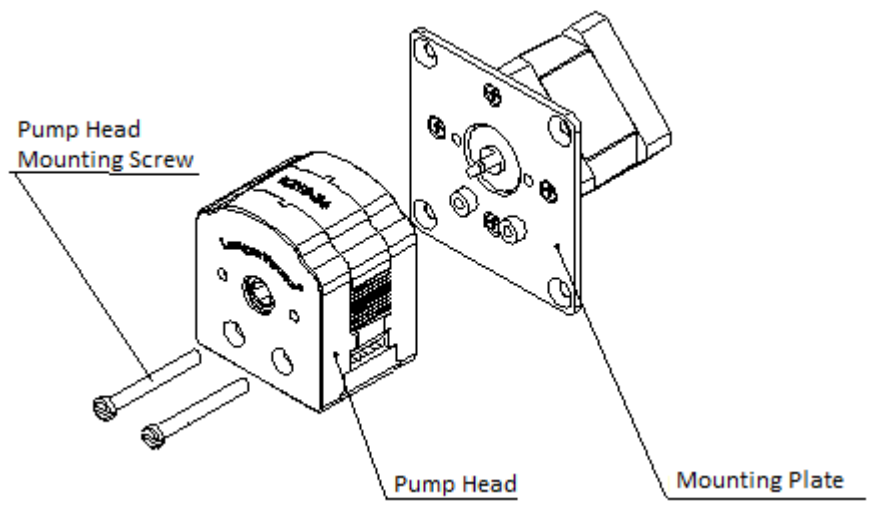
3.1 Single Pump Head Mounting

To mount or replace the pump head, follow below steps:

- 1) Loosen the pump head mounting screw by using a flat head screwdriver, remove the pump head gently.
- 2) Insert the tang of the motor shaft into the slot of the pump head shaft. Press the pump head firmly against the drive.
- 3) Insert the two single pump head mounting screws into the mounting holes, then tighten them.

Note:

Please disconnect pump from the mains power before replacing the pump head.
When tighten the pump head mounting screws, please don't overtighten screws, in order to prevent the pump casing deformation.

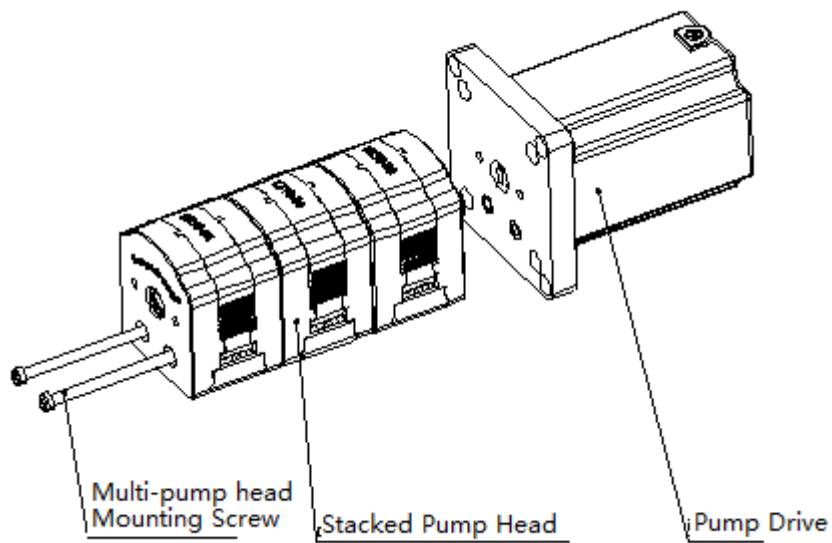


3.2 Multiple Pump Head Mounting

Pump heads can be stacked (up to four) to provide multi-channel, depending upon the torque capabilities of the drive.

Stack multiple pump heads as follows:

1. Align the tang and the alignment pins on the back of the second pump head with the slot and the holes on the front of the first pump head.
2. Mount the stacked pump heads to the pump drive per previous instructions.



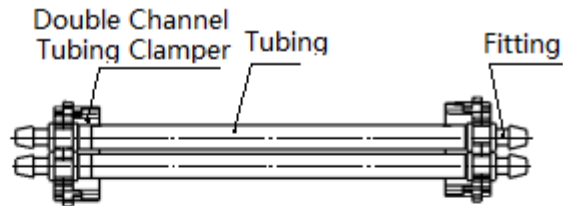
3.3 Tubing Loading

Note: Please disconnect pump from the mains power before loading the tube.

1. Fit the tubing fitting into the tubing clamber. Please refer to below figure.

Tubing Option (PharMed)

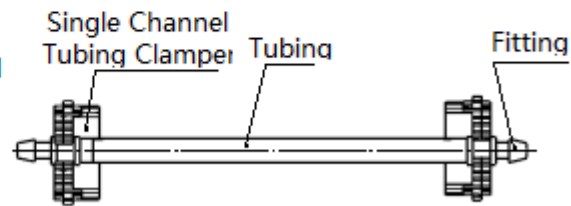
- 2.79*0.85
- 2.40*0.85
- 2.06*0.85
- 1.52*0.85
- 1.02*0.85
- 0.76*0.85



For KZ10-24

Tubing Option Silicone or PharMed

- 13#
- 14#
- 19#
- 16#



For KZ15-14

2. Align the tubing clammers with the slots of the pump head.



3. Center the tubing between the slots, and push the clampers into the slots.



4. Place the compression block into the pump head.



4 Transportation and Storage

In the process of transportation, prevent water, moisture, insect, corrosion, and strong mechanical vibration.

The pump head should be stored in shipping carton. The environment should keep air circulation. The environment temperature should be $-10^{\circ}\text{C}\sim 55^{\circ}\text{C}$ and relative humidity should be $\leq 85\%$. Warehouses are not allowed to have all kinds of poisonous, harmful, flammable, explosive and corrosive chemicals.