



Linkam Scientific Instruments

ECP

Water circulation pump

USER GUIDE

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Important Notice

Please check that your Linkam equipment has not been damaged during transit. If there is any evidence of external damage DO NOT SWITCH ON ANY ELECTRICAL ITEMS.

Contact LINKAM SCIENTIFIC INSTRUMENTS Ltd., or their appointed distributor immediately. Your warranty may be impaired if Linkam is not informed of any damage within 7 working days of delivery. NO attempt should be made to repair or modify the equipment in any way, as there are **NO USER REPLACEMENTS PARTS**.

No attempt should be made to open the instrument except by qualified personnel as hazardous voltages are present.

In order to use this equipment successfully, please take time to read this manual all the way through before starting to work.

Warranty

This equipment has a warranty against defects in material and workmanship for a period of 12 months. Linkam will either repair or replace products that prove to be defective. For warranty service or repair, this product must be returned to Linkam or a designated service facility.

The warranty shall not apply to defects resulting from interfacing, unauthorized modification or misuse, operation outside of the environmental specifications for the product, or improper site preparation or maintenance.

Technical Support

Any technical questions or queries should be addressed to the Technical Support Department at the address shown on the back of this manual.

Equipment Maintenance

The ECP is only to be used with water no other liquid may be used. The water should be changed at regular intervals, every 3-4 weeks to prevent algae and bacterial growth, which can block up the narrow tubing and the water cooling channel inside the stage.

Regulatory Compliance

The ECP is qualified in accordance with the respective national regulation and guidelines and meets EC standards.



Safety Precautions

Read and follow all safety instructions before using the equipment. Save these instructions for later use.

Warning: to guard against injury, basic safety precautions should be observed, including the following:

1. Danger – to avoid possible electric shock, special care should be taken as water is used with the ECP. For each of the following situations, do not attempt repair to the ECP by yourself, contact Linkam or an authorised Linkam dealer for service.
2. If the ECP shows any sign of abnormal water leakage during use, immediately unplug it from the power source. Contact Linkam Technical Support.
3. If the plug or power socket does get wet, DON'T unplug or handle the cord. First ask for mains power to be turned off, then unplug and examine for presence of water in the receptacle.
4. Do not operate the ECP if it has a damaged cord or plug or if it is malfunctioning or has been dropped or damaged in any manner.
5. Always unplug the ECP from an outlet when not in use or before cleaning or re-filling it with water.
6. Never pull the cord to pull out the power plug from the socket. Grasp the plug and pull to disconnect.
7. Do not use the ECP for other than intended use.
8. The ECP is for indoor use only. It is designed for use at temperatures from 5~40°C, 80% relative humidity at 31°C decreasing linearly to 50% at 40°C (without condensation)
9. Read and observe all important notices on the ECP.
10. If an extension cord is necessary, a cord with proper rating should be used. A cord rated less amperes or watts than the ECP rating may overheat. Care should be taken to arrange the cord so that it will not be tripped or pulled.
11. If for any reason the mains fuse needs to be replaced then it must be replaced by one of the same type and rating as shown in the equipment ratings.
12. Always consult your local safety regulations when using any electrical equipment.

EHEIM



For indoor use only.



All electrical equipment in the water must be disconnected from the mains during care and maintenance work. To protect against contact voltage being too high, the fixture must have a residual current device with a rated release fault current not exceeding 30 mA. Ask your electrician.



The connecting line of this device can not be replaced. In case of damage to the power cord, the device is to be scrapped. Never carry the pump by the cable; do not bend the cable.



This equipment can be used by children above the age of 8 or by persons with reduced physical, mental or sensory capacities or a lack of experience or knowledge, provided they are supervised or have received instruction in the safe use of the equipment and therefore understand the risks involved. Do not allow children to play with this equipment. Do not allow children to clean or conduct user maintenance without supervision.



20 cm Notice: These devices produce magnetic fields which might cause electronic and mechanical disturbances or damages. This also refers to pacemakers. Please consult the manuals of medical equipment for the required safety margins.



Attention: Maintenance work presents the risk of crushing the fingers due to high magnetic forces.



For your own safety, we recommend to form a drip loop with the connection cable to prevent any water running along the cable from intruding into the socket. When using a multiple socket or an external power supply unit, position them atop the filter's power connection.



Since a wide variety of varnishes and polishes are used when processing timber, the appliance feet can leave visible traces on furniture or parquet floors as a result of chemical reactions. Therefore the device should not be placed on unprotected wooden surfaces.



If an external mains cord or mains adapter is damaged, they must always be replaced. Contact your specialised dealer or your EHEIM Service Centre.



Burning danger! Be careful when touching the heating coil of devices with integrated heater.



Take the necessary precautions when handling components that can discharge static electricity.



Do not clean the unit – or parts of it – in the dishwasher. Not dishwasher resistant!



Do not dispose of this product as normal household waste. Take it to your local refuse collection side.

The product is qualified in accordance with the respective national regulations and guidelines and meets EC standards.



Introduction

Thank you for purchasing a Linkam system. Please take the time to read through all manuals, as it will help you to make the most out of the equipment.

The ECP is a water circulating pump used for cooling Linkam Hot stages. Depending on the country, the ECP is either shipped as a 240V or 110V with a funnel and an appropriate set of tubing to connect to the Linkam stage.

Note: for some countries, an ECP with a 220V / 60Hz rating will be shipped in place of the ECP 240V / 50Hz.

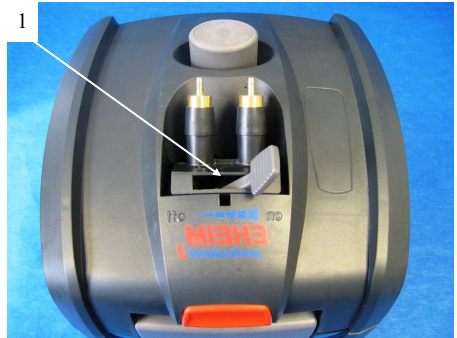


Capacity Volume:	7.4l
Delivery head:	1.8m Hmax
Power consumption:	16W
Dimensions:	398x238x244mm

Tubing: 3.0mm ID (inner diameter)
6.0mm OD (outer diameter)

Setting up the ECP

The ECP is shipped with the water connector nozzle (1) connected in place.



Filling the Water Reservoir

Make sure the lever is pushed all the way to the left to the 'On' position.



Unclip the four grey plastic catches from each side of the ECP. The catches are released by pulling the grey lever outward from the bottom.

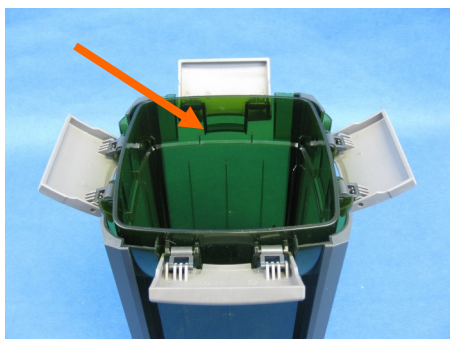


Lift the top off.



Fill the reservoir with water to the mark indicated by the arrow.

Replace the top and fasten the catches.



Move the lever all the way to the 'Off' position.



Push the red tab (1) all the way in to eject and remove the water nozzle (2).



Insert the funnel into the right-hand side fill hole (1).



Add water through the funnel to fill the reservoir with more water. Stop filling as soon as the water level can just be seen to cover the fill hole.



Reconnect the nozzle by pushing it down firmly. A 'click' is heard when the nozzle is securely locked into place.



Push the lever all the way to the 'On' position.

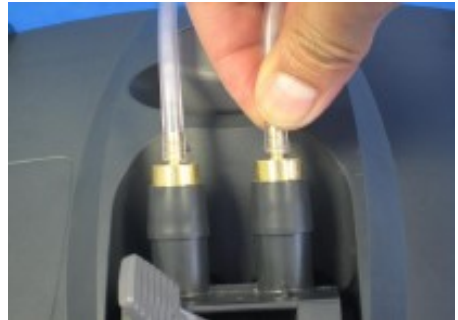


Connect Tubing

There two arrows showing the direction of the water flow, 'Inlet' and 'Outlet' to the ECP.

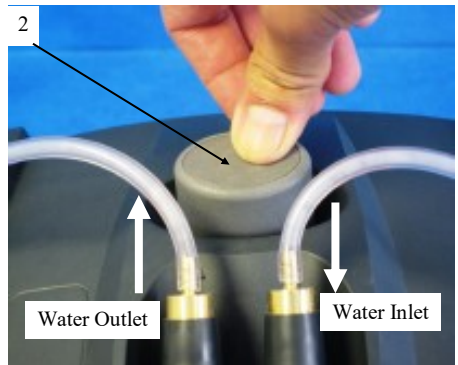


Push the tubing firmly to the inlet and outlet nozzles.



Priming the Water

On first use, firmly push down the Pump Primer (2) button a few times to remove air trapped inside the reservoir before switching on the ECP.



Topping Up the Reservoir

Remove the water nozzle as instructed (Page 7) and use the funnel to top up the ECP with more water when needed.

For water tube connection to your stage, please see your specific stage manual.

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