

HLP pumps



Operating instructions
and Spare parts lists

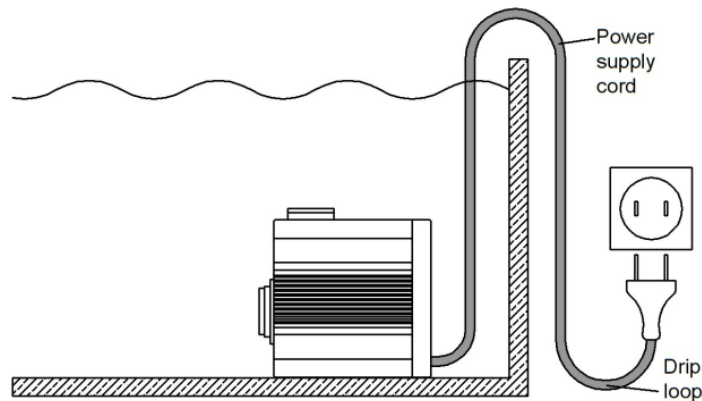
IMPORTANT SAFETY INSTRUCTIONS

WARNING To guard against injury, basic safety precautions should be observed, including the following.

- 1) READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
- 2) **DANGER** – To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt repairs by yourself; return the appliance to an authorized service facility for service or discard the appliance.
 - a) If the appliance falls into the water **DON'T** reach for it! First unplug it and then retrieve it. If electrical components of the appliance get wet, unplug the appliance immediately. (Non-immersible equipment only)
 - b) If the appliance shows any sign of abnormal water leakage, immediately unplug it from the power source. (Immersible equipment only)
 - c) Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.
 - d) Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or has been dropped or damaged in any manner.
 - e) To avoid the possibility of the appliance plug or receptacle getting wet, position aquarium stand and tank to one side of a wall-mounted receptacle to prevent water from dripping onto the receptacle or plug.

A "drip-loop", shown in the figure below, should be arranged by the user for each cord connecting an aquarium appliance to a receptacle. The "drip-loop" is that part of the cord below the level of the receptacle, or the connector if an extension cord is used, to prevent water travelling along the cord and coming in contact with the receptacle.

If the plug or socket does get wet, **DON'T** unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the appliance. Then unplug and examine for presence of water in the receptacle.



- 3) Close supervision is necessary when any appliance is used by or near children.
- 4) Always unplug an appliance from an outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank cord to pull plug from outlet. Grasp the plug and pull to disconnect.
- 5) Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.
- 6) Make sure an appliance mounted on a tank is securely installed before operating it.
- 7) Read and observe all the important notices on the appliance.
- 8) If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less amperes or watts than the appliance rating may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
- 9) This appliance has a polarized plug (one blade is wider than the other). As safety feature, this plug will fit in a polarized outlet only one way. If the plug does not fit, contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted. Do not attempt to defeat this safety feature.

Exception: This instruction may be omitted for an appliance that is not provided with a polarized attachment plug.

Removing of the plug invalidates the warranty!

SAVE THESE INSTRUCTIONS

Deltec HLP pumps 4040/ 4745/ 5250/ 8070/ 8070S

Installation and operating instructions

Deltec *HLP pumps* are known for their long lively, silent operation and are practically free of wear and tear. Please read and follow these instructions to ensure full performance and trouble free service.

Installation

The Deltec *HLP pump* should be installed indoors in a dry, well ventilated place.

The pressure side of the pump should point upward, to allow the initial air to escape from the pump housing. The pump must be placed below the water level to ensure that the housing is always filled with water, even when switched off.

The suction line should be as short as possible, the water must be able to flow freely towards the pump. Build up of air pockets should not be possible. If the installation requires long suction lines, choose the next bigger diameter piping.

Never use pipe diameters smaller than the fittings on the pump!

It is advisable to fit a shut-off-valve directly to the pump on both, the suction and pressure side, since this will facilitate servicing. A non-return-valve might be fitted to the pressure line. This will prevent draining of the aquaria water into a filter sump and will facilitate a restart of the pump.

Please note

The water flow of the pump is determined by the water head as well as the flow resistance in the piping system. Non-return valves, long pipes and a large number of elbows can reduce the water flow considerably.

Maintenance

The Deltec *HLP pumps* are basically maintenance free.

When used in marine aquaria a build-up of lime scale is possible. It is advisable to clean the pump from time to time (every 6 to 12 month) with a commercially available lime scale remover. Do not dismantle the pump for this purpose.

Plug the suction side of the pump and fill the housing with lime scale remover. Afterwards flush the pump with tap water.

Safety hints

- Never try to use the Deltec *HLP pump* submerged in water.
- Disconnect from mains when working on the pump, the pumps pipe work or the aquarium.
- Do not carry the pump on its lead.
- Install in such a way that accidental flooding is not possible.
- Operate the pump only with a ground fault circuit interrupter (<30mA).
- When installing the pump, please make sure that a possible malfunction or failure of the pump will not lead to loss of fish, coral or other subsequent loss. The installation should be planned in such a way that the proper functioning of the Aquarium does not depend entirely on one pump alone.

technical data	HLP 4040	HLP 4745	HLP 5250	HLP 8070	HLP 8070S
volume max.	4.200 litre./h	5.000 litre./h	6.000 litre./h	7,000 litre./h	8,300 litre./h
head max.	3,5 meters	4,3 meters	5,1 meters	6,4 meters	7,8 meters
power consumption	60 Watt	79 Watt	87 Watt	130 Watt	158 Watt
performance selection	electric, 3 stages	electric, 3 stages	electric, 3 stages	electric, 3 stages	electric, 3 stages
voltage	230/240 Volt	230/240 Volt	230/240 Volt	230/240 Volt	230/240 Volt
inlet	32 mm ø	32 mm ø	32 mm ø	40 mm ø	40 mm ø
outlet	25 mm ø	25 mm ø	32 mm ø	32 mm ø	32 mm ø
dimensions (l/w/h)	165x120x160mm	165x120x160mm	165x120x180mm	210x130x180mm	210x130x180mm

HLP-Pump Fault finding list

Important: Always disconnect the pump from mains, before attempting any repairs.
Repairs on electrical components only to be carried out by qualified personnel.

Symptom	Cause	Action
Pump does not start	No power	Check plug, lead, socket, fuse
	3 stage switch in neutral	Move switch to desired stage
	Capacitor faulty	Replace
	Lead, plug, fuse faulty	Replace
	Thermo switch in stator faulty	Replace
Pump impeller rotates but insufficient or no water flow	Pump installation faulty, non return valve faulty	Repair, replace
	Shut off valve in suction or pressure line closed or faulty	Open / check for correct function
	Foreign bodies in suction line or impeller	Clean
	Air pocket in suction line / pump housing	Bleed, by starting and stopping the pump several times. Increase water level in filter sump
	Suction line not sealed	Tighten all connections
Pump is noisy	Foreign bodies in pump housing, impeller	Clean
	Air bubbles in pumps water flow	Check suction line for leaks, check o-rings-shut off valve in suction line
After stopping pump does not restart	The air / water mix witch siphons back created air pockets in the pump housing or piping	Bleed, start and Stop the pump several time modify pipe system
Pump produces air bubbles	Suction line not properly sealed	Check suction line for leak, tighten all connections, replace O-rings
	Water level in filter sump not high enough	Increase water level
	O-ring old	Replace O-ring
Pump stator is heating up and Stops	Insufficient water in sump	Correct water level
	Air pockets in rotor housing. Causing friction in the ceramic bearing	Allow the pump to cold down for about 30 min. start the pump close the shut off valve in the pressure line, slacken the silver plug in face of the stator and allow the air to escape, frighten the plug open the shut off valve. If required repeat until all air is removing and pump runs normal
Pump operates with increased temperature	Lime scale deposits in rotor / pump housing	Remove Pump, close suction side opening, fill pump with lime scale remover. After the gas bubbles have stopped to appear at the pumps pressure side, drain the pump housing and clean with tap water. Please observe all required safety measures when using lime scale remover

Deltec HLP interval pumps

It is common knowledge that fishes and in particular most invertebrates benefit from strong, irregular water movement in a marine aquarium. *Deltec HLP interval pumps* are almost inaudible; they are free of wear parts and are efficient in operation.

Operating instructions

The *Deltec HLP pumps* come with a standard 3 stage selector switch. The interval control is connected to the pump through a control cable. A potentiometer with an on/off function will start/stop the interval mode and allows setting of the interval time span.

Standard pump operation

- Select required performance at the pump 3 stage selector.
- Switch off potentiometer at the interval control unit

Interval operation

First, the pump is set to the lowest power setting (level 1 or 2). Then the interval control is switched on by turning the regulator in a clockwise direction (yellow/green LED lights up). The interval time can be set to between 8 seconds and 20 minutes. If the green LED lights up, the level selected at the pump is active. If the yellow LED lights up, level 3 is active.

If you turn the regulator to "programme mode" (the blue LED lights up), 50 pre-programmed interval times of between 5 seconds and 15 minutes are called up. After these 50 cycles have been completed the process is repeated.

Deltec HLP interval pumps are available in 5 sizes, from 4500 litre/h to 9000 litre/h

Please note

The water flow of the pump is determined by the water head as well as the flow resistance in the piping system. Non-return valves, long pipes and a large number of elbows can reduce the water flow considerably.

Maintenance

The *Deltec HLP pumps* are basically maintenance free.

When used in marine aquaria a build-up of lime scale is possible. It is advisable to clean the pump from time to time (every 6 to 12 month) with a commercially available lime scale remover. Do not dismantle the pump for this purpose.

Plug the suction side of the pump and fill the housing with lime scale remover.

Afterwards flush the pump with tap water.

Safety hints

- Never try to use the *Deltec HLP pump* submerged in water.
- Disconnect from mains when working on the pump or the pumps pipe work.
- Do not carry the pump on its lead
- Install in such a way that accidental flooding is not possible.
- Operate the pump only with a ground fault circuit interrupter (<30mA).

Removing of the plug invalidates the warranty!

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