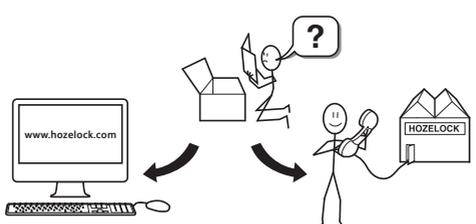


# BIOFORCE 3000/4500



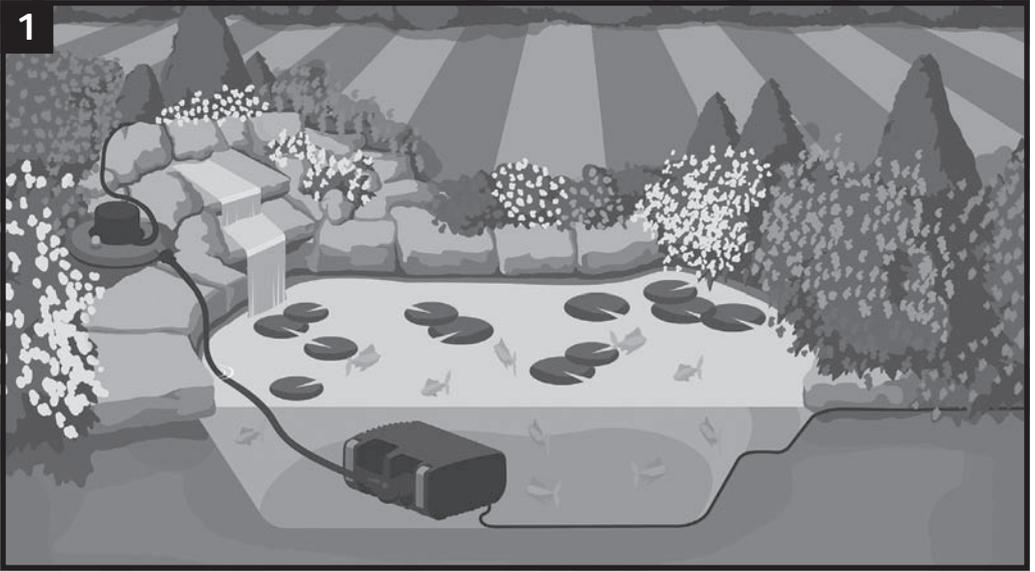
The diagram shows a customer service process: a person with a question (question mark) is shown next to an open box. An arrow points to a computer monitor displaying 'www.hozelock.com'. Another arrow points to a person holding a phone, with a 'HOZELOCK' logo on the phone. A third arrow points to a warehouse icon.



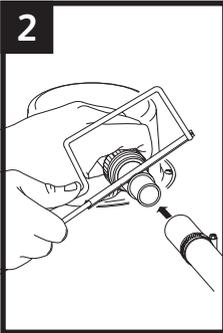
Hozelock Ltd.  
Midpoint Park, Birmingham,  
B76 1AB, England  
Tel: +44 (0) 121 313 1122  
**www.hozelock.com**  
33850-000

# Assembly

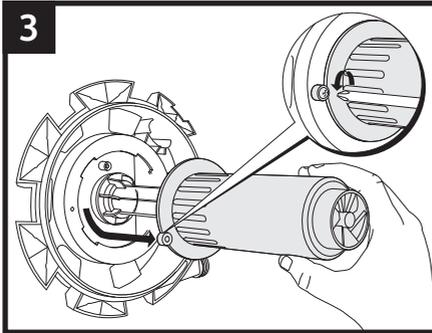
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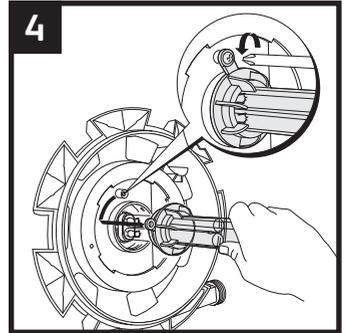
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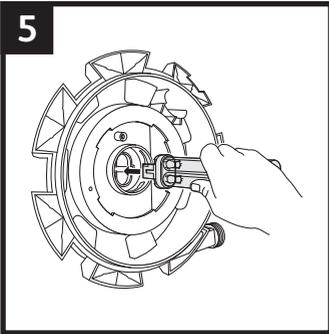
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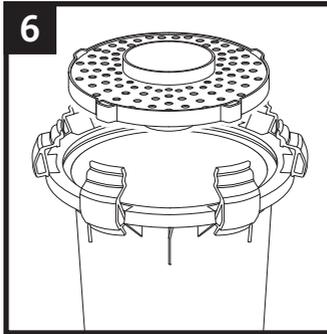
4



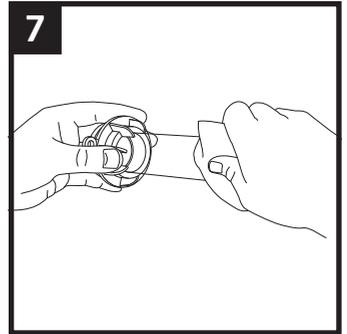
5



6



7



Thank you for choosing a Hozelock quality product, you can be assured of many years of reliable service from this product.

## Attention: UV Caution

Exposure to Ultra Violet (UV) radiation can be dangerous and cause damage to eyes and skin. Under no circumstances should any attempt be made to gain access to the lamp when the unit is switched on.

From 1st January 2005 installing this product in the garden is classed as 'notifiable' in the revised Building Regulations for England and Wales. The Regulations now require you to tell your local authority building control department that you intend to install this product before installation. Your local authority will let you know how you can get your installation approved.

## Safety Information

The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

### (Australia & NZ only)

This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely.

Young children should be supervised to ensure that they do not play with the appliance.



### PLEASE READ CAREFULLY AND KEEP THESE INSTRUCTIONS

Hozelock Cyprio Bioforce filters are a new concept in fish life-support systems for garden ponds. They are:

- **SMALL yet EFFICIENT**
- **EASY to CONCEAL**
- **TROUBLE-FREE to MAINTAIN**

And they can be sited almost anywhere (See Fig 1).

When used with the appropriate pond pump, the Bioforce will remove unwanted solids from the water and convert dissolved organic and chemical fish waste into harmless compounds. In addition, the combined filter/UVC units will give Guaranteed Clear Water if the advice given in the Filter Equipment Selection Chart and in these instructions is adhered to.

## Safety and Electrical Connections

- ⚠ **WARNING:** Always unplug or disconnect all appliances in the pond from the electricity supply before putting your hands in the water whilst equipment is being installed, repaired, maintained or handled.
- ⚠ This product is **NOT SUBMERSIBLE**, and should be sited where it cannot fall into the water or become waterlogged. However, the design is weatherproof, and Bioforce filters can safely be installed outdoors.
- ⚠ Direct exposure to ultra-violet light can damage eyes and skin. **DO NOT** attempt to view the lamp when lit, except briefly through the viewing lens.

- ⚠ This product is supplied complete with 5m of 3 core electric cable. For connection to the mains supply, use only three-core cable Ref: H05 RN-F. This has a minimum copper cross-section of 0.75mm<sup>2</sup> with Polychloroprene Rubber Insulation. The termination to the mains supply should be permanent, inside a dry weatherproof enclosure, through a double pole switched fused spur with a minimum contact gap of 3mm - (disconnecter) to BS 3676 - and fitted with a 3 or 5 amp fuse.
- ⚠ Exposed cable runs should be sensibly positioned, and protected if necessary by armoured conduit, especially if contact is likely with gardening equipment such as forks and lawnmowers, or children or domestic animals.
- ⚠ A 10mA or 30mA Residual Current Circuit Breaker (RCD) **MUST** be fitted to the mains supply.
- ⚠ The supply cable cannot be replaced. If the cable is damaged, the unit should be discarded.
- ⚠ The installation must conform to the national and local wiring regulations which could include the use of plastic or metal conduit to protect the cable.
- ⚠ If in any doubt about wiring to the mains supply, consult a qualified electrician or your local electricity authority.
- ⚠ Protect from frost if the unit is not to run year-round. In cold winter weather (when fish are not active and algal growth ceases), the unit may be switched off. It should then be drained of water, removed (if possible) from its installation and stored in a dry, frost-protected area.

## Choosing the right size

The Technical information section gives general guidelines on the specifications of pump, filter and flexible hose diameter for garden ponds up to 4500 ltrs (990 gallons). For best results, the following condition factors must also be taken into account.

### Depth

Hozelock Cyprio recommend a minimum depth of 1.2m (4') for Koi ponds.

For a pond with an average depth of less than 0.75m (2' 6") the Condition Factor is + 25%. Shallow ponds are subject to full penetration of sunlight, and warm up quickly. This encourages algae growth.

### Location

Pond location determines the daily amount of sunlight or shade a pond receives. Ponds exposed to full sunshine throughout the day have a Condition Factor of +25%.

### Climate

Climate affects water temperatures and fish activity rate/feeding requirements. The more active the fish, the greater the demands on the filtration system.

In hot climates (eg South Africa), the Condition Factor is +35%

In temperate climates (eg Southern Europe), the Condition Factor is +15%

In a Northern European climate (eg most areas of Great Britain), the Condition Factor is +0%.

## Example

You have a 2300 ltr (500 gallon) goldfish pond 60cms (2') deep (Condition Factor +25%). You live in London - a Northern European climate (Condition Factor +0%). The pond is exposed to full sunlight (+25%). The effective volume of your pond is therefore increased by 50% (25% + 25%), and you would need to size your equipment as though your pond held 3400 ltrs (750 gallons).

## Installation

- 1.1 Important:** The pump supplying this unit must not have a maximum head exceeding 6m (8.5 PSI, 0.6 Bar)
- 1.2** Bioforce is a pump-fed, pressurised external filter with integral UVC, ideally suited to in-ground installation adjacent to your pond or concealed at the top of a waterfall. They may also be positioned above ground if desired.  
  
If you choose to part-bury your Bioforce UVC filter, the excavation should be firmly back-filled with compacted sand to support the unit.
- 1.3** Bioforce filters incorporate inlet and outlet hoses to fit 20/25mm (3/4" - 1") Cypriflex hose (refer to Equipment Selection Chart overleaf). The pump and filter outlet pipe should be as far apart as possible for optimal water circulation, so bear this in mind when purchasing, measuring and cutting the Cypriflex hose.
- 1.4** Cut the hoses on your Bioforce to suit the diameter of the hose used (see Fig 2). Connect the hose from your pump to the inlet hoesetail and secure with Hozelock Cyprio hoseclips, available separately. Do not overtighten.

The outlet hose is secured in the same way. Avoid kinks and bends, and keep this hose run as short as possible in order to minimise flow restrictions.

## Lamp Installation and Replacement

- 2.1 Lid removal**  
Undo the seven securing clips and gently remove the lid (If there is any difficulty, insert a coin into the slot provided and turn gently).
- 2.2** Remove the screw securing the central tube to the lid and rotate the tube anti-clockwise and pull to release (See Fig 3).
- 2.3** Remove the quartz glass tube in a similar way (See Fig 4).
- 2.4** With the lamp holder now accessible, push the lamp into position (See Fig 5).
- 2.5** Re-assemble the quartz tube into position, ensuring the screw boss is re-aligned and screw re-fitted. Re-assemble the central tube to the lid, twisting into position, and refit the securing screw.
- 2.6 Lid fitting**  
Refit the lid, making sure the seal is in position and free of dirt and debris. Add a light coating of silicone grease to the seal if required to aid assembly. Re-engage the seven securing clips, ensuring all are firmly in place, and retighten the viewing lens.

## Wiring

- 3.1 IMPORTANT:** This product is designed to be connected to a mains supply housed in a dry, weatherproof enclosure.
- 3.2 WARNING:** This appliance **MUST** be earthed, and it is essential that the connections are made using the following code:



## Flow Rate

- 4.1** The entire pond volume should pass through the Bioforce every 1½ - 3 hours, the fastest flow rate being recommended for Koi ponds. Do not exceed the maximum flow rate, as stated in the Technical Information section overleaf. The correct flow rate is essential if you are to obtain clear water. If the flow is excessive for your installation it may be necessary to adjust the flow to achieve the 1½ - 3 hour turnover rate using a Hozelock Cyprio Flow Control Hose Tap.
- 4.2** Small-diameter hose, unnecessarily long hose runs and a high pumping lift ('head') can all considerably reduce a pump's output. We recommend choosing a pump that will deliver the required flow against full static lift (= vertical distance between pond surface and filter inlet), plus 0.6m (2ft) to allow for friction losses in hoses.
- 4.3** The objective of filtration is to transfer waste material from the pond into the filter, and so any pump used as part of the package should be capable of handling solids. We recommend the Hozelock Cyprio Aquaforce filter pump, specifically designed for ponds in the size range covered by Bioforce. The pump should be positioned on the bottom in the deepest part of the pond, as this is where solids accumulate.
- 4.4** How to check your flow rate: Take a container of a known volume and time how long it takes to fill (in seconds). Then divide 3600 by the number of seconds it takes to fill the container, and multiply by the volume (litres or gallons) of the container. The result will be the flow rate in gallons or litres per hour

## Periods of Operation

- 5.1** Maintain filtration 24 hours a day throughout the fish feeding season (until water temperature falls below 10°C), but preferably all year round. In the winter, operating the pump and filter will maintain a background level of friendly bacteria in the Bioforce, and will help prevent the pond icing over in all but the severest weather conditions. If the pump is switched off for winter, the filter media (foam and/or Kaldnes™ biomedia) must be thoroughly washed before resuming filtration in the spring, and your Bioforce will need to be re-matured from scratch (see 'Maturation', 7.1). Never feed your fish when the filter is not in use.

## Fish Stocking Density

- 6.1 Under normal conditions and feeding regime, the Bioforce range will support up to 50cm per 1000 litres (10" of fish per 100 gallons) of pond capacity. Introduce fish slowly over the first few weeks, up to 20% of maximum recommended level, increasing this if you wish to 50% after six months. The balance will allow for fish growth.

## Maturation

- 7.1 Biological maturation means that the filter has built up sufficient nitrifying bacteria to convert harmful fish and other organic waste (ie Ammonia, Nitrite) into harmless Nitrate. The process normally takes 6-8 weeks, but is dependent upon many factors such as water temperature, feeding rate and stocking density. (It is recommended that you do not switch your UVC on during this period).

## Cleaning your Bioforce

- 8.1 Bioforce filters deliver maximum performance with minimum maintenance. If the pond is very dirty, the filter may need cleaning every few days at first, as it takes up waste matter very quickly. Once the pond becomes clearer, there will become less waste to remove, so the filter will need cleaning less often. Pressurised filters are at their most efficient when the foam becomes partly blocked. However, as blockage increases, less water can flow through the foam and cleaning becomes necessary.

**Note:** Prolonged use of the filter under 'full' conditions will result in difficulty in cleaning and may reduce the life of the foam discs.

- 8.2 **IMPORTANT:** The possibility of dirty water being back siphoned through the filter and into the pond can be overcome by lifting the submerged outlet pipe from the water and above the height of the filter lid before switching off the pump. This will break any potential siphon. In conjunction with this, before any attempt is made to remove the lid, the viewing lens needs to be slightly unscrewed to relieve any additional potential siphon lock in the system.
- 8.3 **Thorough cleaning**  
Undo the seven securing clips and gently remove the lid (If there is any difficulty, insert a coin into the slot provided and turn gently). Gently remove the foam from the filter vessel and squeeze out the dirt. Using the water in the filter, rinse out each foam in turn using a sponge action and squeeze the dirty water outside the filter vessel. Reposition the clean foam(s) - ensuring they lie flat. It may help to remove some of the water from the vessel.  
Refit the lid, making sure the seal is in position and free of dirt and debris. Add a light coating of silicone grease to the seal if required to aid assembly. Re-engage the seven securing clips, ensuring all are firmly in place, and retighten the viewing lens.
- 8.4 **Back-Flush cleaning**  
It is possible to increase the interval between thorough cleans by back flushing the Bioforce filter. This is simply achieved by swapping over the inlet and outlet pipes or connecting a separate waste pipe to the Bioforce inlet and switching the pump back on.

**Note:** Ensure that the return pipe is not left in the pond but is allowed to go to waste. Swap the pipes back over once water from the filter runs clear (about 30 seconds).

- 8.5 Normally, there is no need to remove the foam support plate. However, if you need to access the biomedica, remove the support plate by lifting it clear of the vessel (See fig.6). Make sure you refit the support plate correctly, so that the bio media is not released.

## Care of the UV Quartz Tube

- 9.1 Especially in hard water areas the quartz sleeve sheathing the UVC lamp may become covered in lime scale. This will reduce the efficiency of the unit if it is allowed to build up. To clean, switch off the pump and the power supply to the UV, remove the lid and central tube, as described in note 2.1, and wipe the quartz tube with a soft cloth moistened with a gentle cleaning agent such as vinegar (See fig 7). The maximum life of a lamp is 12 months continuous use. Replace the lamp after this time, even though it may still glow.

## Winter Storage

- 10.1 **IMPORTANT:** When not in use, the unit should be removed, thoroughly washed and cleaned, dried and stored in a dry frost protected area. Always store the unit with the lid off to ensure adequate ventilation and drying.

## Clearwater Guarantee

WE GUARANTEE YOU CLEARWATER OR YOUR MONEY BACK. This guarantee runs for 12 months after purchase, provided that:

- You have followed the installation and operating instructions;
- You are using equipment of the correct size, according to the pond sizing chart
- You consult our help line (0121 313 1122) early enough for any problems to be put right
- The product has been returned undamaged

A refund can only be authorized by Hazelock Cyprio and is made at the place of purchase.

Please note that the Clearwater Guarantee does not cover loss of water clarity when blanketweed, as opposed to greenwater algae, is the cause.

## Hazelock Cyprio 2 Year Guarantee

If this filter, excluding the UV lamp and foams, becomes unserviceable within 2 years of the date of purchase it will be repaired or replaced at our option free of charge, unless in our opinion it has been damaged or misused.

Liability is not accepted for damage due to accident, improper installation or use. Liability is limited to replacement of a faulty filter. This guarantee is not transferable. It does not affect your statutory rights.

To obtain the benefits of the guarantee, firstly contact Hazelock Cyprio Consumer Services who may request that the filter is sent along with proof of purchase directly to the address below.

## Contact/Spare Parts

For product advice and spares please contact  
Hozelock Cyprio Consumer Services on 0121 313 1122 or visit  
[www.hozelock.com](http://www.hozelock.com)

## Technical Information

Part Number	1350	1351
Range	Bioforce	
Volts (V)	230V 50Hz	
UVC Power (W)	9	11
Maximum Pond size with Fish	3000 ltr (660 gal)	4500 ltr (990 gal)
Maximum Pond size without Fish	6000 ltr (1320 gal)	9000 ltr (1980 gal)
Hozelock Cyprio Aquaforce Pump Maximum Flow (LPH)	2500	4000
Hozelock Cyprio Aquaforce Pump Maximum Flow (GPH)	550	880
IP Rating	IPX4	IPX4
Max Water Temperature T <sub>MAX</sub> ,, (°C)	35°C	35°C

\* Measured under controlled conditions



Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being. In the EU, when replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal at least free of charge.



# **HOZELOCK**

Hozelock Ltd.  
Midpoint Park, Birmingham,  
B76 1AB. England  
Tel: +44 (0) 121 313 1122

**[www.hozelock.com](http://www.hozelock.com)**

33850-000