

# Bioforce 12000UVC

## AND OPERATING INSTRUCTIONS.

### READ INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING INSTALLATION.

#### 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.

The Bioforce 12000 is a new concept in water filtration for garden ponds.

It is :

- Small yet Efficient
- Easy to Install
- Trouble Free to Maintain
- Can be sited almost anywhere. (see fig 1).

Used with the appropriate pond pump, they will improve water clarity, remove unwanted solid matter from the pond and convert dissolved organic and chemical fish waste into harmless compounds.

#### Pond size

The Bioforce 12000 can deal with ponds of up to 12000 litres (2600 gallons) with fish, using a pump that providing a flow of 6000 litres (1320 gallons) an hour. However, for best results, certain conditions may need to be taken into account.

Ponds that are heavily stocked with fish, less than 1.2 metres (4 feet) deep, are situated in warm climates or overexposed to direct sunlight will lead to excessive algae growth and fish activity. This results in greater demands on the filtration system.

The pond sizing chart at the end of these instructions give guidelines on recommended pond sizes, relating to these conditions.

#### 1. WARNING!

- 1.1 Safety and electrical connections  
Your Bioforce 12000 is weather proof but not submersible. Position the unit conveniently near the pond, but not where it can fall into the water or become waterlogged.
- 1.2 Caution -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 window.
- 1.3 Important: This product is designed to be permanently wired to the mains supply.

**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.**

For connection to the mains supply, use only 3-core cable (ref: HOS 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- (disconnector) to BS 3676.
  - Fitted with a 3 or 5 amp fuse.
- 1.4 Exposed cable runs should be sensibly positioned, and protected if necessary by armoured conduit, especially if they may come into contact with gardening equipment such as forks and lawnmowers or children or domestic animals.
  - 1.5 A 10mA or 30mA Residual Current Device (RCD) MUST be fitted to the mains supply.
  - 1.6 The supply cable cannot be replaced. If the cable is damaged, the unit should be discarded.
  - 1.7 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.
  - 1.8 If in any doubt about wiring to the mains supply, consult a qualified electrician or local electricity authority.
  - 1.9 Protect from frost if the unit is not to run year-round. In cold winter weather

(when fish are not active and algae growth ceases), the unit may be switched off. It should then be drained of water, removed from its installation and stored in a dry, frost-protected area ( see Winter Storage 11.0).

2. **WARNING:** This appliance MUST be earthed and it is essential that the connections are made using the following code:



3. **INSTALLATION**  
Installing and operating your Bioforce 12000 Filter

- 3.1 Important! The pump supplying this filter should have a minimum head of 3m (10 ft; 4 psi; 0.3 bar) and a maximum head not exceeding 6m (20 ft; 8 psi; 0.6 bar)
  - 3.2 Protect from frost. In cold weather, when fish and algae growth are inactive, the unit may be switched off (see 'Winter Storage' section 10.0).
  - 3.3 The Bioforce 12000 can be installed next to your pond or concealed at the top of a waterfall. When positioned in the ground, the lid band clamp should show 25mm ( 1" ) above ground level. Pack the hole firmly to support the unit.
  - 3.4 Only use 40mm hose for the filtration system. Cut 2 of the universal hose tails (supplied) to suit 40mm Cypriflex hose. Fit the hoses to the inlet and outlet connections using the 'O' seals and threaded nuts supplied (see fig 2).
  - 3.5 Push the hose from the pump onto the inlet and secure with a hoseclip. Connect the outlet hose in the same way. Avoid kinks and sharp bends. Keep hose lengths as short as possible to minimise restriction of flow.
4. **LAMP INSTALLATION AND REPLACEMENT**
  - 4.1 Unlatch the lid clamp. Gently release and remove the lid by using the 2 levers in opposite slots (see fig 4).
  - 4.2 Remove the screw securing the central tube to the lid and rotate the tube anti-clockwise and pull to release (See fig 8).

- 4.3 Remove the quartz glass tube in a similar way remembering to remove the screw first (see fig 9).
- 4.4 With the lamp holder now accessible, push the lamp into position (see fig 10).
- 4.5 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.

## 5. FLOW RATE

- 5.1 To ensure clear water, the whole volume of the pond should pass through the Bioforce every 1 1/2 - 3 hours, the faster flow rate being recommended for Koi ponds. Do not exceed the maximum flow rate of 6000 litres (1300 gallons) an hour. To decrease the flow, use a Hozelock Cyprio flow control tap.
- 5.2 For the best flow and pump performance use 40mm diameter hose. Keep the hose short and pumping height to a minimum.
- 5.3 The object of filtration is to transfer waste material from the pond into the filter. Choose a pump that can cope with solids. We recommend the Hozelock Cyprio Titan 8000 Filter pump, which is specifically designed for pond filtration systems. For the best circulation of water, this should be at the opposite end of the pond to the return hose from the filter (see fig 1).
- 5.4 How to check your flow rate;
- a) Take a container of known volume (litres or gallons). Time in seconds how long it takes to fill from the Bioforce outlet.
- b) Divide 3600 by the number of seconds to fill the container and multiply by the container volume. The result will be the flow rate in litres or gallons per hour.
- $$\frac{3600}{\text{Time}} \times \text{Container Volume} = \text{Flow rate per hour}$$

## 6. PERIODS OF OPERATION

- 6.1 Keep the filter working 24 hours a day. Ideally it should run all year round, but at least throughout the feeding season, (ie until water temperature falls below 10°C). In winter, operating the pump and filter will maintain a basic level of useful bacteria in the Bioforce and will help prevent the pond icing over. If you switch off the pump for winter, wash the filter thoroughly before resuming filtration in the spring (see 'Winter Storage', 11.0). Never feed your fish when the filter is not in use.

## 7. FISH STOCKING RATE AND DENSITY

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

## 8. MATURATION

- 8.1 Biological maturation means that the filter has built up enough nitrifying bacteria to convert harmful fish and other organic waste (ie ammonia, Nitrite) into relatively harmless nitrate. The process normally takes 6-8 weeks but depends on many factors such as

water temperature, feeding rate and stocking density.

## 9. WHEN TO CLEAN YOUR BIOFORCE

- 9.1 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 be less waste to remove, so the filter will need cleaning less often.
- 9.2 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.

## 10. CLEANING

**WARNING:** do not attempt to remove the lid or pressure release valve when the pump and filter are in use. A slot for a padlock is provided to prevent accidental opening and we recommend this is used where children are likely to be present.

### Thorough Cleaning

- 10.1 To prevent dirty water being back-siphoned through the filter and into the pond, lift the outlet pipe above the height of the filter lid before switching off the pump.
- 10.2 Switch off the power to the pump and Bioforce 12000.
- 10.3 To remove the clear viewing window turn anti-clockwise, lift up, then turn it clockwise (see fig 3).  
Clean the viewing window and seating area in the lid.
- 10.4 Unlatch the lid clamp. Gently release and remove the lid by using the 2 levers in opposite slots (see fig 4).
- 10.5 Gently remove the foam discs from the filter vessel and clean thoroughly.
- 10.6 Re-fit the foams ensuring they lie flat.
- 10.7 Re-fit 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 help assembly.
- 10.8 Re-fit the lid clamp.
- 10.9 Clean and re-fit the viewing window ensuring it 'clicks' into the correct position. The handle should be in line with one of the marks on the lid (see fig 5).  
Add a light coating of silicone grease to the seals if required to help assembly.
- 10.10 Re-start the pump first checking for leaks, then switch on the UV lamp.
- 10.11 Normally, there is no need to remove the foam support plate. However, if you need access to the bio-media under the plate, firstly clean the foams and empty the filter as described. Then remove the foam support plate by lifting it clear of the vessel with the finger holes (fig 6). To re-fit the support plate, the water should be at the level shown in figure 10 with the bio-media floating in the vessel. Make sure you re-fit the support plate correctly, so that pond water cannot bypass the filter.

### 10.12 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).

### 10.13 Care of the uv quartz tube

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 4.0 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.

## 11. WINTER STORAGE

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

## 12. 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 (0870 8501959) early enough for any problems to be put right
- The product has been returned undamaged

A refund can only be authorized by Hozelock 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.

## 13. HOZELOCK CYPRIO 2 YEAR PRODUCT 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 Hozelock Cyprio Consumer Services who may request that the filter is sent along with proof of purchase directly to the address below.

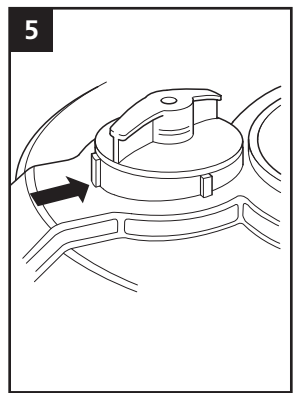
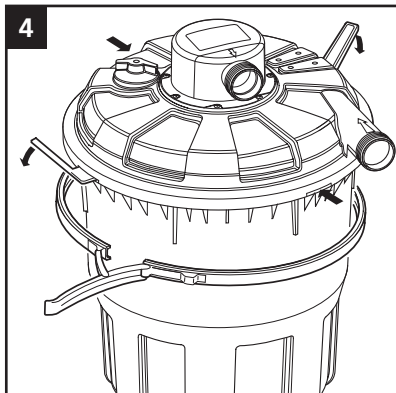
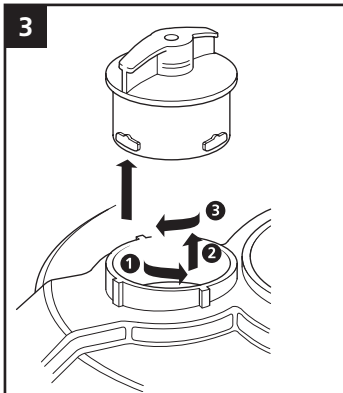
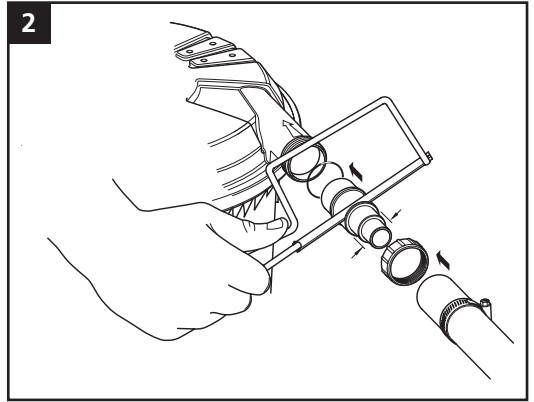
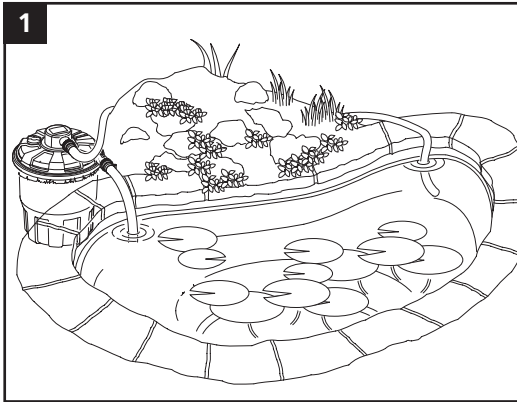
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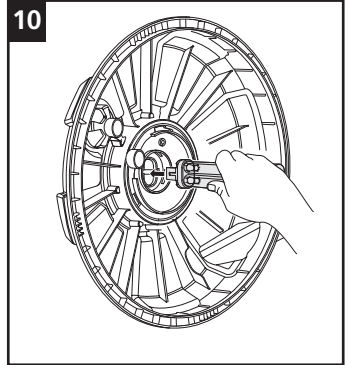
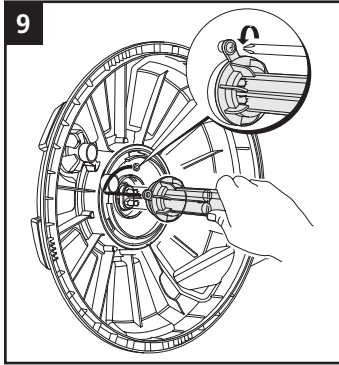
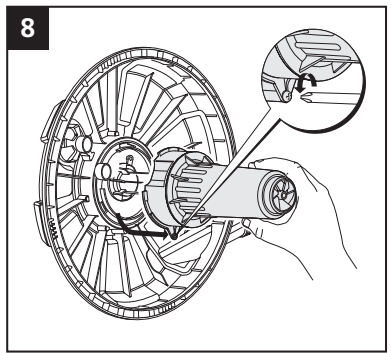
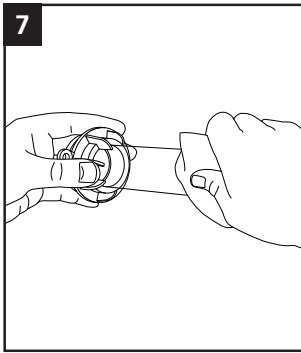
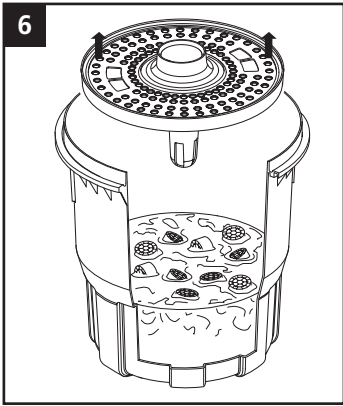
### Pond sizing chart

Location and Depth	Fish type	Litres ( Gallons) with fish*	Litres ( Gallons) without fish
Shade More than 0.75m deep	Goldfish	12000 (2640)	24000 (5280)
	Koi	8000 (1760)	16000 (3520)
Shade Less than 0.75m deep	Goldfish	10800 (2380)	21600 (4760)
	Koi	7200 (1590)	14400 (3180)
Sunlight More than 0.75m deep	Goldfish	10800 (2380)	21600 (4760)
	Koi	7200 (1590)	14400 (3180)
Sunlight Less than 0.75m deep	Goldfish	9720 (2140)	19440 (4280)
	Koi	6480 (1430)	12960 (2860)

\* Assumes maximum stock levels of fish as described in section 7.  
6000 Ltr/Hr (1600 Gallons/Hr) Flow Rate from pump.

Description	Part No
Bioforce 12000 Foam	1398
Annual Service Kit	1399
13w UV lamp	1525
Bioforce 12000 Quartz	1524





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The Aquatics Division of Hozelock Group

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