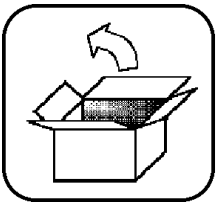
Delivery Scope

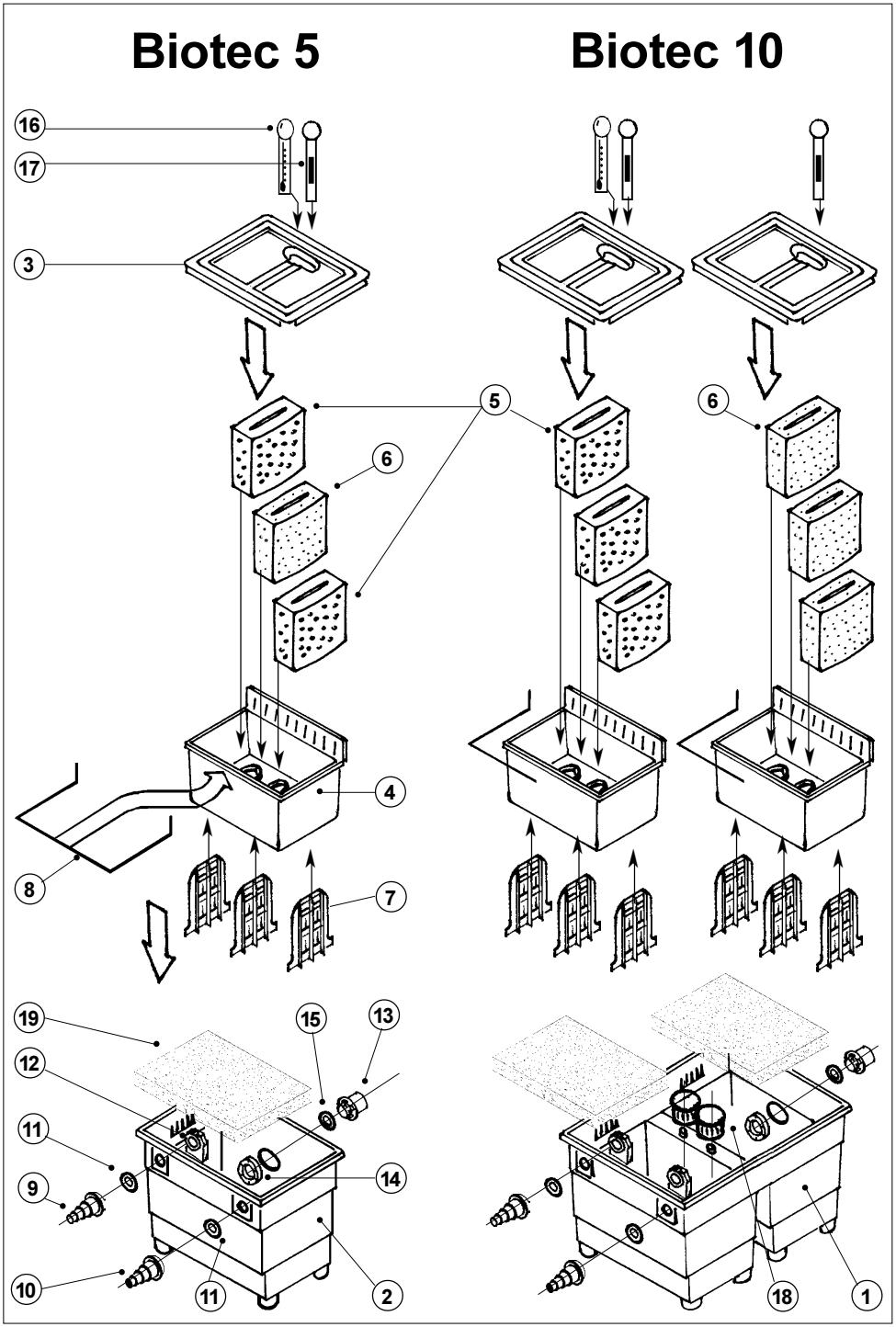


Unpacking

Immediately inform the deliverer of any external damage in writing. Contact your delivery company/forwarding agent.

Delivery Scope

		ID No.
(1)	Main Body Twin Chamber	**19229**
(2)	Main Body Single Chamber	**19221**
(3)	Cover	**19223**
(4)	Inner Body	**19222**
(5)	Coarse filter foam	**19259**
(6)	Fine filter foam	**19260**
(7)	Foam holder	**19224**
(8)	Inner Body Lip Seal	**11613**
(9)	Stepped Hose Tail (Open)	**19370**
(10)	Stepped Hose Tail (Closed)	**19512**
(11)	Flat Gasket for Inlet Nozzle	**19506**
(12)	Inlet Nozzle	**19228**
(13)	Water Outlet 70 mm	**19225**
(14)	Back Nut for Water Outlet	**19226**
(15)	Flat Gasket for Outlet	**19261**
(16)	Thermometer*	**19507**
(17)	Water level indicator*	**19505**
(18)	Bio Baskets for Additives	**03081**
(19)	Filter mats	**23420**



Nutrient Decomposition

Fish excreta, food remains, insects, plant detritus, dust

↓ by bacteria and fungae

Ammonia NH_3 and NH_4^+

↓ by Nitrosomonas bacteria (NSB, see 2)

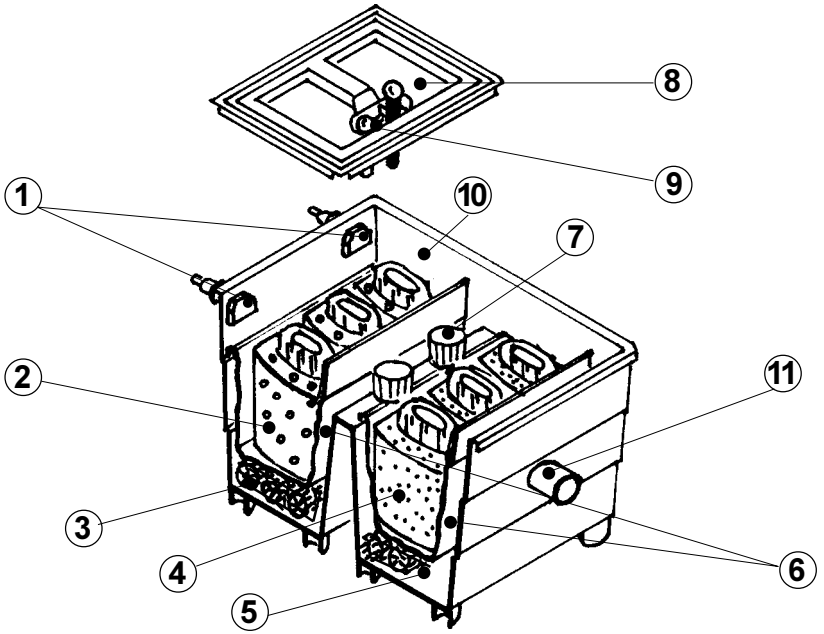
Nitrite NO_2

↓ by Nitrobacter bacteria (see 4)

Nitrate NO_3

↓ by anaerobic denitrifying (nitrate decomposing) bacteria (see 5)

Nitrogen N_2 (as gas)



Product Description

Biotec 5 and Biotec 10 represent a new type of Garden Pond Filter with its multizone action.This ensures that not only are nutrients decomposed, but substances that cloud the water are filtered out. The complete system with the UVC also offers the most effective method of combating Algae and Germs.

1. **Spray Aeration:**
   The turbulence caused in the inlet nozzle ensures the pond water entering the filter is rich in oxygen. Important for the Biological Effectiveness.

2. **Blue zone:**
   Coarse Particles are retained in the voluminous Blue Bio-elements. The addition of oxygen leads to the growth of Nitrosomonas bacteria converting the ammonia which is particularly harmful for fish into nitrite.

3. **Bio Filter mats:**
   Interconnected structural elements with a very large surface area, excellently suited to encourage the decomposition of contaminants both aerobically (with oxygen) and anaerobically (without oxygen). Harmful nitrite is decomposed.

4. **Red zone:**
   Fine mechanical filtering and biological filtering under aerobic conditions allow Nitrobacter bacteria in the red zone to break down or oxidate the nitrite to nitrate. Nitrate can be absorbed and broken down naturally by plants.

5. **Denitrification zone:**
   The water low in oxygen causes micro-organisms to convert surplus nitrate into free and harmless nitrogen.

6. **Inner Body:**
   Made of environmentally sound polyethylene which can be completely and easily removed for cleaning purposes. Allowing fast and simple removal of the retained Biomass from the Pond Filter.

7. **Biotec Plus zone:**
   Slip-on baskets for holding various materials for increasing and assisting the filter properties such as elimination of phosphates, filter starter or other biologically acting supplements.

Product Description

8 Water Level Indicator*:
After long operating periods, you may experience a build up in the amount of filtered out Biomass. The height of the float on the Water Level Indicator shows you when the filter needs to be cleaned to guarantee optimum performance.

9 Temperature display*:
Microorganisms such as Nitrosomonas and Nitrobacter bacteria multiply from a temperature of +10° C. Excessively warm water leads to increased algal growth, reducing the oxygen level of the pondwater. The correct temperature for the pond water and that required by the bacteria is displayed here for checking and as a reference value.

10 Twin Chamber Body:
Made of environmentally sound and very dimensionally stable polyethylene and can either be sunk into the ground or installed free standing without support.

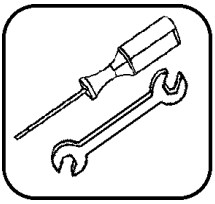
11 Filter outlet:
70 mm Standard Outlet.

Areas of Application

Filters from the Biotec series are suitable for filtering the water in garden ponds with or without fish.

Recommended pump	Filter type			
	BIOTEC 5		BIOTEC 10	
	Fish Stocking Levels			
	Normal	High	Normal	High
Aquamax 5.500	9 m³	4,5 m³	18 m³	9 m³
Aquamax 8.000	x	x	26 m³	13 m³
Aquamax 10.000	x	x	29 m³	14 m³
Aquarius 1.200	2 m³	1 m³	4 m³	2 m³
Aquarius 1.800	3 m³	1,5 m³	6 m³	3 m³
Nautilus 3.000	4,5 m³	2,5 m³	9 m³	5 m³
Nautilus 4.000	6 m³	3 m³	12 m³	6 m³
Nautilus 6.000	x	x	19 m³	10 m³
Nautilus 8.000	x	x	25 m³	13 m³

A loss of 20% of the pump capacity due to the geodetic pump head and frictional losses in the pipes has been taken into consideration. A garden pond with **normal** stocking levels should be circulated at least 6 times in 24 Hours. Normal stocking levels being the total length of all fish together, not exceeding 80 cm per m^3 of pond Water. Note: 1 x m^3 = 1000 Litres (220 Gallons) However, a garden pond containing Koi carp should be circulated every 2 hours.

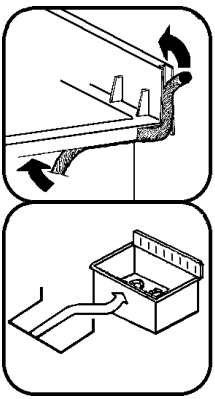


Assembly, Installation

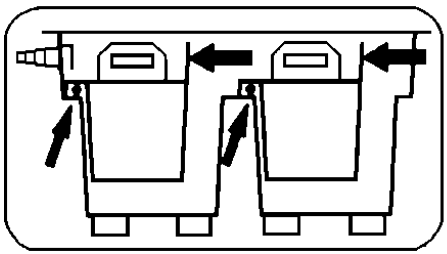
The following instructions tell you how to assemble the various parts. Refer to the drawing (see contents) for the arrangement of the parts.

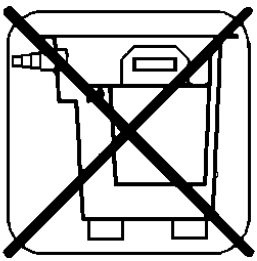
Assembly procedure:

1. Take the stepped hose tail and the appropriate flat gasket and screw to the inlet nozzle which goes on the inside of the filter. **ATTENTION: Ensure the slit opening of the nozzle always points downwards.**
2. Fit the outlet 70 mm complete with the appropriate gasket by inserting it from the outside. Then the backnut can be fitted and only needs to be hand tight.
3. Insert 3 'Foam Holders' into the inner body from below until they firmly lock into place. Ensuring inner body is placed on a flat surface, the foams can be pushed onto the foam holders. Make sure the foams completely cover the holders and fit tight against the bottom of the inner body. (NOTE: It is also possible to use only red foams on the Biotec 5)

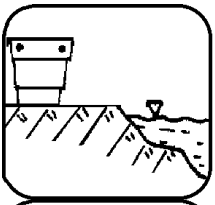


4. Insert the inner body lip seal into the recess around the three lowest sides, starting at the top of the barrier wall.
   ATTENTION: Do not stretch the seal or cut off any excess.
5. Put inner body into position inside the chamber and always tight up against the inlet side of the filter. The barrier wall should always point towards the outlet side. This completed, lock into place.
6. Fit Biobaskets in the centre ridge (only Biotec 10).
7. Put on cover(s), ensuring that the inspection window always points towards the filter outlet.
8. Insert thermometer and water level indicator into the inspection window(s) (see drawing)





Installation/Putting into Operation

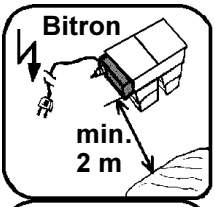


Installation

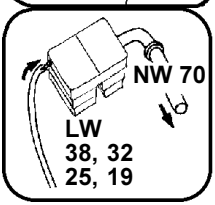
The filter should be installed near to the pond and can easily be concealed behind bush's. It can also be embedded in the ground if required (this method also gives added support to the filter).

Please observe the following:

— Install on firm, level ground
- (↑ Filter Unit should not be tilted)
- (↑ Ensure filter cannot be damaged by stones, rocks etc.)

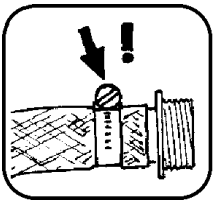


When using a UVC the filter should be installed at least 2 M's from the pond. Also take this into consideration if not fitting a U.V.C. as you may wish to fit one in the future.



You require in addition:

1. Hose $^{3}/_{4}$", 1", 1 1/4", 1 1/2" for connecting pump filter.
2. Hose Clips
3. Hose Tail to fit hose to pump (supplied with Aquamax pumps)
4. Return flow pipework to connect to the outlet DN 70.



Putting into Operation

1. To connect the pump in the pond to the inlet of the filter:
   - Cut off the smaller hose connections as necessary.
   - If required, dip hose in boiling water to facilitate fitting.
   - Route hose carefully to ensure it is not kinked or crushed.
   - Fit hose clips.
2. Fit return flow pipework. This can feed a waterfall for example or return directly to the pond. Pipes must always have a downward gradient of at least 1%. If pipes are not UV resistant, cover with soil to protect them.
3. Switch on pump and test the system for flow rate.

Putting into Operation

Important:

— Ensure that the hose connections are carefully fitted to the filter.

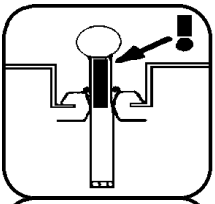
— **Ensure that the entire system is leak-proof!**

— Ensure that the filter cannot overflow (e.g. due to drain blockage). Risk of emptying the pond.

— The Biobasket offers space for various supplements such as filter starter or fish medicines of which only trace amounts should be added.

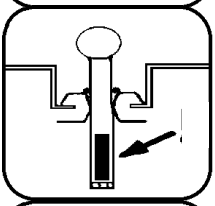
— The filter system is a biological system and requires several weeks after being newly installed before it reaches full efficiency.

— Ensure that the filter operates continuously and does not dry out. A timer switch saver circuit with a second pump may be installed, for example, during the night. A second, closed connection nozzle is provided for this purpose. Saw to size to fit hose connection.

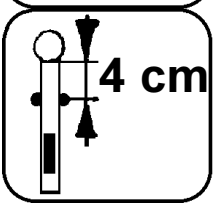


Water Level Indicator*

Blocking of the filter is indicated by a higher water level. Clean the filter (see cleaning) when the float appears in the water level indicator, and at the very latest when the float reaches the top.



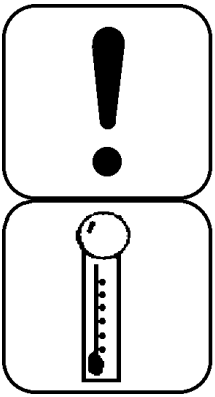
Float position when first put into operation.



Setting the water level indicator

The rubber ring around the outer pipe limits the insertion depth of the indicator. Preferably set according to sketch, although individual adjustment is possible.

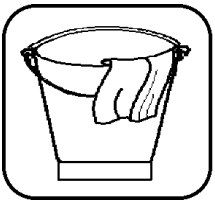
Maintenance, Cleaning/Overwintering



Thermometer*
The thermometer allows the continuous monitoring of the water temperature. Extensive bacteria activity is possible from +10° C (green area). Do not add filter starter until temperatures of over 10° C are reached.

When the water level is very low, insert the thermometer between the filter foam elements.

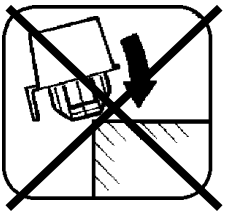
Temperatures well over 25° C indicate pond related imbalance (pond too shallow - water becomes too warm). This can quickly lead to abnormal pond conditions which can no longer be compensated by the filter alone!



Maintenance, Cleaning

The Biotec filters are virtually maintenance free but will require cleaning from time to time. The float on the Water Level Indicator, indicates when cleaning is necessary.

To clean, take out the internal chamber(s) (by releasing the hooks and lifting out by the handles) and rinse. The foam filter elements can be pulled off and washed separately or exchanged. NOTE: Only clean approximately 50% of the foam elements each time. This ensures that not all of the vital Bacteria required for Biological Filtration is washed away.



Attention: When cleaning the insert, protect the foam holders against knocks! Risk of breakage!

To replace the foam elements lay the insert onto a flat surface.

The Biosurface elements in the base of the filter are only given a quick rinse. **Please do not use any chemical cleaning agents.**

Overwintering

To protect the indicating devices during winter, these should be removed and kept dry and frost free.

If the filter is to be switched off during the Winter the whole unit should be drained and covered (this stops rainwater entering the filter and subsequently freezing and damaging the structure).

Also, all hoses should be drained as far as possible.

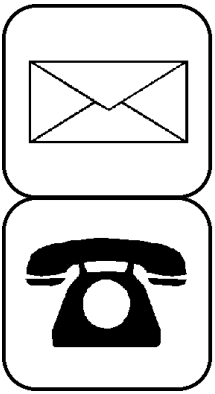
Guarantee

A function guarantee of **3 years** is given on this **OASE device**. The guarantee begins with the day the device is sold or prior to this with the day it was first put into operation. The certificate is only valid together with the receipt of purchase.

Our guarantee covers faults in material or defects of fabrication. Our guarantee does not apply to claims resulting from installation and operation faults as well as lack of maintenance, effects of frost, furring or inexpert repair attempts, as well as all wear parts.

Our manufacturing department exclusively uses quality materials. Should the device, in spite of this, give rise to a justified claim, you will be entitled to have the device retouched free of charge or the defective parts replaced. We reserve the right to charge assembly costs.All guarantee repairs are carried out by us or by a repair shop authorised by us. We do not accept liability for subsequent damage resulting from the failure of this device. Should you ever have to make a guarantee claim, please send the device under objection or device component together with your receipt, guarantee card and specification of the defect to us, freight prepaid. Complaints due to damage in transit can only be referred to the appropriate quarter if the damage was ascertained and confirmed on receipt of the goods on behalf of the forwarding agent, the railway or post office. Only then is it possible to lodge claims against the forwarding agent, railway or post office.

*** Not included in Filtration Set 5500!**



D

OASE
Wübker GmbH & Co. KG
Postfach 2069
48469 Hörstel

Hausadresse:
Riesenbeck
Tecklenburger Str. 161
48477 Hörstel
☎ 0 54 54-80-0

GB

OASE (UK) Ltd.
3 Telford Gate
Whittle Road
West Portway Industrial Estate
Andover
Hampshire SP10 3SF
☎ (++44)0 12 64-33 32 25

F

OASE SARL
Route de Ville en Vermois
F-54210 St. Nicolas de Port
☎ (++33)03 83 46 82 06

B

OASE B.V.B.A.
Edingsesteenweg 74
B-1730 Asse
☎ (++44)02 453 0 666

NL

OASE B.V.
Edisonstraat 21 a
NL-3861 NE Nijkerk
☎ (++31)0 33/246 22 10

A

OASE
Vertriebsges. m.b.H.
Inn 9
A-4632 Pichl/bei Wels
☎ (++43)0 72 49/4 90 56

USA

OASE-PUMPS Inc.
17322 Murphy Avenue
Irvine, CA 92614
USA
☎ (++1)9 49-4 42 24 50