

# AQUABIOME

*Mechanical and Biological Filtration*



Aquabiome is designed for ponds and water gardens. It provides mechanical and biological filtration in a single housing.

Its ability to support dense populations of nitrifying bacteria and its reliability and easy maintenance, makes Aquabiome especially suitable for high density recirculation systems.

**Effective**

Excellent Nitrification and Mechanical filtration

**Efficient**

Hydraulically efficient filter design, balanced slotted laterals to maximize water flow and filtration.

**Durable**

Corrosion resistant and UV stabilised for outdoor installation.

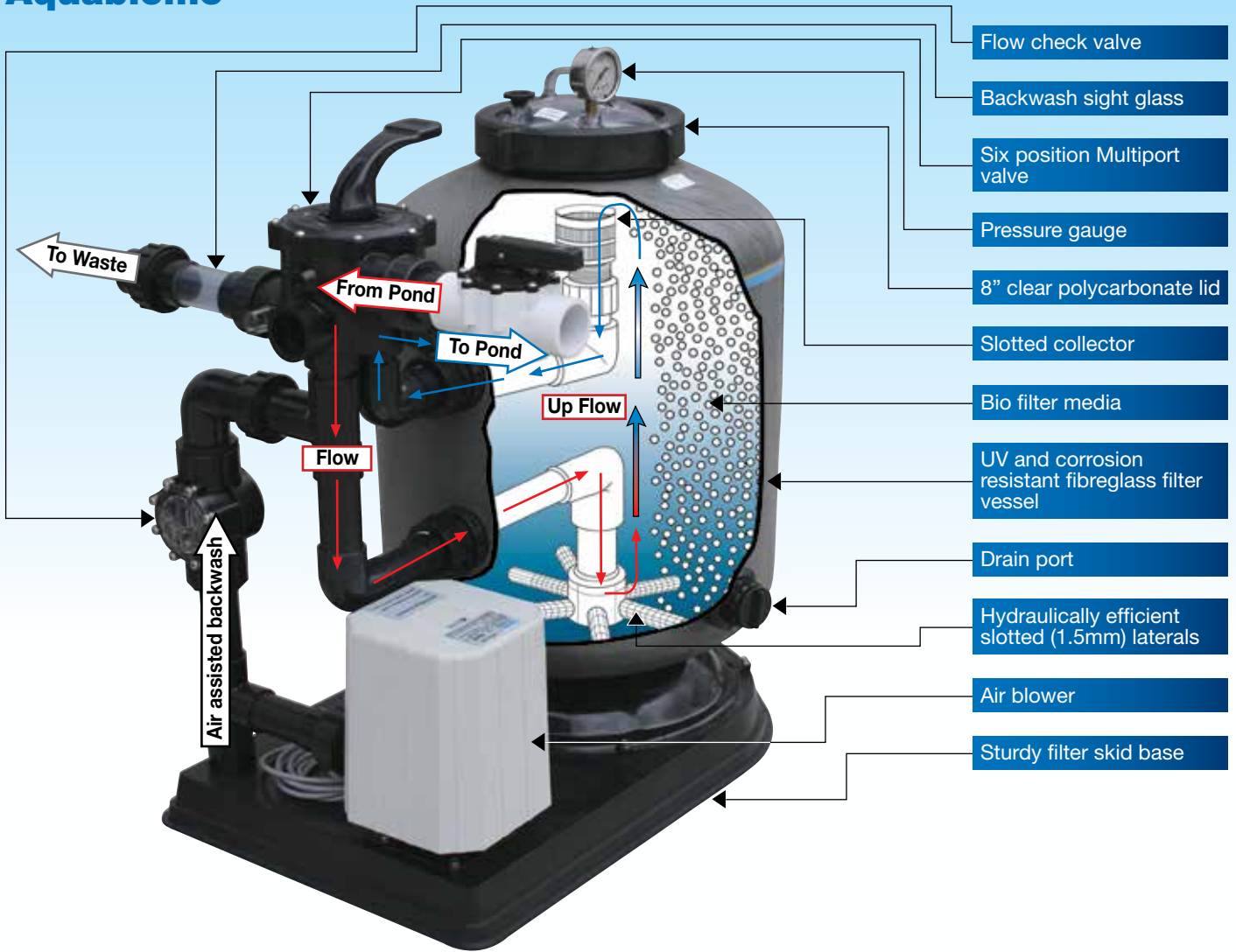
**Air-Backwash**

Air assisted hydraulic backwash, saving time and water.

**Superior Quality**

Aquabiome fibreglass filters embody the latest in fibreglass winding technology.

# Aquabiome



1. Water is pumped to the Multiport valve and diverted to the lower filter.
2. The inflowing water is then evenly dispersed through slotted laterals within the lower section of the filter.
3. As the water flows upwards through the Biofilter media, the contaminated water is subjected to mechanical and biological filtration.

## Mechanical filtration

Mechanical filtration physically removes solids from the pond by trapping solids between the crevices of the filter media.

## Biological filtration

Biological filtration is the most effective method of removing toxins (ammonia) and breaking it down into nitrites and then into nitrates which provide food to your aquatic plants (referred to as the Nitrogen Cycle). This is accomplished by using naturally occurring bacteria and giving it a place to live in the Biofilter media where it is exposed to large quantities of food and oxygen.

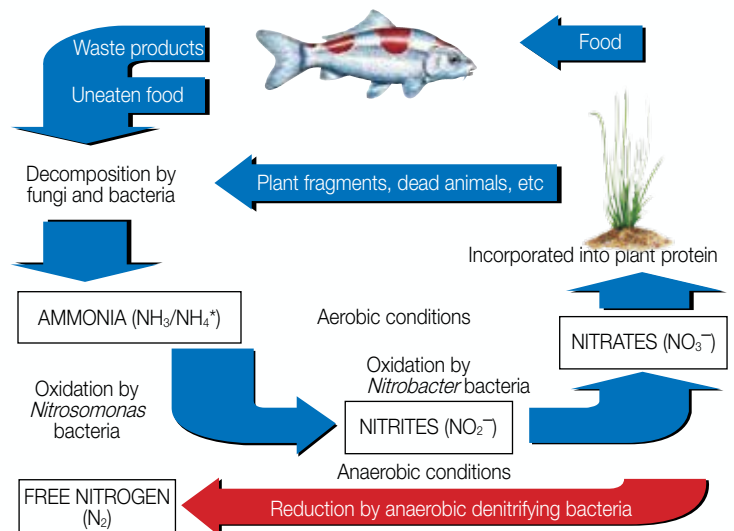


4mm – 5mm Biofilter media

## Nitrogen Cycle

The cycle begins when fish eat and then excrete ammonia. Bacteria in the biological filter eats the ammonia and excretes nitrite. Nitrite is also toxic to fish and needs to be removed.

Another type of bacteria in the filter eats nitrite and excretes nitrate. Nitrate is non-toxic to fish in small quantities and is used by plants as fertilizer. The entire cycle then repeats itself upon completion.



## Maintenance

A Multiport valve is provided as standard equipment with features such as Backwash, Rinse, Recirculate, and more.

Aquabiome Filters can be backwashed hydraulically using water from your pond. Simply turn the multiport valve handle to backwash and your filter is hydraulically cleaned with water from your pond.



## Air assisted backwash

To assist with backwashing, an air blower is provided. Its purpose is to agitate the Biofilter media prior to backwashing. Air is forced upwards through the filter's laterals to break up the entire media bed and loosens the sediment trapped by the Biofilter media.

The addition of an air blower reduces the amount of time and water required for backwashing and improves biological filtration capacity.



Air blower

## A Typical Pond System

Most conventional pond filter systems may comprise of the following:

- I. A suitable pre-filter. Either a chamber with baffle plates, or a vortex chamber.
- II. Aquabiome filter to provide mechanical and biological filtration.
- III. U.V. Sterilisation to sterilise and inhibit the growth of Algae and other undesired organic matter.
- IV. Venturi or waterfall to provide aeration.

## Technical Specifications

Aquabiome	ASM400	ASM500	ASM600	ASM750	ASM900
Nominal Diameter mm / inch	400 / 16	500 / 20	600 / 24	750 / 30	900 / 35
Filter Surface Area m <sup>2</sup> / ft <sup>2</sup>	0.13 / 1.4	0.2 / 2.1	0.3 / 3.2	0.44 / 4.9	0.64 / 7.15
Media Volume litres / gallons (US)	43 / 11.3	68 / 18	117 / 30.9	199 / 52.6	303 / 80
Media Weight kg / lbs	21.5 / 47.4	34 / 74.9	58.5 / 128.9	99.5 / 219.4	151.5 / 334
Biofilter Surface Area m <sup>2</sup> / ft <sup>2</sup>	47.3 / 509	74.8 / 805	128.7 / 1385	218.9 / 2356	333.3 / 3588
Inlet / Outlet Connections	40mm/ 50mm 1½" / (EU)	40mm/ 50mm 1½" / (EU)	40mm/ 50mm 1½" / (EU)	50mm / 63mm 2" / (EU)	50mm / 63mm 2" / (EU)
Min - Max Flow Rate					
lpm	52 - 101	80 - 157	120 - 226	180 - 353	255 - 509
m <sup>3</sup> /hr	3.1 - 6.1	4.8 - 9.4	7.2 - 13.5	10.8 - 21.2	15.3 - 30.5
gpm (US gallon per min)	13.7 - 26.7	21.1 - 41.5	31.7 - 59.7	47.6 - 93.3	67.4 - 134.5
Max Pond Size litres / gallons (US)	13,000 / 3,434	20,000 / 5,300	36,000 / 9,500	60,000 / 15,900	90,000 / 24000
Feed Rate kg / lbs per day	0.32 / 0.71	0.5 / 1.1	0.9 / 1.98	1.5 / 3.31	2.4 / 5.29
Total Ornamental Fish weight* kg / lbs	10.7 / 23.6	16.7 / 36.8	30 / 66.1	50 / 110.2	80 / 176.4
Total Aquaculture Fish weight* kg / lbs	32 / 70.5	50 / 110.2	90 / 198	150 / 330.7	240 / 529
Tank Diameter mm / inch	421 / 16.5"	520 / 20.5"	622 / 24.5"	772 / 30.4"	923 / 36.3"
Overall Height mm / inch	856 / 33.7"	815 / 32.1"	880 / 34.6"	993 / 39.1"	1115 / 43.9"
Valve Size mm / inch	40 / 1½"	40 / 1½"	40 / 1½"	50 / 2"	50 / 2"
Bed Depth mm / inch	290 / 11.4"	290 / 11.4"	360 / 14.2"	400 / 15.7"	440 / 17.3"

\* Maximum fish stocking weight depends on the percentage of body weight fed daily.

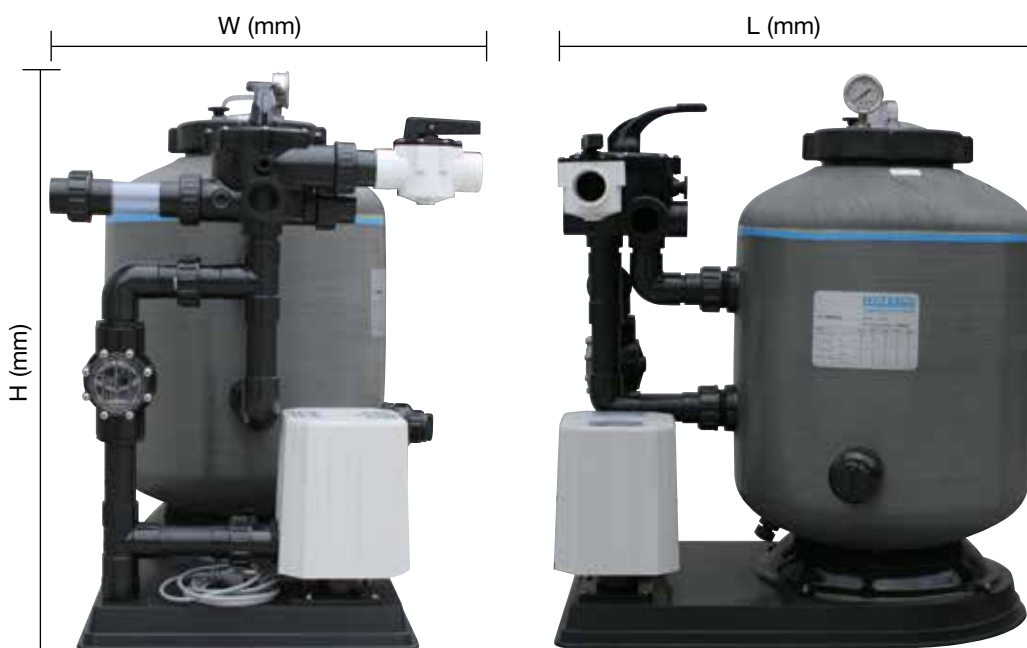
- Ornamental fish weight based on feeding rate of 3% of body weight.
- Aquaculture fish weight based on feeding rate of 1% of body weight.

## Approximate fish weights\*

Fish Length	Weight in Ounces	Weight in Grams
1"	.01	.28
2"	.08	2.27
3"	.26	7.37
4"	.62	17.58
5"	1.21	34.30
6"	2.09	59.25
7"	3.33	94.40
8"	4.96	140.61
9"	7.07	200.43
10"	9.70	274.99
12"	16.76	475.14
14"	26.61	754.38
16"	39.72	1,126.04
18"	56.55	1,603.17
20"	77.58	2,199.36
22"	103.25	2,927.10
24"	134.05	3,800.25
26"	170.43	4,831.61
28"	212.87	6,034.76
30"	261.82	7,422.47

\* Fish sizes may vary depending on environmental conditions and species.

## Dimensions



Aquabiome	L (mm) - length	W (mm) - width	H (mm) - height
<b>SM400</b>	815	650	886
<b>SM500</b>	815	650	875
<b>SM600</b>	1040	650	925
<b>SM750</b>	1325	830	985
<b>SM900</b>	1328	930	1110

## Warranty

Aquabiome is covered by a 12 month warranty period against faulty materials and workmanship. Please refer to the detailed warranty booklet provided.

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