

AQUACULTURE | WASTEWATER | COMMERCIAL



# Floccell<sup>®</sup>

SUSTAINABLE FILTRATION TECHNOLOGY

EVOLUTION  
AQUA  
GROUP

Part of the Evolution Aqua Group

[FloccellFiltration.com](http://FloccellFiltration.com)

# Flocell

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Flocell provide sustainable filtration solutions for aquaculture, wastewater and commercial applications. Manufactured by Flocell, in the UK, Flocell filter media and filtration systems provide more retention capacity, use less power and less water than sand filters.

Flocell technology has been independently tested and is backed up by years of research and development by technicians within the Evolution Aqua group. Our products are installed across the aquaculture market.

*Flocell - your environmental water treatment partner for sustainability.*

EVOLUTION  
AQUA  
GROUP

Part of the Evolution Aqua Group







## Bio Media - RAS Hatchery MOWI Scotland

Flocell, part of the Evolution Aqua group, supplied 850m<sup>3</sup> of Bio Media to IAT (International Aqua-Tech), process engineers for Mowi Scotland salmon hatchery, at Inchmore, Glenmoriston. The 13,500 sq.m. hatchery uses one of the most technically advanced water recirculating systems.

Our media was specified for this project by IAT because of its high surface area (total surface area 950m<sup>2</sup> per m<sup>3</sup>. Protected surface area 500m<sup>2</sup> per m<sup>3</sup>).

*“All the material was delivered on time to the agreed schedule and was consistent in quality. We look forward to working with the team on future projects.”*

Steve Dalton, International Aqua-Tech

**Project:** 13,500m<sup>2</sup> salmon hatchery, at Inchmore

**Client:** Mowi Scotland

**Engineers:** International Aqua-Tech

**Product:** 850m<sup>3</sup> BM-1 Bio Media



# Flocell

## XFM Fines Filters

**100x**  
More Retention  
Capacity  
Than Sand Filters

**50%**  
Less  
Power  
Than Sand Filters

**80%**  
Less  
Water  
Than Sand Filters

Flocell XFM Fines Filters are a range of pressurised filtration systems optimised specifically for use with patented Flocell XFM Fines Media. Both the media and filters are designed and manufactured exclusively by Flocell in the UK.

- ▶ **Fines filtration systems with patented filter media**  
Manufactured exclusively in the UK
- ▶ **100 times more retention capacity than sand filters\***  
Independently tested by Cranfield University
- ▶ **Uses 50% less power than sand filters\***  
Only 12kW per day vs. 24kW per day
- ▶ **Uses 80% less water than sand filters\***  
1 clean per week vs. 1 backwash per day
- ▶ **No maintenance required**  
No hydraulic load, no clogging, no downtime and no media replacement

OPTIMISED FOR  
**Flocell**  
XFM Fines Media



 MANUFACTURED IN THE UK





Designed and manufactured to exacting standards to deliver reliable and economical performance in a wide variety of applications. For example:

- ▶ **Post Bio-Filter** – Removal of particles generated by biological processing associated with biomass regeneration.

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- ▶ **Back-End Polishing** – Tertiary treatment in situations where exceptional final effluent is necessary.

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- ▶ **Pre-Discharge** – Post final settlement where consents are tight.

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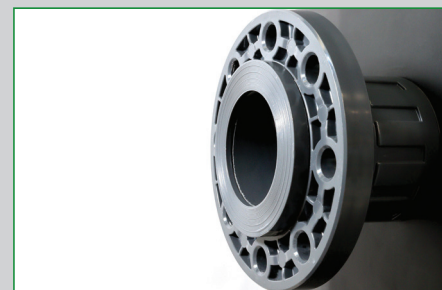
- ▶ **Continuous Fish Tank Water Maintenance** – As a constant filtration loop is used to ensure optimal solids reduction to maximise fish health and reduce risks associated with solids build-up.

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- ▶ **Integrated solutions post DAF / Lamella separators** – as other modular units are large, XFM units can be installed immediately post DAF or Lamella plant to utilize the excess head height and provide pump-free filtration for exceptional tertiary treatment at low cost.

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- ▶ **Post flocculation** – Many systems use chemical dosing to flocculate and precipitate-out dissolved solids that then need to be captured.



## Air Clean Technology

XFM Filters use air to clean rather than a traditional backwash cycle.

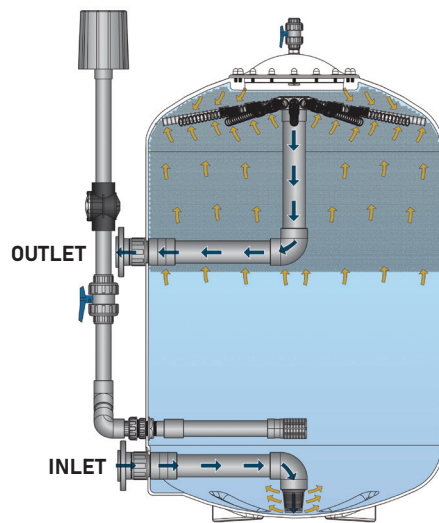
Cleaning with air using the included low-energy blower package agitates the media pack and removes contained solids during the short cleaning cycle.

Using air reduces energy use, it substantially reduces the amount of water that is lost, whilst at the same time producing a highly concentrated and manageable effluent stream that infrequently needs to be removed.

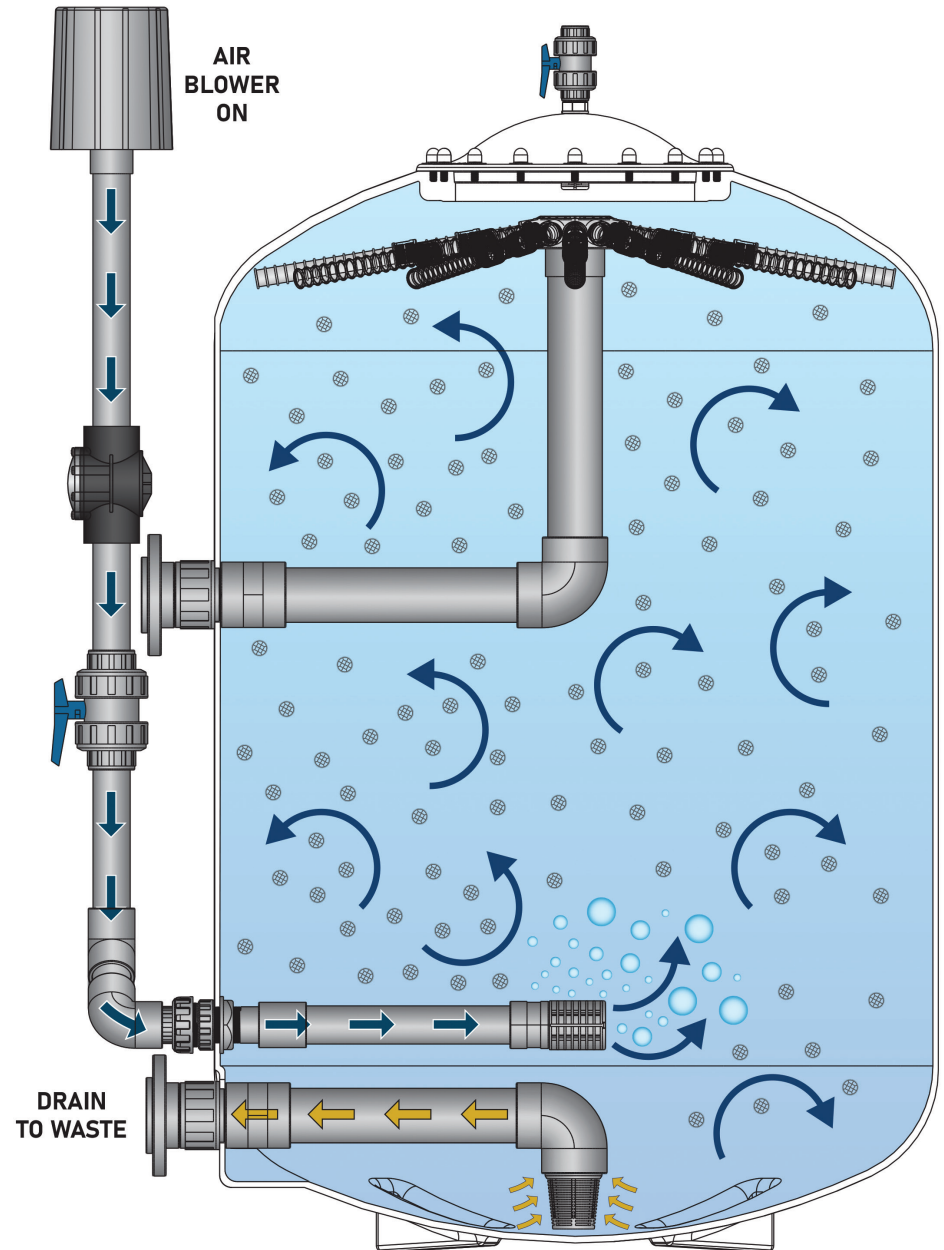
Only the single volume of the filter is discharged when cleaning and with prolonged periods of operation possible due to high retention capacity the water and power savings are significant.



Inside View - XFM Fines Filter 1200



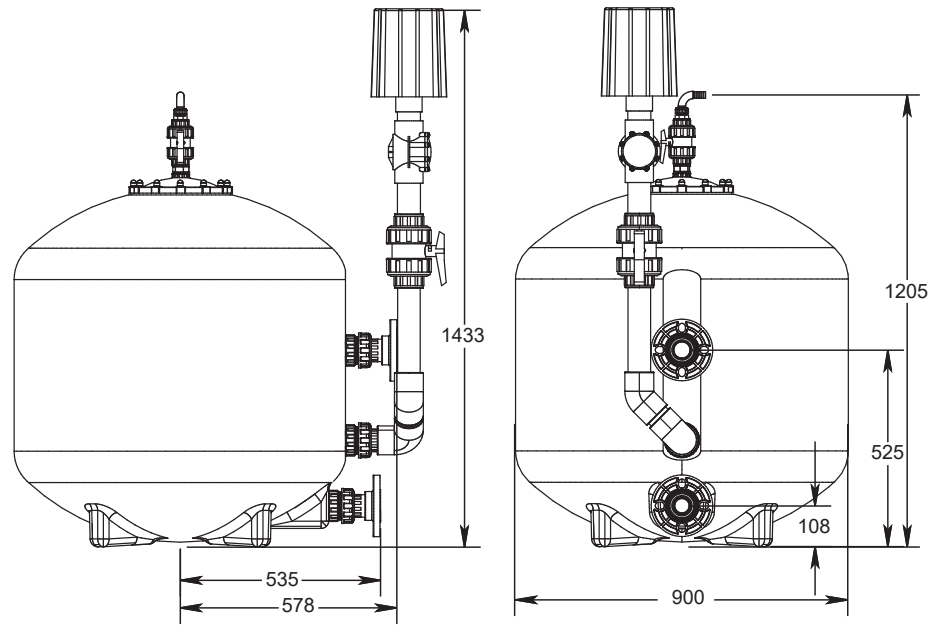
Filtration Mode - Upflow



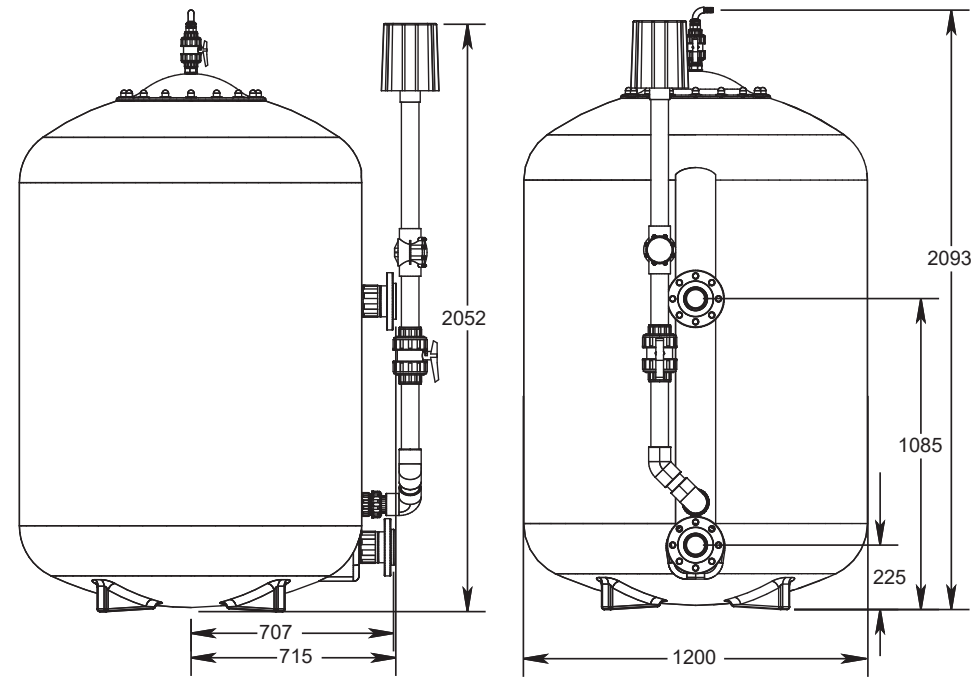
Air Clean Cycle



# Specifications



XFM Fines Filter 900



XFM Fines Filter 1200

Model	Flocell XFM Fines Filter 900	Flocell XFM Fines Filter 1200
<b>Filter Diameter</b>	900mm (36")	1200mm (48")
<b>Filtration Area</b>	0.64m <sup>2</sup>	1.12m <sup>2</sup>
<b>Connection Size</b>	63mm	90mm
<b>Maximum Operation Pressure</b>	2.0 bar	2.0 bar
<b>Maximum Flow Rate</b>	32m <sup>3</sup> /hr	56m <sup>3</sup> /hr
<b>Quantity Of XFM Fines Media Included</b>	250 litres	1200 litres



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# Flozell

## XFM Fines Media



Green  
Technology



Reduce  
Energy



Save  
Water

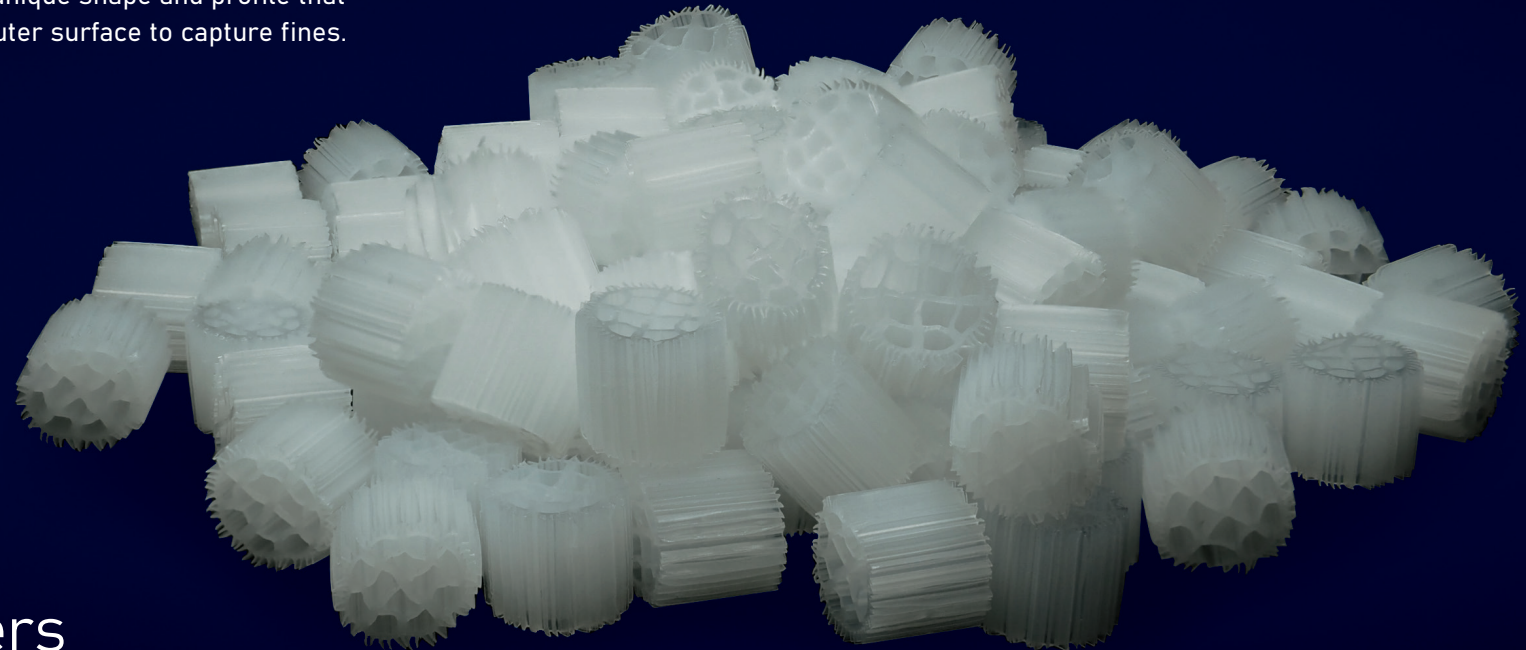


Flozell XFM Fines Media has been specifically engineered to optimise the mechanical filtration performance of Flozell XFM Fines Filters. This patented filter media features a unique shape and profile that includes a series of fins around the outer surface to capture fines.

- ▶ Fines filtration
- ▶ Patented design
- ▶ More retention capacity
- ▶ No hydraulic load
- ▶ No clogging
- ▶ No need to replace

ONLY AVAILABLE WITH

**XFM** Fines Filters

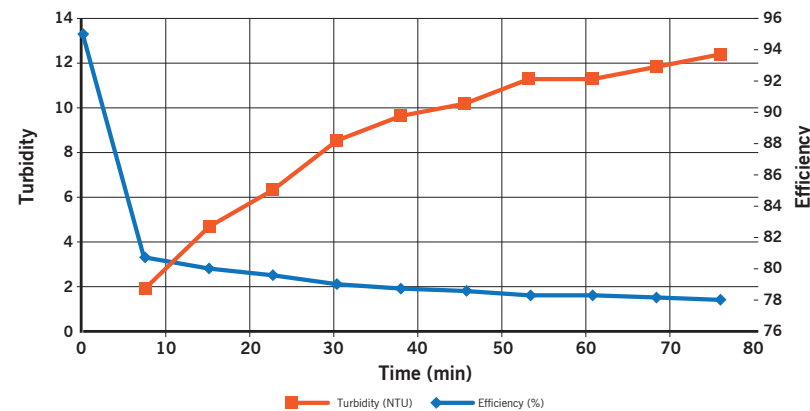




# Why Our XFM Fines Media And Filters?

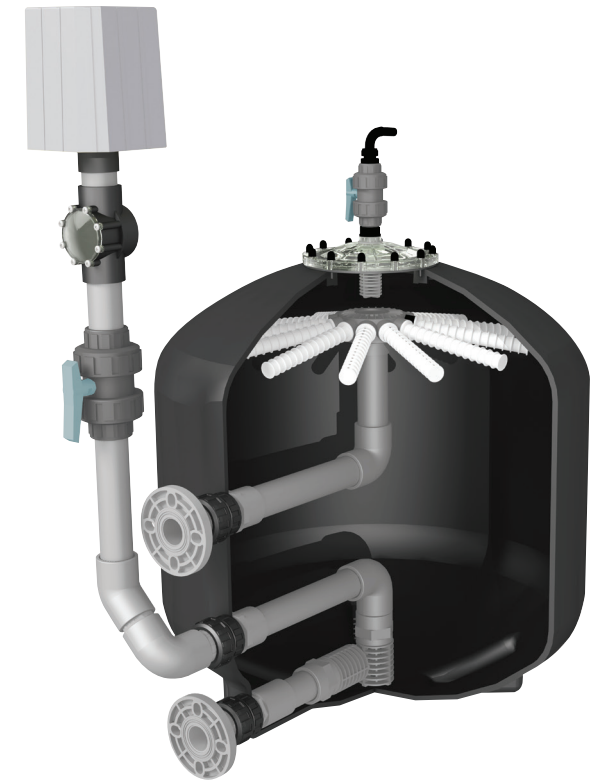
Flocell open-cell media has been designed to efficiently reduce water turbidity and retain particulate without increasing the pressure within the filter or reducing the flow.

## Turbidity Reduction Efficiency Test



The European Standard states that a minimum reduction in turbidity of 50% must be achieved in this test.

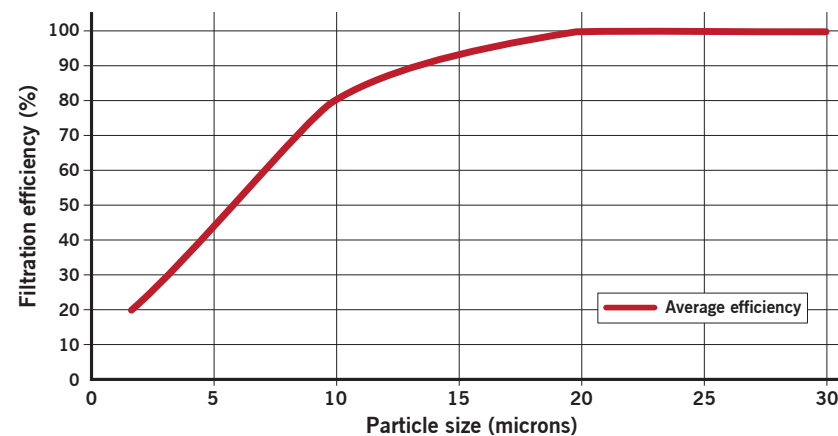
**Flocell Filtration Media has a turbidity reduction efficiency of 93% after 20 cycles.**



## Filtration Efficiency vs. Particle Size

This test defines the efficiency with which particles of specified size are removed by the filter in one pass.

The retention capacity of our media was not reached during this testing.



Data recorded at flow rate of 25m<sup>3</sup> per m<sup>2</sup> per hour



Independently tested by IFTS  
(Institut de la Filtration et des  
Techniques Séparatives)



Independently tested by  
Cranfield University



# Flozell

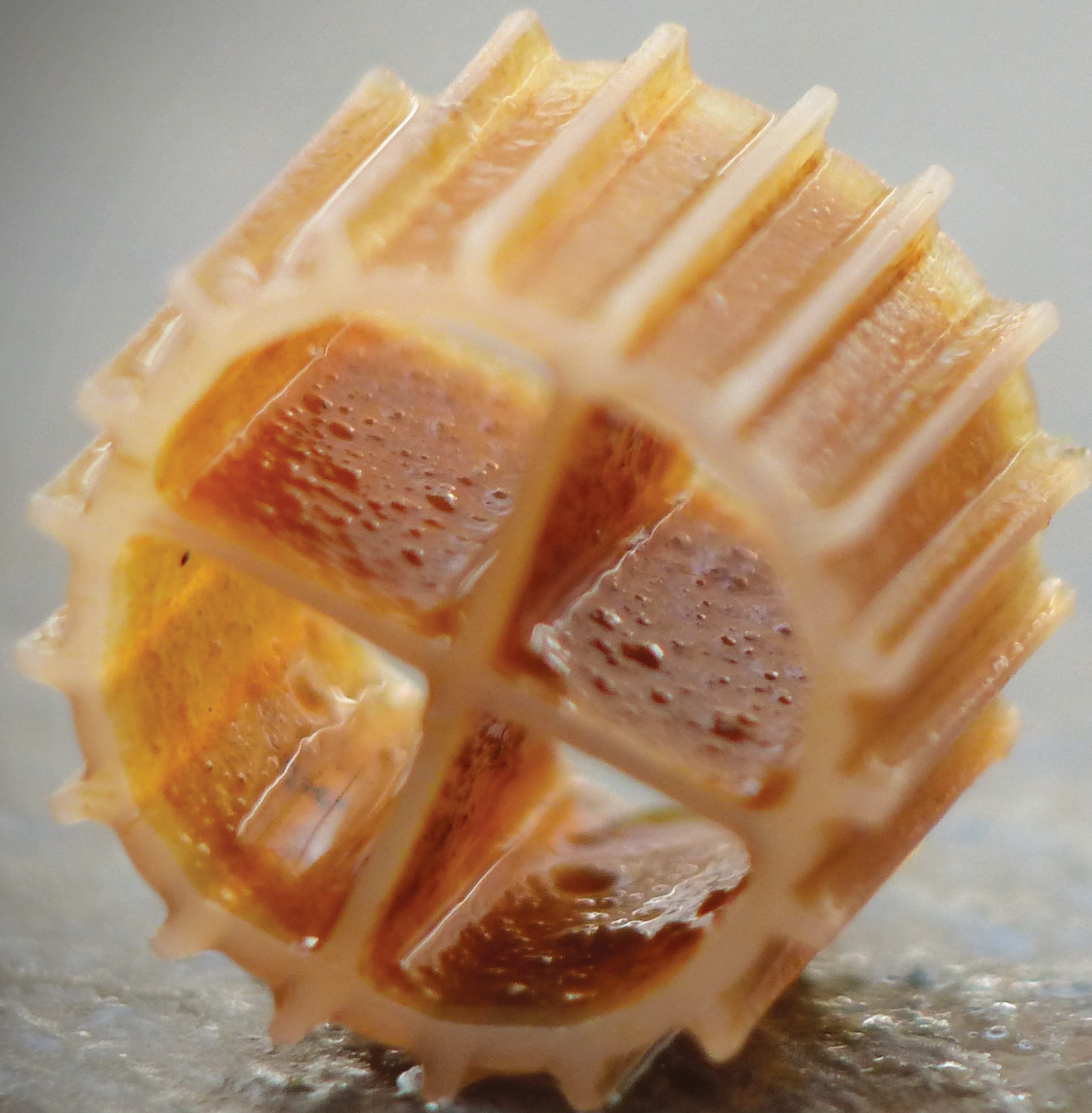
## Bio Media

Flozell Bio Media is available in three designs, all manufactured by Flozell in our dedicated UK factory, using 100% virgin materials. It is possible to also design and manufacture your own bespoke media profile.

- ▶ Made by Flozell in the UK
- ▶ Manufactured from 100% virgin material
- ▶ Three designs to choose from
- ▶ Bespoke designs available
- ▶ Large protected surface area
- ▶ Available for any project size - small or large
- ▶ From 50 litre bags up to full shipping containers

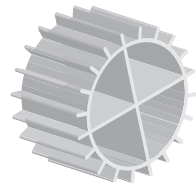


MANUFACTURED IN THE UK

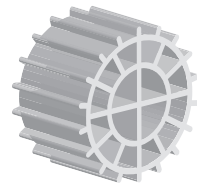




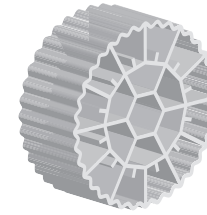
# Bio Media



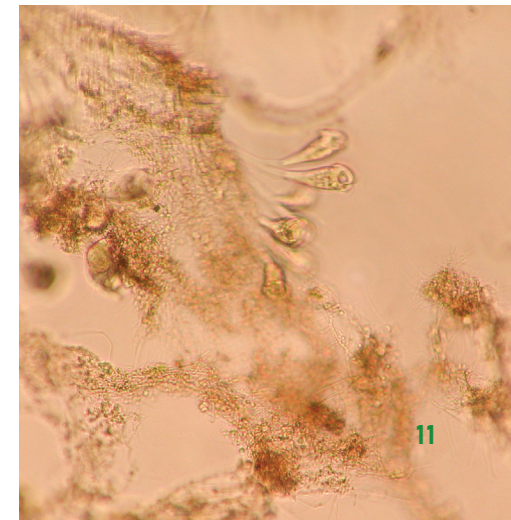
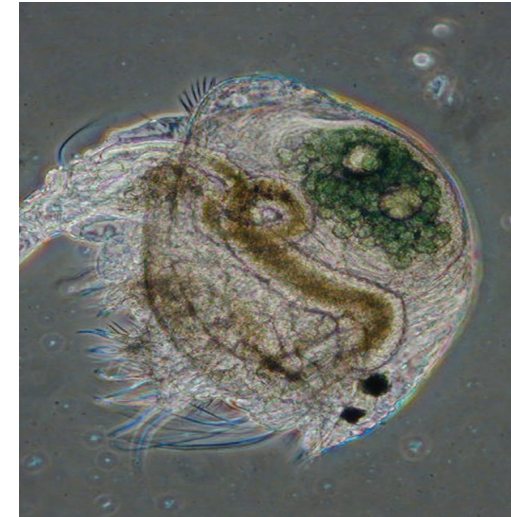
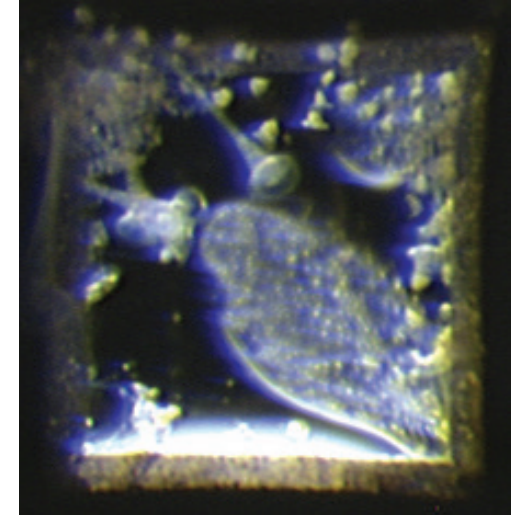
**Floccell**  
BM-1 Media



**Floccell**  
BM-2 Media



**Floccell**  
BM-3 Media



Model	Floccell BM-1 Bio Media	Floccell BM-2 Bio Media	Floccell BM-3 Bio Media
Gravity	Floating	Floating	Floating
Diameter	10.5mm	10.5mm	25mm
Length	8mm	8mm	10mm
Total Surface Area	950m <sup>2</sup> per m <sup>3</sup>	1,350m <sup>2</sup> per m <sup>3</sup>	800m <sup>2</sup> per m <sup>3</sup>
Protected Surface Area	500m <sup>2</sup> per m <sup>3</sup>	1,025m <sup>2</sup> per m <sup>3</sup>	500m <sup>2</sup> per m <sup>3</sup>
Weight	130kg per m <sup>3</sup>	175kg per m <sup>3</sup>	115kg per m <sup>3</sup>
Density	0.95kg/l	0.95kg/l	0.95kg/l
Colour	Natural Opaque	Natural Opaque	Natural Opaque
Material	Virgin HDPE	Virgin HDPE with minerals	Virgin HDPE

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SUSTAINABLE FILTRATION TECHNOLOGY

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