

EVOLUTION AQUA

INNOVATION IN WATER

HIGH PERFORMANCE FILTRATION SOLUTIONS

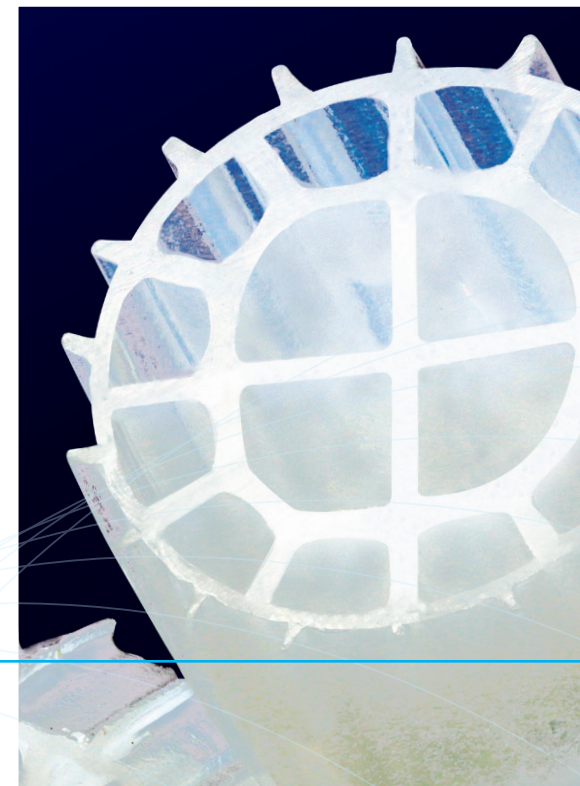
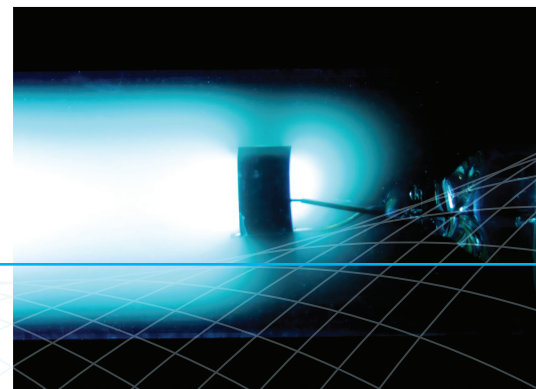
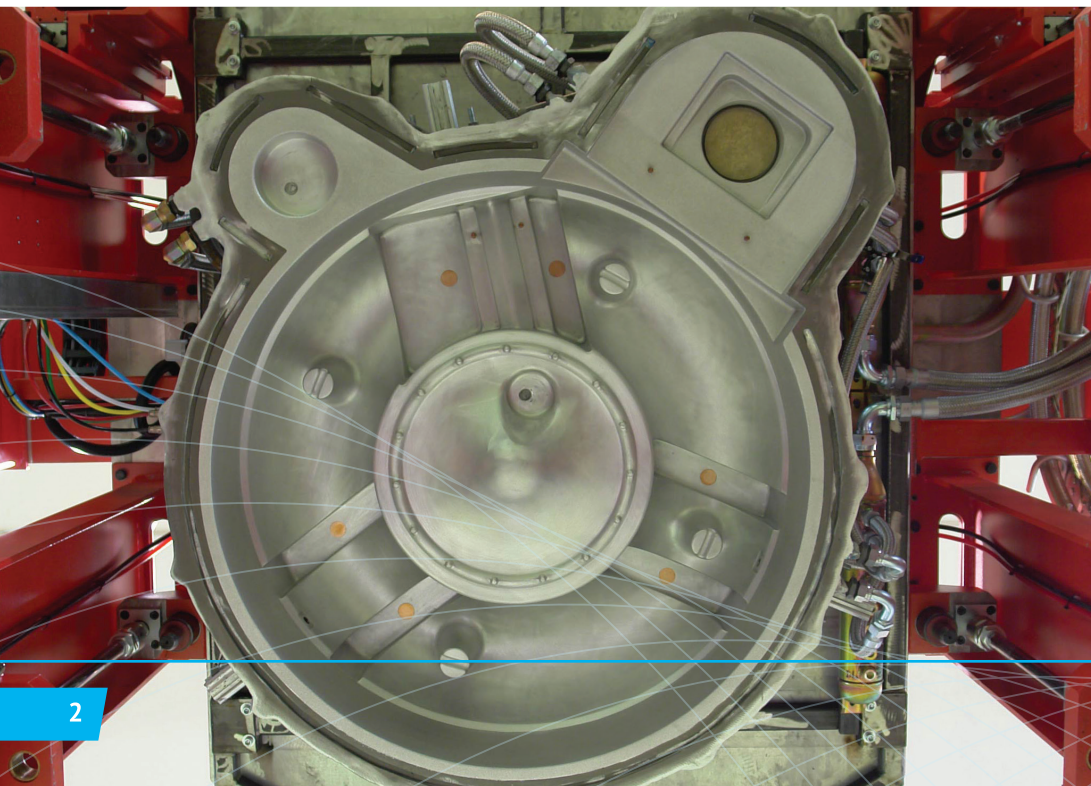
AQUACULTURE | AQUARIA | LIVESTOCK | COMMERCIAL

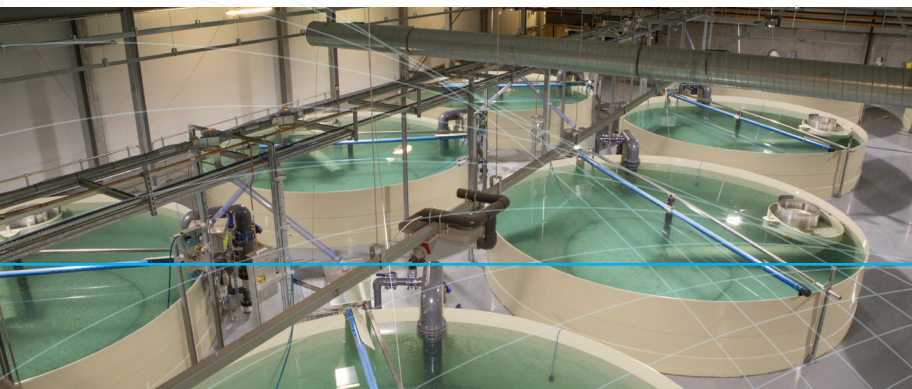
www.evolutionaqua.com



Award Winning UK Manufacturer

Evolution Aqua is a British manufacturer of high-performance filtration solutions and open-cell media. Beginning over 20 years ago, Evolution Aqua has grown to become one of the most popular and respected aquatic brands in the world, manufacturing cutting edge products in all areas of aquatics including fish farms, commercial fish systems, public aquariums, swimming pools, retail and OEM partners.





Evolution Aqua Filter Media Used By State-Of-The-Art RAS Hatchery In Scotland

Evolution Aqua supplied 850m³ of K1 Media to IAT (International Aqua-Tech), process engineers, who have done all the aquacultural engineering for Mowi Scotland salmon hatchery, at Inchmore, Glenmoriston. The 13,500 sq.m. hatchery uses one of the most technically advanced water recirculating systems.

K1 Media was specified for this project by IAT because of its high surface area (total surface area 950m² per m³. Protected surface area 500m² per m³).

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

Steve Dalton, International Aqua-Tech

Project: 13,500m² salmon hatchery, at Inchmore

Client: Mowi Scotland

Engineers: International Aqua-Tech

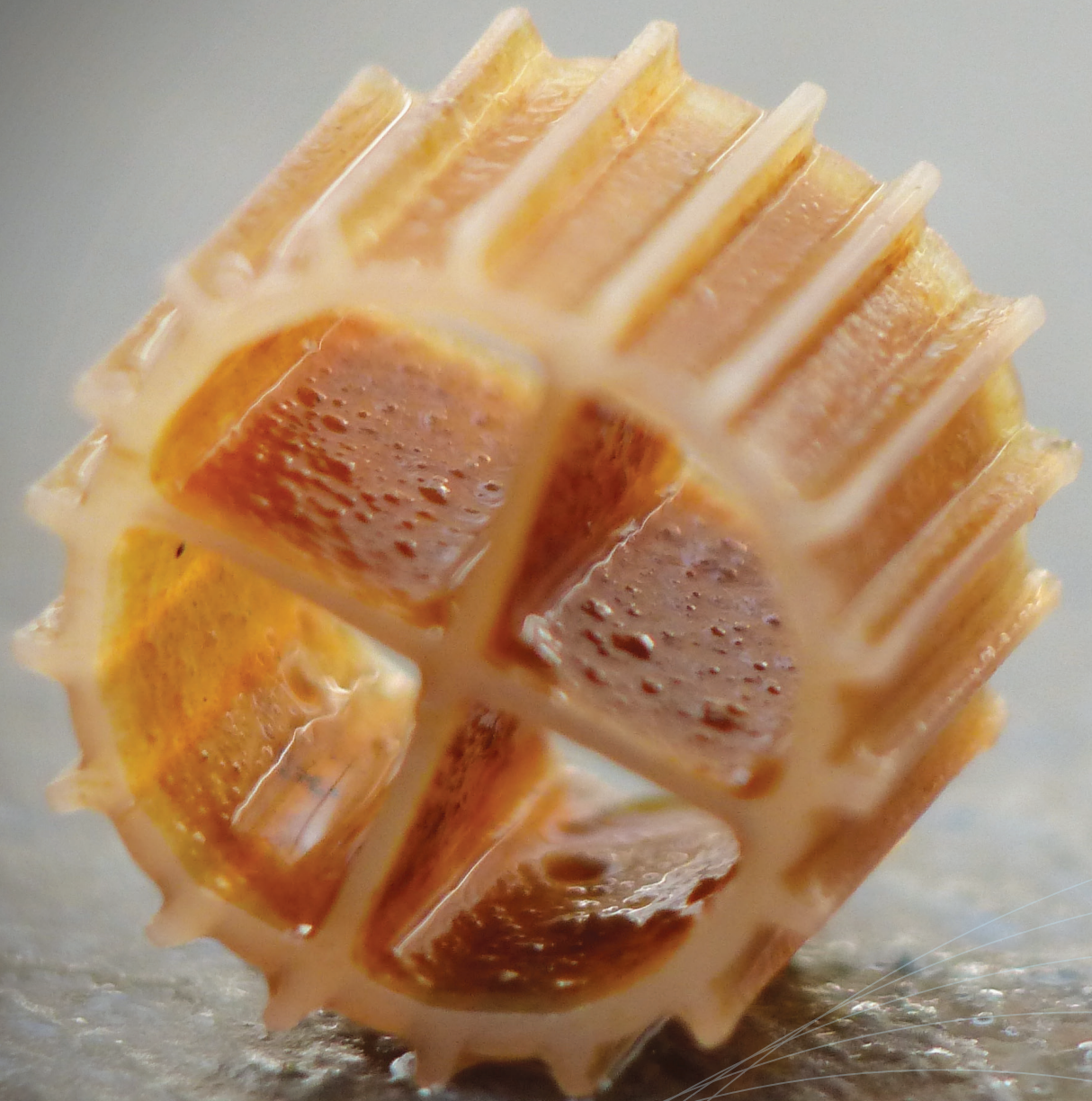
Product: Evolution Aqua 850m³ filter media, K1 Media

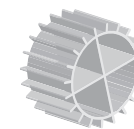
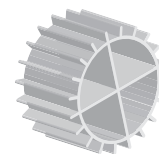
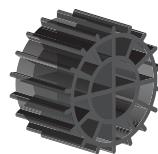
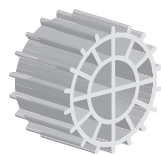


Open-Cell Media

Choose from our current, patented media designs or have Evolution Aqua design and manufacture your own unique open-cell design in their dedicated UK factory. Floating or sinking, great value, or high surface area, whatever your criteria, Evolution Aqua have a media to match.

- Made by Evolution Aqua in the UK
- Manufactured from 100% virgin material
- Four patented 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





| Media | K+Media (Floating) | K+Media (Sinking) | K1 Media | K1 Micro |
|------------------------|--|--|--------------------------------------|--|
| Gravity | Floating | Sinking | Floating | Floating |
| Diameter | 10.2mm | 10.2mm | 10.5mm | 7mm |
| Total Surface Area | 1,350m ² per m ³ | 1,350m ² per m ³ | 950m ² per m ³ | 1,400m ² per m ³ |
| Protected Surface Area | 1,025m ² per m ³ | 1,025m ² per m ³ | 500m ² per m ³ | 950m ² per m ³ |
| Weight | 185kg per m ³ | 185kg per m ³ | 150kg per m ³ | 186kg per m ³ |
| Length | 8mm | 8mm | 8mm | 9mm |
| Colour | Natural Opaque | Black | Natural Opaque | Natural Opaque |
| Material | HDPE with minerals, magnesium, calcium, salt and enzymes incorporated during extrusion process | | HDPE | HDPE |

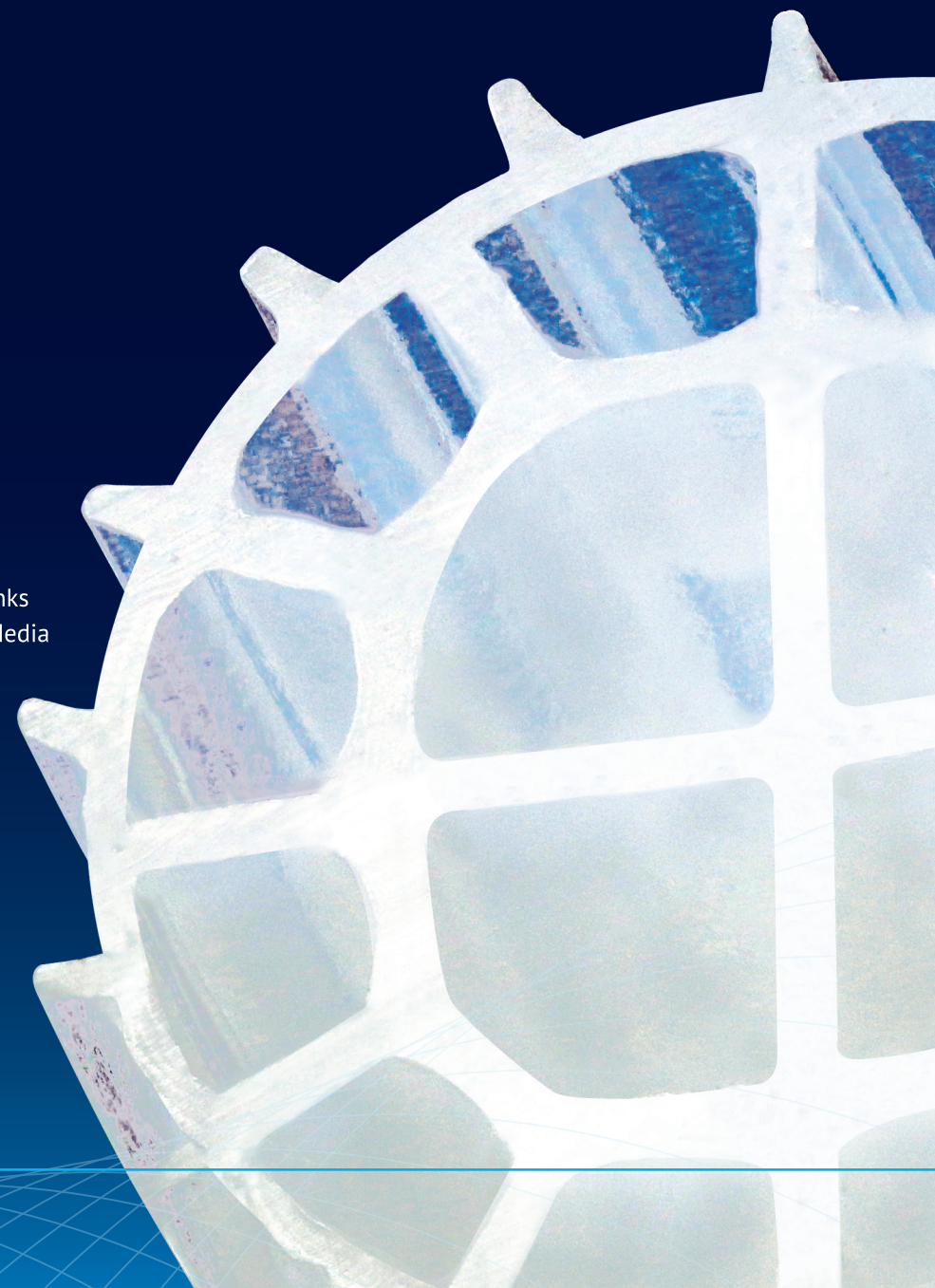
*Bespoke sizes and types of media are available on request.

K+Media

K+Media is designed and manufactured in the UK by Evolution Aqua. This advanced media, with its innovative design, and class leading surface area provides enhanced biological and mechanical filtration.

As Evolution Aqua extrude the K+Media, Minerals and Enzymes are added to the raw material. The result of this process, unique to Evolution Aqua, is a filtration media that not only outperforms most of its competitors due to its large protected surface area, but also answers the problem of how to speed up the time taken to mature your filter.

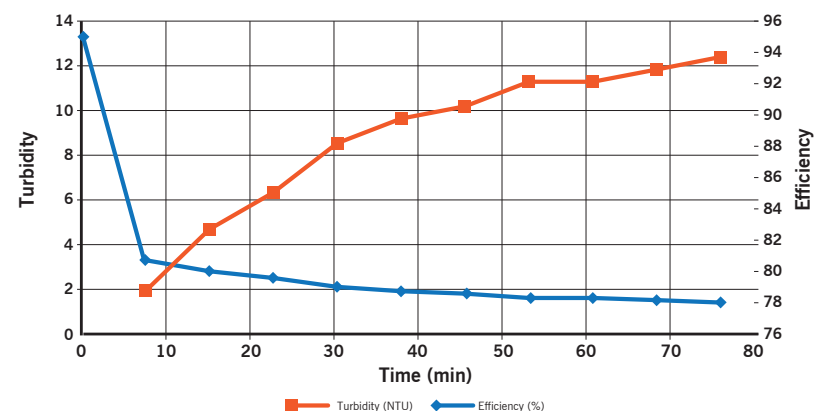
- Advanced K+Media engineered with a new design for improved filtration
- 1,025m²/m³ Protected Surface Area
- 1,350m²/m³ Total Surface Area
- Stable bio-film can develop within the quiet zones to allow rotifers and vorticella to thrive
- Faster filter maturation times thanks to minerals incorporated into K+Media
- Floating version for MBBR
- Sinking version for down-flow
- Evolution Aqua filter media has been independently tested



Why Our Open-Cell Media?

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

OC-1 Media - Turbidity Reduction Efficiency Test



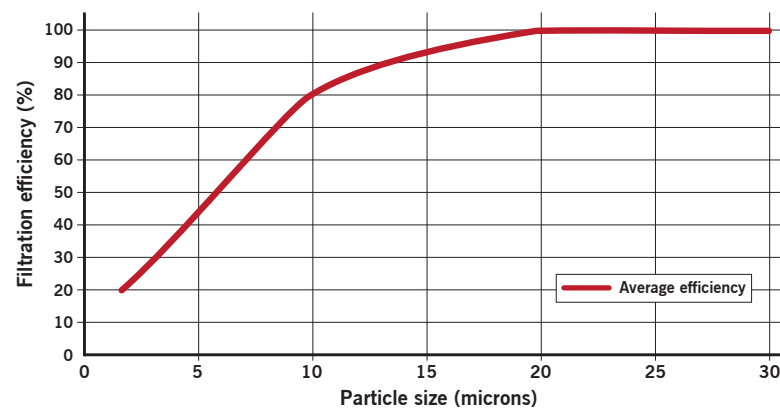
The European Standard states that a minimum reduction in turbidity of 50% must be achieved in this test.

Evolution Aqua open-cell media has a turbidity reduction efficiency of 93% after 20 cycles.

OC-1 Media - 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.



Above data recorded at flow rate of 25m³ per m² per hour
Independently tested by IFTS (Institut de la Filtration et des Techniques Séparatives)



K+Advanced Filters

Manufactured by Evolution Aqua in the UK, the K+Advanced Filters have been specifically designed to use Evolution Aqua's own filtration media, K+Media, to deliver exceptional water clarity and to be economical to run. Available in five sizes up to 1200mm.

Better Filtration

The debris capacity of our open-cell media is more than 20 times that of sand or glass, removing 81% of 10 micron particles in a single pass, and can remove particles as small as 1 micron without flocculation or coagulation.

Energy Saving

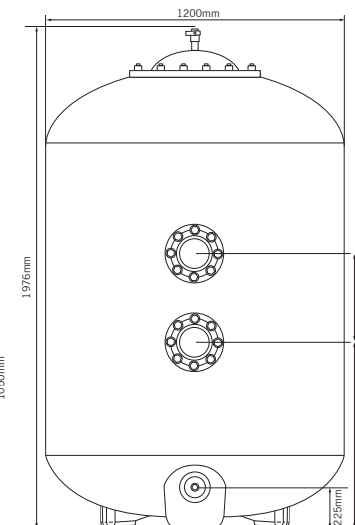
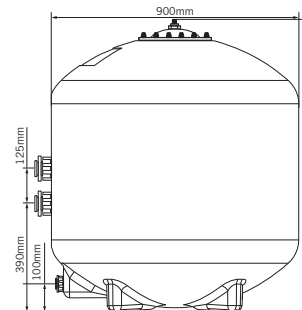
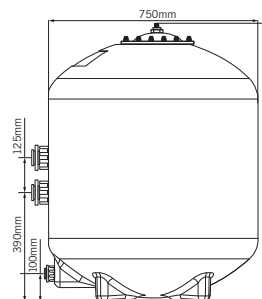
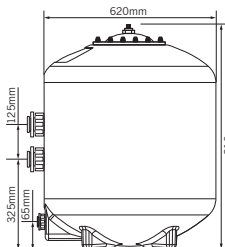
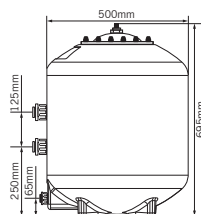
The open-cell formation and huge debris capacity makes it possible to achieve a greater flow of water through the filter reducing energy and water consumptions.

Safe And Robust

Made from food grade high-density polyethylene and suitable for fish destined for the human food chain.



- Reduce backwashing frequency
- Reduce pump speed and head loss
- Supplied with advanced K+Media
- Easy to operate and clean
- Rotational moulding process
- One piece body - no joint line
- Consistent wall thickness
- Built-in feet - no skirt
- Lighter to transport



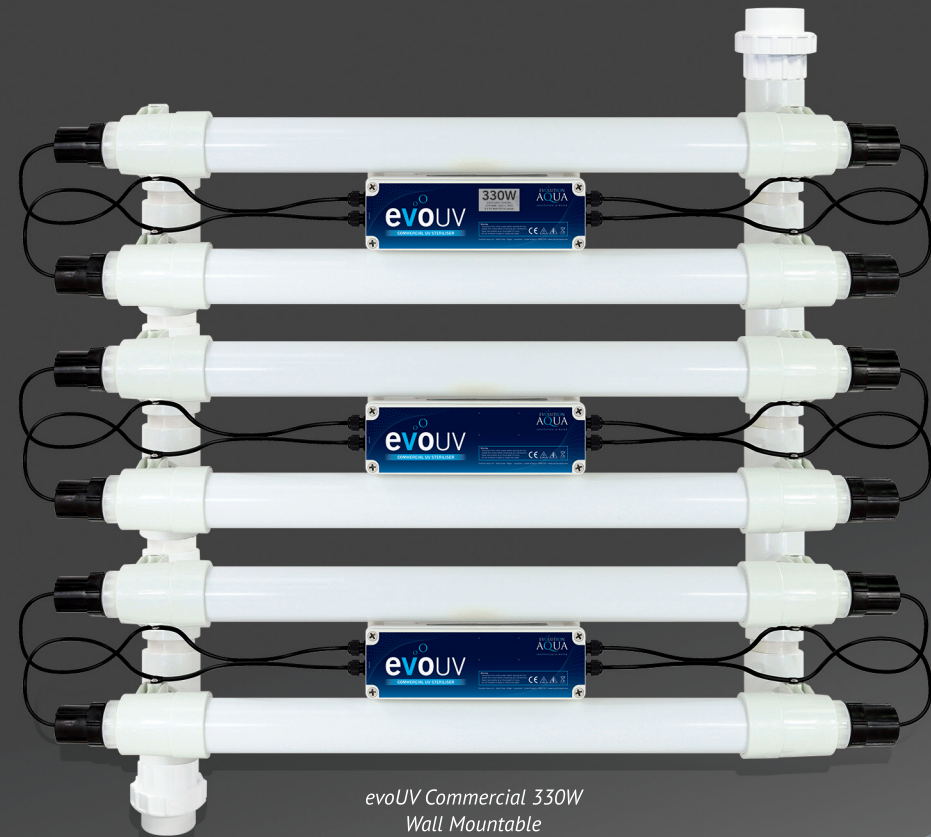
| Model | K+Advanced Filter 20 | K+Advanced Filter 24 | K+Advanced Filter 30 | K+Advanced Filter 36 | K+Advanced Filter 48 |
|-------------------------------------|--|--|--|--|---|
| Diameter | 500mm (20") | 620mm (24") | 750mm (30") | 900mm (36") | 1200mm (48") |
| Quantity Of K+Media Included | 50 litres 11 gallons 13.2 US gallons | 100 litres 22 gallons 26.4 US gallons | 150 litres 33 gallons 39.6 US gallons | 250 litres 55 gallons 66 US gallons | 1,200 litres 264 gallons 317 US gallons |
| Maximum Pond Size | 18,000 litres 4,000 gallons 4,800 US gallons | 36,000 litres 8,000 gallons 9,600 US gallons | 54,500 litres 12,000 gallons 14,500 US gallons | 91,000 litres 20,000 gallons 24,000 US gallons | 150,000 litres 33,000 gallons 39,625 US gallons |
| Optimum Flow Rate | 6,000 lph 1,320 gph 1,585 US gph | 12,000 lph 2,640 gph 3,170 US gph | 18,000 lph 3,960 gph 4,755 US gph | 30,000 lph 6,600 gph 7,925 US gph | 56,000 lph 12,300 gph 14,800 US gph |
| Maximum Working Pressure | 1.5 Bar | 1.5 Bar | 1.5 Bar | 1.5 Bar | 1.5 Bar |

UV Sterilisers

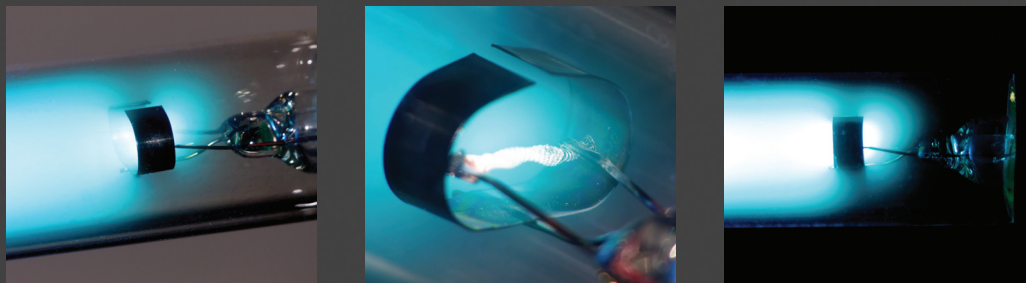
evoUV Commercial Sterilisers are manufactured in-house in the UK, and are fully serviceable. They are also reliable, economical, and available in a number of models to suit your specifications.



*evoUV Commercial 220W
Floor Standing*



*evoUV Commercial 330W
Wall Mountable*



- Electronic ballast
- Genuine quartz sleeves
- UV bulbs deliver high output
- No dead spots in the filament
- Longer lasting UVC bulb lifespan

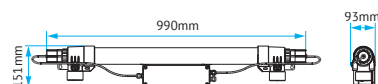
| Model | evoUV Commercial 55W | evoUV Commercial 110W | evoUV Commercial 220W | evoUV Commercial 330W | evoUV Commercial 440W | evoUV Commercial 550W | evoUV Commercial 660W |
|--|----------------------|-----------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Fixing | Wall Mountable | Wall Mountable | Wall Mountable / Floor Standing | Wall Mountable / Floor Standing | Wall Mountable / Floor Standing | Wall Mountable / Floor Standing | Wall Mountable / Floor Standing |
| Number Of 55 Watt Lamps | 1 | 2 | 4 | 6 | 8 | 10 | 12 |
| Total Uvc Radiation Emitted @253.7nm (18w Per Lamp When New)(W) | 18 | 36 | 72 | 108 | 144 | 180 | 220 |
| Standard Flow Rate At 4 X System Volume Per Hour (Litres Per Hour) * | 2,000 | 4,000 | 8,000 | 12,000 | 16,000 | 20,000 | 25,000 |
| Maximum System Volume (Litres) | 500 | 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | 6,000 |

*4 x system volume per hour is minimum recommendation for sterilisation.

Where higher pathogen control is required, double the number of UV bulbs per volume is recommended.

UV Sterilisers

- Reliable and economical
- Fully serviceable
- Wide range of sizes
- Self supporting
- Unique narrow design
- Electronic ballast
- PVC pipework
- Easy to shut-off and remove
- IP65 rating
- Drain valve
- Genuine quartz sleeves
- Low pressure UV lamps
- Low operational cost



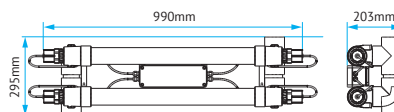
evoUV Commercial 55W

WALL MOUNTABLE DIMENSIONS:

Length = 990mm

Width = 93mm

Height = 151mm



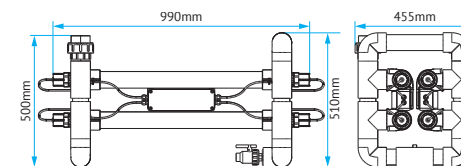
evoUV Commercial 110W

WALL MOUNTABLE DIMENSIONS:

Length = 990mm

Width = 203mm

Height = 295mm



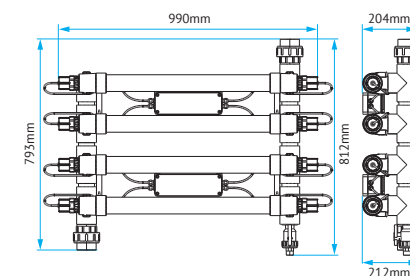
evoUV Commercial 220W

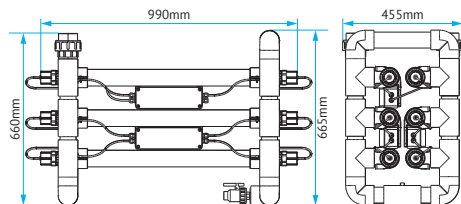
FLOOR STANDING DIMENSIONS:

990mm (l) x 455mm (w) x 510mm (h)

WALL MOUNTABLE DIMENSIONS:

990mm (l) x 204mm (w) x 812mm (h)





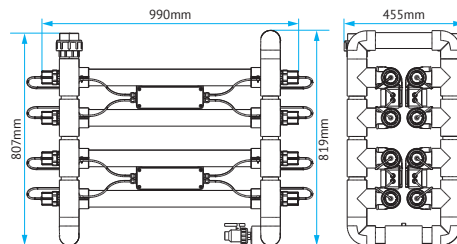
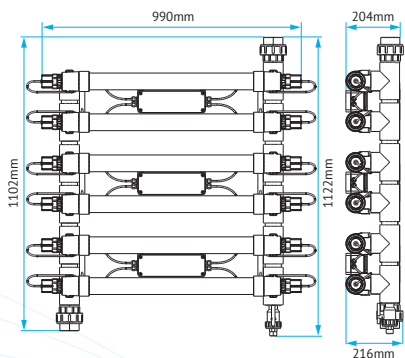
evoUV Commercial 330W

FLOOR STANDING DIMENSIONS:

990mm (l) x 455mm (w) x 665mm (h)

WALL MOUNTABLE DIMENSIONS:

990mm (l) x 204mm (w) x 1122mm (h)



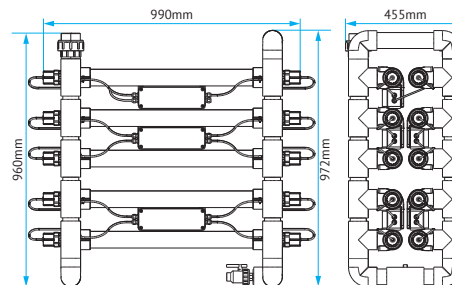
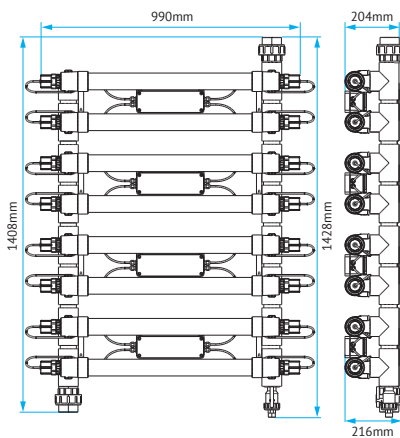
evoUV Commercial 440W

FLOOR STANDING DIMENSIONS:

990mm (l) x 455mm (w) x 819mm (h)

WALL MOUNTABLE DIMENSIONS:

990mm (l) x 204mm (w) x 1428mm (h)



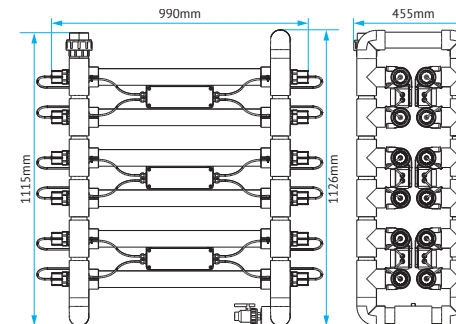
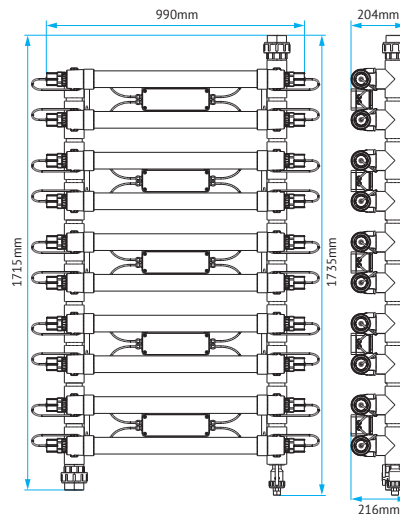
evoUV Commercial 550W

FLOOR STANDING DIMENSIONS:

990mm (l) x 455mm (w) x 972mm (h)

WALL MOUNTABLE DIMENSIONS:

990mm (l) x 204mm (w) x 1735mm (h)



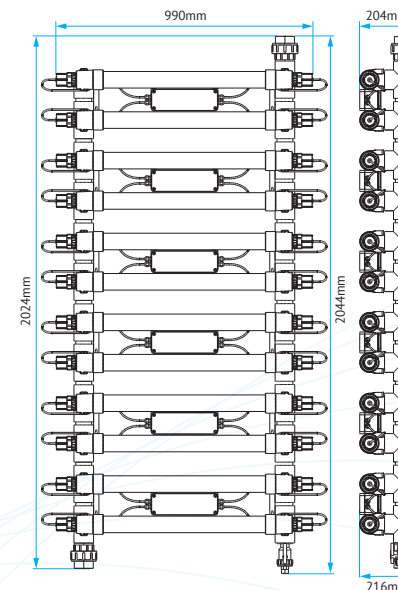
evoUV Commercial 660W

FLOOR STANDING DIMENSIONS:

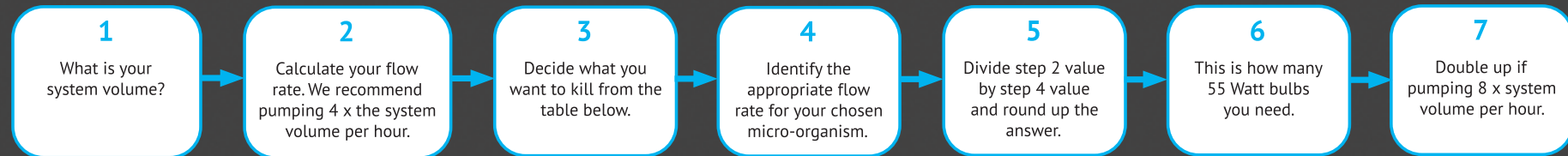
990mm (l) x 455mm (w) x 1126mm (h)

WALL MOUNTABLE DIMENSIONS:

990mm (l) x 204mm (w) x 2044mm (h)



Selecting UV Steriliser Model By Kill Rate



| Micro-organism | Kill rate ($\mu\text{Ws}/\text{cm}^2$) | Flow rate per 55 Watt Lamp |
|--|--|----------------------------|
| BACTERIA - Shigella flexneri (dysentery) | 3,400 | 5870 lph |
| BACTERIA - Legionella pneumophila (legionnaires disease) | 3,800 | 5870 lph |
| BACTERIA - Streptococcus hemolyticus (gastroenteritis) | 5,500 | 5870 lph |
| BACTERIA - Staphylococcus opidermidis (toxic shock syndrome) | 5,800 | 5870 lph |
| BACTERIA - Leptospira interrogans (leptospirosis) | 6,000 | 5870 lph |
| BACTERIA - Corynebacterium diphtheria (diphtheria) | 6,500 | 5870 lph |
| CYST - Bacteriophages | 6,600 | 5870 lph |
| BACTERIA - Escherichia coli (E-coli) | 7,000 | 5870 lph |
| BACTERIA - Shigella sonnei (gastroenteritis) | 7,000 | 5870 lph |
| VIRUSES - Hepatitis virus | 8,000 | 5870 lph |
| BACTERIA - Streptococcus lactis | 8,800 | 5870 lph |
| BACTERIA - Enterococcus faecales (urinary tract infection) | 10,000 | 5870 lph |
| BACTERIA - Mycobacterium tuberculosis (pulmonary tuberculosis) | 10,000 | 5870 lph |
| CYST - Cryptosporidium sp. (diarrhoeal disease) | 10,000 | 5870 lph |
| VIRUSES - Giardia lamblia (beaver fever) | 10,000 | 5870 lph |
| BACTERIA - Pseudomonas aeruginosa | 10,500 | 2940 lph |
| BACTERIA - Salmonella typhimurium (gastroenteritis) | 15,200 | 2940 lph |
| ALGAE - Chlorella vulgaris (common green algae) | 22,000 | 1960 lph |
| MOULDS - Penicillium expansum (Blue mold) | 22,000 | 1960 lph |
| BACTERIA - Clostridium tetani (tetanus) | 23,000 | 1960 lph |
| VIRUSES - Rota virus | 24,000 | 1960 lph |
| MOULDS - Saprolegnia sp. zoospore (egg fungus) | 35,000 | 1470 lph |
| PARASITES - Trichodina sp. (fish parasite) | 35,000 | 1470 lph |
| PARASITES - Nematode eggs | 92,000 | 650 lph |
| PARASITES - Ichthyophthirius sp. (white spot) | 336,000 | 170 lph |

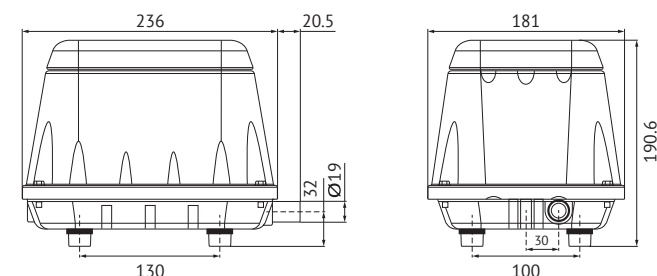
Air Pumps

The delivery of oxygen into water is critical for the welfare of fish, therefore reliable and consistent air pumps are vital. Evolution Aqua Air Pumps are high-performance, diaphragm air pumps for use in all aquaculture and livestock applications. Our Air Pumps have been tested and proven to provide the highest output at any given depth, to be economical to run and to be totally reliable. Well engineered, robust and durable, every unit is serviceable and has thermal protection fitted as standard.

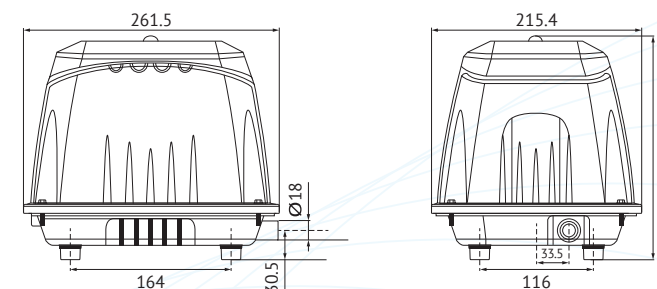


| Model | Air Pump 75 | Air Pump 95 | Air Pump 130 | Air Pump 150 |
|--|-------------|-------------|--------------|--------------|
| Max. Output (Litres Per Minute) | 75 lpm | 95 lpm | 130 lpm | 150 lpm |
| Output At 1m Depth (Litres Per Minute) | 59 lpm | 78 lpm | 110 lpm | 130 lpm |
| Max. Operating Depth | 3.9m | 4.35m | 4.7m | 5.5m |
| Power Usage | 44W | 62W | 88W | 106W |
| Noise Level | <46 dBA | <47 dBA | <50 dBA | <50 dBA |
| Voltage | 220V - 240V | 220V - 240V | 220V - 240V | 220V - 240V |

AIR PUMP 75 / 95 DIMENSIONS:



AIR PUMP 130 / 150 DIMENSIONS:



EVOLUTION
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INNOVATION IN WATER

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