

APF®

All Poly Floc

For the best coagulation and flocculation



APF® for chlorinated and ozonated Zoo and Marine Mammal LSS

What is APF®?

APF® is a multi-spectrum coagulant and flocculant that removes pollutants from solution and flocculates fine suspended solids, such as skin cells and bacteria, into large particles that are easily removed by AFM® (Activated Filter Media).

No single flocculant or coagulant can remove everything from the water. APF® is a precise combination of 6 different electrolytes and polyelectrolytes to cover the widest possible range. Dissolved constituents of water make up 80 % of the oxidation demand and suspended solids around 20%. Everything that is filtered out does not need to be oxidised.

When the correct flocculation is used in combination with AFM®, oxidation demand is reduced and RedOx potential increases. In chlorinated systems unwanted disinfection by-products are reduced by up to 80 %.



Example of a flocculation process



Your benefits at a glance:

✓ For sanitary security

APF® is required to optimise removal of bacteria, parasites such as Cryptosporidium, Giardia and Mycobacterial parasites (Candida, Aspergillus etc).

✓ Economic and environmental

Improved filtration reduces oxidation demand by up to 80 %. It also means there will be fewer disinfection by-products formed. Operating costs will be lower and there will be less of an impact on the environment.

✓ For chlorine-free treatment in biological systems

APF® is an important aid in chlorine-free water treatment of aquatic mammal LSS in combination with AFM® filtration.

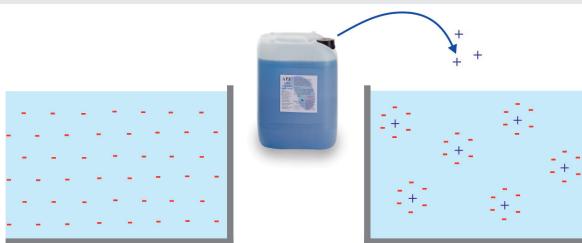


Optimising chlorinated and biological LSS

What is coagulation and flocculation?

Coagulation; is the process of dragging chemicals out of solution to form colloidal suspensions of small particles. In order to make coagulation work, APF® must be mixed instantly and aggressively with the water, this is why we designed the ZPM. If a ZPM is not used, the coagulation stage is missed, organics will remain in solution and APF® jumps to flocculation.

Flocculation; is the process of bringing colloidal suspensions of small particles (organics, detritus, bacteria and parasites) together to form larger flocs that can be easily removed by AFM®. APF® imparts a positive charge to particles that are then attracted to the negatively charged surface of AFM®. Flocculation takes several minutes and the particle floc is very fragile, so the water must not be subjected to aggressive agitation.



Performance of APF®?

AFM® filter media provides nominal filtration down to 5μ (at 20m/hr filtration velocity). When APF® is used, nominal filtration of 0.1μ is reached, so parasites such as Vibrio, Cryptosporidians, Giardia and Mycobacteria (Candida, Aspergillus) are removed from the water. APF® also contains NoPhos to remove phosphates from the water. If there are no dissolved phosphates, then bacteria and algae simply cannot grow. The improved filtration performance offered by APF® not only makes LSS safer and healthier, it can reduce chemical oxidant demand by up to 80% and help protect our environment.

Who is Dryden Aqua?

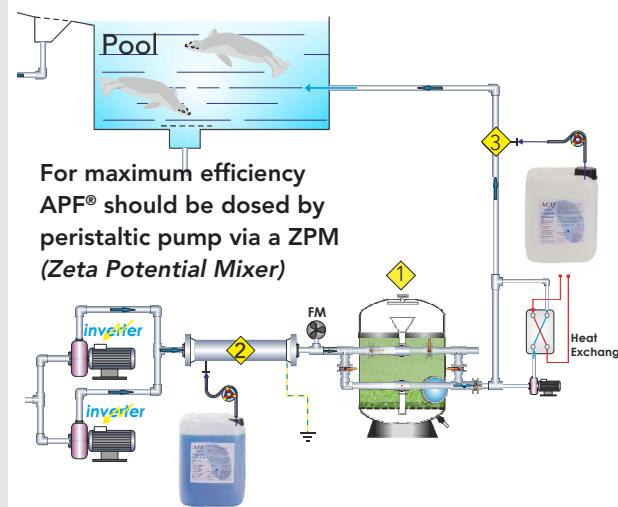
We are a Scottish marine biological company founded in 1980 primarily to serve the aquaculture industry and AFM was developed specifically for aquaculture and aquarium use. Our unique knowledge combination and detailed understanding of biological as well as physio-chemical reactions has since enabled us to develop into other markets where sustainable water treatment processes can make a difference.

Our passion however remains in the aquaculture and aquarium industries which provided the foundation for our commitment to conservation and sustainable technology. Our mission is to help make the world a better place by providing solutions that save lives in developing countries, improve overall public health around the world and have a positive environmental impact on our ecosystem.

How to use APF®?

APF® should be dosed into the water at a constant very slow flow rate, of 1 fl.oz. per 15,000 gallons of filtered turnover. Only peristaltic pumps should be used. For best results, APF® should be injected directly via a Dryden Aqua ZPM static mixer, located between the pumps and the AFM® filters. The pH should be neutral, alkalinity should be greater than 30ppm.

How to use APF®?



1 Filtration with **AFM®**

2 Coagulation and flocculation with **APF®** and **ZPM**

3 Catalytic oxidation with **ACO®**

Dosage Monitoring and Control.

Once commissioned, dosage can be monitored by weekly Aluminium analyses using Al test reagents in a standard spectrophotometer. Drinking water guidelines allow a maximum Al concentration of 0.2 mg/l. Optimal APF® flocculation requires 1 fl.oz. per 15,000 gallons of filtered turnover.

