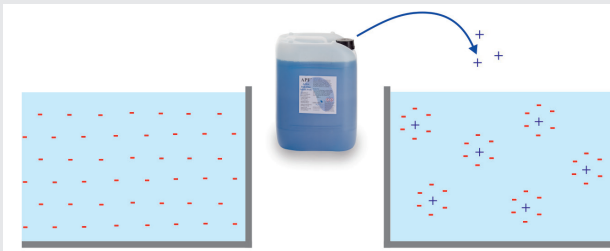


Optimising chlorinated and biological LSS

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 (organic 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 charge surface of AFM®. Flocculation takes several minutes and the particle floc is very fragile, so the water must not be subjected to aggressive agitation.



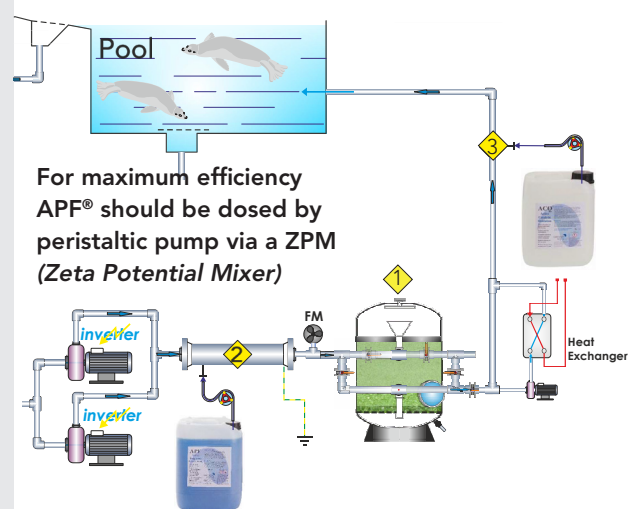
Performance of APF®?

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.

How to use APF®?

APF® should be dosed into the water at a constant very slow flow rate. 0.5 - 1ml. of APF® is injected per m³ of water circulated through the filters. Only peristaltic pumps such as the Dryden Aqua flocculation pump 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®?



For maximum efficiency APF® should be dosed by peristaltic pump via a ZPM (Zeta Potential Mixer)

- 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 0.05 - 0.1ml per m³ of filtration turnover.

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.