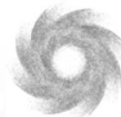




## Crossflow – AMF

Advanced Media Filter (IPS Patent)



The Crossflow Advanced Media Filter (AMF) is a significant development in high efficiency media filtration technology. The system utilises a unique patented Crossflow bed stabiliser which maintains flat bed filtration with high surface turbulence. This ensures that no bio-fouling can be seeded whilst holding filtered contamination in suspension above the media bed. This gives lower pressure drops, longer filtration cycles and shorter backwash making direct savings on operational costs.

The high interstitial void volume of the media allows for greater solids holding capacity and contamination interaction for the zeta potential of the media to remove the finer particulates down to less than 0.45 micron. Compared with conventional filters, the inlet configuration allows for high flow rates, these being 5 times higher than the normal accepted flux rates.

Backwash volume used is also significantly lower, especially when the longer operational period is taken into consideration. It is also more effective with backwash times per unit being as low as 2 minutes. All this means that the Crossflow AMF filter has been shown to provide a high efficiency removal rate of over 86% at 1.0 micron.

### Key Advantages

- Five times the flow of conventional media filters yet with enhanced performance and low pressure drop;
- Filtration down to 0.45 micron;
- Small backwash volumes (from 60 to 200 litres only);
- No bio-fouling;
- Uses an advanced media with Zeta potential for enhanced filtration of <10 micron particles;
- Small footprint;
- Modular construction flows from 3m<sup>3</sup>/hr-1000m<sup>3</sup>/hr as standard;
- PED 5500;
- Working pressures from 2-10 barg;
- Unique patented technology



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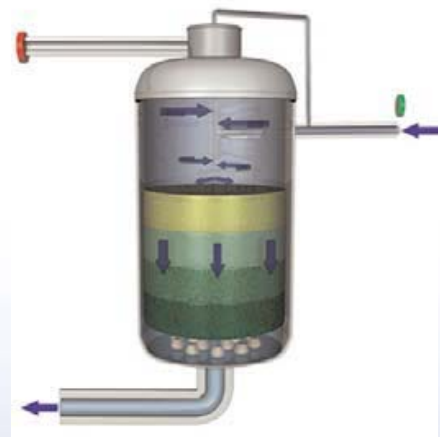
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## The Process

A true tangential inlet is created by relocating on the side of the vessel, rather than the centre line. The flow is higher than a conventional media filter and bio-fouling is effectively removed by the Crossflow flow within the filter and the continuous bed movement. As the solids are in the water above the filter bed, rather than within it, the backflush is quicker and uses less water.

The Patented 'Crossflow Stabiliser' ensure filtration stability as well as bed movement with high flow rates and anti bio fouling. By introducing a percentage of the process water to the eye of the Crossflow via the stabiliser, a flat but fluidised bed is achieved facilitating a filtration flow rate 5-6 times higher than a conventional media filter filtering only to 20 micron is achieved. Contamination is removed to less than 1.0 micron with consistent performance results



## Comparison of a similarly sized standard media filter vs Crossflow AMD

	Standard media filter 10 micron	Crossflow AMF
Flow Rate	8 to 10 m <sup>3</sup> /hr/m <sup>2</sup>	50 to 60 m <sup>3</sup> /hr/m <sup>2</sup>
Solids Load	70ppm	70ppm
Filter Area	0.44m <sup>2</sup>	0.44m <sup>2</sup>
Flow Rate	5.5m <sup>3</sup> /hr	21m <sup>3</sup> /hr
Efficiency	70% @ 10 micron	>80% at 1.0 micron
Filtration Time	12 hrs	48 hrs
Pressure Drop	0.8 bar	0.8 bar
Backwash Time	8 mins	3 mins
Backwash Volume Rate	20m <sup>3</sup> /hr	5.5m <sup>3</sup> /hr
Backwash volume used 48 hrs	10,000 litres	250 litres