

Ref: 2010.103.F
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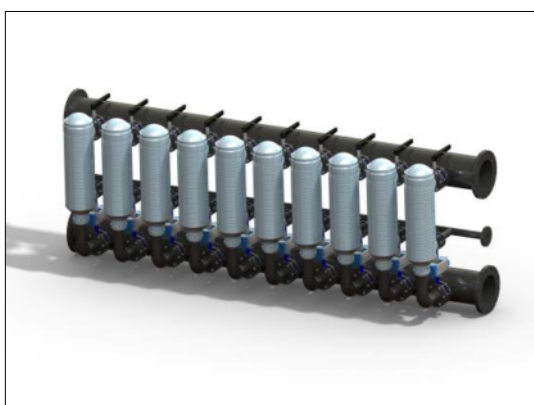
Ref: Seawater CD/2010.103.F1



Caption:

Cross two-pod filter unit with 3 inch inlet and return pipework providing a filtering flow rate of up to 20 litres/second at 75 microns. The engineer is holding a filter cage comprising four self-cleaning "zero gravity" filter coils.

Ref: Seawater CD/2010.103.F2



Caption:

Solidworks diagram of a large, multiple-pod sea water filter. The number of pods can be calculated to accurately meet the duty requirement, whilst sequential backwashing eliminates the need for built-in redundancy.

Cross has designs on large sea water filters

Cross Manufacturing has extensive experience in aerospace engineering coupled with decades of research into the best materials for the most challenging environments. This experience, combined with significant improvements in plastics technology, has resulted in a new filter specifically designed for the extremely corrosive environment of sea water and estuary water systems.

With the new design, Cross claims to have developed long lasting, money saving, reliable automatic filtration equipment that can be installed in modules to meet even the largest flow. According to Cross, large scale installations such as desalination plants, coastal power stations and cooling tower circuits could all see huge savings in relatively short timescales. Smaller applications such as sea life centres and marine developments could also use the same product on a smaller scale.

The technology is based on a patented stainless steel "zero gravity" filter coil which is already in widespread use in many areas of industry including water and wastewater treatment and heating and air conditioning plant rooms. A set of filter coils is fitted into a pod and each pod can be backwashed individually and automatically at a selectable differential pressure value. The filtration process is not interrupted which ensures minimal effect on flow and the requirement for any redundant filtration capacity is eliminated. Automation is PLC controlled and actuation is, in larger systems, pneumatic.

The key to this latest project has been to identify materials that not just withstand the incredibly corrosive nature of sea water, but also the destructive action of erosion caused by silt heavy estuary water. Cross's extensive research concluded that a filter coil made from alloy 625 combined with a large polypropylene housing, polyethylene pipework and bronze backwashing valves is the way forward for large scale sea water and estuary filtration systems. An all metal construction is also being designed for high pressure systems or where there may be higher temperatures.

Whilst extensive, long term trials continue, Cross is keen to bring its experiences and research to those who need it the most and would encourage industries, environmental agencies and coastal businesses to contact the company with a view to installing pilot plants in any genuine seawater or estuarial application.

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Issued on behalf of:

CROSS MANUFACTURING CO. (1938) LTD.

Midford Road, Bath, BA2 5RR.

Tel: +44 1225 837000, Fax: +44 1225 834115

Email: filters@crossmanufacturing.com

Web: www.crossfilters.com

Contact:

Tom Cross (Cross Manufacturing)

Produced by: **FTPublicity Ltd**, PO Box 2945, Corsham, Wiltshire, SN13 9WT,
UK. Tel: +44 1249 714447 Email: ftpublicity@aol.com
www.ftpublicity.co.uk

www.crossfilters.com

Photographs attached