

Coalescing Filters

Waterex's range of coalescing filters are typically used to remove or separate organic phases from process electrolytes and oil from liquids including mother liquors and process condensates.

In SX applications the media used provides for efficient removal of organic and suspended solids from the electrolyte stream. SX filters use two separate layers, one for coalescing and one for filtration. The coalescing media layer provides organic removal down to 2 ppm while the filtration media provides filtration down to 10 micron (typically 5 micron).

In oil applications resins may be used to strip oil achieving a filtrate of less than 0.1 ppm.

Coalescing filter vessels can be fitted with a combination of lamella and media to assist with the efficient removal of an organic phase and suspended solids. When operating with pregnant solutions and backwashing with stripped or inert liquors, electrolyte recovery cowls may be used to maximise the retention of high value electrolytes.

For critical applications air scouring is used to assist in backwashing. An air blown purge is integrated into the coalescing filter in full pregnant liquor recovery applications.

Applications

Waterex uses coalescing filters to provide solutions for many applications including:

- Electrolyte polishing
- Oil removal from boiler condensates
- Organic removal from process condensates
- Oil recovery in machine shop or automotive applications
- Polishing prior to ion exchange
- Steel mill cooling water recycle
- Solvent extraction



Features

Coalescing filters include the following features:

- Combination media, baffle and resin bead bed can be used
- Lamella can be used to assist removal
- Backwash flow designs are made efficient to ensure full fluidisation of the filter beds to effect light self abrasion cleaning by the media
- Air scouring may be installed on critical applications
- Air blown purge for full pregnant liquor recovery
- A steam heating cycle may be incorporated to increase the organic recovery and improve media life
- Split vessel backwash is available
- Pressure or explosion safety relief systems are available
- Oil or organic separate phase recovery concentrators or risers are available
- PLC's including multiple interlocks can be used to fully automate the system

Materials of Construction

Waterex design filters on an individual basis to suit the application. We can manufacture filters in a variety of materials including: FRP, epoxy coated mild steel, galvanised mild steel, stainless steel 304, 316, 904, super duplex stainless steel SAF2205, and SAF2507. Polypropylene or ceramic baffles are available for high temperature or aggressive process conditions.

Containerisation

If the filter vessel size permits, Waterex are able to install filter vessels and related equipment into customised containers.

Pilot Plant

Waterex have a coalescing filter pilot plant available for use on-site or at our premises in Perth. The filter vessel can be filled with media to suit the application and air scouring can be fitted to the vessel if required.

