



# Advanced Water Treatment Solutions

## Fluoride & Arsenic Filtration

Fluoride is found in the waste discharges from process streams from many different industries. Significant amounts of fluoride come from the following: glass manufacturers, electroplating operations, semiconductor manufacturers, steel and aluminum, pesticides and fertilizer, and groundwater. In certain regions in the US, there is enough fluoride in the water to cause fluorosis.

Arsenic is a naturally occurring element found in rocks, soil and water. Apart from industrial waste streams, contamination by arsenic and fluoride can occur from the natural dissolution of minerals into groundwater streams. High fluoride and arsenic levels in drinking water are known to cause serious health problems when MCL's exceed regulated limits.

**FILTRONICS ELECTROMEDIA® IX reduces fluoride and arsenic content to below detection limits (2 ppb) for high influent concentrations.**

Whether fluoride is the only issue or if other metals are present, Filtronics has a variety of approaches to address your water treatment needs. We review your water quality and provide capital, operating and maintenance costs for either the EM-IX or the EM-Pure or both. We will assist you in finding the most suitable and cost effective solution to your fluoride treatment needs.

Our primary concern is for the owners and operators. The systems are designed to be as simple as possible and to produce quality water at the lowest cost.

### **Filtronics EM-IX Advantages**

- Complete Filtration Solution
- Exceeds Federal Safe Drinking Water Requirements
- Microprocessor Controlled for Simplified Operation, Monitoring & Maintenance
- Practical and Cost Effective



As a leader in filtration innovation, Filtronics engineers can determine practical and cost effective solutions to meet your water quality needs.



Advanced  
Water  
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## Fluoride & arsenic Filtration

### ELECTROMEDIA® IX

Electromedia® IX is used for adsorptive filtration applications such as activated alumina or hydroxide based adsorptive filter media. We combine our superior filter and media design with the known adsorptive methods. Whether upflow or downflow, in series or parallel, the Electromedia® IX filter system with adsorptive media offers longer bed volumes than other brands. Longer bed life volumes lower operating costs and decrease the number of media replacements.

Filtronics EM-IX system is flexible enough in design to change to a coagulation filtration arrangement with simple modifications to controls, media, and chemical feed.

#### ACTIVATED ALUMINA

Activated alumina is used for treating water with fluoride. At times arsenic may also be present with the source water and will be treated simultaneously. The primary contaminant limit for fluoride is 4.0 mg/L. The secondary standard is 2.0 mg/L, with some states applying the ambient air temperature factor which may raise or lower the applicable standard.

Activated alumina is manufactured from bauxite and adsorbs fluoride from water. Performance and longevity of the material are improved by lowering the pH of the source water. Periodically, the alumina media is chemically regenerated in place. In most applications, a portion of the media is lost in the regeneration process.

#### ARSENIC ADSORPTION BY HYDROXIDE MEDIA

Certain water sources are conveniently or optimally treated by adsorptive filtration for arsenic reduction. The convenience of a media that can 'sponge up' the arsenic and be hauled away makes sense for small systems and/or low flow applications, especially where space or sewer connections may be limited. It also does not require acid/caustic regeneration.

#### AUTOMATION

Our standard controls package uses a PLC and graphic display panel for automatic, unattended operation. Automatic filter controls include reset timers for filtration, backwash and purge. Backwash is initiated by time or differential pressure override. Controls are housed in a NEMA 4 or NEMA 12 enclosure.

#### STANDARD EQUIPMENT

- Flow range from 20 to 10,000 gpm systems.
- 60 psi pressure tank ASME code, stamped. (Higher pressures available)
- Filter tanks are carbon steel, with epoxy lining of all wetted surfaces.
- Backwash flow controls, air release valves, automatic filter control valves.
- Standard interior fittings: PVC, and/or stainless steel.
- Each tank fitted with 12" X16" access hatches, 6" x 8" hand holes, or manways depending on filter size.



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