



## SMALL UTILITY ARSENIC TREATMENT SYSTEMS

If you are responsible for a small water utility, school, or other small regulated water system you may be faced with meeting the EPA's revised arsenic rule that lowers the acceptable arsenic levels in drinking water from 50 ppb to 10 ppb. Your operation likely faces unique challenges that large drinking water systems, with full time engineering staffs, do not have.

If you decide that you will install a treatment system, you will need to answer several questions when choosing a supplier for an arsenic removal system.

- Which equipment?
- Which media?
- Who will be able to support me with the required engineering and documentation?

Evoqua Water Technologies believes that the solution to arsenic treatment is more than just tanks and media. System service, dependability, and cost are the important decisions you need to make. Our engineering and service teams make the selection of a treatment system easier by providing the information and support you need to make an informed choice.

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We take the guess work out of specifying your arsenic treatment system. Our small utility package provides a choice of fixed on-site tanks or exchange tanks, and several different media choices to fit your unique chemistry. We provide support from engineering design to turnkey installation, to system documentation in support of your operating or construction permit.

Evoqua treatment systems are designed to ensure simplicity in both operation and media replacement. They provide consistent and continuous treated water with arsenic levels below the MCL. They are designed to provide long system life at the lowest operating costs possible.

#### The Equipment:

- **Pre-Filtration** - Minimizes media backwash requirements and reduces chances for high pressure drops across the system during operation.
- **Fixed Tank System** - Equipped with automatic back-washing valves and are piped to ensure that the backwash water meets arsenic discharge requirements.
- **Exchange Tanks** - Simple or temporary solution. Exchange tanks are designed to exchange not just the media but the entire tank. Since there is no on-site media handling operator hassle and downtime is reduced.
- **Skid Mounted Systems** - All our systems can be skid mounted with flanged supply and discharge connections that simplify installation so you can be up and running in a few hours rather than days.
- **Basic Instrument Package** - The base unit requires no electrical connections but includes pressure gauges, flow indicators, and cumulative flow meters.
- **NSF Certification** - All wetted parts and components have NSF 61 Certification.

### The Medias:

We have access to and provide a broad range of current media technologies for arsenic removal including:

- Iron-based granular medias, Granular Ferric Hydroxide
- Arsenic removal resins
- Tailored carbons
- Titanium-based granular medias

Using our proprietary modeling software we will recommend the most cost effective media for your facility, by evaluating multiple medias simultaneously.

NSF Certification – All Medias recommended will have NSF 61 Certification.

#### OPERATING LIMITS\*

Maximum Feed Temperature	100°F
Minimum Feed Temperature	45°F
Maximum Feed Pressure	100 psig
Minimum Feed Pressure	20 psig

\*If any of the operating conditions are not within the limits given, consult Evoqua for the appropriate recommendation and application assistance.

### Services:

With over 85 service branches in North America, we are uniquely positioned to provide a complete range of services for your arsenic treatment system. Our trained and certified technicians come to your site to check on system performance, obtain water samples, and safely remove the exhausted media and/or replace the spent media tanks with fresh, sanitized tanks during the same service visit. We then dispose of the spent media in accordance with all regulations, at approved disposal facilities.

#### FLOW RATE SPECIFICATIONS (gpm)

System	14-1	16-1	18-1.5	21-1.5	24-1.5	30-2	36-2	42-3
Standard Service Maximum (gpm)	10.7	14.0	17.7	24.0	31.4	49.1	70.6	96.2
Standard Service Minimum (gpm)	2.1	2.8	3.5	3.5	6.3	9.8	14.1	19.2
Fixed Beds	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tank Exchange Beds	Yes	No	No	Yes	No	Yes	No	Yes
Backwash Maximum (gpm)	8	11	14	19	25	40	56	72

### Available Options:

- Turnkey installation
- Instrumentation package
- Pressure differential alarms
- Seismic zone 4 certification
- Booster pumps
- Buildings for systems
- Pad construction
- Fence construction
- Remote monitoring
- Bypass flow piping and instrumentation

### Services Include:

- Pre installation review
- Laboratory analysis
- Media selection
- Engineering support
- Field installation
- Service contracts
- Vessel exchange
- Equipment financing and leasing

#### DESIGN PARAMETERS

Configuration	Parallel Operation or Lead/Lag
Feed Temperature	45-100°F
Feed Pressure	30-100 psig +/- 5 psig
Maximum Inlet Turbidity	5 NTU
Sizing	5-12 gpm / ft <sup>2</sup> (max) @ 2-5 min EBCT (typ)
Bed Depth	24 to 48 inches
Freeboard	40 to 100%
Capacities	Chemistry dependent. Contact Evoqua.
Backwash	2-8 gpm/ft <sup>2</sup> , media dependent



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