Introducing the AdEdge AD26 Series Systems

For Arsenic, Iron, Manganese, and Sulfide Reduction

The New Option for Effective Removal of Arsenic, Iron and Manganese To Meet the New Arsenic Standard

AdEdge's new AD26 Systems for commercial and community water systems are rapidly emerging as the preferred alternative for removing arsenic, iron, and manganese. These systems are ideal for eliminating nuisance parameters and improving overall water quality. The integrated oxidation and filtration technology utilizes a proprietary, highly active, NSF Certified manganese dioxide media. It is packaged in a pre-engineered skid mounted treatment system for simple installation and use. The targeted contaminants are co-precipitated and filtered in the media bed, which is periodically backwashed.

The systems have been designed by AdEdge specifically for well head treatment where high iron coexists with arsenic exceeding the EPA MCL. The AdEdge AD26 systems can be employed as stand alone systems (depending on the water quality) or used as the perfect compliment to AdEdge's arsenic adsorption systems employing its granular ferric oxide media Bayoxide E/AD33.

Whether you need to comply with the new arsenic standard or simply want to improve the quality of your water, the AD26 systems may be the solution.

ADVANTAGES

Iron and/or manganese often coexist with arsenic in groundwater environments and can foul or impede the performance of media-based adsorption systems if not properly addressed. The AdEdge AD26 Systems offer the following advantages for achieving compliance with these contaminants:

- *High catalytic / oxidation activity for co-precipitation*
- *Much higher filtration rates in gpm/sq ft compared to manganese greensand resulting in significantly smaller systems and footprint*
- *Low capital costs compared to alternatives*
- *More reliable and efficient removal of arsenic, iron, manganese, and sulfides than conventional approaches using other medias*
- *Superior handling properties, stability, and NSF 61 certification with no permanganate or coagulant addition needed*
- *Enhanced kinetics that allow short contact times*
- *Long life typically over 5 years before replacement*
- *Performance over wide range of incoming water quality*
- *Ideal compliment to granular ferric oxide (Bayoxide E/AD33) adsorption systems that results in longer media life and lower operating costs*

Q: How does the system remove arsenic in addition to iron and manganese?

A: *Naturally occurring iron has an affinity for arsenic. Through mechanisms of oxidation and co-precipitation, these contaminants chemically react with one another and are efficiently removed in the AD26 media beds. Depending on the Iron to Arsenic ratio and specific water chemistry, the system can achieve treatment efficiencies for these contaminants to meet primary and secondary drinking water standards or stringent discharge permits.*

Q: When should a stand alone AD26 System be considered vs. a two stage treatment system for arsenic?

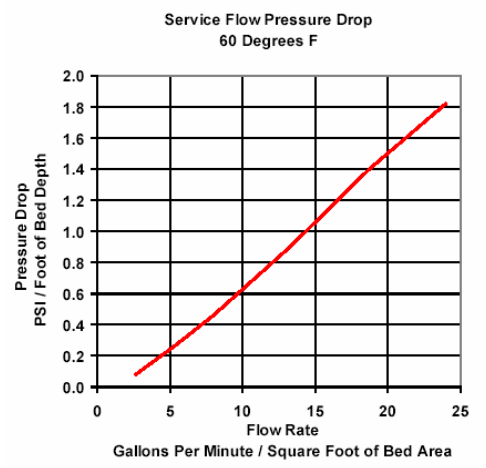
A: *The figure shown provides some guidance on the appropriate configuration for a specific water chemisty. Mainly, it wil be selected by iron and arsenic levels in the feed water. High levels of arsenic combined with high iron would favor a two stage treatment train for optimal performance to meet the Arsenic MCL. For low arsenic concentrations, a stand alone AD26 system may achieve the treatment goals. Consult AdEdge for guidance on the best approach.*

Q: Is chlorine needed for the system and does the media need replacement?

A: *A low Hypochlorite dose is recommended for optimal performance of the AD26 systems. It enhances the removal process, improves longevity, and keeps the surface of the media oxidized to prevent buildup of solids. Media life is typically 5+ years before replacement.*

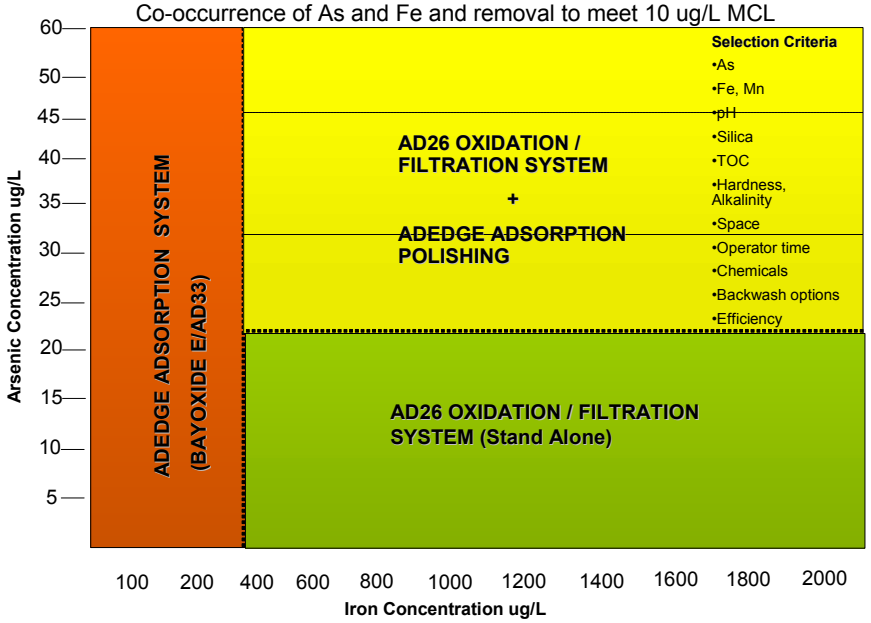
Q: How do I determine the best way to achieve my treatment goals for my particular site?

A: *Begin first by obtaining a complete site specific water profile from a qualified lab. This information can then be submitted to AdEdge technical support to discuss your application, equipment sizing, and costs.*



AdEdge Treatment Selection

Co-occurrence of As and Fe and removal to meet 10 ug/L MCL



Operating Conditions	
pH Range	*6.5 – 9*
Treatment Goals	*< 0.3 mg/L Fe; < 0.05 mg/L Mn < 0.010 mg/L As*
Service Flow Rate	*10-12 gpm / Sq Ft*
Backwash Flow Rate	*18-20 gpm / Sq Ft*
Bed Expansion	*20-30% typical*
Pressure Drop	*< 5 psi typical across system*
Oxidant	*Hypochlorite feed for best results*
Oxidant Contact Time	*30 seconds*
Typical Oxidant Dosage	*0.5 – 2.0 ppm*
Backwash Frequency	*Site Specific (1-2X per week typical)*
Media Life Expectancy	*Site specific; typically 5+ years*

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Manage the elements

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