



by AdEdge Water Technologies LLC

# Arsenic Treatment Solutions for Residential Water Applications

Point of Use Systems  
Point of Entry Systems



## PACKAGED RESIDENTIAL ARSENIC ADSORPTION SYSTEMS

AdVantEdge's POE Medallion Series treatment systems offer a new level of quality and convenience. These packaged residential and light commercial systems, specifically designed for arsenic treatment are the culmination of years of experience. The systems utilize AdEdge's Bayoxide® E33 adsorption media for reliable, simple, and cost-effective treatment. No other technology can compare to its simplicity and ease of use. The media can operate over a wide range of water quality and utilizes no regeneration chemicals, salt or additives. Only periodic backwashing is required. The spent media, upon exhaustion, is easily disposed as non-hazardous waste.

Some features and benefits include:

- Complete pre-packaged, pre-designed modular system for ease of use
- Reduces Up to 99% reduction of Arsenic (V) and (III) without chemicals
- Automatic controls with LCD display / readout
- Proven, reliable treatment without hassle of chemicals or brine
- Long product life for economical performance

AdVantEdge offers three sizes of systems to accommodate home, light commercial and low flow remediation applications, The POE-4-1054, POE-5-1252, POE-7-1354, and the POE-10-1465 are sized for 4-gpm, 5-gpm, 7-gpm, and 10-gpm flows respectively. The following table highlights the basic system specifications.



Specifications	Model POE-4-1054	Model POE-5-1252	Model POE-7-1354	Model POE-10-1465
Dimensions	10"W x 54"H	12"W x 52"H	13"W x 54"H	14"W x 65"H
Quantity of Media	1.5 cubic feet	2 cubic feet	2.75 cubic feet	4 cubic feet
Media Type	Bayoxide® E33	Bayoxide® E33	Bayoxide® E33	Bayoxide® E33
Normal Service Flow	3 - 5 gpm	4 - 6 gpm	6 - 8 gpm	8 - 10 gpm
Peak Flow Rate	5 gpm	6 gpm	8 gpm	10 gpm
Backwash Max Flow	4.5 gpm	5 gpm	7 gpm	10 gpm
Backwash Cycles	Automatic	Automatic	Automatic	Automatic
Inlet/Outlet	1" dia MPT PVC	1" dia MPT PVC	1" dia MPT PVC	1" dia MPT PVC
Drain	3/4" connection	3/4" connection	3/4" connection	3/4" connection
Underbed Material	Gravel/Stone	Gravel/Stone	Gravel/Stone	Gravel/Stone
Shipping Weight	105 lbs	120 lbs	160 lbs	230 lbs
Temperature Range	33°F - 100°F	33°F - 100°F	33°F - 100°F	33°F - 100°F

## Medallion Series POE

### DATA SHEET



#### Q: What is the recommended incoming water quality for best performance?

Parameter	All Models
Arsenic Concentration Range	5 - 500 ppb <sup>1, 2</sup>
Typical Treatment Goal	< 10 ppb total arsenic <sup>3</sup>
Arsenic Types Reduced	As (V) and As (III)
Removal Efficiency	90 - 99% typical
Estimated Media Life	Water quality and usage dependent <sup>4</sup>
Spent Media Disposal	Non-hazardous waste landfill <sup>5</sup>
Recommended Incoming Water Quality for Best Results:	pH range: 5.5 – 8.5 Arsenic: 5 - 100 ppb Iron: < 0.5 mg/L Manganese: < 0.05 mg/L Sulfides: < 0.1 mg/L Silica: < 30 mg/L Phosphate: < 0.5 mg/L Sulfate: < 100 mg/L Fluoride: < 1.0 mg/L Hardness: < 300 mg/L Sediment: Use pre-filter Tannins: Consult us
Use with Water Conditioner Unit:	Not required, but if utilized, place softener unit prior to AdEdge adsorption system
<b>Notes:</b> 1. Above table is guideline only; AdVantEdge dealer responsible for completing site specific profile for prescribing appropriate system with AdVantEdge technical support 2. Systems can reduce higher arsenic concentrations; consult AdEdge for details 3. Treatment goal reflects current EPA MCL of 10 ppb arsenic 4. Media life projections can be provided by AdEdge upon review of water profile and projected use information. 5. Spent media passes EPA TCLP (Toxic Characteristic Leaching Procedure)	

#### Note:

Bayoxide® E33 is a registered trademark of LANXESS Deutschland GmbH.

#### Q: What are some of the valve/microprocessor features?

- Built-in flow controls
- Flow totalizer for tracking gallons treated for media changeout
- Built-in sample ports
- LCD readout
- Variable sequencing backwashing capability

#### Q: How does the technology compare to other treatment alternatives?

Comparison of Point of Entry Treatment Alternatives			
Feature	Anion Exchange	Reverse Osmosis	Medallion Series POE
Type of arsenic treated	As (V)	As (V)	As (V) and As (III)
Pre-oxidation step required for Arsenic removal	Yes	Yes	No
Chemical Use	Yes, salt	Membrane cleaning	None
Loss (waste) of water	5%	25 - 75%	< 1%
Frequency of regeneration	Approx. every 2000-4,000 gallons	N/A	Non-
Hazardous waste generation	Yes	Concentrated arsenic reject	None
Off-taste potential	Yes	No	No
Maintenance	High	High	Low
Arsenic "dumping"	Possible	N/A	No
Changes in water chemistry	Lowers pH	Removes TDS	Negligible
Cost	Moderate	High	Moderate



**Stainless Steel Point-of-Use  
System for Arsenic, Cysts, Lead,  
PCBs, VOCs, and much more.**

### **AdVantEdge Plus<sup>+</sup> Series System**

The most technologically advanced residential water treatment device available today. AdVantEdge Plus<sup>+</sup> drinking water systems provide the utmost in performance, safety, and convenience. Innovative, highly effective Plus<sup>+</sup> systems feature a solid carbon block filtration, electro-kinetic adsorption, and chemical/physical adsorption to provide the most effective contaminant reduction possible.

The effectiveness of AdVantEdge Plus<sup>+</sup> drinking water systems in treating a broad spectrum of aesthetic issues as well as health concerns makes it the technology choice by consumers throughout the world.



### **One Filter Does It All!**

- **Easy and convenient to use: provides delicious, clear, healthier drinking water whenever you need it.**
- **Better-tasting beverages - coffee, tea, juices, and drinks of all kinds.**
- **Use for food preparation, improving the taste of fruits and vegetables.**
- **Highest quality water for cooking - better pasta, sauces, soups, etc.**
- **Guaranteed quality backed by an outstanding warranty.**
- **Cost-effective solution to meet your budget and replaces costly bottled water.**
- **Attaches easily to your faucet.**
- **Reliable protection for all of your family's drinking water needs.**



**Plus<sup>+</sup> drinking water systems are tested according to ANSI/NSF Standards 42 and 53 for the following reduction claims:**

**Arsenic, Asbestos, Chloramine, Chlordane, Chlorine, Cyst (Giardia, Cryptosporidium, Entamoeba), Lead, Mercury, MTBE, Particulate matter (Class 1 (0.5 Micron)), PCB, Toxaphene, Turbidity, Volatile Organic Compounds (listed below):**

Alachlor, Atrazine, Benzene, Carbofuran, Carbon Tetrachloride, Chlorobenzene, Chloropicrin, 2 4-D, Dibromochloropropane, o-Dichlorobenzene, p-Dichlorobenzene, 1 2-Dichloroethylene, 1 1-Dichloroethylene, cis-1 2-Dichloroethylene, trans-1 2-Dichloroethylene, 1 2-Dichloropropane, cis-1 3-Dichloropropylene, Dinoseb, Endrin, Ethylbenzene, Ethylene Dibromide (EDB), Haloacetonitriles (HAN), Bromochloroacetonitrile, Dibromoacetonitrile, Dichloroacetonitrile, Trichloroacetonitrile, Haloketones (HK), 1 1-Dichloro-2-Propanone, 1 1 1-Trichloro-2-Propanone, Heptachlor, Heptachlor Epoxide, Hexachlorobutadiene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Pentachlorophenol, Simazine, Styrene, 1 1 2 2-Tetrachloroethane, Tetrachloroethylene, Toluene, 2 4 5-TP (Silvex), Tribromoacetic Acid, 1 2 4-Trichlorobenzene, 1 1 1-Trichloroethane, 1 1 2-Trichloroethane, Trichloroethylene, Trihalomethanes (TTHM), Chloroform (surrogate), Bromoform, Bromodichloroethane, Dibromochloromethane, Xylenes.

This list of contaminants that Plus<sup>+</sup> drinking water systems reduce does not mean that these substances are present in your tap water. Be sure to check for compliance with state and local laws and regulations. Not intended to be used where the water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

Plus<sup>+</sup> Series drinking water systems are manufactured by Multi-Pure Corporation using Arsenic Reduction technology from AdEdge Water Technologies, LLC.

### **Specifications: Model # Plus<sup>+</sup>**

Filtration Cartridge	4.75" x 10.5" MPNNAs cartridge
Materials Housing	Stainless Steel
Particulate Retention	0.5 micron
Faucet	Lead-free faucet
Shut Off Device	Flow Meter w/Shut-off Device
Arsenic media	AdEdge custom AD33L product
Inlet / Outlet	3/8" / 1/4"

### **Performance**

Rated Cartridge Life	960 gallons
Arsenic concentration	Up to 50 ppb influent arsenic
Replacement	Every 12 months or 960 gallons. whichever comes first
Rated flow rate	1.0 gpm @ 60psi
Water Pressure	125 psi max / 30 psi min

**Contact Your Local Distributor:**



AdEdge Water Technologies, LLC  
2055 Boggs Road Duluth, Georgia 30096  
(866) 8AEDGE (678) 835-0057 (fax)  
[www.advantedgewater.com](http://www.advantedgewater.com)



## UNDER-COUNTER POU SYSTEM FOR ARSENIC REDUCTION

The DWS-4510-01 is a single stage water treatment approach with an integrated system design, ideal for under-counter household use. The system includes a selected 4.5 inch x 10 inch arsenic removal cartridge, housing components, i.e., sumps, caps, mounting bracket, faucet (lead-free), shut-off device, and tubing for a complete unit. AdEdge Water Technologies supplies both the system components and replacement cartridges. The system is available to qualified water treatment distributors and dealers for subsequent re-sale to end users. Replacement cartridges are available through AdVantEdge authorized distributors.

### SPECIFICATIONS - MODEL DWS-4510-01

Arsenic Cartridge	4.5-inch x 10-inch; AdVantEdge Model AD4510S
Materials Housing	Injection molded plastic
Mounting	Painted metal mounting bracket
Faucet	Lead-free faucet with 1/4 inch tubing
Shut Off Device	Mechanical countdown shut-off device mounted on bracket
Arsenic Media	Bayoxide® E33
Water Source	Potable water of known microbiological quality (microbiologically safe)
NSF Testing	Components tested in accordance with NSF protocols, no specific listings
Dimensions	7.5" width / 21" height



Specifications	Model: DWS-4510-01
Rated Cartridge Life	1000 gallons 3000 gallons
Arsenic Concentration	Up to 100 ppb influent arsenic; if higher than 100 ppb please consult AdEdge Up to 50 ppb influent arsenic
Replacement	Every 12 months or 1000 gallons, whichever comes first (for 100 ppb arsenic) Every 12 months or 3000 gallons, whichever comes first (for 50 ppb arsenic)
Rated Flow Rate	0.5 gpm
Parameters	Claims made are for pH values at 8.5. Performance can be almost doubled at lower pH values (i.e. 6.5)

**Note:**

Bayoxide® E33 is a registered trademark of LANXESS Deutschland GmbH.

## UNDER-COUNTER POU SYSTEM FOR SEDIMENT AND ARSENIC REDUCTION

The DWS-2S-2710-01 is a dual stage water treatment approach with an integrated system design, ideal for under-counter household use. The system includes a selected 10 inch, 5 micron polypropylene sediment cartridge, a 2.75 x 9.75 inch arsenic removal cartridge, housing components, i.e., sumps, caps, mounting bracket, faucet (lead-free), shut-off device, and tubing for a complete unit. AdEdge Water Technologies supplies both the system components and replacement cartridges. The system is available to qualified water treatment distributors and dealers for subsequent re-sale to end users. Replacement cartridges are available through AdVantEdge authorized distributors.



### SPECIFICATIONS - MODEL DWS-4510-01

Filtration Cartridge	10 inch standard, 5 micron polypropylene sediment cartridge
Arsenic Cartridge	10 inch standard (2.75 x 9.75 inch)
Materials Housing	Injection molded polypropylene
Mounting	Painted metal mounting bracket
Faucet	Lead-free faucet with 1/4 inch tubing
Shut Off Device	Mechanical countdown shut-off device mounted on bracket
Arsenic Media	Bayoxide® E33
Water Source	Potable water of known microbiological quality (microbiologically safe)
NSF Testing	Components tested in accordance with NSF protocols, no specific listings
Box/Packaging	Plain white box, with or without label

### Performance

Rated Cartridge Life	1000 gallons
Arsenic concentration	Up to 50 ppb influent arsenic
Replacement	Every 12 months or 1000 gallons, whichever comes first
Rated Flow Rate	0.5 gpm
Parameters	5 micron polypropylene - Sediment AD2710S - Arsenic

### **Note:**

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## UNDER-COUNTER POU SYSTEM FOR ARSENIC REDUCTION

The DWS-2S-2710-02 is a dual stage water treatment approach with an integrated system design, ideal for under-counter household use. The system includes two selected 2.75 x 9.75 inch arsenic removal cartridges, housing components, i.e., sumps, caps, mounting bracket, faucet (lead-free), shut-off device, and tubing for a complete unit. AdEdge Water Technologies, LLC supplies both the system components and replacement cartridges. The system is available to qualified water treatment distributors and dealers for subsequent re-sale to end users. Replacement cartridges are available through AdVantEdge authorized distributors.



### SPECIFICATIONS - MODEL DWS-4510-02

Filtration Cartridge	Two 10 inch standard (2.75 x 9.75 inch); AdVantEdge Model AD2710S
Materials Housing	Injection molded polypropylene
Mounting	Painted metal mounting bracket
Faucet	Lead-free faucet with 1/4 inch tubing
Shut Off Device	Mechanical countdown shut-off device mounted on bracket
Arsenic Media	Bayoxide® E33
Water Source	Potable water of known microbiological quality (microbiologically safe)
NSF Testing	Components tested in accordance with NSF protocols, no specific listings
Box/Packaging	Plain white box, with or without label

### Performance

Rated Cartridge Life	1000 gallons
Arsenic concentration	Up to 50 ppb influent arsenic
Replacement	Every 12 months or 1000 gallons, whichever comes first
Rated Flow Rate	0.5 gpm
Parameters	AD2710S - Arsenic

### Note:

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## UNDER-COUNTER POU SYSTEM FOR ARSENIC, CYSTS, LEAD, PCBS, VOCs, AND MORE

The EHC-2S-2710-01 is a dual stage water treatment approach with an integrated system design, ideal for under-counter household use. The system includes a selected, NSF certified, 10 inch carbon block cartridge for lead, cyst, chlorine, taste and odor reduction, a 2.75 x 9.75 inch arsenic removal cartridge, housing components, i.e., sumps, caps, mounting bracket, faucet (lead-free), shut-off device, and tubing for a complete unit. AdEdge Water Technologies supplies both the system components and replacement cartridges. The system is available to qualified water treatment distributors and dealers subsequent re-sale to end users. Replacement cartridges are available through AdVantEdge authorized distributors.



### SPECIFICATIONS - MODEL EHC-2S-2710-01

Carbon Block Cartridge	10 inch standard (2.75 x 9.75 inch); AdVantEdge Model F-241
Arsenic Cartridge	10 inch standard (2.75 x 9.75 inch); AdVantEdge Model AD2710S
Materials Housing	Injection molded polypropylene
Mounting	Painted metal mounting bracket
Faucet	Lead-free faucet with 1/4 inch tubing
Shut Off Device	Mechanical countdown shut-off device mounted on bracket
Arsenic Media	Bayoxide® E33
Chlorine, Taste, Odor Media	Carbon Block 0.5 micron; NSF certified
Water Source	Potable water of known microbiological quality (microbiologically safe)
NSF Testing	Components tested in accordance with NSF protocols, no specific listings
Box/Packaging	Plain white box, with or without label

### Performance

Rated Cartridge Life	800 or 1000 gallons (see cartridge specs)
Arsenic Concentration	Up to 50 ppb influent arsenic
Replacement	Every 12 months or 960 gallons, whichever comes first
Parameters	F-241: Odor, Taste, Chlorine   AD2710S: Arsenic

#### **Note:**

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LANXESS Deutschland GmbH.

# POU CARTRIDGE FOR ARSENIC REDUCTION

## High Performance Point-of-Use Solutions

AdVantEdge has two POU cartridges for arsenic reduction. These products are the most cost-effective technology to date to meet the challenges of the 10 micrograms per liter ( $\mu\text{g/l}$ ) drinking water standard for arsenic established by EPA. Products incorporate a proprietary iron oxide media for long life and high performance. Cartridges effectively reduce both Arsenic (V) and Arsenic (III) without pre-oxidation. Ideal applications include under-counter and countertop POU systems. The standard Model AD2710S has been optimized for extended life and fits most standard and slimline 10 inch housings. The AD2710S is designed to treat 50  $\mu\text{g/l}$  of total arsenic to less than 10  $\mu\text{g/l}$  (based on pH 8.5, Arsenic (V) challenges using NSF 53 protocols). The AD4510S version is a 4.5 x 10 inch BB size cartridge designed for tackling higher arsenic concentrations above 50  $\mu\text{g/l}$ . Both are filled with 100% Adedge Technologies AD33 arsenic reduction media for maximum performance.

**Model:**  
**AD2710S**

**Model:**  
**AD4510S**

### CARTRIDGE PERFORMANCE



<b>Applications</b>	Ideal for Under-counter or countertop POU systems <b>Model AD2710S:</b> 50 $\mu\text{g/l}$ of arsenic, 0.5 gpm flow, pH 6.5-8.5 <b>Model AD4510S:</b> 100 $\mu\text{g/l}$ of arsenic, 1,000 gallon capacity, 0.5 gpm flow, pH 6.5-8.5 <b>Model AD4150S:</b> 50 $\mu\text{g/l}$ of arsenic, 3,000 gallon capacity, 0.5 gpm flow, pH 6.5-8.5
<b>Arsenic Reduction Capacity</b>	Reduction of up to 99% of total arsenic. Effective for both As (III) & As (V). 1000 – 3,000 gallons; 4-6 times longer life than other commercial adsorption options (conservative rating at pH 8.5)
<b>Certifications</b>	NSF 61 product listing on Media (see Adedge for details).
<b>Components</b>	FDA listed components
<b>Extractables</b>	Imparts no harmful chemicals into the treated product water

### TECHNICAL SPECIFICATIONS

#### General Specifications

Dimensions	2.75 x 9.75 inch
Media type(s)	Bayoxide® E33
Contaminant Reduction	Arsenic (V) and (III)
Cartridge Life	1,000 gallons
Cartridge shell	FDA grade Polyethylene
Micron rating	25 Micron Nominal
Pressure drop	< 8 psi at 0.5 gpm
Housings	Fits most conventional housings – consult your AdVantEdge Distributor for details

#### Model AD4510S

4.5 x 9.75 inch
Bayoxide® E33
Arsenic (V) and (III)
1,000 gallons up to 100 $\mu\text{g/l}$ arsenic
3,000 gallons up to 50 $\mu\text{g/l}$ arsenic
FDA grade Polyethylene
25 Micron Nominal
< 8 psi @ 0.5 gpm
Fits most conventional housings - consult your AdVantEdge Distributor for details

#### Recommended Water Quality for Best Performance

pH	6.5 – 8.5	Arsenic	50 or 100 $\mu\text{g/l}$ (see above)	Phosphate	< 0.5 mg/l
Iron	< 0.5 mg/l	Silica	< 30 mg/l	Sulfides	< 0.1 mg/l
Manganese	< 0.05 mg/l	Sulfate	< 100 mg/l	Fluoride	< 1 mg/l



ADVANTEDGE POU

#### Note:

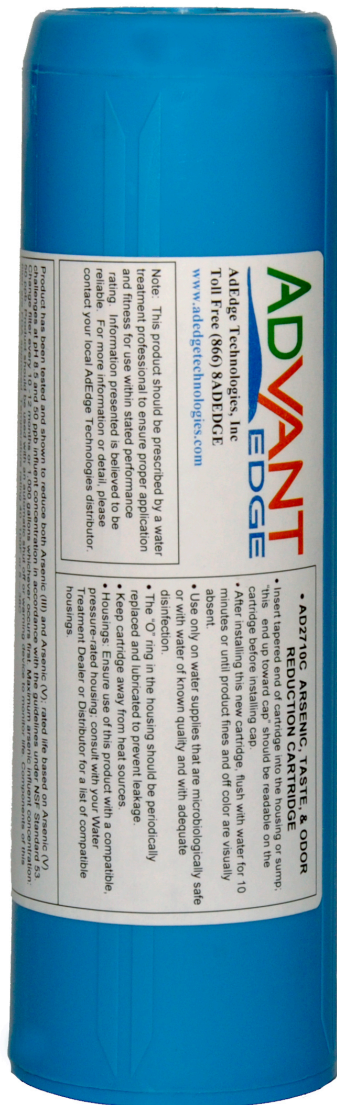
Bayoxide® E33 is a registered trademark of LANXESS Deutschland GmbH.

# POU CARTRIDGE FOR ARSENIC REDUCTION

## Point-of-Use Arsenic, Chlorine, Taste & Odor Solution

The AdVantEdge Model AD2710C 10 inch cartridge is designed to treat up to 50 µg/l of total arsenic to less than 10 µg/l with a typical one year life (based on pH 8.5, Arsenic (V) challenges using NSF 53 protocols). This unique combination of AdEdge Technologies AD33L arsenic reduction media and granular activated carbon allows for arsenic reduction and better tasting water at the point-of-use. This product uniquely combines high efficiency arsenic reduction and taste/odor capabilities for a practical and cost-effective solution at the tap. AdVantEdge's design utilizes the AdEdge proprietary iron oxide adsorption media for long life and unparalleled performance to meet the challenges of the 10 micrograms per liter (µg/l) drinking water standard for arsenic established by the EPA. The product effectively reduces both Arsenic (V) and Arsenic (III) without pre-oxidation. Ideal applications include under-counter and countertop POU systems.

**Model:  
AD2710C**



### CARTRIDGE PERFORMANCE

<b>Applications</b>	Up to 50 µg/l of arsenic, rated flow 0.5 gpm, pH 6.5-8.5. Ideal for under-counter or countertop POU systems.
<b>Arsenic Reduction Capacity</b>	Reduction of up to 99% of total Arsenic. Effective for both As (III) & As (V). 800 gallons (approx. 1 year); 4-6 times longer life than other commercial adsorption options (conservative rating at pH 8.5).
<b>Contaminants</b>	Arsenic, chlorine, taste, and odor reduction.
<b>Certifications</b>	NSF 61 product listing on Media (see AdEdge for details).
<b>Components Extractables</b>	FDA listed components Imparts no harmful chemicals into the treated product water

### TECHNICAL SPECIFICATIONS

General Specifications	Model AD2710C
Dimensions	2.75 x 9.75 inch
Media type(s)	Bayoxide® E33 and GAC
Contaminant Reduction	Arsenic, Chlorine reduction, Taste/odor
Cartridge Life	800 gallons or 1 year
Cartridge Shell	FDA grade Polyethylene
Micron Rating	25 Micron Nominal
Pressure Drop	< 8 psi @ 0.5 gpm
Fittings	Fits most convention housings – consult your AdVantEdge Distributor for details

### **Recommended Water Quality for Best Performance**

pH	6.5 – 8.5	Arsenic	< 50 µg/l	Phosphate	< 0.5 mg/l
Iron	< 0.5 mg/l	Silica	< 30 mg/l	Sulfides	< 0.1 mg/l
Manganese	< 0.05 mg/l	Sulfate	< 100 mg/l	Fluoride	< 1 mg/l

#### **Note:**

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POU  
ADVANTEDGE

# POU *IN-LINE* FILTER CARTRIDGE FOR ARSENIC REDUCTION

## *The Ultimate In-Line Solution*

The AdVantEdge Model AD2X10C 10 inch in-line filter cartridge is a unique combination of Adedge Technologies Bayoxide® arsenic reduction media and granular activated carbon which allows for arsenic reduction and better tasting water at the point-of-use. This product uniquely combines high efficiency arsenic reduction and taste/odor capabilities for a practical and cost-effective solution at the tap. AdVantEdge's design utilizes the AdEdge proprietary granular ferric iron oxide adsorption media for long life and unparalleled performance to meet the challenges of the 10 micrograms per liter (µg/l) drinking water standard for arsenic established by EPA. The product effectively reduces both Arsenic (V) and Arsenic (III) without pre-oxidation. Ideal applications include use as an RO post filter, ice maker filters and other potable applications.

**Model:  
AD2X10C**



### CARTRIDGE PERFORMANCE

<b>Applications</b>	Up to 50 µg/l of arsenic, rated flow 0.5 gpm, pH 6.5-8.5. Ideal for RO systems and food & beverage applications.
<b>Arsenic Reduction Capacity</b>	Use as post filter for reduction of up to 99% of total Arsenic; Effective for both As (III) & As (V). 600 gallons (no RO); 4-6 times longer life than other commercial adsorption options. 800 gallons (post RO); based on application (consult AdVantEdge or your dealer for specific details)
<b>Contaminants Certifications</b>	Arsenic, chlorine, taste, and odor reduction. NSF 61 product listing on Media (see AdEdge for details).
<b>Components Extractables</b>	FDA listed components Imparts no harmful chemicals into the treated product water

### TECHNICAL SPECIFICATIONS

<b>General Specifications</b>	<b>Model AD2X10C</b>
Dimensions	2 x 10 inch
Media type(s)	Bayoxide® and GAC
Contaminant Reduction	Arsenic, Chlorine reduction, Taste/odor
Cartridge Life	800 gallons post RO; 600 gallons non RO
Cartridge shell	FDA grade Polyethylene
Pressure drop	< 8 psi @ 0.5 gpm
Fittings	¼ inch FNPT or Quick Connect® Fittings – consult your AdVantEdge Distributor for details

### **Recommended Water Quality for Best Performance**

pH	6.5 – 8.5	Arsenic	< 50 µg/l	Phosphate	< 0.5 mg/l
Iron	< 0.5 mg/l	Silica	< 30 mg/l	Sulfides	< 0.1 mg/l
Manganese	< 0.05 mg/l	Sulfate	< 100 mg/l	Fluoride	< 1 mg/l

#### **Note:**

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POU  
ADVANT  
EDGE



## ARSENIC QUICK TEST KITS

Arsenic Quick Test was designed to give the user accurate results without sacrificing cost and time, EPA / ETV test verified performance. Designed using cutting-edge chemistry, Arsenic Quick Test reports results in only 12 minutes. Ideally suited for homeowners, water treatment sales and field technicians with only 3 simple test procedures and a simple color chart. Results indicate the total arsenic present including trivalent arsenic also referred to as As III, As +3, or arsenite as well as pentavalent arsenic also referred to as As V, As +5, or arsenate.



AdTest-100

### Testing Kit Specifications

Model #	Size	Sensitivity µg/l	Test Time
AdTest-5	5 Tests	0 - 10,13,20,25,25,30,40,>50,>80,>120,>160	12 Minutes
AdTest-50	50 Tests	0 - 10,13,20,25,25,30,40,>50,>80,>120,>160	12 Minutes
AdTest-100	100 Tests	0,5,10,20,30,40,50,60,80,100,150,200,250,300,400,500,>500	12 Minutes

*Please Consult AdEdge for other Size Test Kits and Lower Sensitivity Test Kits*

### Simple Test Procedures

Add reagent #1 to water sample, shake bottle to dissolve reagent before adding reagent #2, when completely dissolved add reagent #3 and briefly shake bottle to dissolve. Compare test strip to color chart after sitting for 10 minutes.



AdTest-5



# Bayoxide E33 GRANULAR FERRIC OXIDE MEDIA

## For Arsenic and Heavy Metals Removal

AdEdge Water Technologies, LLC's "E33 media is the industry standard for arsenic and heavy metals reduction for potable water applications. This media reduces up to 99% of total arsenic, including both arsenic (III) and arsenic (V). It is also effective in reducing other heavy metals such as lead, antimony, and others. This high performing iron-based granular adsorption media is the standard in the industry showing consistently higher capacities than other commercially available adsorption media.

AdEdge's product is ideal for integrated water system solution for drinking water, industrial, commercial, and remediation installations to meet the United States Environmental Protection Agency's maximum contaminant level of 10 ppb. Developed in the mid-nineties, this ferric oxide-based (GFO) product has been successfully used in hundreds of installations around the globe. It is the premier product of choice for commercial water systems for the reliable, cost-effective, proven reduction of arsenic.

### FEATURES & BENEFITS

Removal up to 99% of total arsenic in water including As (III) and As (V)	Effective over broad water chemistry
Simple application for drinking water and commercial installations	2 - 2.5 times lighter than other iron-based media
Arsenic is not released or discharged in backwash water	Reliable performance, low maintenance
Adaptable add-on to existing equipment	Effective for the removal of antimony, lead and other heavy metals
Imparts no harmful chemicals into the treated product water	No salt or regeneration needed



Example of "E33 Granular Ferric Oxide media

### TECHNICAL SPECIFICATIONS

"E33 provides cost-effective centralized arsenic and heavy metals treatment with a typical life of 6 - 48 months before replacement in most cases. The media exhibits high operating capacity across a wide range of pH, influent arsenic concentrations, and flow rates. It is simple to apply in standard pressure vessels with flow rates ranging from 10 gallons per minute to over 12 MGD. Once the media is exhausted, "E33 can be discarded as a non-hazardous waste (specific state and application--specific requirements should be consulted). Media is easy to handle and can be stored and shipped dry.

Physical Properties	"E33 Media
Matrix	Iron Oxide Composite
Physical Form	Dry granular media
Color	Amber
Particle Size Distribution	10x35
Moisture Content	< 15% by weight
Packaged	Dry

# Bayoxide® E33 GRANULAR FERRIC OXIDE MEDIA

## For Arsenic and Heavy Metals Removal

### ARSENIC REMOVAL PERFORMANCE

Arsenic Concentration Range	10 ppb - 1 ppm
Arsenic Species Reduced	As (III) and As (V)
Removal Efficiency	Up to 99%
Estimated Media Life	6 - 48 months (typical)
Estimated Life Bed Volumes	Site-specific
Spent Media Disposal	Non-hazardous waste
Empty Bed Contact Time	3 - 4 minutes (typical)



AdEdge Package Unit (APU) installation using granular ferric oxide media

### OPERATING CONDITIONS

Treatment Goals	Arsenic: < 0.010 mg/L
pH Range	5.5 - 8.5
Iron	< 0.3 mg/L
Manganese	< 0.05 mg/L
Phosphate	< 0.5 mg/L
Silica	< 30 mg/L
Sulfate	< 100 mg/L
Sulfide	< detect mg/L
TSS	< 5 mg/L
Fluoride	< 1 mg/L
Hardness	< 300 mg/L
Turbidity	< 5 NTU
Temperature	Groundwater ambient (55 - 75 F)
Pre-Oxidant	Hypochlorite Feed (12.5% average)
Oxidant Contact Time	15 - 30 Seconds
Backwash Frequency	Every 30 days (site specific)



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#### Notes:

- Media life is based on gallon usage and water profile. It will vary by individual site based on water quality and usage.
- AdEdge recommends effluent testing and a monitoring program to determine media breakthrough.
- Information is believed to be reliable and is offered in good faith with no warranties or implied warranties or fitness for a particular use. Customer is responsible for determining whether use conditions and information in this document are appropriate for specific applications and for ensuring compliance with applicable laws and regulations.
- Bayoxide® E33 is a registered trademark of LANXESS Deutschland GmbH.

## FREQUENTLY ASKED QUESTIONS

**Q. What is the Bayoxide® E33 media?**

The product is a dry, granular or pelletized, iron oxide adsorption media. It has been designed specifically for reducing arsenic and is ideal for both drinking and process water applications.

**Q. Does Bayoxide® E33 product reduce both forms of naturally occurring arsenic?**

Yes. Bayoxide® E33 media has capacity for both arsenic (III) and arsenic (V). However, the media is more effective for arsenic (V). For situations where 100% arsenic (III) is present, AdEdge recommends pre-oxidation for enhanced performance since the total capacity of the media for arsenic (V) is greater than for arsenic (III).

**Q. How is Bayoxide® E33 applied for a residential application?**

The media is typically employed within a standard, conventional-size cylindrical fiberglass tank with a top-mounted valve, laterals, riser and underbedding. Further sizing and use information is provided in AdEdge Water Technologies product bulletins.

**Q. Does Bayoxide® E33 media impart any odor, taste or extractables into the water?**

No. The Bayoxide® E33 media meets NSF/ANSI drinking water Standard 61 which confirms the safety and quality of products in contact with drinking water.

**Q. How long will the Bayoxide® E33 media last?**

The media life is dependent on several key factors: water chemistry, daily water usage, contact time, and treatment goals. A typical 5 to 6 gpm design flow POE residential system treating arsenic 10 to 50 parts per billion (ppb), containing 2 cubic feet of Bayoxide® E33 media will typically last two to four years depending on the arsenic concentration, gallons per day usage, pH, and other factors. Treated water testing will determine the appropriate changeout frequency.

**Q. What do I need to know about the water chemistry before properly applying the Bayoxide®E33?**

The product is intended to be prescribed only by qualified AdVantEdge dealers or distributors. The following analyses (at a minimum) are needed to predict performance: arsenic, pH, iron, manganese, hardness, sulfate, phosphate, and sulfides. Although a complete water profile would be ideal, these are the most important parameters for residential applications.

**Q. How is the spent media disposed?**

The spent media (after being exhausted with an arsenic containing water) has been tested and has passed the USEPA's standard protocol for determining hazardous wastes. This test known as the Toxicity Characteristic Leaching Procedure (TCLP) has shown that the media can be discarded as non-hazardous waste in a sanitary landfill.

**Q. Must iron and manganese be removed prior to treatment with the Bayoxide® E33?**

The product is not designed specifically for iron and manganese removal. However, like most adsorption products, Bayoxide® E33 works best if iron and manganese are minimized before adsorption due to potential fouling of the adsorption bed with iron. Pretreatment for iron and manganese is recommended to 0.5 mg/l and 0.05 mg/l, respectively, prior to arsenic adsorption for best results.

AdEdge has considerable experience with iron and manganese treatment. Contact AdEdge for suggested pretreatment options.

**Q. Does Bayoxide® E33 media need to be backwashed? If so, how often?**

Periodic backwashing is recommended for two reasons. The media, over time, can compact and preferential channels can develop causing short-circuiting. Additionally, sediment or suspended solids (if present) may accumulate in the adsorption media. To prevent excessive pressure drop or channeling, gentle backwashing to lift, or fluff, the bed is performed periodically. Backwashing for a residential system is typically performed once a month at 8-10 gpm/square foot for 14 minutes. Since arsenic is chemically bound to the media, no arsenic is removed or desorbed during the backwashing cycle. The backwash water typically has very low or non-detectable levels of arsenic.

**Q. Can the Bayoxide® E33 media be used in conjunction with an RO system or water softener?**

Yes. The preferred location of the arsenic treatment is placement after the softener or RO system.

**Q. Would pH adjustment ever be recommended?**

The product has a very wide operating pH range from 5.5 to 8.5. The media exhibits a higher arsenic capacity with decreasing pH. Therefore, above 8.5 pH, AdEdge recommends lowering the pH for increasing the longevity of the media. Contact AdEdge for details.

**Q. How do I monitor for arsenic?**

Samples can be analyzed by a qualified laboratory for total arsenic using several different methods for typically \$30 to \$50 per sample. Field test kits are also available that can detect the presence of arsenic at very low concentrations (< 5 ppb). Field test kit results can be used as inexpensive indicators of system performance, but should be used in conjunction with actual laboratory results. More information can be provided about test kits by contacting AdEdge.

**Q. How do I know if the Bayoxide® E33 media is working and what type of monitoring should be performed with residential systems?**

Based on the potential health concerns with arsenic, a monitoring program is essential for all POE systems installed. The designated water dealer or service providers are responsible to test the system initially after installation to determine if treatment goals are being met and routinely thereafter throughout the operating life. Sampling frequency may vary depending on the site specifics and state requirements. A laboratory sample of the effluent is recommended at least quarterly to semi-annually. Media should be discarded and replaced with new media when the effluent no longer achieves the treatment goals. \_\_\_\_\_

Notice: Information is believed to be reliable and offered in good faith with no warranties or implied warranties or fitness for a particular use. A trained Water Treatment Professional / Consumer is responsible for determining suitability of application and usage under site-specific circumstances, environmental conditions and water quality profile. Installation by a qualified mechanical contractor / plumber, and ongoing sampling and monitoring protocol is required for all installations to determine actual performance and the appropriate frequency of media replacement. AdEdge Technologies, Inc. neither accepts nor assumes any liability associated with water treatment system design, installation or performance other than as specifically noted in particular product warranties supplied by AdEdge Technologies, Inc.

**Note:**

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