

# ISOLUX™

**Ground Water Compliance without Rebuilding from the Ground up**



## Purity meets Practicality

Water purity and quality are dependent on functional, efficient treatment processes for the removal of arsenic and other contaminants. Truly effective, treatment processes must meet the demands of individual processing environments, such as a range of pH factors or the presence of competing ions.

The treatment industry itself depends on practical, scalable, highly effective processes that minimize infrastructure, investment and overhead requirements, while meeting or exceeding industry regulations.

## ISOLUX™

MEL developed ISOLUX™ specifically to target arsenic – both III & V – reducing more than 99% of total arsenic with an exceptional range of pH compatibility and ion selectivity.

ISOLUX reacts both physically and chemically for rapid adsorption of arsenic that requires no pre-treatment, no large pressure vessels, no backwashing, media handling or hazardous waste disposal. The arsenic adsorbed on ISOLUX remains fixed, even in acidic or alkaline environments.

Specialty zirconium based materials from MEL Chemicals enable the catalytic converters in millions of vehicles to keep pollutants out of the atmosphere.



Molten metal filters made from MEL Chemicals zirconium oxide enable foundries to produce high quality products.

## MEL Chemicals, A Global Act

An industry leader in materials science for over 60 years, MEL Chemicals, Inc. is a leading provider of materials to remove environmental pollutants reclaiming air, soil and water lost to contamination. MEL Chemicals manufactures products that remove contaminants from process streams in the automotive, chemical processing, and water treatment industries.

MEL Chemicals is the North American affiliate of the Zirconium Chemicals Division of The Luxfer Group, Ltd., a global enterprise including MEL Chemicals Ltd, in Europe and Nikkei-MEL in Japan. Together, we've assembled over 100 world-class scientists, technicians, chemists and chemical engineers, representing the largest, most experienced manufacturer of zirconium-based chemicals world-wide.

MEL Chemicals, Inc. performs research, development and manufacturing of zirconium based products at its facility in Flemington, NJ. These products have unique applications benefiting more than 60 industries including drinking water, industrial water, beverage, medical, dental, automotive, and foundry. Specialists in inorganic, metallurgical, surface and separations chemistries, the chemists and chemical engineers at MEL Chemicals are responsible for multiple patents on zirconium chemistry formulation and product application currently deployed by industry internationally.

MEL Chemicals Inc. makers of patented ISOLUX Technology.

## Practical Applications

ISOLUX™ is a highly efficient arsenic adsorption technology for use in a variety of applications.

MINIMIZE SPACE REQUIREMENTS  
AND ELIMINATE HAZARDOUS  
WASTE HEADACHES

### Wellhead Applications

A skid-mounted pre-piped arsenic removal system for fast, cost effective, implementation with minimal impact on operations or infrastructure. Designed for wellhead applications in the 50-600 gallons per minute range.

### Industrial/Commercial Applications

A single vessel, simple to install system designed for applications in the 15-40 gallon per minute range. Suitable for schools, commercial facilities, business parks, churches, and other small systems.

### Point-of-Entry

Ensures safe drinking water throughout small commercial facilities and residences. Designed for 10 gallon per minute applications.

### Point-of-Use

An under-the-counter, cost effective and efficient option available for a variety of small applications.





75-GPM module for a community water system site in New Jersey.



40-GPM system for a church/school complex in California.

REGULATORS ARE REQUIRING ARSENIC REMOVAL TO THE LOWEST LEVELS IN HISTORY. SO JUST WHAT ARE YOU SUPPOSED TO DO WITH ALL THAT ARSENIC?

Isolux™ specifically targets arsenic –both III & V– reducing more than 99% of total arsenic with an exceptional range of pH compatibility and ion selectivity.

Isolux™ treatment systems are self contained, designed for rapid deployment, minimal impact on existing operations and infrastructure.

Isolux™ consistently demonstrates no hazardous waste generation. The arsenic adsorbed on Isolux™ remains fixed, even in acidic or alkaline environments. Isolux™ has repeatedly passed both the EPA's TCLP test and the California WET test.

Isolux™ utilizes a patented cartridge design. Media is contained in individual cartridges that are replaced when the media is exhausted. No contact with spent media. No handling of bulk media. No confined space entry into large pressure vessels. Isolux™ has been designed for simplicity of operation.

## Arsenic Removal Pure and Simple

### Effective

- Uses proven technology
- High reliability, maximum operational simplicity
- Effective even in the presence of competing ions
- Removal effectiveness even at levels >100 ppb

### Efficient

- No waste handling, no arsenic contact
- No hazardous waste generated, nothing to dispose of
- No pH adjustment in waters systems 6.5-8.5
- No backwashing, no media channeling
- No pressure vessel

### Intelligent

- More cost efficient deployment options
- Offers more relevant system applications
- Modular, self contained, scalable design
- Incorporates into existing treatment systems
- Automatic operation

"ISOLUX PROVIDED AN EFFECTIVE SOLUTION TO OUR ARSENIC ISSUES. WE HAVE GAINED A GREAT DEAL OF CONFIDENCE IN THE ISOLUX TREATMENT SYSTEM."

—Jon Curry, Senior Engineer, GoldenHills CSD, Tehachapi, CA.

## Compliance Uncomplicated

Isolux™ media is NSF Section 61 certified for use in drinking water systems.

Passes EPA - TCLP and California WET,

Isolux™ systems are in service in over ten states and three foreign countries.

MEL Chemicals has over ten years of experience in the development, design, installation, and operation of Isolux™ systems.

Isolux™ offers its customers the option of returning spent cartridges.

## Services

Isolux™ can provide on-site evaluation, laboratory analysis, engineering design, and start-up/training services for all of our systems. Isolux™ has complete lab testing, engineering and manufacturing facilities located in Flemington, NJ.



150-GPM system for Golden Hills CSD, Tehachapi, CA.

# ISOLUX™

**Arsenic treatment made simple**

**Please visit our website:**

[www.zrpure.com](http://www.zrpure.com).

Or contact us at:

Isolux Technologies

A Division of MEL Chemicals, Inc.

500 Barbertown-Point Breeze Road

Flemington, NJ 08822

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908-782-3380 fax

## Features

<b>Porous Range</b>	Ion selectivity, from < 2nm to 50 nm
<b>High Adsorption Capacity</b>	Adsorption Capacity: 10-11 mg/gr Reduces 99%+ of total Arsenic as Arsenic III and Arsenic V with contact time of less than 30 seconds
<b>High Ion Affinity</b>	Processes enhance removal of Arsenic, Cadmium, Chromium, Lead, Phosphorus and Vanadium contaminants from drinking water, groundwater and waste-water
<b>High Selectivity</b>	Can be custom synthesized to target specific ion species
<b>Simplicity</b>	Self contained design installs easily, requires no backwash, no pressure vessel, no media contact
<b>Chemical Durability</b>	Operational range from pH 4 to pH 8.5 Exhibits quick kinetics of adsorption, 99% update in the first 10 to 30 seconds of contact
<b>Non-hazardous waste</b>	Non-Leachable Media Passes EPA TCLP and California WET tests
<b>NSF 61 Certified</b>	MEL Chemicals makes Isolux products specifically for use in drinking water Isolux is non toxic and imparts no harmful chemicals into the product water.

# **ISOLUX™**

**Arsenic treatment made simple**

500 Point Breeze Rd., Flemington, NJ 08822

ZRPURE.COM



## Isolux™ Technology For Arsenic Removal From Drinking Water

### STATEMENT OF QUALIFICATIONS

**Isolux™ Technologies**, a division of MEL Chemicals, Inc. (MEL) has developed and patented a novel, zirconium-based adsorbent media for removal of arsenic and other heavy metals from drinking water. This media is customized for this application in MEL's Flemington, NJ manufacturing facility by systematically manipulating the morphology and surface properties of the zirconia species to produce an adsorbent with very high capacity and good kinetics for removal of arsenic. This is accomplished via control of the chemical and physical properties, specifically the surface properties. MEL's manufacturing technology produces particles with enhanced pore volume and surface area for optimum removal of arsenic. MEL has adopted the trademark Isolux™ for this technology when applied to drinking water applications.

MEL applies the media commercially via a patent pending cartridge system. Together, the media and the cartridge delivery system comprise the Isolux™ Treatment System. The Isolux™ Treatment System has been specifically engineered to address the needs of small drinking water systems, whether as point-of-use, point-of-entry or central well-head treatment. The advantages include:

- **Isolux™ technology does not require backwashing** of the unit and does not generate any liquid waste that requires disposal.
- **Spent Isolux™ media is non-hazardous** by both the USEPA TCLP test and the California WET test.
- **Isolux™ media is NSF Section 61** certified for use in drinking water systems.
- **Isolux™ technology does not require use of large pressure vessels** to contact water and media. Isolux™ technology uses a patent pending media cartridge device to allow intimate contact between the water and media. The cartridge offers several advantages in terms of minimum system footprint and simplicity of media replacement. Cartridge replacement does not require any confined space entry.
- **The engineering design provides a high degree of reliability** and maximum degree of operational simplicity. The unit is designed to run unattended for long periods. No operator function, including media cartridge replacement, requires more than one operator.
- **Isolux™ media can be recovered.** MEL's approach to media management is to offer its customers the option of returning spent cartridges for recovery. This eliminates any solid waste handling issues for the water utility and provides a cost-effective alternative to landfill disposal. Recovered cartridges and media are re-used in non-drinking water applications.
- **Isolux™ media and systems are manufactured in the United States.** MEL Chemicals has been located in Flemington NJ for more than fifty years. Media is produced at our facility in Flemington. Systems are manufactured in the New Jersey/Pennsylvania area. MEL Chemicals is part of the Zirconium Chemicals Division of the Luxfer Group Ltd., a world-wide producer of specialty engineering

materials. The Zirconium Chemicals Division is the world's largest producer of zirconium chemicals.

Isolux™ technology has been actively treating arsenic contaminated groundwater for over six years across the United States. During that time, technology validation exercises, under guidance of State and Federal regulatory agencies have confirmed the effectiveness of the Isolux™ Technology for arsenic removal. On the basis of this work Isolux™ Arsenic Treatment systems have been installed and are operational in numerous arsenic impacted areas across the country.

### *History of Isolux™ Treatment Operations*

MEI began development of its arsenic removal technology in late 1999. Beginning in mid-2000, pilot scale field trials were conducted at numerous sites across the country. Commercial systems were first installed in 2005. Currently there are many systems in operation ranging from 10 gpm to over 450 gpm at sites across the United States.

A partial listing of commercial systems includes the following:

- Keeler Community Services District, Keeler CA (2004) (Community-wide POU program)
- Golden Hills CSD, Well C, Tehachapi, CA (2005) (USEPA Small Systems Demonstration Program)
- Whispering Pines, Hollister, CA (2005)
- New Jersey American Water Co., Frenchtown NJ (2005)
- Barnard School, South Hampton NH (2005)
- The Waldorf School, Princeton NJ (2005)
- Sonoma Wine Co., Graton CA (2006)
- Los Angeles Dept. of Water and Power, Independence, CA (2006)
- Dakota Magic Hotel and Casino, Hankinson, ND (2006, expended 2009)
- Anadigics Corp., Warren NJ (2006)
- Hillsborough School District, Hillsborough NJ (2007)
- Second Mesa Day School, Second Mesa AZ (2007)
- United Water Co. Montebello NY (2007)
- Mercadeo de Agua, S.A. Guatemala (2007)
- Plumstead Township, Pipersville, PA (2008)
- Mohrsville Water Company, Mohrsville, PA (2008)
- Boro of Ramsey, Ramsey, NJ (2008)
- Calvary Community Church, Prunedale CA (2008)
- State of Bihar, India (2009)
- Rosemont Water Co., Rosemont NJ (2009)

Operations within the above locations have confirmed a level of performance between 30,000 – 170,000 bed volumes of arsenic treatment capacity, dependant on background water quality. Even in drinking water systems with arsenic concentrations in excess of 100 ppb, Isolux has provided treatment in the range of 50,000 bed volumes to a non-detectable level of arsenic. Field testing of the Isolux Technology continues as a very important aspect of our customer development program. Due to site specific water quality considerations, we highly recommend an on-site pilot system evaluation as a means to accurately assess system performance and ongoing operational cost considerations. Isolux offers packaged pilot units that can simplify the pilot testing exercise.

### *Treatment Effectiveness and Efficiency:*

The information referenced in this abstract represents over eight-years of laboratory studies, independent verification, and field pilot testing of Isolux™ technology. All of this work gives Isolux™

Technologies a high degree of confidence in the effectiveness and efficiency of the Isolux treatment system. Isolux™ Technologies recognizes that its' adsorption technology will not be suitable for all applications. However, Isolux Technology represents a very effective treatment technique for small and medium sized systems with limited resources available for treatment oversight.

***Cost Effectiveness:***

MEI concludes that Isolux™ technology is cost effective relative to other technologies when all operating costs are factored in. While Isolux™ media may be slightly more expensive to purchase than some competing media, the minimization of waste disposal costs and the minimal operating labor involved make it competitive on a total operating cost basis.

***Operation and Maintenance Requirements:***

Operation and maintenance is one area where Isolux™ technology enjoys a distinct advantage over competing technologies. Isolux™ technology has been designed for simplicity of operation and maximum reliability. It incorporates the following operational advantages:

1. Use of a returnable/disposable cartridge instead of a pressure vessel for contacting media with water greatly simplifies the process of replacing media.
2. No periodic backwashing of the media is required.
3. Spent cartridges may be returned to the manufacturer. This eliminates the need to periodically arrange for disposal of solid waste.
4. No operation/maintenance function, including media replacement, requires more than one person.
5. Inherent reliability is high as there is no reliance on sophisticated, computer based control systems.

***Media is manufactured and inventoried in the U.S.A. Lead-time for media purchase is minimal.***

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## Arsenic Removal Pure and Simple

### ISOLUX™

Arsenic Treatment Made Simple

**Reduces 99+% of total arsenic**

**Removal to non-detectable levels even at concentration >100 ppb**

**No backwash, no large pressure vessel, no wastewater, no media contact**

**90% uptake in 10-30 seconds**

**NSF 61 Certified**

**Manufactured in the U.S.**

**Isolux Technologies**  
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Isolux™ adsorption employs both chemi-sorption reaction and ion exchange mechanisms. This combination provides for excellent affinity for the arsenate and arsenite ions while creating a very insoluble metal arsenate.

Isolux treatment systems are self-contained and designed for rapid deployment with minimal impact on existing operations and infrastructure. Plus, Isolux consistently demonstrates no hazardous waste generation. The arsenic adsorbed remains fixed, even in acidic or alkaline environments.

Isolux offers support from project conception through start-up with lab testing, engineering assistance, and manufacturing facilities located in the U.S.

### FEATURES

Porous Range	Ion selectivity from <2 nm to 50 nm
High Adsorption Capacity	Adsorption capacity 10 – 11 mg/g
High Ion Affinity	Manufacturing processes enhance removal of As, Cd, Cr, P, Pb, Se, and Va from drinking water, groundwater, and wastewater. 99+% removal
High Selectivity	Can be custom synthesized to target specific ion species. Effective even at arsenic levels < 10 ppb. Arsenic reduction to non-detectable levels
Simplicity	Skid-mounted design installs easily, requires no backwash, no large pressure vessel, Cartridge design eliminates media contact
Chemical Durability	Operational pH range is 4 to 8.5 Exhibits quick kinetics of adsorption. 90% uptake in the first 10 – 30 seconds
Non-Hazardous Waste	Non-leachable spent media passes EPA TCLP and California WET tests
NSF 61 Certified	MEL Chemicals produces Isolux media specifically for drinking water applications. Isolux is non-toxic and imparts no taste or odor to the water

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## Uncomplicated Arsenic Removal Solutions For Residential and Small System Applications

### ISOLUX™

Arsenic Treatment Made Simple

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Effectively reduces both Arsenic III and Arsenic V

ISOLUX media is certified to NSF/ANSI Drinking Water Standard 61

0.75-GPM under-the-counter Point-Of-Use (POU) model available

10-GPM whole-house Point-Of-Entry (POE) model available

Convenient cartridge based Design for both POU and POE systems

### Frequently Asked Questions

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#### Q. What is Isolux™?

Isolux™ is a dry powder, zirconium based adsorption media. It has been specifically engineered for reducing arsenic and is ideal for both drinking and industrial process water applications.

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#### Q. Does the product adsorb both forms of naturally occurring arsenic?

Yes. Both arsenic (III) and arsenic (V) are effectively reduced by the Isolux™. The product maintains a higher affinity for arsenic (V), however, it is very effective for arsenic (III) as well.

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#### Q. How is Isolux™ applied in a residential application?

The media is employed within a specially engineered cartridge to contain the powdered media. The cartridges are inserted in cylindrical housings. For the POU system the housing is mounted under the counter and supplies a separate faucet on the sink. For the POE system, the housing is plumbed into the water supply system entering the residence.

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#### Q. Does the Isolux™ media impart any odor, taste or extractables into the water?

No. The Isolux™ media is certified to NSF/ANSI Drinking Water Standard 61 which confirms the safety and quality of products in contact with drinking water.

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#### Q. How long will the Isolux™ media last?

The media life is dependent on several key factors: water chemistry, usage patterns, contact time, and treatment goals. A typical 5-6 gpm design flow POE residential system treating arsenic at 10-40 parts per billion (ppb), containing 0.6 cubic feet of ISOLUX media will last typically 1-2 years depending on the level of arsenic, gallons per day usage, and other factors. Testing of the product water will determine the appropriate change-out frequency.

## ISOLUX™

Arsenic Treatment Made Simple

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### Q. Must iron and manganese be removed prior to treatment with the Isolux media?

Isolux™ does not require the treatment of iron or manganese prior to arsenic treatment so long as secondary MCL's for iron and manganese are not exceeded. Isolux™ performance is not significantly impacted by the presence of manganese or iron at levels less than or equal to the MCL's and as such does not require pretreatment for their removal.

### Q. Does the Isolux™ media need to be backwashed? If so, how often?

No. Unlike many other adsorption materials, Isolux™ requires no backwashing or "bed-lifting". This avoids creating an additional waste water stream typical of backwash operations.

### Q. Can the Isolux™ System be used in conjunction with an RO system or water softener?

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

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

pH adjustment is not normally needed for residential applications. In certain background water qualities where calcium precipitation is likely, Isolux performance may be optimized by pH adjustment.

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

Samples can be analyzed by a certified laboratory for total arsenic using several different methods for typically \$20 - \$30 per sample. Field test kits are also available that can detect the presence of arsenic at very low levels (< 5 ppb). These tests have been used as an inexpensive indicator of system performance, but should be used in conjunction with actual laboratory results.

### Q. How do I know if the Isolux™ 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 systems installed. Typically, the system should be tested 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 product water is recommended at least semi-annually. Media should be discarded and replaced with new media when the effluent no longer achieves the treatment goals.

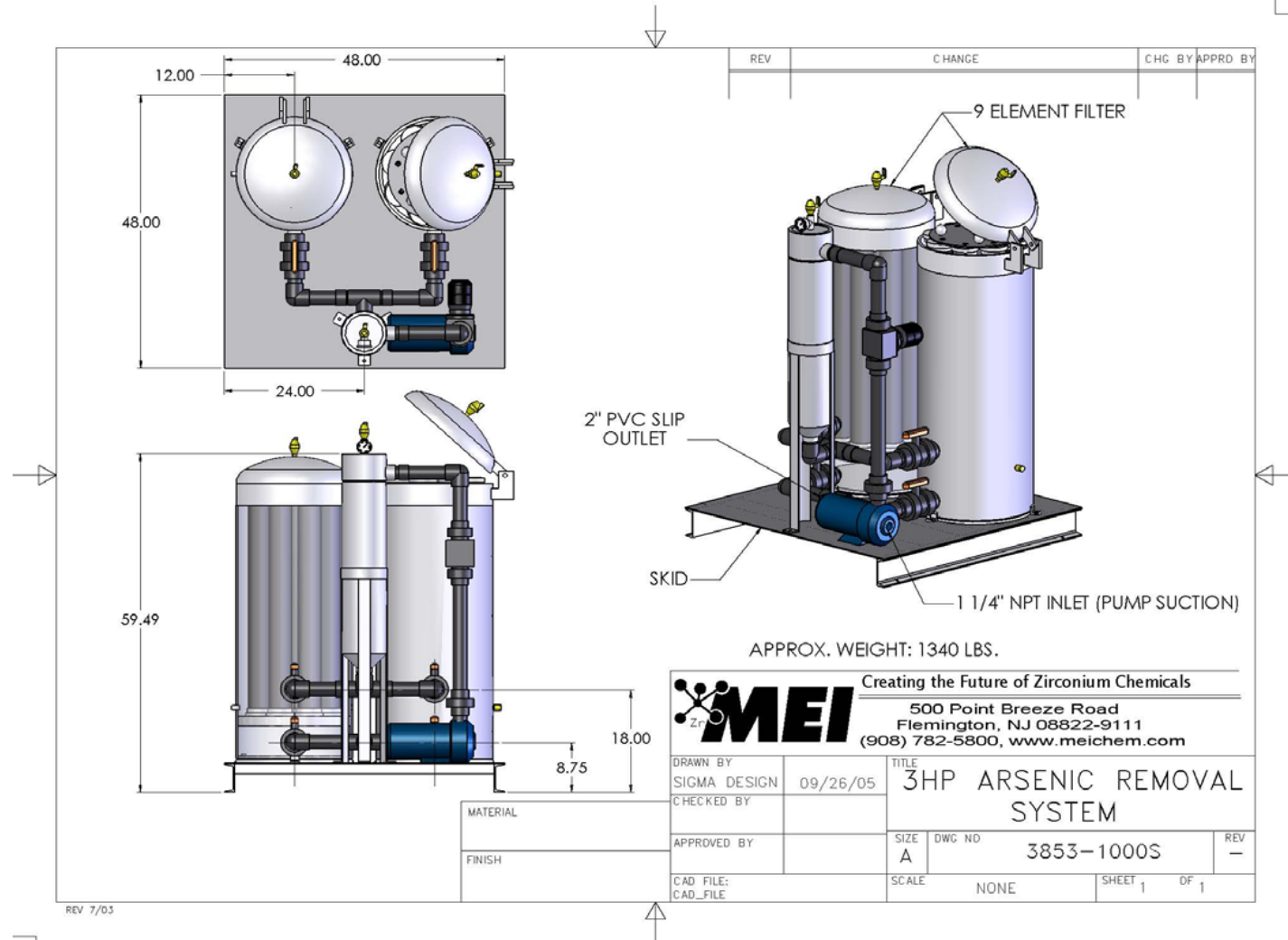
**ISOLUX ARSENIC REMOVAL CENTRAL TREATMENT SYSTEMS**

**TECHNICAL SPECIFICATIONS**

SYSTEM PARAMETERS	75-GPM MODULE
Maximum Design Flow Rate, GPM	75
Media Design Basis	9 replaceable cartridges per vessel
Backwashing requirement	None
Average Media Particle Size, Microns	18-36
Cartridge Size	4.5" OD x 42" height
Cartridge Weight, lbs.	21
Media bed residence time, sec	32
Pressure drop, psi	<30
Media life, gallons (1)	up to 4,800,000
Spent Cartridge Disposal	Spent cartridges can be returned to Isolux Technologies or disposed of
DIMENSIONS AND MATERIALS	75-GPM MODULE
Module Dimensions	48"W x 48"L x 60"H
Number Of Vessels	2
Vessel Description	2, 100 psi rated carbon steel w/ NSF rated epoxy coating
Vessel Size	20" OD x 48" height
Estimated Module Weight, lb:	
As Shipped (dry, no media)	1,500
In Operation	3,200
External Piping	2" Sch. 80 PVC, glued
Inlet and Outlet Connections	See Drawing
Booster Pump W/ Flow Regulator	yes
Electrical Requirements	3 hp, 230/460 v, 3 ph
Pre-Filter	1-micron, bag-type

(1) Actual media life will be site specific depending on arsenic level and background water quality.

Contact Us At: 500 Point Breeze Road  
 Flemington, NJ 08822  
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**Isolux™ Arsenic Removal Systems**

The information contained herein is covered by U.S. Patent 6,383,395 and other patents pending

**ISOLUX ARSENIC REMOVAL SYSTEMS  
20-GPM COMMERCIAL / INDUSTRIAL SYSTEMS  
TECHNICAL SPECIFICATIONS**

SYSTEM PARAMETERS	20-GPM SYSTEM
Maximum Design Flow Rate	20 gpm (5 gpm per cartridge)
Media Design Basis	four replaceable cartridges in each vessel
Backwashing requirement	None
Avg. Media Particle Size, Microns	18-36
Cartridge Size	4.5" OD x 42" height
Cartridge Weight, lbs.	21
Media bed residence time, sec	27
Pressure drop	<30 psi at max. flow rate
Typical media life, gallons (1)	180,000 - 720,000
Spent Cartridge Disposal	Spent cartridges can be disposed of or returned to Isolux Technologies
DIMENSIONS AND MATERIALS	20-GPM SYSTEM
Vessel Dimensions	12" Dia. X 60" H
Vessel Footprint	19" Outside Diameter
Vessel Description	12" Sch. 40 PVC
Vessel Pressure Rating	100 psi
Estimated Module Weight, lb:	
As Shipped (dry, no media)	155
In Operation	400
External Piping	1", Sch. 40 PVC, glued
Inlet and Outlet Connections	1" PVC, FS
Pre-Filter Included	20", 1-micron cartridge
Totalizing Flowmeter Included	positive displacement, 3/4" fittings
Check Valve Included	PVC swing check, 1" FS

(1) Actual media life will be site specific depending on arsenic level and background water quality.

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**TECHNICAL SPECIFICATIONS**

SYSTEM PARAMETERS	10-GPM SYSTEM
Maximum Design Flow Rate	10 gpm (5 gpm per vessel)
Media Design Basis	one replaceable cartridge in each of two vessels
Backwashing requirement	None
Average Media Particle Size, Microns	18-36
Cartridge Size	4.5" OD x 42" height
Cartridge Weight, lbs.	21
Media bed residence time, sec	27
Pressure drop, psi	<30
Typical media life, gallons (1)	80,000 - 160,000
Spent Cartridge Disposal	Spent cartridges can be disposed of or returned to Isolux Technologies
DIMENSIONS AND MATERIALS	10-GPM SYSTEM
Module Dimensions	12"W x 24"L x 60"H
Number Of Vessels	2
Vessel Description	2, 6" OD PVC vessels
Vessel Pressure Rating	100 psi
Vessel Size	6 5/8" OD x 48" height
Estimated Module Weight, lb:	
As Shipped (dry, no media)	50
In Operation	130
External Piping	1", Sch. 40 PVC, glued
Inlet and Outlet Connections	1" PVC, FS
Pre-Filter Included	20", 1-micron cartridge
Totalizing Flowmeter Included	positive displacement, 3/4" fittings
Check Valve Included	PVC swing check, 1" FS



(1) Actual media life will be site specific depending on arsenic level and background water quality.

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Note: Isolux Point-Of-Entry Systems are not certified for sale to individual consumers in California

**Isolux™ Arsenic Removal Systems**

*The information contained herein is covered by U.S. Patent 6,383,395 and other patents pending*

**ISOLUX ARSENIC REMOVAL POINT-OF-USE SYSTEMS**

**TECHNICAL SPECIFICATIONS**

SYSTEM PARAMETERS	POU SYSTEM
Maximum Design Flow Rate, GPM	0.75
System Design Basis	one, 1-micron pre-filter one, GAC cartridge one, Isolux cartridge
Backwashing requirement	None
Average Media Particle Size, Microns	18-36
Cartridge Size	2.75" OD x 10" length
Cartridge Weight, lbs.	2
Media bed residence time, sec	15
Pressure drop, psi	<25
Typical media life (1)	up to 1,500 gallons
Spent Cartridge Disposal	Disposable with household garbage
DIMENSIONS AND MATERIALS	POU SYSTEM
Module Dimensions	5 3/4"W x 14"L x 12"H
Number Of Vessels	3
Vessel Description	Standard 10" cartridge housings
Vessel Size	4 1/2" OD x 12" height
Estimated Module Weight, lb:	
As Shipped (dry, no media)	15
In Operation	20
Inlet connection	Saddle valve for use on household copper piping
Outlet Connection	Separate sink-mounted faucet provided



Note: Isolux Point-Of-Use systems are not certified for sale to individual consumers in California

(1) Actual media life will be site specific depending on arsenic level and background water quality.

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# MEDIA MANAGEMENT WITH ISOLUX™

## CENTRAL TREATMENT MODULES

800.366.9596

[www.Zrpure.com](http://www.Zrpure.com)



1. Utilizing module bypass, isolate Isolux module from source water. Drain vessels to ½ Full. Open both vessels.



2. Remove Isolux cartridges one at a time from the two vessels. Spent cartridges weigh 42 lbs each.



3. Remove all Isolux cartridges from the two vessels.



4. Unwrap new Isolux cartridges supplied by Isolux Technologies. All cartridges are disinfected, vacuum sealed, and individually packaged for shipment.



5. Install new Isolux cartridges into both vessels. New cartridges weigh 22 lbs each and can easily be managed by one operator.



6. Ensure Isolux cartridges fit over male post guide to ensure proper positioning.



7. Once all cartridges are installed, close both vessel lids, tighten lock-down bolts, and replace back in service.



8. Spent cartridges are accumulated in Isolux supplied D.O.T. approved shipping containers. Each container holds 54 Isolux cartridges.



9. Once full, seal spent cartridge shipping container. Contact Isolux Technologies to arrange for transportation to RCRA permitted re-processing facility.