



## ATOMUS® MD1

**ENPRESS ATOMUS® MD1** is a new proprietary filtration media solution for the water treatment industry specifically designed to simultaneously oxidize and adsorb organic and inorganic contaminants along with heavy metals that could be present in water. This patented and proprietary chemistry creates a unique oxidative media that does not add residuals to the water stream or create harmful disinfectant byproducts. Unlike typical oxidation agents, such as ozone, chlorine, peroxide, citric acid, or bromine, ATOMUS® MD1 is a “solid state” oxidizing agent. Overall system simplification is paramount in the usage of ATOMUS® MD1, eliminating an Airdraw or standard control valve head, the use of salt, or oxidation agents for regeneration.

With fast kinetics and EBCT (empty bed contact time) from 1–5 minutes depending on the agent that requires oxidation, ATOMUS® MD1 can eliminate from water many difficult contaminants, including but not limited to:

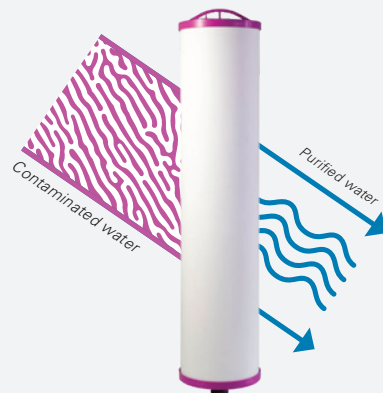
- Hydrogen sulfide
- Total organic carbon (TOC)
- Color/tannin/organics
- Iron and manganese

And the potential removal of:

- Radium
- Uranium
- Arsenic
- Phosphate
- Chromium
- Legionella
- Silica
- Copper
- Iron bacteria
- Lead
- Zinc
- Fluoride, +more!

Powdered ATOMUS® MD1 is now available with no backwash requirement when used in a high-flow ENPRESS ONE-E3® system in the PIONEER® OX cartridge.

ATOMUS® MD1 is NSF/ANSI 61 certified and tested to USEPA TCLP and California WET tests to provide maximum removal capacity and improved stability against pH upset, preventing possible desorption of bound contaminants during use and in landfill conditions. Our unparalleled non-leachable bond has been engineered and proven to provide maximum removal capacity.



### FEATURES

Simultaneous oxidation and adsorption of organic and inorganic contaminants

Solid state oxidizing filtration media

Fast kinetics and EBCT with an unparalleled non-leachable bond

Non-toxic—media passed USEPA TCLP and California WET Tests

NSF/ANSI 61 certified for drinking water use

Effectively removes hydrogen sulfide, color, tannins and TOC

No chemicals or regeneration needed

Superior surface area

### BENEFITS

Extended service life, high flow rates and capacity contaminant removal

Eliminates need for an Airdraw/backwashing control valve head, the use of salt, or other oxidation agents for regeneration

No backwashing required while using PIONEER OX cartridges

Compatible with ENPRESS Vortech and Mid-Vortech technologies; full utilization of media bed and high flow rates

pH range greater than any other adsorption media (5.5–9.5)

Imparts no odor, taste, or color to water

### APPLICATIONS

Residential	Food and beverage
Commercial/Industrial	POE
Waste water	Process water
Small systems	Pre/post-filtration

**Additional applications:** Rental fleets, service DI exchange, rental programs, exchange systems, oxidizing agents, corrosive fluids, electronics, pre-RO, cooling towers, make-up water, polishing filters, primary filtration, wineries and juice processing, point-of-use, disaster relief, livestock and poultry, aquaculture, hospitals

**Note: For regeneration of media from applications with high organic build-up (tannins or color), consult ENPRESS for cleaning procedures for life extension of granule media**



# ATOMUS® + MD1

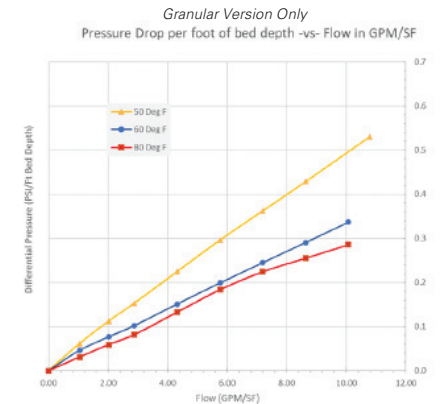


## BETTER FILTRATION THERE'S NO COMPETITION

Granular ATOMUS® MD1 is also available for use with ENPRESS Vortech® and Mid-Vortech® full-plate distributor plate tanks, an exclusive and patented technology that reduces backwash during a system cleaning cycle while increasing flow and operational efficiency.

### PART NUMBERS

**CT-ATOMUS-MD1-F:** Powder  
**CT-ATOMUS-MD1-G:** Granule



**Physical Form**

Dry granular media



**Appearance**

White powder or granule



**Adsorption Mechanism**

Hydrophobic



**Bulk Density**

47–53 lbs/ft<sup>3</sup>



**Minimum Empty Bed Contact Time (EBCT)**

30 seconds–3 minutes



**Surface Loading Rate**

Up to 13 gpm/ft<sup>2</sup> (color/H<sub>2</sub>S);  
up to 4.6 gpm/ft<sup>2</sup> (inorganics)



**Backwash Rate**

9 gpm/ft<sup>2</sup> (60 °F)–11 gpm/ft<sup>2</sup> (80 °F)



**Mesh Size (Powder)**

0.39–0.6 mm (28 x 48 mesh)



**Mesh Size (Granule)**

0.6–1.4 mm (14 x 28 mesh)



**Service Flow Rate**

< 7.5 gpm/ft<sup>3</sup>



**Moisture Content**

10–18%



**Total Pore Volume**

0.5–0.55 cm<sup>3</sup>/g



**Surface Area**

> 360 m<sup>2</sup>/g



**Media Disposal**

Landfill



**Additional Considerations**

Use with Vortech® tank solutions



**Certifications**

NSF/ANSI Standard 61  
Certified Materials

## WATER CHEMISTRY AND LIMITATIONS

ATOMUS® MD1 outperforms competitive medias when one or more of the ideal water characteristics are exceeded in PIONEER OX radial flow cartridges.

**H<sub>2</sub>S:** Up to 10 ppm

**Flow Rates:** Up to 15 gpm

**Color/Tannin:** < 50 color units

**Hardness:** < 140 ppm (8 gpg)

**Iron, Ferrous:** Up to 3 ppm

**Alkalinity:** < 120 ppm

**Manganese:** Up to 2 ppm

**Temperature:** 41–140 °F

**pH Range:** 5.5–9.5

**H<sub>2</sub>S Removal in Granule Formate:** Up to 30 ppm

ENPRESS®, ONE®, ATOMUS®, VORTECH®, AND E3® are trademarks of ENPRESS, LLC. US and International patents, and patent pending. © ENPRESS LLC 2023 | ONE® is an ENPRESS Filtration Technology | 09/2023

ENPRESS, LLC. // 34899 Curtis Blvd., Eastlake Ohio 44095 // Phone: 866.859.9274 // Fax: 440.510.0202 // info@enpress.com

For more information, visit  
[enpress.com](http://enpress.com) or [onefiltration.com](http://onefiltration.com)

### NOTES:

- Water conditions outside of the above specified limits may lead to a shortened filtration life.
- Cartridges may contain a very small amount of fines. After installation, follow the instructions for flushing the cartridge to remove the fines before using the water. You should flush the tap at least 5 minutes prior to using water for drinking or cooking purposes.
- A ratio of 1:3 silica vs total hardness will maintain silica in solution and optimize performance.
- Performance claims are based on independent laboratory and manufacturer's internal test data. Actual performance is dependent on influent water quality, flow rates, system design and application. Results may vary.

**WARNING/CAUTION:** Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Protect against freezing to prevent cracking of the filter and water leakage.



**FILTER REPLACEMENT OPERATING INSTRUCTIONS:** New cartridges must be flushed for a minimum of 10 minutes prior to use. System and installation to comply with state and local laws and regulations.

The ATOMUS® MD1 media is Certified by IAPMO R&T to NSF/ANSI 61 for Material Safety and NSF/ANSI 372 for Low Lead Content.