ATOMUS®

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:

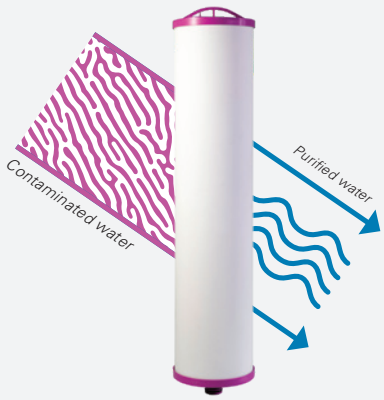
- Hydrogen sulfide
- Color/tannin/organics
- Total organic carbon (TOC)
- Iron and manganese

And the potential removal of:

- Radium
- Phosphate
- Silica
- Lead
- Uranium
- Chromium
- Copper
- Zinc
- Arsenic
- Legionella
- Iron bacteria
- 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

ENPRESS LLC
Where Innovation Flows™

ATOMUS® +MD1

Physical Form	Dry granular media
Appearance	White powder or granule
Adsorption Mechanism	Hydrophobic
Bulk Density	47–53 lbs/ft^3
Minimum Empty Bed Contact Time (EBCT)	30 seconds–3 minutes
Surface Loading Rate	Up to 13 gpm/ft^2 (color/H2S); up to 4.6 gpm/ft^2 (inorganics)
Backwash Rate	9 gpm/ft^2 (60 °F)–11 gpm/ft^2 (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^3
Moisture Content	10–18%
Total Pore Volume	0.5–0.55 cm^3/g
Surface Area	> 360 m^2/g
Media Disposal	Landfill
Additional Considerations	Use with Vortech® tank solutions
Certifications	NSF/ANSI Standard 61 Certified Materials

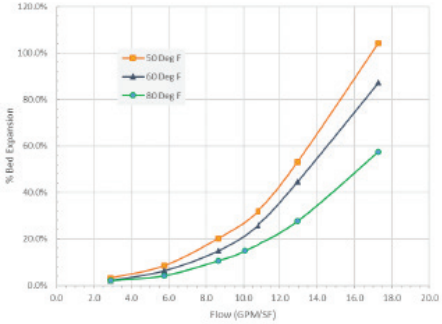
BETTER FILTRATION
THERE'S NO COMPETITION

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.

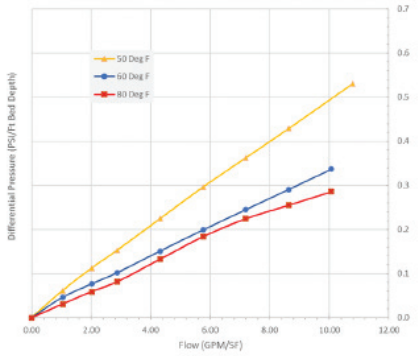
PART NUMBERS

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

Granular Version Only
Backwash Expansion % Backwash -vs- Flow in GPM/SF



Granular Version Only
Pressure Drop per foot of bed depth -vs- Flow in GPM/SF



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.

H2S: 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	**H2S Removal in Granule Formate:** Up to 30 ppm

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For more information, visit enpress.com or 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 ENPRESS ATOMUS® MD1 media inside this system is certified to NSF/ANSI 61 for Material Safety and NSF/ANSI 372 for Low Lead Content.