

DMI-65®

Advanced Catalytic Filtration Media Product Profile

DMI-65® is a revolutionary filtration media for the removal of heavy metals for industrial & municipal water treatment. The applications span over a diverse group of industries, across both the public and private sectors.

Description

Quantum Filtration Medium Pty Ltd manufactures an advanced oxidation catalytic filtration media called DMI65® specifically tailored to oxidize and remove iron and manganese in solution. DMI65® also removes arsenic, aluminum and other heavy metals. Additionally, DMI65® successfully treats turbidity as well as hydrogen sulfide under certain conditions.

The catalytic surface of DMI65® contains manganese oxide that facilitates covalent bonding of manganese and oxygen atoms from water. Its extremely powerful catalytic properties allow soluble iron and manganese removal without the need for periodic media regeneration (e.g. with potassium permanganate). DMI65® is revolutionary due to proprietary infusion technology that penetrates the microporous substrate of the matrix material, allowing for a greater catalytic surface area combining with a tight particle size distribution.

DMI-65® Can Remove:

- ✓ Iron
- ✓ Manganese
- ✓ Arsenic
- ✓ Aluminium
- ✓ Copper
- ✓ Lead
- ✓ Zinc
- ✓ Nickel
- ✓ Phosphorus
- ✓ Other Heavy Metals

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dmi65®



Performance

The unique microporous structure of DMI65® removes dissolved iron and manganese to levels as low as 0.001 ppm or even to non-detectable levels. DMI65® has low levels of fines, good tolerance to a wide pH operating range and a catalytic surface that isn't consumed in the reaction when operated in accordance with vendor guidelines. DMI65® protects and pre-treats water treatment systems (e.g. Reverse Osmosis) from iron and manganese biofouling, allowing longer filter run times with the benefit of reduced oxidant demand. DMI65® has an operating life of 15+ years depending on raw water quality, treatment application and user compliance to vendor operating guidelines.

Basic Operation

The processes that take place in a filtration media bed of DMI65® involve reduction/oxidation (redox). Redox reactions involve a transfer of electrons between species. Reduction is the gain of electrons or a decrease in the oxidation state of a molecule, atom or ion. Oxidation is the loss of electrons or an increase in the oxidation state of a molecule, atom or ion. Redox reactions occur simultaneously, there cannot be a reduction reaction without an oxidation reaction.

Certification

Tested and Certified Under Industry Standards: NSF / ANSI 61 by the Water Quality Association of USA Gold Seal Program covering safety and health effects for drinking water components.

Compliant : Drinking Water Inspectorate safe to use according to: Reg. 31(4)(a) of water supply (Water Quality) regulations 2010 for UK, England and Wales.



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Advantages of using DMI-65®

Removal of Iron & Manganese

Iron and manganese in water can cause maintenance issues, production loss, and system failure. DMI65® removes these metals down to 0.001mg/L, well below regulatory limits.

Arsenic Removal

TDMI65® is a manganese dioxide-infused silica sand media that efficiently removes arsenite, arsenate, and iron/arsenic complexes to as low as 0.001mg/L.

Cost Efficiency

DMI65® reduces overall costs by lowering capital and operational expenses through optimized plant design, chemical use, and backwash wastewater recovery.

High Load Capacity

With a high iron and manganese load capacity, DMI65® extends filter runs, minimizes downtime, and reduces operating expenses.

High Flow Rates

DMI65® technology allows higher oxidation rates, enabling faster water flow and reducing capital equipment costs, with filtration velocities up to double that of conventional media.

Regeneration Not Required

The media operates with a continuous injection of sodium hypochlorite at low residual levels (0.1 to 0.3 ppm) which eliminates the need for Potassium Permanganate.

Broad Operating Range

DMI65® performs reliably at pH 5.8 to 8.6 and up to 113°F, reducing the need for environmental adjustments.

Longevity

With proper use, DMI65® can last over 15 years. It does not decay during use, though it may experience up to 5% attrition per year due to backwashing.



Technical Data

Technical Data Sheet

Physical Properties		Operating Conditions	
Colour	Brown to Black	pH Range	5.8 - 8.6
Bulk Density	91.0 lbs/ft ³ 1.46 gr/m ³ 1.46 tonne/m ³	Maximum Water Temperature	113o F (45oC)
Specific Gravity	2.69	Minimum Bed Depth	24 Inches (600mm)
Effective Size	0.3 - 0.6mm	Freeboard	40% minimum
Uniformity Coefficient	1.4	Service Flow Rate	5 - 30 m ³ /m ² per hr
Mesh Size	20 - 40	Backwash Flow Rate	25 - 40 m ³ /m ² per hr
Annual Attrition	1% - 5%	Backwash Expansion	20% - 50%

Optimum Range

Optimum Range of Water Chemistry for up to 15 Years Continuous Use	
pH	5.8 - 8.6
Turbidity	<2 NTU
Iron (Fe)	<15 ppm
Manganese (Mn)	<3 ppm
Calcium (CaCO ₃)	<250 ppm
Salt (NaCl)	<1000 ppm
TDS	<2000 ppm
Ammonia (NH ₃)	<1 ppm
Silica (SiO ₂)	<70 ppm

Packaging Notes

Net Bag Weight:	21kg (46.30lb)
Net Bag Volume:	14.38L (0.5ft ³)
Bulk Density:	1.46gl/cm ³ (91lb/ft ³)
Specific Gravity:	2.69gr/cm ³
Porosity:	45.8%
Mesh size:	20:40

Pallets Options:

1. Pallets of 48 x DMI65® (21kg) available = Net Weight 1008kg
2. Pallets of 56 x DMI65® (21kg) available = Net Weight 1176kg
3. Whole 1 metric tonne (2,205 lbs / 24ft³) bulk bag pallets available.

PRODUCT OF AUSTRALIA

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Applications & Industries We Serve

- ✓ Drinking Water Treatment
- ✓ Reverse Osmosis
- ✓ Arsenic Removal
- ✓ Mining Industry
- ✓ Industrial Applications
- ✓ Irrigation Systems
- ✓ Landscape Reticulation
- ✓ Cooling Towers & Boilers
- ✓ Environmental Dewatering
- ✓ Food & Beverage

Why Us?



Expertise & Experience

Years of industry experience, we offer knowledgeable & professional services



Customer-Centric Approach

We put YOU first, offering solutions tailored to your specific needs.



Highest Quality

We're committed to providing the highest quality in everything we do.



Competitive Pricing

Our rates are competitive giving you the best value for your money.



Reputation

We have built trust, professionalism and exceptional service within the community.



Innovative Solutions

Our cutting-edge technology is efficient and meets modern demands.

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