

# Advanced Water Filtration Media DMI-65 for removing Iron, Manganese & Arsenic

The DMI-65 is a water filtration media that has extremely high capabilities of removing both Iron (Fe) and Manganese (Mn) simultaneously through low cost catalytic oxidation and retention of precipitate. The DMI-65 will also remove all arsenic from a water supply.

The DMI-65 is one of the few water filtration media's in the world developed to remove Iron, manganese and arsenic that is *certified to NSF/ANSI 61* for drinking water applications.

## **IRON and MANGANESE**

Iron can be removed by many different methods to achieve the “ World and Australian Drinking Standards”. These methods are regarded as old technology in world standards, expensive in Energy and ongoing costs and maintenance.

Manganese however is much difficult to remove and expensive using traditional methods.

The DMI-65 is the most advanced catalytic reaction media in the world and has a very high ability in removing iron and manganese and others elements.

The DMI-65 is the lowest cost method of removing Iron-Manganese – Arsenic. All other processes are expensive in, energy and on going maintenance costs.

The DMI-65 is also very simple to use, operate and maintain. The DMI-65 has a life span of at least 5 years before needing to be replaced if the plant is maintained correctly.

## **Catalytic Filter Media**

In regard to how DMI-65 works, this is a catalytic filter media boosting oxidation capacity of low cost oxidant such as NaOCl. (Before the filter you inject oxidant).

Iron and manganese in solution are in the form of lower valence oxi-hydroxides (example, ferrous hydroxide). Higher valence oxi-hydroxides (ferric hydroxide, red color) are not soluble in water around neutral pH. When the water with iron and manganese in solution and oxidant reaches the particles are retained in the filter bed. This process would take place normally in a matter of days to weeks. The catalytic filter media makes this happen in minutes accelerating the reaction a few hundred times.

The DMI-65 is a similar filtration media to Manganese Greensand, however the DMI-65 does not need to be re-generated with potassium permanganate at all.

### **Physical Properties**

Colour	: Black to Brown
Bulk Density	: 1.46 gr/cm <sup>3</sup> ; 1.46 tonne/m <sup>3</sup> ; 91 lb/ft <sup>3</sup>
Specific Gravity (Particle Density)	: 2.69n gr/cm <sup>3</sup>
Effective Size	: 0.43mm
Uniform Coefficient	: 1.34
Porosity	: 45.8%
Mesh Size	: 20 – 45
Attrition Loss P/Annum	: 1 – 5% (depending on water condition)

### **Condition of Operation**

Water pH range	: 5.8 – 8.6
Maximum water pump	: 45 degree C
Bed depth	: 600 mm (minimum)
Freeboard	: 40% of bed depth (Minimum)
Regenerated	: Not required
Services Flow Rate	: 5 – 30 m <sup>3</sup> /m <sup>2</sup> per hr
Backwash Flow Rate	: 25 – 80 m <sup>3</sup> /m <sup>2</sup> per hr
Backwash Bed Expansion	: Between 15 - 50%

### **Bag Information**

Net Weight (each bag)	: 21 kg
Volume (each bag)	: 14.38 litres

## *Ordering of Information*

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