

for reducing iron, manganese and hydrogen sulfide

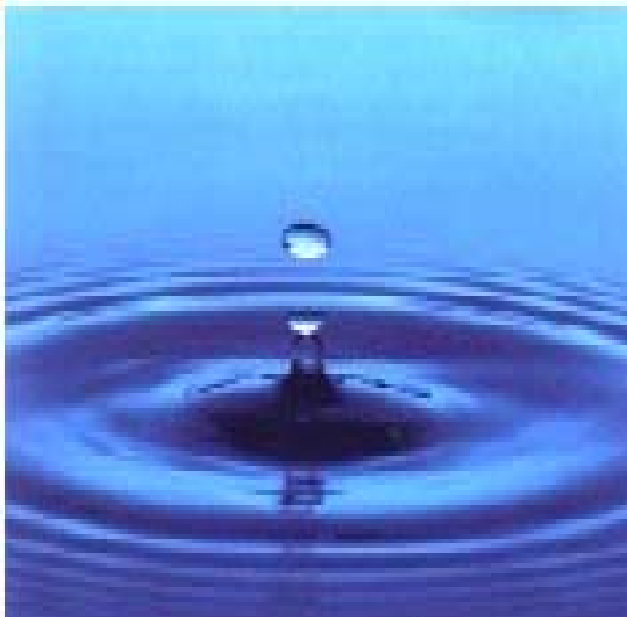
MTM® is a granular manganese dioxide filtering media used for reducing iron, manganese and hydrogen sulfide from water. Its active surface coating oxidizes and precipitates soluble iron and manganese. Hydrogen sulfide is oxidized to a sulfur. The precipitates are filtered out in the granular bed and removed by backwashing.

MTM consists of a light weight granular core with a coating of manganese dioxide. The coating provides an example of contact filtration where the media itself provides the oxidizing potential. This allows for a much broader range of operation than many other iron removal medias. A pH level as low as 6.2 can be treated. Dissolved oxygen is not essential. The media's light weight reduces backwash water requirements.

When the oxidizing activity of **MTM** is reduced, the bed has to be regenerated with a weak solution of potassium permanganate (KMnO₄), thus restoring its solution of 3 gr KMnO₄ / Liter **MTM** is sufficient for normal regeneration. Upon start-up a new bed should be backwashed and caution taken to insure that the lightweight media is not backwashed to drain. A new bed should be regenerated the evening of installation.

Operating the filter after its oxidizing capacity is exhausted will reduce its service life and may cause staining.

MTM requires either intermittent or continuous regeneration to maintain its oxidizing capacity. A solution of potassium permanganate (or chlorine then potassium permanganate) can be preferred to maintain capacity. In the latter case the manganese dioxide coating acts as a catalyst to enhance the oxidation reaction and as a buffer to reduce any excess potassium permanganate concentration and prevent it from entering the service lines.



ADVANTAGES

- Broad operating range for iron reduction
- Lower pressure loss through the bed with high flock holding capacity
- Effective hydrogen sulfide, iron and manganese reduction.
- Light weight requires lower backwash rates and reduces pumping requirements
- Chlorine can be beneficial in extending filter run times
- Low attrition loss for long bed life
- Lower shipping cost

PHYSICAL PROPERTIES

- | | |
|---------------------------|-------------------------|
| ■ Color: | dark brown |
| ■ Bulk Density: | 0,62 kg/dm ³ |
| ■ Specific Gravity: | 2.0 gm/cc |
| ■ Effective Size: | 0.43 mm |
| ■ Uniformity Coefficient: | 2.0 |
| ■ Mesh Size: | 0,42 – 1,4 mm |

CONDITIONS FOR OPERATION

- | | |
|----------------------------|--|
| ■ Water pH range: | 6.2 – 8.5 |
| ■ Maximum water temp: | 40°C |
| ■ Bed depth: | 600 – 900 mm |
| ■ Freeboard: | 50% of bed depth (min.) |
| ■ Service flow rate: | 7 – 13 m/h continuously
20 –25 m/h intermittent
possibly |
| ■ Backwash flow rate: | 20 – 25 m/h |
| ■ Backwash expansion rate: | 20-40% of
bed depth (min.) |
| ■ Regenerant dosage: | 2,5 – 3 gramm of KMnO ₄
per ltr. Media |

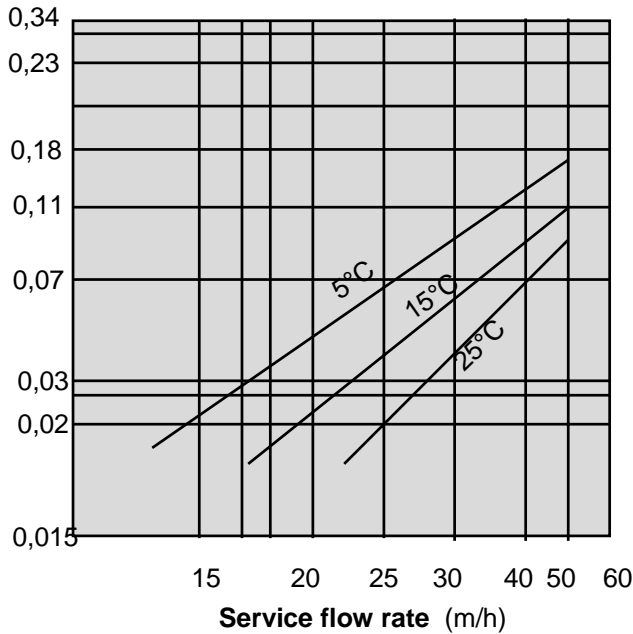
INFLUENT LIMITATIONS

- | | |
|-------------------|------|
| ■ Oil: | None |
| ■ Polyphosphates: | None |

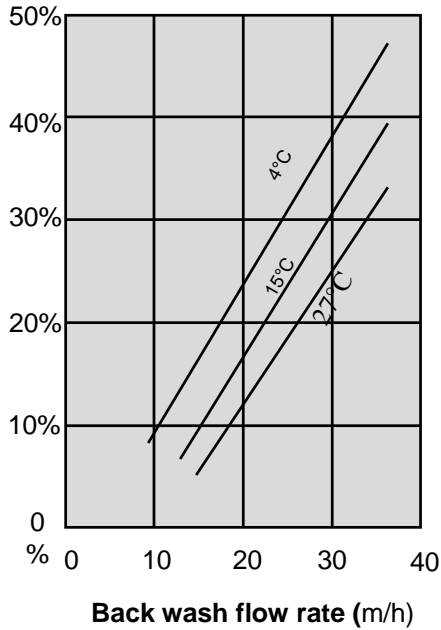
CAPACITY per Cubic Feet (28,3 Ltr.)

- | | |
|---|----------|
| ■ Iron (Fe ⁺²) alone | 350 ppm |
| ■ Manganese (Mn ⁺²) alone | 175 ppm |
| ■ Hydrogen Sulfide (H ₂ S) alone | 100 ppm) |

Pressure drop (bars / m bed depth)



Bedexpansion in %



MTM[®] is a federally registered trademark of Clack Corporation WS / USA

MTM[®] is tested and listed under ANSI / NSF and classified by UL INC. as drinking water treatment system components acc. to ANSI/NSF 61-(1991)-57Y3

Packing : 28,3 Liter (1 ft³) Säcke

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