

# THE BEST FILTRATION MEDIA



## 1 UNIQUE GREEN MANUFACTURING PROCESS



AFM<sup>®</sup> is manufactured from **100% recycled bottle glass sourced locally**, a raw material that already exists and needs to be reused.



Our production process is **energy self-sufficient**, using up to **1.2 gigawatts self-generated solar power** per year. Moreover, AFM<sup>®</sup> is cleaned and washed using **100% rainwater**.



**Waste is separated and recycled** or used in other industries. Sludge is responsibly disposed of or sold to biogas companies to produce **green electricity**.

### WHAT ABOUT SAND AND CARTRIDGES?



**Sand** is a finite resource, and its mining causes local resource depletion and environmental harm. **Sand mining disrupts and destroys natural habitats, like riverbeds, wetlands, and coastal areas, resulting in habitat loss and damage to ecosystems.**

**Cartridge filters** are typically made from materials like polypropylene, polyester, or other plastics. The production of plastics, including the extraction of raw materials and the energy-intensive manufacturing process, can have a significant environmental footprint. **In addition, frequent replacement of cartridge is necessary and generates waste in the form of discarded filter cartridges, which usually end up in landfills.**

# 2 SUSTAINABLE FILTRATION, WATER AND AIR QUALITY



Learn how  
AFM® is produced

One of the main differences between AFM® and other filter media such as sand and crushed glass is its **bio-resistance**. **AFM® undergoes a unique chemical and thermal activation process to become self-sterilising and fully resistant to biofouling.**

Only green and brown glass is used in the manufacture of AFM® because **white glass does not contain the metal oxides needed to make the media self-sterilising.** That is why we have invested 4 million euros in the most modern colour sorting machines in the world.



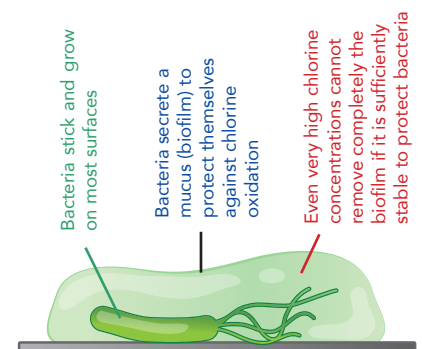
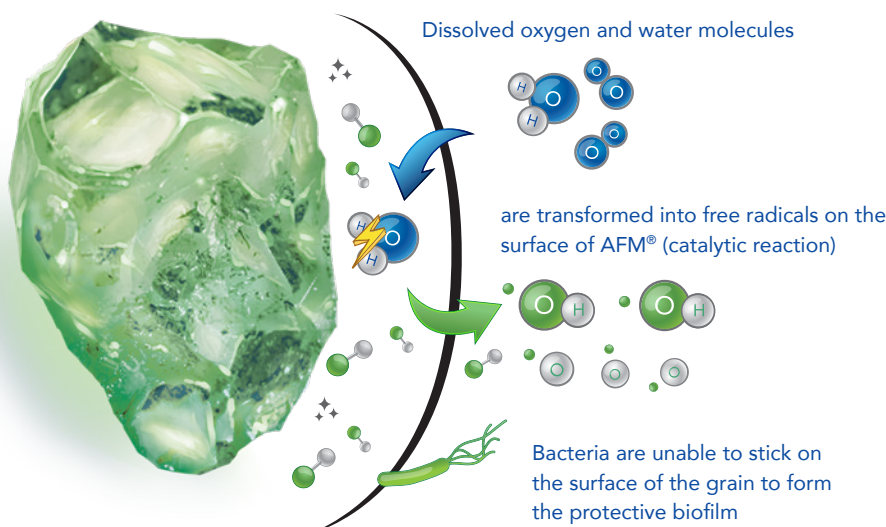
**98%**  
Green & Brown glass

**100%**  
**BIO-RESISTANT**

- No growth of pathogens
- No clumping  
No channeling
- No chlorine smell
- No loss of efficiency

## NO BIOFILM

When in contact with water flowing through the filter, a small amount of free radicals (O' and OH') are formed on the surface of the grains. **Thanks to their strong oxidation potential, free radicals protect AFM® from colonisation by bacteria and fully prevent the formation of biofilm.**



**The largest surface in contact with water in a swimming pool is by far the quartz sand in the filter.** 1 m<sup>3</sup> of sand has a surface area of 3,000 m<sup>2</sup> and represents an ideal ground on which bacteria can grow and multiply.



# THE 3 MAIN PROBLEMS OF BIOFILM

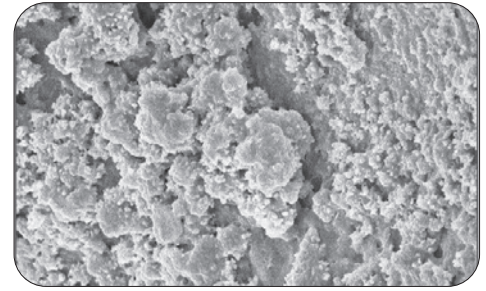
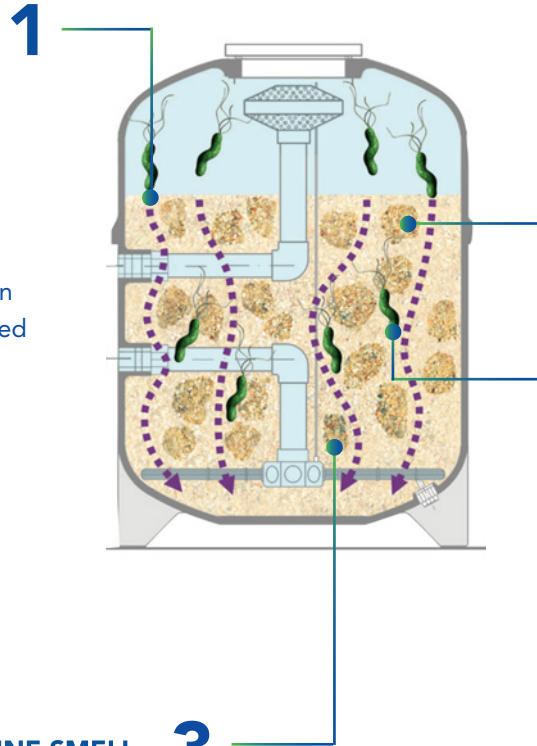


Watch the e-learning video

## 1 INCONSISTANT AND UNRELIABLE FILTRATION

After 6 – 12 months, biofilm on the sand has developed to a degree where the grains stick together, forming clumps and causing channelling of the filter bed which reduce filtration performance and allow unfiltered water to reach the bathers.

**Filtration performance with AFM® is predictable, reliable, and remains stable. There is no possibility of unfiltered water reaching the pool.**



## 2 PATHOGENS

The filter develops into a breeding ground for pathogens, such as legionella and pseudomonas. Periodically, bacteria flocs will break through the filter.

**AFM® prevents the growth and the transmission of these pathogens. Pool water is therefore much safer.**

## 3 TRICHLORAMINE - CHLORINE SMELL

Pool users add sweat and urine in the pool water. They consist of 80% of urea. Bacteria in the biofilm convert this urea into ammonia which then reacts with chlorine to form inorganic chloramines (mono-, di- and tri-chloramine). Trichloramine ( $\text{NCl}_3$ ) is very volatile and is responsible for the unpleasant chlorine smell that cause skin, eye and lung irritation.

**With AFM®, there is no biological conversion from urea to ammonia inside your filter : No biofilm = No trichloramine = No chlorine smell!**

# AFM® OUTLASTS ALL OTHER FILTER MEDIA!



**Cartridge filters** have a **very limited lifespan and typically need to be replaced every 1 to 2 years**, depending on usage and water quality. Organic matter systematically clogs the cartridges, requiring more disinfectants. Antiphosphates and flocculants **cannot be used** to reduce chlorine demand and improve water quality.



**Sand and clear glass** are very prone to biofouling. Clumps and channeling will appear in the filter bed after just a few months of operation, reducing mechanical filtration and performance over time. **These media should be replaced every 3 to 5 years.**



**Green and brown glass**, due to their metal oxide content, will be able to limit bacterial growth and the formation of biofilm in the filter bed. This can result in enhanced longevity, provided that they undergo proper backwashing. **These media should be replaced every 5 to 7 years.**



By fully preventing bacterial growth and channeling in the filter bed, **AFM® filters work at constant high filtration efficiency** and each filtration phase will show the same performance. **AFM® will last for over 20 years if the filters are backwashed properly.**

LOW

MEDIUM

MEDIUM-HIGH

VERY HIGH

Longevity

SWIMMING POOLS

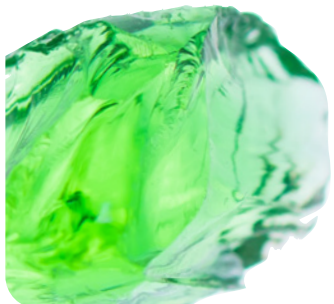
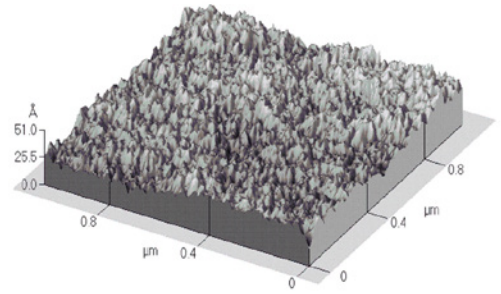
3

# UP TO 50% LESS CHLORINE COMPARED TO SAND AND CARTRIDGE FILTERS

Our activation process creates a mesoporous structure to strongly increase the surface area (m<sup>2</sup>) of AFM<sup>®</sup> in contact with water. This feature enables AFM<sup>®</sup> to **mechanically capture more particles than sand and other glass filter media and offers a much larger surface for the adsorption of fine particles.**

During the process, the charge of the glass is also modified to give AFM<sup>®</sup> unique adsorption properties. Thanks to its large hydrophobic surface, AFM<sup>®</sup> filters particles down to 1 micron and **about 50% more organic substances than sand and other glass filter media.**

## INCREASED SURFACE AREA




Perfect Size & Shape  
**SUPERIOR**  
HYDRAULIC PERFORMANCE

### HYDROPHOBIC SURFACE

Repels water, Attracts organics!


**1**  
MICRON

Best filtration to 1 micron




↓ THMs

Up to 50% Less THMs




↓ Cl

Reduced chemical consumption



↓ NTU

Exceptional water clarity




# BEST FILTRATION = REDUCED CHLORINE CONSUMPTION

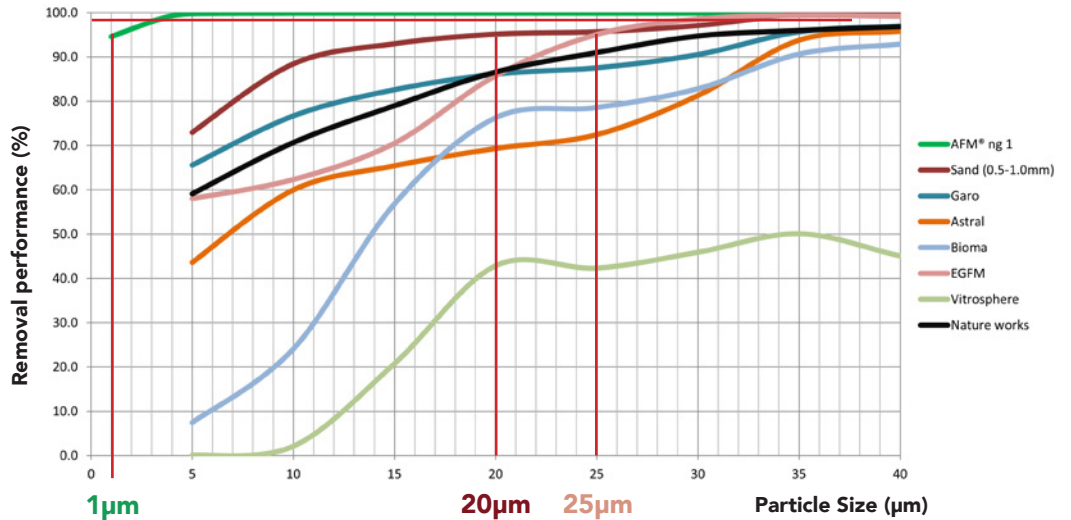
What is filtered out does not need to be oxidised. High filtration performance means less disinfectants are used, resulting in healthier water and better air quality at lower costs. **The greater filtration efficiency of AFM® will save up to 30% of chlorine compared to sand and up to 50% compared to cartridge filters!**

VERIFIED TO BE THE BEST!  IFTS.  
FILTRATION & SEPARATION



Cartridge filters are by far the least effective at filtering out fine particles and contaminants compared to other filtration methods.

**This leads to poorer water quality and the need for more frequent chemical treatments.**



**AFM® ng** filters 95% of all particles down to **1 micron.**



**Sand** filters 95% of all particles down to **20 microns.**



**Glass sand** filters 95% of all particles down to **25 microns.**



**Cartridges** filter 95% of all particles down to **40 microns.**

LOW	MEDIUM	MEDIUM - HIGH	HIGH
<b>Chlorine demand</b>			

## BECOME A REAL POOL EXPERT!



Dryden Pool Academy, available in 5 languages, is a new free online training service created by Dryden Aqua. It offers an excellent opportunity to significantly enhance your knowledge of swimming pools.



 Watch the **Dryden Pool Academy**





# 4

## UP TO 80% LESS BACKWASH WATER

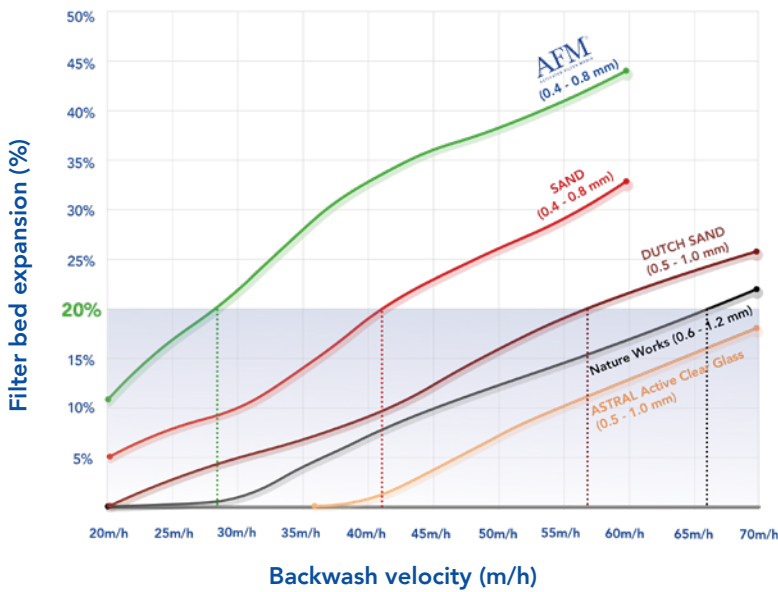
### COMPARED TO OTHER FILTER MEDIA



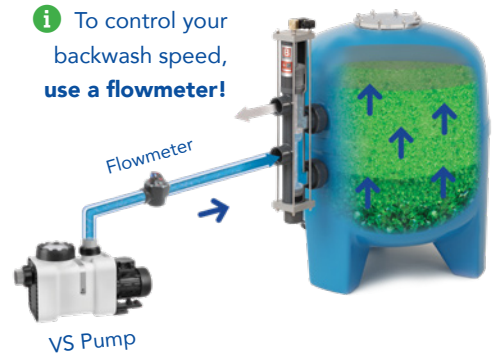
Save water with AFM® presentation

Proper backwashing of pool filters is essential for maintaining good water & air quality, reducing the consumption of pool chemicals, and ensuring the efficient operation of pool equipment. Regular backwashing also extends the filter's life, maintains pump efficiency - therefore reducing energy consumption. **To ensure an effective backwash process, it's essential to achieve a filter bed expansion of at least 15-20%.** This expansion promotes the proper fluidization of grains within the filter media, ensuring the removal of trapped particles, including those embedded in the media.

Filter bed expansion at 25°C



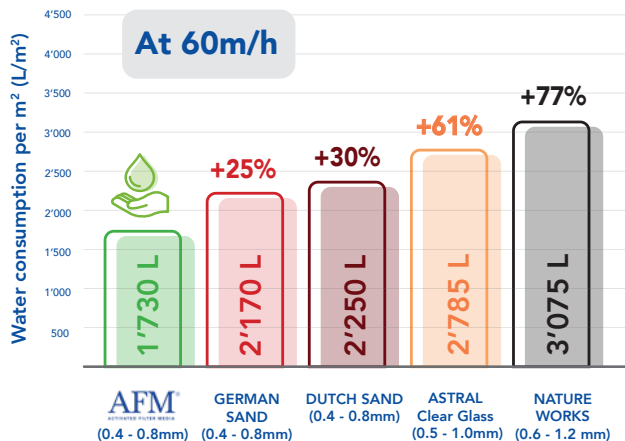
In contrast to certain other filter media like "NatureWorks" and "ASTRAL Active Clear Glass", which demand backwash velocities of 65m/h or higher, AFM® can be effectively backwashed with much slower backwash speeds, starting from 30m/h!



## SAVE WATER & MONEY WITH AFM®!

The charts depict the **water consumption in liters per square meter (m<sup>2</sup>) of filter surface needed to achieve an effective backwash** and achieve a 90% reduction in backwash water turbidity. Tests were conducted at velocities of 60m/h.

Water consumed per m<sup>2</sup> of filter surface to backwash filter



AFM® surpasses all other filter media in backwash efficiency, **using up to 80% less backwash water.**

## WHAT ABOUT CARTRIDGE FILTERS?



Cartridge filters, while considered water-efficient compared to sand filters because they don't require backwashing, still use water for cleaning. Periodic rinsing and cleaning involve removing cartridges, spraying them with water, which can be substantial if the cartridges are dirty. Additionally, chemicals are usually needed for effective cleaning. Last but not least, **cartridge filters require cartridge replacement, which in the end is more expensive than backwashing sand or glass media.**

# AFM® IS ADAPTED TO ALL SAND FILTERS!



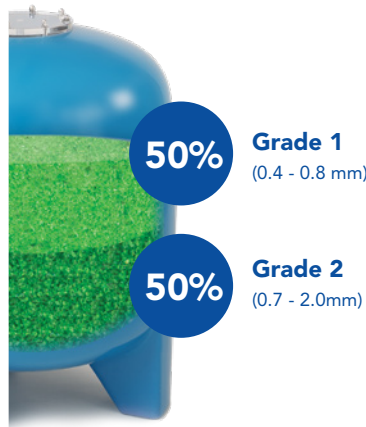
Download our AFM®  
Installation manual

By volume, AFM® (1,300 kg/m<sup>3</sup>) is 15% lighter than sand (1,500 kg/m<sup>3</sup>). For example, to replace 250 kg of sand, you will need 210 kg of AFM®.

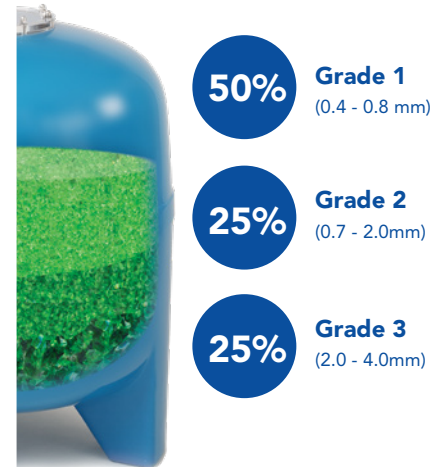


**25KG SAND = 21KG AFM®**  
Weight of sand x 0.85 = Weight of AFM®

## FOR SMALL DIAMETER FILTERS < Ø 800mm



## FOR LARGE DIAMETER FILTERS > Ø 800mm



## FOR THE BEST WATER QUALITY AND ENERGY SAVINGS

Use AFM® preferably with a variable speed pump and adjust your pump's speeds with a flowmeter.

Filtration speed : 15 to 30m/h  
Example: 30 x filter surface (m<sup>2</sup>)  
= Filtration flowrate (m<sup>3</sup>/h)

Backwash speed : 40 to 50m/h  
Example: 50 x filter surface (m<sup>2</sup>)  
= Backwash flowrate (m<sup>3</sup>/h)



**PACKAGING**  
Available in 11kg, 21kg and 25kg bags



## NEW! AFM® DIN GRADE - FOR POOLS WITH HIGH ORGANIC LOAD!



**75%** DIN Grade  
(0.7 - 1.2mm)

**25%** Grade 3  
(2.0 - 4.0mm)

**i** For small filters < Ø 800mm, it is possible to use 100% AFM® DIN Grade

**AFM® DIN Grade (0.7 - 1.2mm)** has twice the loading capacity of AFM® Grade 1 (6000 g/m<sup>2</sup> compared to 2700 g/m<sup>2</sup>) and therefore needs 50% less backwash cycles than AFM® Grade 1.

AFM® DIN Grade is **ideal for use in pools with high organic load**. That means instead of backwashing every 3 days – backwashing can be done every 7 days.

**Important:** AFM® DIN Grade requires a higher backwash velocity than Grade 1 of minimum 50 m/h. New public pools generally have this backwash speed. For private pools, you need to ensure that you have this backwash speed using a flowmeter.

# AFM<sup>®</sup>

ACTIVATED FILTER MEDIA



DOWNLOADS



YouTube

## THE MOST SUSTAINABLE FILTER MEDIA.

Due to its distinctive eco-friendly manufacturing process, superior filtration and backwash efficiency, and exceptional durability, AFM<sup>®</sup> stands out as the most environmentally responsible option for swimming pool water filtration. Chemical usage, maintenance, and operational expenses are significantly lower than those of sand, glass media, and particularly cartridge filters.

[www.drydenaqua.com](http://www.drydenaqua.com)