W. T. Maye, Inc.
1-877-705-9864
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www.wtmi-usa.com

ANA Filtration Systems

10 GPM to 10,000 GPM Custom Systems

Revolutionary Water Filtration System

→ No Waste Stream
→ No Back Wash
→ No Electricity
→ No Chemicals
→ Smaller Footprint
→ Cost Less than MF/UF

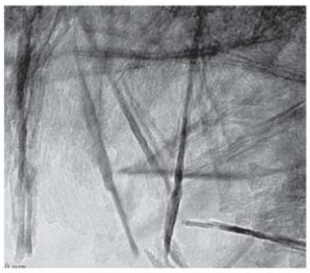
✓ NTU < 0.1
✓ SDI ≤ 1.0
✓ Removes Bacteria, Viruses, Pharmaceuticals, DNA
✓ Removes Iron, Manganese and other Metals

Each System Utilizes the Advanced ANA Nano-Fiber Media Filtration Elements

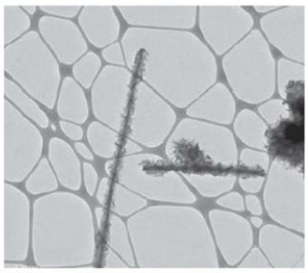
The **Advanced ANA Nano-Fiber** media utilizes the most advanced, NASA derived, Electro-Adsorption Technology.

Using electropositive fibrous filter media with high particle removal efficiency as well as high dirt holding capacity, the **Advanced ANA Nano-Fiber** media has extraordinary low pressure drops & high flow rate capacities relative to its sub-micron filtration levels.

Slide 1. TEM Micrograph of Advanced ANA Nano-Fibers



Slide 2. ANA Nano-Fibers on Glass Fiber Substrate



The **Advanced ANA Nano-Fiber** filter's effective rating is 0.025 micron.

Each ANA Fiber:

- 2 nanometers in diameter
- 200-300 nanometers in length
- Note, Perspective: Standard thickness of printing paper is 100,000 nanometer

Surface Area:

- 42,000 : 1 Ratio
- 1 sq. ft of media has 42,000 sq. ft. of surface media

High Void Volumes:

Pore Size is 2 micron, however, removes ~99.98% of all 0.025 micron particles.

Note, such high void volume results in amazingly low pressure drops with very large throughputs

Dirt Holding Capacity:

- 22 x Greater than typical Glass Fiber Media
- 380 x Greater than typical Meltblown Media

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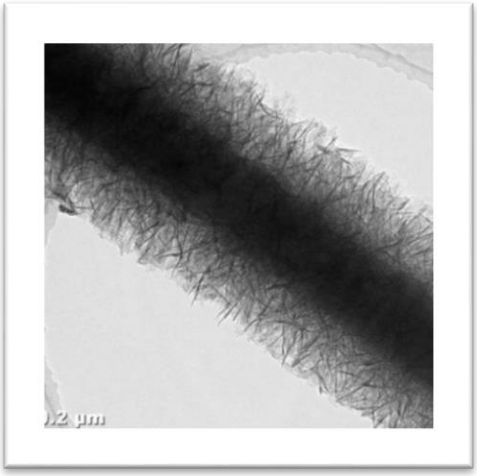
The HEART of the Advanced ANA Nano-Fiber Filter

At the heart of the **Advanced ANA Nano-Fiber** filter are the nanoalumina fibers made up of the mineral boehmite. The nanoalumina fibers are each 2 nanometers in diameter and 200–300 nanometers in length (for comparison, a sheet of paper is roughly 100,000 nanometers thick). These nanoalumina fibers are then infused onto a glass fiber matrix. The infusion is a thermally bonding process. The result looks like nano-size mascara brushes.



This method makes available greater than 42,000 square feet of nano-fiber surface area per one square foot of filter media.

The utilization of this advanced electro-adsorptive removal process results in significantly greater dirt holding capacities with extremely low pressure loss. The fibers produce an electropositive charge when fluid flows through them. Many impurities carry a slight negative charge and thus are adsorbed by the nanoalumina fibers. A single layer of the resulting media, though it has a pore size of about 2 microns, is capable of removing greater than 99.98 percent of 0.025 micron particles, thanks to this property.

Its large pore size relative to the particles it removes means the filter achieves ***the ultimate goal*** *in filtration media:* ***high flow*** *with* ***high dirt-holding capacity*** *and* ***low pressure drop.***

As a result of the **Advanced ANA Nano-Fiber** media's super high surface area, the media has a dirt holding capacity up to 25 times greater than other filter media. In fact, the filter media in a standard **Advanced ANA Nano-Fiber** media filter can capture and retain an amount of particulate which is 3.5 times its own weight.

The **Advanced ANA Nano-Fiber** media performs at levels never before believed possible. These are used in the cost effective, zero-discharge filter systems offered exclusively by WTMI.

Some of the many impurities the filter media removes are bacteria, viruses, cysts, organic debris, parasites, and dissolved and particulate metals such as iron and lead.

The **Advanced ANA Nano-Fiber** filters are capable of retaining > 99.99% of microorganisms (such as viruses, bacteria & protozoa which can include Cryptosporidium, Giardia Intestinalis, Legion Ella, Pseudomonas, Salmonella, E-coli, Mycobacteria, Aspergillus), Trace Pharmaceuticals, Endotoxins & DNA, along with most metals – all at flow rates hundreds of times greater than traditional filtration methods.

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System Capabilities:

Effluent Quality:

Turbidity:	< 0.1 NTU
Total Suspended Solids:	< 0.1 mg/L
Silt Density Index:	≤ 1.0 SDI

Removal Efficiencies:

Bacteria:	99.9999%	E-coli:	99.9999%
Virus:	99.999%	Mycobacteria:	99.9999%
Cryptosporidium:	99.9999%	Aspergillus:	99.9999%
Protozoa:	99.9999%	Trace Pharmaceuticals:	> 99.99%
Giardia:	99.9999%	Endotoxins:	> 99.99%
Legion Ella:	99.9999%	DNA:	> 99%
Pseudomonas:	99.9999%	Heavy Metals:	> 99.99%
Salmonella:	99.9999%	(including Iron, Manganese, Silica)	

Effective pH Range: 5-10

The ANA Filter Media filter components are manufactured with materials that meet FDA requirements 21CFR177.1520 for direct food contact applications.

System Applications:

Bottled Water / Food & Beverage / Breweries
Pre-RO / Make-Up Water / Cooling Towers
Water & Waste Water Treatment
Clarifier Replacement / Demineralizer Protection
Surface Water, Ground Water, Spring Water Systems
Note: The ANA System can be combined with other technologies for optimal performance.

Custom ANA Systems for all your filtration needs.

Single Skid designs and Multiple Plug & Play Skid designs. Also available in Duplex arrangements for Non-Interruptible Service. In addition to the ANA systems, WTMI offers Integrated Systems. The best solution for your filtration needs regardless of your influent quality.

Small Footprint: e.g. 250 GPM System (single skid – 6 ft. x 12 ft.)

For Application Assistance or to Order Contact:
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