

Aqua

Cloth Media Filtration

The Leader In Cloth Media Filtration



Aqua-Aerobic Systems, Inc.

Experience & Expertise

For Your Peace Of Mind

For over twenty five years, Aqua-Aerobic Systems, Inc. has offered the wastewater treatment industry tertiary filtration equipment.

Our success in this market is accomplished by manufacturing quality equipment while striving to expand through new and innovative technologies in filtration products.

Cloth Media Filtration is a time-proven technology which has been used successfully since 1978 in a variety of municipal and industrial applications.

Cloth Media Filters

Cloth Media Filters are designed for a variety of tertiary treatment applications. This proven filtration technology produces reuse quality effluent, and is an accepted filtration technology in California for Title 22 applications.

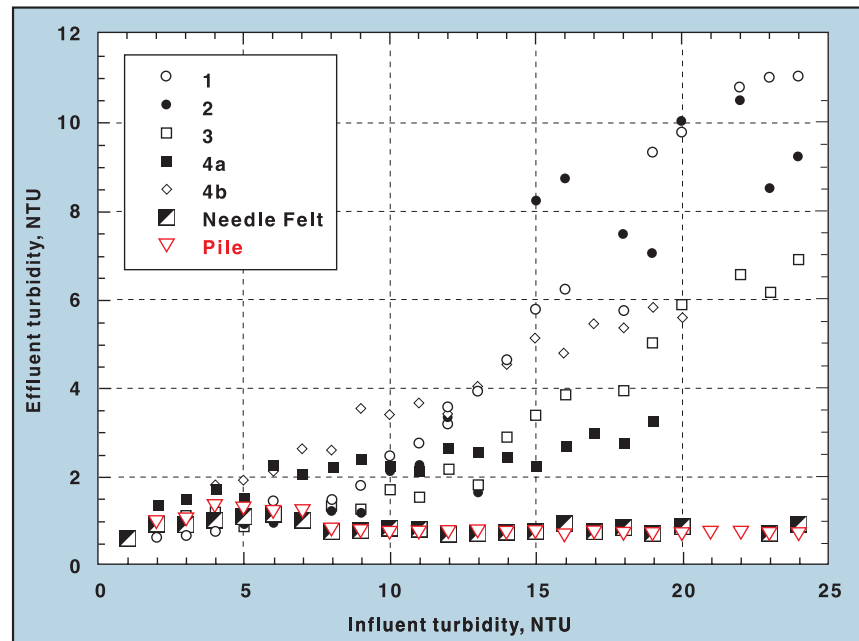
Each Cloth Media Filtration system utilizes the PA-13 pile cloth as its primary filter media with other media available. The PA-13 media is a nylon fiber material that provides consistent removal of very fine particulate matter.

Cloth Media Filters are low-head systems that can be gravity fed. Each system is designed to backwash automatically based upon water differential while maintaining continuous filtration during backwash. Typical backwash is less than 2-3% with a quick recovery time of less than three minutes, as compared to other typical filters which can take up to 20 minutes.

Cloth Media Filtration systems are currently installed in a variety of municipal and industrial applications. These systems provide several process and mechanical advantages as compared to alternative filtration equipment and microscreens.

Performance

The chart below indicates the results from a study conducted by the University of California-Davis which compares the effluent versus influent turbidity for Cloth Media Filtration at 14.7 m/hr and various filters at 9.8 m/hr.



- Deep-bed, continuous backwash upflow mono-medium filters
- Shallow depth, automatic backwash mono, dual and multi-medium downward flow filters
- Deep-bed, mono-medium downward and/or upward filters
- Shallow-depth, mono-medium filters
- ◇ Shallow-depth, dual medium filters
- ▣ Cloth Media Disk Filter (needlefelt media)
- ▽ Cloth Media Disk Filter (pile media)

Advantages

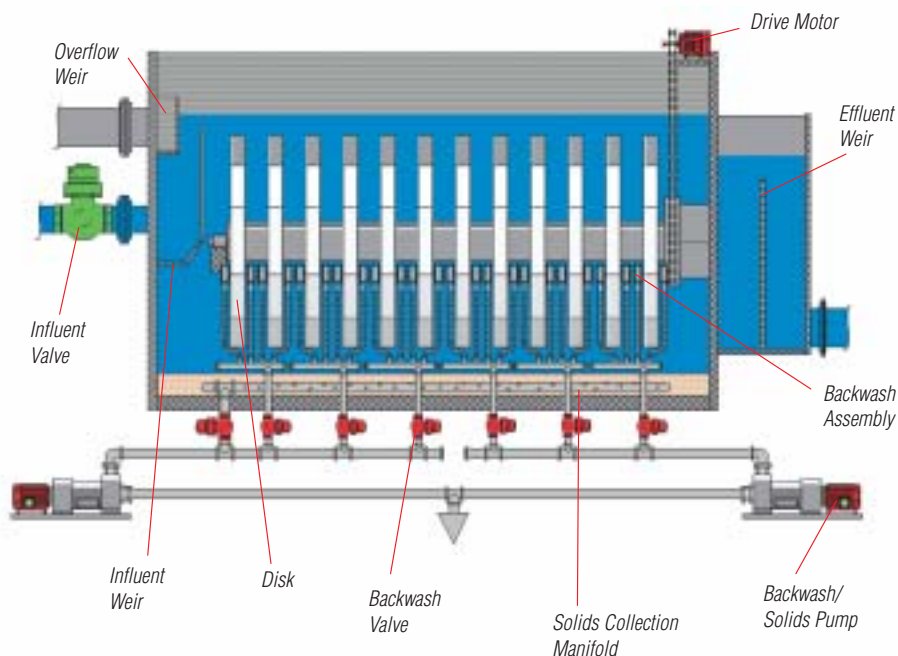
- Higher quality effluent
- Lower backwash rates
- Capable of maintaining effluent quality at high solids loading and high hydraulic loading rates
- Reuse quality effluent
- Continuous filtration during backwash
- Small footprint
- Eliminates sand media and underdrains
- Expandability

Applications

- Tertiary Treatment
 - Conventional activated sludge
 - Extended aeration activated sludge
 - SBRs
 - Oxidation ditches
 - RBCs
 - Trickling filters
- Reuse/recycle
- Industrial process streams
- Phosphorus removal
- Color removal
- Industrial make-up water
- Precipitate removal

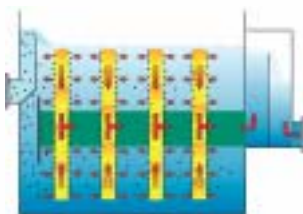
A multiple disk unit installed in a concrete tank.

Vertical Configuration



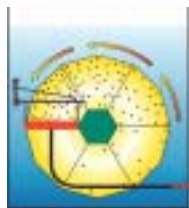
Operation of the AquaDisk®

A



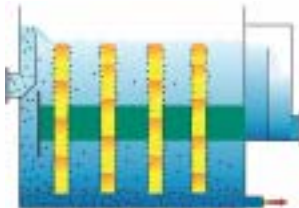
Inlet wastewater enters the tank or basin. By gravity, liquid passes through the cloth membrane. As solids accumulate on the media, a mat is formed, and the liquid level in the tank or basin increases. The filtered liquid enters the internal portion of the disk where it is directed to final discharge.

B



At a predetermined level or time, the backwash cycle will be initiated. Solids are backwashed from the surface by liquid suction from both sides of each disk. During backwash, disks are cleaned in multiples of two, unless a single disk unit is utilized. Disks rotate slowly, allowing each segment to be cleaned. Backwash water is directed to the headworks. Filtration is not interrupted during this cycle.

C



The AquaDisk filtration process requires no moving parts during filtration. Heavier solids are allowed to settle to the bottom portion of the filter tank. These solids are then pumped on an intermittent basis back to the headworks, digester or other solids collection area of the treatment plant.

Known as the AquaDisk®, this is the vertical orientation for the Cloth Media Filter. Each disk is made up of six pie-shaped sections which are mounted vertically to a common center tube, which conveys filtered effluent from the tank. This vertical media orientation allows for a large amount of filter area in a very small footprint (up to 75% less than typical filters).

The filter is completely static during filtration with the disks only rotating during the backwash process. The AquaDisk tank is offered in painted steel, stainless steel and for installation in concrete basins with sizes ranging from one disk to twelve disks on a common center tube, depending upon design flows.



(6) 12 disk package units at Palm Beach County, FL

Aqua-Jet®
Surface Aerators

Aqua-Jet II®
Contained Flow Aerators

AquaABF®
Automatic Backwash Filters

Aqua MixAir®
Aeration Systems

AquaDDM®
Direct Drive Mixer-Blenders

AquaSBR®
Sequencing Batch Reactors

AquaDisk®
Cloth Media Filtration

AquaDrum™
Cloth Media Filtration

ThermoFlo®
Surface Spray Coolers

Aqua EnduraDisc™
Fine Bubble Diffusers

Aqua EnduraTube™
Fine Bubble Diffusers

Aqua CB-12/24™
Coarse Bubble Diffusers

AquaMB Process™
Multiple Barrier Membrane System

AquaMSBR®
Modified Sequencing Batch Reactor

DynaBlend™
Polymer Blending and Metering Systems

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The information contained herein relative to data, dimensions and recommendations as to size, power and assembly are for purpose of estimation only. These values should not be assumed to be universally applicable to specific design problems. Particular designs, installations and plants may call for specific requirements. Consult Aqua-Aerobic Systems, Inc. for exact recommendations or specific needs.
Patents Apply. Patents Pending.

