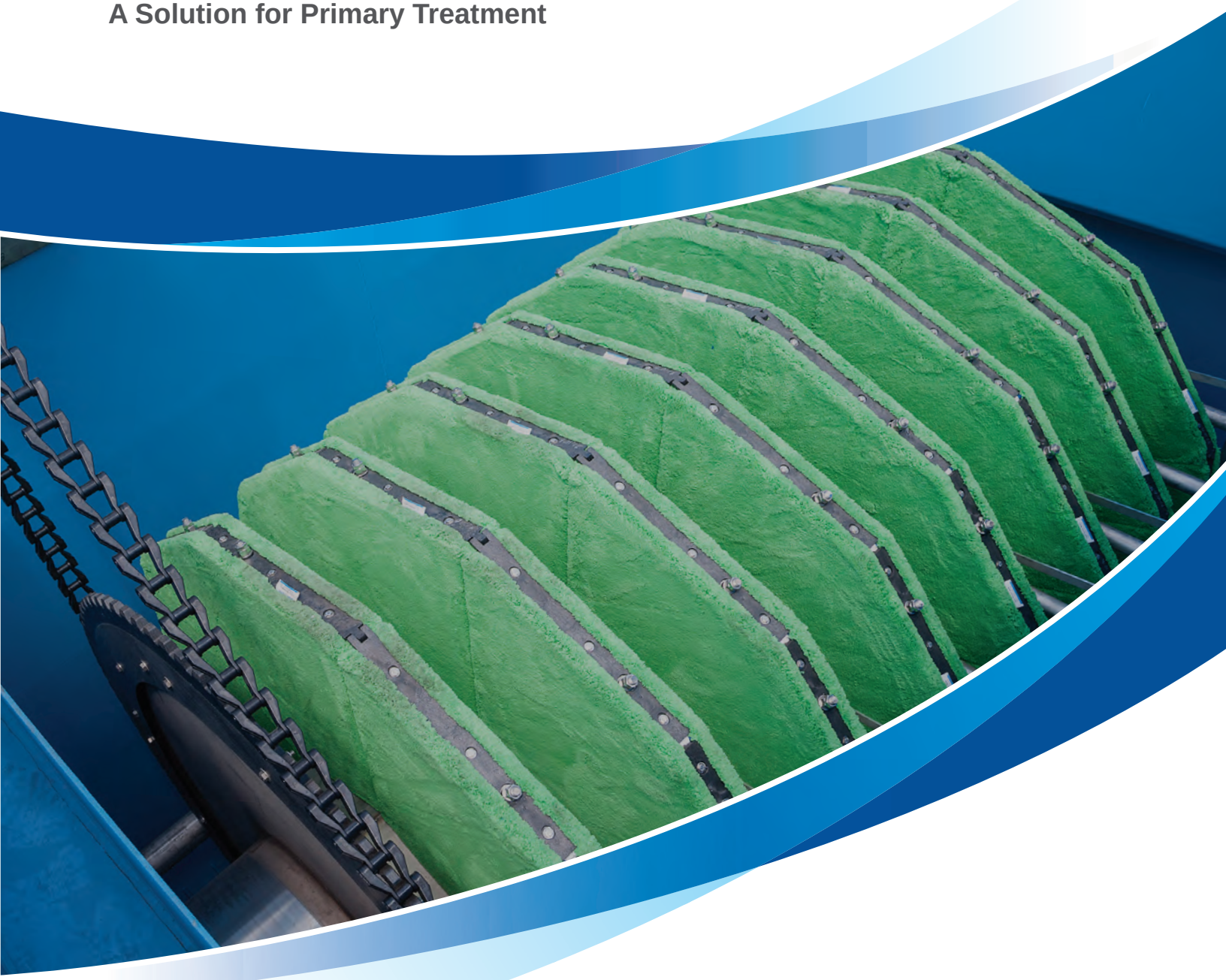
AquaPrime®

Cloth Media Filter

A Solution for Primary Treatment



AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company

AquaPrime®

Cloth Media Filter Featuring OptiFiber® Pile Cloth Media

The AquaPrime® cloth media filtration system is designed as an economical and efficient solution for the treatment of primary wastewater and wet weather applications. This system utilizes a disk configuration and the exclusive OptiFiber PF-14® pile cloth filtration media to effectively filter high solids waste streams without the use of chemicals. This system is ideal for primary wastewater treatment and wet weather applications due to its proven removal efficiencies and high quality effluent, even under varying influent conditions.

The AquaPrime system is designed to handle a wide range of flows in a fraction of space compared to conventional primary clarifiers. The system's high solids removal in comparison to conventional treatment puts the technology in the advanced primary treatment category. AquaPrime provides reduced carbon loads to downstream secondary treatment process, resulting in:

- Aeration energy savings (by approximately 20 to 30%)
- And/or increased capacity in existing secondary treatment processes
- And/or reduced basin size for the secondary process (footprint savings)
- Increased primary solids for anaerobic digestion for increase biogas production (by up to 30 to 40%) to be used for energy production or heating within the facility
- Dramatically reduced footprint (75% to 90% less) in comparison to conventional sedimentation

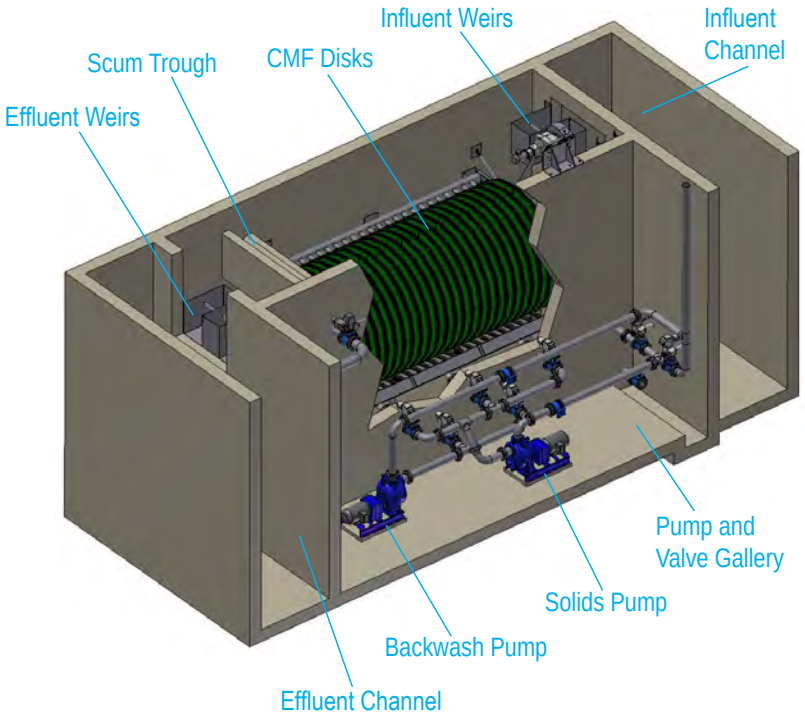
System Features and Advantages

- Vertically oriented cloth media disks reduce required footprint
- Each disk is lightweight, with removable segments for ease of maintenance
- Effective backwash system that fluidizes cloth fibers to release stored solids
- Specifically designed floatable and solids removal zones
- Available in several configurations
- Fully automatic PLC control with color touchscreen HMI
- Reduced energy costs in the secondary process due to a reduction in organic loading
- More solids for increased gas production in anaerobic digesters for primary applications
- Simple start-up with unattended operation for remote locations

Typical Applications

- Primary Filtration
- Primary Effluent Filtration
- High Solids Applications (Municipal and Industrial)

An AquaPrime® system operating at a municipality for primary treatment.



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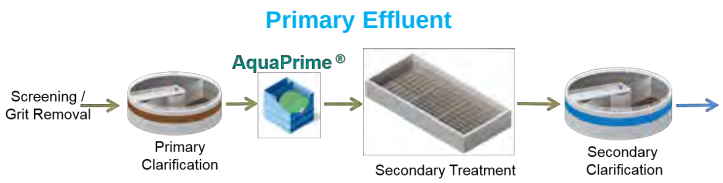
Typical Locations For Treatment

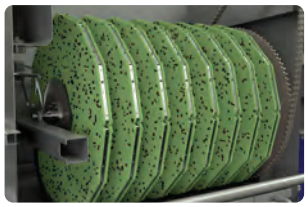


Modes of Operation

The AquaPrime cloth media filtration system operates on four (4) modes of operation: FILTRATION, BACKWASH, SOLIDS WASTING and FLOATABLE WASTING. For graphical representation, the AquaPrime modes of operation are described below:

Filtration Mode:

- Influent wastewater/wet weather flow enters the filter by gravity
- Stationary cloth media disks are completely submerged
- Solids deposit on the outside of the cloth media forming a mat as filtrate flows through the media
- Tank liquid level rises as headloss builds due to the collection of solids
- Filtrate is collected in the hollow center tube and discharged over an effluent weir
- Heavier solids settle to the specifically designed hoppered tank bottom

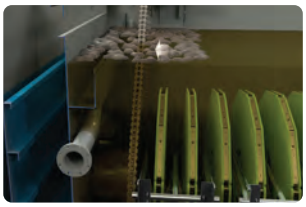


Backwash Mode:

- Solids are backwashed at a predetermined liquid level or time
- Backwash shoes directly contact the cloth media and solids are removed by vacuum pressure using a backwash pump
- Disks rotate slowly and two disks are backwashed at a time (unless a single disk is utilized)
- Filtration is not interrupted
- Backwash water is directed to waste handling facilities (thickening, digester, etc.)

Solids Wasting Mode

- Heavier solids in the collection hopper are removed on an intermittent basis
- Backwash/Solids Pump provides suction to the solids collection manifold for wasting of settled solids
- Solids are pumped back to the waste handling facilities (thickening, digesters, etc.)



Floatable Wasting Mode

- Floatable scum is allowed to collect on the water surface
- After a preset number of backwashes, the water level is allowed to rise above the preset high level
- As the water level increases, floating scum is removed by flowing over the scum removal weir
- Scum wasting water is directed to the plant's waste handling facility

A "Green" Advantage Product
Lower Energy • Small Carbon Footprint

Since 1969, Aqua-Aerobic Systems, Inc. has led the industry by providing advanced solutions in water and wastewater treatment. As an applied engineering company serving both municipal and industrial customers, we work collaboratively with consulting engineers, owners, plant managers, and operators to design and manufacture the best treatment solution with the lowest lifecycle cost.

Providing TOTAL Water Management Solutions

Aeration & Mixing

Biological Processes

Filtration

Oxidation & Disinfection

Membranes

Controls & Monitoring Systems

Aftermarket Products and Services

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