

AquaABF[®]

Automatic Backwash Filter

Your Water & Wastewater Specialists



Aqua-Aerobic Systems, Inc.

AquaABF®

Automatic Backwash Filter

The **AquaABF®** (Automatic Backwash Filter) is a continuous rapid-rate down-flow filter. This type of granular media gravity filter has been used successfully for decades in the treatment of potable water. It is an efficient means of reducing turbidity and suspended solids in industrial process makeup water.

For more than 20 years, the AquaABF® filter has received wide acclaim and acceptance for its successful performance in municipal and industrial wastewater treatment.

The **AquaABF®** filter is recognized as one of the most efficient filters of its kind available in the industry today.

The **AquaABF®** is simple to operate and its competitive cost and energy efficient design make it the logical alternative to other filtration systems.

Features

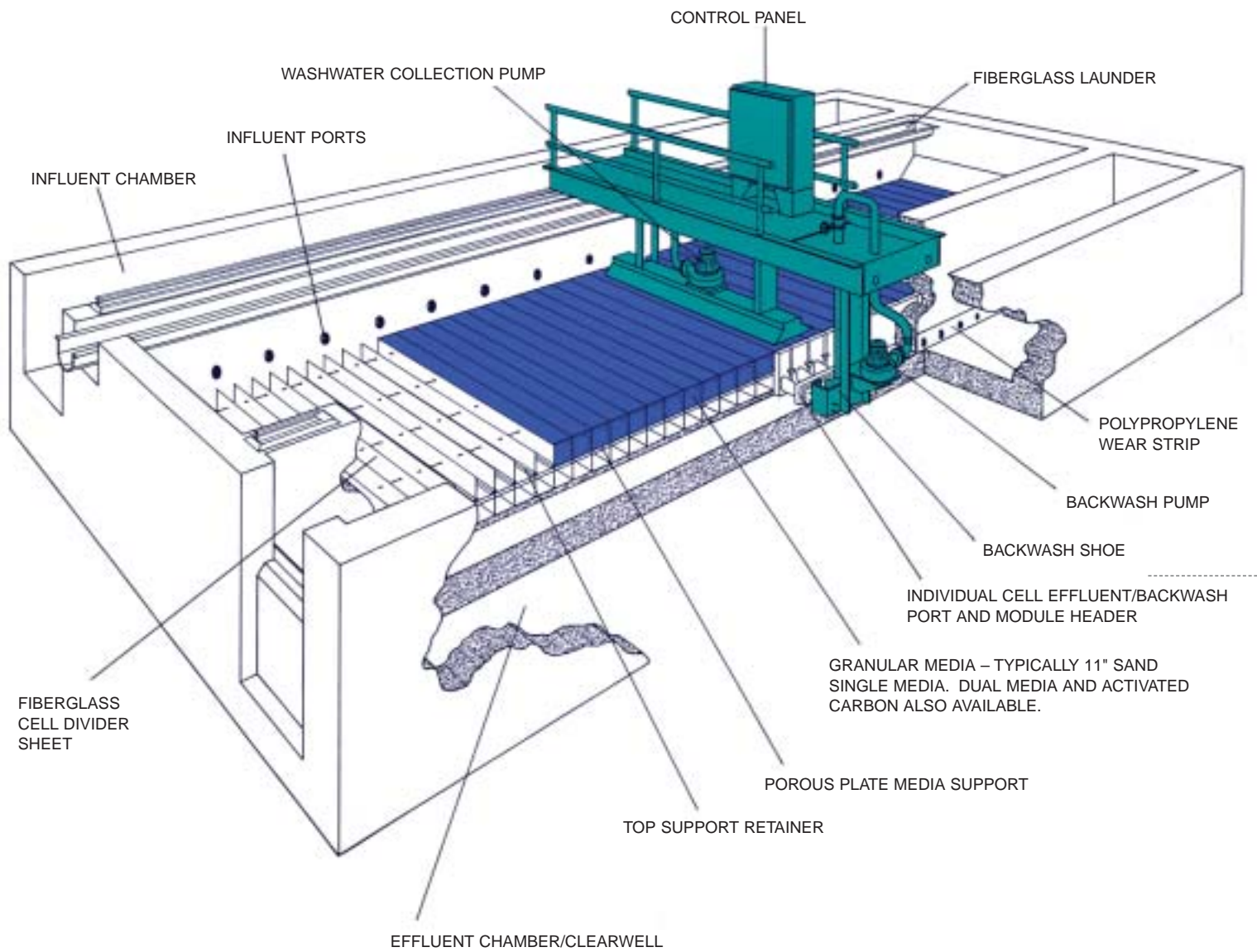
- Simple design and high quality corrosion resistant materials insure reliability and durability
- Low maintenance. All drives, pumps, motors and bearings are located for easy access
- Adaptable design utilizes cast-in-place concrete or steel package tanks. Single media sand, dual media sand and coal, or granular activated carbon
- Fully automatic. Minimal operation attention required.
- Standard widths of 6, 9, 12.5 and 16 ft. for site adaptability and cost efficiency
- High efficiency filtration. Typical 79-90% SS reduction in domestic sewage
- Options include:
 - Manual or fully automatic skimming indexing backwash (carriage stops at each cell for high solids loading)
 - Turbillite backwash system to collect post backwash filtrate
- Typical performance is less than 1 NTU (JTU) with normal practice being to pretreat to less than 10 NTU (JTU) prior to filtration
- Typical hydraulic loading of the AquaABF for water filtration is 2-3 gpm/ft²
- Typical loading of the AquaABF in wastewater treatment application is 30-50 mg/l solids (less than 1.2 lbs/ft²/day)



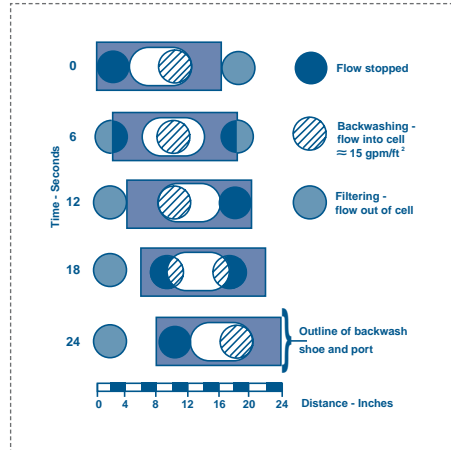
Typical concrete AquaABF® units used for municipal wastewater treatment.

Advantages

- Continuous filtration, even during backwash mode
- No backwash or washwater holding tanks required
- As little as 6" of headloss through filter
- High mechanical reliability. Low maintenance
- Fully automatic. Minimal operator attention required.
- Solids and hydraulic surges of washwater which must be returned to head of plant are minimized
- Higher effluent quality than other filters
- Low terminal head losses will not force solids into media
- Capital costs and installation costs are among the lowest of any filter available
- Continuous static head above media prevents air entrapment under the porous plate
- Surface mat filtration – no mudball formation
- Only 1-2% of daily flow is normally required for backwash
- No pipe galleries or air blowers mean less maintenance
- High efficiency mechanical and hydraulic backwash system



Backwash Mode



Applications

Municipal Water

- Turbidity reduction
- Color reduction
- Organics removal
- Iron and mineral removal
- Taste and odor control

Municipal Wastewater

- Suspended solids reduction
- BOD, COD, TOC reduction
- Reuse

Industrial Water or Wastewater

- Solids removal
- Turbidity reduction of process makeup water
- Chemical precipitate removal
- Toxic chemical reduction
- Suspended solids, BOD, COD, TOC reduction

The AquaABF® is designed to filter water and backwash filter cells simultaneously during normal operation. By design, the AquaABF® filter bed is divided horizontally into 8" or 12" wide cells. Inlet water floods the sand bed through multiple inlet ports via gravity and flows through the granular media and porous plate. Filtrate passes through the effluent backwash port and into the effluent channel.

Backwashing occurs under the hood, which is suspended below the traveling carriage of the AquaABF®. During backwash, the carriage and attached hood move slowly across the filter bed. This action consecutively isolates and backwashes each individual cell. Cells not under the hood continue the filtering process as the hood and carriage continue across the AquaABF® filter bed. A backwash pump draws filtered water from the effluent chamber and backwashes each cell by pumping water back through the effluent port. Another pump picks up the washwater, which has collected in the hood and discharges it to the washwater trough. The backwash cycle occurs only when needed because of headloss or, if desired, by preselected time cycle.



Typical AquaABF® package unit used for municipal wastewater treatment.

AquaABF® Package Filters

AquaABF package filters are available in a variety of sizes, ranging from 4' x 8' to 9' x 40' and are available in both steel and stainless steel. All AquaABF filters are manufactured to Aqua-Aerobic Systems' specifications, using only quality materials and workmanship.

Aftermarket Sales & Service

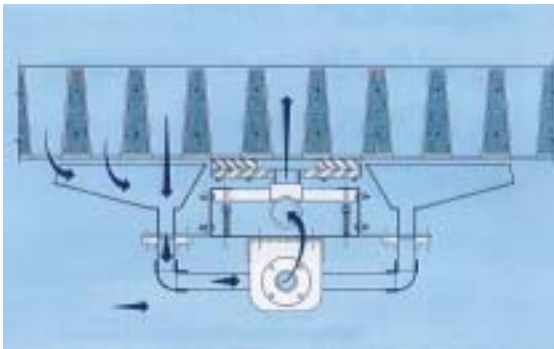
AquaABF® Filter

- Genuine spare parts and repair kits
- Retrofit and upgrade solutions
- Site inspection by a qualified technician
 - Technical phone support & lifetime customer service

Contact our Customer Service department
at **1-800-940-5008** for all your

Aftermarket Sales & Service needs.

Optional Equipment



AquaABF® Turbilite®

The Turbilite backwash system collects the post-backwash filtrate and redirects it to the washwater collection system.

The Turbilite system minimizes post-backwash breakthrough. This maximizes turbidity and suspended solids removal; and reduces virus and other microorganisms often present in potable water and wastewater.

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

ThermoFlo®
Surface Spray Coolers

Aqua EnduraDisc®
Fine Bubble Diffusers

Aqua EnduraTube™
Fine Bubble Diffusers

Aqua CB-12™
Coarse Bubble Diffusers

Aqua CB-24™
Coarse Bubble Diffusers

AquaMB Process™
Multiple Barrier Membrane Systems

MSBR®
Modified Sequencing Batch Reactor

DynaBlend™
Polymer Blending and Metering Systems

Aqua-Aerobic Systems, Inc.

6306 N. Alpine Rd. • P.O. Box 2026 • Rockford, IL 61130
(Phone) 815/654-2501 • (Fax) 815/654-2508 • Toll Free 877/214-9625
Email: solutions@aqua-aerobic.com • www.aqua-aerobic.com

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.

