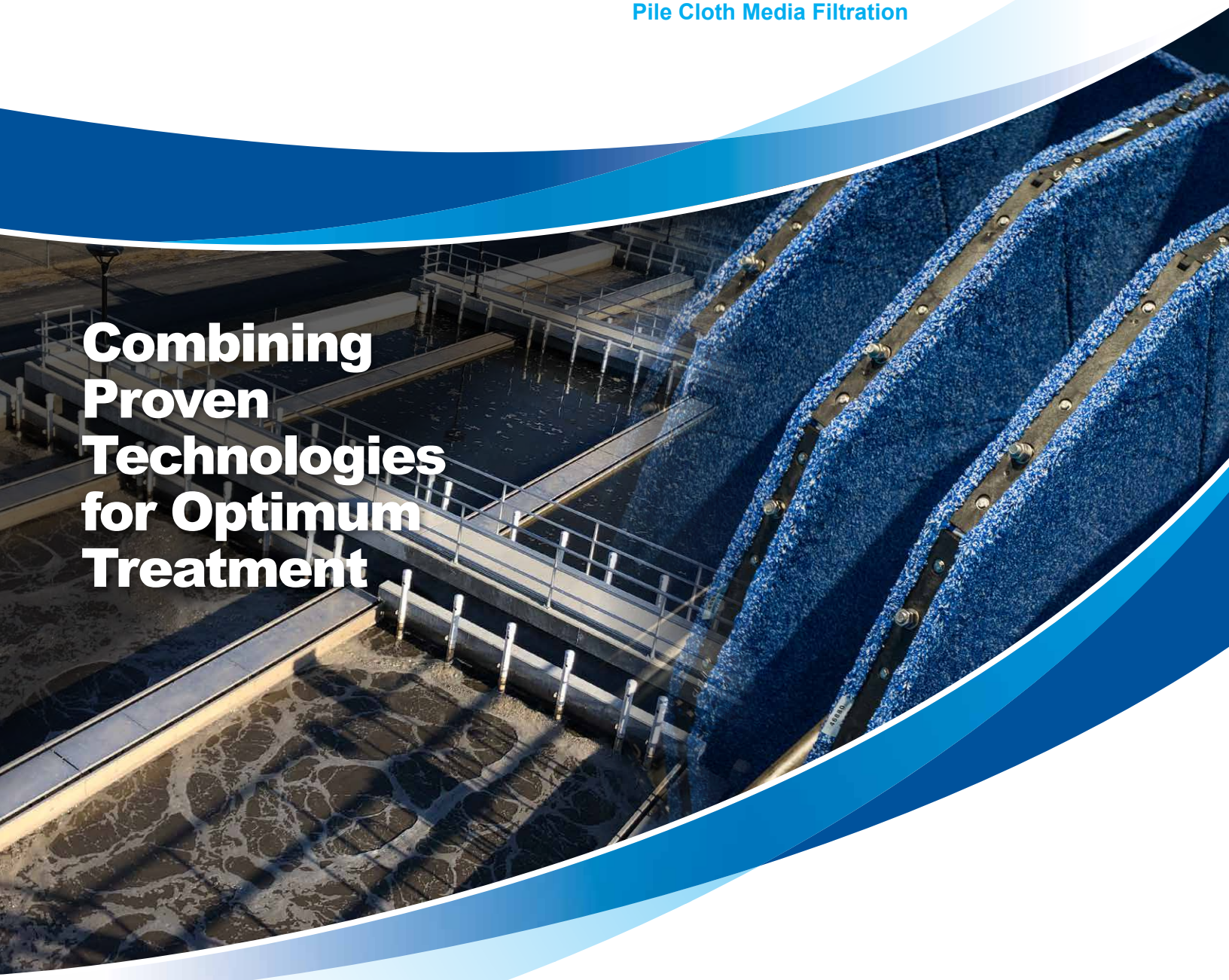
AquaNereda®
Aerobic Granular Sludge Technology

Aqua-Aerobic®
Pile Cloth Media Filtration



Combining Proven Technologies for Optimum Treatment

AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company

Aerobic Granular Sludge and Pile Cloth Media Filtration

Achieve Treatment Objectives and the Lowest Cost of Ownership

The combination of AquaNereda® Aerobic Granular Sludge and Aqua-Aerobic® Pile Cloth Media Filtration has become the industry's leading treatment process for meeting current or future effluent demands. Filtration following biological treatment is common for wastewater plants that must meet stringent permits for Low Phosphorus and Total Suspended Solids (TSS). This system combination is also ideal for plants that require water reuse, have a downstream UV system or want to effectively meet wet weather treatment objectives.

AquaNereda® Technology

The AquaNereda® is an innovative biological wastewater treatment system that provides advanced treatment using the unique features of aerobic granular biomass comprised of compact granules. These granules, which have a diameter of at least 200 µm, consist of layered aerobic, anoxic, and anaerobic zones which allow for simultaneous processes to take place in the granular biomass, including enhanced biological phosphorus removal and simultaneous nitrification and denitrification.

Aqua-Aerobic® Pile Cloth Media Filtration

Cloth media filtration, featuring OptiFiber® media is specifically engineered for water and wastewater applications and designed to maximize solids removal over a wide range of particle sizes. Deep, thick, pile fibers capture particles for the most effective depth filtration. Aqua-Aerobic cloth media filters are available in several mechanical configurations including: AquaDisk®, Aqua MegaDisk®, AquaDiamond® and Aqua MiniDisk® "which allow for maximum flexibility to fit within a treatment scheme following any biological process such as AquaNereda, to achieve additional treatment objectives.

A Combined System Approach

Features and Advantages

- Lowest total cost of ownership
- Decades of applications experience
- Proven track record of exceptional effluent quality
- High solids handling with three zones of solids removal
- Single source responsibility with world-class customer support
- Flexible backwash solids handling and return flow management
- Combined process control and remote monitoring

Combined Effluent Guarantee

(Monthly Average):

Parameter	Value
BOD	< 5 mg/l
TSS	< 5 mg/l
TN	< 3 mg/l*
NH4	< 1 mg/l*
TP	< 1 mg/l**

*Nitrogen removal based on biological process design

**Without chemical

Wolcott, KS WWTP

Nutrient Removal

The Wolcott WWTP underwent a significant upgrade to replace a 200,000 gpd package plant for a growing community on the western edge of Kansas City, Kansas. The project used a CMAR delivery method to ensure an efficient and cost-effective design and installation. Their new plant features three AquaNereda® reactors and one 14-disk AquaDisk® Cloth Media Filter to produce high quality effluent discharged to the Missouri River.

Annual Operating Data (2023)

	Permit	Achieved
BOD	30 mg/l	6.1 mg/l
TSS	30 mg/l	3.3 mg/l
TN	report	6.2 mg/l
NH4	0.6-2.1 mg/l	0.7 mg/l
TP	report	1.3 mg/l**

**Without chemical

Riviera Utilities WRF at Wolf Creek, AL

Biological Treatment & Tertiary Filtration

The Riviera Utilities WRF replaced aging oxidation ditches to increase their treatment capacity from 2.0 to 3.5 MGD and target future nutrient removal limits. A compact footprint allowed for the AquaNereda reactors to be constructed alongside the existing treatment train. Their new plant features three circular AquaNereda® reactors and two 8-disk AquaDisk® Cloth Media Filters. Effluent is discharged to Wolf Creek and eventually protected waterways along the Gulf of Mexico.

Annual Operating Data (2023)

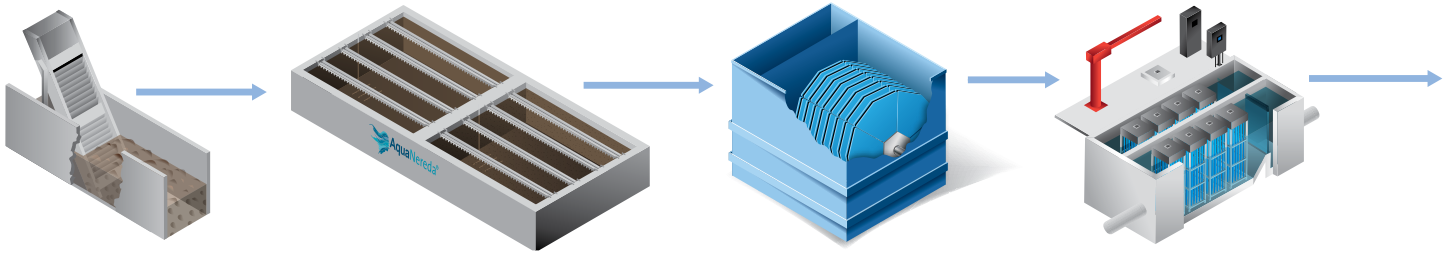
	Permit	Achieved
BOD	7-10 mg/l	3.6 mg/l
TSS	30 mg/l	3.5 mg/l
TN	report	4.2 mg/l
NH4	2.0-3.0 mg/l	0.8 mg/l
TP	report	1.3 mg/l**

**Without chemical

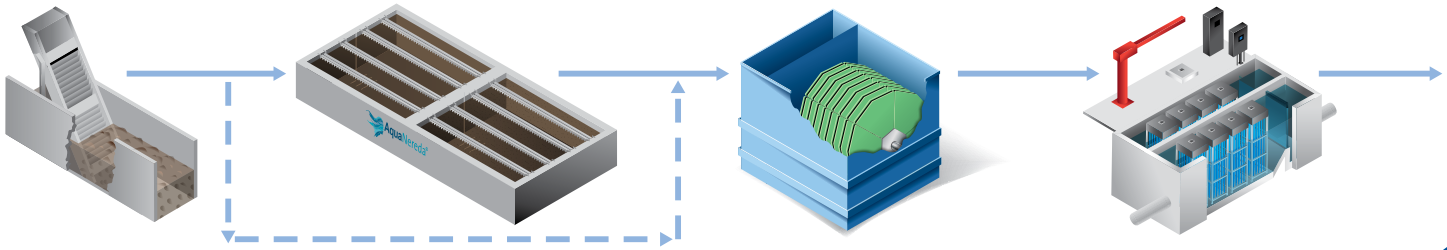
Typical Process Configurations

The combination of both AquaNereda and Pile Cloth Media Filtration can be configured into various plant schemes* to achieve specific treatment objectives including Tertiary Treatment and Dual-Use Filtration.

Tertiary Treatment



Dual-Use Filtration



*Other process configurations available but not shown.

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

Aqua-Aerobic Systems, Inc. is the exclusive U.S. and Canada provider of Nereda® technology developed by Royal HaskoningDHV.

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