

# Aqua

## Diffused Aeration Products

Fine Bubble Tube Diffusers  
Fine Bubble Disc Diffusers  
Coarse Bubble Diffusers

Your Wastewater Specialists



Aqua-Aerobic Systems, Inc.

# Experience & Expertise

For Your Peace of Mind...

For over 30 years,  
Aqua-Aerobic Systems, Inc.  
has offered aeration equipment  
to municipal and industrial  
wastewater industries.

Our experience in fine  
and coarse bubble diffused  
aeration has benefited  
over 500 installations.

State of the art materials  
and manufacturing processes  
assure long-life and  
consistent performance.

## Diffused Aeration Products & Systems

Aqua-Aerobic Systems, Inc. manufactures  
a complete line of diffused aeration systems  
and products for a wide range of applications.

Our Process Engineers offer an unparalleled resource in system design to meet your  
specific requirements.

Aqua Diffused Aeration Products and Systems offer many options on the type of diffusers  
and materials of construction. Our years of experience allow us to provide the industry  
with valuable input on solutions for all types of applications including unique tank  
geometries and difficult process applications.

All Aqua diffuser products are available as complete systems with blowers and all  
in-basin aeration equipment. Aqua may also supply diffusers only and allow customers  
to source piping and supports locally.

Aqua's staff of trained professionals are here to serve your needs. We strive to offer the best  
solution for each project. Our experience allows us to work as a team with consulting engi-  
neers and customers to provide the lowest life-cycle cost system.

## Advantages

- *Tube or Disc - depending on your requirements*
- *Factory and on-site testing available*
- *Single source for design and equipment supply*
- *Guaranteed oxygen transfer performance*
- *CADD design resources*
- *Complete diffuser, pipe support and piping fabrication*
- *Complete systems available including blowers*

## Any Application

*Aeration Basins  
Aerobic Digesters  
Air Stripping  
Equalization Basins  
Lagoons  
Post Aeration  
Sludge Holding Tanks  
Swing Zones*

## Any Process

*Aerated Lagoon  
Aerated Stabilization Basin  
Extended Air  
Flow-through Activated Sludge  
Membrane Bioreactor  
Oxidation Ditch  
SBR*



Diffused aeration system design requires knowledge of many concepts: oxygen transfer, mixing, material compatibility, and activated sludge process design, just to name a few. Aqua's 15 years of experience in diffused aeration and hundreds of installations provide this required expertise.

In addition, Aqua has collaborated with one of Europe's and North America's leading experts in rubber material science. Our access to expertise in rubber formulation has led to the development of new materials that provide longer life and improved chemical resistance.

The combination of the highest quality materials and the most unique system for creating the perforations in the rubber membrane results in a final product with unprecedented strength and durability.

Aqua-Aerobic Systems is proud to work with the best. We are continually working to develop new materials and new diffuser designs that will increase efficiency, lower maintenance and extend diffuser life.

## Application Profiles



Retrievable fine bubble tube diffusers in combination with the AquaDDM<sup>®</sup> Mixer provide this Pennsylvania WWTP with an efficient, flexible and easy to maintain aeration system.



A potato chip producer chose retrievable coarse bubble diffusers in a MixAir<sup>®</sup> configuration for their facility.



This fixed coarse bubble aeration system has provided reliable, low-maintenance service to this municipal plant since 1989.

# Aqua EnduraDisc™ Fine Bubble Diffuser

## Aqua CB-12/24™ Coarse Bubble Diffuser

### Aqua EnduraDisc™

Features & Benefits

- Tapered membrane thickness to provide uniform bubble diameter and pattern
- Double backflow prevention with thickened center seat check valve and self-sealing slits
- Self-cleaning, non-clog I-shaped slits
- Low maintenance
- Guaranteed leak-proof design
- Pipe mounting system absorbs vibration and reduces installation time
- Diffusers are factory assembled for easy installation



#### **Available Models:**

10 inch (25 cm) diameter, different slit patterns available to suit specific applications

#### **Airflow Range:**

From 0.5 to 10 SCFM (0.8 to 17 m<sup>3</sup>/hr) per diffuser

#### **Performance:**

Standard oxygen transfer efficiency from 1.5% to over 2.0% per foot of submergence\*

### Aqua CB-12/24™

Features & Benefits



- Tried and true system offers low maintenance, non-clog design for years of reliable service
- Available with full-length deflector shield or open bottom design
- All in-basin equipment 304 L or 316 L SS
- No diffuser fouling or replacement
- No moving parts
- Tolerates higher air and water temperatures
- Resistant to attack from most common wastewater chemicals

#### **Available Models:**

12 or 24 inch (30.5 or 61 cm) length, 304 L or 316 L stainless steel, open or closed bottom

#### **Airflow Range:**

From 5.0 to 50 SCFM (8.5 to 85 m<sup>3</sup>/hr) per diffuser

#### **Performance:**

Standard oxygen transfer efficiency of approximately 1.0% per foot of submergence\*

Aqua's extensive experience with industrial waste treatment offers our clients a resource for process design and material compatibility analysis.

#### **Industries Served:**

Automotive

Dairy

Food Processing

Breweries

Wineries

Meat Processing

Pulp and Paper

Petroleum

Chemical

Pharmaceutical

## Features & Benefits

- A unique attachment system significantly reduces installation time
- Any diffuser length is available to suit the needs of each application
- Highest quality EPDM rubber



- Integral Double Check Valve
- Attachment system eliminates structural concerns of many other tube diffuser designs
- Suitable for off/on applications
- Diffusers are factory assembled for easy installation

### **Available Membrane Materials:**

EPDM, Silicone, and others upon request

### **Available Sizes:**

Membrane lengths from 1 foot to 8 feet (30.5 to 244 cm) per diffuser

### **Airflow Range:**

From 0.6 to 6.0 SCFM per foot of length (3.3 to 33.0 m<sup>3</sup>/hr per meter of length)

### **Performance:**

Standard oxygen transfer efficiency from 1.5% to over 2.0% per foot of submergence\*

\* Diffuser performance is calculated for each specific application based on flux, density, depth and several other parameters. Please contact an Aqua-Aerobic Systems, Inc. representative for your application. Test results per ASCE testing methods are available.

Aqua EnduraTube™

combines the time tested

fine bubble membrane

tube diffuser with a

unique, mounting system.

Together, they

provide the wastewater

industry with an

aeration system

that offers the lowest

life cycle cost.

**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 Filters

**ThermoFlo®**  
Surface Spray Coolers

**DynaBlend™**  
Polymer Blending and Metering Systems

**Aqua EnduraDisc™**  
Fine Bubble Diffusers

**Aqua EnduraTube™**  
Fine Bubble Diffusers

**Aqua CB-12/24™**  
Coarse Bubble Diffusers

**AquaMBR™**  
Membrane Bio-Reactor

**AquaSMBR®**  
Sequencing Membrane Batch Reactor

**AquaMSBR®**  
Modified Sequencing Batch Reactor

**Aqua-Aerobic Systems, Inc.**

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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.

