



# AEROSTRIP®

fine bubble diffusers by AQUACONSULT

# longevity efficiency



unique polyurethane  
membrane



ultra fine bubbles for  
the highest efficiency



up to 20 years  
lifespan

*"AEROSTRIP® diffusers have an extraordinarily long life cycle and preserve their top performance during years of operation. We possess decades of experience and first class quality management - which gives confidence to our clients all over the world."*

Gerald Glaninger, Director



Advantages at a Glance \_\_\_\_\_



The Diffuser with the Finest Bubbles \_\_\_\_\_



Extruded Polyurethane Membrane \_\_\_\_\_



30 Years of Research & Development \_\_\_\_\_



20 Years Lifespan \_\_\_\_\_



Low Operation Expenditures \_\_\_\_\_



Worldwide Distribution Network \_\_\_\_\_



# THE SUCCESS RECEIPT OF AEROSTRIP®



## Advantages at a Glance

The AEROSTRIP® fine bubble diffuser was created with the aim of lowest energy demand. The reference list covers over 20 years, including municipal and industrial wastewater treatment plants, all over the world.

### AEROSTRIP® Key Facts

- ▶ fine bubble diffuser with extremely low energy consumption
- ▶ up to 20 years lifetime for progressive sustainability
- ▶ efficient oxygen transfer for optimal wastewater treatment
- ▶ since 1995 successfully used by more than 2,500 sewage treatment plants
- ▶ development from pioneer to global leader
- ▶ low-maintenance and reliable in use

### AEROSTRIP® Advantages

- ▶ oxygen transfer efficiency (SOTE) up to 60%
- ▶ standard aeration efficiency (SAE) from 4 - 6 kg O<sub>2</sub>/kWh
- ▶ wide range of application from 5 - 150 Nm<sup>3</sup>/h per m<sup>2</sup> diffuser area
- ▶ optimal perforation for every application
- ▶ lowest flow resistance due to flat design and installation on the pool floor
- ▶ low maintenance effort
- ▶ membrane lifetime up to 20 years
- ▶ low costs due to high efficiency

These exceptional properties have been confirmed through a series of trials run by independent parties. Copies of these reports and plant-specific measurement results are available upon request<sup>1</sup>.

*"For conventional short sludge retention time treatment plants (SRT one to six days) this (twelve years AEROSTRIP®) system performed better than all previously tested fine pore diffuser systems installed; and even better than most new ones."*

Dr. M. K. Stenstrom, UCLA

<sup>1</sup> Kindly contact your local distribution agent

# AEROSTRIP® – FOR HIGHEST EFFICIENCY



## The Diffuser with the Finest Bubbles

Premium quality material, tried and tested design, research-based engineering – all of these combine themselves into the AEROSTRIP® fine bubble diffuser and create a high efficiency product.

The low profile allows the extremely durable membranes to be installed directly on the floor of an aerated tank, resulting in unbeatable fully blow-in depth.

The product design offers a modular and flexible solution, leading to a high-yield surface dedicated to aeration, independent from the geometry and sizes of the tanks.

During operation, the highest possible safety is guaranteed when supplying air to diffusers arranged in small groups. The modules with AEROSTRIP® are ideal for these applications.

## TYPE T – Timeless

The **INGENUITY** of AEROSTRIP® is displayed in the ideal height of 20 mm. The Type T is built to last due to the mechanical properties of our stainless steel. Unmatchable in its efficiency. A safe investment for a safe future!

### Material

<b>Body</b>	Stainless Steel AISI 316 Ti
<b>Membrane</b>	PUR
<b>Air connection</b>	Stainless Steel AISI 316 Ti   1" male
<b>Peripheral strips</b>	outer: Stainless Steel AISI 316 Ti   inner: PVC
<b>Length</b>	1.0–4.0 m in 0.5 m steps Individual lengths at request
<b>Height</b>	2 cm
<b>Details</b>	<a href="http://www.aerostrip.at">www.aerostrip.at</a>

Module TYPE E





## TYPE Q - Quality

The technology of AEROSTRIP® combines together in a plastic body, forming a long lasting and price convenient product, whilst keeping the quality at the same high levels. An economical option meant to last for decades.

### Material

Body	PVC
Membrane	Polyurethane
Air connection	PVC / pipe OD 32 mm
Frontal clips	PVC

Length	1.0–4.0 m in 0.5 m steps Individual lengths at request
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Height	5 cm
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Details	<a href="http://www.aerostrip.at">www.aerostrip.at</a>
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Module TYPE G



*"Efficiency and aging analysis about AEROSTRIP® presented to a conference of Japan Sewage Works Association in year 2012 revealed 38% less power usage compared to ceramic type diffusers, while OTE and strength of membrane remained virtually unchanged after ten years operation. Several treatment plants have been running longer than ten years without any replacement. We think that AEROSTRIP® has a great future due to the high OTE demands in Japan."*

T. Kurahashi, Sanki Engineering Co., Ltd., Japan

# PASSION PAYS FOR ITSELF

## 30 Years of Research & Development

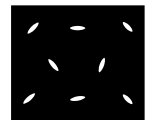


The use of a 100% polyurethane membrane in combination with the strip shaped diffuser was a revolution in aeration technique. This pioneering event was the cornerstone for the global success story of the AEROSTRIP® fine bubble diffuser family.

The advanced perforation style allows for pores of varying shape and size, which directly influence the diffusers pressure loss. During perforation, the machine receives immediate feedback if there is a drop in pressure. This ensures that every single membrane has the same resistance (pressure drop) to the air flow. The advantage: the membrane properties can be adapted to the specific on site requirements.

## FREQUENTLY COPIED – NEVER MATCHED

### Extruded Polyurethane Membrane



400,000 pores per m<sup>2</sup> of membrane surface generate a ultra-fine bubble pattern, behaving like check valves when closed.

With an average bubble size of 1 mm (smaller than the accepted definition of a fine bubble), the air is diffused into smaller volumes with the highest interfacial surface. A reduction in air demand leads to lower energy costs and an optimal oxygen transfer. On top of this, the interaction between the polyurethane high-energy-surface membrane and effluent allows the formation of the smallest bubbles, according to the laws of physics for fluids, two to three times smaller than the market norm.

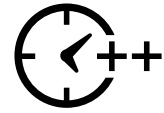
The combination of design, material, and perforation technology lead to arguably the most efficient and longest lasting membrane available for fine bubble aeration.

*"Our polyurethane membrane is characterized by exceptional mechanical strength, surpassing that of EPDM or silicone by multiples even at a material thickness of only 0.6 mm. This significant difference, despite being only one-third of the industry standard, emphasizes our leading position in the industry and fills us with confidence as we look towards the future"*

Andreas Weghofer, BSc, Head of Membrane Production

# AEROSTRIP® – YOUR CHOICE! CONVENIENT & ENVIRONMENTAL

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## 20 Years Lifespan

For the AEROSTRIP® membrane extruded polyurethane is used exclusively. Unlike EPDM, it has neither fillers nor plasticizers. Whereas membranes from black rubber usually lose elasticity – which causes the system's efficiency to decrease –, the membrane properties of polyurethane remain unchanged thanks to their composition. This fact is demonstrated by a life span of up to 15 years, in some cases even to 20.

## AEROSTRIP® IN REAL WORLD TESTS

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### Reduced Operation Expenditures

#### **PLASTIC or STAINLESS STEEL BODY**

The AEROSTRIP® fine bubble diffuser can be manufactured with a body of plastic or stainless steel. These high quality materials will assure resistance against all substances mentioned in the German technical recommendation DWA-M 115-2 as accepted in the biological stage of a wastewater treatment plant.

#### **ENERGY BILL**

Considering all the economy related factors<sup>2</sup>, the energy saving ability creates a potential for return of investment (ROI) within two to five years.

#### **DURABILITY**

The product quality is confirmed through permanent in-house testing of all components against stress, fatigue, temperature, tolerances, tensile forces, and situations met in real life, during operation in the plant. Preventive maintenance and service every five years will keep the efficiency levels inside the designed ranges. Replacing the membranes after the expected lifespan may double the life of the diffuser system with AEROSTRIP®.

#### **EASE OF MAINTENANCE**

On demand AEROSTRIP® fine bubble diffusers may be mounted straight to the floor, avoiding sedimentation of suspended solids and creation of dead spots underneath the diffusers.

The 0.6 mm thickness of membrane does not allow "any room" for deposits inside pores.

#### **AEROSTRIP® DESIGN-TOOL on request**

A reliable tool for the design and sizing of the aeration system is available on request – including a process guarantee for oxygen transfer.

<sup>2</sup> Investment details, Product-lifespan, operation expenditures (energy, maintenance, trends)

# GLOBAL NETWORK



## Worldwide Sales Network

AEROSTRIP® fine bubble diffusers are operating in more than 2,500 municipal and industrial wastewater treatment plants worldwide.<sup>3</sup>

Thanks to its high efficiency potential and growing demand, AEROSTRIP® is a success story, while writing history for generations to come.

3 as of 2024

more than 30 distribution partners  
in more than 60 countries



### **AQUACONSULT Anlagenbau G.m.b.H.**

Badener Strasse 46, 2514 Traiskirchen, Austria

Tel. +43 (0)2252 41481 | Fax. +43 (0)2252 41480

sales@aquaconsult.at | www.aquaconsult.at

### **AQUACONSULT Anlagenbau G.m.b.H. Branch Office Germany**

Hauptstrasse 16, 76857 Rinnthal, Germany

Tel. +49 (0)63469 6594-0 | Fax. +49 (0)63469 6594-25

office@aquaconsult.org | www.aquaconsult.org



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