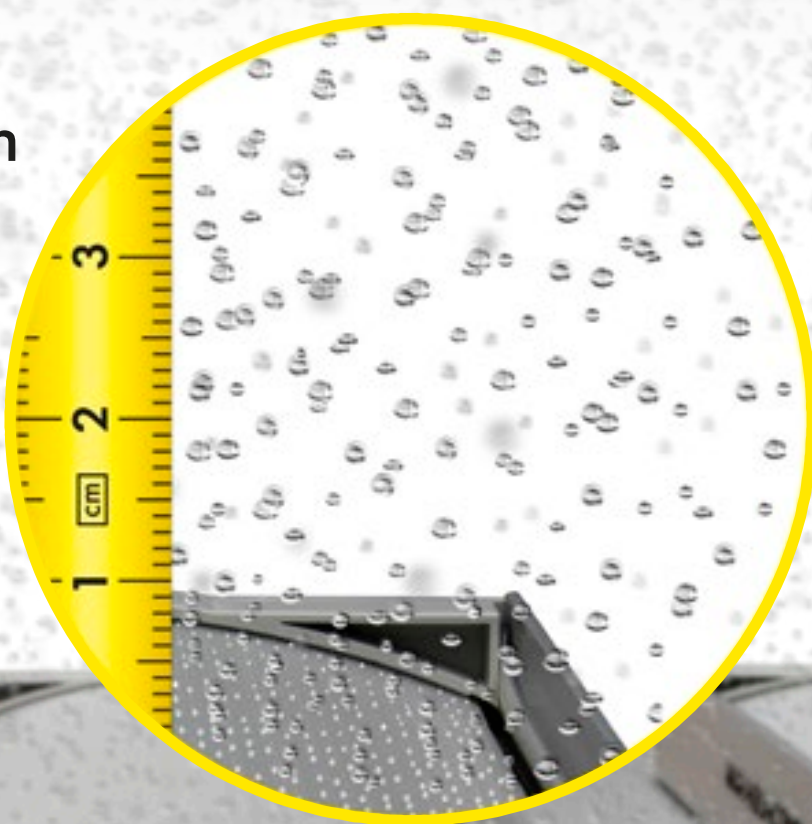


# AEROSTRIP®

fine bubble diffusers

 focus on  
**fine  
bubbles**



EN



unique polyurethane  
membrane



ultra fine bubbles for  
the highest efficiency



up to 20 years  
lifespan

*"There is no single secret in how to manufacture one single, almost perfect AEROSTRIP® fine bubble diffuser; the secret lies within the knowledge and technology of manufacturing thousands and thousands of aeration elements with identical properties, able to preserve their top performance ability after years of operation."*

Adrian Ovezea, Marketing Manager



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



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



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



25 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 2 decades, including municipal and industrial wastewater treatment plants, all over the world.

### FACTS: technical

- ▶ Standard Oxygen Transfer Efficiency up to 60%
- ▶ Standard Aeration Efficiency up to 5 kg O<sub>2</sub>/kWh
- ▶ Wide turn-down ratio in terms of operational flux (10–80 Nm<sup>3</sup>/h each m<sup>2</sup> diffuser surface)
- ▶ Extraordinary properties related to:
  - ultra fine bubbles generation
  - high surface-energy
  - evenly distributed head pressure across the diffuser
  - lowest resistance against effluent flow due to extremely low profile of the diffuser and the ability to be installed directly on the tank floor

### RESULT: efficient & environmentally friendly

- ▶ Longest lifespan of a membrane diffusing element in the industry – up to 20 years attested and verified
- ▶ Lowest cost of ownership due to high aeration efficiency and quality
- ▶ Low maintenance demand

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 1 to 6 days) this (12 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, December 2012

<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 extremely durable membranes, the specific low profile and the direct way of mounting on the floor of an aerated tank in order to gain fully blow-in depth proved to be unbeatable.

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.

The highest possible safety during operation is guaranteed when feeding the diffusers with air in small groups. The modules with AEROSTRIP® are ideal for such applications.

## TYPE T – Timeless

The KNOW HOW of AEROSTRIP® concentrates itself in the perfect form of an unbelievable 20 mm height – thanks to the mechanical properties of stainless steel almost built for an eternity. Unmatchable in its efficiency. A safe investment for a safe future!

### Material

Body	Stainless Steel AISI 316 Ti
Membrane	PUR (default), Silicone (in special applications)
Air connection	Stainless Steel AISI 316 Ti / 1" male
Peripheral strips	outer: Stainless Steel AISI 316 Ti   inner: PVC

Length	1.0–4.0 m in 0.5 m steps Individual lengths at request
Height	2 cm

Details	<a href="http://www.aerostrip.com">www.aerostrip.com</a>
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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 up to a couple of decades.

### Material

Body	PVC
Membrane	Polyurethane (default)
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
Height	5 cm

Details	<a href="http://www.aerostrip.com">www.aerostrip.com</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 10 years operation. Several treatment plants continued running longer than 10 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

## 25 Years of Research & Development

The use of a 100% polyurethane membrane was a revolution in the aeration industry at the time. This pioneering event, built in 1995, was the cornerstone for the global success story of the AEROSTRIP® fine bubble diffuser family.

Intensive research and development activities as well as the experience collected over the years made possible the outstanding properties of AEROSTRIP®. This was also confirmed by the trials run by authorities and independent institutions.

Dr. Stenstrom from University of California presented the scientific paper "**My Diffuser goes Eleven (Actually Twelve)**" at the WEFTEC Conference (Chicago, IL) in 2013. This document confirmed the efficiency and long life of the aeration technology made in Austria.

Link to the Study



[http://www.aerostrip.at/files/bremerton\\_11-yr\\_old\\_aerostrip\\_report.pdf](http://www.aerostrip.at/files/bremerton_11-yr_old_aerostrip_report.pdf)



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### 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.

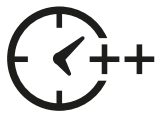
With a bubble average size of 1 mm – smaller than the accepted definition of fine bubble – the air will be diffused into small volumes with the highest interfacial surface. The air demand will be reduced this way, and correspondingly the energy bill, in favor of an optimal oxygen transfer. On top of this, the interaction between the polyurethane high-energy-surface membrane and effluent allows the formation of smallest bubbles, according to the laws of physics for fluids, two to three times smaller than the market norm.

The combination of material, perforation technology and design lead to probably the most efficient and highest longevity membrane available for fine bubble aeration.

*"The mechanical stability of the polyurethane membrane outruns by far any similar EPDM or silicone made, and this happens at a thickness of only 0.6 mm. This is a third of the merchantable quality on the market, making one pretty proud about it!"*

Engelbert Mühlbacher, Specialist in Membrane Manufacturing





# AEROSTRIP® – THE CHOICE! CONVENIENT & ENVIRONMENTAL

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## 20 Years Lifespan

Computer aided technology keeps the perforation sizes and shapes in a strictly defined range. Through adequate pairing and repeated simulations of working conditions, the quality of the delivered product is pushed to its maximum. The final test and inspection is subject to pass or fail, being performed in real working conditions (immersion in water) for each individual AEROSTRIP® diffuser.



## AEROSTRIP® IN ON-ROAD 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 2 to 5 years.

#### **WEARING**

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 each 5 years will keep the efficiency levels inside the designed ranges. Replacing the membranes after the expected lifespan may double the span time of the diffuser system with AEROSTRIP®.

#### **EASE OF MAINTENANCE**

Mounting the AEROSTRIP® fine bubble diffusers straight onto the floor does not allow the 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**

A reliable tool for the design and sizing of the aeration system was made available – 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 1500 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.

<sup>3</sup> as of 2014

more than 30 distribution partners  
in more than 50 countries



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