



longevity
efficiency

AEROSTRIP®
fine bubble diffusers by AQUACONSULT

AEROSTRIP® FINE BUBBLE DIFFUSER

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HOME OF AEROSTRIP®



Aquaconsult Anlagenbau GmbH
Badener Straße 46,
2514 Traiskirchen, AUSTRIA
Established: 1986



AEROSTRIP® PHILOSOPHY



“We are determined to provide fine bubble diffusers of unparalleled **HIGH QUALITY** to the water industry!”



highest efficiency



longest service life



maximize sustainability

AEROSTRIP® HISTORY



efficiency

long bubble residence time
low spec. air flow



type Q

quick & easy fastening
backflow prevention



state of the art

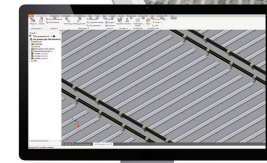
customer-friendly
planing process



AEROSTRIP®
Type T



Plug & Play
Installation



1980's

1990's

2000's

2010's

2020's

Plate Diffusers

AEROSTRIP®
Type Q

3D Planing



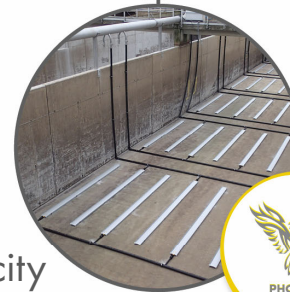
distribution

even air spread out
smaller bubbles



velocity

prefabrication in factory
easy & quick installation



AEROSTRIP®

fine bubble diffusers by AQUACONSULT

AEROSTRIP® FAMILY (CORE FAMILY)



AEROSTRIP Type T



AEROSTRIP Type Q

AEROSTRIP® FAMILY (EXTENDED FAMILY)



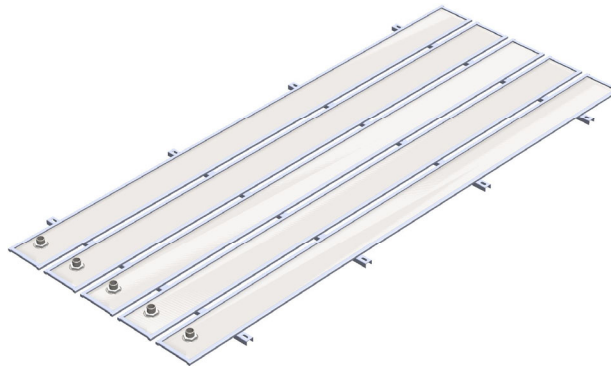
AEROSTRIP Type T



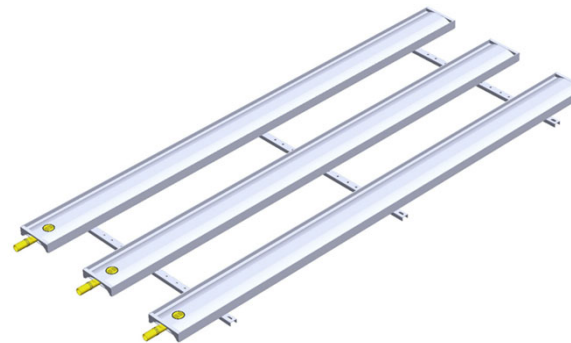
AEROSTRIP Type Q



AEROSTRIP Module Type E



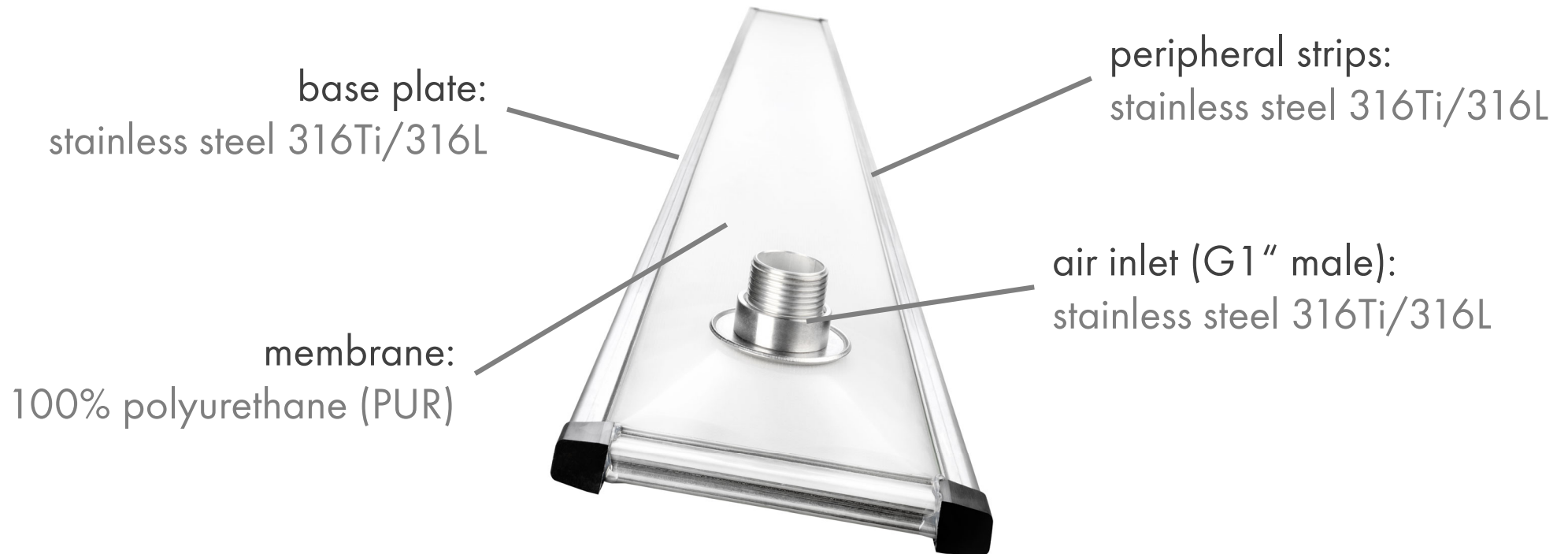
AEROSTRIP Module Type G



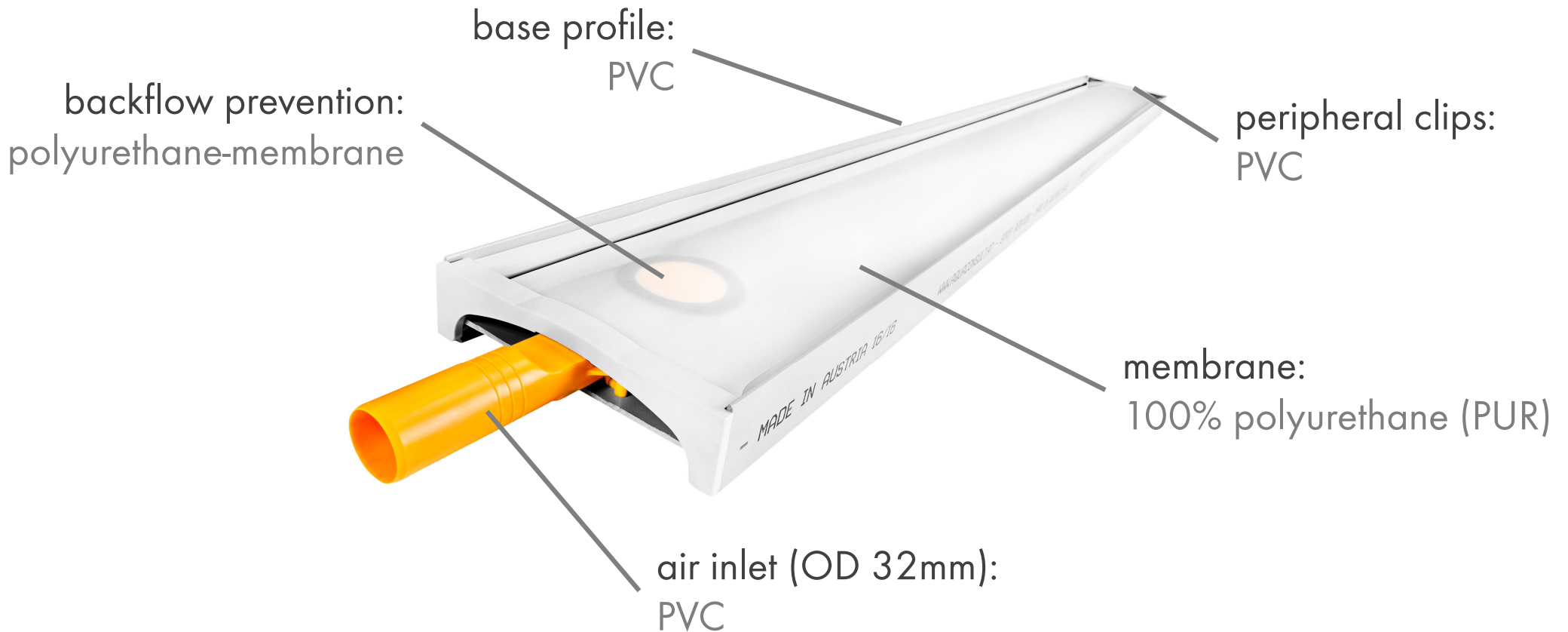
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fine bubble diffusers by AQUACONSULT

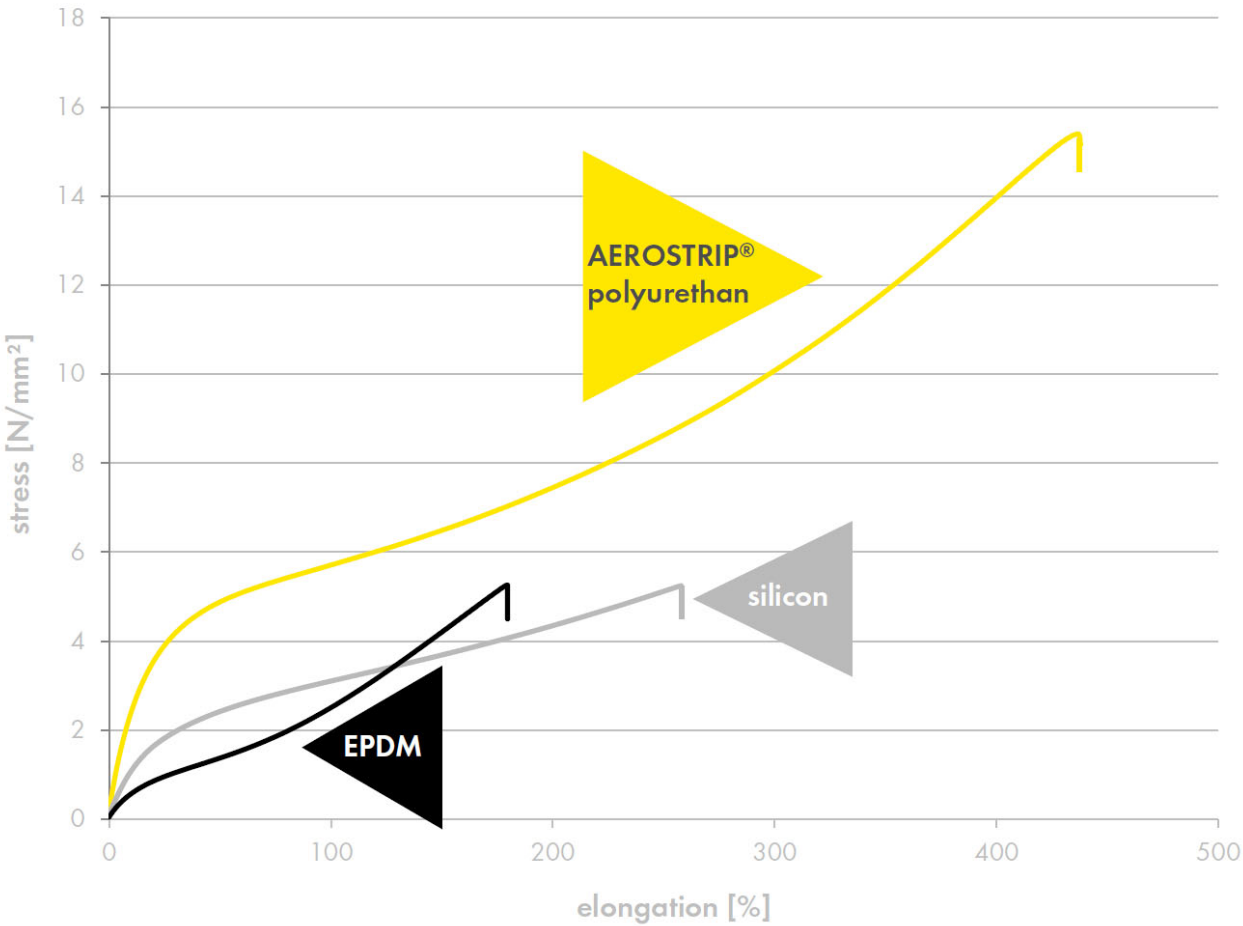
MATERIALS : AEROSTRIP® TYPE T




MATERIALS : AEROSTRIP® TYPE Q



STRESSED OUT? NO WAY WITH AEROSTRIP®

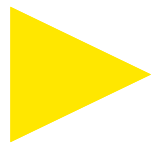


AEROSTRIP® TENSILE STRENGTH = 

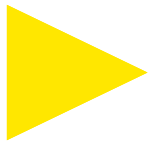
 = AEROSTRIP® TEAR RESISTANCE



IS YOUR PERFORMANCE CONSISTENT FOR UP TO 20 YEARS? - ASKING FOR A FRIEND...



keeps elastic properties



maintains performance

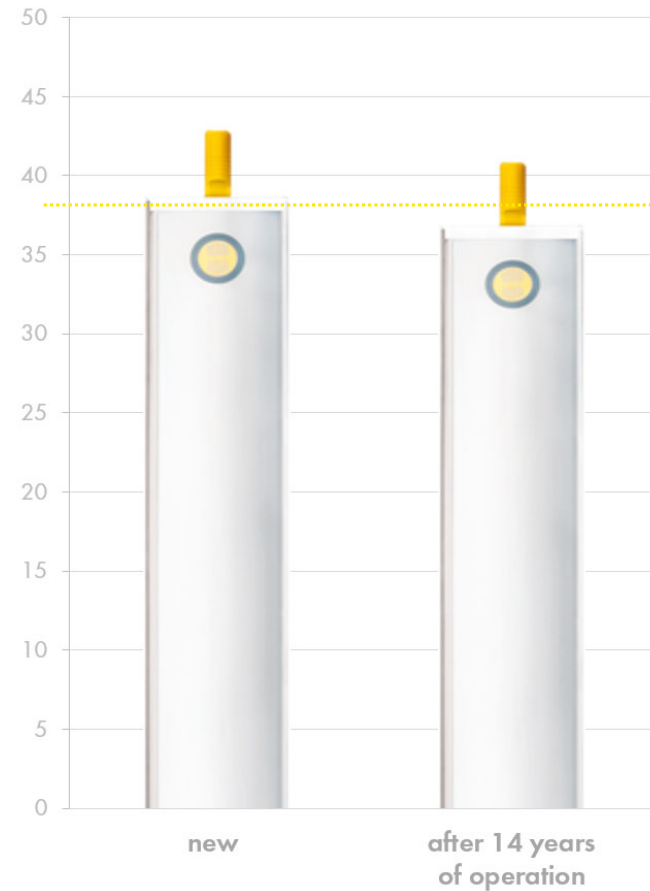
For conventional short sludge retention time treatment plants (SRT one to six days) this (twelve years AEROSTRIP®) system performed better than all previously tested fine pore diffuser systems installed; and even better than most new ones."



Dr. M. K. Stenstrom, UCLA, Bremerton Wastewater Treatment, December 2012



SOTE [%]



guarantee value
of new diffusers

RKA Linz, Linz AG, 2015

AEROSTRIP®

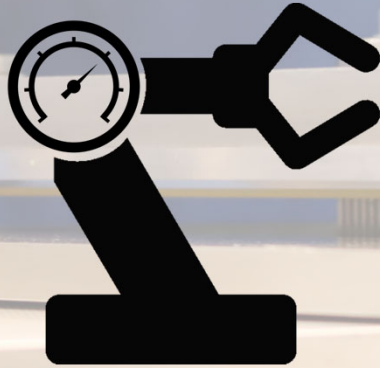
fine bubble diffusers by AQUACONSULT

AEROSTRIP® MANUFACTURING

Each diffuser has a serial number



MEMBRANE PERFORATION



AUTOMATED PRESSURE MEASUREMENT

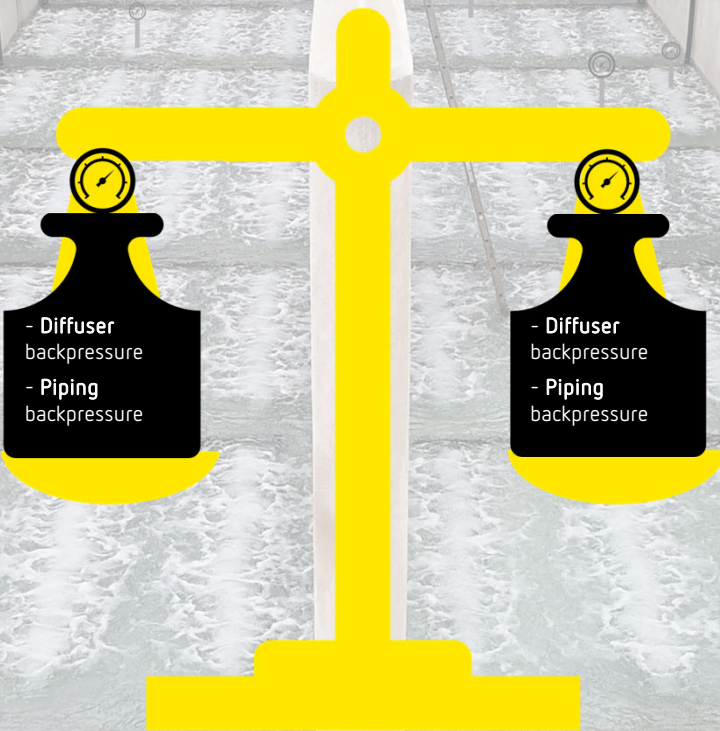


INSPECTION IN WATER BASIN AFTER ASSEMBLING



PROTOCOLS W/ RELEVANT MANUFACTURING DATA

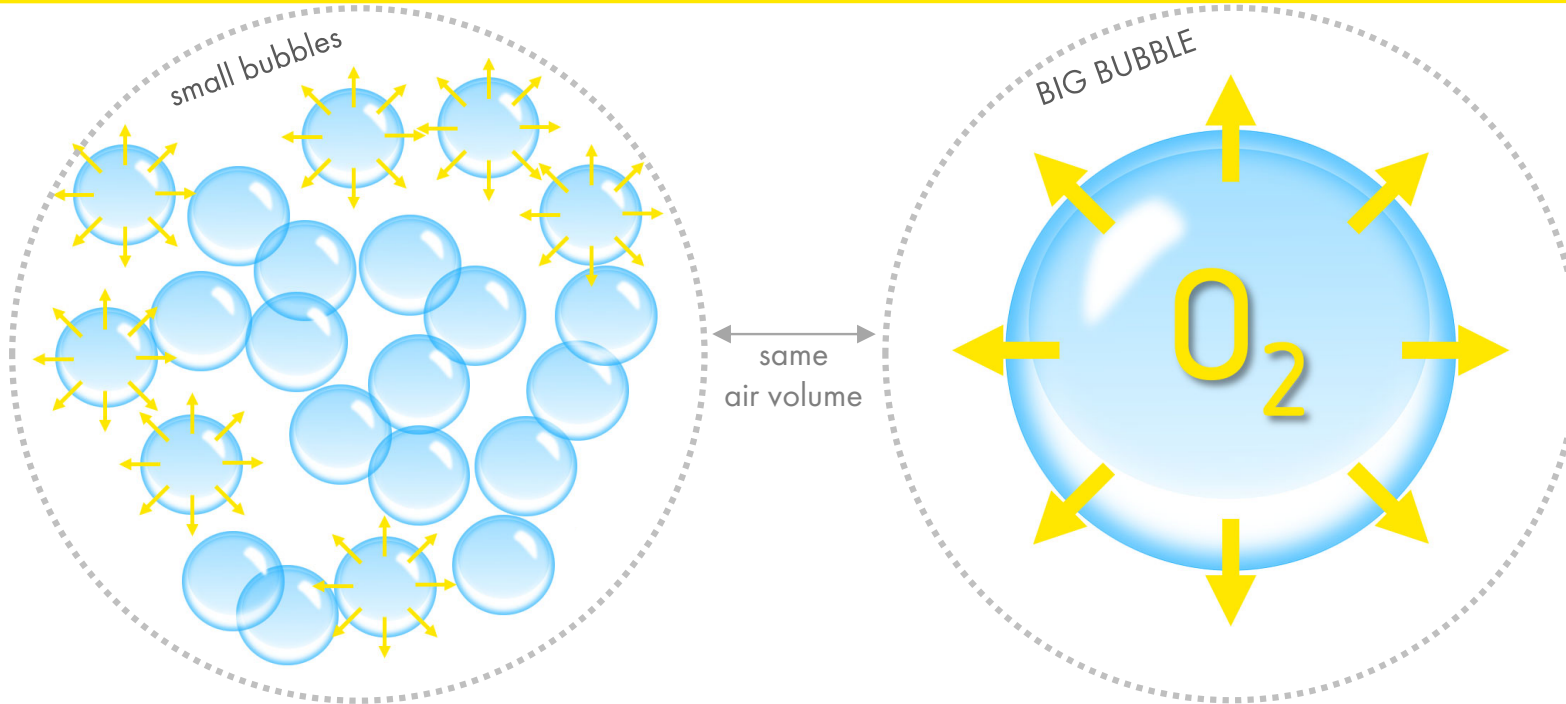
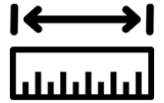
AEROSTRIP® - PRECISION ON POINT



 even air spread out

 high efficiency

SMALL BUBBLES → HIGH EFFICIENCIES



surface area : high
ascent speed : slow



efficiency

surface area : low
ascent speed : fast

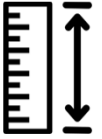


efficiency

AEROSTRIP®

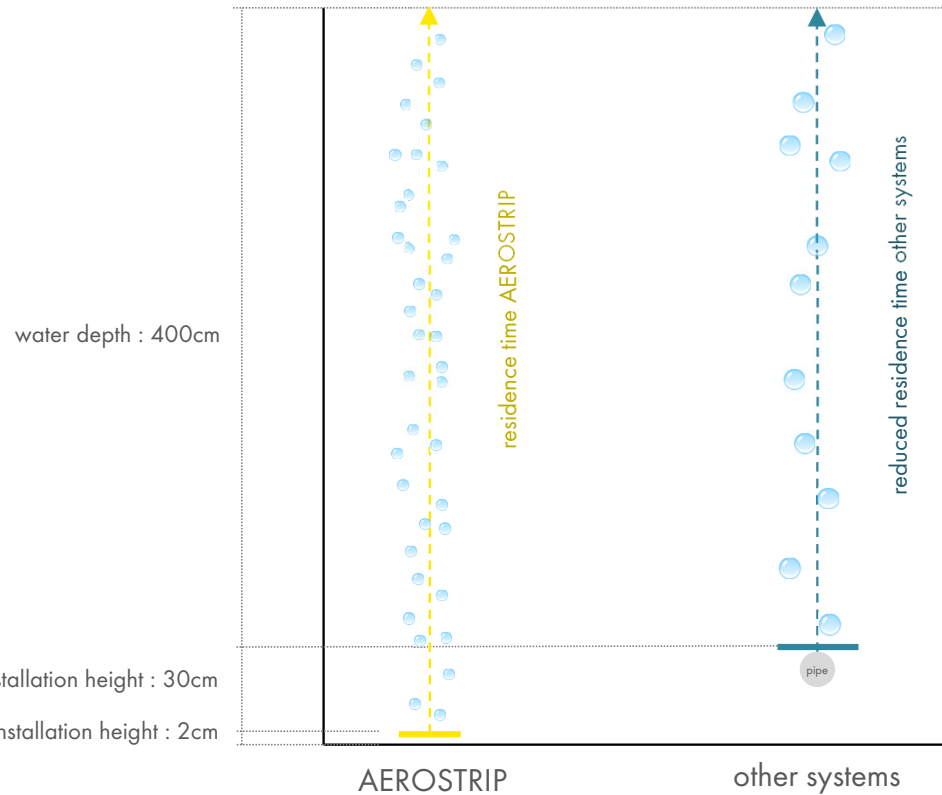
fine bubble diffusers by AQUACONSULT

HIGH IMMERSION DEPTH → HIGH EFFICIENCIES



immersion depth
AEROSTRIP **398 cm**

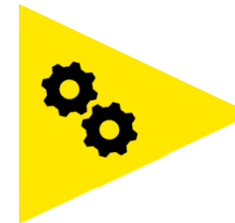
immersion depth
others ca. **370 cm**



bubble residence time



oxygen transfer



7,5% higher O₂ transfer
at 4m water depth due to
greater immersion depth
at same water depth

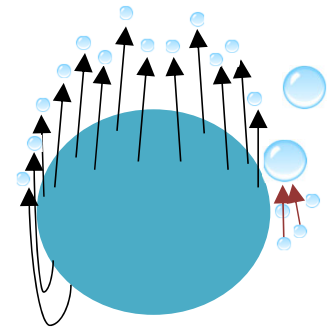
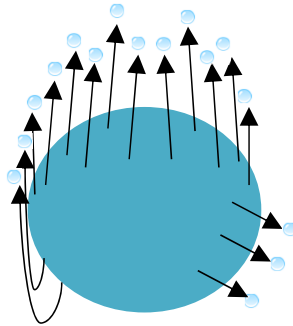
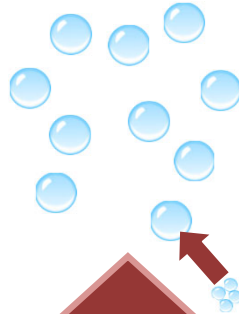
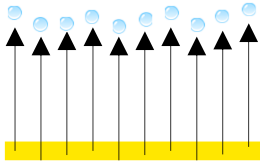
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LESS COALESCENCE → HIGH EFFICIENCIES



*"Stay solo, little bubbles:
The journey from diffuser
to water surface is all yours!"*

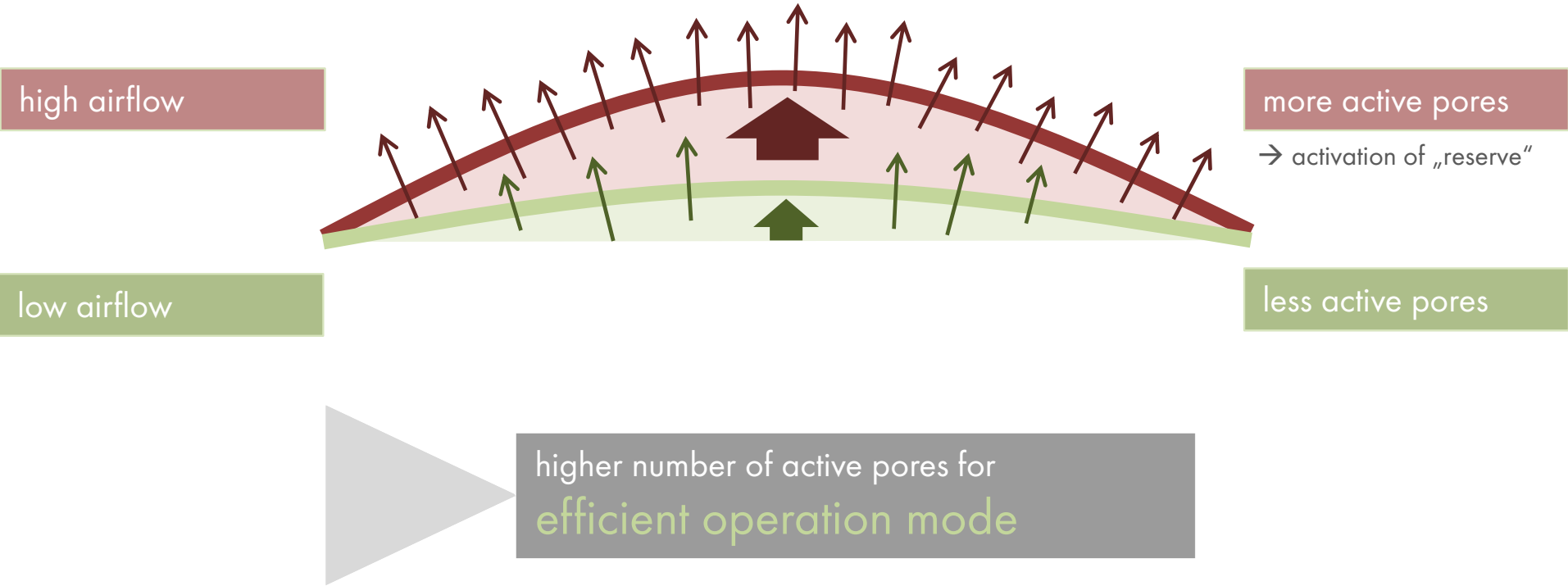


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FLEXIBLE ACTIVE PORES → HIGH EFFICIENCIES

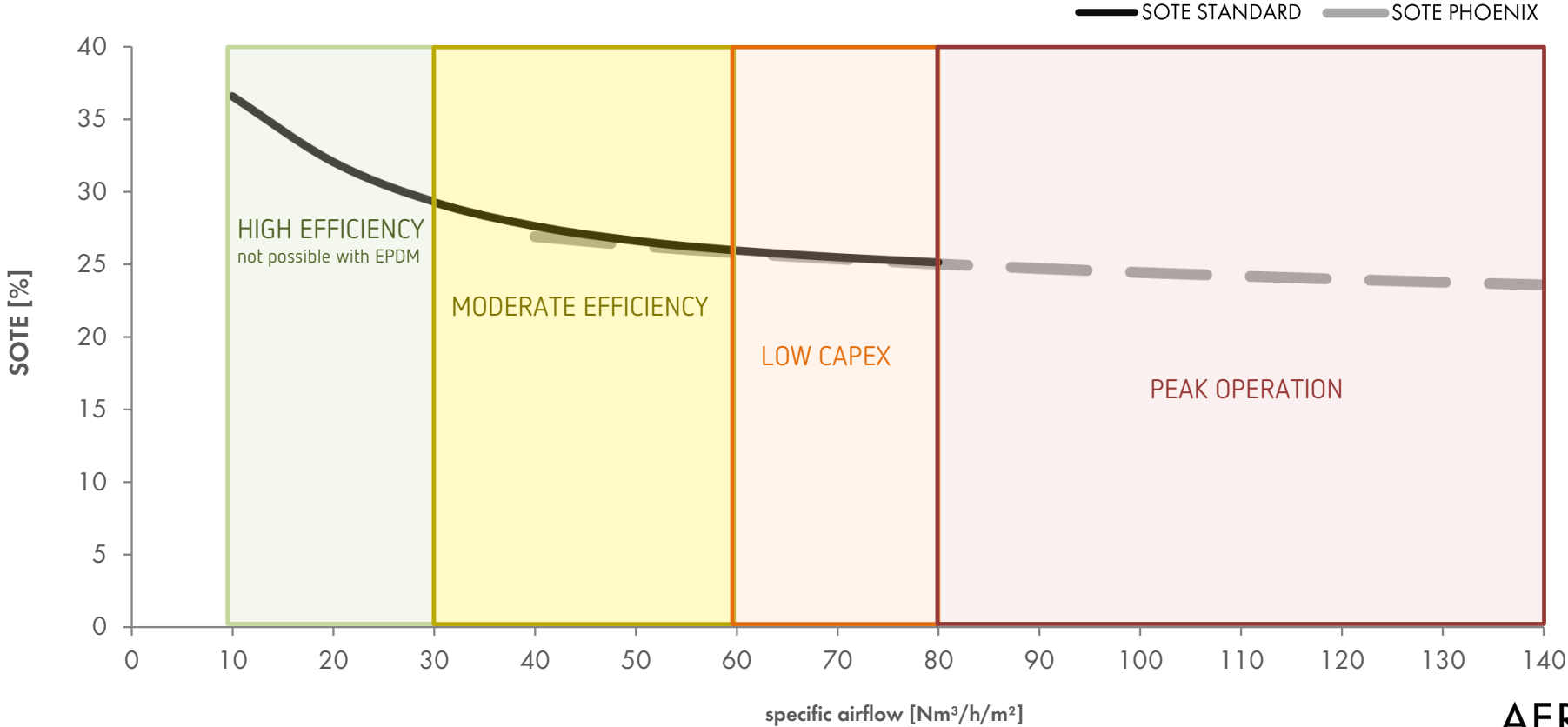
(X_{Pores})



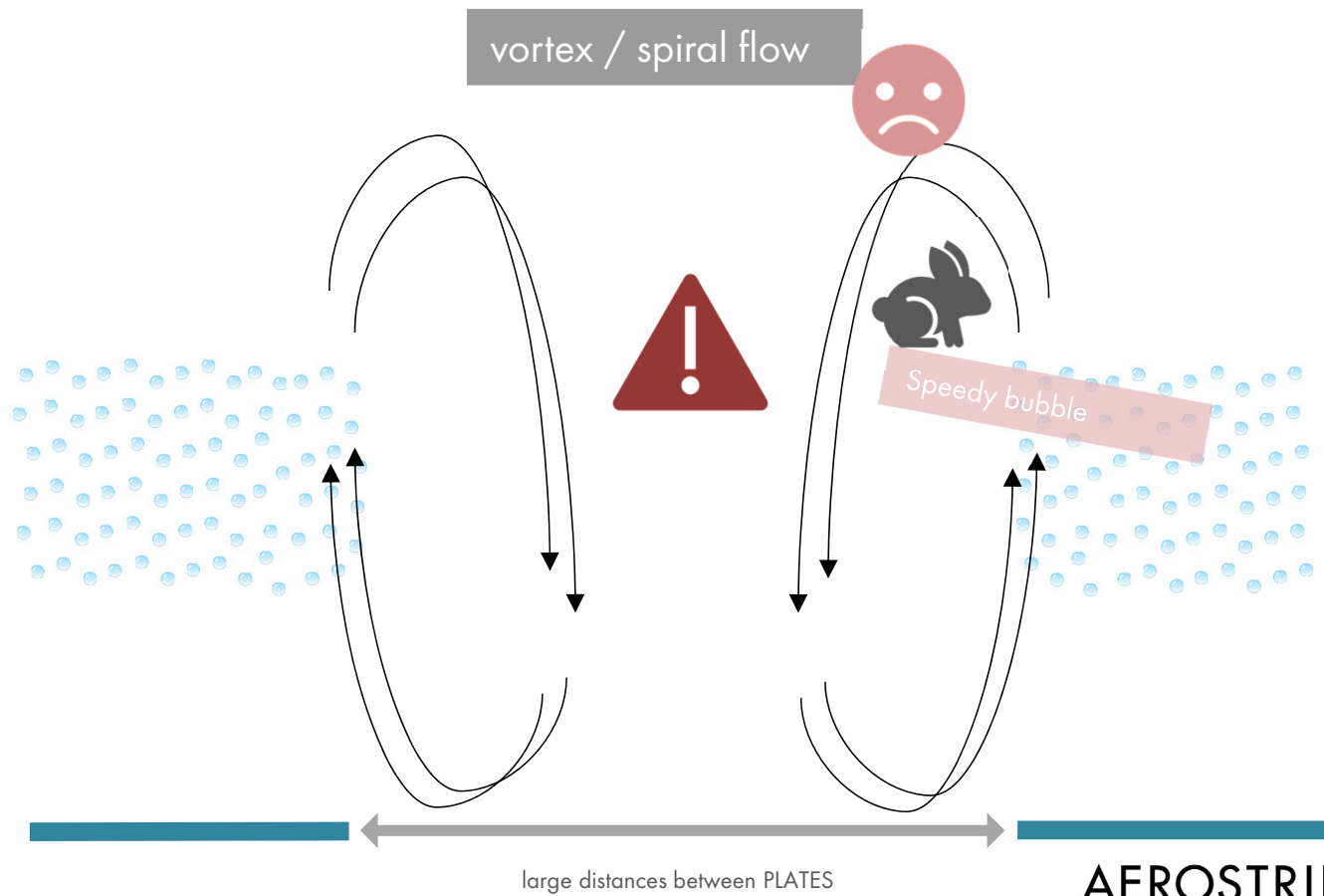
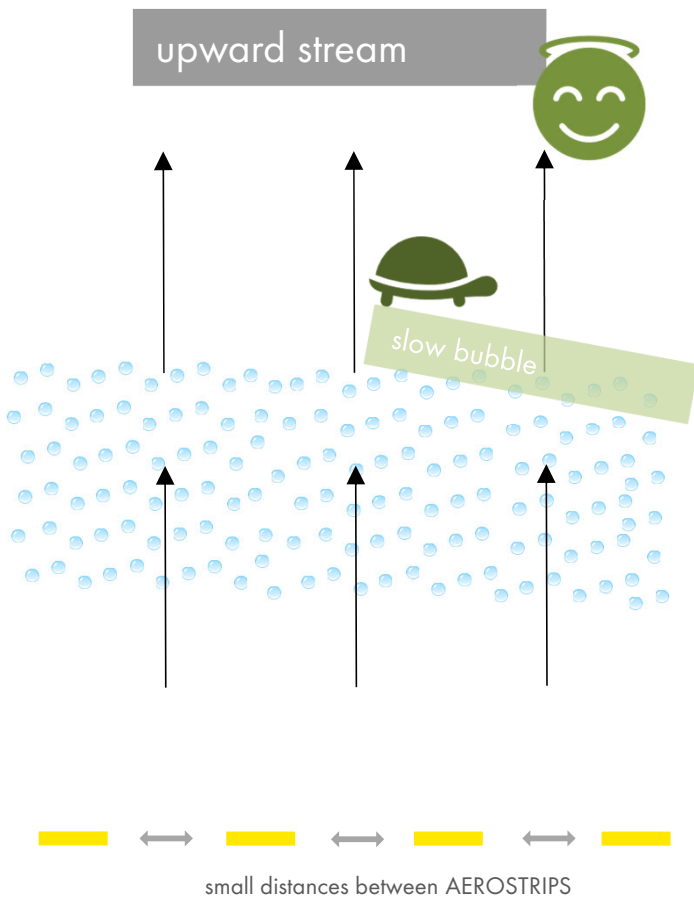
OPTIMAL OPERATION MODE → HIGH EFFICIENCIES

Standard Oxygen Transfer Efficiency (SOTE) & diffuser back pressure (dP)

specific oxygen yield at side water depth 4.0 m; bottom coverage 10%



SMALL DISTANCES → HIGH EFFICIENCIES



High airflow

residence time*: 11sec
water depth: 4m



Low airflow for less coalescence



Less coalescence for small bubbles



Small bubbles for improved oxygen transfer



Improved OTE for less costs

Low airflow

residence time*: 14sec
water depth: 4m



Operation with **low airflow** can lead to **beneficial effects** on **Oxygen Transfer Efficiency**

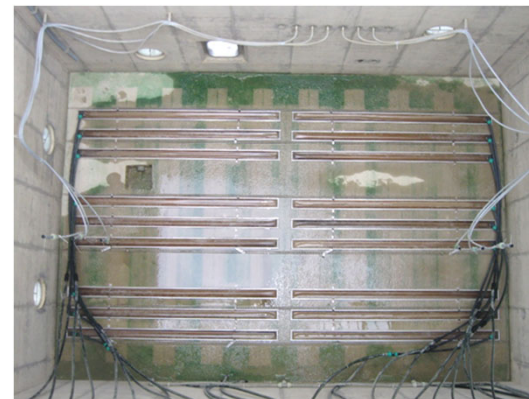
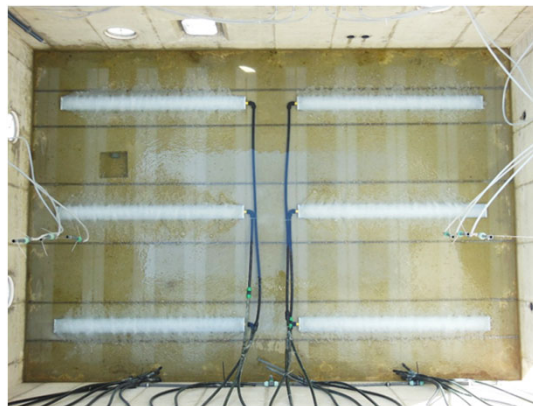
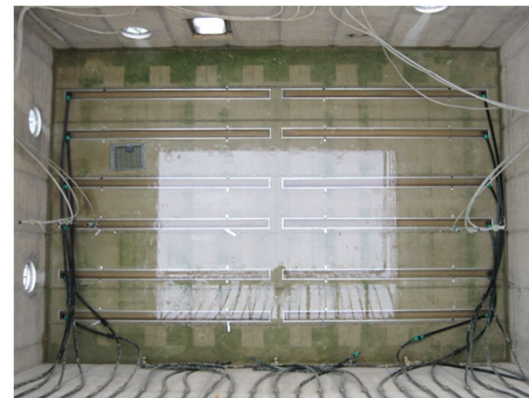
* residence time: required bubble travel time from diffuser outlet to water surface

AEROSTRIP® TESTTANK



GUARANTEED OXYGEN TRANSFER
PROVEN BY COUNTLESS TESTS

up to 8m water depth



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fine bubble diffusers by AQUACONSULT

AEROSTRIP® PROCESS TYPES

- ▶ activated sludge
- ▶ membrane bioreactor (MBR)
- ▶ integrated fixed-film activated sludge (IFAS)
- ▶ activated granular sludge (AGS)
- ▶ NEREDA®
- ▶ DEMON® Anammox Treatment Technology
- ▶ AAA settler® (Triple A)
- ▶ industrial applications (dairy, paper, oil, waste, food, winery, chemical,...)



PHOENIX
PERFORATION

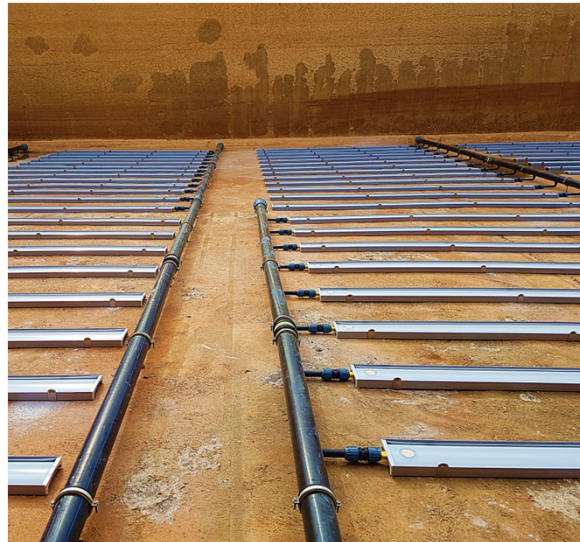
STANDARD
PERFORATION

the optimal type of membrane perforation
is selected for optimal solutions

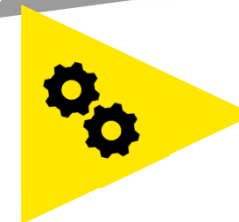
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AEROSTRIP® APPLICATIONS

MOUNTING DIRECTLY ON THE TANK FLOOR



The higher the immersion depth → the higher the oxygen uptake



efficiency

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AEROSTRIP® APPLICATIONS

MOUNTING HEIGHT ADJUSTABLE



- Sloped tanks
- Special requirements (sediments)

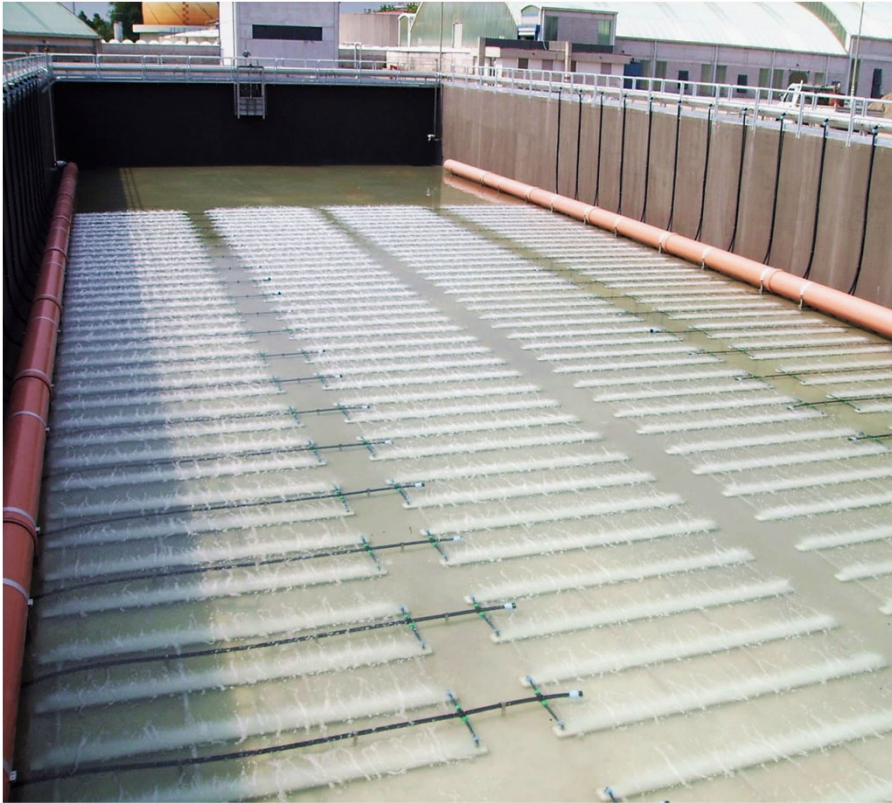
AEROSTRIP® APPLICATIONS

MOUNTING ON LIFTABLE FRAMES



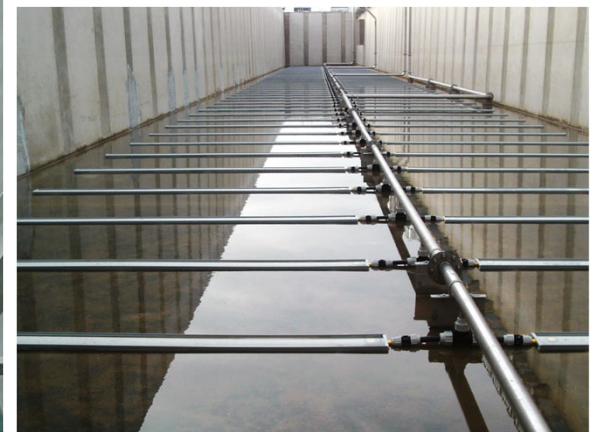
AEROSTRIP® APPLICATIONS

PVC / PE PIPING



AEROSTRIP® APPLICATIONS

STAINLESS STEEL PIPING



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AEROSTRIP® APPLICATIONS

UNIFORM BUBBLE PATTERN



AEROSTRIP® APPLICATIONS

UP TO 100% BOTTOM COVERAGE



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AEROSTRIP® APPLICATIONS

CIRCULAR TANK



AEROSTRIP® APPLICATIONS

IFAS/MBBR




AEROSTRIP® CORE FEATURES


 unique polyurethane membrane

 smaller bubbles for higher efficiencies

20
years up to 20 years of lifetime

 low operating costs

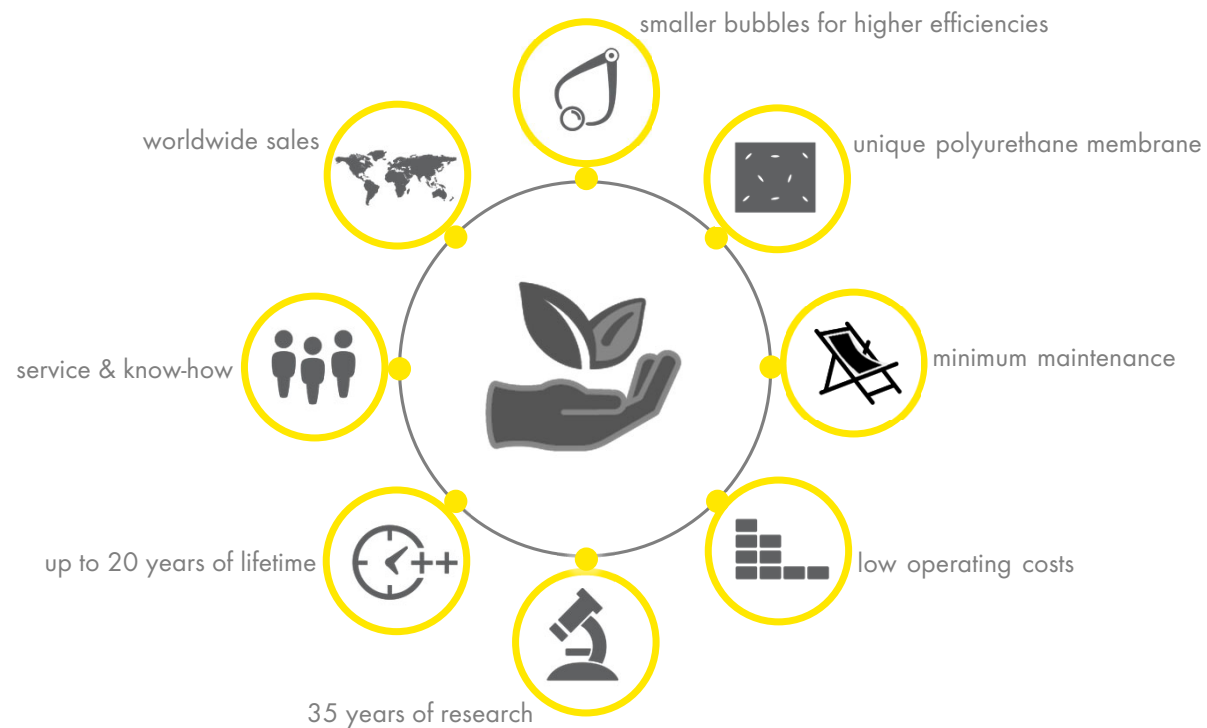
 25 years of research

 service & know-how

 worldwide sales



AEROSTRIP® CORE FEATURES



GLOBAL AEROSTRIP® NETWORK

>30

sales partners
with AEROSTRIP® sales rights

>2500

references
all over the world

>60

countries
operate AEROSTRIP® diffusers

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