

LINZ - ASTEN

Municipal WWTP

950,000 P.E. / Q_{inlet} 235,000 m³/d

Number of Tanks:	8
Total Volume:	92,000 m ³
Water Depth:	7.4 m
SOTR Standard Oxygen Transfer Rate:	9,740 kgO ₂ /h
Total Airflow:	73,600 Nm ³ /h
No. of AEROSTRIP® Diffusers:	3.328

Linz is the capital of Austrian federal state "Upper Austria" and third-largest city of Austria. It operates the second largest municipal WWTP of the country.

In the year 2001 WWTP Linz-Asten has been equipped with AEROSTRIP® fine bubble diffusers.

14 years operation – constant high performance

After 14 years of continuous operation the performance of AEROSTRIP® diffusers was tested in 2015 once again.

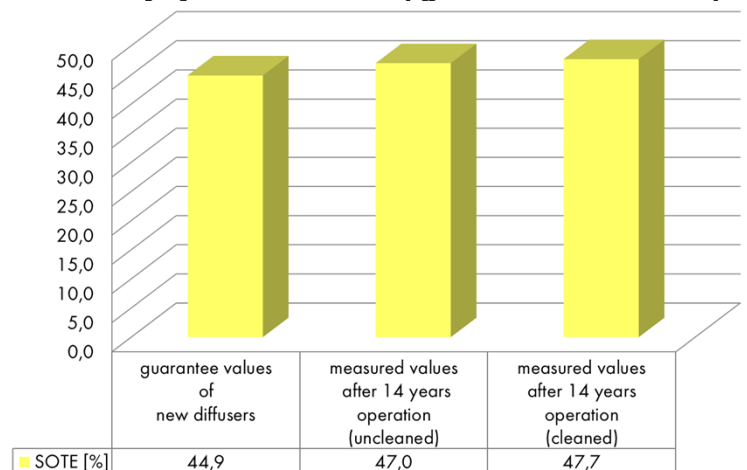
This was done by draining one of the 12,000 m³ tanks, randomly extracting 8 diffusers and performing oxygen transfer measurement in clean water.

The first set of tests was done without prior cleaning followed by a second set of tests after pressure washing the diffusers.

The result was mind-blowing: the tested diffusers achieved the same oxygen transfer efficiency as new ones. After pressure washing, even the head loss of diffuser membranes met values of new AEROSTRIP diffusers.

Operators concluded, "After 14 years, it is way too early to change membranes of AEROSTRIP® diffusers".

SOTE [%] – Standard Oxygen Transfer Efficiency



AEROSTRIP®
fine bubble diffusers by AQUACONSULT



RUŽOMBEROK

Industrial WWTP

700,000 P.E. / Q_{inlet} 140,000 m³/d

Number of Tanks:	4
Total Volume:	10,000 m ³
Water Depth:	4.0 m
SOTR Standard Oxygen Transfer Rate:	5,095 kgO ₂ /h
Total Airflow:	61,680 Nm ³ /h
No. of AEROSTRIP® Diffusers:	3,000

Ružomberok is a city in northern Slovakia with around 30,000 inhabitants.

The local WWTP is built for 600,000 P.E. (BOD load; 700,000 P.E. hydr.). More than 95% of organic load comes from the local paper mill (Mondi SCP, a.s.).

Ružomberok WWTP relies on the quality of AEROSTRIP® since 1996.

High Efficiency & Long Life Cycle for Industrial Applications

The demand for energy efficient treatment of industrial wastewater has increased in recent years. AEROSTRIP® fine bubble diffusers can meet this requirements, even in challenging environment with high fouling potential.

WWTP Ružomberok has to handle high amounts of carbonates, which have the potential to block pores of membrane diffusers.

AEROSTRIP tackles these requirements with simple but frequent maintenance procedures like blow-down cycles and dosing of acetic acid into the airflow. This is the formula for success for industrial applications.

Even under such harsh conditions, heavy duty AEROSTRIP® polyurethane membranes have a lifetime of 10 years plus. The lifespan of a diffuser body is even longer.

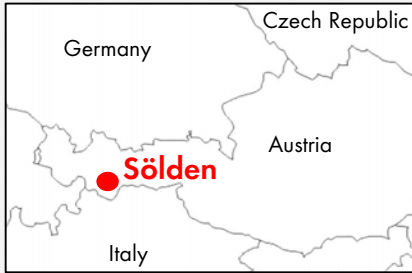


Sustainable and efficient solutions - that's AEROSTRIP® since 1995.

AEROSTRIP®

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SÖLDEN

Municipal WWTP

90,000 P.E. / Q_{inlet} 3,150 m³/d

Number of tanks:	4
Total Volume:	8,448 m ³
Water Depth:	8.0 m
SOTR Standard Oxygen Transfer Rate:	2,800 kgO ₂ /h
Total Airflow:	20,640 Nm ³ /h
No. of AEROSTRIP® Diffusers:	880

Sölden, one of the famous ski resorts in the world, is situated in the Austrian Alps. A tourist hotspot during the wintertime, but a small mountain village in the off season.

Since 2004 AEROSTRIP® diffusers have been providing the right amount of oxygen all the year round.

Uncommon wide operation range – surpassed guarantee values

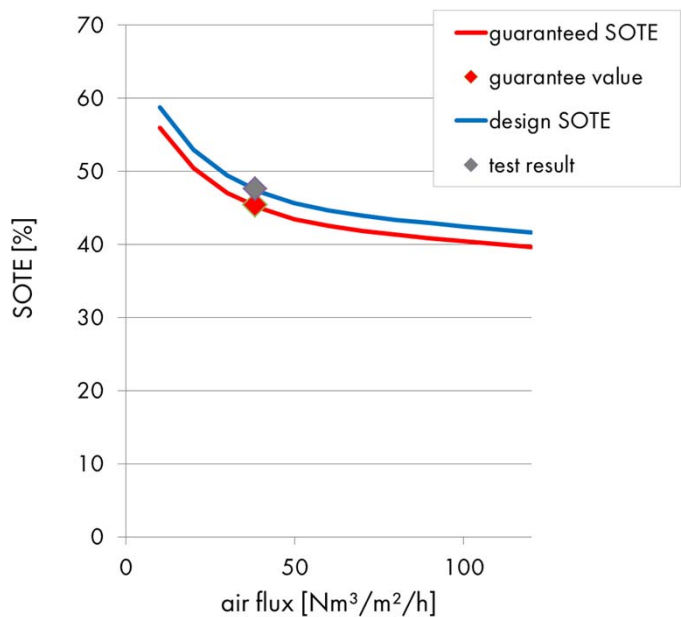
Operation range of AEROSTRIP® diffusers is 0 up to 120 Nm³/h per m²_{diffuser}. This extremely high turndown ratio allows for high fluctuations in oxygen demand, as required at this particular installation, to be met.

After the launch of AEROSTRIP® diffusers in 2005, their performance was tested by an independent third party.

Guaranteed figure for Standard Oxygen Transfer Efficiency (SOTE) was 45% at a flux of 40 Nm³/h per m²_{diffuser}.

Tested SOTE proved, that performance of AEROSTRIP® diffusers even exceeded system requirements:

SOTE [%] – Standard Oxygen Transfer Efficiency
(tank AB3; SWD= 8.0m)





AVEDØRE

Municipal WWTP

270,000 P.E. / Q_{inlet} 75,000 m³/d

Number of Tanks:	4
Total Volume:	80,000 m ³
Water Depth:	3.5 m
SOTR Standard Oxygen Transfer Rate:	4,270 kgO ₂ /h
Total Airflow:	58,720 Nm ³ /h
No. of AEROSTRIP® Diffusers:	1,600

Avedøre is part of the suburbs in the south-west of Denmark's capital Copenhagen.

The Avedøre WWTP was built on reclamation ground in 1968 and treats sewage water from a catchment area of approx. 86km² resp. 270,000 P.E.

In 2015 the plant switched from surface aerators to high efficient AEROSTRIP® diffusers.

From Surface to Efficient Aeration in a blink

The biological stage of Avedøre STP was originally built as an oxidation ditch, equipped with surface rotors for aeration. This was typical for the region and the time.

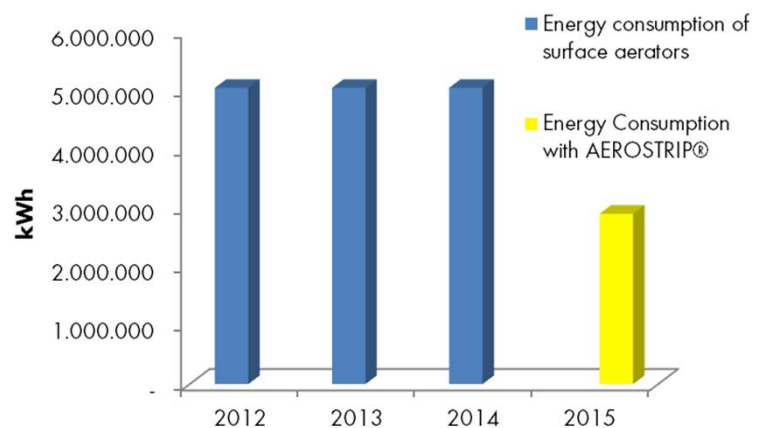
Due to the shallowness of the tanks, fine bubble aeration was considered to provide no significant improvement in energy efficiency... but then came AEROSTRIP®.

First of all, prefabricated piping and the use of AEROSTRIP® snap fasteners for diffuser mounting reduced installation time to a minimum.

Furthermore, AEROSTRIP® guaranteed energy savings of 38.5%, or 1,940,000 kWh per year.

Operational figures of AEROSTRIP® indicate even higher values: Current energy savings are ~42.5% which means 2,140,000 kWh per year!

Energy savings with AEROSTRIP®





CENTRAL KITSAP Municipal WWTP

40,000 P.E. / Q_{inlet} 12,000 m³/d

Number of Tanks:	4
Total Volume:	13,080 m ³
Water Depth:	4.75 m
SOTR Standard Oxygen Transfer Rate:	1,240 kgO ₂ /h
Total Airflow:	10,800 Nm ³ /h
Total AEROSTRIP® Diffusers:	1,214

The Central Kitsap facility started operations in 1979 as a conventional activated sludge secondary treatment plant.

The plant receives wastewater from the cities of Silverdale, Keyport and Poulsbo, the Central Kitsap area, the Naval Submarine Base Bangor and the Naval Undersea Warfare Engineering Station (NUWC) at Keyport.

AEROSTRIP® - SSOTE performance exceeds 10 %/m of submergence

In 2014, the existing disc diffuser system was removed and replaced with the energy efficient AEROSTRIP® diffuser system. 1,214 AeroStrip diffusers were installed in the four parallel aeration tanks.

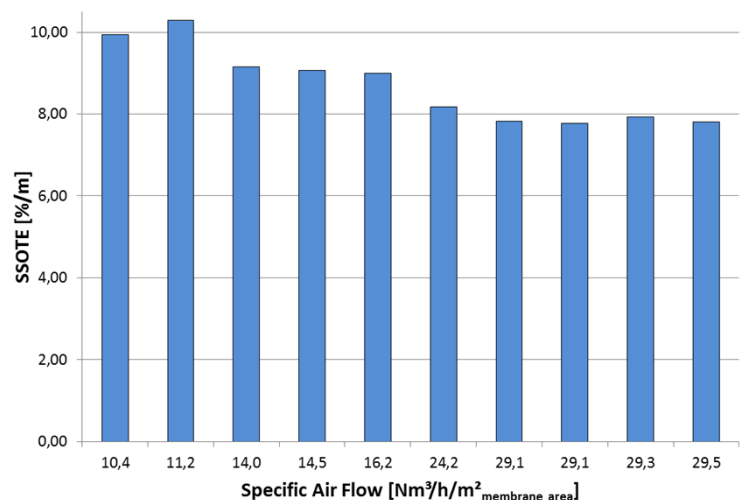
To confirm the high performance of the new aeration system, a Clean Water Oxygen Transfer Test was required and conducted by a third party at the AQUACONSULT test facility in Austria.

The test result was impressive:

The AEROSTRIP® system performance (SSOTE) was more than 10 percent per meter of submergence!

This performance is far more than provided by any other fine bubble aeration system on the market.

SSOTE – Specific Standard Oxygen Transfer Efficiency



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