



# FUCHS

A Metawater Company

## OxyStar<sup>®</sup> Aerator

Efficient aeration and mixing

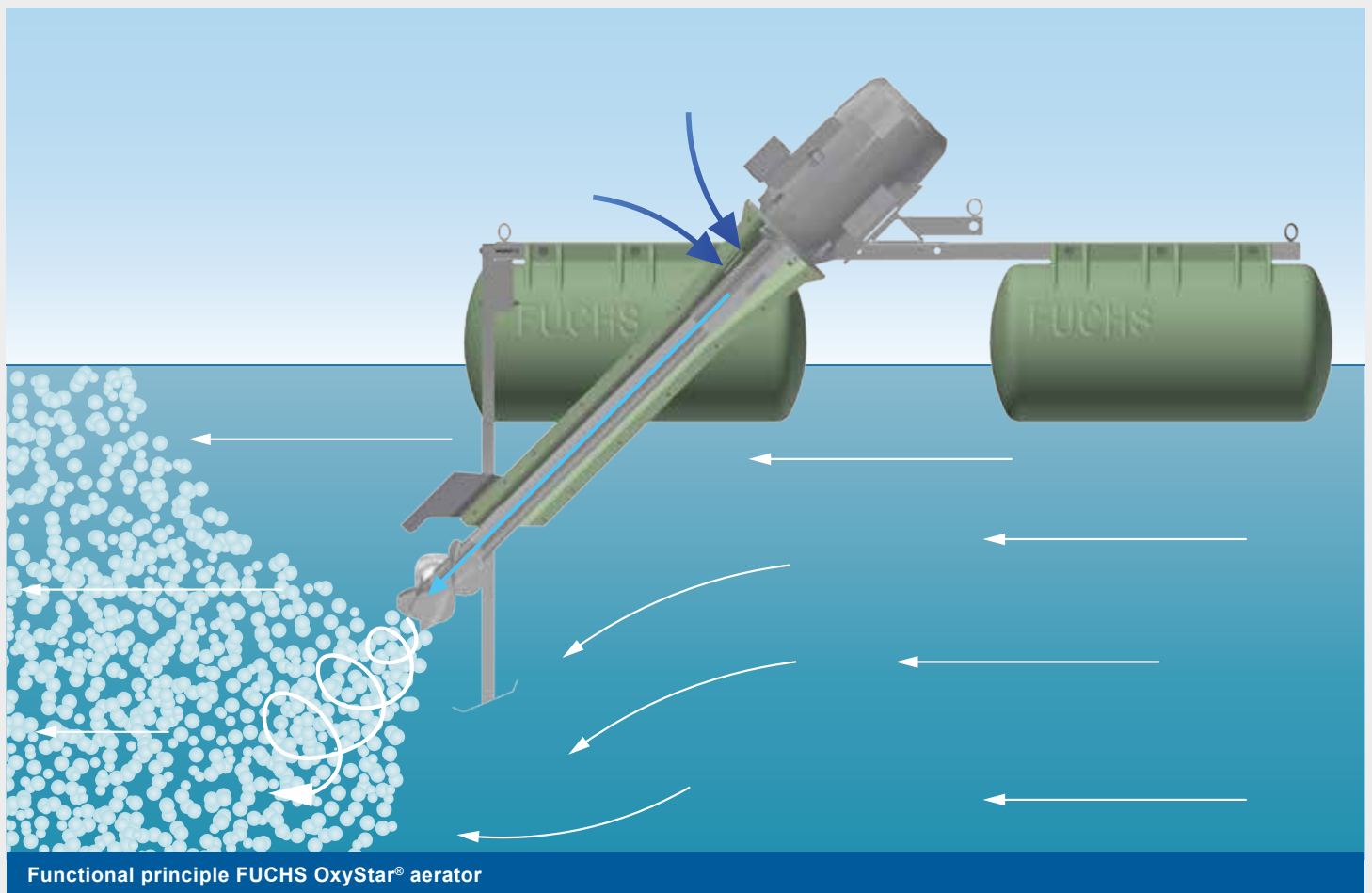
## GENERAL INFORMATION

The **FUCHS OxyStar® aerator** is a top product and stands for the highest quality standards in wastewater treatment. With low maintenance and operating costs, they overcome all challenges in the treatment of municipal or industrial wastewater and work reliably even in difficult wastewater.

OxyStar® aerators are used in:

- » **Wastewater lagoons**
- » **Equalization basins**
- » **Activated sludge plants**
- » **Mine water treatment plants**

In addition to fine bubble deep aeration, OxyStar® aerators cause intensive circulation and mixing of the wastewater.



## OPERATING MODE

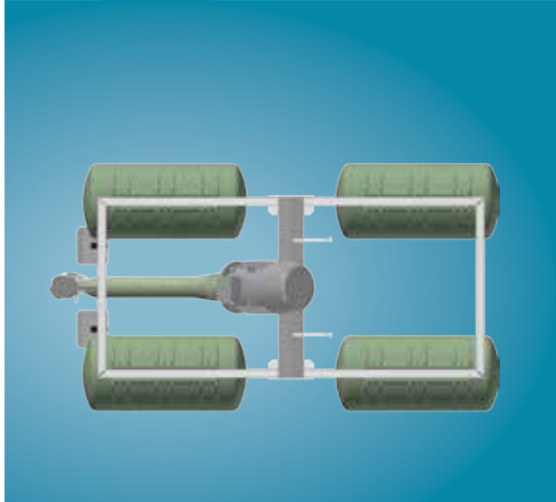
The propeller rotating at engine speed creates a highly directional flow. At the same time, air is sucked-in through the hollow shaft and divided into fine bubbles at the propeller. These are carried into the depths by the liquid jet and distributed.

Due to the intense turbulence and the small bubble size a rapid mass transfer with a high degree of oxygen utilization is ensured.

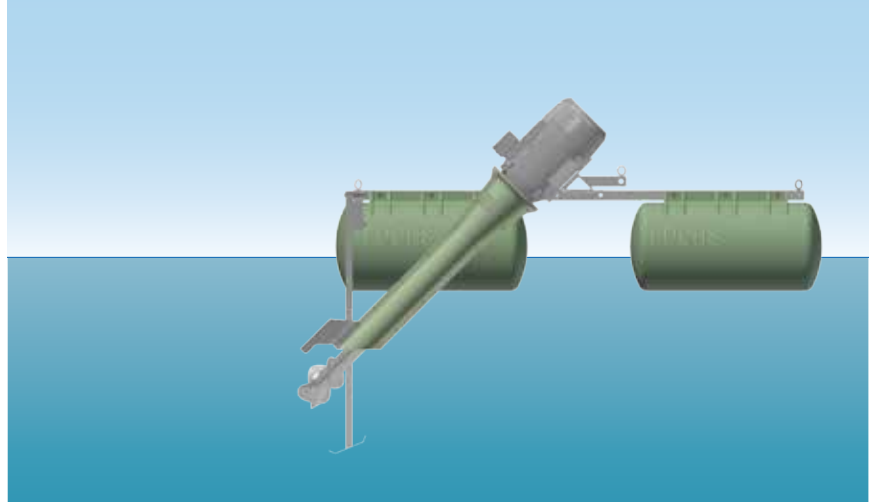
# INSTALLATION

**OxyStar® aerators** are easy to handle and can be easily integrated into existing systems. Conversions or retrofitting of existing systems are carried out without interrupting operations. Basins do not need to be emptied. Additional agitators for mixing are not required. The machines are mounted either on floats or with mounting brackets.

When used in lagoons and basins with **fluctuating water levels**, OxyStar® aerators are **installed on robust floats**.

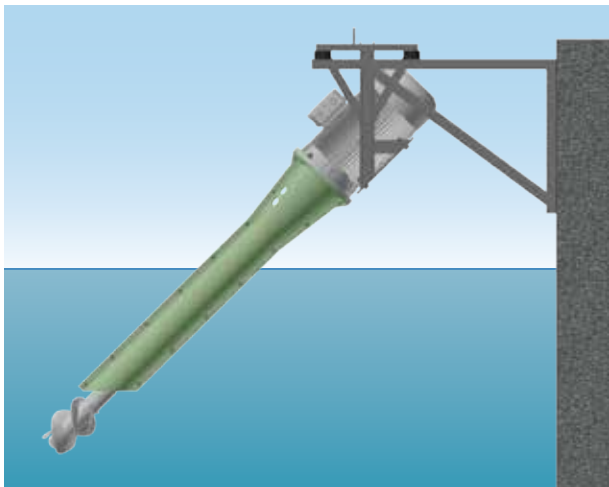


OxyStar® aerator on floats

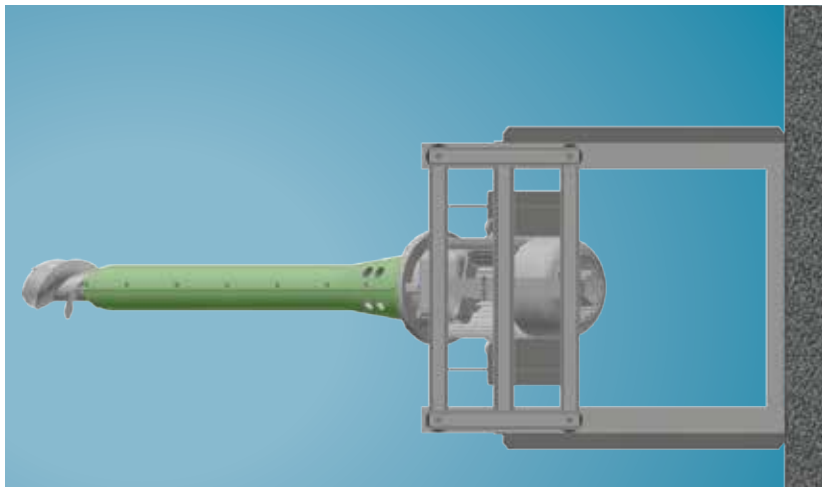


At a **constant water level**, e.g. in activated sludge plants, the aerators are mounted on machine bridges or on the concrete walls with mounting brackets made of **steel profiles**.

The mounting frames are adapted to the existing conditions on a project related basis.



OxyStar® aerator with standard mounting bracket



OxyStar® aerator with standard mounting bracket



OxyStar® aerator on floats

# DIVERSE POSSIBILITIES OF APPLICATION

**OxyStar® aerators** with low maintenance and operating costs overcome all challenges in the treatment of municipal or industrial wastewater. They are the perfect aeration solution for wastewater lagoons. They are suitable for new systems, as a replacement or addition to existing aeration systems and for retrofitting unaerated lagoon systems. OxyStar aerators can even be installed at shallow water depths (from approx. 1 m).



OxyStar® aerators on floats in a wastewater lagoon (Morocco)



Aerated wastewater lagoon system with OxyStar® aerators (Morocco)

**OxyStar® aerators** are an excellent aeration system for aeration systems and mixing and equalization tanks. They are suitable for almost all basin shapes and water depths, also they are ideal for converting or retrofitting existing systems. Inefficient brush and rotor aerators and compressed air systems can be easily replaced or supplemented without interrupting of operations. Additional agitators for mixing are not required.



Activated sludge tank of an industrial sewage treatment plant (Thailand)



Oxidation ditch of a municipal WWTP (Korea)



Equalization basin (France)



A special application of OxyStar® aerators is the ferrous iron oxidation of mine water

# TECHNICAL DATA

**OxyStar® aerators** are intelligently and robustly designed. There are no bearings or seals in the submerged part of the machine. Only high-quality machine parts and corrosion-resistant materials are used.

		Standard	Possible variations
<b>Motor</b>	Nominal power	1,1 - 45 kW	Upon request
	Voltage, Frequency	400/460 V, 50/60 Hz	Upon request
	Protection class	IP 55	Upgrade to IP 56 or IP 65
	Energy efficiency class	IE3	Upon request
	Certifications	Nema / CSA / UL	Upon request
	Isolation	ISO F	ISO H
<b>Aerator</b>	Material protective housing	FRP	Stainless steel 1.4571
	Protective housing design	Premium OS	Classic WBL
	Shaft and impeller	Stainless steel 1.4571	
<b>Installation options</b>	Wall mounting Bridge mounting	Galvanized steel	Stainless steel
	Float		
<b>Float</b>	Material frame	Galvanized steel	Stainless steel
	Pontoons	PE foamed	PE not foamed, FRP
	Pivot arm and landside mount	Galvanized steel	Stainless steel
<b>Optional equipment</b>			Cold conductor
			Heated housing
<b>Electrical cable</b>		Delivery on request	Upon request
<b>Accessories</b>	Pivot arm, landsite mount, mooring rope, rope winch, local control switch	Delivery on request	Upon request

## The FUCHS OxyStar® aerator – advantages at a glance

- » High performance aerator for municipal or industrial wastewater
- » For activated sludge plants, wastewater lagoons and equalization basins
- » Intensive mixing, high circulation performance and efficient fine bubble aeration
- » Durable and low-maintenance machine technology
- » Ideal for retrofitting and replacement
- » Simple and quick installation without interrupting operations or basin emptying

## Advantages of FUCHS

- » Customized solutions for a wide range of requirements
- » Support with design and dimensioning
- » Recommendations for positioning of the equipment
- » Installation of equipment
- » Supervision of installation work on site
- » Extensive After-Sales Service
- » Maintenance and repair
- » Warranty extensions




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