



FUCHS

A Metawater Company

Centrox Aerator



Surface aerators for specialised applications

The **FUCHS Centrox Aerator** offers customised solutions for the treatment of municipal and industrial wastewater and sludge.

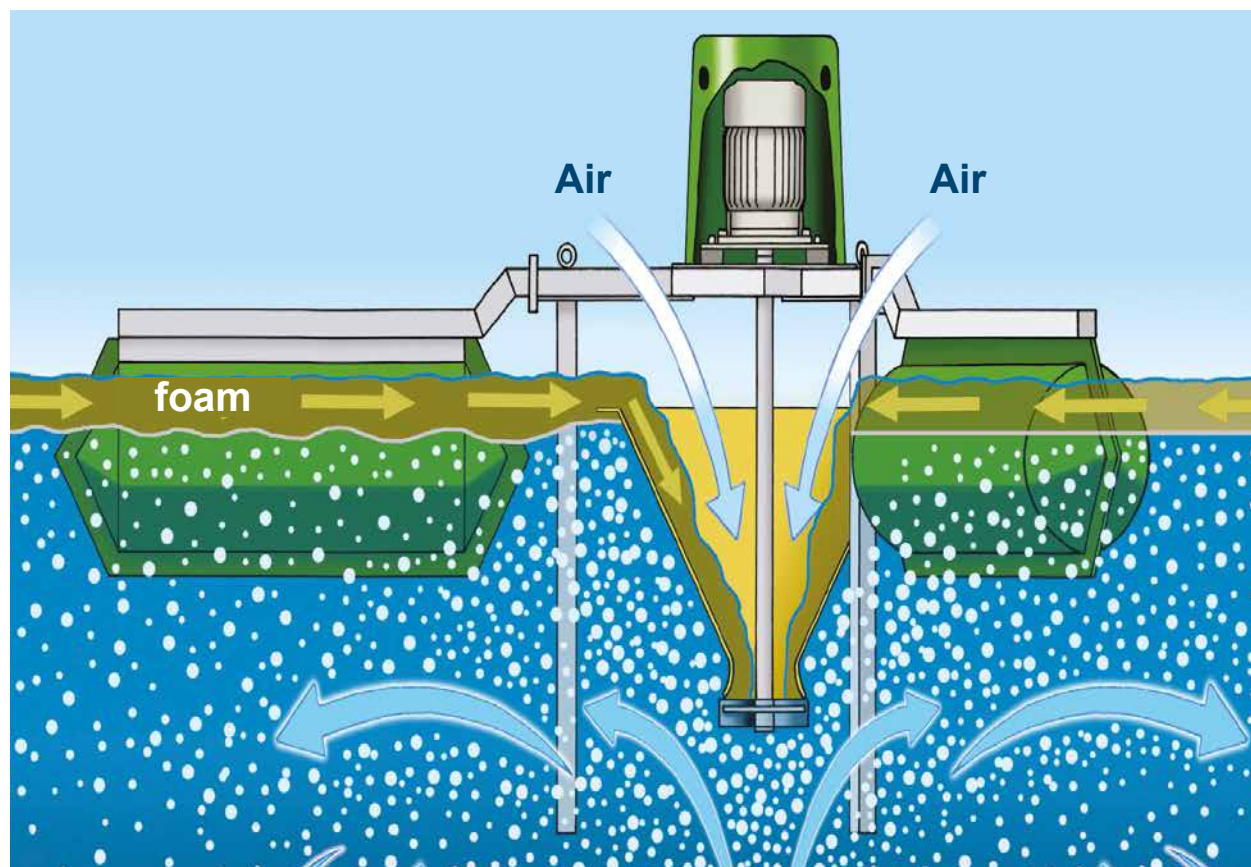
The surface aerator for sophisticated applications is available in different versions:

- » **Centrox aerator with foam breaker type CX-S**
– for treating sewage sludge, fat sludge, wastewater with excessive foaming and liquid manure
- » **Centrox gas injector type CX-G** – for neutralization of alkaline wastewater
- » **Centrox pond aerator type CX** – for lagoon systems

FUCHS Centrox Aerator with Foam Breaker

GENERAL INFORMATION

FUCHS Centrox aerators with foam breaker type CX-S are ideal **for the aeration of sewage sludge, fat sludge, wastewater with excessive foaming and liquid manure**. In addition to effective foam control, they also provide for fine bubble aeration and thorough mixing of the wastewater or sludge.



Operating principle FUCHS Centrox aerator with foam breaker

OPERATING MODE

The **FUCHS Centrox aerator with foam breaker** ensures aeration and mixing of wastewater or sludge while at the same time limiting the resulting foam. The rotating impeller draws in the wastewater or sludge from below and mixes it with the drawn-in air and the foam flowing through the funnel from above. This actively integrates the foam layer into the aeration process. The oxygen contained in the foam remains in the system and the degradation processes are intensified.

INSTALLATION

Centrox aerators with foam breaker can be integrated into existing systems without interrupting operation. Basins do not have to be emptied and almost all basin shapes can be equipped. When used in basins with **fluctuating water levels**, the aerators are mounted **on robust floats**. At a **constant water level**, the aerators are mounted **on machine bridges**.



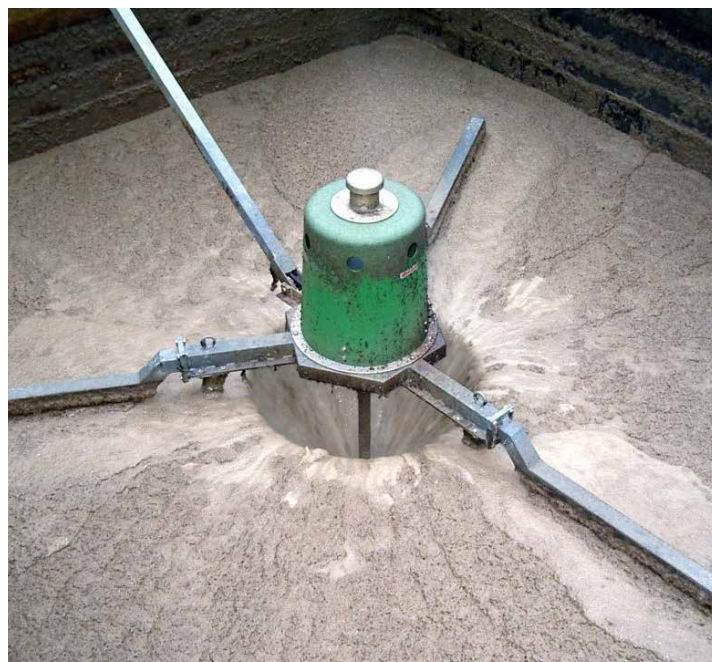
Centrox aerator with foam breaker CX-S on floats



Centrox aerator with foam breaker CX-S mounted on a machine bridge

VARIETY OF APPLICATIONS

Centrox aerators with foam breaker are suitable for converting or retrofitting existing inefficient aeration systems, especially in the case of heavy foam formation.



Application in the food industry



Function testing in the FUCHS test basin

AEROBIC DIGESTION

Another application for **Centrox aerators with foam breaker** is the **aerobic digestion**.

This FUCHS solution provides a simple and cost-effective alternative for increasing the capacity performance of overloaded wastewater treatment plants. Depending on the requirements, the process is excellently applicable for stabilization of pig and cattle manure.

With aeration in closed tanks and an increasing concentration of the sewage sludge, autoheating of the sewage sludge leads to mesophilic process temperatures of approx. 35°C (95°F) and above. This allows for short retention times and small reactor sizes for the stabilization.

The **FUCHS Centrox Aerator with foam breaker** combines aeration, mixing, and foam control in one machine. The combination of small reactors and cost-effective machines reduces the investment costs to a minimum. The aerobic stabilization process is very robust and can easily be commissioned and controlled. Together with the reliable **FUCHS Centrox Aerator with foam breaker**, this process offers a user-friendly solution, especially for small to medium-sized wastewater treatment plants.



Aerobic digestion to relieve the activated sludge process (Germany)



Increasing the performance of a municipal wastewater treatment plant (Spain)



Centrox aerator with foam breaker CX-S in a closed reactor



Aeration, mixing, and foam control with one machine

FUCHS Centrox Gas Injector

GENERAL INFORMATION

FUCHS Centrox gas injectors type CX-G are specially developed for the neutralization of alkaline wastewater with flue gas. They draw in the necessary flue gas directly, without an additional blower, and introduce it into the wastewater to be neutralized.

OPERATING MODE

The rotating impeller draws in the wastewater to be neutralized from below and the required flue gas through the suction pipe from above. It swirls gas and liquid and centrifuges the mixture along the diffuser outwards. The aeration takes place with fine bubbles and high carbon dioxide utilization.

INSTALLATION

Neutralisation is best carried out in round or square basins. The **Centrox gas injector** is arranged in the centre of the basin and attached to a **machine bridge**. Several machines are usually required for rectangular basins. Neutralisation can also take place in a mixing and equalisation basin or in wastewater lagoons. Here, the **Centrox gas injector** is installed **on floats**.



Centrox gas injector CX-G on floats



Centrox gas injector CX-G on a machine bridge

FUCHS Centrox Pond Aerator

GENERAL INFORMATION

FUCHS Centrox pond aerators type CX are used mainly in shallow wastewater lagoons and provide fine-bubble aeration and thorough mixing of the wastewater.

OPERATING MODE

The rotating impeller draws in the wastewater from below and the air from above through the pipe or the funnel. It swirls air and liquid and centrifuges the mixture along the diffuser outwards. This causes a fan-shaped distribution of the bubbles. Aeration takes place with fine bubbles, high oxygen utilization and a calm water surface.

INSTALLATION

Centrox aerators are installed **on robust floats** and are usually positioned in the centre of the wastewater lagoon. In large lagoons, several machines are distributed evenly over the surface.



Centrox pond aerators in a small municipal wastewater treatment plant (Germany)



Low-maintenance Centrox pond aerator in a wastewater lagoon

TECHNICAL DATA

The low-maintenance **Centrox 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.

		Centrox aerator with foam breaker CX-S Standard	Centrox gas injector CX-G Standard	Centrox pond aerator CX Standard	Variants
Motor	Nominal power	2,2 – 18,5 kW	2,2 – 11,0 kW	2,2 – 4,0 KW	Upon request
	Voltage / frequency	400/460 V, 50/60 Hz	400/460 V, 50/60 Hz	400/460 V, 50/60 Hz	Upon request
	Protection class	IP 55	IP 55	IP 55	IP 56
	Energy efficiency class	IE3	IE3	IE3	Upon request
	Isolation	ISO F	ISO F	ISO F	ISO H
	Optional equipment				PTC thermistor, tropical protection
Aerator	Funnel	FRP	FRP		Upon request
	Shaft, impeller	Stainless steel	Stainless steel	Stainless steel	Upon request
	Optional equipment				Motor cover, suction pipe heatable for CX and CX-G
Mounting options	Wall mounting, bridge mounting	Galvanized steel	Galvanized steel	Galvanized steel	Stainless steel
	Float				
Float	Material frame	Galvanized steel	Galvanized steel	Galvanized steel	Stainless steel
	Pontoons	PE foamed	PE foamed	PE foamed	PE not foamed, FRP
Electrical cable		Delivery on request	Delivery on request	Delivery on request	Upon request
Accessories	Pivot arm, landsite mount, mooring rope, rope winch, local control switch	Delivery on request	Delivery on request	Delivery on request	Upon request

APPLICATIONS AT A GLANCE

Aeration of sewage sludge, fat sludge, wastewater with excessive foaming and liquid manure Aerobic digestion	Centrox aerator with foam breaker type CX-S
Neutralization of alkaline wastewater	Centrox gas injector type CX-G
Aeration of shallow wastewater lagoons	Centrox pond aerator type CX



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