

FUCHS CENTROX Aerator Type CX



General

The FUCHS CENTROX Aerator is used to introduce oxygen into wastewater lagoons, activated sludge plants and equalization basins.

It provides for fine-bubble aeration as well as circulation and thorough mixing of the wastewater.

Due to functional design and good workmanship it is a sturdy, reliable and almost maintenance-free machine.

Description

The CENTROX Aerator basically consists of an air-cooled, vertically mounted TEFC motor with drip cover, base plate, drive shaft, suction pipe with diffuser resp. suction funnel and an impeller with curved blades at the immersed end.

The base plate of the CENTROX Aerator is fixed to a catwalk or to the framework of a flotation.

Optionally and against extra charge a protective hood for the electric motor is available.

Method of operation

The rotating impeller draws wastewater from underneath and air through the suction pipe resp. the funnel from above. 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. Thus, problems with sprayed water, cooling-off during wintertime and odours are avoided.

Design and materials

The design of the CENTROX Aerator is simple and sturdy without bearings and sealings in the immersed part. The unit needs little maintenance and is almost free from wear.

It is manufactured from corrosion-resistant materials. The base plate, the drive shaft, the suction pipe and the impeller are made of stainless steel. The diffuser and the suction funnel are made of FRP resp. PE.

The drive units are highly efficient electric motors with hollow shaft. They are equipped with adequately sized, permanently lubricated, grooved ball bearings.

The motor housings are either aluminium or high-quality cast iron. At FUCHS they are given an additional two-component coating.

The insertion end of the stainless steel shaft is fixed in the hollow shaft of the electric motor. Here it is precision-guided and can be easily mounted or removed. Dynamic balancing of the drive shaft together with the specially shaped impeller ensures quiet operation.

Each FUCHS CENTROX Aerator is checked in the plant's own test basin before delivery.

Flotation

The flotation for the CENTROX Aerator essentially consists of a framework with several flotation tanks and supports.

The frame is a hot-dip galvanized, welded steel construction. Optionally and against extra charge an additional powder coating is available.

The flotation tanks are made of LDPE according to rotational procedure. They are resistant against mechanical impact and UV radiation. Optionally and against extra charge flotation tanks filled with polyurethane foam or tanks made of GRP are available.

The supports which are fixed at the frame allow placing the CENTROX Aerator on the bank or on the bottom of the basin. The supports as well as all small parts and screws are made of stainless steel.

On aerated lagoons the CENTROX Aerator is secured at small foundations or plugs on the bank by two mooring cables. Usually, they are made of stainless steel.

On activated sludge plants as well as equalization basins the CENTROX Aerator can be secured on the bank with a fixing bar. Linkages on both ends enable the CENTROX Aerator to follow the varying water level.

Arrangement

In most cases the CENTROX Aerator is installed in the centre of the basin. In case of very large basins a plurality of units has to be distributed evenly on the surface.

Technical data

The enclosed table shows the technical data.

Technical data

FUCHS CENTROX Aerator with flotation

type	nominal power	nominal current	nominal speed	H	Ø A	ID	weight	air flow
	kW	A	min ⁻¹	mm	mm	mm	kg	m ³ /h
CX 1.1	1.1	2.6	1.445	1.460	3.400	500	190	72
CX 1.5	1.5	3.5	1.450	1.460	3.400	500	195	90
CX 2.2	2.2	4.6	1.445	1.500	3.400	550	205	120
CX 3.0	3.0	6.3	1.445	1.500	3.400	550	210	160
CX 4.0	4.0	9.6	1.460	1.500	3.400	550	220	200
CX 5.5	5.5	12.7	965	1.800	4.100	600	360	250
CX 7.5	7.5	15.8	975	1.800	4.100	600	380	335
CX 11.0	11.0	22.8	980	1.800	6.200	600	540	480
CX 15.0	15.0	32.5	975	1.800	6.200	600	610	650

Larger sizes up to 30.0 kW on request.

The technical data apply to standard motors IE3 with 400 V / 50 Hz.

CENTROX Aerator

type: CX

(with suction pipe)

ac-motor

base plate

frame

flotation tank

suction pipe

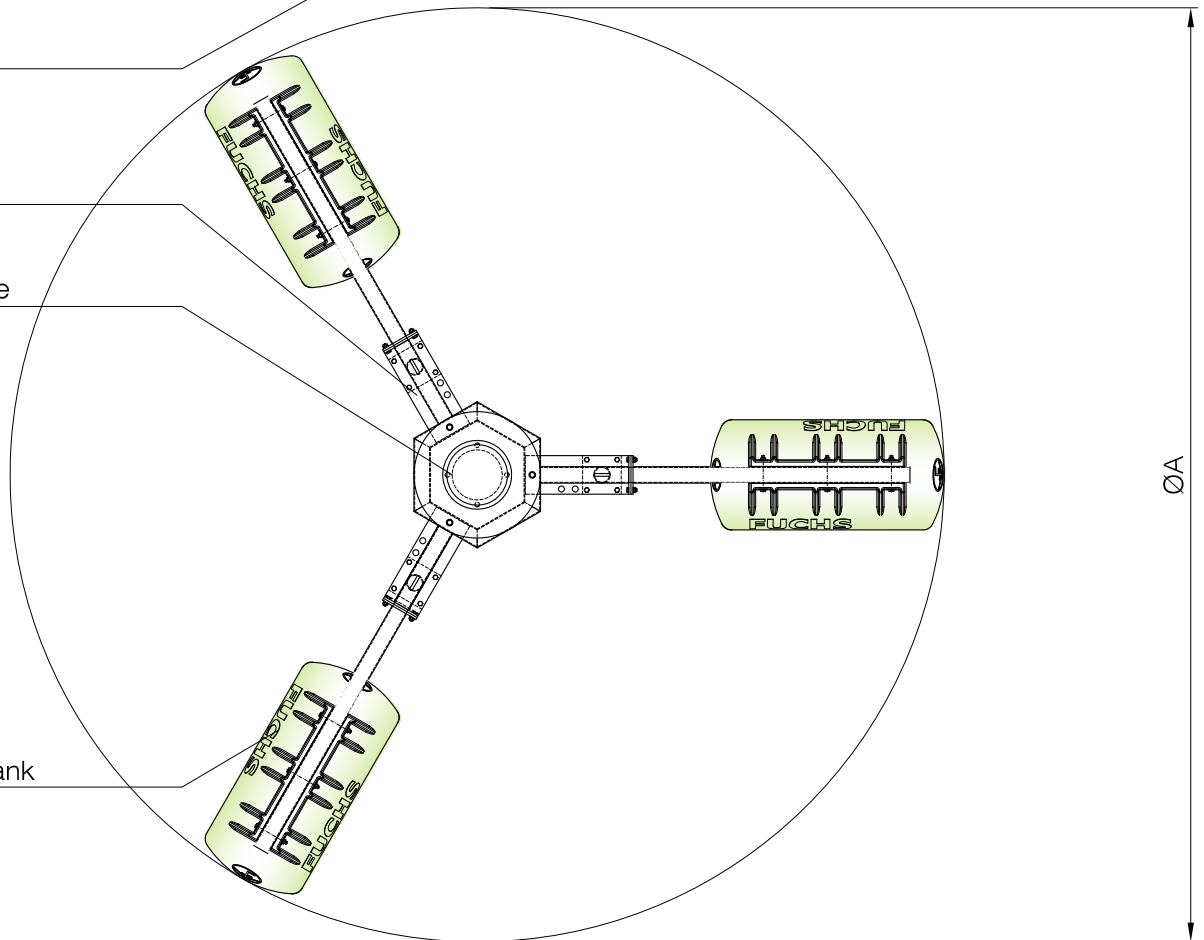
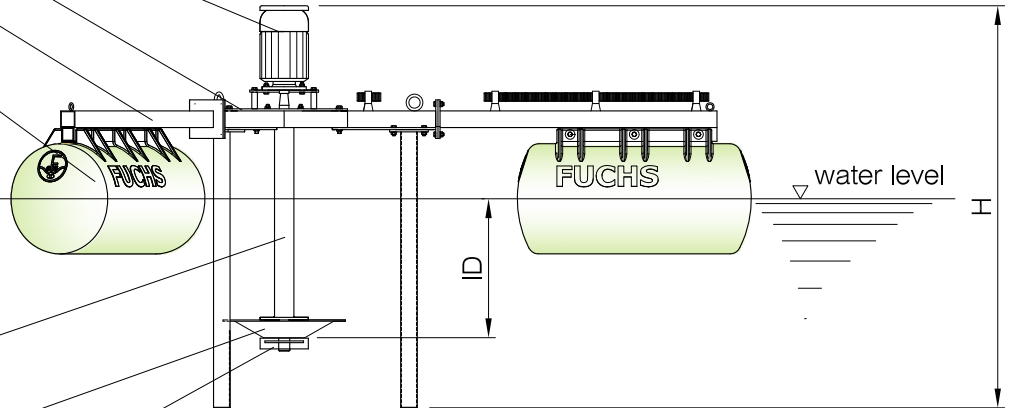
diffuser

impeller

frame

base plate

flotation tank



10-A-058

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CENTROX Aerator type: CX (with suction funnel)

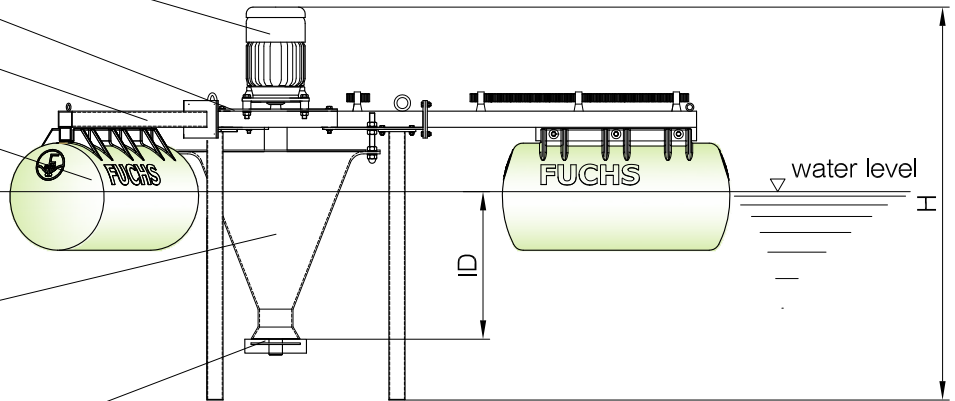
ac-motor

base plate

frame

flotation tank

suction funnel

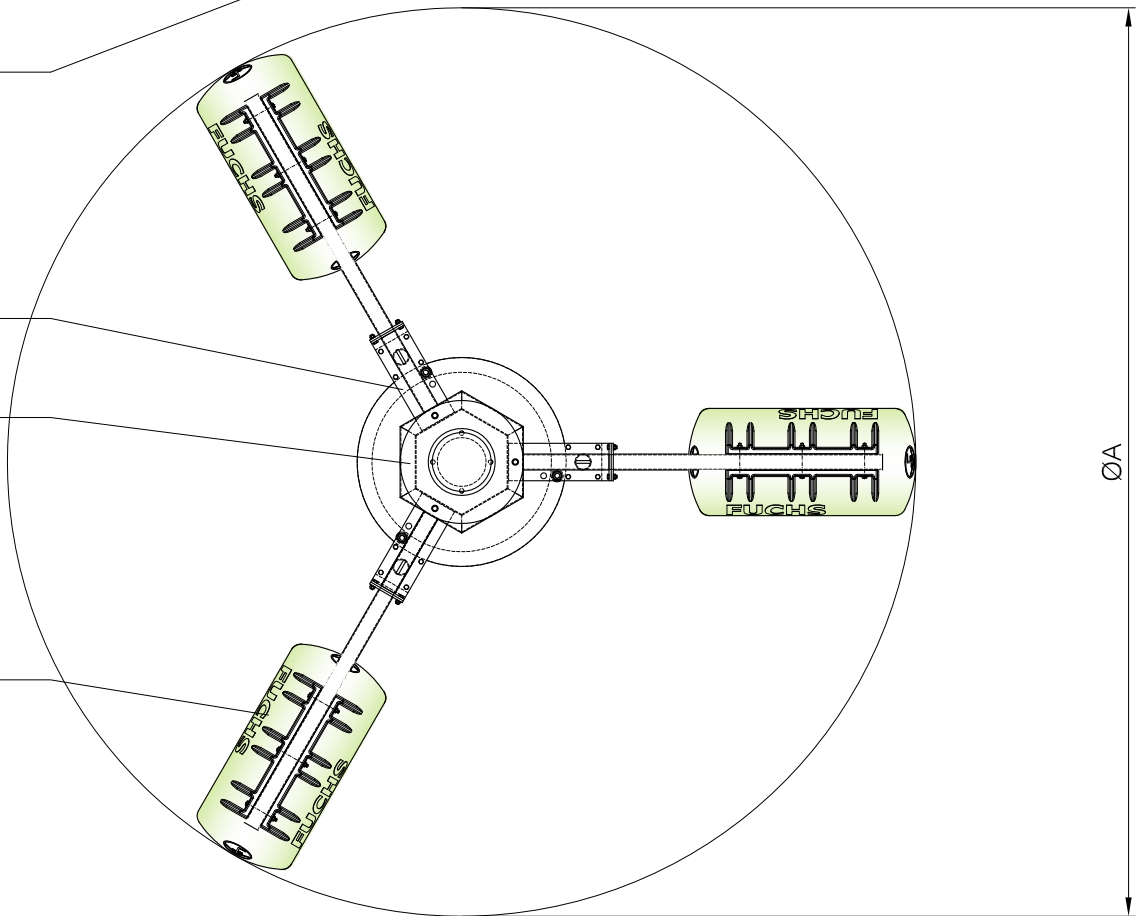


impeller

frame

base plate

flotation tank



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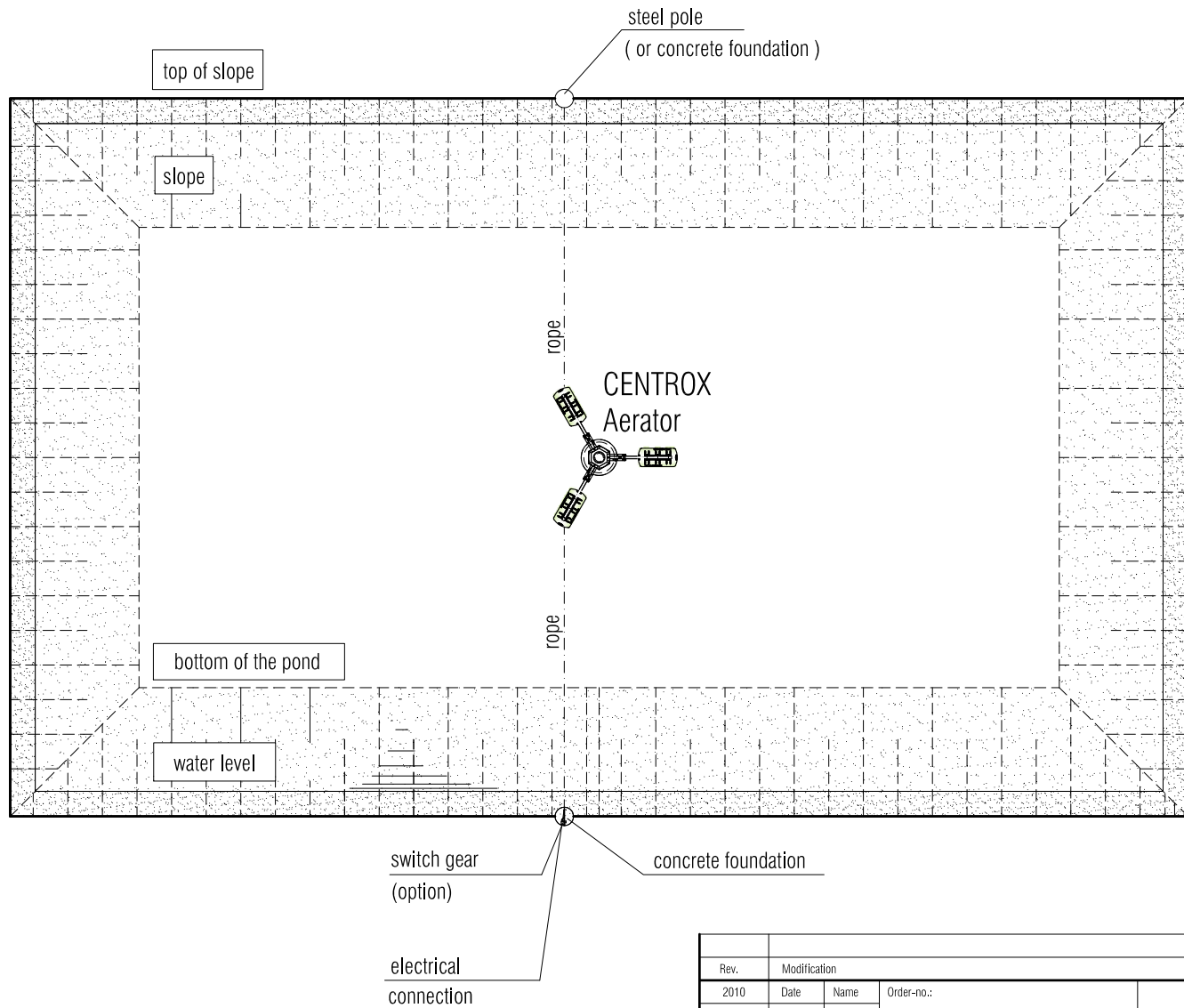
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FUCHS CENTROX Aerator on flotation in ponds



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Rev.	Modification			Date	Name
2010	Date	Name	Order-no.:	FUCHS Enprotec GmbH Stocktal 2 56727 MAYEN - Germany phone +49-26 51-80 04 0 fax +49-26 51-80 04 135 e-mail info@fuchs-germany.com	
drawn by	11.11.	Benner			
check.by	11.11.	L.F.	Final customer:		
appr. by					
Scale:	Project:			FUCHS CENTROX Aerator on flotation in ponds	
%					
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				Replacement for: Replaced by:	