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**

<table>
<thead>
<tr>
<th>type</th>
<th>nominal power</th>
<th>nominal current</th>
<th>nominal speed</th>
<th>H</th>
<th>Ø A</th>
<th>ID</th>
<th>weight</th>
<th>air flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX 1.1</td>
<td>1.1 kW</td>
<td>2.6 A</td>
<td>1.445 min⁻¹</td>
<td>1.460 mm</td>
<td>3.400 mm</td>
<td>500 mm</td>
<td>190 kg</td>
<td>72 m³/h</td>
</tr>
<tr>
<td>CX 1.5</td>
<td>1.5 kW</td>
<td>3.5 A</td>
<td>1.450 min⁻¹</td>
<td>1.460 mm</td>
<td>3.400 mm</td>
<td>500 mm</td>
<td>195 kg</td>
<td>90 m³/h</td>
</tr>
<tr>
<td>CX 2.2</td>
<td>2.2 kW</td>
<td>4.6 A</td>
<td>1.445 min⁻¹</td>
<td>1.500 mm</td>
<td>3.400 mm</td>
<td>550 mm</td>
<td>205 kg</td>
<td>120 m³/h</td>
</tr>
<tr>
<td>CX 3.0</td>
<td>3.0 kW</td>
<td>6.3 A</td>
<td>1.445 min⁻¹</td>
<td>1.500 mm</td>
<td>3.400 mm</td>
<td>550 mm</td>
<td>210 kg</td>
<td>160 m³/h</td>
</tr>
<tr>
<td>CX 4.0</td>
<td>4.0 kW</td>
<td>9.6 A</td>
<td>1.460 mm</td>
<td>1.500 mm</td>
<td>3.400 mm</td>
<td>550 mm</td>
<td>220 kg</td>
<td>200 m³/h</td>
</tr>
<tr>
<td>CX 5.5</td>
<td>5.5 kW</td>
<td>12.7 A</td>
<td>965 mm</td>
<td>1.800 mm</td>
<td>4.100 mm</td>
<td>600 mm</td>
<td>360 kg</td>
<td>250 m³/h</td>
</tr>
<tr>
<td>CX 7.5</td>
<td>7.5 kW</td>
<td>15.8 A</td>
<td>975 mm</td>
<td>1.800 mm</td>
<td>4.100 mm</td>
<td>600 mm</td>
<td>380 kg</td>
<td>335 m³/h</td>
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<tr>
<td>CX 11.0</td>
<td>11.0 kW</td>
<td>22.8 A</td>
<td>980 mm</td>
<td>1.800 mm</td>
<td>6.200 mm</td>
<td>600 mm</td>
<td>540 kg</td>
<td>480 m³/h</td>
</tr>
<tr>
<td>CX 15.0</td>
<td>15.0 kW</td>
<td>32.5 A</td>
<td>975 mm</td>
<td>1.800 mm</td>
<td>6.200 mm</td>
<td>600 mm</td>
<td>610 kg</td>
<td>650 m³/h</td>
</tr>
</tbody>
</table>

Larger sizes up to 30.0 kW on request.

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

Subject to change!
CENTROX Aerator

(type: CX)
(with suction pipe)

ac-motor
base plate
frame
flotation tank
suction pipe
diffuser
impeller
frame
base plate
flotation tank

center
water level

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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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