Manual submerged floating aerator AQUA 8

Floating surface aerator with submerged motor for the aeration and agitation of wastewater in sewage-treatment plants based on the activated sludge process.

AQUA 8 Version 03/2016

General and Safety Information

The AQUA 8 surface aerator has been developed for the aeration and agitation of wastewater in wastewater treatment plants based on the activated sludge process. The machine is suitable for mechanically pretreated, domestic wastewater and commercial wastewater, so far as it is comparable with domestic wastewater, which are free of solid and fibrous matter. Any other use is not allowed and leads to the loss of the guarantee and liability. The aerator may not run dry.

Changes in the device or the opening of the engine part are prohibited. The aerator may never be pulled, transported or fastened at the connecting cable. Avoid absolutely abrasions and defects in the connecting lead. Do not operate any equipment that has a damaged connecting line / connection cable or plug, which indicates a faulty function, has been dropped or has been damaged in any way.

Only the manufacturer or an authorised technician may repair defective engines. Moreover, only original spare parts may be used. All other changes in the device lead to the loss of the guarantee claims.

With the intended employment there are no hazards emanating from the equipment. Nationally applicable regulations as well as technical data are to be observed.

Explanation of the warnings used:


Attention!


Hazard due to rotating parts


Hazard due to electrical voltage

Configuration characteristics

- Agitation and aeration using only one unit
- Oxygen input for the wastewater inflow of 125 PT
- Pre-treatment in a settling facility required
- Process easy on activated sludge flocs
- Maximum surface 7.5m², maximum tank diagonal 3.5m
- Minimum water depth 1m, maximum water depth 2.5m
- Separable float for ø 600mm tank openings
- Motor with propeller individually removable
- Single phase motor for 230V, 50/60Hz with condenser
- Motor protection class IP68
- Motor insulation class F
- Motor completely submerged, thus even ambient conditions
- All components made from V2A or PE
- 15m connection cable with 5m protective hose
- High energy efficiency
- Simple handling
- Low maintenance

Operating conditions

A waste water calculation will be recommended for optimised and successful employment! Ideally the inflowing wastewater has the following quality parameters:

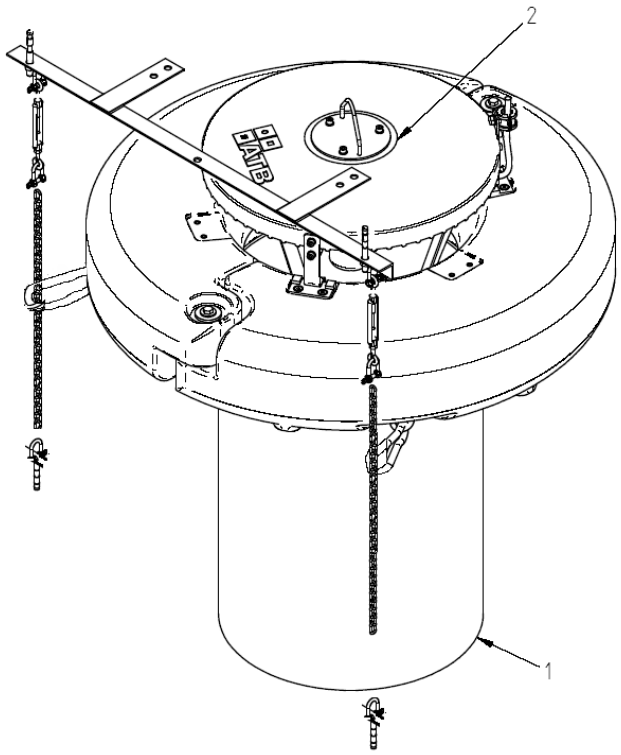
- BOD_5: 150 mg 0_2 /l to 500 mg 0_2 /l
- COD: 300 mg 0_2 /l to 1 000 mg 0_2 /l
- SS: 200 mg/l to 700 mg/l
- KN: 25 mg/l to 100 mg/l
- NH_4-N: 22 mg/l to 80 mg/l
- Total phosphorus: 5 mg/l to 20 mg/l;
- pH 6-8
- Electrical conductivity < 2.000 µS/cm
- Waste water temperature maximum 30°C

If at least one parameter lies outside the aforementioned concentration limits, it is imperative that the technical clarification calculation is rechecked with consultation with our specialists!

Installation Instruction

The aeration unit consists of a separable float and the motor unit with propeller. All materials used are made from V2A high-grade steel or plastic and are thus suitable for wastewater.

For the installation in tanks with an opening diameter less than 800mm the float unit must be separated by removing one of the float-fixations and should be re-assembled inside the tank. The aggregate is suitable for the installation in tanks with openings of at least 600mm. We supply both halves of the floating unit ready assembled to the customer. All screws must be retightened during the assembly.



Following this, the intake tube is to be screwed with the floating pontoon to a single unit. In addition the pontoon is turned and the PE pipe is fixed by using the angle brackets on the pontoon. Use the suitable thread applications in the pontoon and the boreholes in the PE pipe.

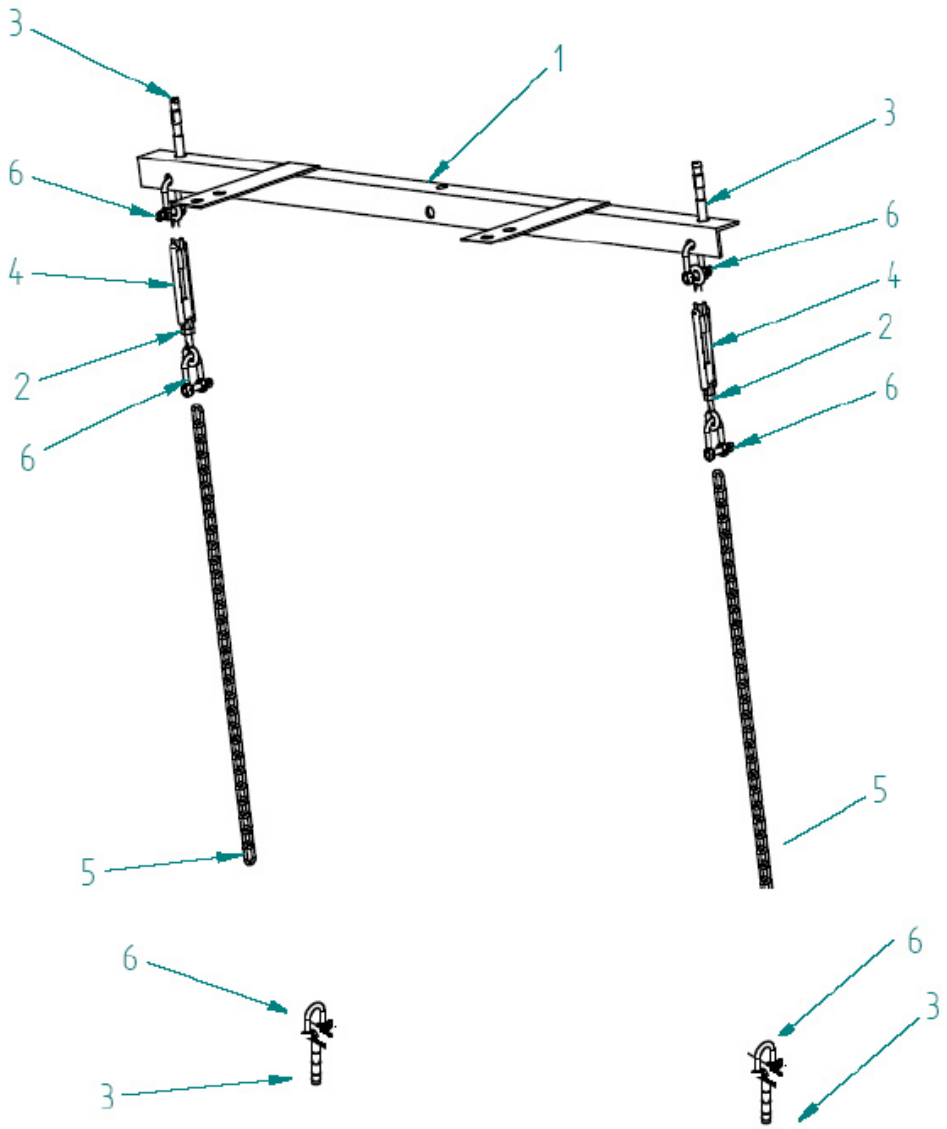
Before the pontoon is positioned check the fit and the security of the ring nuts and, if necessary, tighten the locking nuts.

The engine part with the propeller is not connected with the floating pontoon firmly and is removable separately for servicing purposes.

Secure the cross-brace (1) with the heavy-duty dowel (3) in the area of the tank opening. With this, careful attention is to be paid that the anchoring chains (5) run vertical and the pontoon can move up and down unhindered in the centre of the tank.

Screw out the turnbuckle (4) to the maximum length and fix it with the shackle (6) to the cross-brace. Let the chain hang freely and fix it on the bottom of the tank by using a heavy-duty dowel (3) and a ring-nut. Determine the required length of the chain and, if necessary, shorten to the required length. Caution! The non-fastened end of the chains could be sucked in to the propeller.

After the chain is tensioned by the turnbuckle and fixed by the conternut (2) also secure the pontoon using spring hooks and place the motor part from above into the slots provided. The motor is not screwed in place.



Commissioning

A professional check before introduction must make sure that the demanded electric preventive measures exist. A Residual-Current-Device (RCD) with a releasing nominal current to 30 mA is prescribed. A pre-fuse of 6A is recommended.

The tension given on the type plate must agree with the power supply voltage on site. The electrical connection must correspond to the wiring diagram from the documents to the control unit.

The aerator may not run dry. The tank has to be filled up to the minimal water level with water before commissioning.

Before switching the power on, be sure that no people can be endangered by the rotating propeller and which the propeller can work unhindered.

The motor is a single-phase alternating current motor with integrated operating capacitor. The electrical connection of the three wired motor cable with phase (L), neutral (N) and potential earth (PE) should be carried out by a skilled tradesman. The nominal current consumption of the motor is approx. 4.8 – 5.2A. Please check the correct current consumption of the submerged motor in manual operation (e. g. with proControl in manual mode).

Maintenance

The aerator / agitator AQUA 8 works on low maintenance. Within the scope of a servicing of the whole arrangement merely the device is to be cleaned and to examine for damages. Moreover it is necessary to take the device from the tank.

Attention – first disconnect the plant from power supply! Aerator may not be pulled out on the motor cable. Use the enclosed chain with hook (threading in caching ear).

At least once a year the smooth run of the propeller and the state of the thick flange in the engine is to be checked.

After cleaning the motor the current consumption should be checked in manual operation (4.8 – 5.2A)

With problems you get in contact please with us.

You find additional servicing instructions under the chapter “service and maintenance” in your manual documents to the AQUAmax® professional XL

Servicing instructions to remove the propeller of the AQUA 8

Requested tools:
Water-pump-pliers, 10mm wrench, 5mm hexagonal socket-key

1. Remove the retaining plates with the 10mm wrench

2. Remove the hexagonal screw with the 5mm hex-socket-key

3. Hold on the axle with the water-pump-pliers and unfasten the propeller manually against the clockwise

4. Move the protection cap upwards

5. Now the axis and the bearing is to be cleaned carefully from pollution if required

Motorpart with distribution device version 03/2016

Technical Data

Voltage	230 V
Frequency	50/60 Hz
Power input P1	1,1 kW
Power output P2	0,75 kW
Current consumption I_N	5,2 A
Cosφ	0,96
RPM	1400 U/min
Protection class	IP68
Isolation class	F
αOC	1,3 kg/h
Ø pontoon	800 mm
Total height	850 mm
Total weight	35 kg
Weight motorpart	20 kg
Weight pontoon	15 kg

Tank Data

Max. surface area	7,5 m²
Max. aspect ratio	2 zu 1
Max. diagonal	3,5 m
Min. depth of water	0,8 m
Max. depth of water	2,5 m
(Water-) temperature	5 – 30°C

Article number

floating pontoon	00040014
distribution device	50000032
installation kit	50000044
motor with propeller	85950009
propeller for AQUA 8	64000034

EC Conformity Declaration
In the purpose of the machinery directive
89/392/EEC, annex IIA

The manufacturer:

ATB Umwelttechnologien GmbH
Südstr. 2
D-32457 Porta Westfalica

Hereby declares the product described on top

Floating aerator / agitator type name **AQUA 8** meets the safety and health requirements of the following EC directives

EC Machinery Directive	89/392/EEC 91/368/EEC 93/44/EEC 93/68/EEC
EC Low Voltage Directive	72/23/EEC
Applied harmonised standard specifications:	EN 292 T1+T2 EN 60204 T1

Design changes, which have effects on the technical data given in the operating instructions and on the intended use, that is essentially modify the machine, make the Conformity Declaration invalid!

Porta Westfalica, 17.02.2009

CE

Markus Baumann (Managing Director)