

Product description

- Direct drive high efficiency surface aerator with optimized centrifugal impeller combined with direct drive high efficiency mixer with optimized axial impeller
- Micro bubble formation due to optimal transfer of kinetic energy into the water surface
- High oxygen dispersion over large surfaces, optimized mixing capacity even in deep basins
- Intensive and high turbulence downdraft mixing
- Ideal mixing pattern, leaving no dead spots or areas in the tank volume

Applications

- SBR plants
- Activated sludge plants
- Aerated lagoons and basins

Advantages

- Nitrification and denitrification provided in 1 unit
- Ideal for deep tanks and varying water levels
- Extended unit lifetime
- No gearbox, very limited maintenance required
- Resistant to coarse materials, no clogging by fibres
- Motor IP56 and covered motor ventilation for the aerator and IP 68 for the mixer
- High efficiency IE3 motors for the aerator
- High oxygen transfer in waste water due to high α -factor
- Intensive mixing at minimum W/m^3
- Low aerosol emissions
- No baffling in the tank needed, no surging
- Simple and quick installation
- Low investment cost for the complete installation

Materials

- Aerator motor up to 30 kW: epoxy coated aluminium (from 37 kW: epoxy coated cast iron)
- Mixer motor: cast iron
- Float, cone, motor flange support: AISI304
- Impeller: AISI304 (other materials on request)

Accessories

- Aerator motor with heater
- Mooring cables and springs
- Mooring anchors or piles
- Mooring posts
- Cable floats
- Leak detection relay for the mixer



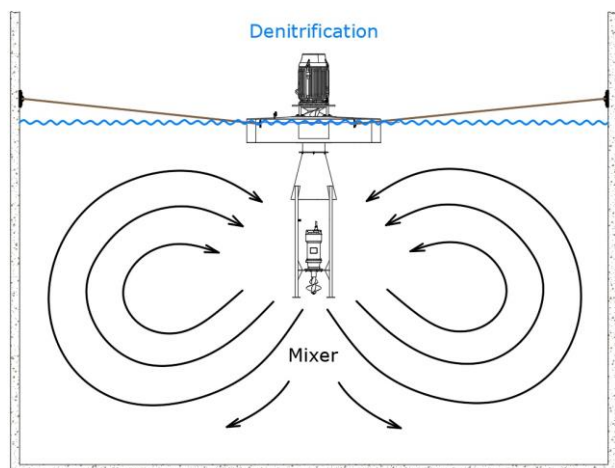
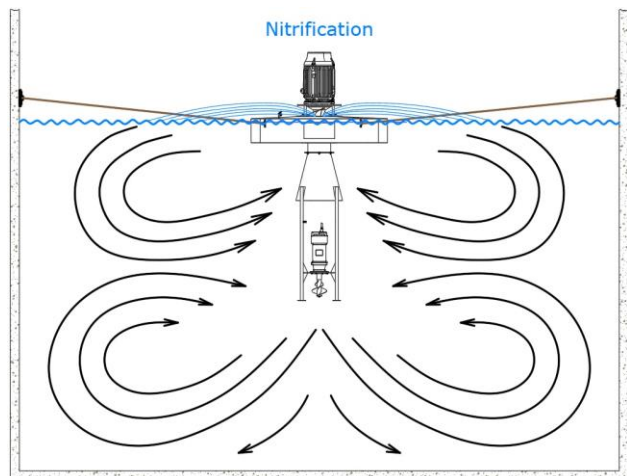
Working principle

The HSA-HSM combines a surface aerator and a vertical agitator in one unit. Both motors (HSA as aerator and HSM as mixer) can be switched on/off independently of each other. This makes the device particularly suitable for SBR applications with nitrification and denitrification. Both parts (or only the aerator) are running in the nitrification phase. During the denitrification phase, only the mixer is working.

Also this combination can be very useful for very deep basins. The mixer supports the aerator when the basin is too deep for the aerator to mix the tank.

The HSA aspirates the water from the bottom and sprays it back on the surface. The spray is horizontally injected into the water surface over 360° and the turbulence creates micro bubbles which are pushed downwards. The result is maximum oxygen transfer efficiency. The flow pattern generates a perfect oxygen dispersion and full homogenization even on large surfaces.

The HSM generates a vertically downward directed axial flow. The accelerated water hits the tank floor and is deflected to the side walls. Along the walls a vertical upward directed flow is induced. An ideal mixing pattern is created, leaving no dead spots or areas in the tank. With positioning of the mixer in or close to the centre of the tank an ideal power-to-volume ratio can be achieved. Hence installed power can be reduced, leading to low energy consumption.



Technical Data

Due to the large number of possible combinations of aerator and mixer, each unit has to be individually designed and manufactured to the customers' specifications and according to the application.

For general electrical and process data of the aerator please refer to the data sheet of our HSA.

Mixers are available either in 4 or 6 poles version from 750 W to 15 kW.

The power supply is 400 V / 50 Hz (other voltage or frequency on request).

The final technical data sheet will be send together with the quotation.