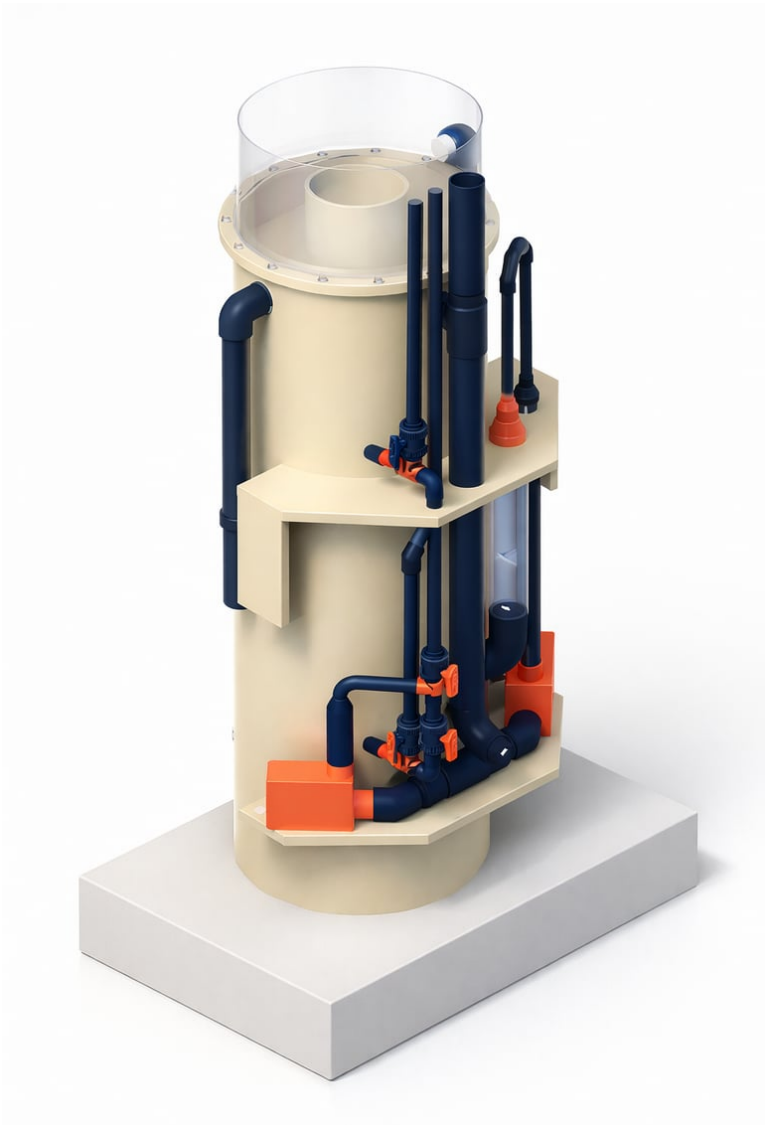
ChimanaTech



RAS-One

The core of RAS in a single device

Technical information

RAS-One combines CO_2 stripping, ammonia removal, oxygenation and fine solids removal in one integrated unit. RAS-One is designed as modules that can be deployed in applications ranging from research and hatcheries to full commercial farms.

How it works

- Water enters at the top of the vessel and is stripped of CO_2 with diffused aeration
- Water flows down a biomedia bed, where nitrification occurs
- At the bottom, water enters a second chamber where oxygenation is achieved with a down-flow oxygen saturator
- Water exits through an overflow at the top, by gravity

Additional functions

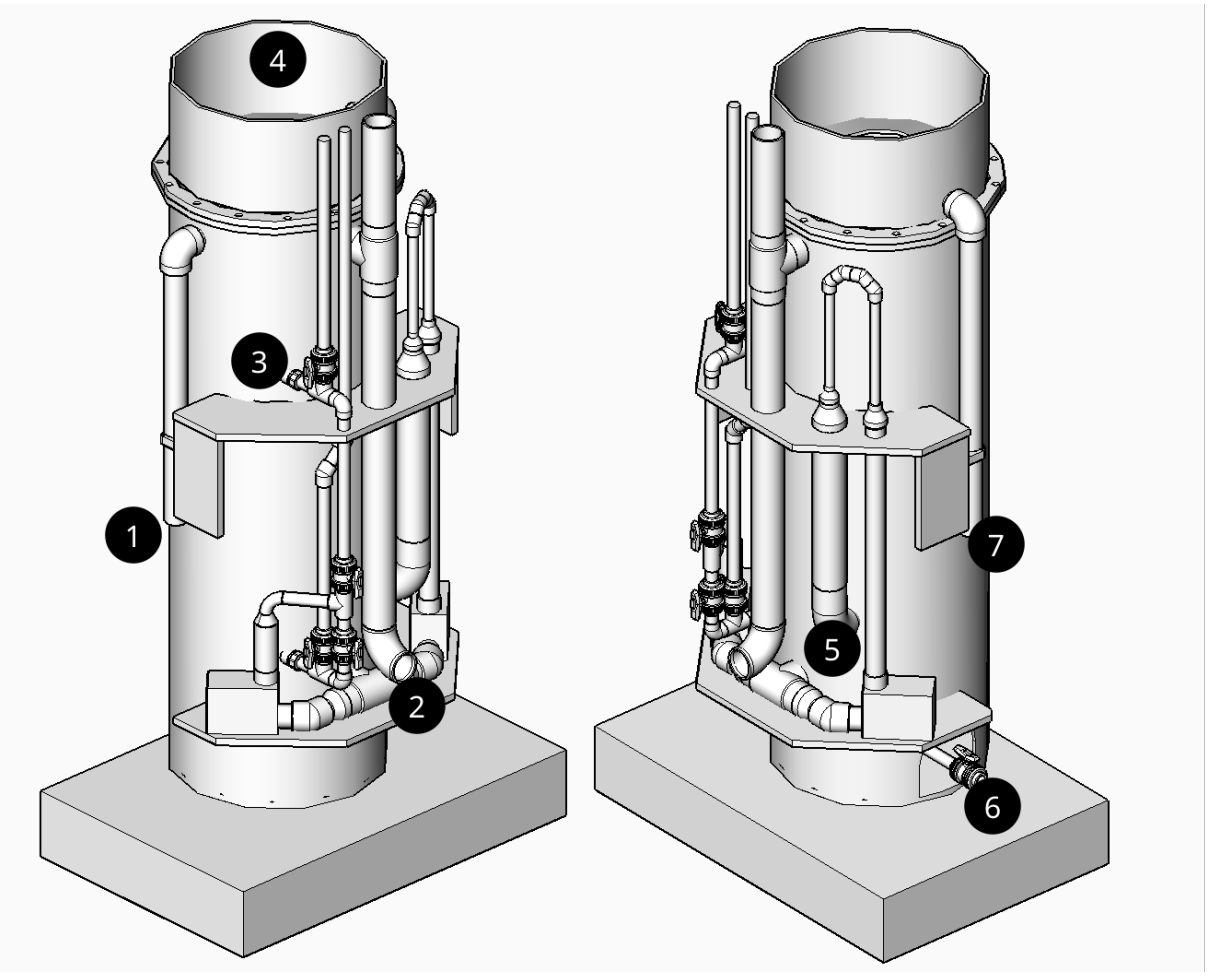
- Protein skimming: intense aeration for CO_2 stripping may produce foam. Excess foam escapes through the crown outlet at the top. Excess foam can also be pushed out by increasing the water level in the system.
- Microparticle filtration: depending on user preference, the biomedia can be stirred gently for a moving bed bioreactor function, or left still as a fixed bed biofilter. In fixed bed biofilter mode, the biofilter traps fine solids. Periodic stirring of the media bed released trapped solids which are flushed out of the system via the drain port.
- Optional ozonator (1g/h capacity) can be installed for additional polishing. *RAS-One requires a mechanical filtration step upstream e.g. sand filters, bead filters or drum filters + pump sump.*

Specs - RAS-One S1

- Capacity: **1 kg feed per day** (cold seawater)
- Flow: up to **6 m³/h**
- Material: PP or PE, some parts in PVC
- Colors: beige or black. Custom colors on request
- Transport dimensions: 800mm x 1200mm x 2000mm
- Installed dimensions: (on pallet, with foam skimmer installed): 800mm x1200x 2400mm
- Approx weight: 200kg

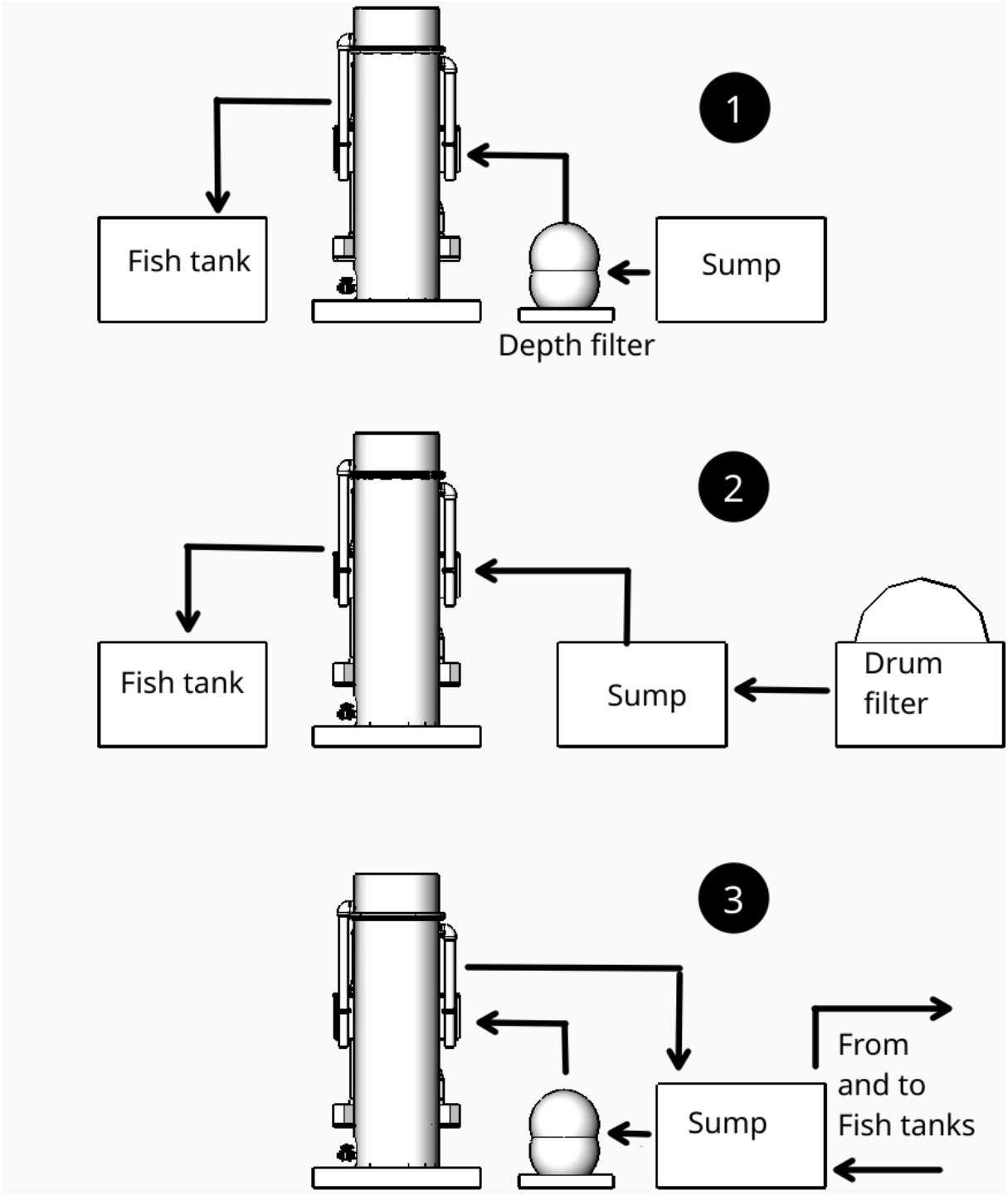
Features

- Inlet and outlets in PP pipe for connection with rubber sockets. Other connections (.i.e flanges) available. PVC pipe ends also available
- Drain valve d32mm PVC ball valve
- Foam crown in PP or transparent PVC
- The saturator uses a pressurized oxygen source (2bar), if lower pressure systems are used (.i.e. medical oxygen concentrators) an optional venturi is installed
- The saturator can transfer ozone in addition to oxygen
- Full HDPE construction possible for outdoor systems



1) Inlet d63mm
2) Outlet d90mm
3) Degassing nozzle
4) Foam crown
5) Oxygen saturator
6) Sludge drain
7) Overflow and foam outlet

Installation suggestions



(1) Hatchery setups with bead filters or sand filters (recommended), (2) Drum filter setups, (3) Looping on a pump sump in cases where pumped flow is preferred to gravity flow

In the package

- RAS-One S1 reactor, complete with internals, aerators and biomedia
- Speed-controlled CO_2 stripping and oxygenation process pumps with speed controllers mounted on the reactor body
- Foam crown
- Packed in one plastic, hygienic Europallet which becomes part of the installation.

Options

- Mechanical pre-filtration solution (sand filters, AFM filters, bead filters, drum filters)
- UV filter solution (before or after reactor)
- Turnkey system including fish tanks‘
- Automation, monitoring‘
- Ozone addition
- Electrical panel

Contact

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