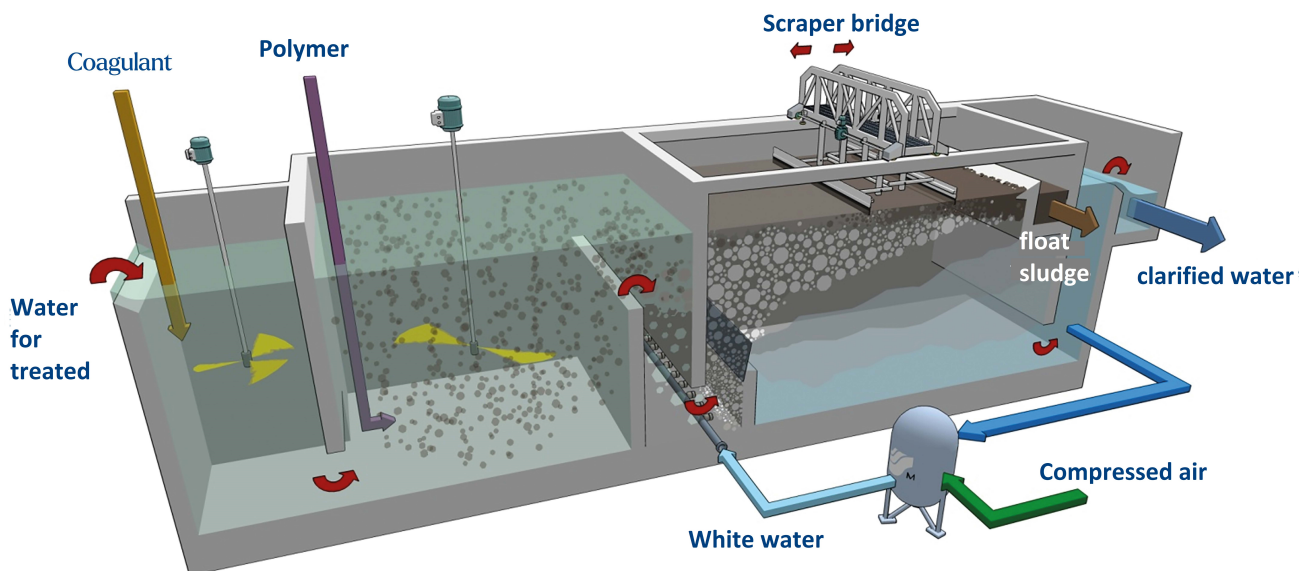


# FLOTATION AÉROFLUX<sup>®</sup>

## Process for removing organic matter and algae during the clarification stage

**DID YOU KNOW?** 80% of impurities (organic matter) are removed during the clarification stage. For every 1,000 liters of treated water, 2 liters of sludge are discharged.



AEROFLUX<sup>®</sup> technology is a process based on the principle of Dissolved Air Flotation (DAF) used for the clarification of drinking water following coagulation-flocculation.

The process involves lightening the floc with very fine air bubbles, causing it to float to the surface and form a thin layer of sludge that is periodically scraped off for sludge removal. These fine air bubbles are generated by injecting air into a pressure vessel partially filled with water (at 5-6 bars of pressure). This air-water mixture, known as white water, is channeled out of the vessel and released into the flotation unit where the previously flocculated water enters, through injection nozzles.

### APPLICATION AREAS

- Removal of algae in surface water such as highly eutrophic reservoirs and rivers.
- Decolorization of low-suspended solids but highly turbid peat water due to its coloration.

# FLOTTATION AÉROFLUX®

## Process for removing organic matter and algae during the clarification stage

### OPERATION

- Coagulation causes fine suspended particles and colloids to agglomerate into flocs.
- Flocculation facilitates the formation of larger flocs by adding a polymer. Flotation is then made possible by generating white water (air-water mixture) that produces fine air bubbles, which carry the flocs to the surface for flotation.
- The flocs are scraped off, and clarified water is collected through an overflow.



*A process ensuring impeccable water quality.*

- **Low water losses in this process:** When sludge is removed by scraping, water losses are minimal, as low as 0.2% (on average, 0.5%). When sludge is removed by lifting from the water surface, water loss can reach 1.5%.
- **Stable process operation**, even during algal blooms.
- **Capability to handle frequent plant shutdowns and restarts** without compromising treatment quality.

### PERFORMANCE

The advantages of this process include:

- **Relatively small footprint**, comparable to EQUIFLUX® type lamellar settler, with velocities of up to 10 m/h.
- Effective removal of organic matter and algae.
- **Relatively high sludge concentration** (10-25 g/L) when removed by scraping. These significant concentrations indeed allow bypassing the construction of a thickening facility downstream of the clarification.

### REFERENCE

Arguenon-Penthièvre, Bringall, Longeron, Graon, Saint-Briec, Kerné Uhel, Bois Joli, Saint-Lô



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