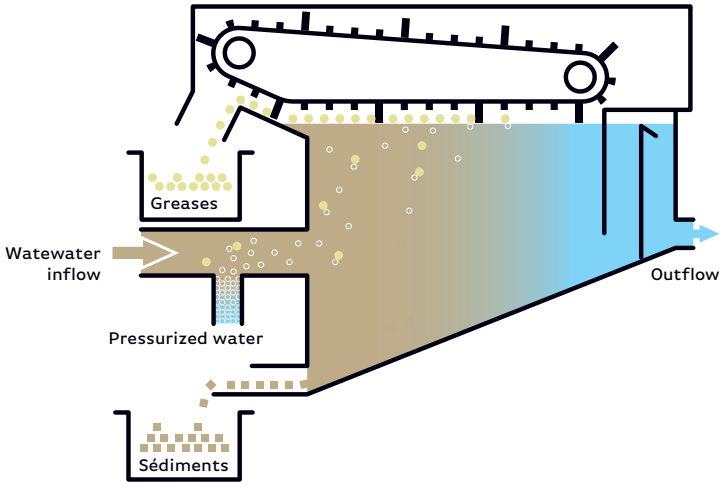
Serinol
Water treatment solutions

www.serinol.com

DISSOLVED AIR FLOTATION CYLINDRICAL & RECTANGULAR

SERDAF

The **SERDAF** dissolved air flotation unit is a wastewater treatment equipment enabling pollution reduction by injecting microbubbles of air into the effluent. By upward movement, these microbubbles drive the particles contained in the effluent to the surface, where they are evacuated by a scraping device.



Principle

Flotation is a separation process consisting in the generation and injection of microbubbles of gas into a liquid containing particles: bubbles attach to the particles and, like buoys, drag them to the surface to form a foam which is scraped off.

The principle is simple. Putting it in practise much less.

We started to study this process in 1991 to finally design a unit that now meets, as far as possible the expectations in terms of:

- Separation efficiency,
- Easy, minimal and safe operator work,
- Durability of the various components,
- and of course by trying to offer it at an affordable price.

This was obtained after a great deal of research and testing on all the stages of the process:

- Air dissolution in water, then **precipitation**,
- The search for the most suitable components, and the pressurization pump in particular,
- The bubbles / particles contact and their fixation,
- The hydrodynamics of circulation in the flotation tank,
- The system optimization and the extraction sequences of the different separate phases.

Our range of flotation units SERDAF includes the following models:

- Cylindrical **CY,**
- Rectangular **R** with sediment reception hoppers,
- Rectangular with Archimedes' screw extraction of sediment **RS**
- Rectangular with lamellar pack **FP.**

All our models are equipped with the air dissolution system and micro bubble generator **SERKIT assembly**.

This **SERKIT** can be sold separately to transform any static separator, equipped with a surface scraper and a bottom purge, into a dissolved air flotator.

These kits **SERKIT** generate air microbubbles of **10 and 100 microns in diameter** that cling to the particles contained in the water to be treated, to drive them to the surface.

They are designed to dissolve as much air as possible in the water and form bubbles as small as possible, while requiring minimum maintenance. A pressurization pump sucks up part of the clean water leaving the flotation unit. Precisely dosed air is injected at the pump outlet. The rise in pressure causes the air to dissolve in the water. The flow passes through a reservoir in which the dissolution continues and where the excess air is purged.

The pressurized water is sent to the raw water inlet line in the flotation unit, where sudden depressurization generates what is known as "white water". This milky appearance is the result of the appearance of myriads of microbubbles which allow the separation of the particles.

The choice of the model, the sizing of the flotation unit and the pressurization kit are made by our engineers in agreement with the customer, according to the flow rate of the water to be treated, the nature and the load of suspended solids and the BOD (Biological Demand in Oxygen).

Options

Footbridge
Footbridge with guardrail and staircase or ladder.

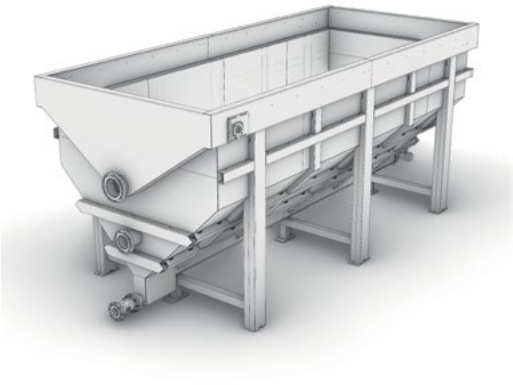
Scrapers
Double scraper capacity for loaded effluents.

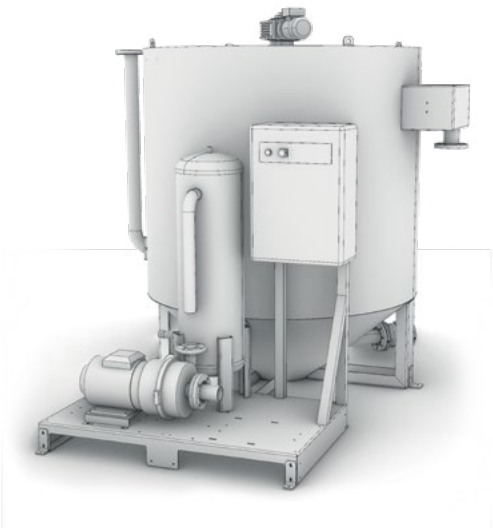
Preparation plant
Polymer preparation plant.

Lamellar pack
For the **SERDAF FP** model, the lamellar pack is of the embossed polypropylene type.

Sieve
SERTAM rotary sieve at the inlet with piping for connection to the float.

Construction
316L stainless steel construction. Pneumatically operated valve for draining sediment. Electric panel.





Serinol
Water treatment solutions

contact@serinol.com
+33 (0)4 68 76 52 52

65, avenue Ernest-Léonard
11150 BRAM FRANCE

Online product details
www.serinol.com