SERINOL
S.A.S
EQUIPMENT MANUFACTURER
Waste Water Treatment

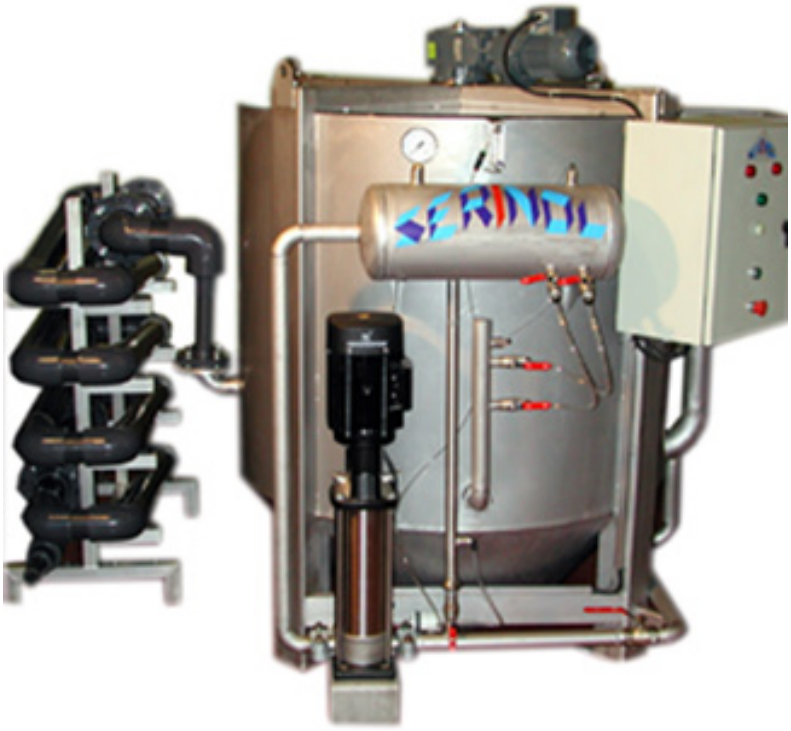
N°11

Cylindrical dissolved air flotation unit

FLOT CY

Our cylindrical flotation units **FLOT CY** have the same casings as our grease removers **DAR**: the turbines of diffusion of the bubbles of air were replaced by the systems of pressurisation identical to those of our parallelepipedic flotation units **FLOT T**.

This configuration allows to very appreciably lower the prices compared to the models **FLOT T** and to strongly increase the outputs of degreasing compared with the **DAR**.



PRINCIPLE

Some air is dissolved under pressure in a water current. This pressurised water is injected into the apparatus right under the input of the raw water to treat. In a zone of mixture provided for this purpose, the micro bubbles of air (20 to 50 microns) generated by the expansion, are stuck to the particles and make them float towards the surface, from where foam is scraped towards a chute of evacuation.

This technique allows in certain cases lowering of more than 90% on non-dissolved greases, 40% on the BOD and 60% on the suspended matters.

DESIGN FEATURE

From a hydrodynamic point of view the apparatus is divided into 3 zones:

- A zone with strong turbulence delimited by a mini clifford, in which pressurized water is mixed with raw water to favour the contacts bubbles/drops of grease or matters to float. The strong recirculation around the clifford, which happens in the grease removers and which is induced by "the chimney effect" resulting from lowering of apparent density in the central part, in this case is almost cancelled by the installation of baffles in the low part.
- A zone with laminar flow in the annular part, where a lamellar pack limits currents of convection.
- And finally, a higher "dead" zone, delimited by a grid of surface in which the floating matters accumulate, and where the passage of the scrapers does not disturb the lower zone.

Our apparatuses are calculated so that the descentional speed of the current in the annular zone is about 4 m/h (as it in our parallelepiped flotation units FLOT T). In the lower part of the ring, a ring-shaped collector recovers the purified water.

The sediments fall at the bottom of the cone and are evacuated by the opening of the bottom valve.

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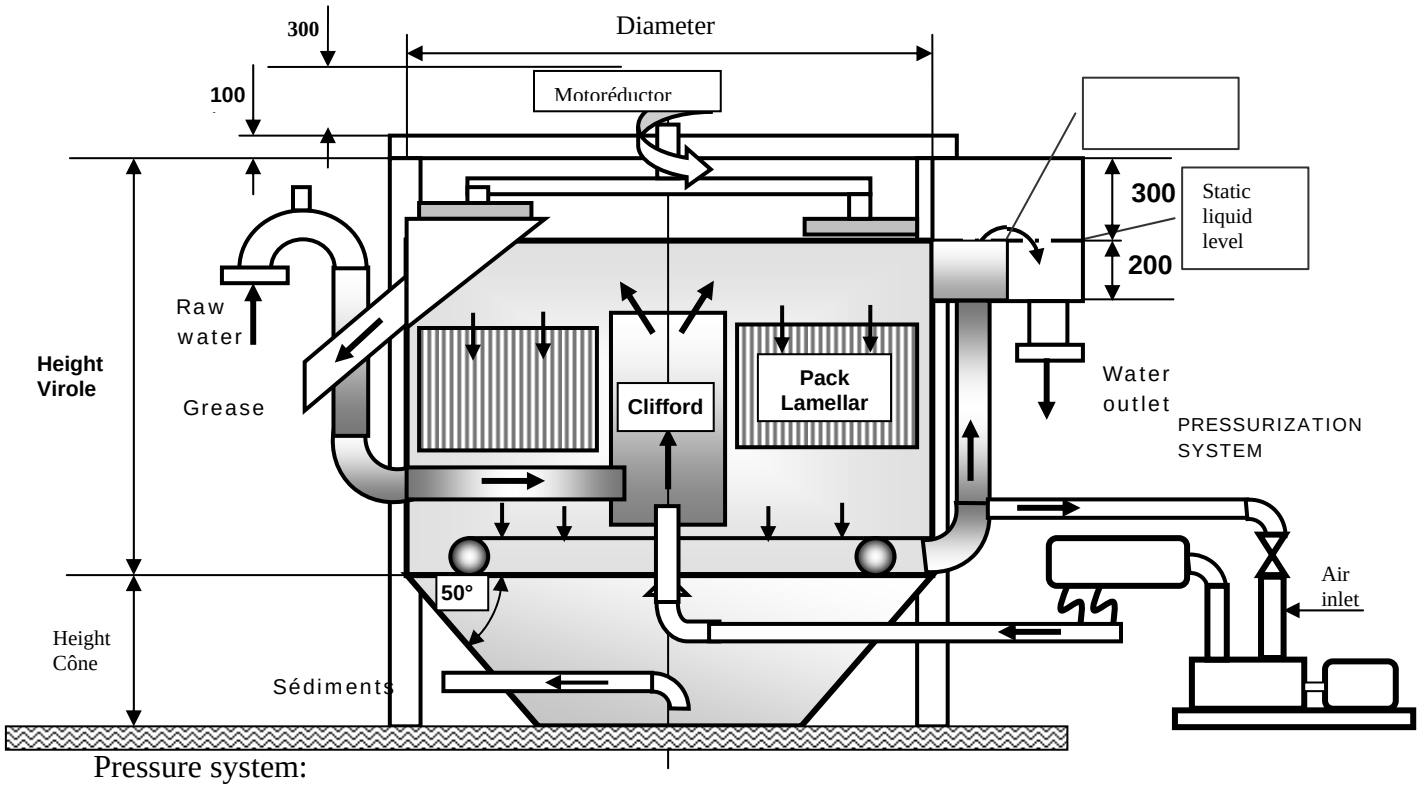


Pressure system:

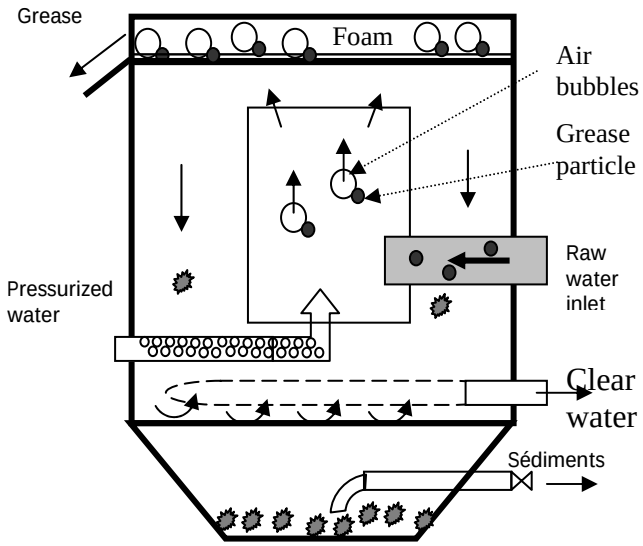
Controlled injection of air at the entry of a stainless steel multicellular pump which raises the pressure towards 6 or 8 bars, and which reverses in a tube of pressurisation. The tube is provided with valves to purge the excess of air and to inject the water pressurised in the flotation unit.

Foam scraping system:

It includes a motor reducer carrying two articulated scrapers.

Electrical panel:

- With elements for the control and protection of the motors
- Adjustable temporisation for the functioning of the scrapers.



CONSTRUCTION

The whole unit is built out of 304 stainless steel (standard model).

Optional Extra: stainless steel 316 L

OPTIONAL EXTRA

Footbridge with guardrail and ladder

Flocculation tube.

CAPACITY & DIMENSIONS

	CY 4	CY 8	CY 12	CY 15	CY 20	CY 25	CY 30	CY 40	CY 50
Flow rate m^3/h	4	8	12	15	20	25	30	40	50
Diamèter mm	1200	1700	2000	2200	2480	2750	2900	3500	4000
Liquid volum m3	1,17	2,9	4,9	6,5	7,8	9,7	10,6	16,2	21,5
Total height	1400	2050	2200	2200	2200	2200	2200	2200	2200

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