

SLC CIRCULAR L A M E L L A S E P A R A T O R S

WATER IS PRECIOUS WE KNOW HOW TO LOOK AFTER IT
WE OFFER INNOVATIVE WATER TREATMENT SOLUTIONS

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CIM Engineering
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SLC circular lamella settling tanks

PATENTED by CIEM IMPIANTI

Materials

Circular Lamella Separator PATENTED by

CIEM IMPIANTI
Ingegneria per l'ambiente



Frame: STAINLESS STEEL/SUPER DUPLEX
Lamellas: GFRP/STAINLESS STEEL/SUPER DUPLEX

The only cylindrical lamella separator on the market that can be developed in line with the environment where it will be used and the physical and chemical characteristics of the water to be treated. Our wide range of materials means we can accommodate many industrial uses, even where highly aggressive water is concerned.

The materials used result in a dense module (specific weight = 5 kg/dm³), ensuring a high level of structural strength.



Tank

PRFV



The tank is built entirely out of GFRP and ensures substantial chemical and physical resistance when treating any type of wastewater. The following information is required to correctly size the tank:

- Liquid operating temperature;
- Specific weight;
- Water composition.

METAL



The tank can be built entirely out of stainless steel, super duplex or painted carbon steel. We offer customised layouts to ensure compliance with where it will be used.

Tanks made from GFRP

Characteristics

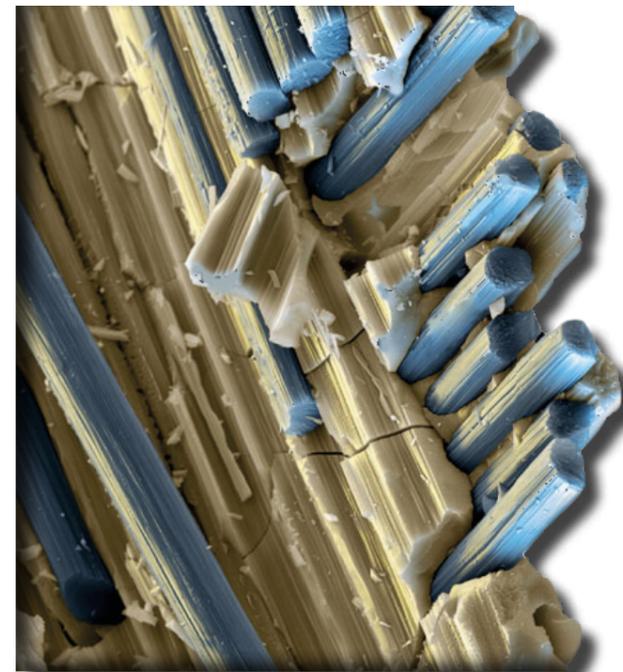
Tanks made from GFRP

GFRP is a family of materials with exceptional characteristics that are useful in industries such as storage and the processing of **highly corrosive fluids**.

It is obtained by combining two distinct elements, including **resins** (providing the structure with chemical, thermal and electrical qualities) and **glass fibres** (for greater mechanical strength).

Dual internal barrier

The chemical-resistant barrier is achieved by a thin layer of C-glass and vinylester resin with high chemical resistance.



Bottoms

The bottoms are created by overlaying the chemical-resistant layer with cross-woven glass fibres known as mats, which provide **multi-directional mechanical strength**. The bottoms can be conical or curved

Structures

The structure is achieved by winding contiguous crossed strands with a high glass content (known as filament wiring), following angles that are pre-calculated in relation to the bottom. This allows them to benefit from a **high level of mechanical strength**.

External barrier

There is also a chemical-resistant barrier on the outside, made from C and E-glasses impregnated with resins that ensure it is **weather-resistant**. Available in RAL colours.

- **Dual internal barrier**
- **Conical and curved bottoms**
- **Structure with mechanical strength**
- **Chemical-resistant barrier**
- **Minimum cost**
- **High resistance to corrosion**
- **Good service life**
- **Electrical insulation**
- **Thermal insulation**
- **Not temperature-sensitive**

SLC separator characteristics

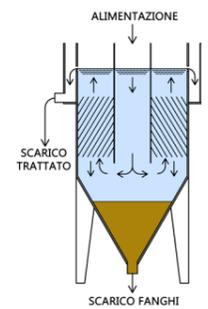
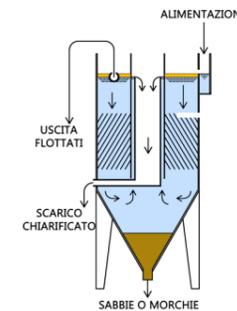
Flow

In our settling tanks, the flow is radially distributed within the cylindrical tank. The water therefore follows the shortest, most natural route to enter the lamella separator. The radial structure of the circular separator means you can avoid sudden changes in trajectory resulting in turbulence, which could increase the likelihood of the fluid choosing pathways that would be detrimental to effective clarification. This allows the flow to be evenly distributed across the entire separation surface, without requiring deflectors or other structures that 'force' the water to enter the pack.

The circular lamella separator with corrugated lamellas can be used in 4 flow modes:

Ascending flow

The lamella separator's equivalent surface area is used exclusively for the sedimentation of the suspended solid particles. Due to the enlargement of the particles, the ascending flow heightens the effects of flocculation, promoting sedimentation.

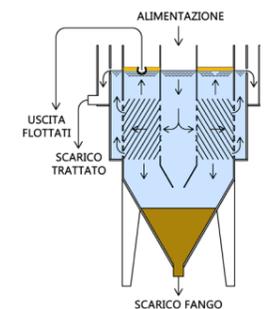
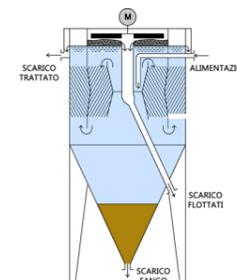


Descending flow

The lamella separator's equivalent surface area is used exclusively for flotation or oil removal. Due to the increase in the particles' size, the descending flow heightens the effects of coalescence, promoting oil removal/flotation.

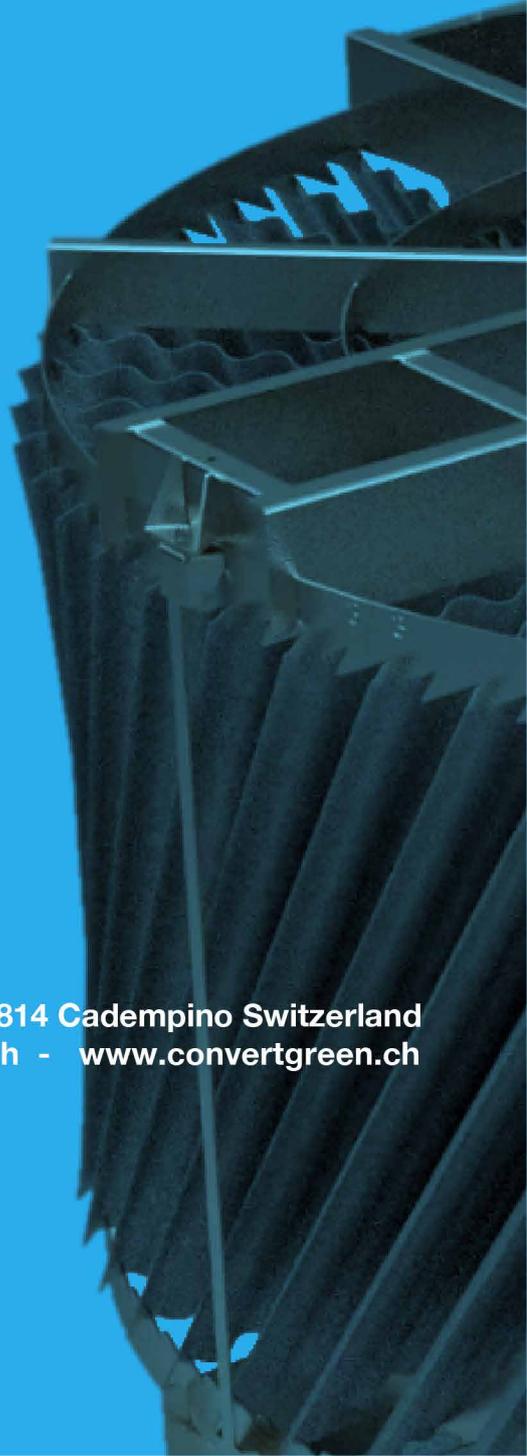
Horizontal flow

The equivalent surface area of the lamella separator is simultaneously used for both sedimentation and oil removal. The effects of coalescence and flocculation are present, but only to a small degree. The horizontal flow lamella pack can be used with wastewater where particles are already formed at the settling tank inlet.



Ascending/descending flow in series

The lamella separator has two sections in series that provide the equivalent surface area for both the flotation and sedimentation stages, or in the reverse order. Each section features an equivalent surface area entirely dedicated to the relevant stage.



**Convert
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Convert Green Sagl - Via al Mulino, 22 CH-6814 Cadempino Switzerland
T +41 79 601 57 50 - info@convertgreen.ch - www.convertgreen.ch

CIEM IMPIANTI
Ingegneria per l'ambiente

<http://www.sedimentatorilamellari.it/>
<http://www.ciemimpianti.com/>