High performance lamella separators

Lamella separators are a well known pre-treatment technique and can be found in many waste water treatment systems. They are renowned for their excellent separation performance and ease of use.

They are mainly used to treat waters containing easy settling materials. These contaminants can be separated by gravity, without any need of added energy.

In pre-treatment systems, these units are used as a means to separate solids or physical-chemical flocks from water flows.

Alternatively, lamella separators are also well suited to treat effluent flows from biological reactors to separate the biological sludge and replace classic clarifiers, due to their reduced size.
Novotec developed two specific types of lamella separators in order to comply with the specific needs of our customers.

Depending the water to be treated, a separator with “counter flow” or “cross flow” design lamella pack is chosen.

In case of the “cross flow” type separator, the waste water flows longitudinal through the pack. Due to the corrugated design of the lamellas, the water needs to travel a greater distance, optimising the decantation of the particles.

The “counter flow” system forces the water down and lets it rise back up through the pack. The angled plates create a laminar flow of the water, highly improving the separation efficiency of the unit.

The lamella packs greatly reduce the needed decantation surface, resulting in a compact unit compared to classic clarifiers.
How does it work?

The waste water is forced in the unit through a special inlet construction, designed to distribute the flow equally over the separator.

Water enters a "cross flow" unit on the inlet side and flows through the pack. The hydraulic design of the separator ensures a uniform and steady flow, causing optimal decantation. The treated water leaves the separator by the overflow construction.

In case of the "counter flow" separator, the water is guided over the length of the entire unit through a central conduit. The water flows from underneath through the package up to the surface, creating a laminar flow and undisturbed settling of the particles.

Both types of unit are fitted with one or more sludge cones to collect the sludge. Pneumatic valves are used to evacuate the collected sludge. In option, the unit can be fitted with a scraper system to evacuate any floating sludge.
LAMELLA SEPARATORS

- NLS-XF
- NLS-CF

Technical data

Capacity: 1 to 300 m³/h

Material construction: Stainless steel 304L of 316L or plastics (HD-PE of PP)

Components:
- Rectangular construction
- Distribution system influent
- Effluent compartment
- Bottom sludge valves
- Scraper system (option)
- Sludge tank + sludge pump (option)
- Effluent tank (option)
NOVOTEC LAMELLA SEPARATORS

Other characteristics

- No energy required
- Compact en pre-assembled
- Extensively tested in our workshop
- Easy to install and operate
- Little to no maintenance
- High performance, maximum removal of settling particles
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LAMELLA SEPARATORS

• NLS-XF
• NLS-CF

Applications

Pre-treatment: Recycling industry
Breweries
Vegetable industry
Potato industry
Industrial bakeries
Food industry
Mining industry
Concrete production

Post-treatment: After aerobic /anaerobic treatment
As sludge separation
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Lab and pilot tests

Novotec is capable of performing lab tests to determine settling rates of the particles in your waste water. Furthermore, our laboratory is equipped to perform additional coagulation/flocculation tests to ensure the optimal treatment is offered in accordance to the customers specific needs.

In addition, Novotec provides the customer with a pilot flotation plant to further test the performance of the system in real life situations.

Other products by Novotec NV

- **Physical treatment**
  - Static screens / drum screens / sand separators
  - Aerated grease skimmers / DAF flotations / lamella separators

- **Physical-chemical treatment**
  - Stirring and pipe flocculators / pH measurement
  - Dosing stations and polymer units

- **Biological treatment**
  - SBR / MBR / MMBR / SAF

- **Sludge treatment**
  - Drum thickeners / filter band presses / decanters

- **Accessories**
  - Pumping wells / flow measurement / storage tanks / commande modules with PLC, touch screen and remote control