

## Inclined Plate Lamella Clarifiers

The Pollution Control range of lamella Clarifiers are a robust tank construction, designed for easy installation as part of an Eco-SAF biological system or as stand-alone units in various Industries for the separation of solid particles from liquid using a small footprint area compared to standard Clarifiers.

### How it works?

The basic principle of the lamella Clarifier is to provide the maximum efficient settling surface for particles within a small footprint. The Lamella Clarifier has a series of inclined plates and is designed to handle suspensions with low concentration slurries and solid particles that exhibit free and independent settling before they enter the next stage of a process or discharged to a receiving water course. Laminar conditions are required to obtain a sharp separation between the settling solids and the liquid so that the upward velocity of the liquid is lower than the settling velocity of the finest solid matter. Since velocity is directly related to surface area the larger the surface (settling) area the better the separation. Compared to a conventional clarifier with a settling path of about 2-3 meters a lamella clarifier has a short settling path of 5-10cm. This allows for efficient settlement in a greatly reduced footprint.

- Effluent enters the Clarifier via the inlet pipe, entering the plates through the side openings.
- The liquid and solids are now separated. The liquid flows upwards, whereas the solids settle on the plates and slide down into the hopper.
- The sludge settles in the hopper prior to discharge through the sludge outlet.
- The clarified liquid leaves through the openings at the top and eventually to the outlet.
- The openings at the top will create a pressure drop across the Clarifier ensuring that flow is distributed uniformly between the plates and that the full area is used.
- Units are manufactured from steel or stainless steel for free standing installations on a level base.
- Flocculants and chemical pre-treatment available to aid settlement of very fine silts. Clays and colloidal particles

### Advantages

- Up to 90% reduction in space requirements when compared to a normal Clarifier.
- Up to 10m<sup>2</sup> of settling area per 1m<sup>2</sup> of footprint area.
- Continuous operation.
- No moving parts.
- Minimal operating and maintenance costs.
- Modular design for future expansions.
- Auto-Desludging available.
- Standard flange connections.
- Pipe flocculator or mixing tanks connect direct to inlet pipe.
- Retractable cover available to control odours.



### Applications

- Primary and final clarification of wastewater.
- Pumping and Dewatering.
- Groundwater treatment.
- Biological purification processes.
- Wash water re-circulation systems.
- Site run-off treatment.
- In-River and Near-River works.
- Plant, Vehicle and wheel-wash systems.
- Backwash water from potable water treatment
- Upgrade existing basic clarifiers.

