Lamella Separator

Brochure

Colloide

Contents

Lamella Separator Systems
Designed by experts

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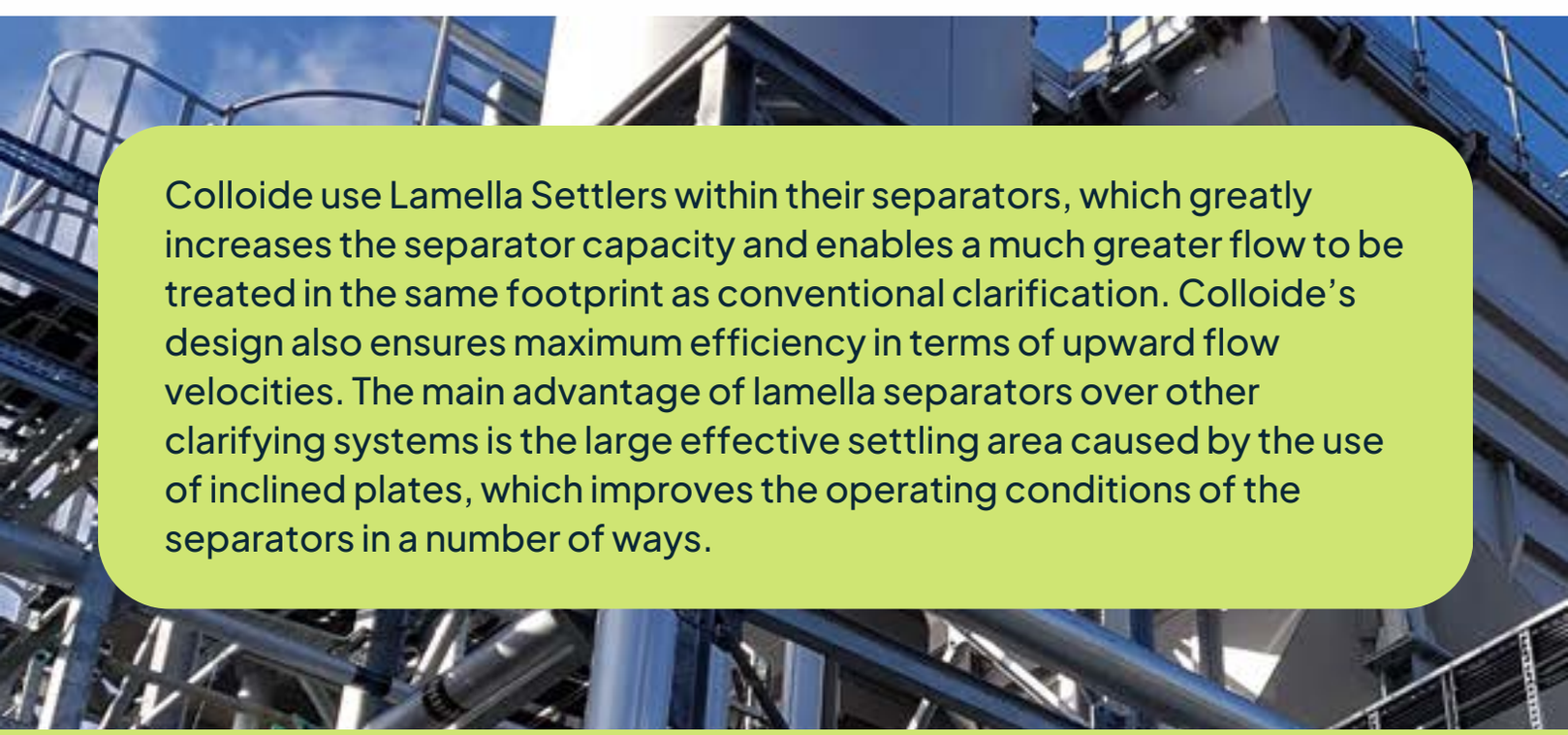
Important
Product Details

The sole use of this product is to separate solids from water during the production of water for human consumption. This product is to be used before the chlorination stage. This is achieved through the difference in specific gravity created as water flows between pairs of Stainless steel plates

The closely spaced flat plates are inclined at an angle. Preconditioned water with entrained solids enters the plate pack and flows between the plates.

The path length, plate spacing, and angle of the plate are the usual engineering variables. As the water flows between pairs of plates, the heavy solids with a specific gravity higher than the surrounding water will settle onto the top surface of the lower plate, and slide down the inclined surface to be collected in the sludge hopper. Clear, near solids-free water then exits the top of the plate area and flows over an adjustable weir.



Colloide use Lamella Settlers within their separators, which greatly increases the separator capacity and enables a much greater flow to be treated in the same footprint as conventional clarification. Colloide's design also ensures maximum efficiency in terms of upward flow velocities. The main advantage of lamella separators over other clarifying systems is the large effective settling area caused by the use of inclined plates, which improves the operating conditions of the separators in a number of ways.

Main
Process stages

1. Chemical Dosing
Chemicals are generally added to precipitate particles from the flow. Typically, these chemicals are used for pH control, flocculation and coagulation. These chemicals are dosed at strategic points in the process prior to settlement and are mixed thoroughly using the system provided

2. Mixing – Three Stage
The chemicals are dosed at certain locations in the mixing phase. The mixing tanks offer an excellent dosing system whereby the optimum contact times and mixing regimes are achieved. The first mixing tank is a high speed flash mixer providing an aggressive mixing. The second and third are slow speed paddle mixers to build the floc. as much as possible.

3. Settlement
Lamella tubes/plates are used to settle the coagulated particles into the collection hoppers at the bottom of this settlement tank. This design ensures maximum efficiency in terms of upward flow velocities. The clarified water weirs over into the troughs at the top of this tank for immediate use or for further treatment.

4. Desludging
The solids settle into collection hoppers positioned below the lamella tubes/plates. The number of collection hoppers will depend on the capacity of the plant and the material being processed. The sludge is discharged from these hoppers periodically via actuated valves, the duration and frequency of which is fully adjustable.

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Stand-Alone and Effective
Packaged Systems

Lamella Separator systems by Colloide offer an extremely effective solution for a variety of applications in a stand-alone package format which minimizes lead times and cost while maximising efficiency and performance. Our packages can be built to suit each client's individual needs, taking full plant flow, with or without additional equipment.

Colloide are one of a few Lamella Separator Package (LSF) suppliers that are in the list of Approved Products and Processes for use in Public Water Supply published by the DWI.

Typical applications include:

- potable water treatment, for both solids and colour removal.
- solids precipitation and removal from industrial wastewater.
- wastewater settlement (primary and final settlement.
- recovery of solids from process streams within the food and drinks industry.
- removal of fibrous materials from industrial process/waste streams.

Discover the ultimate

Lamella Separator Tank

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Important
Technical Details

The Lamella Separator Tank consists of a number of Lamella Separator packs in a stainless steel tank. The number of packs and configuration is determined by the customer requirements. The customer has an option of installing a Flocculation tank before the Lamella tank. An optional sludge thickening tank or hopper is also available.

The following is included in the Lamella Separator Tank Package: Lamella clarifier tank support structure, sludge thickening tank, sludge tank support structure, sludge tank scraper, mixing tank, mixing tank support structure, mixing tank gate, Lamella Separator Packs, Interconnected pipe work, flooring support structure, GRP flooring, motor drip trays and spill guards.

Discover the ultimate

Lamella Separator Basin

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Important
Technical Details

The Lamella Separator basin consists of a number of Lamella Separator packs in a concrete basin. The Lamella Separator packs are supported on a stainless steel structure. The number and configuration of the lamella separator packs is determined by the customer requirements.

The figure below shows a typical layout of the Lamella Separator without a tank, this is typical for applications above 8 packs. The Lamella separator package in a concrete basin consists of 2 major components positioned inside a concrete basin. The sections included are: Lamella Separator packs and support structure.

Our
Experience

Our experience is accumulated over a 20 year period. During this time, we have gained extensive experience in Design, Manufacture, Installation and Commissioning of Lamella Separator Systems.

Our Capabilities Meet **Your Needs**

We understand each project is unique with bespoke requirements. That is why for 20 years our capabilities have expanded to enable the delivery of a wide range of options.

Capabilities

Supply chain

We have sourced suppliers and developed a reliable relationship, with suppliers based across the UK and Ireland. Our supply chain is accredited to high Quality, Health and Safety and Environmental standards.

Location

We have the capability to deliver your requirements anywhere across the UK, Ireland, Scotland, and Wales.

Availability

We have the capacity to engineer equipment on a short lead time, due to our ability to design and build off-site.

Flexibility & adaptability

Our standardised design can be adapted to meet bespoke requirements for drinking water sites and a range of industries.

Our range of
Lamella Package Options

Colloides Lamella separators are designed to maximise sedimentation in the smallest possible space. Our 'Lamella Plate packs' are common to all the 'Lamella Separator Package' configurations. The configuration of the package is dependent on the customer requirements and is dependent on the following.

- Flowrate into the plant
- Total Suspended Solids
- Flocculation Requirements
- Sludge handling requirements
- Settling rate of solids

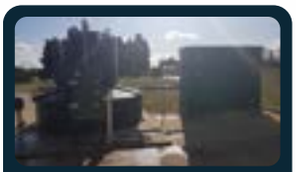
Contact our sales team for further info on all package specifications.

Our Product Range

Activated Sludge Treatment

Anaerobic Digestion

Biomass Heating and Heat Pumps



Chemical Dosing

Bridge Scraper Systems

Clarifier Systems

Control Systems

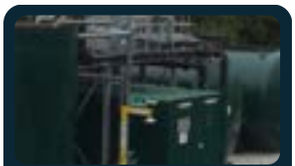
DAF

Deep Bed Sand Filters

District Heating & Energy Centres

Dynamic Sand Filters

MBBR



MBR

Membrane Filtration

Multi Cell Media Filtration

Pressure Filters

Pumping Stations

SBR

Tekleen Filters

Rapid Gravity Filters

Colloide

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