

LAMELLA PLATE CLARIFIER



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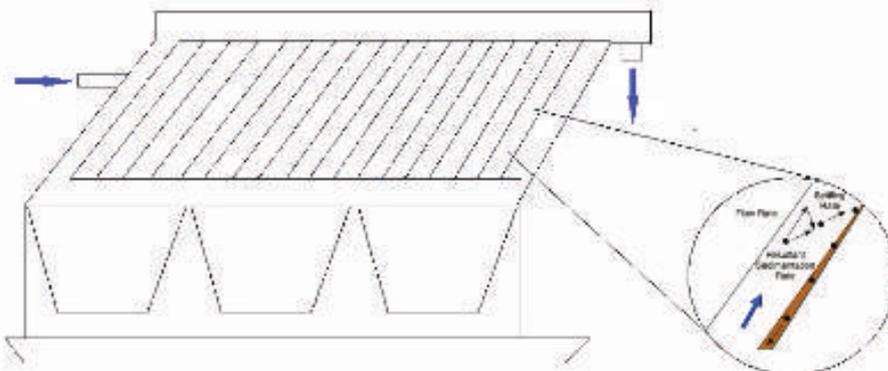
SILT STOPPER

BY EROSION CONTROL



GENERAL OVERVIEW

The Siltstopper is a mobile gravity settlement device or inclined lamella clarifier. These clarifiers provide a large settling area within a relatively small footprint making them the perfect option for space constrained sites. The inclined plates in the units minimise the distance suspended particles need to travel to drop out to the bottom, promoting sedimentation and increasing overall efficiency. The Siltstopper can be up to 20 times more efficient than conventional settlement tanks and ponds of similar footprint.



The Siltstopper provides water clarification for a range of applications, pumping and de-watering, drilling and piling, de-silting and dredging, vehicle wheel washing, process water treatment, groundwater treatment and site runoff can all be treated either for discharge off site or reused.



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The Siltstopper mobile clarifier is skid mounted, compact, robust with no moving parts and needing no power. It is ideal for limited area sites, temporary sites or where relocation will be required.

PERFORMANCE

The Siltstopper has a **maximum flow capacity** of **45 m³/hr** however the performance of the unit can be material specific. The Siltstopper is designed to run with the Dosebox (floculant injection system) which significantly improves the performance of the Siltstopper. When Dialed in correctly even very fine silt and clay particles can be removed although water flow rates may need to be reduced to achieve the best results. On most sites clean water can be achieved at flow rates of around 30 m³ with chemical injection. This will however not remove colour from the water such as tannin.

Siltstopper Up Grades / options

Chemical injection

Siltstoppers can be equipped with a solar powered chemical dosing system (Dosebox) that can significantly improve the performance of the Siltstopper. A flocculant is injected into the water line prior to a static mixer to both mix and give the flocculant time to start the flocking process. (Flocculants are substances that promote the fine particles present in a solution to cluster, creating a floc, which then settles to the bottom)

Water testing

There are some specific requirements when using chemicals such as water testing to determine best flocculant and best dose rate as well as consent notification. We can provide this quickly inhouse so you are able to get started quickly. We are also able to make adjustments to the recommendations if results change through the project.

PH and Turbidity Monitoring

Siltstoppers can be fitted with a solar powered telephonic PH and Turbidity monitor system sending water quality data to an online website that can be monitored by phone. Specific water quality parameters can be set for text alerts when water quality is of concern.

PH Modification

Some sites have wastewater that needs a PH correction such as concrete wash or peat ground water. We can provide systems to adjust PH up or down so that consent requirements are met.

Sludge Removal

Some Siltstoppers can be fitted with automated sludge pumps to keep the sump empty when water with high solid content is being processed.

Pre settlement tanks

We can provide a range of pre settlement tanks often used for storage to reduce peak flow requirement. These tanks can also be used as devices to remove the heavy particles and reduce Siltstopper cleaning intervals.

Pumping equipment

We can supply and install all pumping equipment required to run the Siltstopper water clarifying system.

Instillation and Maintenance



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We also offer full installation, monitoring and maintenance support and expertise to clients

These systems can be fully automated to allow clients to work on what they're best at while not having to worry about water issues.



SET-UP AND OPERATON

The Siltstopper must be located in a position where:

- The **ground is firm** enough to support the flooded weight of the unit
- The ground is reasonably level. The top edge of the unit should be placed level **within 10mm**.
- It is a good idea to have adequate access for sludge removal

Ladders provided on Siltstopper units are for the purpose of visual inspection only. Always maintain three points of contact..



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GERNERAL MAINTENCE

Ref	Maintenance Item	Typical Frequency
1	General check over of unit	Daily
2	Emptying – removal of sludge	As required
3	Draining of tank and washing down plates	As required

Notes:

1. The visual inspection should include inspection of the water surface for floating material such as leaves.
2. Emptying sumps if required
3. Check the plates as some materials (especially charged particles) can adhere to the PVC plates and these will need periodic cleaning. The unit should be allowed to settle overnight, drained and then the PVC sheets pressure washed in-place.

As the nature of dirty water to be treated varies in terms of quantity of quantity and solids content, the table below lists some problems that could arise along with the actions required to solve the problems.

SYMPTOM	REMEDY
<p><i>Water discharge is dirty</i></p> <p>Typical Causes:</p> <ol style="list-style-type: none"> 1. Too much flow through unit (unit overloaded) 2. Water contains very fine silt and clay particles 3. Sludge in contact with plates 	<ol style="list-style-type: none"> 1. Reduce flow through the unit 2. Chemical conditioning of inflow required 3. Sump may need cleaning

EMPTYING THE SILTSTOPPER

The frequency of emptying the Siltstopper unit will be dependent on the solids loading of the water being treated. There is a fixed amount of solids that will fit in the hoppers as well as the type of settled product and how it flows out of the hopper without sticking. Sands do not generally flow as easily as finer silts and may need more frequent cleaning to prevent hanging up in the hoppers.

Typical emptying frequencies can vary from daily to fortnightly. It is recommended to start with little and often until you know how long you can leave the sludge build up whilst ensuring it is still fluid and flowable.

NOTE: The unit should only be lifted WHEN EMPTIED OR WATER AND SOLIDS.

Warning:

When shifting units with a forklift select a forklift with suitable capacity. Consider height and width of the load when travelling. Keep load low when traveling.

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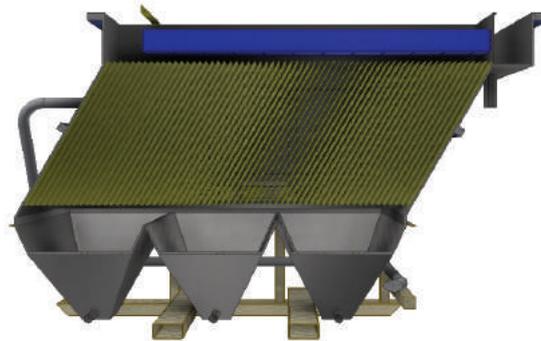


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Weight: 2,450kg when empty including all plates and fittings. Weight full can be up to 9,000kg

TRANSPORT and LIFTING

Tie down points are provided on the units to ensure load is secured during transport. These points can be used as lift points when required.



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