

FILTER BAGS

wildlife	specialist	biodegradables	geotextiles	agrotexiles	accessories
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Hy-Tex Ultra Dewatering Bags for Pumped Sediment Control



Hy-Tex Ultra Dewatering Bags provide an effective way to collect harmful sediments from dirty water pumped out of excavation works (such as foundations, pipe line construction, water, sewer and utility trenches, waterways and lakes) that would otherwise pollute the surrounding environment.

It is a legal requirement to prevent silty water from leaving site untreated, and a finable offence if you do not take appropriate pollution control measures. The Environment Agency Pollution Prevention Guidelines PPG6 (See side panel), in summary, require that the majority of suspended solids (gravel, sand, and silt) must be removed from site water before it is discharged into a drain, sewer or watercourse.

Traditionally settlement methods (such as straw bale structures or settlement ponds/tanks) are often ineffective, rely on slow water movement, long settlement times, expensive and time consuming tank maintenance and large works areas.



Ultra Dewatering Bags are an efficient, practical, quick, simple and cost effective alternative solution to manage this ongoing environmental problem of removing suspended solid pollutants from pumped water on construction sites.

Sediment-laden water is simply pumped into the high quality filter bags, which trap the solids inside and allow filtered water to flow freely out through the geotextile fabric to disperse into the surrounding ground or another collection point.

Ultra Dewatering Bags can also be used for gravity feed applications such as outfall pipes from site drainage or lagoons.



Cut open bag to show trapped silt

The silt filter bags provide a passive non-mechanical solution, without the use of excessive or specialist machinery (other than possible lifting equipment when full), and do not require a large work area.

The sediment bags are also light, compact and easy to store, with minimal cleaning up required - when full just dispose of the bag and replace with another bag.

The Ultra Dewatering Bags detain both oil and sediment, offering a combination of benefits not available in alternative products. They can also be used to contain contaminated sediment whilst treatments are applied (such as flocculants or absorbents).

The standard 1.80 x 1.80m Ultra Dewatering bags has the capacity to trap near 1 tonne of silt and cope with flow rates up to 2,730 l/min, while the larger 3.05 x 4.55m bags can trap over 4 tonnes of silt and cope with flow rates up to 6,818 l/min.

The Environment Agency
"Working at construction and demolition sites: PPG6 Pollution Prevention Guidelines"
"Poor management of silt and silty water is a major cause of serious pollution incidents from construction sites. Silt for these purposes is a fine inert sediment derived from soil and rocks. Silt pollution can: damage and kill aquatic life by smothering and suffocating; reduce water quality; cause flooding by blocking culverts and channels..."
"You must not discharge any silty water to a drain or watercourse without prior treatment to settle or remove suspended solids. If you've identified that you will be generating silty water, identify suitable means to treat the water before discharge; examples include: lagoons, settlement tanks, silt traps grassy areas that slow water and allow solids to settle..."
"You must have prior permission from the local sewerage provider if you intend to discharge settled water to the foul sewer because this will be regarded as a trade effluent."
You must have prior permission from [the Environment Agency] if you need to discharge anything to a watercourse. In Scotland if you comply with certain conditions, a discharge will be covered by a General Binding Rule and you will not need to contact SEPA."

Property	ASTM Test	Value
Material		Non-woven polypropylene geotextile
Grab Tensile Strength	D 4632	912 N (205 lb)
Elongation	D 4632	50%
Trapezoid Tear	D 4533	378 N (85 lb)
Puncture Resistance	D 4833	578 N (130 lbs)
Mullen Burst	D 3786	2,758 kpa (400 psi)
Permittivity	D 4491	1.4 sec ⁻¹
Pore Size	D 4751	180 micron (80 US sieve no)
UV Stability	D 4355	70% strength retained after 500hr
Weight	D 5261	272 g/m ² (8 oz/yd ²)
Flow Rate	D 4491	3,660 l/min/m ² (90 gal/min/ft ²)

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Hy-Tex Ultra Dewatering Bags for Pumped Sediment Control



Usage Guidelines

Ideally position the Ultra Dewatering Bag on a slope, so incoming water flows downhill through the bag, and, as a precaution, install Terrastop Premium silt fence down slope of the bags to control any potential run-off pollution.

The bag is fitted with a collar which fits around delivery hoses or connectors. Strap the neck of the Ultra Dewatering Bag tightly to the discharge hose using the attached tying cord.

To increase filtration efficiency place the bag on an aggregate, or a layer of Hy-Pave tiles, to maximize water flow through the under surface of the bag.

Plan ahead for removal, if the filled bags are to be lifted for disposal then place suitable lifting straps under bag prior to pumping, alternatively you can roll the bags into a digger bucket.

Regularly check the bags. The Ultra Dewatering Bag is full when it no longer can efficiently filter sediment or pass water at a reasonable rate.

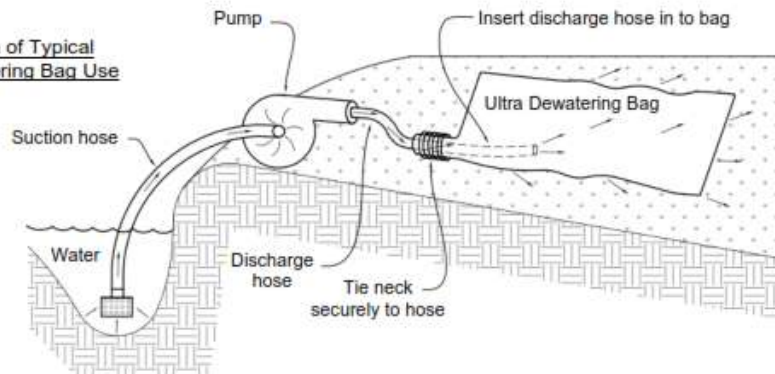
Flow rates will vary depending on the size of the Ultra Dewatering Bag, the type and amount of sediment discharged into the bag, the type of ground, rock or other substance under the bag and the degree of the slope on which the bag lies.

Under most circumstances Ultra Dewatering Bags will accommodate flow rates of up to 2,730 l/min for the 1.80 x 1.80m bags and 6,816 l/min for the 3.05 x 4.55m bags.

Use of excessive flow rates, or overfilling Ultra Dewatering Bags with sediment, may cause ruptures of the bags or failure of the hose attachment straps.

Dispose of the Ultra Dewatering Bag as directed by the site engineer. Normally allow the bags to dry in place then either cut open, spread and landscape on site or remove and dispose of the filled bags (Heavy lifting machinery may be required).

Illustration of Typical Ultra Dewatering Bag Use



Size	Code	Surface Area	Max Flow Rate	Max Pump Size	Sediment Capacity	Oil Capacity
1.80 x 1.80 m (6 x 6 ft)	9724	6.68 m ² (72 ft ²)	2,730 l/min (500 gal/min)	10 cm (4 inch)	0.51 m ³ / 980 kg (18 ft ³ / 2,160 lbs)	14 l (3.7 gal)
3.05 x 4.55 m (10 x 15 ft)	9725	27.87 m ² (300 ft ²)	6,816 l/min (1,500 gal/min)	15 cm (6 inch)	4.20 m ³ / 4,082 kg (150 ft ³ / 9,000 lbs)	57 l (15.1 gal)

Notes:

Flow/Dewatering rates will vary according to soil type (Sand typically dewateres at the fastest rate, while clay dewateres at the slowest). Clay may also blind over the fabric in some instances, significantly reducing flow.

Max flow rate is a cautious figure based on a significantly de-rating of the clean fabric flow rate of approx 3,660 l/min/m² (90 gal/min/ft²) to allow for pump pressure build up due to silt accumulation.

Sediment capacity is calculated using wet sand weight of approx 1,920kg/m³ (120 lbs/ft³) and a bag fill height of approx 150mm

Oil capacity is estimated at low flow conditions with approx 2.09 l/m² (0.5 gal/ft²) absorption capacity

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Siltbuster Siltstoppa Bags

Siltstoppa Bags provide a low cost solution for the dewatering of sludges and slurry.

Pre-conditioned (flocculated) slurry is pumped into the Siltstoppa Bag and allowed to dewater. The water released from the sludge bleeds through the geotextile fabric whilst the trapped solids remain in the bag.

Siltstoppa De-watering Bags are available individually, to sit on a suitable slab or drainage area or can be supplied as a complete treatment solution including as required sludge conditioning unit, and roll-on/roll-off (RORO) container.

When the bag is full and the trapped solids have dewatered, the Siltstoppa bag can either be split open on-site and the dewatered solids removed by means of an excavator (or similar equipment), or the full RORO container can be transported for off-site disposal.

Siltbuster Siltstoppa Bags Specs

Separation Method	Geotextile Membrane
Height	Expands until full
Length	6.5m
Width	2.1m
Dry Weight	Site Dependent
Materials	Sludges and Slurries
Material Colour	Black
Bag Capacity	6m ³
Operating Range	Material Dependent

Siltbuster Siltstoppa Skip

Siltstoppa De-Watering Bags have been conveniently sized to fit an industry standard roll on roll off (RORO) Siltstoppa skip. The RORO dewatering skip provides a secure and environmentally acceptable means of bunding a Siltbuster Siltstoppa Dewatering Bag.

When the skip is full with either single or multiple bags (stacked up on top of each other), the skip and its contents can be transported to a Waste Management Facility for disposal of the dewatered sludge/slurry contained within the Siltstoppa Bags.

The Siltstoppa Skip comes complete with an integral sump, allowing easy removal of the water which escapes from the dewatering sludge/slurry.

Siltbuster Siltstoppa Skip Specs

Separation Method	Geotextile Membrane
Height	1.7m
Length	6.1m
Width	2.0m
Dry Weight	2.0 tonnes
Material	Flocculated Particles
Operating Capacity	1 Bag
Lifting Method	RORO Hooklift
Operating Range	Material Dependent



SETTLEMENT TANKS

Siltbuster®



Gravity Settlement ▶ Siltbuster Settlement Units & Water Clarifiers

Siltbuster is the UK's leading provider of mobile settlement units and Lamella Clarifiers. Each unit in the extensive range is specifically designed to remove suspended solids and settleable matter from silt and solids laden surface run-off and groundwater.

Effective gravity based solid/liquid separation requires the largest possible settlement area and optimum hydraulic flow. Siltbuster Clarifiers utilise lamella plate technology to maintain ideal settlement conditions within each unit, thereby, ensuring maximum particle settlement and minimum unit footprint.



Silt Management

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Small footprint enables units to be utilised in the tightest areas, including underground installations

To achieve increased flow capacity and flexibility on site, multiple units may be linked together in parallel, as required



Innovative outlet design maintains flow even when the unit is not exactly level



Plate technology and configuration hugely increases settlement area. Plates are designed for easy handling



Flow distribution has been designed to meet the rigours of the modern construction site



Emptying can be achieved by a range of methods, e.g. via drain ports & valves, vacuum tanker or by manual or mechanical means

Siltbuster mobile clarifiers are robust; skid-mounted; compact and lightweight, making them simple to transport, install and operate. They are ideal for sites with limited access, restricted spaces and temporary projects.

Hopper bottomed units can be fitted (on request) with an automatic sludge removal system making their operation virtually maintenance-free...

Typical applications

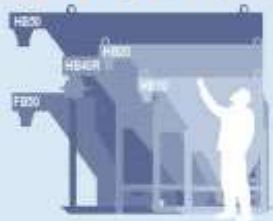
Construction

- ▶ Pumping & de-watering
- ▶ Groundwater treatment
- ▶ Site run-off treatment
- ▶ Drilling, piling & coffer dams
- ▶ In-river & near-river works
- ▶ De-silting & dredging
- ▶ Roads, pipelines & other linear projects
- ▶ Plant, vehicle & wheel washing
- ▶ Site water management

The Siltbuster Mobile Range

Siltbuster offers a range of various sized units to provide customers with flexibility and the opportunity to hire or purchase a tailored, yet off the shelf, solution.

The Mobile Range, Size Comparison



FB50	HB10	HB20	HB40R	HB50
Flat-bottomed, skid-mounted unit. The Construction Industry's favourite	Hopper-bottomed, skid-mounted unit	Enlarged version of HB10. Increased flow rate and sludge storage. Batch or continuous sludge draw-off	Hopper-bottomed, skid-mounted unit	Performance of the FB50 but with twin hoppers for larger capacity, primary thickening applications and batch or continuous sludge draw-off
Height: 1.9m	Height: 2.1m	Height: 2.6m	Height: 3.1m	Height: 3.1m
Length: 3.7m	Length: 1.9m	Length: 2.5m	Length: 3m	Length: 3.7m
Width: 1.45m	Width: 0.9m	Width: 1.3m	Width: 2.2m	Width: 1.7m
Effective Settlement Area: 50m ²	Effective Settlement Area: 10m ²	Effective Settlement Area: 20m ²	Effective Settlement Area: 40m ²	Effective Settlement Area: 50m ²
Dry Weight: 1,900kg	Dry Weight: 510kg	Dry Weight: 1,120kg	Dry Weight: 2,480kg	Dry Weight: 2,370kg
Inlet: 4" bauer	Inlet: 2" bauer	Inlet: 3" bauer	Inlet: 4" bauer	Inlet: 4" bauer
Outlet: 6" bauer	Outlet: 3" bauer	Outlet: 4" bauer	Outlet: 6" bauer	Outlet: 6" bauer
Typical Operating Capacity: 1-50m ³ /hr	Typical Operating Capacity: 1-10m ³ /hr	Typical Operating Capacity: 1-20m ³ /hr	Typical Operating Capacity: 1-40m ³ /hr	Typical Operating Capacity: 1-50m ³ /hr

The benefits

- ▶ Readily transportable, fast and simple to setup, easy to operate.
- ▶ Small footprint units with large settlement area
- ▶ Unique design enables rapid particle settlement and water clarification
- ▶ Up to 20 times more efficient than conventional settlement tanks and lagoons of the same plan area
- ▶ Choice of unit sizes and capabilities to suit most applications
- ▶ Units can be used individually or linked to accommodate a wide range of flows, pump sizes and particle characteristics

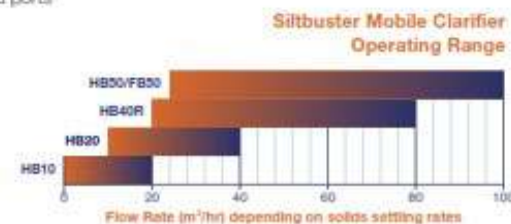


Options & Process Add-ons

Total Water Treatment Solutions

Siltbuster Clarifiers can be configured as single or multiple units for basic gravity separation and discharge-to-sewer applications. They can also be supplied as part of a complete, tailored, packaged treatment solution – including ancillary equipment, such as:

- ▶ Lids, covers, walkways & access platforms
- ▶ Flow splitter valves, flow meters & flanged ports
- ▶ Automatic, flow proportional, single or multi-stage chemical pre-treatment
- ▶ Fully containerised dosing systems
- ▶ Flash mixers
- ▶ Pipe flocculators or mixing/aging tanks
- ▶ Automatic desludging systems
- ▶ Sludge pumps & sludge storage tanks
- ▶ De-watering systems



For hire, sales or more details call Siltbuster on 01600 772256



Process Add-ons

► Chemical Dosing, Pre-treatment & Reaction Systems

Siltbuster believes that, wherever possible, the use of chemicals to treat excess site water should be avoided. However, there are some types of waste water, contaminants and effluent which still require the use of chemicals to increase the particle settlement rate, so as to enable their removal. This can be due to either the presence of very fine particles; clay; colloidal matter; colour or simply the soil's own interparticle electrical bonds which need to be interrupted in order for settlement to occur.

In such cases, chemical dosing is unavoidable. Consequently, Siltbuster has developed an extensive range of chemical dosing systems to compliment its award-winning settlement units.



Silt Management

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Treatment Systems

Flocculant Blocks

Basically, a flocculant in a solid form. When immersed in water, the solid dissolves, releasing the chemicals, causing a reaction.

Single-Stage & Multi-Stage Dosing Systems

Siltbuster's Single-Stage dosing systems range from a single dosing pump linked to a drum of coagulant or acid/alkali for pH adjustment, through to an IBC based flocculant batch makeup system and associated pumped dosing. The dosing rate is fully controllable and can be linked to flow rate and chemicals can be added to mixing/reaction tanks, in-line or via pipefloculators. For more complex dosing regimes requiring similar levels of accuracy, Siltbuster offers Multi-stage dosing systems, including staged coagulant and flocculant dosing, often with an intermediate stage for pH adjustment.

Chemical Reaction Systems

The reaction rate of treatment chemicals, dictates the system required.

Mixing Tanks

Siltbuster can supply mixing tanks, ranging from 1m³ to 30m³ capacity.

Pipefloculators

For faster reacting chemicals, various pipefloculators are available.



Containerised Integrated Dosing Units

Siltbuster can provide secure, self-contained, in-line dosing units which enable the controlled, flow-proportional, multi-stage addition of treatment chemicals. For flows up to 150 m³/hr, the 'plug & play' systems come pre-installed in a 10ft (3m), 20ft (6m) or 40ft (12m) shipping container, as required.

Options include:

- Bunded chemical storage
- Flow-proportional dosing systems
- Reaction/aging tanks and pipefloculators
- Control panels and datalogging
- Insulation, lighting and heating
- Integrated Lamella or DAF Units (subject to model and size).
- Automatic monitoring of feed and discharge water



Full Treatment Packages

Siltbuster's in-house laboratory can test a wide range of chemicals to identify the treatment regime most suited to your needs. A sample of the untreated water, your flowrate and the required discharge limits are all that is needed.

APPENDIX E

SITE WALKOVER PHOTOGRAPHS

SITE RECONNAISSANCE PHOTOGRAPHS

PHOTOGRAPHIC LOG

Photo no. 1	Date: 03/04/2025	
Description: The Attenuation basin constructed as part of the Phase 1 development within the southernmost field is well established.		

Photo No. 2	Date: 03/04/2025	
Description: Footpath located along the southern boundary with existing residential properties to the south.		

Photo No. 3	Date: 03/04/2025	
Description: Kingsley Brook culverted under existing footpath to the south of the site. Downstream water is observed to be clear.		

Photo No. 4	Date: 03/04/2025	
Description: Silt fencing installed along southeastern boundary, in need of repair.		

Photo No. 5	Date: 03.04.2025	
Description: Central field slopes towards the southeast towards the Kingsley Brook.		

Photo No. 6	Date: 03/04/2025	
Description: The northernmost field slopes towards the east towards the Kingsley Brook.		

Photo No. 7	Date: 03/04/2025	
Description: Site boundary slopes down towards the Kingsley Brook located to the southeast of the site. Water in the brook is visibly clear flowing.		

Photo No.	Date:	
8	03/04/2025	
Description: Northwestern of the site slopes to the east of the site. Hammersley Hay Road bounds the site to the north, existing residential houses to the west.		

Photo No. 9	Date: 03/04/2025	
Description: Western boundary of the site with existing residential buildings to the west. Site is bounded in sections by walls and wooden fencing.		

Photo No. 10	Date: 03/04/2025	
Description: Northern boundary of the site, agricultural field to the west.		

Photo No. 11	Date: 03/04/2025	
Description: Dry drainage ditch running within the tree/shrub line along the northern boundary towards the Kingsley Brook.		

Photo No. 12	Date: 03/04/2025	
Description: Grassed area to the west of the central field.		

Photo No. 13	Date: 03/04/2025	
Description: Site access off Wetherby Road, road conditions at time of walkover had little silt build up on the road.		