An unrivalled range of treatment solutions for the Construction Industry

- Silt Management
- Chemical Pre-treatment
- Concrete Washwater

- Hydrodemolition & pH Adjustment
- Oil Water Separators
- Site Sweeper Waste
Siltbuster is the UK’s leading authority on water treatment, wet waste and the prevention of silt pollution on construction sites and environmental remediation projects. The Company specialises in providing an unrivalled range of equipment, technologies and solutions which deal with all aspects of silt management and the prevention, control and treatment of water contamination.

Specifically:

- Silt and solids laden surface and groundwater
- Oil contaminated water
- High pH cement laden washwater
- Hydrodemolition blast water
- Construction site road sweeper waste
- Particulate and dissolved metal laden water
- Waste waters requiring specialist chemical treatment

Siltbuster prides itself on the quality and efficiency of its ready-made, easy to use, innovative equipment packages and highly developed expertise, which seamlessly combine to develop treatment solutions which far exceed the standards required by today’s environmental legislation.

As experienced process engineers, backed up by the largest and most varied hire fleet of water treatment equipment in the UK, Siltbuster fully understands the science of water treatment – why materials in water behave like they do, what is required to remove a wide variety of contaminants and why certain processes and technologies either do not work or are limited, at best.
Since the launch of the original Siltbuster in 2003, the company has grown significantly, both in capability and experience. Working on almost every conceivable type of construction project across the UK and beyond, Siltbuster has gained the respect of contractors, clients and regulators for its innovative design, depth of expertise and quality of service.

It is this wealth of knowledge and experience that enables Siltbuster to provide such comprehensive and creative treatment solutions. Requirements, ranging from the temporary hire of a small basic settlement unit up to full chemical pre-treatment processes and solids/liquid separation for large and long-term projects, can frequently be satisfied at short notice.

So, if you have a problem with the treatment of water or wet waste on your site, talk to the experts – call Siltbuster, TODAY!
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.

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

<table>
<thead>
<tr>
<th>Unit</th>
<th>Size (m)</th>
<th>Settlement Area (m²)</th>
<th>Dry Weight (kg)</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Operating Capacity (m³/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HB10</td>
<td>2.1m</td>
<td>10m²</td>
<td>1,125kg</td>
<td>2” bauer</td>
<td>3” bauer</td>
<td>1-10m³/hr</td>
</tr>
<tr>
<td>HB20</td>
<td>2.6m</td>
<td>20m²</td>
<td>1,290kg</td>
<td>2” bauer</td>
<td>4” bauer</td>
<td>1-20m³/hr</td>
</tr>
<tr>
<td>HB40R</td>
<td>3.1m</td>
<td>40m²</td>
<td>2,480kg</td>
<td>4” bauer</td>
<td>6” bauer</td>
<td>1-40m³/hr</td>
</tr>
<tr>
<td>HB50</td>
<td>3.1m</td>
<td>50m²</td>
<td>2,370kg</td>
<td>6” bauer</td>
<td>6” bauer</td>
<td>1-50m³/hr</td>
</tr>
</tbody>
</table>

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

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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 it’s award-winning settlement units.

### 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 pipeflocculators. 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.

### 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 pipeflocculators
- 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

### 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.

**Pipeflocculators**
For faster reacting chemicals, various pipeflocculators are available.

### 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.
Sludge De-watering

Filter Press De-watering
Siltbuster can supply a number of processes to de-water fine solids sludges produced by de-silting projects and on-site water treatments.

Siltbuster’s extensive hire fleet boasts a number of Filter Presses, ranging from 10 litre, 280 litre and up to 900 litre capacities. Also available, are larger 2,500 litre capacity units, more commonly used with Siltbuster’s Gritbuster Washing Systems. As a direct means of de-watering, Filter Presses transform solids laden slurry or sludges into a ‘filter cake’ for easy handling, transportation, recycling or disposal to landfill as non-liquid waste. Siltbuster can supply a Filter Press as a stand alone unit or with any ancilliary plant and equipment, such as feed pumps; feed pump air compressors; agitated sludge storage tanks; sludge conditioning flocculation and pre-treatment and steel raised support structures. Siltbuster can also undertake pre-project laboratory testing, de-watering trials and full installation and commissioning as part of the hire contract.

Siltstoppa De-watering Bags
Siltbuster’s specialist Siltstoppa geotextile de-watering bags are low cost, low tech and ideal for de-watering fine solids sludges resulting from on-site silt and water treatment processes. Manufactured by Siltbuster from specialist geotextile materials, the bags come in a variety of sizes and can be tailored to individual project requirements.

Siltstoppa De-watering Bags are available individually, to sit on a suitable slab or drainage area, or complete with their own hook-lift roll-on/roll-off RORO container, making them easy to transport for disposal. The bags can be used on their own or as part of a complete water treatment package.

How do they work?
Siltstoppa De-watering Bags use passive technology, requiring no power. The sludge is pre-flocculated to make the solids bind together and the water easily released – similar to curdling milk. Using the bags is simply a case of pumping them full of sludge and letting the bleed water drain out through the geotextile fabric. The escaping water can be captured, re-used or collected and discharged off-site.

After the water has been drained out, the Siltstoppa bag retains the de-watered solids. It can either be split open on-site and the de-watered solids removed by means of an excavator (or similar equipment), or the full geobags, in the RORO container, can be transported off-site for disposal.

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Siltbuster’s concrete washwater treatment units can help minimise environmental impact and reduce costs when dealing with the disposal of high pH, cement-laden washwater.

Helping you comply with Environment Agency regulations, these innovative and integrated systems are ideal for the treatment of waste water from the cleaning of concreting plant and equipment. The units efficiently capture solids by means of specialised filtration bags, before neutralising the highly alkaline washwater to an acceptable level for re-use or discharge.

Siltbuster’s RCW units have been specifically designed to deal with waste water resulting from the washing of truck mixer chutes on concrete delivery lorries. Recognised by many contractors (including Network Rail), as Environmental Best Practice, a single RCW can comfortably handle up to 30 washouts spread over a working day. This performance, coupled with it’s compact frame, makes the RCW the ideal solution for a construction site’s environmental and operational needs during concreting projects.
Blast Water Treatment

HD Unit

- HD compact integrated unit, designed for continuous operation at flow rates up to 5m³/hr.
- Can be powered by internal battery or 110v external power source.
- Ideal for urban and remote locations.

DS4/FB50 Combined Treatment System

- Larger solids captured by a reusable geotextile bag. Can be removed for cleaning and emptying.
- Carbon dioxide, from on-board cylinders, facilitates safe method of pH adjustment.

Siltbuster’s NEW HD Unit

Developed in 2012, in direct response to customer requests, Siltbuster’s new HD integrated unit is ideal for the treatment of high pH, sediment-laden blast water from hydrodemolition projects. The unit is compact, lightweight and low maintenance and can be used at ground level or installed and operated from a suitable road going trailer or works van. It is ideally suited for use on road works projects which require the removal of all equipment at the end of the working shift – also, areas of restricted access, such as Multi-storey car parks etc.

Siltbuster DS4/FB50 Combined Treatment System

The mainstay of Siltbuster’s Hydrodemolition systems for many years, the hugely successful combination of the DS4 Carbon Dioxide Dosing System and FB50 Settlement Unit is still ideal for pH adjustment and sediment removal from hydrodemolition blast water.

Hydrodemolition

www.siltbuster.com

Working with all the leading hydrodemolition companies in the UK, Siltbuster has gained a comprehensive understanding of the most efficient processes for sediment removal and pH adjustment of excess blast water. The Company has developed specialist treatment systems for use in hydrodemolition.
**pH Adjustment**

pH adjustment is an integral part of many of Siltbuster’s treatment processes, including highly alkaline concrete washwater, hydrodemolition blast water, variable pH groundwater and chemical pre-treatment (which may require raising or lowering the pH as part of the process).

The most common form of pH Adjustment on a construction site is that associated with cement laden water, requiring adjustment from high pH to near neutral pH. However, the pH level of any discharge off-site typically needs to be within the following limits:

- pH 6 to 9 for discharges to Controlled Waters (surface water/groundwater). Subject to the requirements of a EA/SEPA Discharge Consent.
- pH 5 to 10 for discharges to foul sewer. Subject to the requirements of a Trade Effluent Discharge Consent issued by the Local Water Utility Company.

**What can Siltbuster do for you?**

Siltbuster’s pH adjustment systems can help to ensure your site Discharge Consents are achieved.

Siltbuster has developed a range of pH adjustment equipment designed to automatically adjust the pH of water to either ensure that it conforms with discharge consent requirements or prescribed process requirements. These units can either be configured to raise the pH of acidic waters or more commonly reduce the pH of alkaline waters (e.g. concrete washwater) using a variety of neutralising agents, for example:

- pH increase of Acidic Waters: using Lime or Sodium Hydroxide (caustic)
- pH reduction of Alkaline Waters: using Mineral Acid (Hydrochloric or Sulphuric), Citric Acid, Carbon Dioxide

**Groundwater Treatment Systems**

Hydrodemolition & pH Adjustment

For hire, sales or more details call Siltbuster on 01600 772256
Separating Free Phase Hydrocarbons (oils) and water

Hydrocarbons are commonly encountered on construction sites in the form of petroleum based substances such as:
- Petrol
- Diesel
- Kerosene
- Oils (Engine Oil, Lubricants, Mineral Oil etc.)

To deal with oil contaminated water, Siltbuster has developed its own highly successful range of transportable Oil Water Separators which can accommodate a wide variety of flow rates and applications.

Separation by flotation using tilted plate technology

Siltbuster provides a number of methods for separating oil from water. Based on many years of experience, the Company can advise on the most efficient technique and suitable equipment for the successful removal of the hydrocarbon contaminants.

Tilted plate units provide a characteristically large separation area to allow oils to float and accumulate as a layer on the surface of the water, where they are drawn off by an oil skimmer bar. Simultaneously, other particles (silt and sand etc), sink to the bottom of the unit for removal separately.

Tilted plate units can treat a range of flows and types of hydrocarbon contamination.

Whether treating water containing light hydrocarbons which float (LNAPLs), such as petrol, diesels and other light oils, or heavy hydrocarbons which sink (DNAPLs), such as Creosote, Carbon Tetrachloride etc, or even a mixture of the two, Siltbuster can provide a range of equipment and proven processes which will efficiently separate the contaminant from the liquid.

Tilted Plate, Coalescing Media & Dissolved Air Flotation (DAF) Separators

Siltbuster offers three main mobile treatment solutions for the separation of oil and water on site, these are:
- **Tilted Plate Separators** (in both flat or hopper bottom form), for the removal of free-floating oil and light, non-aqueous phase liquids (LNAPLs).
- **Coalescing Media Filtration** in a self-contained modular unit which works by passing the oily water through specialist Oleophilic media.
- **Dissolved Air Flotation (DAF)** units, which employ the latest white water generation systems, for more difficult to separate oils of near neutral bouyancy.

![Petrol](/images/petrol.png)

![Kerosene](/images/kerosene.png)

![Benzene](/images/benzene.png)

![Creosote](/images/creosote.png)

![Dichloromethane](/images/dichloromethane.png)

![Carbon Tetrachloride](/images/carbon_tetrachloride.png)

Petrol
Kerosene
Benzene
Diesel Fuels
Creosote
Dichloromethane
1,2, 4 Trichlorobenzene
Carbon Tetrachloride

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- Kerosene
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Separation by coalescing media

Where flow rates exceed the capabilities of the inclined plate based units, Siltbuster’s CM400-OWS can provide an efficient solution. Incorporating coalescing media, the unit can accommodate flow rates of circa 503/hr. Even at these comparatively high flow rates, hydrocarbon contaminants can be successfully removed.

Siltbuster CM400
Coalescing Media Separator

Coalescing media is specifically designed to separate free phase hydrocarbons from oily water. As the contaminated water is fed through the Oleophilic media, the individual oil globules combine or ‘coalesce’ into larger particles, increasing their overall size and buoyancy. Subsequently, they become sufficiently buoyant to rise to the surface for removal.

Conventional coalescing media has the potential to become clogged and consequently, ineffective or less efficient. Even if used in conjunction with a silt trap or settlement unit, sufficient minute particles may remain to inhibit performance. Siltbuster’s CM400-OWS, however, incorporates Q-PAC media which maximises the coalescing area, thereby, minimising the risk of clogging.

Dissolved Air Flotation (DAF) Units

DAF units introduce micro-fine air bubbles into the contaminated liquid. The bubbles cling to oil particles, floating them to the surface for removal by means of a series of rotating scrapers. DAF units can “float off” a range of hydrophobic compounds and are highly effective on both construction and remediation sites.

The advantages:
- Oils of near neutral density can be efficiently removed
- Emulsified oil can be recovered (subject to chemical pre-treatment)
- Compact, low maintenance and easy-to-clean units
- Automatic removal of recovered oil products

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The Gritbuster® UNO from Siltbuster is a unique modular system. Designed to accept wet construction site road sweepings, it de-waters the waste for easier disposal or muckaway (in accordance with a site’s waste management plan) and treats the water for disposal to sewer or re-use.

The Gritbuster® UNO is constructed on an ISO Frame container-type base, making it easily transportable. Similar in nature to Siltbuster’s Gritbuster Full Recycling System (but without the washing, material segregation and water recycling system), the compact UNO plant can be loaded with the raw road waste directly from the sweeper vehicles.

The Process
The Gritbuster UNO system:

- Receives the full load of wet waste from the road sweeper(s)
- Mechanically de-waters the granular sweeper waste by means of a drainage wheel and spiral de-watering auger
- Automatically Discharges the de-watered coarse material (into skips etc)
- Treats the Bleed Water and separates the fine water borne solids using a Siltbuster Clarifier before discharge to local sewer, via an Oil Water Separator
- De-waters the water treatment clarifier sludge by either incorporating it with the de-watered granular material or the use of Siltbuster’s Siltstoppa De-watering Bags mounted in a RORO container.
Water Treatment

The UNO System comes complete with its own Siltbuster Water Clarifier and Oil Water Separator as standard, along with a pre-fabricated steelwork ramp for above ground installations. Alternatively, a stone access ramp can be constructed on site or the UNO can be inset into an excavated hole/concrete box-out, if required.

*Siltbuster HB40R Clarifier*

The HB40R Clarifier is a single hopper variant of the Siltbuster’s standard settlement unit and provides 40m² of settlement area in a small footprint. It is fitted with an electrically operated sludge hopper rake.

*Siltstoppa De-watering Bags*

The sludge from the clarifier can be de-watered by means of Siltbuster's Siltstoppa De-watering Bags.

*Siltbuster CM400 Coalescing Media Oil Water Separator (OWS)*

To capture any oil, petrol or other free floating hydrocarbons present in the road waste, Siltbuster includes a CM400-OWS Oil Water Separator which is connected downstream of the Water Clarifier.

The Siltbuster CM400 Coalescing Media Separator is a self contained unit which removes free phase hydrocarbons by passing water through an Oleophilic (hydrocarbon attracting) media, minimising the risk of releasing oils into the local sewer network.

With the Gritbuster® UNO system, there is no longer any need to tip your wet road sweepings in the furthest corner of your site or pay a subcontractor to take it away.

De-watered solids are automatically discharged from plant

Recovered water goes to water treatment plant

Recovered water goes to water treatment plant

Solids and water from Road Sweepers can be tipped straight into the reception hopper

De-wathering auger

De-watering bucket wheel

Site Sweeper

Waste

De-wathering bucket wheel

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