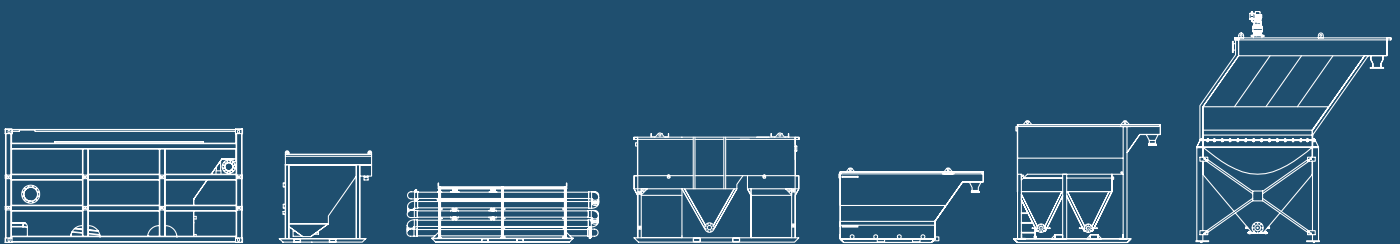


# Siltbuster®



## Siltbuster pHD Concrete Washwater System



Hire, Sales & Technical Support

# Siltbuster pH<sub>D</sub>

## CO<sub>2</sub> pH Adjustment Skid



### The Siltbuster pH<sub>D</sub>

Siltbuster's compact pH<sub>D</sub> unit is designed to provide clients with a cost effective method of treating high pH concrete washwater keeping both small and large construction sites compliant.

The unit has been developed for use with either plastic lined builders skips or in combination with our range of primary reception units, which include:

- Dewatering bags for the smallest sites
- Concrete pump wash out trays
- Crane skip washout stands
- Concrete Aggregate Reclaimer for the largest site

Making use of Siltbuster's bespoke carbon dioxide dosing system the pH<sub>D</sub> unit forms part of a flexible system designed to meet the pH adjustment requirement of all sites (irrespective of their size).

The coarse aggregate is allowed to settle within the primary washdown vessel whilst the supernatant alkaline water is transferred to a secondary tank.

Here the pH of the water is monitored by our automatic pH controller and neutralised by bubbling CO<sub>2</sub> making it safe for handling and disposal.

### pH Neutralising Agents

The high pH of concrete wash water is caused by the presence of excess lime in the cement.

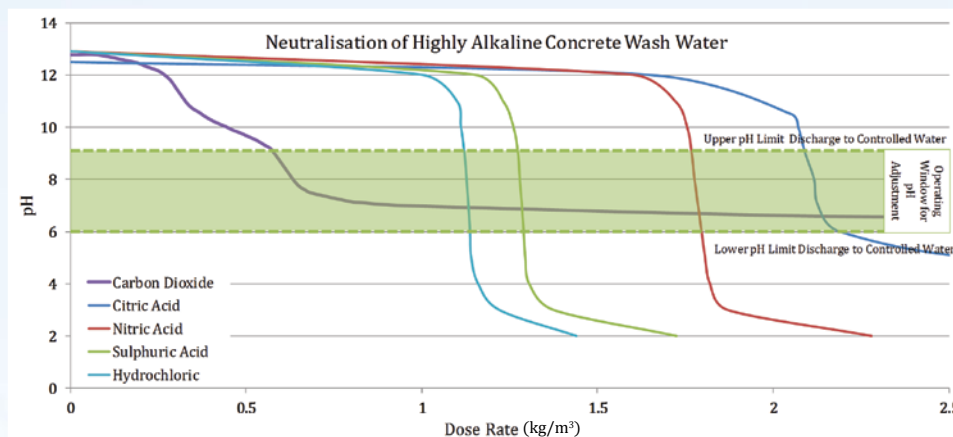
Neutralisation with sulphuric, hydrochloric or citric acid exhibits a classic "S" shape curve requiring careful handling and tight process control to avoid overshooting the target pH.

Carbon dioxide on the other hand is safe to handle and is self-buffering at around pH 6 virtually eliminating the risk of overshooting the target pH.

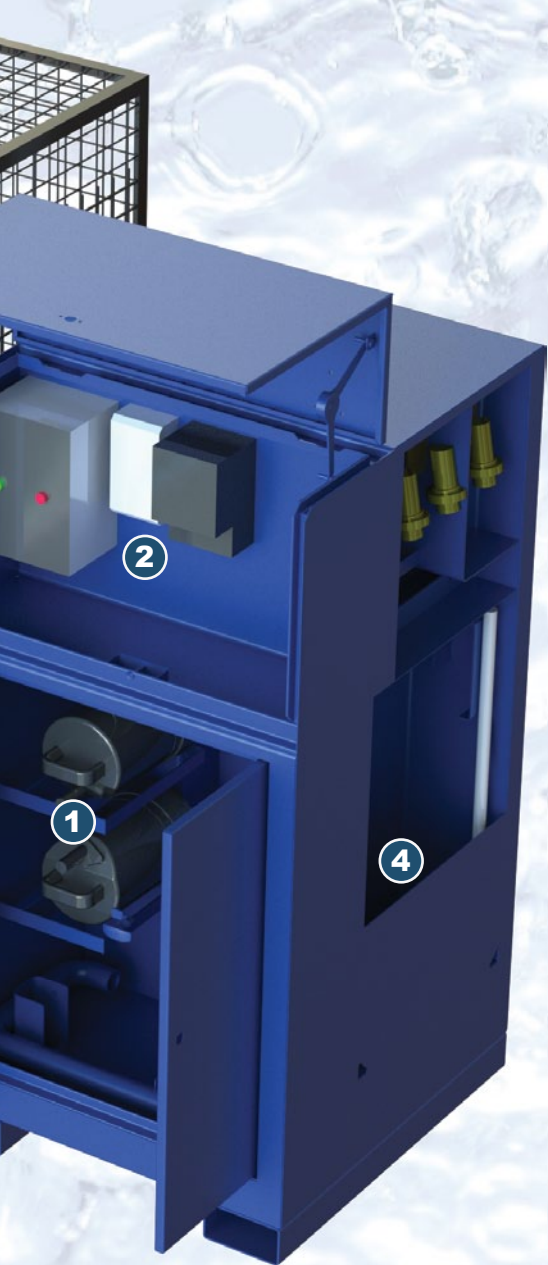
#### Did you know...

By using CO<sub>2</sub> the typical cost of treating high pH water is only **£0.30 per m<sup>3</sup>**.

For comparison the cost of using Citric / Fruit Acid is typically over **£2.40 per m<sup>3</sup>**.



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## MAIN ADVANTAGES

- + Digital pH controller means minimal labour required
- + Readily transportable, fast and simple to deploy, easy to operate
- + Optional data logger to record discharge compliance

## ADVANTAGES of CO<sub>2</sub>

- + Avoids the health and safety risks associated with handling acid
- + Digital controller eliminates the risk of under / over adjusting the pH
- + Does not increase the Chloride, Sulphate or COD (Chemical Oxygen Demand)

**1** TRANSFER PUMP INCLUDED

**4** MICROFINE CO<sub>2</sub> DIFFUSER

**2** pH PROBE & DIGITAL CONTROLLER

**5** BUILT IN BATTERY FOR OVERNIGHT USE

**3** INTEGRATED GAS BOTTLE AND CAGE

**6** TREATED WATER IS pH NEUTRAL



## Stage 1

Small Volumes



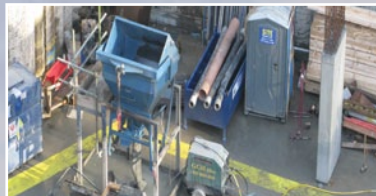
Concrete Bag Frame



Washout Skips



Low Level Trays  
(concrete pumps)



Concrete Skips



Siltbuster Reclaimer

Large Volumes



## Washdown / Collection

- + Using either existing on site facilities (such as a sump or builder skip) or supplied with one of our primary reception units
- + The coarse solids are retained or reclaimed
- + The supernatant water is then pumped to the treatment stage for pH adjustment

## Siltbuster

- + The pHD unit houses the pH sensor and the ancillary equipment
- + The built in battery allows for operation without the need for a generator
- + During operation the pHD unit monitors and records pH (with a data logger).

# PHD Process



## Stage 2



Skips



Mix Tanks

## Siltbuster pHD

The pH controller, CO<sub>2</sub> bottles and generator are transported during transport.

The system provides pH correction overnight using a CO<sub>2</sub> generator.

The system provides real time pH monitoring (using the optional data logger).

## Treatment / Storage

- + The pH of the water is monitored via our unique digital pH controller
- + The water is neutralised to the required pH (typical 6 to 9) by bubbling in micro fine bubbles of CO<sub>2</sub>.
- + The treated water can then be either recycled or discharged off site

Not sure which option is right for you? Call us on 01600 772256

# Washwater Handling Options

## Geotextile Bag Washout Unit For Site Producing Small Volumes

The Siltbuster geotextile bag stand has been developed for small sites with only a few pours requiring a compact easily relocatable washwater treatment unit.

Primarily designed to receive washwater directly from truck mixer chutes, the geotextile bags capture the coarse solids whilst allowing the washwater to seep into the underlying treatment tank for neutralisation.



Once full, the geotextile bags can simply be lifted off the frame and the waste concrete either sent off site or crushed for reuse.

### Key Facts

|                        |                          |
|------------------------|--------------------------|
| Accepts Part Loads:    | Yes                      |
| Solids Storage Volume: | 500L Solid & 300L Liquid |
| Separation Method:     | Geotextile               |
| Clean water storage:   | No                       |
| Dimensions:            | 1.1 x 1.1 x 1.3          |

## Washout Skips

### For General Construction Sites

The Siltbuster pHD can be used in conjunction with plastic lined builder skips commonly used for the storage of surplus concrete and truck mixer wash water.

By using the pHD unit in combination with standard builders skips, mobilisation costs are minimised and the skips can simply be replaced by your local waste disposal contractor once full of solids.

The supernatant water can simply be pumped into a second skip for pH adjustment prior to discharge off site.

### Key Facts

|                        |                                |
|------------------------|--------------------------------|
| Accepts Part Loads:    | Yes                            |
| Solids Storage Volume: | Upto 3m <sup>3</sup> of Solids |
| Separation Method:     | Gravity                        |
| Clean water storage:   | No                             |
| Typical Dimensions:    | 3.5 x 2.2 x 1.2                |



## Low Level Trays

### For Concrete Pumps

Developed in response to demand from our clients our low level washout trays can be used in conjunction with both trailer and lorry mounted concrete pumps.

The low level trays fit beneath the pump sump and retain the coarse aggregate whilst allowing the supernatant water to be pumped to a second tank for pH correction.

### Key Facts

|                        |                        |
|------------------------|------------------------|
| Accepts Part Loads:    | Yes                    |
| Solids Storage Volume: | Upto 0.5m <sup>3</sup> |
| Separation Method:     | Gravity                |
| Clean water storage:   | No                     |
| Dimensions:            | 2.0 x 1.3 x 0.3        |

Typically we would recommend either using a simple tank or a plastic lined skip for the final pH correction process.



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# Washwater Handling Options

## Concrete Skip Washout Stand For Inner City/High Rise Construction Sites



Our crane skip washout stand incorporates a “grey water” storage tank, enabling reuse of the treated water for the wash down of further skips.

The stand supports both small and large concrete crane skips freeing up the crane for other duties whilst allowing the operator to safely wash out.

Incorporated into the base of the stand is a tray that retains the solids whilst allowing the wash water to be transferred to a second tank/skip for pH adjustment.

### Key Facts

|                        |                        |
|------------------------|------------------------|
| Accepts Part Loads:    | No                     |
| Solids Storage Volume: | Upto 0.5m <sup>3</sup> |
| Separation Method:     | Gravity                |
| Clean water storage:   | Yes                    |
| Dimensions:            | 2.2 x 3.5 x 1.4        |

## Concrete Aggregate Reclaimer Where Aggregate Recovery is Required

Designed for use on sites where aggregate recovery is warranted or the treatment of fibre reinforced concrete is required. The Siltbuster reclaimer:

- Separates aggregate from the wash water
- Separates plastic reinforcing fibres

This allows the reclaimed aggregate to be put to beneficial re-use and avoids the plastic reinforcement fibres blocking pumps or being release off site.



### Key Facts

|                        |                   |
|------------------------|-------------------|
| Accepts Part Loads:    | Yes               |
| Solids Storage Volume: | N/A               |
| Separation Method:     | Density Separator |
| Clean water storage:   | No                |
| Dimensions:            | 4.6 x 1.8 x 2.5   |



Reception Hopper  
Course Aggregate is Retained

Waste Water  
Treatment Tank

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# ***Siltbuster***<sup>®</sup>



**Hire, Sales & Technical Support**

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