

# CLEARTEC

&

The Cost-Effective Solutions  
to Wastewater Treatment

**SYSTEMS**



**SCOTT VICKERS**

**Wastewater Treatment Systems**

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# CLEARTEC

## Wastewater Treatment Systems



Typical Influent



Typical Effluent

**CLEARTEC** wastewater treatment units are specifically designed to remove suspended solids from both construction site rainwater runoff and selected industrial wastewater. The chemical process reduces the suspended solids content below 50mg/litre so that the treated water can be either discharged into the public drainage system or recycled for further use. The residual sludge, which is formed by the reaction between the suspended solids and the dosing chemicals is discharged automatically.

Each model **only requires single phase power** and is driven by a submersible pump (supplied separately) located in a separate sedimentation tank. For the smaller models (**SVC10** to **SVC40**), the submersible pump power line

can be connected directly into the single phase power Control Panel of the **CLEARTEC**. The submersible pump for the larger models, **SVC60** & **SVC80** require 3-phase power and would therefore be connected to a separate power supply.

The treated water can be reused for vehicular washing bays, recharge of wells, toilets, cube curing, ponding tests etc thereby reducing water costs.

There are several models available with treatment capacities ranging between 5-80m<sup>3</sup>/hour and are fully automatic including chemical injection & sludge discharge.



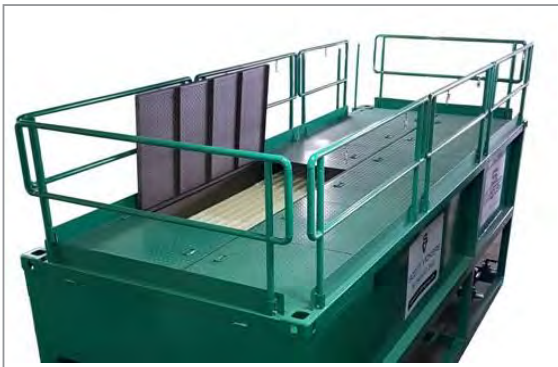
# Standard Fittings



1 Automatic Sludge Discharge



2 Automatic Chemical Mixing & Dosing System



3 Hinged Walkways & Fold-down Railings with Walkway Retaining Shackles



4 Security Gates & Hinged Roof



SVC80lite  
Chemical Dosing Chamber

## CLEARTEC SVClite Models

If a more basic model is preferred, then the SVClite is available without items 3 & 4 but they are still FULLY AUTOMATIC.

All models are constructed in steel and are painted internally with epoxy coating and externally with marine-grade paint, providing an extremely robust and long-lasting surface.

## Advantages of all CLEARTEC models

- |                             |                                |                            |
|-----------------------------|--------------------------------|----------------------------|
| <b>Simple Setup</b>         | <b>Low Maintenance Cost</b>    | <b>Fully Automatic</b>     |
| <b>Small Foot Print</b>     | <b>No Foundation Required</b>  | <b>Low Manpower</b>        |
| <b>Easy to Transport</b>    | <b>Uses Single Phase Power</b> | <b>Economic</b>            |
| <b>Few Mechanical Parts</b> | <b>Uses Powder Chemicals</b>   | <b>Extremely Effective</b> |

All models incorporate automatic mixer systems which can use powder chemicals. The use of powder is much more cost effective than liquid supply for not only logistical reasons but also to provide longer chemical shelf life.



## Standard Key Features



FI



C2

### POWDER CHEMICALS

The system incorporates simple but very efficient automated chemical mixers for both chemicals allowing dosing to be continued even while mixing is carried out. This operation does not require any specially skilled operator. The complete mixing cycle takes less than 15 minutes.

The **FI** Polymer is available in either 1kg bottles or 25 kg bags

The **C2** Coagulant is available in 25 kg bags

### DESLUDGE VALVES

These are electrically operated and their high torque capacities are designed to handle high viscosity sludge which may include any solids which may have inadvertently been introduced into the system.



### CHEMICAL INJECTION SYSTEM

The chemicals are injected into the influent and pass through static mixers eliminating the need for any moving parts, such as an electric motor in the filtration tank therefore reducing the number of mechanical parts.

## ALL STEEL CONSTRUCTION

All models are completely self-contained and extremely robust. The internal surfaces of the Primary and Secondary Treatment Chambers are coated in epoxy paint internally and marine-grade paint externally. Together, these two features provide a very long service life.



## HINGED WALKWAYS & SAFETY RAILINGS (*premium* models only)

Provided on all models except the **SVCS** & **SVCSIO**. The walkways not only reduce the possibility of mosquito breeding during periods of no rainfall with the walkways covering the stagnant water in the unit but are also essential during maintenance periods, enabling the operator to move around safely on the top. In addition, fold-down railings with walkway retaining shackles make relocation from site to site simple.

## LAMELLA BLOCKS

Located in the Secondary Chamber, these are made of Acrylonitrile Butadiene Styrene (ABS), an extremely robust material which gives a very long service life. Compared to the alternative polypropylene, they require very little maintenance other than occasional washing and should last the life of the equipment.





**SECURITY GATES** (*premium* models only)

These are provided on all models except the **SVC5** & **SVCIO** to prevent tampering with the equipment by unauthorised personnel and can be padlocked.

In addition, a hinged roof is also provided for protection from the elements for the operator when recharging the chemical tanks.

**TILTING LADDER** (*premium* models only)

This is provided with extendable handrails for access to the top of the unit for inspection and maintenance purposes to enhance safety. It can also be folded back for ease of transport.



**SIDE WALKWAY** with short tilting ladder (*lite* models only)

This is provided with slot-in handrails for access to the top of the unit for inspection and maintenance purposes to enhance safety. It can also be folded down for ease of transport.





## EFFLUENT SAMPLING POINT (*premium* models only)

Incorporated to enable visual checks to be made on the quality of the water which is being discharged without the need to take any sample from the outlet point which may be some distance from the equipment.

## SINGLE PHASE POWER CONTROL PANEL

Extremely simple layout and method of operation. Each push button lights up for either start or stop functions. The system provides for either fully automatic or manual control of the complete system. If pH adjustment is required, a built-in control relay only requires the connection of an additional dosing pump and sensor.

The mixing, dosing and sludge discharge components are of such low power consumption that 3-phase power is unnecessary which will reduce running cost and simplify installation.



*premium* model



*lite* model



### SPARE POWER SOCKET

A single phase electrical socket is fitted as standard on all premium models on the Control Panel so that a submersible pump (if single phase) can be connected directly to the unit. If not, this socket may be used for any additional single phase item.

---

### WEATHERPROOF LIGHT (*premium* models only)

Provided on all premium models to facilitate the recharging of chemicals at night or during inclement weather



### INTEGRAL FLOW SENSOR

This is provided to enable the chemical dosing pumps to start immediately the submersible pump in the sedimentation tank commences to inject the influent into the system.

## Optional Features

### FLOWMETER

Where continuous monitoring of flow rate and total flow is required with the option of remote reading



### pH DOSING SYSTEM

**Automatically** dispenses either an acid or alkali depending on pH requirement. A pH probe located in the secondary chamber automatically activates the dosing pump as and when necessary

### HYDROCARBON FILTER

Comprises a special replaceable filter which captures traces of oil and general hydrocarbons which are present in the influent.





**SOLARTEC SOLAR-POWERED TOTAL SUSPENDED SOLIDS (TSS) & CCTV CONTINUOUS MONITORING SYSTEM**

The very compact 250mm x 300mm Solar Powered Control Panel of this optional extra can be mounted within the Chemical Processing Chamber or be tripod-mounted as a stand-alone system. It enables real-time monitoring to be accessed remotely and can notify by SMS if the TSS limit is exceeded. The system is also protected from unauthorised use if mounted within the Chemical Processing Chamber.



**WATERTEC EFFLUENT PARAMETER CONTINUOUS MONITORING SYSTEM**



# CLEARTEC SVC5 & SVC10



**SVC5***lite*



**SVC10***lite*



The **SVC5 & SVC10** are compact wastewater treatment systems designed to cater for either relatively small project such as individual housing or linear projects such sewer or road construction.

Both these models have integral mixers, automatically-controlled dosing pumps and desludge valve.

The detachable combined ladder and footplate allows the operator to inspect inside the unit without the need to climb on top and is therefore not provided with hinged walkways or safety railings.

The **SVC5 & SVC10** are extremely easy to set up or relocate and can be loaded onto a small truck.

## Specifications

DESCRIPTION	SVC5 <i>lite</i>	SVC10 <i>lite</i>	
Electrical Power	1 ph 240V 50Hz 15A		
Influent Diameter	mm	50	
Effluent Diameter	mm	75	
Max Discharge	m <sup>3</sup> /hr	5	10
Dimensions	m	1.1 x 1.0 x 1.9	1.4 x 1.2 x 2.1
Weight	kg	500	650

Note: Dimensions do not include removable ladder



# CLEARTEC SVC20

The **SVC20** is a compact wastewater treatment system designed to cater for either small developments or for linear projects such as sewer or road construction.

This model has automatically-controlled mixers, dosing pumps and desludge valve.

The detachable tilting ladder allows safe access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Fold-down railings are also provided.

The **SVC20** is extremely easy to set up or relocate and can be loaded onto a small truck fitted with a crane.

## Specifications

DESCRIPTION		SVC20
Electrical Power		1ph 240V 50Hz 15A
Influent Diameter	mm	75
Effluent Diameter	mm	75
Max Discharge	m <sup>3</sup> /hr	20
Dimensions	m	2.0 x 1.8 x 2.5
Weight	kg	1,100 <i>premium</i> 1,000 <i>lite</i>

Note: Dimensions do not include removable ladder or railings when vertical



**SVC20***premium*



**SVC20***lite*

# CLEARTEC SVC30

## Specifications

The **SVC30** is a wastewater treatment system designed to cater for small to medium size sites such as small to medium building projects.

This model has automatically-controlled mixers, dosing pumps and two desludge valves.

The detachable tilting ladder allows safe access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Fold-down railings are also provided.

The **SVC30** is easy to set up or relocate and can be loaded onto a lorry fitted

DESCRIPTION		SVC30
Electrical Power		1ph 240V 50Hz 15A
Influent Diameter	mm	75
Effluent Diameter	mm	75
Max Discharge	m <sup>3</sup> /hr	30
Dimensions	m	3.0 x 1.8 x 2.5
Weight	kg	2,000 <i>premium</i> 1,800 <i>lite+</i>

Note: Dimensions do not include removable ladder or railings when vertical



**SVC30***premium*



# CLEARTEC SVC40



**SVC40***premium*



**SVC40***lite*



The **SVC40** is a wastewater treatment system designed to cater for medium size sites such as civil engineering projects or medium building projects. This model has automatically-controlled mixers, dosing pumps and two desludge valves. The detachable tilting ladder allows access to the top where hinged walkways are fitted as standard on the premium model for ease of inspection inside the unit. Fold-down railings are also provided. The **SVC40** is easy to set up or relocate and can be loaded onto a lorry fitted with a crane.



## Specifications

DESCRIPTION	SVC40	
Electrical Power	1ph 240V 50Hz 15A	
Influent Diameter	mm	75
Effluent Diameter	mm	75
Max Discharge	m <sup>3</sup> /hr	40
Dimensions	m	4.0 x 1.8 x 2.5
Weight	kg	2,200 <i>premium</i> 2,000 <i>lite+</i>

Note: Dimensions do not include removable ladder or railings when vertical



# CLEARTEC SVC60

The **SVC60** is a wastewater treatment system designed to cater for larger sites such as civil engineering or building projects. This model has automatically-controlled mixers, dosing pumps and two desludge valves. The detachable tilting ladder allows access to the top where hinged walkways are fitted as standard on the premium model for ease of inspection inside the unit. Fold-down railings are also provided.

The **SVC60** is easy to set up or relocate and can be loaded onto a lorry fitted with a crane.



## Specifications

DESCRIPTION		SVC60
Electrical Power		1ph 240V 50Hz 15A
Influent Diameter	mm	75
Effluent Diameter	mm	100
Max Discharge	m <sup>3</sup> /hr	60
Dimensions	m	5.0 x 2.3 x 2.5
Weight	kg	3,200 <i>premium</i> 2,500 <i>lite+</i>

Note: Dimensions do not include removable ladder or railings when vertical



**SVC60lite**  
with optional side walkway



**SVC60premium**



# CLEARTEC SVC80

The **SVC80** is a wastewater treatment system designed to cater for large civil engineering or building projects. This model has automatically-controlled mixers, dosing pumps and two desludge valves. The detachable tilting ladder allows access to the top where hinged walkways are fitted as standard on the premium model for ease of inspection inside the unit. Fold-down railings are also provided. The **SVC80** is easy to set up or relocate and can be loaded onto a lorry fitted with a crane.

## Specifications

DESCRIPTION		SVC80
Electrical Power		1 ph 240V 50Hz 15A
Influent Diameter	mm	75
Effluent Diameter	mm	100
Max Discharge	m <sup>3</sup> /hr	80
Dimensions	m	6.0 x 2.3 x 2.5
Weight	kg	3,500 <i>premium</i> 3,000 <i>lite+</i>

Note: Dimensions do not include removable ladder or railings when vertical



**SVC80lite**  
with optional side walkway



**SVC80premium**

# CLEARTEC<sup>eco</sup>

The **CLEARTEC<sup>eco</sup>** is a very efficient lamella clarifier designed for use where chemical dosing to ensure strict compliance with regulations on effluent quality is not required. It effectively removes most suspended solids from the influent by passing through lamella plate blocks.

This is achieved as the lamella blocks have an extremely large effective settlement area, allowing the whole process to be contained within a small footprint, removing the need for settlement ponds. This is ideal for sites with limited space.



The influent is pumped into the equipment from the site collection pond and rises up through the lamella blocks where the solids slide off the inclined surfaces and settle as a sludge in the base of the unit. The clean water rises to the top and is discharged. Hand-operated desludge valves can be opened as required to discharge the sludge.

**CLEARTEC<sup>eco</sup>** is available in three sizes up to 60m<sup>3</sup>/hr and is supplied complete with hinged walkways, fold-down railings and tilting access ladder to enhance safety.

## Specifications

DESCRIPTION		SVC30 <sup>eco</sup>	SVC40 <sup>eco</sup>	SVC60 <sup>eco</sup>
Influent Diameter mm		75	100	100
Effluent Diameter mm		100	150	150
Max Discharge	m <sup>3</sup> /hr	30	40	60
Dimensions	m	3.0 x 1.8 x 2.5	4.0 x 1.8 x 2.5	5.0 x 2.3 x 2.5
Weight	kg	1,500	1,800	2,500

Note: Dimensions do not include removable ladder or railings when vertical

# SOLARTEC

## SOLAR-POWERED CONTINUOUS MONITORING TSS & CCTV SYSTEM

Available for ECM Systems

- ❖ Small, lightweight & portable
- ❖ Built-in or stand-alone
- ❖ Low power consumption
- ❖ Customised SMS alerts
- ❖ Smart Artificial Intelligence (AI)
- ❖ Generator not required
- ❖ Cyber secure network
- ❖ Web based access



Solar Panel above IP65 Steel Control Panel with built-in battery pack



CCTV System complete with 2 No. LED lights



Typical CCTV Installation adjacent to public drain



TSS Sensor installed in Cap (Plug & Play)

TSS Monitoring & Sampling Tank with Inlet & Outlet Pipes

# SOLARTEC

## Specifications

### DESCRIPTION

#### Solar Power Unit

Multi-Crystalline Solar Panel 100W

Battery Pack 45AH

MPPT (Maximum Power Point Tracking) Charger

Load Balancing Controller

#### CCTV Camera

2MP Full-HD 1080P IP67 Bullet Type IR Camera

2 No. High Intensity LED day-light Lights

#### TSS Sensor

0-400mg/litre (Total Suspended Solids Range)

#### Enclosure

300mm x 250mm x 150mm IP65 Steel Enclosure with hinged door

#### System

TSS/CCTV Controller with OLED Display.

3G/4G Broadband Device

SD card image backup

VPN Secured

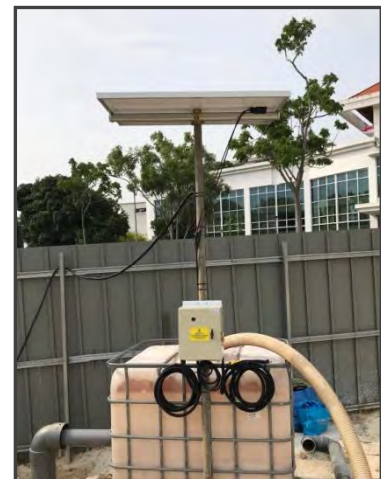
#### Website

User login details

15-day downloadable archived image

30-day downloadable data

Maximum 3-Contact Numbers for SMS



Typical TSS  
Monitoring Installation  
with Solar Panel on top



Typical CCTV Installation  
with Solar Panel on top

# DUSTEC

## SOLAR POWERED AUTOMATIC DUST MONITORING SYSTEM

- ❖ Real-time web based online Dust & CCTV monitoring system
- ❖ Dust Concentration Graphs online (5 min, 30 days, monthly intervals)
- ❖ Download historical dust records
- ❖ Report submission to Authorities
- ❖ Laser-scattering principle
- ❖ Customised SMS alerts
- ❖ Generator not required
- ❖ Unique long term stability due to innovative contamination-resistance technology



Solar Panel above IP65 Steel Control Panel with built-in battery pack

Typical Installation adjacent to residential buildings



# DUSTEC

## Specifications

### DESCRIPTION

#### Solar Power Unit

Multi-Crystalline Solar Panel 100W

SLA Battery Pack 45AH

#### CCTV Camera

2MP Full-HD 1080P IP67 Bullet Type  
Network IR Camera

#### Dust Sensor

PM2.5 $\mu$ m

#### Enclosure

300mm x 300mm x 200mm  
IP65 Steel Enclosure with hinged door

#### System

CCTV Controller

3G/4G Mobile Broadband Device

SD Card Image Backup

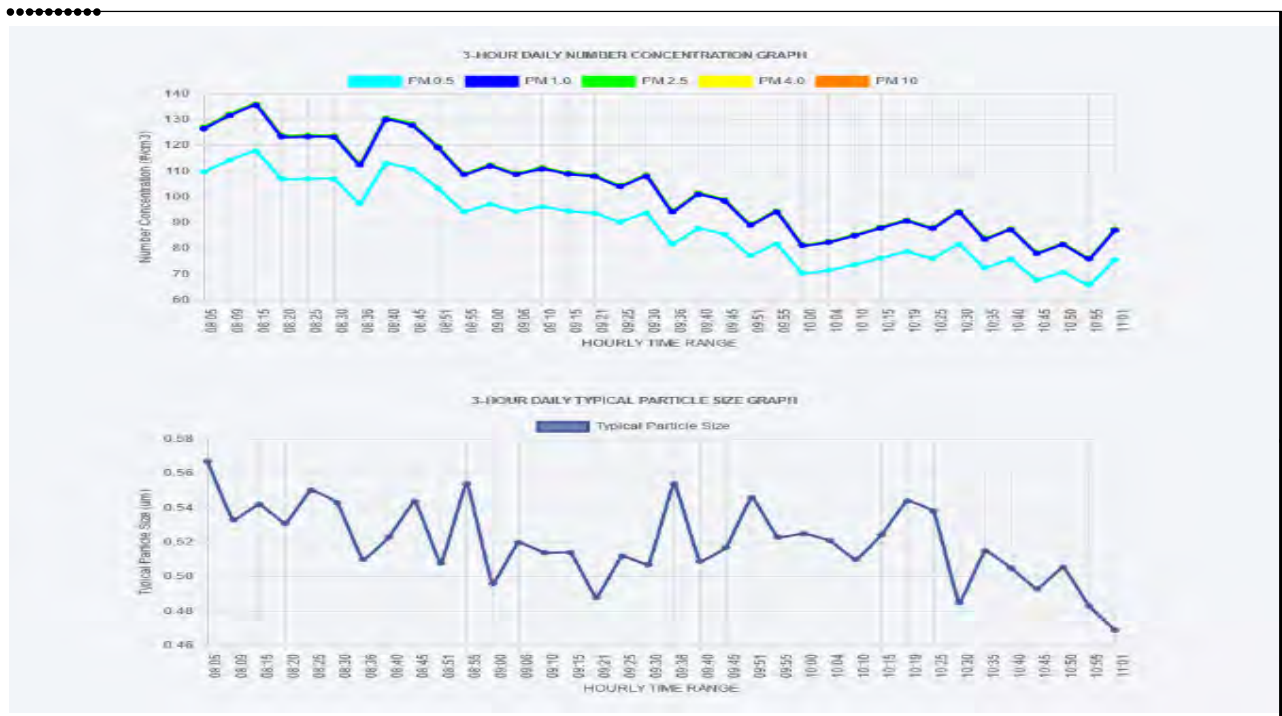
VPN Secured

#### Website

User login details

Historical records data download

30-day downloadable data





# WATERTEC

## EFFLUENT PARAMETER CONTINUOUS MONITORING SYSTEM

The **WATERTEC** System is designed specifically to monitor or adjust the following effluent parameters:-

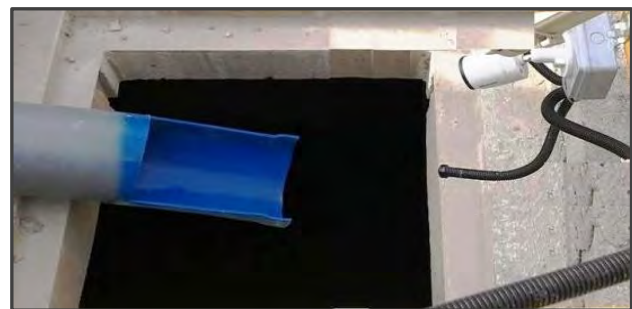
- ❖ Total Suspended Solids (TSS)
  - ❖ Total Dissolved Solids (TDS)
  - ❖ Electrical Conductivity (EC)
  - ❖ Turbidity
  - ❖ pH
- Also available for:-
- ❖ Biological Oxygen Demand (BOD)
  - ❖ Chemical Oxygen Demand (COD)



Monitoring Probes in Collection Tank



Solar Panel



Typical CCTV complete with 2 No. LED lights installed adjacent to public drain



# WATERTEC

## Specifications

### DESCRIPTION

#### Solar Power Unit

50W Monocrystalline Solar Panel

30AH Lithium-Ion Battery Pack

MPPT (Maximum Power Point Tracking) Charge

Load Balancing Controller

#### CCTV Camera

2MP Full-HD 1080P IP67 Bullet Type IR Camera

2 No. High Intensity LED day-light Lights

#### Sensors

TSS: 0-400 mg/litre (Total Suspended Solids Range)

pH: 0-14

Conductivity: 0-44,000 uS/cm

Turbidity: 0-400 NTU

#### Enclosure

300mm x 250mm x 150mm IP65 Steel Enclosure with hinged door

#### System

TSS/CCTV Controller with OLED Display.

4G LTE Wi-Fi Router 300MBps (2 No. Antenna)

SD card image backup

VPN Secured

#### Website

User login details

14-day downloadable archived image

30-day downloadable data

Maximum 3-Contact Numbers for SMS



Control Panel for Mixer & Dosing System



Typical CCTV Installation with Solar Panel on top



# CLEARTEC

## Fully Automatic Model Specifications at a Glance

DESCRIPTION	SVC5 <sup>lite</sup>	SVC10 <sup>lite</sup>	SVC20 <sup>premium</sup>	SVC30 <sup>premium</sup>	SVC40 <sup>premium</sup>	SVC60 <sup>premium</sup>	SVC80 <sup>premium</sup>	
<b>CHEMICAL PROCESSING CHAMBER</b>								
Dosing Pumps	2 No.							
Chemical Tank	2 No. 80 litres	2 No. 200 litres			2 No. 500 litres			
Chemical Mixers	2 No.							
Level Sensor	1 No. in each chemical tank except lite models							
Flocculent Dispenser	1 No.							
Chemicals	Flocculent F1 in powder form							
	Coagulant C2 in powder form							
<b>AUTOMATIC DESLUDGING SYSTEM</b>								
Desludge Valves	1 No. Electric			2 No. Electric				
<b>pH SYSTEM (OPTIONAL)</b>								
Dosing Pump	-		1 No. c/w pH Controller					
Chemical Tank	-		1 No. 80 litres			1 No. 200 litres		
<b>CONTROL SYSTEM</b>								
Control Panel	Weatherproof to IP54 Steel Cabinet with manual/automatic control of:-							
	Chemical Dosing Pumps							
	Chemical Mixers							
	Integral Flow Sensor							
	Chemical Tank Level Sensors - <i>premium</i> only							
	Desludge Valves complete with Timer System							
	pH Dosing Pump & Probe (if fitted)							
<b>GENERAL</b>								
Influent Diameter	mm	50		75				
Effluent Diameter	mm	75		75		100		
Discharge	m <sup>3</sup> /hr	5	10	20	30	40	60	80
Dimensions (L x W x H)	m	1.1 x 1.0 x 1.9	1.4 x 1.2 x 2.2	2.0 x 1.8 x 2.5	3.0 x 1.8 x 2.5	4.0 x 1.8 x 2.5	5.0 x 2.3 x 2.5	6.0 x 2.3 x 2.5
Weight	kg	500	650	1,100	2,000	2,200	3,000	3,500

Note:  
 Dimensions do not include removable ladder or railings when vertical  
 Weights refer to all *premium* models unless specified otherwise



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