

CLEARTEC

The Cost-Effective Solution to Wastewater Treatment



SCOTT VICKERS

Wastewater Treatment Systems

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Specifications at a Glance

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 50 mg/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 10-80m³/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 & Removable Railings



4 Security Gates & Hinged Roof

If a more basic model is preferred, then units without items 1,3 & 4 can be offered.

In addition all models are constructed in steel and are painted internally with epoxy coating which provides an extremely robust and long-lasting surface.

Advantages

Simple Setup

Small Foot Print

Easy to Transport

Few Mechanical Parts

Low Maintenance Cost

No Foundation Required

Uses Single Phase Power

Uses Powder Chemicals

Automatic

Low Manpower

Economic

Extremely Effective

Powder chemicals are supplied, as all **CLEARTEC** models incorporate automatic mixer systems. The use of powder is more cost effective than liquid supply for not only logistical reasons but also to provide longer shelf life.

Key Features



POWDER CHEMICALS

The system incorporates simple but extremely 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.

DESLUDGE VALVES

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

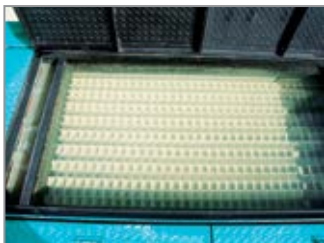


NO PRIMARY TANK CHEMICAL MIXER

The chemicals are injected into the influent via a Static Mixer 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 marine-grade epoxy paint and together, these two features provide a very long service life.

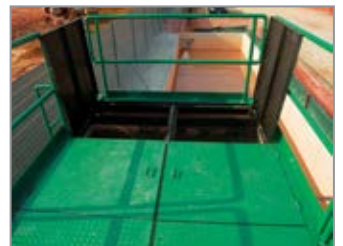


LAMELLA BLOCKS

Located in the Secondary Chamber are made of Acrylonitrile Butadiene Styrene (ABS), an extremely robust material which gives a very long service life with little maintenance other than occasional washing.

HINGED WALKWAYS & SAFETY RAILINGS

Provided on all models except the SVC10. 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 very useful during maintenance periods, enabling the operator to move around safely on the top. In addition, easily removable slot-in railings make relocation from site to site simple. Together, these are an environmental and safety MUST!





SECURITY GATES

These are provided on all models except the SVC10 to prevent tampering with 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 drums.

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.

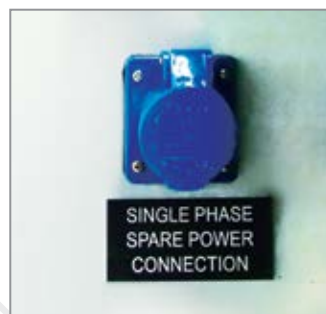


SINGLE PHASE POWER

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

SPARE POWER SOCKET

A single phase electrical socket is fitted as standard 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.



FLOURESCENT LIGHT

Provided in all models except the SVC10 to facilitate the recharging of chemicals during inclement weather.

EFFLUENT SAMPLING POINT

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.



TOTAL SUSPENDED SOLIDS (TSS) CONTINUOUS MONITORING SYSTEM

The control panel of this optional extra is mounted within the Chemical Processing Chamber and enables real-time monitoring to be accessed from a remote computer in addition to providing notification by SMS if the TSS limit is exceeded. The system is also protected from unauthorised use by locating it behind the security gates.

CLEARTEC SVCIO



The **SVCIO** is a compact wastewater treatment system designed to cater for either relatively very small projects such as individual housing or linear projects such as sewer or road construction.

This model has automatically-controlled mixers and dosing pumps. The desludge valve is manually operated.

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

Specifications

DESCRIPTION		SVCIO
Electrical Power		1ph 240V 50Hz 15A
Influent diameter	mm	50
Effluent diameter	mm	75
Max Discharge	m ³ /hr	10
Dimensions	m	1.4 x 1.2 x 2.0
Weight	kg	650



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CLEARTEC SVC20

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

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

The detachable ladder allows access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Slot-in 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 ³ /hr	20
Dimensions	m	2.0 x 1.6 x 2.5
Weight	kg	1,100



CLEARTEC SVC30

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

This model has automatically-controlled mixers, dosing pumps and desludge valves. The detachable ladder allows access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Slot-in railings are also provided.

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

Specifications

DESCRIPTION		SVC30
Electrical Power		1ph 240V 50Hz 15A
Influent diameter	mm	75
Effluent diameter	mm	75
Max Discharge	m ³ /hr	30
Dimensions	m	3.0 x 1.8 x 2.5
Weight	kg	2,000





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CLEARTEC SVC40



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 desludge valves. The detachable ladder allows access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Slot-in 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		1 ph 240V 50Hz 15A
Influent diameter	mm	75
Effluent diameter	mm	75
Max Discharge	m ³ /hr	40
Dimensions	m	4.0 x 1.8 x 2.5
Weight	kg	2,200

CLEARTEC SVC60

The **SVC60** is a wastewater treatment system designed to cater for either medium size sites such as civil engineering projects or medium building projects. This model has automatically-controlled mixers, dosing pumps and desludge valves. The detachable ladder allows access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Slot-in 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		1 ph 240V 50Hz 15A
Influent diameter	mm	75
Effluent diameter	mm	100
Max Discharge	m ³ /hr	60
Dimensions	m	5.2 x 2.3 x 2.5
Weight	kg	3,200





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CLEARTEC SVC80

The **SVC80** is a wastewater treatment system designed to cater for either relatively large sites such as civil engineering projects or large building projects. This model has automatically-controlled mixers, dosing pumps and desludge valves. The detachable ladder allows access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Slot-in 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 ³ /hr	80
Dimensions	m	6.2 x 2.3 x 2.5
Weight	kg	3,500



CLEARTEC *SVCeco*

The **SVCeco** is the best performing lamella clarifier designed for use in wheel washing applications or similar, where strict compliance with regulations on effluent quality is not required. It effectively removes a sufficiently large percentage of fine solids from the wastewater generated from wheel washer operations without the need for chemical treatment to enable this water to be recycled.

SVCeco has an effective settlement capacity exceeding 200m², which enables clarifying the wastewater to a similar quality as if it had flowed through 16 standard settlement tanks.

The influent enters the **SVCeco** via a holding tank (not supplied) and rises up though the lamella plate blocks where the fine solids slide off the multi-inclined surfaces blocks and settle down as a sludge in the hopper at the base of the unit. This sludge can easily be removed by a hand-operate butterfly valve. Meanwhile the clean effluent rises to the top and overflows via a weir into a separate storage tank for recycling.

Specifications

DESCRIPTION		SVC30eco	SVC40eco
Effluent diameter	mm	150	150
Max Discharge	m ³ /hr	30	40
Dimensions	m	3.0 x 1.8 x 2.5	4.0 x 1.8 x 2.5
Weight	kg	2,300	2,700





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CLEARTEC^{plus}

Wastewater & Sludge Treatment Systems

The **CLEARTEC^{plus}** is a combined wastewater & sludge treatment system designed to cater for building or civil engineering projects where it is designed to treat not only the rainwater runoff but also to remove sufficient water from the residual sludge to enable the final sludge cake to be handled as a solid. This model has automatically-controlled mixers, dual polymer dosing pumps and a coagulant dosing pump, desludge valves and sludge processing geotextile bag which is electro-hydraulically controlled.

Specifications

DESCRIPTION		SVC30P	SVC40P	SVC60P	SVC80P
Electrical Power		1ph 240V 50Hz 32A			
Sludge Pump Flow Rate	l/min	50			
Holding Tank	m³	1.4	2.0	2.7	3.4
Sludge Bag Volume	m³	1.5		2.0	
Influent Diameter	mm	75			
Effluent Diameter	mm	75		100	
Dimensions	m	4.0 x 1.8 x 2.5	5.0 x 1.8 x 2.5	6.2 x 2.3 x 2.5	7.2 x 2.3 x 2.5
Weight	kg	2,700	2,900	4,200	4,500



Sludge Treatment Chamber



Periodically, the resultant sludge from the chemical process is discharged into a holding tank at the base of the unit. This sludge is then passed through a static mixer in which a flocculent is injected to re-floc the mixture prior to passing into a special filter bag. It is then held for sufficient time for a high percentage of the water content to extrude from the sludge, firstly into the disposal tank directly below the geotextile bag and then discharged before the resultant solid sludge cake is emptied into the same disposal tank. The disposal tank is then emptied and ready for treatment of the next batch of liquid sludge.



1 Sludge Cake Collection Tank Extended



2 Liquid Sludge



3 Final Sludge Cake



4 Automatic Sludge Discharge Actuator above Liquid Sludge Collection Tank

CLEARTEC plus has the same features as the standard units with the detachable ladder which allows access to the top where hinged walkways are fitted as standard for ease of inspection inside the unit. Slot-in railings are also provided.

CLEARTEC plus is easy to set up or relocate and can be loaded onto a lorry fitted with a crane.



1 Chemical Dosing Chamber



2 Chemical Pumps & Mixer



3 Water Hose Reel with automatic hose retraction for cleaning sludge bag, collection tank and lamella blocks



4 The comprehensive but simple single phase Electric Control Panel features individual automatic controls for:-

- Chemical Mixers
- Chemical Dosing Pumps
- Desludge Valves
- Sludge Transfer Pump
- Sludge Hydraulic Release System



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SLUDGTEC

Sludge Treatment Systems

The **SLUDGTEC** is a compact sludge treatment system designed to cater for projects where only liquid sludge is required to be treated to remove sufficient water to enable the final product to be handled as a solid.

Both models have an automatically-controlled mixer, dosing pump and sludge processing geotextile bag which is electro-hydraulically controlled.



Specifications

DESCRIPTION		SVCS1000	SVCS1500
Electrical Power		1 ph 240V 50Hz 32A	
Sludge Pump Flow Rate	l/min	50	
Holding Tank	m ³	3.5	2.7
Sludge Bag Volume	litres	1,000	1,500
Influent diameter	mm	75	
Dimensions	m	1.8 x 1.0 x 2.5	2.3 x 1.0 x 2.5
Weight	kg	1,100	1,300

CLEARTEC

Specifications at a Glance

DESCRIPTION	SVC10	SVC20	SVC30	SVC40	SVC60	SVC80
	CHEMICAL PROCESSING CHAMBER					
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.					
Flocculent Dispenser	1 No.					
Chemicals	Flocculent F1 in powder form					
	Coagulant C2 in powder form					
	AUTOMATIC DESLUDGING SYSTEM					
Desludge Valves	Manual	1 No. Electric	2 No. Electric			
	PH SYSTEM (OPTIONAL)					
Dosing Pump	-		1 No. c/w PH controller			
Chemical Tank	-		1 No. 200 litres			
	CONTROL SYSTEM					
Control Panel	Weatherproof to IP54 Steel Cabinet with manual/automatic control of:-					
	Chemical Dosing Pumps					
	Chemical Mixers					
	Primary Chamber Level Sensor					
	Chemical Tank Level Sensors					
	Desludging Valves c/w timer system					
	PH Dosing pump & Probe (if fitted)					
	GENERAL					
Influent diameter mm	50	75				
Effluent diameter mm	75				100	
Discharge m³/hr	10	20	30	40	60	80
Dimensions (L x W x H) m	1.4 x 1.2 x 2.0	2.0 x 1.6 x 2.5	3.0 x 1.8 x 2.5	4.0 x 1.8 x 2.5	5.2 x 2.3 x 2.5	6.2 x 2.3 x 2.5
Weight kg	650	1,100	2,000	2,200	3,200	3,500



CLEARTEC^{plus}

Specifications at a Glance

DESCRIPTION		SVC30P	SVC40P	SVC60P	SVC80P
		CHEMICAL PROCESSING CHAMBER			
Dosing Pumps		3 No.			
Chemical Tank		2 No. 200 litres		2 No. 500 litres	
Chemical Mixers		2 No.			
Level Sensor		1 No.			
Flocculent Dispenser		1 No.			
Chemicals		Flocculent F1 in powder form			
		Coagulant C2 in powder form			
		AUTOMATIC DESLUDGING SYSTEM			
Desludge Valves		2 No. Electric			
Holding Tank		1 No.			
Transfer Pump		1 No.			
		PH SYSTEM (OPTIONAL)			
Dosing Pump		1 No. c/w PH controller			
Chemical Tank		1 No. 80 litres		1 No. 200 litres	
		CONTROL SYSTEM			
Control Panel		Weatherproof to IP54 Steel Cabinet with manual/automatic control of:-			
		Chemical Dosing Pumps			
		Chemical Mixers			
		Primary Chamber, Sludge Tank & Sludge Bag Level Sensors			
		Chemical Tank Level Sensors			
		Hydraulic Actuators			
		PH Dosing pump & Probe (if fitted)			
		SLUDGE TREATMENT SYSTEM			
Injection Pump		1 No.			
Hydraulic Actuators		2 No.			
Hydraulic Power Pack		1 No.			
Level Sensors		2 No.			
Disposal Tank		1 No.			
		GENERAL			
Sludge Bag Volume m³		1.5		2.0	
Influent diameter mm		75			
Effluent diameter mm		75		100	
Effluent Discharge m³/hr		30	40	60	80
Dimensions (L x W x H) m		4.0 x 1.8 x 2.5	5.0 x 1.8 x 2.5	6.2 x 2.3 x 2.5	7.2 x 2.3 x 2.5
Weight kg		2,700	2,900	4,200	4,500

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