

Product Range Summary

Silotank has the tried and proven modular settlement tank range and the capability to produce tanks tailored to each specific Client process requirement.

Conical tanks can be designed for the following unit processes:

- 1) Primary Settlement with no co-settlement
- 2) Primary Settlement including humus sludge co-settlement
- 3) Primary Settlement including storm holding capacity
- 4) Final Settlement for fixed film and suspended growth secondary treatment processes
- 5) Storm Holding Capacity

As an extension to our established settlement tank capability Silotank can offer its complementary GRP products such as cylindrical sumps, pipework and cylindrical storage tanks to provide a package multi-asset solution with the full back up of its process design expertise.

Standard Tank Range

A brief summary of the main features of the Standard Tank designs are provided below:

Tank Diameter	m	3.0	3.5	4.0	4.5	5.0
Maximum Inlet Flowrate	l/s	1.7	2.3	3.0	3.8	4.7
Working Volume	m ²	12.2	17.0	22.0	27.5	34.0
Net Surface Area	m ³	6.79	9.24	12.06	15.27	18.85
Total Height	m	3.72	4.05	4.29	4.62	4.86
Depth from Inlet to Base	m	2.73	3.06	3.30	3.63	3.86

Hi flow Tank Range

A brief summary of the main features of the Hi Flow Tank designs are provided below:

Tank Diameter	m	3.0	3.5	4.0	4.5	5.0
Maximum Inlet Flowrate	l/s	2.6	3.4	4.5	5.7	7.1
Working Volume	m ²	18.5	25.0	32.5	41.5	51.0
Net Surface Area	m ³	6.79	9.24	12.06	15.27	18.85
Total Height	m	4.62	4.86	5.14	5.48	5.76
Depth from Inlet to Base	m	3.63	3.86	4.14	4.48	4.76

SILOTANK

CONICAL GRP SETTLEMENT TANKS

SILOTANK

DESIGN | MANUFACTURE | INSTALLATION

CHEMICAL STORAGE / PROCESS TANKS & VESSELS, GRP COVERS, GRP LADDERS, PLATFORMS & WALKWAYS,
GRP PIPE & DUCTWORK, TURNKEY ODOUR CONTROL & CHEMICAL SCRUBBING SYSTEMS

Digestors, Silos & Tanks Ltd, T/A SILOTANK, Springbank Industrial Estate, Pembroke Loop Road, Dunmurry, Belfast, BT17 0QL

Tel: +44 (0)28 9062 6256 Fax: +44 (0)28 9062 6224 Web: www.silotank.com Email: sales@silotank.com



CONICAL GRP SETTLEMENT TANKS

Introduction

Silotank has expanded its range of products to include conical GRP (Glass Reinforced Plastic) settlement tank solutions for use in the wastewater treatment industry.

The settlement tank product range draws on Silotank's proven expertise manufacturing quality GRP products to offer a solution for Industrial and Municipal Wastewater settlement requirements.

Standard and Hi flow Tank Ranges

Silotank has developed a range of modular tank designs which are designed to match specific Client process system requirements and can also provide optimum process designs tailored to individual Client requirements as an alternative to the standard designs.

The two size ranges are classed as standard and 'Hi flow' to suit site specific tank configurations and process system redundancy requirements.

The standard designs are sized to provide a more cost effective solution for continuous single tank operation. This set of designs can be used where multiple tanks are required without additional settlement capacity when a tank is out of service.

The 'Hi flow' units provide a predefined element of process redundancy for multiple tank installations where extra settlement capacity is required. The process sizing of the tanks allows for the isolation of one of the tanks whilst maintaining an effective settlement process.



Specific Tank Features

The tank construction method ensures a 'glass smooth' internal surface aiding solids removal and minimising tank internal cleaning requirements. The tanks are constructed in single piece units to the requirements of BS 4994:1987 and are factory spark tested to guarantee their integrity once in service.

The 60° conical hopper slope allows even fine solids to be transported to the base of the tank for removal, assisting the production of a clarified effluent. The external structure of the tank is complete with reinforcing ribs which double as locating lugs to eliminate post installation movement of the tank in its surrounding media.

Settlement tank access and process requirements are met by the factory fitted tank internals, connections and safety features including:

- Access walkway with handrails.
- Peripheral handrails for fall protection.
- GRP Diffusion drum with scum removal handstops. Inlet and outlet U-PVC pipework with standard push fit connectors (spec/BS for fittings).
- Desludge U-PVC pipework with anti-syphon vent doubling as an easily accessible rodding point.
- Internal GRP launder trough with inbuilt positive hydraulic gradient and adjustable peripheral v-notch weir.
- Optional scum removal system and U-PVC outlet pipework.

To ensure rapid installation when the unit reaches site, each tank is fitted with a stainless steel external base support structure and preset leveling points around the tank coping level flange. These are proven to reduce tank placing timescales and assist with the elimination of leveling tolerance issues commonly associated with plastic settlement tank spatial positioning.

The tanks are supplied as fully constructed one piece units dispensing with sectional construction and jointing upon delivery to site which can prove problematic when guaranteeing their future integrity and lengthening construction timescales.



The upper cylindrical tank section can be extended from the minimum depth to ensure that the tank coping matches the site ground levels and the requirements of the main process hydraulic profile.

Flexible Design Capacity

Due to its design and manufacturing processes Silotank can offer a number of refinements to the modular tank designs for an optimum process unit sizing.

Client requirements are analysed to determine the optimum conditions for treatment, construction and installation. The biological and hydraulic loading rates are determined by assessment with well established industry standards to provide a process sizing for the individual application.

The calculated process sizing information is reassessed against the original design requirements to identify potential

further savings prior to the production of detailed general arrangement drawings for Client agreement. The tank dimensions are adjusted to provide the most cost effective tank geometrical arrangement to reduce capital installation cost without compromising treatment capacity.

Full hydraulic analysis is included as an integral stage in the design of the tank internals to ensure that the hydraulic gradient across the unit, upstream and downstream processes are not compromised. Installations can be configured specifically for limited hydraulic driving force conditions and for multiple parallel tank installations where treatment capacity redundancy and tank isolation for maintenance are an integral part of the Client design brief.

