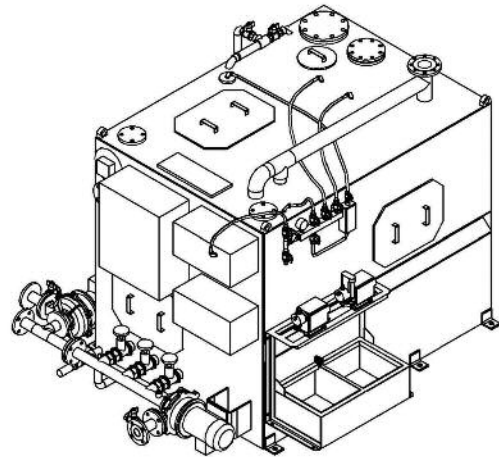


# STA-C Series

## Super Trident Sewage Treatment Unit



Hamworthy is the world's leading manufacturer of marine sewage treatment plant. For over three decades Super Trident sewage treatment plant have been widely regarded as standard specification on all vessels.

Plant installed on existing ships on or after 1 January 2010 and on new ships whose keels are laid on or after this date must meet the new IMO MEPC 159(55) guidelines, which are more stringent than the longstanding IMO MEPC 2(VI) guidelines.

The STA-C series of Hamworthy plant is certified to meet IMO MEPC 159(55).

An STA-C unit is fully compatible with gravity and vacuum collection systems, and uses the activated sludge system, which accelerates natural biological processes. Chemical disinfection and dechlorination are employed to produce a clean, safe, effluent suitable for discharging at sea.

### Standard Features

- ▶ IMO & MED certified
- ▶ Unitary construction
- ▶ Single power supply input point
- ▶ Minimal maintenance requirement
- ▶ Particle handling Hamworthy centrifugal discharge pump
- ▶ Chemical disinfection and dechlorination

### Optional Features

- ▶ Fitted vacuum sewage collection equipment
- ▶ Conditioning water flow meter
- ▶ Standby blower (mounted)
- ▶ Standby discharge pump (mounted)
- ▶ Maceration
- ▶ Separate sewage feed system

## Operating Principle

### Aeration compartment

Sewage enters via the sewage inlets and a coarse screen and is then thoroughly mixed and aerated by fine bubble aeration diffusers located at the bottom of the compartment. The diffusers are easily removable through the side or end of the tank for maintenance, and receive air from a rotary blower.

The aerobic bacteria and micro organisms break down the organic waste material into mainly carbon dioxide, water and inert material and produce new bacteria cells and organisms.

The resulting mixture is displaced by incoming sewage into the settlement compartment.

### Settlement compartment

This has sloping sides and is designed to precipitate activated sludge which is transferred from the bottom of the compartment via an air lift back to the aeration compartment where it is mixed with the incoming raw sewage. Clear supernatant liquid is displaced via an outlet weir into the contact compartment. Excess activated sludge is periodically removed from the unit via this compartment.

### Contact compartment

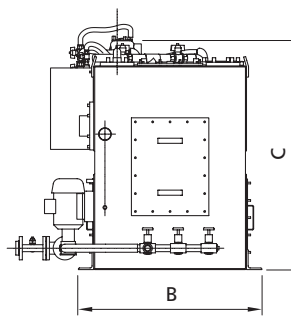
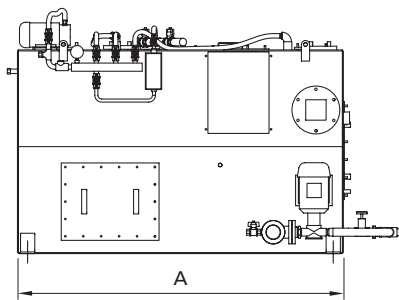
Chlorine is added via a dosing pump to this compartment to kill bacteria remaining in the effluent. Discharge from the compartment is controlled by float switches connected to the discharge pump. Dechlorination chemical is added, via a dosing pump, to the effluent as it is discharged to neutralise any residual chlorine. All dosing is fully automated.

# STA-C Series Water Systems

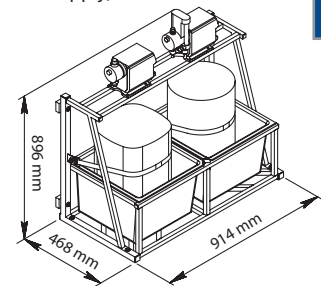
Model No.	IMO Certified* Litres/Day	Dimensions (mm)			Weight Full Kg
		A	B	C	
ST1A-C	1740	1890	1061	1181	1550
ST2A-C	3120	1960	1879	1293	2750
ST3A-C	4660	2050	1927	1640	3900
ST4A-C	6010	2150	2030	1790	4910
ST6A-C	9360	2500	2277	1940	7270

\* UK IMO Certificate

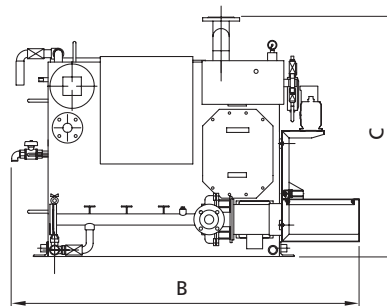
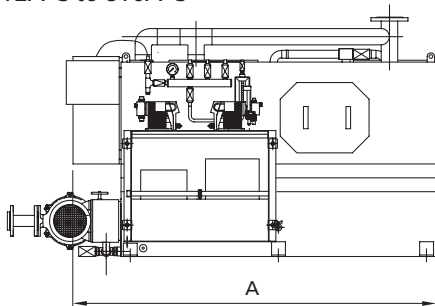
## ST1A-C



Chemical Dosing Unit  
(Loose Supply)



## ST2A-C to ST6A-C



## Detailed Specification

### Main Tank

The main tank consists of integral aeration, settling, and disinfecting compartments and is coated with a heavy application of a proven finish internally, and with a rust resistant primer and gloss finish externally. All air pipework and tank connections are supplied as standard.

### Air Blower

One or more rotary air blowers (duty/stand-by) can be supplied, to provide air to the aerators.

### Discharge Pump

One or more discharge pumps (duty/stand-by) can be supplied. These are also suitable for routine desludging.

### Electrical Control Panel

The electrical controls are housed in a steel enclosure to IP55 standards. The door of the control cabinet is fitted with a triple pole interlocked isolator. A volt free contact is provided for connection to the ship's main control panel or to any indicators or alarms.

### Chlorination and Dechlorination

Separate dosing systems for chlorination and dechlorination each include a solenoid-diaphragm dosing pump and a 25 litre tank, all mounted, piped and wired to sewage treatment plant.

### Macerator (optional)

For certain applications, such as passenger ships and ferries with gravity collection, a macerator can be fitted in the sewage inlet pipeline to macerate non-biodegradable solids.



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The manufacturers reserve the right to alter the specification and data to incorporate improvements in design. Certified drawings will be issued on request.

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