

# SEWAGE TREATMENT DEVICE

## SBT

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SBT

The Taiko Ships Clean "SBT Series" are compact sized sewage treatment system with superior performance capabilities, designed exclusively for marine installations, and which were developed by TAIKO with high technology of many years experience for Maritime Public Nuisance.

These devices can be installed in all vessels of 200 or more gross tons, or accomodating 10 or more peoples as described in the Annex IV of MARPOL TREATY 73/ 78.

## FEATURES



Only 13 hours stay.  
Most compact and light device.

■ Super small type and easy maintenance.

■ High Capabilities

The use of a "Submerged Bio-Filter Treatment System" and the transposition of the sterilization compartment to the center of the device enables it to be more compact. These state of art devices are thereby more stable under condition of pitch and roll.

■ Comply with MARPOL TREATY 73/78

In accordance with the IMO recommended (MEPC2(VI)) test standards, the certified authorization for USCG and EC(MED) has been obtained.

■ Fully Automatic Integrated Type

A pump and a blower are mounted on the device. Therefore, piping and wiring works are simplified. These devices are fully automatic except a few maintenance and control, such as removal of sludge and filling disinfectant, etc.

■ The installation can be made at the Off-shore works.

It is ultra small, accordingly the installation is feasible without requiring the works in docks.

■ The stability period is shorten. (3 days)

## SPECIFICATION

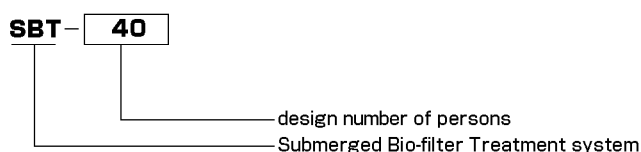
### Specified Conditions

Item		Model	SBT-15	SBT-25	SBT-40	SBT-65
Number of persons		persons/day	15	25	40	65
Average of sewage processed		L/day	900	1500	2400	3900
Processed amount of sewage		L/h×frequency/day	94×3	156×3	250×3	406×3
BOD <sub>5</sub> amount		g/day	202.5	337.5	540	877.5
Blower	Air flow	m³/min	0.22	0.37	0.60	0.98
	Pressure	MPa	0.02			
	Motor power Input	kW	0.4	0.4	0.75	0.75
Discharge Pump	Capacity	m³/h	4(60Hz)		3(50Hz)	
	Head	m	20(60Hz)		12(50Hz)	
	Motor Power Input	kW	1.5			
Max.Operating Current	440V×60Hz	A	4.1	4.1	4.8	4.8
	220V×60Hz	A	8.1	8.1	9.4	9.4

※Control Source (110V×Single Phase) is self-generated by a transformer inside the Control Panel.

Note : 1.Black Water : 60L/person/day  
2.BOD : 13.5L/person/day

### Model Designation Code



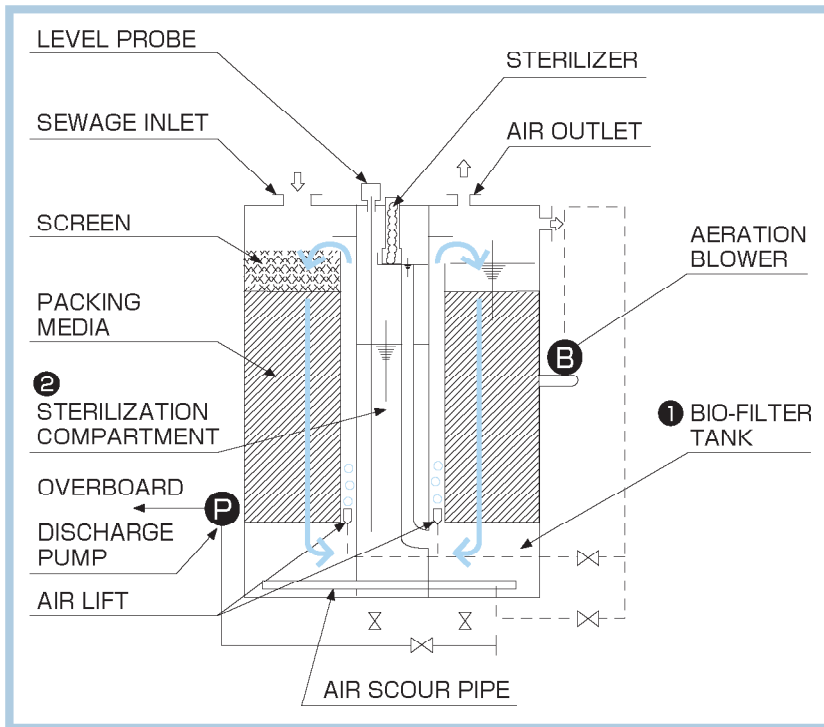
### Spare Parts

Item	Parts	Item	Parts
Pump	Ball bearing ..... 1 set	Control Panel	Lamp ..... 100%
	Mechanical seal ..... 1 set		Fuse ..... 100%
Blower			Fuse case ..... 1 set
	Ball bearing ..... 1 set	Attachments	Lubricating oil .... for 1 time
	Oil seal ..... 1 set		Disinfectant .... for 3 months
	V belt ..... 1 set		Vinyle gloves ..... 1 pair
			Tongs ..... 1 set



## STRUCTURE

The Bio-Filter Method is a processing sewage by utilizing a biological film. Packing media are placed in the tank and liquid sewage is circulated around it by means of aeration. The sewage contacts the biological film causing growth of bacteria on the surface of packing media and organic matter (BOD source) is treated by biochemical oxidation.



### ① Bio-Filter Tank

Sewage from toilets in the ship flows into the Bio-Filter Tank.

Foreign objects which could obstruct operation of the device are held from entering the device, by a screen.

Air from a blower cause circulation of the liquid and breaks up the solids. It also supplies oxygen to the microorganisms attached to the packing media.

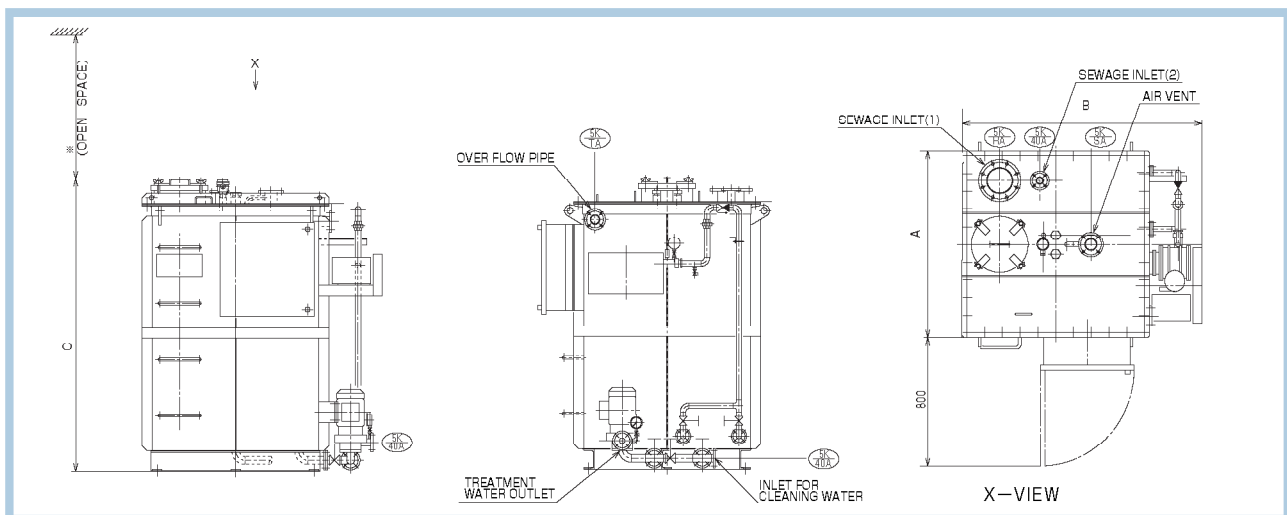
### ② Sterilization compartment

The partially treated sewage in the bio-filter tank flows into the sterilization compartment.

This liquid is thoroughly disinfected as it washes against the chemical sterilizing tubes in the sterilization compartment.

The treated water is collected in the sterilization compartment then discharged overboard by automatic operation of the discharge pump.

## DIMENSIONS



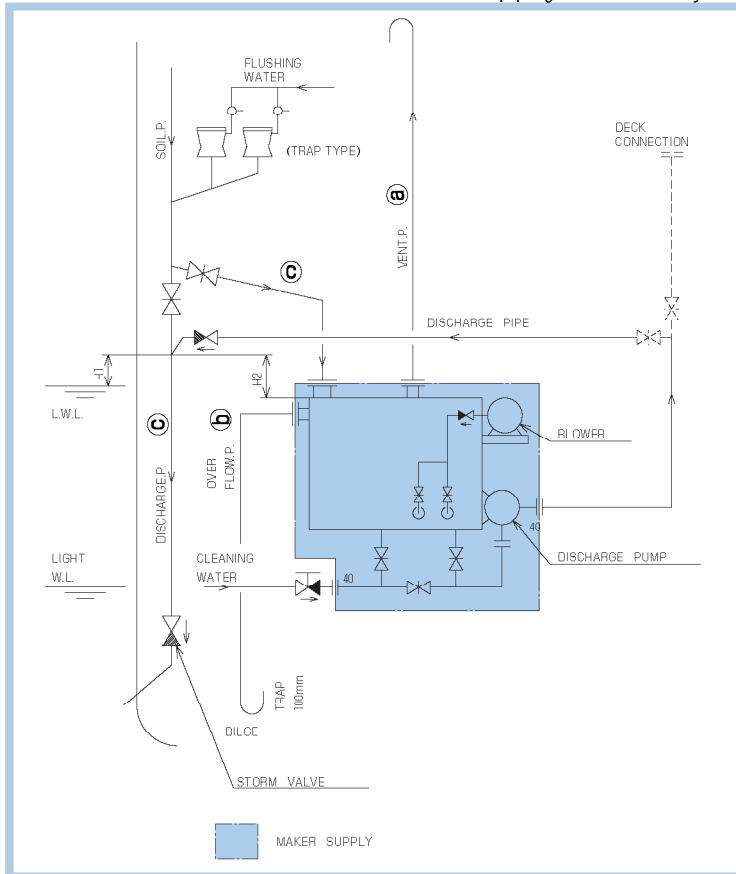
Model	Dimensions in mm						Open space	Weight(kg)	
	A	B	C	R	S	T		Dry	Wet
SBT-15	812	1094	1530	100	40	40	1000	525	1000
SBT-25	1042	1309	1530	100	50	40	1000	640	1440
SBT-40	1170	1498	1830	150	65	50	1215	920	2270
SBT-65	1442	1770	1830	150	80	50	1215	1170	3350



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## Scheme of Piping Systems

※Provide the deck connection piping when necessary.



VALVE LIST	
SYMBOL	NAME
	GATE VALVE
	SWING CHECK VALVE
	SCREW DOWN CHECK GLOBE VALVE

Model	Ⓐ	Ⓑ	Ⓒ
SBT- 15	40	40	100
SBT- 25	50	40	100
SBT- 40	65	50	150
SBT- 65	80	50	150

## NOTES

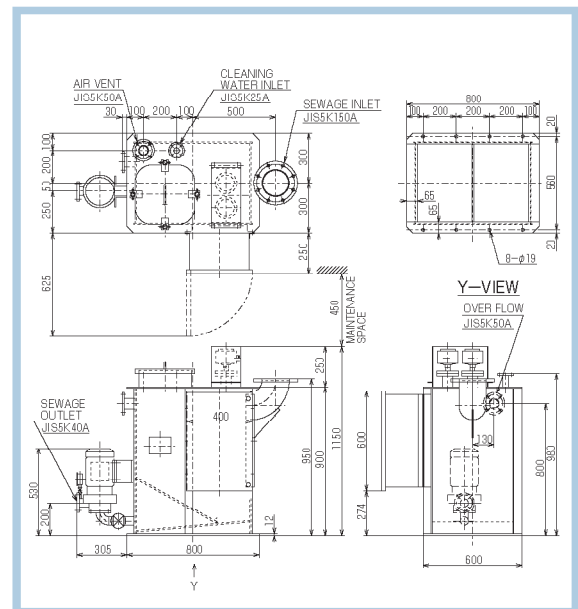
- "H1" should be made higher than the L.W.L..
- "H2" should be made higher than the top of the tank.
- The vent pipe of the unit should be installed with a slope to avoid having standing water in the pipe.
- The vent pipe should be piped to a place where the air is not still, and the top of the pipe should be bent downward.
- Pay attention to the piping so as not to flow sea water into the tank.
- Range supplied by manufacture.
- Overflow pipe should be led to bilge tank or other tank. It must not discharge overboard where USCG regulations are adopted.

## Sewage Collecting Tanks

Toilets in vessel are scattered all over. When pipings cannot be made to collect sewage from every toilet to a sewage treatment device, please install this sewage collecting tank. The sewage collected in this sewage collecting tank is transferred automatically to the sewage treatment device with an attached sewage transfer pump.



Model	SCT-200P	
Tank volume(L)	200	
Weight (kg)	Dry	320
	Wet	520
Transfer pump	60Hz	4m³/hx20m×1.5kW
	50Hz	3m³/hx12m×1.5kW



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