



Facet Sewage Treatment Plants STP Series for marine applications are designed for the treatment of black (from WC, urinals, and hospital) and grey (sinks, showers, laundry and galley) water generated on board.

The treatment consists of the purification and subsequent disinfection of the water to achieve an effluent whose quality meets the IMO requirements.

The purification mechanism is based on a biological process of active sludge with extended aeration: the microorganisms in the biomass purify the water, so that no additional chemical treatment throughout the process is necessary.

The plants are built in a single steel module to ease transportation and on board installation. The module is divided into three chambers (aeration, settling and discharge/disinfection), each of them with their respective inspection accesses.

In the aeration chamber are housed the air diffusers which provide the necessary oxygenation for the microorganisms and generate the agitation that homogenizes the content of the reactor. The settling chamber, pressurized to improve the process of deposition of solids, contains the biological filter and the sludge recirculation connections and greases toward the aeration chamber.

Built-in vacuum system takes charge of transportation of black waters along the vacuum system to the treatment plant. The vacuum in the circuit is achieved automatically with the ejector and circulating pump.

### Standard Features

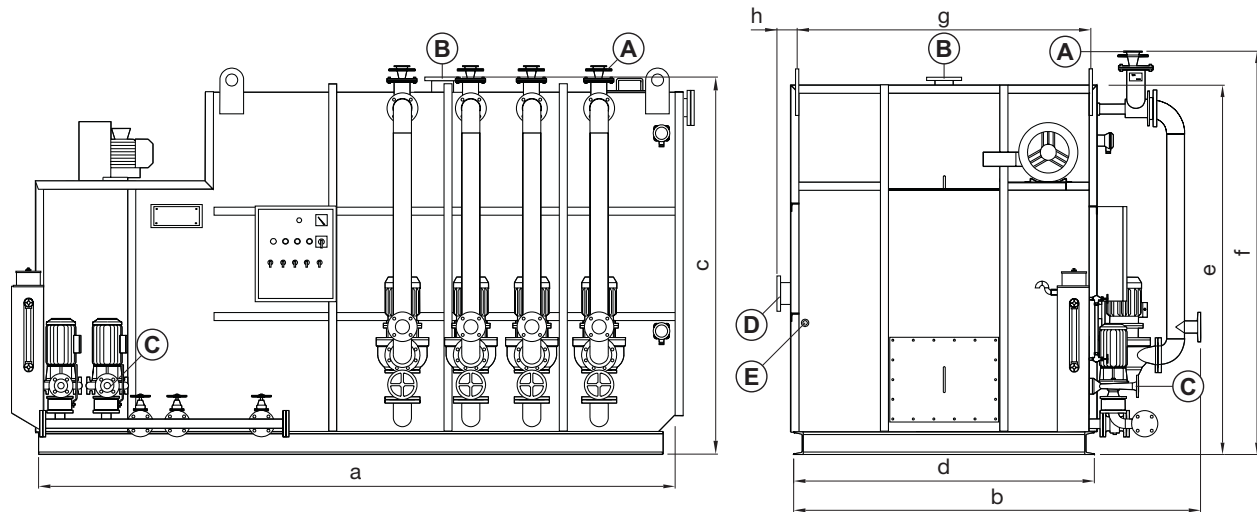
- Meet IMO Resolutions MEPC-2(VI) and MEPC-159(55)
- Certified by the Maritime and Coastguard Agency and the CE
- No sludge generation
- No odour generation
- Fully automatic operation driven by PLC
- Inside and outside Epoxy protective coating
- Aeration system compounded by blower, air supply pipe, bubble diffusers, filter and air relief valve
- Automatic sludge recirculation system
- Access and inspection registers in every chamber
- Electrical control panel, with IP-55 protection, including operation synoptic panel
- Vacuum ejectors
- Circulating pumps

### Options

- Stand-by blower
- Stand-by discharge pump
- Chlorine solution dosing pump
- Grease trap

# VTP Series

## Sewage Treatment Plants with Built-in Vacuum System



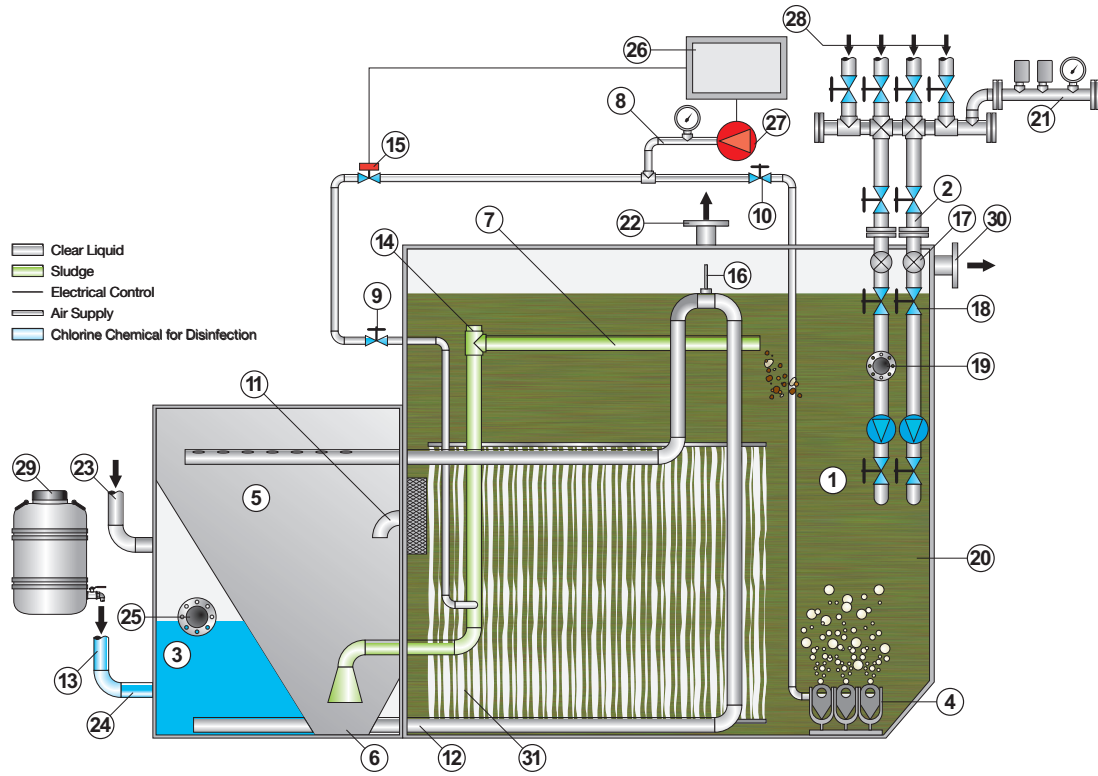
### DIMENSIONS

MODEL	a		b		c		d		e		f		g		i	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VTP-0.5	60	1524	41 $\frac{1}{8}$	1044	56	1422	24	609	52	1320	61	1549	22	558	4	100
VTP-1	81 $\frac{1}{8}$	2060	41 $\frac{1}{8}$	1044	61 $\frac{1}{8}$	1571	24	609	58	1473	61 $\frac{1}{8}$	1559	22	558	4	100
VTP-1.5	86	2184	51	1295	67 $\frac{1}{8}$	1724	34	863	65	1625	65 $\frac{1}{8}$	1667	32	812	4	100
VTP-2	84 $\frac{1}{4}$	2140	67 $\frac{1}{8}$	1705	67 $\frac{1}{8}$	1724	50	1270	65	1625	65 $\frac{1}{8}$	1667	48	1219	4	100
VTP-3	108 $\frac{1}{8}$	2744	67 $\frac{1}{8}$	1705	67 $\frac{1}{8}$	1724	50	1270	65	1625	65 $\frac{1}{8}$	1667	48	1219	4	100
VTP-4	120	3048	70 $\frac{1}{8}$	1794	76	1930	53 $\frac{1}{2}$	1359	77 $\frac{1}{2}$	1969	83 $\frac{1}{8}$	2111	51 $\frac{1}{2}$	1310	4	100
VTP-6	138 $\frac{1}{32}$	3506	81	2057	81 $\frac{1}{8}$	2069	66	1676	77 $\frac{1}{2}$	1969	83 $\frac{1}{8}$	2111	64	1625	4	100
VTP-8	135 $\frac{5}{8}$	3445	91	2311	93 $\frac{1}{2}$	2375	74	1879	109 $\frac{1}{4}$	2274	95	2413	72	1828	4	100
VTP-10	156	3962	91	2311	93 $\frac{1}{2}$	2375	74	1879	109 $\frac{1}{4}$	2274	95	2413	72	1828	4	100
VTP-12	170 $\frac{3}{8}$	4334	103 $\frac{1}{8}$	2619	93 $\frac{1}{2}$	2375	86	2184	109 $\frac{1}{4}$	2274	95	2413	84	2134	4	100
VTP-14	192 $\frac{1}{4}$	4883	103 $\frac{1}{8}$	2619	93 $\frac{1}{2}$	2375	86	2184	109 $\frac{1}{4}$	2274	95	2413	84	2134	4	100
VTP-16	196 $\frac{1}{2}$	4991	103 $\frac{1}{8}$	2619	105 $\frac{3}{8}$	2676	86	2184	101 $\frac{1}{2}$	2578	107 $\frac{1}{8}$	2721	84	2134	4	100
VTP-18	196 $\frac{1}{2}$	4991	115	2921	105 $\frac{3}{8}$	2676	98	2489	101 $\frac{1}{2}$	2578	107 $\frac{1}{8}$	2721	96	2438	4	100
VTP-20	214 $\frac{1}{4}$	5442	115	2921	105 $\frac{3}{8}$	2676	98	2489	101 $\frac{1}{2}$	2578	107 $\frac{1}{8}$	2721	96	2438	4	100
VTP-22	207 $\frac{3}{4}$	5277	115	2921	117 $\frac{1}{8}$	2981	98	2489	113 $\frac{1}{2}$	2883	119	3022	96	2438	4	100
VTP-24	198 $\frac{1}{4}$	5035	127 $\frac{1}{8}$	3229	117 $\frac{3}{8}$	2981	110	2794	113 $\frac{1}{2}$	2883	119	3022	108	2743	4	100
VTP-30	222 $\frac{1}{4}$	5645	139 $\frac{1}{4}$	3537	117 $\frac{3}{8}$	2981	122	3098	113 $\frac{1}{2}$	2883	119	3022	120	3048	4	100

### CONNECTIONS

MODEL	A (Inlet)	B (Air Vent)	C (Discharge)	D (Grey Water Inlet)	E (Chlorine Inlet)
VTP-0.5	DN100	DN80	1 1/2" RH	DN80	1/2" RH
VTP-1	DN100	DN80	1 1/2" RH	DN80	1/2" RH
VTP-1.5	DN100	DN80	1 1/2" RH	DN80	1/2" RH
VTP-2	DN100	DN100	1 1/2" RH	DN80	1/2" RH
VTP-3	DN100	DN100	1 1/2" RH	DN80	1/2" RH
VTP-4	DN65	DN100	DN32	DN80	1/2" RH
VTP-6	DN65	DN100	DN32	DN80	1/2" RH
VTP-8	DN65	DN100	DN32	DN80	1/2" RH
VTP-10	DN65	DN100	DN32	DN80	1/2" RH
VTP-12	DN65	DN150	DN32	DN80	1/2" RH
VTP-14	DN65	DN150	DN32	DN80	1/2" RH
VTP-16	DN65	DN150	DN32	DN80	1/2" RH
VTP-18	DN65	DN150	DN32	DN80	1/2" RH
VTP-20	DN65	DN150	DN32	DN80	1/2" RH
VTP-22	DN65	DN150	DN32	DN80	1/2" RH
VTP-24	DN65	DN150	DN32	DN80	1/2" RH
VTP-30	DN65	DN200	DN32	DN80	1/2" RH

## VTP Series Sewage Treatment Plants with Built-in Vacuum System



ITEM	DESCRIPTION
1	Aeration chamber
2	Sewage inlet
3	Chlorine contact discharge chamber
4	Stainless steel non-clog air diffusers
5	Clarification chamber
6	Bottom of clarifier hopper
7	Sludge return line
8	Sewage treatment unit air supply
9	Sludge return line air supply needle valve
10	Diffuser air supply valve
11	Clarifier inlet baffle pipe
12	Crossover manifold (from clarifier to chlorine chamber)
13	Chlorine chemical injection
14	Sludge return cleanout
15	Sludge return air supply solenoid valve
16	Anti-syphon vent
17	Vacuum ejector
18	Vacuum manifold valves
19	Discharge valves
20	Circulation ejector pump
21	Vacuum control manifold
22	Air vent to atmosphere
23	Grey water inlet
24	Chlorine chemical injection
25	Treated liquid discharge from sewage treatment unit
26	Control panel
27	Blower
28	Sewage inlet pipe
29	Chlorine tank
30	To bilge
31	Bioreactor