

## SMS Series Population Areas

PAT NO.: 2200102501, 200801315, 200602073

Facet's SMS Sewage Modular Systems for inland applications have been designed for gravity or pumping treatment of domestic sewage, and built to be installed above ground. These systems carry out the sewage treatment by biological means. These are of the active sludge, aerobic and extended aeration type, without requiring any other kind of dosing or additivation.

Facet's SMS Sewage Modular Systems consist of a single-built prefabricated steel module with the exterior dimensions of a 20' ISO container, inside of which are installed three chambers (aeration, settling and discharge-disinfection). This configuration has been developed to facilitate its transport and installation in the final destination. Every chamber has been provided with all the necessary access and inspection registers. This modular construction allows the increase of the processing capacity by placing more systems in parallel.

The air diffusers responsible for the oxygenation and agitation of the water to be treated, are placed within the aeration chamber; there is also the possibility of placing an anoxic chamber for phosphorous and nitrogen reduction. Inside the settling chamber are located the biological filter and pipes that recirculate sludge and grease towards the aeration chamber. The settling is pressurized in the settling chamber facilitating the deposition of solids.

Optional disinfection system is formed by an UV generator, a sand filter and a pump which sucks the clean water from the discharge chamber and pumps it to the UV generator across the sand filter.

All the instruments and control elements of the plant are housed in the first part of the SMS, just behind the main doors. The connections between the instruments and the system are throughout the pipes of the corresponding section.

Facet's SMS Series meets the spillage requirements of 91/271/CE regulation and their effluent are able to be re-used for several uses (irrigation, public open spaces and golf courses, streets washdown, pasture irrigation, etc). The noise level is lower than 55 dB(A) at 6 meters from the unit. These systems do not generate sludge, and do not generate odours either due to their closed modular construction.

The Plants are supplied fully pre-assembled and tested, so that can be installed in their definite location in one day.

### STANDARD FEATURES

- Meet the performance requirements of 91/271/CE regulation.
- Effluent could be re-used.
- Sound level <55 dB(A) at 6 m from the unit.
- No sludge generation.
- No odour generation.
- Automatic operation driven by PLC.
- Inside protection: 250 micron epoxy paint.
- Outer protection : 3 layers of 250 micron paint and RAL 6016 finish.
- Aeration system composed by a blower, an air supply pipe, bubble diffusers, a filter and an air relief valve.
- Automatic sludge recirculation system
- Access and inspection register in every chamber.
- IP-55 electric control panel, including operation synoptic panel.
- Integrated steel leader to top access.

**MATERIALS**

- Vessel: S-275-JR Carbon Steel
- Air Diffusers: AISI-304 Stainless Steel
- Air diffuser pipe (within the aeration chamber): AISI-304 Stainless Steel

**OPTIONS**

- Elevating grinding-pumping group, with level start/stop automatic control.
- Flow rate electromagnetic meter
- Flow totalizer
- Disinfection circuit by UV
- Sand Filter
- Biofilm media in the aeration chamber.
- Anoxic chamber with biofilm.

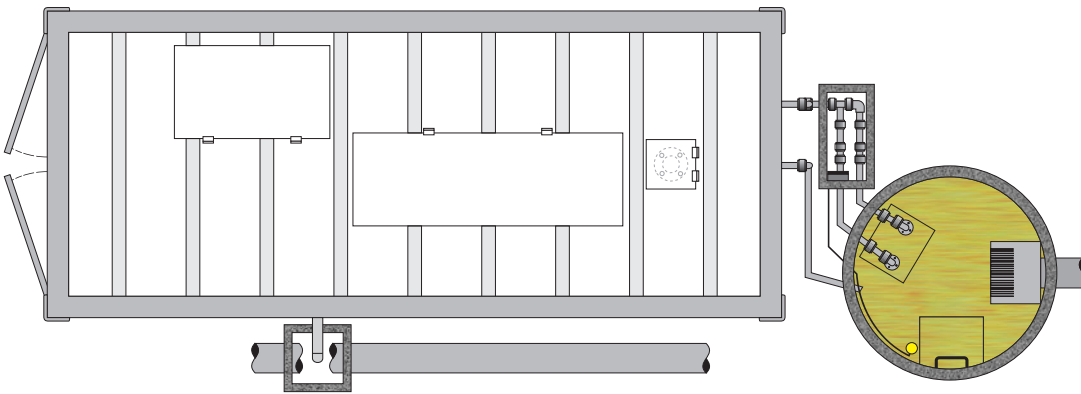
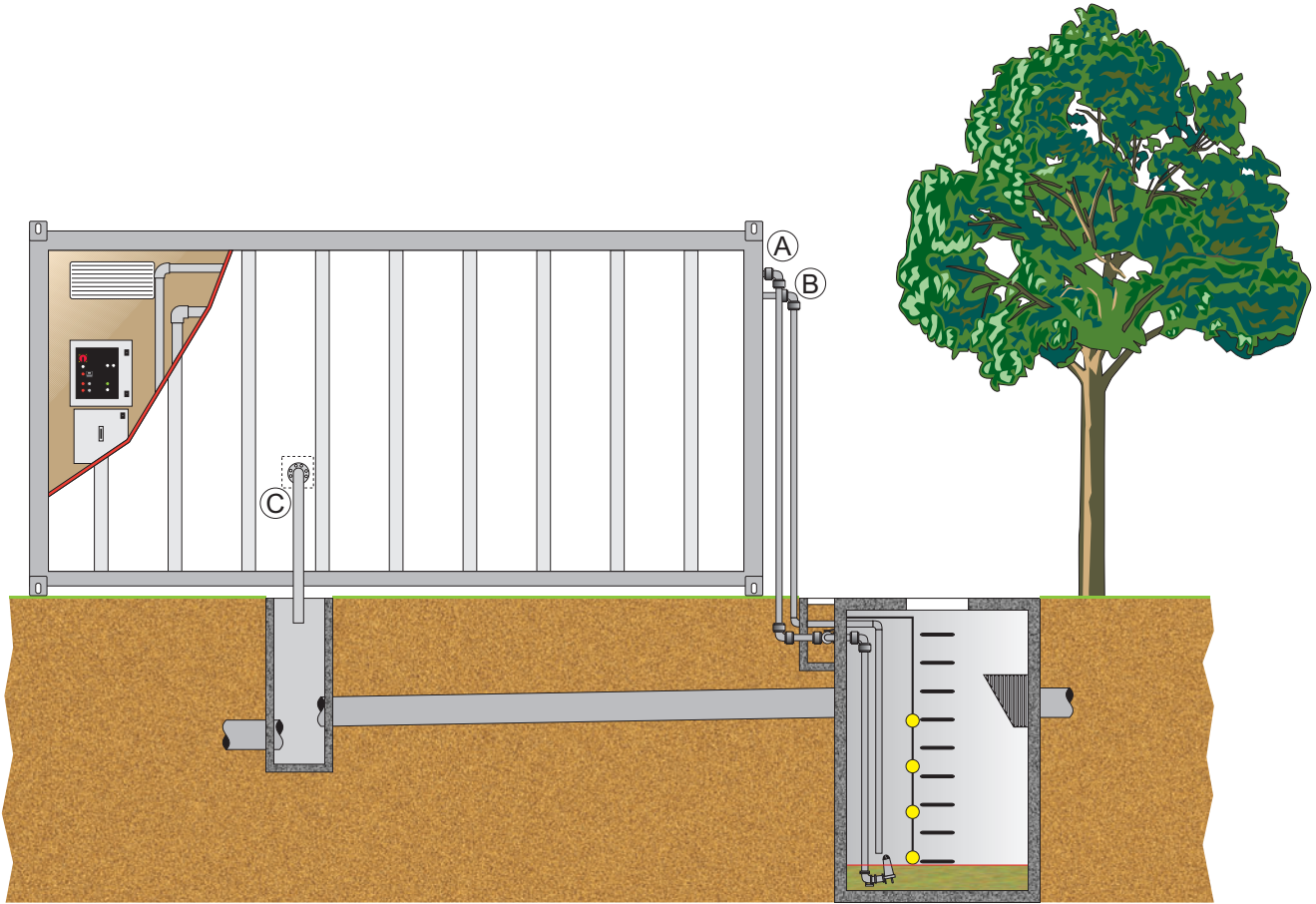
**TECHNICAL SPECIFICATIONS**

Model	SMS -16	
<b>Influent characteristics</b>		
Equivalent population (max.)	250	
Flow (l/day) (max.)	40,000	
BOD (Kg/day), acc. t directive 91/271/C	15	
<b>Capacities</b>		
Aeration chamber capacity (m <sup>3</sup> )	17.4	
Settling chamber capacity (m <sup>3</sup> )	2.85	
Discharge chamber capacity (m <sup>3</sup> )	1.7	
Installer Power (Kw)	7	
<b>Dimensions</b>		
Length (cm)	590	
Width (cm)	234	
Height (cm)	240	
<b>Effluent characteristics</b>		
	<b>(1)</b>	<b>(2)</b>
pH	6-8	6-8
DBO5 (mg/l)	< 25	< 20
DQO (mg/l)	< 125	< 125
TSS (mg/l)	< 35	< 20
O2 dissolved (aeration chamber) (mg/l)	6-10	6-10
Temperature	Ambient	
Aspect	Odourless and transparent	

(1) For discharge

(2) For re-use

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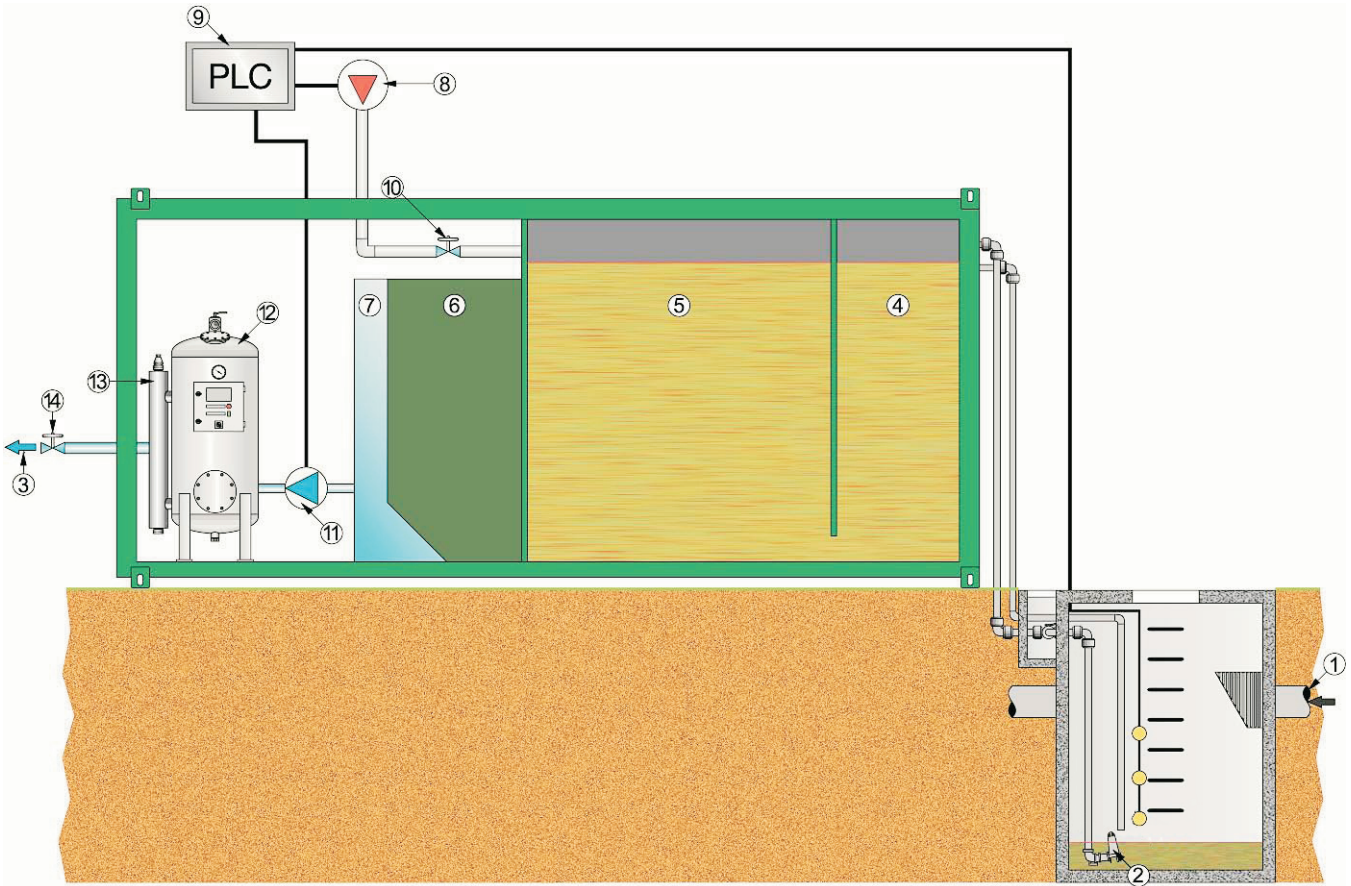


**CONNECTION LIST**

MARK	A	B	C
<b>SERVICE</b>	inlet	overflow	gravity discharge
<b>MODEL</b>	<b>TIPO</b>		
SMS-16	DN32	DN80	DN80

External dimensions according to ISO 20' container

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ITEM	DESCRIPTION
1	Black water inlet
2	Submersible elevating grinder pump (one operation, one stand by)
3	Discharge
4	Anoxic chamber
5	Aeration chamber
6	Settling chamber
7	Discharge chamber
8	Blower
9	PLC (Program Logic Controller)
10	Manual valve
11	Circulation pump
12	Sand filter
13	UV
14	Manual valve