

Copa[®] SAF (Submerged Aerated Filter)

Packaged wastewater treatment works

Key features & benefits

- Temporary or permanent schemes
- Above & below ground installations
- Meets regulatory requirements
- Municipal and industrial applications

How we create value

- Extends commercial life of failing or overloaded works
- Reduces land use costs
- Reduces discharge consent failures
- Simple operation reduces labor costs
- Robust design reduces whole life costs



Copa® SAF (Submerged Aerated Filter)

Operation

Ovivo's Copa® SAF (Submerged Aerated Filter) is a high performance biological filter for the treatment of domestic and industrial wastewater.

The Copa SAF wastewater treatment system is designed to provide biological treatment for sewage works with population equivalents up to 3000. The system can achieve an effluent quality of 15mg / l BOD, 25mg / l SS, and 5mg / l ammonia at the 95th percentile.

Utilizing decades of experience in SAF design, Ovivo has developed a solution robust enough to handle fluctuating flows and loads, the Copa SAF system is ideally suited to smaller works where intermittent loading can be a particular problem.

Our units are designed with flexibility in mind: they can be installed as a permanent solution, to provide temporary treatment for emergencies, or as part of a planned works maintenance program.

A Copa SAF system includes a SAF tank(s) and a walk-in GRP kiosk, housing air blowers and a control panel. Where multiple SAF tanks are required, a flow split box divides the flow evenly between parallel units.

The Copa SAF tanks and pipework are manufactured in either stainless steel or mild steel. Tanks are painted in a high quality polyurethane coating, extending the design life and dramatically reducing whole life costs.

No specialist operation is required. Our below ground SAF allows diffuser replacement without the need for draining tanks or removing media, minimizing maintenance costs.



Features

- Simple operation
- Plug & play rapid start-up
- Minimal maintenance required

Advantages

- Environmentally friendly
- Low odor
- Rapid installation
- Few moving parts

Applications

- Treatment of domestic sewage
- Treatment of industrial effluent
- Hire units available for treatability studies or works refurbishment



Above and Below Ground Copa[®] SAF

Aeration

Steel Copa SAF tanks comprise a number of treatment cells, arranged in series. Each cell houses a number of fine bubble membrane diffusers, mounted below rigid, PVC media. The diffusers provide air to keep the treatment system healthy and to air scour the media, releasing dead biomass and eliminating the need for backwashing. For both above and below ground installations, the diffusers can be removed for maintenance without removing the media.

Low maintenance side channel blowers supply the diffusers with air. Diaphragm valves ensure that only

the necessary amount of air is provided for biological treatment and continuous air scouring of excess or dead biomass that may accumulate on the media.

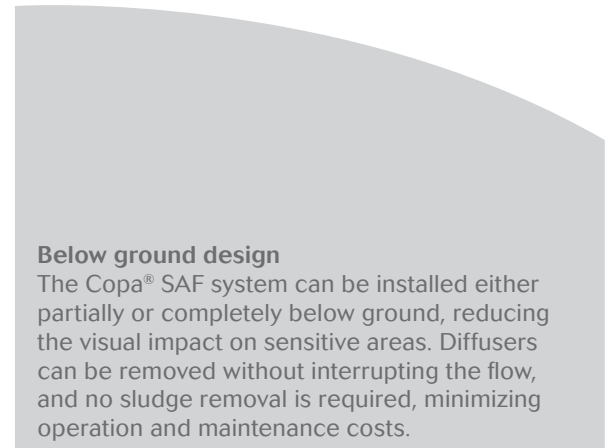
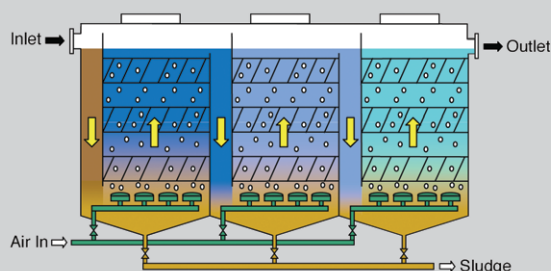
Each Copa SAF tank is supplied with a duty blower, with a common standby unit for the system as a whole. The blowers are virtually maintenance free, needing air filter replacement just once in every 6 months.

The aeration pattern on top of the media can be observed by opening the hatches on the top of the tanks. There is no need for dissolved air measurement or returned sludge control.



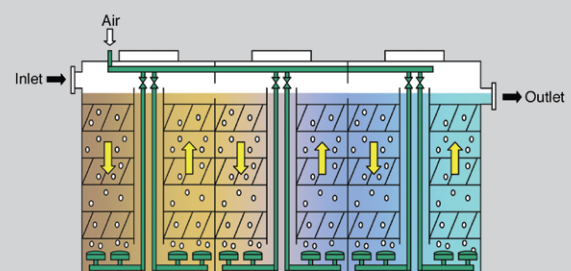
Above ground design

Installing the Copa[®] SAF tank above ground reduces installation time and civil costs. Units are also easily moved for temporary and semi-permanent schemes.



Below ground design

The Copa[®] SAF system can be installed either partially or completely below ground, reducing the visual impact on sensitive areas. Diffusers can be removed without interrupting the flow, and no sludge removal is required, minimizing operation and maintenance costs.



Performance/Emergency Response

Performance

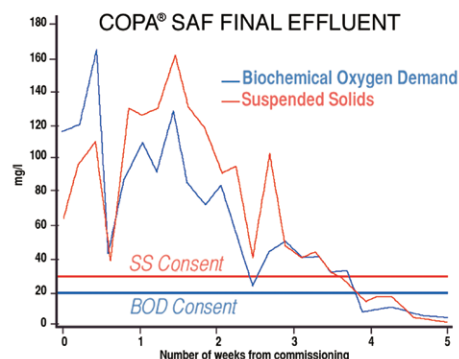
Ovivo's Copa SAF technology has a proven performance record, supported by almost twenty years of development and many installations throughout the worldwide wastewater industry.

The Copa SAF system has an immediate effect on BOD reduction, and the system can be 100% effective within four weeks of start-up.

Emergency response

With its robust, package design, the Copa SAF system is easily deployed to assist failing or overloaded treatment works. The Copa SAF system can also be used as a temporary solution to support works during planned maintenance.

Ovivo offers a full range of alternative process solutions to meet any standards for effluent discharge quality. Our qualified team of process engineers can examine your exact requirements and offer the best available solutions to suit your plant.



System	Population Equivalent*			Power Required	Footprint inc kiosk (Lm x Wm x Hm)	
	20:30 Consent	20:30:10 Consent	15:25:5 Consent		Above Ground	Below Ground
CB300	300	120	85	3 kW	7.0 x 2.5 x 3.0	10.0 x 2.0 x 2.4
CB500	500	200	150	4 kW	8.5 x 2.5 x 3.6	10.0 x 2.5 x 2.7
CB750	750	300	225	5.5 kW	10.0 x 2.8 x 3.6	10.0 x 3.0 x 3.3
CB1000	1000	400	300	7.5 kW	11.5 x 3.1 x 3.6	12.5 x 3.0 x 3.3
CB1500	1500	600	450	11 kW	10.0 x 6.0 x 3.6	10.0 x 6.0 x 3.3
CB2000	2000	800	600	15 kW	11.5 x 6.5 x 3.6	12.5 x 6.0 x 3.3
CB3000	3000	1200	900	22.5 kW	11.5 x 11.0 x 3.0	12.5 x 9.0 x 3.3

*Population equivalent for normal domestic strength sewage with 30% BOD reduction in primary settlement tank

Ovivo also offers package treatment plants for small developments ranging upto 150 population equivalent.