

# Copa® SAF (Submerged Aerated Filter)



## Packaged Wastewater Treatment Works

### Key Features & Benefits:

- Temporary or permanent schemes
- Above & below ground installations
- Meets regulatory requirements
- Municipal & 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 labour costs
- Robust design reduces whole life costs



## Operation

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

Copa® SAF wastewater treatment systems are designed to provide biological treatment for sewage works with population equivalents up to 3,000. The system can achieve an effluent quality of 15mg/l BOD, 25mg/l SS, and 5mg/l ammonia at the 95th percentile.

Utilising Jacopa's™ decades of experience in SAF design, Jacopa™ has developed a solution robust enough to handle fluctuating flows and loads, the Copa® SAF 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.

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 odour
- Rapid installation
- Few moving parts

### Applications:

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





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## Above and Below Ground SAF

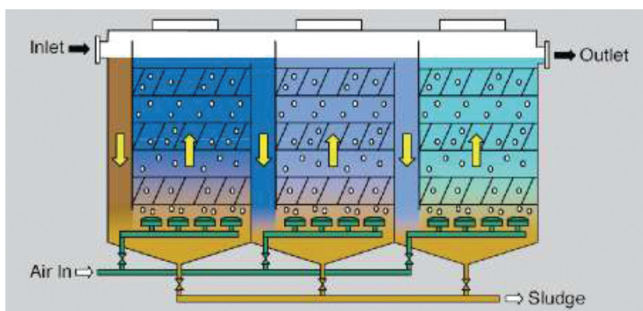
### Aeration:

Steel 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.

### Above Ground Design:

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



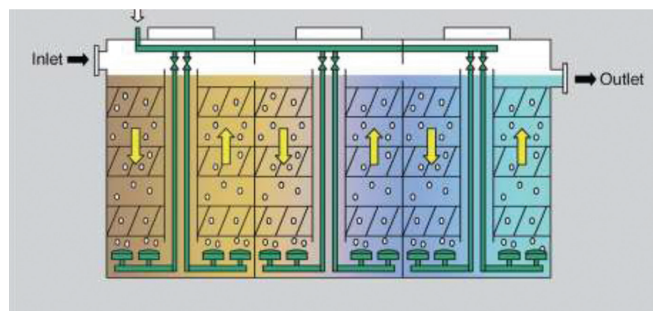
Diaphragm valves ensure that only the necessary amount of air is provided for biological treatment and continuous air scouring of excess or dead biomass that may accumulate on the media.

Each 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.

### 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, minimising operation and maintenance costs.



## Performance/Emergency Response

### Performance:

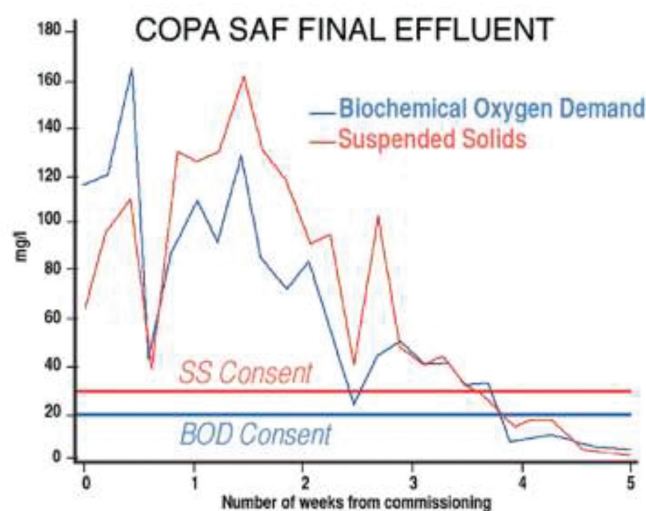
Jacopa's™ Copa® SAF has a proven performance record, supported by almost twenty years of development and many installations throughout the worldwide wastewater industry.

The Copa® SAF 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 is easily deployed to assist failing or overloaded treatment works. The Copa® SAF can also be used as a temporary solution to support works during planned maintenance.

Jacopa™ 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.



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

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

Jacopa™ also offers package treatment plants for small developments ranging up to 150 population equivalent.

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