RBC OR SAF - WHICH DO YOU PREFER?

Rotating biological contactors (RBCs) and submerged aerated filters (SAFs) are both well-known, trusted wastewater treatment systems that are widely used across the UK and Ireland.

Interestingly, water companies have tended to gravitate towards one system or the other, rather than incorporating a mix of both, for various historical reasons.

This separation appears logical as both solutions essentially perform the same task, removing BOD and ammonia from wastewaters for small populations of up to 3000 PE However, there are persuasive reasons why it is worth considering a mix of both, tailoring solutions for the situations to which they are best suited.

Taking RBCs as a starting point, these are effective, robust treatment systems with a large number of installed units across the world. Their key benefit is low power usage, which means that they are well suited to rural areas where the power supply may perhaps not be as robust as an urban system. Jacopa's RBC drive units have a 100,000-hour design life, and all mechanical parts are coated to WIMES specifications to reduce and simplify maintenance. Because of their method of installation, which normally requires a reception pit to be excavated, they are essentially permanent fixtures.

Jacopa's collaborative research with leading design and operations experts has led to a thorough understanding of the RBC process resulting in an attractively-priced option with significant design improvements. Normally built off site and delivered in one piece for rapid installation, Jacopa's RBCs are designed to ensure the lowest total expenditure and minimal operator intervention. The low energy consumption delivers low operating costs, and the systems also help to reduce the capital cost of wastewater treatment.

Jacopa's high-performance biological SAF units are the original SAF systems and the Company recently celebrated its 25th year of SAF installations. They have a proven performance record with hundreds of installations throughout the global wastewater industry. The fixed-film Copa SAF has an immediate effect on BOD, and can be 100% effective within just four weeks of start-up.

SAFs are a very low maintenance option, as the only moving part is the blower in its separate GRP kiosk, and the packaged units themselves can be installed either below ground or above. The latter option has made them extremely popular as temporary installations, where they can extend the commercial life of failing or overloaded works, help support planned maintenance, reduce land use costs, and minimise discharge consent failures. The robust design and simple operation reduce both whole life and labour costs.

Installing the tanks above ground obviously reduces both civils costs and installation time, and whichever option is chosen, each tank has its own duty blower with a separate common standby unit. The blowers themselves are low-maintenance systems, needing replacement air filters just once every six months. In all, around 500 of Jacopa's SAF tanks have been installed around the world.

Jacopa were also the first company to offer a SAF hire service back in 1996 and the SAF hire business has continued to grow ever since. SAF Hire is an increasingly popular strategic option where water companies need short-term wastewater treatment solutions that have an immediate effect on ammonia and BOD. The SAF provides great process flexibility and can be used as a permanent or temporary solution for BOD removal, for combined BOD and ammonia removal, for tertiary nitrification and as part of a denitrifying treatment system.

For Both SAF and RBC Jacopa offer a 'turnkey' service including, design delivery, offloading, mechanical and electrical installation and commissioning of the equipment. Given the wide range of benefits and options available the choice of RBC or SAF depends on the individual requirements of a particular site. Jacopa therefore believe it is important to work with the customer to achieve the optimum solution for each situation.

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