atac

Products and Services

Our products at a glance

Phosphorus Removal

Lamella Settlement Tanks

Submerged Aerated Filters

Tankering

Vertical Submerged Aerated Filters

Aeration Lane Refurbishment

MITA Cloth Filters

Service and Maintenence

ATAC Phosphorus Removal System

The ATAC Phosphorus Removal System is a stainless steel modular solids treatment plant that can be purchased outright or rented to suit your needs. Built to be low maintenance and robust, it is quick and easy to deploy and can be supplied with or without a chemical dosing container.

The system offers numerous installation options and features a thoroughly tested design. Automated desludging is available via actuated valve or pump. The system can reliably achieve phosphorus levels better than 0.5mg/l and is built to last with a lifespan exceeding 25 years.

Phosphorus Removal Systems

The ATAC PRS is a phosphorus reduction system designed to meet the challenging phosphate consent standards set by environmental agencies. This system offers a cost-effective solution compared to alternative equipment, providing substantial savings without compromising performance.

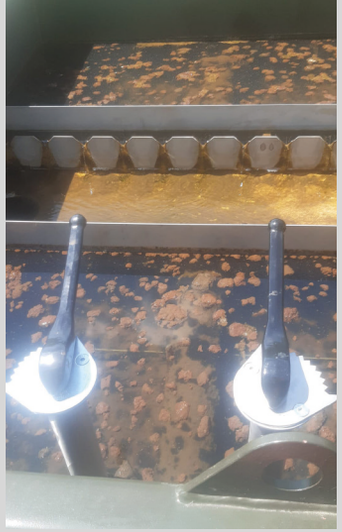
Design and Specifications of the PRS

The ATAC PRS is engineered to treat final effluent from 2 mg/l down to 0.5 mg/l as P (phosphorus). Its design incorporates integral mixing and flocculation tanks equipped with variable-speed mixers, ensuring efficient phosphorus reduction. With a maximum design flow of approximately 8-10l/s (29-36m³/hr), the ATAC PRS can handle varying flow rates depending on the required performance. Additionally, the system can be expanded by attaching a second ATAC lamella settlement tank to increase capacity to around 18l/s. This flexibility makes the ATAC PRS a versatile solution for different wastewater treatment plants.

Operation and Control of the ATAC PRS

For effective phosphorus removal, the ATAC PRS employs a combination of coagulation, flocculation, and lamella settlement processes. Ferric, a coagulant, is dosed via an inline mixer upstream of the P-Lamella package plant, allowing for optimal reaction in the feed pipework. Additional mixing and flocculation occur in the dedicated tanks, ensuring the formation of large ferric flocks that settle effectively. Effluent from the lamella units flows over into the central channel and is discharged through a pipe connected to the recirculation main and sand filter feed PS (pumping station). The recirculation control system and wider site pipework are handled separately and not included in the ATAC PRS scope.

The mixers in the ATAC PRS are equipped with variable-speed drives, allowing operators to manually adjust the mixer speed at the motor control centre (MCC). Typically, the first mixer runs faster than the second mixer in the tank. This configuration ensures optimal mixing and promotes efficient phosphorus reduction.



ATAC Submerged Aerated Filters

The ATAC SAF is a stainless steel modular biological treatment plant that can be either purchased outright or rented to suit your needs. It is designed to deliver high treatment efficiency that easily achieves standards of 20mg/l TSS, 10mg/l BOD, and 5mg/l N or better.

The system is quick and easy to deploy, with numerous installation options available to suit different site requirements. Built on a proven and reliable design, it can also be configured in a vertical arrangement where space is limited.

Requiring minimal operational input and maintenance, the ATAC SAF is built to last with a lifespan exceeding 25 years.

Suitable for backend nitrification (NSAF) for enhanced performance.

SAF units are scalable modular wastewater treatment systems that are available for capital purchase or hire. These units can be installed above or below ground, providing flexibility in their configuration. SAF units utilise a series of individual cells through which the wastewater flows. Each cell contains a rigid block media, which promotes the growth of biomass. Fine bubble diffusers feed oxygen from blowers to facilitate the growth of biomass. This process allows SAF units to effectively remove contaminants from the wastewater, producing clean effluent.

Operational Processes

The operational processes of SAF units are designed for robustness, reliability, and minimal operator involvement. The wastewater enters the first cell of the SAF unit and flows through the biomass media. The biomass feeds on the organic matter present in the wastewater, reducing the levels of BOD (Biochemical Oxygen Demand) and other contaminants. The clean effluent then exits at the surface of the final cell. SAF units are equipped with air control valves near access hatches, allowing for easy access and accurate process trimming to optimise performance.

Versatile Applications

SAF units can be used in various applications, including stand-alone treatment, emergency cover during refurbishment or breakdowns of other systems, supplementing or replacing existing systems, and as part of a complete sewage treatment works.

Emergency Hire Units

SAF units are available for emergency hire. These units provide a temporary solution to maintain wastewater treatment while repairs are being carried out. The hire units are easily transported and can be delivered by HIAB lorry for convenient offloading. Additionally, installation and commissioning services are available to ensure the seamless integration of the emergency hire units into the existing wastewater treatment infrastructure.

ATAC Vertical Submerged Aerated Filters

The ATAC Vertical Submerged Aerated Filter (vSAF) is a stainless steel modular biological treatment plant that can be used for both secondary treatment (BOD and ammonia removal after primary settlement tanks) and tertiary treatment (additional nitrification for existing humus tank effluents). Built offsite to reduce construction time, the vSAF features a smaller footprint compared to traditional SAF units, making it ideal for space-constrained installations.

The system achieves remarkable oxygen transfer rates of 5% O_2/m through its vertical design, while requiring smaller blower sizes for media scouring which improves energy efficiency. With minimal operational input required, low maintenance needs, and a 25+ year lifespan, the vSAF represents an innovative and sustainable wastewater treatment solution. The system also allows gravity flow from the top of the unit into other forms of tertiary treatment like sand filters if required.

Vertical Submersible Aerated Filter (vSAF)
vSAF is a biological treatment plant used to achieve additional nitrification for existing humus tank effluents. It is built off-site which reduces construction time when compared to other on-site build options.

What are the advantages over conventional SAF?

Smaller Footprint:
One of the standout advantages of vSAF is its smaller footprint compared to conventional SAF units. This compact design allows for more flexibility in terms of installation, especially in areas where space is limited.

Efficient Oxygen Transfer: Efficient oxygen transfer is crucial in wastewater treatment processes, and vSAF excels in this aspect. Thanks to its vertical design, the unit achieves a remarkable oxygen transfer rate of 5% O_2/m.

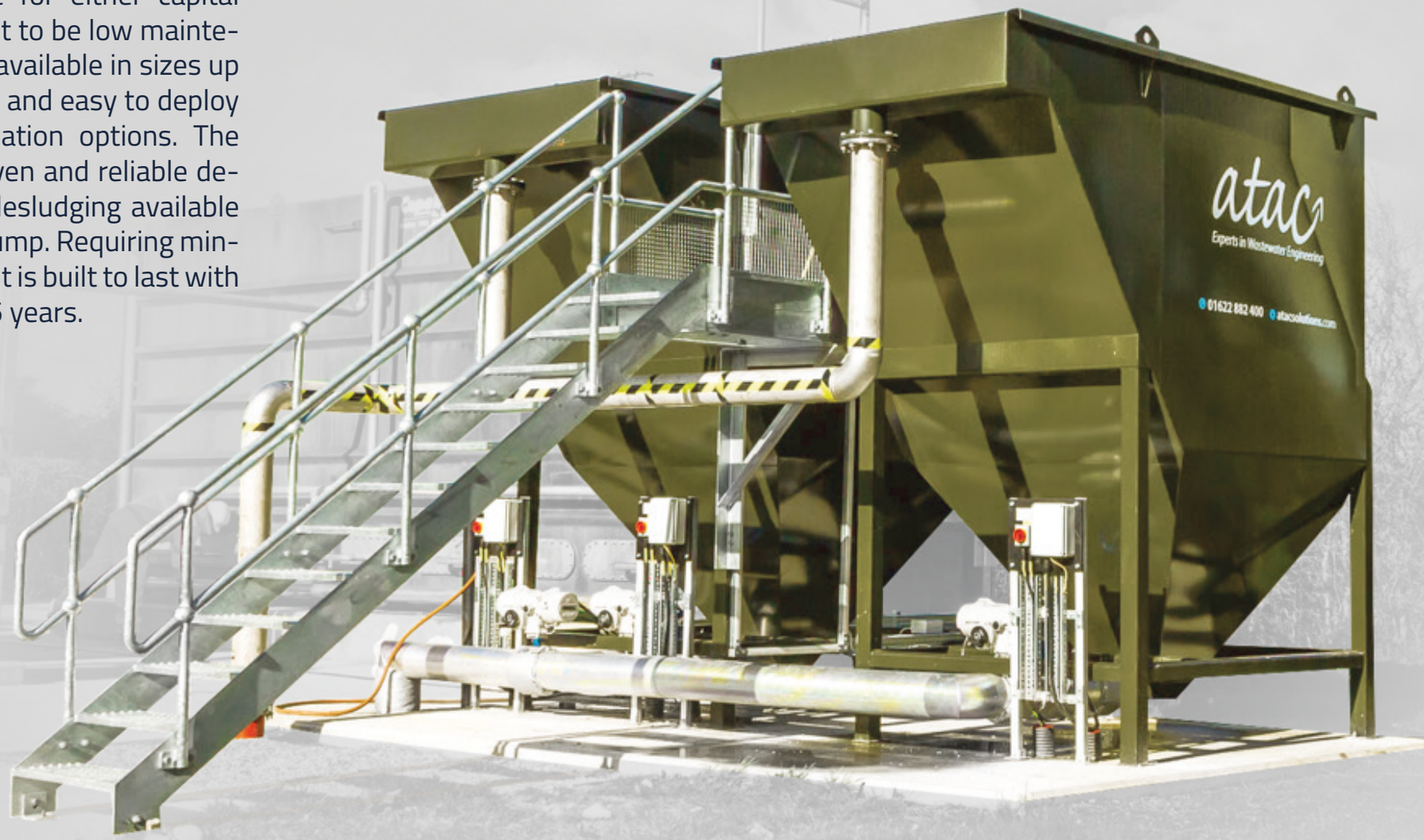
Gravity Flow and Tertiary Treatment Integration: Another advantage of vSAF is its ability to allow gravity flow from the top of the unit into other forms of tertiary treatment, such as sand filters, if required.

Reduced Blower Sizes:
SAF units require blowers sized according to the surface area (m^2) of the media to ensure effective scouring, which removes any dead biomass. This reduction in blower size not only results in cost savings but also contributes to energy efficiency

The vSAF is an alternative to the conventional SAF and compliments the range for bespoke site applications.

ATAC Lamella Settlement Tank

The ATAC Lamella Settlement Tank is a stainless steel modular solids treatment plant that is available for either capital purchase or rental. Built to be low maintenance and robust, it is available in sizes up to 33 l/sec and is quick and easy to deploy with numerous installation options. The system features a proven and reliable design with automated desludging available via actuated valve or pump. Requiring minimal operational input, it is built to last with a lifespan exceeding 25 years.



ATAC Lamella Unit is an essential component of settlement process used in various industrial and wastewater treatment processes. These units are designed to enhance the efficiency of solid-liquid separation and improve the overall performance of the treatment system.

The ATAC Lamella Units are constructed using 304 stainless steel, ensuring its durability and resistance to corrosion. This tank material is specifically chosen for above-ground installations, providing longevity and reliability in various environmental conditions.

The lamella units are equipped with a modular tubular media system. This media is specifically designed to enhance the settling process by providing a large effective surface area for solid particle capture. The lamella media is arranged in a zone configuration, allowing for efficient upward flow of effluent through the media. With an effective surface area of 13m^2/m^3, the lamella media ensures optimal solids removal and improves the overall treatment efficiency.

For applications requiring higher treatment capacities, the Lamella Unit can be installed as a multiple unit. It can be installed in parallel mode, fed from a bespoke hydraulic weir splitter chamber provided by ATAC. We are currently supplying 3 units in the parallel mode and could go more if required. This configuration allows for increased treatment efficiency and enhanced flexibility in handling varying flow rates and solids loads. The multiple unit installation is particularly beneficial in large-scale wastewater treatment plants or industrial processes with high effluent volumes.

ATAC Pile Cloth Filters

ATAC Pile Cloth Filters are designed to provide both surface and deep filtration through special cloth made from free fibers. The filters feature a vertical shaft design that eliminates drive chains, improving reliability and reducing maintenance needs. Available in multiple configurations:

- Vertical range units with 10-30 m² cloth area (2/10 - 6/30 models)
- Horizontal range units with 40-120 m² cloth area (8/40 - 24/120 models)
- Drum range units with 2-6 m² cloth area (TF2, TF4, TF6 models)

The filters operate via gravity flow, with the unit remaining completely at rest during filtration. Water passes through the submerged filter cloth where solids are captured by the fibers. An automated backwash system with submersible pumps activates when differential pressure reaches set levels, removing trapped solids to restore efficiency.

MITA Pile Cloth Filters are designed to provide both surface and deep filtration, combining the advantages of these two techniques. The filters utilise special types of cloth made from free fibres, which ensure high mechanical strength and excellent separation of solids. The cloth is either fitted on a drum or stacked on a vertical shaft, depending on the model. These filters are made of durable AISI 304 stainless steel, ensuring longevity and resistance to corrosion.

The operating principle of MITA Pile Cloth Filters is based on gravity flow. The unit remains completely at rest during the filtration process, eliminating the need for reserve units or service water. The water to be treated is directed to the filter's containment tank, which operates submerged. As the water passes through the filter cloth, the solids are captured and retained by the fibres. The clean water is then discharged through the drum or the central shaft of the filter.

Filtering surface depends on MITA Filter model:

- Vertical range is 2/10 – 6/30 units (10m² – 30m² cloth area)
- Horizontal range is from 8/40 up in stages to a 24/120 unit (40-120m² cloth area)
- Drum range is TF 2,TF4 and TF6 (2m², 4m² and 6m² cloth area)

To maintain optimal filtration capacity, MITA Pile Cloth Filters are equipped with a backwash system. When the pressure drop reaches a certain level, the backwash device is activated. This device, consisting of suction pumps and nozzles, removes the solids trapped in the cloth, restoring the filter's efficiency. The removed sludge and suction water are returned upstream, minimizing waste and environmental impact.

By incorporating these filters into the treatment process, impressive results can be achieved, with solids removal rates between 50% and 80% of the TSS in the feed sample. The filters can reduce the effluent's TSS levels to as low as <5 mg/L and achieve total phosphorus values of 0.25 mg/L after ferric additions.

MITA Pile Cloth Filters are versatile and can be applied in various wastewater treatment scenarios. Their primary use is in tertiary treatment, where they act as a final step before the discharge of treated wastewater. These filters have proven to be effective in reducing both solids and phosphorus levels, ensuring compliance with strict environmental regulations.

ATAC CHEMIX

ATAC CHEMIX is a coarse air bubble mixing system designed for optimal mixing of ferric salts. The system uses strategically placed diffusers to deliver coarse bubble air into a chamber or flow channel, creating vigorous mixing action. The complete system can include custom diffusers, air compressors, and an optional GRP trough for even ferric distribution.

Available in both single pump (CHEMIX Standard) and dual pump (CHEMIX PLUS) configurations, the system offers:

- Low operational and maintenance costs
- Small footprint installation
- Flexible configuration options
- Enhanced treatment performance
- Automatic duty/standby operation (CHEMIX PLUS)
- Integrated control systems with pressure monitoring
- Remote operation capability
- Customizable to suit chamber size and site requirements

The system is designed for continuous operation but can be integrated with chemical dosing controls for synchronized operation. All components are industrial grade for reliable long-term performance.

ATAC CHEMIX systems deliver a vigorous coarse air bubble pattern at the point of application, promoting efficient mixing and optimising the benefits of Ferric dosing in the wastewater industry. Systems can be customised in a variety of configurations to suit a wide range of applications and can come with a standard or bespoke air diffuser. We can also offer bespoke GRP dosing troughs, providing even distribution of Ferric across the width of a dosing chamber, further optimising mixing efficiency.

The **standard CHEMIX System** comprises a single duty only air diaphragm blower, whilst the **CHEMIX PLUS** has two blowers for duty/standby or duty/duty operation. Both are supplied in a roadside kiosk with a Local Control Panel, high and low-pressure switches, an LED light fitting and a thermostatically controlled tubular heater. The air delivery manifolds have mechanical NRV's and PRV's, and each system is supplied with up to 20m of wire reinforced air delivery hose.

CHEMIX can be configured to suit a wide variety of mixing chamber sizes and depths and provide the right solution for specific site and client needs. This includes Side Channel Blower variants now available for larger applications where greater air flow is required. These systems retain the same functionality as the air diaphragm CHEMIX system, but include integral Variable Speed Drives enabling the mixing energy required to be fine tuned on site.

The high and low-pressure switches are adjustable and protect the system in the event of a hose or diffuser blockage, or a blower failure. Alarms are displayed locally, and telemetry outputs are provided.

Designed by ATAC Solutions, CHEMIX systems are user-friendly, easy to maintain, efficient, and cost effective.

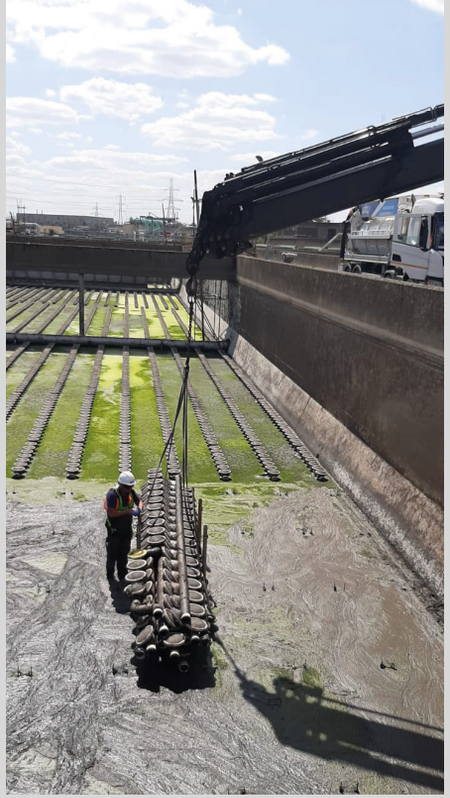
ATAC Aeration Lane Refurbishment

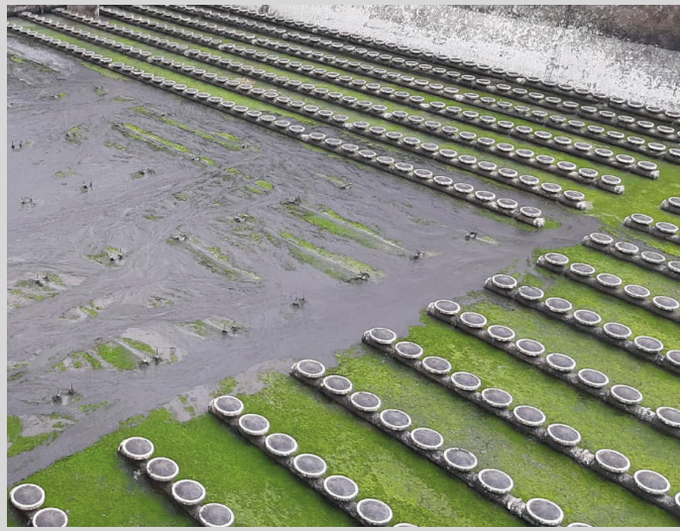
ATAC Solutions provides comprehensive aeration lane refurbishment services to optimize wastewater treatment efficiency. Our experienced team evaluates existing systems, removes debris using our specialist ATAC Tanker Fleet, and implements modern aeration technologies to improve oxygen transfer and reduce energy consumption. We supply and install complete aeration systems including fine bubble diffusers, optimized air distribution pipework, dissolved oxygen monitoring instruments, flow control baffles and submersible mixers.

Our services include:

- Complete system assessment and performance evaluation
- Removal of debris and thorough lane cleaning using ATAC Tankers
- Supply and installation of new fine bubble diffuser systems
- Replacement and optimization of air distribution pipework
- Installation of monitoring and control instrumentation
- Supply and fitting of flow control baffles
- Integration of energy-efficient submersible mixers
- Full system commissioning and performance verification

We ensure minimal disruption while upgrading these critical infrastructure components and provide comprehensive support after completion to maintain optimal performance.





Filter Bed Refurbishment and Filter Bed Cleaning

We provide comprehensive filter bed refurbishment services including replacement of trickling filter media, tiles and pipework systems. Our team handles complete scheme planning and implementation while managing ongoing site processes during works. We supply temporary equipment to maintain biological treatment capabilities throughout the refurbishment. Our services include renovation of filter arms and associated mechanisms like jet drive propulsion and syphon systems. We also perform regular maintenance such as arm flushing, nozzle cleaning, and filter bed cleaning using professional flushing methods.

ATAC Service & Maintenance

Pump Station Maintenance
We provide comprehensive pump station care through scheduled maintenance programs, including performance monitoring, inspections, testing, and wet well cleaning.

Treatment Plant Maintenance
Our treatment plant services optimize operational efficiency through expert troubleshooting, equipment servicing, compliance monitoring, and sludge management.

Specialist Equipment Services
We maintain critical infrastructure including borehole pumps, rainwater systems, and industrial installations, with remote monitoring and high-pressure jetting capabilities.

Technical Expertise
Our qualified team includes NIC certified mechanical and electrical engineers focused on first-time fixes and ongoing technical support.

Coverage & Availability
We provide 24/7 emergency response across Kent, Essex, Sussex, London, Surrey and Hampshire from our South-East England base.

ATAC Tankering & Jetting Division

We operate a modern fleet of specialist combination tankers with fully trained and experienced operators. Our tankers are equipped with high powered liquid cooled vacuum pumps for continuous running, making them suitable for all types of liquid waste including grease trap emptying, septic tank maintenance, and spill and flood response. The tankers feature both high pressure jetting systems for pipe & gully cleansing and low pressure systems for washdowns.

Our comprehensive tankering services include:

- Septic tank and cesspit emptying
- Grease trap cleaning and maintenance
- Gully and drain cleaning
- Flood response and water removal
- Pond and lagoon draining
- Leachate collection
- Pump station cleaning
- Industrial waste removal

We ensure environmentally responsible disposal of all tankered fluids at dedicated liquid disposal sites. Our service covers the South-East including Kent, Essex, Sussex, London, Surrey and Hampshire, with 24/7/365 emergency call out service available at 03333 111 030. Our experienced team approaches each task professionally, providing reliable solutions for both commercial and domestic customers.

ATAC Mobile Diesel Pumps for Hire

We maintain a growing fleet of specialist diesel pumps designed for reliable performance in demanding environments. Our operators are fully trained and experienced in pump operation, setup, and troubleshooting across a wide range of applications. The pumps are available in various sizes and models to handle different flow rates and head requirements, from small portable units to large high-capacity systems. All fuel management and maintenance is handled in-house by our dedicated team, including regular servicing, repairs, and 24/7 emergency support. Our pumps feature:

- Flow rates from 50 to 1000 m^3/hour
- Heads up to 100 meters
- Acoustic dampening enclosures
- Auto-start capability
- Fuel-efficient operation
- Remote monitoring
- Full containment base tanks
- Quick-connect fittings
- Weather-protected control panels

ATAC Attenuation Tanks

ATAC Attenuation Tanks provide reliable storage and flow control solutions for managing varying wastewater flow rates in treatment processes.

- ATTEN-1 (Working volume ~0.9m³)
- ATTEN-2 (Working volume ~2.5m³)
- ATTEN-3 (Working Volume ~3.7m³)
- ATTEN-4 (Working volume ~7m³)

Our attenuation tanks are engineered to provide reliable flow control and storage solutions. They are primarily used to store backwash liquors from MITA filters when sites cannot handle the full backwash pump flow rate, allowing controlled return of flows at lower rates. These versatile tanks can be used to store and manage variations in flow rates, offering site-specific maximum flow configurations. Built with robust and reliable construction to meet industry standards, they provide cost-effective solutions for flow management.

ATAC Coagulation Tanks

COAG Tanks are specialized units designed for phosphorus removal processes, featuring two chambers with top-mounted mixers operating at different speeds. The Rapid Mixing Chamber ensures thorough mixing of wastewater with metal salt coagulants (ferric chloride or ferrous sulphate) using a high-speed mixer for optimal chemical dispersion. The Slow Mixing Chamber is dedicated to flocculation, using gentler mixing speeds to promote the formation of larger “flocs” for easier separation.

Available in 4 standard configurations:

- COAG-1: ~65 m^3/hr (~18 L/s)
- COAG-2: ~119 m^3/hr (~33 L/s)
- COAG-3: ~180 m^3/hr (~50 L/s)
- COAG-4: ~245 m^3/hr (~68 L/s)

Key features include stainless steel construction, availability for capital purchase or rental, low maintenance robust design, quick deployment, and flexible installation options. The systems come with variable-speed drive mixers and achieve phosphorus reduction to 0.25mg/l when used with MITA Cloth Filters. For reduced footprint installations, COAG Tanks can be supplied with CHEMIX static inline mixer to replace the rapid mixing chamber, providing direct chemical mixing into the wastewater flow before the flocculation tank.

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