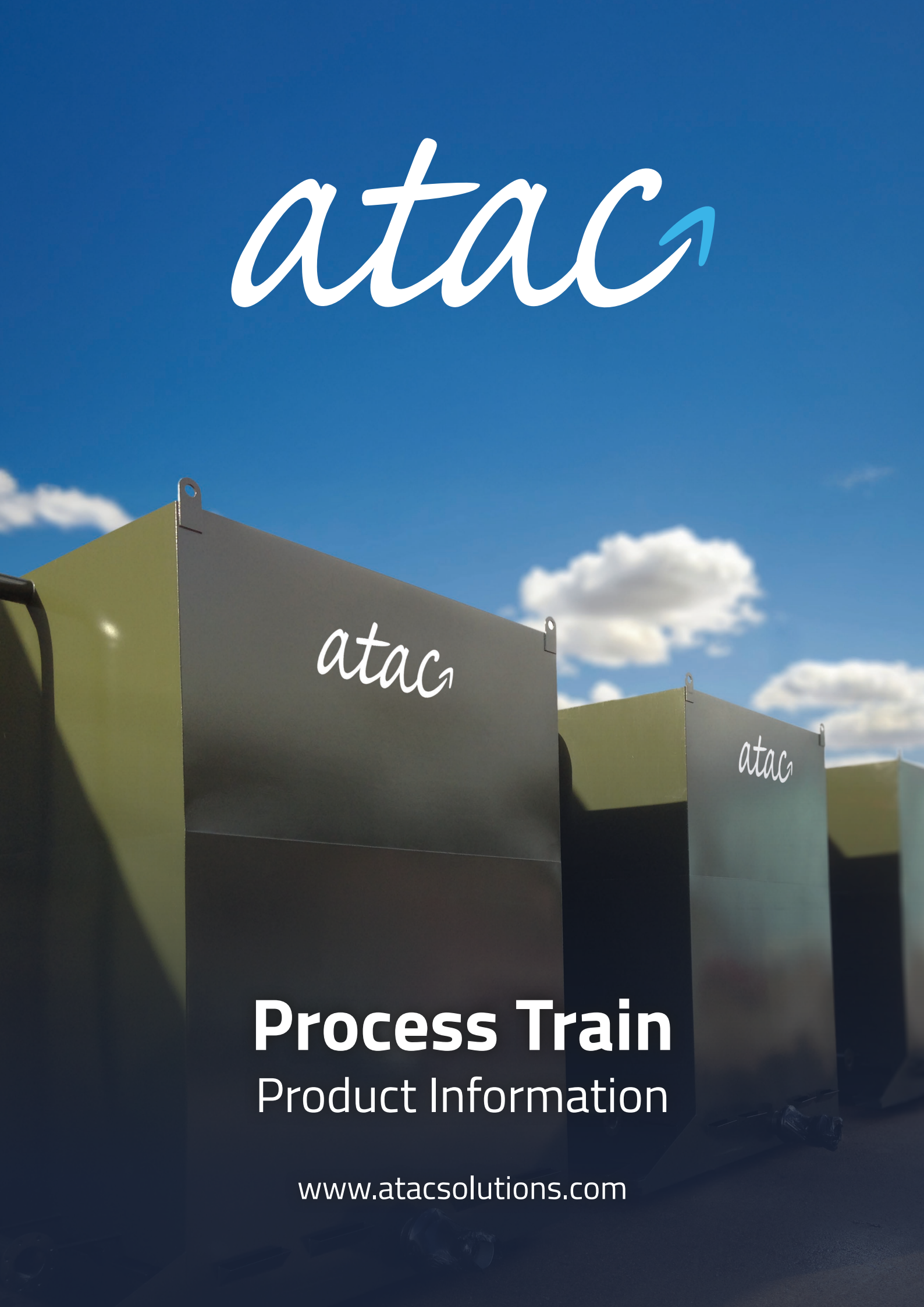

Process Train

Product Information

www.atacsolutions.com

Protecting Our Waters:

Advanced CSO Contamination Solutions

The Growing Challenge of Water Pollution

The United Kingdom faces significant challenges with water quality, with only 14% of rivers achieving 'good' ecological status. Our coastal waters consistently rank among the lowest in European quality assessments due to various pollution sources, including:

- Raw sewage discharge
- Agricultural runoff
- Combined Sewer Overflow (CSO) events
- Poor waste management practices

These pollutants threaten public health, damage marine ecosystems, and endanger wildlife in our rivers and seas.

ATAC Solutions: Advanced Water Treatment Technology

ATAC Solutions provides Process Train equipment specifically designed for water and wastewater treatment. Our systems excel in managing Combined Sewer Overflow (CSO) contamination through deployable, efficient solutions.

Our Comprehensive Treatment Process

- **Screening Technology:** Efficiently removes debris and large solids
- **MBBR Biological Treatment:** Reduces organic pollutants using Moving Bed Biofilm Reactor technology
- **Pile Cloth Filtration:** Ensures superior removal of suspended solids
- **Optional UV Treatment System / Generators / Transfer Pumps**

Key System Benefits

- **Proven Reliability:** Built on well-established water treatment technologies
- **Flexible Deployment:** Modular design allows for quick installation and scalability
- **Robust Construction:** Engineered for durability in challenging environments
- **Regulatory Compliance:** Meets or exceeds industry standards
- **Comprehensive Treatment:** Multiple treatment stages ensure thorough contamination management

Versatile Applications

- **Emergency Response:** Rapid deployment during CSO events
- **Temporary Treatment:** Support during facility maintenance or upgrades
- **Remote Locations:** Areas without permanent infrastructure
- **Continuous Protection:** Long-term water quality management

Eliminating Tankering Dependencies

Our Process Train equipment offers a sustainable alternative to traditional tankering operations during CSO events. By providing on-site treatment capabilities, we help water companies eliminate or significantly reduce the need for continuous tanker movements, resulting in substantial cost savings and improved community relations.

This approach not only addresses the financial burden of 24/7 tankering operations but also resolves the persistent concerns of local residents regarding noise, traffic, and disruption in their neighbourhoods.

ATAC Solutions is committed to protecting our water resources and public health. Our advanced treatment systems provide effective solutions for managing water pollution, helping to preserve our rivers and seas for future generations.

MONO Pump

The Mono pump is a progressive cavity pump that utilises a helical rotor turning within a flexible stator to create a smooth, pulsation-free flow. This innovative design makes it particularly effective for handling challenging materials including slurries, viscous fluids, and materials with high solid content. The pump's unique operating principle allows it to maintain consistent flow rates while being gentle on shear-sensitive materials.

Renowned for its reliability and versatility, the Mono pump excels in applications across municipal, industrial, and agricultural sectors. Its robust construction, featuring options for ceramic-coated rotors and various elastomer stator materials, ensures long service life even in abrasive conditions. The pump's slow-running operation helps minimise wear, while its self-priming capability and ability to run dry for short periods make it a practical choice for demanding pumping applications.

In the Process Train, the MONO pumps have a strainer on the inlet side to prevent foreign objects from damaging the pump.

Specification Sheet

MONO Feed Pump

Pump Model	MONO EZstrip Z38A
Construction Materials	Cast Iron
Baseplate	Close Coupled Base – Mild Steel
No. of Stages	1
Max Solids Handling	16mm (Hard) 53mm (Soft)
Connections	INLET – 125mm BSEN1092 PN16/11 OUTLET – 125mm BSEN1092 PN16/11
Paint Finish	Standard Two Pack Epoxy Paint – RAL 5005 Blue
Weight	270kg
Maximum Differential Pressure	6 Bar
Maximum Delivery Pressure	10 Bar
Maximum Capacity	57.5m³/h
Minimum Temperature	-10°C
Maximum Temperature	100°C

Drive Specification

Installed Power	5.5kW/7.5HP
Motor Speed	1460 rpm
Gearbox Speed (Ratio)	490 rpm (2.86:1)
Electricity Supply	400V/690V / 3PH – 50Hz
Efficiency Class	IE3
IP Rating	IP55

Inlet Screen

The screening system effectively removes and compacts solid materials from incoming wastewater flows, providing essential preliminary treatment. Constructed from high-grade stainless steel (SS304L), the unit features a perforated screen with 6mm apertures and an integrated auger mechanism that automatically removes captured debris.

With a substantial flow capacity of 50 litres per second, this inlet screen system is ideal for medium-sized treatment facilities. The unit incorporates advanced features including an integrated washing and compaction system that helps reduce the volume of screened materials by up to 40%. The 35-degree installation angle and 190mm diameter auger ensure optimal screening efficiency while minimising the required footprint. A manual 19mm bypass provides operational flexibility during maintenance or high-flow events.

Specification Sheet

SPECO Screen

Model	SPECO Wastemaster GCPC 300
Type	Screw Screen
Construction Materials	Casing – SS304L Auger – SS304L
Capacity	50l/s
Screen Aperture Size	6mm Perforations
Connections	INLET – DN200 PN10 OVERFLOW – DN150 PN10 OUTLET – DN200 PN10
Overflow	19mm Manual Bypass
Maximum Water Level	460mm
Angle	35°
Motor	1.1kW
Voltage	400V
Motor Protection	IP55
Motor Frequency	50Hz
Screen Washing & Compaction	Included
Weight	600kg
Auger Diameter	190mm
Extraction Capacity	0.18dm³/s
Solids Reduction	Up to 40%

Moving Bed Biofilm Reactor

ATAC's Moving Bed Biofilm Reactor (MBBR) represents an advanced wastewater treatment solution that combines innovative design with proven technology. This stainless steel modular system offers enhanced treatment capacity, processing nearly double the loads compared to traditional SAF units in the same tank volume.

Key features include rapid deployment capabilities, minimal maintenance requirements, and a small footprint design. The system utilises random media, supported by an 8mm holed plate in a down-flow configuration. With a 25+ year lifespan and efficient oxygen transfer, the MBBR delivers consistent, high-quality treatment results.

The technology is particularly valuable for temporary installations during maintenance operations, small reed bed projects, and replacing media in underground SAF plants. Its scalable design and minimal operational input requirements make it an ideal solution for various wastewater treatment applications, from ground water to raw sewage treatment.

Specification Sheet

MBBR

Model	ATAC MBBR
Application	BOD/NH_3 Treatment
Construction Material	Fully Welded Construction - 304 Stainless Steel
Connections	INLET – DN100 PN16 OUTLET – DN150 PN16 AIR – DN50 PN16 DESLUDGE/DRAIN – DN80 PN16 DESCUM – DN100 PN16
Dimensions	H = 3.86m W = 2.21m D = 2.94m
Media Type	Wardens Biomedia – Biotag 650
Media Surface Area	Total Surface Area = 832m^2/m^3 Protected Surface Area = 650m^2/m^3
Fill Rate	65%
Media Volume	8m^3
Total Working Volume	12.4m^3
Freeboard	500mm
Blowers	3 No. JDK-500 – Duty/Duty/Standby 0.45kW / 230V / 50Hz / Q=500l/min at H=200mBar per Blower
Diffusers	4 No. CoarsAir MaxAir 304L SS L = 610mm per Diffuser 0-56m^3/hr per Diffuser
Access	Ships Ladder
Control Panel	LCP Included - 240V / 1Ph
Dry Weight	~2000kg (TBC)

Pile Cloth Filter

MITA Pile Cloth Filters are advanced tertiary wastewater treatment systems that combine surface and deep filtration techniques. Using specialised synthetic filter cloth fibres, they provide excellent mechanical strength and solid separation capabilities. The filters are constructed from durable AISI 304 stainless steel and can be configured with either drum-mounted or shaft-mounted (vertical/horizontal) cloth arrangements.

The filters operate via gravity flow, with contaminated water passing through submerged filter cloth that captures and retains solids. An automated backwash system activates when pressure drop reaches threshold levels, using suction pumps and nozzles to clean the cloth and maintain optimal performance. The system achieves 50-80% TSS removal rates and can reach total phosphorus levels as low as 0.25 mg/L with ferric additions.

Specification Sheet

MITA TF6 Drum Filter

Model	MITA TF6 VM
Filtration Area	6m²
Construction Materials	Tank – AISI 304 SS Frame – AISI 304 SS Shaft – AISI 304 SS Cloth – Microfibre POLSTOFF “PILE”
Filter Drum O.D.	1.32m
Filter Drum Length	1.55m
Connections	INLET – DN150 PN10 OUTLET – DN150 PN10
Drum Rotation Motor	0.18kW / 800/2 RPM / 400V / 0.62A / 50Hz / IP55
No. Backwash Pumps	1 (Internal)
Backwash Pump	0.9kW / 400V / 2.3A / 50Hz / Q=3.8l/s at H=8.5m H_2O
No. Desludge Pumps	1 (Internal)
Desludge Pump	0.9kW / 400V / 2.3A / 50Hz / Q=3.8l/s at H=8.5m H_2O
Overflow Baffle	Yes
Hydraulic Capacity	Up to 48m³/hr
Dry Weight	1400kg
Level Detection	5 Probe Set - Conductive Type

Microfibre Cloth Characteristics

Pore Size	Equivalent to 5 Micron Mesh
Weight	1000g/m² +/- 5%
Fibre Length	12mm +/- 5%

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