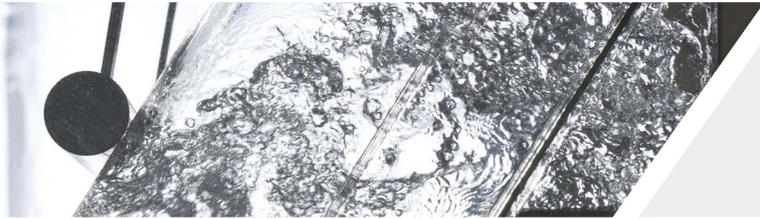


ATLANTIS LITE
CAGE & RACK WASHER



Modular, large capacity hydro spray batch-type washer designed to ensure efficient cleaning and disinfection of cages, racks, IVCs, transport trolleys and miscellaneous items used in laboratory animal research.



STANDARD TECHNICAL FEATURES

Atlantis Lite introduces a new concept of **modularity in rack washer design** in Tecniplast portfolio, offering the possibility to scale up functionality over time while maintaining a simple and cost-effective starting point. The machine is supplied in a basic configuration that includes all essential features for standard cleaning operations in small to medium-scale facilities.

In its basic configuration, Atlantis Lite is equipped with a sump functioning both as wash and rinse tank. The cleaning action is carried out by a set of **6 oscillating spray arms** operated by a pneumatic actuator, with a single water circuit serving both washing and rinsing phases.

From this core setup, Atlantis Lite can be upgraded with **two key modular options**. The additional **Booster Tank** allows pre-heating of process water before it enters the sump, resulting in shorter cycle time.

The **Single Pass Rinse Kit** introduces a separate rinse tank and an independent rinsing circuit, offering complete wash/rinse separation for enhanced cleaning performance and further expediting the overall cycle time.

This modular approach makes Atlantis Lite a versatile solution that can evolve alongside the user's operational needs, starting from a minimal configuration and growing into a more advanced system.

STANDARD TECHNICAL FEATURES

► **WASHING SYSTEM AND ARMS TECHNOLOGY**

The washing system in Atlantis Lite is designed to ensure effective and uniform cleaning of all loaded items, thanks to a set of **oscillating spray arms** that provide full water coverage throughout the chamber. The movement of the arms is driven by a **single pneumatic actuator**, which offers a balance between reliability, simplicity, and low operating cost.

In the standard configuration, the machine uses a single hydraulic

circuit for both the wash and rinse phases, a solution that streamlines the system layout while still delivering consistent performance for everyday cleaning needs. The spray arms are equipped with a **quick-release mechanism (patent pending)**, allowing operators to remove them easily and without tools during routine inspection or maintenance. This contributes to a user-friendly experience and supports efficient upkeep of the machine, even during high-throughput operations.



► **CHAMBER AND DOOR DESIGN**

The chamber doors are built with a **stainless-steel frame** and are fitted with **full-length tempered glass**, ensuring complete visibility of the internal process for the duration of the entire cycle. The glass consists of two laminated layers with a safety interlayer, offering both durability and reduced noise and heat transmission during operation.

Atlantis Lite can be configured with either a single or a double door layout, supporting flexible installation in pass-through applications and barrier environments, and are mounted on robust hinges, positioned on the left or right side according to the project and layout requirements.

Each door is equipped with an **inflatable gasket**, ensuring a true active seal against the chamber frame. This design

ATLANTIS LITE
CAGE & RACK WASHER

provides full airtightness during washing and rinsing phases. An **interlock system** is integrated to prevent door opening while the cycle is in progress, ensuring operator safety and avoiding any risk of cross-contamination between dirty and clean areas.

► **SELF-CLEANING FILTER**

As part of the established design of Tecniplast washers, Atlantis Lite is equipped with an integrated **in-line self-cleaning filter** that automatically removes residues from the recirculation circuit. The filter is backflushed at the end of each washing phase to ensure reliable performance and minimize the need for manual cleaning.

Located inside the technical compartment, the unit is easily accessible and can be removed with a simple, **tool-free twist-and-pull action**. This system, as per Tecniplast standard for cage and rack washers, replaces floor-mounted static filtration stages and contributes to a more ergonomic and hygienic working environment, being a valuable asset that simplifies daily maintenance and reduces operator workload.

► **SAFETY**

Atlantis Lite is inclusive of two independent systems ensuring safe doors opening in case of emergency or power failure. The first consists of **two emergency cables** located inside the chamber. When pulled in any direction, they deflate the door gaskets and allow the doors to open without requiring any additional actions.

The second one is a **mechanical component** acting both as a door locking system and as an emergency release, functioning reliably even in the absence of electrical power.

This **dual safety approach** guarantees secure and intuitive intervention in any scenario.

► **POLARIS OPERATOR INTERFACE**

The washer is equipped with a **user-friendly Human Machine Interface (HMI)** that combines intuitive graphics with a full set of embedded features and functionalities available as standard, ensuring complete control and monitoring of the washing process. The interface includes the following **standard features**:

- **LiteView**: smartphone and tablet access for remote monitoring and setting (cycle parameters and self-start data), inclusive of a “blackboard” to send messages to the screen in the cage wash area.
- **TeleService**: remote connectivity via internet (on customer’s permission) for troubleshooting and software upgrades directly from the factory without stepping in your facility.
- **eMeter**: data collection and statistics on machine consumption (electricity, water and detergent).
- **USB port**: cycles, alarms and eMeter data downloadable in digital format.
- **Self-Start**: a weekly programmable functionality to automatically switch on and prepare your unit.
- **Self-Clean**: a dedicated cycle to rinse chamber, lines and tanks when a drain process is requested.

► **WASHING SYSTEM CONFIGURATIONS**

Atlantis Lite is designed to adapt to different facility needs through a **scalable configuration strategy**. The machine can be delivered in a streamlined basic version or upgraded with advanced modules to enhance washing performance and process control.

In its **basic configuration**, Atlantis Lite operates with a single sump used for every wet phase of the cycle. This shared recirculation system simplifies the internal layout, making it ideal for standard cleaning applications involving cages, racks, and related animal facility equipment.

The system can be upgraded with the **Booster Tank** option, which introduces a dedicated pre-heating module in a new tank for processing water. This allows the sump to be filled with already heated water at the start of each phase, reducing cycle times and optimizing thermal efficiency, especially valuable in higher-throughput operations.

For applications requiring greater attention, the machine can also be equipped with the **Single Pass Rinse Kit**. This configuration includes a separate rinse tank, a dedicated pump, and an independent circuit with its own spray arms. It ensures that the rinse water remains completely isolated from the wash phase, providing a true clean-water rinse and improving final cycle quality and duration.





OPTIONS

▶ BOTTLE WASHING

The system can include a **quick-lock connection** inside the chamber and a dedicated software configuration that enables efficient washing of bottles placed in standard bottle crates.

The process is designed to work with a specific presentation rack that accommodates up to **8 crates containing 18 bottles each**, ensuring complete cleaning coverage both inside and outside the bottles.

This setup allows the machine to process large volumes of bottles per cycle while maintaining ergonomic handling and consistent cleaning results, making it a valuable addition for facilities where bottle washing process is a frequent operation.

▶ SIDE CHAMBER WALLS ALTERNATE SPRAYING FEATURES

This feature allows **independent** or **simultaneous** activation of the spray arms located on the chamber walls during specific cleaning phases. By alternating the spray direction, the system increases washing pressure and improves water mechanical impact on the load, resulting in **enhanced cleaning efficiency**. The function is enabled through dedicated software and piping upgrade and is fully managed via the machine's HMI interface.

▶ DETERGENT DOSING SYSTEM

As a standard, the machine is equipped with one detergent pump for one chemical agent. As an option, additional dosing pumps can be provided for:

Neutralizing agent: the chemical is injected into the rinse circuit

Rinse aid: the chemical is injected into the rinse line

Second detergent: the chemical is injected into the wash tank, and it is used to run alkaline and/or acid cycles

Descaling: automatic descaling cycle inclusive of dosage pump for acid detergent

Remote chemical management: provide for each of the selected pumps a remote management solution to work with large chemical drums.

▶ DRAIN MONITORING

Temperature Water Treatment: in order to keep the drained water temperature **below 60°C – 140°F**, the machine can feature an automatic system to inline mix cold water with process water. Cold tap water (max 20°C – 68°F) must be provided separately.

pH Water Treatment: the pH of the drained water is neutralized by in-line mixing the proper chemical with the process water until the final pH range is **between 6 and 9**.

▶ AUTO-WATERING FLUSHING

The flushing system allows the sanitization of racks equipped with onboard auto-watering lines using hot water. The rinse pump transfers **5 µm filtered hot water** from the rinse tank through the rack's auto-watering manifold.

A **quick-lock connection** is provided inside the chamber, and the system operates exclusively in combination with the Single Pass Rinse Kit, ensuring the use of fresh, clean water during the flushing process.

▶ THERMAL DISINFECTION

A dedicated cycle is available for thermal disinfection through clean steam injection into the chamber. During this phase, the load is exposed to a temperature of **82°C - 181°F** for at least **one minute**, achieving pasteurization and enhancing overall microbiological control.

▶ HYDROGEN PEROXIDE DECONTAMINATION

The machine can be used to decontaminate heat sensitive equipment with Vaporized Phase Hydrogen Peroxide (VPH). Choose between:

External generator: the machine is equipped with cam-locks to connect inlet and outlet from/to the external generator. At the end of the decontamination cycle, the aeration phase requires a **dedicated exhaust line** for a safe exhaust of H₂O₂. The external generator is not included when the option is selected.

dBox built-in VPHP generator: the generator is an integral part of Atlantis Lite, entirely managed by the same PLC. When dBox is purchased, **catalytic filters** to break down H₂O₂ inside the chamber are included and an **on-board exhaust fan** to recirculate vaporized H₂O₂ inside the chamber is requested.

Additional disinfection features (consult us for further details):

Aerosolized H₂O₂ disinfection system: dedicated low concentration H₂O₂ aerosol system integrated into the machine. It includes a dedicated **in-chamber atomizer** to efficiently aerosolize hydrogen peroxide and spray it onto the load to be disinfected.

▶ AQUATIC TANKS WASHING SYSTEM

A dedicated aquatic washing configuration is available for the cleaning of components and accessories used in aquatic research environments. This optional system includes a set of up to **ten specific programs** developed to address the typical residues and materials found in tanks and aquatic housing systems.

To ensure proper sanitization, the aquatic cycle range is supported by **three additional dosing pumps** for a special



combination of alkaline detergent and liquid H₂O₂ required for the washing phase, plus the neutralization solution before final rinsing. A dedicated inlet for reverse osmosis (RO) water is also included to meet the specific rinsing and water quality requirements associated with aquatic equipment.

This comprehensive setup ensures **effective removal of biofilm and algae residuals**, improving both washing results and long-term equipment protection.

▶ **HOT-AIR-BLOWING-DRYING SYSTEM**

With this option included, air is taken from the technical area, filtered, warmed and conveyed on the load through the air-blade installed on the chamber side panel. The hot air is then exhausted from the chamber and forced through the exhaust ductwork. The drying system is a **modular unit**, pre-assembled on a purpose-designed frame and installed inside the technical compartment.

▶ **CHAMBER LIGHT**

The machine can feature an internal LED chamber light. The light turns color in accordance with the different **status of the machine**.

▶ **VALIDATION AND QUALIFICATION**

A set of tests and protocols are available to verify machine performance:

- Factory Acceptance Test (FAT)
- Site Acceptance Test (SAT), inclusive of IQ and OQ
- Factory Microbiological Challenge Test

EQUIPMENT CONFIGURATION

▶ **TECHNICAL COMPARTMENT (seen from dirty side)**

- right hand side
- left hand side

▶ **DIRTY SIDE DOOR HINGES**

- right hand
- left hand

▶ **CLEAN SIDE DOOR HINGES**

- right hand
- left hand

▶ **HEATING METHOD**

- steam - heat exchanger and condensate return
- electrical

▶ **INSTALLATION**

- standard pit (1850x2380x150mm – 73x94x6")
- off-pit (standard ramp to compensate the pit depth is 1200mm long with 6° slope)
- non-standard pit

▶ **POWER REQUIREMENTS**

- 400V-50Hz (three-phases + neutral + earth)
- 480V-60Hz (three-phases + earth)
- 380V-60Hz (three-phases + neutral + earth)
- 208V – 60Hz (three-phases + earth)
- Others



DOCUMENTATION

The Atlantis Lite Washer comes with the following standard documentation:

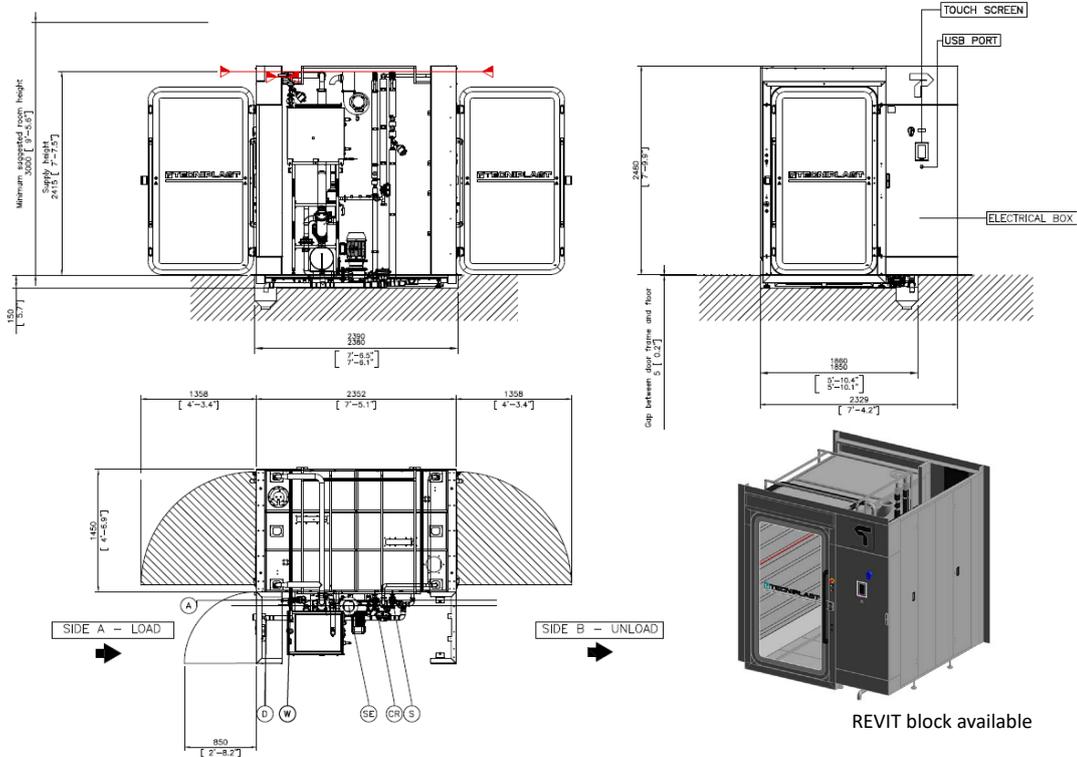
- User and Maintenance Manual
- P&ID
- Wiring Diagram
- Pneumatic diagram
- Spare part list
- EC conformity declaration – UL/CSA listing

COMPLIANCE TO DIRECTIVE AND STANDARDS

2006/42/EC	Machinery Directive
2014/35/UE	Low Voltage Directive
2014/30/UE	EMC Directive
UNI EN ISO 12100:2010	Safety of machinery. General principles for design. Risk assessment and risk reduction.
CEI EN 60204-1:2006	Safety of machinery. Electrical equipment of machines. General requirements.
UNI EN ISO 13849-1:2016	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design (ISO 13849-1:2015)
UNI EN ISO 13732-1:2009	Ergonomics of the thermal environment – Methods for the assessment of human responses to contact with surfaces – Part 1: Hot surfaces (ISO 13732-1:2006)



TECHNICAL DATA AND SERVICE REQUIREMENTS



REVIT block available

	SERVICE	CONNECTION	SERVICE REQUIREMENTS		
				METRIC UNIT	US IMPERIAL UNIT
E	Electrical Supply		Voltage and frequency: Type: Power required: FLA: Line fuse:	400V – 50Hz Three-phases + neutral + earth 4,3 Kw 13,8 A 40 A	480V – 60Hz Three-phases + earth 5 kW 13,9 A 25 A
CW	Cold Softened Water	1" GAS	Dynamic Pressure: Supply temperature: Supply flow rate:	2-3 bar From 15°C to 60°C 3600 l/h	29-44 PSI From 59°F to 140°F 950 gal/h
D	Floor Drain		Max flow rate:	4 l/s	1.1 gal/s
A	Compressed Air	Quick connection 10mm	Dynamic pressure: Quality: Min flow rate:	6 bar ISO 8573-1 6-4-3 18 l/min @6bar	80 PSI ISO 8573-1 6-4-3 0,7 CFM @80PSI
SE	Exhaust	Round flange connection Ø220mm	Max flow rate: Max static pressure: Max duct resistance:	1000 m3/h 690 Pa 340 Pa	590 CFM 690 Pa 340 Pa
S	Steam	DN32	Dynamic pressure: Quality: Min flow rate:	3-5 bar Filtered and dry 200 kg/h	44-73 PSI Filtered and dry 440 lbs/h
CR	Condensate return	DN25	Same data of S field		
DA	Data Management	RJ 45 Ethernet socket	Remote supervisor station, remote setting & alarm storage. Requires LAN connection with static IP		
WEIGHT					
	Empty	1800 kg		4000 lbs	
	Operating	2500 kg		5500 lbs	
NOISE LEVEL					
	At 1 meter – 3ft	<75 dB(A)			

* Machine configuration: double door, steam heated, booster tank and single pass rinse kit. Utility requirements may change depending on final product configuration. Please consult with your local representatives for further details.