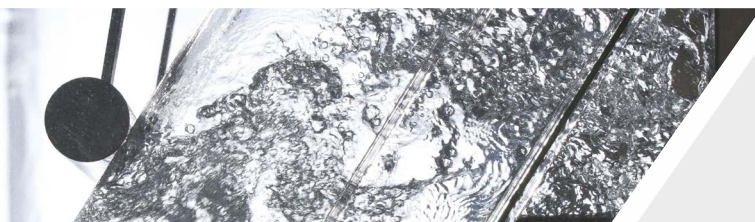


## ALPHA CAGE & RACK WASHER



Heavy duty, large capacity hydro spray batch-type washer designed for thorough, efficient cleaning and disinfection of cages, racks, IVCs, transport trolleys and miscellaneous items used in care of laboratory animals.



### STANDARD TECHNICAL FEATURES

#### ► ACT SYSTEM – ADAPTIVE CLEANING TECHNOLOGY (PATENT PENDING)

A revolutionary wash and rinse arm control allows unique movement through both vertical and rotational axis enabling unparalleled coverage and targeted spray pattern. IWT ACT system grants a superior coverage compared to traditional oscillating arm technology allowing a narrower operational chamber width. The IWT new design optimizes fluid-dynamic and minimises load-nozzles distance for a significantly increased mechanical wash force (+39% TTI versus previous generation comparable equipment).

The direct spraying pattern on all surfaces of the load ensures top-level cleaning and rinsing efficacy even when load density is significantly increased, this makes Alpha compatible with the high-density presentation racks.

The new system full control on the arms positioning and trajectories guarantees a precise cleaning and rinsing of animal drinking bottles in combination with its dedicated presentation rack. Alpha includes the unique capability to focus the water coverage just on the populated area of the presentation rack saving time and utilities.



# ALPHA

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## ► HIGH DENSITY PRESENTATION RACKS (PATENT PENDING)

The new presentation racks design is introducing unprecedented density capacities, up to 154 mice cages (EM500) per load. Available in full chamber or half chamber length setups to easily adapt to any layout and operational flow. Its innovative cage holding system introduces significant weight reductions, 30% less than previous universal models, making the HD racks top in class for ergonomics.



HIGH DENSITY  
PRESENTATION RACK

## ► CLEANING EFFICIENCY & SUSTAINABILITY

Water flow, pressure and empowered coverage with high-density presentation racks is resulting in outstanding cleaning performance, up to 8 cycles and over 1230 mice cages (EM500) per hour, making Alpha ideal for medium/large scale operation or as complementary unit next to Arcadia tunnel washer. The wash solution and fresh rinse water are delivered over the load by 4 arms through complete separate circuits thanks to the nested arms technology.

Alpha, in combination with the high-density presentation racks, allows to achieve up to 75% savings per cage (only 300ml – 10oz water consumption) with respect to previous generation models, over 13% energy savings thanks to new compact water tanks design.

Alpha is fully compliant with AK KAB and AAALAC requirements.

## ► QUALITY CONSTRUCTION

Alpha is entirely made of AISI 304 stainless steel, water manifolds are featuring pharma standard tri-clamp connections and orbital weldings. Non-proprietary components are equipped and international brands for local spare parts availability are appointed as partners.

## ► BUILDING FRIENDLY DESIGN

Alpha requires only 100mm-4" depth and 1950mm-77" width pit dimensions.

Full thermal insulation of chamber and water/steam manifolds is included to minimize the heat loss especially when high-temperature cycles are performed.

The technical compartment is located on the chamber side, hinged panels are guaranteeing the access to it. In case of extreme space saving requirements, the unit can be installed "wall-to-wall" where a front door embedded in unit structure allows access to the maintenance space (800mm - 31.5" wide) inclusive of on-board electrical and control box.

## ► SAFETY

Alpha is inclusive of two emergency devices with panic-proof self-deflating door gaskets; when triggered, doors are automatically released without requiring any additional manual operations, an UPS grants the functionality even in the unlikely event of power supply fault. The reset of the emergency can be performed directly over the operator interface without the need of any additional manual tool. The unit is inclusive of safety micro-sensors at doors level and safety switch at filter level to electro-mechanically cut-off power to the water pumps whenever an operator is accessing to chamber or maintenance.

## ► SELF-CLEANING FILTER

The unpleasant operation of manually removal and cleaning of static floor screens typical of older generation machines is only a bad memory. Alpha is featuring an in-line filter which is automatically back-flushed for self-cleaning purposes every single cycle. The access to the filter, ergonomically located in the technical compartment and removable with a simple tool-free twist and pull movement, will be part of your standard cleaning procedure and no more a "multiple times a day" operation.

## ALPHA CAGE & RACK WASHER

### ► DOOR DESIGN AND INTERLOCKING INFLATABLE GASKET

Full-length tempered glass (13.5mm – 0.5" thickness) hinged doors with safety film inside are synonymous of full process visibility, safety and enhanced communicability across barrier. An integral multi-rib inflatable gasket for active and true sealing of the chamber in the SPF barrier application as well as H2O2 vapour gassing cycles is equipped as standard.



### ► POLARIS OPERATOR INTERFACE

An HMI (Human Machine Interface) where on top of the intuitive graphic and usability is available, as a standard, a comprehensive set of embedded functionalities and features:

- LiteView smart-phone and table app 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 the machine consumptions (electricity, water and detergents)
- 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



**WATCH THE FULL ALPA - ACT SYSTEM  
PRESENTATION VIDEO**



## OPTIONS

### ► CHAMBER LIGHT

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

### ► DETERGENT DOSING SYSTEM

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

Neutralizer pump: the chemical is injected into the rinse circuit;

Rinse aid pump: the chemical is injected in the rinse line;

Second detergent pump: the chemical is injected in the wash tank and it is used to run alkaline and/or acid cycles;

Descaling Option Pump: automatic descaling cycle inclusive of dosage pump for descaling agent;

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

### ► DRAIN MONITORING

If required by local normative the unit can feature:

**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) has to 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.

### ► STORAGE TANKS

Two storage tanks, inclusive of a second dedicated detergent pump, can be equipped in the technical compartment when efficient alternate alkaline/acid cycles are required.

### ► THERMAL DISINFECTION

Clean steam injection into the chamber to expose the load at a temperature of 82°C [181°F] for one minute in order to carry out a pasteurization.

### ► AUTO-WATERING FLUSHING

The flushing system allows the sanitising of the racks with autowatering on board by means of hot water. The rinse pump conveys filtered hot water (5 micron) from the rinse tank through the rack autowatering manifold. A quick lock connection is provided inside the chamber.

### ► DECONTAMINATION

The machine can be used to decontaminate heat sensitive equipment (e.g., AHUs, changing stations, laptops) with Vaporized Hydrogen Peroxide. A power socket is available inside the chamber for full equipment running during decon cycles. Choose between:

**EXTERNAL GENERATOR:** the machine is equipped with cam-locks to connect inlet and outlet from/to the external generator. An electrical connection is also included to grant signals exchange between Alpha and the generator itself. At the end of the decontamination cycle, the aeration phase requires a dedicated air-tight ductwork for a safe exhaust of H<sub>2</sub>O<sub>2</sub>.

**dBOX IWT ON-BOARD GENERATOR:** the generator is an integral part of Alpha, entirely managed by the same PLC. When dBOX is purchased, fast aeration option and catalyzer (see below) are provided as part of the decontamination process

Additional Decon features (consult us for further details):

**FAST AERATION:** the air mixed with H<sub>2</sub>O<sub>2</sub> is recirculated by means of a dedicated fan for better distribution, resulting in quicker decon cycles

**CATALYZER:** installed upstream of the fast aeration, the catalyzer is designed to breakdown H<sub>2</sub>O<sub>2</sub> in safe substances. It is composed by cartridges filled with a catalyzing material. The catalyzer allows Alpha to be connected to standard exhaust ductwork

**AEROSOLIZED H<sub>2</sub>O<sub>2</sub> DECONTAMINATION SYSTEM:** dedicated low concentration H<sub>2</sub>O<sub>2</sub> aerosol system integrated into the technical compartment. It includes a dedicated in-chamber atomizer.

## ALPHA CAGE & RACK WASHER

### ► DRYING SYSTEM

Alpha, if required, can feature a drying of the load at the end of washing cycles:

**HOT AIR BLOWING-DRYING SYSTEM:** Air is taken from technical area, filtered, warmed and conveyed on the load through the air-blade installed on the chamber side panel. The hot air is then exhaust 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;

**HEAT RECOVERY SYSTEM FROM DRYING:** The hot air is drawn from the chamber by means of a fan and forced through an air-air recovery unit to pre-warm the intake

### ► TILTED FLOOR

To help the water run-off, especially when drying of flat surfaces is required, an automatic tilting system, consisting of pull cables, can be installed allowing floor, and consequently load, inclination.

### ► HEAT RECOVERY SYSTEM

To pre-heat incoming water using hot exhausted air.

### ► REALVIEW, REMOTE DATA MANAGEMENT SYSTEM

A web-based tool, accessible via any browser, for:

- Real time supervision;
- Data gathering and exporting
- Statistics about cycles, alarms, productivity & consumptions
- Quick consult of machine documentation
- Alarm notification via e-mail

### ► 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, OQ, PQ

Factory Microbiological Challenge Test

## EQUIPMENT CONFIGURATION

### ► TECHNICAL COMPARTMENT (SEEN FROM DIRTY SIDE):

Right-hand side

Left-hand side

Wall-to-Wall (not available in case of drying, heat recovery or fast aeration options)

### ► DIRTY SIDE DOOR HINGES:

Right-hand

Left-hand

### ► CLEAN SIDE DOOR HINGES (IF PURCHASED):

Right-hand

Left-hand

### ► INSTALLATION

Pit (100mm – 4" depth)

Off-pit (consult us for custom ramps)

### ► HEATING METHOD

Steam (only cold water supply required)

Electrical (hot water supply required)

### ► POWER REQUIREMENTS

400V-50Hz (three-phases + neutral + earth)

480V-60Hz (three-phases + earth)

380V-60Hz (three-phases + neutral + earth)

Others



## COMPLIANCE TO DIRECTIVE AND STANDARDS

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

## DOCUMENTATION

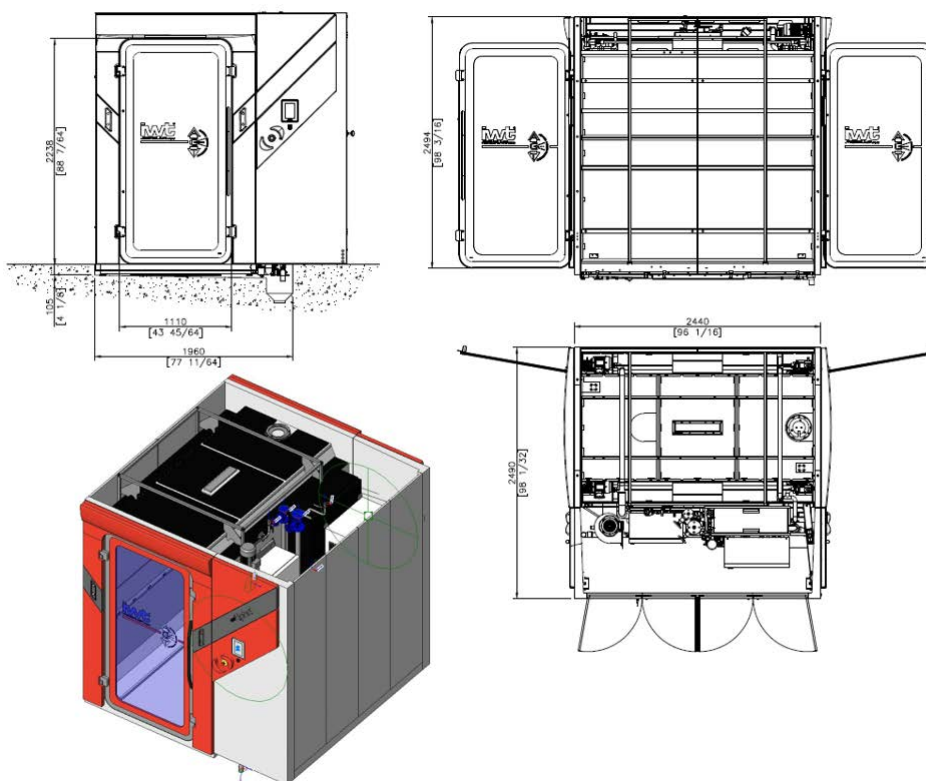
The Alpha Rack Washer comes with the following standard documentation:

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

# ALPHA

CAGE & RACK WASHER

## TECHNICAL DATA AND SERVICE REQUIREMENTS



	SERVICE	CONNECTION	SERVICE REQUIREMENTS		
				METRIC UNIT	US IMPERIAL UNIT
E	Electrical supply	Electrical cabinet	Voltage and frequency: Type: Power required: FLA: Circuit Breaker: Line fuse: Suggested GFCI:	400 V - 50Hz, 380 V - 60 Hz 3 phases + neutral + earth 6.5 kW 27 A 40 A 50 A 300 mA	480 V – 60 Hz 3 phases + earth 6.5 kW 25 A 40 A 45 A 300 mA
CW	Cold Softened Water	½" G [½" NPT]	Dynamic pressure: Supply temperature: Supply flow rate:	2-4 bar 15°C < T < 60°C 3600 l/h	29-58 psi 59°F < T < 140°F 950 gal/h
D	Floor Drain		Max flow rate	4 l/s	1 gal/s
A	Compressed air	½" G [½" NPT]	Dynamic pressure: Quality: Min flow rate:	6 bar filtered, dry and oil free 33 l/min @ 6bar	87 psi filtered, dry and oil free 8.7 gal/min @ 87 psi
SE	Exhaust	See drawing	Min flow:	1000 m³/h	590 CFM
S	Steam	DN 25	Dynamic pressure: Quality: Min flow rate:	4-6 bar filtered and dry 150 kg/h	58-87 psi filtered and dry 330 lbs/h
CR	Condense return	DN 20	Same data of S field		
DA	Data management	RJ45 Ethernet socket			
WEIGHT					
Empty			1500 kg	3300 lbs	
Operating			1810 kg	3982 lbs	
NOISE LEVEL					
At 1 meter – 3ft			< 70 dBA		
APPROXIMATE HEAT LOSS					
			4.41 kWh – 3792 kcal/h – 15047 BTU/h		

\* Machine configuration: double door, technical compartment right-hand side, dirty door hinged left, clean door hinged right, steam heated.  
Utility requirements may change depending on final product configuration. Please consult with your local representatives for further details