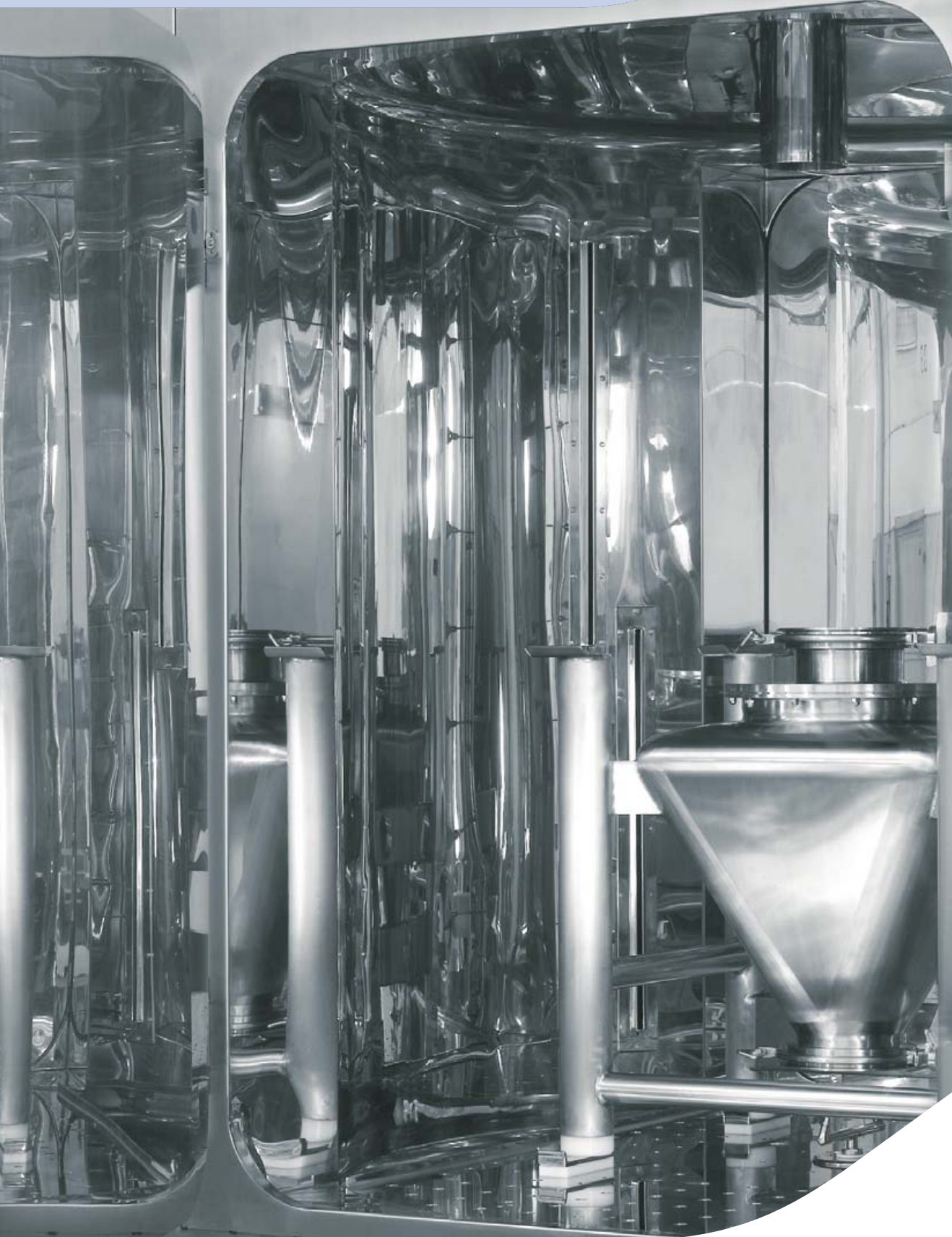


# WASHING SYSTEMS

MANUAL AND AUTOMATIC WASHING SYSTEMS



# HYDROWASH F WASHING SKID

THE HYDROWASH IS A STAND ALONE WASHING SKID THAT CAN BE SUPPLIED TO SERVE A MANUAL BIN WASHING STATION, OR TO CLEAN ALL IMA ACTIVE MACHINES, FOR EXAMPLE HIGH SHEAR MIXERS, SINGLE POT GRANULATORS, FLUID BED DRIERS, COATING EQUIPMENT, TABLET PRESSES AND CAPSULE FILLING MACHINES, ETC.

The equipment has a self-draining and sanitary structure and can fit up to 4 different groups:

- Pump (basic module)
- Heating (optional)
- Detergent (optional)
- Drying (optional)



## HYDROWASH LP AND HP VERSIONS

The HydroWash is available in LP (Low Pressure) and HP (High Pressure) versions.

### LP version (BASIC)

Working at 6 bar, 70 l/min: this version uses a centrifugal sanitary pump and all connections are clamped.

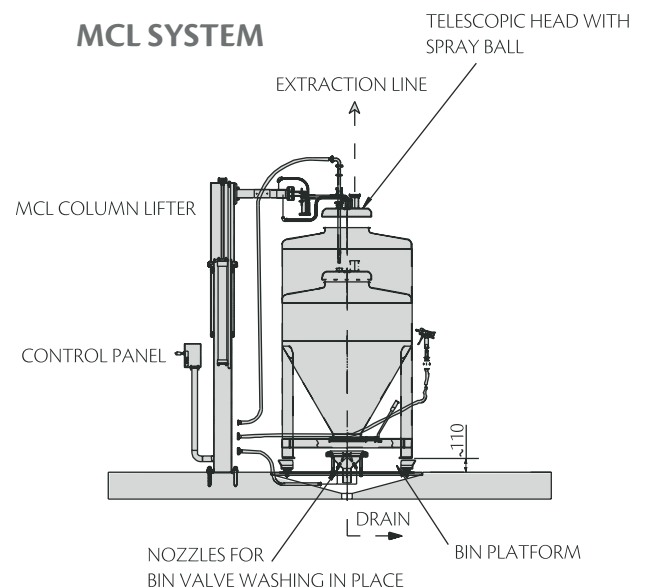
### HP version (OPTION)

Working at 60 bar, 40 l/min: this performance is achieved by means of a piston pump.

## HYDROWASH OPTIONAL FEATURES

- UP TO 3 DETERGENTS, WITH AUTOMATIC DOSE REGULATION.
- DOUBLE PLATE WATER/STEAM HEAT EXCHANGER.
- MEMBRANE VALVES.
- WELDING BOOK.
- MANUAL WASHING KIT (FOR LP OR HP) COMPOSED OF: WASHING LID WITH ROTATING HYDROKINETIC HEAD, GUN JET WITH BLADE NOZZLE, CONICAL NOZZLES TO WASH THE LOWER BIN VALVE.
- BIN PARKING STATION FOR BIN POSITIONING.
- MCL COLUMN HOLDING THE WASHING LID FOR DIRECT CONNECTION TO HYDROWASH (SIMPLE INSTALLATION).
- SAHARA STEAM AND/OR ELECTRIC AIR HEATING MODULE FOR DRYING.
- KIT FOR WASHING AND DRYING HIGH CONTAINMENT VALVES.

## MCL SYSTEM



# ATLANTIS WASHING STATION



Atlantis washing cabin with single door

THE ATLANTIS IS A WASHING STATION DESIGNED TO WASH AND DRY, IN A COMPLETELY AUTOMATIC MODE, CONTAINERS (IBCs) AND OTHER COMPONENTS USED WITHIN THE PHARMACEUTICAL INDUSTRY.

The ATLANTIS gives the possibility to record/print several parameters and to store various washing cycles (recipes). Three different sizes are available, with door height of 2000, 2500 and 2800 mm.

The basic configuration of Atlantis has a stainless steel cabin with square section and includes a single door with manual opening and inflatable seal. The machine is designed for a "through-the-wall" installation: as an option the machine can also be supplied with a second door for "pass through" installation to separate from non-clean area to clean areas.

The Atlantis can be installed flush to the floor or alternatively raised above the floor on feet.

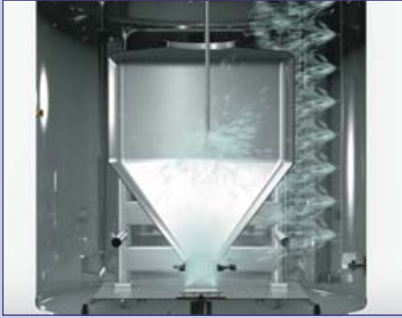


Installation on feet raised above the floor



Installation flush to the floor

# ATLANTIS WASHING STATION



An extremely efficient washing action is ensured by vertical ramps of nozzles for the external part of the IBC, while the internal part is carefully washed by a spray nozzle with a hydrokinetic head that can be positioned at different heights. Two full-cone nozzles are dedicated to the washing of the lower valve.



Telescopic spray nozzle for internal BIN washing

Washing fluids are handled through a sanitary washing pump with a maximum flow rate of 50 l/min at 10 bar pressure.

An Air Handling Unit is included in the basic configuration for the treatment of drying air. The unit is designed to be installed in a technical area for maximum installation flexibility.

## INCREASED THROUGHPUT WITH HIGH EFFICIENCY VERSION

As an option the Atlantis can be supplied in the high efficiency configuration, increasing machine throughput up to 3 IBCs/hour. This version includes the rotation of the lower platform, a multistage telescopic pipe for internal bin washing, the Air-Jet-Stream system for drying the external part of the BIN and a telescopic tube for the internal drying.



Atlantis with bin rotating platform

## ADDITIONAL MAIN OPTIONS

- Detergent group with automatic dose regulation
- Automatic door opening
- Sight glass on the door
- Steam heat exchanger for water and/or air heating
- Absolute filter
- Automatic system to open bin valves
- Electric telescopic spray head
- Electric telescopic tube for internal bin drying

Automatic opening of the upper bin valve.

Automatic opening of the lower bin valve





Telescopic pipe for washing the internal parts of the bin



Telescopic tube for internal BIN drying



AirJetStream mechanical action enhances the elimination of water drops

## ADDITIONAL PUMP AND RECIRCULATION OF WASHING FLUIDS

For certain applications, a second pump can be supplied in addition to the one included in the basic machine, allowing the washing cabin to work at the increased pressure of 20 bar or increasing the water flow rate. This option is usually selected together with the recirculation of washing fluids, allowing less water consumption and subsequent disposal also when using long acting detergents needing long time to exploit their action.

## AUTOMATIC BIN LOADING/UNLOADING

The Atlantis can be designed with automatic IBC loading and unloading systems. In this case the machine is fitted with an automatic sliding door and a chain conveyor installed in front of the cabin to convey the IBCs directly in to and out of the station.



Automatic bin loading on dirty side

## RACKS FOR DRUMS/PALLETS AND COMPONENTS

With suitable racks the Atlantis can also be used for the washing of pallets, drums, components and machine parts. A telescopic utility plate positioned on top of the cabin is connected to the upper part of the rack, to convey water and compressed air to the strategically positioned nozzles.



Automatic bin unloading on clean side

# VENUS COMPONENTS WASHER

VENUS IS A WASHING AND DRYING CABIN FOR COMPONENTS SUCH AS TOOLING, FORMAT PARTS, HOPPERS, SMALL CONTAINERS, TRAYS, ETC. THE MACHINE IS FITTED WITH A PUMP SKID AND AHU (AIR HANDLING UNIT) WITH INTEGRATED AIR/STEAM HEAT EXCHANGER. THE CABIN CAN ONLY BE INSTALLED OVER THE FLOOR.



Basket for washing components

## ADDITIONAL MAIN OPTIONS

- Additional door
- Sight glass on the door
- Detergent group with automatic dose regulation
- Electric air heat exchanger
- Electric water heat exchanger
- Waste water electrical conductivity
- Membrane valves
- Basket for washing components
- Trolleys for handling the baskets
- Ultrasonic washing system
- WashControl



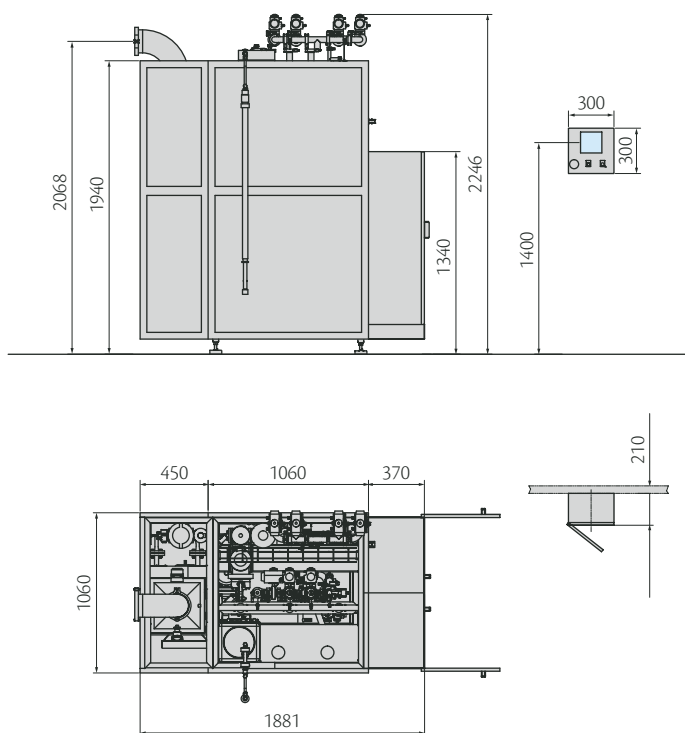
The Venus is PLC/HMI controlled and works with a full water recirculation system at low pressure and a high flow rate.

The machine can be equipped with baskets to wash specific components and, as an option, supplied with two doors to separate clean and non-clean areas. Venus with Ultrasonic washing system is also available to wash components/parts with complicated geometry such as sieve nets, mill screens, tablet press turrets, etc.

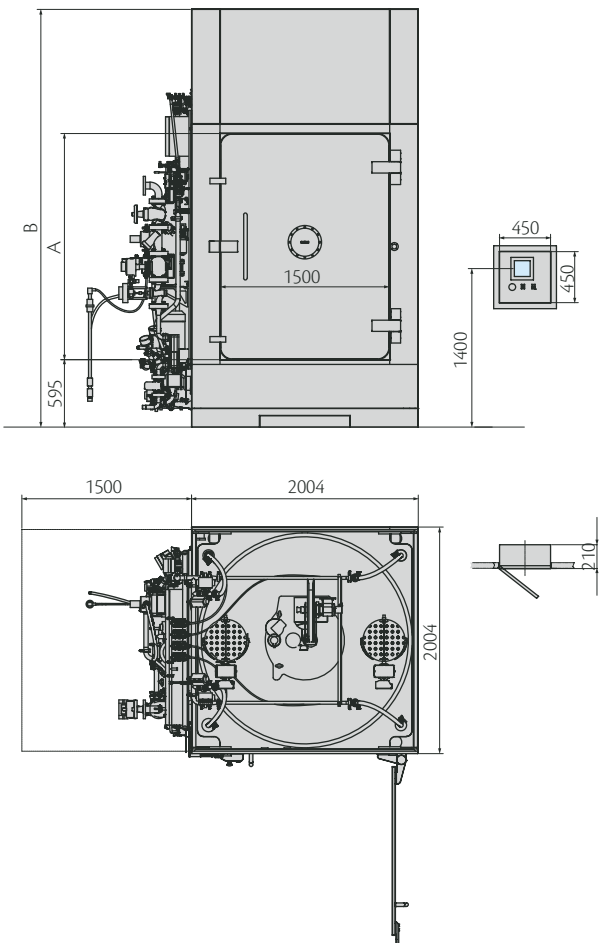
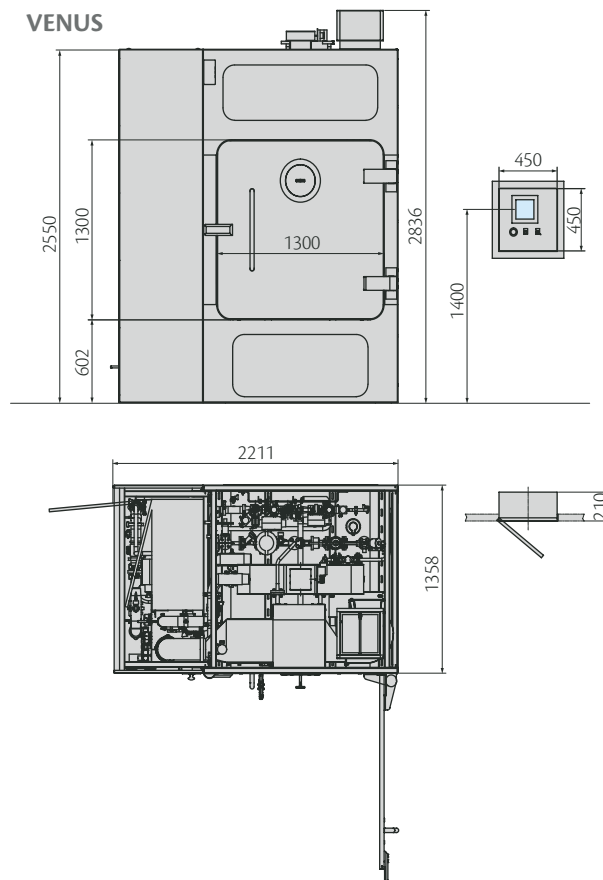


# WASHING SYSTEMS LAYOUT

## HYDROWASH



## VENUS



## ATLANTIS

A (mm)	2,000	2,500	2,800
B (mm)	3,695	4,195	4,495

# WASHING SYSTEMS TECHNICAL DATA

## HYDROWASH TECHNICAL DATA

VERSION	LP (LOW PRESSURE)	HP (HIGH PRESSURE)
Water flow (l/min)	70 or 120	40
Inlet pressure (bar)	1÷3	
Working pressure (bar)	6	60
Maximum temperature (°C)	85	
Power supply	400 V – 50 Hz – 3 phase AC	
Installed power (kW)	6	10

## ATLANTIS TECHNICAL DATA

VERSION	SINGLE PUMP	DOUBLE PUMP
Water flow (l/min)	50	50 (pump in series) or 100 (pump in parallel)
Inlet pressure (bar)	1÷3	
Working pressure (bar)	10	20 (pump in series) or 10 (pump in parallel)
Maximum temperature (°C)	85	
Machine weight (kg)	2,500	

## VENUS TECHNICAL DATA

Water flow (l/min)	400
Minimum pressure of inlet water (bar)	1
Water pressure during working (bar)	1.5
Maximum water temperature during working (°C)	85
Machine weight (kg)	1,500



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