



GENEVA SCIENTIFIC

LAB EQUIPMENT SOLUTIONS

LABORATORY GLASSWARE WASHER - LAB 600



Model	LAB 600
Exterior Dimensions (WxDxH)	25.6" x 25.98" x 72.44"
Chamber Dimensions (WxDxH)	21.85" x 23.03" x 23.62"
Sound Level	56 dB
Water Consumption	5.3 gal per chamber fill
Electrical	208V/60Hz 480V/60Hz

The LAB 600 is a large capacity frontal loading glassware aimed to satisfy small and medium size facility needs.

This unit is capable of injection washing and drying on up to 2 levels with 3 possible rack locations, providing maximum flexibility through multiple chamber configurations, depending on the height of the loaded items.

All the machine levels are equipped with telescopic bearing rails that enable easy and safe loading and unloading of the glassware. The drop-down door serves as a loading platform at convenient height for the bottom level.

This washer disinfectant is equipped with a full visibility glass door and has on-board chemical storage on a easy access drawer on telescopic rails.

The filtered forced air drying system with adjustable time and temperature settings help to ensure the complete inside and outside drying of all the glassware.

Other features include:

- Injection cleaning: Up to two levels with three possible rack locations
- Dosing: Automatic detergent and acid dosing via peristaltic pump
- Drying: Forced hot air drying through washing chamber spray arms and wash carts injection system

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STANDARD FEATURES

Hinged Drop Down Door

- *Counterbalanced for ease of operation, stainless steel AISI 316L (DIN 1.4404) washing chamber side, stainless steel AISI 304 (DIN 1.4301) external side
- *The door acts as a loading platform which eliminates the need for a loading trolley and ensures proper rack placement and connection to the manifold

Fully Extendable Load Bearing Arms

- *All the upper levels have fully extendable telescopic bearing rails enabling the use of specific upper wash carts

Washing System

- *The washing pump feeds washing chamber spray arms and wash cart injection connections
- *Two rotary spray arms, one on the bottom and one on the top of the chamber, additional spray arms are available on dedicated upper level wash carts
- *Spray arms made of AISI 316L stainless steel (DIN 1.4404)
- *Easily disassemble washing arms for cleaning and maintenance

Forced Hot Air Drying System

- *Air circulation in the chamber, through the chamber washing arms and through the wash carts injection system and washing arms
- *98% DOP pre filter
- *4 kW heating elements provide up to 284°F (140°C) air
- *Dryer blower, flow rate up to 150 m³/h (5.298 ft³/h)

Direct Injection System

- *3 wash chamber connections for injection wash carts

Circulation Pump

- *Heavy washing pump feeding washing chamber spray arms and wash cart direct injection circuit: 750W power & 184.92 gal/min

Filter System

- *A three stage filtration system helps protect recirculation and drain pumps from debris
- *Filters are installed on all incoming water lines
- *Filters can be easily removed for cleaning

Chemical Dosing

- *Two peristaltic pumps provide precise addition of liquid chemical agents
- *Minimum level sensor on chemical tanks

Electric Heater

- *7.5 kW electric heating elements provides heating up to 93°C (200°F)
- *Electronic Thermostats
- *Two independent PT1000 temperature probes

Steam Condenser

- *Prevents vapors from entering into the washing area (programmable temperature)

Microprocessor Control System

- *Possibility of up to 40 storable programs: 20 standard preset programs for laboratory glassware, 20 user definable programs
- *Three level password protected programming

System Control Panel

- *Soft touch control system on glass panel
- *Graphic color LCD display (TFT 3.5" QVGA (320x240) or complete visualization of machine programming, operation and status

System Monitoring

- *Audible and visual alarms provide quality control for each wash cycle
- *Water level sensor for water sump load
- *Additional water level sensor to prevent wash chamber overflow
- *RS 232 port for printer connection to monitor and validate washing cycle

Gravity Drop Drain

- *Solenoid valve to discharge wastewater to floor level drain.

SAFETY FEATURES

Locking Door

- *Prevents interference with wash cycle once the machine is in operation

Drop Down Door

- *Eliminates the safety hazard associated with guillotine type doors.
- *Counterbalanced for safe operation

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PROGRAMMING AND CYCLE OPERATION

*The user is able to create unique programs to meet their specific needs. Listed are various phases that can be programmed and repeated into various combinations.

- **Pre-Wash** - The user is able to define the number of pre-washes, length of pre-washes and select between cold, hot and DI water or mix two sources.

- **Wash** - The user is able to define the length of the wash cycle, detergent dosing and dosing temperature, temperature of the water (up to 200°F/93°C) and select between cold, hot and DI water or mix two sources.

- **Chamber Flush During Drain** - The user is able to define flush time execution during the draining.

- **Neutralization** - The user is able to select the length of the rinse, the presence and the amount of neutralizer, temperature of the rinse (up to 200°F/93°C) and what type of water is to be used, either cold hot or DI water or two mixed sources.

- **DI Rinse** - The user can define the length of the DI rinse, temperature of the water (up to 200°F/93°C) presence and amount of rinse aid.

- **Drying** - Programmable between low speed and high speed drying and up to a temperature of 284°F (140°C). Operation time of the steam condenser.

CONSTRUCTION

Washer Chamber and Door

*Constructed using AISI 316L stainless steel BA Ra<30 µin finish

*Designed and constructed with smooth edges and corners removing areas where dirt can accumulate and allow bacterial growth

Insulation

*High performance melamine insulation guards against heat loss and reduces noise level

Exterior

*AISI 304 stainless steel Scotch Brite finish Ra<40 µin

Components

*Constructed using stainless steel and other materials which are resistant against the effects of aggressive detergents

OPTIONAL FEATURES

***4.7 gal Pre-Heat Tank for DI Water** - Pre-heats DI water to a programmed temperature

***DI Water Pump** - Provides proper water pressure for purified water supply

***Steam Heating** - Stainless steel exchanger provides rapid heating of water in washer sump

***Water Softener** - Built-in water softener for softening all incoming hot and cold water. Programmable regeneration with low salt alarm

***Water Purification System** - 2.64 gal resin plastic cartridge for the production of DI rinsing water

***Water Quantity Check** - Accurate water quantity check by dedicated flow meters on all incoming water lines

***Additional Dosing Pumps** - Up to two additional peristaltic pumps for dosing of other types of chemicals to meet specific wash requirements

***Flow Meter for Chemical Control** - Accurate volumetric dosing of chemicals

***Conductivity Sensor** - Accurate measuring of the conductivity value during the final rinse phase

***Washing Pump Drain Valve** - Additional valve allowing complete washing pump water drain

***Drain Cooling Solenoid Valve** - Wastewater is cooled to 140°F (60°C). Cold water added to effluent during drain phase

***HEPA Filtration** - HEPA H14 filter with division level at 99.99% DOP

***Printer** - On board integrated 40 columns thermal printer for validating washing phases with detailed information

***USB Port** - USB port for historical cycle data, machine parameters and washing programs download. Allows easy software upgrades.

***Seismic Tie Down** - Anchors washer to floor

***Main Power On/Off Switch** - Can be used to shut off the power to the control system

***Light in the Chamber** - To ease washing cycle monitoring

***Network Connection** - Ethernet connection by X-fire device

***Validation Support Documentation and Services**

***Cleaning Chemicals**



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