

# LAB 500 DRS

## Laboratory glassware washer



The LAB 500 DRS is an under counter washer designed to handle large types of glassware and is equipped with a high efficiency forced hot air drying system.

The electronic programmable microprocessor is capable of storing up to 40 programs: 20 standard programs for laboratory and 20 additional adjustable and password protected so the customer can configure specialized programs for their independent needs. The user can customize any parameter needed to a wash cycle.

These units are capable of injection washing and drying on up to 2 levels. Each level has telescopic bearing rails which enable easy and safe loading and unloading of the glassware.

The drop-down door provides a loading platform and because of it's ergonomic design and height, it allows the user a convenient loading and unloading job.

### Specifications

#### Dimensions:

External: WxDxH 35.43" x 24.80" x 33.46"  
(900mm x 630mm x 850mm)

Chamber: WxDxH 21.85" x 19.68" x 26.38"  
(555mm x 500mm x 670mm)

Door passage: WxH 21.26" x 21.26"  
(540mm x 540mm)

#### Wash chamber load area:

Two (2) wash levels – 380 sq. in. (0.245 sqm) each level 760 sq. in. (0.490 sqm) total load area

#### Water consumption:

3.1 gal. (12 l) per chamber fill

#### Heat loss:

1'468 Btu/h (370 kcal/h)

#### Sound level:

56.2 dB

#### Cycles:

20 pre programmed, 20 user defined

#### Injection cleaning:

Up to two (2) levels

#### Drying:

Forced hot air drying system: in the chamber, through the chamber washing arms and through the wash carts injection system / washing arms.

#### Dosing:

Automatic detergent and acid dosing via peristaltic pumps

#### Exhaust Steam Condenser:

Standard

Rev.03

## Standard features

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### Hinged Drop Down Door

- Counterbalanced for ease of operation
- The door acts as a loading platform which eliminates the need for a loading trolley
- Fully insulated to reduce heat loss and noise

### Fully Extendable Load Bearing Arms

- Further eliminates the need for a loading cart

### Spray System

- Incorporates two rotary spray arms, one on the bottom and one on the top of the chamber
- Spray arm made of high-grade 316L stainless steel
- Easily disassembled for cleaning and maintenance

### System Wash Levels

- Up to two (2) levels

### Forced hot air drying system

- Air circulation in the chamber, through the chamber washing arms and through the wash carts injection system / washing arms
- 2.0 kW heating elements and blower provide up to 284°F (140 °C)
- Dryer blower flow rate up to 5,297 ft<sup>3</sup>/h (150 m<sup>3</sup>/h)

### Circulation pump

- 1 unit 450 l/min (118.87 gal.US/min) pump.
- Pump power 550W.

### Filter System

- A three (3) stage filtration system helps protect recirculation and drain pumps from debris
- Filters are easily removed for cleaning

### Steam Condenser

- Removes steam vapors at a set temperature (programmable from 32°F- 200°F [0-93°C])

### Peristaltic Pumps for two Liquid Chemicals

- Provides precise addition of liquid chemical agents
- Vacuum switch for checking chemical presence

### Electric Heater

- 5.1 kW electric heating elements provides heating up to 200°F (93°C)

### Electronic Thermostat

- Two (2) independent PT1000 temperature probes

### Microprocessor Control System

- Possibility of up to 40 storable programs
- 20 standard programs for laboratory
- 20 user definable programs

### System Control Panel

- 32 Character LCD display

### System Monitoring

- Audible and visual alarms provide quality control for each wash cycle

### Water Level Sensory

- Sensors control chamber water level and prevent overflow

### RS 232 Port

- Provides RS 232 port with printer connection for monitoring and validating washing phases

### Drain Pump

- Independently operated drain pump for efficiently pumping out waste water

### Integrated detergent compartment

- Stores up to two (2) 1.62 gal./5 lt containers

## Programming and cycle operation

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

- **Pre-Wash** – The user is able to define the number of pre-washes, length of pre-washes, temperature of the water (up to 200°F [93°C]) 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 time, 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 the number of flushes executed during the draining of the chamber.
- **Acid Rinse** – The user is able to select the length of the rinse, the amount of acid, temperature of the acid 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]) and the temperature of the rinse.
- **Drying** – Programmable between low speed and high speed drying and up to a temperature of 284°F (140°C)

## Safety features

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### 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

## Optional features

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### DI Booster Pump

- Provides proper water pressure for purified water supply

### Printer

- For validating washing phases with detailed information
- Printer integrated in the washer side cabinet front panel

### Water Softener

- Softens incoming hot and cold water
- Programmable regeneration with low salt alarm

### Drain Cooling Solenoid Valve

- Waste water is cooled to 140°F (60°C)

### Seismic Tie Down

- Anchors washer to floor

### Additional Dosing Pump

- One (1) pump can be added for dosing of another type of chemical to meet specific wash requirements
- Peristaltic pump

### Conductivity Sensor

- Accurate measuring of the conductivity value during the final rinse

#### **4.7 gal. (18 l) Pre-heat Tank for DI Water**

- Pre-heats DI water to a programmed
- Temperature 32-200°F (0-93°C)
- Requires fully dedicated side cabinet

#### **Extra Power 8kW**

- Raises the power to 8kW to shorten cycle times through reduced heating time in the wash chamber

#### **HEPA-filtration**

- HEPA class H14

#### **Glass window**

- For better inspection of the wash cycle

#### **Construction**

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##### **Wash Chamber and Door**

- Constructed using AISI 316L BA Ra<30µin (Ra<0.8µm)
- Designed and constructed with smooth edges and corners removing areas where dirt can accumulate and allow bacterial growth.

##### **Exterior**

- AISI 304 Scotch Brite finish Ra<40µin (Ra<1.2µm)

##### **Components**

- Constructed using stainless steel and other materials which are resistant against the effects of numerous detergents, additives and general laboratory chemical residues
- UL components

##### **Insulation**

- High performance melanine insulation
- Guards against heat loss and reduces noise level

#### **Accessories**

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A large variety of basket trays, injector racks, net baskets and specialty racks.

#### **Validation support documentation and services**

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Installation Qualification and Operational Qualification (IQ/OQ) testing can be executed at the customer site.

#### **Cleaning chemicals**

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A large selection of cleaning chemicals are available.

#### **Required utilities**

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For connection details please refer to installation drawing of the selected model/version.

##### **Hot water**

##### **Cold Water**

##### **DI Water**

##### **Drain Connection**

##### **Electrical requirements**

- Electricity (5.6kW and 8.0kW models)
- 400V/3~+N/50Hz
- 208V/3~+N/60Hz
- 480V/3~+N/60Hz

other electrical connections are available to match electrical requirements of installation site.