

**SECTION 115300  
LABORATORY GLASSWARE WASHER  
Model 815 LX**

*(Specifier to select options in sections 2.02 D, H & I)*

**PART 1 GENERAL**

**1.01 SYSTEM DESCRIPTION**

- A. Laboratory Glassware Washer/Dryer

**1.02 SUBMITTALS**

- A. Bill of Materials
- B. Product Literature
- C. Installation Plans
- D. Warranty Statement

**1.03 QUALITY ASSURANCE**

- A. Quality Standards: Laboratory Glassware Washer/Dryer manufactured under ISO 9001 accreditation.
- B. Manufactured to UL Standard 61010.1
- C. Tested for compliance with EC Electromagnetic Compatibility Directive.
- D. Manufacturer Qualifications: A company with a minimum of 35 years experience in the manufacture of products similar to those specified.
- E. Service Support: Manufacturer must have a nationwide network of trained service professionals.

**1.04 WARRANTY**

- A. The warranty period is 13 months from the date your equipment is shipped from our facility or 12 months from installation, whichever comes first.

**PART 2 PRODUCTS**

**2.01 DESIGN STANDARD MANUFACTURER**

- A. This specification is based on the Getinge Lancer Ultima Series **815 LX** Washer/Dryer, manufactured by and exclusively for GETINGE LANCER ULTIMA Sales USA Inc., 1150 Emma Oaks Tr – Ste 140, Lake Mary, FL 32746. Telephone: (407) 327-8488, Fax: (407) 327-1229.

**2.02 EQUIPMENT**

Model: GETINGE LANCER ULTIMA **815 LX** Glassware Washer/Dryer

- A. General Description:

Under counter or freestanding, fully automatic and programmable laboratory glassware washer/dryer designed to wash inside of small-necked laboratory glassware using injectors (racks sold separately) and open glassware using rotary spraying arms. Wash pump and hydraulic circuit provide a high flow rate and low-pressure delivery for thorough cleaning without breakage of washed items. Washer utilizes a forced air drying system with electric heating element and blower. Through the use of a diverse range of racks, baskets, and

accessories (sold separately), the machine is capable of injection washing on multiple levels. Load bearing drop-down door acts as a loading platform and extendable rack rails allow for easy loading of each wash level.

B. Dimensions and Capacities:

1. Exterior Dimensions: 33.25 inches high by 23.62 inches wide by 27.55 inches deep, maximum.
2. Interior Wash Chamber Dimensions: 20 inches high by 21 inches wide by 20 inches deep, minimum.
3. Rack Capacity: 2 racks simultaneously, 2 interchangeable rack locations with automatic rack-to-column connection valves.
4. Wash Chamber Load Area: 2 wash levels-360 square inches per level-720 square inches total for 2 levels

C. Engineering Data:

1. Shipping Weight: 295 lbs
2. Shipping Dimensions: 40.75 inches high by 33.5 inches wide by 29.25 inches deep, maximum.
3. Heat Loss: 2,380 Btu (600 Kcal/h) maximum.
4. Sound Level: <63 dBA.

D. Utility Requirements (Provided by Others):

1. Electrical Requirements
  - a. Electrical cable for hard wire connection or plug with fuse or circuit breaker protection.
  - b. Electrically Heated Washer (Standard):
    - 1 Phase, 120 Volt, 60 Hz, 2.3kW, 19 A.*
    - 1 Phase, 208 Volt, 60 Hz, 7kW, 34 A.*
    - 3 Phase, 208 Volt, 60 Hz, 7kW, 20 A.*
2. Softened Cold Water
  - a. Shut off valve with a threaded  $\frac{3}{4}$  inch male hose thread nozzle. Flow Rate: 5  $\frac{1}{4}$  gal/min (20 l/min) with a pressure between 29 to 87 psig (200 to 600 KPa).
  - b. Washer is equipped with a 5 foot (1,524 mm) long,  $\frac{1}{2}$  inch (12 mm) diameter hose with  $\frac{3}{4}$  inch (19 mm) diameter female hose thread fitting.
3. Deionized/Purified Water
  - a. Shut off valve with a threaded  $\frac{3}{4}$  inch male hose thread nozzle. Flow Rate: 5  $\frac{1}{4}$  gal/min (20 l/min) with a pressure between 29 to 87 psig (200 to 600 KPa).
  - b. Washer is provided with a 5-foot (1,524 mm) long,  $\frac{1}{2}$  inch (12 mm) diameter hose with  $\frac{3}{4}$  inch (19 mm) diameter female hose thread fitting.
4. Water Consumption
  - a. 3.1 gallons (12 liters) per fill.
5. Drain
  - a. Fixed standpipe and plumbing trap with a minimum inside diameter of 1  $\frac{1}{2}$  inches (40 mm). Height above finished floor level between 20 to 27 inches (500 to 700 mm). Discharge flow rate: 10  $\frac{1}{2}$  gal/min (40 l/min) and maximum temperature 203°F (95°C).

- b. Washer is equipped with a 5 foot (1,524 mm) long, ¾ inch (19 mm) diameter hose with gooseneck for connection to standpipe.
  - 6. Condensate Drain
    - a. Fixed standpipe and plumbing trap with a minimum inside diameter of 1 ½ inches (40 mm). Height above finished floor level between 20 to 27 inches (500 to 700 mm). Discharge flow rate: 5 ¼ gal/min (20 l/min).
    - b. Washer is equipped with a 5 foot (1,524 mm) long, ¾ inch (19 mm) diameter hose with gooseneck for connection to standpipe.
- E. Construction and Components:
  - 1. Body, Door, and Washing Chamber: #4 sanitary high-grade finish AISI 304L stainless steel construction throughout interior of washer and exterior panels.
  - 2. Insulation: Synthetic, rubber based closed cell foam.
  - 3. Main Wash Pump: ¾ HP with capacity of 92 gal/min (350 liters/min).
  - 4. Drain Pump: 30 W with capacity of 6 ¼ gal/min (24 l/min).
  - 5. Detergent and Acid Additive Pumps: Peristaltic type dosing at a rate of 280 ml per minute.
  - 6. Electric Water Heating (Standard): 6 kW, type 304 stainless steel electrical submersion heater elements provide heating up to 95°C.
  - 7. Water Filters: Included in hoses and water inlet valves to prevent debris from entering wash chamber.
  - 8. Double Filter System: In chamber to protect recirculation and drain pump, easily removed for inspection and cleaning.
  - 9. Complete Service Panel Access: To heaters, safety relays and circuit breakers.
- F. Features:
  - 1. Washing Circuit: All components in contact with wash and rinse solutions made of stainless steel or other materials impervious to the effects of detergents, additives, and general laboratory chemicals.
  - 2. Drying System: 1 kW electrical heating element and blower for quick drying in wash chamber.
  - 3. Steam Condenser: Removes vapors and steam whenever chamber temperature exceeds 50°C (122°F) and directs all condensate, vapors and steam to drain.
  - 4. Glassware Racks and Trays (*sold separately, please specify below*): #4 sanitary high-grade finish AISI 304L stainless steel, removable, interchangeable on two rack levels, with full extension roller slides attached to rack/tray (only track members remaining in wash chamber when rack/tray removed), held in place for safety with easy to use retention lever to prevent accidental roll-out.
  - 5. Injectors: #4 sanitary high-grade finish AISI 304L stainless steel, mounted in racks with headers inserted into water outlet on wall of chamber; star-shaped support bases and integral injector tips for protection of washed items; injectors threaded into rack for easy removal, cleanout, and replacement. Removable glassware supports shall be provided on long injectors for taller glassware.
  - 6. Rack-to-Column Connection Valves: Automatically opened when injector racks or spray arm racks are inserted into any level of the multi-level chamber.
  - 7. Spray Arms: #4 sanitary high-grade AISI 304L stainless steel; mounted on top and bottom of chamber; racks and trays available with spray arms mounted on bottom, with headers inserted into water outlet on wall of chamber; easily disassembled for cleaning and maintenance.

8. Door: Front, drop-down, spring counterbalanced; capable of supporting full glassware load and functioning as a loading platform; double-wall construction; insulated to minimize noise and surface temperature.
  9. Fully Extendable Load Bearing Arms: Support jet racks for easy loading and unloading of glassware.
  10. Water volume shall be automatically adjusted to optimize wash efficiency based on load.
- G. Microprocessor Controls:
1. GETINGE LANCER ULTIMA Control System
    - a. Capable of storing 40 wash (4 preset, 36 user definable) programs, identified by name, with full programmability of all wash parameters.
    - b. All machine parameters are password protected.
    - c. Ability to update software via front panel USB without the requirement of a technician.
  2. Wash Cycle Program Functions:
    - a. Prewash: 0 to 3 cycles, at up to 95°C, of 0 to 30 minutes each, 0 to 6 minutes (1,680 ml) of liquid detergent addition at 280 ml/min. User can select cold or purified water.
    - b. Wash: 0 or 1 cycle, at up to 95°C, of 0 to 30 minutes, 0 to 6 minutes (1,680 ml) of liquid detergent intake at 280 ml/min. User can select cold or purified water.
    - c. Rinse A: 0 to 9 fills, 30 second rinse and drain cycles. User can select cold or purified water.
    - d. Acid Rinse: 0 or 1 cycle of 0 to 30 minutes, 0 to 6 minutes (1,680 ml) of liquid acid rinsing additive intake at 280 ml/min. User can select cold or purified water.
    - e. Rinse B: 0 to 9 fills, 30 second rinse and drain cycles. User can select cold or purified water.
    - f. Pure Water Rinse: 0 to 4 cycles, at up to 95°C, for 0 to 30 minutes each. User can select cold or purified water.
    - g. Pure Water Rinse Hot: 0 or 1 cycle, at up to 95°C, of 0 to 30 minutes. User can select cold or purified water.
    - h. Drying Time: 0-35 minutes.
    - i. Cooling Time: 0-30 minutes.
  3. Service Mode:
    - a. Enables access for verification of component function and calibration.
    - b. Enables adjustment of general operating parameters for optimal performance at individual facilities.
  4. Controls: Programmable microprocessor control system with 3.5" color touchscreen user interface
    - a. 40 programs include 4 preset and 36 user defined
    - b. Intuitive, icon based interface for ease of use
    - c. Supervisor controlled passcode protection for access levels
    - d. Real time, graphic display of cycle progression and parameters
    - e. Front panel USB port for data collection
    - f. Integral Ethernet port and RS422/485 connectivity
    - g. Audible and color-coded visual alarms for quick identification of alarm types and conditions
    - h. Self-diagnostic software for real time monitoring

- i. Alarm history may be viewed and exported to USB or printer
- 5. Alarm conditions displayed in red with clear definition, not requiring reference to operation manual for interpretation of codes.
- 6. Water Temperature: Capable of heating up to and maintaining 95°C for a maximum of 30 minutes.
- 7. Automatic intake and dispensing of liquid detergent with independent adjustable dosing times for each prewash and wash cycle.
- 8. Automatic self-diagnosis of mechanical and electrical malfunctions with audible and visual alarms, including automatic monitoring of fill and drain time to detect possible malfunctions that could result in overflow.
- 9. Two sensors control water level inside machine and prevent overflow.
- 10. Door lock prevents interference with wash cycle once it is in operation.
- H. *Accessories (specifier to select)*.
  - 1. *General Labware / Academic / Biology / Chemistry Package*
    - a. *PST - Basic Basket*
    - b. *36 IXLC - Injector rack with 36 long and short injectors*
    - c. *LTC – Small mesh basket*
  - 2. *Wastewater/Environmental Package*
    - a. *PST 14 – Basic Basket*
    - b. *41 IXC (BOD Bottle Rack) – Injector rack with 41 long and short injectors*
    - c. *GCI – Full cover screen for 41 IXC rack*
    - d. *LTC – mall mesh basket*
- I. *Options (specifier to select)*
  - 1. *Drain discharge cooling*

## **PART 3 EXECUTION**

### **3.01 PREPARATION, DELIVERY**

- A. Verify utility connections have been installed and are in proper location before beginning installation of equipment.
- B. Do not install equipment until all construction work and painting has been completed.
- C. Provide receiving, distribution, and storage areas of sufficient size and capacity to accommodate crated equipment.

### **3.02 INSTALLATION**

- A. Install in accordance with manufacturer's instructions and in accordance with all Local, State, and Federal Codes.
- B. Install equipment plumb, square and straight, without distortions.

### **3.03 COMMISSIONING AND TRAINING**

- A. Provide services of manufacturer's designated service group to place equipment in complete and proper operating condition.
- B. Provide manufacturer's representative to train owner's personnel in the operation of equipment.

**3.04 CLEANING AND PROTECTION**

- A. Clean all equipment surfaces using methods recommended by manufacturer.
- B. Provide protection for equipment surfaces until accepted by owner.

END OF SECTION