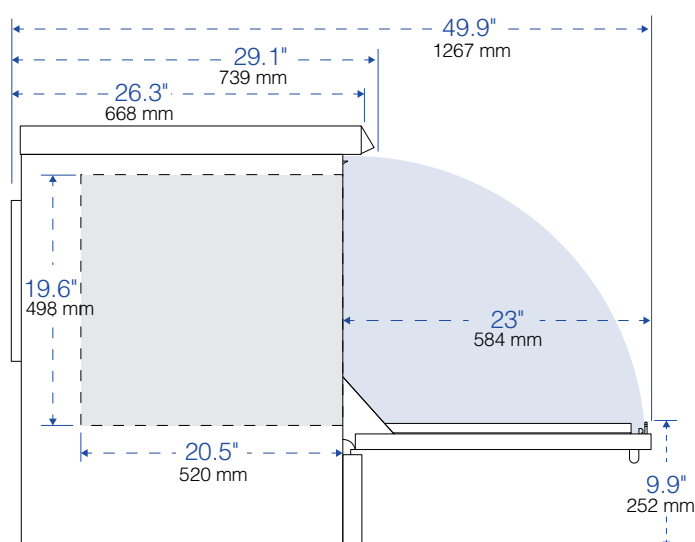
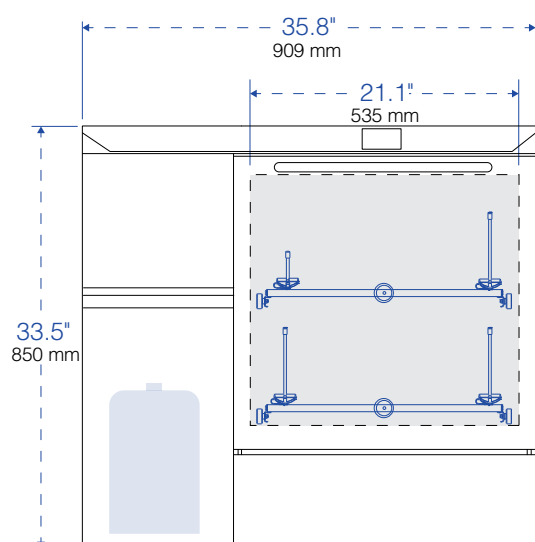


ULTIMA series model 820 LX

laboratory washer/dryer

DATASHEET

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Base Model ULTIMA series 820 LX

- Door Configuration**
 Fold-down door is made of solid 304L stainless steel.
 Optional View-In-Process (VIP) window provides a view inside the chamber.
- Water Per Fill**
 3.1 gal (12 L)
- Interior Dimensions (w x h x d)**
 21.1" x 19.6" x 20.5"
 (535 x 498 x 520 mm)
- Exterior Dimensions (w x h x d)**
 35.8" x 33.5" x 29.1"
 (909 x 850 x 739 mm)
- Exterior Dimensions (w x h x d) with optional base cabinet**
 35.5" x 52.8" x 29.1"
 (909 x 1340 x 739 mm)
- Wash Programs**
 4 Presets,
 36 Custom Settings
- Cycle Functions**
 95°C (203°F),
 Drying: Forced-air
 Chamber, Injectors,
 HEPA Filtered
- Weight**
 253 lb. (115 kg)
- Effective Chamber Volume**
 4.9 cu.ft.



Lancer model 820 LX labware washer; shown with optional View-In-Process (VIP) window.

Drawings display front and side of unit with door swing allowance.

General Specifications

General Features

Fold-down Door

- Counterbalanced for ease of operation
- Ensures proper rack placement and connection to manifold
- Manufactured of solid 304L stainless steel
- Fully insulated to reduce heat loss and noise
- Provides sturdy loading platform, improving ergonomics

Fully Extendable, Load-Bearing Arms

- Support jet racks for loading and unloading of glassware

Storage System

- On-board chemical storage drawer for two 10 L standard bottles, minimizes chemical handling and exposure

Spray System

- Spray arms made of sanitary high-grade 316L stainless steel
- Easily disassembled for cleaning and maintenance

System Wash Levels

- Two levels to increase wash configurations
- Rack accessories are independent and easily removed for use on all levels
- Racks are interchangeable among ULTIMA series models 810 LX, 815 LX, 910 LX, 1300 LX and 1800 LXA

Drying System

- Dryer incorporates 53 W fans to blow heated air through the chamber and through the injectors
- Two drying temperature modes (adjusted or maximum)
- 2.4 kW heating elements and blower

Main Recirculation Pump

- Capacity of 92 gal/min (350 L/min)

Filter System

- Multi-chamber filters on all incoming water lines
- Multi-chamber filters easily removed for cleaning

Automatic Peristaltic Dosing Pumps

- Provides precise addition of chemical agents

Liquid Level Sensors

- Alerts when cleaning chemical levels are low

Wash Solution Heating System

- 6 kW electric heating elements provide heat up to 95°C (203°F)

Electronic Thermostat

- Independent selection of temperature for prewash, wash and final rinse between ambient and 95°C (203°F)

Temperature Probe

- Integrated Pt-1000 temperature probe

Steam Condenser

- Removes steam vapor when chamber temperature exceeds 50°C (122°F)

Water Softener

- Softens incoming cold and hot water to prolong and improve efficiency in hard water areas, automatic regeneration after each wash cycle with low salt alarm.

Water Level Sensors

- Two independent sensors control chamber water level and prevent overflow
- Automatically adjust fill volume to optimal level based on chamber load

Controls

HMI

- 3.5" Prolux programmable microprocessor controller
- Intuitive touchscreen user interface
- Real-time cycle performance

Communication and Connectivity

- Front panel USB port
- Ethernet port
- RS422/485

Programming

- User programmable with four preset programs and 36 user defined programs
- Passcode protected access levels

System Monitoring

- Audible and visual alarms provide quality control for each wash cycle
- Self-diagnostic software provides real-time monitoring
- Alarm history

Programming and Cycle Operation

1-Prewash: Select number of prewashes (0 to 3), duration of prewash (up to 30 minutes), temperature of water (up to 95°C / 203°F) and detergent dosing time. User can select cold or hot or DI water.

2-Wash: Select Duration of wash (up to 30 minutes), detergent dosing time and temperature of water (up to 95°C / 203°F). User can select cold or hot or DI water.

3-Rinse A: Select number of rinses (0-9), duration of rinse (up to 30 minutes), temperature of water (up to 95°C / 203°F). User can select cold or hot or purified water.

4-Acid Rinse: Select duration of rinse (up to 30 minutes). Acid dosing time and temperature of water (up to 95°C / 203°F). User can select cold or hot or purified water.

5-Rinse B: Select number of rinses (0-9), duration of rinse (up to 30 minutes) and temperature of water (up to 95°C / 203°F). User can select cold or hot or purified water.

6-DI Rinse: Up to 4. Duration of rinse (up to 30 minutes), temperature of water (up to 95°C / 203°F). User can select cold or purified water.

7-Final rinse: Duration of rinse (up to 30 minutes), temperature of water (up to 95°C / 203°F).

8-Drying: Adjustable time up to 90 minutes, and mode to include heated forced-air injection drying.

9-Cooling: Duration of cooling (up to 30 minutes).

Construction

Wash chamber and door

- Constructed of AISI 304L stainless steel
- High-grade finish, electronically-welded under Argon protection

Components

- Constructed of stainless steel or other materials impervious to the effects of detergents, additives and general laboratory chemical residues


Insulation

- Synthetic, rubber-based closed cell foam
- Guards against heat loss and reduces noise

Safety Features

- Door interlock prevents interference with wash cycle once it is in operation.
- Fold-down door is counterbalanced for safe operation.

Optional Features

Features		820 LX
Discharge Water Cooling	Reduces effluent temperature to less than 60°C (140°F) for code compliant transfer to utility drain.	<input type="radio"/>
pH Programming	Neutralizes effluent before transfer to utility drain.	<input type="radio"/>
Liquid Level Sensor	Indicates low volume in detergent and acid additive reservoirs.	<input type="radio"/>
External Printer, Externally Mounted	Installs by direct connection to washer port. Generates 2.25" (57 mm) thermal strip record of washer function.	<input type="radio"/>
Communication / Control Dry contact	Programmable output for external communication / control of external equipment (i.e.: exhaust fan, alarm light, cycle light)	<input type="radio"/>
IQ/OQ Validation	Includes documentation verification, review of accessories/options, review of equipment installation, verification of utility supplies, review of access levels, review of configuration settings, I/O testing, functional testing, alarm testing and a complete cycle test.	<input type="radio"/>
Utilities		820 LX
Low Pressure Kit	Boosts DI water supply input pressure to assure optimum performance.	<input type="radio"/>
Construction		820 LX
Base Cabinet	Stainless steel cabinet sized to accommodate models 810 LX and 815 LX, or model 820 LX. Elevates washer loading platform by 19.25" (490 mm) to improve ergonomic access when undercounter installation is not desired.	<input type="radio"/>
Preventive Maintenance	Annual Preventive Maintenance agreements ensure optimum washer/dryer performance and extend equipment life. Contact us for details.	<input type="radio"/>
View-In-Process Window (VIP)	 Includes interior light, permitting visual verification during wash cycles.	<input type="radio"/>

Utility Requirements

Utility	Characteristic	Connection	Consumption
Water <ul style="list-style-type: none"> • cold • hot • DI 	Pressure: 200 to 600 kPa 29 to 87 psi Flow: 5.25 gpm (20 L/min) Temperature: Ambient up to 50°C (122°F)	Male threaded: ¾" (20/27)	3.1 gal (12 L) per fill
Electricity	Voltage: request Frequency: 60Hz		See Electrical Table
Drain	Fixed standpipe and plumbing trap Height above floor: from 20" (500 mm) to 27" (686 mm)	Inner Diameter: 1½" (40 mm)	Required to handle 10.5 gpm (40 L/min) max temp 95°C (203°F)

Frequency	kW	Amps	Breaker Size
208V, 60Hz, 3-phase	7	20	25
208V, 60Hz, 1-phase	7	34	40

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