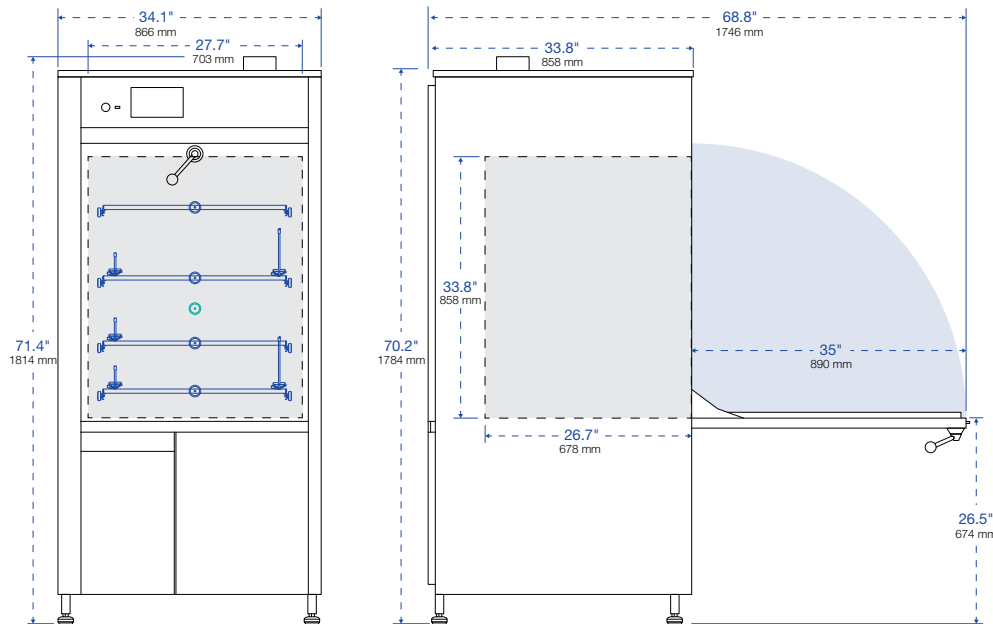


ULTIMA series model 1600 LXP

laboratory washer/dryer

DATASHEET

LANCER
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Base Model ULTIMA series 1600 LXP

- **Door Configuration**

Fold-down door is made of solid 316L stainless steel.
Optional View-In-Process (VIP) window provides a view inside the chamber.

- **Water Per Fill**

7.9 – 9.2 gal (30 – 35 L)

- **Standard Interior Dimensions (w x h x d)**

27.7" x 33.8" x 26.7"
(703 x 858 x 678 mm)

- **Standard Exterior Dimensions (w x h x d)**

34.1" x 71.4" x 33.8"
(866 x 1814 x 858 mm)

- **Wash Programs**

4 Presets,
36 Custom Settings

- **Cycle Functions**

Wash Temp: 95°C / 203°F
Drying: Forced-air
Chamber, Injectors,
HEPA Filtered

- **Weight**

474 lb. (215 kg);

- **Effective Chamber Volume**

14.4 cu.ft.



Lancer model 1600 LXP 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
- Eliminates safety hazards associated with guillotine doors
- Ensures proper rack placement and connection to manifold
- Manufactured of solid 316L stainless steel
- Fully insulated to reduce heat loss and noise
- Provides sturdy loading platform eliminating need for loading cart and improving ergonomics

Fully Extendable, Load-Bearing Arms

- Support jet racks for loading and unloading of glassware
- Smaller footprint than vertical door models as no loading cart is required

Spray System

- Includes one rotary spray arm in the top of chamber and one in the bottom of the chamber
- Spray arms made of sanitary high-grade 316L stainless steel
- Easily disassembled for cleaning and maintenance

System Wash Levels

- Up to three levels with four rack positions
- Rack is actuated by automatic rear manifold connections when door is closed
- Rack accessories are independent and easily removed for use on all levels

Super Drying System

- Dryer incorporates (3) 53 W fans to blow heated air through the chamber and through the injectors
- HEPA-filtered chamber and direct injection drying
- User programmable in 1°C increments
- 4 kW heating elements and blower provide drying up to 110°C (230°F)

Main Recirculation Pump

- 1½ HP with capacity of 159 gal/min (600 L/min)

Filter System

- Two stainless steel filters protect recirculation and drain pumps from debris
- Filters easily removed for cleaning
- Filters on all incoming water lines

Automatic Peristaltic Dosing Pumps

- Provides precise addition of chemical agents

Liquid Level Sensors

- Alerts when cleaning chemical levels are low

Wash Solution Heating System

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

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, user programmable

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

- 7" Prolux Plus 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 (0-3), 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), 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). If conductivity monitoring is included, that procedure is made in this phase.

8-Drying: Programmable in 1°C increments for up to 90 minutes and up to 110°C (230°F).

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

Construction

Wash chamber and door

- Constructed of AISI 316L 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		1600 LXP
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"/>
Printer	For hard copy permanent record.	<input type="radio"/>
Emergency Stop	Emergency stop button.	<input type="radio"/>
Sampling Valve	A sampling valve can be fitted on the sump of the washer to perform a sampling of the washer water.	<input type="radio"/>
Conductivity Verification	Conductivity meter for final rinse verification.	<input type="radio"/>
Final Rinse Kit	Final Rinse kit for conductivity monitoring inclusive of chemical isolation valves, recirculation pump case drain and Pneumatic drain valve for quick evacuation of chamber. Requires compressed air and floor drain.	<input type="radio"/>
Water Softener	Water softener.	<input type="radio"/>
Chemical Dosing Pump, Additional	Additional chemical dosing pump. Up to 3 additional.	<input type="radio"/>
Main Switch	Main power switch, shuts off all power to the washer.	<input type="radio"/>
Utilities		1600 LXP
Steam Heating	Steam coil to utilize house steam for heating of wash/rinse water.	<input type="radio"/>
Low Pressure Kit	Boosts DI water supply input pressure to assure optimum performance.	<input type="radio"/>
Steam Condenser	Steam condenser for collapsing exhaust vapor.	<input type="radio"/>
Gravity Drain	For quick evacuation of chamber. Requires compressed air and floor drain.	<input type="radio"/>
Tri-clamp DI Inlet	Direct DI water inlet with tri-clamp connection and dry contact for control of customer DI loop valve.	<input type="radio"/>
Construction		1600 LXP
Chamber Elevation	Chamber height can be extended by 9.8" (250 mm) to accommodate large / high items, cannot be combined with VIP glass door and illuminated chamber. Extension adds 55 lbs. to weight of unit.	<input type="radio"/>
Trim Kit	Stainless steel trim kit for recessed installation.	<input type="radio"/>
Moving Runners	Customized location of rack manifolds to accommodate specific loads.	<input type="radio"/>
Extended Diptube Kit	Extended diptubes for use with 30-55 gallon chemical containers.	<input type="radio"/>
Dry Contact	Dry contact for DI control.	<input type="radio"/>
Seismic Restraints	Seismic tie down brackets.	<input type="radio"/>
Stainless Steel Plumbing	Complete stainless steel hydraulic circuit.	<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)	7.9 – 9.2 gal (30 – 35 L) per fill
Compressed air <i>(if option selected)</i> <ul style="list-style-type: none"> • Steam heating with pneumatic valve • Drop drain <i>(pneumatic valve)</i> 	Pressure: 500 to 700 kPa 70 to 100 psi	Shut off valve with ¾" hose barb fitting	Minimal consumption
Steam feed <i>(if option selected)</i>	Pressure: 200 to 600 kPa 29 to 87 psi	Male threaded: ½" (15/21)	265 lb/h (120 kg/h) max 66 lb/h (30 kg/h) per cycle Typically 1 cycle/hour used
Electricity	Voltage: request Frequency: 60Hz		See Electrical Table
Vapor exhaust	Atmospheric Exhaust Hood located 12" (300) to 40" (1000 mm) above exhaust pipe *Refer to installation manual Discharge Flow Rate: 70 CFM Max temp.: 95°C (203°F) Max Relative Humidity: 95%		
Drain	Fixed standpipe and plumbing trap Height above floor: from 31" (800 mm) to 35" (900 mm)	Inner Diameter: 1½" (40 mm)	Required to handle 10.5 gpm (40 L/min) max temp 95°C (203°F)

Frequency (standard models)	kW	Amps	Breaker Size
208V, 60Hz, 3-phase	21	59	70
480V, 60Hz, 3-phase	21	26	35

Frequency (steam heated models)	kW	Amps	Breaker Size
208V, 60Hz, 3-phase	4.2	20	25
480V, 60Hz, 3-phase	4.2	9	15

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