

## **Getinge Lancer Ultima labware washing systems** Freestanding series





## Professional cleaning results – integrated systems, repeatable results

From quality control to general laboratory research, Getinge Lancer Ultima series washers meet space and budget requirements in laboratories performing a range of critical applications where clean labware is essential.

Typical applications include analytical chemistry, quality control, pharmaceutical and environmental science laboratories, wastewater treatment, food and beverage analysis, public health and consumer product testing facilities.

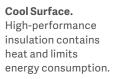
The exclusive Prolux programmable microprocessor controller commands a full range of prewash, wash, rinse and drying functions through simple touchscreen menus on all Ultima series washers. The convenience of five preset programs for light to heavy loads simplifies operation, while more complex programs can be customized whenever needed to meet specific applications.



Getinge Lancer Ultima model 1300 LX freestanding labware washer, shown with accessory loading rack, sold separately.



**Quiet Operation.** Noise reduction design minimizes sound for quiet operation.





Getinge Lancer Ultima model 1400 LXP freestanding labware washer, shown with accessory loading rack, sold separately.

Prolux programmable microprocessor controller with intuitive touchscreen user interface.

Control screen shows actual cycle performance, alarm events. Data is captured for documentation and communication.

Preset or user programmed cycles are fully adjustable to permit multiple combinations of prewash, wash, rinse, acid rinse, purified final rinse, HEPA filtered forced air drying, controlled duration, temperature and more.

High efficiency powerful fluid circulation with direct fluid path and rear manifold connections deliver optimal pressure and flow rates.

Chamber walls made in durable AISI 316L stainless steel material.

Injector jet performance provides inside out wash and rinse functions.

Stainless steel top and bottom spray arms and multiple levels of injection washing ensure thorough spray coverage.

Two integrated automatic chemical dosing pumps are standard on all models. Convenient on-board chemical storage beneath chamber saves space.



#### **View-In-Process Window**

An optional View-In-Process (VIP) window includes an interior LED light for visual verification of the interior load during the cycle.

# Meeting a variety of laboratory needs

The Getinge Lancer Ultima series freestanding washers include five high-performance models that offer a range of labware loading options using baskets, injector racks or combination racks for the best high capacity processing of multiple labware types in the industry.

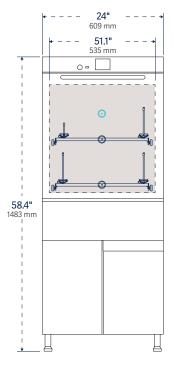
910 LX	1300 LX	1400 LXP	1600 LXP	1600 LXP/HE
3	5°	L		
910 LX / 1300 LX	features	1400 LXP / 1600 LXP feat	tures	
Prolux control in	terface	Prolux Plus control inter	face	
Manual fold down	door	Manual fold down door		
Forced-air drying,	injectors, HEPA filtered	Forced-air drying, injector	s, HEPA filtered	
Capacity compa	rison			

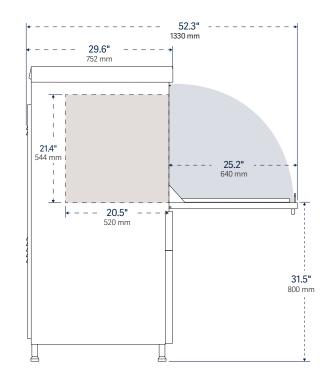
Capacity comparison					
Model	Volume	Interior (W x H x D)	Positions	Wash levels	Configurations
910 LX	5.7 cu. ft. (160 L)	21.1" x 21.4" x 20.5" (535 x 544 x 520 mm)	3	2	3
1300 LX	6.4 cu. ft. (180 L)	21.1" x 25.4" x 20.5" (535 x 644 x 520 mm)	4	3	5
1400 LXP	10.7 cu. ft. (304 L)	24.6" x 30.4" x 24.8" (626 x 773 x 629 mm)	4	3	6
1600 LXP	14.4 cu. ft. (408 L)	27.7" x 33.8" x 26.7" (703 x 858 x 678 mm)	5	4	12
1600 LXP/HE	17.7 cu. ft. (500 L)	27.7" x 41.3" x 26.7" (703 x 1048 x 678 mm)	5	4	12

Models shown (left to right) 910 LX, 1300 LX, 1400 LXP, 1600 LXP and 1600 LXP/HE.

## **Small spaces, impressive capacity** 910 LX

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





Model	Interior dimensions	<b>Exterior dimensions</b>	Water per fill*	Programs	
	WxHxD	WxHxD	gal (L)	presets	custom
910 LX	21.1″ x 21.4″ x 20.5″ 535 x 544 x 520 mm	24" x 58.4" x 29.6" 609 x 1483 x 752 mm	3.4 (13)	5	35





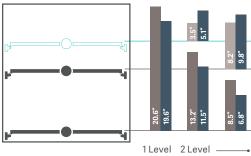
910 L X 3.5" Prolux Control Interface, Standard Monitoring.



Stainless steel top and bottom spray arms on all models ensure complete washing and rinsing of glassware exterior and interior of large mouthed glassware.

#### 910 LX

Wash load configurations

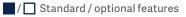




IXC / IXL injection racks (long / short jets)

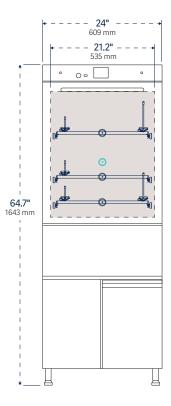
PST Basic basket PSBT Basic basket with spray arm

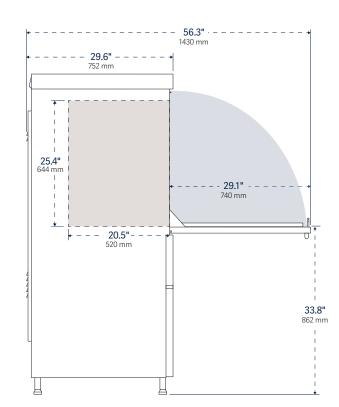
Model	Cycle function				Chemical dosing				
	<b>Wash temp.</b> max. °F (°C)	Rinse purified water	Rinse acid	Drying	Automatic pumps	On-Board chemical storage	Level sensors	Water softener	<b>Empty</b> lb (kg)
910 LX	203°F (95°C)	•	•	Forced-air chamber and injectors; HEPA filtered	2 (max 3)		2 (max 3)		315 (143)



## **Compact footprint, lasting impression** 1300 LX

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





Model	Interior dimensions	ensions Exterior dimensions		Programs	
	WxHxD	WxHxD	gal (L)	presets	custom
1300 LX	21.1" x 25.4" x 20.5" 535 x 644 x 520 mm	24" x 64.7" x 29.6" 609 x 1643 x 752 mm	4 (15)	5	35



1600 LXP 1600 LXP/HE 910 LX 1300 LX 1400 LXP



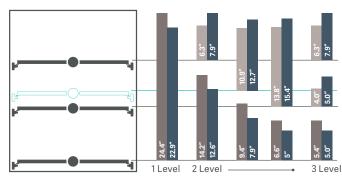
1300 LX 3.5" Prolux Control Interface, Standard Monitoring.



For maximum connectivity, all Ultima series washers include a USB port, conveniently located on the front panel for easy access and transfer of cleaning process documentation, including cycle parameters, cycle number, date and time, phase duration, temperature for each phase, and detergent and acid intake.

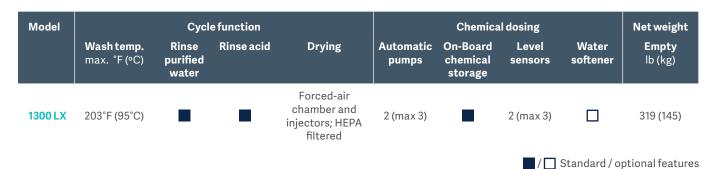
#### 1300 LX

Wash load configurations



PST Basic basket PSBT Basic basket with spray arm

IXC / IXL injection racks (long / short jets)



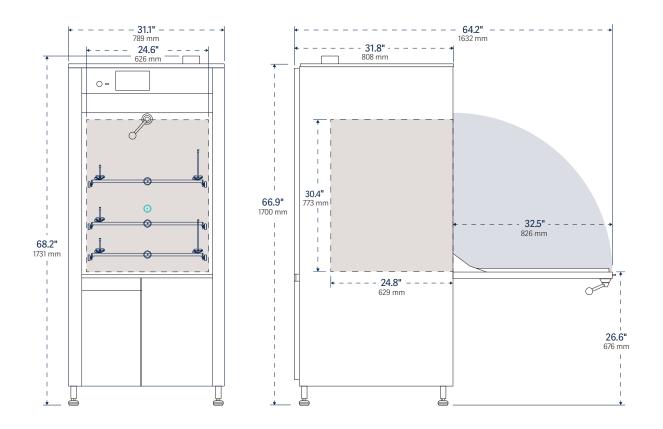
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Sound Level

<60 dB(A)

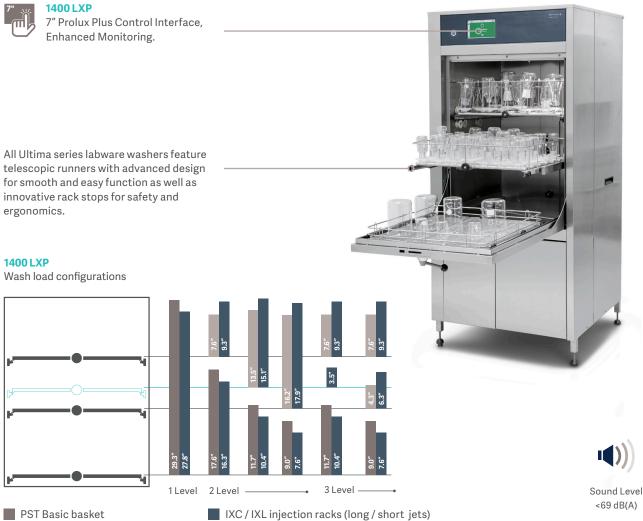
## **Space efficiency, multi-level loading** 1400 LXP

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



Model	Interior dimensions	<b>Exterior dimensions</b>	Water per fill*	Prog	rams
	WxHxD	WxHxD	gal (L)	presets	custom
1400 LXP	24.6" x 30.4" x 24.8" 626 x 773 x 629 mm	31.1" x 68.2" x 31.8" 789 x 1731 x 808 mm	5.2-6.6 (20-25)	5	35





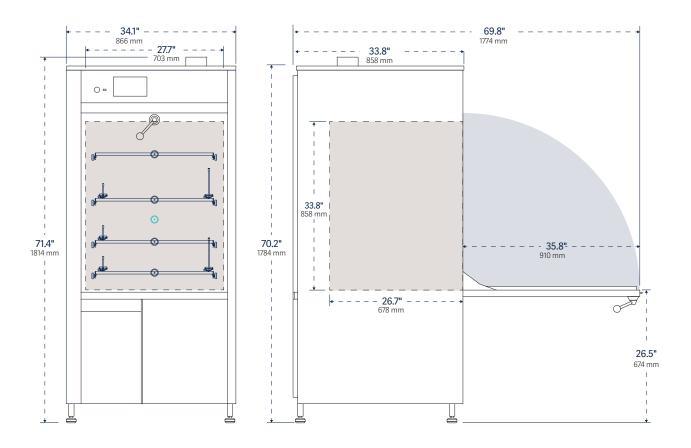
PSBT Basic basket with spray arm

Model	Cycle function			Chemical dosing				Net weight	
	<b>Wash temp.</b> max. °F (°C)	Rinse purified water	Rinse acid	Drying	Automatic pumps	On-Board chemical storage	Level sensors	Water softener	<b>Empty</b> lb (kg)
1400 LXP	203°F (95°C)	•	•	Forced-air chamber and injectors; HEPA filtered	2 (max 4)		2 (max 4)		469 (213)

/ 🗌 Standard / optional features

## Maximum flexibility 1600 LXP

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



Model	Interior dimensions	<b>Exterior dimensions</b>	Water per fill*	I* Programs		
	WxHxD	WxHxD	gal (L)	presets	custom	
1600 LXP	27.7" x 33.8" x 26.7" 703 x 858 x 678 mm	34.1" x 71.4" x 33.8" 866 x 1814 x 858 mm	7.9-9.2 (30-35)	5	35	



1600 LXP 7" Prolux Plus Control Interface, Enhanced Monitoring.



1600 LXP Wash load configurations.

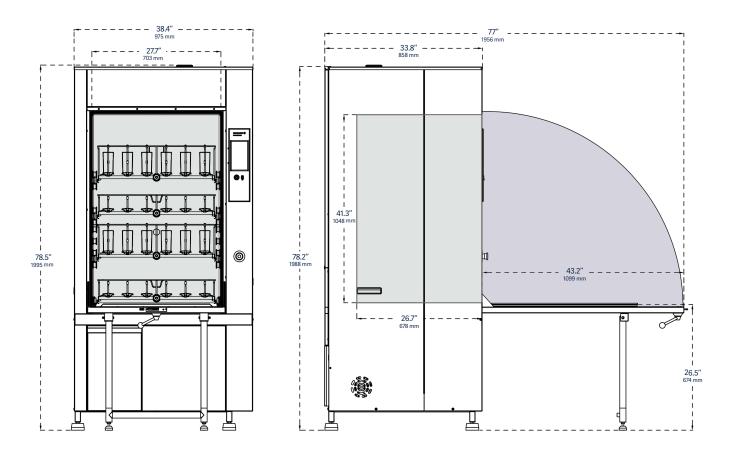


Model	Cycle function Chemical				al dosing		Net weight			
	<b>Wash temp.</b> max. °F (°C)	Rinse purified water	Rinse acid	Drying	Automatic pumps	On-Board chemical storage	Level sensors	Water softener	<b>Empty</b> lb (kg)	
1600 LXP	203°F (95°C)	•	•	Forced-air chamber and injectors; HEPA filtered	2 (max 4)	•	2 (max 4)		474 (215)	



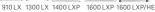
## **High throughput** 1600 LXP/HE

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



Model	Interior dimensions	<b>Exterior dimensions</b>	Water per fill*	Programs	
	WxHxD	WxHxD	gal (L)	presets	custom
1600 LXP/HE	27.7" x 41.3" x 26.7" 703 x 1048 x 678 mm	38.4″ x 78.5″ x 33.8″ 975 x 1995 x 858 mm	7.9-9.2 (30-35)	5	35

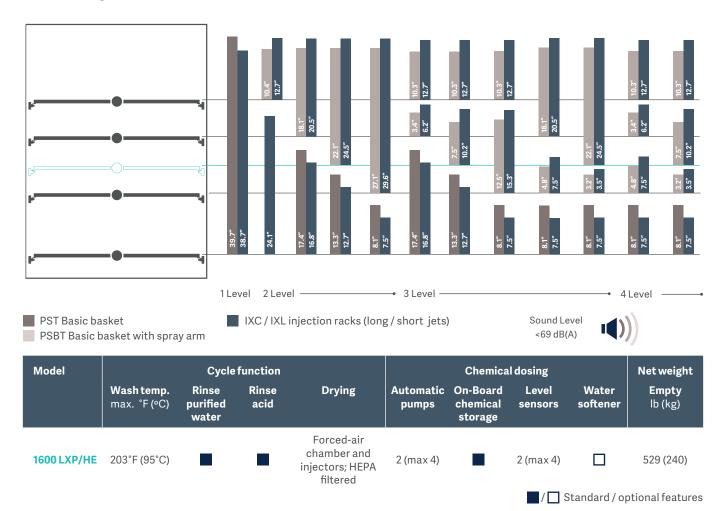






1600 LXP/HE

Wash load configurations.



## **Repeatable results**

- with reliability, safety and high throughput

#### **Ergonomic Loading Configurations.**

Unlike oversized washers with less efficient loading patterns, Getinge Lancer Ultima series freestanding labware washers are designed for high-density loading and the most effective use of available interior space. This efficiency maximizes throughput and reduces capital investments, operating costs and the amount of dedicated lab space needed.

- Telescoping load-bearing rails permit extension of racks for easy loading with or without an optional trolley.
- All racks are interchangeable between wash levels thereby minimizing the need for additional accessories.
- Racks for Getinge Lancer Ultima series undercounter models and freestanding models 910 LX, 1300 LX are interchangeable.
- The fold-down door creates a platform for proper rack positioning and more comfortable loading and unloading.

#### Cleaning performance and safety.

Operating systems are designed for performance, efficiency and high throughput.

- An automatic door lock prevents door opening during active cycles and protects the user from heat and chemical exposure.
- Top and bottom stainless steel spray arms are pressurized to provide exterior coverage to the labware.
- Injector rack manifold connections are located at the rear for proper alignment and the most efficient pressure and flow.
- Washing temperature can be set to a maximum of 203°F (95°C) if required for more difficult soils.
- Automatic Peristaltic pumps are self-contained for accurate and repeatable dosing of detergents or acids required by each cycle.
- Multiple DI rinses can be programmed to eliminate interior and exterior spotting.



The front-loading door folds down to create an ergonomically stable platform for proper rack positioning and easier loading, eliminating the need for a trolley to load or unload glassware.

#### **Alarms and monitoring**

- The high resolution touchscreen color display is easy to read from a distance.
- The intuitive graphic user interface creates a series of visual performance indicators such as active program, time remaining, warning, alarm and cycle completed functions.
- Five preset programs permit one touch operation. Additional cycles are programmed from the graphic user interface.
- An integrated USB port allows easy front panel access for process tracking and data logging. Optional process record printouts available through USB or Ethernet ports are managed by the Prolux controller.

#### Construction

The sump, spray arms, interior chamber walls and door are fabricated from 316L stainless steel to resist aggressive chemicals and residues.

- Exterior 304L stainless steel panels resist corrosion, simplify cleaning and protect electrical and plumbing components.
- Double-wall insulated assembly confines heat loss and minimizes noise.
- Easy access stainless steel chamber filters extend washer life by protecting pumps and interior plumbing from debris.
- A compact liquid sump and direct fluid path minimizes water volume per fill, lowers overall consumption per cycle and improves sustainability throughout the useful life.

#### View-In-Process





An optional dual pane View-In-Process (VIP) window includes an interior LED light for visual verification of the interior load during the cycle. The light is activated by the On/Off switch through the Prolux controller. Tempered safety glass provides excellent sound and heat abatement and enhances operator safety. Factory installed, specify when ordering.

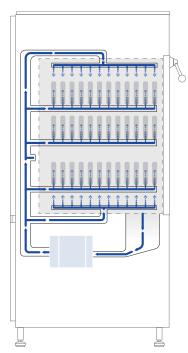
#### Model 910 LX:

13.7" (348 mm) H x 6.8" (173 mm) W

**Models 1300 LX / 1400 LXP / 1600 LXP:** 20" (508 mm) H x 6.8" (173 mm) W

\* VIP window not available on model 1600LXP/HE

#### Hydraulic design



The Getinge Lancer Ultima hydraulic design optimizes pressure and flow for efficient performance at all wash levels.

The combination of a highperformance recirculation pump, straight-line fluid path and center-mounted rack interface assures maximum water flow through spray arms and injectors.

Washer pump is protected from debris by a stainless steel sump screen. The screen lifts out without tools for easy cleaning.

Model 1400 LXP, waterflow.

## Simple, flexible, documented, trusted.

#### Prolux controller.

The all new 3.5" Prolux and 7" Prolux Plus controllers are based on a high-performance PLC microprocessor designed for simplicity, one-touch start, real-time status indicators and intuitive programming options that permit customization over the range of washer operations.

Both the Prolux and Prolux Plus controller integrate a suite of menu screens that support digital functions from cycle selection, process monitoring, warning advisories, audible and visual alarms, system communications and data capture.

#### Operation

- Screen menus and graphic user interfaces are designed to simplify setup and operations including active programs, remaining time, warnings, alarms and cycle complete notifications.
- Five preset programs are factory loaded for one-touch control of most routine applications.
- When additional cycle programs are desired, parameters can be changed through secure access to the administration screen where an intuitive graphic user interface displays all options.

#### **Communication and connectivity**

- A front-panel USB port simplifies direct connection to peripheral devices for cycle tracking and data capture. The port is covered by a protective hood.
- A real-time process record is printed if optional printer is installed.
- Multiple data ports include Ethernet and RS422 connectors.
- Optional printer documents cycle performance, warnings and alarms.



The Prolux and Prolux Plus (above) controllers include a touchscreen interface with a common icon directory that permits scrolling access to primary screens from the same menu. A set of sub-menu screens display additional icon directories specific to the screen functions.

#### 910 LX / 1300 LX



• 3.5" Prolux color touchscreen interface

- 320 x 240 pixel resolution display
- Five presets
  - Additional custom program options

#### 1400 LXP / 1600 LXP / 1600 LXP/HE

- 7" Prolux Plus color touchscreen interface
- 800 x 480 pixel resolution display
- Five presets
- Additional custom program options



The Prolux control interface features an intuitive menu of primary and secondary screens, configured with icons, to simplify access to all functions. The touchscreen is easily managed with a gloved hand.

#### Programming

Programmable cycle parameter selections include:

- **Prewash.** Up to 3 prewashes, 0 to 30 minutes each, temperatures up to 203°F (95°C), chemical dosing as desired.
- **Wash.** 0 to 30 minutes, temperatures up to 203°F (95°C), chemical dosing as desired.
- Acid rinse. 0 to 30 minutes, chemical dosing, temperatures up to 203°F (95°C).
- **Running water rinses.** One or more short rinse sequences after the wash or rinse cycle purge the hydraulic circuit of residual detergent and rinsing agents.
- **Rinse, DI.** Up to 4 rinses, 0 to 30 minutes each. Ambient to 203°F (95°C).
- Final rinse, DI. 0 to 30 minutes, temperatures up to 203°F (95°C).
- **Drying.** Up to 90 minutes, adjustable. Temperature, ambient to 230°F (110°C), Prolux Plus models; ambient to 185°F (85°C), Prolux models.
- **Cooling.** 0 to 30 minutes, adjustable.

#### **Display screens**

Featured display screens are 3.5" screen. Displays for 7" screens are identical.





End of cycle

Complete

Standby

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 $\boxtimes$ 

Final rinse Recycling

 $\boxtimes$ 

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P01

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00:12:42 00:04:21

Program Selection.

The Program Selection screen

lists the five factory presets, as well as additional presets added

through administrator access.

**Cycle in Process.** A real-time status screen displays time remaining until cycle completion and links to cycle detail screens with the touch of a button.



The green Cycle Completed screen confirms completion of the cycle and indicates the washer is safe to unload.

#### Warning Message.

The amber Warning Message screen provides a status report to prompt refill of detergent and rinse agents.

#### Alarm Message.

The red Alarm Message screen confirms the reason for a system shutdown and prompts corrective action needed in advance of a restart.

## **Configurable for your facility**

### Site preparation and utilities.

#### **Pre-installation**

Start-up services by factory-authorized technicians include washer set and leveling, pre-installation and final inspections, soft hook-up to utilities (in place by customer), check-out and initial operation. In addition validation documentation and execution options are available; contact us through; sales. lancer@getinge.com

#### **Post-installation**

Technical support by direct product specialists between 8AM and 7PM Eastern Time EST.

#### Warranty information

Getinge Lancer products are supported by a standard industry warranty.



Site preparation	910 LX / 1300 LX / 1400 LXP / 1600 LXP / 1600 LXP/HE
Water supply (hot, cold and DI)	¾" hose thread connection, recommended min. flow 5.25 gpm (20 L); lower flow rates may extend cycle times; 29-87 psi (200-600 kPa) water pressure
Drain requirement, vertical standpipe	1 1/2" (40 mm) diameter, 31" to 35" (800 to 900 mm) above floor.

#### Certifications

UL/IEC 61010-1

## **Bioreactor preparation solution**

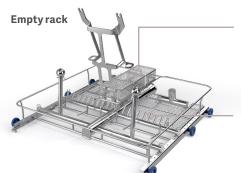
- consistent processes deliver repeatable results

The expertise of Getinge and Applikon research and development has established a synergistic process for bioreactor preparation.

A solution to prevent cross-contamination, minimize any research downtime and ensure validated outcome through optimal processes and procedures. Getinge offers a specially designed bioreactor wash rack for Getinge Lancer Ultima laboratory washers.

This dedicated wash rack, for the Getinge Applikon multiuse bioreactors, establishes a highly reproducible system with significant benefits such as:

- Free-up resources to increase laboratory throughput and minimize downtime
- Decreasing operational labor costs compared to manual cleaning processes
- Improving staff safety by removing potential repetitive motions and exposure of harmful substances related to manual procedures.



**Bioreactors in place\*** 



\*Multi-use, volume 0.26-0.79 gal (1-3 liter)

#### Baskets

Small bioreactor assembly parts are placed in the baskets to ensure that these are in place throughout the cleaning cycle.

for sterilization.

#### **Multiple injector tubes**

Reassure best possible cleaning performance for each entry connection on the bioreactor head plate.

#### Spray headers

High flow of process water through the spray headers clean the inside of the bioreactor vessel.

#### Head plate fixation

The head plate is fixed in the wash rack. The spray wings within the washer will clean the outside of the head plate.

#### Angled head plate

Minimum water retention on the head plate surface will speed up the drying phase which shorten the overall process cycle.



The relationship between the bioreactor design and

The defined connection points on the wash rack and

bioreactor head plate ensures a clean bioreactor prepared

laboratory washer assures predictable outcomes.

Getinge Lancer Ultima model 910 LX freestanding labware washer.

# Adaptable to suit your application

#### **Detergents and rinsing agents**

For best cleaning performance there is a selection of detergents and rinse agents formulated to maximize the performance of the Getinge Lancer Ultima labware washer while minimizing water consumption. These cleaning chemicals are made specifically for use in high pressure washers. To order contact sales.lancer@getinge.com.

**Getinge LancerClean detergent** is available in three solutions formulated for cleaning all different types of contaminants including laboratory soils, "baked on" organic residues, petroleum applications and other hard to clean soils. Getinge LancerClean is ideal for cleaning glassware, surgical instruments and many other labware items.

- LCD-P is a potassium hydroxide based solution that provides excellent cleaning results for all types of contaminants and standard laboratory soils. It is recommended for use in all glassware washers.
- LCD-S is a sodium hydroxide based solution specifically formulated to provide exceptional cleaning for the most difficult types of contaminants.
- LCD-H is a low pH detergent comprised of a sodium silicate solution.

#### Getinge Lancer Ultima undercounter labware washers

**Getinge LCA-A, LCA-C & LCA-P rinse** is available in three formulas to meet specific cleaning requirements. Used as a rinsing agent following Getinge LancerClean detergent in the wash cycle, Getinge LCA-A, LCA-C & LCA-P provides excellent results following washing of standard laboratory soils, organics, pharmaceutical based contaminants, petroleum and other difficult materials.

- LCA-A is an acetic acid based neutralizing solution. It is the most commonly used rinsing agent.
- LCA-C is an excellent rinsing agent with a citric acid based solution.
- LCA-P is a phosphoric acid solution.

A line of compact undercounter labware washers for lower volume washing requirements. These washers are available in three models with two size options. Contact us for details.



#### **Getinge Lancer Ultima Series**

<sup>\*</sup>With side chemical cabinet (SCC)

#### Some options available

Features		910 LX	1300 L X	1400 LXP	1600 LXP	1600 LXP/HE
Discharge water cooling	Reduces effluent temperature to less than 60°C (140°F) for code compliant transfer to utility drain.					
pH programming	Neutralizes effluent before transfer to utility drain.					
Printer	For hard copy permanent record.					_
Emergency stop	Emergency stop button.					
Sampling valve	Manual sampling valve.					
Conductivity monitoring	Conductivity meter for final rinse verification.					
Pump pressure monitoring	Verification that correct pump pressure is achieved in the water distribution system that secure optimal cleaning performance.					
Water softener	Water softener.					
Chemical dosing pump, additional	Additional chemical dosing pump. Up to 1 additional on 910 LX / 1300 LX and up to 2 additional on 1400 LXP / 1600 LXP / 1600 LXP/HE.					
Main Switch	Main power switch, shuts off all power to the washer.	—	—			

Utilities		910 LX	1300 L X	1400 LXP	1600 LXP	1600 LXP/HE
Steam heating	Steam coil to utilize house steam for heating of wash/rinse water.	—	—			
Low pressure kit	Boosts DI water supply input pressure to assure optimum performance.					
Steam condenser	Steam condenser for collapsing exhaust vapor.					
Gravity drain	For quick evacuation of chamber. Requires compressed air and floor drain.	—	—			
Tri-clamp DI inlet	Direct DI water inlet with tri-clamp connection and dry contact for control of customer DI loop valve.	_				

Construction		910 LX	1300 L X	1400 LXP	1600 LXP	1600 LXP/HE
Movingrunners	Customized location of rack manifolds to accommodate specific loads.	—	_			
Extended diptube kit	Extended diptubes for use with 33-55 gal (125-208 L) chemical containers.	—	—			
Dry contact	Dry contacts for external communication.					
Seismic restraints	Seismic tie down brackets.					
Stainless steel plumbing	Complete stainless steel hydraulic circuit including main circulation pump	_				
View-In-Process window	Includes interior light, permitting visual verification during wash cycles.					—

\* See product specifications for details and additional options to select.

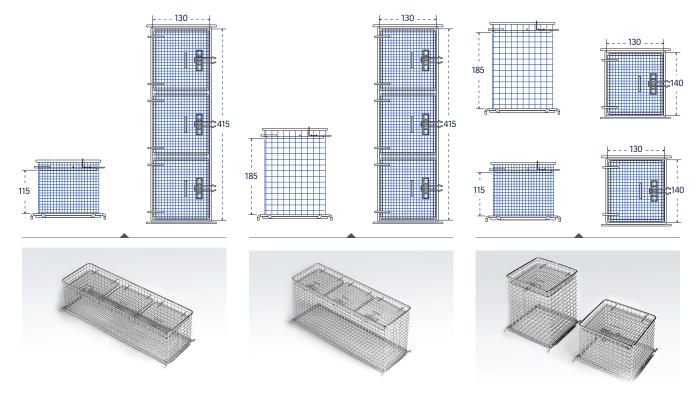
/ Standard / optional features

## **Common accessories**

**Choose from up to 60 different injector racks**, pipette racks and baskets. All racks are interchangeable between the washer lower and upper levels.

- A wide variety of standard inventory baskets and injector racks are available to meet most needs.
- Custom racks and baskets can be fabricated to meet specific needs or special applications.

#### Please note. All dimensions in the accessories section are in millimeters, unless otherwise stated.



Small mesh basket with cover, long: Catalog No. STCXL Small mesh basket, tall with cover, long: Catalog No. LTCXL Small mesh baskets, tall and short: Catalog No. LTC and STC

<b>Small mesh baskets</b> For bottle caps, ferrules, plugs, stoppers and test tubes.	910 LX / 1300 LX / 1400 LXP / 1600 LXP / 1600 LXP/HE	Part number
Mesh basket, short, with cover, 130x118x98 mm	STC	02010037
Mesh basket, short, with cover, 405x118x98 mm	STCXL	02010038
Mesh basket, tall, with cover, 130x118x170 mm	LTC	02010029
Mesh basket, tall, with cover, 405x118x170 mm	LTCXL	02010030

