



Product specification

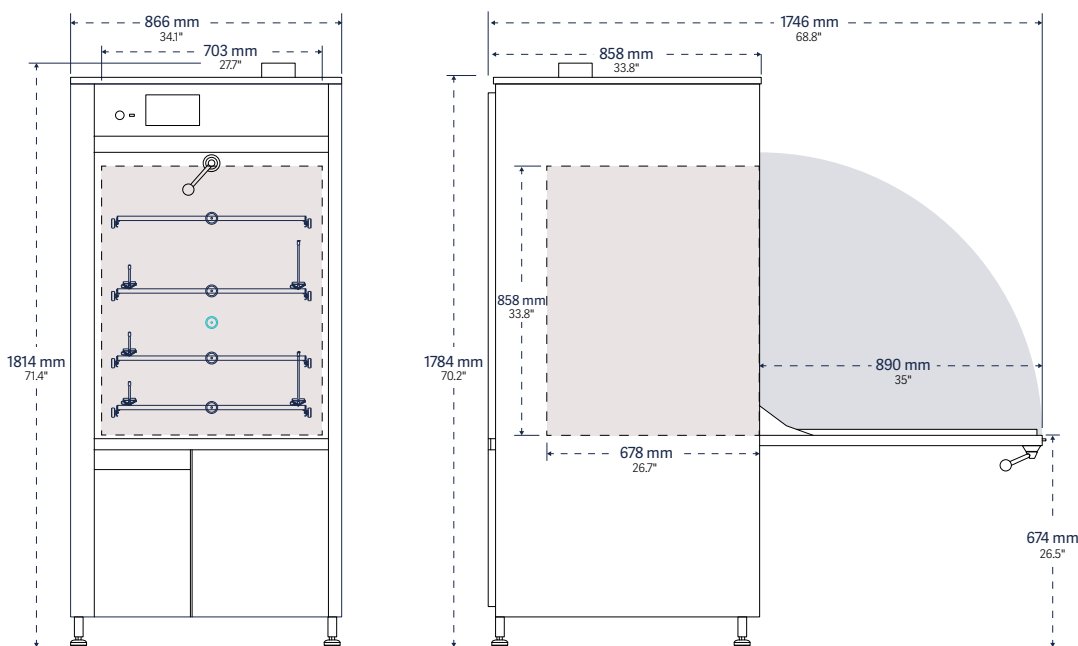
## Getinge Lancer Ultima model 1600 LXP

# Getinge Lancer Ultima model 1600 LXP

## Product specification

### Basic specifications

Drawings display front and side of unit with door swing allowance.  
 Dimensions of the Getinge Lancer model 1600 LXP, 1600 LXP with height extension not displayed.



- 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**  
 30–35 L (7.2–9.2 gal)
- Interior dimensions**  
 (w × h × d)  
 703 × 858 × 678 mm  
 (27.7" × 33.8" × 26.7")
- Interior dimensions with optional height extension**  
 (w × h × d)  
 703 × 1108 × 678 mm  
 (27.7" × 43.6" × 26.7")
- Exterior dimensions**  
 (w × h × d)  
 866 × 1814 × 858 mm  
 (34.1" × 71.4" × 33.8")
- Exterior dimensions with optional height extension**  
 (w × h × d)  
 866 × 2064 × 858 mm  
 (34.1" × 81.3" × 33.8")
- Wash programs**  
 5 presets, 35 custom settings
- Cycle functions**  
 Wash temp: 95°C / 203°F  
 Drying: Forced-air chamber, injectors, HEPA Filtered
- Weight**  
 215 kg (474 lb.)
- Extended weight**  
 240 kg (529 lb.)
- Effective chamber volume**  
 408 L (14.4 cu.ft.)
- Extended effective chamber volume**  
 528 L (18.7 cu.ft.)
- Load/machine foot**  
 0.6 kN
- Extended load/machine foot**  
 0.7 kN



Getinge Lancer model 1600 LXP and 1600 LXP with height extension. View-in-process is optional.

# General specifications

The Getinge Lancer Ultima series model 1600 LXP washer/dryer has been designed to meet and exceed the growing requirements of the laboratory industry for cleaning of glassware. Getinge Lancer Ultima series washers offer the best labware cleaning solutions in the industry, delivering high performance in a compact footprint. Efficient use of water, detergents, and rinsing agents minimizes the environmental impact while energy saving construction lowers total cost of ownership.

Inventory systems are evaluated and designed to solve specific cleaning and drying challenges. The exclusive Prolux Plus programmable microprocessor controller commands a full range of prewash, wash, rinse and drying functions through simple touchscreen menus. The model 1600 LXP labware washer offers the convenience of five preset programs for light to heavy loads, while up to 35 more complex programs can be customized as needed to meet specific operational requirements.

---

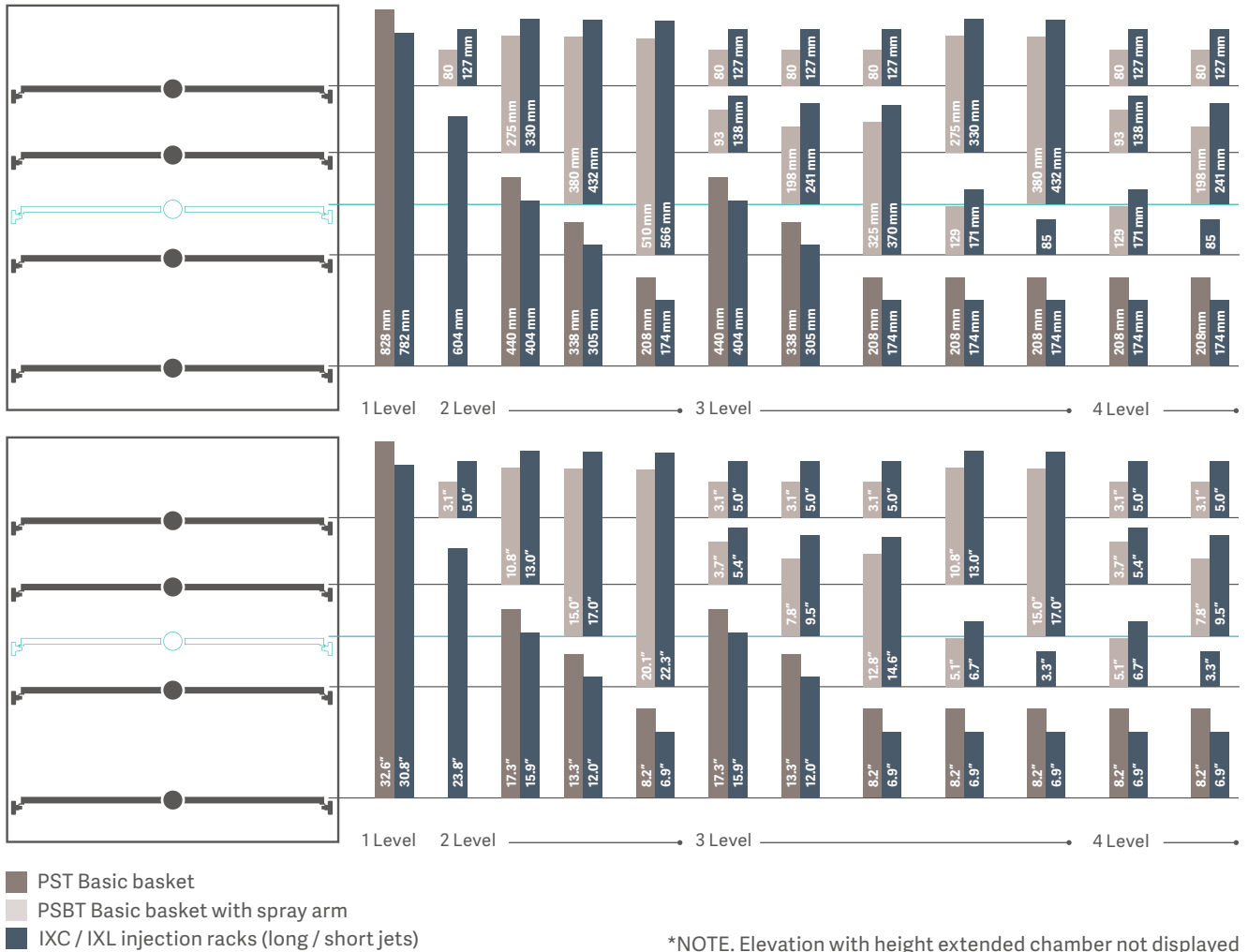
## Features and benefits

The Getinge Lancer Ultima series model 1600 LXP labware washer/dryer includes a suite of features and benefits designed for performance and operator safety.

- Chamber of high grade, sanitary 316L, stainless steel to withstand the powerful washing process and aggressive chemicals often required for thorough cleaning.
- Insulated, double-wall construction for thermal and sound protection.
- Unique, proven design enables water circulation at full pressure on all levels, delivering the required mechanical effect for highly efficient washing in all areas of the load.
- The large door opens at a convenient height and has gas-dampened support legs for extra-secure loading and unloading.
- User friendly 7" color touchscreen that provides comprehensible help in resolving problems and allows operators to see machine status from a distance.
- 40 microprocessor controlled programs, of which five are factory preset and 35 can be user-customized (PIN code protected) to suit particular applications or loads.
- PLC microprocessor designed for simplicity, one-touch start and real-time status indicators. Provides enhanced connectivity for independent monitoring.
- USB port in front of panel.
- Gaskets and seals in contact with the process water are food grade quality.
- On-board chemical storage drawer takes 2 × 10 L (2 × 2.5 gallons) standard bottles and minimizes handling and exposure.
- Low chemical level detectors and alarms, plus additional storage space.
- Filtered, pulsed hot air is delivered through three turbines for effective drying in and outside of the glassware.
- Fully variable drying temperature.
- Suitable for pharmaceutical processing laboratories where full GMP specification is not required.

# Cleaning performance and safety

## Loading configurations



## Ergonomics

### Ergonomic loading configurations

- Telescoping load-bearing rails permit extension of racks for easy loading.
- All racks are interchangeable between top and bottom wash levels.
- The fold-down door creates a platform for proper rack positioning and more comfortable loading and unloading.

# Controller

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

---

## Programs

The washer is pre-loaded with wash cycles that are generic from the factory that can be modified and adapted at Performance Qualification. Below are the phases that are applicable in the program group which allow modification of parameters like; water to be used, temperature, phase time, dosing amount etc.

- **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, 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, hot or DI water.
- **3-Running Water Rinse A:** 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, hot or DI 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, hot or DI water.
- **5-Running Water 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, hot or DI 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, hot or DI water.
- **7-Final Rinse:** Duration of rinse (up to 30 minutes), temperature of water (up to 95°C / 203°F). If conductivity monitoring is desired, 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).

**Parameters** – Different parameters can be set for each program via control system such as:

- Number of phases for the program (prewash, wash, neutralizing rinse)
- Duration for each phase
- Water inlet selection for each phase
- Temperature for prewash, wash, acid rinse, DI rinse and final rinse
- Selection of additive intake
- Drying time
- Drying temperature

A Prolux Plus microprocessor with adjustable programs ensures the model 1600 LXP washer control. Up to 40 standard washing programs of which five are factory preset (for chemistry glassware, volumetric flasks, bacteriology / virology glassware and one additional ECO program)\* while others (35) are user-customized. The microprocessor controls all system functions and monitors system operations. Both visual and audible alarms inform operator in case of cycle malfunctions and visual information on real-time process can be displayed.

\* more information to be found in the user manuals.

# Getinge Lancer Ultima model 1600 LXP

## Ordering information

### Make your selections:

= Standard selection

= Optional selection

---

### Documentation

#### To ensure the correct sets of manuals to be included for model 1600 LXP:

User manuals are available for all EU languages. Installation manuals, service/technical manual, and the spare parts list are all available in English or French only. (Manuals are provided electronically on USB device).

Please indicate your requested language for the user manual:

-----

Please check your requested language for installation, service and spare part manual:

English

French

A copy of the user manual can be provided as an option.

No paper copy of user manual

One paper copy of user manual (47020134)

---

### Documentation commissioning

#### IQ/OQ documentation and FAT protocol

The model 1600 LXP can be tested as per a standard FAT protocol.

No FAT protocol.

Standard FAT protocol without customer (01060194).

Customer attendance at FAT – 1 day standard FAT protocol. No washing test performed (AA90010668)  
– Attendance of maximum 2 individuals.

As an option, the washer can be tested as per a standard FAT protocol. The prequalification protocol is performed at the manufacturing facility prior to shipment in accordance with Getinge Lancer product protocol.

The prequalification protocol consists of a number of test plans and test result tables.

#### IQ/OQ documentation and SAT protocol

The model 1600 LXP washer can be tested as per a standard SAT protocol.

SAT protocol can be provided on customer's site, contact Getinge Lancer for information.

#### Performance qualification (by others)

The performance qualification must be performed by others.

## Language / HMI

The panel/HMI includes a multilingual pack. Select your language to be displayed on the HMI:

- |                                    |                                   |                                    |                                     |                                    |                                  |
|------------------------------------|-----------------------------------|------------------------------------|-------------------------------------|------------------------------------|----------------------------------|
| <input type="checkbox"/> Bulgarian | <input type="checkbox"/> English  | <input type="checkbox"/> Greek     | <input type="checkbox"/> Lithuanian | <input type="checkbox"/> Romanian  | <input type="checkbox"/> Spanish |
| <input type="checkbox"/> Croatian  | <input type="checkbox"/> Estonian | <input type="checkbox"/> Hungarian | <input type="checkbox"/> Maltish    | <input type="checkbox"/> Russian   | <input type="checkbox"/> Swedish |
| <input type="checkbox"/> Czech     | <input type="checkbox"/> Finnish  | <input type="checkbox"/> Irish     | <input type="checkbox"/> Norwegian  | <input type="checkbox"/> Serbian   |                                  |
| <input type="checkbox"/> Danish    | <input type="checkbox"/> French   | <input type="checkbox"/> Italian   | <input type="checkbox"/> Polish     | <input type="checkbox"/> Slovakian |                                  |
| <input type="checkbox"/> Dutch     | <input type="checkbox"/> German   | <input type="checkbox"/> Latvian   | <input type="checkbox"/> Portuguese | <input type="checkbox"/> Slovenian |                                  |

Contact your Getinge Lancer representative for another language.

---

## Panel

### Graphic interface

Screen menus and a graphic user interface are designed to simplify setup and operations including active program, remaining time, warnings, alarms and complete cycle notifications. Screen incorporates 7" color-touchscreen interface with 800 x 480 pixel resolution display.

---

## Program selection

Five factory laboratory programs as standard, with 35 user-customized programs available.

---

## Framework

Quality AISI 304 stainless steel framework as standard.

---

## Door selection

The fold-down door is made of solid 316L stainless steel (only for parts in contact with process water).

As an option, **View-In-Process (VIP) window** provides a view inside the chamber. With this option, the wash chamber is equipped with one LED lamp mounted through the ceiling to illuminate the chamber for safe operation.

- Standard door - Stainless steel door
- VIP window and illuminated chamber (90010647)

## Chamber elevation / height extension

Chamber height can be extended to accommodate large / high items.

**This option cannot be combined with VIP glass door and illuminated chamber.**

- Standard chamber
- Chamber elevation 250 mm (9.84") (AA90010687)

## Heating

The water in the sump is as standard electrically heated. Drying module is always electrically heated.

Steam allows a fast and precise water temperature adjustment. Strainer, steam trap on the steam piping inlet and flexible hose for connection to washer should be provided by others.

The heating of the sump has the following options:

- Electric heating
- Steam heating with electric valve (90010451)

---

## Super drying

The 1600 LXP model is equipped with a super drying system which allows the most fragile and narrow neck glassware to be dried effectively.

---

## Temperature probe

The model 1600 LXP is equipped with PT-1000 temperature probes which can be adjusted according to pattern probe.

- No chamber temperature sensor calibration report
- Chamber temperature sensor calibration report (90010590)

---

## Voltage supply

### 50 Hertz

- 200-208 VAC, 3+PE (AA90010681)
- 220-240 VAC, 3+PE (90010101)
- 380-400 VAC, 3N+PE (90010102)
- 380-400 VAC, 3+PE (AA90010683)

### 60 Hertz

- 200-208 VAC, 3+PE (90010021)
- 220-240 VAC, 3+PE (90010026)
- 380-400 VAC, 3+PE (90010027)
- 480 VAC, 3+PE (90010029)

---

## Emergency stop

A cycle can be stopped by pushing the emergency shutdown button. The 'shutdown' facility enables the user to stop any cycle in progress. The main purpose of the emergency shutdown is an immediate shutdown of all media and processing. When the E-stop has been reset, the operator or technician must acknowledge the alarm.

- No emergency stop
- Emergency stop (90010454)

---

## Main On/Off switch

Electrical main power switch allows for power to be turned off for entire unit before it is serviced.

- No main power switch
- Main power switch (AA90010689)



## Complete stainless steel hydraulic circuit

The hydraulic circuit can be provided in 316L stainless steel. This option also includes a recirculation pump in 304 stainless steel.

- No complete stainless steel hydraulic circuit in AISI 316L
- Complete stainless steel hydraulic circuit in AISI 316L with stainless steel pump in AISI 304. (90010529)
  
- No recirculation pump casing drainage after each cycle.
- With recirculation pump casing draining after each cycle. (AA90010670)  
**Only possible if gravity drain selected.**  
**This option needs compressed air**

---

## Water connections

Three (3) water inlets allow different types of water to be used for washing and rinsing, typically selected from:

- **Cold water**

- **Hot water (up to 50°C / 122°F)**

- Standard valve
- Hot water inlet valve (brass valve) allows water with temperature higher than 50°C / 122°F to enter the chamber. (01060131)

- **DI water**

- Standard valve
- As an option, low pressure valve + pump kit provides adequate water pressure for DI water supply. (01060206)
- As an option, hot demineralized water valve can be provided in stainless steel in lieu of plastic to accommodate highly corrosive DI water. (01060120)

Connections are threaded type (see tables for sizes and consumption on page 15).

The water hoses (connection to the washer) are supplied with the machine.

---

## Customer water loop

The washer/dryer can communicate with the customer water loop according to the following options.

- No water loop
- Customer water loop control by relay (90010531)  
As an option, the washer/dryer is equipped with a dry contact which opens and closes the customer's water loop valve (no valve on the washer/dryer). The model 1600 LXP is equipped with a stainless steel inlet tube (clamp fitting diameter 25 mm (1")). Customer has to provide the hose between the loop valve and the washer tri-clamp fitting.

**Prerequisite: the selection, Customer water loop, can not be combined with the other selections for DI water in regards of water connections.**

## Water softener

The water softener prolongs and improves efficiency in hard water areas.

The model 1600 LXP can be fitted with a water softener which softens incoming cold and hot water (maximum of 50°C / 122°F). It includes automatic regeneration after each wash cycle with low salt alarm.

- No water softener  
 Water softener (90010501)

---

## Steam condenser

The condenser removes steam vapor when chamber temperature exceeds 50°C / 122°F and directs condensate to drain.

- No steam condenser  
 Steam condenser (90010530)

---

## Chemical storage

The model 1600 LXP has a storage drawer with capacity for two × 10 L (2.5 gallons) chemical containers with maximum dimensions of H 320 × W 230 × D 200 mm (12.6" × 9" × 7.9") under the loading door.

---

## Level sensors

Low level sensor will automatically send a low chemical warning to the message screen to alert operators when the chemical reaches the low level in the container. Controller allows the new cycle to be started, but requires the detergent / acid to be replaced or refilled before another cycle.

Chemical containers are fitted with level sensors to prevent pumping in the absence of liquid. A visual and audible alarm warns in case of lack of chemicals.

- Level sensors for European containers dimensions  
 Level sensors for US/Canadian containers dimensions

---

## Chemical dip tube 1041 mm (41") height

Long dip tube (1041 mm (41") height) with a 6 m (236") tubing and wiring which allows to have several washers side by side and share product from a central product drum.

- No chemical dip tube 1041 mm (41") height  
 2x Chemical dip tube 1041 mm (41") height (AA90010665)  
Total chemical dip tube 1041 mm (41") height quantity: .....

## Dosing pumps

The model 1600 LXP is always equipped with two peristaltic pumps (tolerance of  $\pm 15\%$  of volume) for alkaline and acid. It is possible to use up to 4 different chemicals in the washer/dryer.

- No extra dosing pump
  - Extra alkaline dosing pump (maximum 2)  
Total alkaline dosing pump quantity: .....
  - Extra acid dosing pump (maximum 2)  
Total acid dosing pump quantity: .....
  - Total pump: 3 (01060218)
  - Total pump: 4 (01060222)
- 

## Leak and drip protection

Stainless steel protection tray with handles, positioned in the storage drawer, for easy placement of 2 product tanks of 10 liters

- No leak and drip protection
  - Leak and drip protection (AA02480008).
- 

## Effluent neutralization

Neutralization of the effluent can be performed by adding acid in the caustic wash solution just before draining. The quantity of acid to be injected has to be calculated to ensure the amount of detergent in the wash solution is properly neutralized. It is also possible to neutralize an acid rinse with the same method.

- No effluent neutralization
  - Effluent neutralization (90010326)
- 

## Sampling system

A sampling valve can be fitted on the sump of the washer to perform sampling of the washer water. A sampling selection in the program stops the washer before each draining phase ("multi-phase" sampling) or before the final rinse draining phase ("final rinse" sampling). The operator can then perform the sampling. The operator acknowledges the sampling and the program resumes.

Sampling valve is located on fascia panel (easy accessible without need to open a panel).

- No manual sampling valve
  - Manual sampling valve (90010532)
-

## Control and validation

### Stop valves

- No sanitary stop valves.
- Two (2) sanitary chemical stop valves close both delivery circuits at the end of chemical intake. The chemical piping connected to the chamber is rinsed by recycled water to eliminate any residual chemical. (AA90010678)
- Three (3) sanitary chemical stop valves close both delivery circuits at the end of chemical intake. The chemical piping connected to the chamber is rinsed by recycled water to eliminate any residual chemical. (90010230)
- Four (4) sanitary chemical stop valves close both delivery circuits at the end of chemical intake. The chemical piping connected to the chamber is rinsed by recycled water to eliminate any residual chemical. (90010230)

**Prerequisite: compressed air required to open the valves.**

### Dual temperature probe

An additional temperature sensor can be optionally selected which will verify the process in addition to the standard temperature sensor. Both values will be stated on the process printout.

- No dual temperature probe.
- With dual temperature probe. (AA90010679)

### Flowmeters

Detergent and acid flow rate are individually fitted with a flowmeter. The device will print out the flow of each line.

If the value is lower or higher than the set value an alarm will be raised and the machine will stop the process.

- No flowmeters
- With flowmeters for dosing pump 1 and 2 (AA90010672)
- Additional flow-meter for chemical dosing pump (90010453)

Total flow-meter quantity: .....

**Prerequisite: extra dosing pump is necessary to select this option**

### Pump pressure monitoring

The recirculation pump pressure will be measured

- No pump pressure monitoring.
- With pump pressure monitoring (AA90010675)

### Conductivity monitoring for final rinse

The conductivity-meter gives documented evidence of the cleaning process including the verification of the water quality during final rinse. The conductivity transmitter is placed on the front panel close to the HMI where a visual reading of the conductivity can be made.

- No final rinse conductivity monitoring.
- Final rinse conductivity monitoring (AA90010674).

## Draining

- Draining pump  
A fixed standpipe and plumbing trap with a minimum internal diameter of 40 mm (1½") is required. The height above finished floor level must be between 800 to 900 mm (31 to 35 inches). For more information see page 15.

- Drop drain, draining can be by gravity discharge at floor level. (01060177)  
A connection on a 50 mm (2") line with an air breaker is recommended to isolate the washer from the draining network (open connection).

**Prerequisite: for this option compressed air is needed.**

According to wash room draining system, the washer/dryer can be equipped with following options:

- Drain discharge cool down option
- Effluent neutralization option, see page 11.

## Drain cooling

Effluents are cooled down to reduce temperature to an average of 60°C / 140°F by direct injection of cooling water.

- No drain discharge cooldown
- Drain discharge cooldown (90010447)

## Communication / control

Dry contact: programmable output for external communication / control of external equipment.

Volt free contact package for external communication include:

- Cycle in process
- Alarm activated
- Drying/exhaust activation
- Request for purified/demineralized water

- No additional volt free contacts
- With volt free contact package (4x) (AA90010667)

---

## Printer

To ensure cycle documentation, information can be printed on an external table printer. The printout gives documented evidence of the cleaning process including cycle parameters, operator number, time of program start, phase duration, probe temperature during each phase, detergent and acid intake.

Built in impact printer connected directly to the RS 232 port on electrical board.

- No printer
- Built-in panel printer (90010456)

**The washer/dryer is equipped only with built-in panel printer**

---

## RS-232 / Ethernet outputs

Serial port for batch report through USB.

The RS plug is located on rear panel of washer.

Multiple data ports include ethernet and RS-232 connectors.

- Without extension and attachment so that the RS-232 / Ethernet ports are located on the backside of the LAB washer.
- With extension and attachment so that the RS-232 / Ethernet ports are located on the backside of the LAB washer (AA90010676)

---

## Network printer

The model 1600 LXP is also equipped with network printer capabilities.

- No network printer
- Connection for network printer HP (90010633)
- Connection for network printer Brother (90010634)

**Prerequisite: the option selection RS-232/Ethernet outputs needs to be selected.**

---

## Runners and water entry position adjustment

Runners and water entry positions can be adjusted in the chamber to suit customized glassware height and loading.

Contact your Getinge Lancer representative before selecting this option.

- No runners and water entry position adjustment.
- Runners and water entry position adjustment (01060179).

## Floor anchors

All units are supplied with adjustable feet. Additionally, brackets may be provided to secure the unit to the floor.

- No floor anchors.
  - Brackets for anchoring to floor after installation (90010271).
- 

## After market options

- A conductivity kit can be added at a later stage (can't be selected if printer is already installed on the machine) (AA70050011).
  - Printer kit can be added at a later stage (AA70050012)
  - Printer & conductivity kit can be added at a later stage (only if conductivity is already installed on the machine ) (AA70050013)
  - Pump pressure kit can be added at a later stage (AA70050003)
  - Pump pressure kit for stainless steel column can be added at a later stage (AA70050004)
- 

## Preventive maintenance

Annual preventive maintenance agreements ensure optimum washer performance and extend equipment life. Contact us for details.

## Utility requirements

Utility	Characteristic	Connection	Consumption
Water <ul style="list-style-type: none"> <li>• cold</li> <li>• hot</li> <li>• DI</li> </ul>	Pressure: 200 to 600 kPa / 29 to 87 psi Flow: 20 L/min (5.25 gpm) Temperature: Ambient up to 50°C (122°F)	Male threaded: 20/27 (¾")	30–35 L (7.9–9.2 gal) (for each filling or draining phase)
Drain cooling water (if option selected)	Pressure: 200 to 600 kPa / 29 to 87 psi Flow: 20 L/min (5.25 gpm) Temperature: < 25°C (< 77°F)	Male threaded: 20/27 (¾")	20 L/min (5.25 gpm)
Compressed air (if option selected) <ul style="list-style-type: none"> <li>• Steam heating with pneumatic valve</li> <li>• Drop drain</li> </ul>	Pressure: 200 to 600 kPa / 29 to 87 psi Flow: 200 L/min (53 gpm) Filtration: 5 µ	Male threaded: 20/27 (¾")	Minimal consumption
Compressed air (if option selected) <ul style="list-style-type: none"> <li>• DI water loop control (if option selected) (pneumatic valve + clamp included)</li> <li>• Final rinse kit</li> </ul>	Pressure: 500 to 700 kPa / 70 to 100 psi Flow: 200 L/min (53 gpm) Filtration: 5 µ	Male threaded: 20/27 (¾")	Minimal consumption
Steam feed and steam condensate (if option selected)	Pressure: 200 to 600 kPa / 29 to 87 psi	Male threaded: 15/21 (½")	120 kg/h (265 lb/h) max 30 kg/h (66 lb/h) per cycle Typically 1 cycle/hour is used
Electricity	Voltage: request Frequency: 50/60 Hz	Cable (50 Hz) No cable (60 Hz)	See Electrical Table
Vapor exhaust	Atmospheric exhaust hood located 300 (12") to 1000 mm (40") above exhaust pipe		120 m³/h
Drain	Fixed standpipe and plumbing trap Height above floor: from 800 (31") to 900 mm (35")	Inner Diameter: 40 mm (1½")	Required to handle 40 L/min (10.5 gpm) max temp 95°C (203°F)
Overflow safety discharge	Fixed standpipe and plumbing trap Height above floor: maximum 500 mm (20")	Outside Diameter: 32 mm (1¼")	20 L/min (5.25 gpm) max temp 95°C (203°F)
Drain (if option selected) <ul style="list-style-type: none"> <li>• Gravity drop drain</li> <li>• Final rinse kit</li> </ul>	By gravity	Tube 33.7 mm (1⅝") outlet into 2" floor sink	Required to handle 40 L/min (10.5 gpm) max temp 95°C (203°F)

## Electrical

Voltage and frequency	kW	Full load amps (A / phase)	Amps protection (A)
200-208 VAC, 3+PE 50 Hz	21	59	63
200-208 VAC, 3+PE 60 Hz	21	59	63
220-240 VAC, 3+PE 50 Hz	21	53	63
220-240 VAC, 3+PE 60 Hz	21	53	63
380-400 VAC, 3N+PE 50 Hz	21	31	40
380-400 VAC, 3+PE 50 Hz	21	31	40
380-400 VAC, 3+PE 60 Hz	21	31	40
480V 3+PE 60 Hz	21	26	35

## Steam

Voltage and frequency	kW	Full load amps (A / phase)	Amps Protection (A)
200–208 VAC, 3+PE 50 Hz	4.2	12	16
200–208 VAC, 3+PE 60 Hz	4.2	12	16
220–240 VAC, 3+PE 50 Hz	4.2	11	16
220–240 VAC, 3+PE 60 Hz	4.2	11	16
380–400 VAC, 3N+PE 50 Hz	4.2	7	10
380–400 VAC, 3+PE 50 Hz	4.2	7	10
380–400 VAC, 3+PE 60 Hz	4.2	7	10
480 VAC, 3+PE 60 Hz	4.2	7	10

## Operating Conditions

Room temperature	5–35°C (41–95°F)
Air humidity	Max 80 % vid 31°C (88°F)
Max surface temperature	50°C (123°F)
Water consumption	30–35 L/phase (7.9–9.2 gal/phase) (Varies with the load)
Ingress protection	IP21
Heat dissipation	5950 Btu/h, 1500 kcal/h
Noise level	≤ 60 dB(A) (According to Machinery Directive 2006/42/EC, on 1 m distance, 1.6 m above the floor, combined propagation in free fields on hard surface).



## Technical data components

### Water circulation system

Design pressure	Max 600 kPa (87 psi)
Operating pressure	200 kPa (29 psi)
Design temperature	120°C (248°F)
Operating temperature	Max 95°C (203°F)

### Circulation pump

Max flow	750 L/min (198 gpm)
Motor	2.4 kW
Material construction	Bulk moulding compound + glass fiber

### Drain pump

Max flow	50 Hz: 55 L/min (14.5 gpm) 60 Hz: 20 L/min (5.3 gpm)
Motor	50 Hz: 170 W 60 Hz: 47 W
Material of construction	PP

### Water circulation system

Flow, peristaltic pump	50 Hz: (detergent) 232 mL/min (acid) 207 mL/min 60 Hz: (detergent) 0.0739 gpm (acid) 0.0547 gpm
------------------------	--

### Heater steam

Heating velocity	7–8 °C/min (44.6–46.4°F/min) (dependent on steam pressure)
------------------	--

### Heater electrical

Heating velocity	3.5–4°C/min (39°F/min) (dependent on voltage)
Installed power	400 V: 18 kW, 230 V: 18 kW

### Dryer

Installed power, heaters	4.2 kW
Installed fan motors	3 × 53 W

# Notes

A series of horizontal dotted lines for writing notes.



Getinge is a global provider of innovative solutions for Life Science companies and institutions, operating rooms, intensive care units and sterilization departments. Based on our firsthand experience and close partnerships with Life Science companies, clinical experts, healthcare professionals and medtech specialists, we are improving everyday life for people – today and tomorrow.



**Legal Manufacturer:**  
Getinge Lancer · 30 Boulevard de l'Industrie · 31170 Tournefeuille · France · +33 5 61 15 11 11 · [info@getinge.com](mailto:info@getinge.com)

[www.getinge.com](http://www.getinge.com)