

# RELIANCE® 300XLS

Laboratory Glassware Washer



## APPLICATION

The Reliance 300XLS Laboratory Glassware Washer is designed for thorough cleaning of laboratory glassware, plastic and metal goods used in research, production support and quality control laboratories.

## DESCRIPTION

The Reliance 300XLS Laboratory Glassware Washer is a cabinet-type washer equipped with a color touch screen microprocessor control system. The washer is preprogrammed with five adjustable cycles. Five additional cycles are available for customized programming to meet specific operating requirements. Programmed descaling (considered 11<sup>th</sup> cycle) and priming cycles are also provided for routine maintenance.

Washer is built to seismic building code requirements (seismic report is provided with standard documentation) and is available as single-door unit only, for installation either as freestanding or recessed.



## SPECIFICATIONS

**Configurations** Vented, Non-Vented

**Size (W x H x L)** **Overall Dimensions:** 28-1/2 x 78 x 28-1/2" (724 x 1981 x 724 mm)  
**Chamber Load Capacity:** 25 x 23 x 24" (635 x 584 x 610 mm)

**Loading height:** 29-3/4" (756 mm) above finished floor.

**Weight** **Washer Weight:** 595 lb (270 kg)  
**Operating Weight:** 646 lb (294 kg)

**Utility Requirements** **Hot Water:** 1/2" NPT  
**Cold Water:** 1/2" NPT  
**Pure Water:** 1/2" NPT  
**Ventilation:** 4" (102 mm) O.D.  
**Drain:** Recommended minimum 3" (76 mm) drain outlet.

**Electricity** **Electric-Heated Units**

- 208 V, 60 Hz, 3-Phase, 60 Amp
- 460-480 V, 60 Hz, 3-Phase, 30 Amp
- 380-415 V, 50 Hz, 3-Phase, 30 Amp

## STANDARDS

Reliance 300XLS Laboratory Glassware Washer meets applicable requirements of the following standards, **as certified by UL:**

- CAN/CSA-C22.2 No. 61010-1, Third Edition
- UL 61010-1, Third Edition

**Conformity to Other Applicable Directives:**

- Electromagnetic Compatibility Directive 2014/30/EU
- Low voltage Directive 2014/35/EU

#### **Standards Applied to Demonstrate Conformity to the Directive:**

- EN/IEC 61010-1: Third Edition; EN/IEC 61326-1:2013

## **FEATURES**

**Sampling valve** (installed in sump) facilitates wash and rinse water sampling.

**Manual drop-down door** is constructed of double pane tempered glass to allow operator to view chamber interior with door closed. Interior glass is 1/4" (6 mm) thick and exterior glass is approximately 1/8" (3 mm) thick. Door remains cool to touch while cycle is in progress. Door is mounted on a compressed seal ensuring complete air and water tightness of chamber and reducing heat loss (increases heating capability).

**Stainless-steel pump** provides circulation using a 3 HP (2.2 kW) motor. Pump motor is equipped with overload protection and sealed bearings (requiring no periodic lubrication).

Pump, spray system and all recirculating hard piping are of **304 stainless-steel construction**.

Unit drains between rinses to minimize residue remaining on load items. To help prevent contamination, unit drains completely after each cycle phase.

**Spray system** includes four manifold connectors positioned on back of chamber, and one rotary spray arm suspended from chamber top. Manifold connectors automatically connect to accessory headers at start of each cycle.

**Electric heating element** (three 4 kW, 12 kW total) in bottom of chamber (sump) raise and maintain water temperature up to 180°F (82°C) during cycle.

**Removable stainless-steel filter** in chamber sump prevents debris from entering pump.

**Wash chamber** is constructed of argon-welded 16-gauge, 316 L, stainless steel (No. 4 finish). Chamber inhibits corrosive action of detergent, and is easy to clean, with no enameled surfaces to chip or crack should an object be accidentally dropped in chamber.

**Chemical injection pumps (three)** are located in lower portion of washer. Pumps allow use of LabKlenz and ProKlenz cleaning products.

**Three adjustable peristaltic pumps** automatically dispense a selected amount of liquid chemicals 1/8 to 6-3/8 oz/gal (1.0 to 50 mL/L) into chamber during desired treatment. One pump can be used to automatically neutralize solution prior to draining (time based).

**A low-level sensor** is included to indicate when container detergent level is low or when insufficient chemical is available for next cycle.

**High-capacity air blower** delivers heated fresh air through unit piping and accessories to promote complete drying. Fresh air is drawn through a HEPA filter.

**Microprocessor control system** is equipped with a touch screen Customer interface. This 5.7" (115 mm) color touch

screen is mounted at eye level above chamber, allowing easy monitoring of all wash cycles. Control system monitors and controls all phases of each programmed cycle. Control system includes five factory pre-programmed cycles (EXTRAcare, ENVIROcare, PLASTIC, STANDARD and RINSECare). Five additional washing cycles may be programmed to meet extra Customer requirements.

The microprocessor control system features:

- Locking program cycle parameters with access code.
- Service mode for preventive maintenance testing and to facilitate troubleshooting.
- Built-in service diagnostic program to permit system calibration and verification of component operations.
- Security lock-out feature enabling programs and temperatures to be locked and unchangeable without proper access code.
- Cycle data is stored as a protection against power disruption.
- Permits operator to monitor current washer/disinfecter status (including current chamber temperature and time remaining in phase).
- Indicates any abnormal conditions (alarm).
- Equipped with audible warning system.

**Removable front service panels** provide easy access to all piping, valves, electrical components and wiring. Servicing from sides of unit is not required.

**Vented system** exhausts chamber vapors to building exhaust system through a 4.0" (102 mm) OD vent connection located on top of washer.

**Non-Vented system** provides a cold water condenser. Vapor is exhausted through this condenser to room eliminating need for unit venting.

**Drain discharge cool down** ensures water drained at end of each phase, from chamber sump to building drain system, does not exceed 140°F (60°C). If water temperature in sump is higher than 140°F (60°C), cold water is automatically added to reduce water temperature discharged into building drain system.

**USB Port** easily accessible from washer front provides connectivity for user to export cycle data.

**Impact printer** produces an easy-to-read printed record of whether load was properly processed at the preset temperature, as well as a complete list of the alarm and abort in-cycle messages.

**Barrier wall flange kit** comes standard with unit. Includes three stainless-steel flanges (panels) for recessed installation.

**Seismic anchorage system** includes seismic report for proper installing and securing of washer to building floor. Washer is designed to comply with Seismic requirements.

**Conductivity monitoring system** monitors concentration of detergent in wash solutions and conductivity of water after final rinse. With this feature, detergent(s) is (are) injected in chamber until adjustable conductivity setpoint has been reached to ensure appropriate amount has been injected. Conductivity of rinse water is also measured prior to drain.

Rinses are repeated until conductivity has reached adjustable setpoint, minimizing quantity of rinse water used to meet performance criteria.

## SAFETY FEATURES

Reliance 300XLS Glassware Washer is equipped with **safety lockout feature** so program cannot start unless door is fully closed. Door is mechanically interlocked during cycle and cannot be opened until cycle completion.

**E-Stop Button:** Washer is equipped with an emergency stop button.

## CYCLE DESCRIPTIONS

The Reliance 300XLS Glassware Washer features 10 programmable cycles. Each cycle can be programmed to include up to 18 separate treatments. Possible standard treatments include:

- Up to two pre-wash
- Up to three wash
- Up to three rinse
- Up to nine pure water rinse and drying

Once a cycle is selected, washer automatically processes load through programmed treatments.

The washer is programmed with five factory-set processing cycles: EXTRACare, ENVIROCare, PLASTIC, STANDARD and RINSECare. A DESCALER cycle (considered 11th cycle) 3 is also pre-programmed to enable routine descaling procedure. All factory-set cycles can be modified by an authorized operator to create complete wash programs such as the following:

- **Pre-Wash** – Load is sprayed with recirculated water at selected temperature (hot, cold or sump heated to 180°F [82°C]) for selected amount of time (0-15 minutes). On completion of treatment, water is sent to drain.
- **Wash** – Load is sprayed with recirculated solution at selected temperature (hot, cold or sump heated 180°F [82°C]) for selected amount of time (0-15 minutes). A controlled amount of chemical detergent is automatically added to sump at beginning of treatment. Treatment does not start until selected temperature is reached. On completion of treatment, solution is sent to drain.
- **Rinse** – Load is sprayed with recirculated water at selected temperature (cold, hot or sump heated to 180°F [82°C]) for selected amount of time (0-15 minutes). If heated water is selected, treatment does not start until selected temperature is reached. On completion of treatment, water is sent to drain.
- **Pure Water Rinse** – Load is sprayed with recirculated pure water at selected temperature (ambient or sump heated to 180°F [82°C]) for selected amount of time (0-15 minutes). If heated water is selected, treatment does not start until selected temperature is reached. On completion of treatment, water is either sent to drain or retained for use in first treatment of next cycle.
- **Drying** – HEPA filtered heated air is circulated through piping, spindles and load items for selected time (0 to 30 minutes). Drying temperature is minimum 189°F

(87°C) and maximum 248°F (120°C).

## ACCESSORIES

**Side Drain Kit (FD164)** provides a solution for rerouting drain piping to outside left washer panel.

**Flexible Utilities Connection Kit (FD027)** allows replacing hard piped water inlet connections with flexible hoses.

**Remote Drain Connection Kit (FD165)** is supplied with an elbow and clamp to ease connection to building floor drain.

## INSTALLATION

Reliance 300XLS Glassware Washer is designed as a fully enclosed cabinet for freestanding or recessed installation.

Three stainless-steel flanges are included as standard to seal opening between recessed washer and wall opening.

Top utility connections facilitate installation. All utilities (except drain connections) are connected at top of unit.

## PREVENTIVE MAINTENANCE

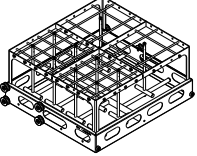
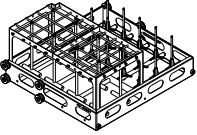
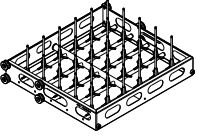
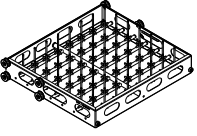
A global network of skilled service specialists can provide periodic inspections and adjustments to help ensure low-cost peak performance. STERIS representatives can provide information regarding annual maintenance programs.

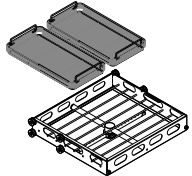
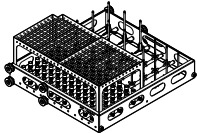
## NOTES

1. Customer must ensure washer stands on a noncombustible floor. (Floor should be level.)
2. STERIS recommends that shutoff valves and vacuum breakers (not provided by STERIS) be installed on service lines, and that disconnect switches (with lockout in OFF position; not provided by STERIS) be installed in electric supply lines near the equipment.
3. Unit operating weight: approximately 646 lb (294 kg). Unit weight: 595 lb (270 kg).
4. This unit is not designed for use in areas that require explosion proof rated equipment.



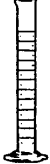

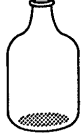
**IMPORTANT:** Refer to equipment drawing 10221327 for details.

## GLASSWARE ACCESSORIES

	GLASSWARE		SPINDLES			WEIGHT	APPLICATION
	Max. Diameter per Spindle	Max. Quantity per Load	Diameter	Height	Side Spray Ports		
<b>M-10 Spindle Header (FD172)</b> 	10" (254 mm)	2	3/8" (9 mm)	10-5/8" (270 mm)	2	18 lb (8 kg)	Refer to Glassware Processing Capacity Chart on Page 6.
	5" (127 mm)	8	3/8" (9 mm)	10-5/8" (270 mm)	2		
<b>M-23 Spindle Header (FD173)</b> 	5" (127 mm)	8	3/8" (9 mm)	10-5/8" (270 mm)	2	16 lb (7 kg)	Refer to Glassware Processing Capacity Chart on Page 6.
	3-3/4" (95 mm)	15	1/4" (6 mm)	4-3/4" (121 mm)	1		
<b>M-30 Spindle Header (FD174)</b> 	3-3/4" (95 mm)	30	1/4" (6 mm)	6-1/2" (165 mm)	1	12 lb (5.5 kg)	Refer to Glassware Processing Capacity Chart on Page 6.
<b>M-56 Spindle Header (FD175)</b> 	2-3/4" (70 mm)	56	3/16" (5 mm)	3-1/2" (89 mm)	None	11 lb (5.0 kg)	Refer to Glassware Processing Capacity Chart on Page 6.

<p><b>Bottom Rotary Spray Header/ General Purpose Baskets, 300XLS (FD177)</b></p> 	<p>2/3" (16 mm)</p>	<p>1</p>	<p>19-1/2" (495 mm)</p>	<p>19-1/2" (495 mm)</p>	<p>24-1/3 x 22" (618 x 560 mm)</p>	<p>17 lb (8 kg)</p>	<p>Used to wash beakers and miscellaneous hardware. Two General Purpose Baskets included as standard, 117-077-639 for baskets and HA108340 for lids. Each basket is 19-1/8 x 9-7/8" (485 x 250 mm).</p>
<p><b>Pipette/Mixed Spindle Header, M-90 (FD176)</b></p> 	<p>5/8" (16 mm)</p>	<p>90</p>	<p>—</p>	<p>—</p>	<p>—</p>	<p>20 lb (9.1 kg)</p>	<p>Used to individually wash all types of pipettes, from 0.1 to 25 mL, in any quantity up to 90. Mixed Spindle Section:</p> <ul style="list-style-type: none"> <li>▪ 9 Spindles, Diameter 1/4" (6 mm), Height 4-3/4" (121 mm).</li> <li>▪ 12 Spindles, Diameter 3/16" (6 mm), Height 3-1/2" (89 mm).</li> </ul> <p>Refer to Glassware Processing Capacity Cart on Page 6.</p> <p><b>NOTE:</b> When using this header in this washer, a second washing accessory cannot be used.</p>

## GLASSWARE PROCESSING CAPACITY

ACCESSORY	 VOLUMETRIC FLASKS (mL)	 ERLENMEYER FLASKS (mL)	 GRADUATED CYLINDERS (mL)	 BEAKERS (mL)	 CARBOYS AND BOTTLES
M-10 Spindle Header - 2 x 1 Group - 2 x 4 Group	500 to 2000 500 to 1000	500 to 2000 500 to 1000	250 to 2000 250 to 1000	— —	500 mL to 4 L 500 mL to 1 L
M-23 Spindle Header - 2 x 4 Group - 3 x 5 Group	500 to 1000 100 to 250	250 to 1000 250 to 400	250 to 1000 50 to 100	— —	500 mL to 1 L 200 mL to 400 mL
M-30 Spindle Header	100 to 250	250 to 400	50 to 100	—	200 mL to 400 mL
M-56 Spindle Header	5 <sup>1</sup> to 100 <sup>1</sup>	10 <sup>1</sup> to 50	10 to 25	250 to 600	<100 mL
M-90 Pipette/Mixed - 3 x 3 Group	100 to 250	250 to 400	50 to 100	—	200 to 400 mL
Spindle Header - 3 x 4 Group	5 <sup>1</sup> to 100 <sup>1</sup>	10 <sup>1</sup> to 125	10 to 25	250 to 600	<100 mL
General Purpose Basket	<ul style="list-style-type: none"> <li>Miscellaneous Items (Spatula, Glass Stoppers, Magnetic Stir Bars, etc.)</li> <li>Beakers of Various Sizes<sup>2</sup></li> </ul>				

## ACCESSORY COMBINATIONS

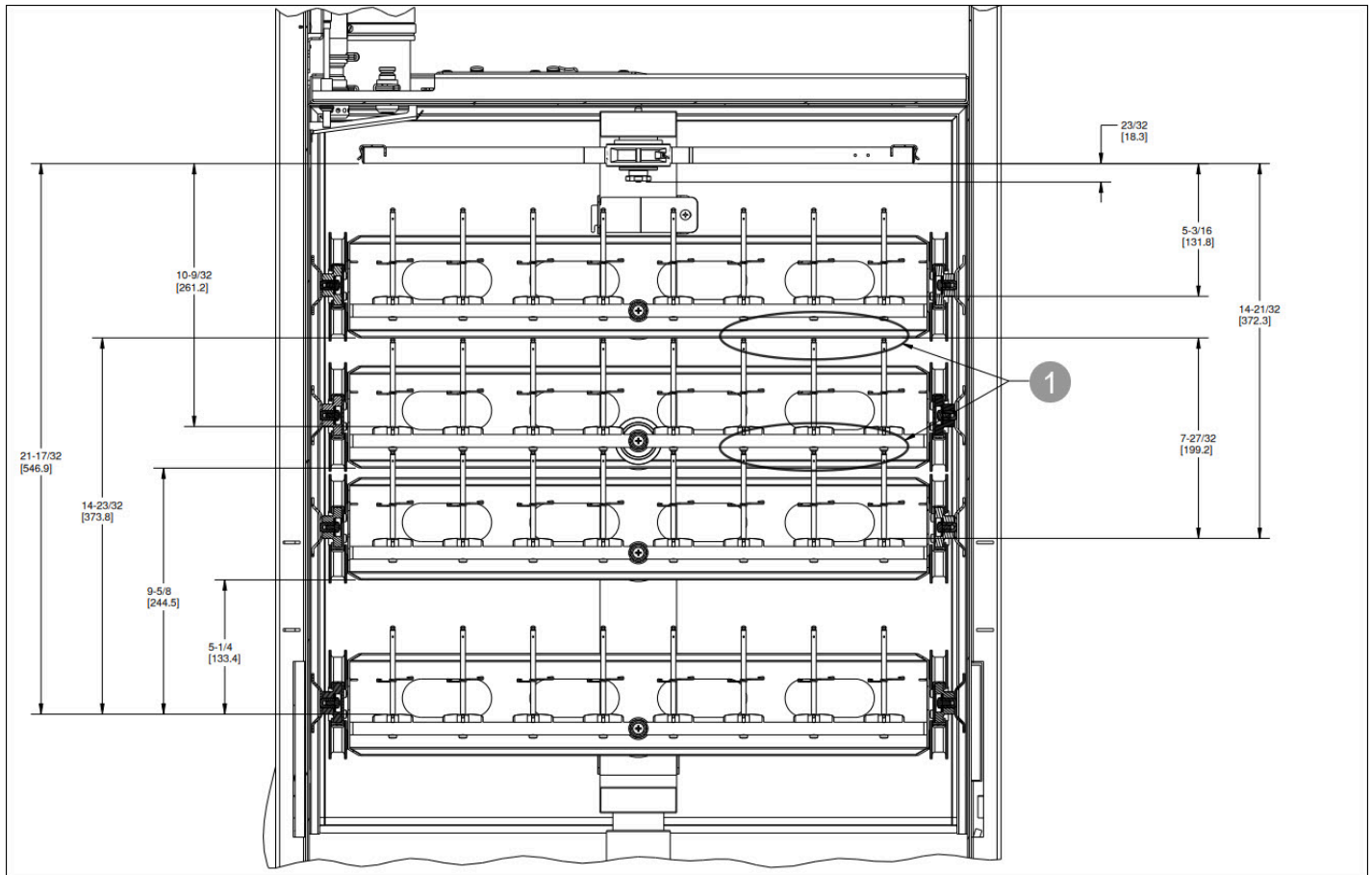
Position	Combinations <sup>3</sup>								
Top Guiding Rails	M56	BRS	M56	BRS	M56	BRS	M56	BRS	
Mid-Top Guiding Rails									M30
Mid-Bottom Guiding Rails	M56	M56	M30	M30					
Bottom Guiding Rails	M56	M56	M56	M56	M10	M10	M23	M23	M30

- Use adjustable high clips for optimal performance when cleaning 5 to 10 mL Volumetric Flasks and 10 to 50 mL Erlenmeyer Flasks.
- Beakers are cleaned efficiently in the General Purpose Basket; however, drying efficiency is limited.
- All accessories can be used individually.

**Drawing not to scale.**

**Dimensions are typical.**

**Dimensions are inches (millimeters).**



1. LEVEL 2 AND 3, AS WELL AS LEVEL 3 AND 4, CANNOT BE USED TOGETHER IN THE SAME LOAD.

NOTE: MEASUREMENTS TAKEN FROM GLASSWARE PROTECTORS TO BOTTOM OF RACK ABOVE, OR TOP SPRAY ARM.  
PLEASE ALLOW SOME TOLERANCE OF AT LEAST 1/4 [6] TO MAKE SURE THAT THE GLASSWARE HAS SOME CLEARANCE.

## Selections Checked Below Apply To This Equipment

### CONFIGURATIONS<sup>4</sup>

208 V, 60 Hz, 3-Phase

Vented (FM44-11202)

Non-Vented (FM44-11201)

Vented, Conductivity (FM44-112022)

Non-Vented, Conductivity (FM44-112022)

380/400/415 V, 50 Hz, 3-Phase,

Vented (FM45-18202)

Non-Vented (FM45-18201)

Vented, Conductivity (FM45-182022)

Non-Vented, Conductivity (FM45-182012)

460/480 V, 60 Hz, 3-Phase,

Vented (FM44-14202)

Non-Vented (FM44-14201)

Vented, Conductivity (FM44-142-142022)

Non-Vented, Conductivity (FM44-142012)

### ACCESSORIES

M10 Spindle Header (FD172)

M23 Spindle Header (FD173)

M30 Spindle Header (FD174)

M56 Spindle Header (FD175)

M90 Pipette/Mixed Spindle Header (FD176)

Bottom Rotary Spray Header/General Purpose Baskets (FD177)

External Detergent Storage Compartment (FD178)

Remote Drain Kit (FD165)

Flexible Utilities Connection Kit (FD027)

Side Drain Kit (FD164)

4. Careful consideration must given to voltage selection prior to ordering. Later changes require substantial field modification.

Item:	
Locations:	

**For Further Information, contact:**



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**The base language of this document is ENGLISH. Any translations must be made from the base language document.**

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