

FlaskScrubber® & SteamScrubber®

Laboratory Glassware Washers



*Protecting your
laboratory environment*

LABCONCO®

FlaskScrubbers® & SteamScrubbers®

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Labconco's FlaskScrubber and SteamScrubber Glassware Washers and new FlaskScrubber Vantage Series Glassware Washers have been engineered with the performance and convenience features that laboratories demand.

Flexible Programs

Flexible cycle programs give the user control in selecting the right combination of parameters. A keypad and LCD display allow parameters to be easily set or changed. Memory stores both preset and user set programs for reproducible protocols.

Multiple Rinses

Multiple rinses rid glassware of residual contaminants. Up to six rinses may be selected for one cycle program.

Sanitizing High Heat Models

High heat models that reach 180° F (82° C) effectively remove lipids and sanitize glassware. For normal loads or delicate plasticware, simply select cycle programs that reach 140° F (60° C) or lower.

Rugged Construction

Rugged stainless steel construction inside and out withstands heavy use and reduces corrosion and contaminant build-up.

Interior View

Viewing window with interior light lets you see each cycle in progress. This feature, which is optional on FlaskScrubber and SteamScrubber Glassware Washers and standard on FlaskScrubber Vantage Series Glassware Washers, gives at-a-glance assurance of your washer's performance.

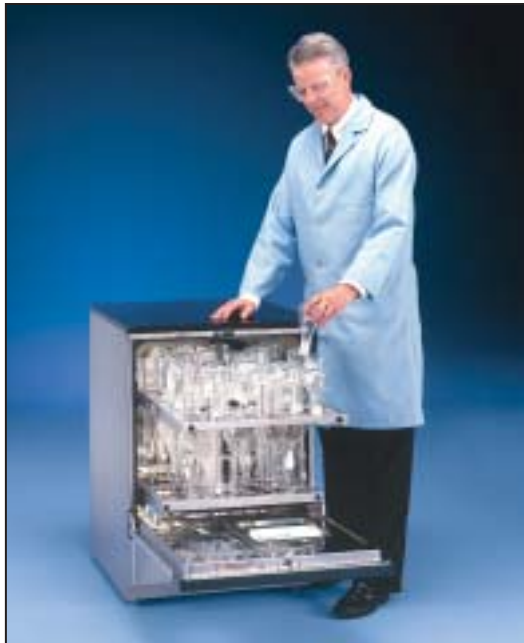
Adjustable Base Stand

Base stand elevates the washer 17" for easier loading and unloading. This optional stand has a convenient compartment for storing detergent and other accessories.

FlaskScrubbers® & SteamScrubbers®

Overview

Select the Labconco glassware washer that best suits your glassware mix and level of contamination-sensitive research.



The FlaskScrubber is designed for primarily narrow-neck glassware such as volumetric flasks. The bottom spindle rack included with the washer holds up to 34 pieces of labware and may be outfitted with specialized inserts to accommodate pipets. Water and detergent are pumped through the spindles to reach the innermost areas of your glassware. A patented drying system vacuums moisture from inside the glassware, replacing it with hot, dry air. Optional basket inserts and upper racks increase the FlaskScrubber's capacity and flexibility.

The SteamScrubber has stainless steel top and bottom racks that accommodate basket inserts for a wide range of glassware shapes and sizes, primarily beakers and other wide-mouth glassware. Specialized inserts for BOD bottles, petri dishes, culture tubes, small utensils and DNA sequencing plates enhance the SteamScrubber's versatility.



The new FlaskScrubber Vantage Series Glassware Washer has many of the features of the FlaskScrubber, such as the 34-spindle rack, plus advanced elements that safeguard glassware used in contamination-sensitive research. Temperature up to 180° F (82° C) may be programmed for wash and rinse cycles to remove lipids and sanitize glassware. Up to six purified water rinses may be programmed to ensure that no water soluble contaminants are introduced. The water conductivity sensor measures the level of dissolved inorganics in the tank to validate water cleanliness, hardness and rinse thoroughness. The forced air drying system incorporates a 99.97% efficient HEPA filter to remove airborne particulates. The RS-232 port provides a means to document settings and actual washing conditions. These advanced features work together to deliver thoroughly clean, dry labware.

FlaskScrubber® Vantage™ Series Laboratory Glassware Washers

Flexible Cycle Options

Select from seven programs

with the flexibility to change multiple parameters.

SELECT PROGRAM.
Selects one of seven programs, which is shown on the display.

STEAM. Displays "Y" for yes or "N" for no. Designates steam to be added before WASH 2 cycle to any program except RINSE ONLY and PLASTIC.

WASH 1. Displays first wash time, either 0 or 5, depending on program selected.

WASH 2. Displays second wash time. Except for RINSE ONLY, the set point time may be modified from 10 to 40 minutes.

NUMBER OF RINSES.
Displays total number of rinses (tap and pure water rinses). User may select from 1 to 6 rinses.

NUMBER OF PURE RINSES. Displays number of pure rinses. User may choose that none to all of the number of rinses selected be pure water. If pure water rinses are selected, they occur last.

TOTAL WASH.
Displays total programmed wash time including drain, fill, wash and rinse times. Or while operating, the total wash time remaining is displayed.*

DRY. Displays programmed dry time. The set point time may be modified to 0 or up to 99 minutes. While operating, the dry time remaining is displayed.

FACTORY RESET.
Restores preset parameters for the program shown on the display.

LCD. Displays program selected or details of the program. While operating, the specific function in progress, the wash time remaining and the dry time remaining are displayed.

ENTER. Press to store modified parameter set point into memory and to advance the display to the next user programmable parameter.

Parameter change buttons.
Press to modify user set points.

PROGRAMS. Microprocessor control allows the user to select from one of five preset programs and two different USER SET programs. Programs are described on the following page and may be altered by the user (see chart on page 5). All set points are stored in memory so cycles may be easily duplicated.

START/CANCEL.
Initiates program selected. Terminates cycle in progress.

Alarm Indicator.
Red light flashes to alert user to fault(s).

DATA. Press to view water temperature, water conductivity and alarms (if any).

SELECT. Press to see details of the selected program.



*The displayed time does not include the time required to heat cold inlet water to the set point temperature.

FlaskScrubber® Vantage™ Series Laboratory Glassware Washers

Flexible Cycle Options

Select from Seven Programs

with the flexibility to change multiple parameters.

RINSE ONLY. One purified or tap water rinse and drain. User may alter number of rinses, number of pure rinses, and add dry time.

PLASTIC. One wash, two rinses and dry sequence. User may alter wash time, wash temperature (from 38 to 60° C), automatic detergent dispense amount, number of rinses, number of pure rinses, automatic rinse aid dispense amount, last rinse temperature (from 38 to 60° C), and dry time.

GLASS. Two washes, two rinses and dry sequence. User may alter steam addition, second wash time, second wash temperature (from 38 to 60° C), automatic detergent dispense amount, number of rinses, number of pure rinses, automatic rinse aid dispense amount, last rinse temperature (from 38 to 60° C), and dry time.

GLASS PLUS. Two washes, four rinses and dry sequence. User may alter steam addition, second wash time, second wash temperature (from 38 to 82° C), automatic detergent dispense

amount, number of rinses, number of pure rinses, automatic rinse aid dispense amount, last rinse temperature (from 38 to 82° C), and dry time.

SCIENCE. Two washes, steam, six rinses and dry sequence. User may alter steam addition, second wash time, second wash temperature (from 38 to 82° C), automatic detergent dispense amount, number of rinses, number of pure rinses, automatic rinse aid dispense amount, last rinse temperature (from 38 to 82° C), and dry time.

USER 1 and 2 SETS. Two washes, two rinses and dry sequence. User selects steam addition, second wash time, second wash temperature (from 38 to 82° C), automatic detergent dispense amount, number of rinses, number of pure rinses, automatic rinse aid dispense amount, last rinse temperature (from 38 to 82° C), and dry time. Two separate programs may be customized and stored in memory.

Flexible Cycle Options

Factory Set Programs and Selectable Set Points

Program	Rinse Only		Plastic		Glass		Glass Plus		Science		User 1 Set		User 2 Set	
	Factory Setting	Selectable Set Points	Factory Setting	Selectable Set Points	Factory Setting	Selectable Set Points	Factory Setting	Selectable Set Points	Factory Setting	Selectable Set Points	Factory Setting	Selectable Set Points	Factory Setting	Selectable Set Points
Wash 1 Time (min.)	—	—	—	—	5	—	5	—	5	—	5	—	5	—
Steam*	—	—	—	—	N	Y or N	N	Y or N	Y	Y or N	N	Y or N	N	Y or N
Wash 2 Time (min.)	—	—	10	10-40	20	10-40	30	10-40	40	10-40	10	10-40	10	10-40
Wash 2 Temp (° C)	—	—	60	38-60	60	38-60	82	38-82	82	38-82	60	38-82	82	38-82
Detergent Dispense (ml)	—	—	20	0-40	20	0-40	20	0-40	20	0-40	20	0-40	20	0-40
Number Rinses**	1	1-6	2	1-6	2	1-6	4	1-6	6	1-6	2	1-6	2	1-6
Number Pure Rinses†	0	0-6	0	0-6	0	0-6	0	0-6	2	0-6	0	0-6	0	0-6
Last Rinse Temp (° C)	—	—	60	38-60	60	38-60	82	38-82	82	38-82	60	38-82	82	38-82
Rinse Aid Dispense (ml)	—	—	0	0-6	0	0-6	0	0-6	0	0-6	0	0-6	0	0-6
Total Wash Time (min.)††	11	11-69	38	28-116	59	39-137	88	39-137	131	39-137	49	39-147	49	39-137
Dry Time (min.)	0	0 or 15-99	15	0 or 15-99	20	0 or 15-99	30	0 or 15-99	40	0 or 15-99	15	0 or 15-99	15	0 or 15-99
Cool Time (min.)	40	—	40	—	40	—	43	—	43	—	40	—	40	—
Total Water Consumed														
Gallons	2.9	2.9-17.4	8.7	5.8-20.3	11.6	8.7-23.2	17.4	8.7-23.2	23.2	8.7-23.2	11.6	8.7-23.2	11.6	8.7-23.2
Liters	11	11-66	33	22-76.8	44	33-88	66	33-88	88	33-88	44	33-88	44	33-88

* Steam time is 10 minutes. ** Each rinse is 4 minutes and uses 2.9 gallons (11 liters) of water.

† Each pure rinse adds 1 minute and uses 2.9 gallons (11 liters) of water. †† Total wash time does not include time required to heat feedwater to set point temperature.

FlaskScrubber® Vantage™ Series Laboratory Glassware Washers

Features & Benefits

Automatic neutralizing rinse solution dispenser. When programmed to dispense from 1 to 6 milliliters, a peristaltic pump automatically draws LabSolutions Neutralizing Acid Rinse or other mildly acidic rinse aid from a one liter bottle during the rinse cycle.

Automatic liquid detergent dispenser. When programmed to dispense from 1 to 40 milliliters, a peristaltic pump automatically draws LabSolutions Low-Foaming Liquid Detergent or other automatic washer liquid detergent from a 3.8 liter bottle during the wash cycle.

Quiet, energy-efficient operation at 62 decibels. Aluminum-backed, sound-deadening insulation and fiberglass blanket absorb noise, optimize internal tank temperature and conserve energy.

Powder epoxy-sealed, hard board top. Repels moisture. It may be removed for under-counter installation.

Attractive Type 304 brushed stainless steel doors and sides. The back is epoxy-coated steel.

Mirror-bright, Type 304 stainless steel interior. Provides a corrosion-resistant surface that reduces contaminant carry-over during wash and rinse cycles.

INCLUDES Spindle rack with 34 detachable spindles with height-adjustment clips. Large volumes of water stream into the bulb of each flask for high-powered cleaning. Clips may be raised and lowered on the 24 tall spindles to accommodate flasks from 50 ml to 2000 ml. The 10 small spindles hold flasks from 1 ml to 25 ml. Spindles detach easily to customize rack for accessory inserts (sold separately). See pages 26 and 27 for insert selection.

Manual dry or liquid detergent dispenser. If the automatic liquid detergent dispenser is programmed to 0 milliliter, then the dispenser in the door is activated. Detergent compartments release a manually premeasured amount (1.35 ounces or 40 ml). For heavily soiled glassware, the pre-wash cavities in the lid of the detergent cup or stamped in the door may be filled so that detergent is released during the first wash cycle.

Easy installation. To begin operation, tap water, purified water, a drain and single phase electricity are required. For fastest operation, hot tap water is recommended. Straight line plumbing and electrical connections are accessible from the front. Higher built-in drain location prevents self-draining and plumbing errors. The top may be removed for undercounter installation.

Full two year warranty. Is provided against defects in materials and workmanship.

360° rotating lower wash arm and spindle rack. Distribute up to 60 gallons (227 liters) of water per minute.

Steam generator. Produces hot vapor to penetrate and soften dried residue allowing detergent and hot water to work effectively.

Manual dispenser for neutralizing rinse solution. If the automatic liquid detergent dispenser is programmed to 0 milliliter, then the neutralizing rinse solution dispenser in the door is activated. The dispenser holds approximately 170 milliliters, enough for 40 or more cycles.

Up to 6 pure water rinses may be programmed. A built-in purified water pump draws from a storage tank or pressurized system to deliver purified water during final rinses.

Particle filter. One-piece, stainless steel screen filters fine particles, protecting the pump from broken glass and debris.



FlaskScrubber® Vantage™ Series Laboratory Glassware Washers

Features & Benefits



Adjustable Glassware Holders. Secure Erlenmeyer flasks and beakers over the spindles. The vinyl-coated fingers gently cradle the glassware. Two 4-inch and two 6-inch Glassware Holders are included.

Water conductivity monitoring. Sensor measures the level of dissolved inorganics such as calcium and ferrous ions in the tank water, providing validation of water cleanliness, hardness and rinsing thoroughness. It may be used to confirm that detergent, rinse aid and purified water were properly dispensed into the water. Water conductivity is displayed on the LCD and may be transmitted via the RS-232 port.



Viewing window with interior light. The clear tempered safety glass window allows observation of the cycle in progress. A 25-watt interior light illuminates the tank while the door latch is engaged.

Sanitizing high heat. Built-in, 2000-watt heater and thermostat boost interior temperatures to enhance washing, rinsing and drying. With a minimum inlet temperature of 50° F (10° C), the heater elevates water temperature approximately 2.5° F (1.4° C) per minute to a maximum of 180° F (82° C) during the final wash and final rinse cycles, depending on the program.



Built-in, forced air, HEPA-filtered, drying system. A 99.97% efficient HEPA filter traps dust, lint and other particulates in the air. An easily-removable and cleanable prefilter traps larger dirt and debris particles before they reach the HEPA filter, prolonging HEPA filter life. This HEPA-filtered air is blown through the spindles to ensure thoroughly clean, dry glassware inside and out.



RS-232 port. May be used to transmit data such as temperature, cycle phase, water level alarm, water conductivity and voltage alarm to a user-supplied computer or chart recorder.

Rollers on the tank interior accommodate an optional upper rack accessory (sold separately). The optional Upper Spindle Rack holds an additional 24 pieces of narrow-neck labware; Adjustable Height Upper Rack holds many types of labware, especially beakers. See page 26 for ordering information.

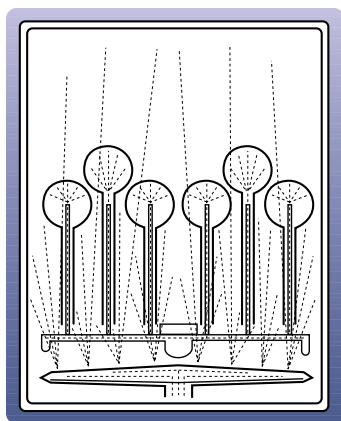


ETL-listed. Washers carry the ETL mark signifying they are certified to UL Standard 3101-1 and CAN/CSA C22.2 No. 1010.1.

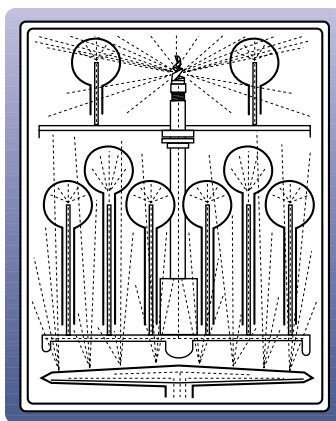


CE Mark. Washers conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

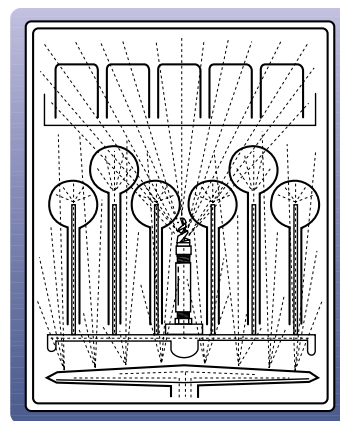
Spray Patterns



Basic Spray Pattern



Spray Pattern with Accessory Upper Spindle Rack and Hub Adapter. See page 26 for Upper Spindle Rack ordering information.



Spray Pattern with Accessory Adjustable Height Upper Rack and Hub Adapter. See page 26 for Adjustable Height Upper Rack ordering information.

FlaskScrubber® Vantage™ Series Glassware Washers

Specifications & Ordering Information

All models feature:

- Type 304, mirror-finish stainless steel tank, wash arm and tower.
- Type 304, brushed stainless steel door and sides.
- Epoxy-coated steel back.
- Two rows of polypropylene rollers in tank for accessory upper rack.
- Fiberglass blanket and aluminum-backed acoustic material for thermal and sound insulation.
- Operation at 62 dB.
- Draw latch to energize electronic controls when locked.
- Made in the U.S.A.
- Injection-molded panel has microprocessor that stores seven preset programs (RINSE ONLY, PLASTIC, GLASS, GLASS PLUS, SCIENCE, USER 1 SET and USER 2 SET). Except for RINSE ONLY and PLASTIC, steam program parameter may be altered by the user. Except for RINSE ONLY, program parameters (WASH 2 time, WASH 2 temperature, detergent dispense amount, number of rinses, number of pure rinses, last rinse temperature, rinse aid dispense amount and dry time) may be altered. For RINSE ONLY, program parameters (number of rinses, number of pure rinses and dry time) may be altered. START/CANCEL button initiates program or terminates a cycle in progress. SELECT PROGRAM button allows selection of the program. DATA button scrolls through displays of water temperature, water conductivity and any faults (low detergent, low rinse agent, low fill, low voltage, high voltage, low water temperature, and defective float switch). SELECT button activates the display to show parameters of the program selected (STEAM, WASH 1 time, WASH 2 time, the NUMBER of RINSES, the NUMBER of PURE RINSES, TOTAL WASH time (excluding the time required to heat the inlet water) and DRY TIME. Parameter up/down change buttons modify set points for changeable parameters: WASH 2 time, WASH 2 temperature, detergent dispense, number of rinses, number of pure rinses, last rinse temperature, rinse aid dispense, dry time. LCD displays program selected (RINSE ONLY, PLASTIC, GLASS, GLASS PLUS, SCIENCE, USER 1 SET, USER 2 SET), (steam selection, time in minutes for WASH 1 and WASH 2, number of RINSES and PURE RINSES, time in minutes for TOTAL WASH and DRY) or set points for user programmable parameters. ENTER button stores modified parameters into memory. FACTORY RESET button restores the preset parameters. Red light flashes when fault(s) are detected: low detergent, low rinse agent, low fill, low voltage, high voltage, low water temperature, or defective float switch.
- Automatic liquid detergent dispenser with peristaltic pump and 3.8 liter bottle. Detergent sample is included.
- Automatic rinse aid dispenser with peristaltic pump and 1 liter bottle. Rinse aid sample is included.
- Manual detergent dispenser for powder or liquid detergent. Activated only when the automatic liquid detergent dispenser is programmed for 0 milliliter. Detergent samples are included.
- Manual rinse dispenser activated only when the automatic liquid detergent dispenser is programmed for 0 milliliter. Rinse sample is included.
- Pump with 1/3 hp motor to recirculate up to 60 gallons (227 liters) of water per minute (at 60 Hz) throughout the tank during wash cycle.
- One-piece, stainless steel, fine mesh particle filter.
- Purified water pump to bring pressurized or non-pressurized purified water into the tank for the last two rinses.
- 2000-watt heater with thermostat to boost interior temperature to a sanitizing nominal 180° F (82° C) during final wash and rinse cycles for GLASS PLUS, SCIENCE, USER 1 SET and USER 2 SET programs.



Spindle rack, 20.9" w x 20" d x 11.6" h (53 x 51 x 35 cm), of Type 304 stainless steel. Includes 34 detachable spindles (24 each tall 8.4" x .25" OD and 10 each small 4.5" x .125" OD), 24 large height adjustment clips, 10 small height adjustment clips, 14 nylon plugs, two 4-inch Glassware Holders 4424600 and two 6-inch Glassware Holders 4424800.

Steam generator that produces hot vapor before the WASH 2 cycle (RINSE ONLY and PLASTIC excluded).

- Forced air, drying system with built-in blower.
- R2-232 port for connection to user-supplied computer or recorder.
- Clear tempered safety glass window, 6.3" w x 13.8" h (15.9 x 34.9 cm).
- 25-watt interior light that remains lit while the door latch is engaged.
- Purified water inlet valve with a plastic serrated connector to accommodate a 3/8" ID flexible plastic or rubber hose (hose not included).
- 2 year warranty on parts and labor.

All models conform to the following:

- UL 3101-1/61010-1
- CAN/CSA C22.2 No. 1010.1
- CE Conformity Marking (230 volt models)

All models require (not included):

- Minimum inlet water temperature of 50° F (10° C).
- Recommended inlet water temperature of 120° F (49° C).
- Minimum inlet water pressure of 20 psi.
- Maximum inlet water pressure of 120 psi.
- Minimum purified water pressure of 0 psi.
- Water consumption per fill of 2.9 gallons (11 liters).
- Hot tap water pressure at the washer of 20-120 psi.
- Hot tap water flow of 1.25 gallons (4.7 liters) per minute.
- 3/8" ID copper tubing or flexible hose for connection to the water inlet valve.
- Purified water with supply piping of a minimum 3/8" ID to permit at least 1.25 gallons (4.7 liters) per minute flow.
- Hard wiring to a 20 amp dedicated circuit.
- Drain air gap.
- Drain tubing or pipe 1/2" (1.3 cm) diameter or larger.

Optional companion products and accessories include:

- Base Stand. See page 26.
- Adjustable Height Upper Rack. See page 26.
- Upper Spindle Rack. See page 26.
- Pipet Inserts. See page 27.
- Basket Inserts. See pages 26-27.
- LabSolutions™ Detergents and Rinse. See page 28.
- Laboratory Glassware Carts. See page 28.
- WaterPro® RO Stations and Softeners. See page 29.

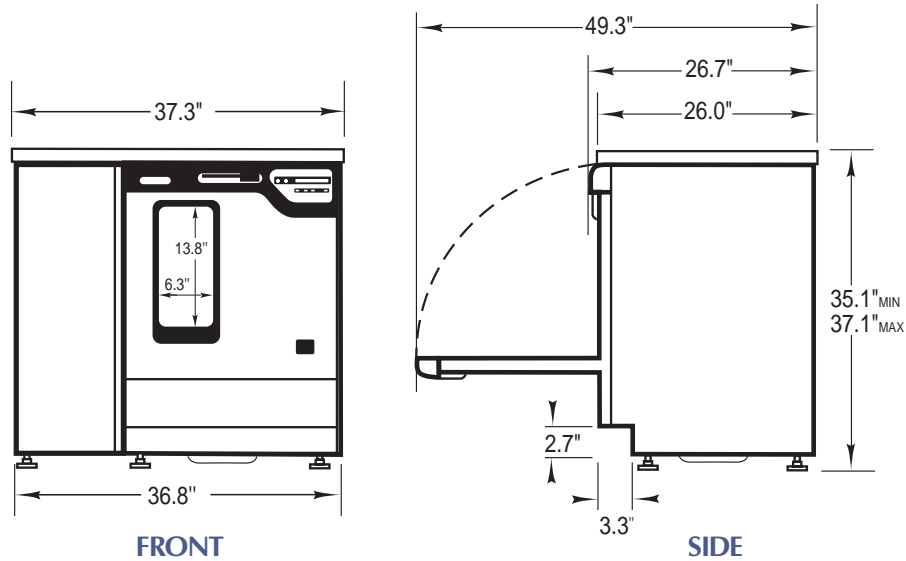
Catalog Number	Electrical Requirements	Options	
		High Heat	Window & Light
4540000	230 volts, 50/60 Hz, 12 amps	•	•
4540001	208 volts, 50/60 Hz, 14 amps	•	•

Exclusive feature

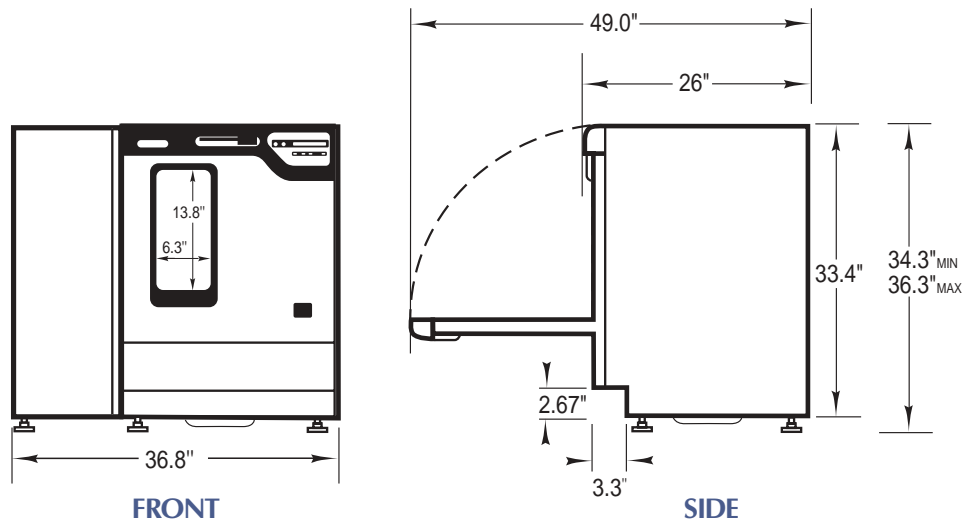
FlaskScrubber® Vantage™ Series Glassware Washers

Dimensional Data

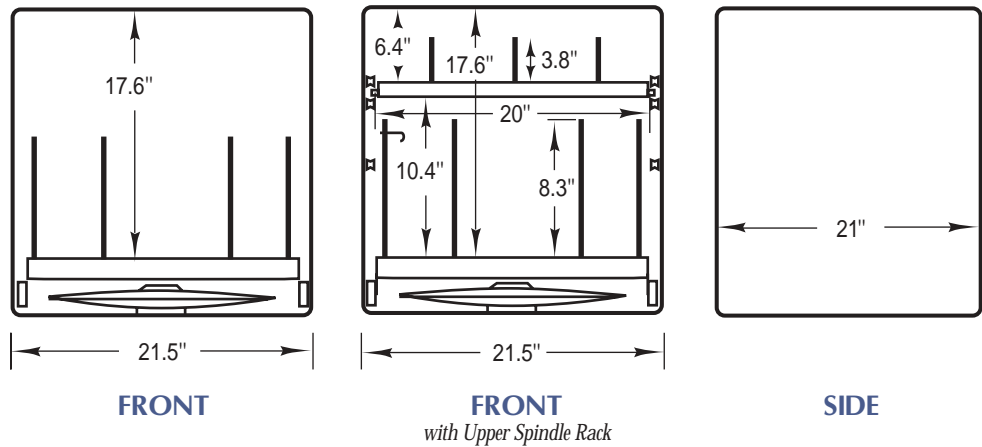
Freestanding



Undercounter



Interior Dimensions



FlaskScrubbers® & SteamScrubbers®

Flexible Cycle Options

Select from seven programs

with the flexibility to change wash and dry cycle duration and number of rinses.

START/CANCEL. Initiates program selected. Terminates cycle in progress.

SELECT PROGRAM. Selects one of seven programs, which is shown on the display.

SHIFT PROGRAM. Changes the display to show parameters of the program selected: WASH 1, WASH 2, NUMBER OF RINSES, TOTAL WASH and DRY.

WASH 1. Displays first wash time in minutes. Time varies depending on program selected.

WASH 2. Displays second wash time in minutes. User may select from 10, 20, 30 or 40 minutes.

NUMBER OF RINSES. Displays number of rinses. User may select up to 6 rinses.

TOTAL WASH. Displays total programmed wash time in minutes including drain, fill, wash and rinse times. Or while operating, the total wash time remaining is displayed.

DRY. Displays programmed dry time in minutes. While operating, the dry time remaining is displayed.

LCD. Displays program selected (RINSE ONLY, PLASTIC, GLASS, GLASS PLUS, SCIENCE, USER 1 SET, USER 2 SET) or details of the program (time in minutes for WASH 1, WASH 2, TOTAL WASH and DRY and number of rinses). While operating, the wash time remaining and the dry time remaining are displayed.

Program change buttons. Alter the parameter (WASH 2 TIME, NUMBER OF RINSES and DRY TIME) when parameters of the program selected are displayed.

PURE. During program selection, designates purified water (2.9 gallons or 11 liters) for each of the last two rinses. Indicator illuminates amber when this function is activated.

STEAM. During program selection, designates steam to be added before WASH 2 cycle to any program except RINSE ONLY and PLASTIC. Indicator illuminates amber when this function is activated.

PROGRAMS. Microprocessor control allows the user to select from one of five preset programs (RINSE ONLY, PLASTIC, GLASS, GLASS PLUS and SCIENCE) or customize 2 different USER SET programs. All programs may be altered by the user (see charts on page 5). Cycle parameters selected by the user for USER 1 SET and USER 2 SET are stored in memory and can be recalled indefinitely. Cycle parameter changes made to the preset programs affect the current cycle only.

RINSE ONLY. One purified or tap water rinse and drain. User may alter number of rinses (up to 5) and add dry time.

PLASTIC. One wash, two rinses and dry sequence. User may alter number of rinses (up to 6) and dry time.

GLASS. Two washes, two rinses and dry sequence. User may alter second wash time, number of rinses (up to 6) and dry time.

GLASS PLUS. Two washes, four rinses and dry sequence. User may alter second wash time, number of rinses (up to 6) and dry time.

SCIENCE. Two washes, steam, six rinses and dry sequence. User may alter second wash time, number of rinses and dry time.

USER 1 and 2 SETS. Two washes, two rinses and dry sequence. User selects second wash time, number of rinses (up to 6) and dry time. Two separate programs may be customized and stored in memory.



FlaskScrubbers® & SteamScrubbers®

Flexible Cycle Options

Program Time (minutes)—115 Volt, 60 Hz Models

Program	Rinse Only	Plastic	Glass	Glass Plus	Science	User 1 Set	User 2 Set
Heat Setting	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Wash 1	—	10	5	5	5	5	5
Steam	—	—	†	†	10††	†	10††
Wash 2	—	—	20*	30*	40*	10*	10*
Rinse 1	4	2	2	2	2	2	2
Rinse 2	**	4	4	4	4	4	4
Rinse 3	**	**	**	4	4	**	**
Rinse 4	**	**	**	4	4	**	**
Rinse 5	**	**	**	**	4	**	**
Rinse 6	—	**	**	**	4	**	**
Dry	†††	10†††	20†††	30†††	40†††	10†††	10†††
Total Factory Set Time (minutes)	13	43	71	107	153	—	—
Total User Set Time (minutes)	13 to 108	3 to 158	41 to 176	41 to 176	41 to 176	41 to 176	41 to 176
Water Consumption							
Total Water Consumed with Factory Settings***	2.9 gallons (11 liters)	8.7 gallons (33 liters)	11.6 gallons (44 liters)	17.4 gallons (66 liters)	23.2 gallons (88 liters)	11.6 gallons (44 liters)	11.6 gallons (44 liters)

Program Time (minutes)—230 Volt, 50/60 Hz Models

Program	Rinse Only	Plastic	Glass	Glass Plus	Science	User 1 Set	User 2 Set
Heat Setting	Standard	Standard	Standard	High	High	Standard	High
Wash 1	—	10	5	5	5	5	5
Steam	—	—	†	†	10††	†	10††
Wash 2	—	—	20*	30*	40*	10*	10*
Rinse 1	4	2	2	2	2	2	2
Rinse 2	**	4	4	20	20	4	20
Rinse 3	**	**	**	4	4	**	**
Rinse 4	**	**	**	4	4	**	**
Rinse 5	**	**	**	**	4	**	**
Rinse 6	—	**	**	**	4	**	**
Dry	†††	10†††	20†††	30†††	40†††	10†††	10†††
Total Factory Set Time (minutes)	17	48	77	136	184	—	—
Total User Set Time (minutes)	17 to 116	38 to 167	47 to 186	68 to 207	68 to 207	44 to 186	68 to 207
Water Consumption							
Total Water Consumed with Factory Settings***	2.5 gallons (9.5 liters)	7.5 gallons (28.4 liters)	10 gallons (37.9 liters)	15 gallons (56.8 liters)	20 gallons (75.7 liters)	10 gallons (37.9 liters)	10 gallons (37.9 liters)

† Steam adds 10 minutes to total program time

†† Steam may be deselected

* Select from 10, 20, 30 or 40 minute WASH 2 time

** Add 4 minutes for each additional rinse

††† Select from 0, 10, 20, 30, 40, 50 or 60 minute Dry time

*** Add 2.9 gallons (11 liters) for each additional rinse

Bold numbers indicate preset times

FlaskScrubbers®

Features & Benefits

INCLUDES Spindle rack with 34 detachable spindles with height-adjustment clips. Large volumes of water stream into the bulb of each flask for high-powered cleaning. Clips may be raised and lowered on the 24 tall spindles to accommodate flasks from 50 ml to 2000 ml. The 10 small spindles hold flasks from 1 ml to 25 ml. Spindles detach easily to customize rack for accessory inserts (sold separately). See pages 26 and 27 for insert selection.



Adjustable Glassware Holders. Secure Erlenmeyer flasks and beakers over the spindles. The vinyl-coated fingers gently cradle the glassware. Two 4-inch and two 6-inch Glassware Holders are included.



ETL-listed. Washers carry the ETL mark signifying they are certified to UL Standard 3101-1 and CAN/CSA C22.2 No. 1010.1.



CE Mark. Washers conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.



Patented vacuum drying system. Draws moisture from inside the flasks, replacing it with hot, dry air.

Melamine-covered, high-density particle board top. Repels moisture (mobile and freestanding models).

Mirror-bright, Type 304 stainless steel interior. Provides a corrosion-resistant surface that reduces contaminant carry-over during wash and rinse cycles.

Easy installation. To begin operation, hot tap water, purified water, a drain and electricity are required. Mobile models feature a quick-disconnect attachment for tap water and drain. Undercounter and freestanding models have straight line plumbing and electrical connections accessible from the front. Higher built-in drain location prevents self-draining and plumbing errors.

Quiet, energy efficient operation at 62 decibels.

Aluminum-backed, sound-deadening insulation and fiberglass blanket absorb noise, optimize internal tank temperature and conserve energy.

Rollers on the tank interior accommodate an optional upper rack accessory (sold separately). The optional Upper Spindle Rack holds an additional 24 pieces of narrow-neck labware; Adjustable Height Upper Rack holds many types of labware, especially beakers. See page 26 for ordering information.

Dispenser for neutralizing solution. Allows manual addition of mildly acidic rinse aid to alter pH and eliminate alkaline detergent carry-over.

Attractive Type 304 brushed stainless steel door. Mobile and free-standing models also have brushed stainless steel sides and epoxy-coated steel backs.



360° rotating lower wash arm and spindle rack. Distribute up to 60 gallons (227 liters) of water per minute.

Dry or liquid detergent dispenser. Releases a manually premeasured amount (1.35 ounces or 40 ml) ensuring clean labware.

Draw latch. Securely locks the door while energizing the electronic controls.

Steam generator. Produces hot vapor to penetrate and soften dried residue allowing detergent and hot water to work effectively.

Built-in purified water pump. Draws from a storage tank or pressurized system to deliver purified water during final two rinses.



Built-in heater. Boosts water and glassware temperatures to enhance washing and drying results by applying heat during all cycles. Models for operation on 115 volts have 1200 watts of heating power; 230 volt models have 2000 watts. With a minimum inlet temperature of 120° F (49° C), the heater elevates water temperature approximately 20° F (11° C) on 115 volt models and 60° F (33° C) on 230 volt models.



Exclusive feature

 **Made in the U.S.A.**

FlaskScrubbers®

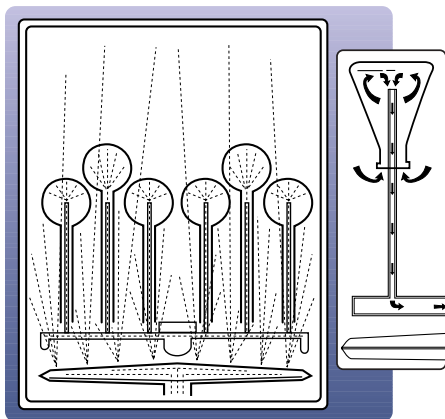
Options



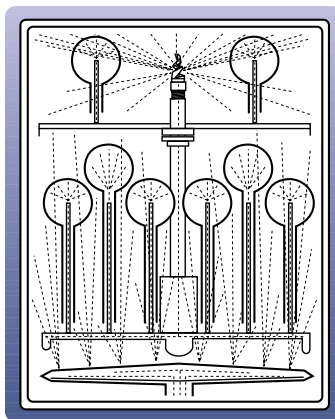
Viewing window with interior light. Models with built-in viewing window and interior light are available as standard options. The clear tempered safety glass window allows observation of the cycle in progress. A 25-watt interior light illuminates the tank while the door latch is engaged.

Sanitizing high heat. Higher temperature loosens stubborn lipid-based residues for cleaner, sanitized glassware. Models for operation on 230 volts, 50/60 Hz include a high heat option. A 2000-watt heater and thermostat allow interior temperatures to reach a nominal 180° F (82° C) with a minimum inlet temperature of 120° F (49° C) during the second wash and rinse cycle. High heat is automatically activated when GLASS PLUS, SCIENCE or USER 2 SET is selected.

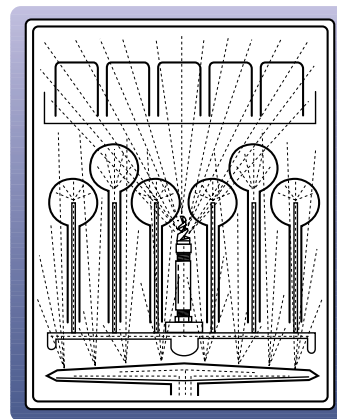
Spray Patterns



Basic Spray Pattern
Inset: Vacuum Drying System

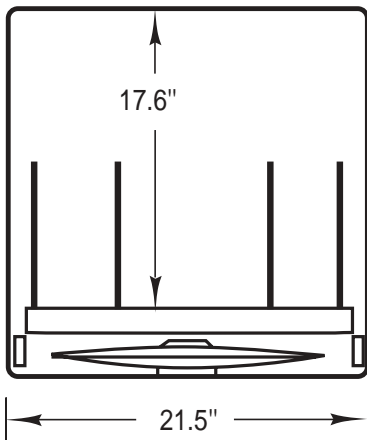


Spray Pattern with Accessory Upper Spindle Rack and Hub Adapter. See page 26 for Upper Spindle Rack ordering information.

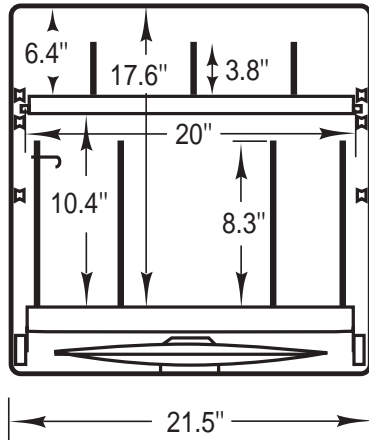


Spray Pattern with Accessory Adjustable Height Upper Rack and Hub Adapter. See page 26 for Adjustable Height Upper Rack ordering information.

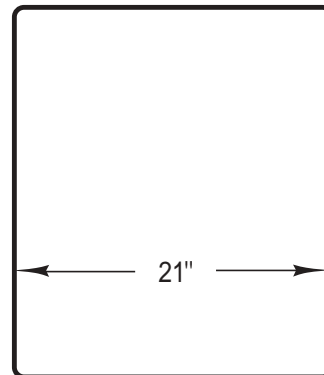
Interior Dimensions



FRONT



FRONT
with Upper Spindle Rack



SIDE

FlaskScrubbers®

General Specifications

All models feature:

- Type 304, mirror-finish stainless steel tank, wash arm and tower.
- Type 304, brushed stainless steel door.
- Two rows of polypropylene rollers in tank for accessory upper rack.
- Fiberglass blanket and aluminum-backed acoustic material for thermal and sound insulation.
- Operation at 62 dB.
- Draw latch to energize electronic controls when locked.
- Made in the U.S.A.
- Injection molded control panel with microprocessor that stores seven preset programs (RINSE ONLY, PLASTIC, GLASS, GLASS PLUS, SCIENCE, USER 1 SET and USER 2 SET). Except for RINSE ONLY, program parameters (WASH 2 time, number of rinses and DRY time) may be altered. For RINSE ONLY, program parameters (number of rinses up to 5 and DRY time) may be altered. START/CANCEL button initiates the program selected or terminates the cycle in progress. SELECT PROGRAM allows selection of the program. SHIFT button activates the display to show parameters of the selected program. Program change buttons alter the parameter (second wash time, number of rinses and dry time) when parameters of the selected program are displayed. LCD displays selected program or details of the program (WASH 1 time, WASH 2 time, NUMBER OF RINSES, TOTAL WASH time and DRY time). PURE button selects purified water for the last two rinses. STEAM button selects steam to be added before the WASH 2 cycle. Amber indicator lights illuminate next to PURE and STEAM buttons when selected.
- Manual detergent dispenser for powder or liquid detergent. Detergent samples are included.
- Manual rinse solution dispenser. Rinse sample is included.
- Pump with 1/3 hp motor to recirculate up to 60 gallons (227 liters) of water per minute (at 60 Hz) throughout the tank during wash cycle.
- One-piece, stainless steel, fine mesh particle filter.
- Purified water pump to bring pressurized or non-pressurized purified water into the tank for the last two rinses.
- Spindle rack, 20.9" w x 20" d x 11.6" h (53 x 51 x 35 cm), of Type 304 stainless steel. Includes 34 detachable spindles (24 each tall 8.4" x .25" OD and 10 each small 4.5" x .125" OD), 24 large height adjustment clips, 10 small height adjustment clips, 14 nylon plugs, two 4-inch Glassware Holders 4424600 and two 6-inch Glassware Holders 4424800.



- Steam generator that produces hot vapor before the WASH 2 cycle (RINSE ONLY and PLASTIC excluded).
- Vacuum drying system to draw moist air from glassware through the spindles and drying manifold.
- Purified water inlet valve with a plastic serrated connector to accommodate a 3/8" ID flexible plastic or rubber hose (hose not included).
- 2 year warranty on parts and labor.

All models conform to the following:

- UL 3101-1/61010-1
- CAN/CSA C22.2 No. 1010.1
- CE Conformity Marking (230 volt models)

All models require (not included):

- Minimum inlet water temperature of 120° F (49° C).
- Recommended inlet water temperature of 140° F (60° C).
- Minimum inlet water pressure of 20 psi.
- Maximum inlet water pressure of 120 psi.
- Minimum purified water pressure of 0 psi.
- Water consumption per fill of 2.9 gallons (11 liters).
- Hot tap water pressure at the washer of 20-120 psi.
- Hot tap water flow of 1.25 gallons (4.7 liters) per minute.
- 3/8" ID copper tubing or flexible hose for connection to the water inlet valve.
- Purified water with supply piping of a minimum 3/8" ID to permit at least 1.25 gallons (4.7 liters) per minute flow.

Optional companion products and accessories include:

- Base Stand. See page 26.
- Adjustable Height Upper Rack. See page 26.
- Upper Spindle Rack. See page 26.
- Pipet Inserts. See page 27.
- Basket Inserts. See pages 26-27.
- LabSolutions™ Detergents and Rinse. See page 28.
- Laboratory Glassware Carts. See page 28.
- WaterPro® RO Stations and Softeners. See page 29.

FlaskScrubber® Undercounter Glassware Washers

Specifications & Ordering Information

All undercounter models feature:

- General specifications described on page 14.
- Four leveling feet.
- 3/8" IPS inlet fitting for hot tap water connection.
- Factory-installed drain hose and band clamp.
- Exterior dimensions: 24.0" w x 26.4" d x 34.3" h minimum to 36.3" h maximum (60.9 x 67.1 x 87.1 cm minimum to 92.1 cm maximum).
- Shipping weight 142 lbs. (64 kg).

All 115 volt models feature:

- 1200-watt heater to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the sump heater elevates water temperature approximately 20° F (11° C).
- Operation on 115 volts, 60 Hz, 16 amps.

All 230 volt models feature:

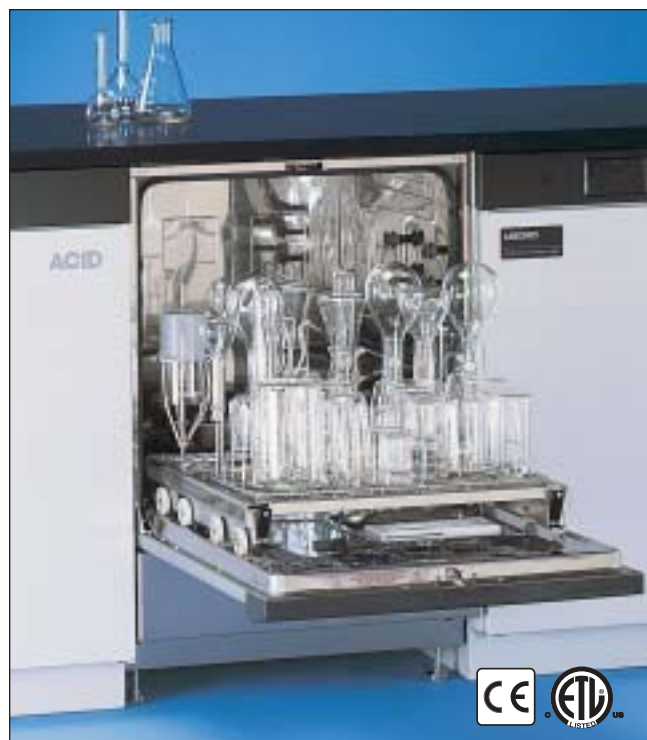
- 2000-watt heater with thermostat to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the heater elevates water temperature approximately 20° F (11° C) when PLASTIC, GLASS or USER 1 SET is selected, or approximately 60° F (33° C) when GLASS PLUS, SCIENCE or USER 2 SET is selected.
- Operation on 230 volts, 50/60 Hz, 13 amps.
- CE Conformity marking.

Models 4420310 and 4420311 feature:

- Clear tempered safety glass window, 6.3" w x 13.8" h (15.9 x 34.9 cm).
- 25-watt interior light that remains lit while the door latch is engaged.

All models require (not included):

- Requirements described on page 14.
- Hard wiring to a 20 amp dedicated circuit.
- Drain air gap.
- Drain tubing or pipe 1/2" (1.3 cm) diameter or larger.



Catalog Number	Electrical Requirements	Options	
		High Heat	Window & Light
4420300	115 volts, 60 Hz, 16 amps		
4420301	230 volts, 50/60 Hz, 13 amps	•	
4420310	115 volts, 60 Hz, 16 amps		•
4420311	230 volts, 50/60 Hz, 13 amps	•	•

FlaskScrubber® Freestanding Glassware Washers

Specifications & Ordering Information

All freestanding models feature:

- General specifications described on page 14.
- Black melamine-covered, high-density particle board top.
- Type 304 stainless steel sides.
- Epoxy-coated steel back.
- Four leveling feet.
- 3/8" IPS inlet fitting for hot tap water connection.
- Factory-installed drain hose and band clamp.
- Exterior dimensions: 24.5" w x 26.7" d x 35.1" h minimum to 37.1" h maximum (62.2 x 67.8 x 89.2 cm minimum to 94.2 cm maximum).
- Shipping weight 189 lbs. (86 kg).

All 115 volt models feature:

- + 1200-watt heater to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the sump heater elevates water temperature approximately 20° F (11° C).
- Operation on 115 volts, 60 Hz, 16 amps.

All 230 volt models feature:

- + 2000-watt heater with thermostat to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the heater elevates water temperature approximately 20° F (11° C) when PLASTIC, GLASS or USER 1 SET is selected, or approximately 60° F (33° C) when GLASS PLUS, SCIENCE or USER 2 SET is selected.
- Operation on 230 volts, 50/60 Hz, 13 amps.
- CE Conformity marking.

Models 4420410 and 4420411 feature:

- Clear tempered safety glass window, 6.3" w x 13.8" h (15.9 x 34.9 cm).
- 25-watt interior light that remains lit while the door latch is engaged.

All models require (not included):

- Requirements described on page 14.
- Hard wiring to a 20 amp dedicated circuit.
- Drain air gap.
- Drain tubing or pipe 1/2" (1.3 cm) diameter or larger.



Catalog Number	Electrical Requirements	Options	
		High Heat	Window & Light
4420400	115 volts, 60 Hz, 16 amps		
4420401	230 volts, 50/60 Hz, 13 amps	•	
4420410	115 volts, 60 Hz, 16 amps		•
4420411	230 volts, 50/60 Hz, 13 amps	•	•

FlaskScrubber® Mobile Glassware Washers

Specifications & Ordering Information

All mobile models feature:

- General specifications described on page 14.
- Black melamine-covered, high-density particle board top.
- Type 304 stainless steel sides.
- Epoxy-coated steel back.
- Four 2-inch diameter rubber casters.
- Quick-disconnect attachment for inlet water and drain on top of washer.
- Two aerator adapters for connection to standard 55/64"-27 male and 15/16"-27 female laboratory faucets.
- Exterior dimensions: 24.5" w x 26.7" d x 37.0" h (62.2 x 67.8 x 93.8 cm).
- Shipping weight 189 lbs. (86 kg).

All 115 volt models feature:

- E 1200-watt heater to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the sump heater elevates water temperature approximately 20° F (11° C).
- 5'4" (163 cm) grounded power cord with 20 amp plug.
- Operation on 115 volts, 60 Hz, 16 amps.

All 230 volt models feature:

- E 2000-watt heater with thermostat to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the heater elevates water temperature approximately 20° F (11° C) when PLASTIC, GLASS or USER 1 SET is selected, or approximately 60° F (33° C) when GLASS PLUS, SCIENCE or USER 2 SET is selected.
- 5'4" (163 cm) grounded power cord. **A 20 amp plug is required.**
- Operation on 230 volts, 50/60 Hz, 13 amps.
- CE Conformity marking.

Models 4420010 and 4420011 feature:

- Clear tempered safety glass window, 6.3" w x 13.8" h (15.9 x 34.9 cm).
- 25-watt interior light that remains lit while the door latch is engaged.

All models require (not included):

- Requirements described on page 14.
- 20 amp dedicated circuit.
- Electrical plug (230 volt models).



Catalog Number	Electrical Requirements	Options	
		High Heat	Window & Light
4420000	115 volts, 60 Hz, 16 amps		
4420001	230 volts, 50/60 Hz, 13 amps	•	
4420010	115 volts, 60 Hz, 16 amps		•
4420011	230 volts, 50/60 Hz, 13 amps	•	•

SteamScrubbers®

Features & Benefits

Easy installation. To begin operation, hot tap water, purified water, a drain and electricity are required. Mobile models feature a quick-disconnect attachment for tap water and drain. Undercounter and freestanding models have straight line plumbing and electrical connections accessible from the front. Higher built-in drain location prevents self-draining and plumbing errors.

Upper and lower rotating wash arms with adjustable height center tower. Distribute up to 60 gallons (227 liters) of water per minute. Wash arms clean with a 360° revolving motion. The lower arm pumps water upward through the bottom rack while the upper arm propels water down across glassware below and up through the top rack. The center telescoping tower has a locking pin that adjusts the upper arm to 2 positions to accommodate various glassware heights.

Built-in, forced air, drying system. Dries glassware with hot, dry air.

Melamine-covered, high-density particle board top. Repels moisture (mobile and freestanding models).

Mirror-bright, Type 304 stainless steel interior. Provides a corrosion-resistant surface that reduces contaminant carry-over during wash and rinse cycles.

Steam generator. Produces hot vapor to penetrate and soften dried residue allowing detergent and hot water to work effectively.

Quiet, energy efficient operation at 62 decibels. Aluminum-backed, sound-deadening insulation and fiberglass blanket absorb noise, optimize internal tank temperature and conserve energy.

Stainless steel top and bottom racks. Accommodate a variety of accessory inserts and the broadest range of glassware. Two rows of rollers on the sides of the washer's interior guide the top rack and allow placement of the rack in two positions to accommodate various glassware heights. See pages 26 and 27 for insert selection.

Dispenser for neutralizing solution. Allows addition of mildly acidic rinse aid to alter pH and eliminate alkaline detergent carry-over.

Draw latch. Securely locks the door while energizing the electronic controls.



ETL-listed. Washers carry the ETL mark signifying they are certified to UL Standard 3101-1 and CAN/CSA C22.2 No. 1010.1.



CE Mark. Washers conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

Built-in purified water pump. Draws from a storage tank or pressurized system to deliver purified water during final two rinses.

Full two year warranty. Is provided against defects in materials and workmanship.

 *Exclusive feature*

Dry or liquid detergent dispenser. Releases a manually premeasured amount (1.35 ounces or 40 ml) ensuring clean labware.

Particle filter. One-piece, stainless steel screen filters fine particles, protecting the pump from broken glass and debris.

Attractive Type 304 brushed stainless steel door. Mobile and freestanding models also have brushed stainless steel sides and epoxy-coated steel backs.

Built-in heater. Boosts water and glassware temperatures to enhance washing and drying results by applying heat during all cycles. Models for operation on 115 volts have 1200 watts of heating power; 230 volt models have 2000 watts. With a minimum inlet temperature of 120° F (49° C), the sump heater elevates water temperature approximately 20° F (11° C) on 115 volt models and 60° F (33° C) on 230 volt models.

 *Made in the U.S.A.*

SteamScrubbers®

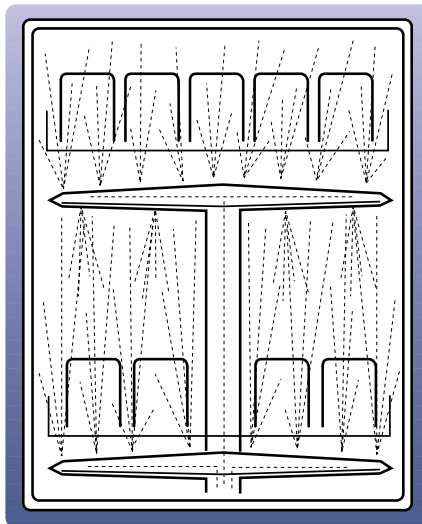
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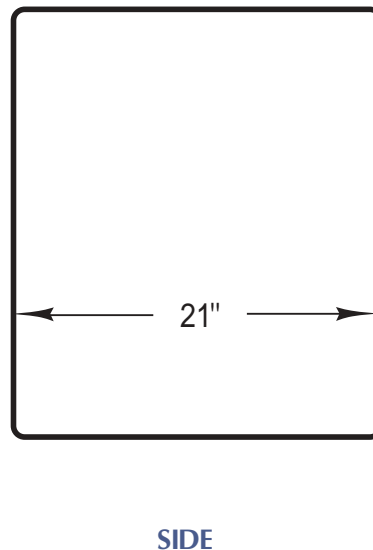
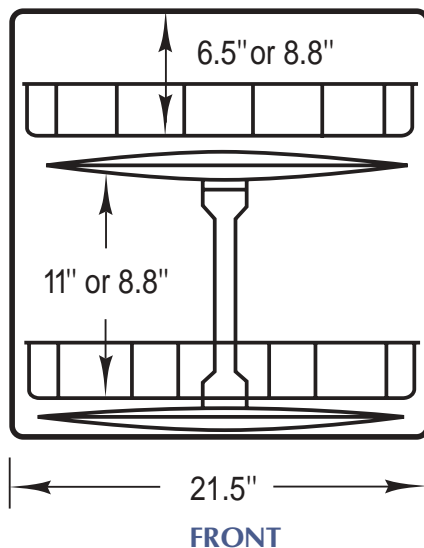
Viewing window with interior light. Models with built-in viewing window and interior light are available as standard options. The clear tempered safety glass window allows observation of the cycle in progress. A 25-watt interior light illuminates the tank while the door latch is engaged.

Sanitizing high heat. Higher temperature loosens stubborn lipid-based residues for cleaner, sanitized glassware. Models for operation on 230 volts, 50/60 Hz include a high heat option. A 2000-watt heater and thermostat allow interior temperatures to reach a nominal 180° F (82° C) with a minimum inlet temperature of 120° F (49° C) during the second wash and rinse cycle. High heat is automatically activated when GLASS PLUS, SCIENCE or USER 2 SET is selected.

Spray Pattern



Interior Dimensions



SteamScrubbers®

General Specifications

All models feature:

- Type 304, mirror-finish stainless steel tank, wash arms and adjustable-height center tower.
- Type 304, brushed stainless steel door.
- Two rows of polypropylene rollers in tank for upper rack adjustment.
- Fiberglass blanket and aluminum-backed acoustic material for thermal and sound insulation.
- Operation at 62 dB.
- Draw latch to energize electronic controls when locked.
- Made in the U.S.A.
- Injection-molded control panel with microprocessor that stores five factory preset programs (RINSE ONLY, PLASTIC, GLASS, GLASS PLUS, SCIENCE, USER 1 SET and USER 2 SET). Except for RINSE ONLY, program parameters (WASH 2 time, number of rinses and DRY time) may be altered. For RINSE ONLY, program parameters (number of rinses up to 5 and DRY time) may be altered. START/CANCEL button initiates the program selected or terminates the cycle in progress. SELECT PROGRAM allows selection of the program. SHIFT button activates the display to show parameters of the selected program. Program change buttons alter the parameter (second wash time, number of rinses and dry time) when parameters of the selected program are displayed. LCD displays selected program or details of the program (WASH 1 time, WASH 2 time, NUMBER OF RINSES, TOTAL WASH time and DRY time). PURE button selects purified water for the last two rinses. STEAM button selects steam to be added before the WASH 2 cycle. Amber indicator lights illuminate next to PURE and STEAM buttons when selected.
- Manual detergent dispenser for powder or liquid detergent. Detergent samples are included.
- Manual rinse solution dispenser. Rinse sample is included.
- Pump with 1/3 hp motor to recirculate up to 60 gallons (227 liters) of water per minute (at 60 Hz) throughout the tank during wash cycle.
- One-piece, stainless steel, fine mesh particle filter.
- Purified water pump to bring pressurized or non-pressurized purified water into the tank for the last two rinses.



- Type 304 stainless steel Upper Rack 4401102 and Bottom Rack 4401202 included. Basket inserts sold separately.
- Steam generator that produces hot vapor before the WASH 2 cycle (RINSE ONLY and PLASTIC excluded).
- Purified water inlet valve with a plastic serrated connector to accommodate a 3/8" ID flexible plastic or rubber hose (hose not included).
- 2 year warranty on parts and labor.

All models conform to the following:

- UL 3101-1/61010-1
- CAN/CSA C22.2 No. 1010.1
- CE Conformity Marking (230 volt models)

All models require (not included):

- Minimum inlet water temperature of 120° F (49° C).
- Recommended inlet water temperature of 140° F (60° C).
- Minimum inlet water pressure of 20 psi.
- Maximum inlet water pressure of 120 psi.
- Minimum purified water pressure of 0 psi.
- Water consumption per fill of 2.9 gallons (11 liters).
- Hot tap water pressure at the washer of 20-120 psi.
- Hot tap water flow of 1.25 gallons (4.7 liters) per minute.
- 3/8" ID copper tubing or flexible hose for connection to the water inlet valve.
- Purified water with supply piping of a minimum 3/8" ID to permit at least 1.25 gallons (4.7 liters) per minute flow.

Optional companion products and accessories include:

- Base Stand. See page 26.
- Adjustable Height Upper Rack. See page 26.
- Basket Inserts. See pages 26-27.
- LabSolutions™ Detergents and Rinse. See page 28.
- Laboratory Glassware Carts. See page 28.
- WaterPro® RO Stations and Softeners. See page 29.

SteamScrubber® Undercounter Glassware Washers

Specifications & Ordering Information

All undercounter models feature:

- General specifications described on page 20.
- Four leveling feet.
- 3/8" IPS inlet fitting for hot tap water connection.
- Factory-installed drain hose and band clamp.
- Exterior dimensions: 24.0" w x 26.4" d x 34.3" h minimum to 36.3" h maximum (60.9 x 67.1 x 87.1 cm minimum to 92.1 cm maximum).
- Shipping weight 142 lbs. (64 kg).

All 115 volt models feature:

- 1200-watt heater to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the sump heater elevates water temperature approximately 20° F (11° C).
- Operation on 115 volts, 60 Hz, 16 amps.

All 230 volt models feature:

- 2000-watt heater with thermostat to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the heater elevates water temperature approximately 20° F (11° C) when PLASTIC, GLASS or USER 1 SET is selected, or approximately 60° F (33° C) when GLASS PLUS, SCIENCE or USER 2 SET is selected.

- Operation on 230 volts, 50/60 Hz, 13 amps.
- CE Conformity marking.

Models 4400310 and 4400311 feature:

- Clear tempered safety glass window, 6.3" w x 13.8" h (15.9 x 34.9 cm).
- 25-watt interior light that remains lit while the door latch is engaged.

All models require (not included):

- Requirements described on page 20.
- Hard wiring to a 20 amp dedicated circuit.
- Drain air gap.
- Drain tubing or pipe 1/2" (1.3 cm) diameter or larger.



Catalog Number	Electrical Requirements	Options	
		High Heat	Window & Light
4400300	115 volts, 60 Hz, 16 amps		
4400301	230 volts, 50/60 Hz, 13 amps	•	
4400310	115 volts, 60 Hz, 16 amps		•
4400311	230 volts, 50/60 Hz, 13 amps	•	•


SteamScrubber® Freestanding Glassware Washers

Specifications & Ordering Information


All freestanding models feature:

- General specifications described on page 20.
- Black melamine-covered, high-density particle board top.
- Type 304 stainless steel sides.
- Epoxy-coated steel back.
- Four leveling feet.
- 3/8" IPS inlet fitting for hot tap water connection.
- Factory-installed drain hose and band clamp.
- Exterior dimensions: 24.5" w x 26.7" d x 35.1" h minimum to 37.1" h maximum (62.2 x 67.8 x 89.2 cm minimum to 94.2 cm maximum).
- Shipping weight 189 lbs. (86 kg).

All 115 volt models feature:

-  1200-watt heater to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the sump heater elevates water temperature approximately 20° F (11° C).
- Operation on 115 volts, 60 Hz, 16 amps.

All 230 volt models feature:

-  2000-watt heater with thermostat to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the heater elevates water temperature approximately 20° F (11° C) when PLASTIC, GLASS or USER 1 SET is selected, or approximately 60° F (33° C) when GLASS PLUS, SCIENCE or USER 2 SET is selected.
- Operation on 230 volts, 50/60 Hz, 13 amps.
- CE Conformity marking.

Models 4400410 and 4400411 feature:

- Clear tempered safety glass window, 6.3" w x 13.8" h (15.9 x 34.9 cm).
- 25-watt interior light that remains lit while the door latch is engaged.

All models require (not included):

- Requirements described on page 20.
- Hard wiring to a 20 amp dedicated circuit.
- Drain air gap.
- Drain tubing or pipe 1/2" (1.3 cm) diameter or larger.



Catalog Number	Electrical Requirements	Options	
		High Heat	Window & Light
4400400	115 volts, 60 Hz, 16 amps		
4400401	230 volts, 50/60 Hz, 13 amps	•	
4400410	115 volts, 60 Hz, 16 amps		•
4400411	230 volts, 50/60 Hz, 13 amps	•	•

SteamScrubber® Mobile Glassware Washers

Specifications & Ordering Information

All mobile models feature:

- General specifications described on page 20.
- Black melamine-covered, high-density particle board top.
- Type 304 stainless steel sides.
- Epoxy-coated steel back.
- Four 2-inch diameter rubber casters.
- Quick-disconnect attachment for inlet water and drain on top of washer.
- Two aerator adapters for connection to standard 55/64"-27 male and 15/16"-27 female laboratory faucets.
- Exterior dimensions: 24.5" w x 26.7" d x 37.0" h (62.2 x 67.8 x 93.8 cm).
- Shipping weight 189 lbs. (86 kg).

All 115 volt models feature:

- E 1200-watt heater to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the sump heater elevates water temperature approximately 20° F (11° C).
- 5'4" (163 cm) grounded power cord with 20 amp plug.
- Operation on 115 volts, 60 Hz, 16 amps.

All 230 volt models feature:

- E 2000-watt heater with thermostat to boost water and glassware temperatures during washing and drying. With a minimum inlet temperature of 120° F (49° C), the heater elevates water temperature approximately 20° F (11° C) when PLASTIC, GLASS or USER 1 SET is selected, or approximately 60° F (33° C) when GLASS PLUS, SCIENCE or USER 2 SET is selected.
- 5'4" (163 cm) grounded power cord. **A 20 amp plug is required.**
- Operation on 230 volts, 50/60 Hz, 13 amps.
- CE Conformity marking

Models 4400010 and 4400011 feature:

- Clear tempered safety glass window, 6.3" w x 13.8" h (15.9 x 34.9 cm), located in the door.
- 25-watt interior light that remains lit while the door latch is engaged.

All models require (not included):

- Requirements described on page 20.
- 20 amp dedicated circuit.
- Electrical plug (230 volt models).

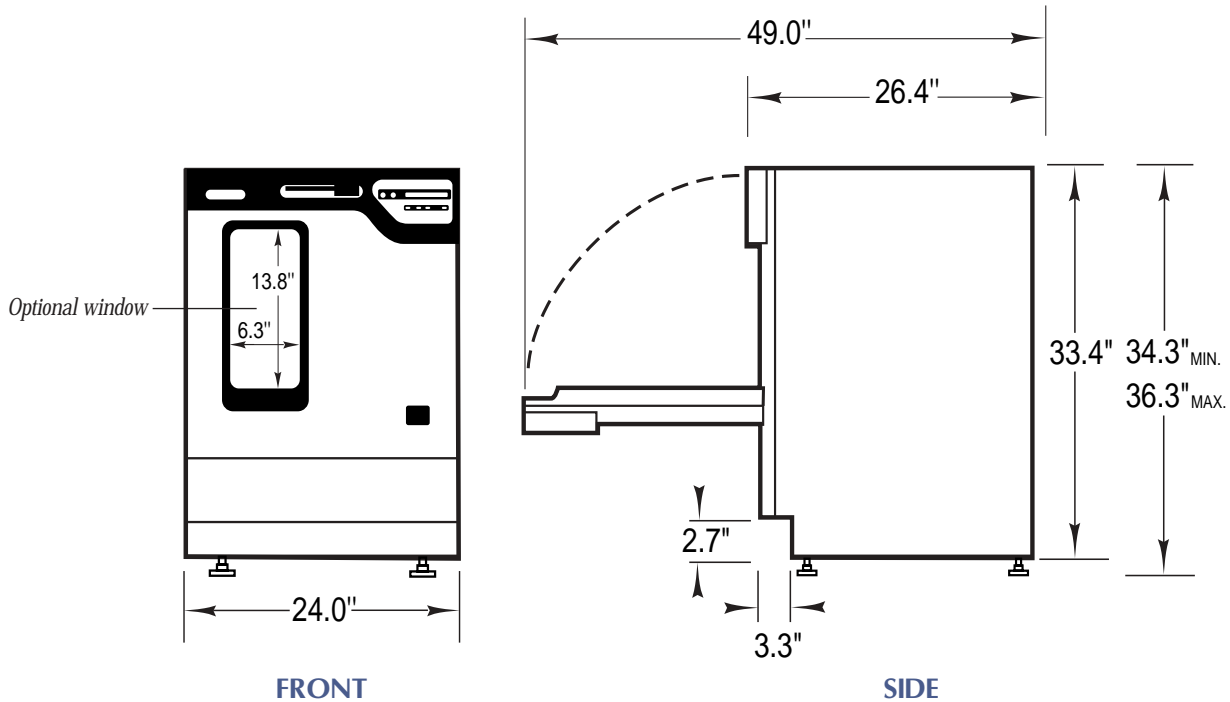


Catalog Number	Electrical Requirements	Options	
		High Heat	Window & Light
4400000	115 volts, 60 Hz, 16 amps		
4400001	230 volts, 50/60 Hz, 13 amps	•	
4400010	115 volts, 60 Hz, 16 amps		•
4400011	230 volts, 50/60 Hz, 13 amps	•	•

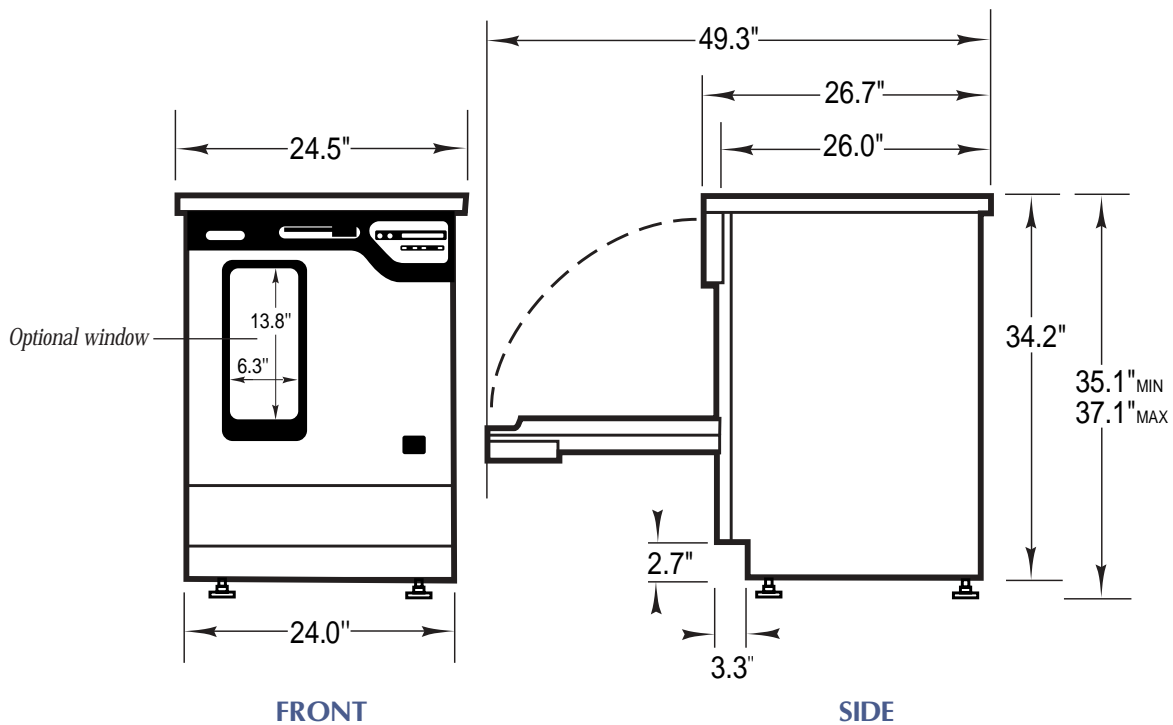
FlaskScrubbers® & SteamScrubbers®

Dimensional Data

Undercounter Models 4420300, 4420301, 4420310, 4420311, 4400300, 4400301, 4400310, 4400311



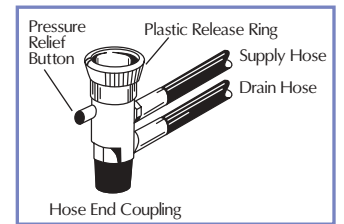
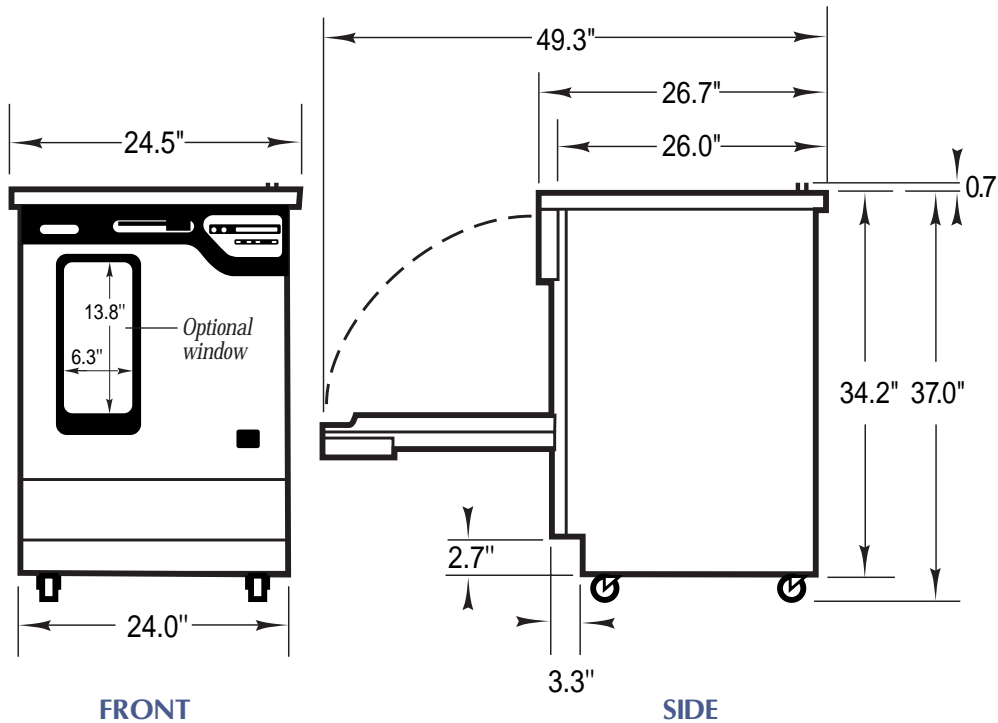
Freestanding Models 4420400, 4420401, 4420410, 4420411, 4400400, 4400401, 4400410, 4400411



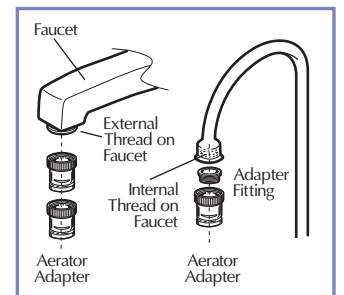
FlaskScrubbers® & SteamScrubbers®

Dimensional Data

Mobile Models 4420000, 4420001, 4420010, 4420011, 4400000, 4400001, 4400010, 4400011

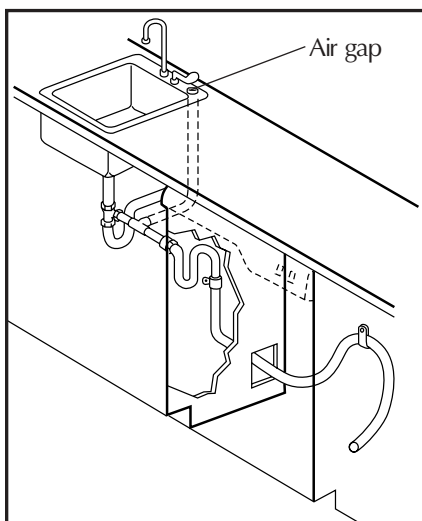


Quick-Disconnect Attachment

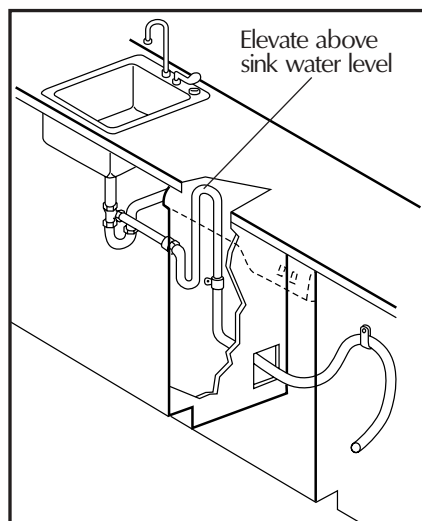


Aerator Adapters
Fit standard 55/64"-27 male and 15/16"-27 female faucets.

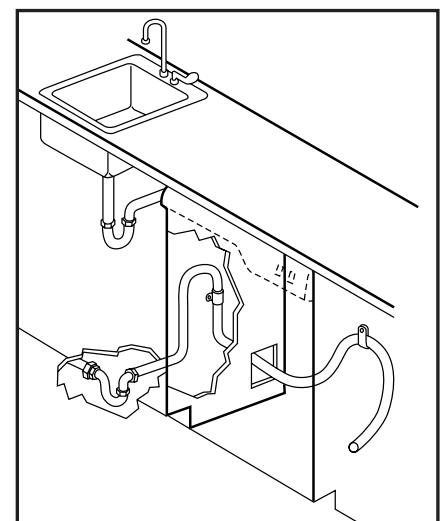
Typical Plumbing Connections for Undercounter Model Series 44203 & 44003 & Freestanding Model Series 45400, 44204, 44004



Installation with air gap and connection to sink drain



Installation without air gap and connection to sink drain



Installation with connection to floor drain

All Washer Models

Accessories



Base Stands
Elevate washer 17" (43.2 cm) for washer loading convenience and storage of supplies. Type 304 stainless steel stationary stand, fully assembled with leveling feet and instructions.

Catalog #	Description	Shipping Wt.
4536400	Stand for FlaskScrubber Vantage Series, 36.75" w x 25.6" d x 17.0" h (93.3 x 65.0 x 43.2 cm), includes two storage compartments with hinged doors	40 lbs. (18.1 kg)
4580000	Stand for Freestanding or Mobile FlaskScrubbers or SteamScrubbers, 24.0" w x 25.6" d x 17.0" h (62.0 x 65.0 x 43.2 cm), includes one storage compartment with hinged door	30 lbs. (13.6 kg)



FlaskScrubber Upper Spindle Rack 4525000

Fits in any FlaskScrubber or FlaskScrubber Vantage Series Washer manufactured after 8/13/01. Constructed of Type 304

stainless steel with nylon center spray nozzle. Includes 24 each removable spindles, 24 each adjustable height clips, 24 each nylon plugs, distribution tube adapter and two side rails. Spindles may be removed and plugged to accommodate various accessory inserts (sold separately). Spindle dimensions: 4" high x 1/4" OD. Frame dimensions: 18.8" w x 21.0" d x 5" high (47.8 x 53.3 x 12.7 cm). Shipping weight 18 lbs. (8.2 kg).



FlaskScrubber Adjustable Height Upper Rack 4494401

Expands capacity of FlaskScrubber or FlaskScrubber Vantage Series Washer to handle

additional labware, especially beakers. Type 304 stainless steel rack with acetal rollers includes two 24-pin basket inserts that may be positioned on the rack high or low to accommodate various glassware heights. Pins have protective plastic tips. In the upper position, insert(s) hold beakers up to 250 ml while flasks up to 1 liter may be washed on the spindle rack below. In the lower position, insert(s) hold beakers up to 600 ml while flasks up to 500 ml may be washed on the spindle rack below. Includes two hub adapters (one short, one tall) for connection to the spindle rack. The hub adapter sprays the Upper Rack area with water and detergent. Also includes rails and end caps for installation on the washer. Dimensions: 18.8" w x 21.0" d x 5.0" h (47.6 x 53.3 x 12.7 cm). Shipping weight 8 lbs. (3.6 kg).



SteamScrubber Adjustable Height Upper Rack 4494501

May be used in place of the Standard Upper Rack in any SteamScrubber. Type 304 stainless steel rack with acetal rollers

includes two 24-pin Type 304 stainless steel insert baskets that may be positioned on the rack high or low to accommodate various glassware heights. Stainless steel pins have plastic caps to protect glassware from scratching. Dimensions: 18.8" w x 21.0" d x 5.0" h (47.6 x 53.3 x 12.7 cm). Shipping weight 6.5 lbs. (2.9 kg).



SteamScrubber Standard Upper Rack 4401102

One is included with every SteamScrubber. Large volume users may wish to order additional Upper Racks for efficient glassware handling. Type 304 stainless

steel with acetal rollers. Select accessory Basket Inserts below and on page 27 to suit your glassware mix. Dimensions: 18.9" w x 21.0" d x 3.5" h (48 x 53 x 9 cm). Shipping weight 7 lbs. (3.2 kg).



SteamScrubber Standard Bottom Rack 4401202

One is included with every SteamScrubber. Large volume users may wish to order additional Bottom Racks for efficient glassware handling. Type 304 stainless steel with

polypropylene rollers. Select accessory Basket Inserts below and on page 27 to suit your glassware mix. Dimensions: 20.6" w x 21.0" d x 3.3" h (52 x 53 x 9 cm). Shipping weight 7.5 lbs. (3.4 kg).

Basket Inserts

Use the icon key below to select accessory inserts that fit your washer. Each indicated rack can accommodate a maximum of two inserts except Utensil Holders and Utensil Baskets. Each indicated rack can hold a maximum of five Utensil Holders* or four Utensil Baskets.



▲ Fits in SteamScrubber Upper Rack



▼ Fits in SteamScrubber Bottom Rack

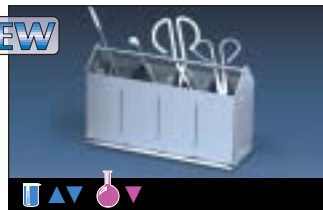


▼ Fits in FlaskScrubber and FlaskScrubber Vantage Series Standard Spindle Rack with spindles removed and plugged



▲ Fits in FlaskScrubber and FlaskScrubber Vantage Series Accessory Upper Spindle Rack 4525000 with spindles removed and plugged

NEW



Utensil Holder 4542500

For spatulas, spoons, scoops and other miscellaneous utensils. Utensils fit vertically in four compartments, 2.75" w x 3.5" d x 4.88" h (7 x 8.9 x 12.4 cm). Type 304 stainless steel. Dimensions: 10.75" w x 4.13" d x 6.63" h

(27.3 x 10.5 x 16.8 cm). Shipping weight 3.5 lbs. (1.6 kg).



Utensil Basket 4402201

For miscellaneous labware such as stoppers, spatulas and other small lightweight items that will not pass through No. 4 mesh sides and bottom. Retainer top is required and included. Type 304 stainless steel. Dimensions: 8.0" w

x 8.0" d x 4.0" h (20.3 x 20.3 x 10.2 cm). Shipping weight 1.5 lbs. (0.7 kg).

* Four Utensil Holders maximum in FlaskScrubber and FlaskScrubber Vantage Series Washers.

All Washer Models

Accessories

NEW



Bulk Tube Insert 4542100

Quick loading. For vertically-positioned test tubes. Holds up to 600 each 13 mm tubes or 244 each 20 mm tubes. Bottom, grate size .38" (9.5 mm), allows water to drain from inverted tubes. When insert is less than fully loaded, the divider may be adjusted to keep tubes upright. Type 304 stainless steel. Smallest divided compartment size: 1.75" w x 8.13" d x 4.18" h (4.4 x 20.7 x 10.6 cm). Overall interior dimensions (without divider): 18.69" w x 8.13" d x 4.18" h (47.5 x 20.7 x 10.6 cm). Dimensions: 21" w x 8.25" d x 4.38" h (53.3 x 20.7 x 11.1 cm) Shipping weight 5 lbs. (2.3 cm).



Culture Tube Inserts

Choose from three inserts designed to hold tubes from 10 to 24 mm OD. Type 304 stainless steel.

Catalog #	Description	Dimensions	Grid Size	Shipping Wt.
4401301*	242 tubes, 10 mm to 12 mm	18.0" w x 8.8" d x 4.5" h (45.7 x 22.2 x 11.4 cm)	15 mm x 15 mm	4 lbs. (2 kg)
4402001	144 tubes, 15 mm to 18 mm	19.3" w x 8.8" d x 8.0" h (48.9 x 22.2 x 20.3 cm)	19.5 mm x 19.5 mm	2.5 lbs. (1.2 kg)
4402101	105 tubes, 20 mm to 24 mm	19.3" w x 8.8" d x 8.0" h (48.9 x 22.2 x 20.3 cm)	24 mm x 24 mm	2.5 lbs. (1.2 kg)
4401401	Retainer Top	18.5" w x 8.4" d x 0.3" h (47 x 21.3 x 0.6 cm)	24 mm x 24 mm	1.5 lbs. (0.7 kg)

*Includes 4401401 Retainer Top



Labware Inserts

Pins hold a variety of wider-mouth flasks, beakers and other labware in inverted position. Retainer Top is recommended for use with plastic and lightweight glassware. Inserts and Retainer Top of type 304 stainless steel.

Stainless steel pins have plastic tips to protect glassware from scratching.

Catalog #	Description	Dimensions	Shipping Weight
4401501	10-Pin Insert	19.3" w x 8.8" d x 8.0" h (49.3 x 22.2 x 20.3 cm)	2.5 lbs. (1.1 kg)
4401801	32-Pin Insert	19.3" w x 8.8" d x 6.0" h (49.3 x 22.2 x 20.3 cm)	2.5 lbs. (1.1 kg)
4401901	Retainer Top	18.5" w x 8.0" d x 0.3" h (47 x 20.3 x 0.6 cm)	1.5 lbs. (0.7 kg)



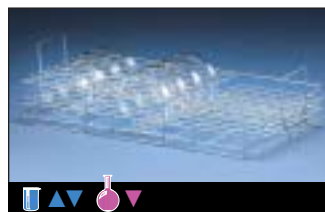
BOD Bottle Insert 4404801

Type 304 stainless steel. Capacity: 18 bottles. Grid size: 70 mm x 70 mm. Dimensions: 19.5" w x 8.8" d x 6.0" h (49.5 x 22.2 x 15.2 cm). Shipping weight 2.0 lbs. (0.9 kg).



Multi-Pin Insert 4404901

Forty-two pins accommodate a variety of labware. Type 304 stainless steel. Stainless steel pins have plastic tips to protect glassware from scratching. Dimensions: 8.3" w x 19.3" d x 5.0" h (21 x 48.9 x 12.7 cm). Shipping weight 2.2 lbs. (1 kg).



Petri Dish Insert 4404201

For petri dishes, watch glasses and microtiter plates. Capacity: 24 plates. Grid size: 22 mm x 140 mm. Type 304 stainless steel. Dimensions: 19.3" w x 8.5" d x 5.3" h (48.9 x 21.6 x 13.3 cm). Shipping weight 2 lbs. (1 kg).



DNA Sequencing Plate Insert 4519000

For electrophoresis plates, 10" x 16.6". Capacity: 6 plates. Type 304 stainless steel with plastic glides. Dimensions: 17" wide x 8 7/8" deep x 9 9/10" high (43.3 x 22.5 x 25.1 cm). Shipping weight 6 lbs. (2.7 kg).



Pipet Inserts

Permit direct injection cleaning of pipets. Self-sealing silicone check valves allow washing of partial or full loads. Type 304 stainless steel. FlaskScrubber and FlaskScrubber Vantage Series Washers hold up to four 4494200 or two 4494301 Inserts.

Catalog #	Description	Shipping Weight
4494200	Holds 8 pipets, 1 ml to 10 ml. Includes 1 each 1.25" mounting spindle.	1.5 lbs. (0.7 kg)
4494301	Holds 14 pipets, 1 ml to 50 ml. Includes 2 each 1.25" mounting spindles and PVC-coated holder.	2.0 lbs. (0.9 kg)



Glassware Holders

Two of each size are included with every FlaskScrubber and FlaskScrubber Vantage Series Washer. Gray vinyl-coated Type 304 stainless steel holders grip wide-mouth glassware over spindles.

Catalog #	Description	Shipping Weight
4424600	4" h (10 cm)	0.4 lbs. (0.2 kg)
4424800	6" h (15 cm)	0.4 lbs. (0.2 kg)

All Washer Models

Companion Products



LabSolutions Liquid Detergent 4522000, Neutralizing Acid Rinse 4522000, and Powder Detergent 4422100 and 4422000

LabSolutions™ Non-Foaming Powder Detergent

- Specially formulated for Labconco glassware washers.
- Removes most lab contaminants such as grease, agar, blood and protein digestates.
- Rinses completely.
- Non-foaming formula does not promote leaks.
- Includes scoop for accurate measurement.
- Economical. Most cycle programs require just one scoop.
- A 1% solution has a pH of approximately 12.5.
- Non-hazardous formula may be shipped anywhere.

Catalog#	Description	Shipping Weight
4422000	Powder Detergent , small pail for approximately 140 loads	10 lbs. (4.5 kg)
4422100	Powder Detergent , large pail for approximately 400 loads	27.5 lbs. (12.5 kg)

LabSolutions™ Low-Foaming Liquid Detergent

- Specially formulated for Labconco glassware washers. Dispenses automatically in FlaskScrubber Vantage Series Washers.
- Removes a wide range of laboratory contaminants.
- Rinses completely.
- Non-corrosive formula won't degrade stainless steel, glass or plastic.
- Phosphate-free for environmentally-safe disposal.
- Chlorine-free and tissue culture-safe.
- Temperature stable. Use in hot or cold water.

Catalog#	Description	Shipping Weight
4522000	Liquid Detergent , for approximately 180 loads	1 gal. (3.8 liters)

LabSolutions™ Neutralizing Acid Rinse

- Specially formulated for Labconco glassware washers. Dispenses automatically in FlaskScrubber Vantage Series Washers.
- Mild acid corrects pH, reducing alkaline detergent residue.
- Removes hard water deposits, mineral deposits, accumulated salts or lime scale that can cloud glassware.
- Rinses completely.

Catalog#	Description	Shipping Weight
4522200	Neutralizing Acid Rinse , fills reservoir approximately 6 times	34 oz. (1 liter)

For MSDS information, visit our website at www.labconco.com or call customer service at 800-821-5525 or 816-333-8811.



Glassware Cart 8032500



Glassware Cart 8045000

Glassware Carts

- Safely transport clean and dirty labware.
- Come with two large or four small interchangeable vinyl-coated wire baskets.
- 4" diameter casters (two with toe locks).
- Include removable drip pan below the baskets to catch spills.
- Constructed of welded 1-inch square tubular steel coated with mar-resistant epoxy.
- Dimensions: 34.9" w x 19.0" d x 36.4" h (88.6 x 48.3 x 92.4 cm)
- Fully assembled.
- Lifetime warranty.

Catalog#	Description	Shipping Weight
8032500	2-Basket Glassware Cart	43 lbs. (19.5 kg)
8045000	4-Basket Glassware Cart	43 lbs. (19.5 kg)
8040100	Large Basket, 32.0" w x 18.0" d x 4.0" h (81.3 x 45.7 x 10.2 cm)	5 lbs. (2.3 kg)
8040200	Small Basket, 16.0" w x 18.0" d x 4.0" h (40.6 x 45.7 x 10.2 cm)	2 lbs. (0.9 kg)

All Washer Models

Companion Products



WaterPro RO Station 9075000

WaterPro® RO Stations

- Connect to the SteamScrubber or FlaskScrubber to provide purified water for the rinse cycles.
- Use carbon filtration and reverse osmosis technologies to purify water.
- Deliver 1 liter/minute of reverse osmosis purified, Type III water when feedwater purity is 100 µs or better.
- Available for wall mounting or with an accessory stand for bench mounting.

WaterPro RO Station 9075000

Epoxy-coated steel cabinet with Type 304 stainless steel front panel. Three bowls made of white polypropylene. Includes integral 17 liter polyethylene storage tank with outlet port for connection to washer; ON/OFF switch; µS, TEMP ° C, TIME DISP. and TANK FULL indicator lights; and DISPENSE switch. If TIME DISP. is activated, water dispensing from the valve automatically shuts off once user-set time has elapsed. LED display shows actual water quality from 1 to 999 microsiemens (µS), actual water temperature in ° C or dispense time in minutes. For 115 volt, 60 Hz, 12 amp AC operation. Includes an 8-foot, 3-wire cord and plug. **Requires Prefilter/Carbon Filter Kit 9067201 and Reverse Osmosis Membrane 9078700 for operation.** Dimensions: 31 1/8" w x 7 7/8" d x 30 3/8" h (79 x 20 x 77 cm). Shipping weight 100 lbs. (45 kg).

*WaterPro RO Station 9075002

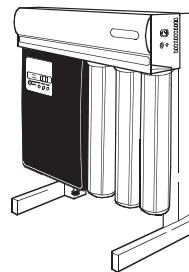
Same as 9075000 except for 230 volt, 50 Hz, 60 amp AC operation. Includes an 8-foot, 3-wire cord. **An electrical plug is required.**

Prefilter/Carbon Filter Kit 9067201

Required for operation. Includes Prefilters (3) and Carbon Filters (3), for initial start-up and two filter changes. Shipping weight 10 lbs. (4.5 kg).

Reverse Osmosis Membrane 9078700

Required for operation. Shipping weight 6 lbs. (2.7 kg).



Support Stand 9077400

For converting wall-mounted WaterPro RO Station to bench mounted. Rests on countertop or other horizontal surface. Epoxy-coated steel. Dimensions (with WaterPro RO Station attached): 31 1/8" w x 16 1/8" d x 35 1/3" h (79 x 41 x 90 cm). Shipping weight 20 lbs. (9 kg).



WaterPro Softener 9073300

WaterPro Softeners

- Soften tap water to protect washer components from scaling and to help activate detergent.
- Twelve-day timer automatically regenerates resins.
- Large capacity 20" brine sump holds enough salt to provide three regenerations before refilling is necessary.
- Produce over 600 gallons (2271 liters) of softened water at 8 grains of hardness before salt replacement is necessary.
- Large ion exchange resin capacity provides years of water softening.

WaterPro Softener 9073300

Epoxy-coated steel cabinet with Type 304 stainless steel front panel. Two white polypropylene sumps. Includes 6 color-coded hardness test strips. For 115 volt, 60 Hz, 1 amp operation. Includes 8-foot, 3-wire cord and plug. Shipping weight 65 lbs. (29.5 kg).

*WaterPro Softener 9073301

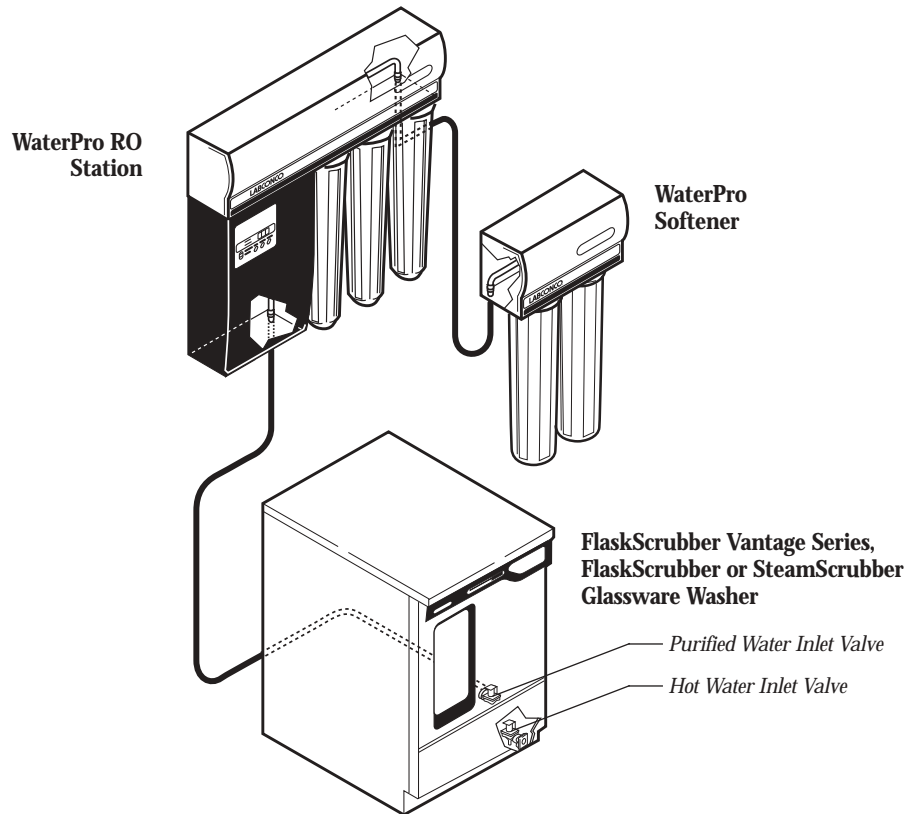
Same as 90733-00 except for 230 volt, 50 Hz, 0.5 amp operation. Includes 8-foot, 3-wire cord. **Plug is required.**

*International electrical configuration

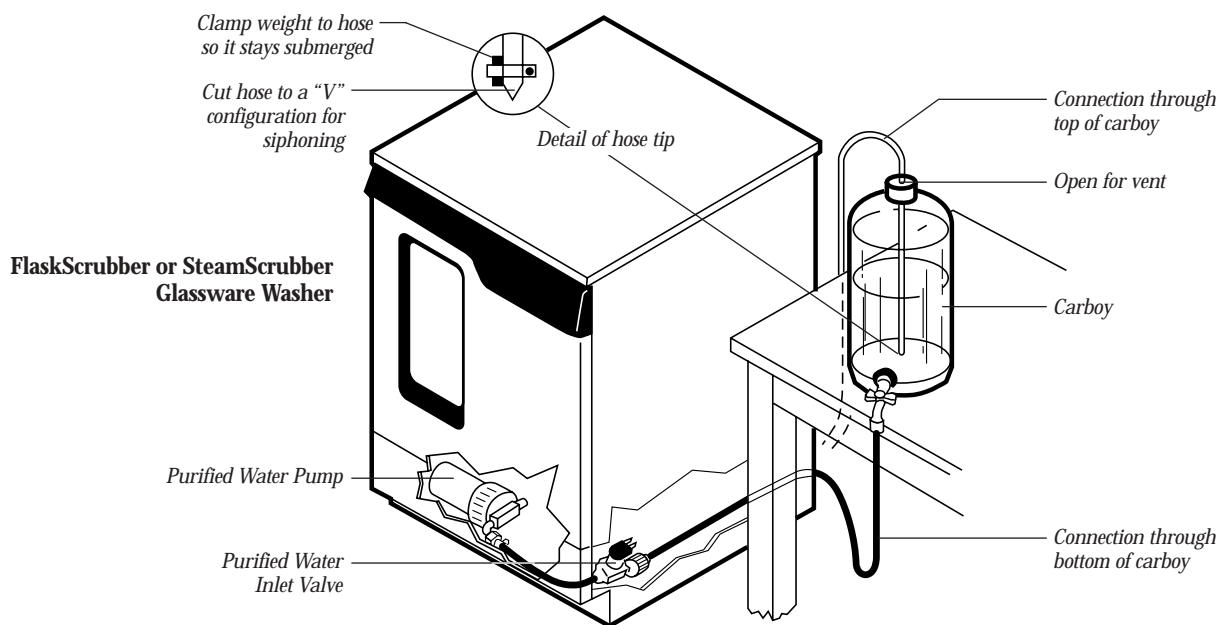
All Washer Models

Typical Plumbing Connections

This diagram illustrates the possible connections of various WaterPro Water Purification System components.



This diagram illustrates possible connections of the washer's purified water inlet valve to purified water stored in a carboy. As shown, the connection may be made through the top or bottom of the carboy.





Contact Labconco for more information about these quality products for your laboratory.



Fume Hoods and Carbon-Filtered Enclosures



HEPA-Filtered Safety Cabinets, Clean Benches and Enclosures



Glove Boxes



Laboratory Animal Research Stations



Water Purification Systems



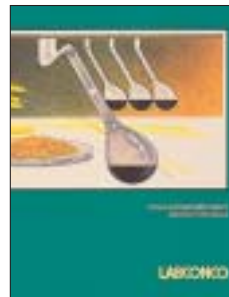
Freeze Dry Systems



Centrifugal Concentrators and Cold Traps



Multiple Sample Evaporation Systems



Agricultural Chemistry Products



Laboratory Carts and Benches



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HOME PAGE: www.labconco.com



Blood Drawing Chairs



Digital Chloridometer



Vacuum Desiccator