

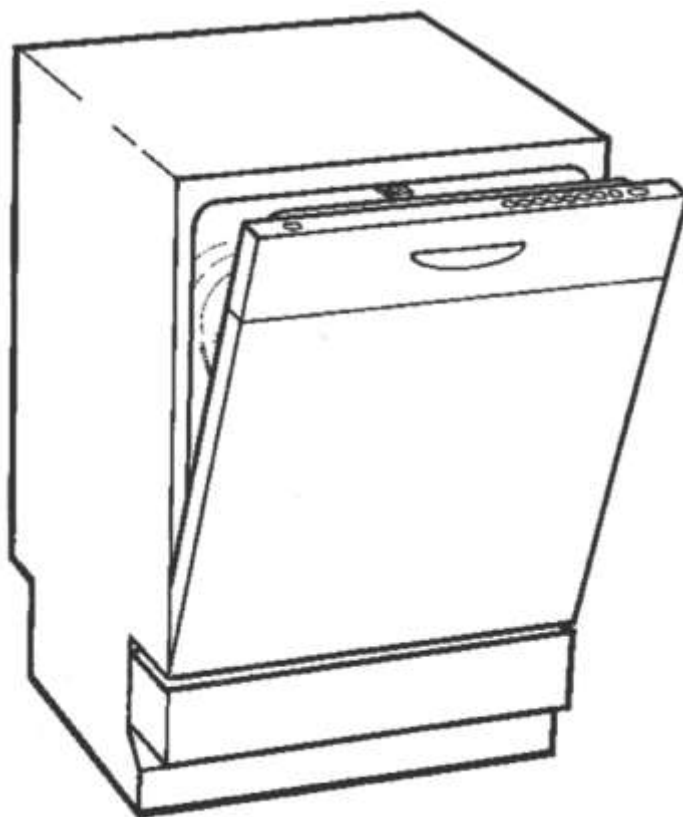


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Model 1805L

Use & Care Guide



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BEFORE USING YOUR NEW LABORATORY GLASSWARE WASHER

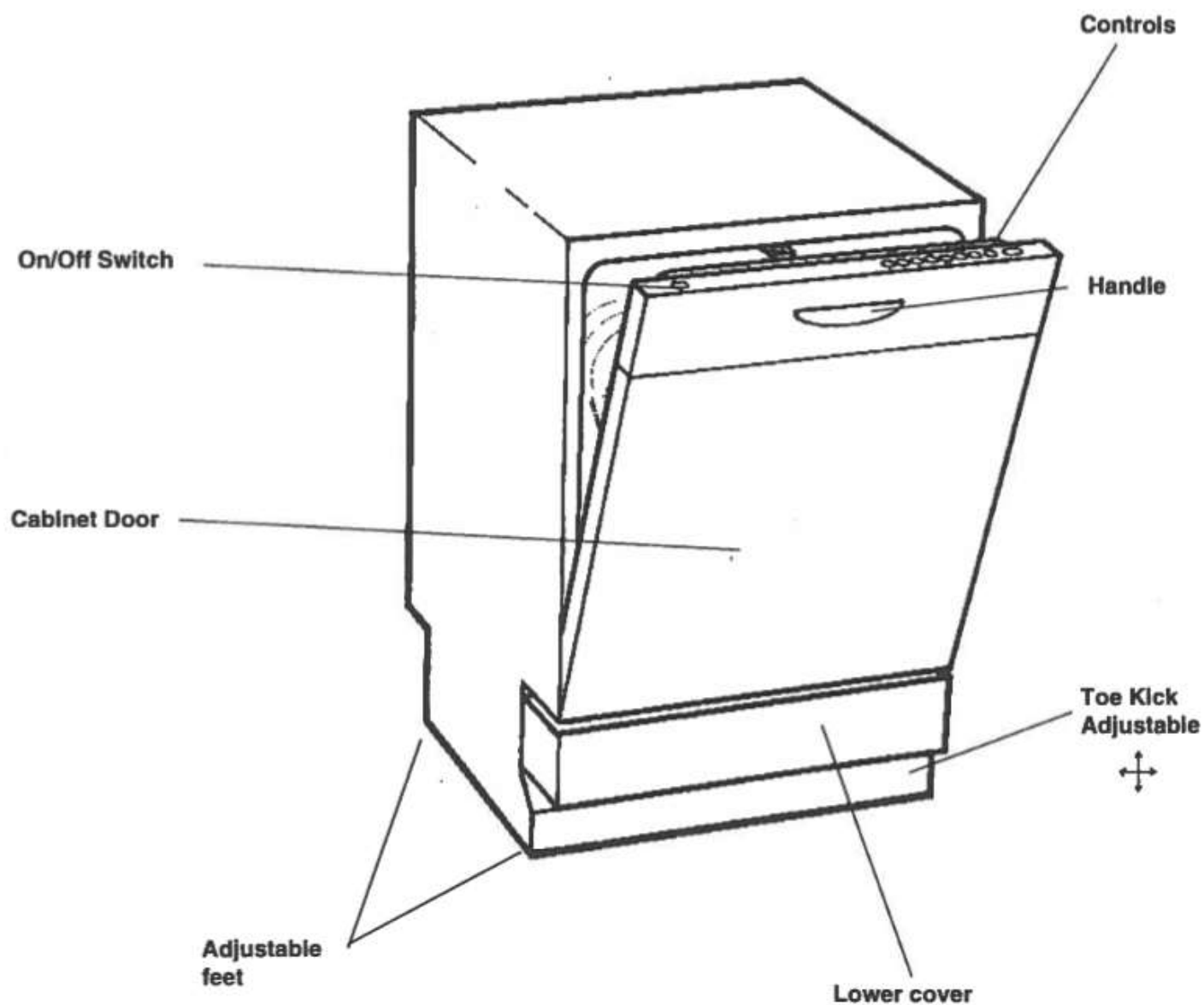
- Read through this guide before attempting to use your new laboratory glassware washer.
Make sure the door is properly balanced. To do this, open it a little and release it. It should stay where you released it. If it doesn't, consult the *Installation Instructions* or contact your installer.
- Call your local water company to learn the water hardness in your area. You'll need to know this to determine how much detergent and rinse aid to use.

IMPORTANT SAFETY INSTRUCTIONS

This manual does not cover all possible conditions and situations that may occur. Some situations may arise where use of common sense and caution should always be used when installing, operating, and maintaining any appliance.

- Read all instructions before using the laboratory glassware washer.
- Laboratory glassware washers must be electrically grounded. Read the *Installation Instructions* for details.
- Use the laboratory glassware washer only for its intended purpose.
- Do not run the laboratory glassware washer while you are out of the laboratory.
- To reduce the risk of injury, keep detergents and rinse aids out of the reach of children.
- Do not load sharp items near the door; you could damage the door seal.
- Place sharp items in the small parts basket with the sharp ends down to avoid the risk of cut-type injuries.
- Do not wash plastic items unless they are marked “dishwasher safe” or the equivalent. For items not marked, check the manufacturer’s recommendations.
- Items not “dishwasher safe” could become deformed or melt and create a potential fire hazard.
- Do not touch the heating element during or immediately after use.
- Should a person swallow detergent or rinse aid, give plenty to drink immediately, i.e., one or two glasses of milk or water. Do not try to induce vomiting. Seek medical advice immediately: **1-800-POISON1**.
- If detergent gets in someone’s eyes, rinse them with plenty of water for at least 15 minutes.
- Do not operate the laboratory glassware washer unless all enclosure panels are properly in place (i.e., guard plate, access panel, toe kick, etc.)
- Do not tamper with controls by removing or changing.
- Do not abuse, sit on, or stand on the washer door or baskets.
- To reduce the risk of injury, do not allow children to play in or on a laboratory glassware washer.
- Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. **HYDROGEN GAS IS EXPLOSIVE.** If the hot water system has not been used for two weeks, before using the laboratory glassware washer turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. As the gas is flammable, do not smoke or use an open flame during this time.
- When removing an old laboratory glassware washer from service or discarding it, remove the door to the washing compartment.
- Do not store or use combustible materials, gasoline, or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Disconnect electrical power to laboratory glassware washer before servicing.
- Repairs should be done by a qualified technician.
- Always close the door and start the laboratory glassware washer as soon as you put in the detergent.

THE PARTS OF THE MACHINE

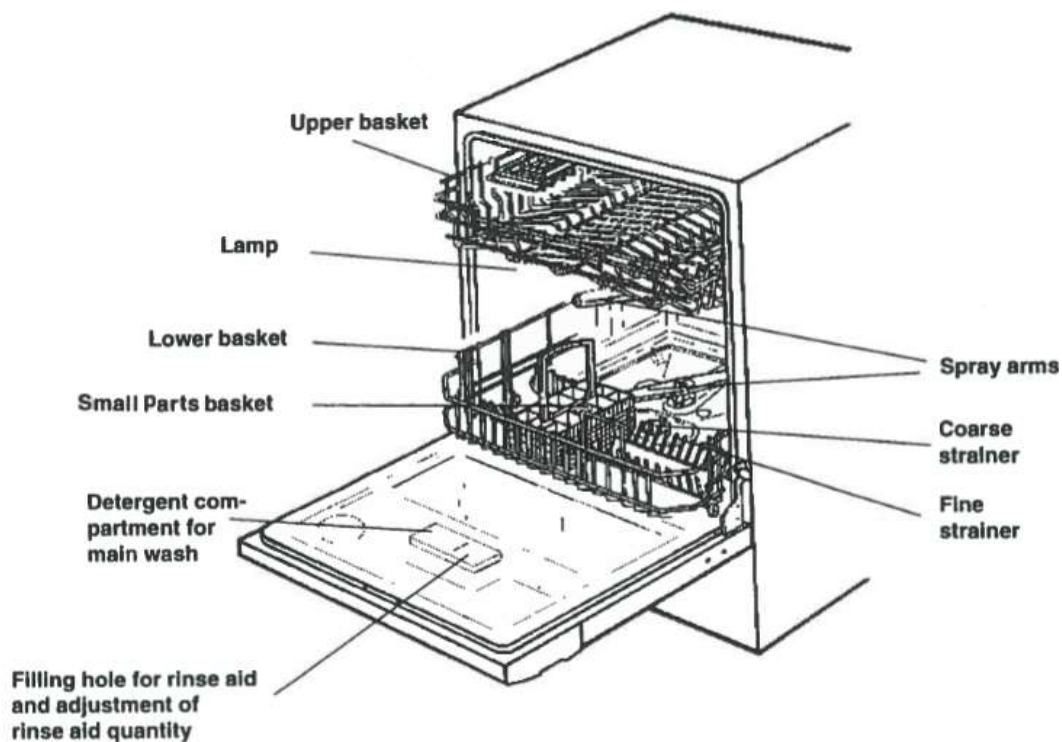
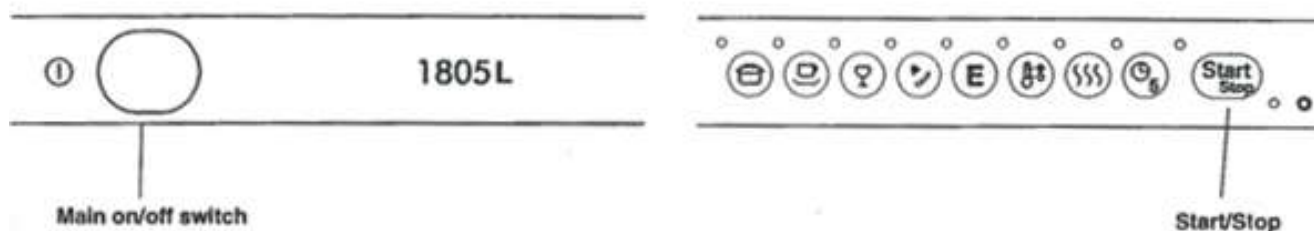


HOW TO USE YOUR NEW GLASSWARE WASHER

1. Open the door by pulling the handle forwards. Press the main on/off switch.

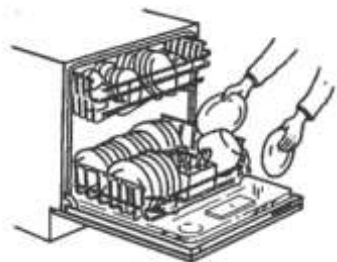


Program panel



2. Load the baskets

Be careful when loading items made of certain materials.

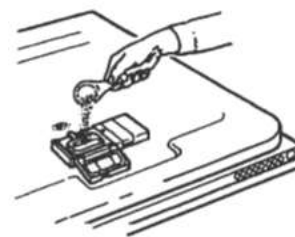


3. Add detergent

Pre-wash: on the inside of the door.

Main-wash: in the detergent compartment.

Close the detergent compartment door after you have added the detergent.



LOADING THE UPPER BASKET

After you have scraped off the large particles, place labware in the upper basket.

The 1805L laboratory glassware washer has a row of tines that are adjustable to prevent labware from bumping together (clattering). Load the labware then use the lever to adjust the tines until the items are secure.

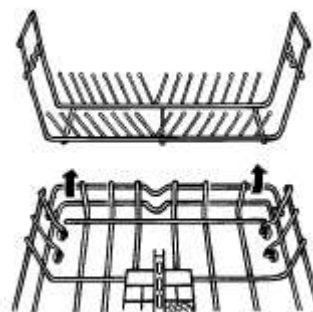
The fold-down shelf on the right side of the basket gives you an additional place to stack beakers, petri dishes, and small bowls. The Model 1805L has a divided cup shelf, which gives you more loading flexibility.

When loading sharp items, always be careful not to cut the rack coating.

LOADING THE LOWER BASKET

Load larger items in the lower basket. The removable plate rack easily lifts out to provide space for large items. Be sure to load labware facing downward or toward the center of the laboratory glassware washer.

Removable Rack (not on all models)



4. Check that the spray arms can rotate freely



5. Check that the water supply is turned on



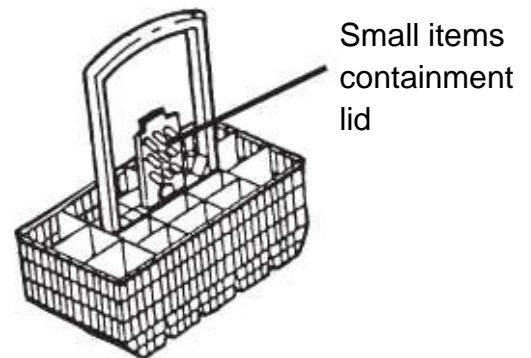
LOADING THE SMALL PARTS BASKET

Load labware with the handles downwards and spread it out as much as possible to avoid nesting. For safety, load sharp items with the handles up.

Small Items Containment Lid

The small parts basket has a lid in the middle that snaps down over the compartments to its left or right to contain small, lightweight items that might slip through the rack tines or get washed out of the basket and fall through onto the heating element. The small items lid is slotted, so you also could use it to keep labware separated.

Small Parts Basket



HOW MUCH DETERGENT?

The amount of detergent required depends on the program used and the water hardness.

Dose the detergent as recommendation from the detergent producer.

If nothing says dose as follows:

Pots and Pans, Normal wash	Pre-wash (1-2 T-spoons) Main wash (1-3 TBS)
Quick wash	Main wash (1-3 TBS)

Use only dishwasher detergent

For both pre-wash and main wash. Ordinary hand dish-washing detergent must not be used, as the foam will interfere with proper operation of the machine.

The amount of detergent depends on the hardness of the water

Water hardness varies from place to place, and is measured in degrees of hardness (°dH). Your water company should be able to tell you the hardness of water in your area. The harder the water, the more detergent you will need. Follow the instructions on the packet.

In hard water areas, both the labware and the machine can develop a grey film after a while. This can be removed by using the machine with the pre-wash detergent replaced by two tablespoonsful of citric acid. Use the pots and pans program.

If the water is very hard, use a rinse aid that contains citric acid. (acid rinse aid).

HOW TO USE YOUR MODEL 1805L

Your Model 1805L is a glassware washer which is particularly convenient to use. It remembers the program that was last used (program 1-2), so you need only to press the Start push button to use it again.

The machine also shows when the rinse aid has run out.

Press the power switch

Select the program

As soon as the power is given to the machine, a lamp lights above the last selected program (program 1-2). Simply press the Start push button to use this program again.

To use a different program, press the push button for the program required.

Press the Start button and close the door

The machine will start and work through the selected program automatically.

Close the door fully: if not, the machine will not start.

The indicating lamps flash until you close the door.



Want to change your mind?

If you want to change program after you have started the machine, press Stop for 3 seconds. Then select a new program by pressing the appropriate symbol, close the door.

Warning!

Open the door carefully under running program, so that the spray arms stop slowly, then avoid water to sprinkle up before the program has finished, the program will continue when power is restored.

If there should be a power failure

If the power is turned off during drying, or the door is open for more than two minutes, during drying the program will be terminated.

After washing

When the machine has stopped, it consumes only an extremely low power.

The indication lamp remains on as long as the switch is in the On position. It is a good rule never to leave a switched-on machine unattended.

WHICH PROGRAM SHOULD I USE?

The easiest way of using the machine is to select a standard program. Simply press one of the four symbols for the glassware washing programs that you want, and the machine does the rest. Or you can select the washing temperatures, number of rinses, heated drying and so on yourself; Read the following details and table.

If you have used program 1 or 2 by the last wash, the machine remembers it and you need only to press the Start pushbutton to get the same program.

But if you use program 3 or 4, you must select it every time. The reason for this is that we mean that these programs shall just be used at special occasions, when the labware is very slightly soiled.



1. Pots & Pans

Use the Pots & Pans wash program for very dirty labware.



2. Normal wash

Use this program for normal washing.



3. Quick wash

If the wash is not particularly heavily soiled, use the Quick wash program.

Delicate items

Delicate items can be washed with the Quick wash program. Omit heating if you want to be extra careful.

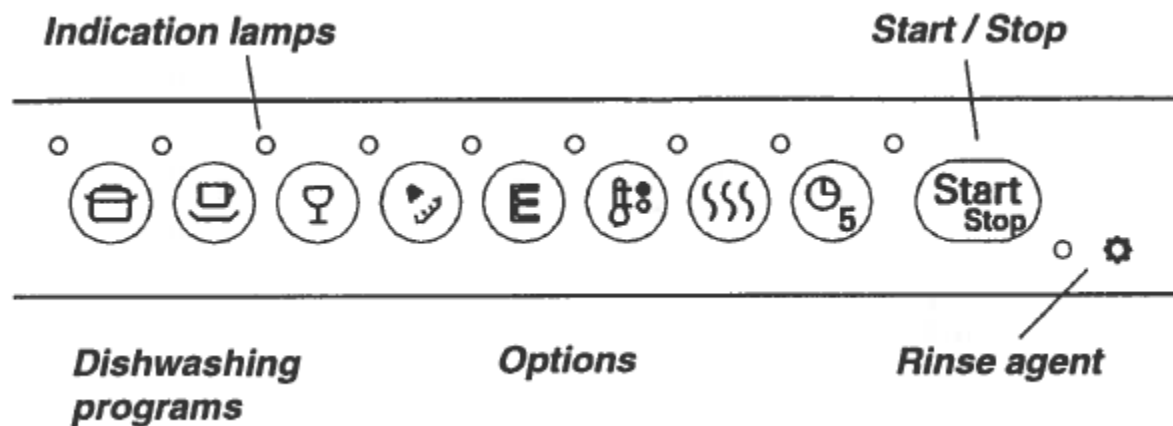


4. Rinse & Hold

For rinsing the labware if you are waiting to wash-up until the machine is full.

Programs	Symbols	Program features				Consumption figures	
		=The dirty rinse water is emptied and the next period starts with clean water (SCS= Super Cleaning System)				Hot fill at 120°F	
		Pre-wash	Main wash	Rinses	Drying	Cycle time, approx. min.**	Water consump. in gallons*
Pots & Pans						100	6.6
Normal wash						85	4.4
Quick wash						50	3.9
Rinse & Hold						4	.92


** The program times shown in the table are rounded-off values from actual tests. In practice, times may vary some-what due to the temperature of the water supply, voltage variations etc.



PROGRAM OPTIONS

Temperature



By pressing  you can select temperature in the programs:

Pots & Pans: 160/130° F
Normal wash: 150/130° F
Quick wash: 130/120° F

Heated drying



Lights if you have selected heated drying. Press the push button again to cancel heated drying. Then the lamp goes out, but the fan will run to remove the moisture.

Rinse aid



This lamp lights to indicate that the machine has run out of rinse aid. After refilling, there may be some delay before the lamp goes out.

Start/Stop

START

The program starts when you press this push button and close the door.

Stop the program by holding the push button de-pressed for three seconds. This is to prevent people from playing with the push buttons and stopping the program.

You can also prevent people from starting the machine by playing with the push buttons by programming the machine so that it will start only if the Start push button is pressed and held for three seconds.

HOW TO SAVE ENERGY

Wash only full loads

Save energy by not using the machine until it is full.

Wash at lower temperatures

You can lower the temperature in the main wash and rinse in the Pots & Pans and Normal wash programs to 130° F. In the Quick wash program you can lower it to 120° F.

Is the machine connected to a cold water supply?

If the machine is connected to a cold water supply, running time will be longer, as the machine must heat the water. However, the longer washing time means that you can run the program at a lower temperature and still get the same wash performance. You also save electricity.

Select no drying

If you select no drying, the labware will dry a little more slowly. You can speed up drying by opening the door a little to allow the moist air to escape.

NOTE:

When you select an option (**E**  ), remember this:

- To activate and save an option, you must start a program. The reason for this is to prevent children playing with the pushbuttons and changing the temperature etc..

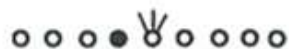
By re-programing (extra rinse etc.)

- The choice will remain until you change it.

Even by stopping the machine with the main on/off button or if the machine by other reason has been out of power, all choices will remain, which were activated before the power failure.

- The choice will be shown for 2 seconds by the lamps. Then the machine will revert to the main program.


- A black filled symbol means a lit lamp.
Lines over a lamp means that it is blinking.



Re-programings

Protected start program

You can also prevent children starting the machine by playing with the pushbuttons by programing the machine so that it will start only if the Start push-button is pressed and held for three seconds.

1. Press  5 times, which gets you into the protected start program.

2. Press **E** and you get protected start (3 sec)
or

Press  to revert to normal operation.

The indicating lamps show:




Extented fan-cooling

You can cool down the washing items under 30 minutes after heated drying by the fan-cooling.

1. Press  5 times within 15 seconds. Then you get into the changing program.

2. Press  and you get 30 minutes extra fan-cooling.




or
Press  and you get the normal fan-cooling.





Do you want an extra rinse?

You can get an extra rinse in the programs , , and  by doing like this:

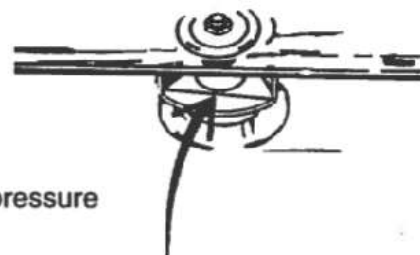
1. Press  5 times within 15 seconds. Then you get into the changing program. The lamps show how many rinses the machine last gave.

2. Press **E** and you get an extra rinse. 

or
Press  and you get the normal number of rinses. 












Too little water in the machine?

The water level is correct when it reaches up to the marking of the lower spray pipe bearing, see picture.



If there is insufficient water in the machine, it may be because the supply pressure is too low. This can be compensated for by altering the admission time.


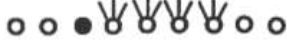

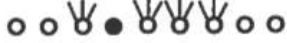





1. Press **E** five times within 15 seconds to get into the water level modification program.

2. Press		to get the normal inlet time		
		to get 25 % increase	75 seconds	
	E	to get 50 % increase	90 seconds	
		to get 100 % increase	120 seconds	
		to get 150 % increase	150 seconds	
		to get 200 % increase	180 seconds	

How to set the pumping out time

If you have a longer outlet hose or if there by other reason is a too short time for the machine to pump out the water, the pumping-out time can be changed. Do like this:

1. Press  5 times within 15 seconds. Then you get into the changing program.

2. Press		to get an outlet time of	20 seconds		
Press		"	25	" Normal time	
Press	E	"	35	"	
Press		"	45	"	
Press		"	85	"	

The indicating lamps . . .

o o o o o o o o o

The indicating lamps serve several purposes: besides showing the selected program, they are also used if you need to trace a fault in the machine.

. . . display program contents

T indicating lamps show what a selected program contains.

For Normal wash, for example, the following lamps would be lit:

o ● o o o ● ● o o

. . . shows if anything is wrong

Indicates that the door is open when attempting to start a program, or is opened while a program is running.

W W W W W o o o o o

o o o o W W W W W

Indicates a fault in the heater.

o o W o o o W o o

Indicates high water level in the machine.


W W W W W W W W W W

Indicates a thermistor fault (heater control).

o o o W W o o o o

. . . fault-tracing

If the machine doesn't work properly, you can identify the reason. This allows you to describe the fault to service personnel and saves repair time.







Start the fault-tracing program by pressing the  pushbutton 5 times within 15 seconds. These lamps will respond by flashing:

W W W W W o o o o o
W o W o W o W o

Marked
symbol:

Tests:

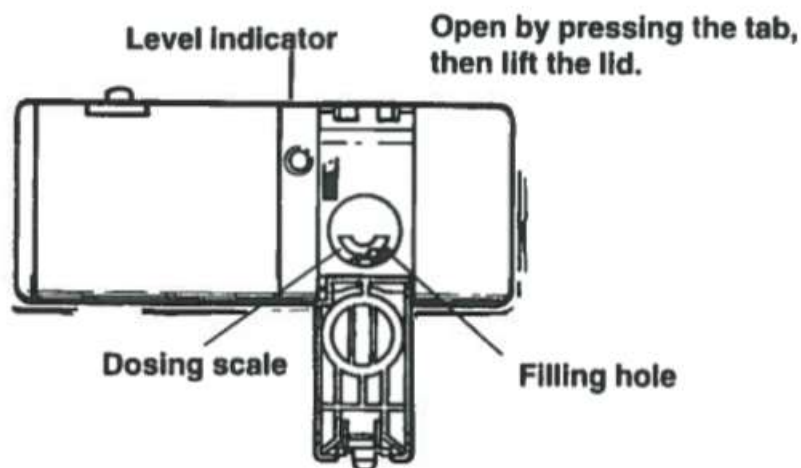
If nothing is wrong, this happens after closing the door:

	Water softener inlet valve	Water can be heard entering (only on machines with water softeners).
	Water inlet valve	Water can be heard entering.
	Detergent/Rinse aid solenoid (combi doser)	There will be a click, and detergent/rinse aid is coming out*.
E	Heater	The element heats up. WARNING: Don't touch it!
	Circulation pump	The pump starts.
	Outlet pump	The pump starts.
	Fan motor	The fan starts and air is blowing out by the lower left corner of the door.

Leave the test program by pressing

START

* If the detergent cover is closed, detergent will be dispensed, or else rinse aid will be dosed.



Filling the rinse aid

Drying will be faster if you use a rinse aid. The rinse aid indicating lamp on the panel flashes if the machine is out of rinse aid.* An indicator next to the rinse aid container shows whether it is empty. If the indicator appears completely black, there is sufficient rinse aid. If the size of the black spot is reduced, the container requires filling.

Adjusting rinse aid metering

Rinse aid is metered automatically: the setting is adjusted before the machine leaves the factory.

It may be necessary to alter the setting, to adjust the amount of rinse aid metered, depending on the hardness of the water supply. This can be done by opening the right cover. Then you can see the setting. This is normally set at 1. If the water in your area contains lime (over 10–12 °dH), an acid rinse aid (containing citric acid) should be used if the machine is not fitted with its own water softener. The metering setting should be adjusted to 1–6, depending on the hardness of the water.

Excessive use of the rinse aid can result in foam formation, particularly when the machine is connected to a cold water supply.

If the water in your area is very soft, you can dilute the concentrated rinse aid with an equal quantity of water.

TECHNICAL DETAILS

Height:	32 ¼"-35
Width:	24
Depth:	22
Weight:	115 lbs.
Water Pressure:	5-147 PSI
Voltage:	120 V, 60 Hz
Max Power:	1600 W
Heater:	1400 W

CARE AND CLEANING

The interior of your Universal Scientific glassware washer is made of surgical quality stainless steel that has been electro-polished to make it the smoothest surface available. The smooth surface prohibits the accumulation of dirt and bacteria inside the unit. If the water in your area is especially hard, however, lime deposits could form.

FILTERING SYSTEM

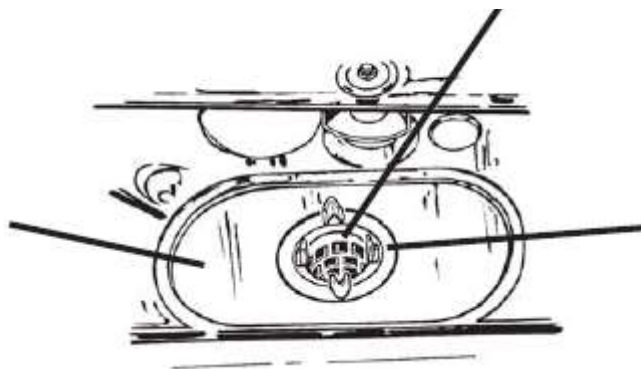
For your convenience, we have placed the drain pump and filtering system within easy reach inside the tub. There are three components of the filtering system: the main filter, the coarse filter, and the fine filter.

Main Filter

Particles trapped by this filter are pulverized by a special jet on the lower spray arm and washed down the drain.

Coarse Filter

Larger items that could clog the drain are trapped in the coarse filter. To remove an item caught in this filter, gently squeeze the tabs on the top of this filter and lift it out.



Fine Filter

This filter holds residue in the sump area and prevents it from being redeposited on the labware during a cycle.

CLEANING THE FILTERS

In hard water areas, it may be necessary to clean chemical buildup from the filters every 12 to 18 months. To do this, remove the coarse filter by squeezing the tabs and lifting it out.

Next, unscrew the fine filter and lift it and the main filter out. Wash all three filters gently in hot, soapy water and rinse them thoroughly.

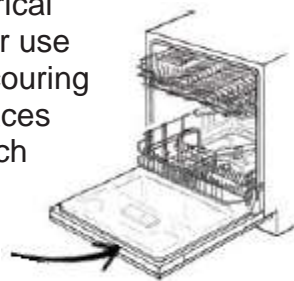
CLEANING THE DOOR

To clean the edge around the door, use only a soft warm, damp rag. To prevent penetration of water into the door lock and electrical components, **do not use a spray cleaner of any kind.**

Also, never use abrasive cleaners or scouring pads on the outer surfaces because they will scratch the finish. Some paper towels can also scratch or leave marks on the surface.

WARNING!

Never use a spray cleaner of any kind on the door panel. You could damage the door lock and electrical components. And never use abrasive cleaners or scouring pads on the outer surfaces because they will scratch the finish. Also, some paper towels can scratch or leave marks on the stainless steel surface.



CLEANING THE SPRAY ARMS

Spray-arm jets and bearings may sometimes become clogged with hard water chemicals. To remove the spray arms, screw off the nut and take off the washer on top of the spray arm and lift off the arm. Wash the spray arms in warm, soapy water. Use a soft brush to clean the jets. **Rinse thoroughly** and replace.

CLEANING THE DRAIN PUMP

On occasion, something may get through the filters and into the drain pump. The drain pumps on Universal Scientific Inc. glassware washers are designed to automatically reverse if anything should get caught in the propellers, thus ejecting the item back into the sump area or down the drain. Should you need to remove an obstacle from the drain, first turn the power off then remove the filters. Next, lift out the small black insert from the sump area. (You might want to remove any standing water first.) You can then look into the sump area for the item causing the obstruction. Should you find something, simply scoop it out. Be sure to replace the black insert before you put the filters back in.



WARNING!

Never run the laboratory glassware washer without the filters in place.

Safety

Door switch

The machine has a door switch which turns off the power and stops the machine if the door should be opened while the machine is in use. The program will continue when the door is closed.

Note: If the door is open for more than 2 minutes during drying, the program will be terminated. The machine also has a child safety catch to prevent the door being opened.

Overfill protection

The machine incorporates an overfill protection device, which automatically starts the outlet pump and closes the inlet valve if the water level in the machine should rise to a higher level than normal. If the machine has overfilled, all lamps will be lit.

This protection operates only if the machine is supplied to power. It is therefore backed up by a further, mechanical protective device in the bottom of the machine. The bottom of the machine is made in the form of a tray, in which water from any leak will collect, lifting a float which electrically turns off the inlet valve and the circulation pump. It also starts the outlet pump. If this safety device has operated, turn off the water at the main supply tap and call for service.

Anti-tip guard

If the machine is installed completely free-standing, it must be fitted with an anti-tip guard (optional).

Protected start procedure

In order to prevent children playing with the pushbuttons from starting the machine, you can program it so that the start pushbutton must be pressed and held for 3 seconds for the machine to start.

Warranty Information

Universal Scientific Inc. provides a full one (1) year warranty on all parts and factory workmanship. It expires one (1) year from the date of installation.

We have the option to void the warranty if:

- Non-authorized service group provides service work.
- Accident of abuse.
- Not following operating instructions
- Running the D.I. system without water.
- Product failures caused by the use of highly corrosive chemicals or materials.
- Installation does not comply with local codes.
- Washer is installed on a single circuit with other washers, appliances, and or outlets on that circuit.

SERVICE

Your Universal Scientific Inc. Laboratory Glassware Washer is backed by a nationwide network of factory authorized service companies. If you need service please call us at 44-829-8961 and ask for the service department.