

SINCE 1889



**Yamato Scientific**  
*America*

# Yamato Glassware Washers

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# Semi-automatic Benchtop Glassware Washer



AW47-115V / AW47-220V

Capacity Test tube 450 pcs. (16.5ml)  
Volumetric flask 36 pcs. (100ml)

Washing water temp. Room temp. ~60°C

Washing time Setting range 0~60 min.



## Easy to use benchtop semi-automatic glassware washer

- Semi-automatic washer, easy to operate by simply setting time then start
- Upward and downward two-way pressurized water jet method with rotating jet nozzles bring high level cleaning. Detergent washing is also available
- With built-in water heater, no boiler piping and water heating system are required
- Optional jet rack is available for hard to clean targets, such as glassware with narrow neck or body

## Control Panel

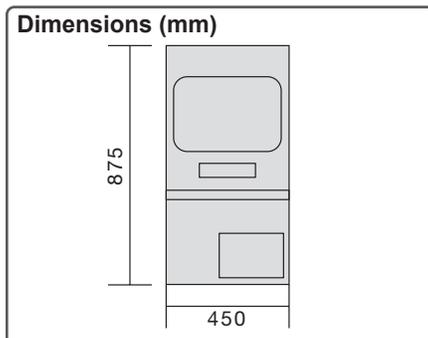


## Specifications

| Model                  | AW47-115V<br>AW47-220V   |
|------------------------|--|
| Cleaning method        | Upward and downward two-way pressurized water jet method<br>Rotating jet nozzles (fixed when using jet rack)   |
| Washing water temp.    | Room temp. ~ 60°C  |
| Water heater           | Built-in heater 1kW, room temperature to 60°C  |
| Supply water pressure  | 0.1~0.3MPa   |
| Glassware stand        | Table (Standard), racks (optional)   |
| Water supply           | Electromagnetic valve open/close   |
| Water drain            | Natural drainage by water level gap  |
| Exterior material      | Chrome-free electric galvanized steel plate, chemical-resistant paint  |
| Interior material      | Stainless steel  |
| External dimensions    | W450 x D490 x H875mm   |
| Internal dimensions    | W420 x D450 x H570mm   |
| Pump                   | 200W   |
| Spin table             | Dia. 420mm   |
| Door                   | Drop down style  |
| Weight                 | ~43kg  |
| Power source (50/60Hz) | AC115V 13A<br>AC220V 7A  |
| Included accessories   | Water supply hose (with coupler) 2m 1pc.<br>Drain hose (I.D.25.4mm) 1.5m 1pc.<br>Vinyl cover 1pc.<br>Phosphorus-free detergent 1kg (50ml measuring spoon 1pc.)<br>Water supply unit 1set |
| Consumable             | Phosphorus-free detergent  |

\* Protrusions excluded

## Dimensions (mm)



## Optional items



(1) Jet rack (glassware not included)



(2) Test tube rack (glassware not included)



(3) Phosphorus-free detergent

| No. | Product name   | Description                              | Product code |
|-----|----------------|--|--------------|
| (1) | Jet rack       | Hold up to 36 pcs. of 100ml flask        | 291090       |
| (2) | Test tube rack | Hold up to 450 pcs. of ø18.5mm test tube | 291091       |
| (3) | Detergent      | Phosphorus-free detergent 8kg            | 8190026001   |

New!

# Laboratory Washer (Process Monitorable)

MADE  
IN  
JP

AWD-510 / AWD-510DRY

Washing tank

W500 x D480 x H480 mm

Washing water temp.

Pre-wash and wash: 45~80°C / Rinse and final wash: 45~93°C  
Pre-drying: Fixed at ~60°C

Washing time

1~60 minutes.

- Provides safer, more consistent cleaning and disinfection than hand washing
- Color-coded lighting indicates current stage of the washing process

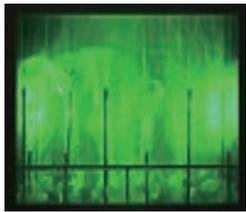


- Cleaning progress can be monitored from a distance via the front-panel LED and the tank's internal lighting color.
- Rinsing can be done at any temperature setting up to 93°C.
- Hot water is cooled to below 60°C before being discharged, eliminating the need for heat-resistant piping
- Effluent temperature is controlled to remain at or below 60 °C.
- A large double glass window provides a clear view of the interior.
- Double-glazed window ensures that the surface does not get hot even during hot water disinfection.
- Sliding two-tier rack allows for large quantities of instruments to be washed at once.
- Rotating nozzle showers at the top, middle and bottom allow for even cleaning.
- Detergent is automatically measured and dispensed (liquid detergent).
- Jet rack (optional) allows for the cleaning of flasks and other containers whose interiors are difficult to clean.
- Feed-water connection between the rack and main unit is automatically established when the door is closed.
- Electronic lock eliminates the risk of accidentally opening the door during cleaning.
- A wide variety of racks (optional) are available to suit your cleaning equipment.

## FRONT LED LAMP/ INTERNAL COLOR LIGHTING:

Five color lighting to differentiate each process enables quick confirmation of the current progress even from a distance

### AWD510



Pre-washing (green)



Washing (yellow)



Rinsing (blue)



Rinsing by pure water  
light blue (optional)

### AWD510DRY



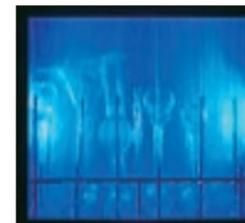
Pre-washing (green)



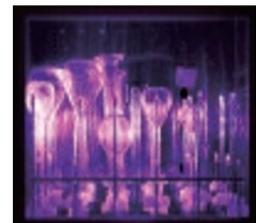
Washing (yellow)



Rinsing (blue)



Rinsing by pure water  
light blue (optional)



Pre-drying  
(purple) (optional)

## Specifications

| Model                |  | AWD-510  | AWD-510DRY  |
|----------------------|--|--|---|
| Type                 | Upper / middle / lower stage pressure jet type rotary jet nozzle   |  |   |
| Objects to be washed | Glassware as a whole including test tubes, flasks, beakers (excluding pipet)   |  |   |
| Detergent            | Liquid detergent/supplied by automatic supply unit<br>Powder detergent/manually supplied during operation  |  |   |
| Performance          | Operation panel  | Touch panel 4.3 inch LCD   |   |
|                      | Washing program  | Pre-wash -> wash -> rinse -> final wash  | Pre-wash -> wash -> rinse -> final wash -> pre-drying   |
|                      | Arbitrary selection of the process   | Washing temperature setting: OFF, pre-wash and wash: 45~80°C, rinse and final wash: 45~93°C  | Washing temperature setting: OFF, pre-wash and wash: 45~80°C, rinse and final wash: 45~93°C, pre-drying: fixed at about 60°C                  |
|                      | Washing time   | 1~60 minutes (~10 minutes for 90°C or more), Wait, Repeat count: 1~10  | 1~60 minutes (~10 minutes for 90°C or more), Wait, Repeat count: 1~10, Pre-drying process: Time setting: 1~360 min, Wait OFF, Repeat Count: 1 |
|                      | Program  | Nine patterns of above program can be stored   |   |
|                      | Process display  | Operation panel LED ON for each process pre-wash, wash, rinse, final wash, predrying): green<br>Lighting color inside the bath: Pre-wash [green], wash [yellow], rinse [blue], final wash [light blue], predrying [purple]   |   |
|                      | Maximum washing volume   | With two stages: Upper stage 10kg (effective height 150mm), Lower stage 15kg (effective height 165mm)<br>With one stage: Lower stage 15kg (effective height 300mm) * with optional low-stage rack used   |   |
| Installation         | Ambient environment  | Operating ambient temperature: 5~40°C, Humidity 65±20%RH (no dewing), Elevation: 1500m or less above sea level   |   |
|                      | Water supply conditions  | Tap water (mandatory): G3/4 connections (G1/2 on the equipment side), flow 10L/min or more, temperature: 5~25°C<br>Feedwater pressure: 0.1~0.5MPa<br>Hot water (optional): G3/4 connection port (G1/2 on the equipment side), flow 10L/min or more, temperature: 5~60°C<br>Feedwater pressure: 0.1~0.5MPa<br>Pure water (optional): φ10.5mm connection port, gravity water supply, temperature: 5~60°C<br>Feedwater pressure: 0.02~0.1MPa<br>Feedwater rate: 11L |   |
|                      | Draining   | Temperature: 60°C or less, φ31.5mm connection port, on the equipment side: nominal 40 (40A) piping<br>Forced drain with pump   |   |
|                      | Overflow   | Connection port 13mm   |   |
| Composition          | Legs   | Level adjuster (M10 screw)   |   |
|                      | Exterior   | Overall dimensions: W580×D600×H845mm (excluding protrusions)<br>Side/top surfaces: SUS304 hairline, bottom plate/backside: SUS304 2B<br>Front panel (front below): SPCC  |   |
|                      | Door   | Front loading type (damper mechanism)<br>Double glass inside structure (heat-resistant reinforced), Outside: Polycarbonate<br>Operation panel (door upper portion); ABS resin  |   |
|                      | Inner tank   | Washing tank dimensions: W500×D480×H480mm (excluding protrusions), material: SUS316<br>Rotary nozzle shower type, internal filter 10 mesh, water tank filter 40 mesh, heater 2kW<br>Bath internal temperature sensor (Pt100)   |   |
|                      | Pre-drying unit  | -  | Heater 700W, hot air drying with external air introduced via HEPA   |
|                      | Heat insulation material   | Melamine resin   |   |
|                      | Main power switch  | Leakage breaker function with overcurrent (provided in the front panel (lower front))  |   |
|                      | Standby power switch   | Tact switch (provided on the right side of panel)  |   |
|                      | Steam cooling function   | Reduction of the steam amount due to steam cooling   |   |
|                      | Controller   | Calendar function (battery backup), set memory function  |   |
| Safety device        | Interlock, overcurrent/sensitivity current, door lock, overtemperature prevention, water full detection, circulation water pressure drop detection, leakage detection, prevention of water overtemperature   |  |   |
| Standard             | No. of rack stages   | 2 or 1 (option)  |   |
|                      | Power supply   | Single phase AC220V 13A (breaker capacity 15A), Power cord: 3m, 3 wires. Round terminal for M5   |   |
|                      | Internal dimension   | 500×480×480 mm (WxDxH)   |   |
|                      | External dimension   | 580×600×845 mm (WxDxH)   |   |
|                      | WeightBRO  | Dry weight 87kg (excluding racks and circulation water)  |   |
| Accessories          | Water supply hose [20A(G3/4) female - 15A(G1/2) female 1.5m] (2 pieces), Drain hose (inside dia. 31×2m), Detergent bottle housing rack, detergent tube, operation manual, cover to be used after removal of upper rack, overflow hose (inside dia. φ12×1.5m), upper and lower rotation nozzles |  |   |

\* The performance is under conditions of power supply of AC220V, room temperature of 23°C ±5°C, the humidity of 65 RH±20%

\* The performance range is for the raw water pressure at 0.1 0.5MPa and water temperature at 20 °C The water sampling rate differs depending on fluctuation of the water temperature.

## Rack Mounting Examples



**Jet rack, Slide-type A5  
(291063)**

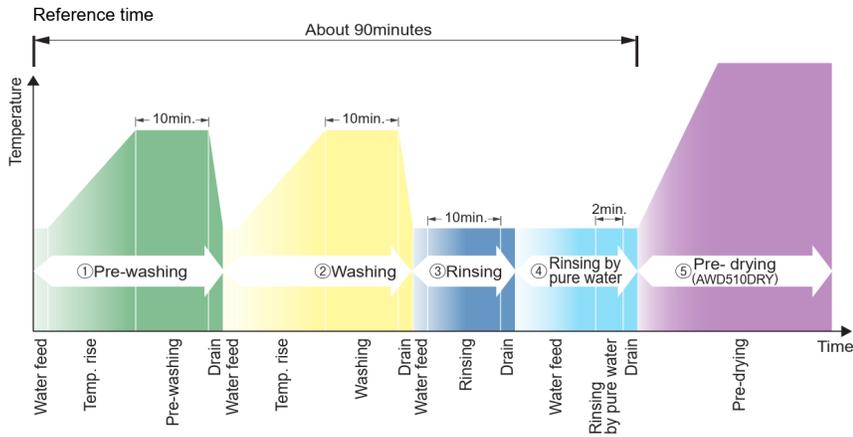
Flask not included  
The end of each pipe is a nozzle



**Test tube rack  
(291068)**

Test tubes not included  
Rack base, Slide-type  
upper/lower-stage

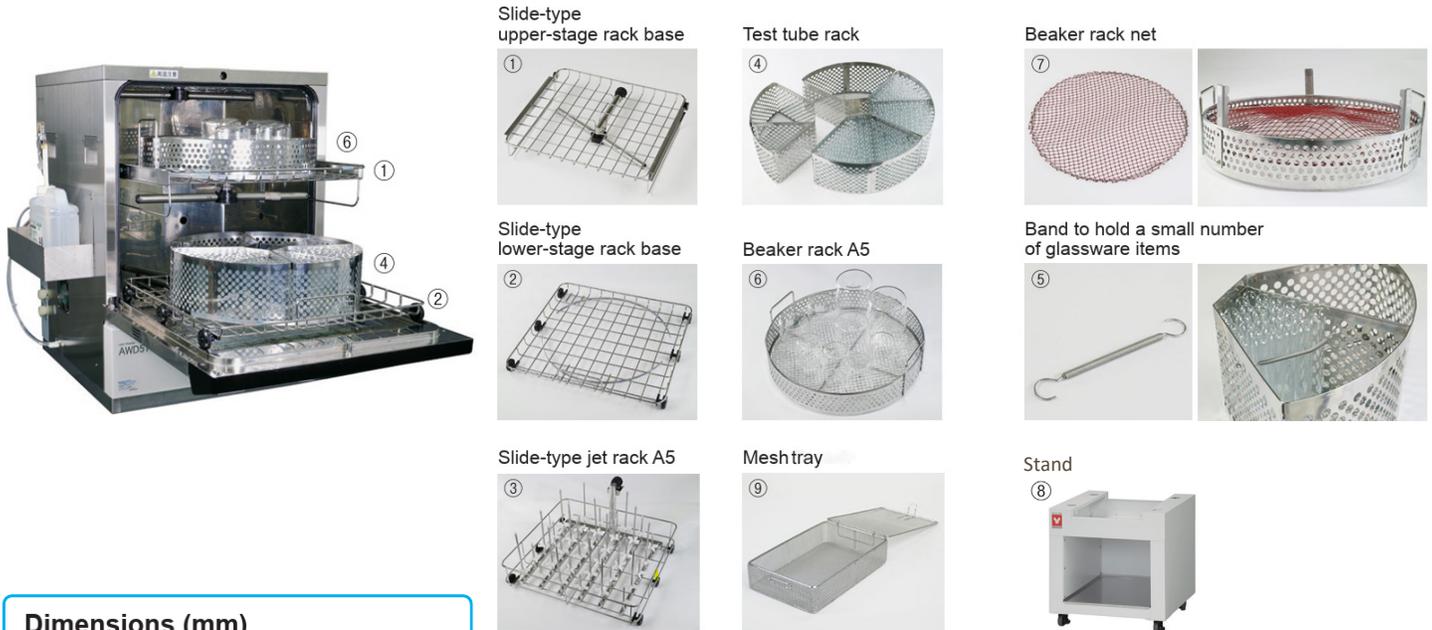
## Washing Period Guide: Mode [B]



**Operating conditions:** Room temperature : 23±5°C  
**Water temperature:** 23°C  
**Raw water pressure:** 0.1 MPa  
**Power supply:** 200V±5% /  
**Mode (without rinsing with pure water):** Mode [B]  
*(Frequency of rinsing and rinsing with pure water changed to once + preliminary drying)*

### Optional items

| No. | Product name                       | Description   | Product code |
|-----|------------------------------------|---|--------------|
| (1) | Rack base, slide type upper stage  | Upper rack in the tank. Installed on the lower stage in the washing tank and can carry various racks.               | 291061       |
| (2) | Rack base, slide type lower stage  | Lower rack in the tank. Installed on the lower stage in the washing tank and can carry various racks.               | 291062       |
| (3) | Jet rack, slide type A5            | Enables washing of the inside of measuring flasks. This jet rack cannot be used together with lower and upper racks | 291063       |
| (4) | Test tube rack                     | Used for washing of test tubes. Set of four 90°-divided pieces. Used as a set with rack base.                       | 291068       |
| (5) | Band to hold glassware items       | Use this band to prevent test tubes from tipping when only a few are loaded on the test tube rack. 4 pc. set.       | 291071       |
| (6) | Beaker rack A5                     | Used for washing of beakers. Used as a set with rack base. Applicable beaker: 50 to 3000ml.                         | 291064       |
| (7) | Beaker rack net for beaker rack A5 | Used for washing 50 to 200ml beakers with the beaker rack A5. To prevent overturn of beakers.                       | 291069       |
| (8) | Stand                              | W580×D600×H535, with casters/adjuster   | 291067       |
| (9) | Mesh tray                          | Used for washing of small objects. Size: W220×D140×D50 (with lid)   | 291072       |



### Dimensions (mm)

