

# Laboratory Glassware Washer

Extraordinary performance suitable for various laboratories

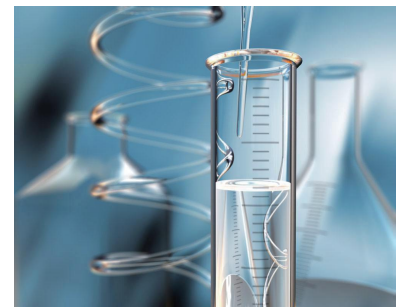


### Control System

Microcomputer chip control technology (non-PLC) and 7 inch full color OLED LCD touch screen operating system with fingerprint recognition system and SD card data storage system. 30 standard procedures and 120 self-defined procedures were set and each procedure has codes and parameters without any combination, three-level password management system and online conductivity to monitor cleaning data and the value of AO.

### Circulating spray system

Double circulation pump adopts variable frequency soft-start function and the circulating water can be adjusted from 0-800L/min. The pipeline pressure was monitored through pipeline pressure detection sensors in real-time.

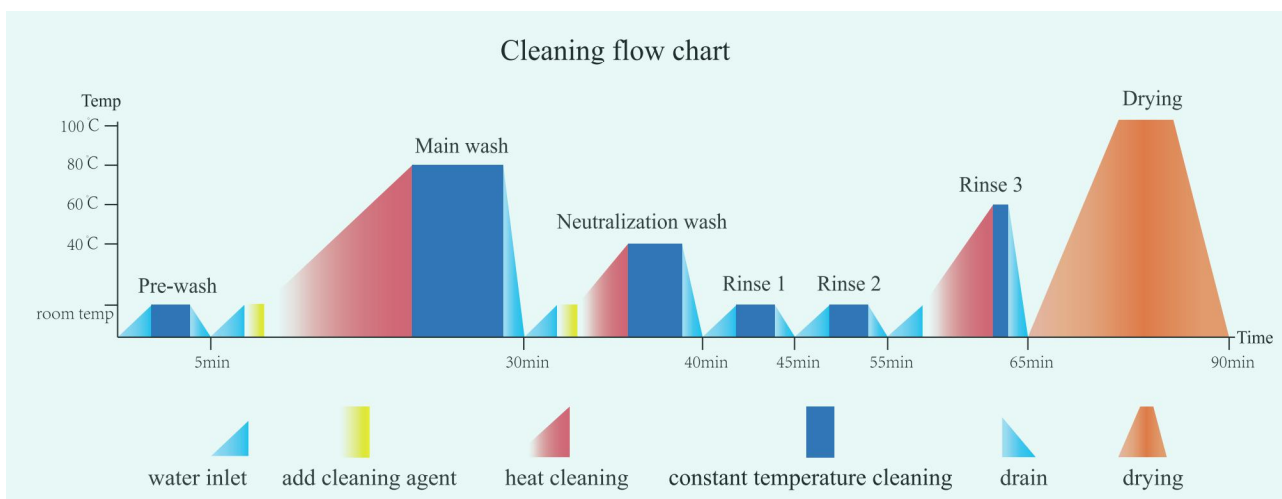


### Basket water supply system

Back water supply method with two parallel water supply and basket adopts FL-EXCH module design, every 1/2 module can be exchanged freely, basket frame and basket adopt quick-plug design, easy to install.

### Science and Technology Protection System

Black box was set to record the running status, buzzing and panel reminding after the cleaning, cleaning data can store and print. Sprinkler arm rotation speed sensor monitor cleaning status during the whole process.



# Laboratory Glassware Washer LW320/LW320H

## Instrument structure

The shell material is 304 stainless steel and the cleaning chamber is 316L stainless steel, the cleaning chamber were formed directly without welding points. The integrated design of the whole machine can be installed independently without the aid of other external devices, three buckets of 5L cleaning agent can be stored inside and four universal casters at the bottom of the instrument for easy movement.

## Power supply

LW320: 220V 50Hz, heating power: 4KW, pump power: 1200W

LW320H: 380V 50Hz, heating power: 9KW, pump power: 1200W

## Washing capacity

The cleaning chamber is 317L and three-layer cleaning basket can be placed.

Clean 396 volumetric flask of 25ml or 192 volumetric flask of 100ml or 900 chromatography injection bottle of 2ml or 120 pipette, and double-layer basket can clean 5L jars at the same time.

## Water circulation system

Variable frequency soft-start function control the circulation pump from 0-800L/min.

Dynamic water injection system: Flowmeter was set in to measure water and the panel displays water intake and process in real time to ensure the ratio of cleaning agent and water.

Pipeline pressure monitor monitors the pressure of the main pipeline in real time. Double temperature monitoring system and optional drainage cooling and double drainage function.

## Temperature control system

Dual temperature monitoring system.

## Data transmission system

6 or more user ports to enter with three-level password authority management.

Fingerprint recognition authority management system and SD card storage audit trail system, the interface is RS232.



Before cleaning grease contaminants



After cleaning grease contaminants

## Safety protection system

Electronic safety lock, EULA electric door opening and closing technology, the experimenter can set the door opening temperature limit;

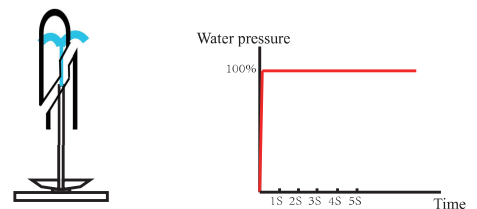
Water heating over temperature protection, hot air heating over temperature protection, water pump over temperature protection, fan over temperature protection;Monitoring water leakage,The instrument will stop working if water leakage;

The instrument will recovery automatically after water cut and memory if the power cut off; The instrument have the remind function when the cleaning agent is lacking; Multi-layer filtration system: prevent debris from entering the pipeline and causing blockage;

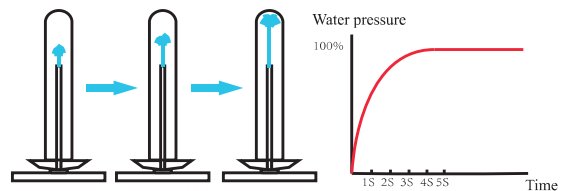
## Drying system

HEPA drying system with double pipeline compression fan, the maximum vacuum pressure is 110 mbar and the circulation of hot air is not less than 110 m<sup>3</sup>/h. Temperature from room temperature to 120°C and drying time from 0 to 300mins.

Double spray heat exchange system and EU-W water-saving condensing technology.



Without variable frequency soft start



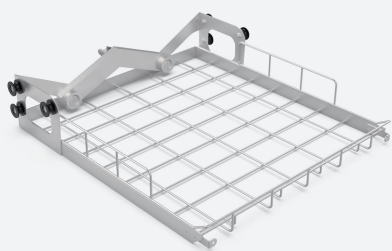
with variable frequency soft start

Variable frequency soft start

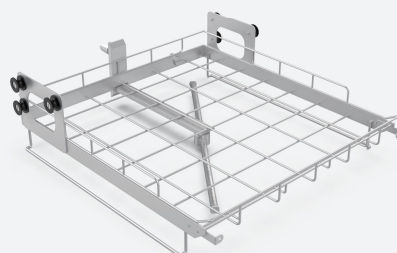
External dimensions (L×W×H): 790mm×780mm×1835mm



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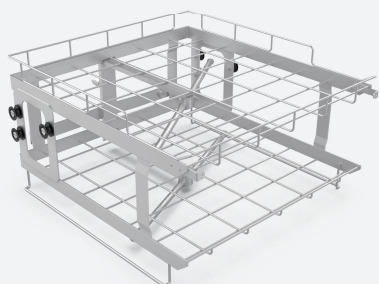
SC-01 Upper/middle cleaning chassis  
Without spray arm, place the module cleaning basket



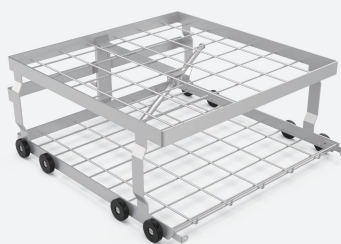
SC-02 Upper/middle cleaning chassis  
With spray arm, place the module cleaning basket



XC-03 Lower cleaning chassis  
Without spray arm, place the module cleaning basket



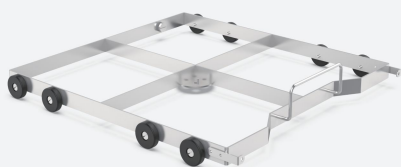
SC-05 Upper/middle cleaning chassis  
With spray arm, place the module cleaning basket



XC-06 Lower cleaning chassis  
With spray arm, place the module cleaning basket



SC-07 Upper cleaning basket  
With spray arm, place K-03 module basket



XC-08 Lower cleaning basket  
Without spray arm, place K-03 module basket

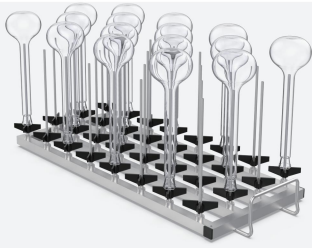


PLYT-08 Spray bottle module basket 8 positions  
Bottle size: 250 ~ 2000ml  
Clean blue cap bottle, erlenmeyer flask, volumetric flask, triangular flask, etc.  
With three-petal flower basket bottle holder and cross bottle holder

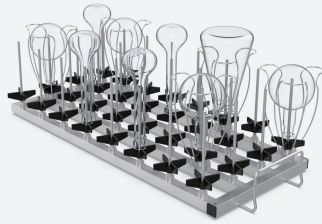


PLYT-21 Spray bottle module basket 21 positions  
Bottle size: 50 ~ 250ml  
Clean erlenmeyer flask, volumetric flask, triangular flask, etc. With three-petal flower basket bottle holder and cross bottle holder  
Each module can clean 21 volumetric flasks of 250ml.

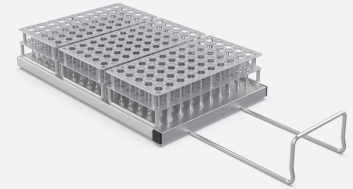
Meet FDA pharmaceutical IQ\OQ\PQ cleaning standards



**PLWT-32 Spray bottle module basket 32 positions**  
 Bottle size:50 ~ 250ml  
 Clean conical flasks, volumetric flasks, triangular flasks, flasks, etc with cross bottle holder.  
 Each module can clean 32 volumetric flasks of 100ml.



**PLYT-32 Spray bottle module basket 32 positions**  
 Bottle size:50 ~ 250ml  
 Clean volumetric flasks, triangular flasks, flasks, etc with three-petal flower basket bottle holder and cross bottle holder.  
 Each module can clean 32 volumetric flasks of 100ml.



**PL-150 injection bottle module 150 positions**  
 Bottle size:2ml  
 Clean chromatography injection bottle



**PLWT-50 Spray bottle module 50 positions**  
 Bottle size: 10 ~ 100ml  
 Clean erlenmeyer flask, volumetric flask, triangular flask, flask, etc with cross bottle holder.  
 Each module can clean 50 volumetric flasks of 50ml.



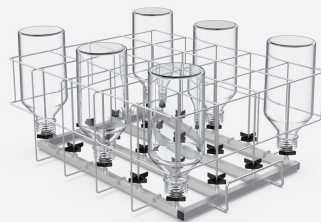
**PLYT-50 Spray bottle module 50 positions**  
 Bottle size: 10 ~ 100ml  
 Clean erlenmeyer flask, volumetric flask, triangular flask, flask, etc with three-petal flower basket bottle holder and cross bottle holder.  
 Each module can clean 50 volumetric flasks of 50ml.



**PLWT-66 Spray bottle module 66 positions**  
 Bottle size: 10 ~ 50ml  
 Clean erlenmeyer flask, volumetric flask, triangular flask, flask, etc with cross bottle holder.  
 Each module can clean 66 volumetric flasks of 25ml.



**PLYT-66 Spray bottle module 66 positions**  
 Bottle size: 10 ~ 50ml  
 Clean erlenmeyer flask, volumetric flask, triangular flask, flask, etc with three-petal flower basket bottle holder and cross bottle holder.  
 Each module can clean 66 volumetric flasks of 25ml.

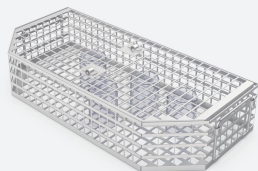


**PLYT-20 Sampling bottle basket 20 positions**  
 Bottle size:1000ml with cross bottle holder  
 Each layer place one basket of sampling bottle of 1000ml  
 Each module can clean 20 sampling bottle of 1000ml.



**PLYT-25 Sampling bottle basket 25 positions**  
 Bottle size:500ml with cross bottle holder  
 Each layer place one basket of sampling bottle of 500ml  
 Each module can clean 25 sampling bottle of 500ml.

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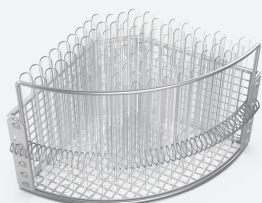
**K-02** Cleaning frame module large quantity  
Bottle size: 10 ~ 2000ml  
Clean jars, glass rods, bottle caps  
Two 1/2 modules form a layer of cleaning basket



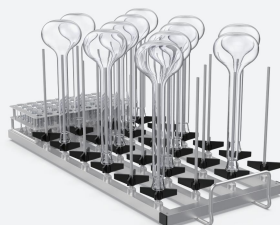
**K-30** 1/2 cleaning basket module 30positions  
Bottle size: petri dish with a diameter of 60 ~ 150mm  
Each module can wash 30 petri dishes of 90mm  
Two 1/2 modules form a layer of cleaning basket



**PL-102-1** Spray bottle module 102 positions  
Pipette module 102 positions  
Bottle size: 0.1 ~ 50ml  
Designed according to pipette, each module can wash 66 pipettes.



**K-03** 1/4 Fan-shaped test tube cleaning basket  
Bottle size: 10 ~ 20ml  
Clean test tubes, centrifuge tubes, etc.  
Four 1/4 modules form a layer of cleaning basket



**MX-74-1** Hybrid module 74 positions  
Bottle size: 2~100ml  
MX-74-1 used to clean 50 injection bottles and 24 volumetric flasks of 100ml  
MX-74-2 used to clean 50 pipettes and 24 volumetric flasks of 100ml



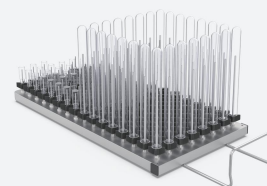
**MX-102-1** Hybrid module 102 positions  
Bottle size: 0.1~50ml  
MX-102-1 used to clean clean 78 injection bottles and 24 pipettes



**K-04** 1 1/4 Fan-shaped test tube cleaning basket  
Bottle size: 10 ~ 20ml  
Clean test tubes, centrifuge tubes, etc.  
Four 1/4 modules form a layer of cleaning basket



**MX-48-1** Hybrid module 48 positions  
Bottle size: 0.1 ~ 100ml  
MX-48-1 used to clean 24 pipettes and 24 of 100ml volumetric flasks of 100ml  
MX-48-2 used to clean 24 injection bottles and 24 volumetric flasks of 100ml



**MX-102-4** Hybrid module 102 positions  
Hybrid module 102 positions  
Bottle size: 0.1 ~ 50ml  
MX-126-8 used to clean 54 injection bottles and 48 test tube

## Supporting Module



YP9001 neutralization water tank

- ※Using 304 stainless steel, the inner cavity is passivated
- ※Match with Q900, Q700, Q600 and other series of laboratory glassware washer
- ※Floor-standing
- ※4 wheels can be customized for easy movement
- ※External dimensions (L×W×H):  
400mm×300mm×830mm



YP9002 water softener

- ※Theory: automatic control valve + resin softening
- ※Host barrel material: composite material from Ca-nature
- ※Controller: full-automatic controller
- ※Resin capacity: 18L
- ※Softening amount : 2 tons/hour
- ※Water inlet temperature: 2-45°C
- ※Suitable water pressure: 0.2-0.3Mpa
- ※Power supply :220v
- ※Regeneration time: 80mins
- ※External dimensions (L×W×H):  
270mm×450mm×1100mm



Technical Parameter	LW320/LW320H
Control System	Microcomputer chip control
Display Screen	7 inch full color touch screen
Chamber Material	316L stainless steel
Cabinet Material	304 stainless steel
Pipe Material	316 stainless steel+pharmaceutical silicone
Circulating Pump	800L/min
Circulation pump with variable frequency soft-start function	Yes
Clean data export	U Disk
Printer	Yes/RS232
Peristaltic Pump	Double channel
Alarm for lack of cleaning agent	Yes
Power	220V,50Hz/380V,50Hz
Heating Power	4KW/9KW
Water heating over temperature protection	Yes
Hot air heating over temperature protection	Yes
Flowmeter to measure water	Yes
Pipeline pressure monitor	Yes
Multi-layer filtration system	Yes
HEPA drying system	Yes
Double spray heat exchange system	Yes
Peristaltic Pump	3
Air Volume	220m <sup>3</sup> /h
Authority	Four levels
Chamber Volume	317L
Inner Dimensions	546mm(L)*543mm(W)*1011mm(H)
External Dimensions	790mm(L)*780mm(W)*1835mm(H)