

GLASSWARE WASHER



- INOGW-228/228PLUS
- INOGW-388/388PLUS



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INNOVA glassware washer is designed to provide unmatched flexibility, excellent cleaning and drying efficiency. When combined with especially formulated chemistries and global service offering, INNOVA unique certified cleaning process provides a higher level of assurance that expected cleaning results are achieved.



Stainless steel interior, exterior, racks and inserts withstand heavy use and reduce corrosion and contaminant build-up. Internal components such as pumps and seals are laboratory-grade, engineered for long life.

Interior work area: #316L stainless steel

Exterior body : #304 stainless steel

Washer trolley: #304 stainless steel and optional for #316L stainless steel

Product diagram



- | | |
|---------------------------|---------------------|
| ① Touch screen controller | ⑦ Level probe |
| ② Emergency button | ⑧ Detergent bottle |
| ③ USB port | ⑨ Drain |
| ④ Cleaning rack | ⑩ Pure water inlet |
| ⑤ Double-layer glass door | ⑪ Tap water inlet |
| ⑥ Peristaltic pump | ⑫ Castors with feet |

Microprocessor Control System

7" color LCD touch screen display, microprocessor with PLC system which is various of programmable washer cycles, detergent volume etc. User programmable with 99 storable programs and definable. All significant parameters can be set. These include: execution times, operating temperatures, quantity of additives, water source, influent water volume, etc. The LCD screen displays the current running steps and working parameters in real time. Access to the control operations is protected by a system of 3 levels password. It also with power-off memory function.

Cleaning Program:

40 pre-set programs, which covers cleaning of common contaminants. Also with 99PLC free programming. Users can define different washing steps such as Pre-Wash, Wash, Running Water, Acid Rinse, Neutralized Washing, Hot Water Washing, Drying etc. in one washing cycle. It can also adjust water temperature, washing time, volume of detergent, drying temperature and drying time in related washing step.



Modular Wash Rack

Modular wash rack design offers a customizable solution to meet the need for small-batch cleaning of various shapes and volume of glassware. It is flexible and versatile, saving users' costs.

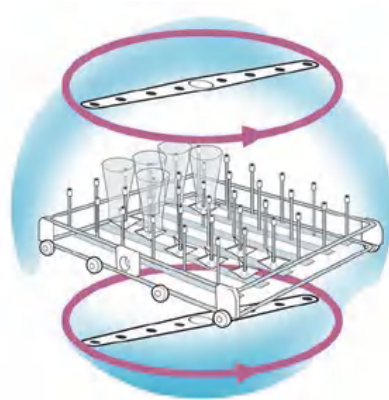


System Wash Levels

- 1 to 3 levels according to the models;
- Rack actuated via automatic manifold connections when door is closed;
- Rack accessories independent and easily removable for use on all levels;
- Cleaning racks are universal for all levels, and the cleaning racks of INOGW-120, 200, 220, and 320 can be used in common with each other;
- Users can only use the lower cleaning rack, and the upper or middle racks can be removed to facilitate cleaning of utensils with different heights.

Spray System

- Two rotary spray arms are located top of and bottom of chamber;
- Rotary sprayer made of # 4 sanitary high-grade 304L stainless steel;
- Easily disassembled for cleaning and maintenance.



Monitoring System

- Audible and visual alarms provide quality control for each wash cycle water level sensors;
- Two independent sensors control chamber water level and prevent overflow.

Water Injection System

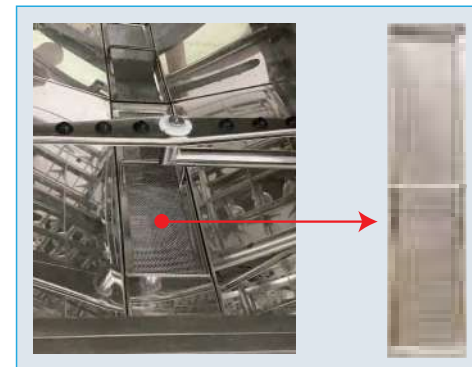
- Two water inlets controlled by electromagnetic valve, users can choose the tap water and pure water in wash and rinse phase. Washer trolley can connect the water and gas outlet automatically on each level which reduces the pressure loss and ensures wash and dry efficacy.

Dual Powerful Pumps

- One for washing and one for draining, reduce the potential risk of cross contamination between wash and drain water;
- Powerful pump recirculates water at a high rate to dislodge dried contaminants for thorough cleaning;
- Drain pump is associated with water seal drainage pipeline design avoid polluted water backflow.

Filter System

- Two stainless steel filters protect recirculation and drain pumps from debris;
- Filters easily removed for cleaning;
- Filters on all incoming water;
- Filters on air intakes.



Dual Peristaltic Pumps

(Detergent & Neutraliser)

- Disinfection effectiveness mainly depends on the correct performance of the washing phases and the neutralization of the treated material. Innova washers are with two peristaltic pumps dedicated to dispensing the alkaline detergent during the cleaning phase and the acid neutralizer during the neutralization phase respectively.

Automatic Detergent Dispenser

- A peristaltic pump are equipped with separate sensors which automatically draws a programmed amount of automatic washer liquid detergent during wash cycles;
- 360 rotary sprayed upper and lower wash arms with rotary speed monitor devices can distribute water and detergent more efficient.

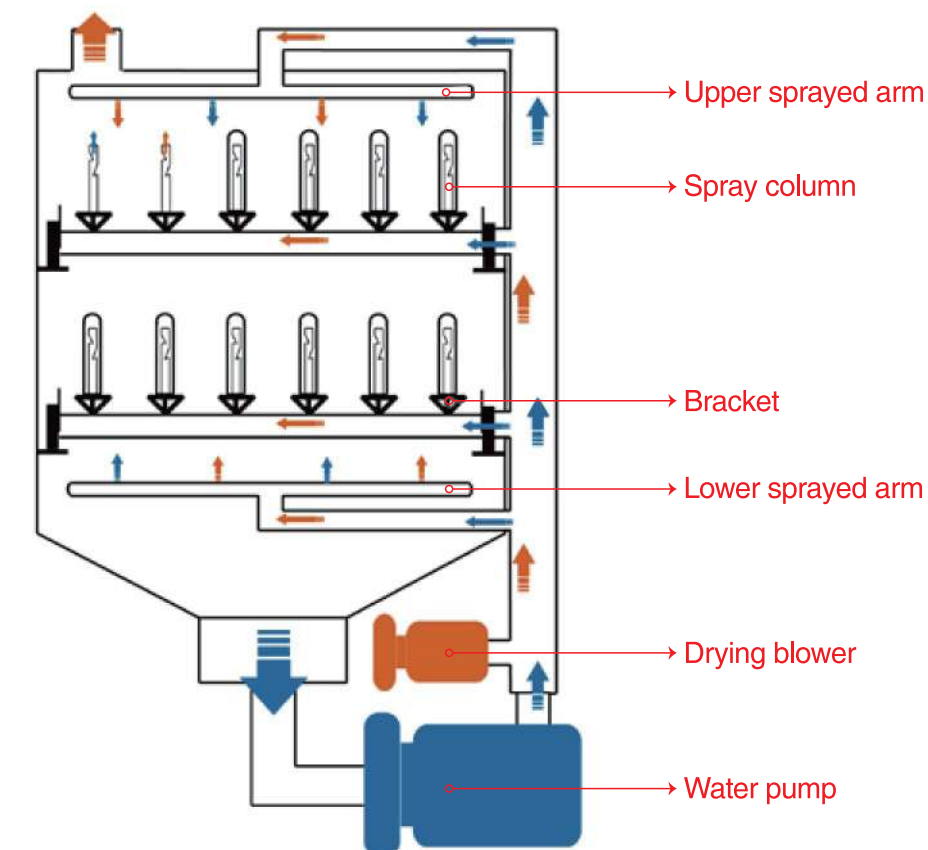
Drop Down Door

- Counterbalanced for ease of operation;
- Ensures proper rack placement and connection to manifold;
- Manufactured of solid 304L stainless steel with safe double glass window (INOGW-80 and INOGW-200A: Foam SS door w/o glass window);
- Fully insulated to reduce heat loss and noise;
- Provides loading platform eliminating need for loading cart.



Washing & Drying Cycle

- Water flow
- Drying air flow



Drying System

The forced-air "Drying System" is a high-performance rapid drying system. The system, comprising an efficient hot air generator and a powerful fan, is directly managed by the programmer which allows both operating time and temperature parameters. The microprocessor PLC system assures intelligent management of the drying circuit by automatically adjusting fan speed (thereby reducing power consumption) according to the temperature measured in the washing chamber.

The efficient hot air temperature can be adjustable to 120 which enhanced washing, rinsing and sanitize glassware, and faster drying.

- Utensils and circulation pipeline are dried synchronously to avoid the growth of bacteria in the pipeline due to long-term humidity in the tube.
- Adopt HEPA high-efficiency air filter to ensure the cleanliness of dry air, and avoid secondary pollution of utensils by air.
- After drying, utensils can be quickly cooled to ensure that the users can safely remove the utensils for use.



Clean Air System

The air intake passes through a HEPA filter with at 99.7% (0.1um~0.3um) efficiency rating to washing chamber, top and bottom rotary sprayers and spray columns which avoid the air pollution and improve the dry efficacy. The drying system also effect on washing tube and avoid mould. If the HEPA filter is failed or broken, there is a alarm on it.



Steam Condenser

The steam condenser rapidly reduces the saturated steam from the washing water, especially during the thermal disinfection phases. This device eliminates the formation of condensation near the glassware washer and prevents humidity and smells from escaping into the air, especially in the versions positioned underneath worktops. In air-conditioned rooms moreover, limiting the dispersion of heat from the glassware washer reduces the work load of the air-conditioning system, considerably decreasing electricity consumption and unwanted temperature.

Reliability

- 1 . Microprocessor with PLC control system anti-EMI (electrical magnetic interface).
- 2 . 7" colorful touch screen is easy control and observation, and it display the work situation.
- 3 . Password protection with three levels can meet different management needs which block the authorized entry.
- 4 . Parameters setting memory for power failure, washer cycles is going on as soon as power comes back.
- 5 . Safety protection water temperature and dry air temperature, when the temperature exceed the setting, it will stop working.
- 6 . Safety lock with electromagnetic release to prevent door opening while it is in wash/dry cycle.
- 7 . Safety electrical system for circuit overload, short circuit, over current and leakage current.
- 8 . Safety emergency button for stop the unit in time.
- 9 . The door is anti-fall and anti-rebound design, and can be stopped at any angle from 0 to 90 degrees after opening.
- 10 . Alarm system: circulating pump overheated, water heating abnormal, air heating abnormal, cleaning agent shortage, door is not closed, water intake abnormal, overflow alarm, etc.
- 11 . USB port for exporting all the data relative to completed washing and disinfection programs.



Optional Accessories

● 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. Confirm that detergent, rinse aid and purified water have been properly dispensed.



● Printer:

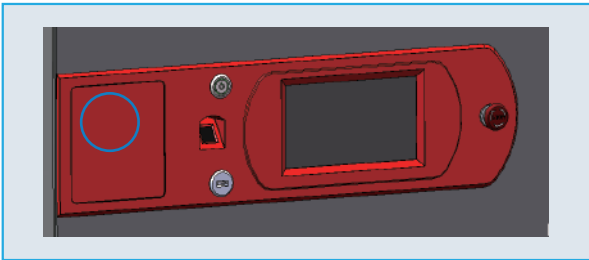
The traceability of the washing and thermal disinfection cycles performed in professional glassware washers is required in order to check the operations have been successfully completed. The printer is an accessory which can provide a detailed report.



Plus Function

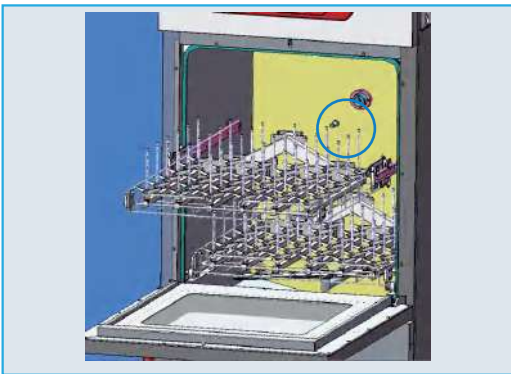
- Fingerprint Recognition Function :

You can log in the operating system by fingerprint recognition, eliminating the need for cumbersome password operation.



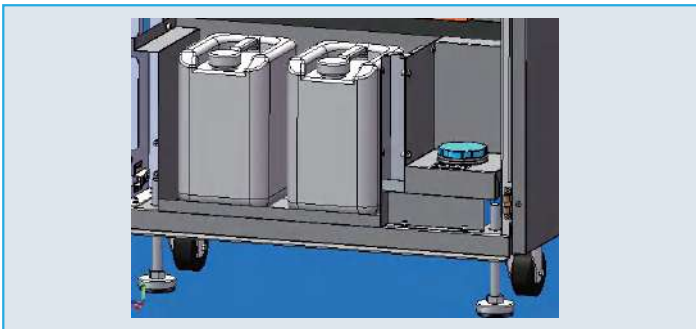
- Intelligent recognition function of washing racks :

recognizes the washing racks and automatically adjusts the amount of water used for program washing. It saves water and detergent, improves cleaning efficiency and saves cleaning cost.



- Water softening function:

add water softener in the pipeline where tap water enters the cabin, tap water passes through the resin cabin in the water softener, the resin adsorbs calcium and magnesium ions in the water to reduce the hardness of the water and improve the washing effect.



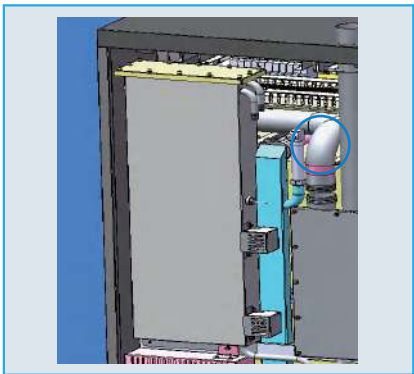
- Conductivity real-time intelligent monitoring function:

users set the conductivity range, through real-time monitoring of the conductivity during the cleaning process, to assist in judging the cleanliness of the cleaned vessels.



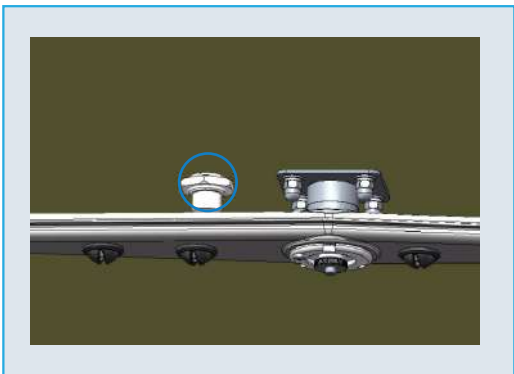
- Intelligent monitoring function of circulating water pressure and drying wind pressure:

real-time display of circulating water pressure and drying wind pressure in the circulating pipeline.



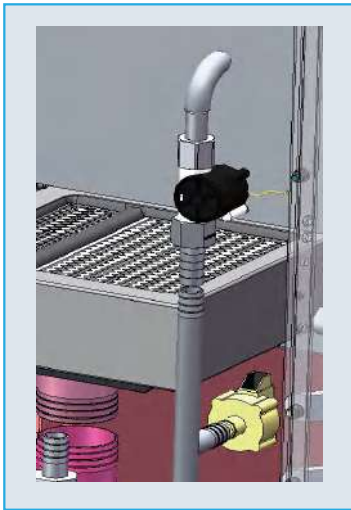
- Shower arm speed intelligent alarm function:

in the cleaning process, real-time monitoring of the shower arm speed, when the speed is too low, an alarm is issued to remind the user of the shower arm or pipeline problems, may not meet the requirements of clean cleaning.



● Intelligent water pressure monitoring function:

in the program run into the water pressure detection, pressure is too low to send an alarm to remind the user may not open the water source. In the shutdown (air open without disconnecting) state, such as the detection of water pressure, the alarm will be issued to remind the water inlet valve may be damaged.



● Water storage tank function:

independent completion of the water inlet, heating, drainage device, used to heat a certain volume of pure water in advance, when the washing program needs to heat the water, the water storage tank and the washing room water inlet valve start at the same time. The water storage tank reduces the time of water intake and heating in the washing room, and improves the user experience.

● Chamber light function:

LED lighting is set on the right front of the chamber, which can clearly observe the operation of the washing chamber.



Technical parameters

Items	Model	INOGW-228				INOGW-228PLUS				INOGW-388				INOGW-388PLUS			
Cleaning	capacity (L)	220				380											
	Washer Load Level	2				3											
	Water Wash Power (kW)	0.75				1.5											
	Water Heater Power (kW)	5	15	5	15	5	15	5	15	5	15	5	15	5	15	5	15
	Preheating Power	/				5				/				5			
	MAX. Power (kW)	6	16	6	16	7	17	7	17	7	17	7	17	7	17	7	17
	Water Consumption/Cycle (L)	20				22											
	Tank Internal Temperature (°C)	0~99				0~99											
	Water Supply Pressure (Mpa)	Tap water: 0.3-0.8 Pure water: 0-0.8				Tap water: 0.3-0.8 Pure water: 0-0.8											
	Peristaltic Pump for Cleaning Agent	2 independent pumps control detergent agent and neutralizing agent				2 independent pumps control detergent agent and neutralizing agent											
Drying	Cleaning Agent Level Sensor	Yes				Yes											
	Washing Pump	Sweden 800L/min				Sweden 1000L/min											
	Drying Function	Yes				Yes											
Control System and Traceability	Steam Condenser	Yes				Yes											
	Dry Power (kW)	3.6				3.6											
	Control System	7" color LCD touch screen display, microprocessor				7" color LCD touch screen display, microprocessor											
	Cleaning Program	40 pre-set programs(editable) +200 PLC freeprogramming				40 pre-set programs(editable) +200 PLC freeprogramming											
	Password Protection	3 levels password				3 levels password											
	Safety Emergency Button	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
	USB port	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
	Integrated printer	Optional		Optional		Optional		Optional		Optional		Optional		Optional		Optional	
	Online Monitor Performance of Washing	Optional		Yes		Optional		Yes		Optional		Yes		Optional		Yes	
	Fingerprint Identification	Optional		Yes		Optional		Yes		Optional		Yes		Optional		Yes	
	Rack Identification	Optional		Yes		Optional		Yes		Optional		Yes		Optional		Yes	
	Softened Water	Optional		Yes		Optional		Yes		Optional		Yes		Optional		Yes	
Others	Circulating Water Pressure and Drying Air Pressure Monitor	Optional		Yes		Optional		Yes		Optional		Yes		Optional		Yes	
	Spray Arm Speed Alarm	Optional		Yes		Optional		Yes		Optional		Yes		Optional		Yes	
	Inlet Water Pressure Monitoring	Optional		Yes		Optional		Yes		Optional		Yes		Optional		Yes	
	Chamber Dimension (W*D*H,mm)	600*640*820				600*640*1070											
	Exterior Dimension (W*D*H,mm)	695*895*1840				695*895*1866											
	Door	Double-layered Glass Door				Double-layered Glass Door											
	Safety Door Lock	YES				YES											
	Built-in RO Water Pump	YES				YES											
	Noise (dBa)	<55				<55											
	Voltage (V/Hz)	220-240V/50-	380V/50-0-60Hz	220-240V/50-	380V/50-60Hz	220-240V/50-	380V/50-60Hz	220-240V/50-	380V/50-60Hz	220-240V/50-	380V/50-60Hz	220-240V/50-	380V/50-60Hz	220-240V/50-	380V/50-60Hz	220-240V/50-	380V/50-60Hz
	Certificate	CE+ISO9001				CE+ISO9001											

Accessories

Product Name	Model	Image	Description
Split upper rack	INR-HU		Upper rack with two water inlet ports, can load one or two modules
Split lower rack	INR-HL		Lower rack with two water inlet ports, can load one or two modules
Split middle/lower rack	INPDR-HL		Middle/lower rack with two water inlet ports, can load one or two modules, with spray arm
Injection washing module	INIR-H08		8 volumetric flasks, conical flasks, beakers, etc., with a capacity of 250-1000ml, spray column spacing 130x130 mm
Injection washing module	INIR-H18		Cleaning 18 volumetric flasks, conical flasks, beakers, etc., with a capacity of 10-500ml, spray column spacing 87x90 mm
Injection washing module	INIR-H36		36 volumetric flasks, conical flasks, beakers, etc., with a capacity of 10-250ml, spray column spacing 60x60 mm
Injection washing module	INIR-H66		66 volumetric flasks, test tubes, etc., spray column spacing 47x48 mm
Injection washing module	INIR-H78		78 volumetric flasks, test tubes, etc., spray column spacing 40x40 mm
Injection washing module	INIR-H120		120 sample vials, test tubes, etc., spray column spacing 30x34 mm

Product Name	Model	Image	Description
Injection washing module	INIR-H160		160 sample vials, test tubes, etc., spray column spacing 25x30 mm
Injection washing module	INIR-H200		200-position module, capable of cleaning 200 1.5ml sample vials, spray column spacing 18.5x18.5 mm
Petri dish module	INPDR-H9036		36 90mm-petri dishes
1/4 rack module	INT & B		Test tubes, centrifuge tubes, vials, etc.
Pipette module	INPR-H160		160 pipettes, spray column spacing 20x20 mm
Absorption bottle module	INABR-H20US		20 absorption bottles and sampling bottles
Mixing module	INIR-H100+9		100 sample vials, and 9 volumetric flasks, conical flasks, beakers, etc., with capacities ranging from 10 to 500ml
Mixing module	INIR-H100+80		100 sample vials and 80 pipettes
Beaker module	INBR-H01		Beakers of various sizes