



# WATBULE C12/13 SAMPLE VIAL CLEANING MACHINE

## PRODUCT MANUAL



Innovative / Reproducible  
Rugged



# COMPANY PROFILE

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Welch Materials is a multinational company specializing in the development and manufacturing of laboratory products. Our extensive range of offerings includes HPLC columns, GC columns, chromatographic packing materials, sample preparation products, protein purification products, laboratory instruments, and general consumables.

Established in August 2003, Welch Materials, Inc. has its headquarters in Songjiang, Shanghai. In addition to our main office, we operate production and research facilities in Jinhua, Zhejiang, and Nanjing, Jiangsu. Furthermore, we have established subsidiary branches in the United States, India, and Canada.

At Welch Materials, Inc., we seamlessly integrate research, production, sales, and service to provide comprehensive laboratory solutions worldwide. Our products have wide-ranging applications in vital industries such as biomedicine, food safety testing, environmental monitoring, and fine chemicals, making a significant contribution to improving people's lives.

In 2018, we proudly obtained the ISO 9001:2015 international quality management system certification, reaffirming our unwavering commitment to maintaining the highest quality standards. Through the implementation of rigorous quality inspection processes and strict adherence to standards, we ensure that each product we produce complies with the most stringent laboratory requirements.



## WATBULE C12/13 SAMPLE VIAL CLEANING MACHINE

Welch Materials' Watbule C-series sample vial cleaning machines are specifically designed for liquid phase chromatography sample vial cleaning. They are suitable for pharmaceutical, food, and chemical companies, as well as third-party and government testing laboratories. The machines offer fully automated functions for pre-washing, washing, rinsing, disinfection, and drying, with printable cleaning data. Reusing cleaned vials saves costs and reduces environmental impact. Choose Welch Materials' Watbule C-series for an eco-friendly solution.



### The issues faced in manual cleaning of sample vials

In recent years, chromatographic analysis technology has been advancing, leading to an increasing number of samples being analyzed by users. Consequently, there is a high demand for cleaning numerous sample vials. Manual cleaning not only consumes a significant amount of time but also wastes water resources. Furthermore, there is a risk of not achieving the required level of cleanliness after the cleaning process. On the other hand, opting for disposable sample vials comes with high costs, significant waste generation, and environmental pollution.

Although most laboratories reuse sample vials after cleaning, there are practical difficulties in the cleaning process. For instance, the small bottle opening and limited volume make it difficult to allow water to enter easily. Manual cleaning can only be done one by one, resulting in low efficiency. During ultrasonic cleaning, it is challenging to ensure that each sample vial is fully filled with water. Manual cleaning consumes more cleaning agents and water resources. Additionally, the cleaning methods are inconsistent and lack standardization.



Product structure diagram

## CHARACTERISTICS

1. The casing of the Watbule C12/C13 sample vial cleaning machine is made of 304 stainless steel with a brushed finish, while the inner cavity is made of 316 stainless steel with a mirror finish. This design not only gives it an aesthetically pleasing appearance but also meets cleanliness requirements. During the cleaning process of sample vials, the machine can accommodate dual-layer basket racks, allowing for the simultaneous cleaning of up to 476 sample vials at a time.

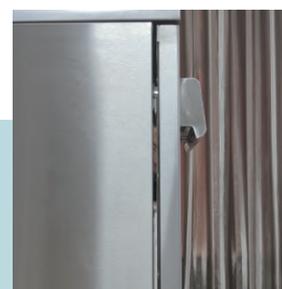
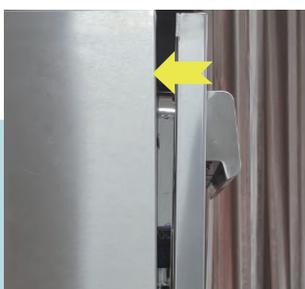


2. During the cleaning process of sample vials, a specially designed basket rack is used, with each sample vial having a dedicated cleaning nozzle. This ensures that the incoming water effectively flushes out any contaminants. The outer surface of the vials is subjected to a circulating rinse using upper and lower spray arms, enabling a 360-degree cleaning of the sample vials. This ensures that even hard-to-clean sample vials are thoroughly cleaned.



3. Watbule C-series sample vial cleaning machine is equipped with waterproof buttons and a screen. It supports multiple languages (including Chinese, English and Russian), for ease of operation. The machine can store up to 135 cleaning methods, allowing users from different industries to clean sample vials contaminated with different substances. During the cleaning process, users can monitor real-time information such as conductivity value (C13), cleaning time, and operational status.

4. The instrument features an intelligent induction-type chamber door. When opening the door, simply press the door release button lightly, and the chamber door will automatically unlock and slide out. When closing the door, users only need to gently push the door into the sensing area, and it will be automatically coupled and locked without the need for forceful mechanical closing. This design eliminates the possibility of improperly closed doors and provides an excellent user experience.



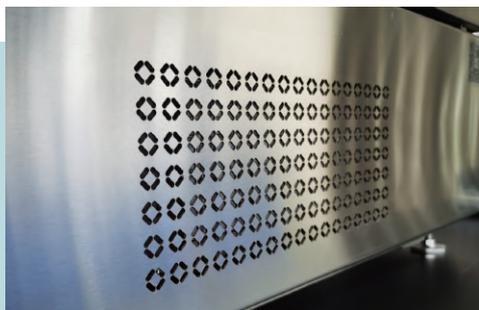
5. The instrument comes with a standard large-sized viewing window on the front. It is designed with a double-layered hollow explosion-proof glass structure, allowing for a clear view of the internal cleaning status while isolating internal heat and sound. The built-in dual lighting design assists with internal illumination, providing clearer visibility of the cleaning process.



6. The interior bottom of the cleaning machine is designed with a slope to facilitate the convergence and outflow of cleaning water, preventing water accumulation inside the cavity. There is a collection trough at the lowest point of the bottom surface, making it convenient to collect any labels or materials that may have been washed off, thereby preventing them from clogging the internal water pipes. The cleaning machine is equipped with two rotating spray arms, ensuring comprehensive cleaning of the vessels.



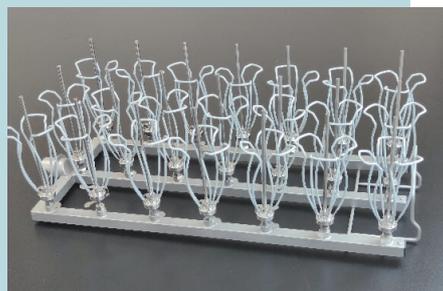
7. Watbule C-series sample vial cleaning machine is equipped with a hot air drying function. It utilizes a dual-layer HEPA filter to ensure the purity of the air during the drying process. The instrument also includes an alarm system to indicate when the filter is no longer effective. The drying time and temperature for the hot air can be adjusted. The hot air that enters the chamber and comes into contact with the surface of the vessels is effectively filtered, preventing any contamination of the cleaned vessels and ensuring optimal cleaning results. We have optimized the design for every step, from cleaning to drying.



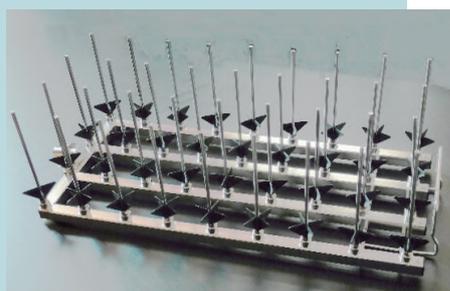
8. In addition to professionally cleaning sample vials, the Watbule C-series sample vial cleaning machine can be equipped with other basket racks to clean various small laboratory vessels, such as volumetric flasks, pipettes, penicillin bottles, headspace vials, NMR tubes, conical flasks, reagent bottles, cuvettes, test tubes, graduated cylinders, viscometers, basket-covered bottles, centrifuge tubes, petri dishes, and more. The specific basket racks are shown below.



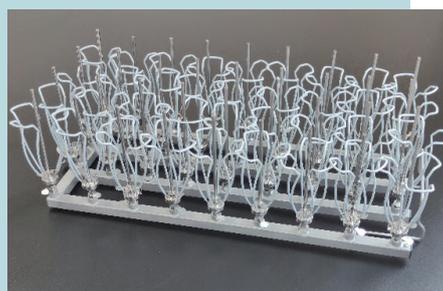
■ Basket rack for 150mL capacity bottles(21 units)



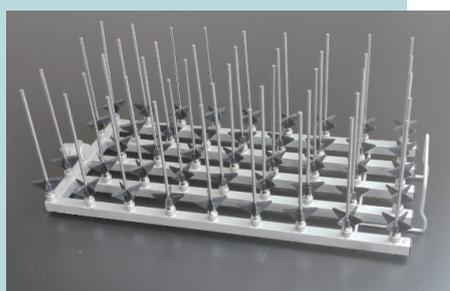
■ Basket rack for conical flask(21 units)



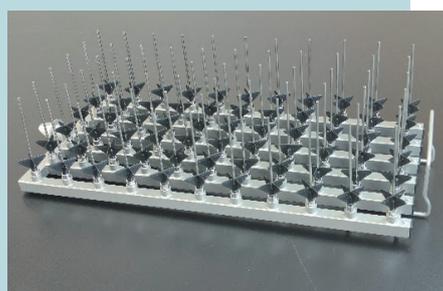
■ Basket rack for 100mL capacity bottles(36 units)



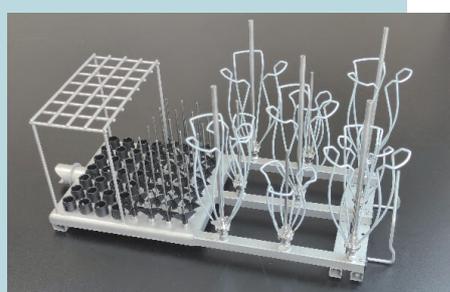
■ Basket rack for 50mL conical flask(36 units)



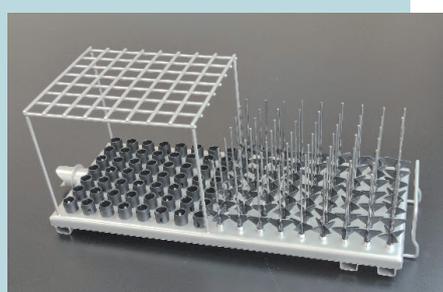
■ Basket rack for 50mL capacity bottles(44 units)



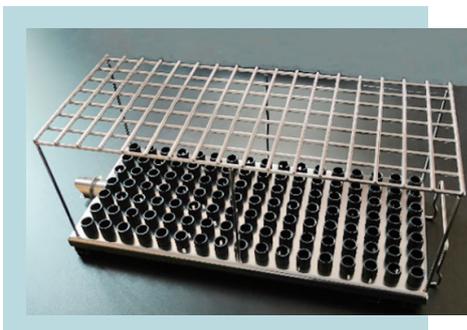
■ Basket rack for 25mL capacity bottles(66 units)



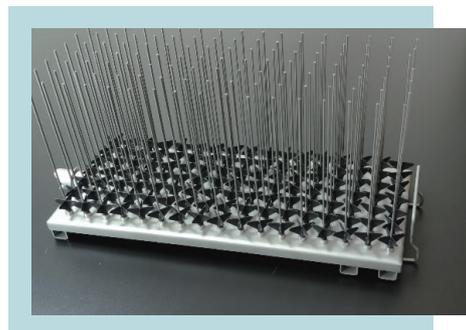
■ Basket rack for comprehensive cleaning(65 units)



■ Basket rack for comprehensive cleaning(112 units)



■ Basket rack for pipette(119 units)



■ Basket rack for NMR tube(119 units)



■ Basket rack for petri dish(56 units) (upper layer)



■ Basket rack for petri dish(56 units) (single layer)

The table of cleanable vessels is as follows:

Vessel	Volume(mL)	P/N	Description	Cleaning Quantity (per single module)
Sample vial	2	1201010000017	119 units sample vial rack	119
Beaker	25	1201010000034	Half rack (21 units)	21
	100	1201010000034		21
	400	1201010000035	Half basket with quarter mesh cover	/
	500	1201010000036	Full basket with half mesh cover	/
	1000	1201010000036		/
Test tube	15x150mm	1201010000043	Basket rack for test tube(119 units)	119
	18x180mm	1201010000043		
	20x200mm	1201010000043		
Graduated cylinder	10	1201010000027	Basket rack for 25mL capacity bottles(66 units)	66
	25	1201010000027		
	50	1201010000024	Basket rack for 50mL capacity bottles(44 units)	44
	100	1201010000022	Basket rack for 100mL capacity bottles(36 units)	36
	150	1201010000020	Basket rack for 150mL capacity bottles(21 units)	21
	250	1201010000037	Basket rack for 250mL capacity bottles(15 units)	15
	500	1201010000038	Basket rack for 500mL capacity bottles(10 units)	10
	1000	1201010000040	Basket rack for reagent bottles(9 units)	9

Vessel	Volume(mL)	P/N	Description	Cleaning Quantity (per single module)
Graduated Cylinder	10	1201010000027	Basket rack for 25mL capacity bottles(66 units)	66
	25	1201010000027		
	50	1201010000024	Basket rack for 50mL capacity bottles(44 units)	44
	100	1201010000039	Basket rack for 500mL capacity bottles(10 units)	10
	250	1201010000038	Basket rack for 500mL capacity bottles(10 units)	10
	500	1201010000038		
	1000	1201010000040	Basket rack for reagent bottles(9 units)	9
Conical Flask	50	1201010000023	Basket rack for 50mL conical flask(36 units)	36
	100	1201010000022	Basket rack for 100mL capacity bottles(36 units)	36
	250	1201010000037	Basket rack for 250mL conical flask(15 units)	15
	500	1201010000039	Basket rack for 500mL conical flask(10 units)	10
Wide-Mouth Bottle	250	1201010000038	Basket rack for 500mL capacity bottles(10 units)	10
	500	1201010000038		
Pipette	1	1201010000028	119 units pipette basket rack (can be customized with different volume washing heads according to customer requirements)	119
	2	1201010000028		
	5	1201010000028		
	10	1201010000028		
	20	1201010000028		
	25	1201010000028		
	50	1201010000028		
Funnel	Diameter 75mm	1201010000035	Half Basket + One-quarter mesh cover	/
NMR Tube	/	1201010000029	Basket rack for NMR tube(119 units)	119
Petri Dish	/	1201010000025	Basket rack for petri dish(56 units) (Single Layer)	56
	/	1201010000026	Basket rack for petri dish(56 units) (upper layer)	56
Viscometer	/	1201010000019	Basket rack for petri dish(56 units) (upper layer)	12
Separatory Funnel	250	1201010000037	Basket rack for 250mL conical flask(15 units)	15

## ORDERING INFORMATION

P/N	Description
C12	Sample Vial Cleaning Machine (220V)
C13	Sample Vial Cleaning Machine (380V)
1201010000012	Validation Service (C12 C13)
1201010000013	Alkaline Cleaning Agent 5L
1201010000014	Acidic Cleaning Agent 5L
0701010000003	Needle Printer

## SPECIFICATIONS

Max. Number of 2mL vials : can be cleaned at one time	476 pieces.
Number of Cleaning Layers:	1-2 layers.
Inner Chamber Volume:	170L
Cleaning Method:	135 methods
Standard Basket Rack:	4 standard sample bottle cleaning baskets.
Disinfection Temperature:	93℃
Appointment Function:	Equipped with reservation cleaning and delayed shutdown functions
Conductivity Monitoring:	Conductivity monitoring is available on C13
Data Export:	Optional printing function
Interior Chamber Illumination:	Built-in dual lighting control
Multi-Level Access Management:	Available
Spraying System:	It is equipped with a spray arm speed induction system. The speed can be adjusted according to the type of vessels cleaned, and real-time monitoring can be performed to ensure that the speed is set in the set range.
Distribution Pump:	2 peristaltic pumps
Condensing Device:	Available
Thermal Insulation:	Insulated with high-temperature resistant insulation cotton
Sound Insulation:	Maximum noise during operation: ≤70dB(A)
Drying Method:	Hot air drying, adjustable drying time and temperature
Door Control:	Automatic induction-type cabin door, double-layer tempered glass soundproof and heat-insulated viewing window
Power Failure Memory Cleaning Function:	Available
Casing Material:	SUS304, brushed treatment
Inner Chamber Material:	SUS316, mirror treatment
Operating Voltage:	AC220V±10%(C12), AC380V±10% (C13)
Overall Dimensions:	612*750*830mm (W*D*H)

## Welch Materials, Inc.

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**Web:** [www.welch-us.com/www.welchlab.com](http://www.welch-us.com/www.welchlab.com)  
**Email:** [info@welchmat.com](mailto:info@welchmat.com)

