



**washing
disinfection
catalogue**

washing and disinfection
machines
laboratory sector

Philosophy	page 2
Smeg Instruments	page 4
Why choose a Smeg glassware washer?	page 6
Washing volumes	page 8
Technical features: symbols	page 12
Easy line: GW0160	page 14
Basic line: GW2145, GW1160, GW4060, GW4190	page 16
Professional line: GW3060, GW4090	page 24
Optionals	page 28
GW2145 Configuration	page 30
GW0160,1160,4060,4190,3060,4090 Configuration	page 32
GW0160,2145,1160,4060,4190,3060,4090 Washing Accessories	page 34
Professional line: GW6010	page 44
GW6010 configurations	page 46
Professional line: GW6090	page 48
GW6090 optionals	page 50
GW6090 accessories	page 52
GW6090 configurations	page 53
Water treatment	page 58
Detergents and additives	page 59
External dimensions	page 60
Machines technical features	page 64



Founded in Guastalla in 1948, the Smeg Group with almost 2000 employees and 18 branches around the world today represents a point of excellence for Made in Italy. Smeg has made a name for itself with its unique profile in the panorama of domestic and professional appliance manufacturers thanks to a deep-rooted corporate culture paying the utmost attention to the quality, technological content and design of its products.

Smeg Instruments has for 30 years stood by these values also in the design and manufacture of laboratory glassware washers enriching them with know-how gained through collaboration with professional operators in more than thirty countries around the world.

With an integrated structure from design to after-sales service Smeg Instruments offers the laboratory world state-of-the-art washing and disinfection products, customised solutions, and flexible and efficient services.





**MADE
IN ITALY**

30 YEARS SERVICE, TECHNOLOGY AND SAFETY

SERVICE

Smeg also takes care of its customers throughout the lifetime of the product with its numerous specialised technical service centres spread across the entire national and world market. Installation, testing and personnel training are done directly by Smeg. Putting your trust in Smeg means finding an after-sales service working from a warehouse of 5,000 m² and able to deliver spare parts in 24 hours by means of simple and complete Web management (Smeg Tech).

INNOVATION

A team of expert designers, supported by the most modern equipment and in collaboration with sector experts, design high-quality products in conformity with the most recent directives and regulations. In the design of the entire new range of Smeg glassware washers we set ourselves the objective to be in the vanguard and set new standards in the sector.

QUALITY

Manufacturers of professional devices cannot improvise. Achieving impeccable washing and disinfection results is an absolute must for both Smeg and its customers. With tens of thousands of machines installed in Italy and across the world, Smeg can boast consolidated and extensive experience in the field of laboratory glassware and material washing, which has allowed us to design a range of professional products to the highest quality standards. Smeg has obtained ISO 9001:2008 and ISO 13485:2012 quality certification.

RELIABILITY

All the Smeg products are made using top quality materials and the best components available on the market today. Smeg particularly stands out for its careful selection of the steels employed and its masterly work. Smeg moreover implements an articulated quality system testing 100% of its production at the end of the line followed by statistical quality control by simulating 10-year machine use. Smeg has been a reliable partner of the main national and international distributors of laboratory materials for over twenty years.

MISSION

Our customers are professionals who live and work in extremely complex organisations and require professional solutions that guarantee impeccable performance, perfect efficiency and the highest possible reliability. Our mission is to offer these solutions and win their trust.

VISION

Those who work in this sector always require top performance. Every day they are aware of the value of their commitment and expertise, give and demand the best. They know that their working tools are an integral part of their professional performance and that their success and personal satisfaction also depend on them. We give these persons peace of mind offering them faultless performance: impeccable results and utmost reliability. We are well aware that achieving these results and maintaining the level of excellence is not easy. It requires continual investments in research and technology, product inventiveness and creativity, unfailing customer care, and personal dedication and commitment.

ECOLOGY

This is what we demand of ourselves and of our collaborators, this is what we offer our customers.

Smeg is continually working to ensure that all brand products can have smaller environmental impact and an energy efficient consumption. For this reason, Smeg's production facility has been certified according to the EN ISO 14001 standards (environmental management system certification). To achieve this goal, Smeg has implemented some key points; as the constant research for decreasing the water consumption, maintaining a perfect washing quality; and a lower consumption of chemical products in the glassware washers, taking advantage of the high temperature reachable inside the machine.

WIDE RANGE OF WASHING ACCESSORIES

Smeg offers a wide range of specific trolleys and accessories for washing glassware in chemical, pharmaceutical and petrochemical laboratories. They are made of AISI 316L or 304 steel and of chemical refractory and heat-resistant materials. The combination and choice of the various accessories depend on the type and quantity of glassware to be washed. Particular attention has been paid to shapes and sizes in order to ensure that the accessories are easily interchangeable. The water intakes are automatically coupled to the internal drying air ducts when the door is closed. All the accessories are dimensionally compatible with the various models.

AUTOMATIC WASHING

The automatic washing process of the Smeg glassware washers guarantees extremely high performance quality ensuring excellent controllable results, verifiable and repeatable over time. Automatic washing allows achieving impeccable results and the margin of error is reduced to a minimum. The efficiency and thoroughness of automatic washing guarantee an impeccable result and effective disinfection even for the most complex and delicate materials. The risks of damaging the material are eliminated resulting in a longer life and guaranteeing perfect drying.

WASTEWATER SEPARATION

The Smeg models can be equipped with a wastewater separation system. This allows separating the washing wastewater full of potentially polluting substances from the rinsing water containing a negligible concentration of pollutants and can therefore be drained into the normal sewerage.

DISINFECTION

The Smeg disinfection machines guarantee impeccable washing and effective disinfection of also complex and delicate instruments. The GW0160, GW2145, GW1160, GW4060, GW4190, GW3060 and GW4090 models are equipped with automatically regenerated washing water softeners and use freshly drawn water in every phase.

CONTROLLED DETERGENT DISPENSING SYSTEM

Washing effectiveness is first and foremost based on proper execution of the detergent and neutralising phases of the material treated. The models GW0160, GW2145, GW1160, GW4060 and GW4190 are equipped with a dispenser for alkaline powder and a peristaltic pump for the acid neutraliser. While GW4090 model has two peristaltic pumps, respectively dedicated to feeding alkaline detergent in the washing phase and acid-based neutraliser in the neutralisation phase. Each pump is equipped with a level sensor (optional) to be positioned directly in the can of the products used. The machines are designed to dispense up to 4 different additives. Liquid alkaline detergents, new enzyme-based detergents or acid-based neutralisers, caustic soda, disinfectants and/or defoaming additives can be used.

PROGRAMMABLE WASHING CYCLES

The heart of the new-generation Smeg disinfection machines is the ultra modern control system with microprocessors that control every activity carried out and monitor (by means of redundant system) the entire flow of information processed by the machine. The entire GW series offers the possibility of programming all the washing parameters by means of a multifunction membrane keyboard or directly from the PC thanks to the RS232 and the specific software. All the most significant parameters can be set, for example: execution times, operating temperature, additive quantity, number of phases. Access to the control operations is protected by a system of four user passwords.



EASY LINE

A medium sized glassware machine, which is economic and easy to use, are the key points of the “Easy” line range. The machine, totally built in AISI 304 L stainless steel, can reach a temperature 85° ensuring an adequate wash for glassware.



GW0160

GW0160 is a machine designed to operate with 1 or 2 levels for treating various types of substances. Washing chamber 520x515x545 mm.



GW1160

GW1160 is a machine designed to operate with 1 or 2 levels for treating various types of substances. Washing chamber 520x515x545 mm. Possibility of washing and disinfecting.



GW4060

GW4060 is designed to operate with 1 or 2 levels for treating various types of substances. Washing chamber 520x515x545 mm. Possibility of washing, disinfecting and drying with “Drying system”.

BASIC LINE

The key points of the Professional machine range, the Basic line, are the use high quality materials, forced hot air, reduced size and easy to use. Two models (GW4060 and GW4190), allow a perfect drying of glassware thanks to the “forced air” drying system.



GW2145

GW2145 is a glassware washer with reduced dimensions projected to work with 1 or 2 washing levels ant to treat substances of different nature. Washing chamber 380x480x580 mm. Possibility of washing and disinfecting.



GW4190

GW4190 is designed to operate with 1 or 2 levels for treating various types of substances. Built in detergent cabinet. Washing chamber 520x515x545 mm. Possibility of washing, disinfecting and drying with “Drying system”.

PROFESSIONAL LINE

The range of professional Smeg machine and disinfection machines is manufactured according to specific projects using professional materials and special components in order to achieve the best results from a technological point of view. The washing chambers are made of AISI 316L quality stainless steel resistant to strong acids (as used in the pharmaceutical and food industries).



GW3060

GW3060 is designed to operate with 1 or 2 levels for treating various types of substances. Washing chamber 520x515x545 mm. Possibility of washing, disinfecting and active drying.



GW4090

GW4090 is designed to operate with 1 or 2 levels for treating various types of substances. Washing chamber 520x515x545 mm. Possibility of washing, disinfecting and drying with "Drying System".



GW6010

GW6010 is a machine with glass drop down door with a high loading capacity capable of handling large quantities of material of different size. Washing chamber 650x720x1945 mm (three times the useful volume of medium-sized machines). Able to load up to 5 direct injection glassware levels.



GW6090

GW6090 is a machine with a high loading capacity capable of handling large quantities of material. Washing chamber 670x650x835 mm. Able to load up to 3 direct injection glassware levels.

PROGRAMMABLE

The heart of the new generation of Smeg glassware washers is the leading-edge management system controlled by micro-processors which can control at all the activities performed and monitor, using redundant systems, the entire flow of information processed by the equipment. The entire GW series allows operators to programme all washing parameters as they prefer, using the multi-function membrane keypad or the PC directly via the RS232 or LAN connections and the dedicated softwares. All significant parameters can be set. These include: execution times, operating temperatures, quantity of additives, number of phases, and so on. Access to the control operations is protected by a system of four user passwords.

PERISTALTIC PUMPS: DETERGENT AND NEUTRALISER

Disinfection effectiveness mainly depends on the correct performance of the washing phases and the neutralisation of the treated material. Models GW3060 and GW4090 feature two peristaltic pumps dedicated to dispensing the alkaline detergent during the cleaning phase and the acid neutraliser during the neutralisation phase respectively. Each pump is equipped with a level sensor (optional) to be positioned directly in the can of the products used. About the models GW2145, GW1160, GW4060 and GW4190, it is possible to install a specific optional pump to dispensing the alkaline detergent.

DRYING SYSTEM

The forced-air "Drying System", completely modified in the new GW series, 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 to be modified. The microprocessor 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 air intake passes through a class C filter with a 98% efficiency rating. Also Hepa filter is available as an optional.

ADDITIONAL PERISTALTIC PUMPS FOR ADDITIVES

The new GW models can have up to two additional peristaltic pumps dedicated to dispensing additives (caustic soda, defoamers, inhibitors, disinfectants). Each pump is equipped with a level sensor to be positioned directly in the can of the products used.

DETERGENT COMPARTMENT

Ergonomics, reduced dimensions and practicality are indispensable requirements for all equipment used in busy professional

surroundings. With these requirements in mind, Smeg has designed a detergent compartment located inside the reduced dimension of the glassware washer itself. It can contain up to four 2-litre containers for the GW4090 and GW4190 series and four 5-litre containers for the GW6090 series. No product feed pipes project from the volume of the glassware washer.

LAN CONNECTION

Thanks to the Smeg dedicated software it is possible to visualise each piece of equipment as though it were a terminal, thus being able to store all the machine data directly on PC. As information communication is two-way, it is possible to directly dialogue with the disinfectant microprocessors, for example, in order to change the cycle parameters or display a chart of internal temperatures.

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 containing all information relative to cycle performance. In both the free-standing and panel versions, the thermal printers used in the GW series provide complete supporting documentation for operators.

CONNECTION RS232

A significant feature of the new-generation equipment is that it incorporates the devices required for the complete communication of data relative to completed processes. The range of last-generation GW features two standard RS232 outputs, one for connection with the printer and the other for connection with the PC in order to download all the information relative to completed washing and disinfection programmes.

THE PARAMETER A₀

Is a numerical value deriving from an equation that directly relates two fundamental parameters: temperature and thermal disinfection time. Basically, the value of A₀ defines the level of lethality of the process expressed in seconds. The value appears directly on the display and, if a printer is installed, it is also printed on the end-of-cycle report.

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 surrounding, especially in the versions positioned underneath worktops. In air-conditioned rooms moreover, limi-

ting the dispersion of heat from the glassware washer reduces the work load of the air-conditioning system, considerably decreasing electricity consumption and unwanted temperature changes.

PERFECT WASH

During the installation can be set the washing quality required by the user as a conductivity value (µS) according to the DEMI water available. When the machine detects impurity during the final rinse, further rinses will be activated (up to 3), and if still remain some dirty, the operator will be warned. All warnings or further rinses will be saved on the machine data archive or printed.

ACQUASTOP

The new GW series has an optional "Aquistop" system. This system detects if there is a leakage coming from the machine. If there is water in the tray, the drain pump automatically switches on.

WASHING LEVELS

Large trolleys with the possibility to wash on maximum 5 levels with adjustable height: this is Smeg's solution for customers who require large glassware washers (GW6010 and GW6090) that are able to respond effectively to the various washing requirements.

PETROL

The 'Petrol' versions suitable for refinery analysis, are designed to handle particularly intensive washing cycles, necessary for the removal of naphthas, heavy oils, tars and other petrochemical derivatives. Available on GW3060 and GW4090 series.

ELECTRIC LOCKING SYSTEM

The Electric locking system prevents the door from being accidentally or forced opened while it is automatically released at the end of the cycle, moving it a few centimeters from the wash chamber to keep condensate formation on the instruments handled down to minimum.



GW3060 glassware washer



GW0160



GW0160 TECHNICAL FEATURES All versions

Electronic control	microprocessor
Standard programs stored	7
Clock and calendar	yes
Reprogrammable phases	no
Chamber internal temperature	from room temperature to 85°C
Accuracy	0,1°C
Temperature sensors in chamber	1 x PT 1000 CLASSE B IEC 60751
Water heating	electrical, 6,3 kW on three-phase version, 2,3 kW on single-phase version
Steam condenser	no
Display	4 digits with segments and communication icons
Detergent dosing system	1 powder dispenser or 1 peristaltic pump for liquid detergent according to the versions
Detergent level sensor	optional
Liquid acid pump	yes
Safety lock	yes, with electromagnetic release
Safety devices	safety thermostats, door interlock and automatic opening
Alarm display	30, acoustic and visual
Troubleshooting menu	no
Programme editing	no
AUXILIARY FUNCTIONS	
Traceability	no
RS232 serial port for PC connection	no
RS232 serial port for printer	no
Cycle storage	no
Cycle file download	no
WATER SUPPLY	
Cold water inlet	yes, max 42° F hardness
Demineralised water inlet	yes, <20µS/cm
Demineralised water booster pump	optional
Water softener incorporad	yes
Recirculation pump	400 l/min
DIMENSIONS LxPxH mm	
Overall (with built-in top)	600x605x850 (830)
Chamber	520x515x545
Net weight(kg)	72
STAINLESS STEEL	
Wash chamber	AISI 304
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Voltage/power	1/N/PE ~ 50Hz 2,8 kW 3/N/PE 400V ~ 50Hz 7,0 kW
NOISE LEVEL max 50 dB	



GW2145



GW2145 TECHNICAL FEATURES All versions

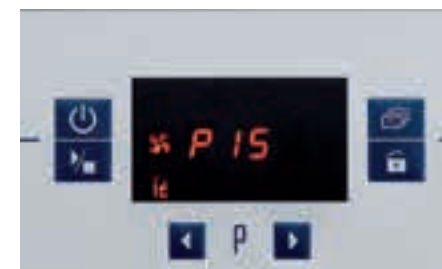
Electronic control	microprocessor
Standard programs stored	15, of which 9 pre-set and 6 modifiable
Clock and calendar	yes
Reprogrammable phases	10
Chamber internal temperature	from room temperature to 95°C
Accuracy	0,1°C
Temperature sensors in chamber	1 x PT 1000 CLASS B IEC 60751
Water heating	electrical, 2,3 kW on single-phase version
Steam condenser	no
Display	4 digits with segments and communication led icons
Detergent dosing system	max. 1 powder dispenser or 1 pump for liquid detergent
Detergent level sensor	optional
Liquid acid pump	yes
Safety lock	yes, with electromagnetic release and automatic opening
Safety devices	safety thermostats, door interlock
Alarm display	30, acoustic and visual
Troubleshooting menu	yes, using PC connection
AUXILIARY FUNCTIONS	
Traceability	storage of data for 100 most recently run programs
RS232 serial port for PC connection	yes, for connection to PC or printer
Cycle storage	yes, TRACELOG/Excel format
Cycle file download	yes, TRACELOG format
WATER SUPPLY	
Cold water inlet	yes
Demineralised water inlet	yes, < 20 µS/cm
Demineralised water booster pump	optional
Water softener incorporated	yes
Recirculation pump	200 l/min
DIMENSIONS LxDxH mm	
Overall (with built-in top)	450x620x850(830)
Chamber	380x480x590
Net weight (Kg)	61
STAINLESS STEEL	
Wash chamber	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Voltage/power	1/N/PE 230V ~ 50Hz 3,3 kW
NOISE LEVEL max 50 dB	

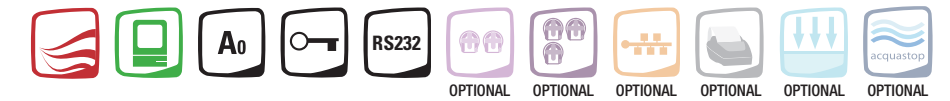




GW1160 TECHNICAL FEATURES All versions

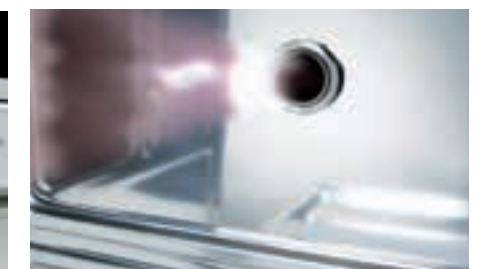
Electronic control	microprocessor
Standard programs stored	15, of which 9 pre-set and 6 modifiable
Clock and calendar	yes
Reprogrammable phases	10
Chamber internal temperature	from room temperature to 95°C
Accuracy	0,1°C
Temperature sensors in chamber	1 x PT 1000 CLASS B IEC 60751
Water Heating	electrical, 6,3 kW on three-phase version, 2,3 kW on single-phase version
Steam Condenser	optional
Display	4 digits with segments and communication led icons
Detergent dosing system	max. 1 powder dispenser and 3 liquid pumps according to the version
Detergent level sensor	optional
Liquid acid pump	yes
Safety lock	yes, with electromagnetic release and automatic opening
Safety devices	safety thermostats, door interlock
Alarm display	30, acoustic and visual
Troubleshooting menu	yes, using PC connection
AUXILIARY FUNCTIONS	
Traceability	storage of data for 100 most recently run programs
RS232 serial port for PC connection	yes, for connection to PC or printer
Cycle storage	yes, TRACELOG/Excel format
Cycle file download	yes, TRACELOG format
WATER SUPPLY	
Cold water inlet	yes
Demineralised water inlet	yes, < 20 µS/cm
Demineralised water booster pump	optional
Water softener incorporated	yes
Recirculation pump	400 l/min
DIMENSIONS LxDxH mm	
Overall (with built-in top)	600x605x850 (830)
Chamber	520x515x545
Net weight (Kg)	74
STAINLESS STEEL	
Wash chamber	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Voltage/power	1/N/PE 230V ~ 50 Hz 2,8 kW 3/N/PE 400V ~ 50 Hz 7,0 kW
NOISE LEVEL	max 50 dB





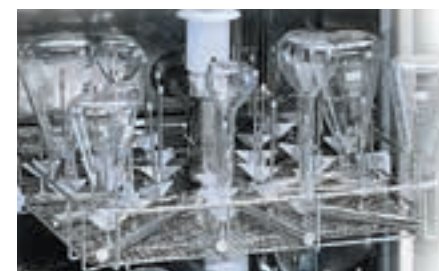
GW4060 TECHNICAL FEATURES All versions

Electronic control	microprocessor
Standard programs stored	15 of which 9 pre-set and 6 modifiable
Clock and calendar	yes
Reprogrammable phases	10
Chamber internal temperature	from room temperature to 95°C
Accuracy	0,1°C
Temperature sensors in chamber	1 x PT 1000 CLASS B IEC 60751
Water heating	electrical, 6,3 kW on three-phase version, 2,3 kW on single-phase version
Steam condenser	optional
Display	4 digits with segments and communication led icons
Detergent dosing system	max. 1 powder dispenser and 3 liquid pumps
Detergent level sensor	optional
Liquid acid pump	yes
Safety lock	yes, with electromagnetic release and automatic opening
Safety devices	safety thermostats, door interlock
Alarm display	yes, acoustic and visual
Troubleshooting menu	yes, using PC connection
AUXILIARITY FUNCTION	
Traceability	storage of data for 100 most recently run programs
RS232 serial port	yes, for connection to PC or printer
Cycle storage	yes, TRACELOG/Excel format
Cycle file download	Yes, TRACELOG format
DRYING SYSTEM	
Drying fan	yes
Drying heating element	0,8 kW
Prefilter class C 98%	yes
HEPA filter class S 99,999%	optional
WATER SUPPLY	
Cold water inlet	yes, max 42°F hardness
Demineralised water inlet	yes, <20µS/cm
Demineralised water booster pump	optional
Water softener incorporated	yes
Recirculation pump	400l/min
DIMENSIONS LxPxH mm	
Overall (with built-in top)	600x605x850 (830)
Chamber	520x515x545
Net weight (Kg)	77
STAINLESS STEEL	
Wash chamber	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Voltage/power	1/N/PE 230V ~ 50 Hz 2,8 kW 3/N/PE 400V ~ 50 Hz 7,0 kW
NOISE LEVEL max 50 dB	





GW4090 TECHNICAL FEATURES	All versions
Electronic control	3 microprocessors +1 (optional communication card)
Standard programs stored	20 pre-set and 10 modifiable (expandable to 50)
Backlight graphic LCD display	128 x 64 pixel
Clock and calendar	yes
Reprogrammable phases	10
Chamber internal temperature	from room temperature to 95°C
Accuracy	0,1°C
Temperature sensors in chamber	1 x PT 1000 CLASSE B IEC 60751
Water heating	electrical, 6,3 kW on three-phase version, 2,3 kW on single-phase version
Water pre-heating via boiler	optional
Steam condenser	optional
Detergent level sensor	optional
Detergent pumps	4 max
Safety lock	yes, with electromagnetic release and automatic opening
Safety devices	safety thermostats, door interlock
Alarm display	yes, acoustic and visual
Troubleshooting menu	yes
Password	4 levels
Display languages	Italian, English, French, German, Russian and other on request
AUXILIARITY FUNCTION	
External sensor duct	optional
Traceability	storage of data for 100 most recently run programs
Waste water separation solenoid valve control	optional
RS232 serial port	yes, for connection to PC or Print
Cycle storage	yes, WD-TRACE/Excel format
Cycle file download	yes, WD-TRACE format
DRYING SYSTEM	
Drying fan	yes
Drying heating element	2 kW
Prefilter class C 98%	yes
HEPA filter class S 99,999%	optional
WATER SUPPLY	
Cold water inlet	yes, max 42°F hardness
Hot water inlet	yes, 50°C max, max 42°F hardness
Demineralised water inlet	yes, <20µS/cm
Demineralised water booster pump	optional
Water softner incorporated	yes
Recirculation pump	400l/min
DIMENSIONS LxPxH mm	
Overall (with built-in top)	900x640x850 (830)
Chamber	520x515x545
Net weight (Kg)	83
STAINLESS STEEL	
Wash chamber	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Voltage/power	1/N/PE 230V ~ 50Hz 2,8 kW 3/N/PE 400V ~ 50Hz 7,0 kW
NOISE LEVEL	
	max 50 dB



MACHINE OPTIONS



ICRP

Supplementary ceiling sprayer made of stainless steel AISI 316L. Its operation improves the washing performance of glassware with complex shapes.



IC5090

On the basis of demineralized water conductivity used during the last rinse phase, it allows to detect any impurities and to activate also further rinse phases for achieving a perfect rinse with low conductivity.



WD-PRINTE

External printer.

WD-PAPER Thermal paper roll. Diameter 50 mm, width 57 mm.



WD-LAN

All models of Smeg's glassware-washers may be provided with an optional data communication card including a LAN port to connect the thermal disinfection washer to the local network.

The connection provides remote communication with the device due to the provided software, which then displays all the information given by thermal disinfection washer on your PC. All the operating parameters can also be changed without having to do so directly on the machine.



PAD

Booster pump for non-pressurised demineralised water. Allows feeding the machine with demineralised water drawn from a non-pressurised tank positioned at a minimum height of 85 cm from the ground.



PAD 2

Booster pump for non-pressurised demineralised water. Allows feeding the machine with demineralised water drawn from a non-pressurised tank positioned on the ground.



ADU

Universal peristaltic pump for liquid additive

- For the dosing of a liquid additive, for ex: alkaline detergent, caustic soda or antifoam
- With st/steel suction tube
- Suitable for tanks of 2l, 5l, 10l



WD-VDS

Double discharge valve that allows separating and ducting the polluted wastewater from the first washing cycles from the final rinsing water. This wastewater separation device is composed of 1/2 inch valves with Viton membrane and valve opening is controlled by the machine microprocessor.

STAINLESS STEEL BASES AND FRAMES



B9040L

Base for 90 cm wide models only. The base brings the machine loading level up to an ergonomic height approximately 70 cm from the ground. Entirely made of stainless steel. A detergent compartment with anti-drip bottom and front door with push-pull opening is integrated in the base. Dimensions l x d x h = 900x530x400 mm
B6040L (not shown in the photo): for 60 cm wide models only. Dimensions l x d x h = 600x530x400 mm



B9040QWC

Base with integrated demineralised water boiler. For 90 cm wide models only. A boiler is housed in the base to preheat the demineralised water to reduce cycle times. Dimensions: l x d x h = 900x530x400 mm



T9040

Frame for 90 cm wide models only. The frame brings the machine loading level up to an ergonomic height approximately 70 cm from the ground. The frame also facilitates cleaning the machine underneath. Entirely made of stainless steel. Dimensions l x d x h = 900x530x400 mm
T6040 (not shown in the photo): frame for 60cm models only. Dimensions l x p x h = 600x530x400 cm



The machine bodies in the BASIC series must be equipped with racks and supports most suited to the specific treatment requirements of the different types of glassware used in the laboratory. The various possible machine/rack configurations described below are meant as a guide to help you choose the most appropriate solution for the type of glassware used.



TWO SPRAYING LEVELS

This configuration has two washing levels with spray arms where supports for all types of glassware can be located (beakers, test tubes, flasks, plates and various other materials).

Photo:
D-CS1 upper rack: SB9 straight tine support for beakers and flasks to the left, SB14 spring tine support to the right. Each support occupies 1/2 the rack for machines with width of 45 cm.
D-CS2 lower rack: SB28 universal spring support for beakers and flasks, standard on 60-cm models, occupying all of the lower base but cannot be positioned on the upper rack.



TWO SPRAYING LEVELS

This configuration has two washing levels with spray arms where supports for all types of glassware can be located (beakers, test tubes, flasks, plates and various other materials).

Photo:
D-CS1 upper rack: the rack is fitted with 2 supports equipped with compartments (CP192 and CP222) to wash test tubes.
D-CS2 lower rack: SB9 support for beakers and flasks to the left, SB14 spring a support to the right. Each support occupies 1/2 the rack for machines with width of 45 cm to optimise the load on the rack.



ONE INJECTION LEVEL

The LM24 is secured to the lower D-CS2 rack using two special fastenings. This solution is suitable for washing narrow-necked glassware of different sizes. It has a capacity of 24 items and can wash both large items and small flasks or bottles. ULB 40 adaptor nozzles for pipettes can also be fitted. The maximum height of glassware is 500 mm.

Photo:
LM24 support



TWO SPRAYING/INJECTION LEVELS

In this configuration there are two washing levels: lower level with spray arms to hold various supports (beakers, test tubes, flasks). The D-CS1 upper rack is fitted with the 24-position LM22S injection base. This configuration allows simultaneous washing of narrow-necked and other types of glassware.

Photo:
D-CS2 lower rack: SB9 support for beakers and flasks to the left, SB14 spring a support to the right. Each support occupies 1/2 the rack for machines with width of 45 cm to optimise the load on the rack.



ONE MIXED INJECTION LEVEL

This configuration allows simultaneous washing of narrow-necked glassware (flasks, and beakers) and 12 pipettes with a maximum height of 510 mm. This is an ideal solution for washing various types of glassware simultaneously without having to use dedicated separate racks with a greater capacity.

Photo:
LPM24 support



TWO SPRAYING/INJECTION LEVELS

In this configuration there are two washing levels: the upper level is fitted with the KP60 seventy-item base for centrifuge vials and test tubes. The lower level is free.

Photo:
D-CS1 upper rack: KP60 base.
D-CS2 lower rack: SB9 support for beakers and flasks to the left, SB14 spring a support to the right.



TWO INJECTION LEVELS

LM46 support consisting of two injection levels for a capacity of 46 items. This version maximises the injection washing capacity. The maximum height of glassware is 225 mm. Recommended for flasks (ISO1042) with volume of 5 to 200 ml, bottles (ISO 4796) up to 1000 ml and flasks up to 1000 ml.

Photo:
LM46 support composed of 22-positions on upper rack and 24-positions on lower rack.

Note: the configurations shown on these two pages are only available with models of 45 cm.

The machine chambers of the GW0160, GW1160, GW4060, GW4190, GW3060 and GW4090 series must be equipped with trolleys and supports most suited to the specific treatment requirements of the different types of glassware used in the laboratory.
The various possible machine/trolley configurations described below are meant as a guide to help you choose the most appropriate solution for the type of glassware used.



TWO SPRAYING LEVELS

Standard lower basket CS2 and upper rack with spray arm CS1-1. In this configuration there are two washing levels with rotary sprayers where all the supports for the various glass items can be positioned (it can be used for washing beakers, test tubes, flasks, plates and various other materials). The upper basket CS1-1 can be placed on two positions to make better use of the space.



TWO SPRAYING/INJECTION LEVELS

Standard lower rack CS2 and upper injection basket. In this configuration there are two washing levels: a lower level with a spray arm to hold various supports (beakers, test tubes, flasks) and an upper level with a 40-position injection trolley LM40S (LM40SDS for machines with drying system). This configuration allows simultaneous washing of narrow-necked and other types of glassware.



ONE SPRAYING/INJECTION LEVEL

LM20 trolley (LM20DS for machines with drying system) one half with a multi-spigots injection system and the other half to hold supports. In this case, narrow-necked glassware up to 500 mm in height can be washed at the same time as test tubes. Compared to the configuration with two spraying/injection levels, this one has the advantage that you can wash glassware more than 245 mm in height.



ONE INJECTION LEVEL

LM40 trolley (LM40DS for machines with drying system). It may be considered as a universal injection trolley as it optimises washing of narrow-necked glassware of different sizes. It has a capacity of 40 items and can wash both large items and small flasks or bottles.



TWO INJECTION LEVELS

LM80 trolley (LM80DS for machines with drying system) with two injection levels for a capacity of 68 items. This version maximises the injection washing capacity.



ONE MIXED INJECTION LEVEL

LPM20/20 trolley (LPM2020DS for machines with drying system): this system allows simultaneously washing narrow-necked glassware (flasks, beakers, round-bottom flasks) and 20 pipettes. It is a valid solution for washing many different types of glassware at the same time without having to resort to a specific larger capacity trolley.

BASIC TROLLEYS**D-CS1** (only on GW2145 model)

Upper rack with sprayer.
Made for stainless steel and suitable for positioning supports.
Dimensions: l x d x h = 355x450x80 mm

CS1-1 (not in photo)

Upper rack with sprayer.
Made for stainless steel and suitable for positioning supports.
Dimensions: l x d x h = 481x468x151 mm

**D-CS2** (only on GW2145 model)

Lower rack.
Made for stainless steel and suitable for positioning supports.
Dimensions: l x d x h = 375x470x55 mm

CS2 (not in photo)

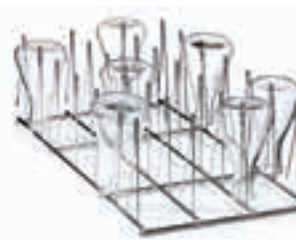
Basic lower rack.
Made for stainless steel and suitable for positioning supports.
Dimensions: l x d x h = 507x515x58 mm

FLASK AND BEAKER SUPPORTS**SB9** (only on GW2145 model)

Stainless steel 9-position support for flasks and beakers with max volume of 100 ml. Occupies 1/2 of the D-CS1/D-CS2 racks.
Dimensions: l x d x h = 420x145x160 mm

**SB14** (only on GW2145 model)

Stainless steel 14-position support for beakers and flasks with volume of 250 to 1000 ml. Occupies 1/2 of the D-CS1/D-CS2 racks.
Dimensions: l x d x h = 422x146x184 mm

**SB15**

16-position spring support for flasks, beakers, etc. For use in combination with standard CS1-1/CS2 racks and LM20 support.

It has a capacity of 16 items and is made of stainless steel. Recommended for flasks with a capacity of up to 1000 ml.

SB28 (not in photo): 28-position spring support for flasks, beakers, etc. For use in combination with standard CS1-1/CS2 racks and LM20 support.

It has a capacity of 28 items and is made of stainless steel. Recommended for flasks with a capacity up to 1000 ml.

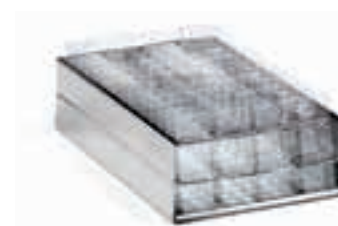
**SB30**

30-position support to hold beakers of any size and to be used with the standard racks CS1-1 and CS2 and the trolley LM20. It has a capacity of 30 items and is made of stainless steel.

Recommended for beakers with a capacity smaller than 500 ml.

SB25 (not shown in the photo): 28-position spring support to hold flasks and beakers and to be used with the standard baskets CS1-1 and CS2. It has a capacity of 28 items and is made of stainless steel.

Recommended for flasks with a capacity smaller than 500 ml.

PLATE AND SLIDE SUPPORTS**PV105**

Microscope slide support made of stainless steel. Suitable for positioning 105 standard microscope slides.
Dimensions l x d x h = 220x143x60 mm.

**SL6**

Olympus-type plate support for optical recognition of the blood unit. Suitable for positioning 6 plates.

Hinged lid included.

Dimensions l x d x h = 485x145x80 mm.

**SL9**

Universal support for chromatographic plates made of stainless steel. Capacity of 9 items. Suitable for positioning flat materials. It takes up 1/2 the space of a standard basket.

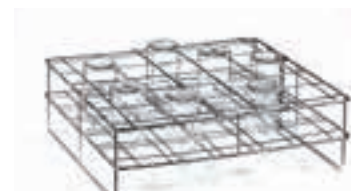
**SL18**

Support for standard 20x20 chromatographic plates. Capacity of 18 items. The guides are shaped in such a way that the support points are outside the working surface.

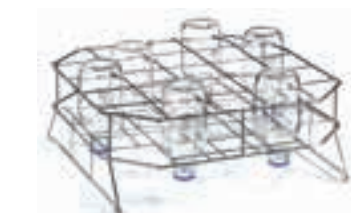
BOTTLE SUPPORTS



PB50
Support for 56 wide-necked bottles of 50 ml (screw cap GL32 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 46 mm - H 87 mm.
PB100 for 32 wide-necked bottles of 100 ml. (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 56 mm - H 100 mm.



PB250
Support for 25 wide-necked bottles of 250 ml. (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 70 mm - H 138 mm.



PB500
Support for 21 wide-necked bottles of 500 ml. (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 86 mm - H 176 mm.



PB1000
Support for 16 wide-necked bottles of 1000 ml. (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Max bottle dimensions: diam. 101 mm - H 225 mm.

TEST TUBE SUPPORTS



Additional accessory for the standard baskets CS1-1 and CS2 and the support LM20 for washing analysis test tubes. It has a capacity of approximately 160 standard test tubes with 3 removable compartments and lid. It takes up a 1/4 of the space of a standard basket and is available in four standard sizes:

- CP105:** test tubes up to 75 mm in height
- CP132:** test tubes up to 105 mm in height
- CP192:** test tubes up to 165 mm in height
- CP222:** test tubes up to 200 mm in height

PETRI DISH SUPPORTS



PD70S - 40 items, 50-70 mm positioned on the upper level CS1-1.
PD100S - 38 items, 70-120 mm positioned on the upper level CS1-1.
PD70I - 40 items, 50-70 mm positioned on the lower level CS2.
PD100I - 38 items, 70-120 mm positioned on the lower level CS2.

RACKS FOR SMALL GLASSWARE, BASKETS AND HOLDING NETS



PF1/2
Additional accessory for CS1-1 and CS2 racks made from flat AISI 304 stainless steel mesh with small mesh openings as a rack to hold small glass items or as rigid rack as an alternative to the Nylon holding nets. Available in 3 versions: PF1 (not shown in the photo) bottom support with hole for positioning on the top level; PF2 (not shown in the photo) complete bottom rack for positioning on the bottom level only; PF1/2 (shown in the photo) half bottom support for positioning on the upper level.

D-PF1 (only for GW2145)

Full bottom support for upper rack, made from stainless steel 10x10 mesh with central hole, for positioning on the upper carriage D-CS1. Dimensions: l x d x h = 305x425x11 mm

D-PF2 (only for GW2145)

Full bottom support for upper rack, made from stainless steel 10x10 mesh with central hole, for positioning on the lower carriage D-CS1. Dimensions: l x d x h = 305x425x11 mm



RC1 - RC1/2 - RC1/4

Holding nets with plastic-coated metal frame and Nylon ties to hold small glass items in place in the standard baskets CS1-1 and CS2; available in three models: RC1 fits in the whole rack, RC1/2 occupies in half the rack, RC1/4 occupies in a quarter of the rack.



BASKETS



CSK2

Baskets with stainless steel handles, suitable for medium-sized instruments.
Mesh openings of 5x5 mm.
Dimensions l x d x h = 450x225x50 mm.



CSK1

Baskets with stainless steel handles, suitable for medium-sized accessories and items.
Mesh openings of 5x5 mm.
Dimensions l x d x h = 450x450x55 mm.

SPECIAL TROLLEYS



CSK-C

Stainless steel trolley with 3 washing levels for butchery utensils available on request, suitable for positioning three **SCL-23** knife and utensil holders. Upper levels with spraying arm incorporated. Lower level with sprayer at the bottom of the machine.



CPB1

Stainless steel upper trolley for wine-tasting glasses. Suitable for washing 14 wine-tasting glasses of max. 220 mm in height.



CPB2

Stainless steel lower trolley for wine-tasting glasses. Suitable for washing 14 wine-tasting glasses of max. 240 mm in height.

SPIGOTS



Injection spigots available in the following versions:
- spigot for 6% and 12% butyrometers
- Nylon spigot for pipettes
- Spigots for glassware with the following heights: 90, 110, 140, 160, 180, 220, 240, 260 mm.

NARROW-NECKED GLASSWARE INJECTION



LPM24 (only for GW2145 model)

Mixed stainless steel flask/pipette carriage with 12+12 positions, suitable for washing narrow-necked glassware up to 490 mm in height. Fitted with the following nozzles: 4 x U6240, 2 x U6220, 2 x U4160, 2 x U4140, 2 x U3110, 12 x LB40. Maximum glassware height of 490 mm and positioning on the D-CS2 rack lower level.



LM24 (only for GW2145 model)

Universal 24-position stainless steel flask washer, suitable for washing narrow-necked glassware up to 490 mm in height. Fitted with the following nozzles: 6 x U6240, 5 x U6220, 6 x U4160, 5 x U4140, 2 x U3110. Positioning on the D-CS2 rack lower level.



LM22S (only for GW2145 model)

Universal 22-position stainless steel flask washer, suitable for washing narrow-necked glassware up to 225 mm in height. Fitted with the following nozzles: 12 x U4140, 5 x U3110, 5 x U390, positioning on the D-CS1 rack upper level.

INJECTION TROLLEYS NARROW-NECKED GLASSWARE



LM20DS

20-position universal flask washing trolley in stainless steel with 20 spigots and drying system connection. Suitable for washing and drying narrow-necked glassware up to 490 mm in height. Half the trolley space is free for mixed glassware suitable for a ½ basket accessory. Positioned on the lower level.

LM20 (not shown in the photo): version without drying system connection.



LM40DS

40-position universal flask washing trolley in stainless steel with 40 spigots and drying system connection. Suitable for washing and drying narrow-necked glassware up to 490 mm in height, flasks, round-bottom flasks and graduated cylinders of various sizes. Positioned on the lower level.

LM40 (not shown in the photo): version without drying system connection.



LM40SDS

40-position flask washing trolley in stainless steel with forty U4140 spigots and drying system connection. Suitable for washing narrow-necked glassware up to 225 mm in height. Positioned on the upper level.

LM40S (not shown in the photo): version without drying system connection.



LM80DS

Two-level flask washing trolley with 68 U4140 spigots and 1 UC6 spigot and drying system connection. Suitable for internal injection washing of narrow-necked glassware with a maximum height of 225 mm. Positioned on two levels.

LM80 (not shown in the photo): version without drying system connection.

BOTTLE WASHING



LB4DS

Stainless steel trolley for washing large glass items with drying system connection. Suitable for washing four 5-litre Schott-type bottles.

Fitted with 8 special spigots.

Positioned on the lower level.

LB4 (not shown in the photo): version without drying system connection.



LBT5DS

Stainless steel trolley for bottle washing with drying system connection. Suitable for washing and drying of five 5-litre bottles

(diam. 180 x h.500mm, max neck diameter 80 mm). Fitted with 5 special spigots.

Positioned on the lower level.

LBT5 (not shown in the photo). Version without drying system connection: LBT5.



LB8DS

Stainless steel trolley for washing large glass items with drying system connection. Suitable for washing 8 bottles of maximum 50 cm in height.

Fitted with 8 U6260 spigots and 8 special spigots.

Positioned on the lower level.

LB8 (not shown in the photo): version without drying system connection.



LB32DS

Two-level stainless steel trolley for injection washing of bottles with drying system connection. Suitable for washing 32 narrow- or wide-necked bottles of 250-1000 ml, max. diam. 101 mm, H.245 mm. Fitted with 32 U6170 spigots.

Positioned on 2 levels.

LB32 (not shown in the photo): version without drying system connection.



LB1-20DS

Stainless steel trolley for washing universal large glass items and suitable for washing one 10 litre Shott-type bottles with drying system connection. Positioned on lower level.

REACTOR WASHING



LR4DS

Stainless steel trolley with drying system connection. Suitable for inside washing and drying of 3/5-way reactors of maximum 3 litres or up to 12 narrow-necked glass items. Fitted with 20 U6260 spigots. Positioned on the lower level.
LR4 (not shown in the photo): version without drying system connection.

FISCHER BOTTLE WASHING



LT20DS

Stainless steel trolley with drying system connection for washing and drying of 12 Fischer bottles and graduated cylinders with a maximum height of 55 cm. 6 positions for injection washing of narrow-necked glassware. Fitted with 18 spigots. Positioned on the lower level.
LT20 (not shown in the photo): version without drying system connection.

BUTYROMETER WASHING



LB40DS

Stainless steel trolley for butyrometer washing with drying system connection. Suitable for washing and drying of 40 butyrometers. Specify the type of butyrometer in the order. Positioned on the upper level.
LB40 (not shown in the photo): version without drying system connection.

PIPETTE WASHING



LPV40DS

Stainless steel trolley for washing volumetric pipettes up to 55 cm in length. 20 positions for pipettes of 55 cm in height and 20 positions for pipettes and/or flasks of 45-49 cm in height.

LPV40 (not shown in the photo): version without drying system connection.



LPT100DS

Stainless steel pipette washing trolley with drying system connection for washing and drying of 100 pipettes with a capacity of 1 to 20 ml and a height up to 450 mm. The pipette washing disc is fitted in a trolley to allow fast loading and unloading access.

LPT100 (not shown in the photo): version without drying system connection.

VIALS AND TAPERED CENTRIFUGE TEST TUBES

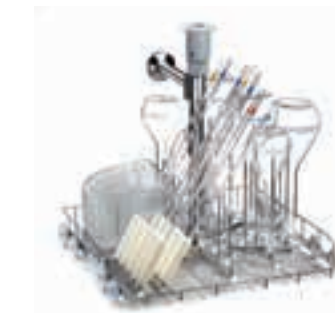


KP200DS

Trolley with drying system connection for washing of tapered and cylindrical test tubes by internal injection. It has a maximum capacity of 100 test tubes. Positioned on the upper washing level.

KP200 (not shown in the photo): version without drying system connection.

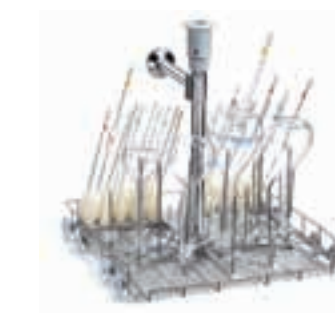
MIXED INJECTION TROLLEYS (PIPETTES + NARROW NECK)



LPM2010DS

20-position stainless steel trolley with drying system connection for mixed washing of flasks, pipettes and test tubes. Suitable for washing and drying of 10 pipettes up to 55 cm + 20 narrow-necked glass items + ¼ free space to be filled with a CP series test tube basket. Fitted with the following spigots: 2 x U6260, 2 x U6240, 2 x U6220, 3 x U4180, 2 x U4160, 2 x U4140, 3 x U3110, 4 x U390, 1 x UC6, 10 x ULB40 for pipettes with a maximum height of 55 cm. Positioned on the lower level.

LMP2010 (not shown in the photo): version without drying system connection.



LPM2020DS

Injection washing trolley with drying system connection for mixed washing of pipettes and flasks with 20 positions for pipettes up to 550 mm in height and 20 positions for narrow-necked glassware with a maximum height of 49 cm. Fitted with 38 spigots. Positioned on the lower level.

LPM20/20 (not shown in the photo): version without drying system connection.

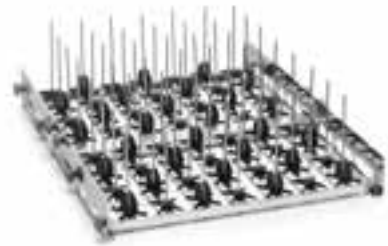


GW6010 TECHNICAL FEATURES

Electronic control	3 microprocessors
Standard programs stored	20 pre-set and 20 modifiable
Touch screen graphic display	TFT color (4.3" with capacitive sensing)
Clock and calendar	yes
Steam condenser	optional
Detergents pumps	2 installed, other 2 optional
Security locks	yes, with electromagnetic release
Door	single or double, (drop down door)
Safety lock	safety thermostats, door interlock
Alarm display	yes, acoustic and visual
Troubleshooting menu	yes, using pc connection
Password	4 levels
Display languages	Italian, English, French, German, Russian and others on request
AUXILIARITY FUNCTION	
Printer unclean side	optional
Printer clean side	optional
External probe	optional
Traceability	storage of data for 100 most recently run programs
RS232 serial port	yes, for connection to PC or printer
Water quality control (conductivity sensor)	optional
Interior lights	optional
Cycle storage	yes
Cycle file download	yes, USB/Excel format
LAN connection	optional
Sprayers speed control (heaven and background)	optional
Automatic recognition cart	optional
Pressure sensor circuit washing	optional
DRYING SYSTEM	
Drying fan	yes
Drying heating element	yes
Prefilter class C 98%	yes
HEPA filter class S 99.999%	optional
WATER SUPPLY	
Cold water inlet	yes, max 8°F hardness
Hot water inlet	yes, max 8°F hardness, t max 60°C
Demineralised water inlet	yes, 20 uS/cm / 5,8 pH, t max 60°C
Preheated boiler cold water	optional
Demineralised water booster pump	optional
External water softener	optional
Recirculation pump	600l/min
WATER HEATING	
Electrical	13 kW
Boiler built	6 kW each boiler
Steam	optional
DIMENSIONS LxPxH mm	
Overall (with built-in top)	650 x 720 x 1945 mm
Chamber	546 x 620 x 690 mm
Net weight (Kg)	248 kg
STAINLESS STEEL	
Wash chamber	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Voltage/power	3P/N/PE 50Hz 400V 13 kW
NOISE LEVEL	
	Max 55 dB



The strong point of the GW6010 washing system is that the direct injection systems can be exchanged with the rotating spray arms rack on all five washing levels. By placing the available systems on different levels, many different configurations can be obtained, thus allowing loading capacity to be optimized according to washing requirements. Glassware of various sizes and heights can be washed. The CLB510 trolley is a universal 5 level base for inserting telescopic injection supports or racks equipped with spray arm.



Several injection systems can be used on two and three levels. Once the system is inserted in the telescopic rails, it will automatically connect to the hydraulic section on the side of the CLB510. The picture shows the injection system INS56U4140.



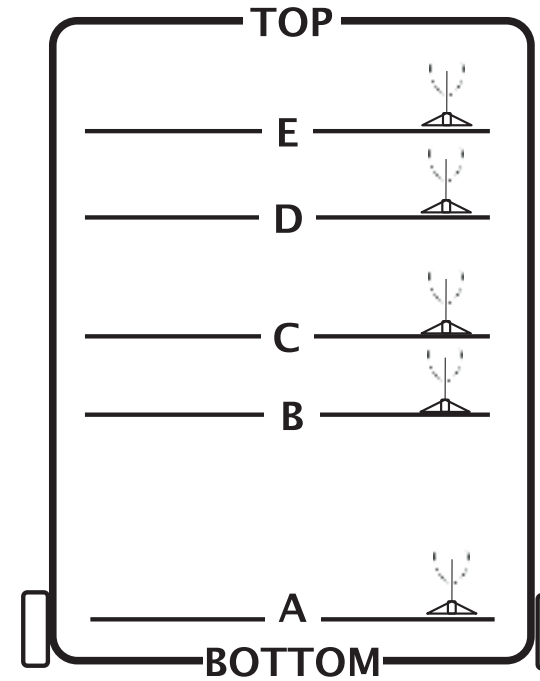
The CLB510 trolley can accommodate up to 3 injection inserts with 56 nozzles up to a total of 168 positions. The two upper levels can be inserted on the lower or upper guide according to the volumes of glassware to be washed.



The injection systems can be inserted on different levels of the CLB510 trolley respecting the height and the volumes of the glassware to be washed. The insert can be extracted on the telescopic rails to allow easy loading of the glassware.



Removal of the insert on the first level (bottom) you can maximize the capacity of wide-necked glassware such as beakers, flasks and test tubes, placed on the special baskets and supports. Interior and exterior washing is guaranteed by the spray arm situated at the bottom of the chamber.



The basic trolley CLB510 can accommodate up to 3 injection systems simultaneously. The bottom level (without inserts) is free for positioning supports or baskets.

Dimensions mm

	A	B	C	D	E	TOP
E						95
D					65	185
C				97	184	310
B			64	185	277	400
A		180	275	395	485	610
BOTTOM	16	210	305	425	515	640

Depending on the size of the glassware to be washed, the operator can choose where to place the insert. Inserts with different sizes of nozzles are available.

Some of the possibilities of washing on multiple levels with injection inserts			
Insert code	Nozzle height	Simultaneous positioning on multiple levels	Compatibility systems
INS56U390	90 mm	3 levels: 1°A + 2°C + 3°E	1° level interchangeable with the insert INS56U4140
INS56U4140	140 mm	3 levels: 1°A + 2°B + 3°D	2° 3° level interchangeable with the insert INS56U390
INS56U4180	180 mm	2 levels: 1°A + 2°C	2° level interchangeable with the inserts INS56U4140 or INS56U390
INS28U6260	260 mm	2 levels: 1°A + 2°C	2° level interchangeable with the insert INS56U4180



GW6090 TECHNICAL FEATURES All versions

Electronic control	3 microprocessors +1 (optional communication card)
Standard programs stored	20 pre-set and 10 modifiable (expandable to 50)
Backlight graphic LCD display	128 x 64 pixel
Clock and calendar	yes
Reprogrammable phases	10
Chamber internal temperature	from room temperature to 95°C
Accuracy	0,1°C
Temperature sensors in tank	1 x PT 1000 CLASSE B IEC 60751
Water heating	electrical, 17,7kW max
Water pre-heating via boiler	optional
Steam condenser	optional
Detergent level sensor	optional
Detergent pumps	5 max
Safety lock	yes, with electromagnetic release and automatic opening
Safety devices	safety thermostats, door interlock
Alarm display	yes, acoustic and visual
Troubleshooting menu	yes
Password	4 levels
Display languages	Italian, English, French, German, Russian and other on request
AUXILIARITY FUNCTION	
External sensor duct	optional
Traceability	storage of data for 100 most recently run programs
Waste water separation solenoid valve control	optional
RS232 serial port	yes, for connection to PC or printer
Cycle storage	yes, WD-TRACE/Excel format
Cycle file download	yes, WD-TRACE format
DRYING SYSTEM	
Drying fan	yes, 190 m³/h
Drying heating element	4 kW
Prefilter class C 98%	yes
HEPA filter class S 99,999%	optional
WATER SUPPLY	
Cold water inlet	yes, max 8°F hardness
Demineralised water inlet	yes, <20µS/cm
Demineralised water booster pump	optional
External water softner	optional
Recirculation pump	2 pumps of 400l/min
DIMENSIONS LxPxH mm	
Overall (with built-in top)	2035x801x902(drying system version) and 1835x801x902(version without drying system)
Chamber	670x650x835
Net weight (Kg)	282
STAINLESS STEEL	
Wash chamber	AISI 316L
Exterior covering	AISI 304
ELECTRICAL POWER SUPPLY	
Voltage/power	3/N/PE 400V-50Hz 18.5 kW
NOISE LEVEL	
	max 50 dB



MACHINE OPTIONALS



WD-PRINT6

Printer integrated in the panel.
WD-PAPER Thermal paper roll. Diameter 50 mm, width 57 mm.



P36090B

Additional peristaltic pump for feeding an additional additive complete with level sensor. The quantity of detergent delivered by the pump is directly controlled by the machine microprocessor.



WD-LS5090

Detergent level sensor. Allows controlling the level of liquid additives and signals when the detergent has run out. Equipped with an adjustable drawing tube for cans of different heights.



WD-FLUX FLOW METER FOR PERISTALTIC PUMPS

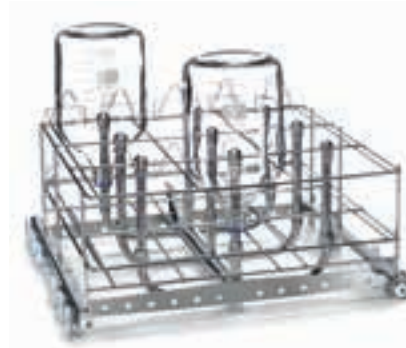
Allows controlling the quantity of additive the peristaltic pumps deliver. Installed directly on the machine on each single detergent feed duct leading into the chamber. It signals any feeding malfunctions or when the products run out by showing a warning on the display.



IC6000

Digital indicator to monitor wastewater conductivity. Particularly useful when using demineralised water for final rinsing. If the wastewater has high conductivity values it is advisable to execute further rinsing. Measuring range between 0 and 1000 $\mu\text{s}/\text{cm}$. Value reading shown on a backlit LCD display. Display of out-of-scale parameters. Built into the front panel of the machine.

BOTTLE WASHING



C65-I

Stainless steel trolley for washing large glass items with drying system connection. Suitable for washing 9 bottles with diam. 175 mm H.285mm. Positioning on the upper level.



C65-S

Stainless steel trolley for washing large glass items with drying system connection. Suitable for washing 9 bottles with diam. 175 mm H.285mm. Positioned on the lower level.



LM6-10U

Stainless steel trolley for bottle washing with drying system connection. Suitable for washing and drying large glasswares of different sizes.

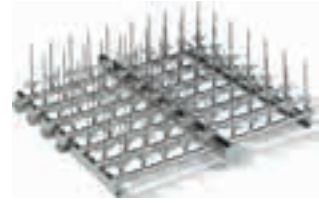
CILINDER WASHING



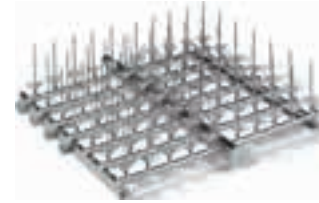
L685CIL

Stainless steel trolley for cylinders with drying system with 12 spigots. Suitable for washing 12 cylinders from 500 ml to 2000ml. Other possible configurations depending on the volume of the cylinders. Positioned on the lower level.

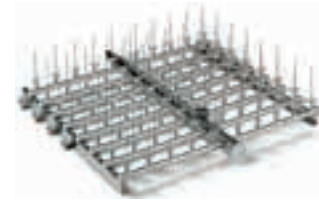
**NARROW-NECKED
GLASSWARE INJECTION**



L685
Injection system for large, medium and small glassware with 76 spigots of differing heights: 90/110/140/160/180/240 mm. The differing spigot heights make it possible to optimise loading of different sized glassware. This spigot configuration allows the system to be used on levels 1 and 2.



L680
Injection system for small and medium glassware with 76 spigots at the same height of 140 mm. This spigot configuration makes it suitable for preferential use on 2 levels.



L690
Injection system for small glassware with 86 spigots at the same height of 110 mm. This spigot configuration makes it suitable for use on the 3rd level.

BOTTLE SUPPORT



PB6000
Support for wide-mouthed bottles. Capacity 25 flasks from 1000 ml to 5000 ml and/or 1000 ml wide-mouthed bottles (screw cap GL45 ISO4796 or ground cap DIN 12038 or non-standard cap). Made of stainless steel.

PIPETTE WASHING



LP6
Accessory suitable for washing pipettes together with L680. It easily hooks into the hydraulic grip positioned on L680. It allows to load and unload the pipettes outside the washing chamber.

The strong point of the GW6090 washing system is that the direct injection systems can be exchanged with the rotating sprayer systems on all three washing levels. By placing the 6 available systems on different levels, many different configurations can be obtained, thus allowing loading capacity to be optimised according to washing requirements. Glassware of various sizes with heights up to 790 mm and volumes up to 25 litres can be washed.



C61
Basic level 1 trolley with grid. It is used on its own and is suitable for positioning various glassware supports. Washing is performed by the internal sprayer at the bottom of the machine. The C61 basic trolley is also used to position the injection systems (L685/L680/L690) on level 1. The injector trolleys are inserted into the guide rails of the C61.



C63
Telescopic support for injection systems. The support is used to position the injection systems on levels 2 and 3. The C63 is inserted into guide rails of the machine. The injector trolleys (L680/685/690) are inserted in turn into the guide rails of the C63. The system allows the injection systems to be completely removed in order to simplify loading the glassware.



C62
Basic trolley with rotating sprayer for levels 2 and 3. It is used on its own and is suitable for positioning glassware supports. The system is divided into 2 parts:
1. Base with arm
2. Telescopic support with top.

THREE WASHING LEVELS



DIRECT INJECTION

Level 1: C61 basic trolley with L685 direct injection system.
Maximum useful height 260 mm 76 spigots.
Level 2: C63 trolley with L680 direct injection system.
Maximum useful height 210 mm 76 spigots.
Level 3: C63 trolley with L690 direct injection system.
Maximum useful height 170 mm 87 spigots.



DIRECT INJECTION/ ROTATING SPRAY ARMS

Level 1: C61 basic trolley with L685 direct injection system.
Maximum useful height 325 mm 76 spigots.
Level 2: C62 upper trolley with rotating sprayer.
Maximum useful height 150 mm, useful washing surface 625x625 mm.
Level 3: C63 telescopic support with L690 direct injection system.
Maximum useful height 170 mm 76 spigots.



ROTATING SPRAY ARMS

Level 1: C61 basic trolley . Maximum useful height 325 mm.
Level 2: C62 upper trolley with rotating sprayer.
Maximum useful height 195 mm.
Level 3: C63 telescopic support with L690 direct injection system.
Maximum useful height 105 mm.
Washing surface 625x625 (1.18m² total).

TWO WASHING LEVELS



DIRECT INJECTION

Level 1: C61 basic trolley with L680 direct injection system.
Maximum useful height 260 mm, 76 spigots.
Level 2: C63 telescopic support with L685 direct injection system.
Maximum useful height 440 mm, 76 spigots.



DIRECT INJECTION AND ROTATING SPRAY ARMS

Level 1: C61 basic trolley. Maximum useful height 330 mm.
Level 2: C63 telescopic support with L685 direct injection system.
Maximum useful height 450 mm, 76 spigots.



DIRECT INJECTION AND ROTATING SPRAY ARMS

Level 1: C61 basic trolley with L680 direct injection system.
Maximum useful height 300 mm 76 spigots.
Level 2: C62 upper trolley with rotating sprayer.
Maximum useful height 380 mm.

	DIRECT INJECTION SYSTEMS	MAXIMUM HEIGHT OF GLASSWARE (mm)			ROTATING SPRAYER SYSTEM	MAXIMUM HEIGHT OF GLASSWARE (mm)		
3° LEVEL	C63 L690 Telescopic base injection system	130	390	130	C62 Telescopic base with rotating sprayer	95	360	95
2° LEVEL	C63 L680 Telescopic base injection system	180				720		C62 Telescopic base with rotating sprayer
1° LEVEL	C61 L685 Telescopic base with rotating sprayer	220	220	510			C61 Telescopic base using the rotating sprayer at the bottom of the wash tank	390

TWO WASHING LEVELS



ROTATING SPRAY ARMS

Level 1: C61 basic trolley. Maximum useful height 365 mm.
 Level 2: C62 telescopic base with rotating arm.
 Maximum useful height 385 mm.
 Washing surface 625x625 (0.78m² total).



DIRECT INJECTION

Level 1: C61 basic trolley with L685 direct injection system.
 Maximum useful height 545 mm 76 spigots.
 Level 3: C63 telescopic support with L690 direct injection system.
 Maximum useful height 170 mm, 87 spigots.



DIRECT INJECTION/ ROTATING SPRAY ARMS

Level 1: C61 basic trolley. Maximum useful height 605 mm.
 Level 3: C63 telescopic support with L690 direct injection system.
 Maximum useful height 170 mm, 87 spigots.

ONE WASHING LEVEL



INJECTION WASHING

Level 1: C61 basic trolley with L685 direct injection system.
 Maximum useful height 720 mm, 76 spigots.



ROTATING SPRAY ARMS

Level 1: C61 basic trolley.
 Maximum useful height 835 mm.



DIRECT INJECTION

This special C64 trolley can be used to wash drums with heights up to 530 mm and diameters up to 30 cm using spigots. Trolleys can be developed for special applications on request.
 Level 1: C64 basic trolley.
 Maximum useful height 835 mm.

WATER TREATMENT

To obtain high quality washing standards, it is fundamentally important to use correctly treated water. In the prewash, washing and neutralisation phases, softened water should always be used. Underbench models range have an efficient built-in water softener capable of reducing the hardness of the supply water so as to prevent the classic formation of whitish stains inside the chamber and on the instruments.

Smeg also supplies a range of high-performance WS water softeners which are compact and easy to install. Equally important is the rinsing of the instruments with demineralised water in order to eliminate any contaminants remaining in the washing chamber. For this purpose, Smeg has the compact and efficient WP3000 mixed resin bed demineraliser.



WP3000

RESIN COLUMN WATER PURIFIER

The WP3000 water purifier is used to produce deionised water at 0.8-1 µS/cm, suitable for the final rinsing of instrument washers. The system uses mixed bed resins (disposable) which can also retain silica. When the resins run out, they can simply be replaced with the MI700WP kit.

The resin cartridge is made out of stainless steel, as is the entire machine.

Net capacity of cartridge: 15 litres.
Dimensions: l x d x h = 300x600x850 mm.

MI700WP

Anion/cation mixed bed resins kit for the WP3000 water purifier. Total exchange capacity 42700 litres/°F* end of cycle at 5µS/cm (*Hardness in French degrees). Supplied with used resin disposal bag.



WS9E, WS11E, WS14E, WS17E

WATER TREATMENT SYSTEMS

The WSE series of appliances are technological water softeners capable of completely eliminating lime from water.

The resins are regenerated using normal sodium chloride.

Available in versions with flow rates of up to 2700 litres/hour.

The models are fitted with an electronically controlled head which can be programmed depending on the hardness of the water. They provide backflow regeneration based on the volume of water (bearing in mind the resin saturation rate) and proportional brine in order to optimise water and salt consumption.

	WS9E	WS11E	WS14E	WS17E
MAXIMUM FLOW RATE	1600 l/h (16.7 l/min)	1800 l/h (43 l/min)	2000 l/h (43 l/min)	2200 l/h (43 l/min)
NOMINAL FLOW RATE	1000 l/h (16.7 l/min)	1500 l/h (43 l/min)	1600 l/h (43 l/min)	1800 l/h (43 l/min)
RESIN CAPACITY IN LITRES	9	11	14	17
EXCHANGE CAPACITY (m³/°F)	54	66	84	102
CYCLE CAPACITY AT 40°F	1350	1650	2250	2700
PROGRAMMABLE RESIDUAL HARDNESS	0-10° F	0-10° F	0-10° F	0-10° F
REGENERATING AGENT TYPE	NaCl SALT	NaCl SALT	NaCl SALT	NaCl SALT
REGENERATING AGENT CONSUMPTION	0.9 kg/cycle	1.0 kg/cycle	1.2 kg/cycle	1.8 kg/cycle
DIMENSIONS ØxH (mm)	300 x 470 x 540	300 x 470 x 660	300 x 470 x 815	300 x 470 x 1070
SALT TANK DIMENSIONS L x P x H (mm)	INTEGRATED	INTEGRATED	INTEGRATED	INTEGRATED
CAPACITY LITRES (SALT)	about 15	about 20	about 30	about 40
CONNECTIONS	1"	1"	1"	1"

DETERGENTS AND ADDITIVES

To achieve excellent washing results and optimise the thermal disinfection of laboratory instruments, specific detergents should be used. Smeg has a complete range of alkaline detergents (for use during the washing phase) and neutralising acid detergents (for use during the neutralisation phase) especially designed to guarantee efficient cleaning and optimise the efficiency of the final thermal disinfection phase.

ALKALINE DETERGENTS

ph 13,9

DETERGLASS: universal alkaline powder detergent with phosphates without oxidizing surfactants and without chlorine compounds.

Application field: general chemistry, food analysis, organoleptic protein.
10 kg pack, 2-5 g/liter.

ph 13,1

DETERLIQUID C2: liquid alkaline phosphates free detergent without oxidizing surfactants and without chlorine compounds. For the removal of proteins, environment, blood, albumin and serum.

Application field: general chemistry, food analysis, organoleptic, proteins, microbiology, virology, histology and cytology, dyes, organic and inorganic chemistry.
5 liter container, 2-4 ml/liter.

ph 12,5

DETERLIQUID D2: liquid alkaline detergent with active chlorine, phosphate free and without surfactants. For the removal of environments, organic and mineral oil, grease, agar residuals, proteins.

Application field: microbiology, virology histology and cytology, dyes, inorganic and organic chemistry, petrol chemistry.
5 liter container, 2-4 ml/liter.

ph 11,5

DETERLIQUID SP: liquid alkaline detergent without phosphates or chlorine compound. For the removal of reactive inorganic chemistry and organic.

Application field: microbiology, inorganic and organic chemistry, petrol chemistry.
5 liter container, 2-4 ml/liter.

LIQUID ACID NEUTRALISERS

ph 2,5

ACIDGLASS P2: organic phosphoric acid neutralizer.

Application field: general chemistry, inorganic and petrol chemistry
5 liter container, 2-3 ml/liter.

ph 2,4

ACIDGLASS C2: weak organic acid neutralizer.

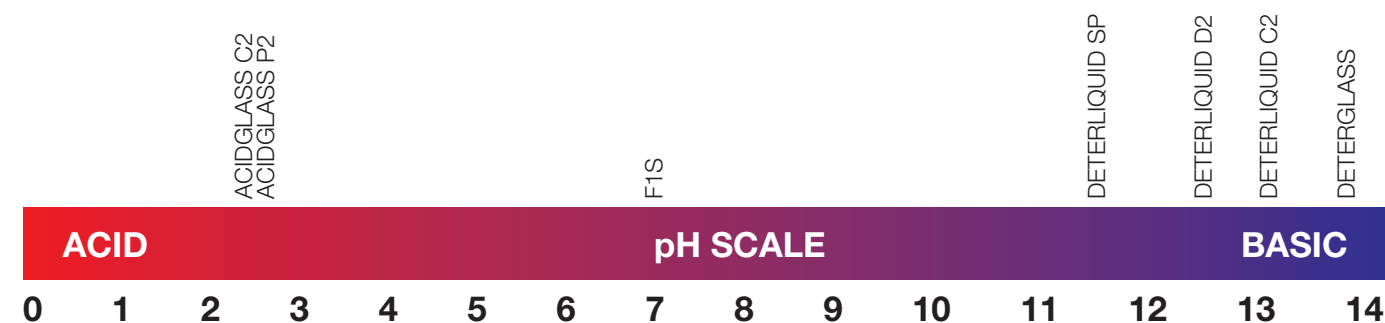
Application field: universal, environmental analysis
5 liter container, 1-2 ml/liter.

SPECIAL ADDITIVES

ph 7

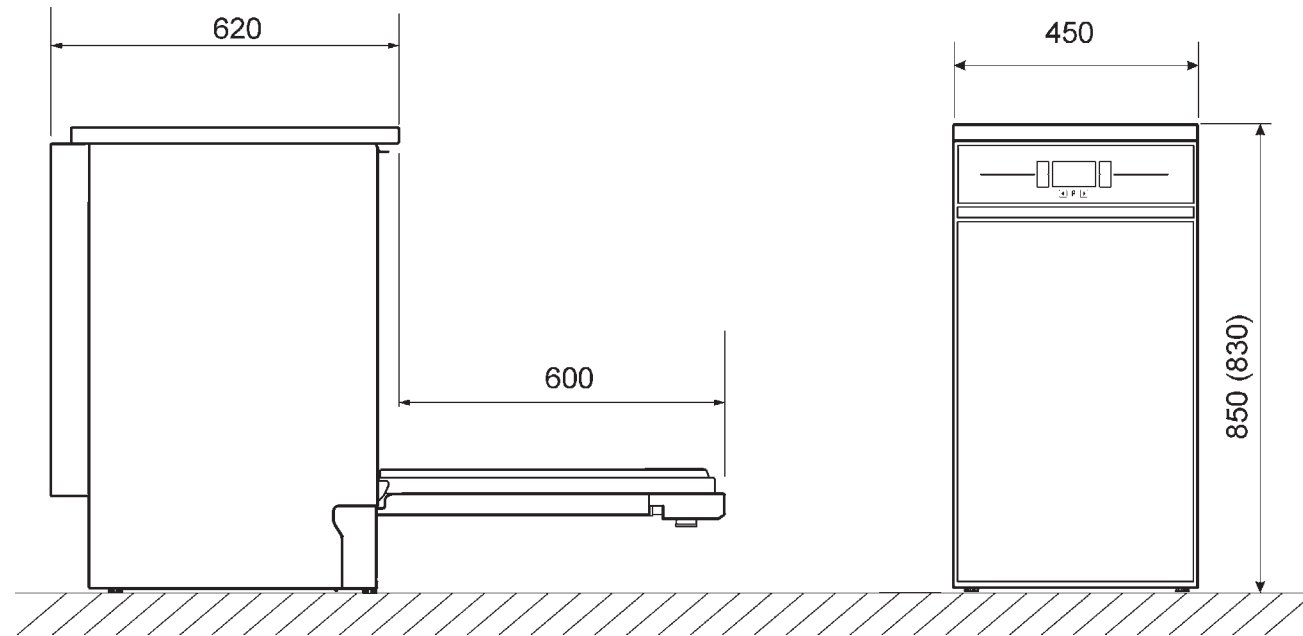
F1S: antifoam additive. Surfactant products for washing (soap and shampoo) and additives for petrochemical washing cycles .

Application fields: cleaning industry, petrochemical washing cycles
1 liter , 0,2-0,5 ml/liter.



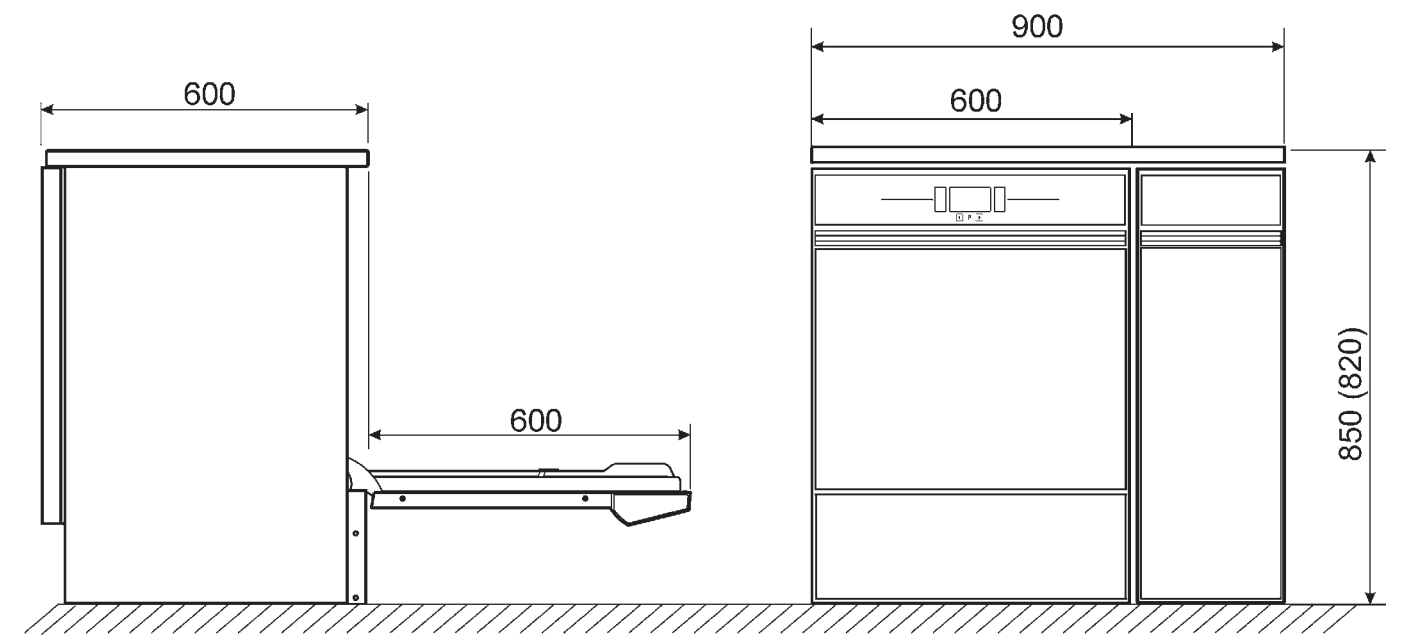
EXTERNAL DIMENSIONS - BASIC LINE

GW2145

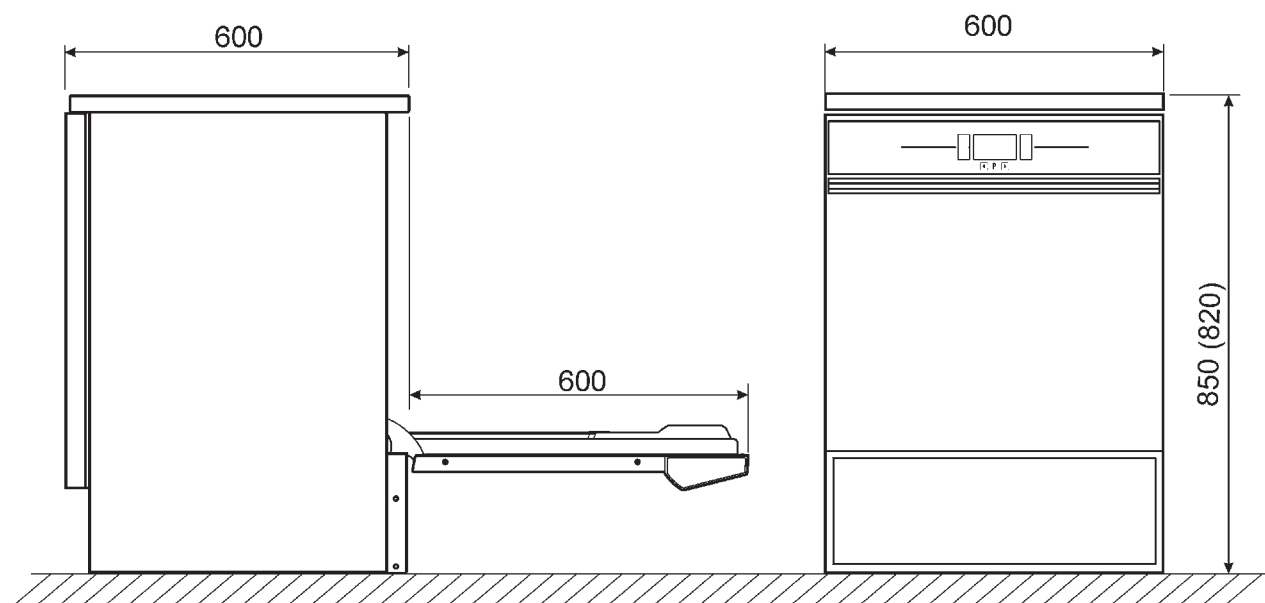


EXTERNAL DIMENSIONS - BASIC LINE

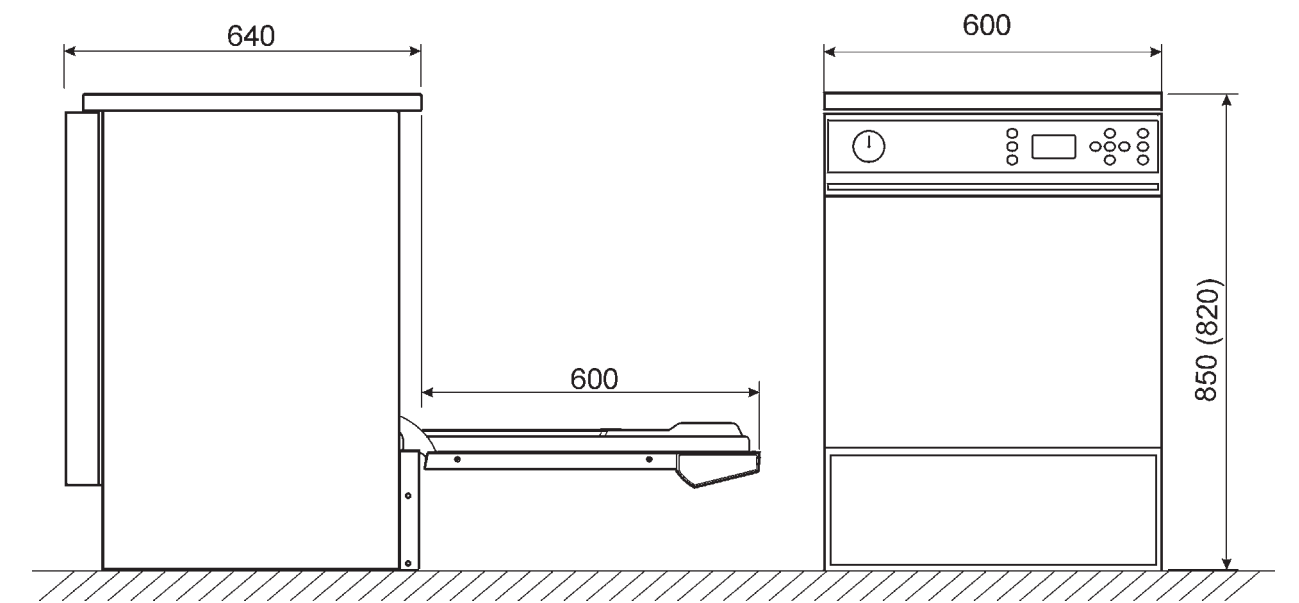
GW4190



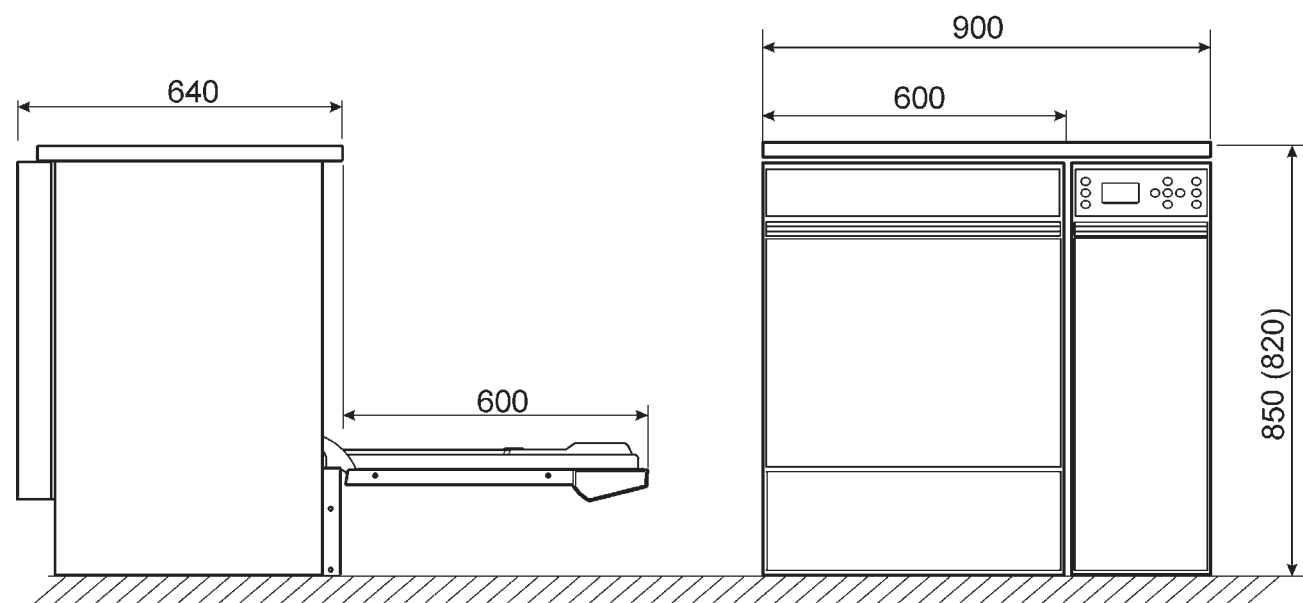
GW1160 - GW0160 - GW4060



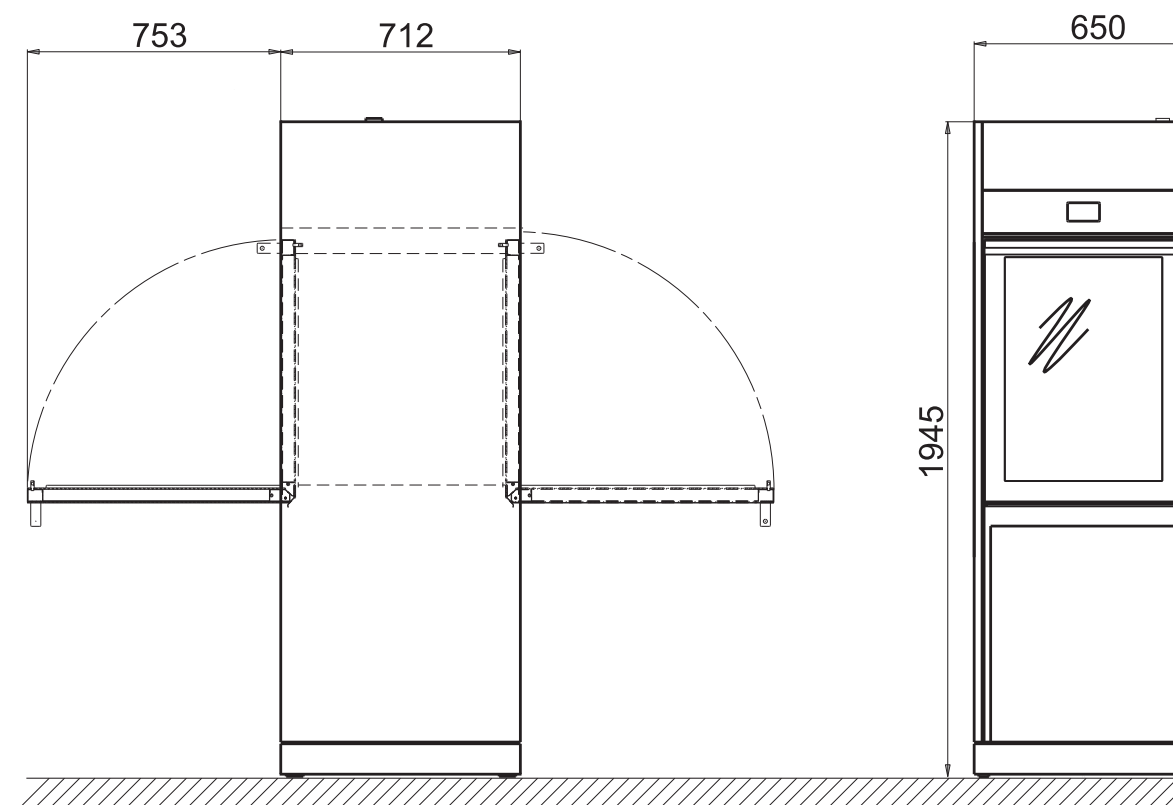
GW3060



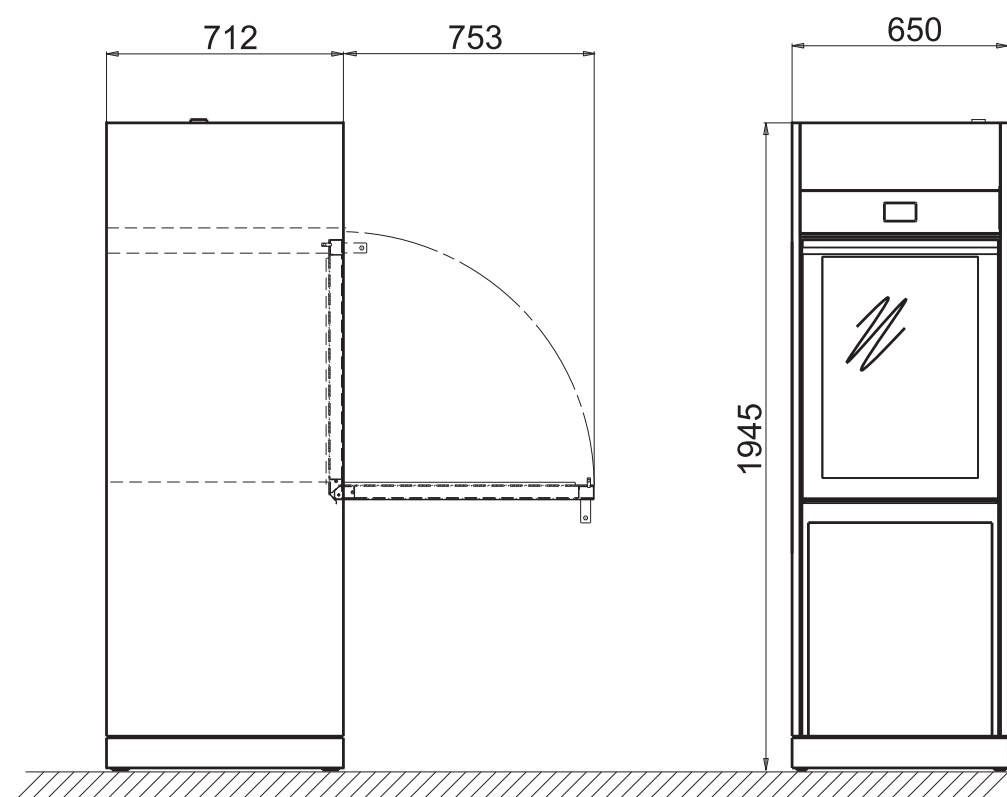
GW4090



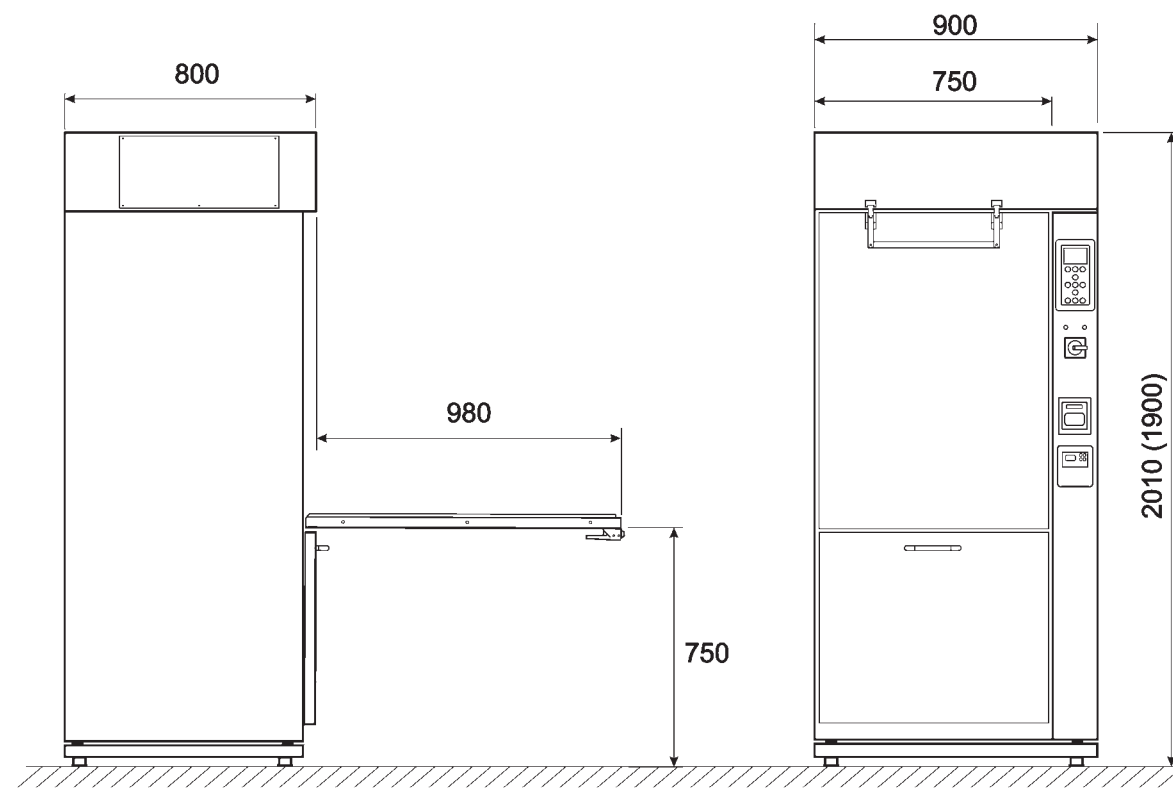
GW6010 - DOUBLE DOOR



GW6010 - SINGLE DOOR



GW6090



MACHINE TECHNICAL FEATURES

	GW0160	GW2145	GW1160	GW4060
Internal dimensions(LxDxH mm)	520x515x545	380x480x590	520x515x545	520x515x545
External dimensions (LxDxH mm)	600x605x850 (830 with built-in top)	450x620x850 (830 with built-in top)	600x605x850 (830 with built-in top)	900x605x850 (830 with built-in top)
Standard programs stored	7	9	9	9
Modifiable programs	no	6	6	6
Detergent dosing system	Powder dispenser or peristaltic pump			
Neutralizing dosing system	Peristaltic pump			
Max nr.of dosing pumps	2	2	3	3
Volume detergent control	optional			
Detergent cabinet	no	no	no	no
Display	With segments and communication led icons			
Control panel	Membrane keyboard			
Steam condasator	no	no	optional	optional
Drying system	Thermodynamic	Thermodynamic	Thermodynamic	Forced hot air through "drying system"
Pre-filter class C	n.a.	n.a.	n.a.	yes
Cold water supply	yes			
Hot water supply	n.a.	n.a.	n.a.	n.a.
Demineralized water supply	yes			
Integrated water softener	yes			
Washing pump	400l/min	200l/min	400l/min	400l/min
Conductivity control	n.a.			
Printer	no	optional	optional	optional
Door interlock	yes			
Net weight (kg)	72	61	74	77
Conformity	2006/95/CEE,93/68/CEE, 2004/108/CEE			
Supply/Max power	1/N/PE/230V-50Hz-2,8 KW As an alternative: 3/N/PE/400V-50Hz-7,0KW	1/N/230V 50Hz-3,3 kW	1/N/PE/230V-50Hz-2,8 KW As an alternative: 3/N/PE/400V-50Hz-7,0KW	1/N/PE/230V-50Hz-2,8 KW As an alternative: 3/N/PE/400V-50Hz-7,0KW
Possibility of 60Hz supply	yes			
Equipped with plug	no	yes	no	no

MACHINE TECHNICAL FEATURES

	GW4190	GW3060	GW4090
Internal dimensions(LxDxH mm)	520x515x545	520x515x545	520x515x545
External dimensions (LxDxH mm)	900x605x850 (830 with built-in top)	600x640x850 (830 with built-in top)	900x640x650 (830 with built-in top)
Standard programs stored	9	20	20
Modifiable programs	6	10(expandable to 50)	10(expandable to 50)
Detergent dosing system	Powder dispenser or peristaltic pump	Powder dispenser or peristaltic pump	Peristaltic pump
Neutralizing dosing system	Peristaltic pump		
Max nr.of dosing pumps	3	4	4
Volume detergent control	optional		
Detergent cabinet	yes	no	yes
Display	With segments and communication led icons	Backlit graphic LCD display 128x64 pixel	Backlit graphic LCD display 128x64 pixel
Control panel	Membrane keyboard		
Steam condensator	optional		
Drying system	Forced hot air through "drying system"	Thermodynamic	Forced hot air through "drying system"
Pre-filter class C	yes	n.a	yes
Cold water supply	yes	yes	yes
Hot water supply	n.a.	yes	yes
Demineralized water supply	yes	yes	yes
Integrated water softener	yes	yes	yes
Washing pump	400l/min	400l/min	400l/min
Conductivity control	n.a	optional	optional
Printer	optional	optional	optional
Door interlock	yes	yes	yes
Net weight (kg)	83	76	83
Conformity	2006/95/CEE,93/68/CEE, 2004/108/CEE		
Supply/Max power	1/N/PE/230V-50Hz-2,8 KW As an alternative: 3/N/PE/400V-50Hz-7,0KW		
Possibility of 60Hz supply	yes		
Equipped with plug	no		

MACHINE TECHNICAL FEATURES

	GW6010	GW6090
Internal dimensions(LxDxH mm)	546x620x690	670x650x835
External dimensions (LxDxH mm)	650x720x1945	2035x801x902
Standard programs stored	20	20
Modifiable programs	20	10
Detergent dosing system	peristaltic pump	
Neutralizing dosing system	peristaltic pump	
Max nr.of dosing pumps	4	5
Volume detergent control	optional	
Detergent cabinet	yes	
Display	4.3" TFT colour graphic display	Backlit graphic LCD display 128x64 pixel
Control panel	Capacitive sensing touch screen	Membrane keyboard
Steam condenser	optional	no
Drying system	Forced hot air through "drying system"	
Pre-filter class C	yes	
Cold water supply	yes	
Hot water supply	yes	
Demineralized water supply	yes	
Integrated water softener	no	
Washing pump	600l/min	2 x 400l/min
Conductivity control	optional	
Printer	optional	
Door interlock	yes	
Net weight (kg)	248	282
Conformity	2006/95/CEE,93/68/CEE, 2004/108/CEE	
Supply/Max power	3/N/PE/400V 50Hz-13KW	3/N/PE/400V 50Hz 18.5 kW
Possibility of 60Hz supply	yes	
Equipped with plug	no	



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