smeg
INSTRUMENTS

# washing disinfection catalogue

washing and disinfection machines
laboratory sector

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Founded in Guastalla in
1948, the Smeg Group with almost 2000 employees and 12 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 more than 20 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.


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## 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.
A toll-free number can be called for round-the-clock qualified assistance for every need. Putting your trust in Smeg means finding an after-sales service working from a warehouse of 5,000 $m^2$ 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 9001:2000 and ISO 13485:2004 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.

OVER 20 YEARS' SERVICE, TECHNOLOGY AND SAFETY

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

## VAST RANGE OF WASHING ACCESSORIES

Smeg offers a vast 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 fully 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 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 GW3060 and GW4090 models have 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 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.
The injection point and the quantity of additive to be injected are stored in the working programs.

## PROGRAMMABLE WASHING CYCLES

The heart of the new-generation Smeg disinfection machines is the ultra modern control system with 4 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 USB, RS232 or LAN connections and the WD-TRACE ® registered 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.

## WIDE CHOICE IN WASHING VOLUMES

The range of professional Smeg washing 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 wash chambers are made of AISI 316 L 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. Standard washing chamber 520x515x545 mm. Possibility of washing, disinfecting and drying.

### GW4090

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

The plastic materials used are the result of more than 20 years of testing and direct experience in the most varied application fields. They are heat-resistant and inert and offer excellent resistance to corrosive substances and selected organic solvents. The range of machines meets the glassware decontamination requirements of laboratories operating in the general chemical, organic and petrochemical fields. For laboratories operating in the biological sector, Smeg guarantees complete biological decontamination (in accordance with BGVV standards).

## GW6090

GW6090 is a machine with a high loading capacity capable of handling large quantities of material in a short space of time and of washing large-sized instruments.
Washing chamber 670x650x835 mm (three times the useful volume of medium-sized machines).
Able to load up to three direct injection glassware levels or 3 levels with rotating spray arms.

The new generation of Smeg glassware washers GW3060, GW4090 and GW6090 may today be considered the technological benchmark in the glassware washing and disinfection sector.
Every laboratory has its own particular professional washing problems: all of them, be it in general chemistry or bacteriology, organic chemistry or petrochemistry, food or pharmaceutics, Have residues that need to be treated in a different and appropriate way to achieve the required level of cleaning and disinfection.

## PROGRAMMABLE

The heart of the new generation of Smeg disinfectors is the leading-edge management system controlled by 4 microprocessors 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 USB, RS232 or LAN connections and the WD-TRACE software ®. 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.

## 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.

## 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 to be positioned directly in the can of the products used.

## 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 STORE

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 store located inside the reduced dimension of the glassware washer itself. It can contain up to four 2-litre containers for the GW4090 series and four 5-litre containers for the GW6090 series. No product feed pipes project from the volume of the glassware washer.

## LAN CONNECTION

The new generation of Smeg disinfectors has an innovative optional “WD-LAN” for small-medium glassware. This accessory comprises a data communication board which directly connects the glassware washer to the data network. Thanks to the LAN connection and the dedicated Smeg WD-TRACE 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 disinfector 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.

## CONNECTIONS RS232 AND USB

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 $A_0$

Is a numerical value deriving from an equation that directly relates two fundamental parameters: temperature and thermal disinfection time.
Basically, the value of $A_0$ 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 included in 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 air, especially in the versions positioned underneath worktops.
In air-conditioned rooms moreover, limiting the dispersion of heat from the glassware washer reduces the work load of the air-conditioning system, considerably decreasing electricity consumption and unwanted temperature changes.

## GW3060

# TECHNICAL DATA SHEET


| **GW3060 TECHNICAL FEATURES** | All versions |
|---|---|
| Electronic control | 3 microprocessors +1 (optional communication card) |
| Standard programs stored | 20 |
| Settable programs | 10 (expandable to 50) |
| Backlit graphic LCD display | 128 x 64 pixels |
| Clock and calendar | yes |
| Reprogrammable phases | 10 |
| Phase parameters | type of water, detergent quantity, target temperature, extension time in minutes, drying temperature and time |
| Tank internal temperature | 5°C to 95° C |
| Accuracy | 0.1°C |
| Temperature sensors in tank | PT 1000 CLASS B IEC 60751 |
| Time display | 5 digits |
| Feed pumps (50 ml/min) | 4 max |
| Powder detergent dispenser | GW3060BX and GW3060BXC versions only |
| Safety lock | yes, with electromagnetic release |
| Safety devices | safety thermostats, door interlock |
| Alarm display | 80 |
| Troubleshooting menu | yes |
| Program editing | yes (via password) |
| Password | 4 levels |
| Languages | 4: Italian, English, French, German (on request: Spanish, Polish, Swedish, Russian, Japanese) |
| **AUXILIARY FUNCTIONS** | |
| External sensor duct | optional |
| Waste water separation solenoid valve control | yes |
| RS232 serial port for PC connection | yes |
| RS232 serial port for printer | yes |
| USB serial port | optional |
| LAN connection | optional |
| Cycle storage | yes |
| Cycle file download | yes |
| **WATER SUPPLY (PRESSURE 1.5-5 BAR)** | |
| Cold/hot water hardness | max 42° F |
| Demineralised water conductivity | <20µS/cm |
| Demineralised water pump | optional |
| Water softener incorporated | yes |
| Recirculation pump | 400 l/min |
| **WATER HEATING** | |
| Electrical | 6.3 kW max |
| Water pre-heating via boiler | optional |
| **VAPOUR CONDENSER** | for GW3060BXC, GW3060SC, GW3050SC and GW3060PC versions |
| **DIMENSIONS LxDxH mm** | |
| Outside (with built-in top) | 900x640x850 (830) |
| Inside | 520x515x545 |
| Net weight (kg) | 120 |
| **STEEL** | |
| Wash tank | AISI 316L |
| Exterior covering | AISI 304 |
| **ELECTRICAL POWER SUPPLY** | |
| Max. voltage/power | 1/N/PE 230V ~ 50Hz 2.8 kW |
| | 3/N/PE 400V ~ 50Hz 7.0 kW |
| **NOISE** | 50 dB |
| **CONFORMITY** | 2006/95/EEC, 93/68/EEC, 2004/108/EEC |
| | EN61010-1, EN61010-2-040, EN61326:1997+A1:1998 |
| **VERSIONS AVAILABLE** | GW3060BX, GW3060BXC, GW3060S, GW3060SC, GW3060P, GW3060PC |

## GW4090

# TECHNICAL DATA SHEET


| | |
|---|---|
| **GW4090 TECHNICAL FEATURES** | |
| Electronic control | 3 microprocessors +1 (optional communication card) |
| Standard programs stored | 20 |
| Settable programs | 10 (expandable to 50) |
| Backlit graphic LCD display | 128 x 64 pixels |
| Clock and calendar | yes |
| Reprogrammable phases | 10 |
| Phase parameters drying temperature and time | type of water, detergent quantity, target temperature, extension time in minutes, |
| Tank internal temperature | 5°C to 95° C |
| Accuracy | 0.1°C |
| Temperature sensors in tank | PT 1000 CLASS B IEC 60751 |
| Time display | 5 digits |
| Feed pumps (50 ml/min) | 4 max (2 are standard) |
| Safety lock | yes, with electromagnetic release |
| Safety devices | safety thermostats, door interlock |
| Alarm display | 80 |
| Troubleshooting menu | yes |
| Program editing | yes (via password) |
| Password | 4 levels |
| Languages | 4: Italian, English, French, German (on request: Spanish, Polish, Swedish, Russian, Japanese) |
| **AUXILIARY FUNCTIONS** | |
| External sensor duct | optional |
| Waste water separation solenoid valve control | yes |
| RS232 serial port for PC connection | yes |
| RS232 serial port for printer | yes |
| USB serial port | optional |
| LAN connection | optional |
| Cycle storage | yes |
| Cycle file download | yes |
| **DRYING SYSTEM** | |
| Drying fan | 0.4 kW |
| Drying heating element | 2 kW |
| Prefilter class C 98% | yes |
| HEPA filter Class S 99.999% | yes |
| Drying air temperature | 75°C-100°C |
| **WATER SUPPLY (PRESSURE 1.5-5 BAR)** | |
| Cold/hot water hardness | max 42° F |
| Demineralised water conductivity | <20µS/cm |
| Demineralised water pump | optional |
| Water softener incorporated | yes |
| Recirculation pump | 400 l/min |
| **WATER HEATING** | |
| Electrical | 6.3 kW max |
| Water pre-heating via boiler | optional |
| **STEAM CONDENSER** | standard on model GW4090C |
| **DIMENSIONS LxDxH mm** | |
| Outside (with built-in top) | 900x640x850 (830) |
| Inside | 520x515x545 |
| Net weight (kg) | 120 |
| **STEEL** | |
| Wash tank | AISI 316L |
| Exterior covering | AISI 304 |
| **ELECTRICAL POWER SUPPLY** | |
| Max. voltage/power | 1/N/PE 230V ~ 50Hz 2.8 kW<br>3/N/PE 400V ~ 50Hz 7.0 kW |
| **NOISE** | 50 dB |
| **CONFORMITY** | 2006/95/EEC, 93/68/EEC, 2004/108/EEC<br>EN61010-1, EN61010-2-040, EN61326:1997+A1:1998 |
| **VERSIONS AVAILABLE** | GW4090, GW4090C |

## MACHINE OPTIONALS

**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.

**AD9**

Additional peristaltic pump for feeding liquid additives (defoaming agents, disinfectants, inhibitors, caustic soda) complete with level sensor.
The quantity of additive delivered by the pump is controlled directly by the machine microprocessor.
Versions available: **AD10/AD11/AD12**

**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 and 1/2” valves with Viton membrane and valve opening is controlled by the machine microprocessor.

**CP3050**

External can or demineraliser cabinet. It can be installed next to the GW3060 glassware washer to house the cans of detergent or WP3000 demineralisation columns.

## STAINLESS STEEL BASES AND FRAMES

**B9040**

Base for 90 cm wide models only.
The frame allows bringing 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
**B6040** (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 used by the instrument washer.
Dimensions: l x d x h = 900x530x400 mm

**T9040**

Frame for 90 cm wide models only.
The frame allows bringing 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

## TRACEABILITY OPTIONALS

**WD-PRINT**

External 24-character impact matrix printer with real-time clock function.
Complete with thermal paper roll.
**WD-PAPER** Thermal paper roll. Diameter 50 mm, width 57 mm.

# GW3060 AND GW4090 CONFIGURATIONS

The machine bodies of the 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.

**TWOSPRAYING LEVELS**

Standard lower basket CS2 and upper basket with sprayer 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 positioned on two levels to make better use of the space.

**TWO SPRAYING/INJECTION LEVELS**

Standard lower basket CS2 and upper injection basket. In this configuration there are two washing levels: a lower level with rotary sprayers 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 when needing to wash many different types of glassware at the same time without having to resort to a specific larger capacity trolley.

## BASIC TROLLEYS

**CS1-1**

Upper trolley with sprayer.
Suitable for positioning stainless steel baskets and supports.

**CS2**

Basic lower trolley.
Suitable for positioning stainless steel baskets and supports.

## FLASK AND BEAKER SUPPORTS

**SB15**

16-position spring support to position flasks, beakers, etc.
and to be used together with the standard baskets CS1-1 and CS2 and the trolley LM20. 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 shown in the photo): 28-position spring support to hold flasks, beakers etc. and to be used with the standard baskets CS1-1 and CS2 and the trolley LM20.
It has a capacity of 28 items and is made of stainless steel.
Recommended for flasks with a capacity of up to 1000 ml.

**SB30**

30-position support to hold beakers of any size and to be used with the standard baskets 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 basket 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.

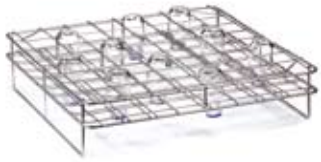
**SL9**

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 24 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 trolley 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 ¼ 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, 50-70mm positioned on the upper level CS1-1.
**PD100S** - 38 items, 70-120mm positioned on the upper level CS1-1.
**PD70I** - 40 items, 50-70mm positioned on the upper level CS2.
**PD100I** - 38 items, 70-120mm positioned on the upper level CS2.

## BOTTOM RACKS FOR SMALL GLASSWARE, BASKETS AND HOLDING NETS

**PF1/2**

Additional accessory for the baskets CS1-1 and CS2 in flat AISI 304 stainless steel mesh with small mesh openings as 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 rack 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 rack for positioning on the top level only.

**RC1**

Holding nets with plastic-coated metal edges 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 basket, RC1/2 fits in half the basket, RC1/4 fits in a quarter of the basket.

**RC1/2 - RC1/4**

Holding nets with plastic-coated metal edges 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 basket, RC1/2 fits in half the basket, RC1/4 fits in a quarter of the basket.

## BASKETS

**CPF1**

Complete bottom level basket with edging and handles.
Made of flat stainless steel mesh with mesh openings of 10x10 mm.
Dimensions l x d x h = 445x444x68 mm (height with handles 110 mm).
Positioning on the lower trolley CS2.
**CPF1/2** (not shown in the photo): bottom level basket with edging and handles. Made of flat stainless steel mesh with mesh openings of 10x10 mm.
Dimensions l x d x h = 225x444x68 mm (height with handles 110 mm).
It takes up ½ the space of the lower trolley CS2.

**CSK2**

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

## SPIGOTS

**ULB40**

Injection trolley 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.

## SPECIAL TROLLEYS

**CSK6L**

Trolley with 3 washing levels.
Made of stainless steel and suitable for positioning specific supports and baskets. Upper levels with spraying arm incorporated. Lower level with sprayer at the bottom of the machine. Typical capacity: 6 baskets model CSK2.

**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.

## 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.
Positioning 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. Positioning 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. Positioning 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. Positioning on two levels.
**LM80** (not shown in the photo): version without drying system connection.

N.B. The models with drying system connection (DS versiones) are specific for GW4090 glassware washers.

## 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. Positioning 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. Positioning 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. Positioning on the upper level.
**LB40** (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 two 10-litre bottles + two 5-litre Schott-type bottles. Fitted with 8 special spigots.
Positioning 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.
Positioning 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.
Positioning 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.
Positioning on 2 levels.
**LB32** (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 TEST TUBES CENTRIFUGE

**KP100DS**

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. Positioning on the upper washing level.
**KP100** (not shown in the photo): version without drying system connection.

## MIXEDINJECTION 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. Positioning 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.
Positioning on the lower level.
**LPM20/20** (not shown in the photo): version without drying system connection.

## GW6090

# TECHNICAL DATA SHEET


| | |
|---|---|
| **GW6090 TECHNICAL FEATURES** | |
| Electronic control | 3 microprocessors +1 (optional communication card) |
| Standard programs stored | 20 |
| Settable programs | 10 (expandable to 50) |
| Backlit graphic LCD display | 128 x 64 pixels |
| Clock and calendar | yes |
| Reprogrammable phases | 10 |
| Phase parameters | type of water, detergent quantity, target temperature, extension time in minutes, drying temperature and time |
| Tank internal temperature | 5°C to 95° C |
| Accuracy | 0.1°C |
| Temperature sensors in tank | 1 PT 1000 CLASS B IEC 60751 |
| Time display | 5 digits |
| Feed pumps (50 ml/min) | 4 |
| Detergent level sensor | optional |
| Safety lock | yes, with electromagnetic release |
| Safety devices | safety thermostats, door interlock |
| Alarm display | 80 |
| Troubleshooting menu | yes |
| Program editing | yes (via password) |
| Password | 4 levels |
| Languages | 4: Italian, English, French, German (on request: Spanish, Polish, Swedish, Russian, Japanese) |
| **AUXILIARY FUNCTIONS** | |
| External sensor duct | optional |
| Waste water separation solenoid valve control | yes |
| RS232 serial port for PC connection | yes |
| RS232 serial port for printer | yes |
| USB serial port | optional |
| LAN connection | optional |
| Water quality check | optional |
| Cycle storage | yes |
| Cycle file download | yes |
| **DRYING SYSTEM** | |
| Drying fan | 0.8 kW |
| Drying heating element | 4 kW |
| Prefilter class C 98% | yes |
| HEPA filter Class S 99.999% | yes |
| Drying air temperature | 75°C-100°C |
| **WATER SUPPLY (PRESSURE 1.5-5 BAR)** | |
| Cold/hot water hardness | max 42° F |
| Demineralised water conductivity | <20µS/cm |
| Demineralised water pump | optional |
| Water softener incorporated | no |
| Recirculation pump | 2 pumps of 400 l/min |
| **WATER HEATING** | |
| Electrical | 18.5 kW max |
| Steam | optional (GW6090DSV version) |
| Water pre-heating via boiler | optional |
| **DIMENSIONS LxDxH mm** | |
| Outside | 2035x801x902 (GW6090DS and GW6090DSV versions) and 1835x801x902 (GW6090 version) |
| Inside | 670x650x835 |
| Net weight (kg) | 282 |
| **STEEL** | |
| Wash tank | AISI 316L |
| Exterior covering | AISI 304 |
| **ELECTRICAL POWER SUPPLY** | |
| Max. voltage/power | 3/N/PE 400V ~ 50Hz 18.5 kW |
| **NOISE** | 50 dB |
| **CONFORMITY** | 2006/95/EEC, 93/68/EEC, 2004/108/EEC EN61010-1, EN61010-2-040, EN61326:1997+A1:1998 |
| **AVAILABLE VERSIONS** | GW6090, GW6090DS, GW6090DSV |

# GW6090 OPTIONALS

**WD-PRINT**

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

**WD-LS6090**

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.


**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 suggested to execute further rinsing. Measuring range between 0 and 1000 µs/cm. Value reading shown on a backlit LCD display. Display of out-of-scale parameters. Built into the front panel of the machine.

**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.

**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 tank. It signals any feeding malfunctions or when the products run out by showing a warning on the display.

**AD13**

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-LAN**

Communication card with LAN port to connect the glassware washer to the local area network. The connection allows remote communication with the machine via the WD-TRACE software and you can view all the information provided by the glassware washer on your PC. YOU can also change all the operating parameters without having to intervene directly on the machine. The WD-LAN communication card is also fitted with USB and RS232 ports to interface the glassware washer with a fixed PC station adjacent to the machine or with an external printer.

**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 and 1/2” valves with Viton membrane and valve opening is controlled by the machine microprocessor.

# GW6090 WASHING CONFIGURATION

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 by optimised according to washing requirements. Glassware of various sizes with heights up to 835 mm and volumes up to 25 litres can be washed.

| | DIRECT INJECTION SYSTEMS | MAXIMUM HEIGHT OF GLASSWARE (mm) | | | | ROTATING SPRAYER SYSTEM | MAXIMUM HEIGHT OF GLASSWARE (mm) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **LEVELSDgr3** | **C63_L690** Telescopic base linjection system | 170 | 450 | 170 | 720 | **C62** Telescopic base with rotating sprayer | 105 | 380 | 105 | 835 |
| **LEVELSDgr2** | **C63_L680** Telescopic base injection system | 210 | | | | **C62** Telescopic base with rotating sprayer | 195 | | 640 | |
| **LEVELSDgr1** | **C61_L685** Telescopic base with rotating sprayer | 260 | 260 | 545 | | **C61** Telescopic base using the rotating sprayer at the bottom of the wash tank | 365 | 365 | | |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# GW6090 WASHING CONFIGURATION

## 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 SPRAYERS

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.
Level 3: C63 telescopic support with L690 direct injection system.
Maximum useful height 170 mm 76 spigots.

### ROTATING SPRAYERS

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 (1.18$m^2$ 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 SPRAYERS

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 SPRAYERS

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.

# GW6090 WASHING CONFIGURATION

## TWO WASHING LEVELS

### ROTATING SPRAYERS

Level 1: C61 basic trolley. Maximum useful height 365 mm.
Level 2: C62 telescopic base with rotating sprayer.
Maximum useful height 385 mm.
Washing surface 625x625 (0.78$m^2$ 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 SPRAYERS

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 SPRAYERS

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 mm using spigots.
Trolleys can be developed for special applications on request.
Level 1: C64 basic trolley.
Maximum useful height 835 mm.

**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.

**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 washing 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 work 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 work level.

**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 sprayer
2. Telescopic support with top.

# WATER TREATMENT

To obtain high quality washing standards, it is fundamentally important to used correctly treated water.
In the prewash, washing and neutralisation phases, softened water should always be used. Models GW3060 and GW4090 have an efficient built-in decalcifier 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.
TheGW6090 series, on the contrary, uses large quantities of water during the cleaning phase and therefore requires an external treatment system. Smeg therefore proposes the WS range of water softeners featuring high performance, compact size and ease of installation. 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 both the compact and efficient WP3000 mixed resin bed demineraliser and the RO series of reverse osmosis systems.


**WP3000**
Resin column water purifier

The WP3000 water purifier can be used with GW3060 and GW4090 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 exhausted resins disposal bag.

**WO-01**
Reverse osmosis water purifier

The WO-01 is a microprocessor-controlled reverse osmosis system suitable for GW6090. Suitable for the continuous and intermittent production of ISO 3696 grade III-IV demineralised water used to supply basic demineralised water to glassware washers, laboratories and other purification and analysis systems. The system incorporates a stopgap tank holding 35 litres of water for immediate supply. An internal autoclave pump pressurises the purified water delivery circuit which automatically delivers 10 litres a minute at 1.2 bar. The recirculation circuit is managed by a pressure sensor which allows the system to supply the distribution network of an entire laboratory and one or more glassware washers: the recirculation system is automatically activated when a tap in the supply network is opened.
The compact structure and size of the WO-01 reverse osmosis water purifier allow it to be installed under worktops, thus optimising the use of space.
(For technical characteristics see the table on page 53)

**WS9E, WS11E, WS14E, WS17E**
Water treatment systems

The WSE series of appliances are technological water softeners for GW3060, GW4090 and GW6090 capable of completely eliminating lime from water.
The resins are regenerated using normal sodium chloride.
Suitable for softening WD6090 glassware washer supply water and for centralised treatment systems.
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)** | 300x470x540 | 300x470x660 | 300x470x815 | 300x470x1070 |
| **SALT TANK DIMENSIONS L x D 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. Smeg also has numerous disinfectants designed for thermolabile instruments and anaesthesia tools for use in the machine during the thermochemical cycle, as well as special lubricants and additive that can lengthen the lifetime of the medical devices.

## POWDERED ALKALINE DETERGENTS

**DETERGLASS**

Universal powdered alkaline detergent.
10 kg pack

**DETERGLASS SP**

Universal powdered alkaline detergent, phosphate-free.
10 kg pack

## LIQUID ALKALINE DETERGENTS

**DETERLIQUID D**

Liquid alkaline detergent.
10 litre container.

**DETERLIQUID D2**

Liquid alkaline detergent, phosphate-free.
5 litre container.

**DETERLIQUID SP**

Liquid alkaline detergent for
water and pharmaceutical analysis, phosphate-free. 5 litre container.

## LIQUID ACID NEUTRALISERS

**ACIDGLASS P**

Liquid acid neutraliser for laboratory glassware.
5litre container.

**ACIDGLASS P2**

Liquid acid neutraliser for laboratory glassware.
5litre container.

**ACIDGLASS SP**

Medium-acid liquid neutraliser
for laboratory glassware, phosphate-free. 5litre container.

## SPECIAL ADDITIVES

**DRY CLEAN**

Sspecial additive for promoting drying
after the rinse phases. 5litre container.

**F1S**

Silicon defoaming additive for petrol cycles, phosphate-free.
1 litre container.

**F2S**

Non-silicon universal defoaming additive, phosphate-free.
1 litre container.

# GW3060 GW4090 PROGRAMME TABLE

| PROGRAMME N. | PROGRAMME NAME | PHASE 1 | PHASE 2 | PHASE 3 | PHASE 4 | PHASE 5 | PHASE 6 | WASHING TIME MIN. | DRYING | AF TOT [l] | AC TOT [l] | AD TOT [l] | KW/H TOT | WATER USED BY CONDENSER TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Programme 1** | **PREWASH** | prewash | | | | | | | description | | | | | |
| | duration [m] | 8 | | | | | | | / | | | | | |
| | qty detergent [ml] | 0 | | | | | | | / | | | | | |
| | power consumption [kW/h] | 0,02 | | | | | | | / | | | | | |
| | water type AC/AF/AD | AF | | | | | | | / | | | | | |
| | temperature [°C] | T.amb | | | | | | | | | | | | |
| | hold time [m] | 5 | | | | | | | | | | | | |
| **Programme 2** | **PLASTIC WASH** | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 60°C | | | drying | | | | | |
| | duration [m] | 18 | 5 | 4 | 4 | 15 | | 46 | 0 | | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | 0 | | | | | | | | |
| | power consumption [kW/h] | 1,75 | 0,01 | 0,01 | 0,01 | 1,4 | | | | | | | 3,18 | |
| | water type AC/AF/AD | AF | AC | AC | AD | AD | | | | 10 | 20 | 20 | | 0 |
| | temperature [°C] | 60 | T.amb | T.amb | T.amb | 60 | | | 0 | | | | | |
| | hold time [m] | 4 | 2 | 1 | 1 | 1 | | | | | | | | |
| **Programme 3** | **QUICK WASH** | wash | neutralisation | rinse | rinse in demin. water 75°C | | | | drying | | | | | |
| | duration [m] | 18 | 5 | 6 | 18 | | | 47 | 30 | | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | | |
| | power consumption [kW/h] | 1,79 | 0,01 | 0,01 | 1,79 | | | | 0,5 | | | | 4,10 | |
| | water type AC/AF/AD | AC | AC | AF | AD | | | | | 10 | 20 | 10 | | 4 |
| | temperature [°C] | 75 | T.amb | T.amb | 75 | | | | 100 | | | | | |
| | hold time [m] | 1 | 2 | 3 | 1 | | | | | | | | | |
| **Programme 4** | **MEDIUM WASH** | wash | neutralisation | rinse | rinse in demin. water 75°C | | | | drying | | | | | |
| | duration [m] | 22,5 | 5 | 6 | 18 | | | 51,5 | 30 | | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | | |
| | power consumption [kW/h] | 2,30 | 0,01 | 0,01 | 1,79 | | | | 0,5 | | | | 4,61 | |
| | water type AC/AF/AD | AC | AC | AF | AD | | | | | 10 | 20 | 10 | | 17 |
| | temperature [°C] | 75 | T.amb | T.amb | 75 | | | | 100 | | | | | |
| | hold time [m] | 5 | 2 | 3 | 1 | | | | | | | | | |
| **Programme 5** | **STANDARD WASH** | **w**ash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | | drying | | | | | |
| | duration [m] | 23 | 5 | 6 | 4 | 18 | | 56 | 30 | | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | 0 | | | | | | | | |
| | power consumption [kW/h] | 2,40 | 0,01 | 0,01 | 0,01 | 1,79 | | | 0,5 | | | | 4,72 | |
| | water type AC/AF/AD | AC | AC | AF | AD | AD | | | | 10 | 20 | 20 | | 20 |
| | temperature [°C] | 80 | T.amb | T.amb | T.amb | 75 | | | 100 | | | | | |
| | hold time [m] | 5 | 2 | 3 | 1 | 1 | | | | | | | | |
| **Programme 6** | **INTENSIVE WASH** | wash | neutralisation | rinse | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 6 | 26 | 5 | 4 | 5 | 18 | 64 | 30 | | | | | |
| | qty detergent [ml] | 50 | 50 | 40 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 2,7 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 5,03 | |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 40 | 20 | | 20 |
| | temperature [°C] | T.amb | 90 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 3 | 3 | 2 | 1 | 2 | 1 | | | | | | | |
| **Programme 7** | **INTENSIVE WASH BLOOD-STAINED GLASSWARE** | wash | neutralisation | rinse | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 6 | 21 | 6 | 4 | 5 | 18 | 60 | 30 | | | | | |
| | qty detergent [ml] | 50 | 50 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 2,1 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 4,43 | |
| | water type AC/AF/AD | AF | AF | AF | AF | AD | AD | | | 40 | | 20 | | 22 |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 3 | 3 | 3 | 1 | 2 | 1 | | | | | | | |
| **Programme 8** | **WASH AGAR STAINED GLASSWARE** | wash | neutralisation | rinse | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 6 | 21 | 6 | 4 | 5 | 18 | 60 | 30 | | | | | |
| | qty detergent [ml] | 50 | 50 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 2,1 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 4,43 | |
| | water type AC/AF/AD | AF | AC | AC | AC | AD | AD | | | 10 | 30 | 20 | | 22 |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 3 | 3 | 3 | 1 | 2 | 1 | | | | | | | |
| **Programme 9** | **INTENSIVE WASH AGAR STAINED GLASSWARE** | wash | neutralisation | rinse | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 22 | 26 | 5 | 4 | 5 | 18 | 80 | 30 | | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 2,2 | 2,7 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 7,22 | |
| | water type AC/AF/AD | AF | AC | AC | AC | AD | AD | | | 10 | 30 | 20 | | 38 |
| | temperature [°C] | 80 | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 3 | 5 | 2 | 1 | 2 | 1 | | | | | | | |
| **Programme 10** | **THERMAL DISINFECTION 93°C 3'** | thermal disinfection | neutralisation | rinse in demin.water | rinse in demin. water at 75°C | | | | drying | | | | | |
| | duration [m] | 21 | 5 | 5 | 18 | | | 49 | 30 | | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | | |
| | power consumption [kW/h] | 2,1 | 0,01 | 0,01 | 1,79 | | | | 0,5 | | | | 4,41 | |
| | water type AC/AF/AD | AC | AC | AD | AD | | | | | | 20 | 20 | | 22 |
| | temperature [°C] | 93 | T.amb | T.amb | 75 | | | | 100 | | | | | |
| | hold time [m] | 3 | 2 | 2 | 1 | | | | | | | | | |
| **Programme 11** | **THERMAL DISINFECTION 93°C 10'** | thermal disinfection | neutralisation | rinse in demin. water | rinse in demin. water at 75°C | | | | drying | | | | | |
| | duration [m] | 31 | 5 | 5 | 18 | | | 59 | 30 | | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | | |
| | power consumption [kW/h] | 3,3 | 0,01 | 0,01 | 1,79 | | | | 0,5 | | | | 5,61 | |
| | water type AC/AF/AD | AC | AC | AD | AD | | | | | | 20 | 20 | | 36 |
| | temperature [°C] | 93 | T.amb | T.amb | 75 | | | | 100 | | | | | |
| | hold time [m] | 10 | 2 | 2 | 1 | | | | | | | | | |

# GW3060 GW4090 PROGRAMME TABLE

| PROGRAMME N. | PROGRAMME NAME | PHASE 1 | PHASE 2 | PHASE 3 | PHASE 4 | PHASE 5 | PHASE 6 | WASHING TIME MIN. | DRYING | AF TOT [l] | AC TOT [l] | AD TOT [l] | KW/H TOT | WATER USED BY CONDENSER TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Programme 12** | **INTENSIVE THERMAL DISINFECTION 93°C 3'** | prewash | thermal disinfection | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 5 | 26 | 5 | 5 | 4 | 18 | 63 | 30 | | | | | |
| | qty detergent [ml] | 30 | 50 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 2,7 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 5,03 | |
| | water type AC/AF/AD | AF | AF | AC | AC | AD | AD | | | 20 | 20 | 20 | | 26 |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 2 | 5 | 2 | 2 | 1 | 1 | | | | | | | |
| **Programme 13** | **INTENSIVE THERMAL DISINFECTION 93°C 10'** | prewash | thermal disinfection | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 5 | 31 | 5 | 5 | 4 | 18 | 68 | 30 | | | | | |
| | qty detergent [ml] | 30 | 50 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 3,3 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 5,63 | |
| | water type AC/AF/AD | AF | AF | AC | AC | AD | AD | | | 20 | 20 | 20 | | 36 |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 2 | 10 | 2 | 2 | 1 | 1 | | | | | | | |
| **Programme 14** | **WASH PETROL-STAINED GLASSWARE** | prewash | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 5 | 22 | 5 | 5 | 5 | 18 | 60 | 30 | | | | | |
| | qty detergent [ml] | 0 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 2,3 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 4,63 | |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 40 | 20 | | 18 |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 2 | 1 | 2 | 2 | 1 | 1 | | | | | | | |
| **Programme 15** | **INTENSIVE WASH PETROL-STAINED GLASSWARE** | prewash | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 5 | 26 | 5 | 5 | 4 | 18 | 63 | 30 | | | | | |
| | qty detergent [ml] | 30 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 2,7 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 5,03 | |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 40 | 20 | | 26 |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 2 | 5 | 2 | 2 | 1 | 1 | | | | | | | |
| **Programme 16** | **WASH OIL-STAINED GLASSWARE** | prewash | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 14 | 22 | 5 | 5 | 4 | 18 | 68 | 30 | | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 1,3 | 2,3 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 5,92 | |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 40 | 20 | | 18 |
| | temperature [°C] | 50 | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 2 | 1 | 2 | 2 | 1 | 1 | | | | | | | |
| **Programme 17** | **INTENSIVE WASH OIL-STAINED GLASSWARE** | prewash | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 18 | 31 | 5 | 5 | 4 | 18 | 81 | 30 | | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 1,79 | 3,3 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,3 | | | | 7,21 | |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 40 | 20 | | 36 |
| | temperature [°C] | 75 | 93 | T.amb | T.amb | T.amb | 75 | | 80 | | | | | |
| | hold time [m] | 1 | 10 | 2 | 2 | 1 | 1 | | | | | | | |
| **Programme 18** | **WASH PETROL-STAINED GLASSWARE** | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | | drying | | | | | |
| | duration [m] | 26 | 5 | 4 | 5 | 18 | | 58 | 30 | | | | | |
| | qty detergent [ml] | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | | | |
| | power consumption [kW/h] | 2,7 | 0,01 | 0,01 | 0,01 | 1,79 | | | 0,5 | | | | 5,02 | |
| | water type AC/AF/AD | AC | AC | AC | AD | AD | | | | | 30 | 20 | | 26 |
| | temperature [°C] | 93 | T.amb | T.amb | T.amb | 75 | | | 100 | | | | | |
| | hold time [m] | 5 | 2 | 1 | 2 | 1 | | | | | | | | |
| **Programme 19** | **WASH DIESEL-STAINED GLASSWARE** | prewash | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 6 | 22 | 5 | 4 | 5 | 18 | 60 | 30 | | | | | |
| | qty detergent [ml] | 0 | 50 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 0,01 | 2,3 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 4,63 | |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 40 | 20 | | 18 |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 3 | 1 | 2 | 1 | 2 | 1 | | | | | | | |
| **Programme 20** | **INTENSIVE WASH** | wash | wash | neutralisation | rinse | rinse in demin.water | rinse in demin. water 75°C | | drying | | | | | |
| | duration [m] | 31 | 31 | 5 | 5 | 4 | 18 | 94 | 30 | | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 40 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 3,3 | 3,3 | 0,01 | 0,01 | 0,01 | 1,79 | | 0,5 | | | | 8,92 | |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 40 | 20 | | 68 |
| | temperature [°C] | 93 | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | | |
| | hold time [m] | 10 | 10 | 2 | 2 | 1 | 1 | | | | | | | |

**AF** = Cold water; **AC** = Hot water; **AD** = Demineralised water.

**N.B.**

The use of hot water in the washing and thermal disinfection phases with temperatures higher than 40°C reduces total cycle times by approximately 50%. Washing and thermal disinfection times are calculated according to an average supply water temperature of 10°C. Power consumption was calculated for three-phase machines. In the versions fitted with powder dispensers (GW3060BX and GW3060BXC), opening of the washing door can be programmed during washing.

# GW6090 PROGRAMME TABLE

| PROGRAMME N. | PROGRAMME NAME | PHASE 1 | PHASE 2 | PHASE 3 | PHASE 4 | PHASE 5 | PHASE 6 | WASHING TIME MIN. | DRYING | AF TOT [l] | AC TOT [l] | AD TOT [l] | KW/H TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Programme 1** | **PREWASH** | prewashing | | | | | | | description | | | | |
| | duration [m] | 10 | | | | | | 10 | / | | | | |
| | qty detergent [ml] | 0 | | | | | | | / | | | | |
| | power consumption [kW/h] | 0,25 | | | | | | | / | | | | |
| | water type AC/AF/AD | AF | | | | | | | / | | | | |
| | temperature [°C] | T.amb | | | | | | | | | | | |
| | hold time [m] | 5 | | | | | | | | | | | |
| **Programme 2** | **PLASTIC WASH** | washing | neutralisation | rinse | rinse demi | rinse in demin.water 60°C | | | drying | | | | |
| | duration [m] | 18 | 7 | 6 | 6 | 15 | | 52 | 0 | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 3,9 | 0,1 | 0,05 | 0,05 | 3 | | | | | | | 7,10 |
| | water type AC/AF/AD | AF | AC | AC | AD | AD | | | | 40 | 80 | 80 | |
| | temperature [°C] | 60 | T.amb | T.amb | T.amb | 60 | | | 0 | | | | |
| | hold time [m] | 4 | 2 | 1 | 1 | 1 | | | | | | | |
| **Programme 3** | **QUICK WASH** | washing | neutralisation | rinse | rinse in demin.water75°C | | | | drying | | | | |
| | duration [m] | 17 | 7 | 8 | 17 | | | 49 | 30 | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | |
| | power consumption [kW/h] | 3,80 | 0,1 | 0,15 | 3,80 | | | | 1 | | | | 8,85 |
| | water type AC/AF/AD | AC | AC | AF | AD | | | | | 40 | 80 | 40 | |
| | temperature [°C] | 75 | T.amb | T.amb | 75 | | | | 100 | | | | |
| | hold time [m] | 1 | 2 | 3 | 1 | | | | | | | | |
| **Programme 4** | **MEDIUM WASH** | washing | neutralisation | rinse | rinse in demin.water75°C | | | | drying | | | | |
| | duration [m] | 21 | 7 | 8 | 17 | | | 53 | 30 | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | |
| | power consumption [kW/h] | 5,00 | 0,1 | 0,15 | 3,80 | | | | 1 | | | | 10,05 |
| | water type AC/AF/AD | AC | AC | AF | AD | | | | | 40 | 80 | 40 | |
| | temperature [°C] | 75 | T.amb | T.amb | 75 | | | | 100 | | | | |
| | hold time [m] | 5 | 2 | 3 | 1 | | | | | | | | |
| **Programme 5** | **STANDARD WASH** | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | | drying | | | | |
| | duration [m] | 22 | 7 | 8 | 6 | 17 | | 60 | 30 | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 5,30 | 0,1 | 0,15 | 0,05 | 3,80 | | | 1 | | | | 10,40 |
| | water type AC/AF/AD | AC | AC | AF | AD | AD | | | | 40 | 80 | 80 | |
| | temperature [°C] | 80 | T.amb | T.amb | T.amb | 75 | | | 100 | | | | |
| | hold time [m] | 5 | 2 | 3 | 1 | 1 | | | | | | | |
| **Programme 6** | **INTENSIVE WASH** | washing | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 8 | 22 | 7 | 6 | 7 | 17 | 67 | 30 | | | | |
| | qty detergent [ml] | 50 | 50 | 40 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,15 | 5,3 | 0,1 | 0,05 | 0,1 | 3,80 | | 1 | | | | 10,50 |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 160 | 80 | |
| | temperature [°C] | T.amb | 90 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 3 | 3 | 2 | 1 | 2 | 1 | | | | | | |
| **Programma 7** | **INTENSIVE WASH BLOOD-STAINED GLASSWARE** | washing | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 8 | 23 | 8 | 6 | 7 | 17 | 69 | 30 | | | | |
| | qty detergent [ml] | 50 | 50 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,15 | 5,4 | 0,15 | 0,05 | 0,1 | 3,80 | | 1 | | | | 10,65 |
| | water type AC/AF/AD | AF | AF | AF | AF | AD | AD | | | 160 | | 80 | |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 3 | 3 | 3 | 1 | 2 | 1 | | | | | | |
| **Programme 8** | **WASH AGAR STAINED GLASSWARE** | washing | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 8 | 23 | 8 | 6 | 7 | 17 | 69 | 30 | | | | |
| | qty detergent [ml] | 50 | 50 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,15 | 5,4 | 0,15 | 0,05 | 0,1 | 3,80 | | 1 | | | | 10,65 |
| | water type AC/AF/AD | AF | AC | AC | AC | AD | AD | | | 40 | 120 | 80 | |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 3 | 3 | 3 | 1 | 2 | 1 | | | | | | |
| **Programme 9** | **INTENSIVE WASH AGAR STAINED GLASSWARE** | washing | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 20 | 25 | 7 | 6 | 7 | 17 | 82 | 30 | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 4,7 | 6 | 0,1 | 0,05 | 0,1 | 3,80 | | 1 | | | | 15,75 |
| | water type AC/AF/AD | AF | AC | AC | AC | AD | AD | | | 40 | 120 | 80 | |
| | temperature [°C] | 80 | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 3 | 5 | 2 | 1 | 2 | 1 | | | | | | |
| **Programme 10** | **THERMAL DISINFECTION 93°C 3'** thermal disinfection | neutralisation | rinse in demin. water | rinse in demin. water at 75°C | | | | | drying | | | | |
| | duration [m] | 23 | 7 | 7 | 17 | | | 54 | 30 | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | |
| | power consumption [kW/h] | 5,4 | 0,1 | 0,1 | 3,80 | | | | 1 | | | | 10,40 |
| | water type AC/AF/AD | AC | AC | AD | AD | | | | | | 80 | 80 | |
| | temperature [°C] | 93 | T.amb | T.amb | 75 | | | | 100 | | | | |
| | hold time [m] | 3 | 2 | 2 | 1 | | | | | | | | |
| **Programme 11** | **THERMAL DISINFECTION 93°C 10'** thermal disinfection | neutralisation | rinse in demin. water | rinse in demin. water at 75°C | | | | | drying | | | | |
| | duration [m] | 30 | 7 | 7 | 17 | | | 61 | 30 | | | | |
| | qty detergent [ml] | 50 | 30 | 0 | 0 | | | | | | | | |
| | power consumption [kW/h] | 7,5 | 0,1 | 0,1 | 3,80 | | | | 1 | | | | 12,50 |
| | water type AC/AF/AD | AC | AC | AD | AD | | | | | | 80 | 80 | |
| | temperature [°C] | 93 | T.amb | T.amb | 75 | | | | 100 | | | | |
| | hold time [m] | 10 | 2 | 2 | 1 | | | | | | | | |

# GW6090 PROGRAMME TABLE

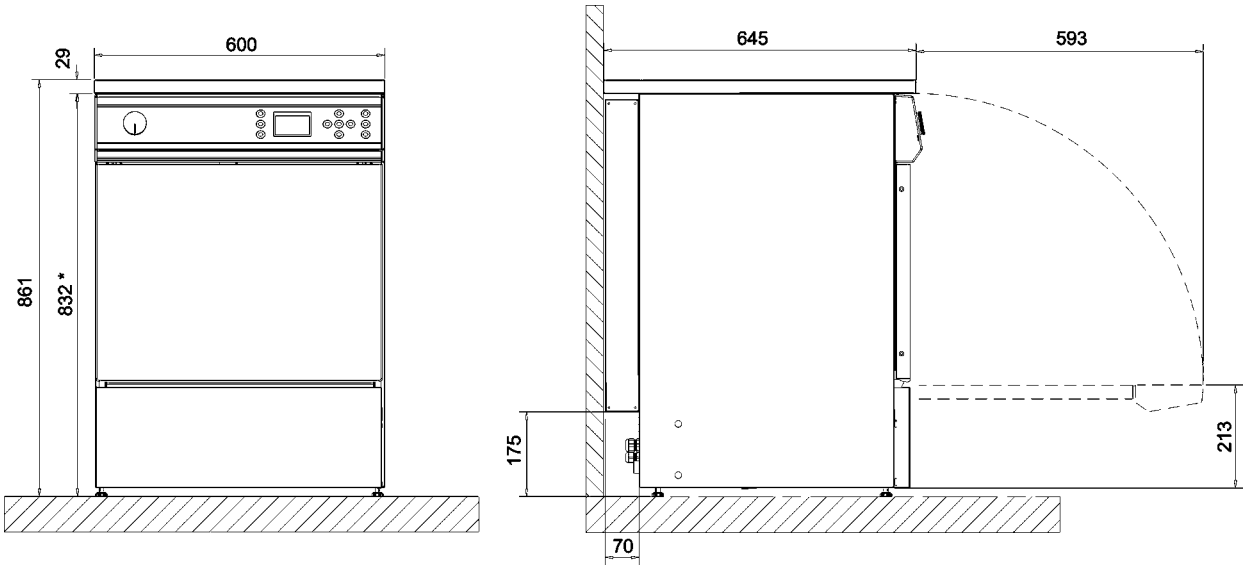
| PROGRAMME N. | PROGRAMME NAME | PHASE 1 | PHASE 2 | PHASE 3 | PHASE 4 | PHASE 5 | PHASE 6 | WASHING TIME MIN. | DRYING | AF TOT [l] | AC TOT [l] | AD TOT [l] | KW/H TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Programme 12** | **INTENSIVE THERMAL DISINFECTION 93°C 3'** | prewashing | termodisinfezione | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 7 | 25 | 7 | 7 | 6 | 17 | 69 | 30 | | | | |
| | qty detergent [ml] | 30 | 50 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,1 | 6 | 0,1 | 0,1 | 0,05 | 3,80 | | 1 | | | | 11,15 |
| | water type AC/AF/AD | AF | AF | AC | AC | AD | AD | | | 80 | 80 | 80 | |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 2 | 5 | 2 | 2 | 1 | 1 | | | | | | |
| **Programme 13** | **INTENSIVE THERMAL DISINFECTION 93°C 10'** | prewashing | termodisinfezione | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 7 | 30 | 7 | 7 | 6 | 17 | 74 | 30 | | | | |
| | qty detergent [ml] | 30 | 50 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,1 | 7,5 | 0,1 | 0,1 | 0,05 | 3,80 | | 1 | | | | 12,65 |
| | water type AC/AF/AD | AF | AF | AC | AC | AD | AD | | | 80 | 80 | 80 | |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 2 | 10 | 2 | 2 | 1 | 1 | | | | | | |
| **Programme 14** | **WASH PETROL-STAINED GLASSWARE** | prewashing | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 7 | 21 | 7 | 7 | 6 | 17 | 65 | 30 | | | | |
| | qty detergent [ml] | 0 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,1 | 4,8 | 0,1 | 0,1 | 0,05 | 3,80 | | 1 | | | | 9,95 |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 160 | 80 | |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 2 | 1 | 2 | 2 | 1 | 1 | | | | | | |
| **Programme 15** | **INTENSIVE WASH PETROL-STAINED GLASSWARE** | prewashing | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 7 | 25 | 7 | 7 | 6 | 17 | 99 | 30 | | | | |
| | qty detergent [ml] | 30 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,1 | 6 | 0,1 | 0,1 | 0,05 | 3,80 | | 1 | | | | 11,15 |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 160 | 80 | |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 2 | 5 | 2 | 2 | 1 | 1 | | | | | | |
| **Programme 16** | **WASH OIL-STAINED GLASSWARE** | prewashing | washing | neutralisation | rinse | rinse in demin.water | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 7 | 21 | 7 | 7 | 6 | 17 | 65 | 30 | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,1 | 4,8 | 0,1 | 0,1 | 0,05 | 3,80 | | 1 | | | | 9,95 |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 160 | 80 | |
| | temperature [°C] | 50 | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 2 | 1 | 2 | 2 | 1 | 1 | | | | | | |
| **Programme 17** | **INTENSIVE WASH OIL-STAINED GLASSWARE** | prewashing | washing | neutralisation | rinse | rinse demi | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 17 | 30 | 7 | 7 | 6 | 17 | 84 | 30 | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 3,8 | 7,5 | 0,1 | 0,1 | 0,05 | 3,80 | | 0,6 | | | | 15,95 |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 160 | 80 | |
| | temperature [°C] | 75 | 93 | T.amb | T.amb | T.amb | 75 | | 80 | | | | |
| | hold time [m] | 1 | 10 | 2 | 2 | 1 | 1 | | | | | | |
| **Programme 18** | **WASH PETROL-STAINED GLASSWARE** | washing | neutralisation | rinse | rinse demi | rinse in demin.water75°C | | | drying | | | | |
| | duration [m] | 25 | 7 | 6 | 7 | 17 | | 62 | 30 | | | | |
| | qty detergent [ml] | 50 + 100 | 30 | 0 | 0 | 0 | | | | | | | |
| | power consumption [kW/h] | 6 | 0,1 | 0,05 | 0,1 | 3,80 | | | 1 | | | | 11,05 |
| | water type AC/AF/AD | AC | AC | AC | AD | AD | | | | | 120 | 80 | |
| | temperature [°C] | 93 | T.amb | T.amb | T.amb | 75 | | | 100 | | | | |
| | hold time [m] | 5 | 2 | 1 | 2 | 1 | | | | | | | |
| **Programme 19** | **WASH DIESEL-STAINED GLASSWARE** | prewashing | washing | neutralisation | rinse | rinse demi | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 8 | 21 | 7 | 6 | 7 | 17 | 66 | 30 | | | | |
| | qty detergent [ml] | 0 | 50 | 30 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 0,15 | 4,8 | 0,1 | 0,05 | 0,1 | 3,80 | | 1 | | | | 10,00 |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 160 | 80 | |
| | temperature [°C] | T.amb | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 3 | 1 | 2 | 1 | 2 | 1 | | | | | | |
| **Programme 20** | **INTENSIVE WASH** | washing | washing | neutralisation | rinse | rinse demi | rinse in demin.water75°C | | drying | | | | |
| | duration [m] | 30 | 30 | 7 | 7 | 6 | 17 | 97 | 30 | | | | |
| | qty detergent [ml] | 50 + 100 | 50 + 100 | 40 | 0 | 0 | 0 | | | | | | |
| | power consumption [kW/h] | 7,5 | 7,5 | 0,1 | 0,1 | 0,05 | 3,80 | | 1 | | | | 20,05 |
| | water type AC/AF/AD | AC | AC | AC | AC | AD | AD | | | | 160 | 80 | |
| | temperature [°C] | 93 | 93 | T.amb | T.amb | T.amb | 75 | | 100 | | | | |
| | hold time [m] | 10 | 10 | 2 | 2 | 1 | 1 | | | | | | |

**AF** = Cold water; **AC** = Hot water; **AD** = Demineralised water.

**N.B.**

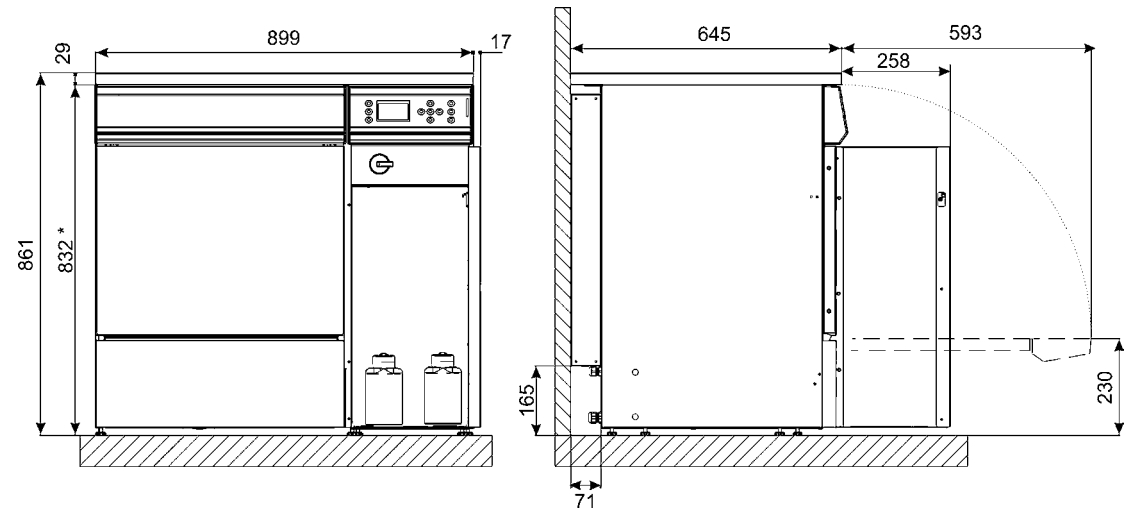
The use of hot water in the washing and thermal disinfection phases with temperatures higher than 40°C reduces total cycle times by approximately 50%. Washing and thermal disinfection times are calculated according to an average supply water temperature of 10°C. Power consumption was calculated for three-phase machines.

## GW3060 INSTALLATION DIAGRAM



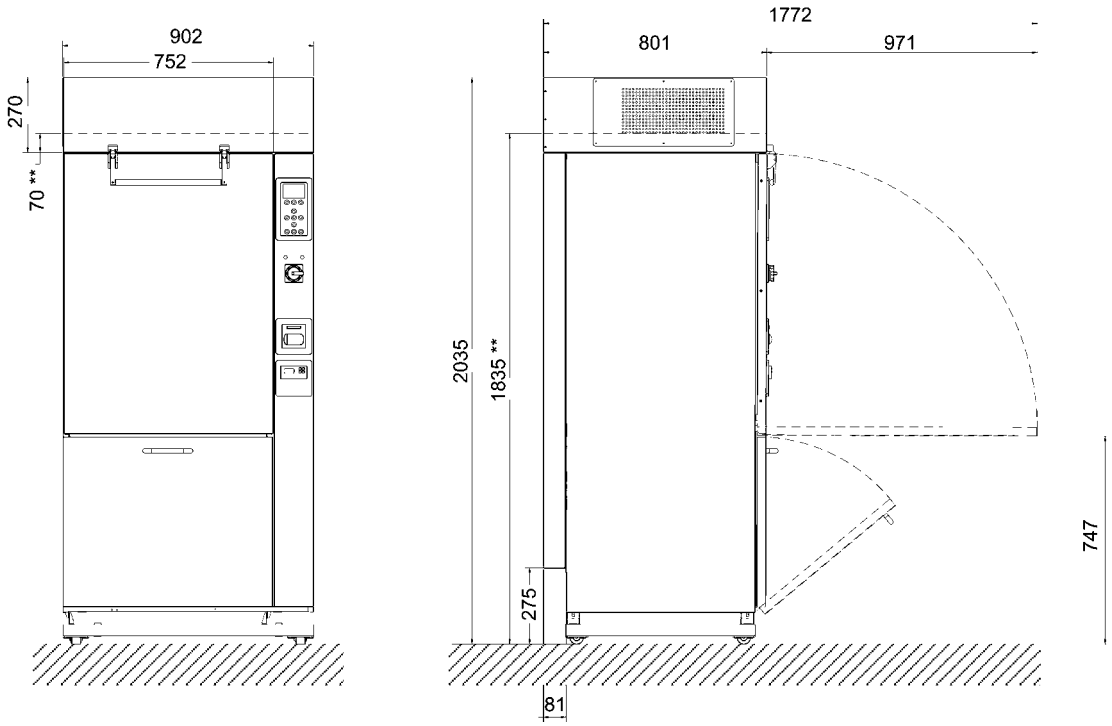

* Height of built-in version.

## GW4090 INSTALLATION DIAGRAM




* Height of built-in version.

## GW6090 INSTALLATION DIAGRAM




** Height of GW6090 model (without drying).

# INSTALLATION INFORMATION

**WATER CONNECTIONS**

| Supply | Model | pressure [bar] | flow rate [l/min] | temp [°C] | length] hose [mm] | hose type | connectors | hardness max. | conductivity max. [µS] | system filtration | position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cold water** | GW3060 | 1,5-5 | 6,8 | max. 40 | 1900 | rubber | G 3/4” | 40 F° | <1000 | recommended | rear |
| | GW4090 | 1,5-5 | 6,8 | max. 40 | 1900 | rubber | G 3/4” | 40 F° | <1000 | recommended | rear |
| | GW6090 | 2-5 | 8 | max. 40 | 1900 | flexible | G 3/4” | 10 F° | <1000 | recommended | rear |
| **Hot water** | GW3060 | 1,5-5 | 6,8 | max. 50 | 1900 | rubber | G 3/4” | 40 F° | <1000 | recommended | rear |
| | GW4090 | 1,5-5 | 6,8 | max. 50 | 1900 | rubber | G 3/4” | 40 F° | <1000 | recommended | rear |
| | GW6090 | 2-5 | 8 | max. 70 | 1900 | flexible | G 3/4” | 10 F° | <1000 | recommended | rear |
| **Demineralised water** | GW3060SC GW3060BXC | 1,5-5 | 6,8 | max. 50 | 1900 | rubber | G 3/4” | 5 F° | 30 | recommended | |
| | GW4090 | 1,5-5 | 6,8 | max. 50 | 1900 | rubber | G 3/4” | 5 F° | 30 | recommended | rear |
| | GW6090 | 2-5 | 8 | max. 70 | 1900 | flexible | G 3/4” | 5 F° | 30 | recommended | rear |
| **Cold water condenser** | GW3060 | 1,5-5 | 3.5 | max. 20 | 1700 | rubber | G 3/4” | 40 F° | <2000 | recommended | rear |
| | GW4090C | 1,5-5 | 3.5 | max. 20 | 1700 | rubber | G 3/4” | 40 F° | <2000 | recommended | rear |
| | GW6090 | no | | | | | | | | | |
| | GW3060 | PAD pressure max 1bar | storage tank of 50l with connection 3/4’ at the bottom | positioned at a 40cm height over machine | | | | | | | |
| | GW4090 | PAD pressure max 1bar | storage tank of 50 l with connection 3/4’ at the bottom | positioned at a 40cm height over machine | | | | | | | |
| | GW6090 | PAD2 pression max 1 bar | storage tank of 100 l with connection 3/4’ at the bottom | positioned at a 40cm height over machine | | | | | | | |

| Drains | Model [l/min] | flow rate capacity | temperature | hose hose [mm] | hose type | hose connectors length | head [mm] | height min. [mm] against wall, | position on floor, under sink |
|---|---|---|---|---|---|---|---|---|---|
| Machine drain | GW3060S GW3060BX | 18 | 95°C max | 1500 | corrugated flexible | Ø int 20 | 1000 | 400 | not under sink |
| | GW4090 | 18 | 95°C max | 1500 | corrugated flexible | Ø int 20 | 1000 | 400 | not under sink |
| | GW6090 | 18 | 95°C max | 1800 | corrugated flexible | Ø int 20 | 1400 | 1000 | not under sink |
| Condenser drain | GW3060BXC GW3060SC | 18 | 70°C max | 1700 | corrugated flexible | Ø int 20 | 1000 | 650 | not under sink |
| | GW4090C | 18 | 70°C max | 1700 | corrugated flexible | Ø int 20 | 1000 | 650 | not under sink |
| | GW6090 | - | | | | | | | |
| VDS dual drain | GW3060 | optional | | | | | | | |
| | GW4090 | optional | | | | | | | |
| | GW6090 | optional | | | | | | | |

**ELECTRICAL CONNECTIONS**

| Supply | Model | frequency [HZ] | voltage [V] | cable type | plug [mm] | cable length |
|---|---|---|---|---|---|---|
| single-phase 1/N/PE | GW3060 | 50 | 230 | 3x2.5mm² 450/750V | to panel | 2000 |
| | GW4090 | 50 | 230 | 3x2.5mm² 450/750V | to panel | 2000 |
| | GW6090 | - | - | - | - | - |
| three-phase 3/N/PE | GW3060 | 50 | 400 | 5x2.5mm² 450/750V | to panel | 2000 |
| | GW4090 | 50 | 400 | 5x2.5mm² 450/750V | to panel | 2000 |
| | GW6090 | 50 | 400 | 5x6mm² 450/750V | to panel | 2000 |
| fuses/protection | GW3060 | | 250 | 5x20mm | | |
| | GW4090 | | 250 | 5x20mm | | |
| | GW6090 | | 250 | 5x20mm | | |
| user preparation | GW3060 | standard | | | | |
| | GW4090 | standard | | | | |
| | GW6090 | standard | | | | |

# WO-01 TECHNICAL DATA

| TECHNICAL DATA WO-01 | |
|---|---|
| Production flow rate | 150-200 litres/hour |
| Ro membranes | 2 - 10'x 2.5' |
| Waste / production | approx. 50 % |
| Demineralisation capacity | 98-99% rejection |
| Quality of production | 5-30 µS/cm depending on quality of supply water (ISO 3696 grade III-IV) |
| Treatable type of supply h20 | Drinking quality - 42° F, <1000 µS/cm max. 30°C -1/6 bar |
| Pre-treatments included | External prefilter cartridge and internal activated carbon cartridge |
| Internal stopgap tank | 35 litres |
| Supply capacity / peak | 10 l/min at 1.2 bar (after exhausting internal tank reserve) |
| Continuous supply capacity | 2 – 3 l/min after exhausting internal tank reserve |
| Displayed parameter controls | - Multifunction display:<br>Conductivity, yield %, instantaneous production and waste, alarms<br>- leds: green / red operation and block /alarm |
| Dimensions/weight | Dimensions lxdxh 380x600x815 mm/ 67 Kg gross dry weight |
| Electrical power input | 220V 400 Wh / 2 W stand-by |
| Electrical output | approx. 2.2 W/litre of product |
| Connectors | Inlet outlet ¾ standard drain 6 mm hose |
| Water stop | Automatic with operating block and alarm on display |

# TECHNICAL FEATURES

**INSTRUMENT WASHER DATA**

| **VERSIONS *** | **GW3060** | **GW4090** | **GW6090** |
|---|---|---|---|
| Appliance installation class (CEI 62.5) | II | II | II |
| Casing protection (IP) | 34 | 34 | 34 |
| Stabilised power supply | ±10% | ±10% | ±10% |
| Ambient temperature | 35 | 35 | 35 |
| max. height (personalisation) | 1000 m | 1000 m | 1000 m |
| humidity | 50% max | 50% max | 50% max |
| pressure | atmospheric | atmospheric | atmospheric |
| internal dimensions [mm] | 520x610x490 155 litres | 610x520x490 155 litres | 988x690x674 460 litres |
| dimensions of wash tops [mm] | 490x490 | 490x490 | 620x620 |
| external dimensions [mm] LxHxD | 600x843x645 | 900x850x645 | 900x2020x800 |
| external dimensions with packaging | 720x1050x660 | 950x1060x790 | 990x2015x990 |
| external dimensions of built-in version | 600x830x645 | 900x830x645 | 1.2 mm |
| thickness of chamber protection | 0.8 mm | 0.8 mm | 840 |
| height of loading level from floor | 230 mm | 230 mm | 1780 |
| overall dimensions of machine when open | 1240 mm | 1240 mm | 980 mm, 90° |
| dimensions of door and angle of aperture | 593mm, 90° | 593mm, 90° | thermo-acoustic |
| chamber lagging | thermo-acoustic | thermo-acoustic | AISI 316L |
| chamber steel type | AISI 316L | AISI 316L | AISI 304 |
| door steel type | AISI 304 | AISI 304 | AISI 304 |
| casing steel type | AISI 304 | AISI 304 | 50dB |
| noise | 50dB | 50dB | yes |
| CE mark | yes | yes | 73/23, 93/68, 2004/108 |
| European directives (EEC) | 73/23, 93/68, 2004/108 | 73/23, 93/68, 2004/108 | harmonised applicable |
| standards | harmonised applicable | harmonised applicable | no |
| IMQ quality mark | no | no | 295 (net) 335 (gross) |
| weight GW3060 [Kg] | 70 (net) 83 (gross) | 95 (net) 115 (gross) | peristaltic pumps |
| type of detergent dispensers | peristaltic pumps | peristaltic pumps | 5 |
| number and use of dispensers | 4 | 4 | norprene, viton |
| type of peristaltic pump hoses | norprene, viton | norprene, viton | yes |
| detergent unit | no | yes | 5 |
| n° of 2 litre container stations | | 4 | |
| recirculation pump | 400 l/min 400W | 400 l/min 400W | 2x400 litres 2x550W |
| drain pumps | 18 l/min 80W | 18 l/min 80W | 18 l/min 80W |
| description of hydraulic system | water recirculation | water recirculation | water recirculation |
| description of drying system | forced air | forced air | forced air |
| trolley connection system | spring | spring | spring |

**DRYING**

| | **not present** | **GW4090 (forced air)** | **GW6090** |
|---|---|---|---|
| filters | | prefilter class C 98% HEPA filter class S 99.999% duration: 800 cycles | prefilter class C 98% HEPA filter class S 99.999% duration: 800 cycles |
| motor type | | brushes | brushes |
| air change index [m3/h] | | 50 | 2x100 m3/h |
| activation system | | software | software |
| settable operating time settable | | 0-1h | 0-1h |
| settable temperature interval | | 60-110 | 60-110 |
| safety device | | yes thermostat two-metal | yes |

**CONSUMPTION**

| | **GW3060** | **GW4090** | **GW6090** |
|---|---|---|---|
| Electrical | kW | kW | kW |
| total average power draw | 7 | 7 | 18,5 |
| average drying fan draw | not present | 100 W | 2x100 W |
| heating assembly power draw | not present | 2 kW | 4 |
| total drying power draw | not present | 2.1 kW | 4,2 |
| water heater power draw | 6 | 6 | 18 |
| power draw for each cycle | depends on cycle | depends on cycle | depends on cycle |
| washing pump power draw | 390 W | 390 W | 1,1 |
| peristaltic pump power draw | 10 W | 10 W | 10W |

| | **GW3060** | | | | **GW4090** | | | | **GW6090** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Detergents** | detergent [ml] | neutraliser [ml] | caustic soda [ml] | defoamer [ml] | detergent [ml] | neutraliser [ml] | caustic soda [ml] | defoamer [ml] | detergent [ml] | neutraliser [ml] | disinfectant [ml] | lubricant [ml] | neutral detergent [ml] |
| consumption per dose | 50 | 30 | 100 | 5 | 50 | 30 | 100 | 5 | 200 | 120 | 400 | 8 | 240 |

| **DETERGENTDISPENSING SYSTEM STANDARD FITTINGS** | **GW3060BX and GW3060BXC** | **GW3060S and GW3060SC** | **GW3060P and GW3060PC** | **GW4090 and GW4090C** | **GW6090** |
|---|---|---|---|---|---|
| Powder dispenser | 1 | Not present | Not present | Not present | Not present |
| Pump P1 alkaline detergent | Not present | 1 | 1 | 1 | 1 |
| Pump P2 acid neutraliser | 1 | 1 | 1 | 1 | 1 |
| Pump P3 NaOH or auxiliary additive | Option | Option | 1 | Option | 1 |
| Pump P4 defoamer or auxiliary additive | Option | Option | 1 | Option | 1 |

* Unless specified, the characteristics are present on all versions

# TECHNICAL FEATURES

**ELECTRONICS VERSIONS ***

| | GW3060 | GW4090 | GW6090 |
|---|---|---|---|
| Board type | microprocessor | microprocessor | microprocessor |
| memory | cycle registration | cycle registration | cycle registration |
| n° programmes | 20 | 20 | 20 |
| n° freely settable programmes | 10 | 10 | 10 |
| n° phases per programme | max. 10 | max. 10 | max. 10 |
| settable values | extension time for washing and drying; temperature objective for washing and drying; quantity and type of detergent; languages | time time for washing and drying; temperature objective for washing and drying; quantity and type detergent; languages | time time for washing and drying; temperature objective for washing and drying; quantity and type of detergent; languages |
| display | LCD backlit, 128x64 pixels | LCD backlit, 128x64 pixels | LCD backlit, 128x64 pixels |
| display indications | execution parameters | execution parameters | execution parameters |
| control panel | diaphragm keyboard | diaphragm keyboard | diaphragm keyboard |
| functions | controls, setting and diagnostics | controls, setting and diagnostics | controls, setting and diagnostics |

**DATA COMMUNICATION**

| | GW3060 | GW4090 | GW6090 |
|---|---|---|---|
| printer | serial | serial | serial |
| position | desk | desk | front |
| data printing | execution parameters | execution parameters | execution parameters |
| RS232 port | in unit | in unit | yes |
| USB port | in unit | optional | yes |
| LAN port | | optional | optional |
| software | wd trace, wdtrace light | wd trace, wdtrace light | wdtrace, wdtrace light |
| acoustic signals | yes can be disabled | yes can be disabled | yes can be disabled |
| data download | yes execution parameters | yes execution parameters | |
| software upgrade | yes | yes | yes |

**WATER SOFTENER**

| | GW3060 | GW4090 | GW6090 |
|---|---|---|---|
| description | ion exchange | ion exchange | |
| type of salt to use | dishwasher salt | dishwasher salt | |
| max. temp. of supply water | 50 | 50 | |
| resin type | cation | cation | |
| number of regenerations allowed per cycle | 1 | 1 | |
| hardness reduction capacity | 35 F° per 50 litres | 35 F° per 50 litres | |

**CONDENSER**

| | GW3060SC and GW3060BX-C | GW4090-C | GW6090 |
|---|---|---|---|
| type | heat exchanger nebuliser | heat exchanger nebuliser | |
| start-up temperature | 65°C | 65°C | |
| feed system | see connectors | see connectors | |
| drain system | see connectors | see connectors | |

**CONTROLS / SAFETY DEVICES**

| | GW3060 | GW4090 | GW6090 |
|---|---|---|---|
| door lock | yes | yes | yes |
| dual temperature sensor | yes | yes | yes |
| probe duct | optional | optional | optional |
| password | yes | yes | yes |
| alarms/warnings/diagnostics | yes | yes | yes |
| detergent dispensing controls | yes | no | yes |
| water supply controls | yes | yes | yes |
| stopping moving parts | yes | yes | yes |

**TIMES**

| | GW3060 | GW4090 | GW6090 |
|---|---|---|---|
| washing for each phase | according to programme; see table programme | according to programme; see table programme | according to programme; see table programme |
| drying | according to programme; see table programme | according to programme; see table programme | according to programme; see table programme |
| for each cycle | according to programme; see table programme | according to programme; see table programme | according to programme; see table programme |

* Unless specified, the characteristics are present on all versions

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