

GW0160 - GW0160S



GLASSWARE-WASHER - 60 CM
WITH AVAILABILITY OF LIQUID DETERGENT PUMP

GENERAL CHARACTERISTICS

- Manufacturer: Smeg S.p.A.
- Market launch: 2014
- Intended use: the appliance is designed for washing and disinfection of laboratory glassware
- Main applications: small laboratories, food industry, general chemistry, research laboratories, podiological applications, veterinary clinics, tattoo shop, etc.
- Conformity: please refer to CE declaration of conformity

INTRODUCTION

The GW series is the result of more than 25 years of experience in washing and disinfection for laboratories. It combines the most advanced technologies and reliable solutions in full compliance with current directives and standards.

The professional Smeg glassware-washers are conceived and manufactured with the unique target of ensuring top results in terms of reliability, safety and performances.

Both the washing chamber and the inner door are made of **stainless steel AISI 304** while the external panels are made of **stainless steel AISI 304**.

The plastic materials used inside the washing chamber are all heat-resistant and they can get in touch with corrosive substances or organic solvent.

The machine is designed for an ergonomic use.

The maintenance operations are made easy by frontal accessing to the main machine components.

The glassware management is entrusted to 4 microcontrollers which allow to monitor and trace all of the machine operations.

The fully electronic control system makes available a wide choice of programs, the scheduling of delayed starting by clock option, the displaying of all the essential parameters and a complete diagnostic of the machine.

Smeg products, as by tradition, are characterized by top performances.

All the models with width both of 60 cm and 90 cm make available a usable washing area up to 1 m² depending on the rack.

The high precision in dosing of detergents and flow meter control on water intake minimize wastes as well as the environmental impact is remarkably reduced.

The electrical consumption has been widely reduced by combining the smart management of the electrical heating, a mindful design of washing cycles and an efficient active thermodynamic drying system.

TECHNICAL FEATURES

The core of new glassware-washer generation is the innovative electronic system with micro-controllers for controlling each single performed operation as well as for monitoring the overall data stream by means of redundant systems. The Smeg glassware-washer GW0160(S) allow you to check all the washing parameters such as the execution times, the operating temperatures, the detergent amount, the phase number and much more.

The access to management operations is protected by a system of 4 password levels.



ELECTRONIC CONTROL SYSTEM

Control:	electronic with micro-controller
Total programs:	7
Default programs:	7
Display:	7-segments LED with control and alarm lights
Functions:	temperature, total and residual time, ongoing phase, selected program, date and time, reporting of alarm code, maintenance
Washing phases:	10
Phase parameters:	water type (cold, demineralized), detergent dosing, target temperature, time extension in minutes, temperature and time for drying
Displayed temperature range for washing chamber:	from environmental temperature up to 85 °C
Accuracy:	0.1 °C
Temperature check for washing chamber:	n. 1 PT1000 probe – IEC 60751, B class

- **N.7 default programs** (please refer to the programs table for further details)
- Each program can have up to **n. 10 rinse or washing phases**
- Checking the detergent dosing by means of timer
- Display with LED segments for displaying all the main operating parameters as well as alarm and failure messages
- The intuitive soft-touch panel control makes simple and friendly the using of machine as well as immediate the controlling of disinfection parameters. In addition, the key combination allow to access the machine SET UP, adapting it to the installation needs.
- Electronic check of the maximum allowed temperature
- Audible and visual alarm for end of cycle
- Immediate display of the detected error message
- Automatic counter for the performed cycles
- Electronic date and time coupled with backup battery in case of power failure

- Checking of the ongoing cycle, with real-time displaying of the following information:
 - Ongoing program ID
 - Program progress, with remaining time
 - Ongoing sub-phase
 - Washing chamber temperature
 - A0-value achieved
- Checking of the correct washing pump functioning by means of high pressure switch
- Soft-start for preventing thermal shock
- Range for water temperature set-point: from environmental temperature up to 85 °C
- Demineralised water can be deactivated for each program independently

SAFETY SYSTEMS AND ALARM INDICATIONS

- Electronic automatic door locking and unlocking command managed by micro-controller (manual door opening in case of power failure by means of screwdriver)
- Safety thermostats
- Alarm and warning messages: n. 27
- Cycle interrupted if door is open during operating phases
- Water levels check
- Over-heating check
- Alarm and warning messages on the machine display
- Pump malfunction check
- Cross-checking of pressure and time for a correct water intake
- Audible and visual alarm for detergent empty
- Water cooling down at the end of cycle
- AcquaStop system for preventing damages due to water leakages - optional

WASHING SYSTEM

The Smeg glassware-washer GW0160(S) is based on a closed loop washing system with water intake completely renewed in each phase. The mixing of additives with water occurs by means of peristaltic pumps inside the washing chamber and in a specific phase of the program. The additives concentration can be set for each program. During the working phase the washing pump makes the water and additives flow into the sprayer systems. Whenever delicate washing is required there is the possibility to adjust the pressure in the top manifold branch (see the pressure regulator picture). The high rate flow/pressure, in conjunction with temperature and time, allow the removal and dilution of contaminants in the water. The electrical heating system rapidly increases the temperature of water filled in the washing chamber without stopping the circulation and washing processes. In order to ensure a constant pressure on sprayers and consequently a good quality for cleansing, the machine steadily monitors if the washing pump works in the best way.



- Washing pump flow: more than 400 L/min
- Drain pump flow: 18 L/min

FILTERS

- **4-stage filter inside the washing chamber:**
 - Coarse conical filter
 - Conical fine filter
 - External circular filter
 - Protection filter for draining circuit
- Micro-filter for cold water inlet tube
- Micro-filter for demineralized water inlet tube



DOSING SYSTEM

All the Smeg models are equipped with n.2 automatic dosing systems (GW0160, n.1 detergent powder dispenser + n.1 peristaltic pump for acidic neutralizer; GW0160S, n.2 peristaltic pumps for alkaline detergent and acidic neutralizer).

- Peristaltic pump flow: 55 mL/min
- n. 1 powder dispenser (GW0160)
- n. 1 peristaltic pump for dosing liquid alkaline detergent (GW0160S)
- n. 1 peristaltic pump for dosing liquid acidic neutralizer (GW0160-GW0160S)

Please refer to the programs table for further details on chemicals consumption.

POWER SUPPLY

- Single-phase 1/N/PE 230 V – 50 Hz – 2.8 kW max
- Three-phase with neutral line 3/N/PE 400 V – 50 Hz – 7 kW max

WATER CONNECTIONS

(PRESSURE 2-5 bar - CONNECTION 3/4" gas)

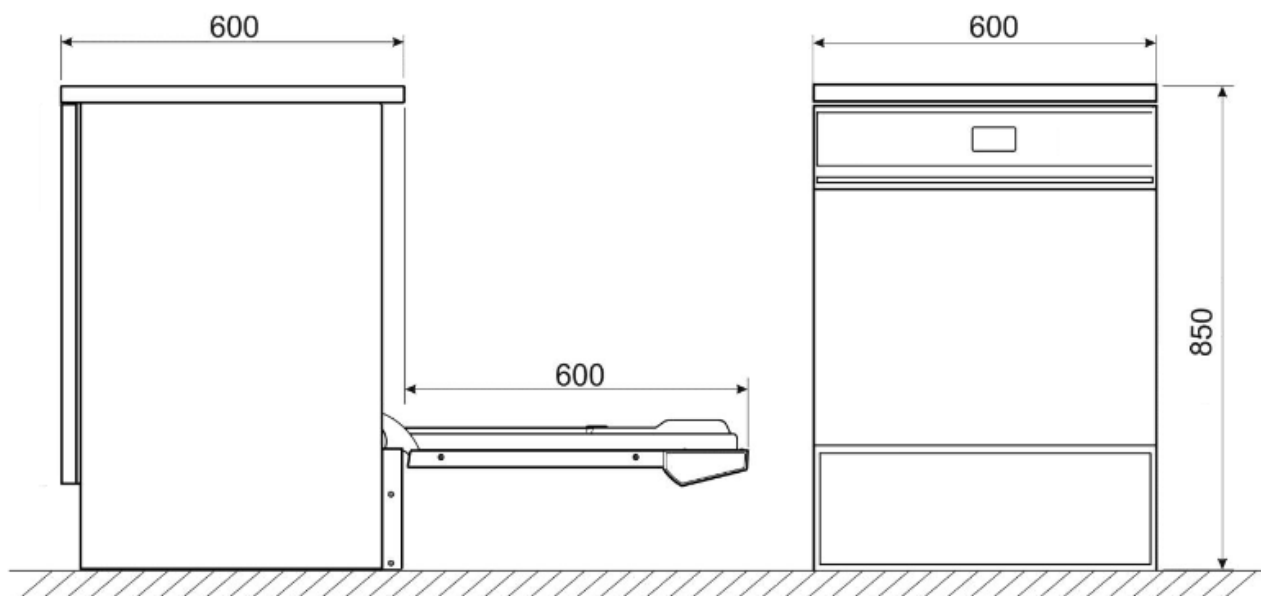
- Water connection for cold water is independent
- Demineralized water, conductivity < 30 µS/cm
- Booster pump for non-pressure demineralized water - optional
- Built-in softener based on automatic volumetric regeneration with salt: water hardness from 33 dH (60 °F) to lower than 4 dH (7 °F)
- Water consumption: 9-10 L for each single phase in relation to the selected program
- Cross-checking of pressure and time for a correct water intake

NOISE LEVEL

- Max 50 dB

DIMENSIONS LxDxH

- External dimensions with top: 600 x 600 x 850 mm (H=830 mm without top)
- Internal working dimensions: 525 x 490 x 570 mm
- Internal working volume: 147 L
- Net weight: 72 Kg



- H=830 mm for built-in mounting solution by removing top and H=1250 mm by installing a frame or a plinth



STAINLESS STEEL

- Washing chamber and inner door AISI 304 – thickness 6/10 – 8/10 mm – with rounded edges and sloping surfaces to avoid water stagnation, self-cleaning to remove any risk of bacterial proliferation.
- External panels AISI 304 – “Scotch-brite” finish perfectly smooth to avoid dirt and/or dust accumulation.

AVAILABLE OPTIONS

- Booster pump for non-pressure demineralized water
- AquaStop system for preventing damages due to water leakages
- Plinth with detergent cabinet or a frame for increasing of working level
- Additional sprayer to be placed on the ceiling of the washing chamber, made of stainless steel AISI 304, useful to increase the washing performance for instrumentation with complex shape
- Top for reducing the machine height



ACCESSORIES RANGE – VERSATILITY AND FLEXIBILITY

In laboratories, the washing and disinfection with the combined action of time and temperature are considered a necessary step to get top results for glassware cleaning.

Thanks to the high number of specifically designed accessories, Smeg offers a wide range of solutions to fulfil each single need.

It is also possible to work out on custom requirements for achieving tailored solutions.

DETERGENTS AND ADDITIVES

The thorough washing and effective glassware disinfection require the using of specific detergents. Smeg can provide you a wide range of alkaline detergents (for washing phase) and acidic neutralizers (for neutralization phase) which have been designed specifically to ensure an efficient cleansing so that the disinfection process can be optimal.

Furthermore, Smeg offer various detergents for processing of laboratory glassware and tools which are able to prolong their lifetime ensuring certain e repeatable results.