



WD1050 WASHER DISINFECTOR

OPERATING INSTRUCTIONS MANUAL

READ THE INSTRUCTIONS MANUAL CAREFULLY

Failure to read the manual, misunderstandings or incorrect interpretation of the instructions herein may result in damage to the appliance. Moreover, such action may also become a source of danger for the user and considerably lower the performances of the machine.

The manufacturer declines all liability for use of the machine differing from that described in this manual.



The machine must only be installed, serviced and repaired by authorized personnel.



The warranty could become void if the machine is used in a way that Fails to Conform to the instructions given by SMEG.

The text and illustrations in this manual are for informative purposes only. The contents and appliance described herein may be liable to modification without prior notice. In no case may SMEG be held liable for any direct or indirect damages deriving from or in relation to use of this manual.

19 290 0379	MAN ISTRZ WD1050 ENG	02	A.M.
ID.	DOC.	REV.	AUTHOR

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Our Sales Office staff will give you all the info you require about prices and offers. You can also view our entire production range in our web site along with any innovations.

Our Technical Assistance Office staff can tell you how to operate your appliance in the correct way or put you in contact with your nearest Authorized Assistance Centre if necessary.

International customers, please contact your local SMEG distributor.



TABLE OF CONTENTS

1.	INTRODUCTION	3
2.	SYMBOLS LEGEND	4
3.	GENERAL RECOMMENDATIONS	4
4.	GENERAL SPECIFICATIONS	6
4. 4.	.1. TECHNICAL FEATURES .2. LIFTING AND HANDLING .3. DOOR LOCKING SYSTEM .4. MANUAL DOOR UNLOCKING	7 7
5.	INSTALLATION	9
5. 5. 5. 5.	.1. POSITIONING	9 11 12
6.	DESCRIPTION OF CONTROLS	15
666666666666666666666666666666666666666	1. WASHING PROGRAMME SETTINGS 2. THERMAL DISINFECTION IN ACCORDANCE WITH THE PARAMETER "A0" 3. PROGRAMMES DESCRIPTION 4. MACHINE RUNNING 5. RESIN WASHING PHASE 6. RESIN REGENERATION PHASE 7. PROGRAMME TERMINATION 8. IN PROGRESS PROGRAMME INTERRUPTION 9. RESET PROCEDURE 10. DATE AND TIME SETUP 11. DEMI WATER SETTING 12. PRINTER 13. PRINTER LANGUAGE	16192020202121
	OPERATING INSTRUCTIONS	
7.	.1. USE OF THE WATER SOFTENER	24 25
8.	ALARMS	27
9.	CLEANING AND MAINTENANCE	31
	.1. RECOMMENDATIONS AND GENERAL ADVICE	

	WD1050	12/04/2010	Pag. 1
--	--------	------------	--------



	3. REUSE OF THE INSTRUMENT WASHER AFTER A LONG PERIOD OF INACTIVITY 4. TROUBLESHOOTING	
10.	ROUTINE CHECKS	. 35
10	.1. DAYLY	35
	.2. WEEKLY	
10	.3. HALF YEARLY	35
10	.4. YEARLY	35
11.	WD1050 DIMENSIONS	. 36



1. INTRODUCTION

This manual is an integral part of the machine.

It must be kept in a good condition and ready to hand for the entire life cycle of the machine. We advise you to **carefully read** this manual and all the instructions it contains before using the appliance.

This appliance conforms to the **EEC Directive 93/42** currently in force.

The appliance has been made in order to:

- wash Surgical and Dental Instruments with Thermal Disinfection¹;
- the appliance cannot be used to sterilize instruments or any other device.

All other uses are considered improper.

The manufacturer declines all liability for uses differing from those indicated.

The manufacturer declines all responsibility for any possible damage caused by the washing of instruments whose manufacturers have not authorized to be automatically decontaminated.



The instrument washer complies with all the requisites established by the current safety standards governing electrical equipment. **Technical inspections must only be made by specialized and authorized personnel.**

BESIDES VOIDING THE WARRANTY, REPAIRS MADE BY UNAUTHORIZED PERSONNEL MAY REPRESENT A DANGER HAZARD FOR THE USER.

¹ Treatment in the Instrument Washer can never be a substitute for sterilizing. Disinfection in the instrument washer is carried out to reduce the risks sustained by the persons who handle surgical instruments when preparing them for sterilization and to guarantee a better successive sterilization process.

WD1050	12/04/2010	Dag 3
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2. SYMBOLS LEGEND



Carefully read the paragraph.



Attention, Danger, see the manual.



Attention, hot surface.



Alternating current.



CE mark, notified body: IMQ.



At the end of life the product should be sent to disposal facilities for the recovery and recycling.

3. GENERAL RECOMMENDATIONS



Never use solvents such as alcohol or turpentine in the appliance as they could cause an explosion. Never put instruments dirtied with ash, wax or paint in the appliance.

 Do not rest or sit on the open door of the instrument washer as this could cause the appliance to overturn and thus represent a danger hazard for persons. The maximum weight loaded onto the open door, including the weight of the instrument trolley, must never exceed 30kg.

WD1050	12/04/2010	Pag. 4
	12, 0 :, 2010	

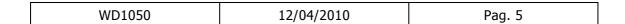


- Never ever touch the heating element immediately after a washing cycle has terminated.
- The heating element could become slightly darkened during use of the instrument washer, even to a localized extent. This should be considered normal as it depends on the operating mode and does not impair the way the appliance works.
- At the end of its working life, the appliance must be rendered unusable. Cut off the power flex after having removed the plug from the power socket. The appliance must then be consigned to an authorized disposal center.
- If the appliance operates in a faulty way, unplug it from the electricity main, shut off the water cock and contact your nearest authorized Assistance Center.



Only open the door after the washing cycle has terminated.

If you open the door while a programme is in progress, hot water, steam and other liquids will spill out and may injure the user. **Only authorized and well-informed personnel are allowed to use the machine.**





4. GENERAL SPECIFICATIONS

4.1. TECHNICAL FEATURES

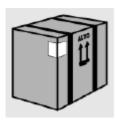
Models	WD1050 W		050-3	WD1050-1	
	ELECTRIC POWER SUPPLY				
VERSION	Triphase 400V Trifase 230V		Monophase 230V		
TYPE OF VOLTAGE [tolerated variation ±10%]	~400V 3/N/E ~230V 3/PE		~230V 1/N/PE		
FREQUENCY [Hz]	50				
Power Rating [kW]	7 kW	7 kW 7 kW		2,8 kW	
AUTOMATIC SWITCH ON MACHINE	In 16 A 3P+N 400V In 20A 3P 400V Icn Icn 4500 A 6000 A			In 16 A P+N 230V Icn 4500 A	
	WATER SUPP	PLY			
TYPE OF WATER	COLD WATER DEMINERALISED WAT		ERALISED WATER		
PRESSURE [BAR]	2 – 5		2 – 5		
TYPE OF CONNECTION	3/4"			3/4"	
MAX HARDNESS [F] / CONDUCTIVITY[μS/cm]	42°F		Max 20 μS		
IRON [PPM] FE MAX	< 0.5				
DRAIN	FROM FLOOR LEVEL (on which machine is placed)				
HEIGHT [MM]	Min 650 - Max 800				
DIAMETER [MM]	Min 40				
	DIMENSIONS				
HEIGHT	850				
D EPTH	670				
WIDTH	600				
NET WEIGHT [KG]	65				
M aterial used	Washing chamber AISI 316L External cladding AISI		l cladding AISI 304		
	ENVIRONMENTAL CONDITIONS				
USE	Indoor				
ALTITUDE	Up to 1000m				

WD1050 12/04/2010 Pag. 6	WD1050
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TEMPERATURE	From 5℃ to 40℃	
RELATIVE HUMIDITY	80% for temperatures up to 31℃ with linear diminut ion down to 50% at the temperature of 40℃	
INSTALLATION CATEGORY	II	
CLASS TO WHICH APPLIANCE BELONGS	IIa (in compliance with the classification criteria established by DIRECTIVE 93/42)	
POLLUTION DEGREE	2	

4.2. LIFTING AND HANDLING



Before it leaves the factory, the base of the machine is fixed to a pallet which is then used to lift and transport the machine itself.

The machine must be handled with a fork-lift truck or transpallet. Do not use appliances damaged by transport! Consult your dealer if in doubt.



The appliance must only be installed and connected by personnel authorized by the manufacturer.

4.3. DOOR LOCKING SYSTEM

After unpacking, pay attention to the following: the machine is equipped with an automatic door locking/unlocking system.

The door is locked. Don't force the door, but follow the procedure below.

- Connect the machine to the mains supply;
- push the **ON/OFF** button (in order to switch on the machine)
- push (and hold) the button with the symbol of the key and after some seconds the door opens

SIGNS ON THE FRONT OF THE MACHINE			
O-	Door unlocking	①	ON / OFF
C	Temperature	S	Salt Lack
▶	START / PAUSE	⇒¦÷ or ∭	Heating element on

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fig. 1 – WD1050 front.

In order to open the door without connecting the machine to the mains, the manual unlocking procedure must be executed. Please, see the following paragraph for further details.

4.4. MANUAL DOOR UNLOCKING

In case of emergency or in case of a power failure the door may be manually opened inserting a small screwdriver under the handle, as shown on the image.



fig. 2 – WD1050 front. To unlock the door manually: 1 - push the handle opening to access the opening mechanism, 2 - Force, pushing it from bottom to top, with a small screwdriver the opening mechanism.

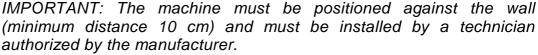
Insert the screwdriver carefully into the yellow marked hole till the characteristic "CLACK" is heard.



WD1050	12/04/2010	Pag. 8
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5. INSTALLATION





The technician who installs the machine is responsible for the appliance operating correctly after it has been installed. He is also obliged to provide the user with all the information required to use the machine in the correct way.

All adjustments, servicing and so forth, must be carried out with the appliance disconnected from the electricity main.

The scratch-proof film must be removed from the external steel surfaces when the appliance is installed.



IT IS STRICTLY FORBIDDEN FOR UNAUTHORIZED PERSONS TO USE THE MACHINE.

5.1. POSITIONING

The side panels of the machine must adhere to the adjacent furniture and care must be taken to leave space at the rear: it is therefore advisable for the wall at the back to be made of brickwork or some other impermeable material.

The machine has pipes to supply and drain off the water. These can be positioned towards the right or left, depending on the installation requirements.

The machine can also be installed under a work top: this operation must be carried out by specialized personnel.

5.2. LEVELLING

Once the machine has been set in position, it must be levelled until horizontal (2 degrees tolerance allowed) by either screwing in the feet or unscrewing them. Correct levelling will ensure that the machine operates in the right way.

5.3. CONNECTION TO WATER MAINS

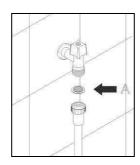
Prevent the risk of clogging or damage to the appliance: if the water pipe is new or has remained unused for a long period of time, make sure that the water is limpid and free from impurities before connecting the machine to the water main.

The pipe is pre-engineered for connection to a cock with 3/4" gas threaded union on both ends.

Insert the supplied filters "A" before connecting the other ends of the pipes to their respective cocks.

WD1050	12/04/2010	Pag. 9
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It is advisable to allow the water to run in order to drain off any rusty deposits or sludge if connections are made with new pipes.

In case of blood-stained instruments make sure that the machine is not supplied with water at temperature higher than 40° C.



WARNING

Make sure that the inlet pressure of the mains water is within the operating limits: min. 2 bar - max 5 bar.

The water shutoff valves must be accessible

Always shut off the water supply cocks when the machine is not being used

CAUTION



Chemical characteristics of mains water that are <u>not compatible</u> with a good washing process.

If the water contains more than **0.5 ppm** of iron Fe²⁺/Fe³⁺ and/or the hardness of the water is more than **42**°F (French degrees), it must be pre-treated by installing a deferrization and/or softening system upstream.

WD1050	12/04/2010	Pag. 10



5.4. WATER SUPPLY

The machine is supplied with two water supply pipes that join to a non-return device inside the machine.

The pipes are designed for connection to cocks with 3/4" gas threaded bushings.

The following pipes (see the picture below) must be connected to water mains:

- cold water pipe;
- pressurized demineralized water pipe (min. 2 bar max. 5 bar) if present.



If demineralized water isn't available: don't connect the demi pipe to the cold or hot water, leave it disconnected and see the instructions (paragraph "DEMI WATER SETTINGS" 6.11) in order to set correctly the demi water parameter.

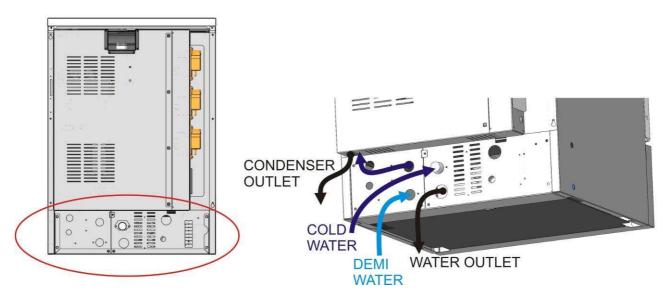


fig. 3 – Back view of the machine

WD1050	12/04/2010	Pag. 11
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5.5. NON PRESSURIZED DEMINERALIZED WATER CONNECTION

The connection to a non-pressurized demineralized water supply (e.g. gravity tank) is possible only by installing the special demineralized water pump, called "PAD5".

The PAD, optional booster pump, ensures the correct inlet water supply pressure within the pre-set filling time.

This accessory can be fitted on any machine and must be mounted on the back of the machine.



If the PAD pump is used, the water supply pressure must be less than 1 bar.

We advise having the pump installed by a specialized technician, who should follow the instructions provided.

The manufacturer will accept no responsibility for any possible damage caused by an incorrect installation performed by an unauthorized technician.



WARNING

Make sure that the demineralized water pressure is less than or equal to 1bar. The manufacturer declines every responsibility for higher pressures.

WD1050 12/04/2010	Pag. 12
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5.6. WATER DRAIN CONNECTION

This machine has just one outlet hose.

The internal diameter of the hose is $\frac{1}{2}$ " so it can be connected to any standard $\frac{1}{2}$ " hose adapter.

General rules for installing outlet

The washing water outlet hose must be placed with its curved section hooked onto the edge of a sink or waste pipe. A drain pipe with siphon should be used.

The following precautions should be observed during installation:

- As the water drain temperature may reach about 93°C the end of the outlet hose must be connected firmly to the drain by using clamps.
- The outlet hose must not have any tight bends liable to obstruct the flow;
- The end of the outlet hose must not be placed either more than 80cm or less than 65 cm above the surface on which the machine is installed:
- The end of the hose must under no circumstances be immersed in water;
- The internal diameter of the waste pipe must be at least Ø 40 mm;
- We recommend installing a waste pipe of diameter 50 mm;
- Don't use waste pipe extensions.

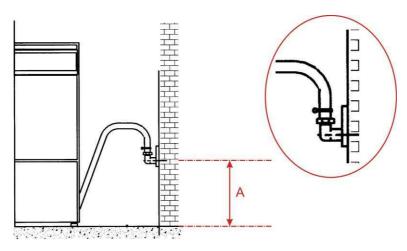


fig. 4 - 65 cm < A < 80 cm



WARNING

The drain connection must comply with international standards. Our company will accept no liability for pollution caused by the machine..

WD1050 12/04/2010 Pag. 13



5.7. ELECTRICAL CONNECTION

The machine is designed for connection to an electricity main with the following voltage rating:

• WD1050 ~ 230V 3 / N / PE 50Hz.

There is also a single-phase and 230V three-phase "without neutral", with the following electrical characteristics:

WD1050-1 ~ 230V 1 / N / PE 50Hz.
 WD1050-3 ~ 230V 3 / PE 50Hz.

WARNING

The machine is equipped with a power cable for permanent connection to the electrical power supply.



A switch (or circuit breaker) shall be prepared as the means for disconnection:

- 1. Il must be easily accessible for the user.
- 2. It shall be in close proximity to the equipment.
- 3. It shall be marked as the disconnecting device for the equipment.

WARNING



It is essential for the electricity mains to which the machine is connected to comply with the current standards in force (CEI 64-8/7;V2 standards).

Always make sure that the ground connection is efficient.

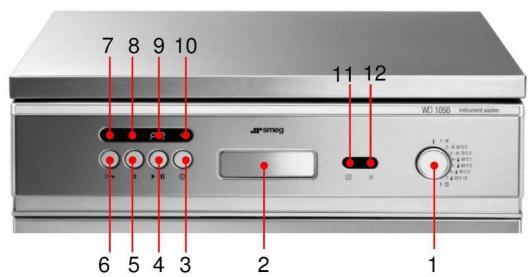
Our company declines all liability for damage caused by connection to a defective socket that fails to ensure a perfect connection to the general earth conductor, or by a poorly efficient grounding circuit.

WD1050	12/04/2010	Pag. 14



6. DESCRIPTION OF CONTROLS

All the controls and indicators of the instrument washer are positioned on the front panel.



ID	DESCRIPTION	
1	WASHING PROGRAMME SELECTOR	
2	RECESSED HANDLE TO OPEN the DOOR	
3	ON/OFF KEY	
4	START/PAUSE KEY	
5	TEMPERATURE DISPLAY KEY	
6	DOOR UNLOCKING KEY	
7	THERMODISINFECTION PHASE INDICATOR LIGHT	
8	TEMPERATURE DISPLAY INDICATOR LIGHT	
9	CYCLE INFORMATION DISPLAY	
10	"POWER ON" INDICATOR LIGHT	
11	"LACK OF SALT" INDICATOR LIGHT	
12	"HEATING ON" INDICATOR LIGHT	

	SYMBOLS OF	N THE FRONT PA	NEL
O-	DOOR UNLOCKING	(1)	ON/OFF
°	TEMPERATURE	S	LACK of SALT
▶	START / PAUSE	-XX-	HEATING ELEMENT ON

WD1050 12/04/2010 Pag. 15



6.1. WASHING PROGRAMME SETTINGS

The instrument washer has a practical display that provides all the information the user needs to know about the functions programmed.

Consult the following table to select the required programme. It gives the washing cycle most able to suit the nature of the instruments you need to wash and the degree of dirt involved.

Once you have found the most suitable washing programme in the table, turn the PROGRAMME SELECTOR knob and select the desired programme by setting it to the relative reference number.

The following is an indicative list of the type of washing cycles to which the available programmes refer:

- 1. Quick washing programme using cold water.
- 2. Washing programme at 60℃ suitable for plastic ware.
- 3. Washing programme at 75℃ suitable for standard glassware.
- 4. Washing + disinfection at 90°C for 1' (A 0 =600).
- 5. Washing + disinfection at 90°C for 5' (A $_0$ =3.000).
- 6. Washing + disinfection at 93° for 5' (A $_{\circ}$ =6.000).
- 7. Washing + disinfection at 93℃ for10' (A o =12.000).
- 8. Service programme: to test the detergent and neutralizer dispensers and rinse the washing chamber.

6.2. THERMAL DISINFECTION IN ACCORDANCE WITH THE PARAMETER "A0"

We introduce the " A_0 concept" to explain the time/temperature relationship used to draw up the programmes.

According to EN ISO 15883 and the recommendations of the Robert Koch Institute (European authority on the subject), an A_0 of 600 is considered as the minimum standard for non-critical medical devices, i.e. for those that only come into contact with uninjured skin. A further condition required is that microbic contamination must only be slight and there must be no heat-resistant pathogens present.

An A_0 value of 600 can be obtained by maintaining a temperature of 80°C for 10 minutes or 90°C for 1 minute or again, 70°C for 100 minutes.

If the medical devices are contaminated with heat-resistant viruses, such as those of hepatitis B, the value of A_0 must be at least 3000. This can be obtained by maintaining a temperature of 90°C for 5 minutes.

An A_0 value of 3000 is considered the minimum value to apply to all medical devices considered to be critical.

Programmes that include thermal disinfection have therefore been designed to offer the following A_0 values:

WD1050 12/04/2010 Pag. 16



Temperature – time	Ao
90℃ 1'	600
90℃ 5'	3000
93℃ 5'	6000
93℃ 10'	12000

The approximated formula to calculate $\ A_0$ is given as follows:

$$A_0 = \tau \bullet 10^{\left(\frac{T-80}{10}\right)}$$

where:

 $\mathcal{T}_{}$ = holding time in seconds at the disinfection temperature.

T = disinfection temperature in Celsius degrees.

WD1050 12/04/2010 Pag. 1



6.3. PROGRAMMES DESCRIPTION

PROGR.	PROGRAMME NAME	PHASE 0	PHASE 1	PHASE 2	PHASE 3	PHASE 4	CYCLE TIME
1	PREWASH	RINSING WITH MAINS WATER FOR 2'	-	-	-	-	6'
2	WASH 60℃ – 5'	RINSING WITH MAINS WATER FOR 3'	WASHING WITH MAINS WATER 60°C/3' AND DETERGENT P1	NEUTRALIZIN G WITH ACID AGENT 3' – P2	RINSING WITH MAINS WATER 60℃ 2'	-	50'
3	WASH 75℃ – 5'	RINSING WITH MAINS WATER FOR 3'	WASHING WITH MAINS WATER 60℃/4' AND DETERGENT P1	NEUTRALIZIN G WITH ACID AGENT 1' – P2	RINSING WITH MAINS WATER 75°C AT 5'	-	55'
4	THERMAL DISINFECTION 90℃ 1' (A ₀ =600)	RINSING WITH MAINS WATER FOR 3'	WASHING WITH MAINS WATER 60℃/5' AND DETERGENT P1	NEUTRALIZIN G WITH ACID AGENT 1' – P2	THERMAL- DISINFECTION WITH DEMI WATER AT 90°C/1'		55'
5	THERMAL- DISINFECTION 90℃ 5' (A ₀ =3000)	RINSING WITH MAINS WATER FOR 3'	WASHING WITH MAINS WATER 60℃/3' AND DETERGENT – P1	NEUTRALIZIN G WITH ACID AGENT 1' – P2	THERMAL- DISINFECTION WITH DEMI WATER AT 90°C/5'	·	1h
6	THERMAL- DISINFECTION 93℃ 5' (A ₀ =6000)	RINSING WITH MAINS WATER FOR 3'	WASHING WITH MAINS WATER 65℃/4' AND DETERGENT P1	NEUTRALIZIN G WITH ACID AGENT 1' – P2	THERMAL- DISINFECTION WITH DEMI WATER AT 93℃/5'	-	1h 5'
7	THERMAL- DISINFECTION 93°C 10' (A ₀ =12000)	RINSING WITH MAINS WATER FOR 3'	WASHING WITH MAINS WATER 75℃/3' AND DETERGENT – P1	NEUTRALIZIN G WITH ACID AGENT 1' – P2	THERMAL- DISINFECTION WITH DEMI WATER AT 93°C/10'	-	1h 10'
8	REFRESH*	DETERGENT DISPENSER TEST – P1	NEUTRALIZ ER DISPENSER TEST – P2	WASHING CHAMBER RINSE (DEMI WATER)	-	-	6'

NOTE



Execution times are just as an indication: inlet water temperature or water pressure may cause them to vary.

*Refresh: This programme must be considered a "service" programme and must be used only to clean the washing chamber.

The given times are approximate and related to the three-phase 400V version. For the single-phase version the estimated times increase of about 20'÷ 30'.



NOTE

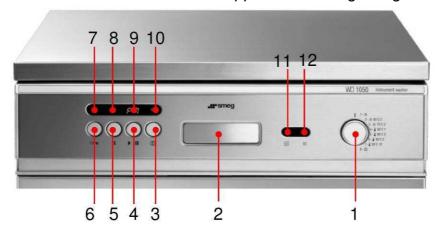
The initial phase, "Phase 0", may be preceded by a phase of resins washing (for the embedded water softener), the display shows the inscription "Lr".

WD1050	12/04/2010	Pag. 18
WD1030	12/01/2010	1 ag. 10



6.4. MACHINE RUNNING

The symbols used below refer to those that appear at the beginning of the par. 6.





The machine is provided with an automatic door locking/unlocking system: to open the door connect the machine to the mains supply and press the ON/OFF key (3). The ON/OFF light comes on. At this point, press the key button (6).

Press the **ON/OFF** key (3) to power the instrument washer on. The "power on" indicator light will come on.

The door must be shut before any programme can begin. Once the racks have been filled with the instruments, shut the door and proceed with the following operations.

To activate a washing cycle, select the required programme (P1, ..., P8) using the knob, then press the **START** button (4).for a couple of seconds until the characteristic bip-bip signal is heard.

During the cycle, the display will alternately show the number of the programme selected and the phase in progress.

The "degrees indicator light" (8) will come on if the temperature key " \mathbf{C} " (5) is pressed. In this case, the number of the programme in progress and the value of the temperature in the washing chamber will be displayed alternately.

If you press the temperature key (5) again the corresponding indicator light will come off and the display will alternately show the number of the programme and phase in progress.

WARNING



Never open the door whilst the programme is in progress! Despite the fact that the machine is provided with devices that immediately turn off the washing pump and heating element, it is absolutely forbidden to open the door when the machine is operating.

WD1050 12/04/2010 Pag. 19



6.5. RESIN WASHING PHASE

Message 'Lr' flashes on the display in alternation with the programme number during the resin washing phase.

6.6. RESIN REGENERATION PHASE

Message 'r-' flashes on the display in alternation with the programme number during the resin regeneration phase.

6.7. PROGRAMME TERMINATION

Message **"EP"** appears and flashes on the display once the programme has terminated: therefore, the washing cycle must be considered terminated only when this message appears. A "beep" signal begins to run and lasts for 5 seconds, after which the door automatically opens.



WARNING

It may happen that it takes few seconds before the door opens; don't push the key furtherly and, please, wait until it opens.



NOTE

At the end of a programme, once the door has been opened, we recommend to make the drying of the instruments better by pulling the lower basket out of the washing chamber and then by letting it stay over the door for **a few minutes**.

6.8. IN PROGRESS PROGRAMME INTERRUPTION

While a programme is running, you may stop it pressing the START/STOP button (4). The following message appears on the display: "S1,..., S8", where the number indicates the programme in progress.

If the interruption lasts longer than 1 minute, the machine will access an alarm status and can only continue to operate after it has been **RESET**.

6.9. RESET PROCEDURE

In the event of an alarm or with the machine not responding to any keys, hold down together the temperature "℃" (5) and the START key "▶ II" (4) for few seconds till the characteristic double beep sound is heard. Message 'P-' will appear on the display and the RESET procedure will begin.

'E-' flashes on the display at the end of the RESET phase.

In some circumstances (e.g. when the washing chamber is hot) the RESET procedure might not be accepted: in such a case open and close the door, then repeat the same procedure (e.g. after few minutes).

NOTE: In any case, if the RESET procedure does not work, switch OFF and ON the machine and try again before calling the Technical Assistance.

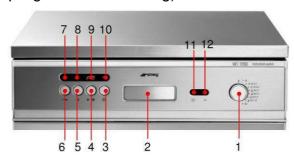
WD1050 12/04/2010 Pag. 20



6.10. DATE AND TIME SETUP

The machine is equipped with a real time clock system. This mainly serves for cycle tracing purposes (cycle archive).

When needed, this clock system may be set up by means of the following procedure (available only when no programme is running).



- Press the ON/OFF button (3) to switch on the machine (If any alarm appears on the display at this stage, ignore it).
- Turn the **programme selector knob (1)** to position 8.
- Press the **Door Open button (6)** for **4 seconds** to enter the setup function
- According to the position of the programme selector knob the following parameters can be set/modified:
 - o Position 1: YEAR [00-99]
 - o Position 2: MONTH [01-12]
 - Position 3: DATE [01-XX] XX is calculated according to the month and year.
 - o Position 4: hour [00-23]
 - o Position 5: minutes [00-59]
 - o Position 6: Seconds [00-59]
 - o Position 7:inactive position Display Flashing
 - Position 8: inactive position Display Flashing
- To increase a value press "℃" (5)
- To decrease a value press "► II" (4)
- To terminate, turn the programme selector knob (1) to position 8 and press the Door Open button (6) for 4 seconds.

The new DATE and TIME is now installed.

6.11. DEMI WATER SETTING

Demi water may be used when required by the machine (thermodisinfection phases) and available.

WD1050	12/04/2010	Pag. 21
	,,	9



NOTE



If demi water is not available don't connect the demi water pipe to cold or hot water, leave it disconnected.

The demi water circuit inside the machine don't pass through the built in softener, so the demi water connection must be used only for demineralised water.

When the machine is in stand-by, i.e. when no cycle is running, to set the demi water parameter proceed as follows:

- Press the **ON/OFF button** (3) to switch on the machine;
- Turn the **programme selector knob** (1) to position 7;
- Press the **Door Open button** (6) for 4 seconds to enter the demi water setup mode:
- On the display, it may appear "OE" when the demi water has been already set or '-' when it has not been set yet;
- To set the demi water (demineralised water available), press "℃" (5);
- To delete this setting (demineralised water not available), press "► II" (4);
- To terminate, turn the programme selector knob to position 7 and press the Door Open button (6) for 4 seconds.

6.12. PRINTER

On the WD1050 a serial port (RS232) is available as a standard feature (see picture below) and to which the SMEG printer, named "WD-PRINTE" with code 901783, may be connected. The SMEG printer is capable of printing out the following data:

- Serial Number of the WD1050 "Serial Number"
- Number of cycles carried out "Cycle N."
- Date and Time
- Program Number indicating Thermal Disinfection Temperature and holding time (for example 93℃ 10')
- Detergent control
 - o "Inflow Detergents P1 Deter" for the detergent;
 - "Inflow Detergents P2 Neutr" for the neutralizing agent;
- Temperature control
 - 'TL1': indicates the temperature measured inside the washing chamber.
 It is the main temperature of the cycle;
 - 'TLC': indicates the control temperature as requested by the EN15883 standard:
 - o 'Target T': stands for the target temperature value of the phase
- Heating element
 - 'Res ON': indicates that the heating element is on;
 - o 'Res OFF': indicates that the heating element is off;
- Starting Time of the Cycle

WD1050 12/04/2010 Pag. 22



- Process of each Phase
- End of Cycle time
- Eventual errors if Cycle terminates incorrectly.
- 'A₀': stands for the thermal disinfection effectiveness;

In the picture below is shown the serial port (WD1050 back view), which the printer must be connected to.

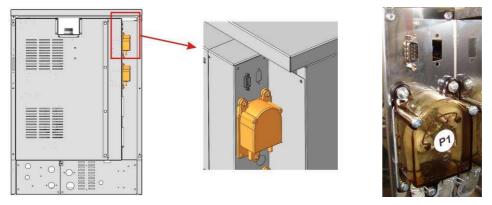


fig. 5 - WD1050 back - RS232 PORT (printer connection).

6.13. PRINTER LANGUAGE

How to set the printer language:

- Switch on the machine.
- Turn the programme selector knob to position 6.
- Press the Door Open button ("key" button) for 4 seconds to enter into the setup function.
- On the display appears "Lx" "L" stands for language "x" is a number: "0" for Italian, "1" for English.
- To increase "x" value press ℃.
- To decrease "x" value press ► II.
- To terminate (programme selector knob to position 6) press the Door Open button for 4 seconds. The new Printer Language setup is now saved.

7. OPERATING INSTRUCTIONS

After the instrument washer has been correctly installed, it must be prepared for operation in the following way:

- Pour in regenerating salt (only if necessary, i.e. with water harder than 10°F);
- Add detergent and neutralizing agent.

WD1050	12/04/2010	Pag. 23
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7.1. USE OF THE WATER SOFTENER

The lime content in the water (index of water hardness) is responsible for the whitish marks on dry instruments, which tend to become opaque as time goes by. The instrument washer has an automatic water softener which uses a specific regenerating salt to remove the hardening substances from the water.

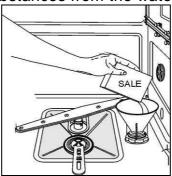


fig. 6 – Regenerating salt for the water softener.

When water of medium hardness is used, new salt must be added after every 20 washes or so. The softener reservoir can hold about 1 kg of coarse salt. This reservoir is situated on the bottom of the instrument washer. After having removed the bottom rack, unscrew the plug from the reservoir by turning it in the anti-clockwise direction and pour in salt using the funnel supplied with the appliance.

Before screwing the plug back on, remove any residues of salt from around the opening.



ATTENTION

- When the instruments washer is used for the first time, pour 1Kg coarse salt in the reservoir and some water till the rim. Each time the reservoir is filled, make sure that the cap is tightened with care. The mixture of water and detergent must not penetrate into the salt reservoir as this would impair the regeneration system. Besides, a salt leakage in the washing chamber may damage the instruments and the tank. In this case, the warranty would become void.
- Only use regenerating salt for instrument washers. Do not use kitchen salt.
- Do not use edible salt as it contains insoluble substances which would damage the softening system over a period of time.
- For each salt loading in the reservoir, perform a prewash (Pr.1) before starting a washing programme.



WARNING

Make sure that you do not mistake salt packages for ones containing detergent: detergent would damage the water softener if it were to be poured into the reservoir

7.2. USE OF THE DETERGENT AND NEUTRALIZING AGENT

The machine is equipped with two peristaltic pumps, which are situated at the rear of the machine.

WD1050	12/04/2010	Pag 24
VVD1030	12/07/2010	ray. 27



- **Pump P1** liquid detergent (neutral or lightly alkaline): To dose the liquid detergent: it must be used whenever it is possible.
- Pump P2 (neutralizing acid): To dose the liquid neutralising agent
- Pump 3: optional.

With the exception of the Soaking programme, the pump will add an adequate dose of detergent before each wash. Neutralizing agent for the rinsing phase is automatically added when required.

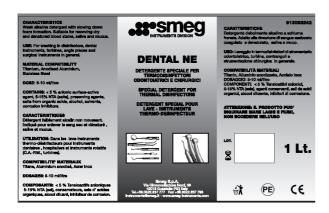
Only use specific detergents for instrument washers. It is important to use a good quality detergent if optimum washing results are to be obtained.

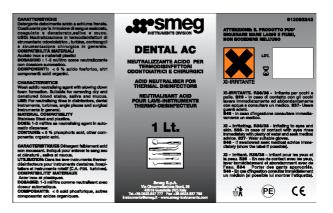
Keep the packs of detergent securely closed and in a dry place to prevent the formation of lumps which could compromise the washing results. After the packs have been opened, they must not be kept for too long as the detergent loses its efficacy.

Periodically check the level of the products inside the tanks, thus avoiding to accomplish some programs without the detergent or the neutralizing agent which is very important to obtain good washing results.

During the installation and whenever the detergent tank is empty you must execute Pr. Nr.8 to charge the liquid into the peristaltic pumps.

7.3. DETERGENT AND NEUTRALIZING AGENT RECOMMENDED BY SMEG





There are essentially two kinds of detergents available for disinfection cycles of instruments:

- Low alkalinity liquid detergent (DENTAL NE);
- Lightly acid neutralizing liquid agent (DENTAL AC).

Alkaline detergent is fitted to process stainless steel instruments. After the thermodisinfection phase with this kind of detergent, it occurs a rinsing phase with an acid neutralizing agent.

WD1050	12/04/2010	Pag. 25
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Low alkalinity liquid detergents are recommended to process delicate instruments like titanium turbine-type dental handpieces, contra-angles and so on. They work well with stainless steel instruments too.

WARNING



Do not use powder detergents to wash transmission instruments like turbinetype handpieces or contra-angles: this operation may cause serious damages to internal mechanisms and corrode the titanium surfaces.

Smeg will accept no liability for damages caused by this behaviour.

WARNING

Even when in liquid form, the addition of detergent to the neutralizing agent reservoir will impair washing efficiency



HANDLE WITH CARE DETERGENTS JERRICANS

We recommend the use of protective gloves for any transactions racking, topping and insertion of suction lance.



FIRST AID MEASURES IN CASE OF CONTACT WITH DETERGENTS

Take off contaminated clothing and store them in a safe place.

Contact with skin or eyes: rinse immediately with plenty of water. Apply a sterile dressing. Consult your doctor

Ingestion: Rinse mouth with water. Consult your doctor immediately.



SAFETY DATA SHEET DETERGENTS

It is recommended to keep SAFETY DATA SHEET DETERGENTS near the place where the detergents are stored, in easily accessible location.

DISPOSAL of any remaining product: consult the manufacturer, under "INFORMATION ON DISPOSAL".

If you lose the cards may be required SMEG S.p.A.

instruments@smeg.it

WD1050	12/04/2010	Pag. 26
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8. ALARMS

All the alarm situations are quitted by means of the RESET procedure (see par. 6.9).

There may arise two types of alarm: fatal or not fatal. In the first case, the message on the display is '**AF**' followed by the alarm number. In the second case, the message is '**A-**' followed by the alarm number.

The instrument washer is equipped with the following alarms.

Alarm ID	Description	Action
1	Water is not being heated.	Check the condition of the safety thermostat. Call the Technical Assistance Service if the fault persists.
2	The temperature difference between TL1 and TC is greater than 2℃.	Repeat the cycle: It could be a temporary alarm.
4	TL1 measures a temperature greater than target temperature.	Repeat the cycle: It could be a temporary alarm.
5	TL1 probe is "open".	Call the Technical Assistance Service.
10	TCL probe is "open".	Call the Technical Assistance Service.
11	Lack of cold water.	This alarm is active during the loading phase. It intervenes when the relative turbine does not count any impulses for 30 seconds and the state of the pressure switch does not change. Check the water supply: . cock and connection pipe open/closed . solenoid valve input . mains water pressure . the state of the pressure switch . turbine operation

WD1050	12/04/2010	Pag. 27
1101000	12/01/2010	1 49. 27



Alarm ID	Description	Action
13	Lack of demi water.	This alarm is active during the loading phase. Check if the demi water parameter is correctly set (par. 6.11). The alarm intervenes when the demi turbine does not count any impulses for 30 seconds and the state of the pressure switch does not change. Check the demineralized water supply: . cock open/closed . tank/can empty . solenoid valve input . when the tank is loaded, check water input into the tub; . connection pipe . connection/program correspondence . turbine
17	Water load time incorrect.	Check the water supply (cock open/closed, water pressure, connection pipe, etc.)
19	Demi water time exceeded.	The machine took too much time to load the demineralized water. Check the input pressure. For the Technical Assistance: increase the loading timeout (with the WD-TRACE) see "Extra Loading Time" menu. The extra-time has a maximum of 180 seconds.
20	Water load system fault.	Check the water supply (cock open/closed, water pressure, connection pipe, etc.).
22 V	Water flowmeter does not correctly measure.	Check the water supply (cock open/closed, water pressure, connection pipe, etc.) Repeat the cycle.
23	Not enough water.	Check the water supply (cock open/closed, water pressure, connection pipe, etc.).
24	No water inside.	Check the water supply (cock open/closed, water pressure, connection pipe, etc.).
25	Low water pressure for the washing pump. (Foam presence in washing chamber).	Check the type of detergent used. Repeat the cycle.
29	No drain.	Make sure that the drain pipe is positioned as indicated in the manual.
30	Water safety level.	Repeat the cycle. Call the Technical Assistance Service if the fault persists.
31	Water safety level fault.	Repeat the cycle. Call the Technical Assistance Service if the fault persists.

WD1050 12/04/2010 Pag. 28



Alarm ID	Description	Action
32	Water in chamber - backwater.	Make a Reset cycle. Repeat the cycle. Call the Technical Assistance Service if the fault persists.
33	Lack of water in the steam condenser.	Indicates that there is no water in the steam condenser when there should be due to sprayer nozzle activation. Make sure the solenoid valve input to the condenser activates and operates correctly. Also make sure that the drain pump does not remain activated permanently.
34	Condenser drainage failed.	Intervenes if "SLC" (work level sensor of the condenser) does not deactivate after 120 seconds from drain pump activation. Make sure the drain pump operates correctly. Also make sure that the condenser drain respects the recommended values and it not obstructed. Replace the level sensor, if necessary.
35	Condenser level switch failed	This alarm intervenes when the level switch does not work: check the electrical connections. Call the Technical Assistance Service
36	Condenser draining pump failed.	Check if the condenser draining hose has been correctly installed. Call the Technical Assistance Service
52	Door electrically open.	Make sure that the door is properly closed before beginning a cycle. Check the conditions of the microswitches related to the closure. Call the Technical Assistance Service if the fault persists.
54	Door mechanically open.	Make sure that the door is properly closed before beginning a cycle. Check the conditions of the microswitches related to the closure. Call the Technical Assistance Service if the fault persists.
56	Doorlock fault.	Make sure that the door is properly closed before beginning a cycle. Call the Technical Assistance Service if the fault persists.
73	Cycle Archive fault.	Error inside the microprocessor. Call the Technical Assistance Service if the fault persists.
77	Initial temperature inside the chamber greater than 45℃; prewash phase must be carried out at a temperature lower than 45℃.	The alarm appears (if the relative option has been selected) if the temperature of the water entering in the first phase exceeds 45℃.
78	Microprocessor fault; this may happen under some circumstances (i.e. voltage drops).	Error inside the microprocessor. Call the Technical Assistance Service if the fault persists.

WD1050	12/04/2010	Pag. 29
VVD1030	12/01/2010	



Alarm ID	Description	Action
81	Demi water inlet fault.	Check the water supply (cock open/closed, water pressure, connection pipe, etc.) Repeat the cycle.
82	Doorlock solenoid fault	Repeat the cycle. Call the Technical Assistance Service if the fault persists.
94	Unstable temperature	It might be a temporary failure. Check the probes in the sump.



9. CLEANING AND MAINTENANCE

ELECTRICITY MAINS - WATER SUPPLY

Disconnect the machine from the electricity mains and shut the water cock before proceeding with any of the operations described below.

FREE SPACE



To work in the correct way, you must also ensure that there is a free room of about one square meter in front of the machine.

It is absolutely essential to use cables of the HT 105°C or H05V2-K type if damaged cables must be replaced.

DETERGENTS

Be especially careful when handling detergents, to read the security requirements in par. Errore. L'origine riferimento non è stata trovata.

9.1. RECOMMENDATIONS AND GENERAL ADVICE

General cleaning

The external surfaces and door frame of the instrument washer must be cleaned at regular intervals with a soft cloth soaked in water or a normal detergent for steel surfaces.

The door seals must be cleaned with a damp sponge.

It is advisable to clean off any dirt that may have accumulated in the washing chamber or on the seals every so often (once or twice a year) using a soft cloth and water.

How to clean the water inlet filter

Water inlet filter A installed at the cock outlet must be periodically cleaned. First shut off the supply cock, then unscrew the end of the water fill plug, remove the filter A and clean it delicately under running water. Fit filter A back in its housing and carefully retighten the water fill pipe.

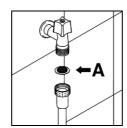


fig. 7 – inlet filter "A"

How to clean the spray arms

The spray arms can be easily removed so that the nozzles can be periodically cleaned to prevent clogging. Wash them under running water and then fit them back in their housings. Make sure that their circular movement is not hindered in any way.

WD1050	12/04/2010	Pag. 31
WD1030	12/01/2010	rag. 51



How to clean the filter unit

The filtering unit consists of a circular filter with a filter cone, a micro filter and a coarse filter. To ensure efficient operation of the machine it is extremely important to keep the filters clean. They must be inspected frequently to remove deposits which may adversely affect operation.

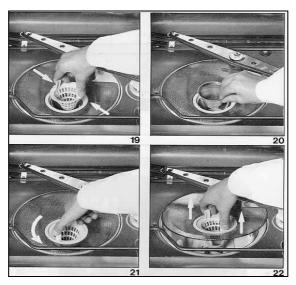


fig. 8 - Filter unit.

Coarse filter

To remove the coarse filter, press the tabs and pull upwards (see fig. 8 - panel 19). Clean the filter and then reposition it.

Micro filter

This is located below the coarse filter (see panel 20). Check and clean whenever inspecting the coarse filter.

For a perfect clean, use a brush and hot water.

Circular filter

To remove this filter:

- press the tabs on the coarse filter and turn counterclockwise.
- without pressing the tabs, raise the entire unit (i.e. filter, filter cone, coarse filter and micro filter) (see panel 22).

When cleaning this filter it is worth also cleaning the others.

WD1050	12/04/2010	Pag. 32
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Recommendations for correct maintenance

- The filters should be cleaned under running water using a hard brush.
- It is essential to clean the filters carefully according to the instructions given above: the instrument washer will be unable to operate if the filters are clogged.
- Fit the filters back in their housings with care, to prevent the washing pump from being damaged.

9.2. IF THE INSTRUMENT WASHER IS NOT USED FOR A LONG PERIOD OF TIME

Follow the recommendations:

- Carry out the soaking programme twice consecutively.
- Remove the plug from the power socket.
- Leave the door slightly open to prevent unpleasant odors from forming inside the washing chamber.
- Shut off the water cock.

9.3. REUSE OF THE INSTRUMENT WASHER AFTER A LONG PERIOD OF INACTIVITY

- Make sure that there are no rust or sludge deposits in the pipes. If this is the case, allow water to run from the supply cock for a few minutes.
- Plug the machine into the electricity main.
- Re-connect the water supply hose and turn on the cock.

9.4. TROUBLESHOOTING

Slight faults can sometimes be eliminated by the user with the aid of the following instructions.

1. If the programme fails to start, make sure that:

- the instrument washer is connected to the electricity main;
- the instrument washer is being powered;
- the water cock is open:
- the door of the instrument washer has been closed properly.

2. If water stagnates in the instrument washer, make sure that:

- the drain plug is not bent;
- the drain trap is not clogged;
- the filters of the instrument washer are not clogged.

3. If the instruments are not cleaned properly, make sure that:

- an adequate amount of **detergent** has been added;
- there is regenerating salt in the relative reservoir;
- the instruments have been positioned correctly;
- the programme is suitable for the type and degree of dirt on the instruments;
- all the filters are clean and correctly seated;

WD1050 12/04/2010 Pag. 33



- the holes in the water spray arms are not clogged;
- nothing is preventing the spray arms from turning.

4. If the instruments fail to dry or remain opaque, make sure that:

- there is neutralizing agent in the relative container;
- the neutralizing agent dispenser has been regulated in the correct way;
- the detergent used is of good quality and has not lost its characteristics (e.g. owing to incorrect storage, pack left open, etc.).

5. If the instruments are streaked, stained... make sure that:

• the amount of neutralizing agent dispensed is not excessive.

6. If there are visible traces of rust in the washing chamber

- The washing chamber is made of corrosion-proof steel, thus rust stains are due to external factors (pieces of rust from the water pipes, etc.). Specific products are available in the shops to eliminate these stains..
- Make sure that the detergent dosage is correct. Some detergents can be more corrosive than others.
- Make sure that the salt reservoir plug is firmly closed and that the water softener system has been correctly regulated.

Contact your nearest authorized technical assistance center if the faults persist after compliance with the instructions given above.



WARNING

Repairs to the appliance by unauthorized personnel are not covered by the warranty and are at the user's charge.

WD1050 12/04/2010 Pag. 34



10. ROUTINE CHECKS

10.1. DAYLY

- a) control the detergent and neutralizing agent level: fill it up, if necessary.
- b) check the sprinklers movement and their cleanliness.

10.2. WEEKLY

- a) clean the sump filter.
- b) perform Pr.4 without any load to clean and disinfect the washing chamber.

10.3. HALF YEARLY

- c) check the status of the electrovalves filters: clean them if necessary, by making hot water flow backwards;
- d) check the tubes status.

10.4. YEARLY

At the end of the warranty period and over the successive years, call the nearest Smeg authorized assistance centre in order to execute a complete check-up of the machine.



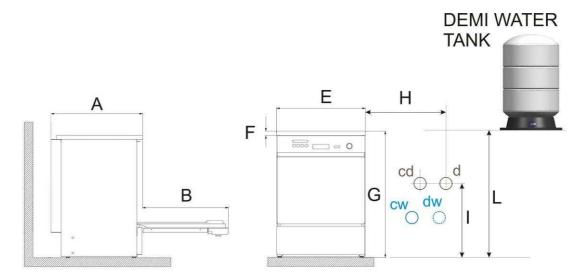
WARNING

In no case may SMEG be held liable for any direct or indirect damages deriving from or in relation to **inobservance** of the above described checks.

WD1050 12/04/2010 Pag. 35



11. WD1050 DIMENSIONS



MACHINE DIMENSIONS [mm]	
Α	670
В	600
E	600
F	30
G	850

HYDRAULIC DISCHARGE CONNECTIONS [mm]	
H max	500
l (drain height)	650 ≤ I ≤ 800

OPTIONAL DEMI TANK [mm]	
L	$1000 \le L \le 1200$

Legenda

- "cd" condenser drain.
- **"d"** *drain*.
- "cw" cold water (tap water).
- "dw" demi water.

NOTE: the hydraulic connections can be arranged also on the left side of the machine, always taking into account the maximum distance specified by the product, "H".



DEMI TANK

The "demi water tank" is optional. Can be prepared if pressurized demineralized water is not present in the plant (2bar <p_demi <5 bar). The tank must be properly positioned and used with the accessory "PAD5".

Demineralized water helps to achieve a better washing.



IMPORTANT

If demineralized water isn't available: don't connect the demi pipe to the cold or hot water, leave it disconnected and see the instructions (paragraph "DEMI WATER SETTINGS" 6.11) in order to set correctly the demi water parameter.

WD1050 12/04/2010 Pag. 36

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