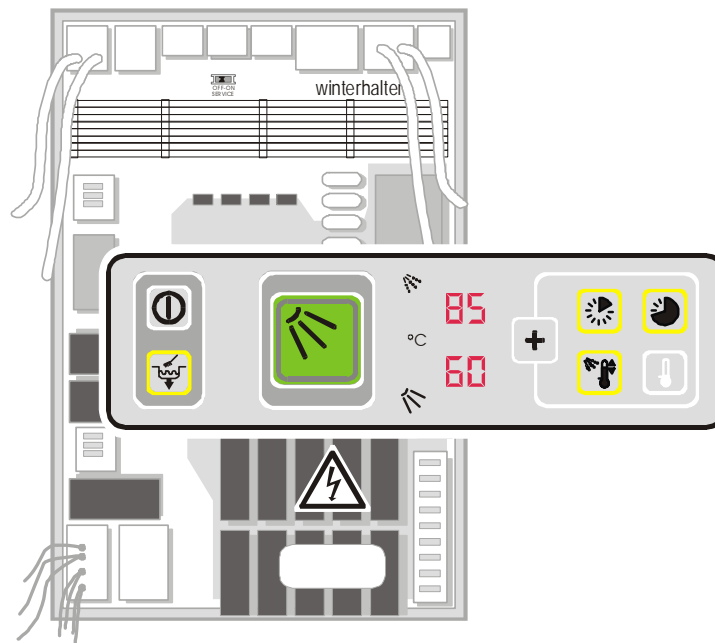


Commissioning instructions

for machines with **WPS** (Version 003 onward)



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Commissioning instructions

for Winterhalter Gastronom washers with WPS Version 003 onward
(GS 200, GS 300, GS 402, GS 502, GS 515, GS 630, GS 640, GS 650, GS 660)

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1 General instructions

These instructions serve only for the commissioning, and not for general operating.



Commissioning may only be carried out by a customer service technician trained by Winterhalter.



For all work described below please note: The machine is only safe when the customer's main switch is switched off. This should also be noted when working on the WPS if, for example, the service switch has to be switched on.

2 Checking the installation

Connection to the power supply

- Is machine correctly fused?
- Check that breakers & main isolator is easily reached, and not obstructed?
- Does the residual current device operate correctly (FI-switch)?
- Are contactor secure.
- Check connection terminals of the supply cable.
- The washer / tables have been connected to the customer's equipotential bonding system?

Connection to the water supply

- **Water supply:** The water must be of drinking water quality. The in-line filter supplied with the machine must be installed.
- Flow pressure / throughput

	with pressure boiler	with pressure boost pump
Throughput (l/min)	15 25 (GS 660)	5 4 (GS 630) 15 (Separate solenoid valve in machines with cold water pre-rinse)
Flow pressure (kPa; bar) downstream of the water treatment system, if used	250-600; 2.5-6	80-600; 0.8-6 250-600; 2.5-6 (Separate solenoid valve in machines with cold water pre-rinse)

- Temperature of supply water: max.: 60°C
(GS 502 Energy / Energy⁺, GS 515 Energy / Energy⁺: max. 20°C
GS 640 Energy, GS 650 Energy, GS 660 Energy: max. 20°C
GS 202 Cool, GS 215 Cool: max. 15°C
GS 202 ReTemp, GS 215 ReTemp: max. 40°C)
- **Water outlet with drain pump:**
GS 500, GS 600: The customer's water outlet must be no more than 650mm high. If this is not the case, order conversion kit 5528261.
GS 200, GS 300, GS 402, GS 630: The customer's water outlet must be no more than 600mm high.

The siphon is to be provided by the customer.

Installation of machine

- Make sure that the machine is securely positioned and level. Adjust the machine's feet to compensate for any unevenness of the floor.
- GS 502, GS 515: Check that both the incoming and outgoing tables are tilted slightly towards the machine.
- GS 502, GS 515: If the machine is installed in a corner, convert the rack carrier to suit the flow direction. The corner guide bolt required can be found in a small bag with the rack accessories.
- If the machine is fitted with additional features such as a water softener, pressure booster pump or other accessories, also check their connections and correct installation.

3 Checking the filter system

Check that the filter system has been installed correctly in the machine.

- GS 502, GS 515: drainage filter, flat filter, filter cartridge and pump intake filter
- GS 600: drainage filter, flat filter, and filter cartridge; pump intake filter is permanently bolted in position.
- Undercounter dishwashers: flat filter and filter cartridge; pump intake filter is permanently bolted in position.

4 Switching on water and electricity supply

Turn on the customer's water supply to the machine and switch on the mains isolator.

5 Commissioning the water softener

only applies to machines with integral water softener

- Open the screw cap on the salt container and top up the salt container to the brim with fresh water.
- Place the funnel in the filling opening on the salt container and gradually add 3 bags of Winterhalter special salt (=1.5 kg)
- Remove the funnel and clean any salt residue from the filling area.
- Screw the salt container tight again, keeping the cover straight.



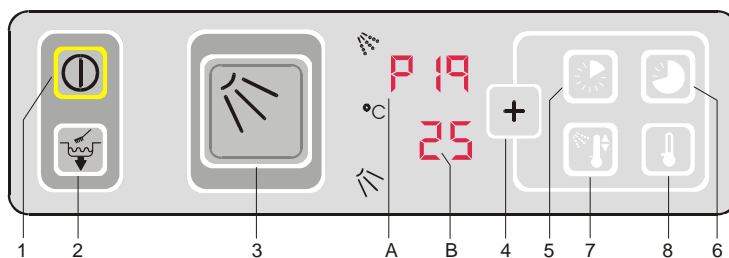
Only add regenerating salt to the salt tank

The salt used has to be very fine (max. grain size 0.4 – 7 mm). Salt tablets are not suitable. Do not add any other chemicals, such as detergent or rinse aid. These will cause damage to the machine.

6 Determining and setting the untreated water hardness (total hardness)

only applies to machines with integral water softener

- Switch off machine.
- Press buttons 4, 5 and 7, hold them down and switch on machine (press button 1).
- **P 19** will appear in Display A (see figure below). The preset parameter value will be shown in Display B in °d. Display 25 corresponds to 25°d.



- Determine the untreated water hardness (total hardness) and enter it in °d on the operating panel: press button 7 or 8 until the value determined for the untreated water hardness (total hardness) is shown in Display B.
If the raw water hardness is over 30°d, please contact the manufacturer.

To convert other hardness degrees to °d, the following formulae can be used:

- English to German hardness: $1^{\circ}e = 0.798^{\circ}d$
- French to German hardness: $1^{\circ}f = 0.56^{\circ}d$

- Press Button 4 to save.
- Switch off machine.

Note:

Should the water hardness change, the new value can likewise be entered by way of these button combinations.

7 Entering amount of water

only on machines with external water treatment (partial or full demineralisation)

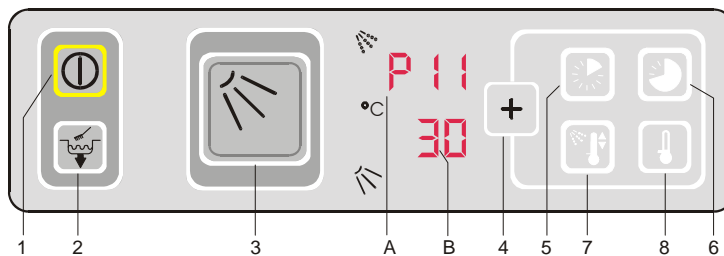
See Service Instructions for procedure

8 Ventilating and setting built-in dosing unit

Note: The following steps apply exclusively to dosing units installed at the plant. If dosing units are installed or attached to the outside of the machine at commissioning, the documents concerning these dosing units and the notes in Item 9 must be observed.

Ventilating the dosing unit and setting the dosing amount

- Fill rinse additive into the reserve tank.
- Storage tanks outside machine: insert transparent suction hose into the storage tank (if necessary, provide with suction lance).
- Switch off machine.
- Hold down buttons 3 and 2, and switch on machine.



- Hold Button 2 down until the dosing pump is ventilated (dosing pump becomes quieter).
- Press Button 7 to reduce the value to 0.1 ml/l (Display 10) or
- press Button 8 to raise the value to 0.5 ml/l (Display 50).
- Press Button 4 to store the altered value.
- Note altered value on the wiring diagram glued into the panelling.
- Switch off machine.

Ventilating the rinse dosing unit and setting the dosing amount

- Fill rinse additive into the reserve tank.
- Storage tanks outside the machine: put the blue suction hose into the storage tank (if appropriate, provide with suction lance).
- Hold down buttons 3 and 2, and switch on machine.
- Hold down button 3 and press button 2 twice in a row.
- Hold down button 2 until the dosing unit has been ventilated (dosing unit becomes quieter).
- Press Button 7 to reduce the value to 0.1 ml/l (Display 10) or
- press Button 8 to raise the value to 0.5 ml/l (Display 50).
- Press Button 4 to store the altered value.
- Note the altered value on the wiring diagram glued into the panelling.
- Switch off machine.

9 Installing and setting external dosing unit

9.1 Dosing unit Winterhalter Gastronom SP 166Z

Installing dosing pump:

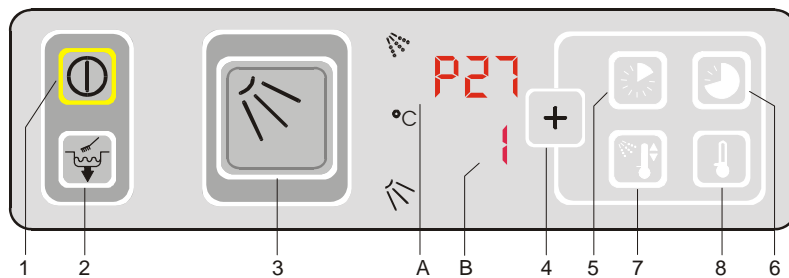
- Switch the machine off and switch off the mains isolator.
- Connect dosing pump to the terminal strip in the base frame at terminals PE, N and FILL.
- Do not connect the brown wire of the SP 166Z (insulate).
- Set both potentiometers in SP 166Z to maximum.
- Switch on customer's mains isolator.

Set type of dosing pump

- Washer must be switched off.
- WPS version 004 and above: Keep button on PCB pressed for 2 seconds.

Up to WPS version 003: Set service switch on PCB to "ON".
Switch on machine.

- Press button 6 until **P 27** appears in display A (see diagram below). Then press button 7, until **1** appears in display B (see figure below).

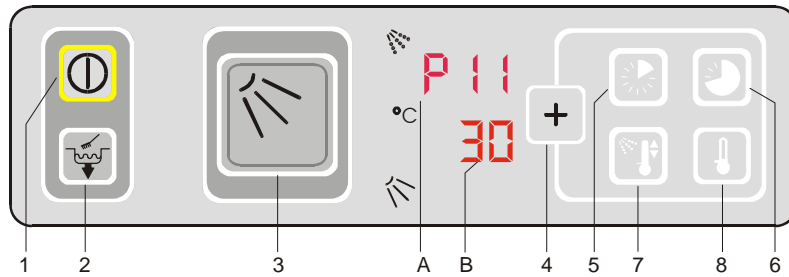


- Press button 4 to save. Button 3 is lit red during storage of the altered data.
- WPS version 004 and above: Keep button on PCB pressed for 2 seconds.

Up to WPS version 003: Switch machine off and set service switch on PCB to "OFF".

Set dosing quantity and ventilating dosing pump:

- Washer must be switched off.
- Shut door/hood.
- Press and hold **buttons 2 and 3** and then switch on washer (press button 1).
- **P11** is shown in display A and the current value of the detergent concentration is shown in display B. The value of 30, for example, corresponds to 3.0 ml/l (decimal point is not displayed).



- Depending on the recommended dosage for the detergent used, set the required value with button 7 or 8.
Example: Enter 40 for a dosage of 4.0 ml/l.
- To store, press button 4. Button 3 is lit red during storage of the altered data.
- Hold Button 2 down until the dosing pump is ventilated.
- Switch off machine.

9.2 Dosing unit Winterhalter Gastronom SP 166L

Installing dosing pump:

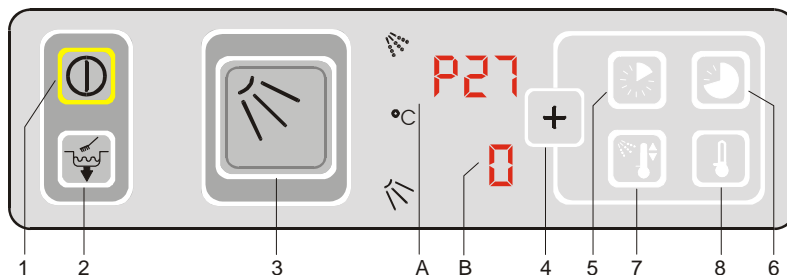
- Switch off machine and customer's mains isolator.
- Connect dosing pump to the terminal strip in the base frame at terminals PE, N and FILL.
- Set potentiometer in SP 166L to **0**.
- Switch on customer's mains isolator.

Set type of dosing pump

- Washer must be switched off.
- WPS version 004 and above: Keep button on PCB pressed for 2 seconds.

Up to WPS version 003: Set service switch on PCB to **"ON"**.
Switch on machine.

- Press button 6 until **P 27** appears in display A (see diagram below). Then press button 7, until **0** appears in display B (see figure below).

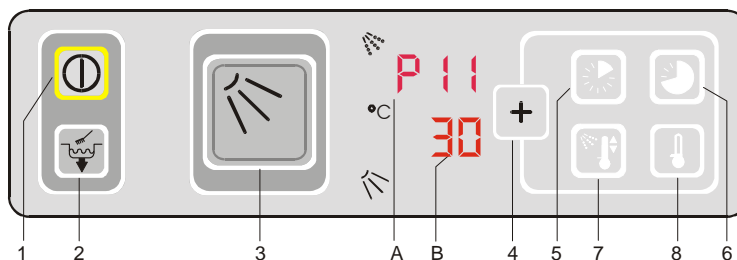


- Press button 4 to save. Button 3 is lit red during storage of the altered data.
- WPS version 004 and above: Keep button on PCB pressed for 2 seconds.

Up to WPS version 003: Switch machine off and set service switch on PCB to **"OFF"**.

Ventilating dosing pump

- Washer must be switched off.
- Shut door/hood.
- Attach detergent storage tank to the intake of the dosing pump.
- Press and hold **buttons 2 and 3** and then switch on the machine (press button 1).
- **P11** is shown in display A. The value shown in Display B is not relevant for the SP 166L. The dosing cannot be set in the control panel.



- Hold Button 2 down until the dosing pump is ventilated.
- Switch off machine.

Set dosing quantity:

- Switch on machine.
Note: The potentiometer in the SP 166L is always at **0**.
- The machine fills automatically and heats boiler and tank to target temperature.
- Meanwhile measure the quantity of detergent required for initial dosing This is calculated according to the information given on the detergent container (e.g. 3 g/l) and the tank capacity.
- After the target temperature has been reached (button 3 is lit green), add the calculated amount of detergent to the tank water and stir by running a wash cycle.
- Setting of the potentiometer is now carried out according to point 4.7 of the Operating Instructions SP 166L.

9.3 External dosing units not made by Winterhalter Gastronom

General information

Since mid-March 2002, Winterhalter Gastronom dishwashers have an interchange block with five terminals for connecting external dosing units built into the base.

Table 1: Terminal allocation

Terminal	Explanation
PE	Protective conductive (green-yellow)
L1	Continuous operating voltage, control phase
N	Continuous operating voltage, zero conductor
FILL/WATER	Two different kinds of signals can be read at the FILL/WATER terminal (see Table 2).
WASH	Control phase while wash pump is running (can be used for subsequent dosing, for example)

Table 2: Types of signals

Signal Type 1; => P27=4	Signal Type 2; => P27=5
Control phase during initial filling of tank	Control phase while feed-solenoid valve is open

Electrical connection of dosing unit



Danger of electric shock!

Switch off the main switch on your premises before working on the machine's electrical system.

1. Switch off machine and main switch on your premises.
2. Connect dosing unit to the terminal block in the base.

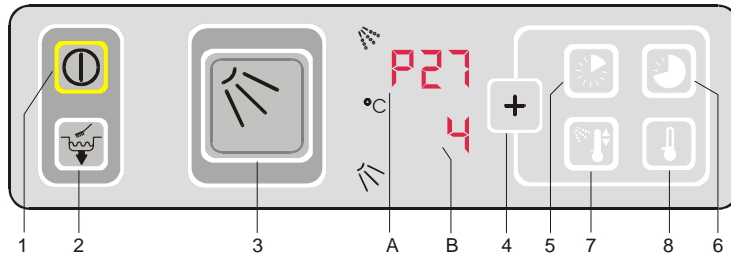


A maximum current drain of 1.0A is permissible.
The control voltage is protected by a 4.0A miniature fuse.

3. Switch on main switch on your premises.
4. If you have connected a dosing unit that is controlled by Signal Type 1, the dosing unit can be started. If you have connected a dosing unit that is controlled by Signal Type 2, entries must first be made at the control panel.

Entries at the control panel if a dosing unit is controlled by Signal Type 2

- Switch off machine.
- Hold down buttons 6 and Taste 8 and switch on the machine (press button 1).



- **P 27** appears on Display A (see above Fig.).
- The value 4 appears on Display B.; The value 4 corresponds to Signal Type 1.
- Press button 8 once to raise the value on Display B from 4 to 5.
- The value 5 appears on Display B; The value 5 corresponds to Signal Type 2.
Note: Button 7 can be used to lower the value back to 4.
- Press button 4 to save the value on Display B.
Button 3 glows red while the altered data are being saved.
- Switch the machine off and on again.
- Start the dosing unit.
- Note the altered value on the wiring diagram glued into the panelling.

10 Manual powder dosage

- Observe recommended dosage of the detergent used.
- Add the stated quantity of low foam detergent to the heated tank water as preliminary dosage.

11 Fill and heat up machine

11.1 Machines with pressure boiler

Warning! The procedure described in the following **only applies to initial commissioning.**

Following an interruption in operation (for instance, if the boiler was emptied during the winter) following Point 9 of the Service Instructions to re-start.

- Switch on machine. The boiler will fill automatically by way of the tank. The boiler elements do not heat up at this time.
- Once a certain amount of water is in the tank, the water is pumped out of the tank again and then refilled little by little *via* the boiler: the boiler heats up first, fills the tank until the temperature in the boiler has fallen below a specified value, then continues to heat up, fills the tank, etc., until the nominal values (level, temperature) for the boiler and the tank have been reached.
- Button 2 glows yellow during the filling and heating processes, Button 3 glows red and the temperatures are shown for the tank (in Display B) and the boiler (in Display A).
- Once the nominal values have been reached (level, temperatures) the temperature display switches off and Button 3 glows green.

11.2 Machines with pressureless boiler:

- Switch on machine by pressing button 1.
The tank is filled in stages by way of the boiler:
 - The boiler is first completely filled until the float switch switches off.
 - The boiler heats up.
 - The tank is filled by way of the rinse pump for a certain period of time.
 - When the boiler is filled again and heated up, the tank is again filled for a certain period of time by way of the rinse pump.
 - This continues until the target values (level, temperatures) for boiler and tank are reached.

During filling, button 3 glows red and the temperatures of the tank (in Display B) and the boiler (in Display A) are shown.

When the target values (level, temperatures) have been reached, the temperature display goes out and button 3 is lit green.

12 Testing the direction of rotation of the pump motor

12.1 GS 502, GS 515, GS 640, GS 650, GS 660

- Press button 3 to start a wash programme. If the pump is extremely noisy, switch the machine off, switch off at the customer's main switch and change the phase sequence of the mains power supply.
- Then switch on again at the customer's main switch and switch the machine on.

12.2 GS 200, GS 300, GS 402, GS 630

- The pump is fitted with an A.C. motor. Direction of rotation need not be checked.

13 Operating the machine

Preparing the machine for operation

- Set the service switch on the circuit board to **OFF**.
- Close all the panels on the machine and wait until the target temperatures are reached.

Checking the rinse aid dosage

- Check the drying effect on the washed dishes, adjust the dosing pump if necessary or change the dosage amount on the operating panel.
- When an even film of water dries off from top to bottom on the washed dishes, the dosage is correct.
- If bubbles or streaks remain on the washed dishes, there is an excess of rinse aid.
- When water droplets remain on the washed dishes, there is insufficient rinse aid.

Check the rinse water amount

- Check the washing result and, if necessary, adjust Parameters P08 (rinse time in seconds) and P09. If P08 is changed, P09 has to be correspondingly adjusted. P09 is relevant for the correct calculation of the additional dosage of detergent and rinse aid.

$$\text{Formula: } P09 (\text{new}) = \frac{P09 (\text{old})}{P08 (\text{old})} \times P08 (\text{new})$$

Checking the detergent dosage

- Determine the detergent concentration by titration


Instructing the operator

- Explain how the machine and any additional features work with reference to the operating instructions.
- Explain how the water pressure, tank and boiler temperatures and the detergent and rinse aid dosage all affect the washing result.
- Explain how to load the items in the rack correctly and the purpose of the individual racks.
- Explain the importance of pre-rinsing the dishes.
- Explain the importance of topping up for manual powder dosage.
- Explain how to top up the regenerating salt on machines with integral water softener.

14 Decommissioning machine

Daily after the end of operation

Switch off machine:

- Close hood/doors.
- Drain the tank by pressing button 2  for 3 seconds.
- The interior is cleaned automatically:
 - Circulation of the wash water,
 - Pump out the wash water,
 - Flush out with fresh water,
 - Pumping out of the used fresh water.
- The machine then switches off automatically.
- Close stop valve of the water supply of the water supply and switch off customer's mains isolator. Then the machine is now safe.

Instructing the operator

- Point out the necessity of regular maintenance and care.
- Mention descaling.
- Explain purpose of in-line filter in water supply. Explain assembly and disassembly thereof.
- Point out that if there is a risk of frost, it is necessary to drain boiler, pump and solenoid valve. This work should be carried out by a service technician approved/trained by Winterhalter. The recommissioning should also be carried out by a Winterhalter approved/trained technician.
- If a Winterhalter Gastronom water treatment system is connected to the machine, explain how it works and describe the regeneration process.