



F500 UNDERCOUNTER DISHWASHER/GLASS DISHWASHER

INSTALLATION AND OPERATION INSTRUCTIONS



HOBART FOOD EQUIPMENT CO., LTD

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F500 Undercounter Dishwasher/Glass Dishwasher Installation and Instructions

This device is not applicable for those who have physical or mental disabilities, insufficient experience, and/or insufficient knowledge, including children.

As continued product improvement is a policy of HOBART, specifications are subject to change without notice.

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F500 Undercounter Disher/Glass Dishwasher Installation and Instructions

1. IMPORTANT NOTES

- Read the detailed operating instructions and safety notes before first use.

Intended use

- This machine is exclusively to be used to wash ware such as plates, cups, glasses, cutlery, trays etc.
- DO NOT use for washing electrically heated cooking and heat conservation appliances, or parts made of wood.
- This machine is a technical device for commercial use and is not intended for household usage.
- This machine can only be used for washing tableware of machine washable, tableware to be cleaned must be placed in proper rack.
- DO NOT wash plastic tableware, unless they are heat and detergent resistant.

Safety



The “Attention” symbol is shown beside instructions that are essential for the safe operation of the machine. Please read these passages thoroughly.

- The operators should be trained about the machine operation and safety notice before use.
- This machine must be connected to the independent switch with earth leakage circuit breaker (main switch).
- In the event of danger or failure, must immediately switch off the machine power switch and the main switch.
- If fault occurs for unknown reason, the machine should be turned off, and can only be restarted after root cause of the fault having been solved.
- Please regularly test leakage protector by pushing the testing button of the leakage protector.
- Keep children away from this machine.
- Please turn off the water valve and the main switch when complete the work.
- Please do not open the machine door during washing to prevent hot water spills.
- The machine can be used by one person only, does not allow two or more people operate at the same time.
- Please keep the random file for reference at any time.

Responsibility

- The company will not accept liability for any damage caused by failure to use the dish-washing machine in accordance with the intended use.
- Installations and repairs carried out by non-authorized technicians or using non-genuine spare parts, and any technical alterations to the machine not approved by the manufacturer will invalidate the manufacturer’s warranty and product liability.

Detergent product (detergent, rinse aid, descaler, etc.)

- When using chemicals, adhere to the safety notes and recommended dosages printed on the packaging.
- Wear protective equipment (gloves, safety goggles, protective clothing) when handling chemicals.
- Only use commercial detergent and rinse aid. Such products are marked accordingly.
- Do not mix different detergent products as this could result in crystallisation and consequently cause ir-reparable damage to the detergent dosing device.
- Do not use any foaming products, e.g. manual wash-up detergent. These products must not enter the dishwashing machine, even through pre-washing of the dishes.
- To avoid unpleasant smell, only chlorine-free detergent should be used

Machine noise level

- The machine noise level is ≤ 70 dB (A).

Using environment

- The minimum requirement for all electrical equipment is correct operation between air temperature of $+5^{\circ}\text{C}$ and $+40^{\circ}\text{C}$. The electrical equipment shall be capable of operating correctly when the relative humidity does not exceed 50% at a maximum temperature of $+40^{\circ}\text{C}$.
- Electrical equipment shall be capable of operating correctly at altitudes lower than 1000m above mean sea level.
- The equipment can not be used in the potential explosive / frozen environment.

Power parameter

- This machine is suitable for power connection:
380 V/50 Hz/3N~ or ~ 220 V/50 Hz/1N~, Detailed see machine nameplate.

Unpacking

- Immediately after unpacking, check for possible shipping damage. If the dishwasher is found to be damaged, save the package materials and contact the carrier within 15 days of delivery. Please take out parts of scene installation, manuals and maintenance card. Please fill out necessary information carefully.

Other

- The local supply water quality has a major impact on the wash and rinse result. A high content of minerals which are dissolved in the water during the drying process may become visible in the form of spots and streaks.
- Authorised service personnel can determine the content of minerals by measuring the electrical conductivity. Values of less than 80 Microsiemens/cm indicate a low content of minerals. Higher contents need to be reduced below the critical level by demineralising the water using specific demineralisation cartridges or a reverse osmosis system.
- Before washing new glasses the first time with a commercial glass washer, intensive basic cleaning is mandatory to reduce the greasy film which is on most glasses for protection during production. If not, water drainage is impaired and streaks and spots may remain on glasses.
- We recommend carrying out the basic cleaning manually in a sink using brush for cleaning with higher chemical concentration of detergent, and the detergent must be cleaned before putting into dishwasher.
- Please contact your local authorized maintenance personnel if needed.

2. TRANSPORTATION, STORAGE AND INSTALLATIONS

Must be carried out by HOBART authorized technician.

2.1 Transportation and storage

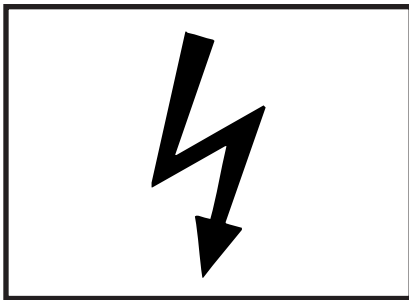


Forklift must be used during transportation and storage instead of vertical loading, pay attention to upturn and prevention of break, moisture and load. (See the marks on the package).

2.2 Location

- Rear wall clearance not required.
- Rotary anchor bolt to level the machine (reconfirm by levelling instrument), and then locking fix nut.
- Ensure the machine weight evenly distributed to all the anchor.

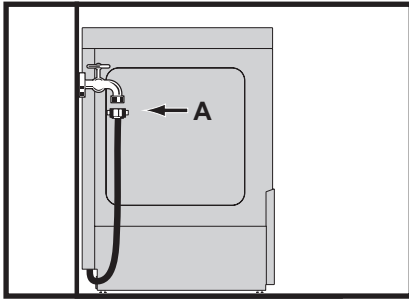
2.3 Electrical connection



Must be carried out by an authorized technician according to the local and national codes. A cut-off device shall be provided to connect the supply cord (main switch). The leakage current limit is not greater than 30 mA, see details on machine nameplate.

- The power supply must be consistent with the data on the rating plate.
- Fuse protection and cable cross section shall be executed accordingly.
- The supply cord must be connected via a cut-out device (main switch (contact separation $\geq 3\text{mm}$) or accessible plug device).
- In accordance with EN 60 335 , the device must be connected to equipotential bonding.
- The connection screw (∇) is located beside the cable inlet.
- ∇ For various equipments. means the connected equipment or make all the parts of the equipment or system to achieve the same equipotential bonding, that's not necessarily ground potential. such as local electrical connection. (GB/T 5465.2)

2.4 Water connection



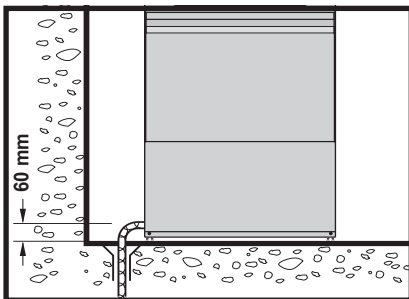
Must be carried out by an authorized technician according to the national and local codes.

The machine must be operated with potable water. For water with an extremely high mineral content an external demineralisation is strongly recommended.

The water hardness should be $\leq 0.5 \text{ mmol/L}$. Or else, may affect the warranty set out in the standard conditions of sale.

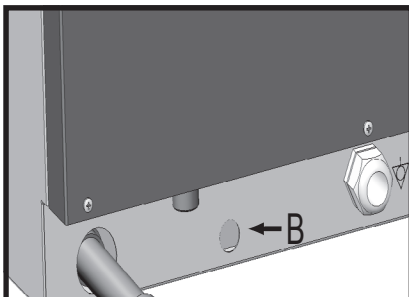
- Water temperature: 10 - 60°C.
- Water hardness: max. 3.75°Clark(=0.5 mmol/l)
- Line flow pressure:
 - Line flow pressure: 50kPa - 600 kPa, > 6 bar: pressure reducer valve necessary.
- Connect the union nut "A" (3/4") of the water supply hose to the site shut off valve.
- Do not kink or cut the supply hose. If an extended supply hose is required, use one of the same specifications as the original.

2.5 Drain connection



- Ensure gravity drain.
- For these machine types, a floor drain is mandatory as the drain hose exits the machine at approx. 60 mm above floor level. Otherwise, residual water may remain in the tank and hose.
- Do not kink drain hose.

2.6 External dispenser connection



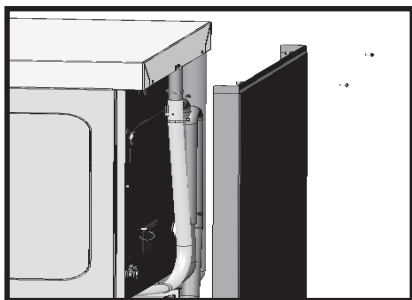
This machine is not configured detergent pump and rinse aid pump, need external dispenser. Must be carried out by an authorized technician according to the national and local codes.

- Keep emptying tank and booster.
- Keep main switch off or power plug pulled out.

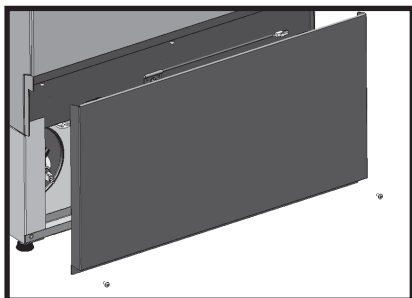
DISPENSER CONNECTION

- Open the hole "B" on the back for assemble suction hose.

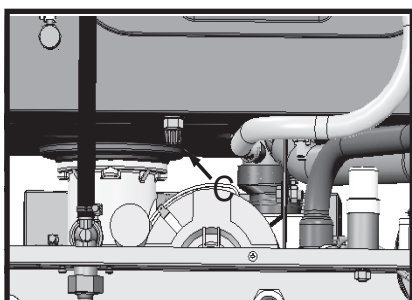
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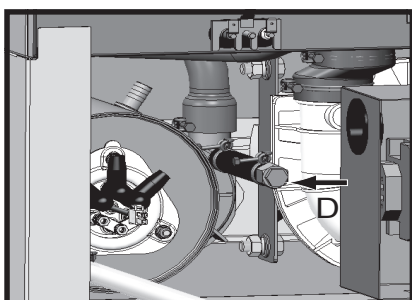
- Disassemble backside cover.



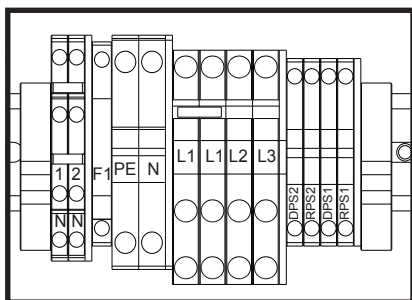
- Disassemble front cover.



- Assemble detergent suction hose with connector "C".
- Do not kink suction suction hose.



- Assemble rinse aid suction hose with conector "D".
- Do not kink suction suction hose.



Dispenser electrical connection

- Connect detergent signal line with terminal DPS;
- Connect rinse aid signal line with terminal RPS;
- Assemble backside cover;
- Assemble front cover.

2.7 There-phase to one-phase

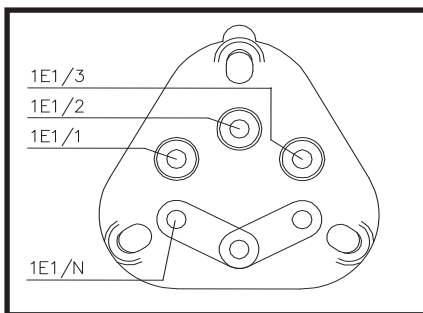
Must be carried out by an authorized technician according to the local and national codes.



- Switch off main power supply, insulate all end of power wire L2-L2 and L3-L3;
- Remove wire L2-1K1/4 and L3-1K1/6;
- Remove wire 1K1/3-1E1/2 and 1K1/5-1E1/3;
- Remove all wire jumper of booster heater, and then, recover 1E1/N connection.
- Keep record of the changes.

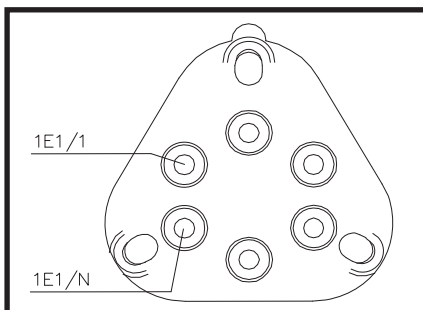
380/50/3/N/PE

- There-phase connection drawing of booster heater.

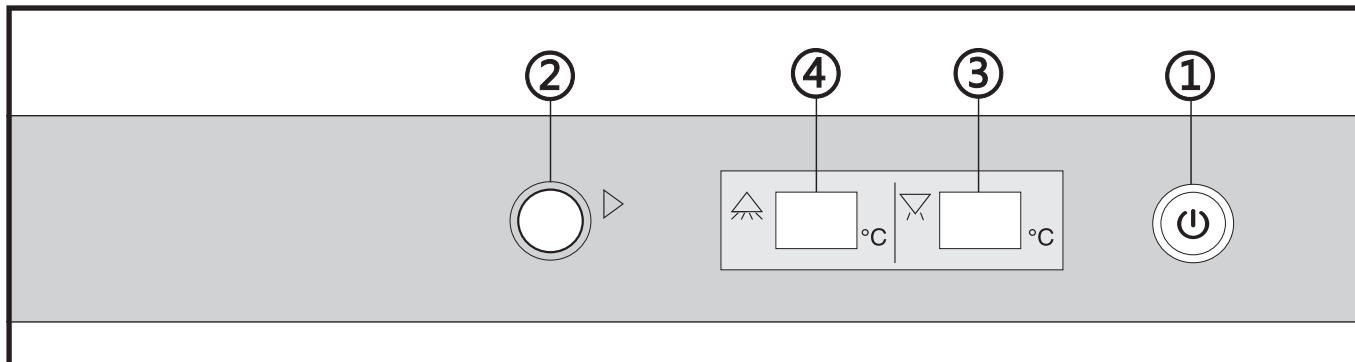


220/50/1/N/PE

- One-phase connection drawing of booster heater.



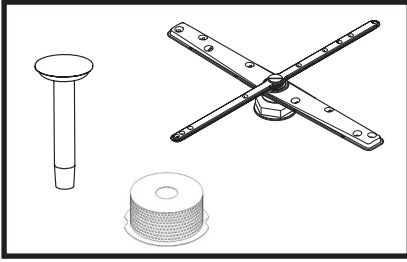
3. CONTROLS



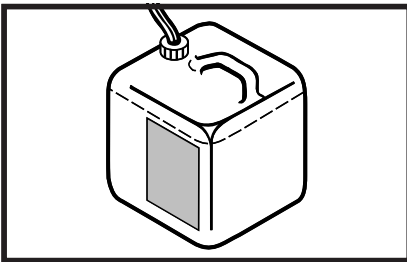
① Machine ON/STOP button	Pushing this button switches the machine on. The red LED ① lights up – Lights up = Machine is filling and heating. In case of operating error or faults, it is possible to switch-off the machine immediately without the drain cycle, by pushing this button. After switch off, the machine is not voltage free!
② Washing button	Pushing this button machine washing, green LED ② flashing. – Lights up = Machine stand by, it can start washing. – Flashing = Machine washing/rinsing.
③ Rinse temperature display	Rinse temperature display.
④ Wash temperature display	Wash temperature display.

4. OPERATION

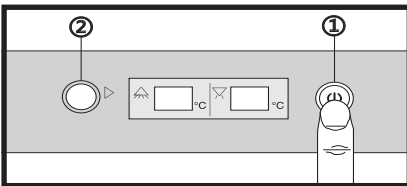
4.1 Preparation



- Check correct position of wash/rinse arms, strainer and overflow pipe.
- Open shut-off valve.
- Switch on main switch or put the plug in.

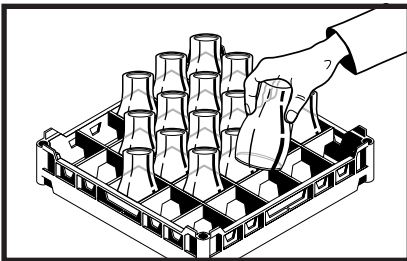


- Check level of detergent and rinse aid containers.

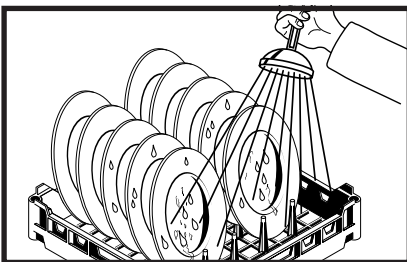


Close door and push the ON/STOP button switches machine on.

- Tank will be filled.
- The button green LED ② flashes during fill and heating cycle.
- Wait heating, this process can take several minutes.
- Tank water temperature reached 60°C, machine ready to clean.



- Place glasses and cups face downwards into the rack.

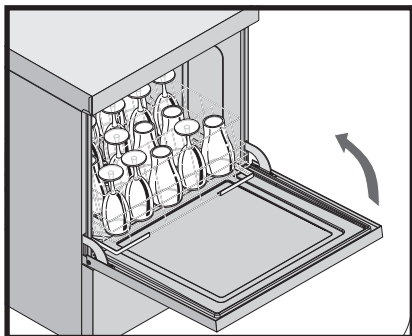


- Remove any food debris before loading plates into rack.
- Spray off greasy food leftovers.

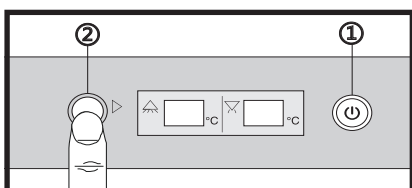


If dishes are placed incorrectly, dishes may be not washed cleanly. Total weight of dishes and rack should be less than 25kg, and should be placed steadily in the direction of operation to prevent human body from injury caused by falling.

4.2 Run



- Put rack into the machine and close the door.



- Push washing button ②
- Washing.
 - Green LED light ② flashing, wash program running.
 - Green LED light ② lights up, wash program finished.
- Open the door and take out rack.
- Allow dishes to dry for 1 minute approx.



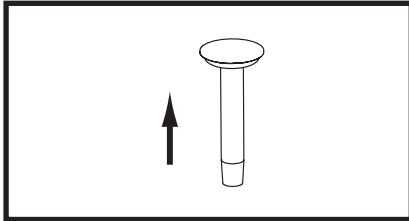
- Watch your hand When you open the door of the machine.



- Scalding and slipping hazard. Heat insulating gloves and clothes and non-slip shoes are required.

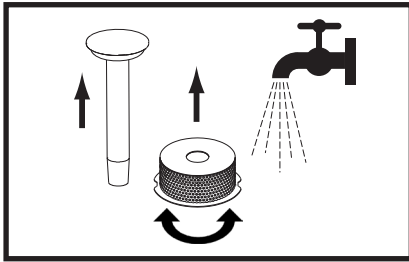
5. SWITCH-OFF, CLEANING THE MACHINE

5.1 Switch-off



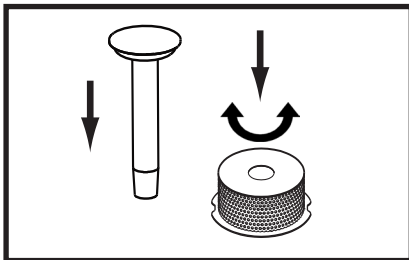
- Push the ON/STOP switches machine off.
- Switch off main switch or pull out power plug.
- Close the water inlet valve.
- Removed the overflow pipe, drain tank and clean machine.

5.2 Cleaning (daily)

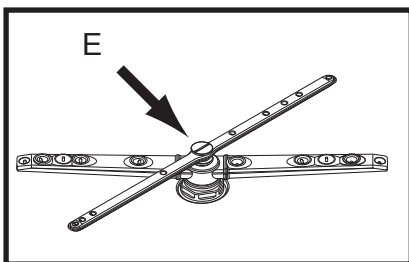


To clean the machine do not use any chloric, acidic or abrasive products and no metallic brushes. Do not cleaning outside parts of tank by driving flow , expect dismountable parts, for example, overflow pipe, strainer, wash arm and rinse arm.

- Switch - off.
- Please clean machine everyday for good cleaning effect.
- Open door, take out overflow pipe.
- Emptying tank and cleaning residue inside.
- Rotate and take out strainer.
- Cleaning inside machine, donot wash residue into the drain.
- Cleaning overfolw pipe and strainer.
- Put strainer into lock hook and totate locked.
- Put overflow pipe into the center of strainer, and vertical downward install into plac e.



5.3 Cleaning (weekly)



- Switch - off.
- Loosen the screw“E”counterclockwise.
- Disassemble the screw and rinse arm, put out wash arm.
- Clean upper and lower rinse arm, upper and lower wash arm.
- Recover components back into place.
- Ensure the rinse arm and wash arm ratate freely.

5.4 Descaling(monthly)

- If the water is hard and no water softener is used in the system, and there will be water scale in booster, tank and pipes.
- The water can not meet the hygienic standard because of water scale, impurity and greasy dirty, the heat elements will be damaged.

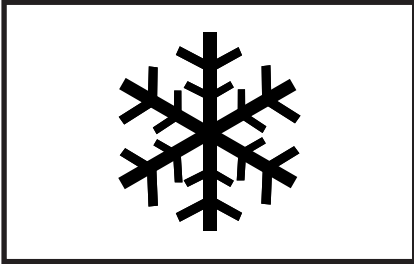


Damages to the machine or parts caused by scales is out of warranty. In this case, the machine must be scaled off by professional person or under his guide at regular intervals.

6. Frost prevention



This should be carried out by professional service personnel



In case of frost or longer operation pauses (e.g. for seasonal operations) the machine must be completely drained.

- Reset for operation according to section section 4.

7. Maintenance



- In order to maintain the warranty, as well as a permanently safe, efficient, and trouble-free operation of the machine, the required maintenance must be carried out by authorized service technicians.
- For this reason, we recommend the conclusion of an inspection and maintenance contract which assures qualified support by specially trained service technicians according to a time scheduled based on the operating conditions.



- For pumps, motors, power connector and other parts, you must disconnect the power before repair.

8. TROUBLESHOOTING GUIDE

8.1 Poor wash result

Type of failure	Possible cause	Remedy
Dishes are not clean.	Wash arms stiff (you should be able to turn them easily by hand).	Take out wash arms and clean them thoroughly. Check water outlet from machine to wash arms is clear;.
	Wash arm nozzles are clogged (visual check).	Take out wash arm, remove cleaning cap and rinse/wash arm thoroughly until soil is removed. Replace correctly.
	Rinse arm nozzles are clogged (possibly by scale deposit).	Remove rinse arms and decalcify them in separate container.
	Detergent concentration is too low or too high.	Check setting of external detergent concentration.
	Strainer soiled.	Take out strainer, empty and clean it.
Dishes or glasses do not dry properly.	Rinse aid concentration too low.	Increase concentration.
	Dishes still greasy.	1.Detergent concentration too low: increase . 2.Check if detergent is appropriate. If not choose a stronger one. 3.Drain soiled water and refill machine. Check pre-scrapping procedure.
	Rack is not suitable for type of dishes.	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Dishes stay too long in the machine at the end of program.	Take out dishes as soon as cycle is completed to enable them to dry.
Stripes and stains on dishes or glasses.	Rinse aid concentration too high.	Reduce quantity .
	Hard water or high mineral content.	Check water quality. Obtain details from local water authority. Recommended values: Ideal degree of hardness is 3.75°Clark, 0.5mmol/L. Ideal conductivity value for glasses is max. 150 μS/cm and for dishes max. 400 μS/cm.
	Rack is not suitable for type of dishes.	Use appropriate racks to create a sloping position which allows water to drain away from cavities.
	Insufficient rinse aid concentration causes stains.	Increase quantity.
Glasses are totally or partially cloudy.	Surface of glasses is rough and porous, this is called glass corrosion.	This is not caused by a malfunction of the machine. Replace with new glasses.
Glass breakages.	Use of inappropriate dish or glass racks.	Use appropriate racks.

8.2 Malfunctions

Type of malfunctions	Possible cause	Remedy
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Machine suddenly stops during wash program.	Machine is connected to a “maximum power supply unit” which cuts out the energy consumer at a given point, or machine is interlocked with another energy consumer unit.	Connect machine separately (call electrician).
	Blown site fuse.	Check site fuses.
	Temperature sensor failure of booster or tank.	Contact after-sales service.
	Pressure switch failure of booster or tank.	Contact after-sales service.
Machine keep water.	Machine uneven.	Switch off, drain tank, adjust machine the levels, restart machine.

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