



HOOD TYPE DISHWASHER

TATRA TW.H50+DR+DD TOUCH



T A T R A



Contents	Page
Introduction	3
Technical data	4
Safety and instructions for use	6
Transportation and moving	8
Installation of the machine	9
Machine operation	15
Decommissioning of the machine	23
Using detergent and rinse aid in the dishwashing machine	24
Cleaning and maintenance	25
Troubleshooting	28
Disposal	29

Introduction

Dear User,

Thank you for choosing our machine and for your trust in our company. Our appliances are used by users in industrial kitchens in 75 countries around the world. Our machine is manufactured in accordance with international standards.

We strongly recommend that you read the operating manual so that you can make the best use of the machine for a long time in line with your expectations.



Please read the operating manual thoroughly before installing and using the machine, and make sure that the personnel who will use the machine has also read the operating manual. The machine will not be covered by the warranty if it is started without reading the instructions properly.



This operating manual describes how to install, operate, and maintain the machine. It includes important information and document references. Knowledge of all safety information and handling instructions ensures that the machine can be operated safely and properly. Furthermore, it is necessary to observe the regulations for the use of the machine in accordance with local requirements and general safety regulations.



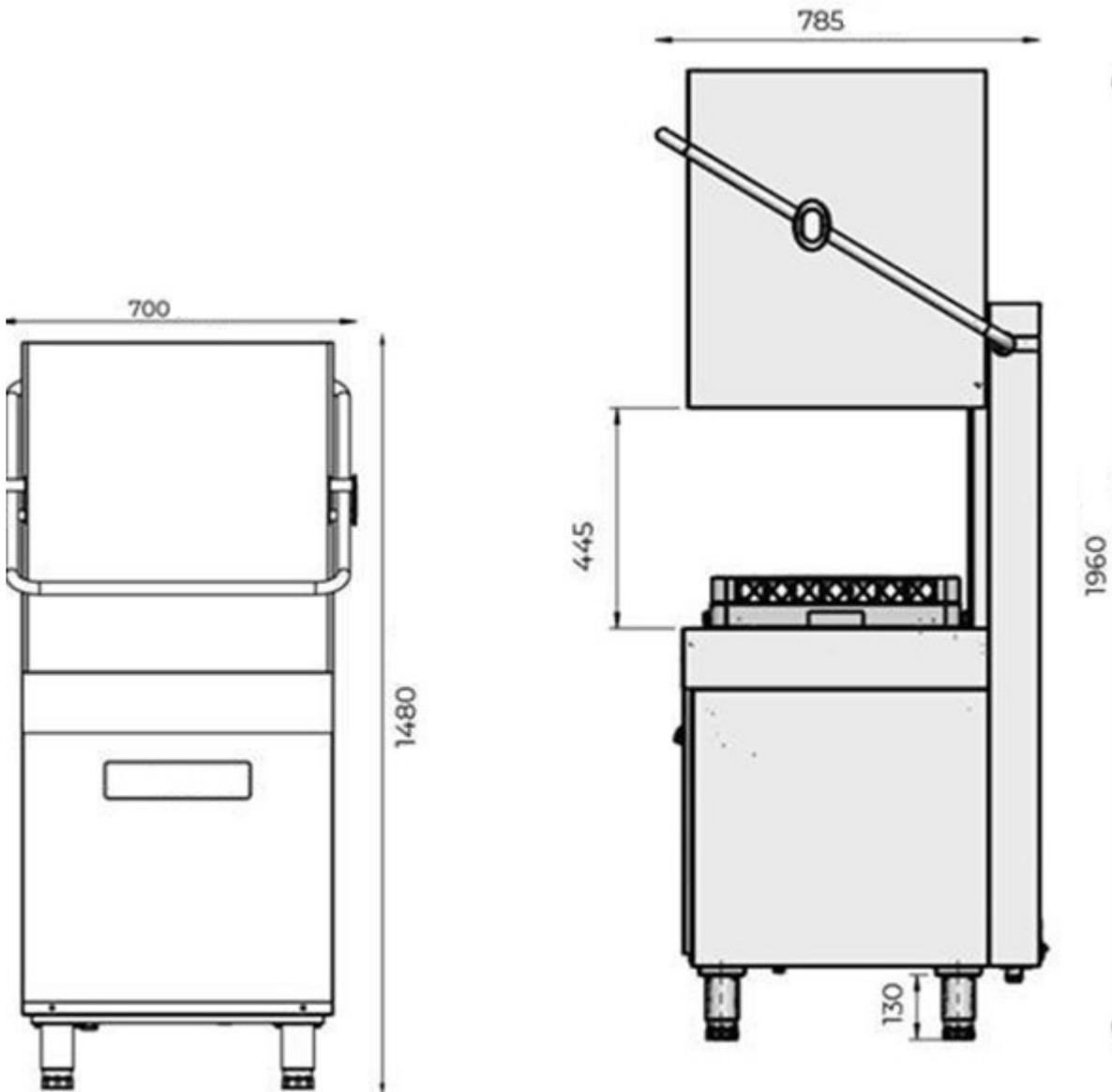
The operating manual is part of the machine and shall be readily available at all times in the vicinity of the machine so that it can be used by installation, operation, maintenance, and cleaning personnel.

Technical data

Model	TW.H50+DR+DD TOUCH
Width, mm	700
Depth, mm	785
Height, mm	1,480 (1,960)
Weight, kg	95
Rack dimensions, mm	500 × 500
Hood lift height, mm	465
Maximum dish height, mm	445
Detergent dispenser	Yes
Rinse aid dispenser	Yes
Drain pump	Option
Maximum load, racks per hour	69
Washing cycle time, sec.	52, 102, 132, 152, 192
Water inlet connection	3/4"
Inlet water pressure (min. to max.), bar	From 2 to 4
Connection water temperature, °C	From 5 to 50
Operating voltage, V	400
Power, kW	9.66
Tank heater, kW	2
Boiler heater, kW	9
Washing pump, kW	0.66
Washing tank capacity, l	23
Boiler capacity, l	7
Washing water temperature, °C	From 55 to 60
Rinsing water temperature, °C	From 80 to 85



Machine dimensions



Safety and instructions for use



The machine is manufactured in accordance with the up-to-date requirements and standards. If the machine is used improperly or operated in a manner that does not comply with the technical specifications, it may become dangerous. Knowledge of the contents of this manual is a requirement for protection from hazards and avoidance of errors, as well as for safe and trouble-free operation of the machine. In order to avoid hazards and to ensure the best performance, do not make any changes or modifications that have not been specifically approved by the manufacturer. The machine shall be operated in a technically perfect and reliable condition.



The machine is intended for industrial use and shall only be used by personnel trained according to this operating manual.



No one other than the manufacturer or authorized service center should open the machine.



The machine shall be installed in accordance with the applicable regulations. The machine shall be operated in properly ventilated areas or under fume hoods. Otherwise, hot water vapor and excessive humidity from the machine during its operation or from other appliances in the kitchen may damage the mechanical and electrical parts of the machine. The humidity level of the operating environment shall not exceed 65%.



The environment in which the machine is operated shall correspond to the recommended ambient temperature (+5 °C/+40 °C). The machine should only be used in closed rooms. Do not expose the machine to direct sunlight.



Do not immerse the machine in water and do not clean its exterior surface with pressurized water.



All installation and commissioning actions shall be carried out by qualified personnel. Always connect the machine in accordance with the regulations of the country where the machine is used.

The machine shall always be grounded.

Make sure that the mains voltage corresponds to the operating voltage of the machine. The wiring shall correspond to the power rating of the machine.



Our machine is manufactured according to French water hardness standards. Excess lime in tap water can damage the working parts of the machine, shorten its life, and reduce the washing efficiency. For this reason, always carry out the daily maintenance described in the "Cleaning and Maintenance" section.
IF THE TAP WATER ENTERING THE MACHINE IS MORE THAN 0 TO 10 DEGREES OF FRENCH HARDNESS (°fH), WE STRONGLY RECOMMEND USING A WATER TREATMENT SYSTEM.



The machine shall not be moved during operation.
 Do not move, pull, or lift the machine with the power cord.



During continuous operation, turn off the machine for 1 hour every 4 hours.

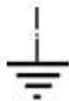


LOW-QUALITY DETERGENTS CAN DAMAGE THE WORKING SYSTEM AND PLASTIC COMPONENTS OF THE MACHINE. FOR THIS REASON, WE STRONGLY RECOMMEND THAT YOU CHOOSE A DETERGENT OF SUITABLE QUALITY.
 DO NOT USE TOOLS SUCH AS A STEEL SCRUBBER OR A WIRE BRUSH FOR CLEANING.

Symbols and markings



Power line grounding



Grounding



Electricity



Warning!



Important!



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Transportation and moving



Place the machine vertically on the pallet.
Place the pallet jack forks under the machine for its transportation.



If the machine should be moved over a long distance, move it slowly; secure it to a pallet to prevent vibration if necessary, or ensure it is supported by one person.



When transporting the machine, prevent it from being hit or dropped.



The manufacturer is not responsible for any damage that may occur during transportation.



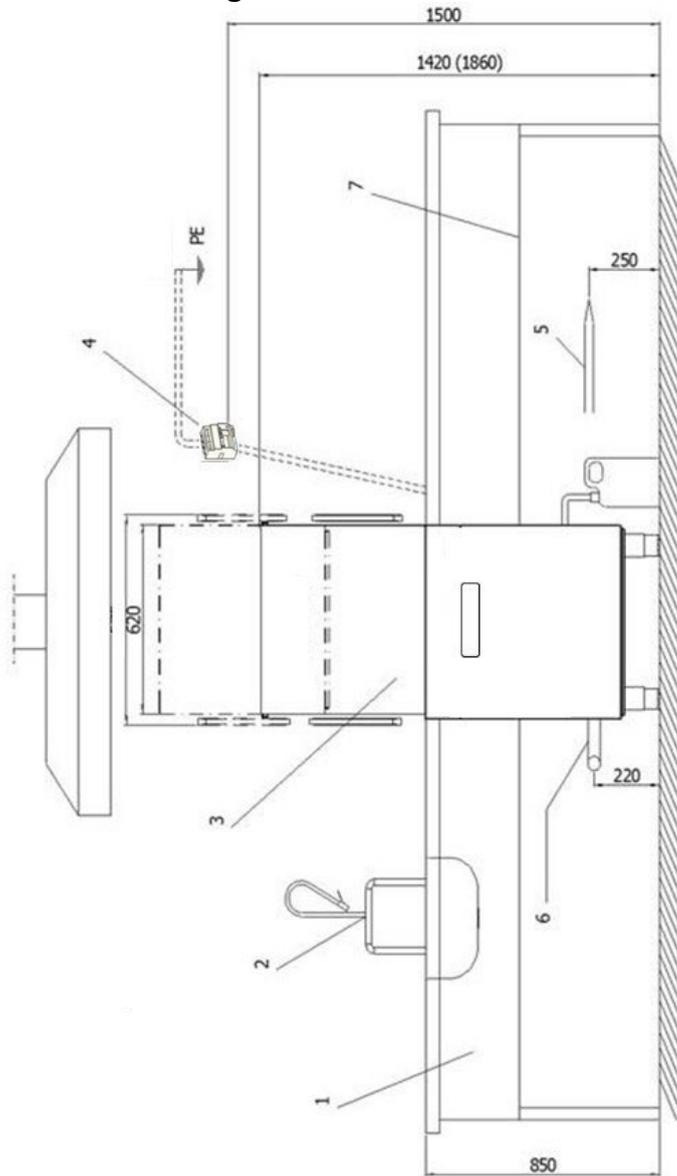
MOVING THE MACHINE:

Except for authorized service of the machine, **DO NOT CHANGE ITS LOCATION OR EXTEND/REPLACE CONNECTING HOSES AND CABLES.**



Installation of the machine

Installation diagram



Note: dimensions in mm.

1	Entry stand
2	Water spray
3	Dishwasher
4	Power supply connection
5	Water inlet connection
6	Water outlet connection
7	Exit stand

**Power supply connection:**

- Any electrical connections shall be made by personnel of an authorized service center in accordance with local and national standards and regulations.
- All machines shall be connected to a 30 mA residual current protection device.
- Use a suitable socket and plug to connect the machine.
- Before connecting, make sure that the rated voltage indicated on the nameplate corresponds to the mains voltage. Moreover, the fuse rating shall also match the machine specifications.
- If the power cord is damaged, contact an authorized service center for its replacement.
- The electrical specifications are indicated the machine nameplate.

Water supply connection:

- The machine comes with a 3/4" water supply hose included. Use this hose to connect the machine to the water supply, then check the connections and hose for leaks.
- When installing the machine, use only the new hose supplied with the machine. Do not use old or damaged hoses.
- The washing efficiency depends on external conditions including inlet water temperature, pressure, hardness, and the detergents and rinse aid used. To maximize the life and washing efficiency of the machine, the supply water shall be of the proper hardness. If necessary, use a water softener.

Warning! The manufacturer or dealer shall not be responsible for any damage resulting from the use of hard water and the machine warranty will be void.

Restrictions on water supply connections:

- Supply water temperature: from 5 to 50 °C.
- Inlet water pressure: if the water pressure is from 0 to 2 bar, use the dishwashing machine model with a rinse aid pump. A pressure from 2 to 4 bar is considered to be the proper pressure. If the pressure exceeds 4 bar, adjust the pressure with the pressure regulator.
- The hardness of the water supplied to the machine shall be reduced to between 0 and 10 °fH. Using very hard water shortens the life and reduces the washing effectiveness of the machine. Parts with lime deposits are not covered by the warranty.

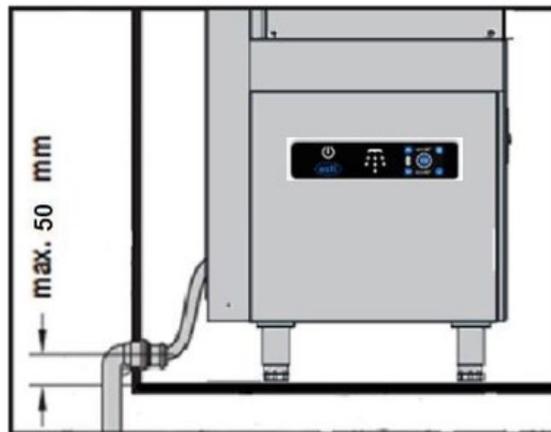
If these requirements are not met, the washing effectiveness will be reduced.



Drainage connection:

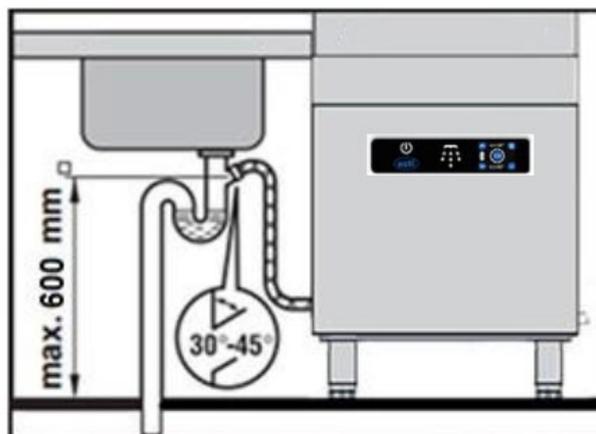
Models without a drain pump:

- On models without a drain pump, the waste water flows into the drain outlet by gravity. Connect the drain hose to the drain outlet at a downward sloping angle. Accordingly, the height of the drain outlet shall not exceed 100 mm. Do not reduce the drain hose diameter.
- Use a drain hose of sufficient length to allow the machine to be moved safely for maintenance purposes. The drain outlet diameter shall be $\varnothing 42$ mm (1 1/4"), and the drain should be below the hose outlet level. Check if the hose connection to the drain outlet is leak-proof.



Models with a drain pump:

- If the drain to the sewer is lower than the drain outlet of the machine, connect the hose to the drain outlet at a sloping angle.
- Otherwise, the drain outlet height shall not exceed 60 cm. The drain outlet with a diameter of 28 mm (3/4") shall not be below the machine base.



In case of difficulties with arranging the drainage, contact an authorized service center or dealer.

Loading detergent and rinse aid:

A plastic hose is connected to each detergent and rinse aid pump. The outlet ends of the hoses are located at the rear of the machine. Attach the weights included with the machine to the ends of the detergent and rinse aid hoses. Then place the hoses with a weight on the end in the detergent and rinse aid containers. Make sure that the detergent and the rinse aid hoses are placed in the correct containers (the rinse aid hose is placed in the rinse aid container, and the detergent hose is placed in the detergent container).

Warning! Use only special liquid detergents and rinse aids for industrial dishwashing machines. The rinse aid shall also be suitable for use at temperatures below 40 °C.

Detergent and rinse aid dosage:

The amount of detergent and rinse aid is set at the factory. However, depending on the actual water hardness at the installation site, the dosage of the detergent and rinse aid can be changed.

Washing and rinsing water temperature

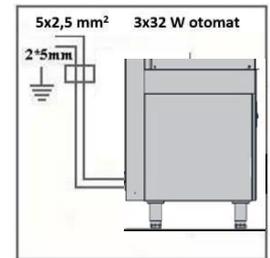
The following temperatures are set at the factory for the machine:

Rinsing water temperature (boiler)	85 °C
Washing water temperature (tank)	55 °C

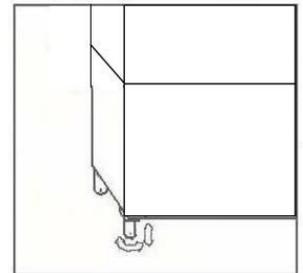
Machine installation

Actions at the user's site:

- Call a qualified electrician to make the electrical connection. When installing, use an automatic circuit breaker located at a height of at least 120 cm and a 30 mA residual current protection device.



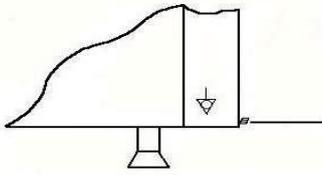
- Ground the machine by securely connecting the ground wire to the ground terminal of the power cord of the machine.
- For clean water supply, install a new 1/2" diameter pipe system on the rear wall at a minimum height of 200 mm from the floor with a 3/4" valve.
- For waste water drainage, install \varnothing 50 PVC pipes on the rear wall at a maximum height of 100 mm from the floor. If the drain outlet is equipped with a grille, provide a floor trap.
- The room where the machine is installed shall be equipped with an exhaust ventilation system.
- The machine feet are adjustable in height. Adjust the machine feet so that it stands level on the floor.
- The room shall be free of vapor and moisture.



The authorized service center will not proceed with the machine installation until the user completes these preparations.

Actions carried out by the personnel of the authorized service center:

- Once the user has completed the preparations, the technician called in will make the power and water supply connections and start the machine.
- Do not start the machine until a technician arrives, otherwise the warranty will be void.
- If possible, contact the detergent supplier on the day of the machine installation. The manufacturer or service center will not be responsible for any damage caused to the machine by the detergent manufacturer.



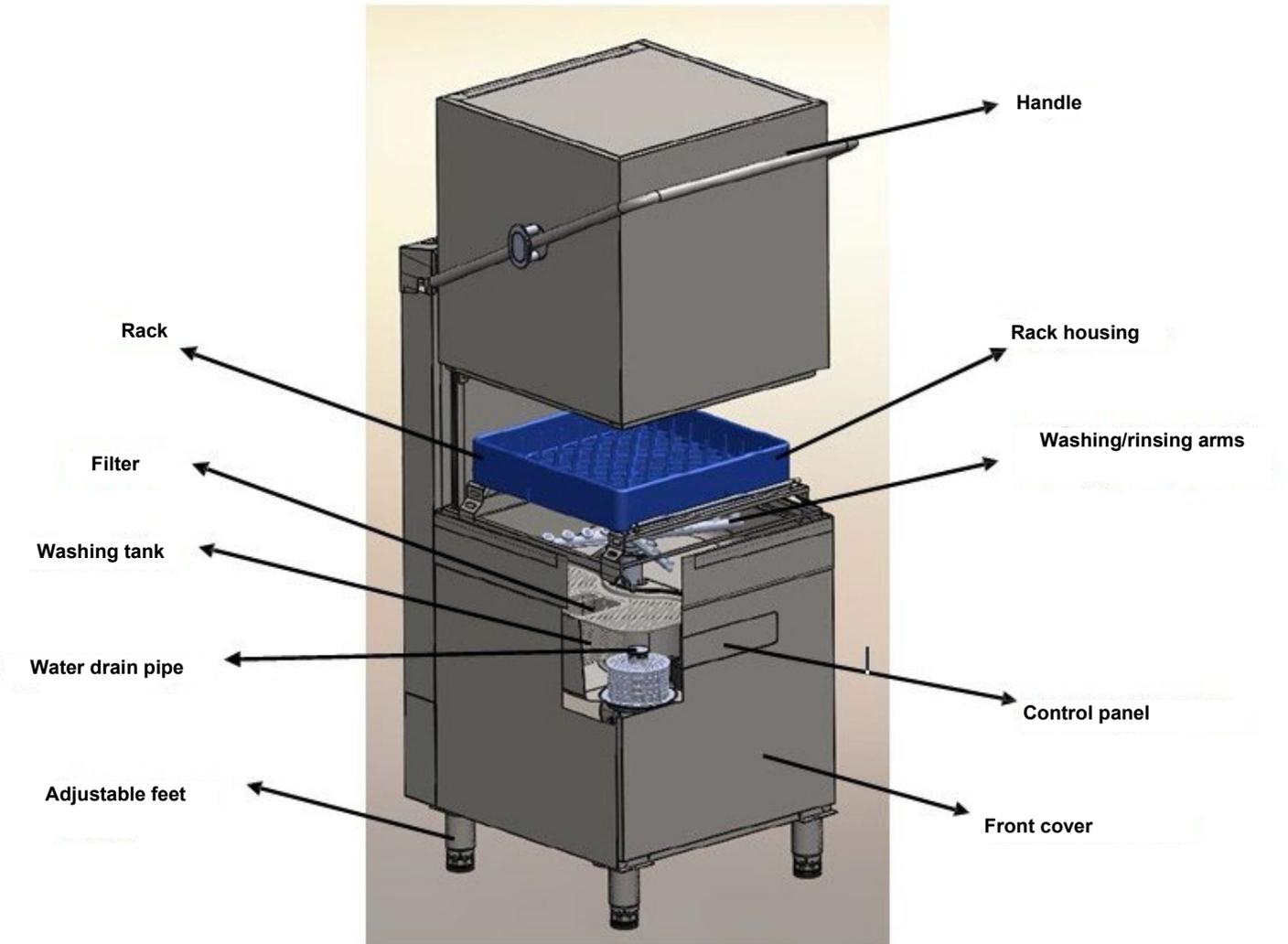
Ground screw for external
connection

Caution! DO NOT START THE
MACHINE WITHOUT GROUNDING
CONNECTION!



Machine operation

Machine description: In order to properly understand the information given in the operating manual, it is necessary to know the main parts of the machine indicated in the figure below.



This machine is intended for dishwashing in tourist establishments, industrial kitchens, pastry shops, work sites, and catering enterprises. Wash only kitchen equipment, dishes (plates, forks, spoons, blades, glasses, trays, etc.), and cutlery (ladles, spoons, spatulas, tongs, etc.) in the machine.



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Note: Do not use the machine for purposes other than those specified. The machine shall be operated by qualified personnel familiarized with the operating instructions, safety regulations, and technical specifications of the machine.

To ensure the correct use of the machine by the operator after the installation, the operator should be familiarized with the following information:

- Shutting off electricity and water supply in case of emergency;
- Turning the machine on;
- Operating the machine;
- Draining the water;
- Turning the machine off.

Note: We recommend to operate the machine at an ambient temperature from 5 to 40 °C and humidity of 65% or less.

Operation:

Machine description

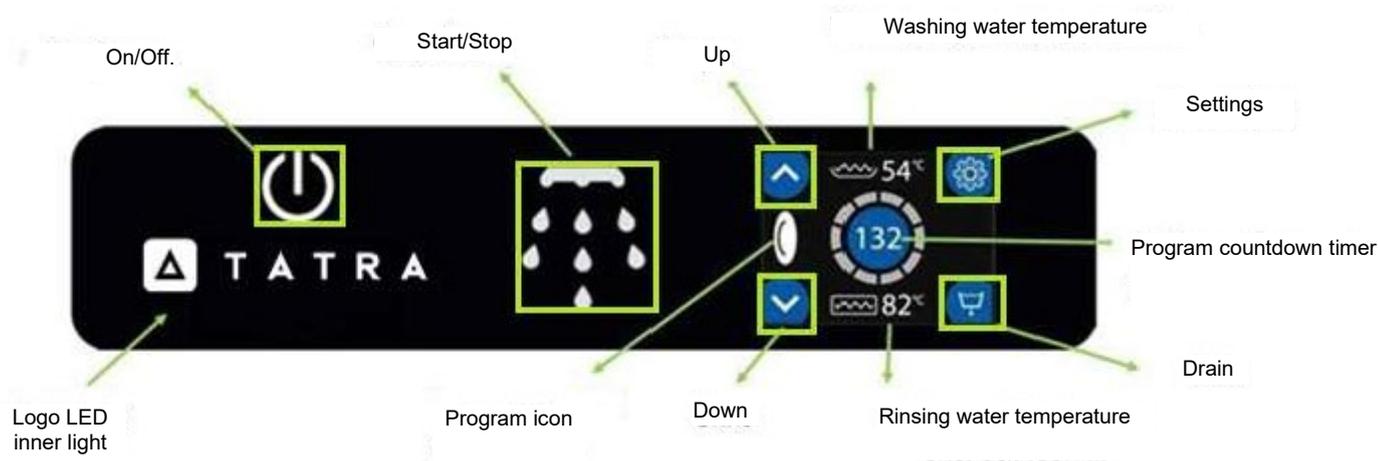
Unlike household appliances, industrial dishwashing machines are designed for virtually uninterrupted operation.



First, clean the dishes of food residues using a brush or sponge, then rinse with water, and finally place them in the basket. Otherwise, the filters and sprayers will be clogged with coarse debris. Do not use detergent or hot water for pre-cleaning.

Control panel

Before starting the machine, familiarize yourself with the controls and icons on the front panel. Also, familiarize yourself with the location of the power switches and water supply valves.



 - Touch buttons

Starting the machine

Make sure that the power supply, water supply, and drainage connections are made. Wait until the white On/Off icon on the front panel lights up, then press and hold it for 3 seconds; the LCD screen will activate.



The machine will start automatic water intake. The Start/Stop button (drop icon) will be highlighted in blue.



Once the necessary quantity of water has been filled, heating is automatically started. The Start/Stop button (drop icon) will be highlighted in red.

The machine heats the boiler first and then the water in the tank. During the water heating, the machine door shall be closed.



When the water temperature in the boiler reaches 85 °C and the water temperature in the tank reaches 55 °C, the machine is ready for washing. The Start/Stop button (drop icon) will be highlighted in white.

Initial preparations before use:

Before the first daily start-up, wait from 25 to 30 minutes (depending on the dishwashing machine model and water inlet temperature) for the water to warm up. When the water reaches the factory set temperature, an audible signal will sound. Effective functioning of the machine is structurally possible only after the required temperature has been reached. If the temperature is lower than normal, wait for it to warm up to the correct temperature before starting a new washing cycle.

Starting a washing cycle

Lift the hood, place the first basket inside the machine, make sure that the upper and lower washing and rinsing hoses (sprayers) rotate freely. Close the hood.



Use the Up/Down buttons to select a program (52, 102, 132, 152, or 192 seconds) depending on the dish type and soiling degree, then press the Start/Stop button to start the selected program. The display will start counting down the program running time. The Start/Stop button (drop icon) will be highlighted in green.

Once the washing is complete, the rinsing cycle starts.

If the machine hood is opened during the washing (without pressing any buttons), the machine will pause. When the hood is closed again, the program will continue from where it was interrupted.

An audible signal will sound when the washing process is complete. Open the hood, take out the basket with washed dishes, and load a new basket. Close the hood, then a new washing cycle will start automatically.

To stop the program, long press the Start/Stop button (drop icon) after closing the door.

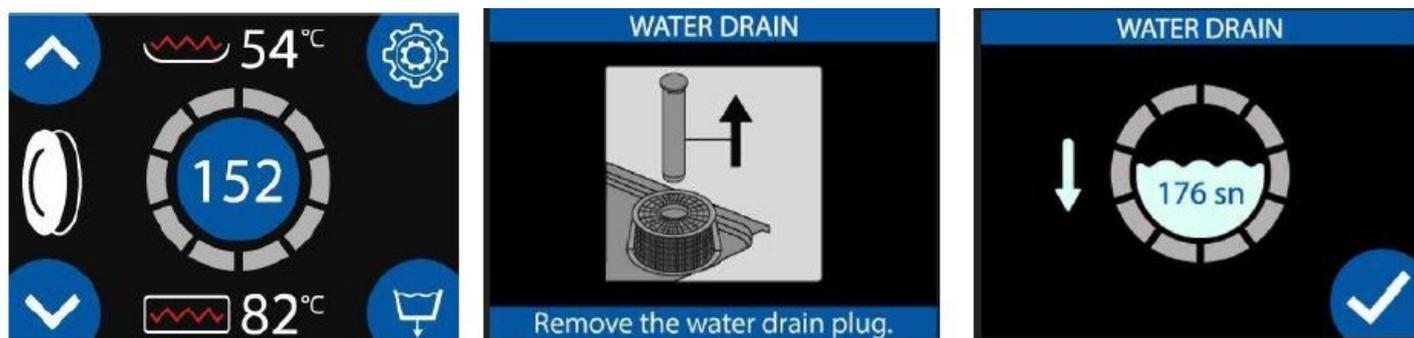
Water drain:

Excess water generated during the machine operation will be automatically drained off.

At the end of each day, leave the machine hood open to dry it. Before turning off the machine at the end of the working day, completely drain the washing tank of water.

We recommend to regularly drain dirty water from the washing tank during the day in order to improve the washing efficiency.

The machine is equipped with a water pollution meter. When the indication appears (icon of a green drop with arrows), drain the dirty water from the washing tank according to the instructions below.



Models without a drain pump (gravity drainage):

Turn off the machine using the control panel. Open the machine hood and remove the drain pipe from the tank. Then the water will start draining from the machine. After the draining is complete, reinstall the pipe. Turn off the water and power supply to the machine.

Models with a drain pump (optional):

With each cycle, the drain system is automatically activated when the rinsing starts.

After finishing work at the end of the day, open the door and remove the drain pipe. Press and hold the Drain button for 3 seconds, confirm the draining by pressing the check mark, and confirm the removal of the drain pipe.

The Start/Stop button (drop icon) will be highlighted in blue.

When draining is complete (factory set time), the drain pump will automatically stop. After the draining is complete, reinstall the pipe. Press the On/Off button to turn the machine off and turn off the water supply.



Note: After the draining is complete, we recommend that you turn off the water and power supply and clean the machine as described below. To improve sanitation, after draining the water, leave the machine hood open to allow the washing tank to dry naturally.

Settings

Manual filling of detergent and rinse aid:

The detergent and rinse aid pumps can be manually operated at any time.

Long press the On/Off button to activate the control panel. Long press the Settings button to enter the settings menu. Press the Up and Down buttons to set the password "001". Confirm the entered password by long pressing the Confirm button (check mark).

The pump operation time is set with the Up and Down buttons. The default setting is 120 seconds. Long press the Play button to start or stop the dispensing pump. Short press of the Settings button to switch from the detergent pump to the rinse aid pump and vice versa.

The detergent dispenser dispenses 0.8 ml in 1 second, the rinse aid dispenser dispenses 0.3 ml in 1 second.

Long press the Settings button to switch to the Home screen.

User parameters:

Long press the On/Off button to activate the control panel.

Long press the Settings button to enter the settings menu. Press the Up and Down buttons to set the password "002". Confirm the entered password by long pressing the Confirm button (check mark).

Use the Up and Down buttons to select a program for the user settings. Long press the Confirm button (check mark) to confirm the selected washing program.

The parameters are set separately for each washing program.

Short press the Settings button to switch between the parameters. Press the Up and Down buttons to set the desired parameter value. Long press the Confirm button (check mark) to confirm the set value.

Long press the Settings button to switch to the Home screen.



T A T R A



The following parameters are available for changing:

P08: Detergent loading time.

Set in seconds. The dispenser dispenses 0.8 ml in 1 second.

P09: Rinse aid loading time.

Set in seconds. The dispenser dispenses 0.3 ml in 1 second.

P11: Contamination counter.

Factory setting = 80.

Number of washing cycles after which the dishwashing machine signals the need to drain dirty water (indication: icon of a green drop with arrows). To remove the warning, drain the water.

P15: Tank heating.

Factory setting = 0.

If "1" is selected, the washing cycle does not start until the water temperature in the tank and in the boiler reaches the set values;

If "0" is selected, the washing cycle will start at any water temperature. The heater will continue to operate at this time.

P17: Cycle start at the hood closure.

Factory setting = 1.

If "1" is selected, the washing cycle starts automatically after the hood is opened and closed. If "0" is selected, press the Start/Stop button each time to start the washing cycle.



Any changes to the parameters shall only be made by trained and qualified personnel.

**Decommissioning of the machine:**

If for any reason the machine should be taken out of service, this shall be done in compliance with local or national regulations. We recommend the following procedure:

- Carefully remove the detergent hoses from the containers, then close the container lids to prevent spills. Refer to the rules for safe handling of detergent containers to avoid damage due to spillage.
- Make sure the machine is completely drained, then disconnect the drain hose from the drain outlet. After draining, wipe and dry wet areas of the machine.
- Turn off the power using the main switch.
- If the machine is plugged into a mains socket, pull the plug out of the socket.
- If the cable terminals are connected directly to the electrical panel, call in a qualified electrician to disconnect the machine in accordance with local and national electrical codes.
- After disconnecting, make sure the power/ground wire is disconnected from the body on the back of the machine.
- Turn off the water supply to the machine and disconnect the water supply hose. Wipe all leaks dry before the next step.
- Unscrew the bottom panel and remove it.
- Remove the drain plug from the boiler and drain the water into a separate container. The container should have a capacity of at least 7 liters.

Warning!

If you plan to drain the water immediately after washing, the water temperature at the boiler outlet can be 85 °C.

- Then reinstall and tighten the plug.
- Replace the front panel and make sure that all cables and hoses are securely attached to the machine to avoid any risks. Then the machine can then be moved safely.



T A T R A



Using detergent and rinse aid in the dishwashing machine

- To estimate the detergent consumption, take into account the water hardness, the dish soiling degree, and the detergent specifications.
- If the dosage of the detergent supplied to the machine is increased due to unauthorized interference, excessive foam will be produced, resulting in dishes that look dirty and covered with a layer of detergent after washing and, in addition, increased detergent consumption. On the contrary, reducing the detergent dosage will reduce the washing efficiency, leaving the dishes dirty.
- The rinse aid dispenser can be adjusted according to the rinsing water consumption and its hardness. Excessive rinse aid supply shall be avoided, as it leads to low rinsing efficiency and dishes appearing dirty with a residue of hazardous chemicals.
- Another adverse effect of excessive rinse aid in the rinsing water is increased acidity, which causes wear on the rinsing line.
- The detergents and rinse aids used shall be safe for health.
- We recommend to use non-foaming detergents and rinse aids designed for professional dishwashing machines.



The detergent and rinse aid dispensers shall only be adjusted by trained and qualified personnel.



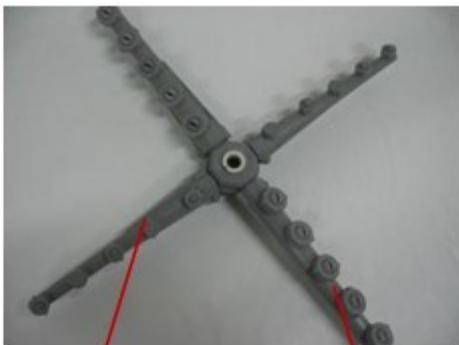
Cleaning and maintenance

Maintenance of the machine shall be carried out after disconnecting power and water supply by personnel who are familiarized with the safety instructions.

Daily maintenance

Daily maintenance should be carried out by the user.

To clean the machine throughout the day, carry out the following steps periodically, after completing the washing cycle:



Rinsing hose

Washing hose

Remove the washing and rinsing hoses and clean dirty nozzles and surfaces with a brush, pressurized water, fine wire, etc.



Remove any food residues in the washing compartment and clean the compartment.

Remove and clean the filters in the washing tank.
Do not start the machine without first reinstalling the filters.

Wipe the inside of the tank should with a sponge or cloth and rinse with plenty of water.

If the time between two washes exceeds 5 hours, remove the drain pipe and drain the tank completely.



Disconnect the suction filter and rinse it with plenty of water.

After the cleaning is complete, reinstall the suction filter, drain pipe, waste filters, and washing and rinsing hoses.

DO NOT TURN ON THE MACHINE

with the drain and tank filters removed. Otherwise, large food residues from the dishes will damage the machine.

After a certain period of use, the machine guides may become scaled and should therefore be cleaned with a cloth and detergent. If cleaning is not done for a long time, scale may make it difficult for the hood to move freely.

Periodic maintenance

The user should carry out periodic maintenance at least once a month, not excluding the need for regular cleaning and maintenance after the completion of each wash.

This should be done when the machine is ready for use and before placing dishes in it. After adding 1/2 kg of descaler to the washing tank, the machine shall run for at least half an hour to complete the cleaning. To do this, run several washing cycles in succession without dishes. After that, drain the water and fill clean water without adding the cleaning agent, then run a few more cycles to let the machine run for half an hour, and drain the water completely again. The machine is now ready to wash the dishes.

If the machine is not used for a long period of time, the boiler shall be drained. To do this, open the boiler drain outlet at the bottom of the machine body and wait for the water to drain out completely. Otherwise, water left inside for a long time may damage the heating elements.



T A T R A



Warning!

- Do not use cleaning agents containing bleach, chlorine, or hypochlorite.
- Do not use a steel scrubber or wire brush for cleaning.
- Do not use pressurized water to clean the interior or exterior surfaces of the machine.
- Before cleaning the inside of the dishwashing machine, first carefully remove any parts from the washing tank that could cause injury during cleaning, such as sharp glass fragments.
- Thoroughly wipe the inside surfaces of the dishwashing machine. After removing waste and foreign particles, replace the washing and rinsing hoses and filters.
- Wipe the exterior surfaces of the dishwashing machine with a damp cloth. Do not use a wet cloth for cleaning.
- After drying, wipe with a cleaner for stainless steel parts.



Troubleshooting

Before contacting the service center, check the following items:

1. The machine fails to operate partially or completely:

- Check if power and water supply connections are in place, correct, and in good working order.

2. The machine does not turn on when pressing the start button:

- One cause may be that the hood is not closed tight enough, causing the switch to fail. Make sure that the hood is tightly closed. If the machine still fails to start washing, contact the service center.
- If the machine wash but does not follow the programmed sequence and waiting time, the program switch is defective. Contact the service center.

3. The machine does not heat the washing water:

- The thermostat in the tank is defective. Contact the service center.
- The heating element of the washing tank is defective due to lime scale. Contact the service center.
- Check the inlet water temperature. Inlet water temperatures that are too low or too high can affect heating.
- Check the water level in the washing tank.

4. The machine does not heat the water in the boiler:

- The thermostat in the boiler is defective. Contact the service center.
- The heating element of the boiler is defective due to lime scale. Contact the service center.
- The heating element contactor in the boiler may be defective. Contact the service center.

5. Poor washing efficiency:

- Check the quantity of detergent and rinse aid in the containers and top up if necessary.
- Clean the outlet openings on the washing and rinsing hoses.
- Clean and replace the filters if necessary.
- Make sure that the water supply valve is fully open.
- Remove food residue from dishes before loading them into the baskets.
- The glasses can be pre-rinsed.
- If white spots remain on the glass, it may indicate increased water hardness. Contact the service center for information on using a suitable softener.

6. The machine cannot be turned off:

- Disconnect the machine from the mains and contact the service center for technical support.

7. The machine does not drain the water:

- Check and clean the filters.
- Check if the drain hose and drain outlet are not clogged.
- Check if the drain hose is not kinked.
- In machines with a drain pump, the draining system shall meet the installation requirements.

8. Low water intake rate:

- Make sure that the water supply valve is fully open.
- Check the water pressure. It should be between 2 and 4 bar. If the pressure is low, a booster pump is required.
- The water intake hose may be clogged or kinked.
- If the low pressure is caused by the water line pressure regulator, the regulator can be removed.

Note: The warranty will be void if the user fails to complete with the machine installation and operation requirements.

WARNING! Taken care when installing and operating the machine as described in the sections on installation and operation of the machine. If you encounter any malfunction, after carefully reviewing the warnings and explanations described in the "Troubleshooting" section, if necessary, contact the nearest authorized service center. Do not attempt to repair the machine on your own.

Disposal

At the end of the service life, the machine shall be disposed of according to regional requirements. We recommend that you contact a specialized recycling organization or service.