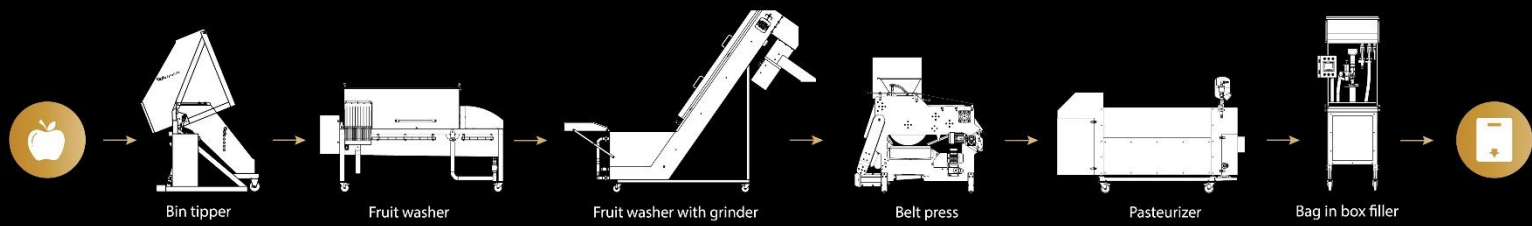


PROFRUIT MACHINERY

Official Manual & Instruction Document

Manual Bottle Filler

GRAVITY



INFORMATION ABOUT MANUFACTURER

JSC/UAB PROFRUIT MACHINERY

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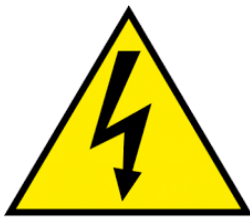
VAT code: LT100012484812

E-mail address: info@pro-fruit.com

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Warning signs

There are special warning and prohibition signs put on the machines which are meant to inform the user about danger and keep everyone – people and machinery – safe at all situations. The meaning of each sign is described below.



**Control console.
High voltage**



Headers required



Work shoes required



The risk of limb injury.

It is mandatory to remain alert and protect the limbs.



The risk of limb injury.

Moving parts of the machine.



Hot surface.
Risk of getting burned.



Warning. Sharp parts of machine
Risk of limb injury.

GENERAL REQUIREMENTS

General requirements for machinery use:

- Ambient air temperature +8...+35° C.
- Relative humidity (when temperature +25 °C) iki 70%.
- Atmospheric pressure, kPa 84-107.
- The Law on Occupational Safety and Health of the Republic of Lithuania, the General Provisions and Safety Instructions for the Use of Work Equipment and the Laws on Occupational Safety and Health of the European Union must be observed while using the machine.

Manual Bottle Filler GRAVITY

Manual bottle filler GRAVITY is designed to fill various liquids into bottles with different sizes. The machine fills glass bottles and glass vials with a round mouth. The filler has 6 filling heads which work on the basis of gravity. The filling heads fill the liquid into the bottle until it reaches a certain level depending on bottle height and filling table. When this level is reached, the filling process finishes automatically.

The extraction of air from the bottle occurs automatically through the filling head tube. The filling system of the collection tank can have a mechanical float or an electronic level sensor (optional). The collection tank can be filled by gravity or pump. In case of an electronic level sensor, the machine is supplied with a panel control to manage the pump by switching it on and off. If a mechanical float is installed, we suggest providing an external pump with bypass for overpressure or automatic pressure switch.

Manual bottle filler is suitable to fill bottles in sizes from 100 ml to 2 l, depending on other bottle features (diameter of the bottle neck, diameter of the bottle, etc.).

When using the machine, insert the bottle into filling head and put the bottle onto the filling table. Depending on bottle height and table height, filling head fills the liquid into the bottle. The filling process finishes when liquid in the bottle reaches certain level depending on bottle height and filling table.

Capacity – 600 pcs. of 0,5 L bottles per hour.

- The bottle filler - contact surfaces are constructed from stainless steel or food-grade materials.
- Gravitational mechanism provides a constant stream as well as easy and effective work.
- Comes with a collection tank for liquid.
- Collection tank can have an optional integrated liquid level indicator.
- Suitable for various liquids that are similar to water consistency, such as juice, wine, vodka, etc.
- Mounted on the pivoting wheels.

Attention! It is mandatory to wash off the device before starting it for the first time.

It is important to eliminate any manufacturing residues and the dust which has built up on the surface, taking care not to wet the electrical parts and keeping the power supply cable disconnected.

Pictures of the machine



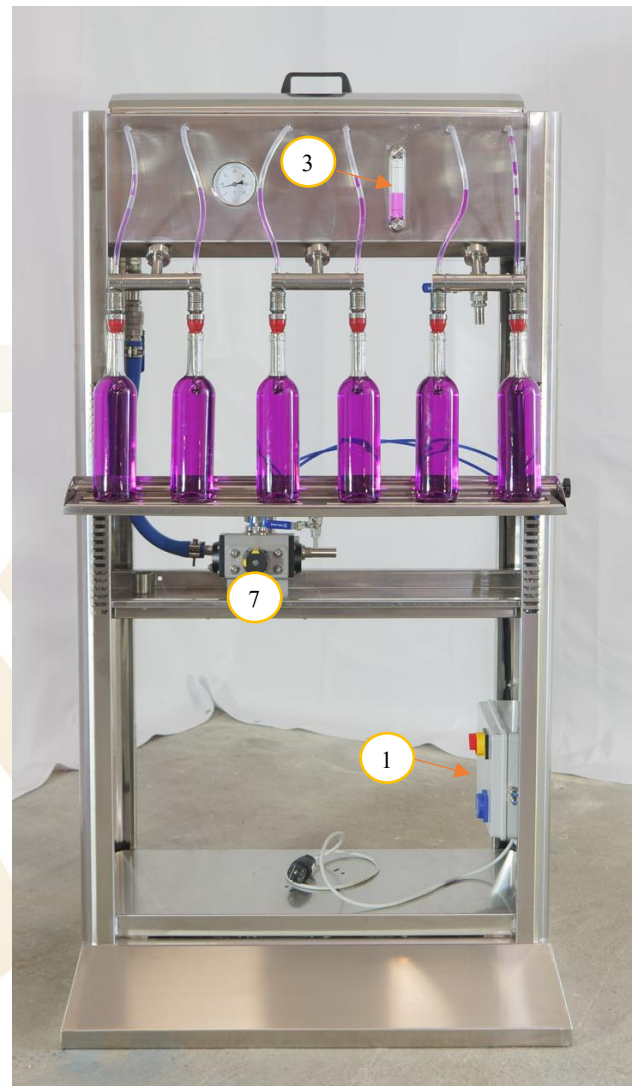
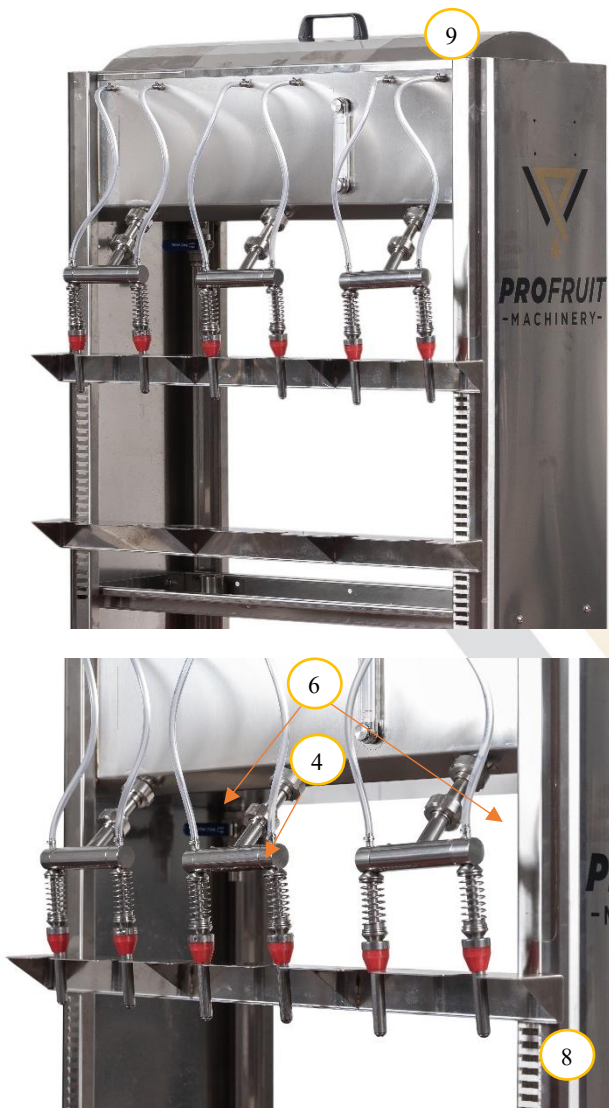
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Main components of the machine



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1



2



3



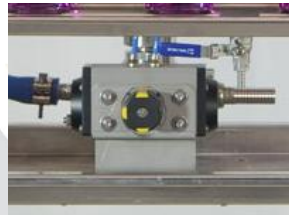
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7



6



8



9



1.	Panel control with general switch and plug for pump
2.	Collection tank with a mechanical float or electronic level sensors
3.	Liquid level indicator
4.	Filling system with filling heads
5.	Filling table for bottle support
6.	Liquid inlet valve, liquid outlet
7.	Optional pneumatic valve
8.	Holes for adjusting filling table
9.	Mechanical or electronic float

The filler has two pump options:

- Filler with integrated pump

If you purchase filler with integrated pump, you should connect a hose from your external liquid storage tank to the pump inlet valve before starting using the machine.

- Filler without integrated pump

If you purchase the machine without an integrated pump, you should connect a hose from your external liquid storage tank, pasteurizer with external pump to the liquid inlet valve of the machine (feature no. 6).

The filler has two float options:

- Mechanical float

Filler with a mechanical float has a float integrated inside the tank which regulates level of the liquid inside the tank. When liquid in the tank reaches a maximum level, the float stops the inflow of the liquid. If you purchase the filler with a mechanical float and use it together with pump, make sure to manually control, turn on/off the pump according to the liquid level.

- Electronic float

Filler with an electronic float has a float integrated inside the tank which regulates level of the liquid inside the tank automatically. Electronic float is usually chosen when using a pump. In this case, when liquid in the tank reaches a maximum level, the float automatically stops the inflow of the liquid and also automatically stops the pump.

Setting the liquid filling level

The machine fills the liquid into the bottle until the liquid inside the bottle reaches certain level depending on bottle height and filling table. The liquid level depends on the height of sylicon gaskets. You can change their height by loosening the locking screw with a screwdriver, moving the silicone gasket up or down and locking the screw again.

- If you want to decrease the liquid, move the silicone gasket down.
- If you want to increase the liquid level, move the silicone gasket up.

Assembly, connection and installation of the machine

These are the steps you need to accomplish to start working with the machine:

- If you purchase filler with integrated pump, you should connect a hose from your external liquid storage tank to the pump inlet valve before starting using the machine.

If you purchase the machine without an integrated pump, you should connect a hose from your external liquid storage tank, pasteurizer or external pump to the liquid inlet valve of the machine (feature no. 6).

- Wait until the collection tank fills up with liquid.
- Check if the height of silicone gaskets is suitable for the bottles.
- Set the height of the filling table by inserting it into different holes.
- Use the handwheels on the sides of the filling table to adjust the filling table surface width.
- Start the filling process.

Instructions for using the machine

- Set the height of the table depending on the height of the bottles you use. The bottles **must** be the same height and type otherwise the filler will not work.
- Insert the filling head into the bottle mouth – the filling process immediately starts.
- Put the bottle onto the filling desk.
- Take out the bottle after the machine automatically finishes the filling process.

Instructions for the first-time use

Before using the filler for the first time it is obligatory to wash and sanitize machine and its pipes to remove any manufacturing residues. To do that, fill the tank with hot water (60-80 ° C) mixed with neutral, not foamy detergent or 20/30 liters of disinfectant solution (we recommend citric acid or food detergent). Fill out the liquid through all filling heads. Drain all liquid and rinse thoroughly with hot water only. It is recommended to fill the tank with hot water once again and fill it all out to make sure that there are no remains of any detergent left inside the machine. Finally, dry the tank and filling heads which must be opened to about 20 mm and left in that position by inserting a rod in the holes.

Safety mechanisms

- **Safe work after a sudden black-out (when purchasing the filler with pump)** – when the power supply is suddenly cut off or a similar situation happens, the machine is turned on normally and does not cause any dangerous situations like sudden start or improper operation.

The workplace of operator

- The machine is operated by one person.
- The workplace is in front of the filler near the table.

The filling process

- The filling head is inserted into the mouth of the bottle.
- The bottle is put on the filling table
- The filler finishes the filling process automatically.
- The bottle is taken out of the filler.

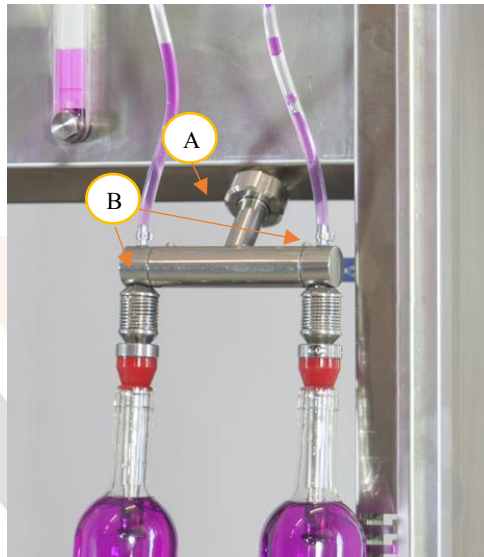
The washing of machine

The washing consists of 2 parts:

- External washing
 - External washing is done by washing the machine from the outside (table, tank, frame etc.) with water stream.
 - It is prohibited to wet or pour any liquid onto the pump at any times.
- Internal washing
 - The filler must be emptied at least daily and washed the same as before using the first time:
 1. Fill the tank with hot water (60-80 ° C) mixed with neutral, not foamy detergent or 20/30 liters of disinfectant solution (we recommend citric acid or food detergent).
 2. Fill out the liquid through all filling heads.
 3. Drain all liquid and rinse thoroughly with hot water only.
 4. It is recommended to fill the tank with hot water once again and fill it all out to make sure that there are no remains of any detergent left inside the machine.
 5. Finally, dry the tank and filling heads which must be opened to about 20mm and left in that position by inserting a rod in the holes.

If you fill liquid with a lot of alimentary residues, make sure to do internal washing several times per day according to the need.

- For a complete sanitization of filling heads, remove them by turning the locking ring (A)



- By adjusting the locking screws (B) you can completely disassembly the filling heads for deeper washing. In this case, follow the steps below:
 1. Immerse the disassembled filling head parts in some tub filled with hot water and a detergent / sanitizer to remove all dirt and encrustations. Make sure to keep the filling heads opened to about 20 mm during this process.
 2. After the soak, make sure to wash the parts with clean water.
 3. It is also recommended to gently scrub the parts with a soft brush.
- The collection tank and filling heads can be sterilized with steam of 120 C °. In this case, be sure to keep the filling heads opened to about 20 mm.
- In case of purchasing the filler with a mechanical float, it is necessary to wash it according to the need.
 1. Loosen the loading valve and pull out the float from the tank.
 2. Immerse the float in a basin with a hot water and detergent / sanitized liquid as previously indicated for filling heads.
 3. After the soak, make sure to wash the parts with clean water.

All these steps are especially important to prevent filth and mold inside the filling heads and other parts of the machine.

Conditions for using the machine

- The machine, its workplace and ground must be kept clean, dry, neat and properly lit at all times when using it. The filler must be protected from bad weather and damp.
- A higher than 2,3 m room or using area is required.
- The area around the machine needs to be empty so machine would not be bothered with any interference.
- The machine is operated by one person who has passed his training with the machine and is familiar with all the instructions and risks.
- A flat, stable and solid ground is needed for machine, the ground must hold 250 kg weight. A stable ground is always obligatory: when using the machine, during transportation, assembly, dismantling, testing, foreseeable failure or non-usage periods.
- When transporting, lifting or storing the machine the client is obligated to assure its safety and proper fastening.

Safety requirements

- Read this manual carefully and thoroughly before using the machine and keep it nearby for any future reference.
- If some machinery failure, obstacle, accident, emergency or any other dangerous situation happens it is obligatory to stop, shut down the machine immediately or operate equipment depending on the situation in order to avoid or eliminate dangers.
- The machine can be operated only by a person who has passed his training for machinery and is familiar with all the machinery instructions and risks. The person must also be in proper physical and mental state and not be affected by any substances that could interfere with normal functioning (such as pharmaceuticals, drugs, alcohol etc.).
- It is prohibited to do any activity with the machine during its working process (such as internal washing, transporting etc.).
- It is prohibited to wet or pour any liquids onto the command panel and pump.

- Every time before using the machine the operator must carefully inspect the machine, check if all the parts and electrical buttons are in place and working properly as well as examine if the equipment meets all the safety requirements and is prepared for normal work.
- The command panel and pump can be fixed, repaired or changed only by the manufacturer or its approved repairing company. All the engineering and electrical work must also be performed by the manufacturer or its approved repairing company.

Warnings

- The machine must not be used to fill unprepared liquids (unfiltered, with a lot of sediment or other debris) as well as liquids that may damage the machine or its parts. The client must discuss what liquids he wants to fill with the manufacturer.
- When working with the filler, do not use any inflammable or explosive liquids; do not use the machine in an explosive atmosphere, since the motor is not explosion-proof.
- The bottles must be the same height and type otherwise the filler will not work.
- The temperature of the liquids must be between 5 °C and 90 ° C; higher temperatures cause a general deterioration to the overall performance of the machine.
- The machine only fills liquids with a similar consistency to water (juice, water, milk, etc.).
- It is forbidden for any people to touch, lean on or have any unnecessary contact in any way with the working machine. Only contact that is necessary for a proper work with the machine is allowed.
- The noise levels observed are within the limits foreseen by the directive 2006/42 EEC (<85dB).
- All machinery parts, buttons and operational details must be used according to their purpose.
- Any arbitrary adjustment, repair or other mechanical modification of the machine done by a non-manufacturer will result in termination of the warranty service.
- It is prohibited to climb or put things on the machine at all times.
- It is prohibited to plug in the machine, use the commands panel or perform any other operation on the electrical parts with wet hands.
- The machine can only be lifted, transported or otherwise operated after it was switched off completely.
- The machine only works properly when all its parts are properly attached.

- The machine can be repaired or adjusted only by manufacturer or its selected repair company.
- The manufacturer produces and prepares the machine based on all machinery requirements and client's needs. Changing and mechanically adjusting any machinery settings without manufacturer or its approval is prohibited. The seller is not responsible for any damage deriving from modifications made to the machine by third parties.
- Before accepting the machine make sure that it has not been damaged during transportation (look for any breakages or dents) which could prejudice its functioning. If any defect, failure or any other interference of the machine occurs, the client must inform manufacturer and ask for warranty service within 5 working days since its appearance.
- Do not leave the machine for extended periods of time with the loading valve open.
- The manufacturer reserves a right to make manufacturing modifications at any moment without informing before-hand.

Residual risks

- The risk of sound, water splashes and the possibility of getting wet remains even in compliance with all safety requirements.

Precautionary directions

- Before using the machine, the operator must inspect the machine for defects and meet all safety requirements. If discrepancies are found, do not use the machine until they have been eliminated.
- It is recommended to remain attentive around the machine and to keep a distance from the machine when it is not necessary.
- If the situation requires contact with parts of machinery that are hazardous to health or dangerous to environment, additional precautions must be taken: consultation with the manufacturer, usage of other equipment or tools, wearing protective gloves and other actions depending on the situation.
- It is recommended to wear clothing and footwear that is non-slip, water resistant and is appropriate for work.
- It is recommended to follow all additional safety requirements to stay safe and prevent any injuries.

Transportation of machine

- The machine is transported by truck.
- The machine is transported in one piece without separating its parts.
- During transportation the machine must be secured in such a way that its components are not damaged and the machine itself remains stable during transport.
- When transporting and otherwise moving or changing the position of the machine it must be done after it had been completely switched off, emptied and securely fastened.
- The machine must be put straight during transportation.

Machine operation in case of risk

- In the event of accident or emergency operate the machine depending on the situation: stop, shut it down, return to a safe or less dangerous position immediately and eliminate the danger.
- If the machine breaks down, switch off the machine and evaluate the failure. If you cannot eliminate failure by yourself (such as remove the dirt, other obstacles) or is dangerous, contact the manufacturer for warranty service, if the warranty service has expired, apply for repair.
- In case of a jammed machine, assess the situation, inspect the jammed part of the machine and try to solve it if there is no danger. Depending on the situation try restarting the machine or contact the manufacturer for warranty service or repair.

Adjustment and maintenance of machine

- Inspect all machine parts before every use.
- Wash the machine at least daily (if there is a need, wash the machine more often).

Troubleshooting

Troubleshooting must only be carried out by an authorized and qualified person, with the right and appropriate skills and training for the job.

Disturbances / error	Possible reason(s)	Remedy
The mechanical float does not stop the liquid inflow into the tank		The pressure is too high: use a different pump or reduce the pressure inside the storage tank. Check the gasket inside the mechanical float and replace with a new one.
The electronic float does not stop the liquid inflow into the tank		Check if there are no obstacles for the level sensor. Check if the level sensor is installed in a correct way. Contact an electrician to check the correct electrical connection. Replace the level sensor
The electronic level sensor does not start the pump at minimum liquid level		Check if the pump is connected to the panel control. Check if the pump is provided with a manual switch. Check if there are no obstacles for the level sensor. Contact an electrician to check the correct electrical connection. Replace the level sensor.
Liquid level is not the same inside the bottle		Use bottles only with the same height
The filler fails to stop the filling process at the desired level which results in spilling of liquid and letting out the air between the silicone cone and the neck of the bottle		Make sure that the neck of the bottle is round. Verify that the bottle neck size is compatible with the filling cone. Check for signs of wear and replace the cone.
Dripping from the filling head		Replace the O-ring

Dripping from the pump		Replace the mechanical seal
The pump does not start and liquid does not come inside the collection tank		<p>Check if the voltage is correct. Check if the machine is powered at the right voltage. Do not use extension leads of insufficient section which could cause voltage drops. Check any safety devices of the electricity system. Check the plug and the correct direction of the pump switch.</p>

