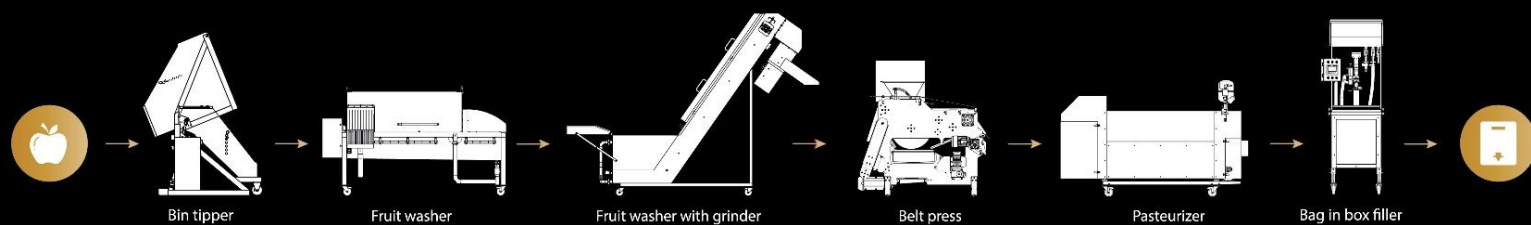


Diesel/Gas Pasteurizer HEAT 500 with MINIFLOW filler

Original Instruction Document



INFORMATION ABOUT MANUFACTURER

Manufacturer: UAB ProFruit Machinery

Representator: director Pijus Lopata

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1.1. Warning signs

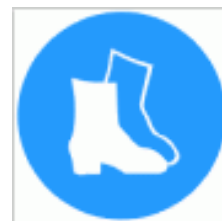
There are special warning and prohibition signs put on the machines which are meant to inform the user about danger and keep everyone – people and machinery – safe at all situations. The meaning of each sign is described below.



**Control console.
High voltage**



Headset 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.**

2. GENERAL REQUIREMENTS

General instructions:

- Ambient air temperature +8...+35° C.
- Relative humidity (when temperature +25 °C) up to 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.

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.

Diesel/Gas Pasteurizer HEAT 500 with MINIFLOW filler

The HEAT 500 pasteurizer together with the MINIFLOW filler provides an efficient solution for pasteurizing and filling a wide range of liquid products—from water-like beverages to thicker puree-based liquids such as juice, wine, milk, vodka, and more. Both units are integrated into one compact system, ensuring efficient heat treatment and hygienic filling in a continuous process.

Pasteurization Section

The machine is equipped with a **built-in heating boiler** containing a **stainless-steel tubular heating spiral**. The product flows through the spiral, which is surrounded by hot water. The heat from the water rapidly increases the product temperature, effectively eliminating bacteria.

An **automatic temperature sensor** continuously monitors the boiler temperature:

- If the temperature drops below the desired level, the sensor sends a signal to close the valve.
- When the temperature reaches the set value again, the sensor reactivates the valve, allowing normal operation to resume.

This automatic control ensures stable pasteurization conditions and consistent product quality.

Filling Section

The **MINIFLOW filler**, mounted directly on top of the pasteurizer, can be configured **with or without an integrated buffer tank** (the buffer tank is included in the Semiflow model).

During the filling process:

- Insert the bag into the **bag holder**.
- Fold down the **filling handle** — this action opens the bag and starts the filling process.

- Once filling is complete, return the handle to its starting position — this automatically caps the bag and finishes the filling cycle.

This design ensures a simple, reliable, and hygienic filling procedure suitable for various liquid consistencies.

Pasteurizer HEAT 500

Capacity: 400 – 600 l/h for HEAT 500

- Maximum heating temperature – 90 °C.
- Tubular spiral made of stainless steel.
- Spiral is integrated into the boiler which provides saving of space and prevention of heat loss when pumping the water into external heat exchanger. This saves the heating energy up to 15-20%.
- Pasteurizer has an automatic water temperature control with a digital thermostat.
- An automatic regulation of liquid temperature is implemented into pasteurizer. It helps to easily change the liquid temperature (filling temperature) on the digital display.
- Automatic valves and temperature sensor
- Pasteurizer is mounted on pivoting wheels.
- Fast and easy cleaning.
- Possibility of using diesel or gas.(On request)

5

MINIFLOW filler

Options for the machine:

- With integrated buffer tank

The tank is usually used when the liquid comes straight from pasteurizer – it helps to stabilize and deaerate the liquid. After that the liquid from the buffer tank flows into the filling valve for hot filling process.

- Without integrated buffer tank

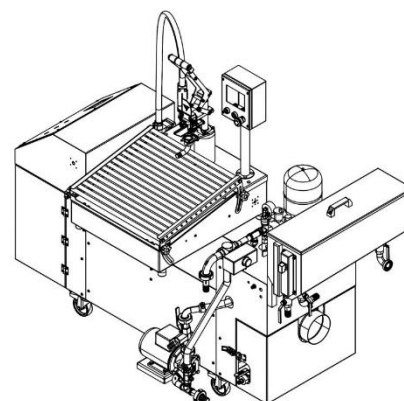
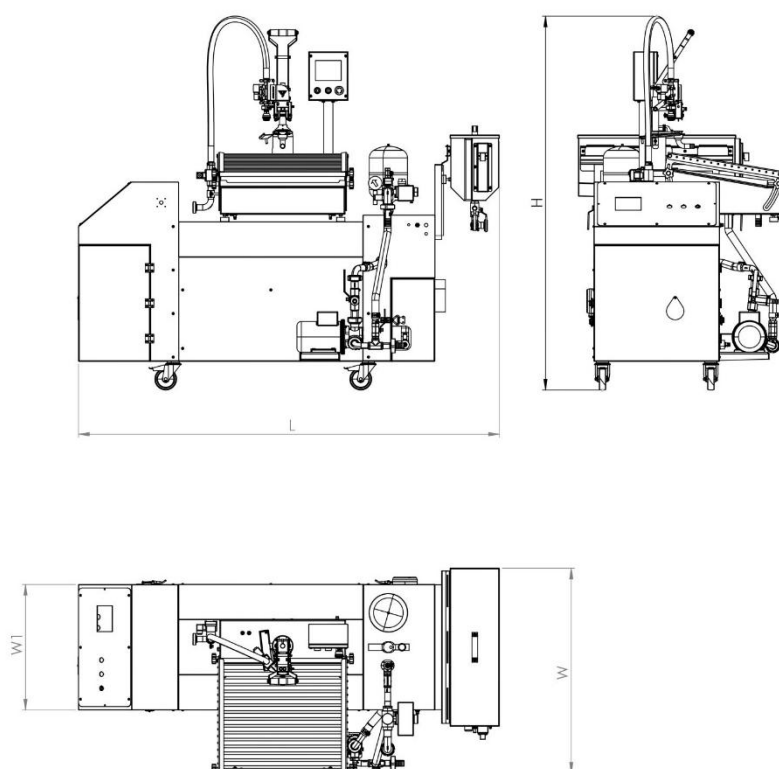
This option is mostly suitable for cold filling (e.g. wine, water) when the liquid comes straight from the main liquid tank into the filling valve for the filling process.

Capacity – 1000 liters per hour (*It depends on the pump configuration.*).

- Easy-to-use mechanism does all the work semi-automatically. After inserting the bag into the filler and folding the handle, it automatically vacuums the bag and fills it with liquid.
- Both hot and cold filling of bags and pouches is possible from 1 liter up to 20 liters.
- It is suitable to fill bags and pouches with standard tap closure.
- A liquid level sensor is integrated into the buffer tank to inform about the liquid level.
- Integrated touch-screen control panel grants easier work.
- The error of repeatability of volumes is $\pm 1 \%$.
- Easily adjustable filling table is suitable for different volumes of bags and pouches.
- The filler is easy to clean after work.



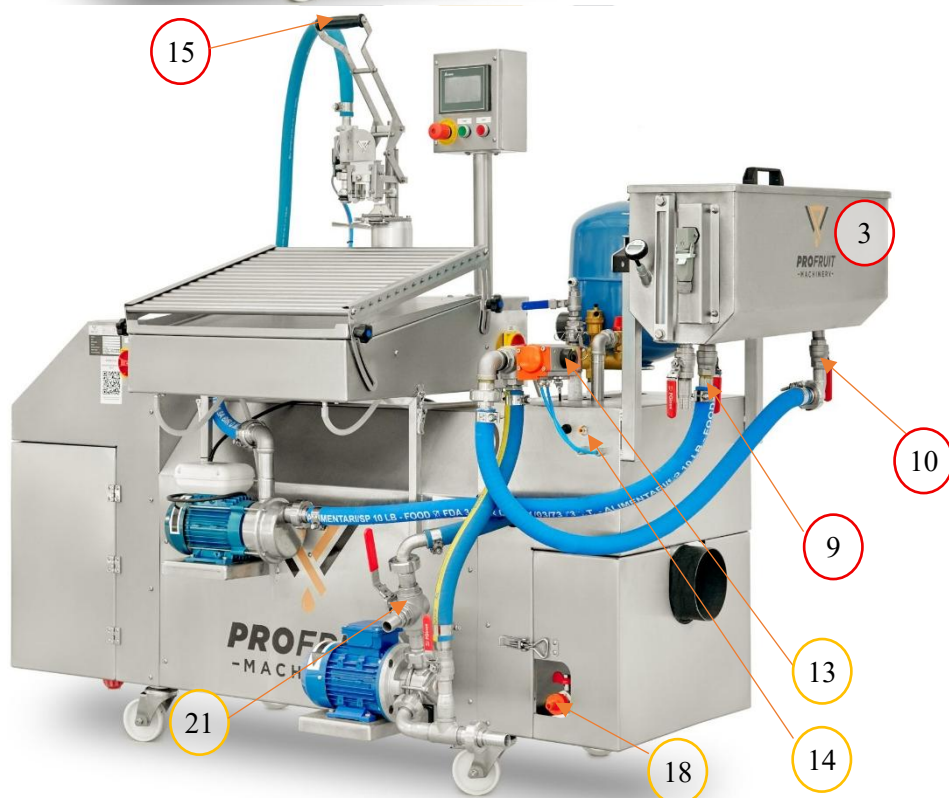
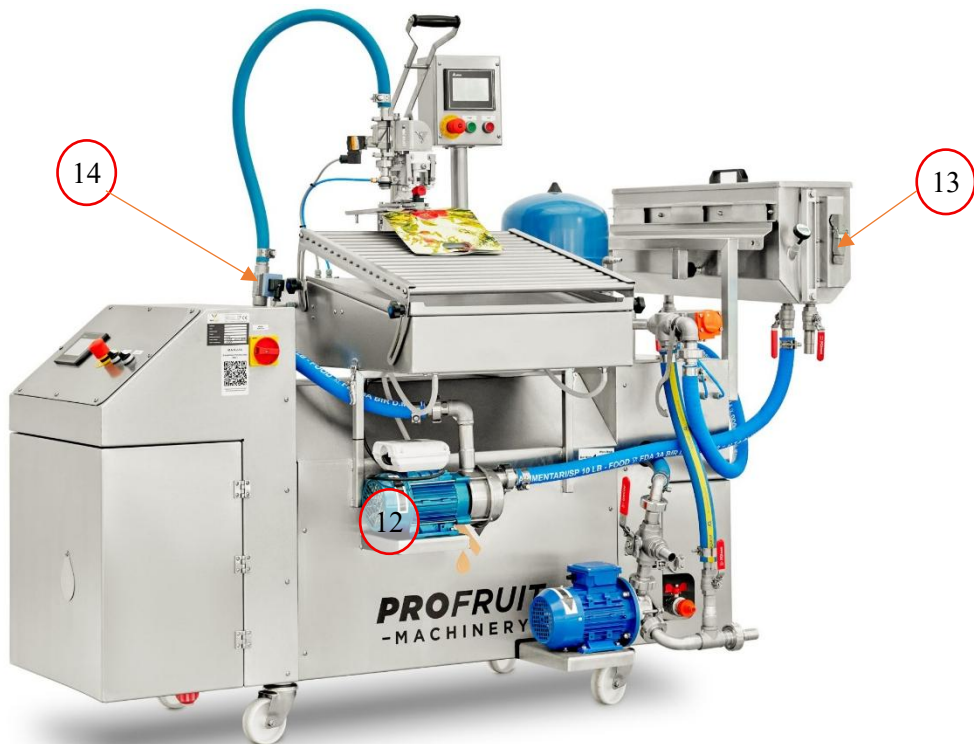
Machinery specification and drawings



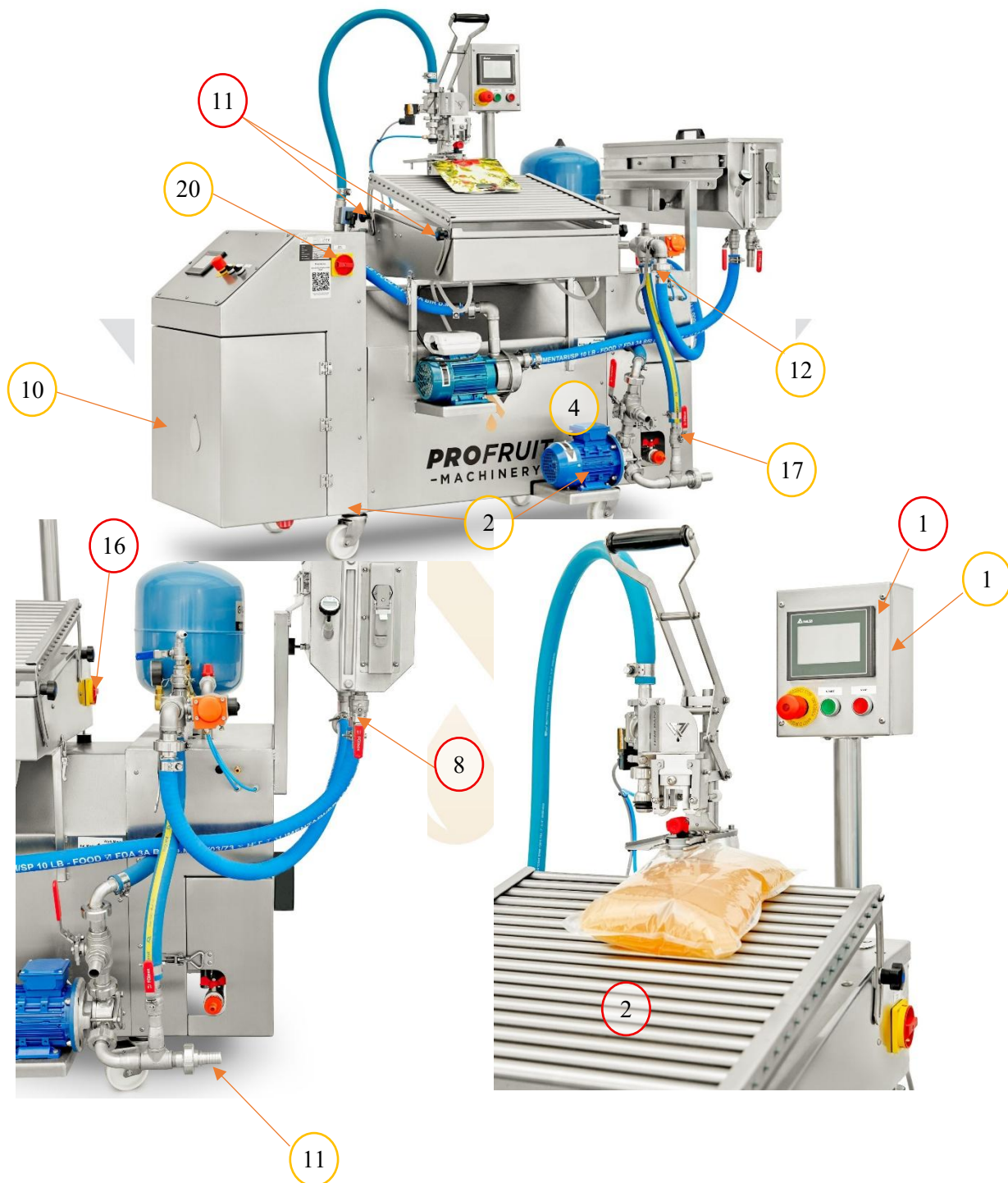
L	mm	1934
W	mm	942
W1	mm	590
H	mm	1718
HEAT 500		
Capacity	l/h	400 - 600
Max heating temp.	C	90
Fuel consumption	l/h	5 - 7
Supply source	W	1100
Supply voltage	V	3/N/PE 400 V 50 Hz
Mini-Flow		
Output	3 L bag/h	±200
Weight	kg	50
Supply source	W	1000
Supply voltage	V	230 VAC 50 Hz

	Machine	Type
	Diesel Pasteurizer	HEAT 500
	Filler	Mini-Flow

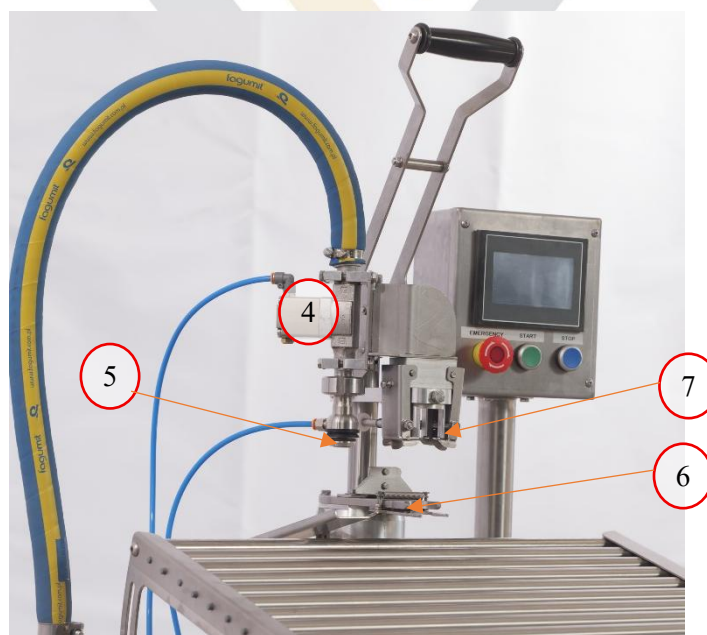
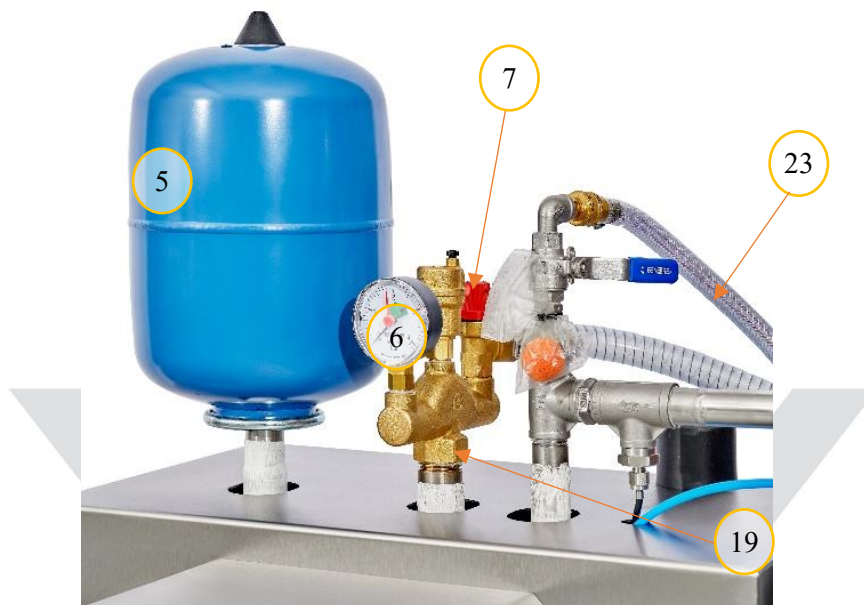
Main components of the machine



Main components of the machine



Main components of the machine



Main components of the machine



Updates for the latest models manufactured after 2026



The pasteurizer control screen has been moved to the MINIFLOW filling machine display.



Pasteurizer and filling machine communication connectors.

Main components of the machine

Pasteurizer HEAT 500

1.	The central command panel (used until 2026) is now operated through the MINIFLOW display.
2.	Pivoting wheels
3.	Water circulation pump
4.	Juice pump
5.	Air expansion tank
6.	Pressure gauge
7.	Overpressure valve
8.	Deaeration/washing ball valve
9.	Deaeration valve handle
10.	Burner with a lid
11.	Juice inlet valve
12.	Juice outlet valve
13.	Pneumatic three-way valve
14.	Air Compressor connection valve
15.	Diesel/Gas supply connection (under the burner lid or on the side of the machine for gas supply)
16.	Chimney vent (<i>diameter - 150 mm.</i>)
17.	Juice circulation valve
18.	Water connection valve
19.	Safety group with pressure valve
20.	Main switch
21.	Washing ball outlet valve
22.	Out of product sensor
23.	Deaeration hose

MINIFLOW filler

1.	Central control box with touch-screen panel
2.	Adjustable table
3.	Detachable buffer tank
4.	Filling head
5.	Filling valve
6.	Bag holder
7.	Tap holder
8.	Drain valve
9.	Pump inlet valve (from buffer tank or external tank to pump)
10.	Filling inlet valve (to buffer tank) from the pasteurizer juice outlet valve (12)
11.	Table height-adjuster
12.	Pump
13.	Liquid level sensor and connection to pasteurizer
14.	Flowmeter
15.	Filling handle
16.	Main switch

Instruction for main control panel



Pasteurizer control screen for models produced before 2026



Control of both machines is handled through the MINIFLOW display starting from the 2026 models.

- The **MAIN SWITCH** on the side of the machine turns the machine ON.
- The switch **HEATING STOP/START** Starts the system and ignition of burner (2).
- The switch **PRODUCTION PUMP STOP/START**. Turn on the pump to supply juice into pasteurizer. Pump must be started only when juice is connected and supplied to juice inlet (1).

Menu screen Instructions



Pasteurizer control for models produced before 2026.

If the control interface differs, please refer to **page 18**.

- **JUICE TEMP** sets the liquid temperature.
- **ERRORS RESET** resets all the errors, Need to press ERRORS RESET every time when machine is turned on.
- **PUMP OFF/ON** shows whether the pump is on or off.
- **BOILER** shows current boiler(water) temperature.
- **BURNER** shows if burner is on or off.

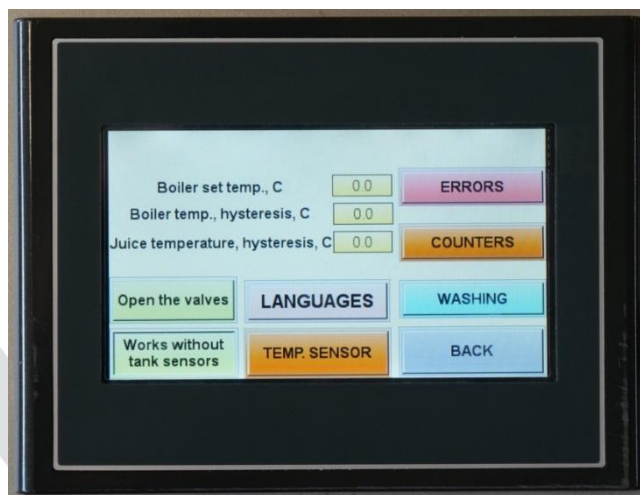


- **(LEVEL SENSORS)** – shows if level sensors is on high or low level.
- **PUMP** – shows if pump is working.



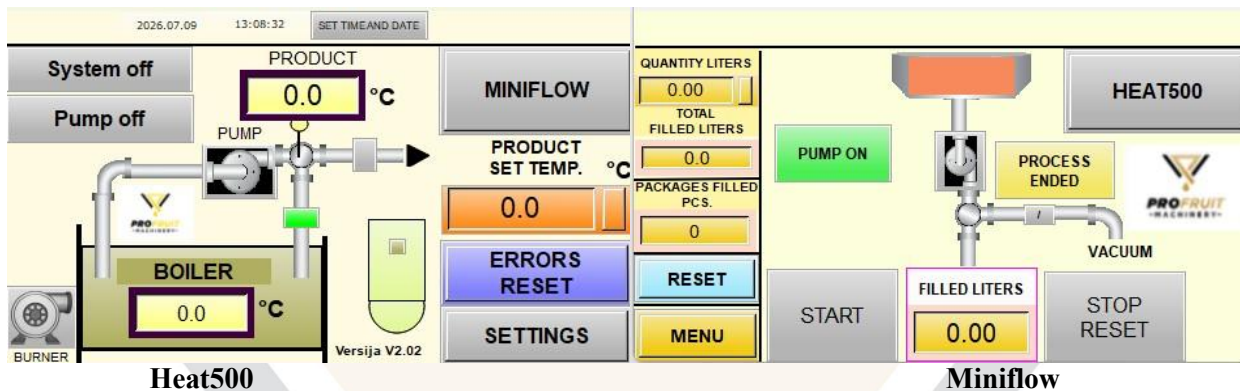
- **(PNEUMATIC THREE-WAY VALVE)** – shows if pneumatic valve is in juice circulation mode (down) or if it is open (right).

After you press button **SETTINGS** a new window opens up and it is possible to choose boiler temperature and edit other settings.



- **BOILER SET TEMP., C** - sets the boiler (water) temperature in the heating system.
- **BOILER TEMP., HYSTERESIS, C.** – Sets the interval at which temperature the burner must start before the boiler set temperature is reached. Recommended setting – 2-5C.
- **JUICE TEMP., HYSTERESIS, C.** – Sets the interval at which temperature the pneumatic valve must open before the set juice temperature is reached. Recommended setting – 2-3 C.
- **OPEN THE VALVES** – Manually opens the pneumatic valve to supply juice out of juice outlet valve.
- **WORKS WITH/WITHOUT TANK SENSORS** – when pressed **WORKS WITH TANK SENSORS** pasteurizer must be connected with a HDC connection with a filler buffer tank for automatic work. When pressed **WORKS WITHOUT TANK SENSORS** pasteurizer will supply juice according to the set temperature.
- **LANGUAGES** - You can choose a different language by pressing it.
- **ERRORS** – You can see error messages of the machine.
- **COUNTERS** – You can check machine total working time. **PASS CODE - 1234**
- **TEMP.SENSOR** – Calibration of temperature sensors. Not recommended to adjust. **PASS CODE – 1234**
- **WASHING** – Washing menu. You can set washing time and temperature for CIP washing, open the valves.

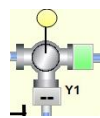
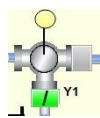
Menu screen Instructions



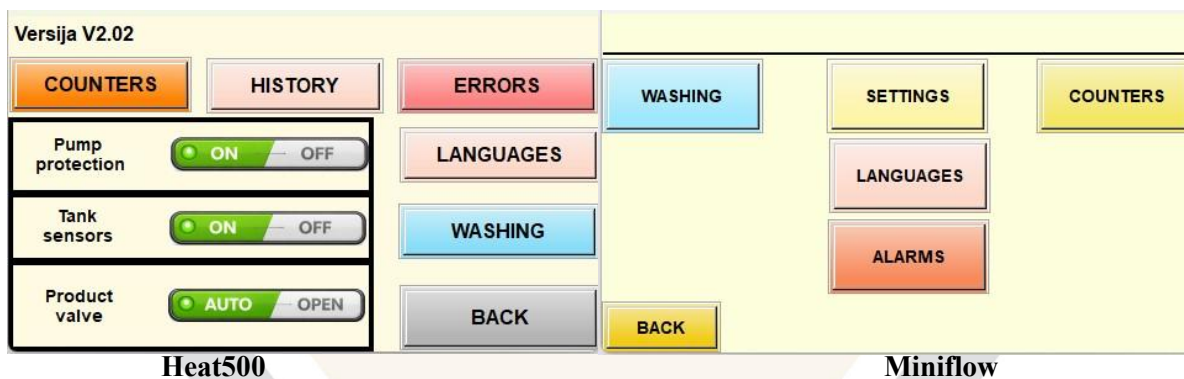
1.1 Fig. Main screens of both machines

- **PRODUCT SET TEMP** - sets the liquid temperature.
- **ERRORS RESET** - resets all the errors, Need to press ERRORS RESET every time when machine is turned on.
- **SYSTEM OFF/ON** - shows whether the heating is on or off.
- **PUMP OFF/ON** - shows whether the pump is on or off.
- **BOILER** - shows current boiler(water) temperature.
- **BURNER** - shows if burner is on or off.
- **(LEVEL SENSORS)** – indicates whether the level sensor detect a *high* or *low* level. When the product level in the tank reaches the *high level*, the pasteurizer automatically stops.

- **PUMP** – shows if pump is working or its not working.
- **(PNEUMATIC THREE-WAY VALVE)** – shows if pneumatic valve is in juice circulation mode (down) or if it is open (right).



After you press button **SETTINGS** on **HEAT500** or **Menu** on **Miniflow** main screen (1.1 Fig.), a new window opens up and it is possible to choose other settings (1.2 Fig.).

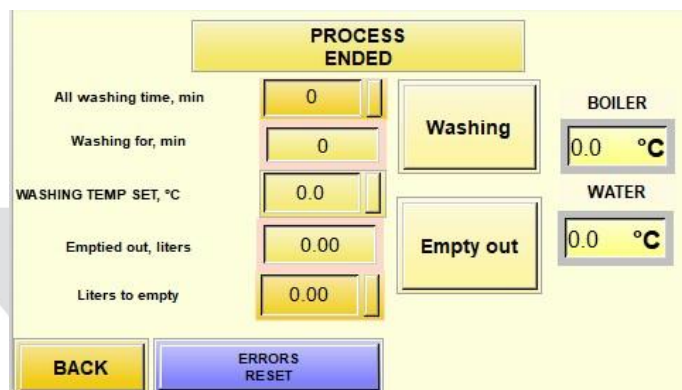


1.2 Fig. Settings

- **PRODUCT VALVE** – Manually opens the pneumatic valve to supply juice out of juice outlet valve. (When the juice outlet valve is opened manually by pressing this button, the automatic temperature-controlled juice discharge is disabled. Once the valve is closed again, the system returns to automatic operation based on the set product temperature).
- **TANK SENSORS** – when pressed **ON** pasteurizer must be connected with a HDC connection with a filler buffer tank for automatic work. When pressed **OFF** pasteurizer will supply juice according to the set temperature.
- **LANGUAGES** - Changes the system language and changing temperatures in degrees or Fahrenheit.
- **ERRORS/ALARMS** – You can see error messages of the machine.
- **COUNTERS** – You can check machine total working time.
- **WASHING** – Washing menu. You can set washing time and temperature for CIP washing, open the valves.
- **HISTORY** - When a USB drive is inserted into the internal USB port of the touch screen, the device begins recording and storing the filling history.
- **PUMP PROTECTION ON/OFF** - When *Pump Protection* is **ON**, the sensor located on the product inlet pipe monitors the presence of liquid. If no liquid is detected, the system automatically stops the process to prevent damage to the pump impeller. When *Pump Protection*

is **OFF**, the sensor is disabled. If the product runs out, the pump will continue operating, and the impeller may be damaged if it runs dry for an extended period.

After you press button **WASHING** (1.2 Fig.), a new window opens where you can choose the desired cleaning program for the device. (1.3 Fig.)

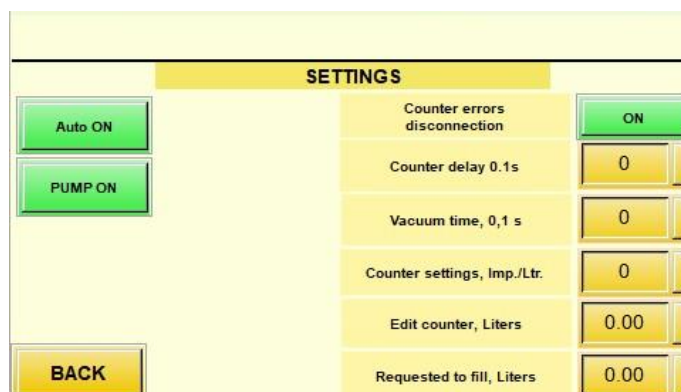


1.3 Fig. Washing

The washing menu on both machines is shared.

- **Washing for, min** – Sets the duration for how long the device will be washed.
- **Washing for, min** – Displays the amount of time that has elapsed since the washing cycle started.
- **WASHING TEMP SET, °C** – Selects the desired temperature at which the pasteurizer will be washed.
- **ERRORS RESET** – Resets active errors. If the pump impeller protection is enabled, an error may appear indicating that no product is detected. This can occur if a valve is closed and water cannot enter the system, or if the water supply has run out.
- **Emptied out, liters** – Shows how many liters have already been used in the wash;
- **Liters to empty** – Washing by quantity, determines how many liters to use for washing;
- **Washing** – Starts the washing cycle once all required parameters (washing time and washing temperature) have been entered.
- **Empty out** – Activated washing by quantity;

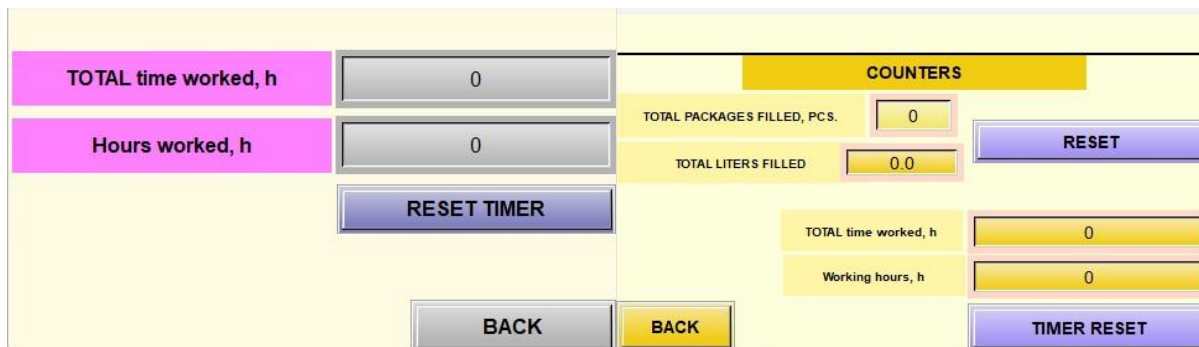
After you press button **SETTINGS** (1.2 Fig.) on **Miniflow** screen, a new window opens where you can choose other settings. (1.4 Fig.)



1.4 Fig. Settings Miniflow

- **AUTO ON/OFF** – sets the filling start only when green button on the el. cabinet is pressed.
- **PUMP ON/OFF** – turns on/off the pump in filling process.
- **COUNTER ERRORS DISCONNECTION** – turns off counter error when filling. (This is used when there is no constant supply of liquid, for example – washing.)
- **COUNTER DELAY 0.1s** – Sets counter paddle wheel timer. Standard setting – **20-30**. Only adjust it when COUNTER STUCK error is received and when more viscous liquids are filled (puree, oil and similar).
- **VACUUM TIME 0,1s** – sets the time of vacuum of the bag before filling.
- **NITRO TIME 0,1s** – sets the nitrogen time after filling. Recommended nitrogen pressure – 0.5bar, time 10 ms. (**Only on optional version**)
- **COUNTER SETTINGS IMP./LTR.** – this sets how many impulses counter has to receive in order to fill 1 liter. Standard setting between 60-65 Depending on the product, pump and etc...
- **EDIT COUNTER, LITERS** - You can edit counter based on error of repeatability or request to fill other volume. If filler fills more than set quantity, you have to write -0,10(it will fill 100ml less now) If filler fills less than set quantity, you have to write 0,10(it will fill 100ml more now)
- **REQUESTED TO FILL, LITERS** - is the setting where you can set how many liters you would like to fill into the bag.

After you press button **COUNTERS** (1.2 Fig.), a new window opens (1.5 Fig.).



Heat500

1.5 Fig. COUNTERS

Miniflow

- **TOTAL time worked, h** – Displays the total number of hours the machine has been in operation.
- **Hours worked, h** – Displays the number of operating hours accumulated since the last timer reset.
- **RESET TIMER** – Allows resetting the accumulated working hours. This function can be used to track the number of hours worked per day or per shift.
- **TOTAL PACKAGES FILLED, PCS.** – It shows the total number of bags filled during the entire operation of the machine.
- **TOTAL LITERS FILLED** – It shows the total number of liters filled during the entire operation of the machine.

22

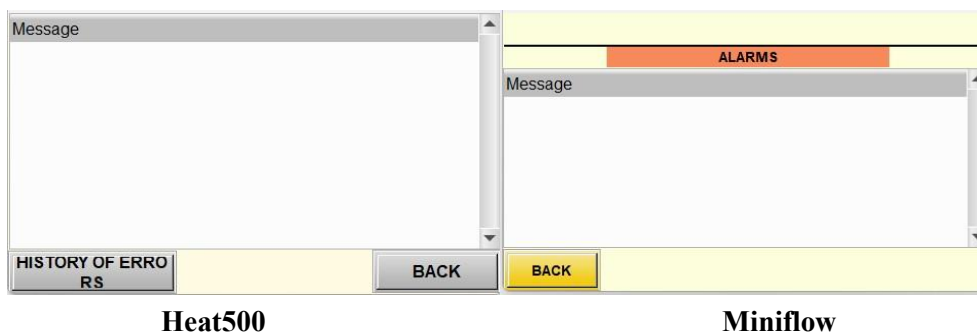
After you press button **LANGUAGES** (1.2 Fig.), a new window opens (1.6 Fig.).



1.6 Fig. Languages

- Temperature selection in **Celsius** or **Fahrenheit**

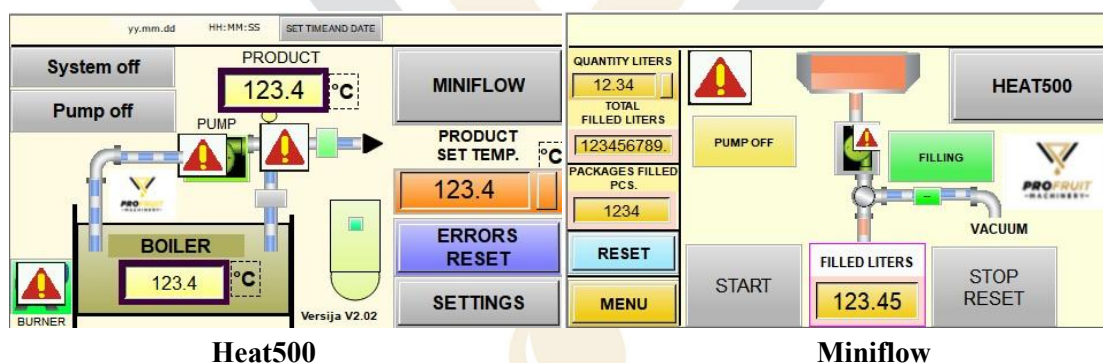
After you press button **ERRORS/ALARMS** (1.2 Fig.), a new window opens (1.7 Fig.).



1.7 Fig. ERRORS/ALARMS

- **History** - a history of active and past errors (1.6 Fig.).

Displaying errors on the main screen. Error meanings and troubleshooting



1.8 Fig. Main screen error

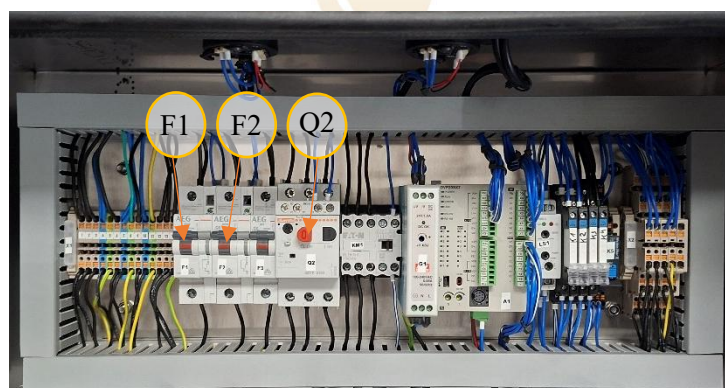
- **Emergency button HEAT**– Check and turn off the emergency stop button (page 7 – 4).
- **Overheat thermostat HEAT** – The pasteurizer **boiler1** has reached over 100 degrees. It needs to be cooled down to 80 degrees and the error reset.
- **Out of product HEAT** – Indicates that the product has run out. A sensor located at the machine inlet activates this fault when no liquid is detected. If you are certain that the product has not actually run out, check the following:
 - ✓ Ensure that no valve is closed and that the product can reach the machine.
 - ✓ Verify that nothing is blocking the product flow into the system.
 - ✓ Check whether the sensor cable is properly connected.

If the issue persists after these checks, contact the manufacturer for further assistance.

- **Pump, Burner or circulation pump failure, check F1, F2, Q2 HEAT (1.9 Fig.)** – The product pump, the burner, or the boiler circulation pump does not start. You need to check the electrical cabinet of the HEAT500 to ensure that the breakers F1 and F2 are switched on. Also verify whether the thermal relay Q2 has tripped.
- **Emergency button MINIFLOW** – Check and turn off the emergency stop button.
- **Stuck Counter MINIFLOW** – An error occurs if the flow sensor does not measure liquid for 3 seconds. Possible solutions:
 - There is no juice, check if the connections are properly connected or if the filling is deaerated.
 - Check if the pump is rotating in the correct direction. If it is rotating in the wrong direction, swap the phases.
 - Check if the pump is working. If it is not working, check the drain relay and wiring.
- **PUMP FAULT MINIFLOW** – open the electrical panel and check if the juice pump thermal relay has tripped Q2 (1.10 Fig.).

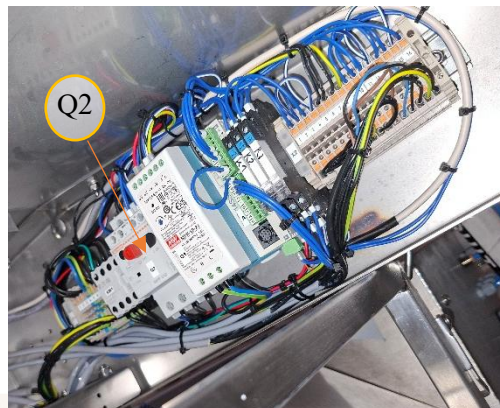
Electrical panel

The inside of the HEAT500 electrical cabinet.



1.9 Fig. Electrical panel Heat500

The inside of the MINIFLOW electrical cabinet.



1.10 Fig. Electrical panel Miniflow

Disturbances / Errors – Possible Causes and Remedies

➤ **Machine Does Not Function**

Possible reason(s):

- Missing electrical phase
- Electrical phases swapped
- EMERGENCY switch is pressed

Remedy:

- Have a qualified electrician check the phase connection.
- Unlock the EMERGENCY switch and press **Errors RESET**.

➤ **Burner Issues burner does not ignite**

Possible reason(s):

- Insufficient fuel supply

Remedy:

- Check the fuel level and fuel supply line.
- If the fuel system appears functional, contact your local heating systems specialist.

➤ **Burner ignites but extinguishes shortly after**

Possible reason(s):

- Insufficient air supply to the burner

Remedy:

- Check the chimney for blockage.
- Adjust the burner according to the chimney installation with a certified heating systems specialist.

➤ **Pump Problems**

Pump is running but not supplying juice

Possible reason(s):

- Damaged rubber impeller (often caused by running dry)

Remedy:

- Replace the impeller.
- Ensure the pump operates only when there is juice inside the system.

➤ **Overheat Thermostat Activated**

Possible reason(s):

- Boiler temperature exceeded **102°C**
- Incorrect temperature setting
- Hysteresis value set too high (*Older Machine Versions*)

Remedy:

- Check the boiler temperature setting.
- Verify that hysteresis is set correctly (*Older Machine Versions*).
- Allow the system to cool down, reset the thermostat, and restart operation.

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

Assembly, connection and installation of the machine

Steps to accomplish in order to start working with the machine:

- Connect diesel/gas fuel supply to the supply connection inlet.
- Connect water hose to the water connection valve (**Page 13 – 18**).
- Turn on the water until safety circuit with pressure valve shows the pressure between 1 bar. Then turn off the water. The air vent on the safety group must be opened during boiler filling to ensure that no air remains trapped inside the boiler. If air is not released properly, the system may lose efficiency and overall performance may decrease (**Page 13 – 19**).
- Connect the air compressor to the air compressor connection inlet, tube diameter – 6mm. Needed air pressure – 6 bar (**Page 13 – 14**).
- Make a chimney connection unit from the chimney vent (**Page 13 – 16**).
- Connect the juice supply hose, which comes from your juice tank, to the juice inlet valve (**Page 13 – 11**).
- Open the juice inlet valve to the buffer tank (**Page 14 – 10**).
- Turn the handles of the juice circulation valve (**Page 13 – 17**) and washing ball valve (**Page 13 – 21**) into the working mode – vertical position.



1.11 Fig. Washing ball valve

- 1 – Cleaning Ball Position (Valve) (**1.11 Fig. – 1**);
- 2 – Working Position (Valve) (**1.11 Fig. – 2**).



1.12 Fig. Juice circulation

- 1 – Juice Circulation Valve Position – System deaeration Mode (**1.12 Fig. – 1**);
- 2 – Working Position (Valve) (**1.12 Fig. – 2**).

- Insert the power cord into the three-phase connection.

Gas or Diesel connections and settings

Before using the pasteurizer, we highly recommend to contact your local diesel or gas heating specialist, to preset the burner and whole system according to your room, chimney connection and length. Burner is often needed to be adjusted on the place according to customer premises, then better efficiency and fuel consumption can be achieved.

- **For Diesel** - Connect the 13mm diesel hose connection from your diesel storage tank to the diesel filter nearby the burner. Before connecting hose must be full of diesel.
- **For Gas** – Connect the hose with a red reducer on the end to your Gas storage tank/system.

HEAT 500 pasteurizer

Diesel burner (Model Giersch R1) and pasteurizer is preset according to burner manufacturer instructions on these settings (Marked in Yellow):

Type / Burner capacity kW	Boiler capacity with η_k 92% kW	Nozzle spraying angle °S	Nozzle size Danfoss S gph	Pump pressure bar	Oil throughput- c. kg/h	Rough air adjustment Measure "A" mm
R1-L with integrated silencer						
17.5	16	60	0.40	10	1.5	5.5
20.5	19	60	0.40	14	1.7	6.5
24	22	60	0.50	12	2.0	8.5
28	26	60	0.55	12	2.4	9.5
32.5	30	60	0.60	13	2.7	11.5
36	33	45	0.65	11	3.0	12.5
41	37.5	45	0.75	13	3.5	14.5
47.5	43.5	45	0.85	14	4.0	17.5
53	48	45	1.00	12	4.4	18.5

GAS (LPG) burner (Model Intercal SGNF110H) and pasteurizer is preset according to burner manufacturer instructions on these settings (Marked in Yellow):

Burner type	Part no.	Power kW	Gas flow rate [m³/h]	B dimension [mm]	Blower pressure [mbar]	Nozzle pressure [mbar]	Air inlet nozzle	Furnace pressure [mbar]
SGNF 100H	-5105	19	0,75	31,5	5,6	6,3	0*	approx. 0.00
		25	0,98	25,5	6,0	7,0	1	approx. 0.02
		35	1,39	23,5	6,0	8,0	1,5	approx. 0.03
		45	1,80	21,0	6,0	9,0	3	approx. 0.03
SGNF 110H	-5115	45	1,77	23,0	6,0	8,7	2	approx. 0.05
		55	2,16	21,5	6,0	10,1	2	approx. 0.05
		65	2,57	18,5	5,0	10,7	2	approx. 0.05

Instructions for using the machine

- Turn on the machine with the main switch (**Page 13 – 20/Page 14 – 16**).
- After the control panel screen turns on, press ERRORS RESET so the work can be started.
- Choose the required juice temperature in the main screen (**Heat500**) (for juice the recommended temperature is 77 - 80 degrees, maximum temperature is 90 degrees Celsius).
- Choose the position START with the switch **HEATING STOP/START (Page 15 – 2)**.
- Open the juice tank valve to supply juice into pasteurizer.
- Choose the position START with the switch **PRODUCTION PUMP STOP/START (Page 15 – 1)**.
- After the boiler turns on, and juice circulates wait until the boiler and juice reaches the required temperature.
- When waiting, close the juice circulation valve (**1.12 Fig. – 1 – System deaeration mode**) and open **deaeration valve (Page 13 – 9)**. When the venting valve opens, the product mixed with air is discharged from the internal coil through the **deaeration hose (Page 13 – 23)**. Once the juice flows through the valve **without air**, close the **deaeration valve** and set the valve to **Working Position (Valve) (1.12 Fig. – 2)**.
- Pasteurizer now will work automatically, when juice will reach the set temperature it will supply the juice out of pasteurizer to buffer tank.

Deaeration process

It is possible that some air can get stuck or withhold in the internal spiral of the pasteurizer. In this situation come troubles can occur and the flow of the liquid can be disturbed. This is why every time before using the machine the deaeration valve should be opened up until the liquid starts to flow.

Complete the deaeration procedure for Miniflow

Ensure the pasteurizer has been fully deaerated before product transfer.

- ✓ Verify that the deaeration cycle has finished.
- ✓ Confirm stable product flow from the pasteurizer to the buffer tank.

Insert the cleaning nozzle into the filling head

1. Prepare the filling head for air removal by installing the cleaning nozzle.

- ✓ Place the cleaning nozzle into the filling position.
- ✓ Ensure the nozzle is properly seated and locked.

Lower the filling head into filling position

2. Position the filling head so the pump can push product through it.

- ✓ Move the handle down into the filling position.
- ✓ Confirm the head is fully lowered.

Run the pump from the cleaning menu

3. Use the cleaning mode to push product through the line and expel trapped air.

- ✓ Open the cleaning menu on the screen.
- ✓ Start the product pump.
- ✓ Allow product to flow from the buffer tank through the filling head.
- ✓ Air between the buffer tank and filling head will be pushed out.

Return product to the buffer tank

4. During this procedure, product circulates back into the buffer tray.

- ✓ Lift the buffer tank lid.
- ✓ Observe product returning into the tank.
- ✓ Monitor the flow until it becomes stable and free of air pockets.

Stop the pump and raise the filling head

5. Once the flow is free of air, finalize the setup for normal filling.

- ✓ Stop the pump from the cleaning menu.
- ✓ Raise the filling head back to the upper position.
- ✓ Confirm the filling head is ready for normal filling operation.

Safety mechanisms

- **Safety circuit with pressure valve** – safety circuit controls, ventilates and secures the machine from too much pressure.
- **Safety after in case of a sudden black-out** – 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.
- **Safety of electronical pieces** – all the electronical pieces are installed in the internal part of the central command box and shielded with the protection lid. The protection lid that ensured IP 22, can be opened only with a special key.
- **Burner protector** – a protector is built into the burner of pasteurizer that protects the machine from overheating danger. In case of occurred error, increased pressure or temperature, the protector automatically turns the burner off and does not let continue work until the error is safely solved.

The workplace of operator

- The pasteurizer and miniflow is controlled by one person.
- The workplace of an operator is in front of the control panel.

Setting the air pressure

To set the air pressure, it is necessary to complete the following steps:

- Turn on the compressor.
- Connect the compressor to the compressor inlet valve.
- The normal air pressure for the pasteurizer is around 5-6 Bar
- If the pressure is different, use the compressor to adjust the pressure.

The washing of machine

The washing of the machine is only internal and must be done in two ways:

1. Washing with the sponge ball
 - Turn off the machine
 - Turn the washing ball valve to horizontal position.



- Remove the deaeration valve connection.



- Insert the sponge ball into the inlet and push it deeper towards the elbow branching.



- Connect water hose to the deaeration/washing valve and open it.
- Turn on the water from your water source.
- Wait until the sponge ball is flushed out from the washing ball valve.



- Repeat this process until the water coming out together with the ball is completely clean.

WARNING – ALL WASHING PROCESS MUST BE DONE WITH A MASK AND HEAT RESISTANT GLOVES AND CLOTHES OR ACCORDING TO THE CLEANING DETERGENT MANUFACTURER RECOMMENDATIONS

2. CIP circulation washing

- Fill your separate liquid tank with water. It is recommended to pour into the water some alkaline detergent that is suitable for the food industry. Detergent dosing should be used according to detergent manufacturer instruction. There should be about 50 liters of water in the tank.
- Connect your separate liquid tank to the pasteurizer juice inlet connection.
- Pasteurizer juice outlet connection must be connected back to the separate liquid tank with water/detergent.
- Go to the WASHING MENU on the screen. Set washing time to – 15 min, temperature – 50C (If alkalines manufacturers does specify differently). Press Start washing (if applicable on the screen)
- Turn SYSTEM START and PUMP START switches.
- Start the washing process.
- When there will be 3 minutes left until the end of the washing process, transfer the end of the hose coming from juice outlet from your separate liquid tank to sewer/wastewater trap/outlet in such manner so the running water would not disturb or harm any people or mechanisms.
- When the washing process is done, fill in your separate liquid tank with around 100 liters of clean water.
- Transfer the end of the hose coming from juice outlet from your separate liquid tank to sewer/wastewater trap/outlet in such manner so the running water would not disturb or harm any people or mechanisms.
- Rinse the whole system with clean water by pressing – OPEN THE VALVES button and PUMP START.
- Finish the washing process.

Pasteurization process

- The Juice from your separate juice tank enters the machine through the juice inlet valve.
- The liquid is immediately heated by hot water inside the stainless steel spiral.
- The pasteurized liquid comes out through the juice outlet valve in to juice buffer tank.
- The MINIFLOW pump draws the product from the buffer tank and pulls it into the pouch during filling.

Conditions for using the machine

- The machine, its workplace and ground must be kept clean, neat and properly always lit when using it.
- A higher than 1,8 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.
- Flat, stable and solid ground is needed for machine, the ground must hold 600 kg weight. This 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 machinery the client is obligated to assure its safety and proper fastening.

Safety requirements

- If some machinery failure, obstacle, accident, emergency or any other dangerous situation happens it is obligatory to stop, shut down the machinery immediately or operate equipment depending on the situation in order to avoid or eliminate dangers.
- The machinery can be operated only by 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 washing, transporting etc.).
- It is prohibited to wet or pour any liquids onto the central control box and engines.
- Every time before using the machine the operator must carefully inspect the machine, check if all the parts and electronical 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 main control panel and engines can be fixed, repaired or changed only by the manufacturer or its approved repairing company. All the engineering and electronical works must also be performed by the manufacturer or its approved repairing company.

Warnings

- It is prohibited to use liquids that could damage the machine or its parts. It is prohibited to pasteurize and use any liquids that are too thick, that are not suitable for pasteurization, that are not properly processed (not filtered, contain thick particles) and are dangerous to the machine, environment and/or the other people. All the liquids that the client wants to pasteurize with this machine must be previously discussed with the manufacturer. If manufacturer advises not to pasteurize some liquid and the client still uses it, all the machinery warranty service is automatically terminated and the client takes all the responsibility for the actions and consequences.
- This diesel pasteurizer is manufactured and most suitable to pasteurize apple juice. If the machine is used for other liquids, the efficiency of the machine can differ. Depending on the liquids, additional action may be required in order to ensure the smooth work process (i. e. to use slower pasteurization mode, pay closer attention to the washing of the machine, etc.)
- It is forbidden for any people to touch, lean on or have contact in any way with the working machine, its parts, the products that are being processed or other dangerous parts because of the risk of injury. Only actions that are necessary for a proper work with the machine are allowed.
- 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 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.

- The machine can only be washed, lifted, transported or otherwise operated after it was switched off completely.
- The cover of the burner is opened with a special key by an operator or warranty service person.
- The machine only works properly when all its parts are properly attached.
- 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.

Residual risks

- The risk of sound and hearing damage due to the noise made by the device still 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 and its parts 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. To reduce the risk of sound during work, it is recommended to use sound-insulating headphones.
- It is recommended to follow all additional safety requirements in order 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 on the horizontal ground during transportation.

Machine operation in case of risk

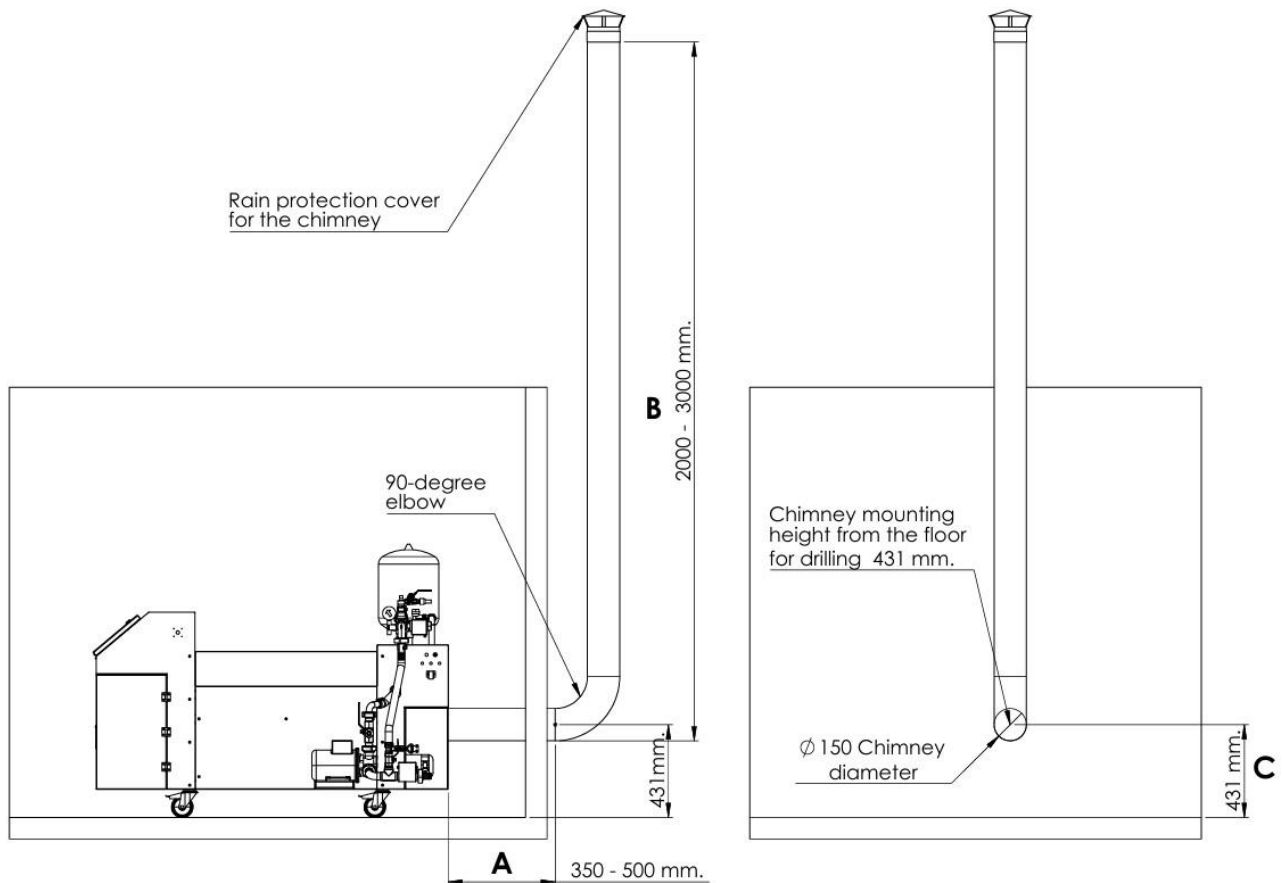
- In the event of accident or emergency operate the machine depending on the situation: stop, shut it down, return to a safe or less dangerous position immediately and eliminate the danger.
- If the machine breaks down, switch off the machine and evaluate the failure. If the failure cannot be eliminated by yourself (such as removing the dirt, other obstacles) or it is dangerous, contact the manufacturer for warranty service, if the warranty service has expired, apply for repair.
- In case of 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 contacting the manufacturer for warranty service or repair.

Adjustment and maintenance of machine

- Inspect machine parts before every use, regularly check machinery.
- Wash the machine regularly (after each shift).

Pasteurizer chimney installation

Each pasteurizer burner is tested according to the chimney installation drawing provided below.



1.13 Fig. Chimney installation recommendation

Dimension **A** can be adjusted from **350 mm to 500 mm**. If this dimension is set smaller, the pasteurizer cover may not lift off properly. Dimension **B** indicates how much the chimney must be raised to ensure proper exhaust gas flow. Dimension **C** indicates how high from the floor the hole must be drilled through the wall if the chimney will go directly through it.

Please note that if the chimney diameter is reduced, the pasteurizer performance will decrease and the burner may operate improperly.

The chimney must be positioned vertically outdoors and directed upwards. It cannot be left in a horizontal or angled position, as this will prevent natural draft formation and wind gusts may

additionally choke the burner. The chimney outlet must not be obstructed at a distance closer than **500 mm**

- It may fail to ignite;
- it may ignite but occasionally shut down;
- It may run, but with reduced burner output.

If the chimney cannot be installed according to the recommendation shown in Fig. 1.13, and additional elbows are added, causing the total chimney length to exceed **more than 3500 mm**, and the burner begins to show the previously listed symptoms, a visit from a local boiler specialist is required to adjust the burner.

The burner is pre-set according to the provided recommendations, and the manufacturer is not responsible for the chimney installation or any additional burner adjustments.