



DRINKS VENDING MACHINE
models NERO, NERO INSTANT

USER MANUAL



Version 1.4 / January 2018



Changes

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1.1	01.2017	Update of hydraulic circuits	86-89
1.2	04.2017	Update document	All
1.3	11.2017	Section 4.3.2 "Air fine tuning valve adjustment" - added	19
1.4	01.2018	Section 4.3.4 "Disabling unused beverage selection buttons" - added	26

**COMPLIANCE DATA**

The drinks vending machines models NERO and NERO INSTANT are compliant with the requirements of the European Directives, listed in the following table:

Directive	Description
2004/108/CE	Electromagnetic compatibility directive
2006/95/CE	Low voltage directive
2006/42/CE	Machinery Directive
1999/5/CE	Artical No 3(1) (b) R&TTE Directive
2011/65/CE	Directive of the European parliament and of the Council of 8 june 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

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1.0 GENERAL INFORMATION

1.1 Introduction

This user manual (hereinafter called the “Manual”) covers drinks vending machines models:

NERO, NERO INSTANT (hereinafter called the “Machine”).

The manual contains basic information about the Machine and its software. It includes the information, necessary for preparation for use, use and technical servicing of the Machine, as well as basic information about the Machine’s software.

This manual is meant for engineering-technical personnel, who perform technical servicing of vending machines and are qualified to work with similar electronic and electrical equipment.

This Manual is for the technical and engineering personnel, who provide technical servicing for the Machine and are permitted to handle electrical units of similar category.

Breach of the requirements of the current Manual can lead to trauma, device damage and renders the warranty ineffective. You must read and understand the requirements indicated in the current Manual, before installing and using the Machine, because it contains important information regarding unit safety, and servicing and usage instructions.

The knowledge of safety requirements is necessary to instruct the users to properly use the Machine.

The Machine buyer is responsible to make sure that the serving personnel had undergone needed training and was informed properly and that the instructions of the technical documents were fully observed.

The Machine manufacturer carries no responsibility for damage or loss incurred under the following circumstances:

- In case of unsanctioned modernization;
- In case of improper installation;
- In case of improper connection to the power and / or water supply;
- In case of cleaning and servicing contrary to the requirements;
- In case of improper operations or use of Machine’s equipment;
- In case of use of non-genuine spare parts.
- rejection of the use of food products, designed specifically for vending machines.

The manufacturer of the Machine is in no case liable for any possible losses, which might result from interruption of business due to Machine breakdown.

According to the client’s requirements the vending machine can have additional (optional) functions.

These vending machine should only be used for making and selling drinks!

This operating manual is applicable for models of the Nebo with its graphic display, which uses both cereal and instant coffee.

While for models that use instant coffee, the word Instant is added to the name (for example, NERO INSTANT).

In the models Instant - there is no equipment for the preparation of grain coffee (container for coffee beans, espresso group, coffee grinder and dispenser, etc.).

The numbering of drawings in the manual is given in sections.



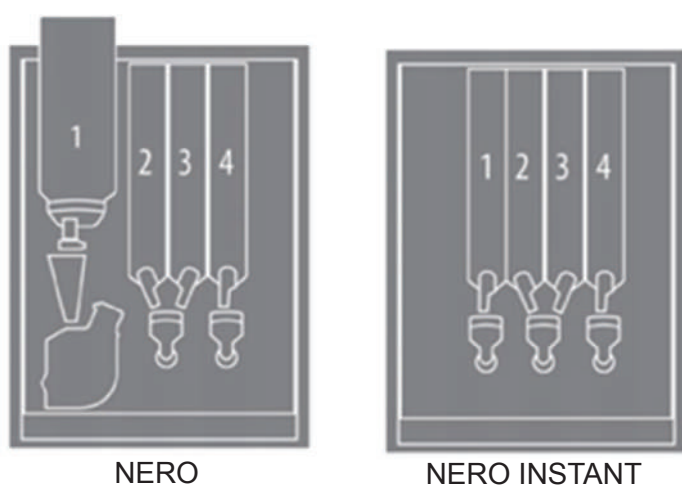
1.2 Terms of use

This Manual is for a certain version of vending machine software, which is current at the time of printing of this Manual.

All possible modifications, modernizations and/or adaptations, which are effected or will be executed in future for following sales, do not mandate the manufacturer to conduct similar modernization of software for the earlier sold Machines, as well as it does not mandate the manufacturer to amend the user documentation, which is a part of the Machine's package.

The developer of the Machine and regulatory software have the right to make necessary changes to the Machine's structure, software's flow and in the documentation for its use without notice to the user.

1.3 Configuration options



1.4 Manufacturer's warranty

The manufacturer's warranty during the warranty period covers all vending machine units and assemblies, except for malfunctions, arising from non-observance of current maintenance documentation requirements by the customer or due to any mechanical failures.

The following components are excluded from the manufacturer's warranty:

- gaskets;
- fuses;
- control boards batteries;
- mixer impellers;
- hydraulic system tubes.



1.5 Vending machine functionality

The vending machine is making various coffee-based drinks (from beans - not INSTANT, and INSTANT), with the addition of soluble ingredients, and the coffee beans and foamed milk-based drinks (where the FRESH MILK option is available).

The coffee beans based drinks are made using the espresso process.

The vending machines can be completed with optional equipment (FRESH MILK option, see below). With the aid of this equipment, the milk is made foam by using steam and air in the milk mixing device (cappuccinatore).

FRESH MILK option

NERO TOUCH vending machines can be additionally (optionally) completed with the equipment, permitting the making of coffee beans based drinks with the addition of fresh milk made foam by using steam and air in the mixing device (cappuccinatore) in accordance with the vending machine settings. In this case, the vending machine has the FRESH MILK inscription in its name.

E.g.:

NERO TOUCH + FRESH MILK option = NERO FRESH MILK TOUCH

This option is agreed with the customer separately when ordering.

This option is not provided for vending machines as standard.

The option includes the installation of the following optional equipment in the standard model of the vending machine:

steam boiler, circuit board 063V3, a nozzle for foaming milk (cappuccinatore), wire harnesses, hydraulic tubes, water T-connector, etc.

The vending machines with the FRESH MILK option can be additionally (optionally) completed with the fresh milk flow meter, which controls the milk consumption.

For vending machines with the FRESH MILK option, it's recommended to order the milk cooling module (cooler) from the vending machine manufacturer, which is usually installed on the left side of the vending machine.

The vending machine may have other optional equipment (payment module, cup heater, etc.), which is not standard supplied and should be mentioned individually for each order.

When installing the vending machine special pedestals are recommended for use (NERO, NERO TO GO). NERO TO GO pedestals can also be used for connecting the vending machine to payment modules.

The drink can be selected from the touch screen with the context-sensitive display. To select a drink just touch the drink icon with your finger. After the drink selection, the vending machine will operate automatically.

All vending machine functions are controlled by the controller (main board).

The touch screen with the interface is controlled by the internal PC.

The vending machine may use a modem for online data transfer.


2.0 TECHNICAL FEATURES

Table 1

Parameters	NERO	NERO INSTANT
Dimensions (H x W x D), maximum	800 x 385 x 495 mm	
Weight, maximum	60 kg	
Voltage	220 - 230 V	
Power frequency	50/60 Hz	
Power consumption (max)	1800 W 3200 W*	
Water connection		
Water pressure	0.5 bar (0.05 MPa) - 8.5 bar (0.85 MPa)	
Connection to water supply line	G 3/4"	G 3/4"
Hardness	0.9 - 1.0 mgeq/l	0.9 - 1.0 mgeq/l
Calcium	18 - 20 mg/l	18 - 20 mg/l
Volume of containers**		
Coffee beans	1,0 kg	-
Instant coffee	-	0,7 kg
Powdered milk / Granulated milk	1,5 / 0,75 kg	2,2 / 1,1 kg
Chocolate	1,5 kg	2,4 kg
Vanilla	1,0 kg	2,4 kg
Ambient temperature	+10...+35 °C, relative humidity 80% (without condensation)	

*) With option FRESH MILK.

**) The quantity of ingredients can be different from the one shown depending on the specific weight of the ingredient.



3.0 SAFETY

For safe operation of the vending machine comply with the requirements given in this manual.

3.1 Main provision

- Before putting the vending machine in service always make sure that the operating instructions given in this manual were read and understood.
- Comply with the instructions given in this manual for vending machine transportation, installation, maintenance, and service.
- The vending machine is not intended for operation by persons (including children) with physical, sensory or intellectual limitations or without the proper experience and/or knowledge, if only they are not under the supervision of the person, responsible for their safety, or if only they were trained for the vending machine operation.
- Damaged power cords should be replaced by the manufacturer only.
- Make sure that the vending machine is installed on a stable horizontal surface.
- Make sure that there's no less than 80 mm of free space behind the vending machine for air circulation.
- The vending machine is intended for use in dry premises with ambient air temperature no less than 10 °C.
- The vending machine uses hot water. Don't get too close to the vending machine when making a drink.
- Use only cooled fresh long-storage milk (pasteurized, UHT) with 2.5 - 3.6% fat. The milk should be stored at a temperature from 3.5 to 7°C. For vending machines with FRESH MILK option only.
- For cleaning of the vending machines use only cleaning agents approved for foodstuff.
- Make sure that the vending machine is cleaned daily to avoid hazards for the consumer.
- The vending machine should be serviced by skilled service technicians only.
- The use of the service key is reserved for skilled service technicians only. When the service key is inserted in the vending machine, the safety device is switched off. Caution - the danger of injury!
- The power supply plug should be easily accessible.
- Never insert the plug into an outlet if it's wet or by wet hands.
- Use genuine spare parts only.
- Making changes in the vending machine is prohibited. In such cases, the manufacturer bears no responsibility for any damages!



3.2 Service key

When opening the vending machine door the special breaker automatically de-energizes the vending machine hardware and units. Any operations, carried out with the door open, should be performed by skilled technicians.

The technicians are responsible for the service key safety. Never leave the service key in the vending machine. The service key is intended for use by skilled technicians only.

To apply voltage to the vending machine hardware with the door open insert the service key.

Service key installation

1. Insert the service key into the door trip (see fig. 3a) and turn it through 90 deg. clockwise (see fig. 3b) until fixation.
2. Service key extraction is carried out in the reverse order.



Fig.3a



Fig.3b



3.3 Temperature

The vending machine uses a boiler that is filled with hot water. The water temperature exceeds 90°C. The temperature of water in the boiler gradually decreases after the vending machine is turned off.



DANGER OF BURNS!

Avoid contact with hot water.

The danger is especially high at the drink discharge hole.



4.0 TRANSPORTATION, INSTALLATION, COMMISSIONING

4.1 Transportation

Since there's always water in the vending machine water route, drain the water before the transportation, long storage or replacing of the hydraulic system individual units. **Failure to follow these measures can lead to vending machine damages!** Use an original package for the vending machine transportation.



Always drain water before the vending machine transportation or storage at ambient air temperature below 1 °C! Failure to follow this requirement can lead to vending machine breakdown!

Flushing the vending machine's water tract

Stop the water supply to the vending machine. Use the suitable container for draining water. To drain water do the following:

1. Cool down the boiler. For the purpose enter the service menu and select sub-clause **[1.9.10 Cooling the boiler]** and start the cooling process by pressing the **OK** button. After you start the process the machine will pump sufficient amount of water through the boiler to cool it down to 45 degrees. This process can be executed for machines with external water supply as well as for machines with internal water cans.
2. After the boiler has been cooled the machine's display shows the **OK** sign, after which you should disconnect the machine from water supply or you should remove the water supply pipes from the cans/bottles. It is also necessary to flush water from the pipe, which supplies water from external water supply valve or autonomous water supply pump, to the float chamber. For the purpose remove the pipe from the valve or pump and direct it to the flush bucket. Make sure that all the water from the pipe is discharged.
3. After cooling, flush the boiler. For the purpose enter the service menu and select sub-clause **[1.9.12 Boiler flush]** and start the flushing process by pressing the **OK** button. The machine will start pumping out water from the float chamber and the rest of the water tract, which supplies water to the boiler.
4. When the given process will be completed, you will see the **OK** sign on the display. This is when you should turn the machine **OFF**.
5. Place a container under the boiler and remove the pipe from the bottom of the boiler by loosening the fixator screw. Then turn the machine **ON** and wait until all the water would be flushed from the boiler (until the water stops dripping).
6. Turn **OFF** the vending machine.
7. Reconnect the pipe to the boiler with the help of the tightening screw.

NOTE: when using internal water supply from cans/bottles it is also necessary to flush the autonomous function pump. For the purpose, following the cooling process and removal of supply pipe from the pump, it is necessary to manually pull down the float from the float chamber until the pump starts and hold the float for 5-10 seconds. After this you must reinstall the pipe (to the valve or the pump).



4.2 Installation



ATTENTION! A short circuit caused by water! Mortal danger! Vending machine damage. Never clean the vending machine by watering it from the hose.

Note:

- Make sure that power supply parameters coincide with characteristics, shown on the vending machine nameplate, located on the rear side of the casing.
- The vending machine should be connected to the earthed mains.
- Don't use extension cords for connecting the vending machine to the mains.

General requirements for installation

- Install and operate the vending machine in dry and well-ventilated premises only.
- The vending machine is not intended for use outdoors.
- Before commissioning the vending machine, make sure that the ambient air temperature in the premises, where the vending machine will be operated, is no lower than 10 °C.
- When choosing the location for the installation make sure the vending machine will be accessible for servicing.
- Make sure that the installation surface is flat and stable, without vibrations.
- Adjust the vending machine level by using the four support feet.
- The vending machine should be installed on the non slip surface.
- The outlet for the vending machine mains connection should be easily accessible so that the vending machine power plug could be rapidly disconnected.
- The ambient air temperature for the vending machine normal operation should be from 10 to 35 °C.
- Make sure that the vending machine rear wall is no less than 80 mm away from the wall.
- • Open the vending machine door and visually check the hydraulic circuit tubes and threaded connections (see Appendix A). In the case of the hydraulic circuit tube defect or loose connection is detected the further vending machine use is possible only after the malfunction repair.

Note:

Make sure there's enough free space in front of the vending machine for fully opening its door.

Installation conditions: Intervals (recommended)

- The side distance from the objects on the left and right of the vending machine should be no less than 50 mm (with the exception of the milk cooling module).
- The distance from the vending machine rear wall should be no less than 80 mm.
- The distance from the floor to the vending machine should be no less than 800 mm.

Installation conditions: Water

- Make sure that the vending machine is connected to the cold potable water line (in the case of external water supply)!
- The water line pressure should be from 0.5 to 8.5 bar (0.05 - 0.85 MPa). Pressure exceeding or lowering is not permitted. If the line pressure is too low or too high, the vending machine will not operate properly.
- Water temperature at the vending machine inlet should be from 5 to 35 °C.
- The water should satisfy all potable water norms.
- Don't bend over the water connecting line.



Installation conditions: Mains voltage

- Admissible mains voltage: ~220-230 50/60 Hz



Fig.4.1

Vending machine unpacking

Get the vending machine from the package, and remove all packaging. Because the vending machine should be transported only in the original package, it's recommended to save the packaging. The packaging should be recycled in accordance with current environmental legislation.

4.3 Commissioning

Note:

Only skilled technicians can install and put the vending machine in service. Before installing and putting the vending machine in service read and understand the instructions given in this manual.

After removing the vending machine from the packaging:

1. open the vending machine door by using the key (the key is secured by a tie to the cup shelf or the cup arrester, see fig. 5.1).
2. remove the vending machine components, included in the scope of supply, from the waste containers, located in the lower part of the vending machine, (see fig. 4.2).

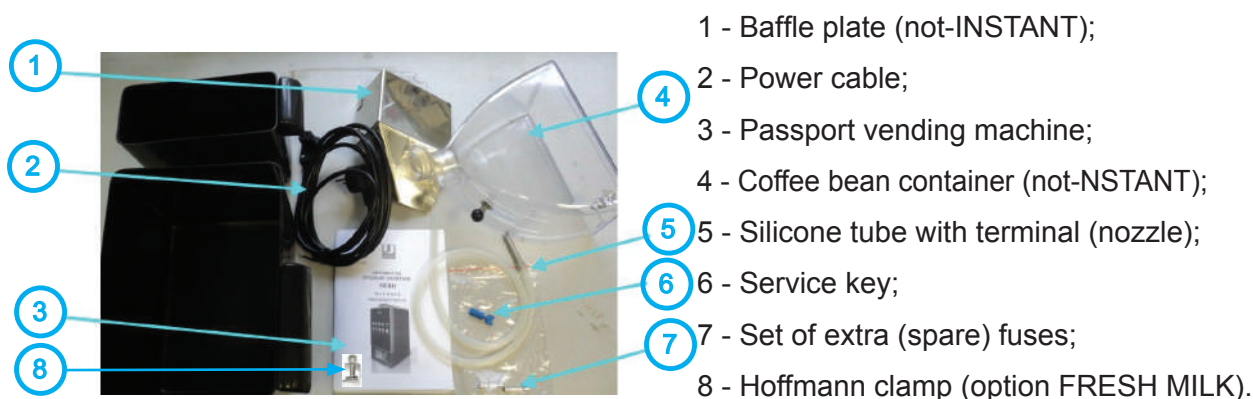


Fig.4.2

NERO / NERO INSTANT

3. Before putting to use please remove the transportation bracket, which holds the coffee grinder unit, by loosening the not (see fig.4.3)

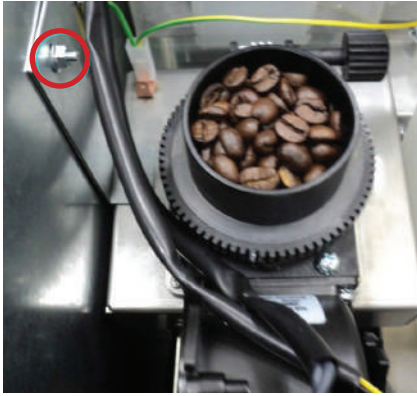


Fig.4.3

4. To install the baffle plate, hang it on the bolt (see fig.4.4 pos.1), which is situated on the left inside wall of the vending machine's body under the espresso group.

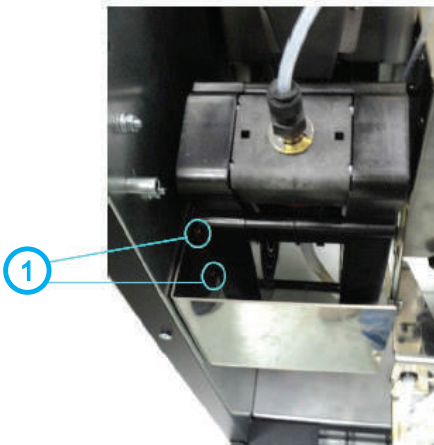


Fig.4.4



If the transportation bracket would not be removed before the start of operations, this can cause excessive vibration in machine parts, which can cause premature break-downs and failures!

5. Connect the vending machine to the external or internal water supply in accordance with the manual. Close the vending machine door.

6. Connect the vending machine to the grounded mains. The mains technical characteristics are shown on the vending machine nameplate.

7. Switch on the vending machine by turning the switch on the switching unit (see section 4.1) to the (I) position.

The components and parts, included in the machine's package are packed in the waste containers, inside the machine (see fig.4.2).



4.3.1 Installation fineness of grinding

The coffee beans are crushed using the coffee grinder, which is located underneath the coffee bean container. When you select a drink, which uses coffee beans, the beans fall into the coffee grinder, where they are ground using the built-in choppers, going further into the dosing apparatus, which is located in front of the coffee grinder. From here the coffee is fed into the espresso group.



Fig.4.5

If the level of grinding will be too low (very small particles), the coffee grinder will not be able to ground sufficient amount of coffee, which would lead to “Grinder” error and will block the dispensing of coffee. In such case you should increase the level of grinding. For the purpose you must loosen the upper disk by turning it counter clockwise.

If the particle size is large the coffee will be less concentrated (less saturated). The time of working of coffee grinder will be around 3-4 seconds. The thickness of output jet will be 3-4mm. in this case you can also cause the leaking of the coffee group, because very large particles of coffee damage the gasket of the piston. In such cases you should decrease the particle size – turn the upper disk clockwise.

The optimum time of grinder functioning is: 5-6 seconds if coffee dosage is set to position 3 and 6-7 seconds if the coffee dosage is set to position 4 (see the next section).

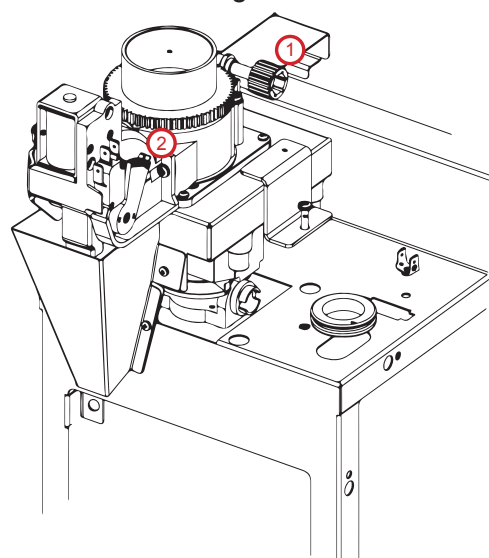


Fig.4.6

The quality of grinding of coffee depends on the rotation of the screw, located on the coffee grinder (see fig.4.5 and 4.6 position1). **Turn the screw clockwise grind more (smaller particles) or counter clockwise to grind less (larger particles) – (see fig.4.5).**

Set up the grinding of the coffee grinder.

After setting the grinding quality, check the quality of coffee. If needed please set again to achieve the required level of grinding.

Note: The smaller the particle size the longer will be the extract and the drink will be more saturated.

Setting the grinding parameters for the first time:

Turn the regulatory screw clockwise and bring the blades as close as possible (turn all the way). Then turning the screw counter clockwise loosen the upper disk by 540-630 degrees (one and a half turn or one and a half + quarter turn).

For more detailed settings of coffee grinder you can carry out the following actions in the given sequence: change the position of the regulatory screw (to change the position of the upper disk of the coffee grinder to a certain angle) and then make a drink and taste it.



PLEASE NOTE THAT CHANGES IN LEVEL OF GRINDING AND TASTE ARE NOT NOTICED RIGHT AWAY. ONLY AFTER 3 CYCLES YOU CAN FEEL THE DIFFERENCE (after changing the grinding parameters, discard two drinks and taste the third one to feel the differer.

It is highly recommended to change grinding parameters discreetly, turning the coffee grinder's disk by 10-20 degrees each time.

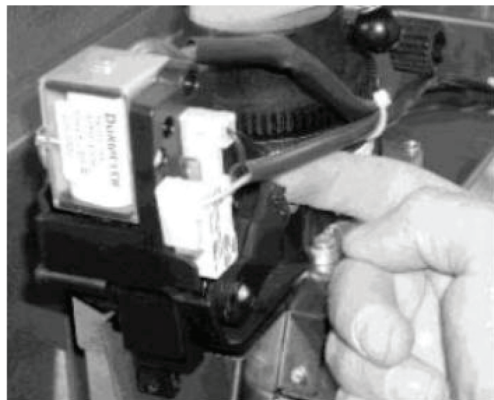


Fig.4.7

The ground coffee is fed into the dosing apparatus, which accumulates ground coffee up to a certain level. When the level is reached the electromagnetic valve opens and the accumulated dose of coffee is sent to the espresso group.

The dosing apparatus helps you set the required amount of coffee for the espresso group according to the desired drink. The volume of coffee is regulated with the help of the dosing apparatus's cam (see fig.4.6 pos.2 and fig.4.7). The positions can be from **1 to 6 (MAXIMUM)**. At the same time it is prohibited to set the cam to positions **5 or 6 without increasing the volume of the boiling chamber (see further)! THIS CAN DAMAGE THE ESPRESSO GROUP!**

It is STRICTLY PROHIBITED to set the cam to positions 7 or higher!

The recommended settings for the cam are positions 3 or 4. This means a dose of 6.5-7.5 grams per portion (per drink).

The weight of the ground coffee inside the dosing apparatus depends on the quality of grinding and type of coffee.

After each re-setting of dosing apparatus, please weigh the amount of ground coffee according to the current manual.

Depending on the weight of the coffee, you might need to regulate (adjust) the volume of espresso group's chamber



4.3.2 Air fine tuning valve adjustment

Milk foam adjustment

To adjust the milk foam on the vending machine do the following:

- Make sure that the milk container is installed in the refrigerator near the vending machine.
- Make sure that the milk is fresh and unspoiled.
- Make sure that the silicone milk supply tube at the vending machine inlet is not pinched.
- Make sure that the vending machine milk system was washed beforehand, and all its parts including the cappuccinatore are clean. Inspect the tubes for any sour or coagulated milk.

Make sure that all the above items are observed and proceed to the milk foam adjustment by sequentially executing the following operations:

- Open the vending machine door;
- Insert the service key into the door trip;
- Switch the vending machine on (see the manual) and wait for the boiler to heat up to the temperature specified in settings. ***To achieve the optimum foam performance the steam boiler temperature should be set to 130°C;***
- Adjust the foam control knob to the middle position (fig. 4.8). For doing this turn the control knob all the way to the left and then all the way to the right. Set the control knob approximately to the middle position;



Fig.4.8 - Milk foam adjustment



- Select a drink with the addition of fresh milk. As the drink is made, observe the milk flow from the cappuccinatore adapter. The flow should be uniform, without any "pulsations" or "jerks" (the foam should be poured into a cup in the form of a smooth stream without any splashes or inflating bubbles).
- Observe the cappuccinatore adapter - it's manufactured of transparent plastic to facilitate its contamination level inspection and adjustment process.

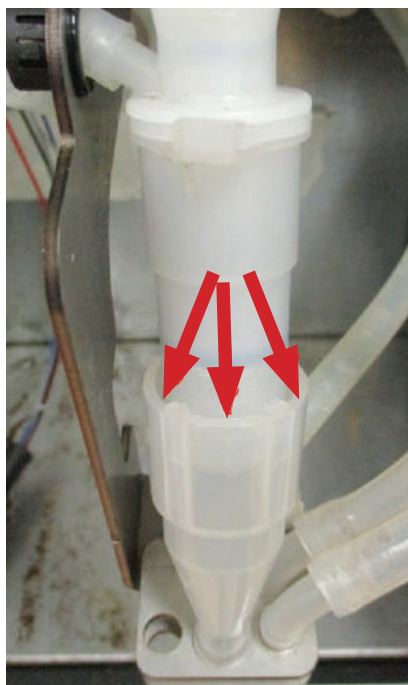


Fig.4.9

- At the cappuccinatore and the adapter joint there's a gap (see fig. 4.9). The foam shouldn't run out of the adapter during the operation.
- If there's no foam coming out, but a slightly foamed milk, turn the foam control knob counter-clockwise. By doing this you are slightly opening the air delivery tap, and the milk foam should start coming out.
- If the foam is squirting out from the above-mentioned gap, this means that there's too much air supplied. Turn the control knob clockwise.

The optimal foam adjustment:

The foam is streamed out uniformly and without any pulsations. The foam doesn't overflow outside the cappuccinatore adapter and should have a fine-porous structure.

When lowering a stirrer to a cup it stands in the foam without declining (the height of the foam should be higher than the middle of the stirrer).

If having trouble adjusting the foam in accordance with the above instruction, proceed to the following section: "Offsetting the range of adjustments on the air fine tuning valve" (see below).

Offsetting the range of adjustments on the air fine tuning valve

This setting may be required for adjusting the air supply during the operation of vending machines with the FRESH MILK option if having trouble adjusting the acceptable quality of the milk foam because the milk from different manufacturers has a different composition.



Fig.4.10 - Milk foam adjustment

To adjust the milk foam the following tools are required:

- A 7 mm frontal screwdriver or a 7 mm spanner wrench;
- PH2 cruciform screwdriver

In the case if it's necessary to offset the range of adjustment on the air fine tuning valve, do the following:

1. Remove the tap from the vending machine fastener by unscrewing two nuts (fig. 4.11 and fig. 4.12).

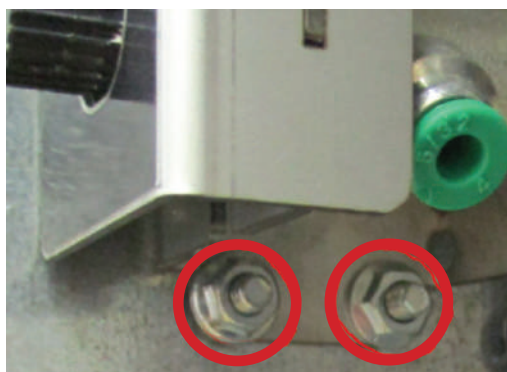


Fig.4.11

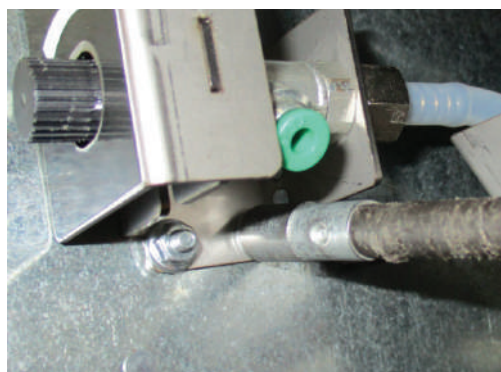


Fig.4.12

2. Unscrew the protective enclosure screw (fig. 4.13).



Fig.4.13

3. Displace the enclosure and remove it from the valve body (fig. 4.14).



Fig.4.14

4. Unscrew the gear sector fixing nut (fig. 4.15).

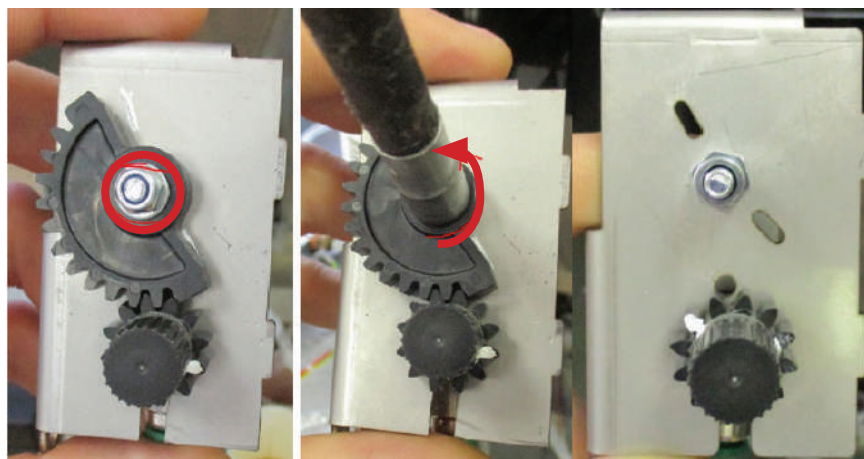


Fig.4.15



5. Carry out the adjustment in accordance with the **"Milk foam adjustment"** section (see above).
6. After obtaining the required result set the geared sector as shown in fig. 4.16.

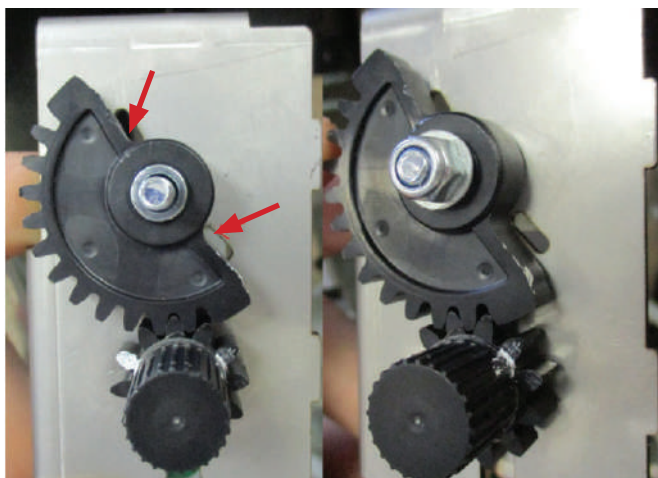


Fig.4.16

ATTENTION! Don't turn the knob after the adjustment. Set the geared sector with minimum off-set (by matching it with the slits).

7. Assemble in the reverse order.

4.3.3 Connecting the vending machine to water supply mains (optional)

The vending machines can also be connected directly to the water supply mains, taking into consideration the applicable laws of the country of use. The inlet nozzle for connection to the water supply mains is situated on the rear panel of the vending machine (see fig.5.4) and comprises of a threaded connector of diameter $\frac{3}{4}$ ". The machine is connected using a pipe, which can handle the pressure of the water supply and which is suitable for use with food products (minimum inner diameter of 6mm).

The water pressure in the supply line must be in the range of 0.05 to 0.85 MPa (0.5 – 8.5 bar).

Before connecting the vending machine to the water supply mains: (old connection):

- In accordance with the instruction to the **Configurator** program (see at the website: www.unicum.ru), go to the **(Coffee)** tab and in the **(Water container)** field select **(Not installed)**. Create the configuration file and place it to the USB flash drive. In accordance with this manual "load" the file into the vending machine software. Without carrying out this item the rest items are meaningless (the settings will have no effect).
- Set the switch on the switch board of the machine to position **[O/OFF]** (see fig.5.4 pos.2);
- Unplug the machine by removing the plug from the power socket;
- Remove the vending machine's rear panel by removing the screws;
- Disconnect the pump connectors (see fig.4.17a and 4.17b pos.1,2);
- Disconnect the silicone tube (see fig.4.17a and 4.17b pos.3);
- Connect the silicone tube and power connectors to the electric valve (see fig.4.17b);
- Fix the rear wall back in its place;
- Plug the power cord into an electrical outlet;
- Set the switch on the switch board of the machine to position **[I/ON]** (see fig.5.4 pos.2).

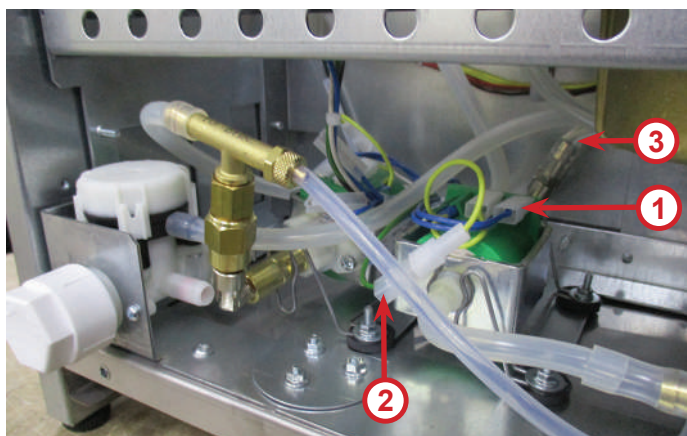


Fig.4.17a

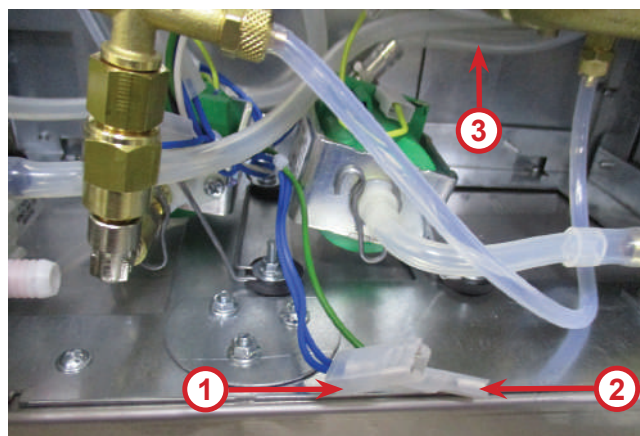


Fig 4.17b

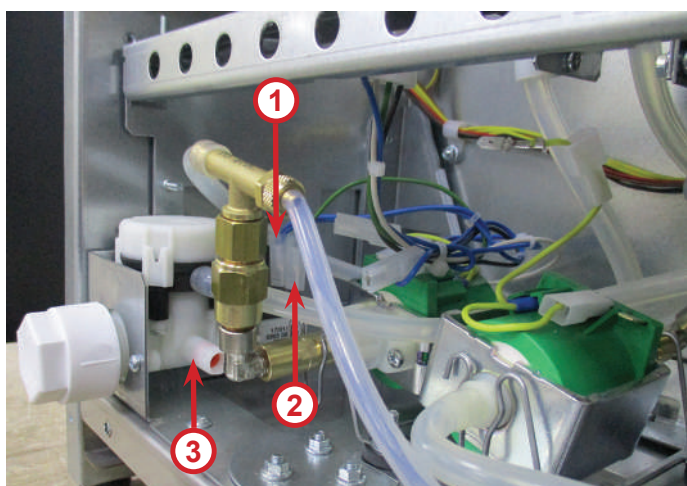


Fig.4.17c



Before connecting the vending machine to the water supply mains: (new connection):

- In accordance with the instruction to the **Configurator** program (see at the website: www.unicum.ru), go to the **(Coffee)** tab and in the **(Water container)** field select **(Not installed)**. Create the configuration file and place it to the USB flash drive. In accordance with this manual “load” the file into the vending machine software. Without carrying out this item the rest items are meaningless (the settings will have no effect).
- Set the switch on the switch board of the machine to position **[O/OFF]** (see fig.5.4 pos.2);
- Unplug the machine by removing the plug from the power socket;
- Remove the vending machine’s rear panel by removing the screws;
- Remove the clamp from the silicone tube (see fig. 4.18);
- Turn the switch to the “I” position (see fig. 4.18);
- Fix the rear wall back in its place;
- Plug the power cord into an electrical outlet;
- Set the switch on the switch board of the machine to position **[I/ON]** (see fig.5.4 pos.2).

It is recommended to place the water supply tap (valve) outside the machine’s body at an easily accessible spot.

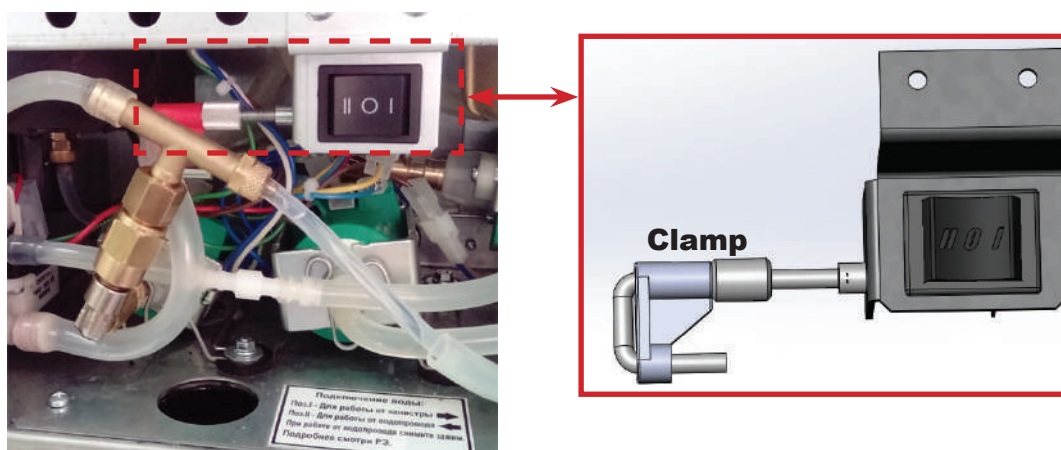


Fig.4.18

The vending machine will switch to water supply network operation mode. To switch to the self-contained water supply mode from the potable water container, perform the described above operations with the exception of the following:

1. In item 1 select the setting **(Installed)**;
2. In item 5 put the clamp back on the tube (see fig. 4.18);
3. In item 6 turn the switch to the “I” position (see fig. 4.18).

To connect the vending machine to the water supply network, use one set of new gaskets only. Don’t use the materials repeatedly.



The machine must be connected to the water supply mains, only by a qualified technician!

Any traces of leakage of water show incorrect connection (loose connection) of water supply or improper supply pressure, beyond the pressure range indicated for the vending machine!



4.3.4 Отключение незадействованных кнопок выбора напитка

В автомате реализована возможность отключения незадействованных кнопок выбора напитка на сенсорной клавиатуре автомата.

Например это может потребоваться когда в автомате количество используемых напитков меньше количества кнопок выбора напитков.

Примечание: Все операции выполняются на включенном автомате.

Чтобы отключить незадействованные кнопки выполните следующие операции:

1. Откройте дверь автомата, вставьте сервисный ключ в прерыватель (см.раздел 3.2) и поверните его на 90 градусов.

2. Нажмите и удерживайте до одиночного звукового сигнала кнопку “Меню техника” на сервисной клавиатуре (см.раздел 6.2).

3. С помощью кнопок выбора сенсорной клавиатуры (см.раздел 6.4) выберите пункт меню **1.6.4 Кофейник**. При входе в данный пункт меню введите номер кнопки с напитком, которую Вы хотите отключить (нумерация кнопок - см.раздел 6.4).

4. Затем выберите пункт меню **1.6.4.7 Запрет ячейки** и установите здесь значение ДА. Кнопка выбора напитка под указанным номером будет отключена. При этом кнопка перестанет подсвечиваться.

5. При необходимости отключения других кнопок выполните операции с 3 по 4 пункты, вводя номер отключаемой кнопки.

Также отключение кнопок можно выполнить в специальной программе КОНФИГУРАТОР. Скачать программу и ознакомиться с её инструкцией можно на сайте по адресу: <http://www.unicum.ru/support/105-docs-nero>

Чтобы отключить незадействованные кнопки с помощью программы КОНФИГУРАТОР, выполните следующие операции:

1. Скачайте и установите программу КОНФИГУРАТОР на ПК, ноутбук (см. Инструкцию по работе с программой).

2. Запустите программу, выберите вкладку **Планограмма кофе** и удалите напиток с номером кнопки, которую Вы хотите отключить из планограммы. Если Вы хотите отключить сразу несколько кнопок, удалите из планограммы напитки с номерами этих кнопок.

3. Затем установите галку в поле **Не введённые продукты - Блокировать**.

4. Сохраните конфигурационный файл с настройками на USB-flash накопитель и загрузите его в автомат (см.данное руководство).

5.0 THE VENDING MACHINE'S COMPONENTS

5.1 Appearance

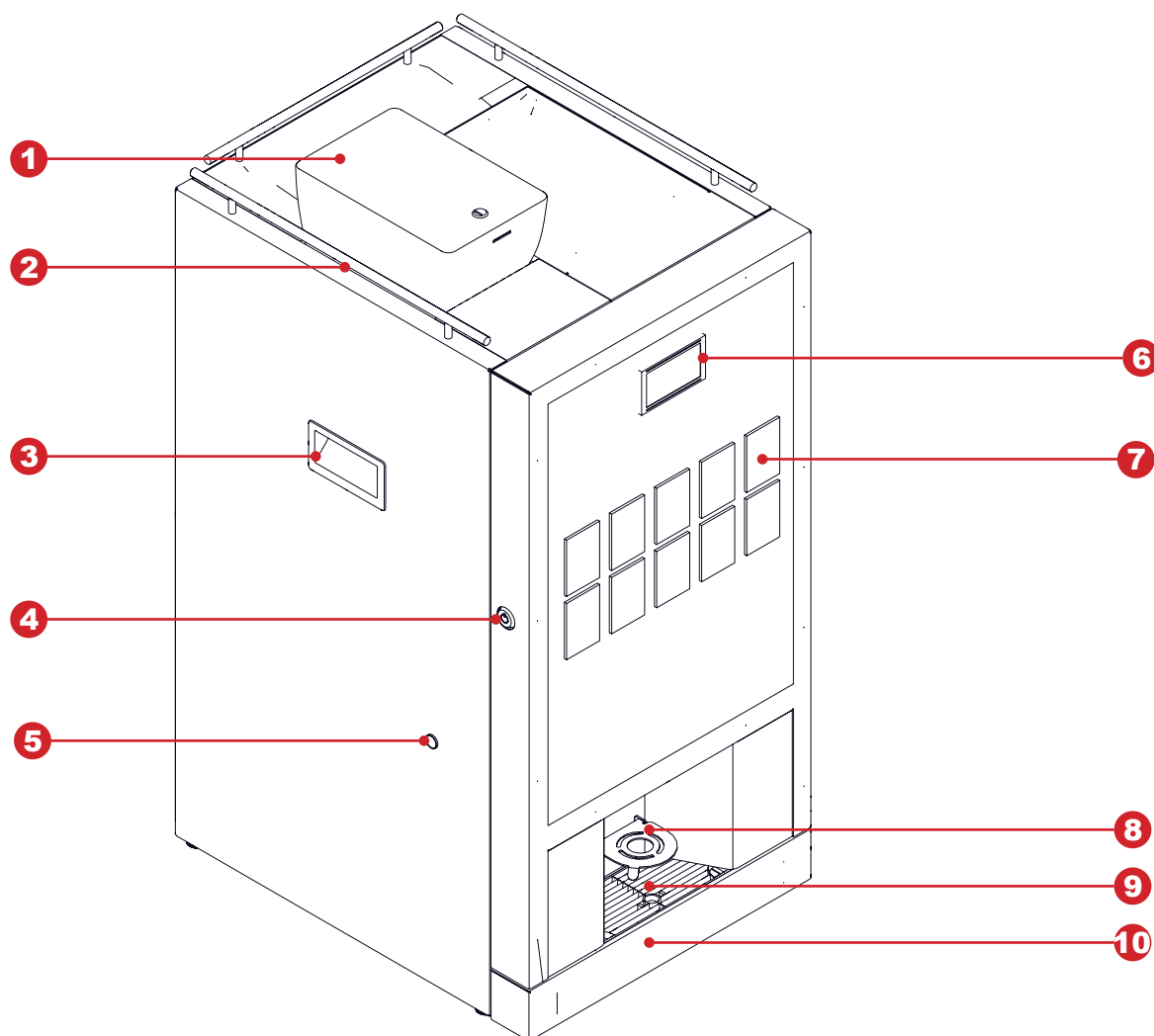


Fig.5.1

1. Coffee bean container (not-INSTANT)
2. Cup retainer
3. Vending machine handle
4. Door lock
5. Milk tube stopper (FRESH MILK)
6. Graphic display
7. Touch keypad selection (10 buttons)
8. Shelf for glasses (is regulated by height)
9. Tray for glasses
10. Pallet

5.2 Internal view (with option FRESH MILK)

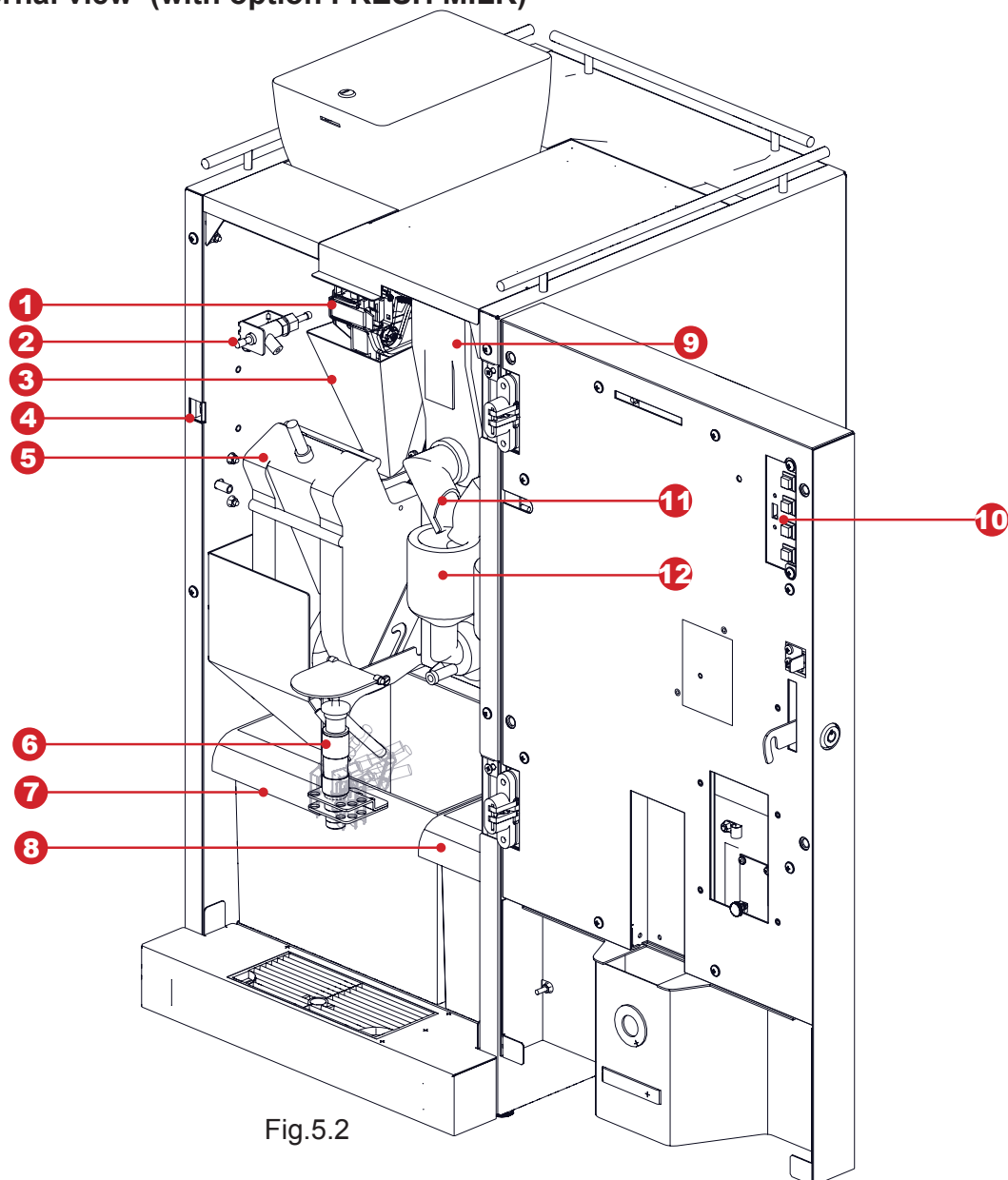


Fig.5.2

- | | |
|--|--|
| 1. Coffee grinder and dosing mechanism | 7. Container for solid (coffee) wastes |
| 2. Milk foam intensity adjustment (FRESH MILK) | 8. Container for liquid wastes |
| 3. Coffee funnel | 9. Container for soluble ingredients |
| 4. Door trip (for service key) | 10. Service keypad |
| 5. Espresso group | 11. Container lip |
| 6. Cappuccinatore (FRESH MILK option) | 12. Mixer |

Note: The connecting tubes are not shown in the figure (see vending machine hydraulic diagram).

Following are installed inside the body: drinks preparation units, ingredients' containers, waste containers.

The vending machine's body is divided into two sections: front and rear.

It is sufficient to open the machine's door to access the front section.

To access the rear section of the machine it is necessary to remove the machine's rear panel.

5.3 Internal view (without door cover)

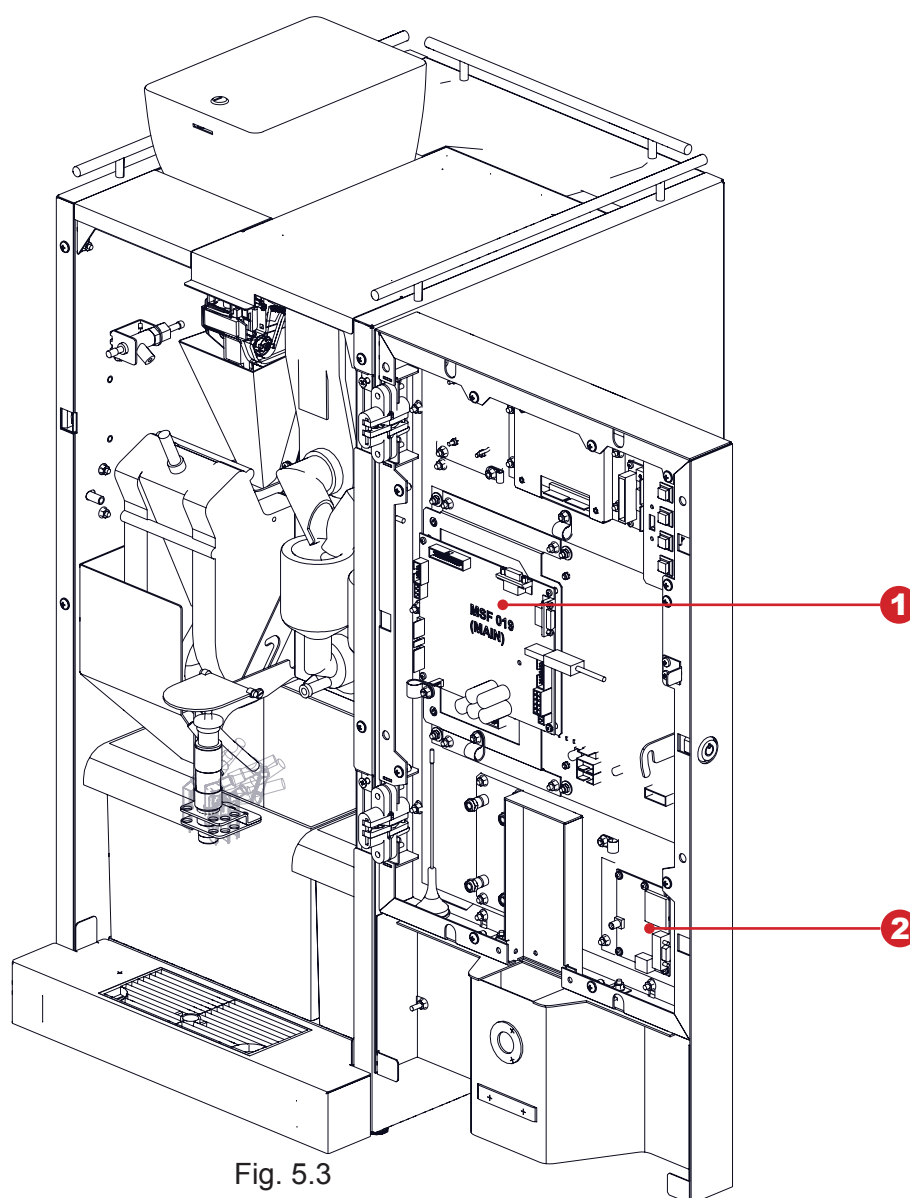


Fig. 5.3

1. Main board (controller)
2. Modem (option)



5.4 Back view

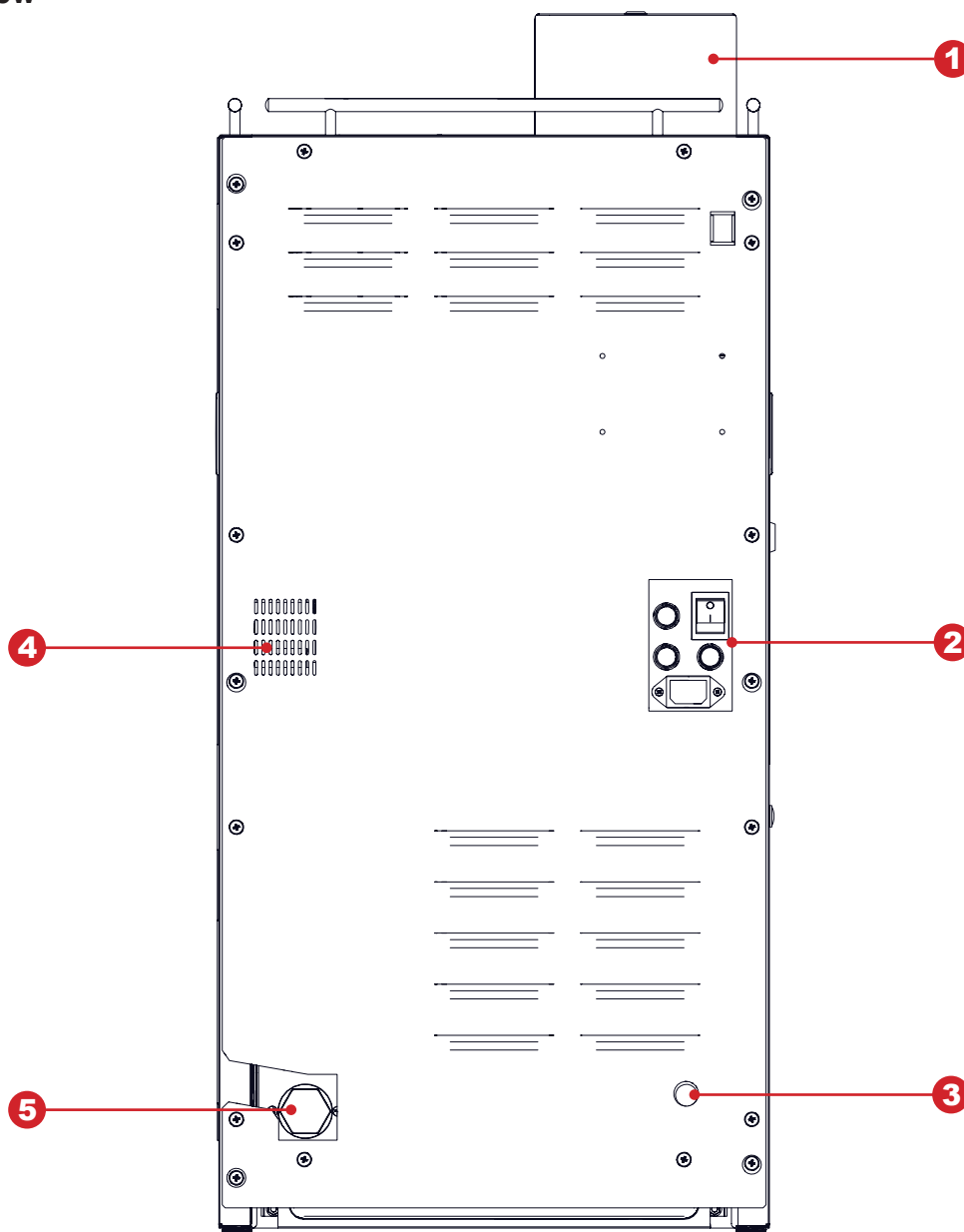


Fig. 5.4

1. Coffee bean container (not-INSTANT)
2. Switching unit (switch, fuse holders, power cord connector)
3. Water container connection (internal)
4. Ventilation
5. Water supply network connection (external)

5.5 Containers for instants ingredients and coffee beans

not-INSTANT

Vending machine comes with three types containers for storing ingredients:

- Coffee bean container (see fig.5.5a);
- Containers for ingredients Chocolate and Milk (see fig.5.5b)
- Container for ingredient Vanilla (see fig.5.5c)

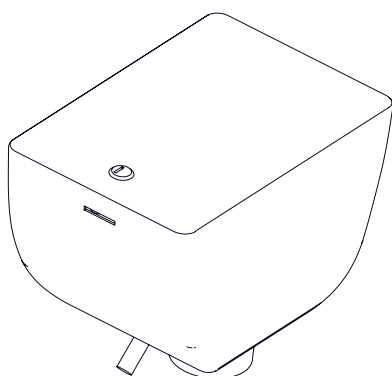


Fig.5.5a

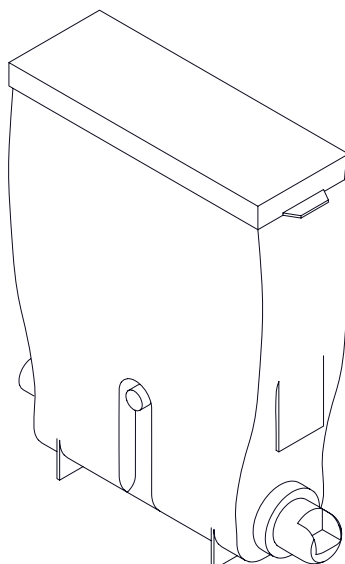


Fig.5.5b

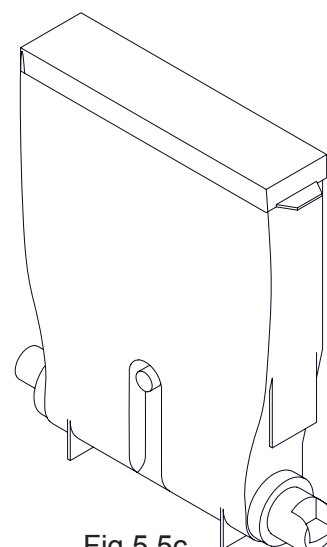


Fig.5.5c

INSTANT:

Vending machine comes with a single type of container for storing ingredients (see fig.5.6).

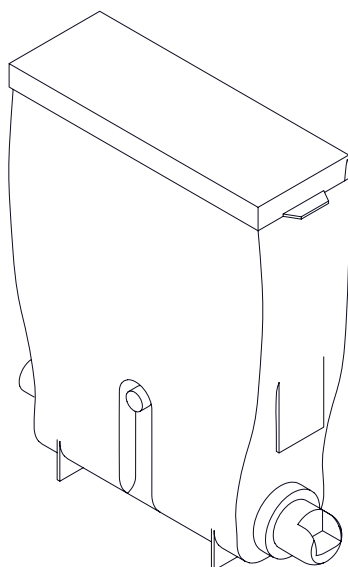


Fig.5.6

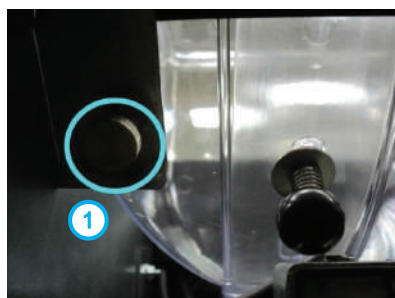


Fig.5.7

To install and remove the coffee bean container

With open vending machine door, pull the container's clamp (1), which is located in the left upper corner of the machine (see fig.5.7) and holding the clamp remove the container.

The container can be installed in the reverse order of actions.

NERO / NERO INSTANT



Fig.5.8

Filling the instant ingredients containers:

- Open the vending machine's door
- Lift the top lid of the machine
- Lift the lid of the required container
- Fill the container ingredient, avoiding the formation of seals and lumps
- Close the cap container

If necessary (for convenience in filling) the containers can be removed from the vending machine. For the purpose:

- Turn the container's "nose" upwards
- Slightly raise the container using the "nose" in such a way that the container's base grip would be removed from the body
- Pull out the container

The ingredient is supplied from the container using a reducer-motor, which is installed behind the container. The reducer-motor supplies the required dose of ingredient into the mixer.

The quantity of the ingredient for each drink is set in the drinks recipe menu. The quantity is equal to the duration of rotation of the motor multiplied by 100.

Filling the coffee beans into the container

- To fill the container open the lid by using the key (if needed) and fill it with beans.
- To avoid damaging the equipment as a result of impurities, the use of high-quality coffee beans is recommended.
- Comply with the maximum permissible level for the container.
- Close the lid carefully.



After filling the container, make sure that there are no foreign objects in the container. Make sure that the ingredient did not get compressed during the filling process. Remove all remnants or spill-overs of ingredient from the outer surfaces of the container or the machine's parts.



Filling milk into the container (for vending machines with FRESH MILK option)

- Install the cooling module next to the vending machine at the left side. Insert the milk supply tube into the cooling module side port.
- Open the door of the cooling module. Remove the milk container and fill it with fresh milk.
- Place the filled milk container back into the cooling module.
- Lower the milk supply tube down to the bottom of the container.
- Close the door of the cooling module.

Note:

The milk should be stored at the temperature from 3.5 to 7 °C.

Use only cooled fresh long-storage milk (pasteurized or UHT) with 2.5 to 3.6% fat

Fill the container with milk, taking into consideration the maximum capacity of the container.

To avoid problems associated with milk dispensing locate the milk container level with the vending machine and make sure that the milk supply tube lies on the bottom of the container and has no kinks.

For milk storage, the manufacturer recommends using the special milk cooling module (cooler) that was compatibility tested with the standards of the countries, where the NERO vending machine or its modifications are going to be used.

The manufacturer can supply the recommended cooling module complete with the vending machine on demand.

The correspondence of the recommended special cooling module with the standards should be confirmed by the module manufacturer.

5.6 Waste container

The liquid waste container is situated in the lower left part of the machine. You must drop the float into this container. The given float acts as the sensor indicating the container's level of filling.

Except for the liquid waste, which is produced during the preparation of drinks, the process of making coffee from coffee beans, we also have hard waste in the shape of pressed ground coffee, which the espresso group throws out into the waste container, situated in the lower left side of the machine. The quantity of waste is monitored programmatically.

When the software counter reaches the maximum number of drinks (set in the technician menu (equipment) - **Errors** section - **Coffee waste number** setting), made using the coffee beans, such drinks become inaccessible.

To set the counter to zero:

- Open the vending machine door;
- Insert the service key into the door trip (see section 2.2);
- Turn on the vending machine (if it's turned off);
- Remove the coffee waste container (for solid wastes) and remove the wastes;
- 10 seconds after inserting the container back into the vending machine;
- Remove the service key and close the door.

5.7 Autonomous operations kit

In its standard configuration the vending machine is configured to use water from the canister/bottle, which is installed near the machine.

For water supply connection we have a silicone water pipe, which comes with the package (see fig.4.2 pos. 5), which from one end is connected to water inlet (see fig.5.4 pos.3) and from the other end of the tube is immersed into the source of water (canister/bottle).

5.8 Flot chamber, boiler pump, boiler and steam boiler

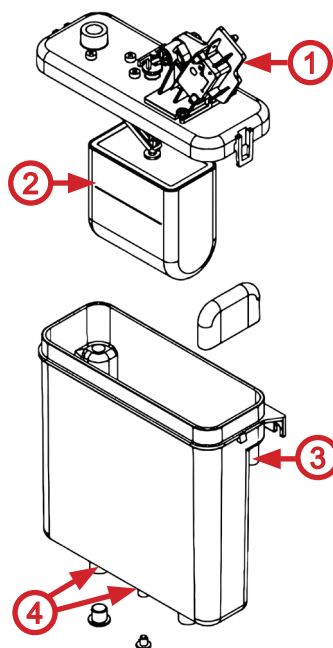


Fig.5.9

The water for the preparation of drinks is supplied by the following group of devices: boiler, which heats the water; boiler pump, which pumps the water into the hydraulic circuit; float chamber, which helps avoid air bubbles and blocks from entering the hydraulic system.

Flot chamber

The float chamber (see fig.5.9) retains the minimum required quantity of water, which is necessary to keep the hydraulic system alive and to ensure the dispensing of drinks, in case the water supply runs dry.

Equipped with a sensor it determines the state of the chamber: filled or empty. During the functioning of the internal pump, the water level gradually falls inside the float chamber until reaching the set level, where the sensor reads as if the chamber is empty. At this moment the water from external source (the valve is opened) or internal source (the autonomous mode pump turns ON) starts filling the float chamber, until the water level sensor determines that the chamber was full. This also forms a permanent water lock. In case of shut down of external water supply or depletion of water in the internal source, the float chamber will not be filled within the set time interval, which will cause the vending machine to be blocked.

Boiler pump

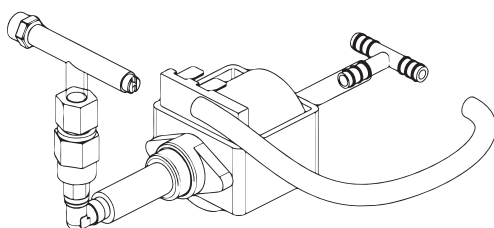


Fig.5.10

1. Pin switch of the water level sensor
2. Float
3. Water inlet connector
4. Water outlet to the boiler

The boiler's electromagnetic valves

During drink preparation, the hot water enters through one of the four electromagnetic valves, located on top of the boiler (see fig.5.11), according to the selection the hot water flows:

1. into espresso group, one of the two mixers, directly into drink disposal nozzle (**not-INSTANT**).
2. into one of the three mixers, directly to the drink disposal nozzle (**INSTANT**).



It is strictly prohibited to use water, which does not conform to the given standards of hardness and calcium content (see the vending machine's technical features). This can cause rapid deterioration and failure of the machine's electromagnetic valves!

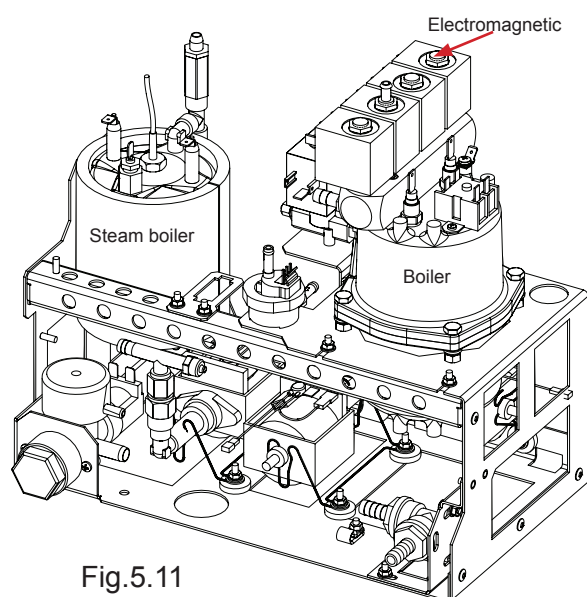


Fig.5.11

Boiler

The boiler is used to heat the water to a certain temperature as is set in the machine's configurations.

The boiler in the machine is placed in the rear section of the vending machine's body (see fig.5.11). To access the boiler, remove the vending machine's rear panel. To avoid injuries connected with "accidental release of stored energy" and/or "steam burning effect", the boiler has hardware protection from the pressure, exceeding the working pressure maximum range. The excess water heated by the boiler is rejected to the liquid wastes container via the water valves located at the boiler case.



DANGER OF BURNS!

The boiler and steam boiler surface may be hot.

Before any maintenance works cool down and drain water from the boiler.

Steam boiler (FRESH MILK option)

The steam boiler is installed in the vending machines with FRESH MILK option only. It's intended for heating the water to make steam, which is needed for milk foaming.

The steam boiler is installed in the rear hydraulic unit compartment of the vending machine (see fig. 5.11). To access the steam boiler remove the vending machine case rear wall.

To avoid injuries associated with "accidental release of stored energy" and/or "steam burning effect", the steam boiler has hardware protection from the pressure, exceeding the working pressure maximum range. The excess steam, heated by the boiler, is rejected to the liquid wastes container via the emergency valve located at the steam boiler case.

The boiler has nonseparable structure. In the case of boiler breakage and/or the internal fuse blowing the boiler should be completely replaced. After the boiler replacement, the boiler sensor gaskets and fittings should be visually inspected. This operation is conducted to prevent emergency situations, caused by bad boiler repair.

5.9 Espresso group (not-INSTANT)

The espresso group is used to make coffee using ground beans (see fig.5.12).

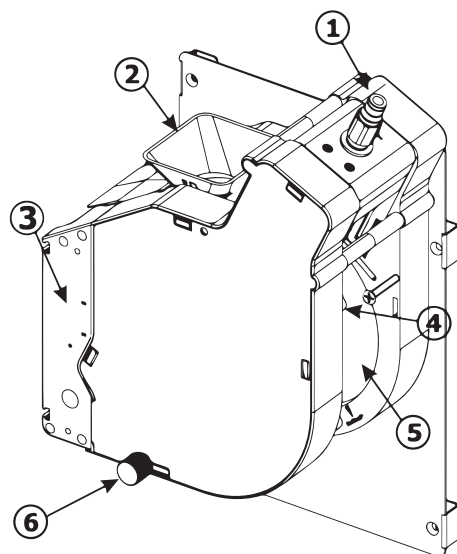


Fig.5.12

1. Hot water inlet from the boiler
2. Ground coffee feed into the coffee maker
3. Reducer-motor of espresso group
4. Path for discharging coffee waste
5. Output pipe for ready drink
6. Fixture for removal/installation of espresso group

The working mechanism of the espresso group:

- Initially the espresso group is in open position
- The ground coffee enters the inlet (2), after which the reducer-motor closes the espresso group, pressing the coffee powder
- Hot water, from the boiler, is passed through the pressed coffee
- After passing the set amount of water, the reducer-motor opens up the espresso group, emptying the coffee waste through the waste path (4) into the waste container
- The hot water, which passes through the pressed coffee, further goes through the dispensing nozzle into the cup.

Removing the espresso group:

1. Disconnect the hot water supply pipe, unclamping the fixator (see fig.5.13a)
2. Disconnect the ready drink dispensing pipe together with the nozzle from the holder, lifting the spring used to fix the pipe (see fig.5.13b)
3. Turn the espresso group fixation screw counter clockwise (see fig.5.13c pos.1)
4. Lift the right lower end of the espresso group (2) then pull it out (3) (see fig.5.13c)
5. Remove the espresso group (see fig.5.13d)

To install the espresso group carry-out the above mentioned actions in reverse sequence.

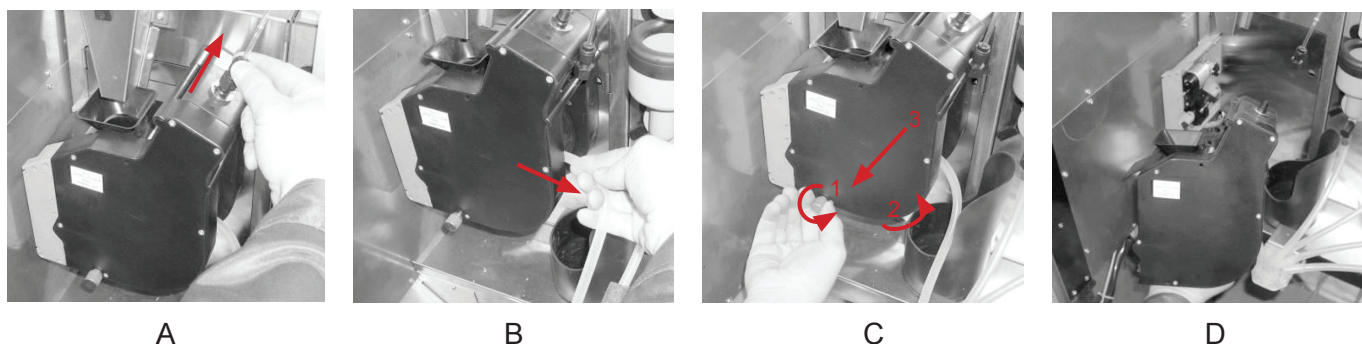


Fig.5.13



The espresso group allows you to regulate the space in the chamber for intake of ground coffee from the dosing mechanism. In case of setting the dosing mechanism into positions 5 or 6 it is necessary to increase the capacity of the chamber by setting the stopper ring in position B (see fig.5.14).

Increasing the capacity of the espresso group's chamber:

1. Remove the espresso group
2. Make sure that there is only one restricting nut under the spring of the piston's spring
3. Push the piston (forcer) in the direction of the arrows 1 (see fig.5.14)
4. Remove the restricting (stopper) nut 2 from the current position (factory setting A)
5. Install the stopper nut in position B to increase the chamber capacity;
6. Release the piston
7. Reinstall the espresso group.

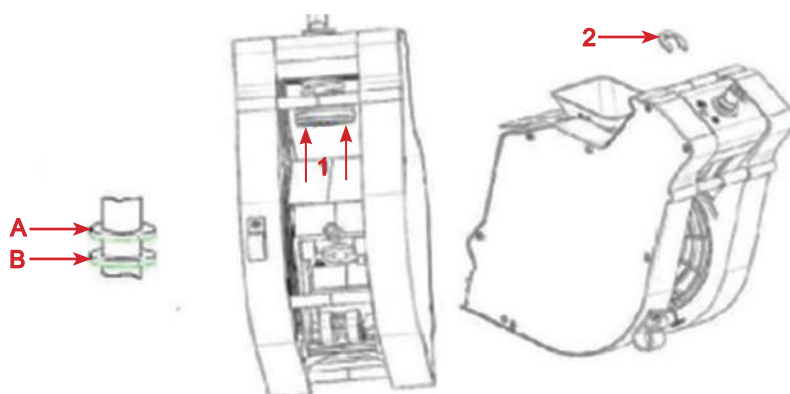


Fig.5.14



If the capacity of the chamber will not be increased for the cases described in this manual, the espresso group can malfunction (displaying errors “Opening group”, “Closing group” and blockage of coffee bean based drinks), as well as mechanical failures.

Espresso group brewing camera with motor volume increase (option)

1. Open the vending machine door
2. Insert the service key into the door contact (see section 3.2)
3. Press the service keypad and hold down the button of the technician's menu until the sound is heard (see figure 5.2 pos.10)
4. Select item **[1.9.14 Grinding settings]**. Then select here **[1.9.14.1 Adjustable dose]** and set the value **[Vario-brewer]**.

ATTENTION! To select this value at the vending machine the special espresso group with motorized changing of the brewing camera volume option should be installed. Otherwise, when selecting this value the vending machine will show an error and will stop making coffee-based drinks.

5. Set the required ground coffee dosage value from 7 to 15 g in tenths of gram (from 70 to 150).
6. The values set in item 5 permit programming the ground coffee dosage in the recipe.



ATTENTION!

Before activating the Vario-brewer mode, adjust the dosing unit in such a way that one coffee portion will be 7 g sharp (if the dosing unit permits adjusting the values to 6.8 and 7.2, select 6.8 g) for more information contact the service center.

ATTENTION! It's prohibited to switch the vario-brewer off in the vending machine settings when the vario-brewer is connected!

When replacing circuit boards first switch the vario-brewer off, adjust the settings, and only then connect the vario-brewer (with power supply switched off)!

For vending machines with a vario-brewer without protection (see figure 5.15a):

When removing the vario-brewer it's PROHIBITED to install it back in zero position.

When installing in the position, which is not zero, first initialize the vending machine with the brewer connector disconnected (to bring it to the zero position, then switch off the power supply, connect the connector and switch the vending machine again)!

Failure to observe these requirements may lead to the vario-brewer and vending machine breakdown. Should you have any questions about the vario-brewer operation consult the supplier service center.

For vending machines with vario-brewer with protection (see figure 5.15b):

When removing and re-installing the vario-brewer in the vending machine, special protection is triggered.

The principle of protection is the following:

If the installation is incorrect, the geared motor-reductor, in the initialization mode, the "zero" position. When the gears coincide, the geared motor is lowered to the nominal position.

Thus eliminating cases of breakdown of the vario-brewer.



Fig. 5.15a - Vario-brewer without protection

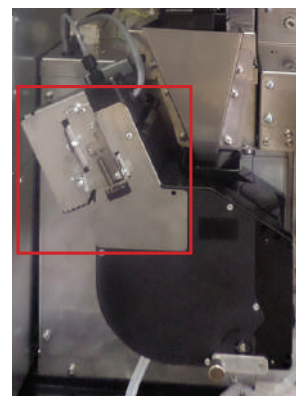


Fig. 5.15b - Vario-brewer with protection

5.10 Mixers for instant ingredients

The instant drinks, which are made of instant ingredients, are prepared in the mixers (see fig.5.16). Vending machine (not-INSTANT) has two mixer.

Vending machine (INSTANT) has three mixer.

Each mixer is installed and connected in front of the container with the relevant ingredient. In the vending machines, one mixer is used for two ingredient containers.

The powder (instant ingredient) is fed by the reducer-motor from the container into the mixer's inlet together with hot water.

The mixer's motor mixes the ingredient and water until a uniform mixture is obtained.

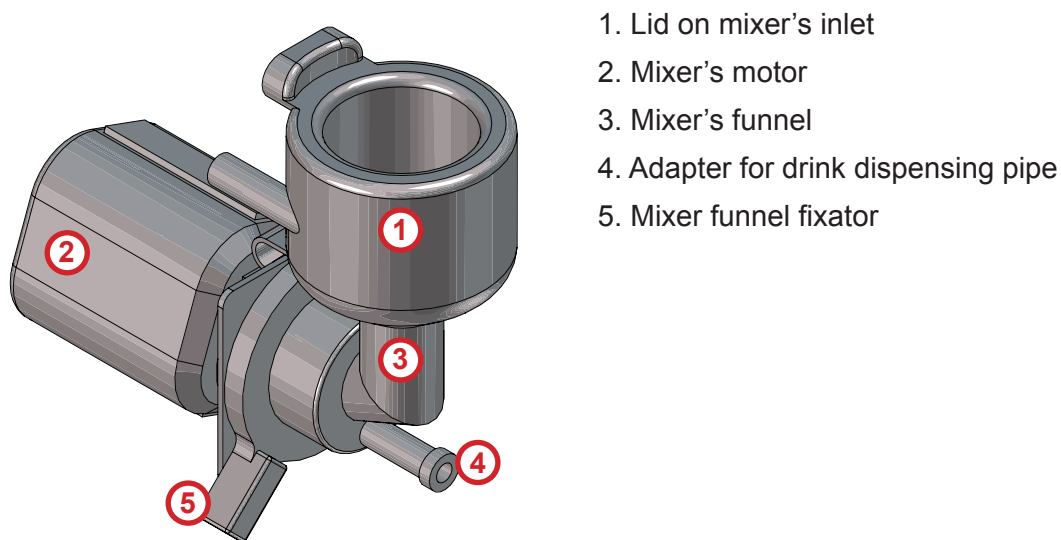


Fig.5.16

When needed you should remove the funnel and other plastic parts of the mixer, for planned cleaning and perform the actions in the following order

1. Disconnect the drink dispensing pipe (see fig.5.17a)
2. Turn the handle on the funnel fixator downwards (see fig.5.17b)
4. Carefully pull out the funnel (see fig.5.17c and 5.17d)
5. The assembly procedure is performed in the reverse order



Fig.5.17a



Fig.5.17b



Fig.5.17c



Fig.5.17d

To remove the mixer's motor, loosen the screw, which holds the mixer to the bracket (see fig.5.17d), and remove the motor. After that disconnect the power connector.



6.0 VENDING MACHINE CONTROL AND MONITORING DEVICES

The control system and control the machine consists of the following electronic components:

- Power supply board. Performs automatic actuating device management functions, interrogates sensors and controls the beverage preparation process. The power board contains all the recipes and configurations.
- Controller Board (Main Board). Records statistics controls the vending machine operating mode, works with USB flash drives to save audit data, loads configuration files and updates the vending machine software. The Circuit Board stores all vending machine settings, except for recipes/product images and product names/descriptions in different languages.
- PC unit (Monoblock). Performs functions of information display and interacts with clients, stores images and names/descriptions of all products in different languages, and controls the Main Board, for which purpose it's connected via the Ethernet.

The main vending machine mode is the vending mode, in which the customer service and vending machine units and components monitoring are implemented. The switching to this mode is carried out immediately after the vending machine (controller) is switched on.

The service mode is intended for equipment testing, units and components parameters adjusting, and information about the drinks management (name, price, recipe, etc.)

The switching to the service mode open the vending machine door and insert the service key into the door trip (see section 2.2).

Then press the button (operator menu or menu technician) on the quick access keypad, located on the inner side of the vending machine door (see section 5.2).

6.1 Main Board (controller)

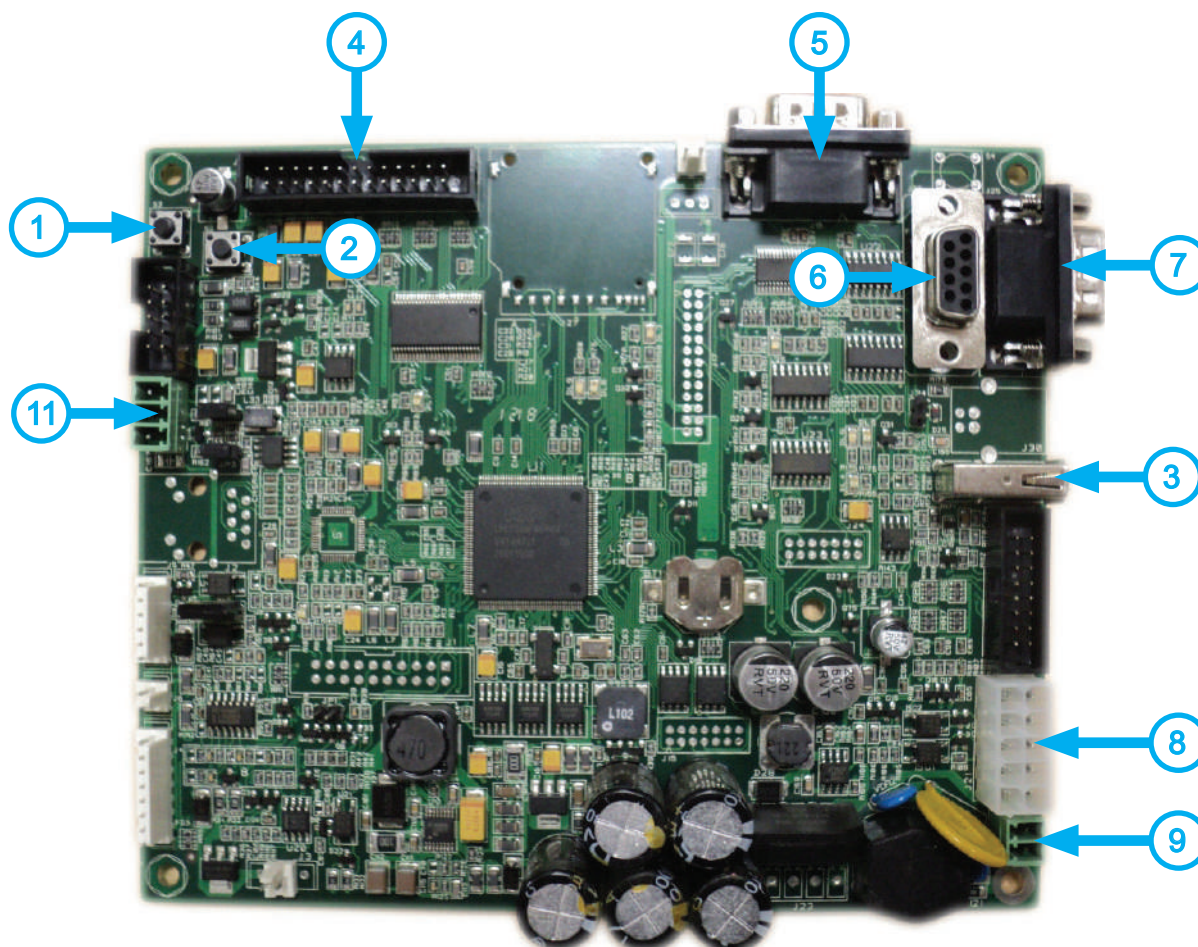


Fig. 6.1 - Controller

1. Operator's menu access button (used as reserve button, for use when regular service button does not work – see 3.5.13);
2. Technician's menu access button (used as reserve button, for use when regular service button does not work – see 3.5.13);
3. USB connector (socket);
4. Display connector;
5. Modem connector;
6. Slot for programming and connection of RS-232 cartridge;
7. Cash register \ cheque printer connector (Not used);
8. Modem and MDB power supply connector;
9. Main board power supply connector (~24Volts);
10. Connector for sensor keypad board, which is used to select drinks;
11. CAN-BUS connector;
12. Connector for lighting for the drink selection buttons and disposal tray.



6.2 Service keypad



Fig. 6.2

The machine has a quick access keypad, which has 4 (four) buttons and USB-flash drive connector. This keypad is installed on the inner side of the machine's door (see figure 6.2 & 5.2 pos.10).

- **Operator menu** - access to operator's menu.
- **Technician menu** - access to service engineer's / technician's menu.
- **Flushing** - access to menu option for flushing the vending machine's various units.
- **Test** - allows you to make a drink without paying, for purposes of checking drink quality and setting it.
- **USB** - main connector for USB-flash drives.

6.3 Touch keypad selection (user's menu)



Fig. 6.3

The sensor keypad is located on the front side of the machine's door. The keypad has 10 buttons for drink selection (see fig. 6.3). Each button corresponds to the drink set in the machine's planogram.

In sales mode, the touch keyboard is used to select drinks.



6.4 Touch keypad selection (service menu)

In service mode, the touch keypad is used to navigate through the service menu.



Fig. 6.4

Button 1 - CANCEL - exit editing mode and cancel all changes made / exit menu item / exit menu;

Button 2 - ↑ go up one menu item (position) / select next set parameter during editing;

Button 3 - ENTER - enter editing mode / exit editing mode and confirm (apply) changes;

Button 4 - not used for navigation;

Button 5 - INSERT - insert character during editing;

Button 6 - ← shift left within the edited line;

Button 7 - ↓ shift one menu position down / select next set parameter during editing;

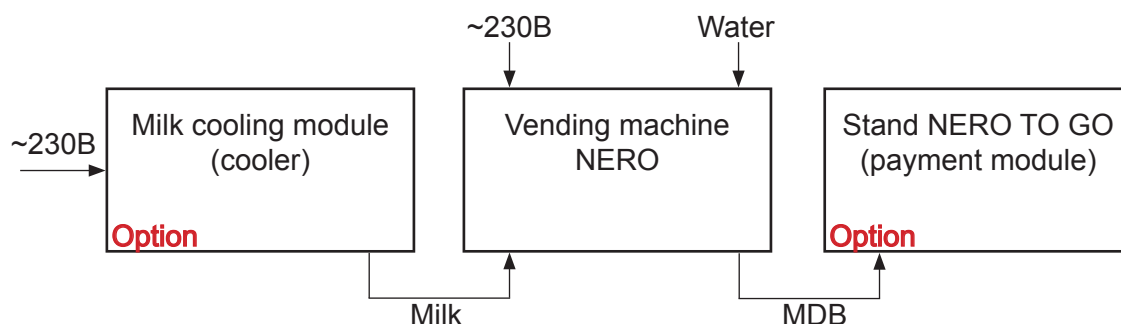
Button 8 - → enter sub-menu / shift right within the edited parameter;

Button 9 - BACKSPACE - delete the last entered character while editing the line;

Button 10 - RESET - reset entry or delete charter during editing.



7.0 VENDING MACHINE'S WORKING PRINCIPLE



Milk cooling module (cooler)

- Cooling system: cools stored milk
- Milk container: milk storage

Vending machine

- Makes and doses hot drinks
- Steam boiler: generates steam for milk foaming (FRESH MILK)

Payment module

- Allows you to make cash and / or non-cash payments
- Storing cups and other accessories for drinks

The vending machine performs making and selling coffee-based drinks with the addition of soluble ingredients and instant coffee drinks, as well as adding foamed milk into drinks for vending machines with the FRESH MILK option. After the customer chooses a drink by touching the drink icon, the vending machine automatically makes and gives out the selected drink.

In the case of payment module installed the customer should deposit a credit for the drink first and then touch the icon with the selected drink.

To make the process more interactive or visible, the drink disposal section is fitted with an LED board, which changes its colour, depending on the process underway inside the machine

To make the process more interactive or visible, the drink disposal section is fitted with an LED board, which changes its colour, depending on the process underway inside the machine:

- Blue colour - the drink was prepared;
- Red colour - the drink is prepared.

After the drink preparation process is completed the colour of the LED light changes from red to blue and a single audio signal is given.

The drink preparation and disposal operation comprises of the following steps (see below).

7.1 Placement of the cup

Before choosing a drink place the cup into the compartment for giving out drinks. Then select the image of the drink on the touch screen.

For small cups, the special folding height adjustable shelf is provided in the compartment (see fig. 5.1 pos. 7).

To avoid spilling over of the drink, into the disposal area tray, please make sure to place the cup in the disposal tray before selecting the drink!



7.2 Preparation of drinks

Instant drinks

These drinks are prepared by continuously mixing the instant ingredient (powder) with hot water and then mixing various mixed ingredients in accordance with the drinks recipe, which is set using the vending machine's service menu.

To make the drink the water is pumped into the float chamber, from where it goes into the boiler, until it is filled. The boiler heats the water and maintains it at the temperature level set in the vending machine's configurations.

The required quantity of the ingredient is poured out of the container into the mixer. The quantity of the ingredient is set in accordance with the selected drinks recipe.

Opening one of the valves of the boiler the hot water is supplied to the required mixer, which is located near the container with the required ingredient.

When the water flows into the mixer, the ingredient is solved into the amount of water set in the recipe.

Water and the ingredient are mixed inside the mixer until the required drink is obtained. From the mixer the drink flows through the dispensing nozzle into the cup.

Coffee bean drinks

Coffee beans go from the coffee bean container into the coffee grinder, where they are ground and fed into the dosing apparatus (if the dosing apparatus will not be filled within 10 seconds the vending machine will automatically block the dispensing of ground coffee drinks).

The dosing apparatus activates, feeds the ground coffee into the espresso group, after which the espresso group closes and the coffee is pressed.

After this hot water release valve is opened towards the espresso group, the internal pump turns ON and hot water from the boiler reaches the espresso group.

The water flows through the pressed coffee tab and flows out into the cup.

After the set amount of water has flown through the espresso group, the flow stops and the used coffee is disposed of into the waste container.

Adding the foamed milk into drinks (FRESH MILK option)

Milk is taken from the milk storage container by the milk supply tube, mixed with air and supplied to the cappuccinatore. Steam is also supplied from the steam boiler to the cappuccinatore for foaming milk.

To avoid problems associated with milk dispensing locate the milk container level with the vending machine and make sure that the milk supply tube lies on the bottom of the container and has no kinks.

To adjust the milk flow rate from the container the Hofmann clamp (see fig. 4.2 pos. 8) is used, which is included in the vending machine scope of delivery with FRESH MILK option. The milk flow rate is adjusted by the clamp screw (the flow rate is lowered when the screw is tightened, whereby the milk foam becomes hotter and "airy" and vice versa).



Use only pasteurized and UHT milk!

Milk fat content should be in the range of 2.5 - 3.6%.

The milk should be stored at a temperature range from 3.5 to 7 °C.



7.3 Dispensing the drink

After preparation the drink flows into the cup, which is placed in the disposal area tray, the LED light in the disposal area changes colour from red to blue and the customer can remove the cup with the drink from the disposal area.



DANGER BURN! Please be careful, because the machine uses hot water for drinks' preparation. To avoid any accidents or injuries, do not remove the cup from the disposal area, before the preparation process is completed!



8.0 DESCRIPTION USER MENU

8.1 Home screen

Each time the vending machine is switched on, it undergoes the all systems test (initialization). After the test completion the vending machine changes to the vending mode, showing the user menu on the screen (see fig. 8.1).

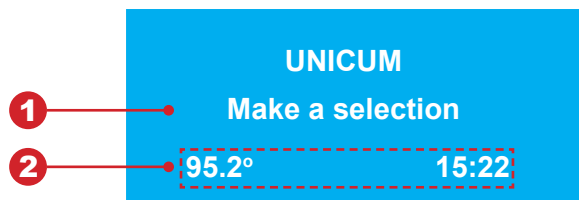


Fig. 8.1

1. Welcome

The welcome line is displayed here.

2. Information

Here the vending machine internal clock and boiler heating temperature are shown.

8.1.1 Choice of drink

Press the button with the desired drink on the touch keyboard (see fig. 8.1). Follow the prompts on the machine's display.

NOTE: Depending on the settings of the machine, you may need to press the button with a drink.



9.0 DESCRIPTION SERVICE MENU - MENU TECHNICIAN

The vending machine servicing is realized in the SERVICE MODE. To optimize the servicing the vending machine is supplied with two types of the SERVICE MENU with different rights.

- **Service engineer menu/Menu technician:** provides the access to all controller software functionality. To enter the menu open the vending machine door, insert the service key into the door trip, and press the [Menu technician] on the service keypad (see section 6.2) and hold it down to a single beep.
- **Operator menu:** provides the access to the vending machine functionality during the periodic maintenance, such as the event log, equipment operation and faults information, access to setting up the information about the drinks, and the viewing of the sales statistics. To enter the menu open the vending machine door, insert the service key into the door trip, and press the [Operator menu] on the quick access keypad (see section 6.2) and hold it down to a single beep.

Note: Input the password for accessing the menu technician/operator (if the password is set). The password is set in the menu technician settings.

9.1 Menu technician

The menu consists of a submenu.

This menu provides access to all functional parameters of the Regulator's software. This menu is marked as "1" among the menu items to clearly mark the menu item as Technician's menu.

Note: That changing some settings may affect the basic parameters of the machine. Before changing the settings, it is better to remember the settings that have been set - this will allow you to return to the old settings if necessary.

Also to change the settings of the machine on a PC, laptop, etc. You can use the special program CONFIGURATOR (program and instruction can be downloaded on the website <http://www.unicum.ru/en/support/168-docs-nero>).


9.1.1 SYSTEM

Sub-menu	Description	Value
1.1.1 Language	The language of display	Choice of language
1.1.2 Machine Number	Arbitrary number to identify the Machine. This number is used to name the configuration files, which makes it possible to consider this number as the number of the given group of Machines. Numbering several machines with a single number enables you to create configuration files for the given group of Machines.	Digit entry
1.1.3 Time / Date	Setting the internal clock (this menu item is hidden if franchising is activated, see sub-section 1.1.7)	
1.1.3.1 Set clock	Setting time/date for the internal clock	
1.1.3.2 Daylight saving	Summer/Winter time shift parameters: <ul style="list-style-type: none"> • No daylight; • Western Europe; • Central Europe; • Eastern Europe; • CIS; • C.Europe / Russia 	
1.1.3.3 Date format	Date formats: <ul style="list-style-type: none"> • YYYY/MM/DD (Year / Month / Day) • DD/MM/YYYY (Day / Month / Year) 	
1.1.4 Password Tech	Password to access the Technician's menu	Entering numbers 0 - No password
1.1.5 Password Filler	Password to access the Operator's menu	Entering numbers 0 - No password
1.1.6 Filler rights	Access to set Operator's privileges	
1.1.6.1 Enable filler price	Access to price alteration in the Operator's menu/ clause 2.9 "Prices/planograms"	Yes / No
1.1.6.2 Enable filler reset	Privilege to reset temporary meters from Operator's menu/ clause 2.8	Yes / No
1.1.6.3 Coins dispense	Allowing Operator's access to coins through Operator's menu	Yes / No



Sub-menu	Description	Value
1.1.7 Franchising	Machine rental parameters	
1.1.7.1 Expiring date	Date until which the Machine can be used (on the given date the Machine will seize to operate until the extension of rental period)	
1.1.7.2 Set new	Entering date in encoded format	16 characters 0...F
1.1.8 Volume buzzer	Level of volume of Machine's in-built speaker	Number entry 0...4
1.1.9 Enter after sel.	Menu item is displayed but not used	Yes / No
1.1.10 Coffee double sel. (for Coffee servers)	If set to YES to select drink it is necessary to press the selection key, on the keyboard, twice	Yes / No
1.1.11 Selection time out	Time, during which the information about your selection is displayed	Number entry 0...30 seconds
1.1.12 Snack number	Menu item is displayed but not used	0
1.1.13 Hot number	The number of used machines for drinks (coffee pots)	1
1.1.14 Reset	Nullification of all statistical data	
1.1.14.1 Reset interim Data	Reset temporary audit statistics	Yes / No
1.1.14.2 Re-configure	Reset to factory defaults	Yes / No
1.1.14.3 Re-Initialize	Password required after which it is possible to reset all configurations and data to factory default (it is not recommended to use this)	Yes / No
1.1.14.4 Reset Total Data	Password required after which it is possible to reset all data and clear history	Yes / No
1.1.15 Power saving	Setting power saving parameters	No Yes - to sub-menu
1.1.15.1 Start time	Time when the Machine automatically switches to power saving mode	0:00:00 (hh:mm:ss)
1.1.15.2 End time	Time when the Machine automatically switches out of power saving mode	0:00:00 (hh:mm:ss)
1.1.15.3 Key wakeup	Allow the Machine to escape power saving mode upon the press of any key on the keyboard	Yes / No



Sub-menu	Description	Value
1.1.16 EVA settings	Parameters of statistical data	
1.1.16.1 Reset interim Data	Reset temporary data after saving (copying) of files to USB drive	Yes / No
1.1.16.2 Switch Ids	If set to YES, the output (configuration and audit) files will carry the Machine number set in 1.1.2 instead of the Machine's serial number	Yes / No
1.1.16.3 Load CONF_GEN only	- NO enables loading all files from USB; - YES enables loading only CONF_GEN extension files	Yes / No
1.1.16.4 Enable USB prices	Allow/prohibit change of prices using a USB drive	Yes / No
1.1.16.5 Audit file version	Selecting the version of EVA-DTS file	6.0 6.1
1.1.17 Header message	Header caption, which is displayed on the LCD	Line entry
1.1.18 LAN	Internet access configuration	No Yes - to sub-menu
1.1.18.1 Local MAC	Allow/restrict the use of MAC address	No Yes - to sub-menu
1.1.18.1.1 Local MAC	Setting MAC address. The MAC address is set using the menu. It can comprise of any values with only two limitations: 1) The first digit must be less than 8 (best practice is to set it to 0). If the first character will be 8...F the Machine cannot go online. 2) Within the LAN to which the Machine is connected, the given MAC address must be unique. Violation of this requirement can cause the LAN to malfunction	Enter 12 characters 0...F
1.1.18.2 IP address	Setting IP address for the Machine. This displays the internal IP, assigned by the network administrator. Within the LAN this address must be unique. The leading part of the address (which is determined by the subnet-mask, see below) must be the same as the leading part of addresses of all connected devices.	12 characters



Sub-menu	Description	Value
1.1.18.3 Subnet mask	<p>Setting the subnet-mask.</p> <p>Here we set the subnet-mask, from which the Machine understands if any given IP address is local (part of LAN with direct communication) or if it is external (Out of the LAN. Communication through the gateway, see below).</p> <p>The subnet-mask is set by the network administrator.</p> <p>For example if the subnet-mask is 0.0.0.0 all the IP address would be treated as external. If the subnet mask is 255.0.0.0 only the IP addresses which will have the same number as the first number of the Machine's IP address will be treated as local. Different LANs use different subnet-masks, but usually one of the following is used:</p> <p>255.255.0.0 (large LAN which can comprise of up to 65536 devices)</p> <p>255.255.255.0 (medium size LAN which can comprise of up to 256 networking devices)</p> <p>255.255.255.128 (small LAN, which can comprise of up to 128 devices)</p>	Four numbers 0...255
1.1.18.4 Gateway	<p>Setting the gateway address.</p> <p>Here we set the IP address of the Gateway, through which the Machine will access the external IP addresses.</p> <p>This is set by the network administrator.</p> <p>Except for accessing external IP addresses the Machine will ping the Gateway for its MAC address every 10 seconds after coming online, until it gets a response from the Gateway.</p> <p>Therefore, even if you don't intend to allow access to the outside world, it is recommended that you set this address, pointing it to some computer which is always available in the LAN.</p> <p>Without this IP address the Machine will keep on dispatching waste packets every 10 seconds</p>	
1.1.18.5 Remote IP	<p>Here we set the Server's IP address which is used to handle card data, saving balance information on the server (not on the card).</p> <p>When such card is swiped (and when it is recharged or when used for purchases) the Machine connects to the given server and asks for permission to perform the action (or will check current balance).</p> <p>This address can be local (for the Machine) or external. If we don't use card system with balance information on the server, we do not set this field</p>	3 digits 0...9
1.1.18.6 Remote port	<p>Setting the Server's port.</p> <p>Here we set the port for the Server, which was set in the previous section</p>	5 digits 0...65535
1.1.18.7 Allow eth. control	<p>Here we can set YES for touch screen or NO for other Machines.</p> <p>If set to YES the Machine opens port 999, through which the Machine can be controlled, similarly as done with the touch-screen computer.</p> <p>If set to YES, when the Machine is hooked to LAN, which is not limited to the Machine, it is recommended that you hook up a router to the Machine, which will remote access to the Machine.</p> <p>Otherwise the Machine can be hacked from the LAN (access to Machine's status, execute sales etc.)</p>	



Sub-menu	Description	Value
1.1.19 Snack cell input	Menu item is displayed but not used	2 digits/letters 3 digits
1.1.20 Secondary language	The second language of display in addition to the main language (clause 1.1.1)	No English Russian Italian French
1.1.21 Auto-collections	Settings to configure automatic dispatch of collection data to the server	
1.1.21.1 Monday	Execution of Automatic-collection on Monday	No Yes - to sub-menu
1.1.21.1.1 Start time	Time when Automatic-collection starts on Monday	00:00:00 (hh:mm:ss)
1.1.21.2 Tuesday	Execution of Automatic-collection on Tuesday	No Yes - to sub-menu
1.1.21.2.1 Start time	Time when Automatic-collection starts on Tuesday	00:00:00 (hh:mm:ss)
1.1.21.3 Wednesday	Execution of Automatic-collection on Wednesday	No Yes - to sub-menu
1.1.21.3.1 Start time	Time when Automatic-collection starts on Wednesday	00:00:00 (hh:mm:ss)
1.1.21.4 Thursday	Execution of Automatic-collection on Thursday	No Yes - to sub-menu
1.1.21.4.1 Start time	Time when Automatic-collection starts on Thursday	00:00:00 (hh:mm:ss)
1.1.21.5 Friday	Execution of Automatic-collection on Friday	No Yes - to sub-menu
1.1.21.5.1 Start time	Time when Automatic-collection starts on Friday	00:00:00 (hh:mm:ss)
1.1.21.6 Saturday	Execution of Automatic-collection on Saturday	No Yes - to sub-menu
1.1.21.6.1 Start time	Time when Automatic-collection starts on Saturday	00:00:00 (hh:mm:ss)
1.1.21.7 Sunday	Execution of Automatic-collection on Sunday	No Yes - to sub-menu
1.1.21.7.1 Start time	Time when Automatic-collection starts on Sunday	00:00:00 (hh:mm:ss)


9.1.2 PAYMENT SYSTEMS

Sub-menu	Description	Value
1.2.1 Decimal posit.	Determines the number of decimal places in prices and amounts of sale	Enter digits 0...3
1.2.2 Overpay time	Number of seconds after which the deposited credit is nullified	Enter number 0...65535
1.2.3 Retund	Sets the operational algorithm in case of cancellation of transaction – refund/not refund the deposit	Yes / No
1.2.4 Unknown state retund	Sets the operational algorithm in case of loss of connection to the power board during execution of sales – refund/no-refund of deposit. If using FOODBOX SLAVE it is recommended to set this to NO to avoid theft of products by turning power off at the moment of release of product	Yes / No
1.2.5 Protocol	Selecting the protocol for the system of payment	None MDB
1.2.6 Coin acceptor	Configuring the coin slot without the option of dispensing change (if set). For the normal functioning of the MD-coin slot this must be set to NO	No Yes - to sub-menu
1.2.6.1 Type	Set the type of coin slot	Parallel Binary
1.2.6.2 Interface	Setting coin slot's interface	Italian German
1.2.6.3 Inhibit	Restriction	Standart Reverse
1.2.6.4 Coin Type	Here we set the coin denomination	Yes / No
1.2.6.4.1 Coin Type (16 coins)	Permission/restriction of 16 coins of PARALLEL coin slot. Does not affect the MDB coin slot	Coin selection 0...15 And entering its value/price
1.2.7 Option	Sales configuration	
1.2.7.1 Exact change	Determines the algorithm of acceptance of payment by the Machine, when set to "No change": <ul style="list-style-type: none"> • "Accept all" – accept money without limits • "Only in tube" – accept only the coins, which can find free space in tubes, while the acceptance of bills and cash box is restricted. • "Quantity in tubes" – Acceptance of coins and bills for an amount equivalent to the amount of coins in the tubes of the coin slot 	All Only tube Tubes value



Sub-menu	Description	Value
1.2.7.2 Max exchange value	Only when set to "No change" + "Quantity in tubes". Limit the acceptable amount of money to the amount equal to the set value plus the amount of coins in the tubes	Enter amount
1.2.7.3 Ex Change Condition	Determines the condition in which the Machine switches to NO CHANGE state: <ul style="list-style-type: none"> Standard – if at least one of the tubes contains less than 10 coins As per the Max Change level – If it is not possible to dispense maximum amount of change and the tube with the highest denomination of coins has less than 3 coins in it (see s.c.1.2.8.2) 	Standart Max change
1.2.7.4 Country code	Currency code in MDB format	4 characters 0...F 0 or FFFF - no checking
1.2.7.5 No change	Disallow dispensing change	Yes / No
1.2.7.6 Commit to vend	Not allow dispensing change without the selection of purchase (loose change)	Yes / No
1.2.7.7 Bill with card	Only accept banknotes if have card (cashless)	Yes / No
1.2.7.8 Coin with card	Accept coins only when have card (cashless)	Yes / No
1.2.7.9 Multi vend	<ul style="list-style-type: none"> NO – Machine automatically dispenses change after dispensing the product YES – no automatic change dispensing. To finish the transaction you must press the "CHANGE" button 	Yes / No
1.2.7.10 Immediate change	Enables the dispensing of change during the execution of sale. This shortens the time of service. If you want to disable the dispensing of change in case of malfunction, this must be set to NO	Yes / No
1.2.7.11 Change motor	Enables the use of change motor	No Yes - to sub-menu
1.2.7.11.1 Every time	Set the mode of operation of change motor: <ul style="list-style-type: none"> YES – at any time after the pressing of the CHANGE button NO – only when dispensing of change is allowed 	Yes / No
1.2.7.12 Payout method	Determines the algorithm of dispensing of change by the Machine: <ul style="list-style-type: none"> "Standard" (default) – Minimum number of coins are selected for change, to match the amount of change (the largest available denomination if dispensed first) "As per quantity" (equal tube level) – the Machine dispenses change trying to maintain an equal amount of coins in each of the tubes. "Considering the empty tubes" (min coin) – similar to the "As per quantity" algorithm taking the missing denominations into account. "Alternative" – The Machine dispenses change as per the built-in algorithms of the coin slot 	Standart As per quantity Considering Alternative



Sub-menu	Description	Value
1.2.7.13 Single coin	<ul style="list-style-type: none"> YES – the amount of change is dispensed as per the set algorithm (s.c.1.2.7.12) by sending commands in a sequence to the coin slot. This increases the time of dispensing change, but reduces the chances of errors in calculation 	Yes / No
1.2.7.14 MDB peripherals	Connection/disconnection of MDB devices	
1.2.7.14.1 Disable change giver	Connection/disconnection of coin slot. If the coin slot is installed you must select NO, otherwise select YES	Yes / No
1.2.7.14.2 Disable bill valid.	Connection/disconnection of Bank Note Acceptor (BNA). If the BNA is installed you must select NO, otherwise select YES	Yes / No
1.2.7.14.3 Disable cashless	Connection/disconnection of card reader for contact less cards (smart cards). If the card reader is installed you must select NO, otherwise select YES	Yes / No
1.2.7.14.4 Disable cashless 2	Connection/disconnection of card reader 2 for smart cards. If it is installed you must select NO otherwise select YES	Yes / No
1.2.8 Cash option	Configuration of parameters for credit	
1.2.8.1 Max. credit	Maximum amount of acceptable deposit	Enter amount
1.2.8.2 Max. change	Maximum amount of change that a customer can get for each transaction	Enter amount
1.2.8.3 Coin all enabled	<ul style="list-style-type: none"> YES – accept coins of all denominations. If restricted, you can set criteria for acceptable coins (16 coins) according to denominations 	No Yes - to sub-menu
1.2.8.3.1 Coin Type	Coin selection (0-15) and entering its value	
1.2.8.4 Bill all enabled	<ul style="list-style-type: none"> YES accept all denominations of banknotes. If restricted you can separately configure acceptability for each type of banknote according to denomination 	No Yes - to sub-menu
1.2.8.4.1 Bill type	Selection of banknotes (0...15) and entering their values/prices	0..15
1.2.8.5 Tokens	Token configuration	No Yes - to sub-menu
1.2.8.5.1 Token 1	Configurations for Token 1	
1.2.8.5.1.1 Enable	Allow/restrict the use of tokens	Yes / No
1.2.8.5.1.2 Free vend	<ul style="list-style-type: none"> NO – the Machine will recognize the token as a coin (denomination) YES – the Machine will recognize the token without any denomination 	No Yes - to sub-menu
1.2.8.5.1.2.1 Max. price (YES s.c.1.2.8.5.1.2) Value (NO s.c.1.2.8.5.1.2)	<ul style="list-style-type: none"> Maximum price for free tokens: If the price of the product is higher than the indicated price of the token the sale will not be executed Value – For paid tokens you have a denomination of the token 	Number



Sub-menu		Description	Value
	1.2.8.5.1.2.2 Use for change (NO s.c.1.2.8.5.1.2) Snack 1 - for SLAVE (YES s.c.1.2.8.5.1.2)	<ul style="list-style-type: none"> For paid tokens – use for change For free tokens – use to dispense one product (for snacks vending machines) 	Yes / No
	1.2.8.5.1.2.3 Snack 2 - for SLAVE (if YES to s.c.1.2.8.5.1.2)	This item is displayed if s.c.1.1.12=2 It used to connect two SLAVE-machines	Yes / No
	1.2.8.5.1.2.4 Hot 1 (if YES to s.c.1.2.8.5.1.2)	For free tokens - used for issue of the name of the drink	Yes / No
	1.2.8.5.1.2.5 Hot 2 (if YES to s.c.1.2.8.5.1.2)	For free tokens - used for issue of the name of the drink. It used to connect a second drink vending machines	Yes / No
Note: sub-clause 1.2.8.5.2 ... 1.2.8.5.4 are similar to s.c.1.2.8.5.1 for tokens 2...4 respectively.			
1.2.9 Card option		Machine's configurations to work with payment cards	
	1.2.9.1 Disable recharge	Restriction to recharge balance using non-cash payments	Yes / No
	1.2.9.2 Max.Card rech.	Maximum amount of recharge of balance for non-cash payment cards. Limit of total credit for the card, which can be reached after recharge. For expel if it says 100 euro and the card still has 80 Euro in balance, the card cannot be recharged for more than 20 Euro. The amount in this section must be no more than the amount in clause 1.2.9.3	Enter amount
	1.2.9.3 Max.Card Value	Maximum amount that can be used with a card. in case of over draft the card will be blocked	Enter amount
	1.2.9.4 Bonus rec threshold	Amount of card recharge after which you get bonus	Enter amount
	1.2.9.4.1 Bonus rec percentage	The percentage of bonus against the amount of funds added to the card using coins and banknotes	Enter number 0...100
	1.2.9.5 Request timeout	The waiting time during which the Machine awaits card reader's response regarding withdrawal of funds	5 seconds 1 minute 5 minutes
	1.2.9.6 Transaction	<ul style="list-style-type: none"> YES – Combines all purchases into one transaction. To purchase several products you just need to swipe your card once NO – One transaction for each product. It is necessary to swipe the card to pay for each purchase 	Yes / No



Sub-menu	Description	Value
1.2.10 Serial cashless	Allow/disallow the use of external card system	No Yes - to sub-menu
1.2.10.1 Ethernet key	Secret key for access to Machine's interaction with the service. The server and Machine key should be the same	Enter 16 characters 0...F
1.2.10.2 Ethernet vector	Secret key for access to Machine's interaction with the service. The server and Machine key should be the same	Enter 16 characters 0...F
1.2.10.3 Card system type	Selection of the card payment system used. Each selection leads to a different sub-menu	Ethernet based NFC Sberbank
1.2.10.3.1 Hold phone (for NFC)	Determines if it is needed to hold the phone near the card reader during the whole duration of transaction (Hold) or short time holding of phone for deduction of funds before the sale and repeat short holding after the purchase to return change (Not hold)	Yes / No
1.2.10.3.1 Terminal number (for SBERBANK)	Enter SBERBANK terminal's identification number	No Yes - to sub-menu
1.2.10.3.1.1 Terminal number	Enter the SBERBANK terminal's identification number for correct exchange of information between the terminal and the Machine. This is to be entered only if the number was not upgraded in the SBERBANK terminal before its installation in the Machine.	Enter 8 digits
1.2.10.3.2 Merchant number (for SBERBANK)	Enter merchant number for the SBERBANK terminal	No Yes - to sub-menu
1.2.10.3.2.1 Merchant number (for SBERBANK)	Enter the SBERBANK terminal's merchant number for correct exchange of information between the terminal and the Machine. This is to be entered only if the number was not upgraded in the SBERBANK terminal before its installation in the Machine.	Enter 12 digits
1.2.10.3.3 Port number (for SBERBANK)	Enter SBERBANK terminal's server port number	No Yes - to sub-menu
1.2.10.3.3.1 Port number	Enter SBERBANK terminal's server port number	Enter number 0...65535
1.2.10.3.4 Greeting string (for SBERBANK)	Enter welcome message, which will be displayed on SBERBANK's terminal	Enter text
1.2.10.3.5 Greeting string (for SBERBANK)	Enter second welcome message, which will be displayed on SBERBANK's terminal. Displayed under the first welcome message. Usually entered in a language other than the language of the first welcome message	Enter text
1.2.10.3.6 Make select. string (for SBERBANK)	Enter a caption requesting the selection of product (purchase). Displayed on SBERBANK terminal in place of the welcome message, after the customer will insert his card in the terminal	Enter text



Sub-menu		Description	Value
	1.2.10.3.7 Make select. string (for SBERBANK)	Enter second caption requesting product selection. Placed under the first caption. Usually entered in a language other than the language of the first caption. Displayed on SBERBANK terminal instead of the welcome message after the customer inserts his card into the terminal	Enter text
	1.2.10.3.8 Check summary (for SBERBANK)	Summary collation by the SBERBANK terminal. Usually done at least once a day automatically. This menu item performs this function manually. Manual summary collation must be performed only if needed under the terms dictated by SBERBANK	No Yes - to sub-menu
	1.2.10.4 Pricelist number	Selection of price list number for payment card	Enter digits 0...3
	1.2.10.5 Overpay time	Setting time after which the deposited credit is nullified	Enter number 0...65535



9.1.3 TIME ZONES

Menu item “1.3 Time intervals” determines time intervals during which a product can be sold through the vending machine at a discount, be available for sale or blocked as per the parameters (discounted products, blocking of cell) presented in clause “1.6 Price”.

The Machine can handle 7 time intervals. each interval has its own end time.

The start time of an interval coincides with the end time of the previous interval.

The start time for an interval is set at the ned of the previous interval or at 00:00:00.

Sub-menu	Description	Value
1.3 Time zones	Configuration of time intervals (see above)	
1.3.1 Time zone 1	Configuration of time for interval 1	Enter time
1.3.2 Time zone 2	Configuration of time for interval 2	Enter time
1.3.3 Time zone 3	Configuration of time for interval 3	Enter time
1.3.4 Time zone 4	Configuration of time for interval 4	Enter time
1.3.5 Time zone 5	Configuration of time for interval 5	Enter time
1.3.6 Time zone 6	Configuration of time for interval 6	Enter time

Example:

Interval 1 - 10:00:00

Interval 2 - 18:30:00

Intervals 3,4,5,6 - 00:00:00

The machine will function during three time intervals from 00:00:00 to 10:00:00 – interval 1, then from 10:00:01 till 18:30:00 – interval 2 and Interval 3 from 18:30:01 to 00:00:00.

9.1.4 PRINTER MENU

Menu item Printer menu is not used for vending machine of type NERO.


9.1.5 GPRS menu

Sub-menu	Description	Value
1.5 GPRS menu	Modem configuration	No Yes - to sub-menu
1.5.1 SMS Password	Enter an 8 digit code, using which the server can carry out initial connection through SMS (manual connection). In case of manual connection of the Machine the server asks for access code. The entered code must correspond with the code indicated in this menu item, otherwise connection will not be established	Enter an 8 character code (strict)
1.5.2 ServerIP address 1	Enter IP address and port number for server to which the Machine would connect. For the first manual connection to the server (via SMS) this parameter is set automatically by the server	Enter IP address and port number
1.5.3 ServerIP address 2	Enter IP address of the server to which the Machine would connect in case of inability to connect to server 1. If the server does not have reserve line the second address must be the same as the first one. When making first manual connection to the server this parameter is set automatically by the server	Enter IP address
1.5.4 SIM-cadr PIN code	Enter SIM's PIN code. This parameter does not change SIM's PIN code. If the SIM's PIN code is activated, you must enter the PIN code here, which corresponds with the SIM's PIN code. It is not recommended to use PIN code, because in case of wrong PIN entry the SIM can be blocked	Enter up to 8 characters
1.5.5 GPRS APN	This parameter sets the access point, which will be used to establish internet connection. The value of this parameter can be known from the mobile operator	Enter up to 40 characters
1.5.6 GPRS login	Sets login for connection to the mobile provider's access point. You can ask for this parameter from your provider	Enter up to 20 characters
1.5.7 GPRS password	Sets the password to connect to the access point of your mobile provider. You can know the value for this parameter from your operator	Enter up to 20 symbols
1.5.8 Conn.initiat. phone	Sets the telephone number. Which will be dialled to establish server connection. To make this parameter effective you must turn on CLI for the Machine's SIM card	--ANY PHONE NUMBER-- Enter up to 16 characters



Sub-menu	Description	Value
1.5.9 Machine GUID	This parameter is read only. It allows the reading of GUID assigned to the given Machine by the telemetry server. In scrolling mode the GUID menu is not fully displayed. To see complete GUID menu it is necessary to enter sub-menu	Displays 32 characters 0...F
1.5.10 Modem IMEI	This menu item is read-only. Shows IMEI (Unique identifier) of the modem connected to the Machine. With IMEI you can identify the Machine from the server side	Display of the modem's serial number or error message
1.5.11 Modem SW version	This menu item is read-only. If the modem is ON it displays the modem's type and it's software version	Displays modem's version or error message
1.5.12 Signal quality	Menu item is read-only. Shows the Cellular signal's strength and availability of GPRS net.	Displays the state of connection and signal strength


9.1.6 PRICES

Sub-menu		Description	Value
1.6 PRICES		Configuration of product prices	
	1.6.1 All Prices	To set similar prices for the products sold from the Machine	
	1.6.1.1 Name	The name of the drink. This name is displayed on the LCD after the relevant button is pressed on the selection keyboard	Enter text
	1.6.1.2 Cash Price	Setting price for cash sales	
	1.6.1.2.1 Price	Drink price	Enter amount
	1.6.1.2.2 Discount	Discount on drink price in percentage points. When this value is set then the value in s.c.1.6.1.2.3 is overridden	0...100
	1.6.1.2.3 Surcharge	Retail margin in percentage points. When this value is set the value in s.c.1.6.1.2.2 is overridden	0...100
	1.6.1.2.4 Time zone%	Time intervals for which the discount or retail margin is calculated for the given price list and the given product. Example: NNYYNNN The discounts or margins are effective for this price list in the 3 rd and 5 th time intervals	Selection of seven positions from the given line NNNNNNN YYYYYYY
	1.6.1.2.5 Day	The days of the week for which the discount is effective for the given pricelist and for the given position. Example:0000011 Discount or margin for the given pricelist is effective on Saturday and Sunday	
	1.6.1.2.6 Time zone block	Restriction on time intervals	
	1.6.1.2.6.1 Always blocked	Not sold under the given pricelist	Yes / No
	1.6.1.2.6.2 Time zone	Not sold under the given pricelist in the given interval. Set 0 or 1 in each time interval. Example: NNYYNNN Not sold under the given price list in the 3 rd and 5 th time intervals	Selection of 7 symbols from the following line NNNNNNN YYYYYYY

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Sub-menu		Description	Value
	1.6.1.2.7 Day block	Not sold under the given price list on the given days of the week. Example: 0000011 Not sold under the given price list on Saturday and Sunday	Selection of 7 symbols from the row smtwtfs SMTWTFS
	1.6.1.3 Cashless Price 1	Set product price for sale using card 1 (s.c.1.6.1.3.1...1.6.1.3.7 are similar to s.c.1.6.1.2.1...1.6.1.2.1)	
	1.6.1.4 Cashless Price 2	Set product price for sale using card 2 (s.c.1.6.1.3.1...1.6.1.3.7 are similar to s.c.1.6.1.2.1...1.6.1.2.1)	
	1.6.1.5 Cashless Price 3	Set product price for sale using card 3 (s.c.1.6.1.3.1...1.6.1.3.7 are similar to s.c.1.6.1.2.1...1.6.1.2.1)	
	1.6.1.6 Expiring date	Set product validity date	No Set Date
	1.6.1.7 Not installed	Switching OFF of motor and product cell. The sale of the given product is blocked	Yes / No
	1.6.1.8 Article identifier	This sub-menu position is displayed, but not used	
	1.6.1.9 Selection priority	This sub-menu position is displayed, but not used	
	1.6.1.10 Fresh product	This sub-menu position is displayed, but not used	
	1.6.1.11 Icon ID	This sub-menu position is displayed, but not used	
	1.6.2 Shack 1	This sub-menu position is displayed, but not used	
	1.6.3 Shack 2	This sub-menu position is displayed, but not used	
	1.6.4 Not 1	Similar to sub-clause 1.6.1 "All prices", but used only for drink (coffee maker) vending machines. The menu is hidden if the number of coffee makers in sub-clause 1.1.13 = 0. Menu positions 1.6.4.1...1.6.4.10 are similar to relevant menu sub-positions 1.6.1.1...1.6.1.10	
	1.6.5 Not 2	This sub-menu position is displayed, but not used	
	1.6.6 Double selection 99	Configuration for the first combinational sale (sale of several products in one transaction)	No Yes - to sub-menu
	1.6.6.1 Button not	Setting the number keys on the keyboard of choice, when clicked, will be a combo sale	Enter the number 1...16
	1.6.6.2 Product 1 type	Configuration of the type of product 1, which is part of the combinational sale.	Snack 1 (not used) Snack 2 (not used) Hot 1 Hot 2
	1.6.6.3 Product 1 number	Configuration of the button number, which holds the first drink, which is sold as part of the combinational sale.	1...15 (drinks) 10...8B (not used)



Sub-menu	Description	Value
1.6.6.4 Product 2 type	Configuration of the type of second product, which is sold as part of the combinational sale.	Snack 1 (not used) Snack 2 (not used) Hot 1 Hot 2
1.6.6.5 Product 2 number	Configuration of button number, which holds the second drink, which is sold as part of the combinational sale	1...15 (drinks) 10...8B (not used)
1.6.6.6 Product 3 type	Configuration of the type of the third product, which is sold as part of the combinational sale.	Snack 1 (not used) Snack 2 (not used) Hot 1 Hot 2
1.6.6.7 Product 3 number	Configuration of the button number, which holds the third product, which is sold as part of combinational sale. This menu item is not shown if s.c.1.6.6.6 = NO	1...15 (drinks) 10...8B (not used)
1.6.6.8 Product 4 type	Configuration of the type of the fourth product, which is sold as part of the combo-sale. This item is hidden if s.c.1.6.6.6=NO	Snack 1 (not used) Snack 2 (not used) Hot 1 Hot 2
1.6.6.9 Product 4 number	Configuration of the button number, which holds product four which is a part of the combo-sale. This item is hidden if s.c.1.6.6.6=NO	1...15 (drinks) 10...8B (not used)
1.6.6.10 Price	Similar to s.c.1.6.1...	
1.6.7 Double selection 98	Configuration of the second combo-sale (sale of several products in one transaction) s.c.1.6.7...1.6.7.10 are similar to the relevant s.c.1.6.6...1.6.6.10	No Yes - to sub-menu
1.6.8 Double selection 97	Configuration of the second combo-sale (sale of several products in one transaction) s.c.1.6.8...1.6.8.10 are similar to the relevant s.c.1.6.6...1.6.6.10	No Yes - to sub-menu
1.6.9 Double selection 96	Configuration of the second combo-sale (sale of several products in one transaction) s.c.1.6.9...1.6.9.10 are similar to the relevant s.c.1.6.6...1.6.6.10	No Yes - to sub-menu

9.1.7 SNACK 1

9.1.8 SNACK 2

The given menu items are used to configure the machines which sell snacks and are not used for machines type "NERO".

For proper functioning of the machine, in sub-menu "1.1.12 Snack number" set value to 0. In this case the menu items "1.7 SNACK 1" and "1.8 SNACK 2" will be hidden.


9.1.9 HOT 1

Sub-menu	Description	Value
1.9 Hot 1	Configuration of drink vending machine	
1.9.1 Temperature option	Temperature settings	
1.9.1.1 Min. temp coffee	The minimum water temperature for making coffee	Enter temperature +5...+110
1.9.1.2 Max. temp coffee	The maximum water temperature for making coffee	Enter temperature +5...+110
1.9.1.3 Time to increase	The time in minutes after the preparation of the previous drink, during which the water will be heated to the value set in 1.9.1.2	Enter number 0...60
1.9.1.4 Delay to increase	Time in minutes during which after the preparation of the previous coffee the temperature as per algorithm of s.c.1.9.1.3 will not exceed	Enter number 0...10
1.9.1.5 Pre-heating	Flow of water through the coffee group to preheat the coffee making chamber before making coffee	
1.9.1.5.1 Delay	Time interval. If the time since the making of the previous cup of coffee exceeds the set time, the hot water is flushed to pre-heat the machine before making the next portion	Enter number 0...240
1.9.1.5.2 Quantity	Quantity of water for preheating	Enter number 0...30
1.9.1.6 Min. temp. Sol.	Minimum water temperature for making instant drinks	Enter temperature +5...+110
1.9.1.7 Sensor 2 installed	<ul style="list-style-type: none"> “Yes” – the sensor is read to proportionally change the temperature of drinks depending on the outside temperature (if installed) 	No / Yes
1.9.1.8 Sensor 3 installed	<ul style="list-style-type: none"> “Yes” – the sensor is read to proportionally change the drinks temperature depending on the outside temperature (if installed) 	No / Yes
1.9.1.9 Display temperature	Display temperature on the screen of the vending machine	No / Yes
1.9.1.10 Cooler	This sub-menu position is displayed, but not used	



Sub-menu		Description	Value
	1.9.1.10.2 After cold selection	The quantity of water flushed through the system to cool it. The water is flushed if the time elapsed since the making of the last cold drink is greater than the time set in s.c. "Max delay". If the elapsed time is less than the time set in s.c. "Min delay" then the amount of water flushed is proportionally less.	
	1.9.1.10.2.1 Delay	Time interval (in minutes)	Enter number 0...240
	1.9.1.10.2.2 Min delay	Set minimum time (when no cooling needed) in minutes	Enter number 0...240
	1.9.1.10.2.3 Max delay	Set maximum time (maximum cooling) in minutes	Enter number 0...240
	1.9.1.11 Timings	Set pause time between the preparation and dispensing of drinks	
	1.9.1.11.1 Delay to dry	Interval needed to obtain a drier tablet, as well as to keep the cup edged clean of drops, if s.c.1.9.1.11.1 is set to YES	Enter number 0...240
	1.9.1.11.2 Delay after brewer	Interval needed to keep the cup's edges clean, if s.c.1.9.1.11.3 is set to NO	Enter number 0...240
	1.9.1.11.3 Cup before brewer	• "YES" – allow cup dispensing before opening the coffee group (see s.c.1.9.6.2)	No / Yes
	1.9.1.11.4 Delay after soluble	Interval after the preparation of the instant drink, to keep the cup's edges clean	Enter number 0...240
	1.9.2 Spoon	This sub-menu position is displayed, but not used	
	1.9.3 Sugar	This sub-menu position is displayed, but not used	
	1.9.4 Remaining cups	This sub-menu position is displayed, but not used	
	1.9.5 Photocell	This sub-menu position is displayed, but not used	
	1.9.6 Selection	Configure drink recipes and make test drinks. After entering the drink button the sub-menu also corresponds to the selected button	Enter number of drink button 0...16
	1.9.6.1 Sugar	This sub-menu position is displayed, but not used	
	1.9.6.2 Spoon	This sub-menu position is displayed, but not used	
	1.9.6.3 Ingredient 1	Configurations for the first added ingredient	
	1.9.6.3.1 Ingredient	Ingredient to be added in the drink: <ul style="list-style-type: none"> • "None" - means the end of recipe (the following ingredients are not processed); • "Coffee" - use coffee beans; • "Soluble 1...4" - Instant ingredient from containers № 1...5 ; • "Soluble 1...5 cold" - not used 	<u>For NERO INSTANT</u> None Soluble 1...4 Soluble1...4 cold (not used) <u>For ROSSO</u> None Coffee Soluble 1...4 Soluble1...4 cold (not used)

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Sub-menu		Description	Value
	1.9.6.3.2 Water	Amount of water used to make the given drink, in ml (for cold water – in tenths of a second)	Enter number 0...255
	1.9.6.3.3 Quantity	Amount of instant ingredient. Not used for coffee. Set as tenths of a second of the time of powder dispensing motor's rotation	Enter number 0...255
	1.9.6.3.4 Powder delay	Shows the tenths of seconds that the motor will start after the flow of water	Enter number 0...255
	1.9.6.3.5 Delay	If the drink is made of several ingredients, the interval between the addition of each ingredient	Enter number 0...255
	1.9.6.4 Ingredient 2	Settings for the second added ingredient. S.c.1.9.6.4.1...1.9.6.4.5 are similar to s.c.1.9.6.3.1...1.9.6.3.5	
	1.9.6.5 Ingredient 3	Settings for the third added ingredient. S.c.1.9.6.5.1...1.9.6.5.5 are similar to s.c.1.9.6.3.1...1.9.6.3.5	
	1.9.6.6 Ingredient 4	Settings for the fourth added ingredient. S.c.1.9.6.6.1...1.9.6.6.5 are similar to s.c.1.9.6.3.1...1.9.6.3.5	
	1.9.6.7 Test selection	When you enter this sub-menu the machine makes the test drink	
	1.9.6.8 Test water selection	When you enter the sub-menu the machine makes the test drink without the added ingredient (just water)	
	1.9.6.9 Test powder sel.	When you enter the sub-menu the machine makes the test drink without added water (only ingredient)	
	1.9.7 Functional test	Testing the functionality of main units of the vending machine	
	1.9.7.1 Powder motor	Testing the motor supply instant ingredients	
	1.9.7.1.1 Soluble 1	When you enter this option the machine dispenses the powder in the amount set in s.c.1.9.7.1.7	
	1.9.7.1.3 Soluble 2	When you enter this option the machine dispenses the powder in the amount set in s.c.1.9.7.1.7	
	1.9.7.1.4 Soluble 3	When you enter this option the machine dispenses the powder in the amount set in s.c.1.9.7.1.7	
	1.9.7.1.5 Soluble 4	When you enter this option the machine dispenses the powder in the amount set in s.c.1.9.7.1.7	
	1.9.7.1.6 Soluble 5	When you enter this option the machine dispenses the powder in the amount set in s.c.1.9.7.1.7	
	1.9.7.1.7 Quantity	Sets the amount of powder. You enter the time of rotation of powder dispensing motor	Enter number 1...255
	1.9.7.2 Mixer motor	Checking the mixer's functioning	
	1.9.7.2.1 Soluble 1	When entered the motor turns ON for 0.2 seconds	
	1.9.7.2.3 Soluble 2	When entered the motor turns ON for 0.2 seconds	
	1.9.7.2.4 Soluble 3	When entered the motor turns ON for 0.2 seconds	
	1.9.7.2.5 Soluble 4	When entered the motor turns ON for 0.2 seconds	

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Sub-menu		Description	Value
	1.9.7.3 Test sugar	This sub-menu position is displayed, but not used	
	1.9.7.4 Test coffee (for NERO)	Testing the functioning of espresso group	
	1.9.7.4.1 Open group	When entered the espresso group is opened in initial state to grind coffee	
	1.9.7.4.2 Close group	When entered it closes the espresso group in coffee making state	
	1.9.7.4.3 Test grinder	When entered it turns ON the coffee grinder for 0.5 seconds provided that the dosing apparatus is not full	
	1.9.7.4.4 Test doser	When entered it opens the dosing apparatus twice (if it contains ground coffee, it is dropped into the nozzle)	
	1.9.7.4.5 Test coffee powder	When entered it passes ground coffee into the nozzle	
	1.9.7.5 Test cup	This sub-menu position is displayed, but not used	
	1.9.7.6 Test Sol.Selector	This sub-menu position is displayed, but not used	
	1.9.7.8 Test EV soluble	Test the functioning of the valve of instant ingredients	
	1.9.7.8.1 Test EV 1 soluble	When entered, it opens the first valve	
	1.9.7.8.2 Test EV 2 soluble	When entered, it opens the second valve	
	1.9.7.8.3 Test EV 3 soluble	When entered, it opens the third valve	
	1.9.7.8.4 Test EV 4 soluble	When entered, it opens the fourth valve	
	1.9.7.9 Test EV coffee	Test the ground coffee valve. When entered it switches the espresso group to coffee making condition, opens coffee valve, closes coffee valve and switches the espresso group back to initial state (open state)	
	1.9.7.10 Test cooling pump	Turns ON the cold water pump for a second, turns OFF the pump	
	1.9.7.11 Test water	Test water flow	
	1.9.7.11.1 Coffee	Flush the amount of water set in s.c.1.9.7.11.7 through the espresso group	
	1.9.7.11.2 Soluble 1	Flush the amount of water set in s.c.1.9.7.11.7 through the 1 st mixer	
	1.9.7.11.3 Soluble 2	Flush the amount of water set in s.c.1.9.7.11.7 through the 2 nd mixer	
	1.9.7.11.4 Soluble 3	Flush the amount of water set in s.c.1.9.7.11.7 through the 3 rd mixer	
	1.9.7.11.5 Soluble 4	Flush the amount of water set in s.c.1.9.7.11.7 through the 4 th mixer	
	1.9.7.11.6 Soluble 5 (for ROSSO INSTANT)	Flush the amount of water set in s.c.1.9.7.11.7 through the 5 th mixer. This menu item is hidden for machines other than ROSSO INSTANT	
	1.9.7.11.7 Water	Amount of water used for testing. Set in ml	Enter number 0...250



Sub-menu		Description	Value
	1.9.7.12 Test input	Testing the machine's sensors	
	1.9.7.12.1 Air break	Shows the state of air-separation tank	Empty Full
	1.9.7.12.2 Cup	This sub-menu position is displayed, but not used	
	1.9.7.12.3 Cup arm	This sub-menu position is displayed, but not used	
	1.9.7.12.4 Doser	Shows the state of the dosing apparatus	Empty Full
	1.9.7.12.5 Photocell	This sub-menu position is displayed, but not used. If the sensor is not installed it always shows FULL	Empty Full
	1.9.7.12.6 Waste	Shows the reading of the liquid waste sensor	Empty Full
	1.9.7.12.7 Group	Shows espresso group position sensors' readings	Open Close Out of position Missing
	1.9.7.12.8 Selector	This sub-menu position is displayed, but not used	
	1.9.7.12.9 Cups dispenser	This sub-menu position is displayed, but not used	
	1.9.7.12.10 Stirrer / sugar	This sub-menu position is displayed, but not used	
	1.9.7.12.11 Coffee waste full	Shows the readings of the coffee waste sensor	Out of position 0 position
	1.9.7.12.12 Coffee waste number	Shows the readings of the current state of coffee waste meter	
	1.9.7.13 Debug	<ul style="list-style-type: none"> "Yes" – Machine debugging mode, with an option to log the latest (past few hours of functioning) events to a USB flash drive. It is normally used in case of system failures and errors to log and transfer this data to the service center of the supplier 	No/Yes
	1.9.7.14 Debug quantity	<ul style="list-style-type: none"> "Yes" – Machine debugging mode, with an option to log the latest (past few hours of functioning) events to a USB flash drive. It is normally used in case of system failures and errors to log and transfer this data to the service center of the supplier 	No/Yes
	1.9.7.15 Test loop	Let's you perform cyclical preparation of two drinks simultaneously to test the machine	
	1.9.7.15.1 Test sel 1	Enter number of first tested drink	1...16
	1.9.7.15.2 Delay sel 1 s	Enter the period of pause in seconds after the preparation of drink 1	0...59
	1.9.7.15.3 Delay sel 1 m	Enter the period of pause in minutes after the preparation of drink 1	0...59
	1.9.7.15.4 Test sel 2	Enter number of second test drink	1...16
	1.9.7.15.5 Delay sel 2 s	Enter the period of pause in seconds after the preparation of drink 2	0...59
	1.9.7.15.6 Delay sel 2 m	Enter the period of pause in minutes after the preparation of drink 2	0...59
	1.9.7.15.7 Number of tests	Enter number of test cycles	0...250 0 = infinite
	1.9.7.15.8 Start test	Start cyclical test. To prematurely stop the test turn the machine OFF and then switch it ON again	No/Yes
	1.9.7.16 Keyboard test	Keyboard test – displays all pressed keys on the screen	All buttons on the keyboard



Sub-menu	Description	Value
1.9.8 Cleaning	Configure automatic flushing of mixers	
1.9.8.1 Automatic clean	Enable/disable automatic flushing of the machine. If the current item is set to NO the rest of the items are dysfunctional	No/Yes
1.9.8.2 Clean soluble 1	Sets the parameters for automatic flushing of mixer 1	
1.9.8.2.1 Elapse time	Sets the time interval between the flushing and the preparation of the last drink (in hours)	Enter number 0...24
1.9.8.2.2 Water	Amount of water to be used for flushing (in ml)	Enter number 0...200
1.9.8.3 Clean soluble 2	Sets the parameters for automatic flushing of mixer 2. Clauses 1.9.8.3.1...1.9.8.3.2 are similar to clauses 1.9.8.3.1...1.9.8.2.2	
1.9.8.4 Clean soluble 3	Sets the parameters for automatic flushing of mixer 3. Clauses 1.9.8.3.1...1.9.8.3.2 are similar to clauses 1.9.8.3.1...1.9.8.2.2	
1.9.8.5 Clean soluble 4	Sets the parameters for automatic flushing of mixer 4. Clauses 1.9.8.3.1...1.9.8.3.2 are similar to clauses 1.9.8.3.1...1.9.8.2.2	
1.9.8.6 Clean soluble 5 (for ROSSO INSTANT)	Sets the parameters for automatic flushing of mixer 2. Clauses 1.9.8.3.1...1.9.8.3.2 are similar to clauses 1.9.8.3.1...1.9.8.2.2. this menu option is hidden for machines other than ROSSO INSTANT	
1.9.9 Tank	<ul style="list-style-type: none"> • “Yes” – in case of autonomous water supply for the machine using bottles/cans 	No/Yes
1.9.10 Cool boiler	Selection – cools down the boiler by pumping water through it to bring the temperature down to 45 degrees	
1.9.11 Fill boiler	Selection – fill the boiler. If the boiler is not filled during the 30 second working cycle of the pump, the action is repeated until the water overflows into the liquid waste tank	
1.9.12 Empty boiler	Selection – empty the boiler. After emptying the boiler the vending machine must be turned OFF. Then remove the pipe from the bottom of the boiler and turn the machine ON (the next switching ON of the machine would take you to service mode, where the valve opens and all the remaining water is drained out of the boiler through the bottom hole)	
1.9.13 Cooler	This sub-menu position is displayed, but not used	
1.9.14 Doser micro inverted	<ul style="list-style-type: none"> • “Yes” – if the dosing apparatus’s micro switch is connected to open contacts • “No” – if the dosing apparatus’s micro switch is connected to closed contacts <p>If the given parameter is set incorrectly you will not get any coffee</p>	No/Yes
1.9.15 Fan control	<p>Enables you to reduce speed of the drier fan when dispensing powder:</p> <ul style="list-style-type: none"> • “50% at vend” – the fan slows down to half speed when dispensing powder; • “OFF at vend” – the fan is turned OFF when dispensing powder; • “Always on” – do not reduce speed when dispensing powder 	50% at vend OFF at vend Always on

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Sub-menu		Description	Value
	1.9.16 Max. coffee waste	You can set the number of tablets ejected a group of espresso into a waste container at which automatic block-based drinks coffee beans. When setting 0 - function is disabled	Enter number 0...1000
	1.9.17 Errors rst. at start	Enables resetting of some errors automatically at the time of turning ON of the machine (resetting of the main board)	
	1.9.17.1 Water input error	YES – reset water inlet errors automatically when the machine is turned ON (resetting of the main board)	No/Yes
	1.9.17.2 Basket error	YES – reset waste container errors automatically when the machine is turned ON (resetting of the main board)	No/Yes
	1.9.17.3 No coffee error	YES – reset “No coffee” error automatically when the machine is turned ON (resetting of the main board)	No/Yes
1.10 Hot 2		This sub-menu position is displayed, but not used	
1.11 MAINTENANCE		Entry to operator’s menu through the technician’s menu (all numbers for the operator’s menu start with a 2)	



10.0 DESCRIPTION SERVICE MENU - MENU OPERATOR

The vending machine servicing is realized in the SERVICE MODE. To optimize the servicing the vending machine is supplied with two types of the SERVICE MENU with different rights.

- **Service engineer menu/Menu technician:** provides the access to all controller software functionality. To enter the menu open the vending machine door, insert the service key into the door trip, and press the [Menu technician] on the service keypad (see section 6.2) and hold it down to a single beep.
- **Operator menu:** provides the access to the vending machine functionality during the periodic maintenance, such as the event log, equipment operation and faults information, access to setting up the information about the drinks, and the viewing of the sales statistics. To enter the menu open the vending machine door, insert the service key into the door trip, and press the [Operator menu] on the quick access keypad (see section 6.2) and hold it down to a single beep.

Note: Input the password for accessing the menu technician/operator (if the password is set). The password is set in the menu technician settings.

10.1 Menu operator

The menu consists of a submenu.

This menu provides access to functional features of the Machine during periodic servicing. These features include event logs, information regarding equipment functioning and errors, access to configure information about drinks and browse through sales statistics. The menu item numbers include the digit “2”, which helps clearly mark the type of maintenance menu as – Operator’s menu.



10.1.1 Status / Errors

Sub-menu	Description	Value
2.1 Status	Display of operational errors	
2.1.1 Show error	Shows a list of errors (current and previous) upon entry to the menu item, indicating the type of equipment, number of failures, date and the time of last error, as well as the current state of error (active or not)	List of errors
2.1.2 Reset error	Resets errors upon entry	
2.1.3 Temperature	Shows the temperature of two temperature sensors of SVM-1, which was fitted with a new Regulator. This menu item is hidden if the number of snacks is 0 or if there is no temperature sensor connected to keypad 021 of SVM-1	
2.1.4 Voltage DC	Shows the DC voltage on main board (regular reading, when fed from a 220V source is 32.6V). This menu item is hidden if the first version of main board is installed	

10.1.2 CASH

Sub-menu	Description
2.2 Cash	Machines configurations to handle cash
2.2.1 Manual Coin In	Upon entry it is allowed to load coins in tubes manually through coin entry slots, located on the front of the management compartment and loading banknotes to recharge change availability. At the same time the LCD shows information regarding the selected tube: denomination of the loaded coin. Letter "F" indicates that the tube is full. After recognizing the loaded coins, you will see information about the tube to which that given coin was deposited
2.2.2 Manual Coin Out	This menu item is hidden if the Machine is in Operator's menu, but Operator's privileges do not give access to coin discharge (privileges are set in technician's menu). In the given mode the LCD shows information about the tube selected for discharge (withdrawal) of coins: coin denomination, number of coins. For discharge of one coin from the selected tube press "→"
2.2.3 Bill cash box (provided if the modem is installed)	When entered sends a simulated stacker emptying signal to the server (collection signal) in cases when there is no Bank Note Acceptor (BNA), or the stacker sensor is broken
2.2.4 Print Z-report(s)	This sub-menu position is displayed, but not used

10.1.3 SNACK 1

10.1.4 SNACK 2

The following menu items are meant to configure snack vending machines and are not used for NERO vending machines.

For proper functioning of the machine, in sub-menu "1.1.12 Snack number" set value to 0. In this case the menu items "1.7 SNACK 1" and "1.8 SNACK 2" will be hidden.



10.1.5 HOT

Menu item “2.5 Hot 1” is designed to service and control the basic parameters of the drink vending machine.

This menu item is hidden if s.c. “1.1.13 Hot number” is set to 0.

Sub-menu	Description	Value
2.5 Hot 1	Configuration of drink vending machine	
2.5.1 Cleaner	Cleaning the drink preparation and dispensing systems	
2.5.1.1 Clean all	Start complete flushing of all systems	No/Yes
2.5.1.2 Clean solubles	Start flushing of instant drink dispensing system	No/Yes
2.5.1.3 Clean coffee	Start flushing the ground coffee feed system	No/Yes
2.5.1.4 Clean soluble1	Start flushing the instant drink №1 dispensing system	No/Yes
2.5.1.5 Clean soluble 2	Start flushing the instant drink №2 dispensing system	No/Yes
2.5.1.6 Clean soluble 3	Start flushing the instant drink №3 dispensing system	No/Yes
2.5.1.7 Clean soluble 4	Start flushing the instant drink №4 dispensing system	No/Yes
2.5.1.8 Clean soluble 5 (for ROSSO INSTANT)	Start flushing the instant drink №5 dispensing system, this menu item is hidden if the machine is other than ROSSO INSTANT	No/Yes
2.5.1.9 Soluble 1 cold	Starts the flushing the system of dispensing drink №1 with cold water	No/Yes
2.5.1.10 Soluble 2 cold	Starts the flushing the system of dispensing drink №2 with cold water	No/Yes
2.5.1.11 Soluble 3 cold	Starts the flushing the system of dispensing drink №3 with cold water	No/Yes
2.5.1.12 Soluble 4 cold	Starts the flushing the system of dispensing drink №4 with cold water	No/Yes
2.5.2 Temperature	Shows the readings from three temperature sensors installed in the machine	
2.5.3 Voltage DC	Shows the voltage of the power supply (normal value at #220V – 29.8V)	
2.5.4 Test input	Displaying the information of the machine's sensors	
2.5.4.1 Airbreak	Displays the state of the air-separation tank	Empty Full
2.5.4.2 Cup	This sub-menu position is displayed, but not used	
2.5.4.3 Cup arm	This sub-menu position is displayed, but not used	



Sub-menu		Description	Value
	2.5.4.4 Doser	This sub-menu position is displayed, but not used	
	2.5.4.5 Photocell	This sub-menu position is displayed, but not used	
	2.5.4.6 Waste	Shows the state of the waste sensor	Empty Full
	2.5.4.7 Group	Shows the state of the espresso group's position sensor	Open Close Out of position Missing
	2.5.4.8 Selector	This sub-menu position is displayed, but not used	
	2.5.4.9 Cups dispenser		Out of position 0 position
	2.5.4.10 Surer/sugar	Shows the state of the spoon dispenser sensor	Out of position 0 position
	2.5.4.11 Coffee waste full	Shows the state of the coffee waste container's sensor	Out of position 0 position
	2.5.4.12 Coffee waste number	Shows the reading of the coffee waste meter	
	2.5.5 Keyboard test	Testing the keypad – displays all pressed keys	
	2.6 Hot 2 (s.c.1.1.13=2)	Configuring the second connected drink vending machine. Menu options 2.6...2.6.5 are similar to menu items 2.5...2.5.5	



10.1.6 STATISTICS

Menu item “2.7 Statistics” is designed to display detailed sales data (audit).
This is used only if the machine is fitted with a payment system.

Sub-menu		Description
2.7 Statistics		Displays sales data
2.7.1 Totals		Access to detailed info sub-menu
2.7.1.1	Vend number	Shows information regarding the quantity of sales (number of transactions)
2.7.1.2	Vend value	Shows the information about the amount of revenues
2.7.1.3	Cash box	Shows information about the amount of money in the cashbox
2.7.1.4	Cash box(coins)	Shows information about the quantity of coins in the cashbox
2.7.1.5	Cash box (bills)	Shows information about the number of banknotes in the stacker
2.7.1.6	Cash tubes	Shows information about the quantity of coins in the coin slot tubes
2.7.1.7	Cash vend number	Shows information about cash sales
2.7.1.8	Cash vend value	Shows information about the amount of cash sales
2.7.1.9	Card recharge	Shows information about number of card recharges performed
2.7.1.10	Cash overpay	Shows information about over payments
2.7.1.11	Cashless vend number	Shows information about the number of card sales
2.7.1.12	Cashless vend value	Shows information about the revenue from card sales
2.7.1.13	Cashless incentive	Shows information about the quantity of bonuses, granted to card holders
2.7.1.14	CL discount number	Shows information about the number of products sold on discounted rates
2.7.1.15	CL discount value	Shows information about the amount of sales revenues from card sales at discounted rates
2.7.1.16	Test vend number	Shows information about the number of sales tests performed
2.7.2 Details		Details of some of the items
2.7.2.1	Cash details	Detailed information about banknotes and coins
2.7.2.1.1	Tube level	Shows information about the received coins
2.7.2.1.1.1	Tube level	Shows information about accepted coins
2.7.2.1.2	Bills in	Shows information about the quantity of received banknotes
2.7.2.1.2.1	Bills in	Shows information about the quantity of accepted banknotes

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Sub-menu		Description
	2.7.2.2 Snack 1 (for SLAVE machine)	Shows information about sales from each cell. This menu item is hidden, if s.c.1.1.12=0
	2.7.2.2.1 Vend number	Shows information about the quantity of sales
	2.7.2.2.2 Vend value	Shows the amount of sales revenues
	2.7.2.2.3 Cash vend number	Shows information about cash sales
	2.7.2.2.4 Cash vend value	Shows information about the amount of cash revenues
	2.7.2.2.5 Cashless vend number	Shows information about the number of card sales
	2.7.2.2.6 Cashless vend value	Shows information about the amount of card sales
	2.7.2.2.7 Test vend number	Shows information about the number of performed test sales
	2.7.2.3 Snack 2	Display information about the sale of each cell of the second connected snack vending machine. This menu item is hidden if s.c.1.1.12=0 or 1 Menu items 2.7.2.3...2.7.2.2.7 are similar to corresponding items in menu 2.7.2.2...2.7.2.2.7
	2.7.2.4 Hot 1	Displays the information about the sale of each drink. This menu item is hidden if s.c.1.1.13=0 Menu items 2.7.2.4...2.7.2.4.7 are similar to corresponding items in menu 2.7.2.2...2.7.2.2.7
	2.7.2.5 Hot 2	Displays the information about the sale of each drink for the second connected drink vending machine. This menu item is hidden if s.c.1.1.13=0 or 1 Menu items 2.7.2.5...2.7.2.5.7 are similar to corresponding items in menu 2.7.2.2...2.7.2.2.7
	2.7.3 Reset	This menu item is not available in operator's menu if in technician's menu the "Operator's access privileges" are set to "reset disabled". If reset is allowed – all readings are reset to zero



10.1.7 DATA

Menu item “2.8 DATA” is designed to display equipment related information.

Sub-menu	Description
2.8 Data	Shows information about the Machine's equipment
2.8.1 Serial Number	Shows the Regulator's serial number
2.8.2 Version	Shows Regulator software's version
2.8.3 ChkSum	Shows Regulator software's checksum (to identify Machine's equipment)
2.8.4 Changer S/N	Shows the serial number of the Bank Note Acceptor (BNA)
2.8.5 Changer Version	Shows the version of the coin slot's software
2.8.6 Changer Model	Shows the type (model) of the coin slot
2.8.7 Bill Serial Number	Shows the Bank Note Acceptor (BNA)'s serial number
2.8.8 Bill Version	Shows Bank Note Acceptor (BNA) software's version
2.8.9 Bill Model	Shows the type (model) of Bank Note Acceptor (BNA)
2.8.10 CashLess S/N	Shows the card reader's serial number
2.8.11 CashLess Version	Shows the version of card reader's software
2.8.12 CashLess Model	Shows the type (model) of card reader
2.8.13 Snack 1 S/N	This menu item is not used This menu item is hidden if sub-clause 1.1.12=0
2.8.14 Snack 1 Version	This menu item is not used This menu item is hidden if sub-clause 1.1.12=0
2.8.15 Snack 1 ChkSum	This menu item is not used This menu item is hidden if sub-clause 1.1.12=0
2.8.16 Snack 2 S/N	This menu item is not used This menu item is hidden if sub-clause 1.1.12 < 2
2.8.17 Snack 2 Version	This menu item is not used This menu item is hidden if sub-clause 1.1.12 < 2
2.8.18 Snack 2 ChkSum	This menu item is not used This menu item is hidden if sub-clause 1.1.12 < 2
2.8.19 Hot 1 S/N	Shows the serial number of the Machine's power board. This menu item is hidden if s.c.1.1.13=0
2.8.20 Hot 1 Version	Shows the software version of the Machine's power board. This menu item is hidden if s.c.1.1.13=0
2.8.21 Hot 1 ChkSum	Shows checksum for the Machine's software (to identify the Machine's equipment). This menu item is hidden if s.c.1.1.13=0



Sub-menu	Description
2.8.22 Hot 2 S/N	This menu item is not used This menu item is hidden if sub-clause 1.1.13 < 2
2.8.23 Hot 2 Version	This menu item is not used This menu item is hidden if sub-clause 1.1.13 < 2
2.8.24 Snack 2 ChkSum	This menu item is not used This menu item is hidden if sub-clause 1.1.13 < 2

10.1.8 PRICES

Menu item “2.9 Prices” is designed to let you configure information about the drink(s) and is accessible from the operator’s menu. This menu item is disabled if s.c.1.1.6.1 is set to NO.

Information about the given item can be found in section 4.1.6 of this manual.



11.0 GENERAL TECHNICAL SERVICING

11.1 General requirements

After the installation of the vending machine it is necessary to carry out complete disinfection of all water tracts (milk tract - only FRESH MILK) and other components that come in contact with the food products, to kill all bacteria that might grow inside during storage.

The operator must conduct technical servicing of the equipment to prevent the growth of hazardous bacteria, no less than once a week or even more frequently depending on the operating conditions of the vending machine, its location and water quality.

Note: When using fresh milk (FRESH MILK option) in the vending machine the cleaning of the milk supply and pouring line should be performed EVERY DAY.

It is recommended to use suitable washing materials, which are permissible for use in the food industry.

Please note that some of the vending machine's components might be damaged because of the use of unsuitable washing materials. The manufacturer of the machine bears no responsibility for damage caused by the use of unsuitable chemical or toxic substances.

Always disconnect the vending machine from the power mains, before starting technical service or change of components.

Before conducting the vending machine maintenance follow the following hygienics:

- Always wash your hands before handling the food products. .
- To clean the milk supply and pouring system (FRESH MILK option) it's recommended to use the solution, prepared of the cleaning agents concentrates of the following trademarks: Franke Milchreiniger, Specialcleaner for milksystems (Schulz&Sohn GmbH).
- The foodstuff should be securely stored in the tightly closed package with the observance of the storage temperature conditions and shelf life.

The cleaning should be realized in strict accordance with this manual.



ATTENTION! Perishable foodstuff! Food poisoning and illness hazard!

- Take into consideration the shelf life, indicated by the foodstuff manufacturer.
- Replace the foodstuff with the expired shelf life by the foodstuff with valid shelf life.
- Never use foodstuff upon the expiration of the shelf life.
- Use only foodstuff qualified for vending machines.
- Use only precooled milk (FRESH MILK option).
- Replace fresh milk every day (FRESH MILK option).



ATTENTION!
Very high cleaning temperature!
Plastic parts damage risk!

- When cleaning the vending machine plastic parts don't exceed the temperature of 65 °C.
- Make sure that the waste containers inside the vending machine are under the nozzles for drinks during the execution of the washing program.

Note: Cleaning and maintenance operations should be logged.



ATTENTION! Never use abrasive agents for cleaning the vending machine!

11.2 Cleaning list

Daily

Component	Operations	Manual section	Means
Espresso group	Remove coffee residues	11.2.1.1	Brush
Milk system	Start the cleaning program	11.2.1.2	Cleaning solution
Waste containers	Emptying and cleaning	11.2.1.3	Washing agent, rag
Drop tray, tray grill	Emptying and cleaning	11.2.1.4	Washing agent, rag
Cup tray	Cleaning	11.2.1.5	Washing agent, rag
Case (from the outside)	Cleaning	---	Damp cloth
Milk container (for FRESH MILK only)	Cleaning	11.2.1.6	Washing agent, rag

Weekly

Component	Operations	Manual section	Means
Milk flow meter (for FRESH MILK only)	Disassembling and cleaning	11.2.2.1	Damp cloth
Check valve (for FRESH MILK only)	Disassembling and cleaning (only as appropriate)	11.2.2.2	Cleaning solution
Containers for soluble ingredients	Cleaning of all individual parts	11.2.2.3	Washing agent, rag
Coffee container	Cleaning	11.2.2.4	Washing agent, rag
Mixer assembly	Disassembling and cleaning	11.2.2.5	Washing agent, rag
Cappuccinatore	Disassembling and cleaning	11.2.1.6	Washing agent, soft bottle-washing brush



11.2.1 Daily operations

11.2.1.1 Espresso group

1. Open the vending machine door
2. Remove the coffee residues from the upper part of the espresso group by using a brush.

11.2.1.2 Milk system (FRESH MILK option)



ATTENTION! The regular milk system cleaning should be realized at the interval no less than 24 hours from the moment of the last cleaning!

When the set interval between the washes is coming to an end, the vending machine will show the notice about the washing need on its screen.

The time interval setting between the milk system washes is set in the program Configurator the **Coffee clean.** tab - see the manual at the web-site: www.unicum.ru. Here in the, **Time before milk cleaning, hours.** setting choose the interval from 1 to 3 hours.

If during the specified time no sales of drinks with the addition of foamed milk were conducted, the vending machine pours off some milk to the drop tray to avoid milk stagnation in the system. This measure permits preventing the formation of sour milk.



ATTENTION! If during one hour after the appearance of the notice the vending machine wasn't washed, then all the drinks with the addition of fresh milk will be blocked!

Washing means

Milk system washing should be realized by using the special washing agent. It's a concentrate for dissolving in water (**in ratio 30 ml of the agent and 500 ml of water**).

It's recommended to conduct washing by using the solution, prepared from the following concentrates: Franke Milchreiniger, Specialcleaner for milksystems (Schulz&Sohn GmbH).

If the vending machine was switched off with the milk system filled with milk and was at the standstill for more than 24 hours, then the mechanical removal of coagulated milk from tubes, valves, flow meter and cappuccinatore may be required. It's recommended to soak the system components in a washing solution for **10 min.**

Before washing prepare:

1. The washing solution of 500 ml (0.5 l) (**in the ratio of 30 ml of the concentrate and 500 ml of water**).
2. Empty the container for liquid wastes.
3. Prepare the container with pure potable water of 350 ml (0.35 l).



ATTENTION! Cleaning agents may cause eye and skin irritation. Store the cleaning agents in a safe place. If cleaning agents come in contact with eyes rinse the eyes thoroughly and consult a doctor.

**Washing operations:**

1. Switch the vending machine off by turning the switch at the rear wall to the “0” position.
2. Open the door.
3. Get the milk supply tube from the milk container.
4. Empty the container for liquid wastes.
5. Place the container for liquid wastes under the cappuccinatore.
6. Insert the service key into the door trip (see section 3.2).
7. Switch the vending machine on by turning the switch at the rear wall to the “I” position.
8. Wait for the vending machine boilers to heat up, this may take some time.
9. When you see the inscription **Make a selection** on the screen you may proceed to the milk system washing.
10. To wash the milk system put the milk supply tube into the container with water.
11. Press the **[Flushing]** button on the inner surface of the vending machine door (see fig. 5.2 pos. 10 and fig. 6.2).
12. Using the highlighted beverage selection buttons, select item **[Clean fresh milk]**. Then select **[Full cleaning]**.

Note: Here you can also choose **[Short cleaning]**. See description in the note below.

13. Confirm the selection by pressing the touch button for selecting the drink corresponding to the value enter (see section 6.4).
14. Follow the instructions on the vending machine screen:

- when the **Cleaning by water** inscription appears – the vending machine washes milk residues from the system (the system will be flushed by 100 ml of water).

- upon completion of the previous operation, the **Prepare cleanser** inscription appears – put the milk supply tube into the washing solution and press **YES**.

- the **Cleaning by cleanser** inscription appears – the vending machine washes the system by 225 ml of washing agent.

- the **Prepare cleanser** inscription appears – in 1 minute the confirmation of the operation becomes available, press **YES** again.

- the **Cleaning by cleanser** inscription appears – the vending machine flushes the system with the remainder of the washing agent. The system will be flushed by another 225 ml of washing agent.

- upon completion of the previous operation, the **Prepare water** inscription appears – put the milk supply tube into the container with water and press **YES**.

- the **Cleaning by water** inscription appears – the vending machine washes the residues of the washing agent from the system away. The vending machine will flush 250 ml of water, washing the residues of the washing agent away.

- upon completion of the previous operation, the **Prepare milk** inscription appears – put the milk supply tube into the container with milk and press **YES**. **Make sure that there's no washing solution on the tube external surface. Remove the residues by clean damp cloth and wipe dry as appropriate.**

If the cancel button is pressed, the washing cycle is finished. If not washing the system in time, the vending machine will generate an error. The following inscription will be shown: HOT NO FRESH MILK.

Drinks with fresh milk will become inaccessible!



15. The vending machine milk system is washed and filled with fresh milk.
16. Switch the vending machine off by turning the switch at the rear wall to the "0" position.
17. Take out the service key.
18. Clean the cappuccinatore by following the instructions as appropriate (Cappuccinatore cleaning – see below).
19. Close the vending machine door.
20. Switch the vending machine on by turning the switch at the rear wall to the "I" position.
21. The vending machine is ready for operation.

Note: The **Fast Clean Fresh** milk button is recommended for use in vending machines with a check valve for filling the system with milk after conducting the "full washing", so that the first portion after the washing had no milk with water. Washing operations (see above) has no items for a washing agent.

11.2.1.3 Waste containers (see fig. 11.2)

1. Open the vending machine door
2. Raise the bracket with nozzles for drinks slightly
3. Remove the containers with water surplus and coffee wastes by pulling on
4. Empty the containers
5. Thoroughly wash the containers by warm water with a washing agent
6. Wipe the containers dry and install them back into the vending machine

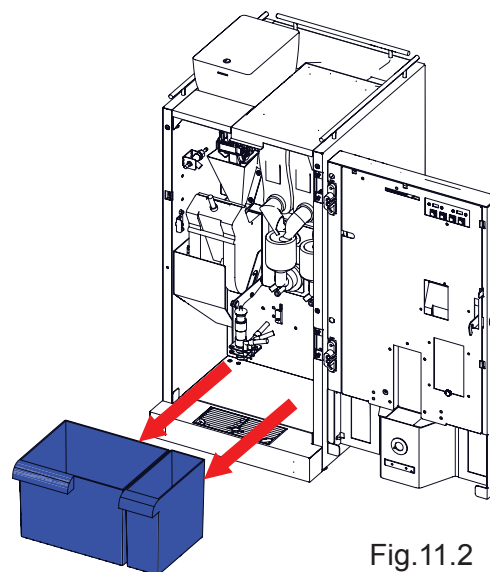


Fig.11.2

11.2.1.4 Drop tray and tray grill (see fig. 11.3)

1. Open the vending machine door
2. Remove the drop tray by pulling it on
3. Remove the grill from the tray casing, by inserting your fingers in the special openings in the corners of the grill
4. Clean the tray and grill by a rag, brush and washing agent of spilled drinks residues
5. Wipe the grill and tray and install them back into the vending machine

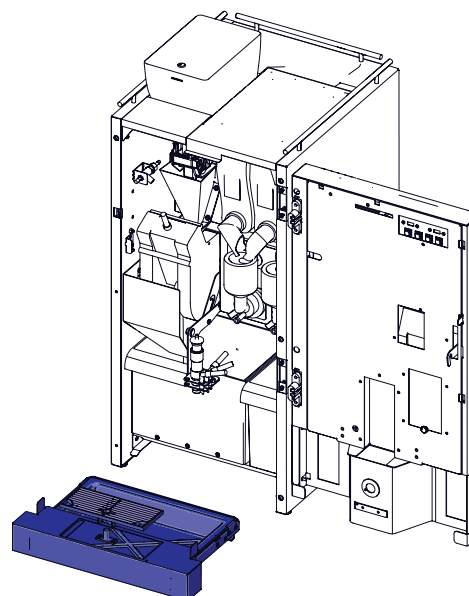


Fig.11.3

11.2.1.5 Cup tray (see fig. 11.4)

Clean the tray of dirt by using a rag and washing agent.

11.2.1.6 Milk container (for FRESH MILK only)

1. Open the cooler door
2. Remove the milk container, pulling out the supply tube
3. Empty the container
4. Clean the container thoroughly with a rag and washing agent and wash the container with clean water
5. Fill the container with fresh precooled milk
6. Place the container back into the cooler and put in the supply tube

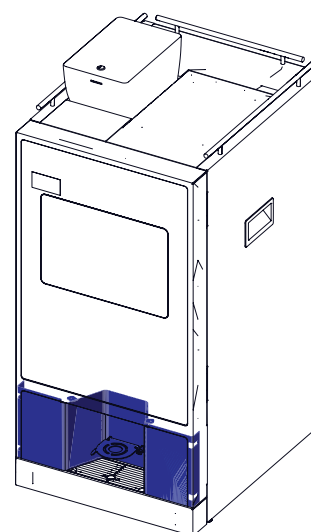


Fig.11.4



11.2.2 Daily operations

11.2.2.1 Milk flow meter (FRESH MILK option)



ATTENTION! Conduct flow meter cleaning at least once a week!

1. Switch the vending machine off by turning the switch at the rear wall to the "0" position.
2. Open the door.
3. Disconnect the milk circuit (1 and 2) from the flow meter (see fig. 11.5).

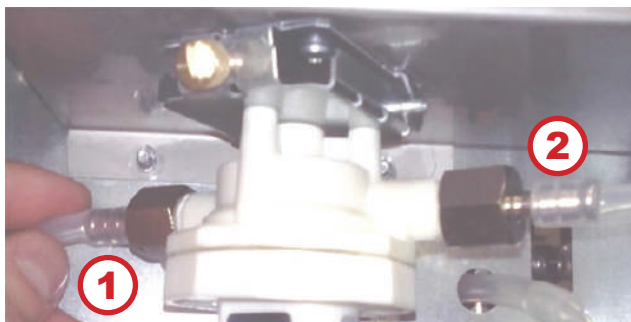


Fig.11.5

4. Remove the screw (3) (see fig. 11.6).

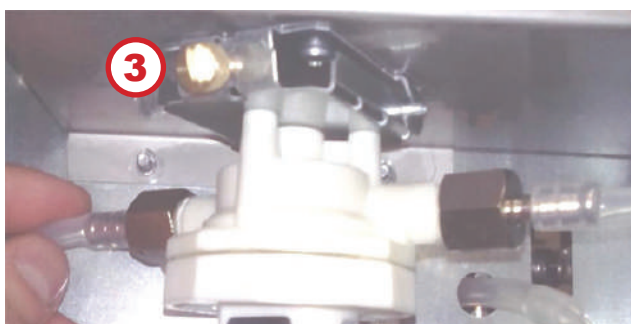


Fig.11.6

5. Disconnect the connector (4) (see fig. 11.7).

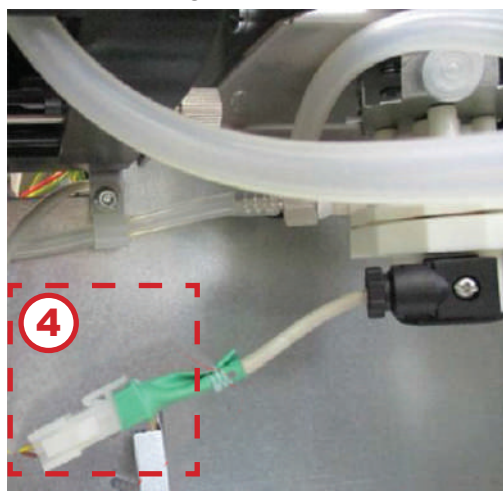


Fig.11.7

6. Turn the flow meter cover all the way out and remove it from the case (see fig. 11.9 and fig. 11.10).

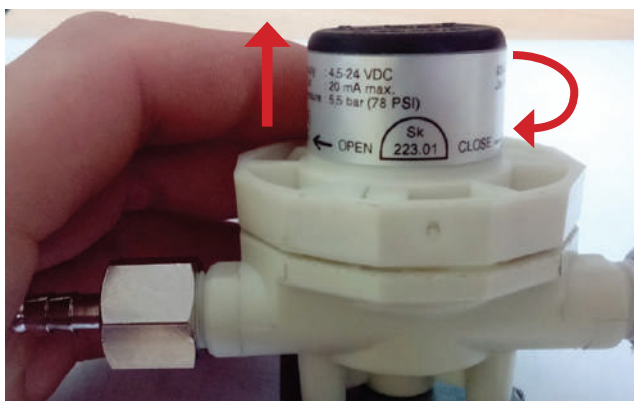


Fig.11.8

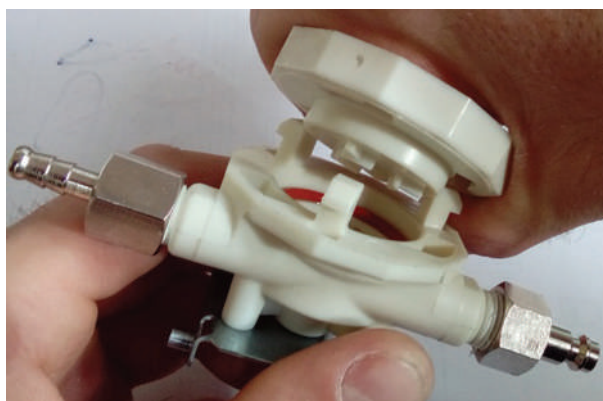


Fig.11.9

7. Clean the flow meter inside parts (see fig. 11.10)

- case -1
- gasket - 2
- impeller - 3

These items can be washed by water flowing from a tap.

It's **PROHIBITED** to wash the cover (4) in flowing water or submerge in water! Clean the cover with damp cloth.

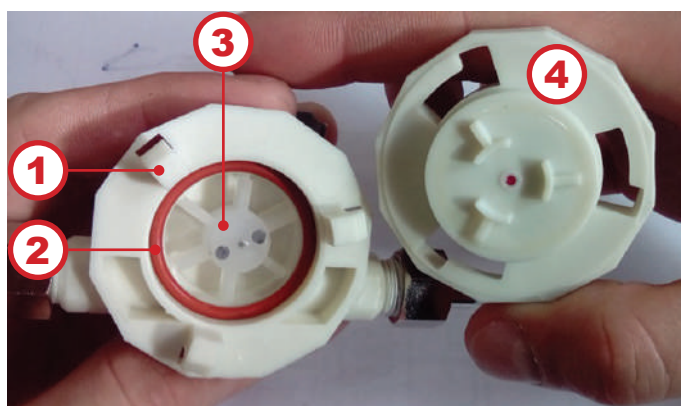


Fig.11.10

8. After cleaning the flow meter, assemble it in the reverse order. Then mount the flow meter on the vending machine and connect it in accordance with the hydraulic circuit.



11.2.2.2 Check valve (FRESH MILK option)

If constantly washing the milk system by using the special agent the separate washing of the check valve is not required.

The valve case is semitransparent, so one can see if the cultured milk product is formed inside the valve.

To wash the clogged valve prepare the washing agent solution and soak the valve in the washing solution for 2-3 hours.

It's recommended to conduct washing by using the solution, prepared from the following concentrates: Franke Milchreiniger, Specialcleaner for milksystems (Schulz&Sohn GmbH).

After the washing connect the valve to the hot water supply tube by replacing the nozzle with the valve. Then flush the valve by the hot water flow from the vending machine. The arrow on the valve should be pointed in the direction of the water outflow.

Note: This is an "emergency" method. There's no need to adopt this method for everyday check valve washing as part of the milk circuit.

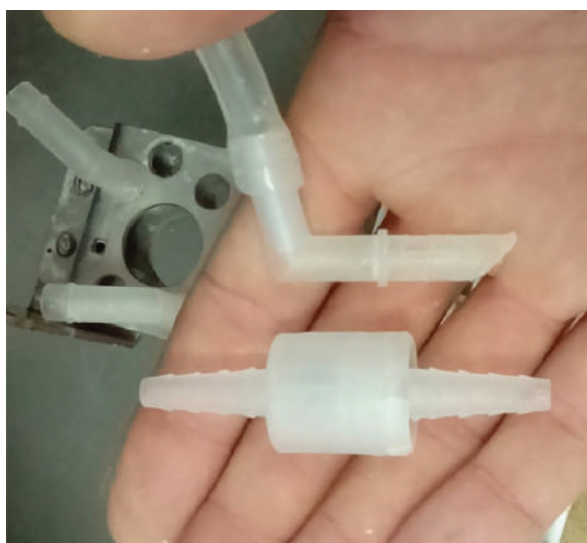


Fig.11.11



Fig.11.12

11.2.2.3 Containers for soluble ingredients (see fig. 11.13)

1. Open the vending machine door.
2. Raise the upper vending machine cover to gain access to the containers.
3. Remove the containers from the vending machine (see section 5.5).
4. Empty the containers.
5. Clean the containers by hot water with a washing agent. Then rinse the containers with hot water.
6. Dry the containers thoroughly, wiping them dry with disposable towels. Make sure that the containers are completely dry.
7. Place the containers back into the vending machine.
8. Load the containers with soluble ingredients (see section 5.5).

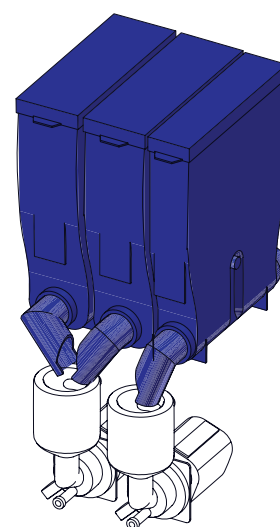


Fig.11.13



11.2.2.4 Coffee container (see fig. 11.14)

Clean the coffee container once a week.

1. Open the vending machine door.
2. Remove the cover by opening the container lock.
3. Remove the container from the vending machine (see section 5.5).
4. Empty the container.
5. Clean the container by hot water with a washing agent. Then rinse the containers with hot water.
6. Dry the container thoroughly, wiping it dry with disposable towels. Make sure that the container is completely dry.
7. Place the container back into the vending machine.
8. Load the container with coffee beans (see section 5.5).

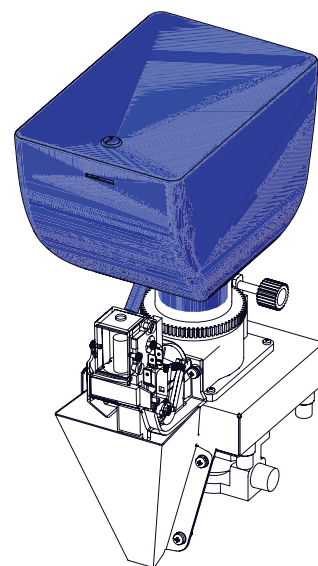


Fig.11.14

11.2.2.5 Mixer (see fig. 11.15)

1. Open the vending machine door.
2. Conduct the mixer removal operations (see section 5.10).
3. Clean: mixer funnel lid, mixer funnel, mixer impeller (not shown in the figure) by using hot water and the washing agent. Then rinse independent parts of the mixer by water and dry them thoroughly.
4. Assemble the mixer in reverse order and put it back into the vending machine (see section 5.10). Make sure that the mixer is installed correctly.

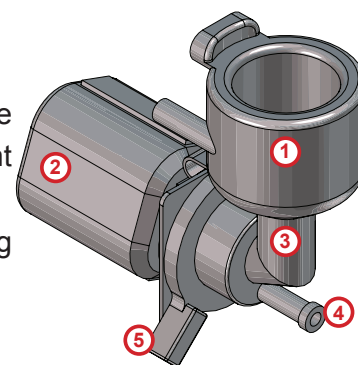


Fig.11.15

1. Mixer funnel lid
2. Mixer motor
3. Mixer funnel
4. Drink give out tube adapter
5. Mixer funnel lock

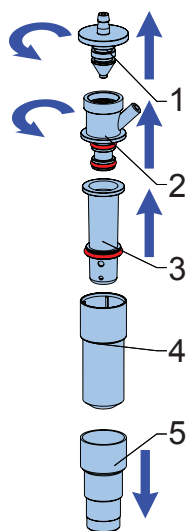


11.2.1.6 Cappuccinatore (FRESH MILK option)



ATTENTION! The cappuccinatore washing should be conducted at least once a week or oftener, depending on the service conditions!

1. Switch the vending machine off by turning the switch at the rear wall to the "0" position.
2. Open the door.
3. Remove the cappuccinatore from the vending machine carefully, by disconnecting the steam and milk supply tubes.



4. Disassemble, clean and assemble the cappuccinatore (see fig. 11.2):

- by simultaneously turning and pulling on the part (1);
- then simultaneously turning and pulling on the part (2);
- separate the parts (3, 4 and 5);

wash all cappuccinatore parts by flowing warm water.

5. The cappuccinatore assembling is conducted in the reverse order.
6. Install the cappuccinatore into the vending machine and connect it in accordance with the hydraulic circuit.

Note: It's permissible to use the washing agents applicable for plastic tableware.
It's permissible to use soft bottle-washing brushes.

Fig.11.16 - Cappuccinatore



11.3 Ingredients weighing

To ensure precise ingredients dosage it's necessary to conduct periodical weighing of the ingredients, used for making drinks.

Ground coffee dosage weighing (not INSTANT):

1. Remove the espresso group (see section 5.9)
2. Place a container under the dosing unit funnel
3. Enter the menu technician (see the Manual) and select **[1.9.7.4.5 Test coffee powder]**
4. Conduct the coffee weighing

Note:

1. To conduct more correct measurement make **5 - 10 weighings** and calculate the mean.
 2. Setting the dosing unit cam into position 5 or 6 without the brewing camera volume increase is **PROHIBITED - THIS MAY LEAD TO ESPRESSO GROUP BREAKAGE!**
- Setting the dosing unit cam into position 7 or higher is STRICTLY PROHIBITED under any conditions!!!**

Soluble ingredients dosage weighing:

1. Remove the lid of the mixer, located under the container with the verified ingredient.
2. Place a container under the container with the ingredient.
3. Enter the menu technician (see the Manual) and select **[1.9.6 BEVERAGES]**
4. Use the buttons of the touchpad to set the number of the drink for which the curtain is made.
5. Select **[1.9.6.9 Test powder sel.]**
6. Conduct the ingredient weighing.



12.0 VENDING MACHINE WASHING

To wash the drink making and pouring systems:

Method #1

1. Open the vending machine door.
2. Insert the service key into the door trip.
3. Press the **Flushing** button on the service keypad (see fig. 5.2 pos. 10 and fig. 6.2).
4. The flush menu appears on the display. (see table below).
5. Select the desired menu item for flushing

Method #2

1. Open the vending machine door.
2. Insert the service key into the door trip.
3. Press the Menu technician or Operator menu button on the quick access keypad (see fig. 5.2 pos. 10 and fig. 6.2).
4. Choose the **Cleaning** section from the corresponding menu.
5. The flush menu appears on the display. (see table below).
6. Select the desired menu item for flushing

MENU ITEM	DESCRIPTION
Cleaner	Automatic mixer wash settings.
Clean All	Cleaning the drink preparation and dispensing systems
Clean Solubles	Start flushing of instant drink dispensing system
Clean Coffee	Start flushing the ground coffee feed system
Clean soluble 1	Start washing the first soluble
Clean fresh milk	Start flushing the fresh milk supply systems (only FRESH MILK).
Full cleaning	Only for machines with fresh milk. Start full washing of the milk system.
Short cleaning	Only for machines with fresh milk. Start a short rinse of the dairy system without the use of a detergent.
Clean soluble 2	Start washing the second soluble.
Clean soluble 3	Starts washing the third soluble.
Clean soluble 4	Starts washing the fourth soluble.



13.0 WORKING WITH USB FLASH DRIVE

The machine's Regulator allows Machine's configuration, software updates and data recovery by exchanging files using a USB drive (flash drive).

The drive is connected to the USB MB connector, located on the vending machine door inner surface (see fig. 5.2 pos. 10 and fig. 13). The connection should be made when in vending mode.

When you connect the USB drive the Machine's screen will show relevant information about the drive.



Fig.13.1 - Connector USB



To work with the machine is only suitable USB-flash drives! Disk drives and flash drives are not supported. Supports USB-flash drives with FAT16 or FAT32. Other file systems (including NTFS) not supported!

Information that can be read on the USB-flash drive with the machine:

Statistical data (Audit): Information about the Machine's operations, sales, equipment functioning and logs. Stored in a file format EVA-DTS, file name: Axxmmddi.DTS. If the Machine's clock's not working the file name will be Axx_i.DTS.

- xx = 2 last two digits of the serial number, set in the Technician's menu.
- mm = Month (if date and time are set for the Machine)
- dd = Day (if date and time are set)
- i = digit from 0 to 9. You can save up to 10 files with different names in 24 hours.

To read the information you want to insert USB-flash drive into the connector of the controller board in the trade regime and approve the request: **Save audit?**

The current configuration: File format EVA-DTS. File name: Cxxxxxxx.DTS, C then the 7-digit serial number of the machine, specified (for example: C0000123.DTS).

This file contains equipment configuration information, as well as information about the names, placements and prices of products.

The configuration file may include the user images of drinks, which were loaded by using the Planogram menu. Check the image to activate **Images are imported**.



To read the information open the vending machine door, insert the service key into the door trip, insert the USB flash drive into the USB connector (see fig. 13) when in vending mode and confirm the request on the **Save configuration file to USB?**

Information that can be downloaded from the USB-flash drive into the machine:

Configuration of a certain Machine: The EVA-DTS format file. File name: Cxxxxxxx.DTS, with 7-digit vending machine serial number, specified in the menu technician General - Machine number setup section. E.g.: C0000123.DTS. The file will be loaded into the vending machine only if it matches the number specified in the Vending machine number setting and in the file name. This will permit loading different configurations for different vending machines from the same USB flash drive.

To download the information you want to insert USB-flash drive into the connector of the controller board in the trade regime and approve the request: **Load Configuration?**

General configuration: File format EVA-DTS. File name: CONF_GEN.DTS.

To download the information you want to insert USB-flash drive into the connector of the controller board in the trade regime and approve the request: **Load Gen. Config.?**

Software updating: To update the vending machine software go to the manufacturer's website <http://www.unicum.ru/en/> into the **SUPPORT** section and choose the technical documentation for the required vending machine model. Then choose the Machine Firmware. The automatic downloading of files to the PC will start. The files are downloaded as an archived folder. To record the files to the USB flash drive, decompress the folder first and then save the folder contents in the root directory of the USB flash drive. In the archived folder, there are the files for software update with explanatory text files.

To update the vending machine software insert the USB flash drive with saved files to the USB connector (see fig. 13). When these files are detected by the controller, the message asking for software updating will appear. To download the power board must approve the request: **Load Hot Firmware?**

To download the software of the main board machine must approve the request:: **MainBoard FIRMWARE?**

Editing configuration files, and view audit files by using a special program "Unicum Vending Machine Tools, which can be downloaded here: <https://uonline.unicum.ru/ef/tools/uVMTools.msi>



APPENDIX A - HYDRAULIC CIRCUIT FUNCTIONAL CHECK METHOD

The vending machine hydraulic circuit is a set of assemblies and pipes, meant for making and giving out of drinks.

The hydraulic circuit principle of operation is the following:

When connecting the vending machine to the water supply network, water is supplied through the water supply solenoid valve.

When connecting the vending machine to the autonomous water supply system from canisters/bottles - water is pumped into the hydraulic circuit by using the delivery water pump.

Then water is supplied via the tubes to the vending machine float chamber and water filter, water meter and water pump into the boiler.

In the FRESH MILK option water is supplied via the tubes to the vending machine float chamber and via the water filter to the splitter, where it's split into two lines: the first one is via the water meter and water pump into the boiler, and another one – via the water pump into the steam boiler.

The boiler heats the water up to the required temperature and then depending on the chosen drink it is supplied to one of the four boiler channels: to espresso group, (Coffee) mixer (for NERO INSTANT), (Chocolate/Milk) mixer, (Vanilla) mixer, or directly to the output nozzle (when choosing the hot water), where the mixing with the required ingredient and giving out of the chosen drink to the customer via the output nozzles occurs.

In the steam boiler water is heated up to steam condition and then via the steam supply valve (the valve has to positions – open/close) is supplied to the cappuccinatore, where milk is also supplied. In the cappuccinatore, the milk foaming occurs with subsequent foam supplying into a drink.

Excess water and steam (FRESH MILK option) are supplied to the waste container.

Since the vending machine hydraulic system uses hot water under certain pressure, the essential condition for providing safe and dependable operation of the vending machine is the successful operation of the hydraulic system, which should be regularly checked in accordance with methods, specified in the appendix, and follow all the requirements put down in this manual.

The vending machine hydraulic system operation check should be executed with the open door with the inserted open door trip.

Before starting the vending machine for the first time visually check that all the hydraulic circuit elements are securely interconnected, and water supply connection parameters correspond with the parameters, specified in this manual. Failure to follow these requirements can lead to vending machine breakdown.

When starting the vending machine for the first time visually check the system has no leaks.

Pay particular attention to the boiler and steam boiler (FRESH MILK option) because these units heat water to high temperatures.

Visually check that there are no leaks at the boiler joints, otherwise the further operation of the vending machines until the malfunction repair is PROHIBITED.

The boiler and steam boiler (FRESH MILK option), used in the vending machines, are meant for safe operation with the rated pressure much higher than the operating pressure.

For safe boiler maintenance and repair, the vending machine should be disconnected from mains, and water should be drained from the hydraulic system in accordance with this manual.

DISMANTLING THE BOILER BEFORE IT'S FULLY DRAINED IS PROHIBITED!

Boilers installed in the vending machines should undergo detailed examination, conducted in two stages:

Stage #1 - the examination is conducted on "cold boiler", the boiler should be disconnected from the system. On this stage, the boiler is thoroughly inspected to eliminate the facts of corrosion, erosion, deformation, cracks and other external defects.

Stage #2 - the examination is conducted on "hot boiler", the boiler should be connected to the system. The vending machine should be connected to the water and electrical supply and switched on.

The examination should be executed by using the soapy water for clear identification of leaks in case of their detection. After such examination, flush the hydraulic circuit several times in accordance with this manual.



At this stage, the boiler operation in the system, together with safety elements are thoroughly inspected.

To prevent scale formation on the boiler heating element, which may lead to vending machine breakage, flush the vending machine system by special anti-scaling agents that are suitable for vending machines at least once a month or oftener, depending on the characteristics of water, used in the vending machine.

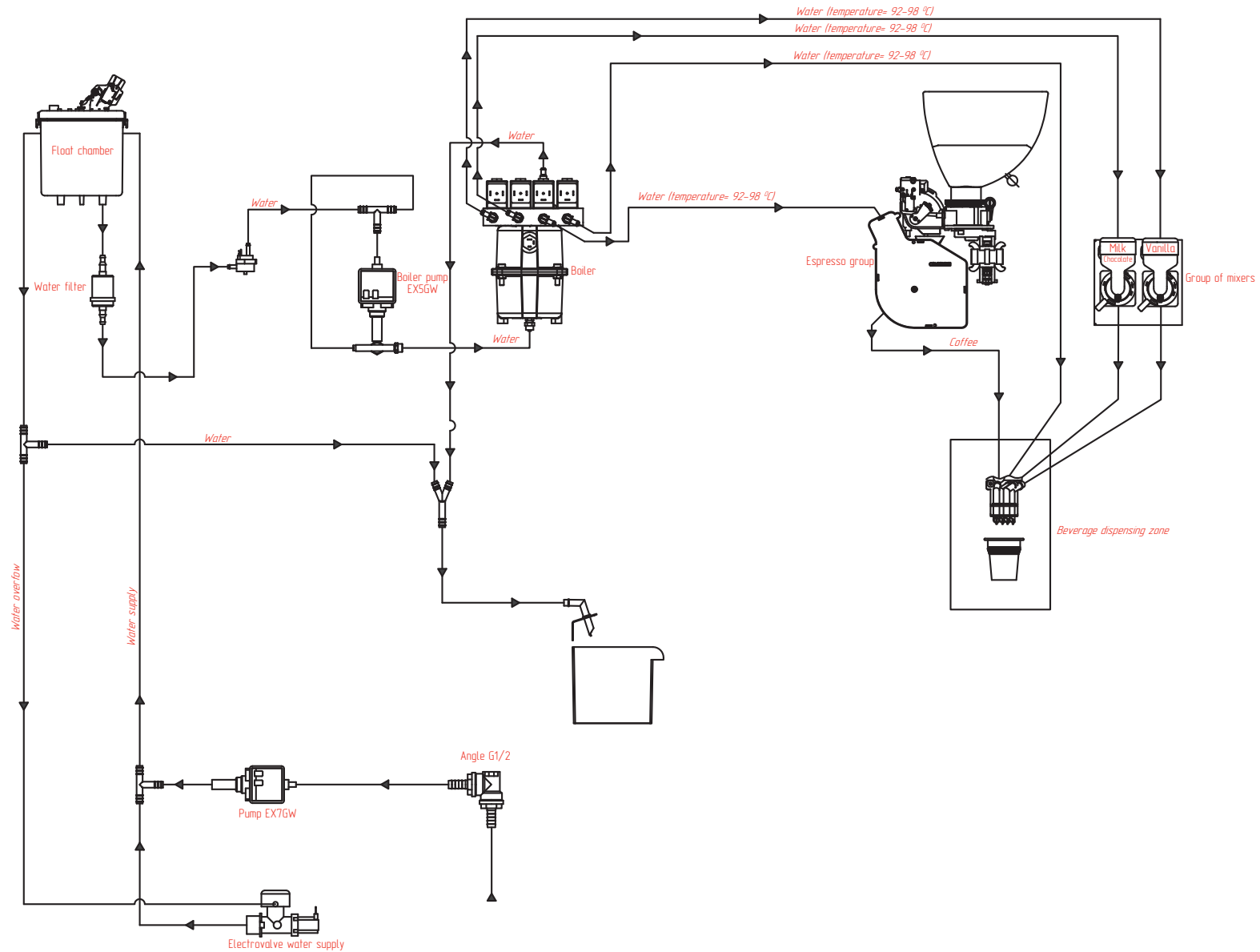
The vending machine operators should undergo appropriate training for conducting maintenance and working with the vending machine hydraulic system, as well as understand all hazards that may arise from incorrect vending machine use.

The system is considered operable if the following conditions are fulfilled:

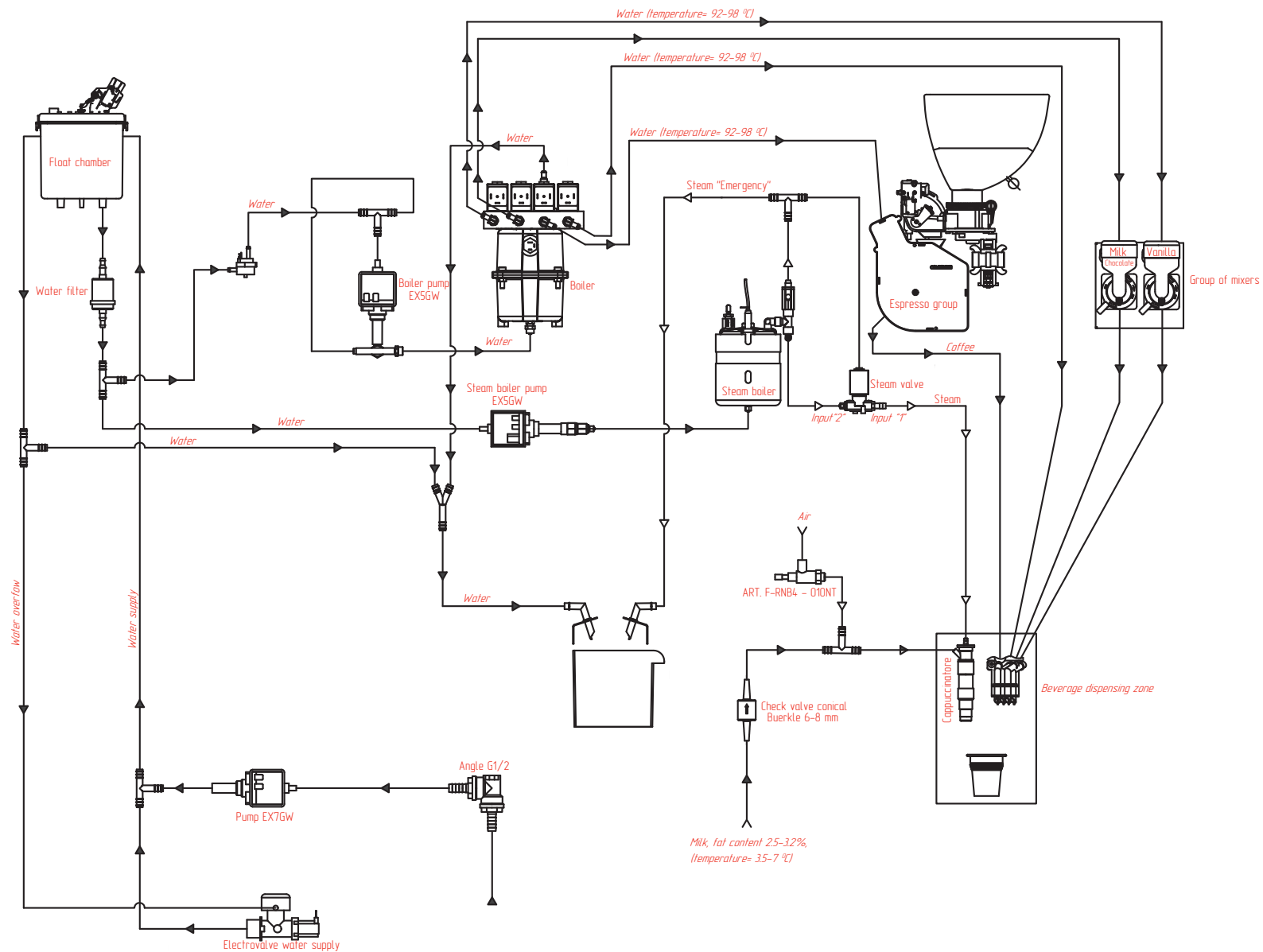
- there are no external damages, hardware and subsystem deformations;
- all connections are tight;
- after connecting the system to the water supply network or starting the vending machine the system has no leakages;
- all system components are faultless.

User manual for NERO TOUCH, NERO TOUCH INSTANT

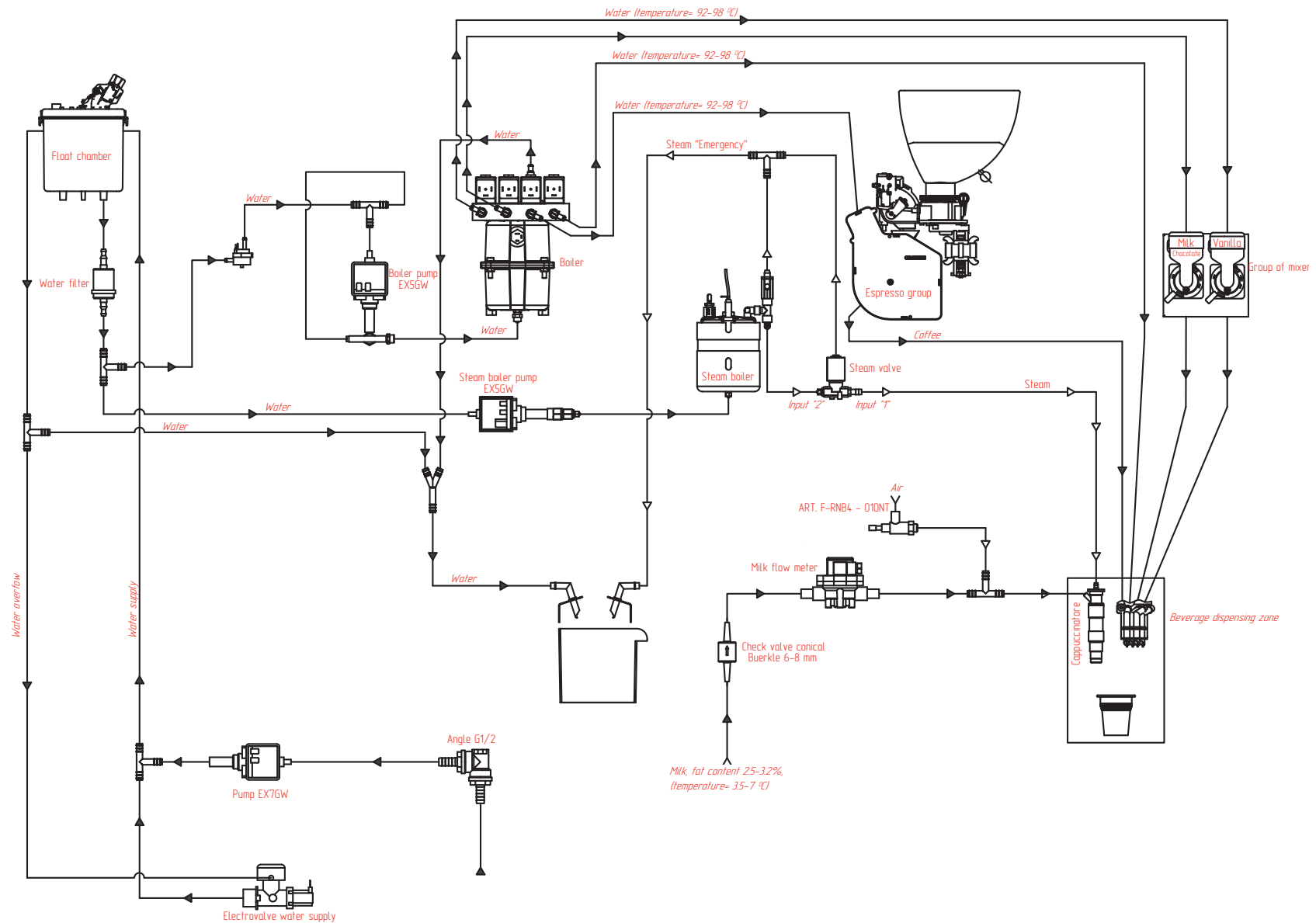
APPENDIX B.1 - HYDRAULIC CIRCUIT FOR NERO



User manual for NERO TOUCH, NERO TOUCH INSTANT APPENDIX B.2 - HYDRAULIC CIRCUIT FOR NERO (OPTION FRESH MILK)



User manual for NERO TOUCH, NERO TOUCH INSTANT APPENDIX B.3 - HYDRAULIC CIRCUIT NERO (OPTIONS FRESH MILK, MILK FLOW METER)



User manual for NERO TOUCH, NERO TOUCH INSTANT

APPENDIX B.4 - HYDRAULIC CIRCUIT FOR NERO INSTANT

