unicum™

DRINKS VENDING MACHINE

models NERO, NERO INSTANT

USER MANUAL

English

Version 3.2 / December 2017

Document change log

Version	Date	Brief description	Pages
3.0	07.2015	Document creation	All
3.1	08.2015	Update information on the lock door machine	10
3.2	12.2017	Section 7.0 - added (Air fine tuning valve adjustment)	67

COMPLIANCE DATA

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

Directive / Standard	Description
2004/108/EC	Electromagnetic compatibility
2006/95/EC	Low-voltage equipment

The drinks vending machines models NERO and NERO INSTANT are compliant with following requirements of the Technical Regulations of the Customs Union, listed in the table:

Code	Description
TR CU 004/2011	Technical Regulation of the Customs Union 004/2011 “About the safety of low-voltage equipment”
TR CU 010/2011	Technical Regulation of the Customs Union 010/2011 “About the safety of machines and equipment”
TR CU 020/2011	Technical Regulations of the Customs Union 020/2011 “Electromagnetic compatibility of machines”

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CONTENTS

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!

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.

2.0 SAFETY

2.1 Main provision

- Before the installation and usage of the vending machine, it is necessary to carefully read and understand all the instructions, contained in the current manual, because they embody important information regarding safety of the unit, its operations and technical servicing.
- The vending machines should not be subjected to negative temperatures during operations and storage.
- These vending machines should not be installed in open air.
- The vending machines should be installed and if necessary repaired only by qualified personnel, who have undergone training to handle the machines and their constituent parts and are proficient in safety procedures. The vending machines should be connected to water supply and power supply in conformity with the applicable rules (standards) of the country in which they are installed.
- The vending machines should be installed on an even surface, where the angle of vertical inclination should be less than 2^{o}. You can use the adjustable pegs of the machine to achieve desired vertical inclination. These pegs are included in the machine's base configuration.
- The vending machines should be connected only to protected power supply with earthing.
- The power plug of the machine should be approachable (accessible) after the machine has been installed.
- If the power cable would be damaged, it should immediately be replaced. It is strictly PROHIBITED to use the vending machine with damaged power cable!
- The vending machines should be cleaned, filled and installed only by qualified personnel.
- It is strictly prohibited to clean the vending machine using a water jet and the machines should not be installed in locations, where water jets are used (for example in the kitchens).
- You should always use genuine spare parts.

ATTENTION: Do not touch the power plug with wet hands and do not insert it into the socket if the plug is wet!

ATTENTION: Please check the quality of drinking water used in the vending machine. The vending machine must be connected to the water supply according to the instructions issued by the competent authorities and in accordance with local rules!
Please make sure that the voltage in the power mains is compliant with the permissible value indicated on the machine's specification plate!
Please wash the vending machine before putting it to use!

- Regularly clean the vending machine, to adhere to the hygienic safety rules.
- Please only use washing materials, permitted for use in food preparation areas, to clean the vending machine's body.
- Make sure that the vending machine is OFF before starting technical service or repair.
- It is strictly prohibited to cover the vending machine with fabric or any other such material.
- Each vending machine is identified by the serial number inscribed on the specification plate, which is fitted on the rear wall of the machine. The specification plates carries all the technical details of the machine.

ATTENTION: This vending machine only be used inside covered premises!

3.0 PURPOSE

The NERO and NERO INSTANT drinks vending machines are designed for the preparation and sales of:

- Hot drinks using coffee beans (Model NERO);
- Hot drinks using instant coffee (Model NERO INSTANT);
- Hot drinks made of instant ingredients;
- Hot water.

The ingredients that you use for making the drinks, must be declared by the ingredient manufacturer as fit for use in open containers.

3.1 Technical features

Parameters	NERO	NERO INSTANT
Height (A), maximum	800 mm	800 mm
Width (B), maximum	385 mm	385 mm
Depth (C), maximum	495 mm	495 mm
Weight, maximum	55 kg	55 kg
Voltage	220 - 230 V	220 - 230
Power frequency	50 Hz	50 Hz
Power consumption (max)	1800 W	1800 W
Consumption of electricity per day, when surrounding air temperature is 22^{0}C and making 40 drinks (each 100ml), maximum permissible (*)	3 kWh	3 kWh
External water supply		
Water pressure, minimum	0.5 bar (0.05 MPa)	0.5 bar (0.05 MPa)
Water pressure, maximum	8.5 bar (0.85 MPa)	8.5 bar (0.85 MPa)
Connection to water supply line	G 3/4"	G 3/4"
Internal water supply		
Hardness	0.9 - 1.0 mgeq/l	0.9 - 1.0 mgeq/l
Calcium	18 - 20 mg/l	18 - 20 mg/l
Number of containers		
Coffee bean container	1 pcs	-
Instant ingredients container	3 pcs	4 pcs
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

*) The estimated power consumption indicators are average numbers and are shown only as reference points;
**) The quantity of ingredients can be different from the one shown depending on the specific weight of the ingredient.

3.2 Configuration options

NERO

NERO INSTANT

3.3 Transportation and storage

All transportation and storage procedures should be executed very carefully to avoid damaging the vending machine. All the operations related to lifting and displacement of the vending machine should be executed using a fork lift. The forks of the lift should be slipped under the vending machine at the spots indicated on the machine's packing.

The following should be observed during the vending machine's transportation:

- The vending machine should be transported only in the original packing;
- The vending machine should be transported in strictly vertical position;
- The vending machine should not be tilted and turned or flipped over;
- It is not permissible to shake the machine or its packing;
- It is not permitted to lift the vending machine, pushing on the side panels;
- It is not permissible to lift the vending machine using ropes, cables etc.

The vending machine should be stored in dry premises where air temperature is in the range of 1 to 40^{O}C and level of humidity is no more than 80%.

It is prohibited to stack the vending machines on top of each other in storage. The vending machines should be stored in vertical position in original packing.

3.4 Installation of the vending machine

Figure 1 - Machine in the package

The ROSSO and ROSSO INSTANT vending machines cannot be installed in open air. The vending machines should be installed in dry premises with temperatures ranging from 10^0 to 30^0 C.

The vending machine can be installed on a table or any other suitable stand (it is recommended to use NERO or NERO with payment systems stand to install the machine). If needed please level the vending machine with the help of the adjustable pegs.

The vending machine should be installed at a distance of 5cm from the wall to provide for sufficient ventilation.

It is prohibited to cover the vending machine with fabric or any other such material.

The vending machine must not have a vertical tilt of more than 2^0.

Remove machine packing, take the master-key, program the machine's lock with it, then open the door with the functional key (the key is fixed with a plastic band to the cover of the machine by the cup retainer) – (see section 3.5.15).

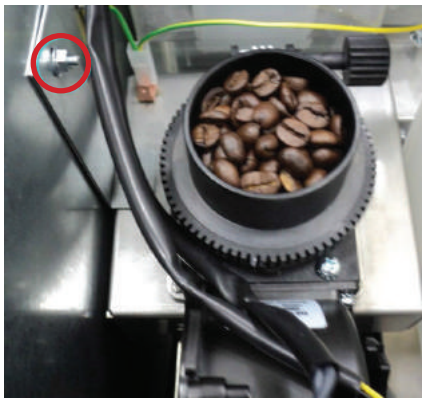


Figure 2 - Removal of the transportation bracket

The vending machine's inner components are all wrapped in packing. Before turning the machine ON please make sure that all of the packing materials have been removed.

For NERO: Before putting to use please remove the transportation bracket, which holds the coffee grinder unit, by loosening the not, shown in figure 2.

ATTENTION: 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 breakdowns and failures.

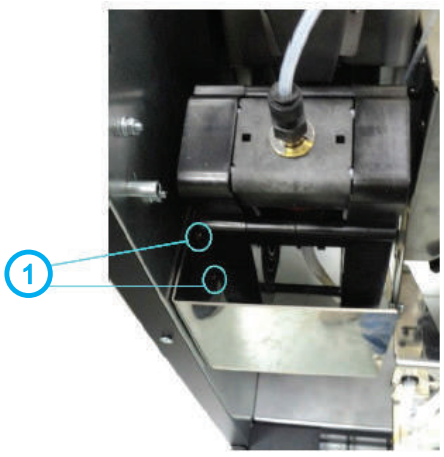


Figure 3 - Installation of baffle plate

After removing the transportation bracket, install the baffle plate in the NERO vending machine (se figure 4 position 1), which comes with the package.

To install the baffle plate, hang it on the bolt (see figure 3 position 1), which is situated on the left inside wall of the vending machine's body under the espresso group.

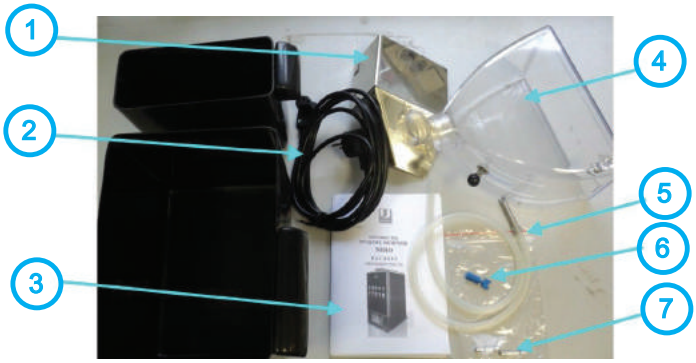


Figure 4 - Components

The components and parts, included in the machine's package are packed in the waste containers, inside the machine (see figure 4).

Figure 4 (description):

1 - Baffle plate (for NERO);

2 - Power cable;

3 - Passport vending machine;

4 - Coffee bean container (for NERO);

5 - Silicone tube with terminal (nozzle);

6 - Service key;

7 - Set of extra (spare) fuses.

The vending machine must be installed and serviced only by qualified and authorized personnel, who have undergone training to operate and service the given class of machines.

The packing materials must be utilized in accordance with the applicable laws related to environmental safety.

3.5 The vending machine's components

The NERO and NERO INSTANT vending machines come in the shape of rectangular metallic boxes of the following dimensions (max):

- Height 800 mm (for NERO);
- Height 840 mm (for NERO: with installed coffee bean container);
- Height 740 mm (for NERO INSTANT: with cup retainer);
- Breadth 385 mm;
- Depth 480 mm.

The body houses various functional units of the vending machine. There is the following equipment installed on the inner side of the door that closes the vending machine:

- Main board (controller);
- Sensor keypad board (circuit);
- Modem (optional);
- Smart Card reader (optional);
- Display.

All the equipment installed on the inner side of the door is protected by metallic casing.

3.5.1 The vending machine's exterior

Exterior look for NERO (see figure 5)

1. Coffee bean container with lock;
2. Machine door lock;
3. Cup retainer;
4. Graphic display;
5. Drink selection sensor keypad;
6. Drink disposal flow;
7. Tray

Figure 5 - Exterior look for NERO

Exterior look NERO INSTANT (see figure 6)

1. Cup retainer;
2. Machine door lock;
3. Graphic display;
4. Drink selection sensor keypad;
5. Drink disposal tray;
6. Tray

Figure 6 - Exterior look for NERO INSTANT

The following components are located on the rear outer wall of the vending machine.

Power unit with switch, fuse holder and power cable connector.

Figure 7 - Switching unit

The water inlets are located underneath:
1 - Valve nozzle for connection to water supply line;
2 - Pipe for water supply from the canisters/bottles.

Figure 8 - Water inlets

3.5.2 Internal components

a. Body

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 (see figure 9a, b).

To access the rear section of the machine it is necessary to remove the machine's rear panel (see figure 10).

Figure 9a (description):

1. Coffee grinder and dosing mechanism;
2. Espresso group;
3. Waste containers;
4. Containers for powdered ingredients;
5. Mixers;
6. Tubes for the supply of solved ingredients, coffee and hot water to the cup;

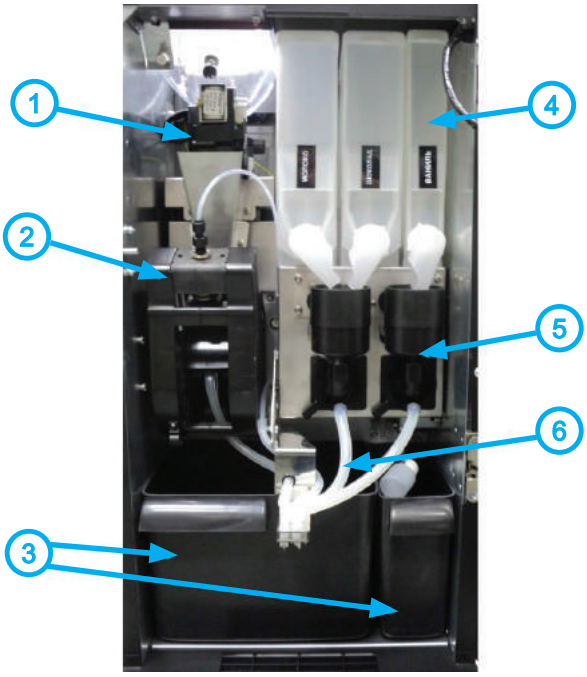


Figure 9a - Internal layout of NERO

Figure 9b (description):

1. Powdered ingredients containers;
2. Mixers;
3. Tubes for the supply of solved ingredients and hot water to the cup;
4. Waste containers.

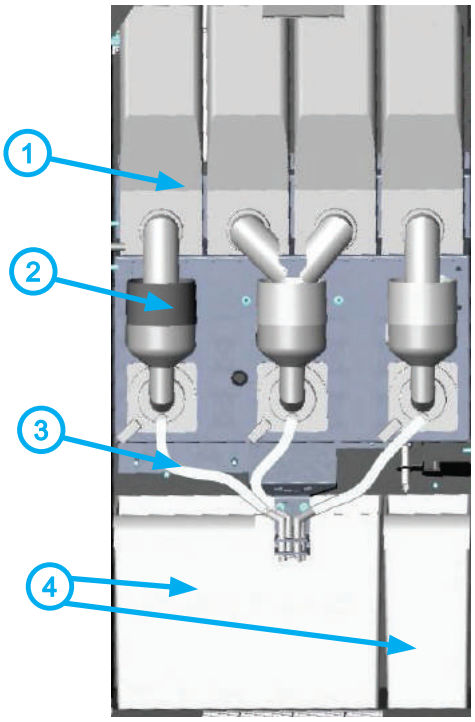


Figure 9b - Internal layout of NERO INSTANT

Figure 10 (description):

1. Power board;
2. Fan;
3. Boiler pump;
4. Pump for supply of water from the canister/bottle;
5. Valve for connection to the water supply system;
6. Toroidal-core transformer;
7. Switching unit;
8. Boiler;
9. Hot water valve.

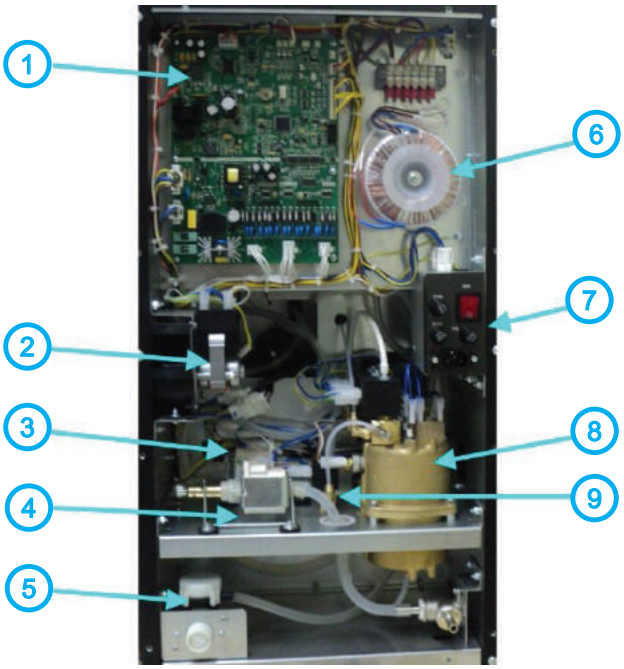


Figure 10 - Internal layout of vending machines

b. Door

The machine's door is fitted, on the outer side, with sensor keypad for selection of drinks and drink disposal section.

The regulatory (control) units are located on the inner side of the door: regulator board (controller), sensor keypad board, modem (optional), smart card reader (optional), quick access keypad, which are covered by a metallic casing.

Figure 11 (description):

1. Display;
2. Main board (controller);
3. Modem antenna (optional);
4. Quick access keypad;
5. Board touch pad selection of drinks;
6. Modem (optional).

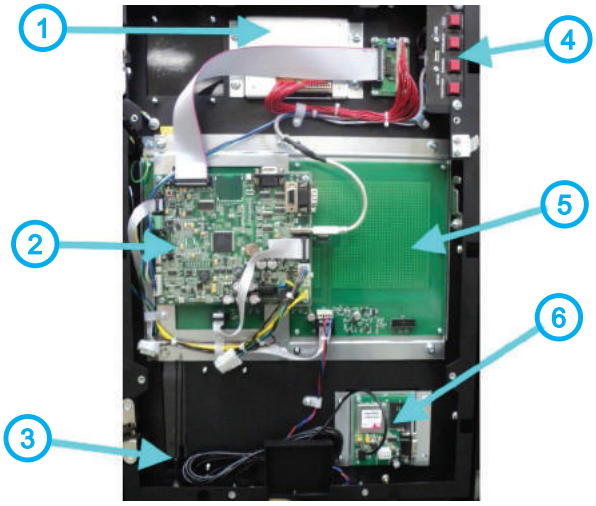


Figure 11 - Internal layout of the door

3.5.3 Open door circuit-breaker

In case of opening the vending machine's door, a special circuit-breaker cuts off the power, which runs the devices and units inside the machine. All checking, loading and cleaning operations must be performed safely. Any operations with open door, should only be performed by qualified personnel only.

To turn ON the power, with the door open, it is necessary to insert the special key (see figures 12 a, b, c) into the breaker and turn it through 90^0 until it is fixed. Please make sure to remove this key before closing the door.

Figure 12a

Figure 12b

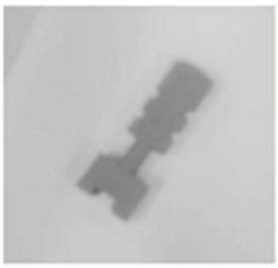


Figure 12c

3.5.4 Containers for ingredients and coffee beans

For NERO:

The NERO vending machine comes with three types of containers for ingredient storage: containers for coffee beans (see figure 13), containers for ingredients such as "Chocolate" and "Milk" (see figure 14a) and container for "Vanilla" (see figure 14b).

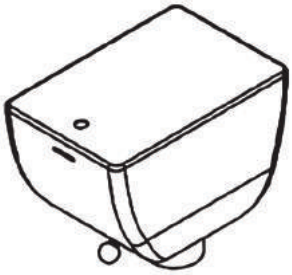


Figure 13

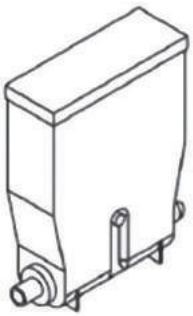


Figure 14a

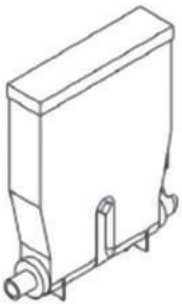


Figure 14b

For NERO INSTANT:

The NERO INSTANT vending machine comes with a single type of container for drinks preparation: ingredients containers (see figure 15).

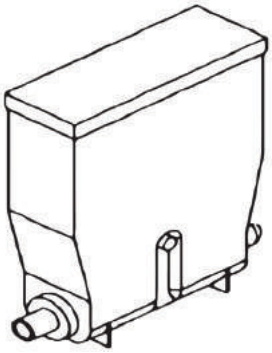


Figure 15

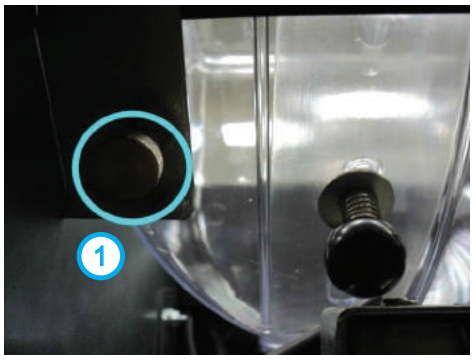


Figure 16 - Clamps of coffee bean container

To install and remove the coffee bean container (for NERO):

With open vending machine door, pull the container's clamp (1), which is located in the left upper corner of the machine (see figure 16) and holding the clamp remove the container.

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

Figure 17

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 in the ingredient.

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.

ATTENTION: 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 the coffee beans into the container (for NERO):

To fill the container remove the lid (see figure 13) from top of the container and pour in the coffee beans.

3.5.5 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 quantity of drinks made of ground coffee reaches 150, such drinks are taken offline and are no more available. To reset the waste counter, you must remove the container from the working machine for at least 10 seconds, remove the waste and replace the empty container into the machine.

3.5.6 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 figure 4 position 5), which from one end is connected to water inlet 2 (see figure 8) and from the other end of the tube is immersed into the source of water (canister/bottle).

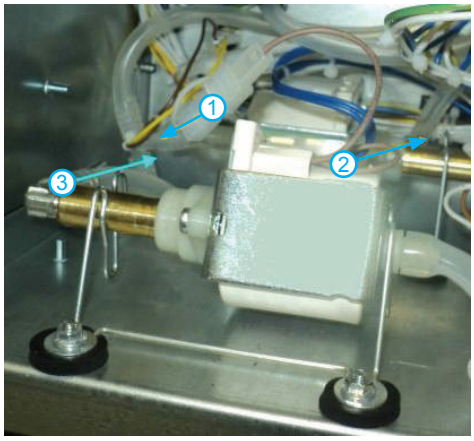
3.5.7 Connecting the vending machine to water supply mains (optional)

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 figure 8 position 1) and comprises of a threaded connector of diameter ¾". 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:

- Set the switch on the switch board of the machine to position "O" / "OFF";
- 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 with blue and white wires (see figure 18a position 1, 2);
- Disconnect the silicone tube (see figure 18a, position 3);
- Connect the silicone tube and power connectors to the electric valve (see figure 18b).



1- White wire
2 - Blue wire
3 - Silicone tube

Figure 18a - Disconnection of pump

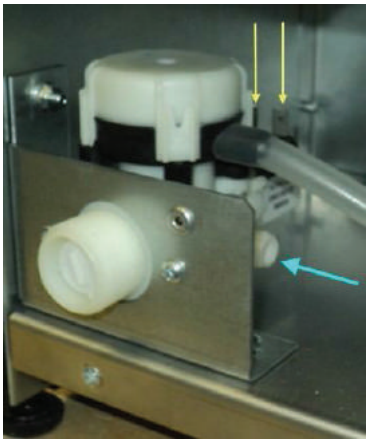


Figure 18b - Connecting the electrical valve

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

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

After connecting the water supply mains replace the machine's rear panel, connect the vending machine to the power supply and switch the button on the switch board to the "I" / "ON" position.

After that change the vending machine's configurations (settings). For the purpose access the service menu of the machine (see section 3.0) and select menu item "1.9.9 Tank" and reset it to "NO". The machine will now switch to operation using water supply mains.

To switch back to the use of water from canister/bottle, reset the value of menu item "1.9.9 Tank" to "YES".

ATTENTION: 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!

3.5.8 Flot chamber, pump and boiler

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.

a. Flot chamber

The float chamber (see figures 50 and 51) 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.

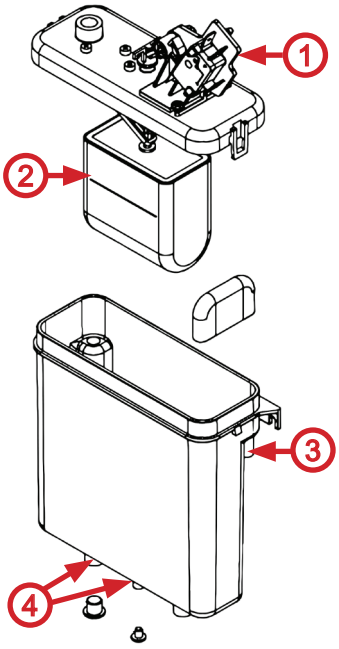


Figure 19

Figure 19:

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

b. Boiler feed pump

The boiler heats the water to a certain temperature, which is set in the configuration menu, for the preparation of hot drinks (see figure 52).

The boiler is fitted with a feed pump, which maintains permanent pressure (see figure 10 position 3) and (see figure 20).

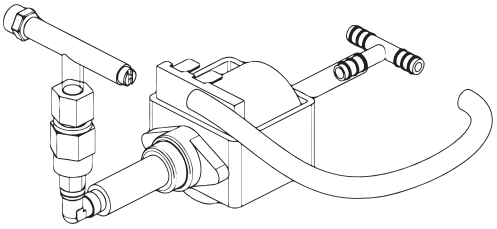


Figure 20

c. 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 figure 21), according to the selection the hot water flows:

1. For NERO (into espresso group, one of the two mixers, directly into drink disposal nozzle)

2. For NERO INSTANT (into one of the three mixers, directly to the drink disposal nozzle)

ATTENTION: 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!

d. 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 figure 10 position 8 and figure 21). To access the boiler, remove the vending machine's rear panel.

The surface of the boiler can be very hot.

Before starting any routine service or cleaning, it is necessary to cool down the boiler and to empty it (see section 3.6.3).

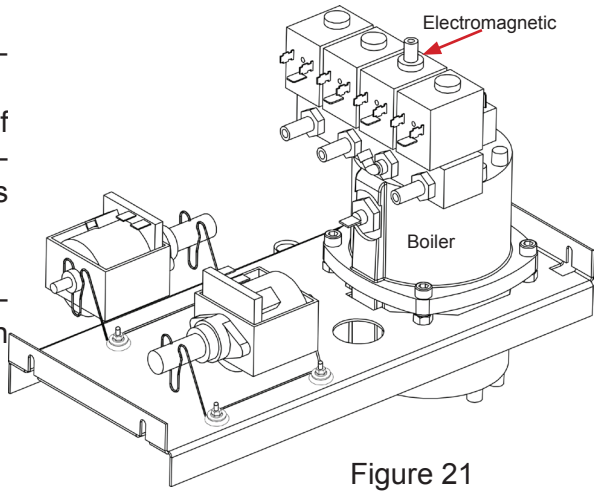


Figure 21

3.5.9 Coffee grinder and dosing apparatus (for NERO)

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.

The quality of grinding of coffee depends on the rotation of the screw, located on the coffee grinder (see figures 22 and 23 position1). Turn the screw clockwise grind more (smaller particles) or counter clockwise to grind less (larger particles) – (see figure 22).

You can set the rotation of the coffee grinder to achieve the required level of grinding.

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.

Figure 22 - Adjustment of grinding

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 I 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 difference).

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

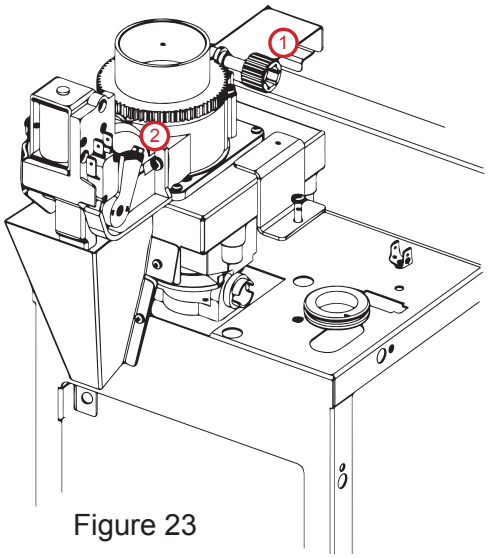


Figure 23

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).

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 figure 23 position 2 and figure 24). 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!!!**

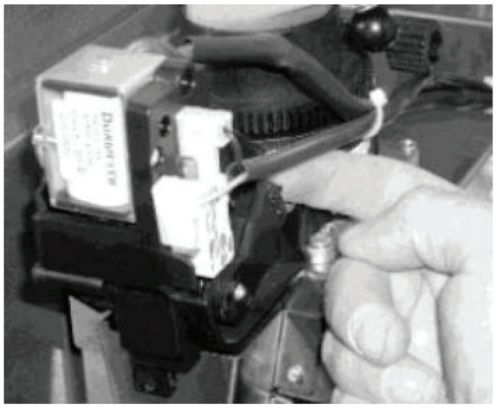


Figure 24

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.

3.5.10 Espresso group (for NERO)

The espresso group is used to make coffee using ground beans (see figure 25).

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

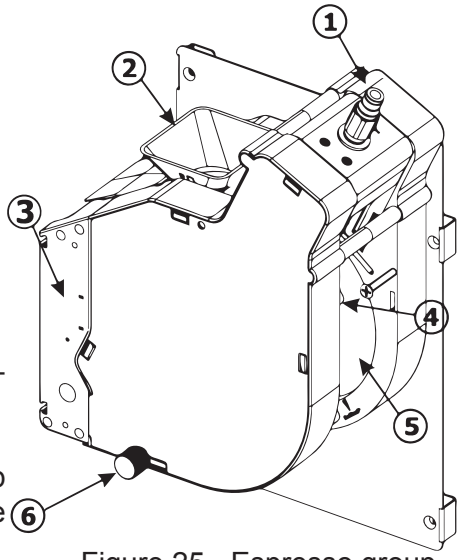


Figure 25 - Espresso group

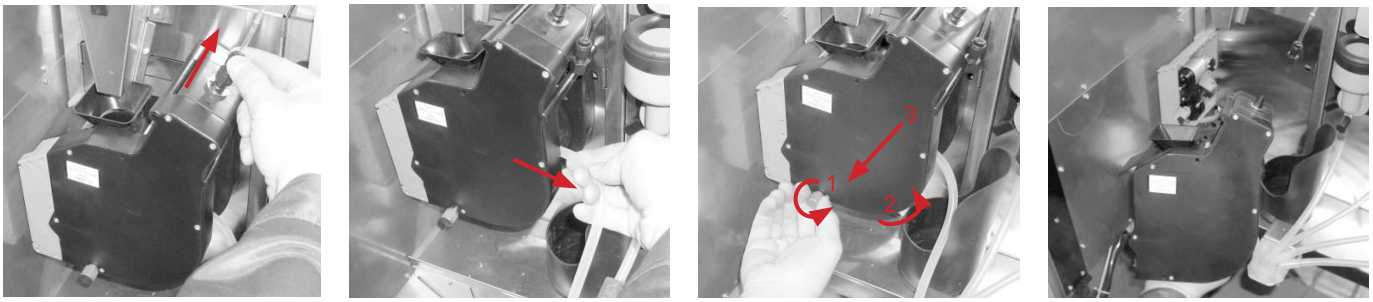
The working mechanism of the espresso group:

1. Initially the espresso group is in open position
2. The ground coffee enters the inlet (2), after which the reducer-motor closes the espresso group, pressing the coffee powder.
3. Hot water, from the boiler, is passed through the pressed coffee
4. 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.
5. 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 figure 26a);
2. Disconnect the ready drink dispensing pipe together with the nozzle from the holder, lifting the spring used to fix the pipe (see figure 26b);
3. Turn the espresso group fixation screw counter clockwise (1) (see figure 26c);
4. Lift the right lower end of the espresso group (2) then pull it out (3) (see figure 26c);
5. Remove the espresso group (see figure 26d).

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



A B C D

Figure 26 - Removing the espresso group

ATTENTION: 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 figure 27).

Increasing the capacity of the espresso group's chamber:

1. Remove the espresso group;
2. Make sure that there is only on restricting nut under the spring of the piston's spring;
3. Push the piston (forcer) in the direction of the arrows 1 (see figure 27);
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.

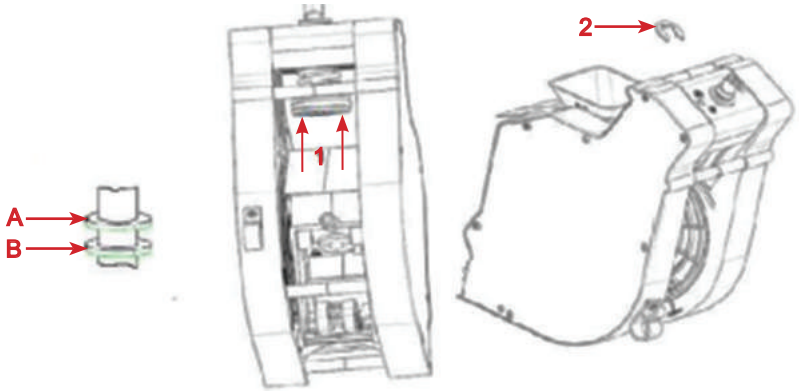


Figure 27 - Regulating the capacity of the espresso group chamber

ATTENTION: If the capacity of the chamber will not be increased for the cases described in this manual, the espresso group can malfunction (displaying errors "Open group", "Closed group" and blockage of coffee bean based drinks), as well as mechanical failures.

3.5.11 Mixers for instant ingredients

The instant drinks, which are made of instant ingredients, are prepared in the mixers (see figure 28).
Vending machine NERO has two mixer.
Vending machine NERO INSTANT has three mixer.
Each mixer is installed and connected in front of the container with the relevant ingredient. In the NERO and NERO INSTANT 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. For further details see section 3.6.2 – Preparation of drinks and section 3.7.4 – Dosage of ingredients, sub-section C.

Figure 28 (description):

1. Lid on mixer's inlet
2. Mixer's motor
3. Mixer's funnel
4. Adapter for drink dispensing pipe
5. Mixer funnel fixator
6. Exhaust hole gasket

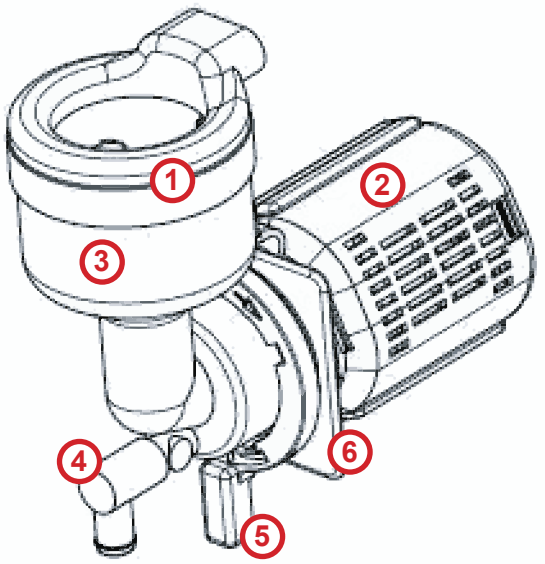


Figure 28 - Mixer

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 figure 29);
2. Turn the handle on the funnel fixator downwards (see figure 30);
3. Carefully pull out the funnel (see figure 31 and 32);
4. The assembly procedure is performed in the reverse order.


Figure 29


Figure 30


Figure 31


Figure 32

To remove the mixer's motor, loosen the screw, which holds the mixer to the bracket (see figure 32), and remove the motor. After that disconnect the power connector.

3.5.12 Main board (controller)

All the units and devices within the vending machine are regulated (controlled) by the Main board (hereinafter called the “controller”) (see figure 33). The Main Board keeps track of the statistics, controls payments and machine’s functional mode, handles USB-flash drives to store data and to load configuration files. The controller functions according to the algorithms set in the built-in software – control software (firmware).

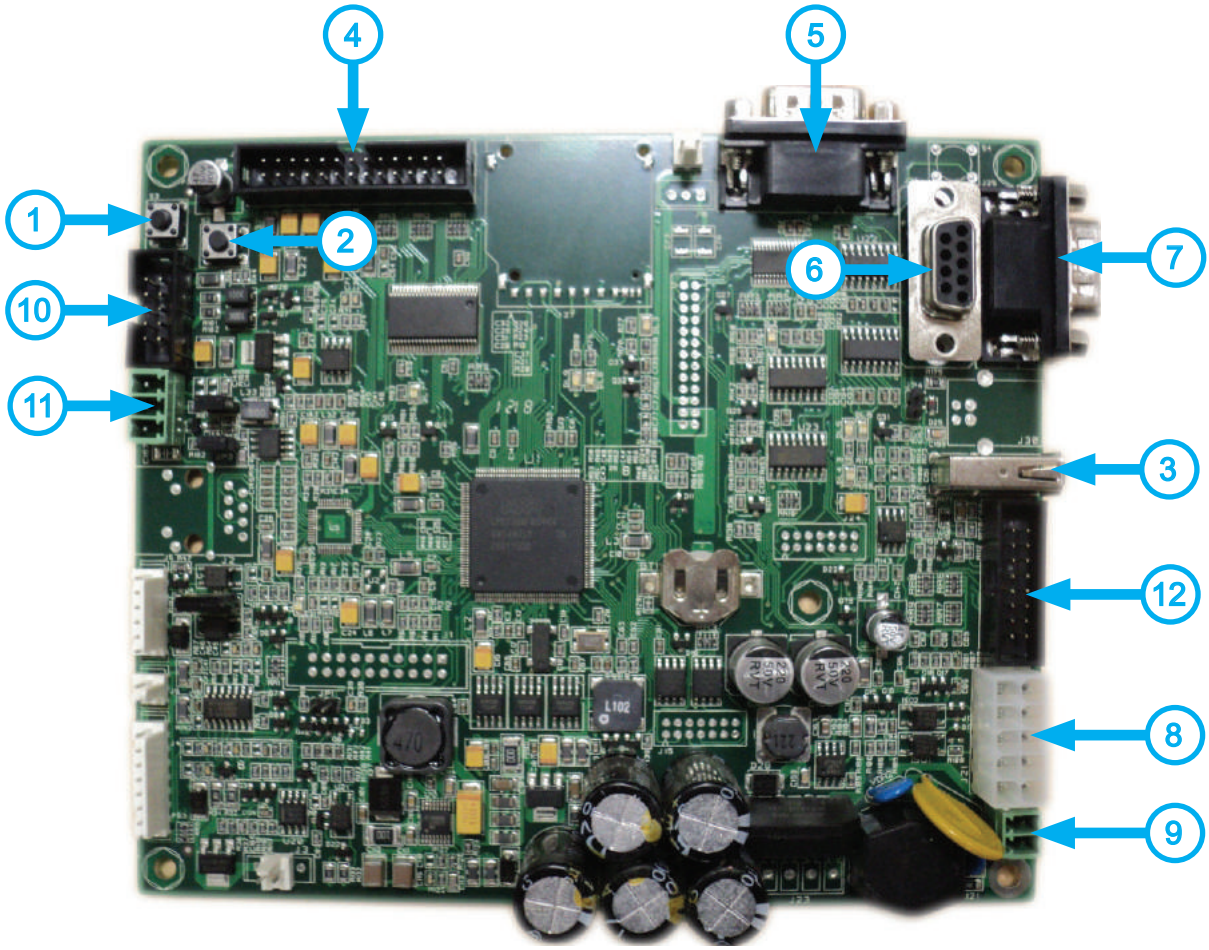


Figure 33 - Main board (019-02)

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.

The vending machine's main board offers two operational modes:

- Selling mode (main mode);
- Service mode (for specialists).

The vending machine's main operational mode is the selling mode, in which the customers are served and all the units and devices included in the machine are regulated (controlled).

The machine automatically switches to this mode right after turning ON the main board – turning ON of the UPS unit.

The service mode is designed to provide for equipment testing, parameter configuration for units and equipment and monitoring drinks' information (name, price, recipe etc.).

To access the service menu, you must press and hold the relevant button on the quick access keypad for 2-3 seconds (see figure 34). This quick access keypad is situated on the inner side of the machine's door.

3.5.13 Quick access keypad

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 35).

Figure 34 - Quick access keypad

Figure 34 (description):

- "Operator's menu" - access to operator's menu;
- "Technician's 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.

3.5.14 Vending machine keypad

Figure 35 - Sensor keypad

The sensor keypad is located on the front side of the machine's door. The keypad has 10 buttons for drink selection (see figure 35). Each button corresponds to the drink set in the machine's planogram. Only active keypad positions will be lighted under any operational mode.

In service mode when you enter the service menu (technician's / operator's menu), this keypad is used to navigate through, select and change parameters of the service menu.

3.6 Vending machine's working principle

This vending machine prepares and sells drinks made of instant ingredients and coffee beans (for NERO) / instant coffee (for NERO INSTANT).

After the client selects the drink by pressing one or two buttons (depending on the settings) on the sensor keypad for selections, the vending machine prepares and disposes of the selected drink.

In the case of installation of payment systems, you must first make a loan for a drink, and then click on the selected beverage.

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 (Neon) colour – The machine is in standby mode;
- Red colour – the machine is preparing the drink.

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.

3.6.1 Placement of the cup

Before selecting the required drink, please place the cup in the drink disposal area. Only after making sure that the cup is standing firm, select the drink.

ATTENTION: 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!

3.6.2 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 drink's 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 drink's 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 (for NERO):

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.

3.6.3 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.

ATTENTION: 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 (see 3.5.3.).

3.7 General technical servicing

3.7.1 Cleaning and disinfection

After the installation of the vending machine it necessary to carry out complete disinfection of all water tracts and other components that come in contact with the food products, to kill all bacteria that might grow inside during storage.

The sanitation and hygiene norms require the vending machine operators to carry-out complete cleaning and disinfection of equipment and materials, which come in contact with the food products.

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.

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.

Following is the list of equipment, which should be cleaned during technical service of the machine:

- Removable mixer heads (funnels) and tracts used for dispensing instant drinks (cleaning and disinfection)
- Pipes and nozzles used for dispensing drinks (cleaning and disinfection)
- Discharging chute for sugar (cleaning and disinfection)
- Dispensing area: plastic parts, tray with grill (cleaning and disinfection)
- Cup holder (cleaning and disinfection)
- Discharge heads of instant ingredient containers (cleaning and disinfection)
- Outer parts of espresso group (cleaning and disinfection)
- Waste container (cleaning and disinfection)
- Coffee disposal tract (cleaning and disinfection)
- Cleaning of the vending machine's body from outside and inside (cleaning and disinfection)

3.7.2 Periodic technical service

Once every six months or more frequently, depending on the usage of the vending machine and the quality of the used water, it is necessary to clean and disinfect the internal circuits (pipping) of supply of ingredients, as per the procedure described hereunder:

- All components, which come in contact with the food products, including pipes, must be disconnected from the equipment and dismantled into constituent parts;
- All residues and visible stratifications must be removed using, if necessary, sponges and brushes;
- The components must be immersed in disinfectant for 20 minutes;
- The inner surfaces of the equipment must be cleaned with disinfectant;
- You must nicely wash all components under running water and then all of the components must be reassembled;
- Remove loose ingredient containers from the unit;
- Remove product discharge nozzles and remove endless screws from the rear of the containers;
- Clean all parts using water solution of chlorine detergent and nicely dry them all.
-

3.7.3 Flushing the vending machine's water tract

Since the water tract always contains water during operations, you must flush the water tract before transporting the machine or before changing any of the parts of the machine's hydraulic system.

All of the water must also be flushed before conserving the vending machine.

ATTENTION: You must discharge all water from the machine's water tract before transportation or before storage under conditions where temperature goes below +1^{0}C! Failure to conform to this requirement might seriously damage the vending machine!

Following is the procedure for flushing the water:

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.

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).

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 (figures 36, 37) 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.

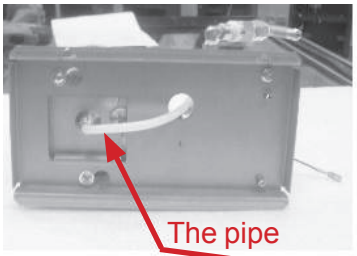


Figure 36

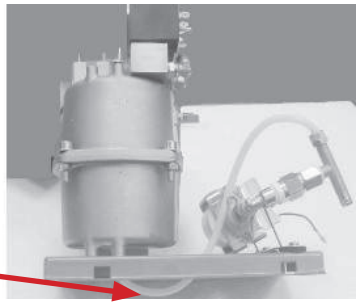


Figure 37

3.7.4 Weighing the ingredients

To maintain proper doses of ingredients, it is necessary to periodically weigh the ingredients, which you use for making the drinks.

Weighing the dose of ground coffee: (for NERO)

1. Remove the espresso group (see section 3.5.10);
2. Place a container under the nozzle of the dosing apparatus;
3. Enter service menu (see section 4.0) and select sub-menu “1.9.7.4.5 Testing ground coffee” and press the OK button;
4. Weigh the obtained dose of coffee.

NOTE:

1. For exact measurement it is necessary to carry-out 5-10 weight tests and calculate the average value.
2. It is PROHIBITED to set the dosing apparatus to position 5 or 6 without increasing the volume of the coffee making chamber! THIS MIGHT DAMAGE THE ESPRESSO GROUP. It is STRICTLY PROHIBITED to set the dosing apparatus to positions 7 and above!!!

Weighing the doses of ingredients:

1. Remove the lid from the mixer, located under the container with the tested ingredient;
2. Place a vessel under the ingredient container;
3. Enter service menu (see section 4.0) and select sub-menu “1.9.6 Drinks”;
4. Then enter the drink’s number, for which you want to test the weight;
5. Select sub-clause “1.9.6.9 Testing the ingredients” and press the OK button;
6. Weigh the obtained ingredient.

4.0 SERVICE MODE

The vending machine can be serviced in the SERVICE MODE. For optimum service results the vending machine comes with two different types of SERVICE MENUS.

- **Service engineer's / technician's menu:** machine configuration, checking the working of equipment and product management. To access the "Technician's menu" press button №2 from the left hand side of the "Technician" on the quick access keypad. To find the keypad see section 3.5.13.

- **Operator's menu**: controlling the equipment's functioning, browse through details information about the machine's condition, controlling cash, product management, statistics and cash removal. To access this mode "Operator's menu" press button №1 from the left hand side of the "Operator" on the quick access keypad. To find the keypad see section 3.5.13.

When inside the required menu use the product selection buttons (see figure 38) to navigate through the menu and to edit parameter values.

Figure 38 - Navigation buttons

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.

4.1 Technician's menu (Service engineer's menu) – version 0.49

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.

4.1.1 Menu item " 1.1 SYSTEM"

Sub-menu	Description	Value
1.1.1 Language	The language of display	English Russian Italian French
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: • No daylight; • Western Europe; • Central Europe; • Eastern Europe; • CIS; • C.Europe / Russia	
1.1.3.3 Date format	Date formats: • 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	Setting the subnet-mask. 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). The subnet-mask is set by the network administrator. 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: 255.255.0.0 (large LAN which can comprise of up to 65536 devices) 255.255.255.0 (medium size LAN which can comprise of up to 256 networking devices) 255.255.255.128 (small LAN, which can comprise of up to 128 devices)	Four numbers 0...255
1.1.18.4 Gateway	Setting the gateway address. Here we set the IP address of the Gateway, through which the Machine will access the external IP addresses. This is set by the network administrator. 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. 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. Without this IP address the Machine will keep on dispatching waste packets every 10 seconds	
1.1.18.5 Remote IP	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). 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). 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	3 digits 0...9
1.1.18.6 Remote port	Setting the Server's port. Here we set the port for the Server, which was set in the previous section	5 digits 0...65535
1.1.18.7 Allow eth. control	Here we can set YES for touch screen or NO for other Machines. If set to YES the Machine opens port 999, through which the Machine can be controlled, similarly as done with the touchscreen computer. 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. Otherwise the Machine can be hacked from the LAN (access to Machine's status, execute sales etc.)	

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)

4.1.2 Menu item "1.2 PAYMENT SYSTEMS"

Configuration of machine's payment systems. This is used only if the machine is fitted with a payment system.

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 Executive Executive PH
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": • "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: • 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	• 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: • 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: • ‘‘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 denimination 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	• 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	• 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	• 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	• 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)	• 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)	• 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	• 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

4.1.3 Menu item “1.3 TIME INTERVALS”

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.

4.1.4 Menu item “1.4 CASH REGISTER”

Menu item “1.4 Cash register” is not used for vending machine of type “NERO”.

4.1.5 Menu item “1.5 MODEM”

Menu item “1.5 Modem” enable you to use the modem with the Machine for data transfer to telemetry server. Available in Machines with modem. In case of permission to use modem, the transferred data is nullified after each emptying of stacker.

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

4.1.6 Menu item "1.6 PRICES"

Menu item "1.6 Prices" is meant to configure the information regarding the prices of the drinks, which are served by the vending machine (used only when fitted with a payment system).

Use menu item "1.6.4 Hot 1" to configure information about the price of each drink.

When you enter the menu "1.6.4 Hot 1" must enter the number of the beverage (1 to 10) for editing. The entry is made by pressing 'Enter' and select the number of drink buttons ↑ (button 2) ↓ (button 7) - see figure 42.

After selecting the desired drink will be available sub-menus, the transition to which is carried out by pressing the button → (button 8) - see figure 42.

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: NNYNYNN The discounts or margins are effective for this price list in the 3rd and 5th 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: NNYNYNN Not sold under the given price list in the 3rd and 5th time intervals	Selection of 7 symbols from the following line NNNNNNN YYYYYYY

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

4.1.7 Menu item “1.7 SNACK 1” / “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.

4.1.8 Menu item “1.9 HOT 1”

The menu item “1.9 Hot 1” is used to configure drink vending machine.
This menu item is hidden if s.c. ’’1.1.13 Hot number’’ = 0.

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 preheat 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	• “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	• “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: • “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)

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	

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 1st mixer	
1.9.7.11.3 Soluble 2	Flush the amount of water set in s.c.1.9.7.11.7 through the 2nd mixer	
1.9.7.11.4 Soluble 3	Flush the amount of water set in s.c.1.9.7.11.7 through the 3rd mixer	
1.9.7.11.5 Soluble 4	Flush the amount of water set in s.c.1.9.7.11.7 through the 4th 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 5th 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	• "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	• "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	• "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	• "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 If the given parameter is set incorrectly you will not get any coffee	No/Yes
1.9.15 Fan control	Enables you to reduce speed of the drier fan when dispensing powder: • "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

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)	

4.2 Operator's menu - version 0.49

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.

4.2.1 Menu item "2.1 STATUS"

This menu item provides a look into Machine's operational errors. Most of the errors are nullified after you exit the maintenance menu. Some of the errors need to be liquidated manually and shift to menu item 2.1.2.

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	

4.2.2 Menu item “2.2 CASH”

This is used only if the machine is fitted with a payment system.

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

4.2.3 Menu item “2.3 SNACK 1” & “2.4 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.

4.2.4 Menu item “2.5 HOT 1”

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	

4.2.5 Menu item “2.7 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 reacharge	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

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
2.7.2.2.1Vend 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 numder	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

4.2.6 Menu item “2.8 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

4.2.7 Menu item “2.9 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.

5.0 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 must be connected to the USB connector, which is situated on the inner side of the vending machine's door (see figure 34).

The USB must be connected while in sales mode. When you connect the USB drive the Machine's display will show relevant information about the drive.

ATTENTION! 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 = last two digits of the serial number, set in clause 1.1.2 of 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.

It is necessary to insert the USD-flash drive into the USB connector to access the information on the drive. The USD connector is situated on the inner side of the vending machine's door (see section 3.5.13). This connection should be made when the machine is in selling mode and when asked confirm the following: "**Save audit?**"

- **The current configuration:** File format EVA-DTS. File name: Cxxxxxxx.DTS, C then the 7-digit serial number of the machine, specified in clause 1.1.2 of he Technician's menu (for example: C0000123. DTS).

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

It is necessary to insert the USD-flash drive into the USB connector to access the information on the drive. The USD connector is situated on the inner side of the vending machine's door (see section 3.5.13). This connection should be made when the machine is in selling mode and when asked confirm the following: "**Write configuration?**"

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

- **Configuration of a certain Machine:** File format EVA-DTS. File name: Cxxxxxxx.DTS, C then the 7-digit serial number of the machine, specified in clause 1.1.2 of he Technician's menu. The file will be loaded into the machine only when the coincidence of numbers specified in clause 1.1.2 and in the file name. This allows you to load from one USB-flash drive different configurations for different machines.

It is necessary to insert the USD-flash drive into the USB connector to access the information on the drive. The USD connector is situated on the inner side of the vending machine's door (see section 3.5.13). This connection should be made when the machine is in selling mode and when asked confirm the following: "**Load configuration?**"

- **General configuration:** File format EVA-DTS. File name: CONF_GEN.DTS. The file can be downloaded to the machine with any number specified in clause 1.1.2.

It is necessary to insert the USD-flash drive into the USB connector to access the information on the drive. The USD connector is situated on the inner side of the vending machine's door (see section 3.5.13). This connection should be made when the machine is in selling mode and when asked confirm the following: "**Load Gen. Config.?**"

- **Software update**: to update the machine's software, you must visit the manufacturer's website at http://www.unicum.ru/en , go to DOCUMENTATION section and select the relevant vending machine model on the resulting page to update the software. On the resulting page select FIRMWARE UPDATE, which will lead to automatic downloading of files to your computer. The files are downloaded in an archive. To copy the files to the USB-flash drive unpack the archive and save the contents of the file to the root directory of the USB-flash drive. The archive contains software update files and files with installation instructions.

To update the software on the machine, it is necessary to insert the USB drive with copied files into the USB connector, which is situated on the inner side of the machine's door (see section 3.5.13). After the recognition of files (validation) the machine's display shows option to update machine's software.

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: **"Load 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

6.0 RECOMMENDED DRINK CONFIGURATIONS

The machine starts working with default configurations as shown in the following table:

№ button	Drink	Composi-tion	Water for coffee (ml.)	Ingredient Milk		Ingredient Chocolate		Ingredient Vanilla	
				Water	Unit	Water	Unit	Water	Unit
1	ESPRESSO	K00	60	-	-	-	-	-	-
2	AMERICANO	K00	110	-	-	-	-	-	-
3	MOCCACINO	1K2	30	40	45	35	25	-	-
4	CAPPUCINO	1K0	60	60	45	-	-	-	-
5	LATTE	1K0	60	65	50	-	-	-	-
6	DOUBLE ESPRESSO	KK0	60	-	-	-	-	-	-
7	COFFEE WITH MILK	K10	60	60	45	-	-	-	-
8	HOT CHOCOLATE	200	-	-	-	100	60	-	-
9	VANILLA CAPPUCCINO	300	-	-	-	-	-	100	60
10	HOT WATER	000	100	-	-	-	-	-	-

Composition:
K = Coffee beans (NERO) / Instant coffee (NERO INSTANT)
1 = Milk
2 = Chocolate
3 = Vanilla

Note: Settings drinks specified in the table above are the factory (basic) settings for most machines and can vary depending on the conditions for each specific order. In the operation of the machine to factory settings can be changed.

7.0 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. 39). 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.39 - 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.

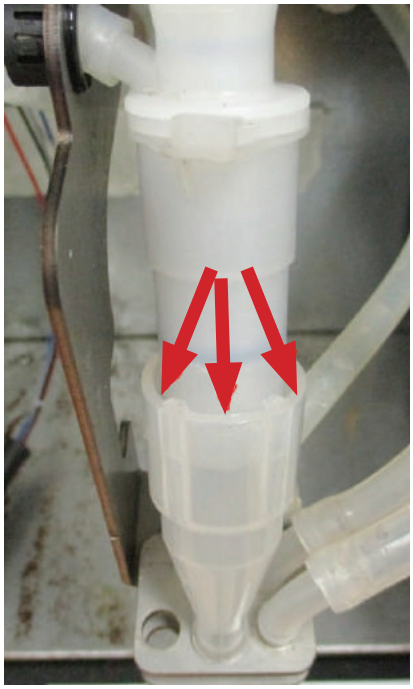


Fig.40

- At the cappuccinatore and the adapter joint there's a gap (see fig. 40). 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.41 - 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. 42 and fig. 43).

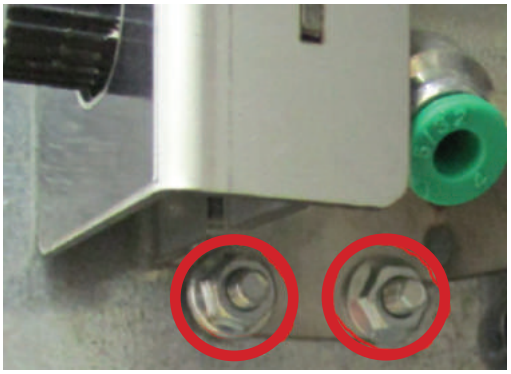


Fig.42

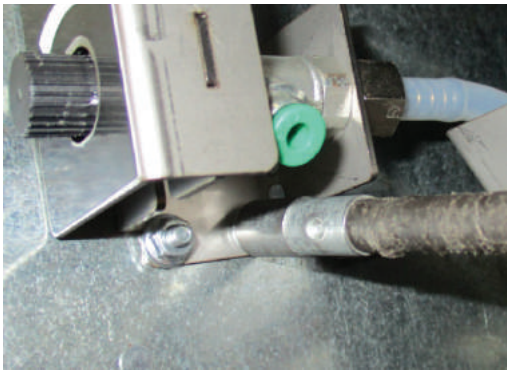


Fig.43

2. Unscrew the protective enclosure screw (fig. 44).

Fig.44

3. Displace the enclosure and remove it from the valve body (fig. 45).

Fig.45

4. Unscrew the gear sector fixing nut (fig. 46).

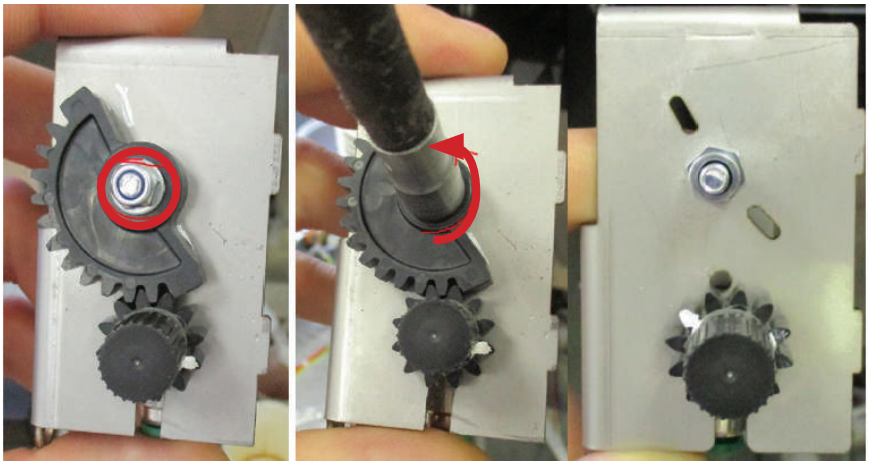


Fig.46

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. 47.

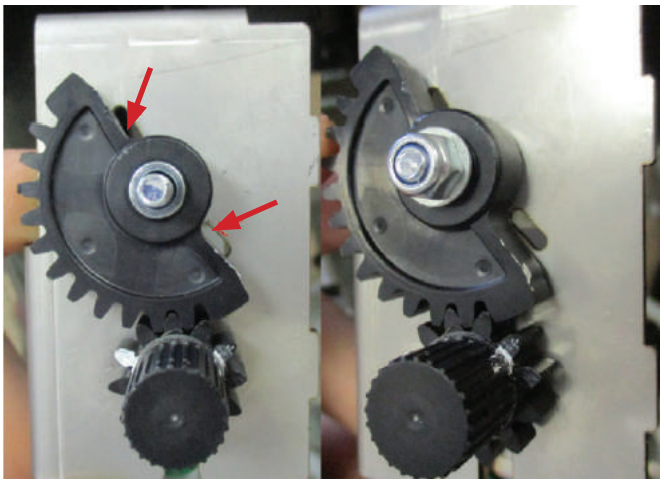


Fig.47

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

7. Assemble in the reverse order.