INSTALLATION, USE, MAINTENANCE
Translations of original instructions

Karisma 2 Espresso

EN English

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Targhetta di identificazione
Identification label

DICHIARAZIONE DI CONFORMITA'
DECLARATION OF CONFORMITY
DÉCLARATION DE CONFORMITÉ
KONFORMITÄTSERKLÄRUNG
DECLARACIÓN DE CONFORMIDAD
DECLARAÇÃO DE CONFORMIDADE
VERKLARING VAN OVEREENSTEMMING

Italiano Si dichiara che la macchina, descritta nella targhetta di identificazione, è conforme alle disposizioni legislative delle Direttive Europee elencate a lato e successive modifiche ed integrazioni.

English The machine described in the identification plate conforms to the legislative directions of the European directives listed at side and further amendments and integrations

Français La machine décrite sur la plaquette d'identification est conforme aux dispositions légales des directives européennes énoncées ci-contre et modifications et intégrations successives

Deutsch Das auf dem Typenschild beschriebene Gerät entspricht den rechts aufgeführten gesetzlichen Europäischen Richtlinien, sowie anschließenden Änderungen und Ergänzungen

Español Se declara que la máquina, descrita en la etiqueta de identificación, cumple con las disposiciones legislativas de las Directrices Europeas listadas al margen y de sus sucesivas modificaciones e integraciones

Português Declara-se que a máquina, descrita na placa de identificação está conforme as disposições legislativas das Diretrizes Européias elencadas aqui ao lado e sucessivas modificações e integrações

Nederlands De machine beschreven op het identificatieplaatje is conform de wetsbepalingen van de Europese Richtlijnen die hiernaast vermeld worden en latere amendementen en aanvullingen

Direttive europee **European directives**	**Sostituita da** **Repealed by**
2006/95/CE	2014/35/EU
2006/42/EC	
97/23/EC	
2004/108/EC	2014/30/EU
90/128/EC	2002/72/CE+ 2008/39/CE
80/590/EEC and 89/109/EEC	EC 1935/2004
EC 10/2011	
2002/95/EC	2011/65/EC
2002/96/CE	2012/19/UE

Italiano Le norme armonizzate o le specifiche tecniche (designazioni) che sono state applicate in accordo con le regole della buona arte in materia di sicurezza in vigore nella UE sono:

English The harmonised standards or technical specifications (designations) which comply with good engineering practice in safety matters in force within the EU have been applied are:

Français Les normes harmonisées ou les spécifications techniques (désignations) qui ont été appliquées conformément aux règles de la bonne pratique en matière de sécurité en vigueur dans l'UE sont :

Deutsch Die harmonisierten Standards oder technischen Spezifikationen (Bestimmungen), die den Regeln der Kunst hinsichtlich den in der EU geltenden Sicherheitsnormen entsprechen, sind:

Español Las normas armonizadas o las especificaciones técnicas (designaciones) que han sido aplicadas de acuerdo con las reglas de la buena práctica en materia de seguridad vigentes en la UE son:

Português As normas harmonizadas ou as especificações técnicas (designações) que foram aplicadas de acordo com boas regras de engenharia em matéria de segurança em vigor na UE são:

Nederlands De geharmoniseerde normen of technische specificaties (aanwijzingen) die toegepast werden volgens de in de EU van kracht zijnde eisen van goed vakmanschap inzake veiligheid zijn de volgende:

Norme armonizzate / Specifiche tecniche

Harmonised standards / Technical specifications

EN 60335-1:2002 + A1:2004 + A11:2004 + A12:2006 + A2:2006+ A13:2008

EN 60335-2-75:2004 + A1:2005 + A11:2006 + A2:2008 + A12:2010

EN 62233:2008

EN 55014-1: 2006 + A1: 2009 + A2:2011

EN 55014-2: 1997 + A1: 2001 + A2: 2008

EN 61000-3-2: 2014

EN 61000-3-3: 2013

Il fascicolo tecnico è costituito presso:
The technical file is compiled at: **N&W GLOBAL VENDING S.p.A.**

ANDREA ZOCCHI

C.E.O

Declaration of conformity

The declaration of conformity with the European Directives and Standards provided for by the laws in force is supplied by the first page of this manual, which is an integral part of the machine.

CE It is declared that the machine described by the identification plate is in compliance with the provisions of the European Directives, its subsequent amendments and integrations as well as with the harmonised standards or technical specifications (designations) applied in compliance with the safety rules of good practice enforced in the EU and listed on the same page.

Warnings

FOR INSTALLATION

The installation and any subsequent maintenance operation shall be carried out by the personnel skilled and trained on the utilisation of the machine according to the rules in force.

The machine is sold without any payment system. As a consequence, only the installer will be liable for any damage that may be caused to the machine or to things and persons by an incorrect installation of the payment system.

The intactness of the machine and its compliance with the standards of relevant installations must be checked by skilled personnel at least once a year.

Package materials must be disposed of in observance of the environment.

Important!

The machine is equipped with an automatic washing system for the mixers with the relative water circuit and the brewing unit.

If the machine is not used for some time (weekends, etc.) even for pauses longer than two days, it is recommended to enable the automatic washing functions (e.g. before starting to use the VM).

FOR USE

The machine can be used by children and by people having reduced physical, sensorial or mental skills under the supervision of people responsible for their safety or specifically trained on the use of the machine. Children shall be prevented from playing with the machine by the people in charge of their supervision.

FOR THE ENVIRONMENT

Some tricks will help you to protect the environment:

- use biodegradable products to clean the machine;
- properly dispose of all the packages of the products used to fill and clean the machine;
- power off the machine during inactivity for energy saving.

FOR DISMANTLING AND DISPOSAL

When dismantling the machine, it is recommended to destroy the machine rating plate.
The symbol shows that the machine can not be disposed of as common waste, but it must be disposed of as it is established by the 2002/96/CE (Waste Electrical and Electronics Equipments - WEEE) European Directive and by the national laws arising out of it in order to prevent any negative consequence for environment and human health.
The differentiated collection of the machine at the end of its life is organised and managed by the manufacturer.
For the correct disposal of the machine contact the sales point where you have purchased the machine or our after-sales service.
The unlawful disposal of the machine implies the application of the administrative sanctions provided for by the rules in force.

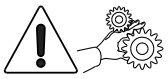
Attention!

If the machine is equipped with a cooling system, the cooling unit contains HFC-R134a fluoridised greenhouse effect gas ruled by the Kyoto protocol, the total heating potential of which is equal to 1300.

Symbology

The following symbols may be present inside the machines, according to models:

Attention: dangerous voltage
Power off before removing the cover



Attention
Danger of crushing your hands

Attention
Hot surface

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CERTIFICATE

IQNet and its partner
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hereby certify that the organization

N&W GLOBAL VENDING SPA

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VIA DEL CHIOSO 13 - 24030 MOZZO (BG)
VIA DELEDDA 16 - 24030 MAPELLO (BG)
VIA SALVO D'ACQUISTO 7/9 - 24050 GRASSOBBIO (BG)

for the following field of activities
Design, manufacturing and sale of electronical and electromechanical vending machines
Refer to quality manual for details of applications to ISO 9001:2008 requirements

has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard

ISO 9001:2008

Issued on: 2012 - 05 - 08 Expiry date: 2015 - 05 - 31

Registration Number: IT - 12979

Michael Drechsel
President of IQNET

Gianrenzo Prati
President of CISQ

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VIA DEL CHIOSO 13 - 24030 MOZZO (BG)

VIA GRAZIA DELEDDA 16 - 24030 MAPELLO (BG)

for the following field of activities

Design, manufacturing by punching, bending, welding of coils and assembling operations, and sales of electronical and electromechanical vending machines

has implemented and maintains a

Environmental Management System

which fulfills the requirements of the following standard

ISO 14001:2004

Issued on: 2013 - 05 - 28 Expiry date: 2016 - 05 - 14

Registration Number: IT - 8753

Michael Drechsel
President of IQNET

Ing. Claudio Provetti
President of CISQ

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English

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Foreword

The technical documentation forms an integral part of the equipment and must therefore accompany any movement or transfer of ownership in order to allow further consultations by the operators.

Before installing and using the equipment you need to scrupulously read and understand the contents of the documentation, as it provides important information related to installation safety, to the utilisation standards and to the maintenance operations.

The manual is divided into three chapters.

The **first chapter** describes the loading and ordinary cleaning operations to be performed in the areas of the machine which can be accessed through just the use of the door opening key, without the need of using other tools.
The **second chapter** contains the instructions related to a correct installation and the information required to make the best use of the machine.
The **third chapter** describes the maintenance operations which require the use of tools for accessing potentially dangerous areas.

The operations described in the second and third chapter shall be carried out only by personnel with specific knowledge of the operation of the machine both from the point of view of electrical safety and of hygiene.

DEVICE IDENTIFICATION AND FEATURES

Each machine is identified by means of a specific serial number which can be read from the plate placed on internal side of the door.
The plate (see figure) is the only one recognized by the manufacturer and contains all the information that allows the manufacturer to provide, with speed and safety, technical information of any kind and to facilitate the management of spare parts

IN CASE OF FAILURE

In most cases, technical problems can be solved by means of small interventions; we therefore suggest to read this manual carefully before contacting the manufacturer.
In case of anomalies or malfunctioning which cannot be solved, please contact:

N&W GLOBAL VENDING S. p. A.
Via Roma 24
24030 Valbrembo
Italy - Tel. +39 035606111

TRANSPORT AND STORAGE

In order to avoid causing damage to the machine, the loading and unloading manoeuvres must be performed with particular care.
The machine can be lifted by a forklift truck, motorized or manual, by placing the forks underneath.

Instead, the following should be avoided:

- overturn the machine;

- drag the machine with ropes or similar;

- lift the machine with lateral grips;

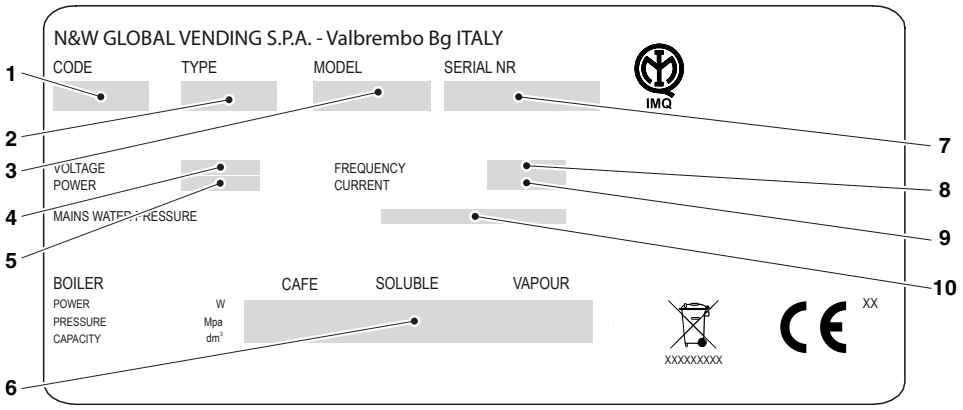
- lift the machine with straps or ropes

- toss or shake the device and its packaging.

The storage environment needs to be dry and of a temperature between 0 and 40 °C.
With the original packaging it is not possible to pile up more than 2 machines, taking care to keep the vertical position indicated by the arrows on the package.

Fig. 1

1- Product code
2- Type
3- Model
4- Work voltage
5- Power absorbed
6- Boiler details
7- Serial number
8- Operating voltage frequency
9- Current
10- Water mains characteristics



MACHINE POSITIONING

The machine is not suitable for outside installations, it needs to be installed inside dry premises, with temperature between 2° and 32° C and it cannot be installed in environments in which jets of water are used for cleaning (i.e.: large kitchens, etc.).
The machine may be positioned next to a wall and in such a way that the back of it is at a minimum distance of 4 cm from the wall in order to allow regular ventilation.
The machine shall not be covered with cloths or similar.
The device must be placed on a level surface.

Important

In the event of unscheduled maintenance interventions and/or repairs, the vending machine can be accessed from all sides.
The possibility should therefore be envisaged of rotating the machine so that the back and side panels can be removed.

TECHNICAL CHARACTERISTICS

DIMENSIONS

Height	mm	747
Width	mm	400
Depth	mm	602
Depth with open door	mm	854
Weight	Kg	61

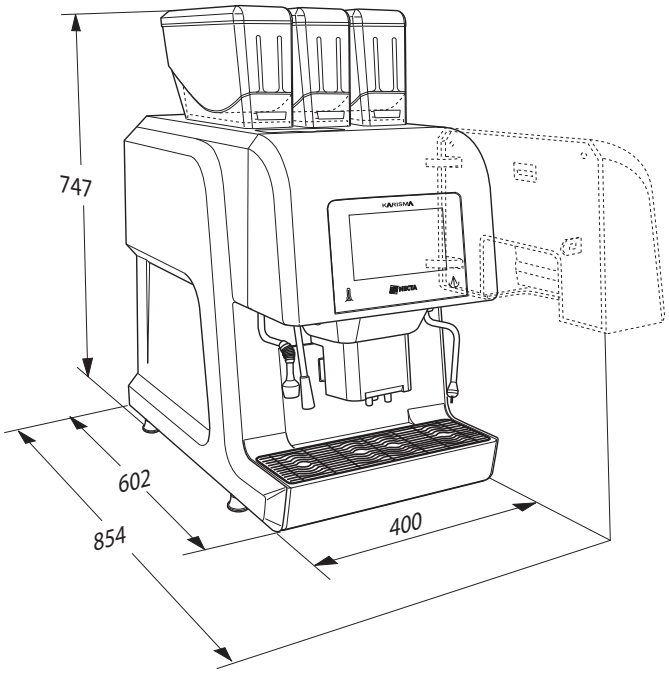


Fig. 2

ELECTRICAL CONNECTION

Plate data (*)	Type of connection		
	Three-phase + neutral (recommended)	**Single-phase 16 A**	**Single-phase 32 A**
Supply voltage	400 / 415 V~	230 / 240 V~	230 / 240 V~
Supply frequency	50/60 Hz	50/60 Hz	50/60 Hz
Maximum power	6900 W 6500 W(*)	3500 W 3300 W(*)	6900 W 6500 W(*)
Maximum absorbed current	17 A 13 A(*)	15.5 A 14 A(*)	30 A 28 A(*)
(*) 2 boilers version Refer to the plate characteristics (fig. 1)			

WATER SUPPLY

Depending on the model, the water supply can be:

- From mains, with water pressure between 0.12 and 0.85 MPa (1.2 - 8.5 bar).
- From tank.

NOISE LEVEL

The weighted continuous equivalent sound pressure level is less than 70 dB.

POSSIBLE SETTINGS

- Ground coffee grain size
- Volumetric coffee dose
- Volumetric water doses.
- Timed products dose
- Espresso and hot water boiler water temperature adjustable via software.
- Infusion time

Enable signals

- Presence of water
- Presence of coffee
- Position of the coffee unit
- The operating temperature is reached

Safeties

- product containers present
- ground trays present
- closed door sensor
- safety thermostats for boilers with manual reset
- steam boiler water minimum level probe in the.
- time protection of:
  - coffee unit gear motor
  - grinders
- thermal protection of:
  - coffee unit gear motor
  - electromagnets
  - grinders
  - motor dispenser
  - motor mixer
  - pump
  - milk pump (only models with cappuccino maker)
- protection with fuse
  - main electrical circuit
  - switching power supply

Containers capacity

The containers have a capacity of 2 liters, and the approximate amount of product they may contain are:

- Coffee beans 1.1 Kg.
- Instant chocolate 1.8 Kg
- Ginseng 1.8 Kg
- Instant barley 0.5 Kg

POWER CONSUMPTION

The power consumption of the machine depends on many factors, including the temperature and ventilation of the environment where the machine is located, the temperature of the inlet water, the boiler temperature, etc.
A measurement at a room temperature of 22 °C was carried out and the following power consumption was detected:

- Reaching temperature	Wh	183.2
- 24 hour stand-by	Wh	619.2

The power consumption calculated on the above-mentioned average data shall be deemed as purely indicative.

ACCESSORIES

The available accessories (supplied as kits) include the installation and test instructions, which should be scrupulously followed in order to maintain the safety of the machine.

Important

Using kits that have not been approved by the manufacturer does not guarantee the compliance with the safety standards, especially for what concerns live-parts.
The manufacturer declines any responsibility for the use of non-approved components.

The installation and the subsequent test operations shall be performed by qualified personnel, with specific knowledge of the operation of the machine both from the point of view of electrical safety and of hygiene.

Chapter 1
CLEANING AND LOADING

MAIN SWITCH AND SAFETIES

Main switch

The switch shuts off the power to the device and is positioned behind the solid residue container.
For normal product loading and cleaning, it is not necessary to turn it off.
If you need to turn off the machine to access the main switch, you'll also need to remove the solid and liquid residue trays.

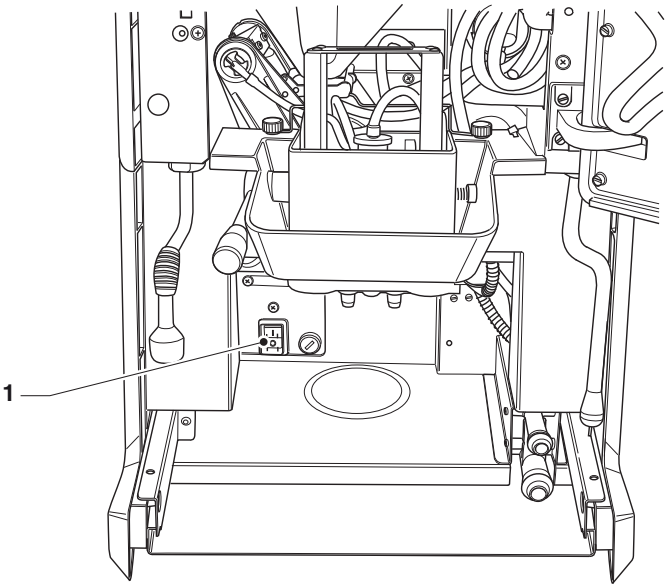


Fig. 3

1- Main switch

SAFETIES

The routine cleaning and product loading can be done safely.
The unit has magnetic sensors that allow the detection of:

- The closing of the door
- The presence of the containers with coffee beans and instant powder
- The presence of ground trays

In the absence of one of the conditions listed above, the device disables the moving parts (brewing group, motor-mixers, ...)

HYGIENE AND CLEANING

This manual shows the potential weak points and includes information about controlling the possible growth of bacteria.

Under the current health and safety regulations, the operator of the machine must apply the self-control procedures, identified in accordance with Directive HACCP (Hazard Analysis Critical Control Point) and national legislation.

It is also a good idea to sanitize the surfaces not in direct contact with the food inside the machine, as well as the side modules (cup heaters, coolers,...)
The sanitization must be performed using disinfectants, taking care to mechanically remove the residues and visible films using swabs and/or brushes.
Do not use solvents and/or scented detergents.
Some parts of the machine can be damaged by aggressive detergents.
The manufacturer shall not be held responsible for any damage caused by the non-observance of the above or by the use of aggressive or toxic chemical products.

Absolutely do not use jets of water for cleaning the machine.

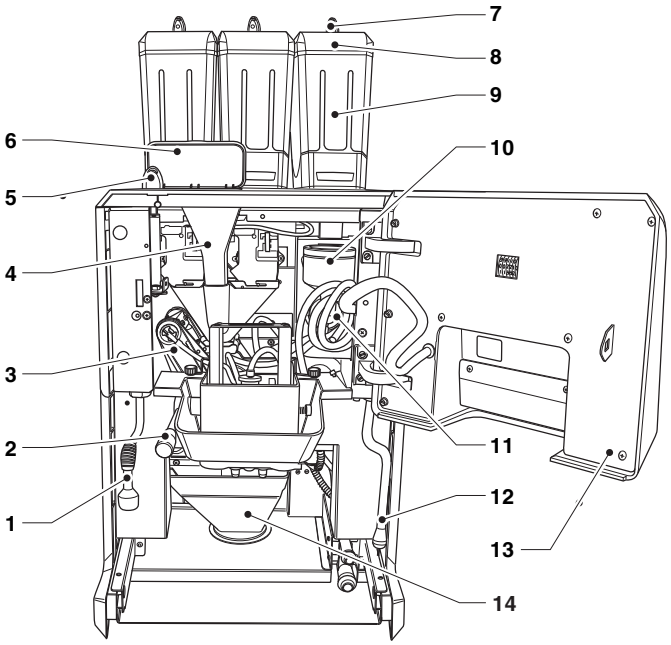


Fig. 4

1- "Hot water" spout (only some models)
2- Telescopic nozzle handle
3- Espresso unit
4- Decaf slide (if present)
5- Door lock
6- Door lock and decaf introduction
7- Instant powder container lock (if present)
8- Instant container cover
9- Product container
10- Mixer (if present)
11- Milk hose (only models with cappuccino maker)
12- "Steam" spout (only some models)
13- Door
14- Solid residue discharge on bench (optional)

USE OF HOT BEVERAGE DISPENSERS IN OPEN CONTAINERS

(E.g. Plastic cups, ceramic cups, pitchers)

The vending machines in open containers shall be used exclusively for the sale and distribution of drinks which are produced by:

- coffee infusion

- reconstitution of soluble or freeze dried products.

These products shall be declared by the producer as “suitable for vending machines” in open containers

- delivery of pasteurized or UHT milk kept refrigerated and suctioned from an external tank. (only models with cappuccino maker)

Products must be kept in strict accordance with the manufacturer instructions regarding storage, storage temperature and expiry date.

The dispensed drinks should be consumed immediately and in no case they should be stored and/or packaged for later consumption.

Any other use is considered improper and therefore potentially dangerous.

CONTROLS AND INFORMATION

The device must operate at room temperature between 2 and 32 °C.
The controls and the information to the user are on the external side.
All messages destined for the user are shown on the display of the device.

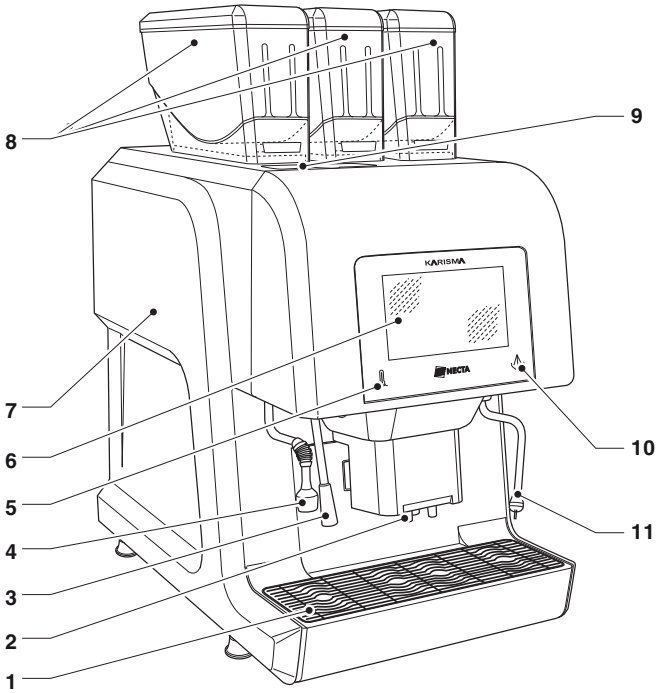


Fig. 5

1- Liquid residue container
2- Telescopic dispensing nozzles
3- Telescopic nozzle handle
4- Hot water dispensing spout (only some models)
5- "Hot water" button (enabled on some models)
6- Touchscreen
7- Side panel
8- Product containers (2 or 3)
9- Door lock
10- "Steam" button (enabled on some models)
11- Steam dispensing spout (only some models)

LOADING PRODUCTS

Before loading the products, please verify they are in strict accordance with the manufacturer instructions regarding storage, storage temperature and expiry date.

Load the products following the guidelines below.
Products may also be loaded with the containers partially full.

COFFEE BEANS

Open the lid of the container, using the key (if present), load with coffee beans.
We recommend the use of quality coffee beans to avoid equipment failure resulting from the presence of impurities

Do not exceed the maximum capacity of the containers; the maximum level of the containers coincides with the support point of the lid.

Carefully close the lid.

INSTANT PRODUCTS

Open the lid of the instant container, using the key (if present), and introduce the powder to be distributed, taking care not to compress it, to avoid caking.
Make sure that the products do not contain lumps.

Do not exceed the maximum capacity of the containers; the maximum level of the containers coincides with the support point of the lid.

Carefully close the lid.

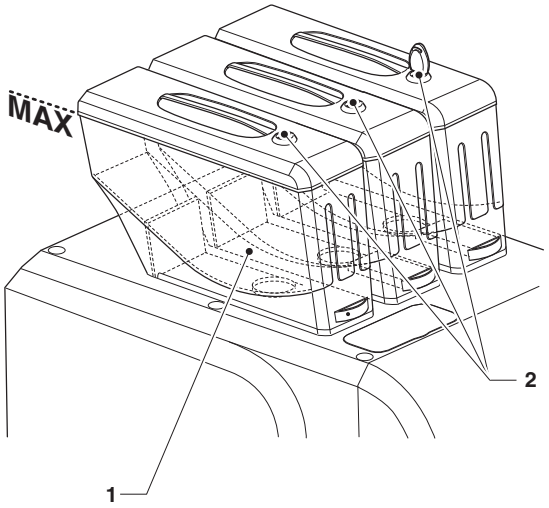


Fig. 6

1- Container
2- Container lock (optional)

MILK

Only models with cappuccino maker
The milk is collected with a suction hose from the milk container (which must be stored according to manufacturer's instructions).
On machines with the side cooling unit, the milk container is housed inside the module itself.

Use only pasteurized or UHT (Ultra High Temperature) milk.

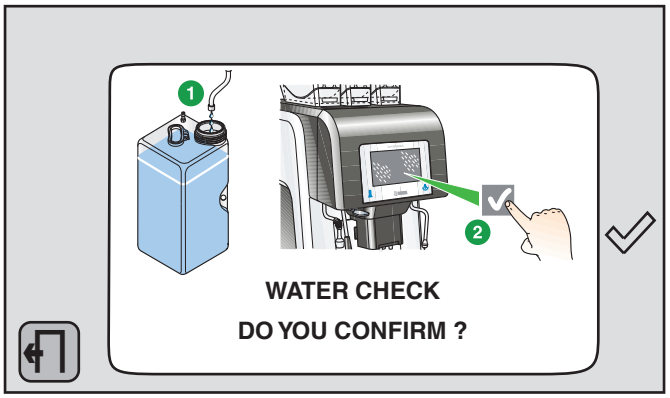
Fill the container with milk, pasteurized or UHT.
The maximum capacity of the milk container is 4 liters.
To prevent suction-related problems, position the milk container on the same support surface as the machine and make sure that the suction hose rests on the bottom of the milk container and does not have loops.

The milk must be managed in compliance with the existing food safety requirements.

INTERNALLY SUPPLIED TANK WATER

Only models with internally supplied water tank
Every day, at the beginning of the service, when empty water is reported, the tank must be emptied of any residual water and sanitized, ensuring to mechanically remove any residues and visible films using, if necessary, swabs or brushes.
To reset the service:

- Fill the tank with clean water, clear, and free from debris.
- Connect the tank to the machine
- Confirm the reset operation of the machine



MACHINE SANITIZATION

This manual shows the potential weak points and includes information about controlling the possible growth of bacteria.

Under the current health and safety regulations, the operator of the machine must apply the self-control procedures, identified in accordance with Directive HACCP (Hazard Analysis Critical Control Point) and national legislation.

Frequently, depending on the use of the machine and the incoming water quality,, as well as on the products used, you must perform a thorough sanitization of the machine to ensure the hygiene of the products delivered. The sanitization must be performed using disinfectants, taking care to mechanically remove the residues and visible films using swabs and/or brushes.

GROUND TRAYS PRESENT

The residue containers are easily removable for easy emptying and cleaning.
The cleaning of the residue containers is to be carried out with the machine on and door closed to allow the machine software to recognize the operation.

LIQUID RESIDUES

The liquid residue container can be easily removed, even if it is directly connected to a drain in the mains.
To remove the solid residue container, simply pull it out.
If the liquid residue container is not directly connected to a drain in the mains, it is necessary to empty it often.
Proceed with the sanitization of the container

SOLID RESIDUES

MODELS WITH SOLID RESIDUE CONTAINER

The control software of the machine displays a message that the maximum number of deliveries has been reached with the message "EMPTY GROUND TRAY" and the machine will stop working.
To remove the solid residue container:

- Lift the delivery nozzles using the lever.
- Pull out the solid residue container:
- Remove the solid residue container, empty and wash the containers with a sanitizing solution.

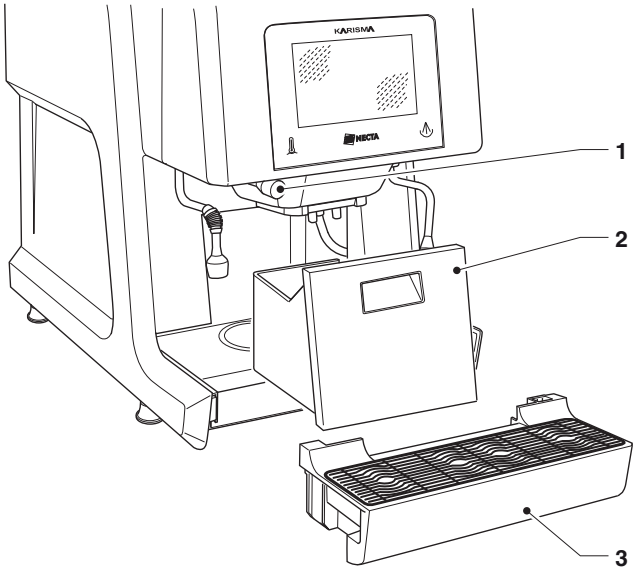


Fig. 7

1- Telescopic nozzle lever
2- Solid residue container
3- Liquid residue container

MODELS WITH SOLID RESIDUE DISCHARGE ON BENCH

- Empty and clean the solid residue container
- Wash the solid residue slide from coffee residue
- Replace the residue slide and the residue container.

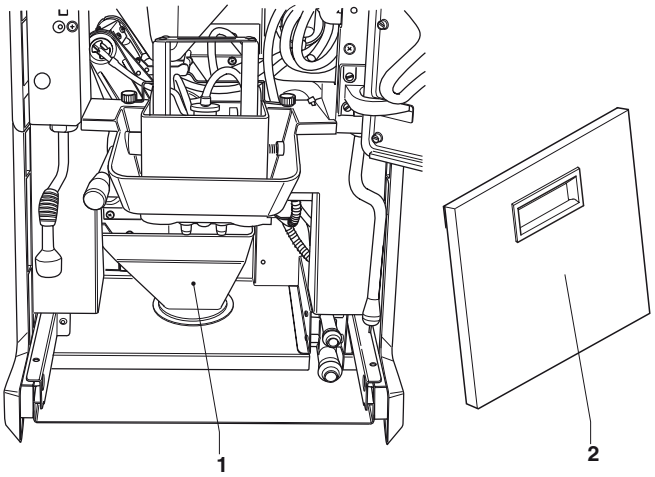


Fig. 8

1- Solid residue slide
2- Solid residue slide cover

MIXER CLEANING

For devices that deliver instant beverages.
For each load and/or weekly or more frequently, depending on the use of the machine and the quality of incoming water and products used, it is necessary to ensure the sanitation of the mixer.
The parts that need to be cleaned are:

- Powder trays, mixers and instant drinks dispensing pipes;

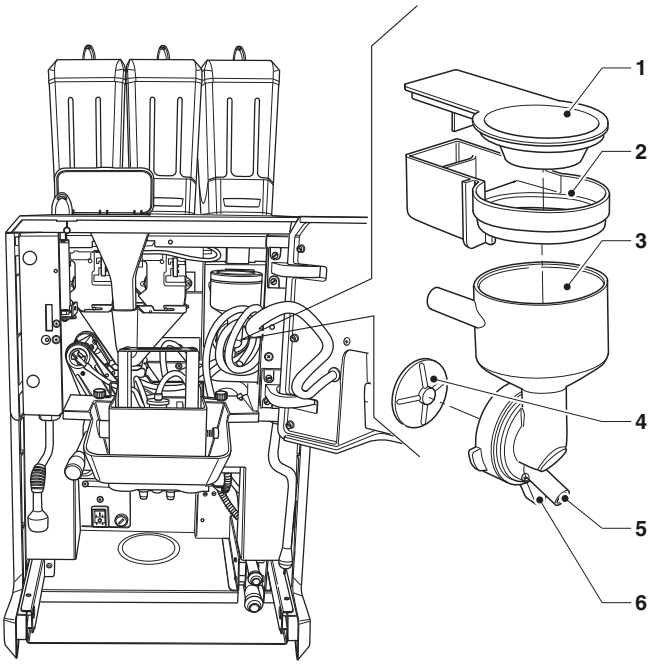


Fig. 9

1- Instant product funnel
2- Powder tray
3- Water funnel
4- Mixer fan
5- Instant beverage hose connection
6- Water funnel locking ring

To clean the mixer, proceed as follows:

- disconnect the instant beverage hose from the connection of the water funnel
- Turn the water funnel locking ring counterclockwise and remove the mixer from the machine
  Pay particular attention to close it completely during reassembly;
- separate all the components (the instant products funnels, the water funnels, the conveyors, the powder trays)
- Remove the fans: just lock with a finger the disc mounted on the motor-mixer shaft, then turn the fan by unscrewing it.

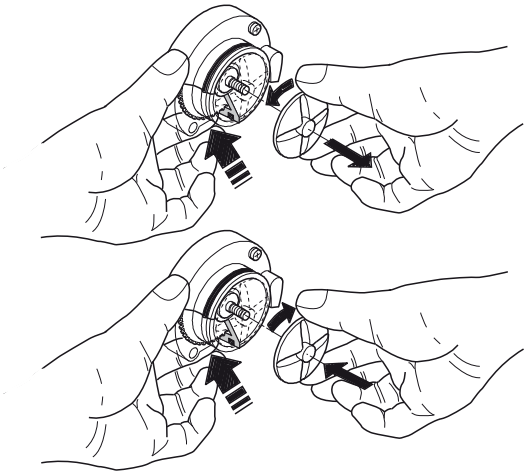


Fig. 10

- Soak the components for about 20' in a container with a sanitizing solution previously prepared, having care of mechanically removing the residues and visible films using swabs or brushes if necessary
- rinse thoroughly and dry each part carefully
- reassemble the fans:
- reassemble the parts of the mixer and reposition the water funnel properly, making sure it is properly plugged

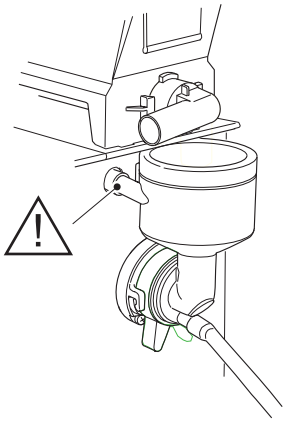


Fig. 11

CLEANING NOZZLES AND SPOUTS

Weekly or more frequently, depending on the use of the machine and the quality of incoming water, it is necessary to ensure the sanitation of the instant beverages delivery ducts and nozzles.
To clean the nozzles, proceed as follows:

- bring the telescopic nozzle in lower position (lower the lever).
- remove the cover and disconnect the hoses from the nozzles
- disconnect the coffee dispensing hose from the flow divider nozzle
- rotate the flow divider nozzle 45° towards yourself, in order to lift it off the nozzle support
- remove the flow divider, the milker nozzle (if present) and the instant beverages nozzles.
- For models with cappuccino maker, separate all parts of the milker nozzle
- proceed with the sanitization of all the components taking care to mechanically remove residues and films visible using swabs or brushes, if necessary

Clean the nozzles with a cloth dampened with sanitizing solution.

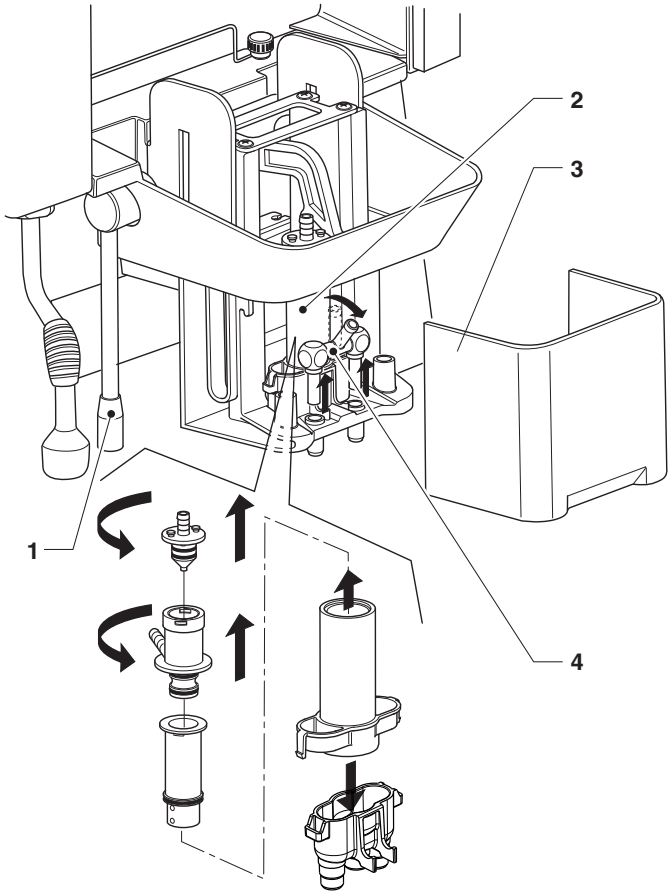


Fig. 12

Models with cappuccino maker
1- Telescopic nozzle handle
2- Mixer nozzle (only models with cappuccino maker)
3- Mobile nozzles cover
4- Flow divider nozzle

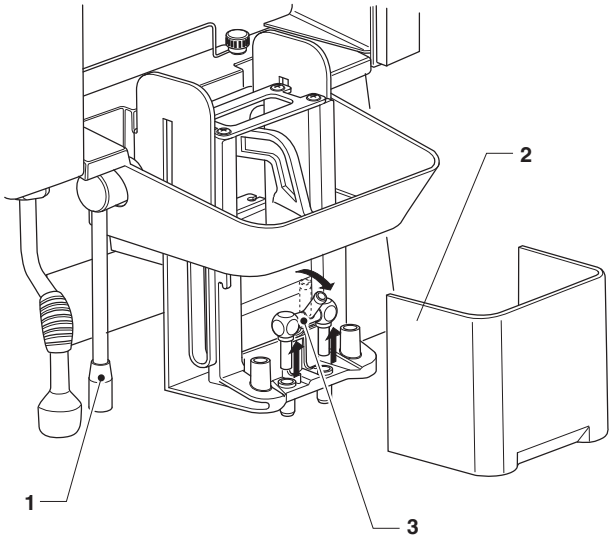


Fig. 13

Models without cappuccino maker
1- Telescopic nozzle handle
2- Mobile nozzles cover
3- Coffee nozzle

COFFEE UNIT CLEANING

Each time the vending machine is loaded, or at least every week, it is good practice to clean the external parts of the coffee unit from any coffee residue and particularly in the areas of the coffee funnel, using a brush or a small vacuum cleaner

CLEANING OF THE MILK TANK

Only models with cappuccino maker
Every day or end of service, it is necessary to empty the milk tank from residues and sanitize it, taking care to mechanically remove debris and visible films using swabs or brushes if necessary

INTERNALLY SUPPLIED WATER TANK CLEANING

Only models with internally supplied water tank
Every day, at the end of the service, the internally supplied water tank must be emptied of any residual water and sanitized, ensuring to mechanically remove any residues and visible films using, if necessary, swabs or brushes.

START-UP

Every time you switch on the machine, it performs initial checks delivering hot water and steam from the nozzles.

Only for models with a cappuccino maker it is required to wash the cappuccino maker (with detergent) if it has not been done in the last 24 hours.

A screen appears showing the heating status of the boilers.
The selections are not available until the machine has reached operating temperatures.
Upon reaching the operating temperature a white screen is displayed with the icons and the invitation to select a beverage.

WASH CYCLES

The machine is designed to run wash cycles of the cappuccino maker (if any) and infuser unit.
To access the wash functions it is necessary to access the "washes" menu; refer to the "Service Functions" paragraph

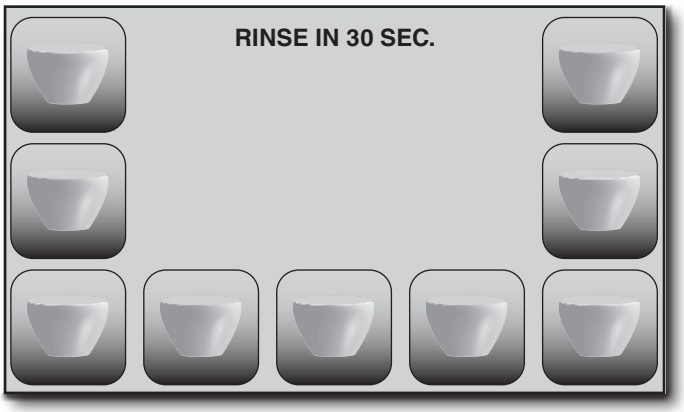
During the wash cycles hot water exits the nozzles, which can be a source of injury to people.
Do not put your hands under the nozzle during the wash cycles.

The wash cycles do not replace the need to disassemble the components for regular sanitization.

For machines that do not have a drainage system for the liquid residue container, for the wash cycles it is recommended to place a container under the nozzle with a capacity of at least 3 liters

MILKER RINSE

Only models with cappuccino maker
After 15 minutes without delivering the milk, the machine automatically performs a rinse cycle of the milker nozzle.
To allow the user to remove the cups from the dispensing area and avoid the risk of personal injury, before the rinse cycle starts, the machine shows a message saying the rinse will begin after the indicated time (30 seconds countdown).



Rinsing the milker nozzle takes 1 minute and the device displays an animation.
For the entire duration of the rinse cycle the selections will remain disabled

The rinsing cycle does not replace the need to disassemble the milker nozzle regularly for sanitation.

CAPPUCCINO MAKER WASH

Only models with cappuccino maker
The guided wash of the cappuccino maker should be done at the end of each service or more frequently, depending on the use of the device.
The cleaning of the cappuccino maker (with detergent) is required automatically at start-up of the machine, if it has not been done in the past 24 hours.

Use only specific products for cappuccino makers[1].

For the use of these products strictly follow the manufacturer's instructions regarding storage, handling, dosing and use; carefully read the safety instructions.

To prepare the detergent solution it is sufficient to dose the detergent.
The amount of water used for the detergent solution is 1 liter.

The use of generic products does not guarantee either hygiene, or a different taste of the beverages, or consequences on human health.

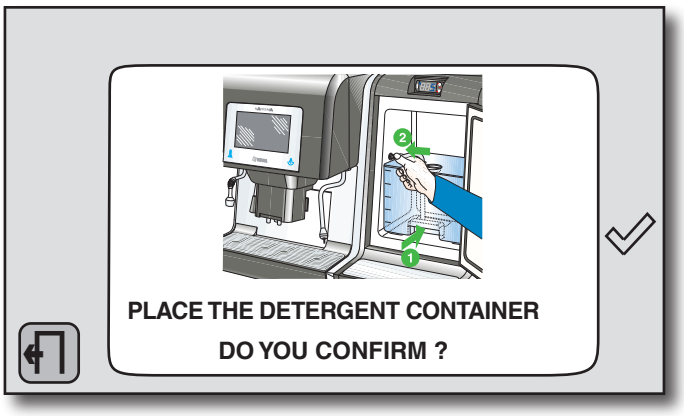
For machines that do not have a drainage system for the liquid residue container, before starting the wash cycle of the cappuccino maker, it is recommended to place a container under the nozzle with a capacity of at least 3 liters, in order to collect the wash residues.

The washing of the cappuccino maker has a duration of about 10/15 minutes
The device displays the sequence of the operations through specific messages, and they should be confirmed.

In sequence:

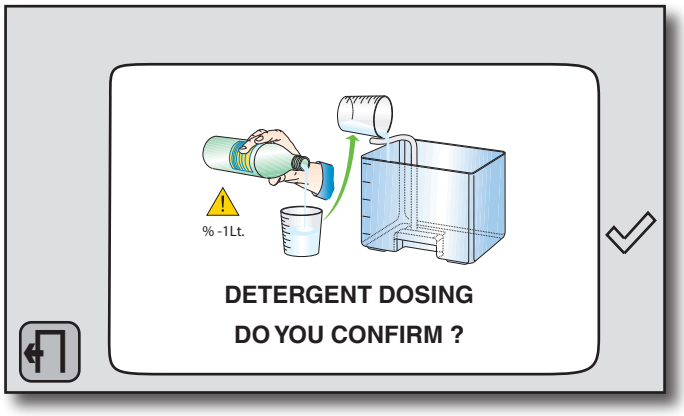
- Disconnect the milk container hose from the cooling unit and remove the milk container.
  If the cooling unit is not used, remove the milk container.

- Place the detergent container and connect the detergent container to the cooling unit connection
  If the cooling unit is not used, insert the suction hose inside the detergent container.
  Warning !!!
  Do not use the milk container for the cappuccino maker cleaning cycle.
  Make sure the suction hose is fixed to the bottom of the detergent container.



1 *tested product KAMARETA MILK CLEAN*

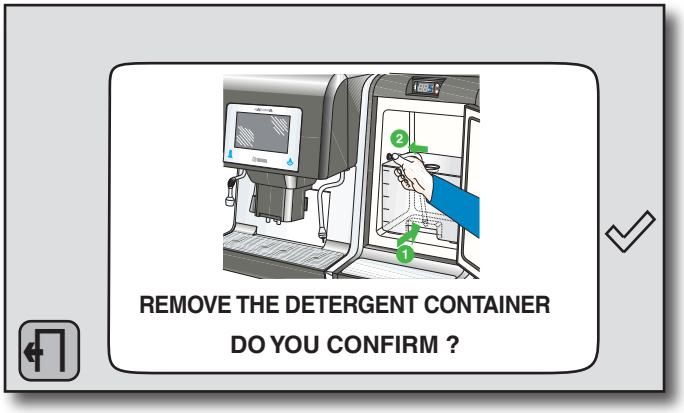
- Add **only** the amount prescribed in the container, following the dosing instructions on the packaging of the product.
  The device automatically prepares the mix adding 1 liter of water to the detergent container.



- For the duration of the wash cycle of the cappuccino maker, the display shows an animation and hot water is delivered from the nozzles.
  After using all the sanitizing solution, the machine fills the detergent container with 1 liter of warm water to remove any residual sanitizer.
- At the end of the cycle it is required to remove the detergent tank,

During the wash cycle of the cappuccino maker, it is possible to sanitize the milk tank taking care to mechanically remove residues and visible films using swabs or brushes if necessary

- Reposition the milk tank



Warning !!!

The wash with detergent does not replace the need to disassemble the milker nozzle for regular sanitization.

If for any reason the cleaning cycle is interrupted (for example manual interruption, power failure,...) after the machine is restarted a new wash cycle of the cappuccino maker is required.

The delivery of milk based beverages is suspended until the wash cycle of the cappuccino maker is carried out

Wash operations are stored from the machine; it is possible to consult the list of washes done in the "Washes" menu, at the "Wash status" and "Last washes reports" functions

INFUSER UNIT WASH CYCLE

The guided wash cycle of the infuser unit should be done at the end of each service or more frequently, depending on the use of the device.

Use only specific products for coffee makers.

For the use of these products strictly follow the manufacturer's instructions regarding storage, handling, dosing and use; carefully read the safety instructions.

The use of generic products does not guarantee either hygiene, or a different taste of the beverages, or consequences on human health.

The amount of water used per wash is about 2.5 liter.

The cycle lasts about 13 minutes; in order to allow the detergent to dissolve and act, the machine performs 12 water dispensing cycles at intervals of 45 seconds,

- For machines that do not have a drainage system for the liquid residue container, place a container under the nozzle with a capacity of at least 3 liters
- Insert the detergent slide (supplied by default) into the decaf slide.
  Always use the detergent slide to prevent detergent residue from contaminating the decaf slide.
- Add the detergent dropping it into the detergent slide.
- Confirm to start the cleaning cycle by pressing the enter key

Warning !!!

If for any reason the cleaning cycle is interrupted (for example power failure,...) after the machine is restarted a new wash cycle of the cappuccino maker is required to remove any possible detergent residues.

The delivery of espresso-based beverages is suspended until a complete rinse cycle is carried out.

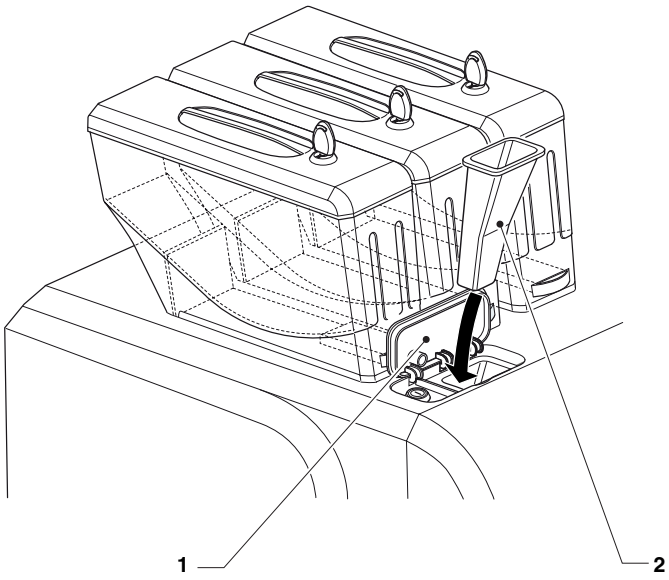
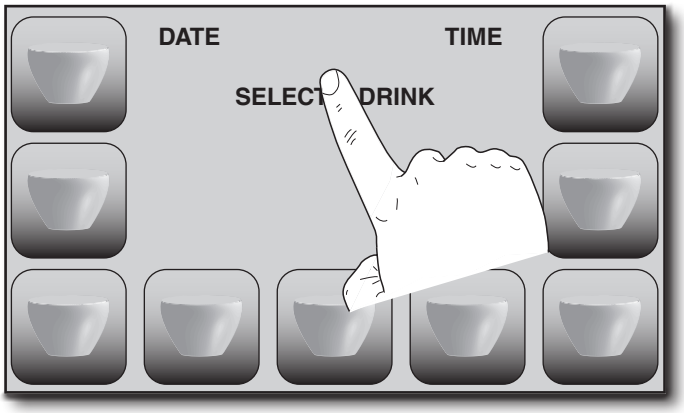


Fig. 14

1- Door for decaf introduction
2- Detergent slide

WASH FUNCTIONS

To access the menu "washes" touch the touchscreen area with the "Please select the drink" message for 3 seconds



The screen to access the menu is displayed; touch the "washes" icon.

You will be prompted to enter your password (if required) From the washes menu you can:

- wash the infuser unit and the mixer using specific detergent
- wash the cappuccino maker with using specific detergent.
- rinse mixer and infuser unit with hot water
- rinse the milker nozzle with hot water

TOUCHSCREEN CLEANING

The touch screen is touch sensitive; the reduction of sensitivity and/or changes in the operation are caused by the dirt accumulated on the touchscreen.

For cleaning, use a soft, dry, cloth and avoid the use of abrasive products containing solvents or alcohol.

- Before cleaning the touchscreen, hold down the area with the "Please select the drink" message for 3 seconds.
- Press the "Washes" button, input the password (if required) and press "Touchscreen cleaning". On the touchscreen the remaining time to clean the touchscreen (30 sec.) is displayed
- Clean the touchscreen with a little pressure

SERVICE SUSPENSION

If, for any reason, the machine remains off for a long period, it is necessary to:

- completely empty the containers and wash them carefully with the sterilising products
- completely empty the grinders by dispensing coffee until the notification that the machine is empty.
- Only in models with water supply from tank, completely empty the tank and proceed to its sanitation
- proceed with the guided wash of the milk circuit (only models with cappuccino maker), the infuser unit and mixers.
- empty ad wash the solid residue container (if present) and the liquid residue container
- close the tap positioned upstream of the water hose and completely empty the hydraulic circuit
- disconnect the machine from the power supply.

Chapter 2
INSTALLATION

The installation and the subsequent maintenance operations shall be carried out with the machine connected to the power supply and therefore by specialised personnel, trained for the use of the machine who has been informed of the specific risks deriving from such a situation.
The machine is not suitable for outside installations, it needs to be installed inside dry premises, with temperature between 2° and 32°C.
The machine cannot be installed in environments in which jets of water are used for cleaning.

When the machine is installed, the hydraulic circuits and the parts in contact with the food products need to be sterilised in order to eliminate any bacteria which could have formed during storage.

MAIN SWITCH AND SAFETIES

Main switch

The switch is positioned behind the solid residue container.
To access the main switch, you'll need to remove the solid and liquid residue trays.
The support terminal block of the line cable, line fuse, and noise filter are always powered.

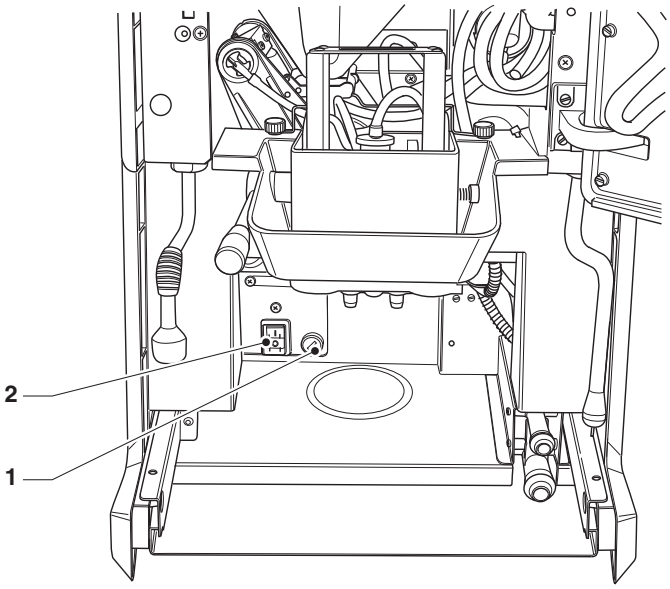


Fig. 15

1- Main switch
2- Line fuse

SAFETIES

The unit has magnetic sensors that allow the detection of:

- The closing of the door
- The presence of the containers
- The presence of ground trays

In the absence of one of the conditions listed above, the device is disabled.

With the door open, there is no access to live-parts. Inside the machine, only those parts which are protected by covers and which are highlighted with a label "disconnect voltage before removing the cover" remain live.

Before removing these covers, it's necessary to unplug the machine from the power supply.

This machine is provided with a magnet that allows the operation with the door open.
The magnet must not be left inside the machine, but it must be kept by personnel trained in its use.
The closing of the door of the machine is possible only after removing the magnet.

UNPACKING THE MACHINE

After removing the packaging, verify the integrity of the machine.
In case of doubt, do not use the machine.

The packaging materials (plastic bags, expanded polystyrene, nails, etc.) shall be kept out of the reach of children as they are a potential source of danger.

The packaging materials need to be disposed of in authorised places. Recycling materials shall be given to specialised recycling companies

Important

The machine must be positioned on a leveled surface, so that the maximum inclination does not exceed 2°.
If needed, level it out using the appropriate adjustable feet provided with the machine.

WATER SUPPLY

The water used by the vending machine is drinking water, taking into account the regulations in force where the machine is installed.

FROM WATER MAINS

Only models with water inlet solenoid valve.
The water pressure must be between 0.12 and 0.85 MPa (1.2 - 8.5 bar).
Let the water come out from the mains until it is clear and free from dirt.
Connect the water mains to the ¾" fitting of the water inlet solenoid valve by a pipe (also available in the kit) suitable to withstand the water mains pressure, and of a type suitable for food (minimum internal diameter of 6 mm.)
The water connection is located under the machine.

To connect the machine to the water mains use only one set of new gaskets and hoses.

Do not reuse the material that may exist.

Installing a tap on the water system outside the machine, in an accessible position, is recommended.

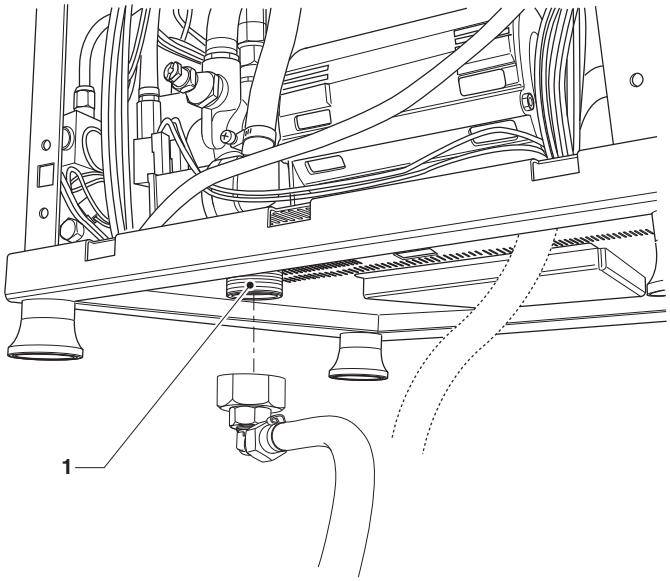


Fig. 16

1- ¾" inlet water solenoid valve fitting

FROM TANK

Only models without water inlet solenoid valve.
Use the self-supply kit for the specific machine; the kit is accompanied by instructions for assembly and testing that must be strictly observed to maintain safety of the machine.
Place the tank in a clean and protected location (closed cabinet), convenient for filling and periodic cleaning.

Important

Using kits that have not been approved by the manufacturer does not guarantee the compliance with the safety standards, especially for what concerns live-parts.
The manufacturer declines any responsibility for the use of non-approved components.

The installation and the subsequent test operations shall be performed by qualified personnel, with specific knowledge of the operation of the machine both from the point of view of electrical safety and of hygiene.

SOLID AND LIQUID RESIDUES DISCHARGE

Where possible, **you should** discharge the solid residues into bucket and connect the liquid residue container to a standpipe.

LIQUID RESIDUES

Connect the liquid residue container to a standpipe using the drain connector that plugs into the liquid residue container
When this is not possible, it is preferable to use a bucket to collect the residues from the tray.
To connect the liquid residue container to the drain connector, drill the liquid residue container in the area of the drain connector
Make sure that the liquid flows from the container without obstacles.

SOLID RESIDUES

The discharge of the solid residues can be done directly into a bucket using the solid residue slide supplied by default, by inserting it into the drain hole.

- Remove the metal part of the setup for discharge on bench
- Place the residue slide
- Place the solid residue container in a clean and protected location (closed cabinet), convenient for emptying and periodic cleaning.

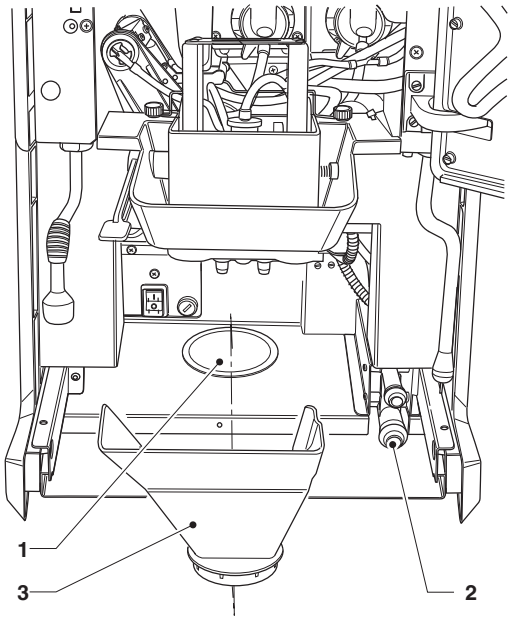


Fig. 17

1- Preparing solid residue discharge on bench
2- Liquid residue container drain connector
3- Solid residue discharge slide (only models with discharge on bench)

ELECTRICAL CONNECTION

Given the power consumption, it is preferable to connect the machine to a 400-415 V∿.3P+N+T three-phase line.
If a three-phase line is not available, the machine can be connected to a 230-240V∿ single phase line, after having qualified personnel check that it is properly sized to handle the required load.
The machine is protected with 15 A fuses.
The machine is supplied without a power cord; use only HO5 VV-F or HO5 VV H2 - F cords with a suitable section or otherwise compliant with national legislation.
For the connection, ensure that details on the plate correspond to those of the mains, in particular that the value of the supply voltage falls within the recommended limits for the connection points.

it is mandatory to use a switch, in accordance with the rules of installation, located in an accessible position, which has characteristics suitable for supporting the maximum load and ensures the omnipolar disconnection from the power supply under conditions of overvoltage category III and, therefore, which protects the circuit against ground faults, overloads and short circuits.

The device must be connected permanently.

The use of adapters, multiple plugs and/or extension cables is forbidden.

The electrical safety of the machine is ensured only when the machine is correctly connected to an efficient earthling system, as foreseen by the current safety regulations.

It is necessary to verify this fundamental safety requirement and, in case of doubt, request an accurate check of the system by qualified personnel.
The cable connection should be made to the appropriate terminal board on the left side of the machine, respecting the position of the phases shown in the diagrams.
For the cable connection it is necessary to remove the left side panel (see side panel removal)

The possible connections are:

- **THREE-PHASE + NEUTRAL (RECOMMENDED)**
  400-415V~ 3P+N+T, 50 Hz; 17A; 6900 W;
  Cable 5 x 2.5 mm^2

- **SINGLE-PHASE 32A**
  230-240V~ 50 Hz; 30 A; 6900 W;
  Cable 3 x 4 mm^2

- **SINGLE-PHASE 16A**
  230-240V~ 50 Hz; 15.5 A; 3500 W;
  Cable 3 x 1.5 mm^2

If the line is insufficient to withstand a load of 6900 W you can set the single-phase supply at 16 A.
The boilers operate in sequence with mutual exclusion; the power required is reduced to 3500 W and the productivity of the equipment will be reduced accordingly.

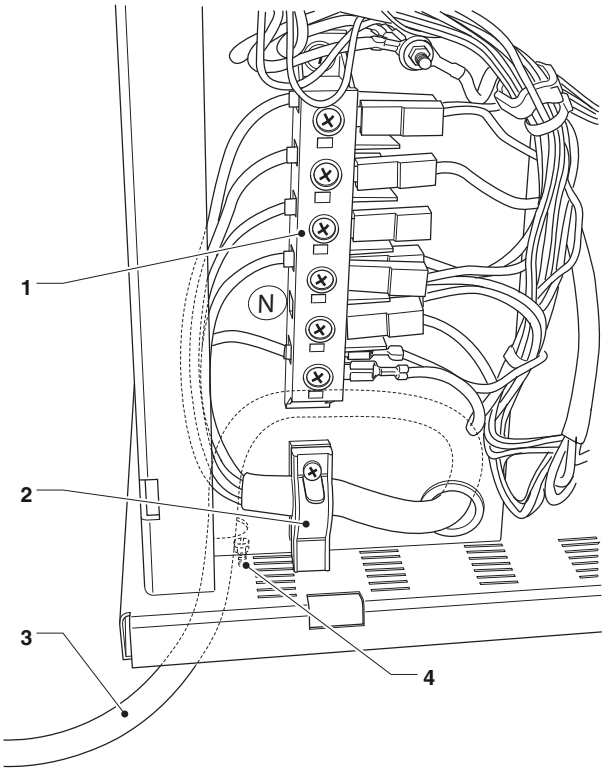


Fig. 18

1- Connection terminal board
2- Strain relief
3- Electric cable
4- Wanne external

For the single-phase connection, for the jumpers, use the appropriate strips housed on the terminal board. The wiring diagrams are shown in the figure.

The connection must be done respecting the phases indicated in the diagram; a different connection could damage or disallow the operation.

Three-phase + N (recommended)

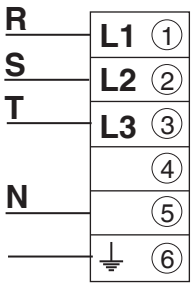
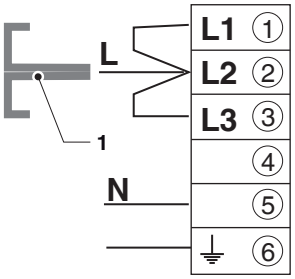


Fig. 19

Single Phase



1- Strips

Warning !!!

At first start-up of the machine, the user is prompted for the type of power source used.

It is important to indicate the type of electrical connection used, the manufacturer declines all responsibility for damage caused by failure to observe the precautions below.

REMOVING THE SIDE AND REAR PANELS

To gain access to internal components, or for the electrical connection, remove the panels:.

- Operate the side panels fixing knurls
- Slide the side panels forward to unhook them
- Disconnect the lighting board of the side
- To remove the rear panel, slide it to the left.

To re-assemble the panels, proceed in reverse order.

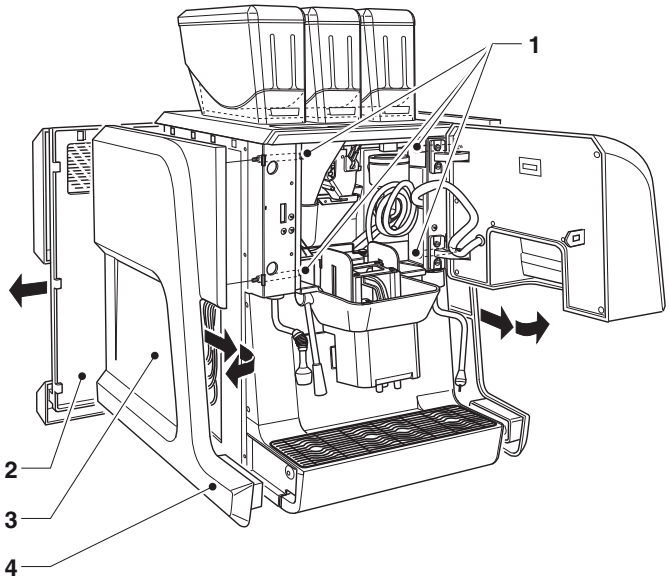


Fig. 20

1- Side panels fixing knurls
2- Rear panel
3- Side panel
4- Aesthetic side

SIDE MODULES INSTALLATION

Side modules can be combined with the machine, (optional kit such as cooling units and cup heaters).
The side modules are supplied with installation and test instructions, which shall be scrupulously followed in order to maintain the safety of the machine.

Before installing the side panels, it is necessary to unplug the machine from the power supply.

- unplug the machine from the power supply
- remove the aesthetic side from the side panel and the LED board lighting the side
- On the side panel to apply the cap (supplied with the system) to close the hole for the passage of the cables, apply the adhesive seals the points indicated

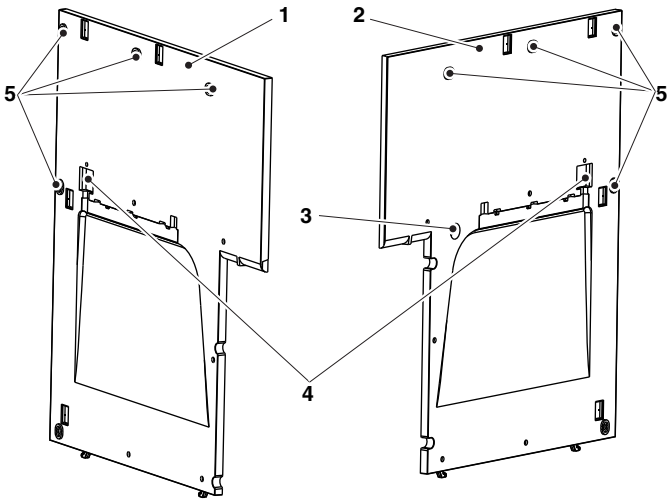


Fig. 21

1- Left side panel
2- Right side panel
3- Through hole for routing the milk hose from the cooling unit
4- Cable through hole
5- Points of application of the adhesive seals

- install the LED board and aesthetic side on the side module (Cup heater and/or cooler)
- fix and connect the side modules according to the instructions supplied with the modules themselves

DESCALER

The machine is supplied without descaler.
In the event that the machine is connected to very hard water, it is necessary to install a descaler.
The descalers, available as an accessory, need to be periodically regenerated according to the indications given by the manufacturer.
Use descalers with a capacity which is adequate to the actual use of the machine.
In case the machine uses a water tank, it is possible to use appropriate filtering cartridges.

FIRST START-UP

At first start-up of the machine, the user is requested:

- to enter the code of the machine (detectable from the plate inside the door),
  Use the keyboard shown on the display to enter the code of the machine.
- the language to be used for messages
- the type of location (hotel or self service)
- the type of power supply used to power the machine (three-phase, single phase 38A, single phase 16A)
- if the machine will use the tank (On/Off)

In case of inconsistency of the parameters required during initialization an error message is displayed with the only possibility to initialize the machine again.

After that, the hydraulic circuit is filled up (installation).

- Upon start-up, the mains solenoid valve is opened automatically until the hydraulic circuit is filled up.
- They boilers solenoid valves open up to vent air and boilers are filled
  During the entire cycle, the display will show “installation”

Note: In case of lack of water during the installation cycle, the machine will stop and wait for the water.

If substantial water pockets form in the hydraulic circuit, then the hydraulic circuit must be filled using the special “manual installation” function

After filling of the hydraulic circuit, the machine conducts a rotation of the infuser unit to allow its correct positioning; the display shows, in sequence:

- the software version of the machine and the software version of the touchscreen.
- the status of the heating cycle of the boilers.

After the heating cycle, after a few seconds, the display shows a message for the selection of the beverage and current date/time.

MILK PUMP CALIBRATION

Only models with cappuccino maker.

At the first start, after initialization, or maintenance, it is necessary to calibrate the milk pump

To access the calibration function of the milk pump, enter the calibration functions of the technical menu.
To calibrate the pump, proceed as follows:

- Take the amount of milk delivered from the machine
- Measure the minimum and maximum amount of milk (in cc)
- Enter the measured values

The procedure allows to obtain the correct amount of milk in the selections that use it.

FIRST SANITIZATION

When the machine is installed, it is necessary to carry out a thorough disinfection of food circuits (infuser unit, mixer, beverage delivery ducts, inner tank,...) to ensure the hygiene of the products delivered.

Jets of water are to be absolutely avoided for cleaning.

The sterilization is performed by means of sterilizing products.
Wash the mixer by adding a few drops of sanitizing solution, completely wash the cappuccino maker and the infuser unit.
Once the sterilisation has been performed, rinse the mixers well for removing any possible residue of the solution used.
To supply water to the mixer use the rinse function from the "washes" menu.

Important

The machine is equipped with an automatic wash system for the mixers, infuser unit and milk circuit.
If the use of the machine is subject to idle periods (weekends, etc.), even for less than two days, it is good practice to enable the automatic washing functions (before beginning to use the machine).

OPERATION

ESPRESSO UNIT

After each start-up of the machine, the coffee unit performs a full rotation before performing the normal cycle in order to ensure that the device is positioned in the initial position.

COFFEE DISPENSING CYCLE

If a coffee-based selection is requested, the grinder is activated until the coffee doser chamber is full.
When the doser is full, the coffee dose is released into the infusion chamber which is located vertically inside the coffee unit.
The gear motor engaged on the pinion lets the cranks rotate, which cause the infusion chamber to rotate as well.
The upper piston aligns itself with the infusion chamber and descends inside it. The position where the piston stops for the infusion will depend on the quantity of coffee inside the chamber.

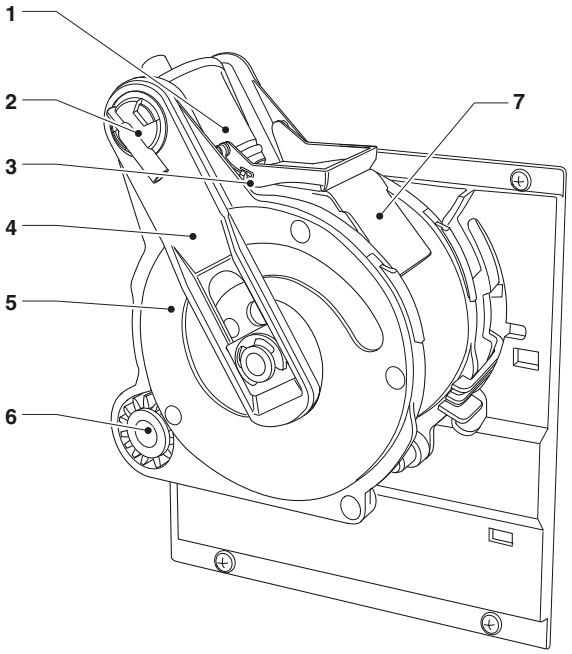


Fig. 22

1- Upper piston
2- Coffee outlet nozzle
3- Scraper
4- Rods
5- Cranks
6- Pinion
7- Exhaust pad slide

At the end of the coffee dispensing phase, the upper piston goes down in order to mechanically squeeze the coffee pod, facilitating the expulsion of excess water through the 3rd route of the dispensing solenoid valve.
At the end of the cycle the gear motor is activated in the opposite direction, lifting the upper piston and rotating the infusion chamber towards the emptying side, on the opposite side of the dispensing side; the lower piston rises.
Once the emptying position is reached, the gear motor inverts its rotation direction again, bringing the infusion chamber back to the idle position.
The scraper holds the coffee pod and lets it fall, while the lower piston returns to the idle position.

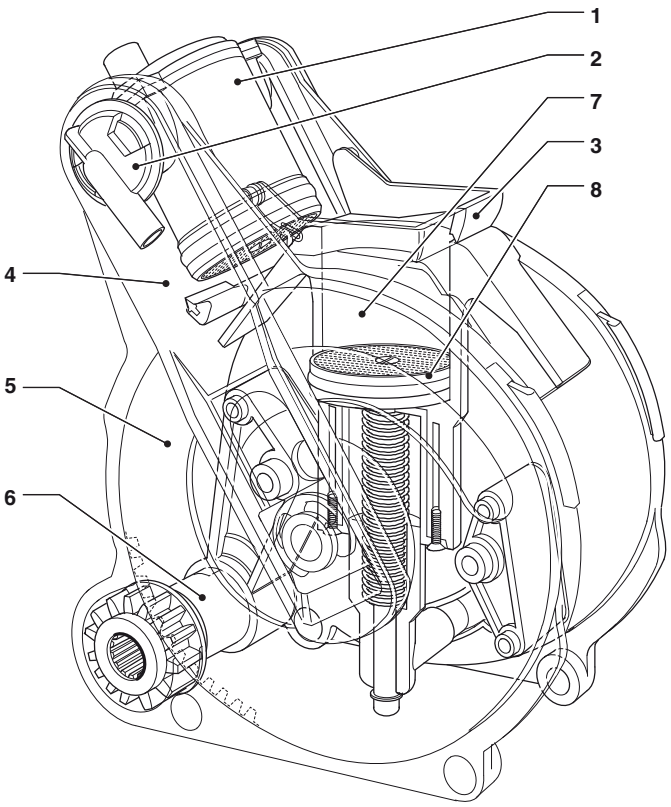


Fig. 23

1- Upper piston
2- Coffee outlet nozzle
3- Scraper
4- Rods
5- Cranks
6- Pinion
7- Infusion chamber
8- Lower piston

VOLUME OF THE INFUSION CHAMBER

The coffee unit can operate with coffee doses between 7 and 13,5 gr.
The upper piston positions itself automatically according to the programmed pressure.

VARIABLE-DOSE COFFEE DOSER

A coffee dose is composed of two quantities of ground coffee, released consecutively from the doser.
The doser can be set to dispense two different quantities of ground coffee;

- a first quantity, volume-dosed (more precise), is released upon the filling of the doser chamber;
- the second quantity, time-dosed, adjustable in percentage (from 1 to 99%) of the volumetric amount grinding time, is released when the set time is achieved.
  If the percentage is set to 0 only one release is carried out;
  if the percentage is set to 100 two volume-dosed releases are carried out (filling of the chamber also for the second release).

The chamber volume of the variable-dose doser can be adjusted between 5.5 and 8.5 g using the adjustment lever.
The dose adjustment lever can be positioned on one of the 10 reference notches, taking into consideration that:

- raising the lever increases the dose:
- lowering the lever decreases the dose:
- each notch changes the dose by approx. 0.35 g.

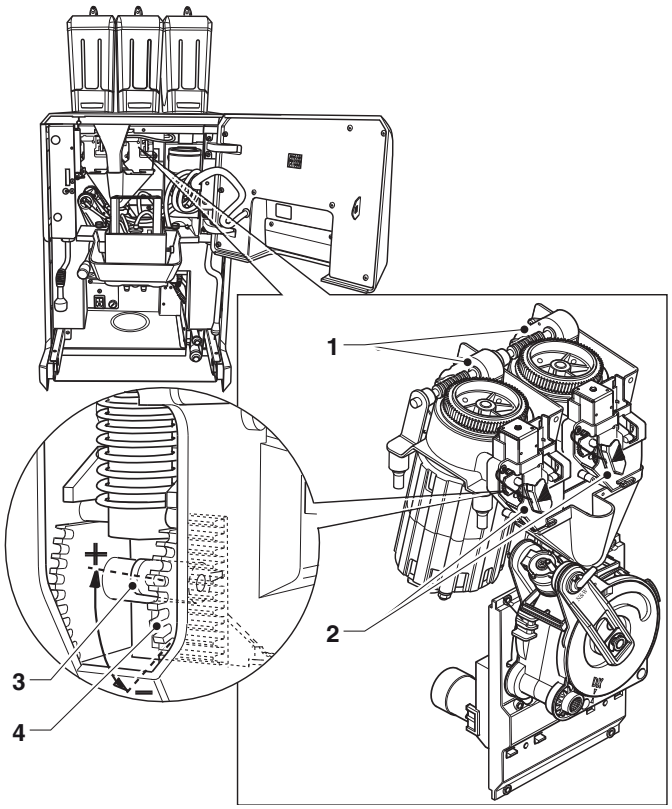


Fig. 24

1- Blade-adjustment engine
2- Dosers
3- Dose adjustment lever
4- Dose adjustment

SELECTION DOSE COMBINATION

For each dispenser two different doses are managed, one low (for single coffee) and one high (for double coffee) which can be associated with the selections based on coffee.
The variable chamber coffee unit can accept doses up to 13.5 grams of coffee.

- If you opt for the completely volumetric high dose (100% time - two releases), you must not exceed adjustment 7 grams for the volume of the dispenser.
  In this case, the dose for single coffee will be composed of 7 g (volume) plus the grams ground in the programmed time (volume grinding other than 100%).
- If you opt for the totally volumetric low dose, you will need to adjust the volume to the desired dose with the addition of 0% time-ground gr.
  In this case, the dose for double coffee will be composed of the volume-dosed grams plus the grams ground in the programmed time (volume grinding other than 0%).

Warning!!! If the position of the adjustment lever is changed, the percentage value of the added dose will have to be reset.

Ensure the total dose does not exceed 13.5 grams.

Test releases can be performed using the appropriate function of the “Test” menu in the “Technical” mode (see relevant paragraph); the released doses should be collected by removing the coffee unit in order to prevent the leakage of coffee inside the machine.

Important!

The layouts provide for a combination between the selections and the dose which, in any case, can be changed.
It is possible to modify the combination of the doses and selections determined based on the product used and the desired beverage quality.
The default setting of the machine is indicated in the doses-selections table supplied with the machine.

MILK DELIVERY

For machines with cappuccino makers, beverages can be supplied with:

- milk
- hot milk with no foam
- hot milk with foam

MILK

- the milk pump activated vacuuming the milk from the container
- The milk goes to the milker nozzle (pushed by the milk pump) and is dispensed into the cup

HOT MILK WITH NO FOAM

- The steam boiler solenoid valve (EVVAP) is opened and, at the same time, the milk pump is activated
- The milk goes to the milker nozzle (pushed by the milk pump)
- the steam passes through the milker nozzle at the same time as the milk and warms it up.

HOT MILK WITH FOAM

- The steam boiler solenoid valve (EVVAP) and the "air" solenoid valve (EVAIR) are opened and the milk pump is activated; the passage of steam sucks air mixing it with the milk pushed by the pump.
- The milk goes to the milker nozzle (pushed by the milk pump)
- the steam passes through the milker nozzle at the same time as the milk and warms it up.

At the end of the dispensing cycle of the milk a partial washing milker nozzle is carried out with a minimal amount of water (opening of the milker nozzle washing solenoid valve EVWEMU)
The dose of milk, the capacity of the milk and the amount of foam can be customized from the programming menu.

CAPPUCCINO MAKER WASH CYCLES

Only models with cappuccino maker

The machine is designed to run wash cycles of the cappuccino maker (if any) and infuser unit.

- milker rinse: periodically, 15 minutes after no milk-based beverage is dispensed, a milker rinse cycle is carried of the duration of 60 seconds.
  The selections with milk are inhibited until the milker rinse is completed.
  Before the machine starts the milker automatically a notice with the countdown is displayed.
- Cappuccino maker wash: the cappuccino maker is washed using specific detergent.
  The cleaning cycle is semi-automatic and you must confirm the operation by pressing the ↵ button.

The automatic washes do not exclude the need for daily sanitization and periodic removal of the milker nozzle.

STEAM DISPENSING FROM SPOUT

Only models with steam spout

The steam spout is combined with a temperature probe which allows to detect the temperature of the beverage during the heating with steam.
To release the steam from the spout, press the "Steam" button, or, depending on the model, request the "Steam" selection.
The device delivers the steam (opening of the steam solenoid valve EVLVAP) until the set temperature of the beverage is reached (default 70°C).
The steam supply is interrupted regardless of the temperature after 2 minutes of delivery.
You can stop the delivery by pressing the "Steam" button again (stop delivery function)

HOT WATER DISPENSING FROM SPOUT

Only models with hot water spout

To release the hot water from the spout, press the "Hot water" button, or, depending on the model, request the "Hot water" selection.
Depending on the programmed settings ("productivity" parameter), the hot water spout (EVH2O) and flow rate increase (EV2H2O) solenoid valves are activated
The machine delivers hot water:

- until the set amount is reached
- until you press "Hot Water" (stop delivery function) again
- until you release ""Hot Water" again

MACHINE LIGHTING

The device has LEDs for lighting the dispensing area and the sides of the machine.
By default, the dispensing area LEDs switch on when the drink is being dispensed and remain on for a few seconds after the end of the dispensing; however, the switch on-time or steady-on of the LEDs can be programmed.
The lighting of the sides of the machine is always active.

CHECKS AND SETTINGS

Standard calibration

the unit comes supplied with a selection dose table which includes the calibrations and doses that are set as standard.
To obtain the best results for each product used, we recommend the following checks:

- The coffee pod shall be slightly compressed and moist.
- Infusion time
- The grammage of the coffee.
- The temperature of the beverage (about 70÷80° at the nozzle);
- Dose of water.

The grammage of the product, the amount of water and the temperatures are controlled Directly by the control electronics.
The variation of these values is performed through the following programming procedures.

Coffee dose

The maximum coffee dose used by the infuser group is 13.5 grams.
Depending on the type of delivery (single/double) the volume of the dispenser chamber must be adjusted.
By difference, and depending on the desired dose the percentage of the grinding time to be programmed for the second quantity of coffee should be determined.

Water Dose

The type of selection determines the amount of water to be delivered in terms of volumetric meter pulses (cdv).

Coffee grammage adjustment

The dose adjustment lever can be positioned on one of the 10 reference notches, taking into consideration that:

- raising the lever increases the dose;
- lowering the lever decreases the dose;
- each notch changes the dose by approx. 0.35 g.

For collecting the dose it will be sufficient to remove the coffee unit and use the appropriate function of the "test" menu in "technical" mode (see relevant paragraph).

Important!

The dose used is approximately between 7 and 13.5 g; varying the degree of grinding, there are slight variations in dose.

grinding setting

Varying the distance between the grinders varies the degree of grinding; the value of desired variation can be set by ⅛ of a turn of the adjustment screw via the software. The finer the grinding grade, the longer the beverage dispensing time will be and vice versa.

Note: after varying the grinding grade, it is necessary to carry out at least 2 selections for checking the new ground coffee granulometry.

Milk calibration

Only models with cappuccino maker

Dose

The milk dose is adjustable (time) and programmable from the menu.

Temperature

The milk temperature is programmable by adjusting the flow rate from the menu.

Foam

The adjustment of the quantity of air (and thus of the foam) that is delivered together with the milk is adjusted by the software.
A high percentage value involves greater amount of foam.

espresso boiler thermostats

The temperature of the coffee boiler is controlled by the software and can be adjusted directly from the menu. Please be aware that significant temperature changes affect the infusion time.

hot water boiler temperature

The temperature of the coffee boiler 7 instant beverages is controlled by the software and can be adjusted directly from the menu.

steam boiler temperature

The temperature of the steam boiler is controlled by the software and it can be adjusted directly from the menu.

notes on
Programming

The electronic control unit of the machine controls the use of many functions.
The program of the machine contains a description of all the foreseen functions, including those which, for the specific configuration of the model (layout), are not used.
The machine is provided with a dosage table in which the main functions and layout provided for the specific model, as well as the flow chart of the programming menus are described.
Described below is a summary of the main functions which are useful for managing the operation of the machine, not necessarily in the order in which they are displayed in the menu.
The representation of icons/screens in this manual is approximate and may vary from the one displayed on the machine depending on configuration (layouts, themes and/or icons)
The software versions of the machines and/or touchscreen can be updated using the appropriate systems (PC, USB, etc.)
The status of the machine can be in different conditions:

Normal user

- Machine start-up (door closure) with the execution of the foreseen checks.
- Dispensing selection and messages to the user.
- Automatic wash cycles of the cappuccino maker (if any)

Usb menu

- Setup / backup saving and uploading
- Uploading of videos and images

Washing menu

- Touchscreen block function for cleaning
- Automatic washing and rinsing

Manager menu

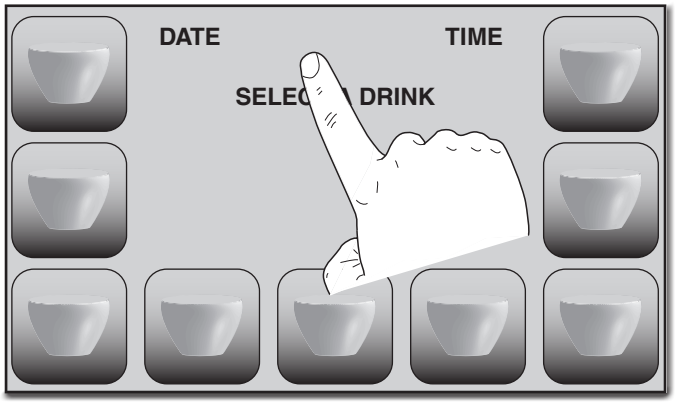
- Detection of statistical data and execution of simple checks on the operation and on the dispensed items.

Technical menu

- Programming of the settings and of the performances of the machine.
  The operations which can be performed with this menu may change the operating cycles and therefore they must be performed by people with specific knowledge of machine, both in relation to electrical safety and hygiene standards.

ENTERING THE PROGRAMMING MODE

To access the menu for programming the machine touch the touchscreen area with the “Please select the drink” message for 3 seconds.



It is proposed a selection screen that allows you to access:

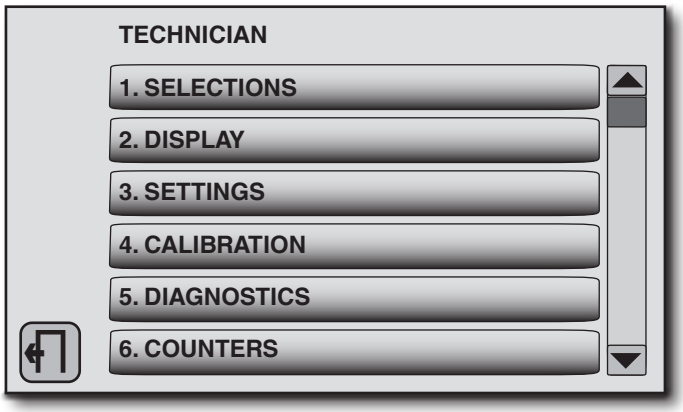
- USB menu
- Wash Menu
- Manager Menu
- Technical Menu

To access the programming menu you may need to enter your password to access the menu (if enabled).

BROWSING MODE

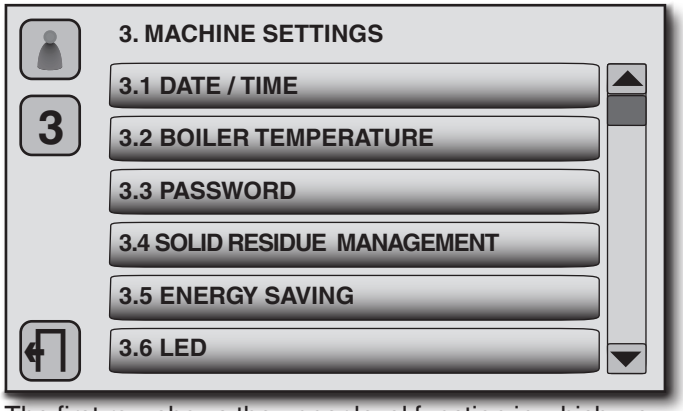
Scroll the menu using the scroll bar, locate and touch the function to operate on.
The menus are represented as follows:

FIRST LEVEL MENU



- The first row shows the menu in which we are operating (Manager, Technical, Washes, USB)
- On bottom left is the button to exit the programming menu
- In the middle are the first level menu entries with the reference number of the function

LOWER LEVEL MENU



The first row shows the upper level function in which we are operating

- On bottom left is the button to exit the programming menu and go back to normal use
- On top left are the buttons to go up to higher-level functions
- In the middle are the menu entries with the reference number of the function

INSERTING THE VALUES

When the machine software requires to enter alphanumeric values, data, and ON/OFF parameters, it is possible to use one of the following methods:

- keypad that appears on the screen (alphanumeric / numeric)
- from the list of proposed values
- “+” and “-” keys
- “ON / OFF” key

The screens allow to:


Confirm the entered values.
In the text shown as ↵


Cancel the entered values.
In the text shown as ←


Exit the programming menu and return to normal use

START-UP

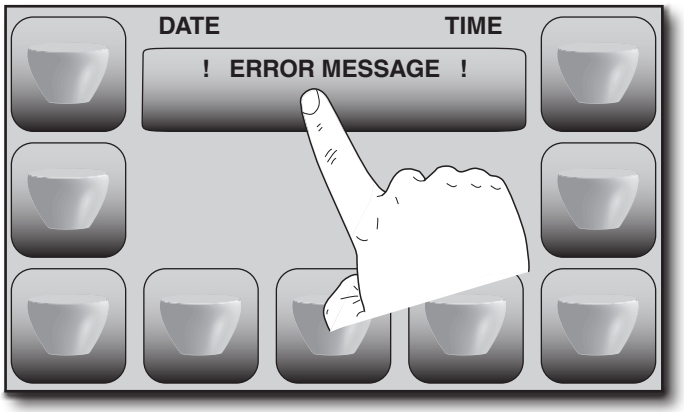
Whenever the machine is powered, the display shows the software version number of the machine and touchscreen.
After heating the boilers, the guided wash of the milk circuit is proposed if it has not been made in the last 24 hours (only for models with cappuccino maker).
This can be confirmed by pressing ↵ or avoided with the ← button
All subsequent operations, require manual intervention of the operator, and must be confirmed.
For the sequence of operations refer to the “Wash cycles” section.
It is possible to programme the machine for displaying, for a few seconds, the number of dispensed items
After a few seconds the display shows the message with an invitation to select the beverage.

OPERATION IN NORMAL USER STATUS

During the normal operation, the display shows the message to the user and the invitation to select the drink.

The layout, number of selections, and key function can be different depending on the layout and the choices made during programming.

In the event that an anomaly is detected by the control system, an error message will be displayed:
The drinks that cannot be dispensed are represented with a lowest brightness.
To view details on the problem, touch the button with the error message



A screen appears with the details of the problem, if there is more than one, all the problems will be rotated.
During delivery a screen is shown indicating the status of preparation of the beverage.
You can stop the dispensing of the beverage by pressing the “STOP” button
After dispensing the beverage the display shows the request to take the beverage for a few seconds, and then the machine is ready for another delivery.

MANAGER MENU

The Manager menu is normally disabled; some functions are available only in some versions and/or countries of destination.
To enter the “Manager” menu you must enter your 5-digit password (default 00000).
Use the numeric keypad that appears on the screen and press the enter key
The display shows the first level menu items.
The functions in the “Manager” menu are functions of the “Technical” menu, but with reduced functionality.

ENGINEER MENU

To enter the “Technical” menu you must enter your 5-digit password (default 11111 if prompted).
Use the numeric keypad that appears on the screen and press the enter key.

SELECTIONS

This group of functions allows you to define all the variables which contribute to the preparation of the drink.

SELECTION PARAMETERS

Confirming this feature provides access to management functions of the parameters of the selections.
The first one required is that for choosing the selection on which to intervene; a screen appears with the icons of the selections.
After choosing the drink to be operated, a screen is displayed with the adjustable parameters and a list of the powders used in the selection (Milk, Espresso,...)

NAME

You can change the name of the drink that appears in the icon displayed in normal use.
For long names, such as *Milk with a shot of coffee*, or that exceed the size of the icon you can write the name on 2 rows by inserting the special line break character **%** (for example, the string *Latte%macchiato* on the icon will be displayed on two rows).

ICON SELECTION

You can choose, among the various icons available, the one that appears in normal use.

DRIP

For each selection, you can define the wait time (in seconds) from the end of the delivery to allow the pipes time to empty.

PRODUCT CODE

This function can be used to assign a 16-character (alphanumeric) identification code to each selection for statistical processing.

COMPLETE DISPENSING

With this function you can perform a beverage dispensing test.

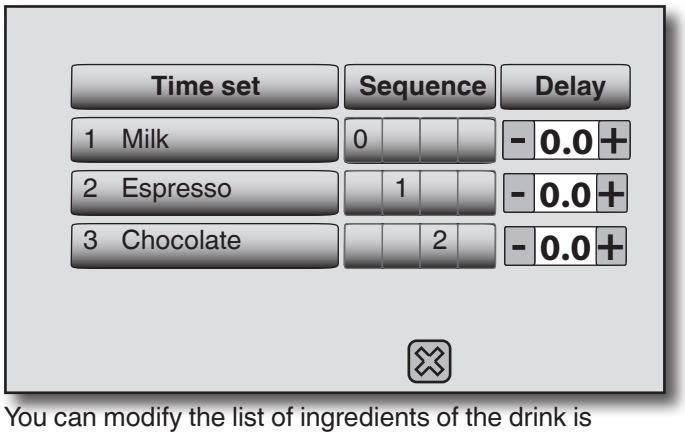
SEQUENCE

A drink can be composed of a maximum of 4 ingredients (powder/s and water).
Among the ingredients described in the recipe, the identification number of the first ingredient to be dispensed (start 0) will be indicated as the beginning of dispensing of the next ingredient.
For example, if the “Cappuccino with chocolate” recipe includes:

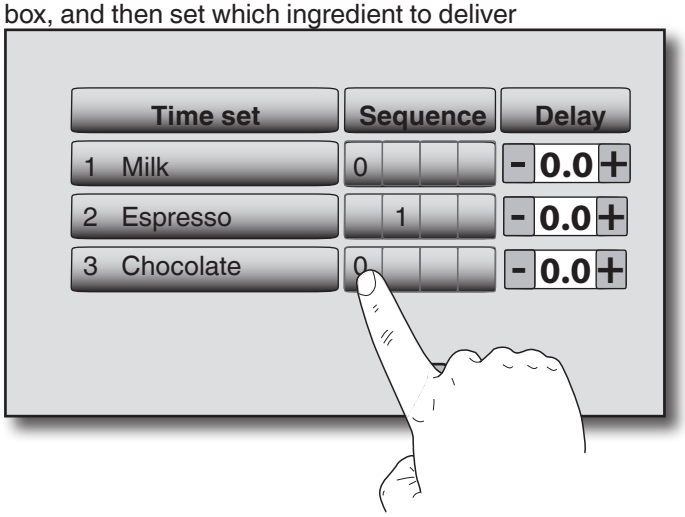
- Ingredient 1 Milk
- Ingredient 2 Coffee
- Ingredient 3 Chocolate

the dispensing sequence of the ingredients is:

- Ingredient 1 Milk (start 0)
- Ingredient 2 Espresso (start 1)
- Ingredient 3 Chocolate (start 2)



You can modify the list of ingredients of the drink is shown, listed in the order in which the water dose is dispensed (see doses table).
To change the sequence of ingredients, simply touch the box, and then set which ingredient to deliver



In the example the chocolate is delivered together with the milk without delay
It is possible to set (in seconds) the delay of the water with respect to the previous event.

COFFEE WATER DOSE

It is possible to decide the amount of water to be used in the preparation of espresso coffee.
The value is in pulses of the flow meter (CDV); use “+” and “-” to change the default value.

PRE-INFUSION TIME

the pre-infusion time (in tenths of a second) before the infusion occurs.

PRE-INFUSION DOSE

Sets the amount of water (CDV) to be used during the pre-infusion.

POD SQUEEZING

The squeezing is carried out by the upper piston which, by mechanically compressing the pod, favours the expulsion of the water from the pod before discharging it into the solid waste container.

- ON: squeezing of the pod enabled

- OFF: the pod is not squeezed.

COFFEE DOSE

Sets the amount of ground coffee (in grams) to be used in the selection of choice

PAD PRESSURING

It is possible to adjust the pressure exerted on the pod in the infusion chamber.

Changing this parameter can modify the presentation and quality of the dispensed drink.

The available profiles are:

- Low

- Medium

- High

INFUSION DOSE

Sets the amount of water (cdv) to be used during the infusion.

GRINDER

Only models with double espresso.
It allows the user to choose which grinder to use (type of coffee) to deliver the coffee beverage.

INSTANT BEVERAGE PARAMETERS

INSTANT WATER DOSE

You can define (in CDV) the amount of water to be used in the preparation of the beverage that uses the instant powder
The value is in pulses of the flow meter (CDV); use “+” and “-” to change the default value.

MIXER (BLENDING MODE)

It is possible, for each selection, to set the mixing duration of each dose of water which forms the selection.
The duration can be set in two different modes:

- **absolute**
  which means independent from the solenoid valve opening time.
  The value of the mixing duration is set in terms of relative volumetric counter pulses (CDV)

- **relative**
  that is, by difference, more or less than the time of closing of the solenoid valve.
  E.g.: if the value is 0, the mixing will stop exactly at the same closing time of the solenoid valve.
  The duration value of the mixing is always expressed in tenths of a second.

INSTANT DOSE

You can define (in g.) the amount of instant powder to be used in the preparation of the beverage

DISPENSER SPEED (GRAMS./SEC.)

You can set the working speed of the motor-doser (in grams per second) of the instant powder.
This value is used for calculating the time required for dispensing the dose of powder in g.

STEP DISPENSING

The instant powder is dispensed in steps (which can be set from 1 to 5) at the same time as the water dispensing.
The step dispensing allows for a better presentation of the drink.

MILK PARAMETERS

Only models with cappuccino maker

MILK DOSE

You can define (in CC) the amount of milk to be used in the preparation of the beverage.

MILK CAPACITY

You can define (in CC/s) the capacity of milk to be used in the preparation of the beverage.
This value is used to vary the temperature of the milk

MILK EMULSION

This parameter defines the volume of milk
in the cup (for example for the cappuccino selection)
This parameter is expressed in %.
A lower percentage indicates little foam in the cup.

CAPPUCCINO MAKER AIR TIMES

The delay time of the emulsion with the air from the beginning of the milk delivery can be set in seconds.
You can set, in seconds, how long before the dispensing ends, to stop the emulsion with the air (coda)

CAPPUCCINO MAKER STEAM TIMES

The delay time of the steam delivery from the beginning of the milk delivery can be set in seconds.
You can set, in seconds, how long before the dispensing ends, to stop the emulsion with the air (coda)

UNIT PRICE

This function is active only if the machine has a payment module.
It sets the sale price of the drink; the default prices are set to zero

ARRANGEMENT ON THE DISPLAY

Allows you to change the position of the icons displayed in normal use compared to the normal layout set.
The selection number you want to re-position is required (see the supplied doses and selection table).
Pressing the confirmation button a screen appears with the current arrangement of the icons; click on the destination icon to swap the two icons

HOT WATER

It allows the user to:

- enable/disable the “Hot water” button
- set the time to deliver hot water from the spout
- set the productivity:
  low: low water flow but high temperature
  default: water flow automatically adjusted to maintain a consistent temperature
  high: high water flow but at low temperature)

STEAM

Allows you to determine whether or not to activate the “steam” button and the temperature control of the steam released by the spout.

- OFF: Temperature control disabled, the heating of beverages with the steam spout takes place for 2 minutes.
- ON: Temperature control enabled, the heating of drinks with the steam spout is at the set temperature for a maximum of 2 minutes
  Set the temperature in °C

CAPPUCCINO MAKER

Only for models with a cappuccino maker, it allows you to establish some features of cappuccino maker.

CREAM DENSITY

Allows you to set the density of the milk foam (size of the bubbles).
Low values ensure a smaller bubble.
The value “0” means no bubbles

DRAINAGE TIME

It sets the emptying time needed for the milk to flow back into the container, as well as the milk circuit filling time, when the fresh milk container is not positioned on the same level as the device.
After making changes to the milk circuit filling/emptying times, it is necessary to change the cappuccino maker “air time” and “steam time” in order to get a proper preparation of the frothed milk

CYCLE DETERGENT TIME

It sets the time of execution of the cappuccino maker cleaning cycle.

CAPPUCCINO MAKER RINSE

It allows the user to:

- enable/disable the cappuccino maker rinse after a selection with fresh milk
- the number of minutes after which to rinse the cappuccino maker with fresh milk following the last selection
- enable/disable the periodic rinse of the cappuccino maker
- Sets the amount of water (CDV) to be used during the rinse.

PRE-INFUSION

This function allows you to determine the pre-infusion parameters:

- the quantity of water (in cdv)
- the pre-infusion time (in tenths of a second) before the infusion occurs.

REFERENCE SELECTION

It allows the user to choose the selection of reference for every grinder in the machine that has the automatic grinding adjustment the enabled.

DISPLAY

LANGUAGE

It is possible to choose the language, among those foreseen by the software, used for the messages shown on the touchscreen.

DISPLAY NUMBER OF STROKES AT START-UP

Enables the display of the total number of items dispensed since the last reset, during the machine start-up phase.

SCREEN SAVER

It allows the user to set after how long (in minutes) the screen saver is activated.
A value of 0 indicates that the screen saver is disabled.

MACHINE SETUP

DATE / TIME

Date and time are displayed (if enabled), but also used to manage the time frame and statistics.
In the absence of power supply the machine maintains the set date and time by means of a buffer battery.

DATE

This function allows you to set the current date.

TIME

This function allows you to set the current time.

BOILER TEMPERATURE

This function allows you to set the working temperature (in °C) of the boiler.
Use “+” and “-” to change the default settings.

PASSWORD

It is a 5 digit code, needed to access the programming menus.
By default, the value of this code is set to 00000
From this group of functions the password for the various menus (Technical, Manager, USB, washes) can be enabled and set.

EMPTY MILK

Only for models with cooling unit with empty milk sensor.

- OFF: sensor disabled
- ON: in the absence of milk, the selections that use it are disabled, in normal operation the message “Fresh milk finished” is shown

Tank

The machine can be supplied by mains or internal tank. With this function you can define whether the device is powered from the mains (tank = OFF), from tank with water level sensor (tank = ON).

First coffee heating time

It allows the user to enable and set the heating time (in seconds) of the first coffee after a period of standby

Solid residue management

This function allows you to enable and set the number of selections of espresso after which the machine displays the request to empty the solid residue container.

Energy saving:

With this option it is possible, in the time intervals which are set with the function “Energy Saving Parameters”, to suspend the service of the vending machine and switch off or not the boiler

- **Off:** energy saving management disabled
- **On:** energy saving management enabled, it is possible to decide whether or not to shut down the boilers

energy saving parameters

With this function it is possible to set up to 2 time bands during which the energy saving profiles will switch on. To disable the time band, set the start and end times to 00.00.

LED

It is possible to define whether the lighting LEDs shall be switched on or not when the machine is operating or “Out of service”.

Machine serial number

With this function it is possible to vary the eight-digit numerical code which identifies the machine (00000000 as default)

Fan management

This function allows you to enable the continuous operation of the steam extractor fans during preparation of the drinks which use instant powders.

- ON extractor fans in continuous operation
- OFF extractor fan in operation only during the preparation of the drink and for the 30 subsequent seconds.

Power supply

It allows the user to set the type of electrical connection used to power the device.

Check the type of wiring used before making your choice.

You can choose from:

- 16A single phase
- three-phase
- 38A single phase

Initialization

This function shall be used in case of error of the data in the memory or if the software is replaced.
All the statistical data, with the exception of the general electronic counter, will be reset.
The initialization resets all default data on the machine.
The following parameters are requested:

“machine code”

Insert the machine code of the device, the machine code is detectable by the data plate located inside the appliance door. (see “machine identification and characteristics” on page 2)

“nation”

understood as a type of basic doses for the various selections
(e.g. IT coffee = 60 cc - FR coffee = 106 cc).
The “nations” provided vary, depending on the model.

“lay out”

for each model and type of doses, there are a number of button-Selection Un Certain combinations among Which it is possible to choose (the For Each layout combinations at the doses are indicator-table selections Supplied with the machine).

CALIBRATION

GRINDER CALIBRATION SET

This group of functions allows to vary the degree of grinding and release a sample dose.
In case of machines that can dispense more than one type of coffee beans, you are asked for which grinder to operate.

DOSE RELEASE

Allows you to drop a dose of ground coffee after changing the grinding parameters.
The function allows you to set:

- The grams of the volumetric dose (low, medium 1, medium 2, high)
- the percentage of the timed dose, the percentage value refers to the grinding time of the volumetric dose. Because of the inertia of the grinder the value of 50% (which indicates half of the time of the volumetric grinding) corresponds to about 65-70% of the grams set up for the volumetric dose
  After changing the values it is important to check the amount of coffee actually dispensed; do some tests with the "RELEASE" key

DOSE ADJUSTMENT

Allows manual adjustment of the distance of the blades; each value corresponds roughly to 1/6 of a turn of the adjusting nut (6 identifies a complete turn of the nut).

In case of machines that can dispense more than one type of coffee beans, you are asked for which grinder to operate.

The range of values can be set from -40 (coarser grind) to +20 (finer grind).

Note: after varying the grinding grade, it is necessary to carry out at least 2 selections for checking the new ground coffee granulometry; the finer the grind, the longer the coffee brewing time, and vice versa.

PRE-GRINDING

This function allows you to enable or disable the grinding of the coffee dose for the subsequent selection. This allows you to decrease the preparation time of a coffee solution.
By default, this function is disabled.

EMPTY COFFEE ACTIVATION

Allows to enable the "Empty coffee" warning in the case in which the dose of ground coffee is not reached within 15 seconds.

AUTOMATIC ADJUSTMENT ACTIVATION

For each grinder you can decide whether to leave the grinding automatic adjustment device on or off.

BLADE TEST

This function should be used after replacing the blades, or, possibly, the grinder.
The test should be carried out without coffee.

- Confirming the test, the blades rotate and are made to touch;
- the machine will stop, waiting for confirmation;
- Confirming once again, the blades are placed apart by turning the blade-holder ring a few turns;
- the machine will stop, waiting for confirmation;
- introducing the coffee and delivering some selections of reference, the grinding will stabilize automatically

MILK PUMP

Only models with cappuccino maker
It is possible to calibrate the (cc/sec) minimum and maximum capacity of the milk pump.
To calibrate the pump, proceed as follows:

- Take the amount of milk delivered from the machine
- Measure the minimum and maximum amount of dispensed milk (in cc)
- Enter the measured values

The procedure allows to obtain the correct amount of milk in the selections that use it.
Always perform the milk pump calibration at first installation of the machine, after an initialization or after the milk pump maintenance.

INSTANT DISPENSER

The dispensing of powders can be controlled through the following parameters:

RATE IN G/SEC.

It is possible to set the working speed of the ingredient motors for defining the rate in g/sec.
This value is used for calculating the time required for dispensing the dose in g.

DIAGNOSTICS

This group of functions allows you to perform tests on the main components of the machine.

TEST SELECTIONS

This function allows you to obtain for each selection, with the door open, the dispensing of:

- complete selection
- only milk
- only water
- only powder
- coffee only

SPECIAL FUNCTIONS

The special functions allow you to:

- Operate the infuser unit
- Perform the filling of the hydraulic circuit (installation).
- Open a solenoid valve for letting the air enter in case the boiler is emptied for maintenance
- Perform the filling of the hydraulic circuit (manual installation).

TEST

SELF TEST

This function allows you to verify, in semi-automatic mode, the operation of the main components of the machine.
By pressing the confirmation key, the “SELF-TEST” message will flash.
It is possible to abandon each operation and go to the next one by pressing the “cancel” key; the ↵ key starts the self-test cycle.
Some of the controls are automatic, while others require the controlled component to be manually operated.
In sequence:

- Activation of motor-dispensers for 2 seconds
- Activation of motor-mixers for 2 seconds
- Handling of the espresso unit
- Blades check
- Checking of the lighting (LED)
- Checking of the operation of the temperature probes
- Checking that the buzzer is working
- Checking that the coin box (if present) is working
- Extractor management; the machine turns the steam extractor fan on and off during the preparation of instant drinks.
- Safety sensors check
  In sequence, remove the liquid residue container, the solid residue container, the product container, and open the door; after that, the software requests to proceed in the reverse order.
- “Hot water” and “steam” buttons check
- Touchscreen control

ERRORS

The machine has a number of sensors for keeping the various functional groups under control.
When an anomaly is detected, the machine displays the type of fault and the machine (or part of it) is put out of service.
The drinks that cannot be dispensed are represented with a lowest brightness icon.

FAULT READING

Show the last 16 faults, from the most to the least recent, moving with the scroll bar.

- Empty water
  The selections are disabled and the pump is turned off when the micro indicates that the tank is empty

- Full residues
  The espresso-based selections are disabled when the number of used pods set in the menu is reached .

- Air-break
  Fault not available on this model
  The machine will stop working if, after 10 selections, the microswitch has never notified the lack of water.

- Volumetric meter (fan)
  Failure to count the volumetric meters (cooling fans) within a maximum time.

- Instant beverage boiler
  The machine will stop working if after 10 minutes of heating from start-up or from last selection the water in the instant beverage boiler has not reached the temperature.

- Machine board
  Absence of dialogue between the board and the touchscreen

- Coffee release
  If after releasing the dose of ground coffee the microswitch of the doser detects presence of coffee in the doser chamber, the coffee-based selections are disabled.

-

- Coffee unit -micro unit failure-
  All the faults related to the coffee unit are controlled by a “unit position” control microswitch.
  The control microswitch is activated by the coffee unit gear motor cam.
  This fault indicates that during handling of the infuser unit, the control micro is not operated within a certain time limit.
  it is possible that this fault is combined with another positioning fault of the coffee unit

- Coffee unit -start unit failure-
  The gear motor is not capable of bringing the coffee unit from the idle position to the infusion position.

- Coffee unit -infuser unit failure-
  The control microswitch indicates that the coffee unit is not in the infusion position.

- Coffee unit -dispensing unit failure-
  During the infusion phase, the control microswitch indicates the movement of the espresso unit.

- Coffee unit -discharge unit failure-
  At the end of the infusion the control microswitch indicates that the coffee unit is not in the “used pod discharge” position.

- Coffee unit -idle unit failure-
  The control microswitch indicates that the infuser unit did not go back to the idle position at the end of the discharge of the pod.

- Empty coffee 1...2
  If the ground coffee dose is not achieved within 15 seconds after activation of the grinder, the coffee-based selections are disabled.

- Grinder block
  If the grinder fails to rotate or rotates too slowly, the espresso-based selections are disabled while the instant coffee-based selections remain available.

- RAM data
  One or more areas of the RAM memory contain altered data which was corrected with the default values.
  The machine continues to work, but it is preferable to proceed with the initialization as soon as possible.

- Espresso boiler (C1)
  The machine will stop working if after 10 minutes of heating from start-up or from last selection the water in the boiler has not reached the temperature.

-

- Empty steam boiler
  The machine does not make the selections based on milk or does not release steam if the presence of water in the steam boiler is not reported.
  The boiler heating is inhibited.
  If, after 30 minutes from start-up, or 10 minutes from the last selection, the steam boiler has not reached the temperature, the milk-based selections are locked.
- Pump fault 1...7
  If the current absorption of a pump is not between the range of default values, all the selections in which the pump is involved are disabled.
- Faulty mixer 1...6 (whipper fault)
  If the current absorption of a mixer motor is not between the range of default values, all the selections in which that mixer is involved are disabled.
- Faulty pump 1...7 (pump fault)
  If the current absorption of a pump is not between the range of default values, all the selections in which that pump is involved are disabled.
- Short circuit mosfet
  If a control device for the DC motors on the activations board (mosfet) remains active, the machine will signal a fault.
- Low water pressure
  the pressure switch measures low water pressure inside the machine.
- Short circuit
  If the software detects a short circuit in one of the DC motors connected to the activations board, this fault will be displayed. It is possible that at the same time of this, a fault is also detected on one of the DC motors.
- Machine block
  The machine shuts down if it reaches the number of coffee and instant beverages selections set separately with the “selection counter” function
- Coffee out of service
  The machine shuts down if it reaches the number of coffee selections set separately with the “selection counter” function.
- Instant beverages out of service
  The machine shuts down if it reaches the number of coffee selections set separately with the “selection counter” function.

FAULT RESET

By confirming the function, all the faults present in the “latest faults list” are reset.

COMPLETE FAULT LIST (HISTORY)

It is possible to display the last 16 faults, from the most recent to the oldest; the corresponding date and time of intervention are also displayed and whether the fault is still active or not (ON / OFF)

COMPLETE FAULT LIST RESET (HISTORY)

Confirm to reset all possible faults.

STATISTICS

All the data related to the operation of the machine is stored both in total counters and in relative counters, which can be reset without losing the total data.

DISPLAY OF RELATIVE STATISTICS

By pressing the confirmation key ↵ the partial data of the faults stored by the counters are displayed in sequence:

DISPLAY OF GENERAL STATISTICS

By pressing the confirmation key ↵ the total data of the faults stored by the counters are displayed in sequence

PARTIAL STATISTICS RESET

By pressing the confirmation key ↵ the partial data of the faults stored by the counters are reset

DISPLAY OF BOILER TEMPERATURES

This function allows you to view the working temperature (in °C) of the boiler.

COUNTERS

The data on the operation of the machine is stored.

PRODUCTS

The product counter memorizes in an aggregate mode all the items dispensed from the last reset.

DISPLAY SELECTION COUNTER

Displays the number of items dispensed for each selection.

RESETTING SELECTION COUNTERS

An electronic counter memorizes in an aggregate mode all the items dispensed from the last reset.

LAST RESET DATE

The function displays the date and time of last counters reset

MAINTENANCE

From this group of functions you can set up a maintenance schedule customized for your machine.
The check is performed on the number of actions of the various functional groups,
Once it reaches the set values, the machine displays the need for maintenance.

PROGRAMMED MAINTENANCE

Resets the counter which operates the scheduled maintenance alerts(kit 1 maintenance or kit 2maintenance)

COFFEE UNIT

CYCLE RESET

It displays and resets the count of the actions of the brewing unit.

MAXIMUM NUMBER OF CYCLES

Sets the maximum number of cycles of the espresso unit, at which the machine is locked for maintenance of the infuser unit.

MAXIMUM TIME

Sets the number of months of operation of the espresso unit since the last counter reset the manages the number of operations of the infuser unit.
The “expiry” date calculated on the values entered appears

SOFTENER

It sets the maximum capacity of the softener (optional)

GRINDER-DOSER

1/2 GRINDER MAXIMUM TIME

It sets the maximum number of operating hours of the grinders, after which the machine is locked for the maintenance of the grinders.

1/2 GRINDER CYCLE RESET

It resets the counter that manages the maximum operating time of the actually present grinders

WASH MENU

From this group of functions you can manage and perform all the automatic wash operations of the machine.
To access the menu you may be asked to enter the password (if enabled)

WASHING OF THE ESPRESSO UNIT AND MIXERS

This feature allows you to run the wash cycle of the infuser unit and mixers.
The sequence of the required operations is shown on display.

CAPPUCCINO MAKER WASH

Only models with cappuccino maker
This feature allows you to run the guided wash cycle with detergent of the cappuccino maker.
The sequence of the required operations is shown on display.

Follow the instructions in the "Wash cycles" paragraph

RINSING OF THE ESPRESSO UNIT AND MIXERS

This feature allows you to run the quick wash (only with water) of the infuser unit and mixers in sequence.

CAPPUCCINO MAKER RINSE

Only models with cappuccino maker
This feature allows you to run the quick rinse (only with hot water) of the cappuccino maker.

SET CAPPUCCINO MAKER AUTOMATIC WASH

Only models with cappuccino maker
It is possible to set how long after the last selection with milk, to automatically start the rinse cycle of the milker.
The washing of the milker nozzle has a duration of about 60 seconds.

WASH STATUS

This group of functions contains statistics on the washes carried out by the machine

LAST WASHES REPORT

It displays date, time and type of wash / rinse carried out by the machine.
The device stores the last 10 washes carried out.

TOUCHSCREEN CLEANING

The touchscreen can be locked (for 30 seconds) so as to allow the cleaning of the touchscreen of the machine.
After activating this function displays the remaining time for cleaning the touchscreen (countdown from 30 seconds).

USB MENU

The device is equipped with a USB (Universal Serial Bus) port.
The USB menu allows to:

- update the machine software
- update the touchscreen software
- storage and reset of the machine and touchscreen settings (backup)
- upload pictures and/or videos to be played on the touchscreen of the machine.

SETUP / GRAPHICS

DOWNLOAD SETUP TO USB

It allows you to save a backup copy of the machine settings to the USB device.

SETUP SELECTION AND UPLOAD

Allows you to load the previously saved machine settings to the USB device

DOWNLOAD GRAPHICS TO USB

Allows you transfer the images located to the machine to the storage device connected to the USB port.

LOAD GRAPHICS FROM USB

Allows you transfer the images located to the machine to the storage device connected to the USB port.

BACKUP

Storage functions (complete backup) and restore of the touchscreen settings

SAVE BACKUP ON USB

It makes a backup copy of the machine setting and touchscreen software on the storage device inserted into the USB port.
Through this function, also the images or videos loaded on the machine are saved.

RESTORE BACKUP FROM USB

Restores the backup (machine settings and touchscreen settings) from USB.

STATISTICS

It allows you save the statistics stored on the machine to the storage device connected to the USB port.

Chapter 3

Maintenance

The integrity of the machine and compliance of the corresponding systems with the regulations shall be verified, at least once a year, by qualified personnel.

Always switch off the machine before starting maintenance operations which require the disassembling of components.

The operations described below shall be carried out only by personnel with specific knowledge of the operation of the machine both from the point of view of electrical safety and of hygiene.

In the event of maintenance and/or repairs, the vending machine can be accessed from all sides; the possibility should therefore be envisaged of rotating the machine so that the back and side panels can be removed.

GENERALITIES

In order to ensure its correct operation, the machine shall be subject to periodical maintenance.
Listed below are the operations to be carried out and the related expiry dates; they are, obviously, indicative because they depend on the conditions of use (i.e. water hardness, environment humidity and temperature, type of product used, etc.).
The operations described in this chapter do not include all the maintenance interventions.
More complex interventions (i.e. descaling of the boiler) shall be carried out by an engineer with specific knowledge of the vending machine.
In order to avoid risks of oxidation or of chemical aggressions in general, the painted surfaces and the surfaces in stainless steel need to be kept cleaned by using neutral detergents (avoid solvents).

Jets of water are to be absolutely avoided for washing the machine.

MAIN SWITCH AND FUSES

The main switch and fuse are accessible by removing the solid and liquid residue containers

Important!

The support terminal block of the line cable, line fuse, and noise filter are always powered.

The protective covers need to be removed after disconnecting the machine from the power supply.

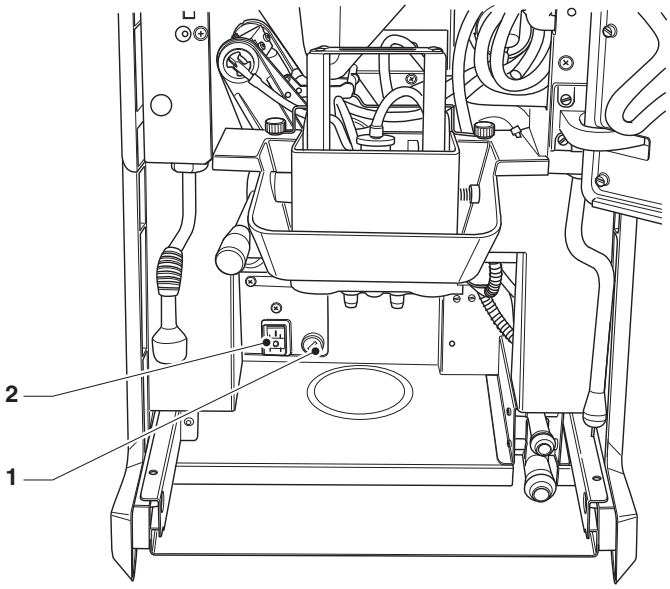


Fig. 25

1- Main switch
2- Line fuse

ESPRESSO UNIT MAINTENANCE

Every 10,000 dispensed items or, however, every 6 months, a small maintenance intervention on the coffee unit is required for optimising its operation.
For performing the maintenance operations it is necessary to remove the unit by following these steps:

- Disconnect the coffee outlet nozzle from the unit by rotating it by 90° from the rod and pulling it outside.
- Act the unit end stop lever rotating it until the horizontal position.
- Extract the coffee unit.

Disassemble/replacement of the filter and upper seal

In order to disassemble or replace the filter and the upper seal, follow these steps:

- Unscrew the key fixing lateral screw of the upper piston.
- Rotate the upper piston upwards.
- Remove and replace the upper seal.
- Unscrew the upper filter so that it can be removed and replaced.

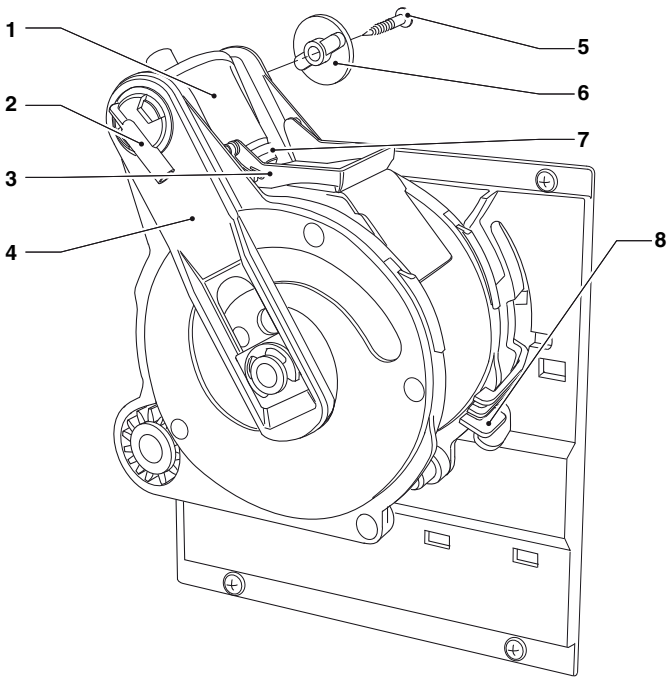


Fig. 26

1- Upper piston
2- Coffee outlet nozzle
3- Scraper
4- Rod
5- Lateral screw
6- Key
7- Upper piston seal
8- Espresso unit end stop lever

Disassembling/replacement of the filter and lower seal

In order to disassemble or replace the filter and the lower seal, follow these steps:

- Manually bring the unit to the discharge position with the lower piston.
- Unscrew the central fixing screw for removing the filter.
- Press on the end of the piston stem guide for obtaining an extra run of the lower piston.
- Pull with a small screwdriver for sliding the lower piston out from the piston stem being careful not to damage the piston or the sealing elements
- Remove and replace the lower seal.

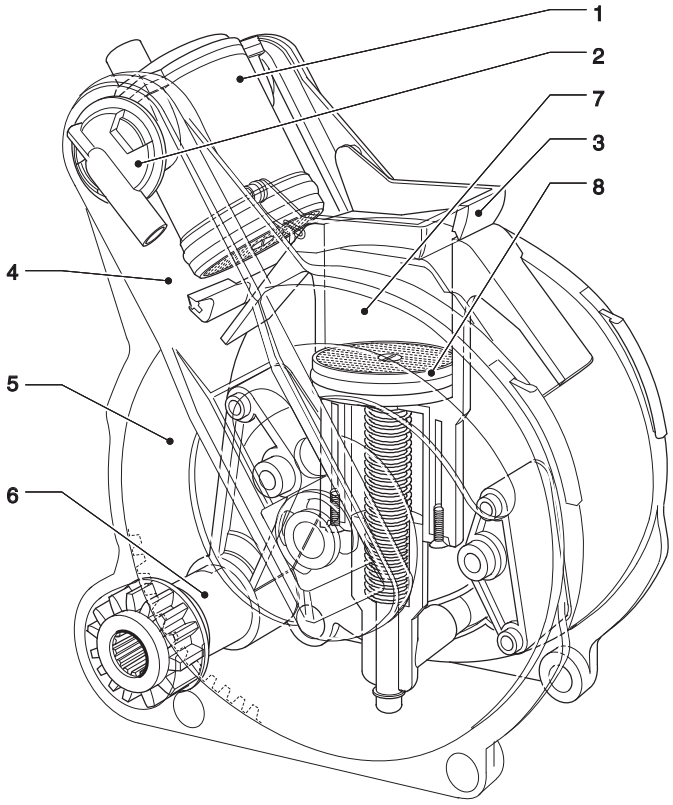


Fig. 27

1- Upper piston
2- Coffee outlet nozzle
3- Scraper
4- Rods
5- Cranks
6- Pinion
7- Infusion chamber
8- Lower piston

PERIODICAL OPERATIONS

This manual shows the potential weak points and includes information about controlling the possible growth of bacteria.

Under the current health and safety regulations, the operator of the machine must apply the self-control procedures, identified in accordance with Directive HACCP (Hazard Analysis Critical Control Point).

For each product load or more frequently, depending on the use of the machine, the incoming water quality, and the products used, it is necessary to clean and sanitize the machine and parts in contact with the food, by proceeding as described in the following paragraphs.
Apart from the external parts of the infuser units and mixers which need to be cleaned of any powder residue, particularly in the funnel area, the parts of the mixer which are in contact with the drink should also be sterilised.

Jets of water directed to the machine are to be absolutely avoided for cleaning.

SANITIZATION

- all the components which are in contact with the food products, including the tubes, shall be removed from the machine and disassembled in all their parts;
- all the residues and visible films shall be mechanically removed using brushes if necessary;
- the components shall be kept into a sterilising solution for at least 20 minutes;
- the internal surfaces of the machine need to be cleaned with the same sterilising solution;
- rinse well and reassemble the components.

Before restarting the machine, the sterilising operations need to be carried out again with the components installed, as described in the chapter "Cleaning of the mixers and of the food products circuits"

MIXER

For devices that deliver instant beverages, proceed with the disassembling as follows:

- Disconnect the hoses from the mixer connections
- Turn the mixer locking ring counterclockwise and remove the mixer
  Pay special attention to lock it totally when assembling it again;
- Separate the instant powder funnel, the powder tray and water funnel

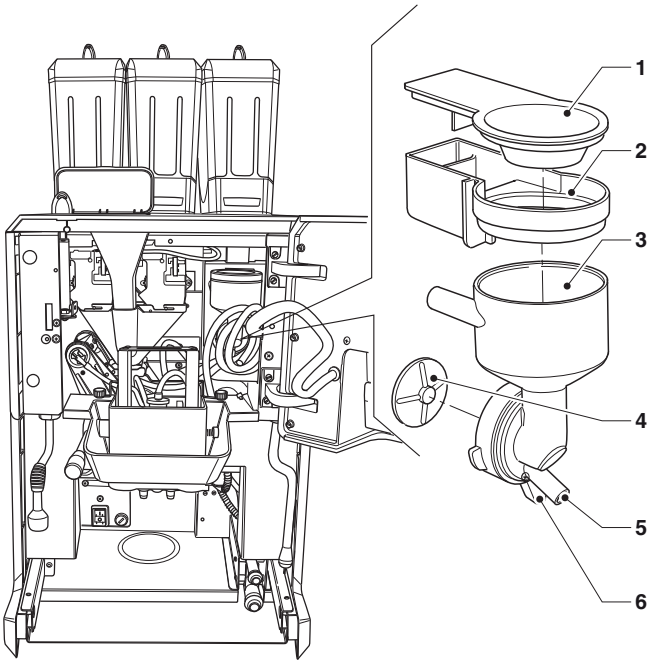


Fig. 28

1- Instant powder funnel
2- Instant powder tray
3- Water funnel
4- Mixer fan
5- Instant beverage hose connection
6- Water funnel fixing ring

- Take apart the fans of the motor-mixers; simply pull gently to free them

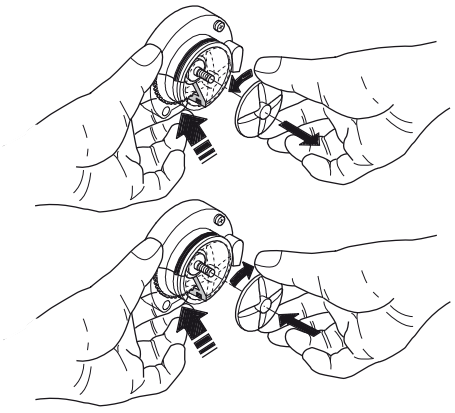


Fig. 29

- Dip the parts for approx. 20 minutes in a recipient containing the previously prepared sterilising solution. Wash all the components with sterilising products (follow the dosage indicated by the manufacturer), being careful to mechanically remove the visible residues using brushes if necessary.
- Verify that the shaft seal of the motor mixer is not torn and has not lost its elasticity.
- Reinstall the powder deposit drawers and the powder funnels after having carefully rinsed and dried them.
- Place the mixer back into position, properly inserting the water funnel

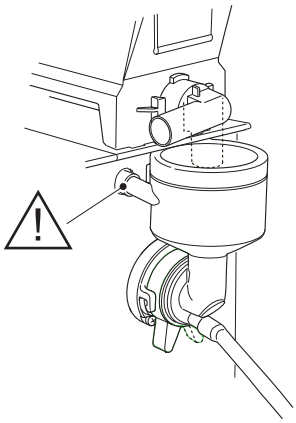


Fig. 30

After installing the components again, it is, however, necessary:

Wash the mixer and add a few drops of the sanitizing solution to the various funnels and rinse thoroughly to remove any possible residue of the solution used.

NOZZLES

To clean the nozzles, proceed as follows:

- bring the telescopic nozzle in lower position lowering the handle.
- remove the cover and disconnect the beverage hoses
- rotate the flow divider coffee nozzle 45° towards yourself, in order to lift it off the nozzle support
- remove the flow divider, the milker nozzle (if present) and the instant beverages nozzles.
- For models with cappuccino maker, separate all the parts of the milker nozzle and check the state of wear of the seals, replacing them, if necessary
- proceed with the sanitization of all the components taking care to remove residues and films visible using swabs or brushes, if necessary.

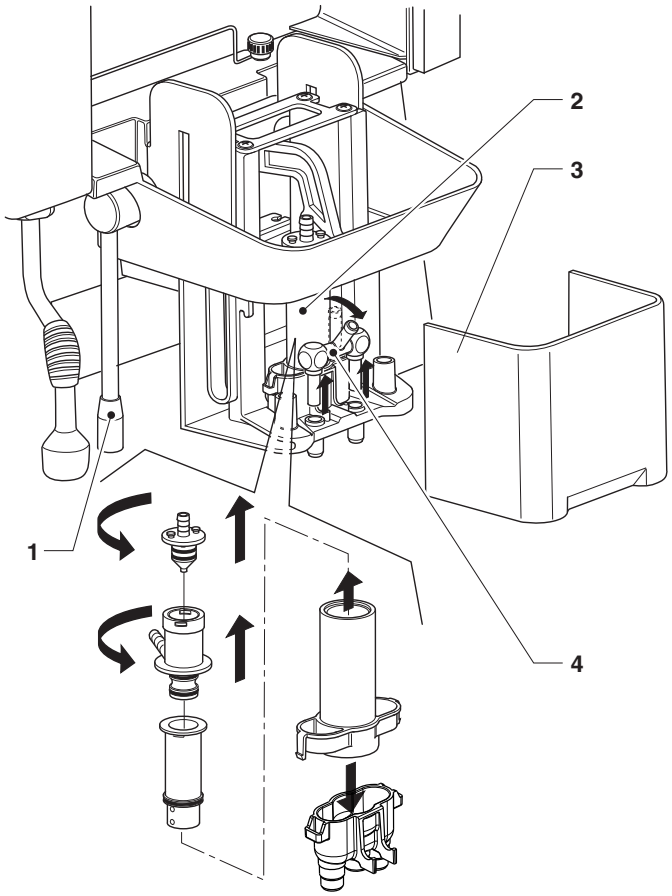


Fig. 31

Models with cappuccino maker
1- Telescopic nozzle handle
2- Milker nozzle
3- Mobile nozzles cover
4- Flow divider nozzle

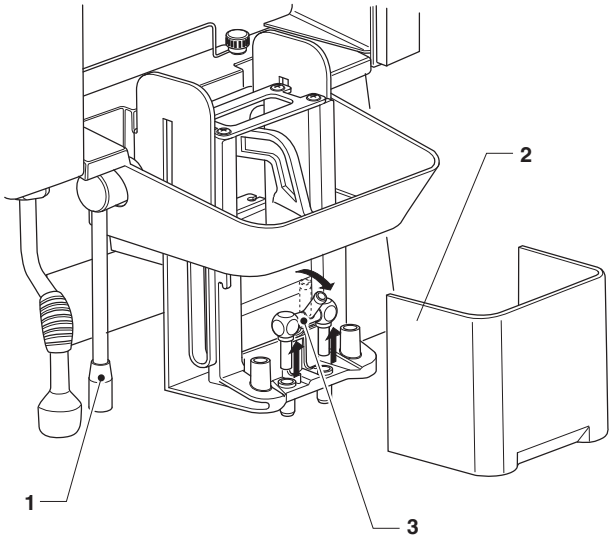


Fig. 32

Models without cappuccino maker
1- Telescopic nozzle handle
2- Mobile nozzles cover
3- Coffee nozzle

INFUSER UNIT

To clean the infuser unit, proceed as follows:

- Disconnect the coffee outlet nozzle from the unit by rotating it by 90° from the rod and pulling it outside.
- Act the unit end stop lever rotating it until the horizontal position.
- Pull out the coffee unit from the solid residue container compartment
- Remove any excess coffee and rinse under running water.

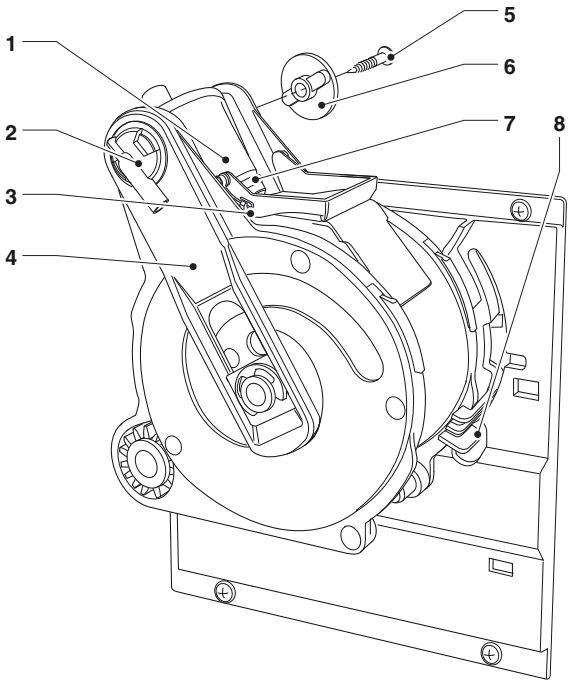


Fig. 33

1- Upper piston
2- Coffee outlet nozzle
3- Scraper
4- Rod
5- Lateral screw
6- Key
7- Upper seal
8- Espresso unit end stop lever

REMOVE THE PRODUCT CONTAINERS

The containers are provided with a safety magnet that indicates the presence / absence of the containers to the control electronics.

In the absence of the containers the grinders are disabled.

To remove the product containers (coffee beans or instant products) simply remove the handle and then lift the container from behind.

Always lift the container from behind so that the grinders are disabled; the non-compliance with this procedure can be a source of injury (accidental operation of the grinder)

Pulling the handle of the container closes the shutter and, at the same time, it releases while the container from the machine
When reassembling, reposition the container and push the handle inside the container.
Make sure the container is properly fixed to the unit.

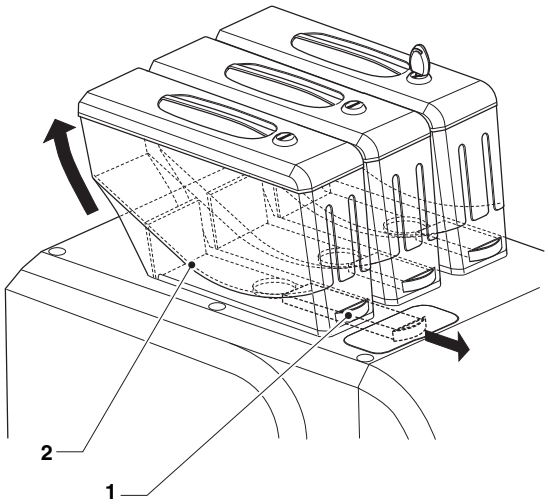


Fig. 34

1- Handle
2- Magnet

REMOVING THE SIDE AND REAR PANELS

To gain access to internal components, remove the side panels of the machine.

- Operate the side panels fixing knurls
- Slide the side panels forward to unhook them
- Disconnect the lighting board of the side
- To remove the rear panel, slide it to the left.

To re-assemble the panels, proceed in reverse order.

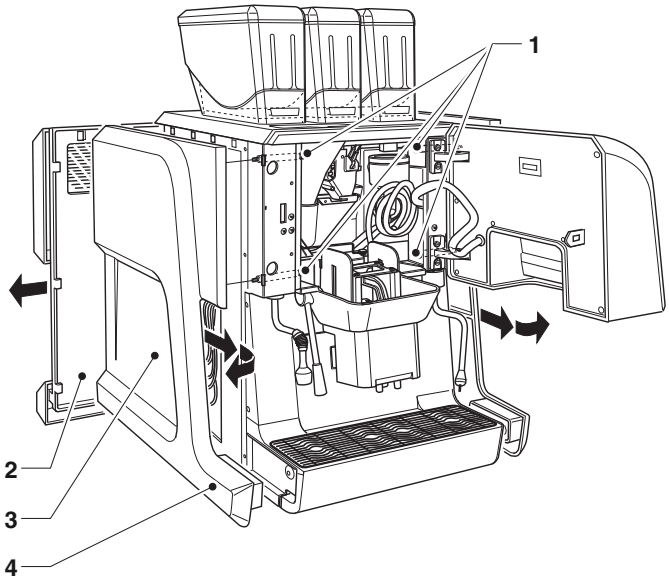


Fig. 35

1- Side panels fixing knurls
2- Rear panel
3- Side panel
4- Aesthetic side

ELECTRONIC BOARD, RELAY, AND SOLENOID VALVE FUNCTIONS

The electronic boards are designed to be used on several models of machines.
In case of replacement, or in order to change the performance of the machine, it will be necessary to verify the configuration of the electronic boards and load the adequate software.
To access the electronic boards it is necessary to remove the left side and then the rear panel of the machine (see related paragraph)

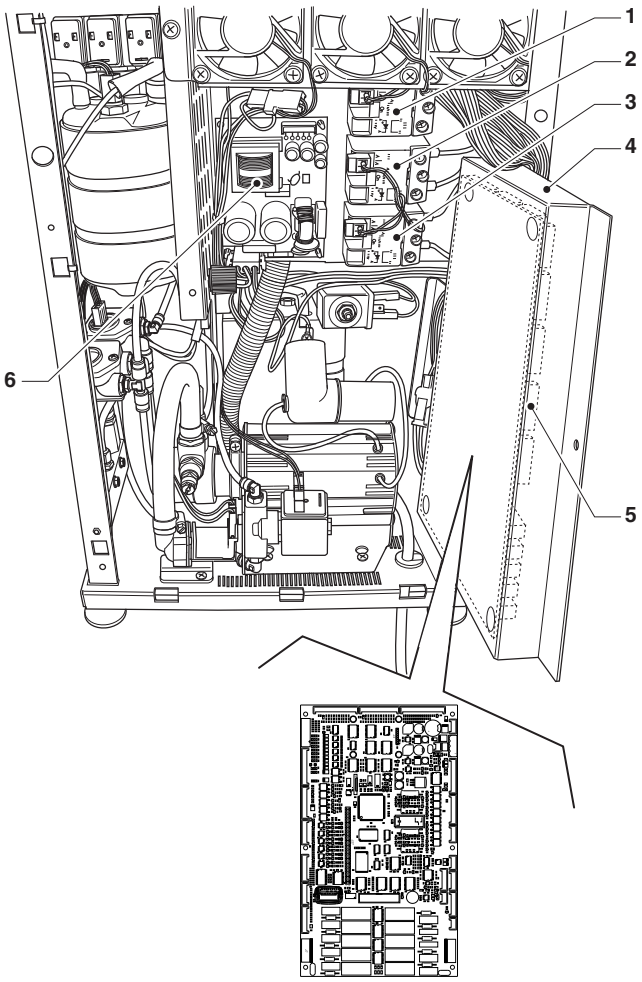


Fig. 36

1- Steam boiler relay
2- Instant beverage boiler relay
3- Espresso boiler relay
4- Activation board adjustable support plate
5- CPU activation board
6- Switching power supply board

CPU ACTIVATION BOARD

The board provides for activating the users via relay.
It manages the signals originating from the cams and/or microswitches and controls the 24Vdc users.
It also controls the relays operating the boilers.
The board is 24 Vdc powered and is positioned on the adjustable support
The board management software is loaded directly on the microprocessor.
On the board are the relays; the table below indicates the users activated by relay.
Refer to the wiring diagram of the device.

Relay	User
RL1	*MAC*
RL2	*/*
RL3	*MF2*
RL4	*MF1*
RL5	*ESC*
RL6	*MAC2*
RL7	*ESC2*
RL8	*/*
RL9	*/*
RL10	*PM*

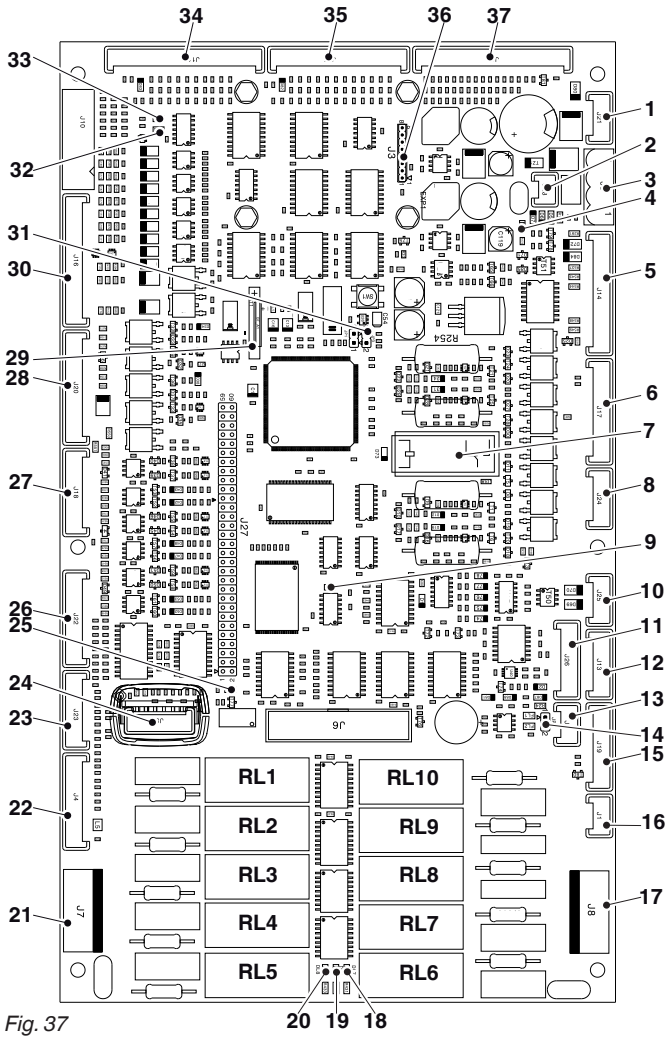


Fig. 37

1- (J21) Fan
2- (J28) Not used
3- (J9) Board power supply 24 Vdc
4- DL5 "5Vdc presence" yellow led
5- (J14) Not used
6- (J17) Espresso unit motor (J17)
7- 24Vdc Safety Relay
8- (J24) General stroke counter
9- DL1 "tab reset" red led
10- (J25) Led for lighting sides and dispensing area
11- (J26) Not used
12- (J13) Ground tray, door, container microswitches
13- (J2) Not used
14- (JP2) CAN BUS jumper
15- (J19) RS232 Connector for programming the board
16- (J1) Can bus CONNECTOR
17- (J8) Users
18- DL7 "espresso boiler heating" red led
19- DL6 "instant beverage boiler heating" red led
20- DL8 "steam boiler heating" red led
21- (J7) Users
22- (J4) Not used
23- (J23) Not used
24- Upkey
25- DL2 "run" green led
26- (J22) Boilers and temperature probes relay control
27- (J18) Grinder adjustment motors
28- (J20) 24Vdc users
29- Battery
30- (J16) Solenoid valves
31- WATCHDOG INPUT jumper (closed)
32- DL4 "espresso boiler counter pulses" yellow led
33- DL3 "hot water boiler counter pulses" yellow led
34- (J11) Input
35- (J15) input
36- (J3) Not used
37- (J12) Not used

SWITCHING POWER SUPPLY BOARD

The board provides power supply (24VDC) to the electronics of the machine.
The board is provided with protection fuses on the incoming supply and on the outgoing 24V.
The boards do not require calibration and/or maintenance.

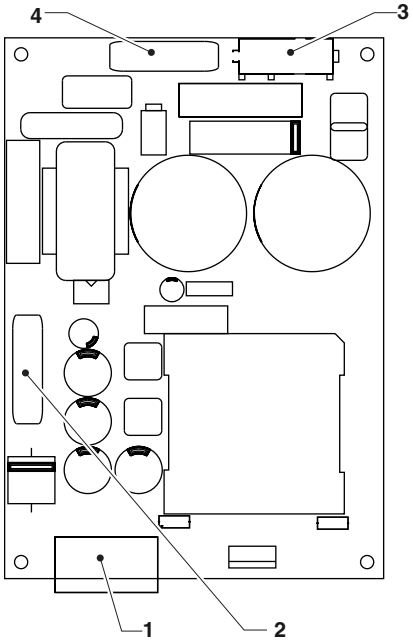


Fig. 38

1- 24V Connector
2- Protection fuse on the 24V
3- Mains power supply connector
4- Protection fuse on the power supply network

HYDRAULIC CIRCUIT SOLENOID VALVES

RIGHT SIDE VIEW

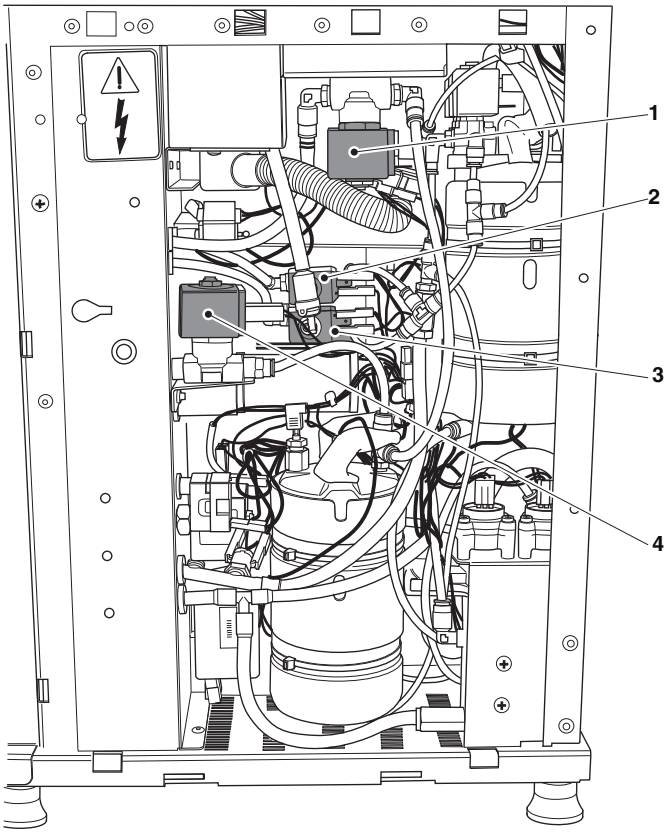


Fig. 39

1- Steam solenoid valve (EVVAP)[2]
2- Milker nozzle wash solenoid valve (EVWEMU)[2]
3- Cappuccino maker wash solenoid valve (EVWMLK)[2]
4- Steam spout solenoid valve (EVLVAP)[3]

2 Only models with cappuccino maker
3 Only some models

LEFT SIDE VIEW

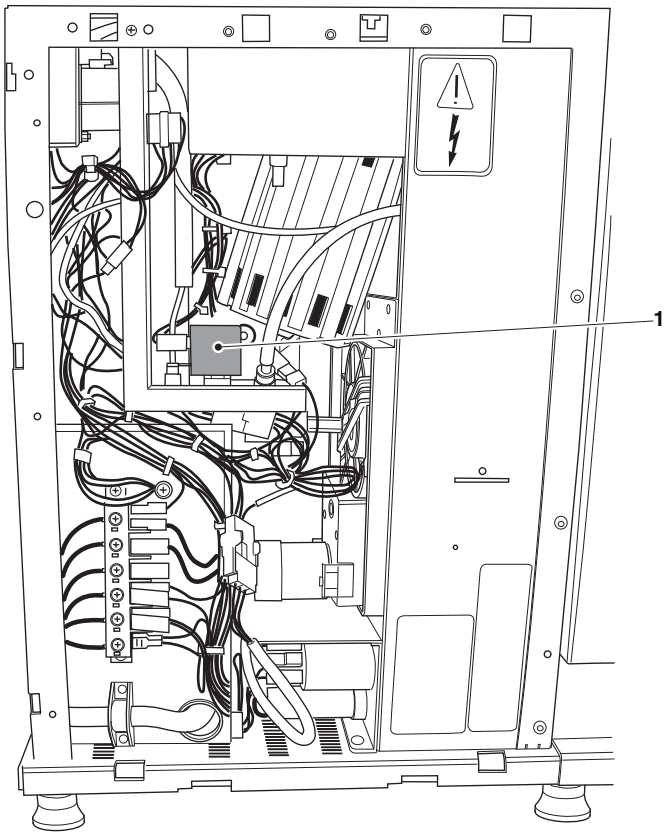


Fig. 40

1- Water addition solenoid valve (EVAG)

REAR SIDE VIEW

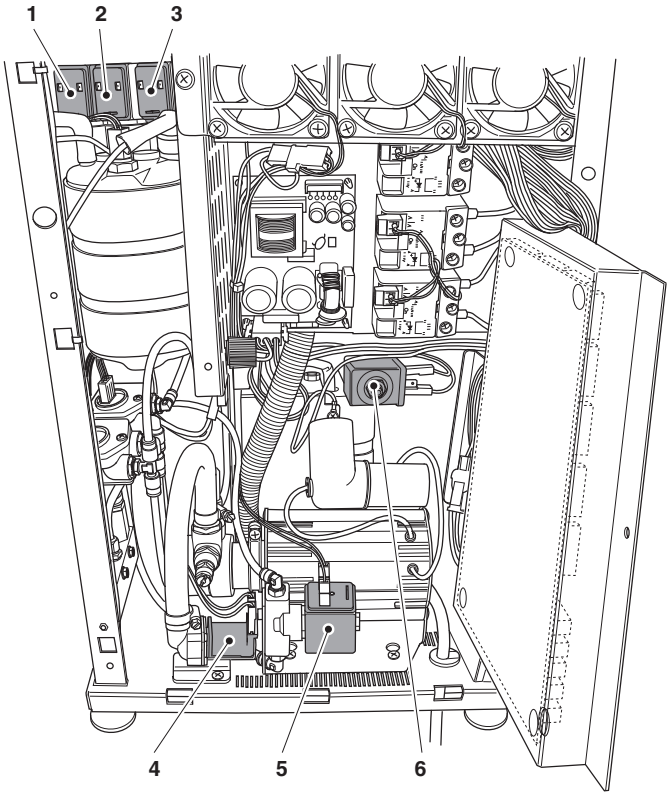


Fig. 41

1- Steam boiler load solenoid valve (EEAVAP)
2- Hot water spout solenoid valve (EVH2O)[4]
3- Instant beverage solenoid valve
4- Mains water solenoid valve (EEA)
5- Increased water flow solenoid valve (EV2H2O)
6- Espresso solenoid valve

4 Only some models

BOILER THERMAL PROTECTION

In case of intervention of one or more thermostats the cause of failure should be identified and eliminated.

The recovery of the thermostats must be done manually through the button placed on the thermostats themselves.

In case of intervention of the thermostats, in the absence of water, the boiler and control components may be damaged.

ESPRESSO BOILER

The espresso boiler has a capillary safety thermostat, which deactivates the boiler resistance in case the temperature in the boiler exceeds the safety temperature (140°C).
To reset the thermostat with capillary unscrew the cover and press the reset button.

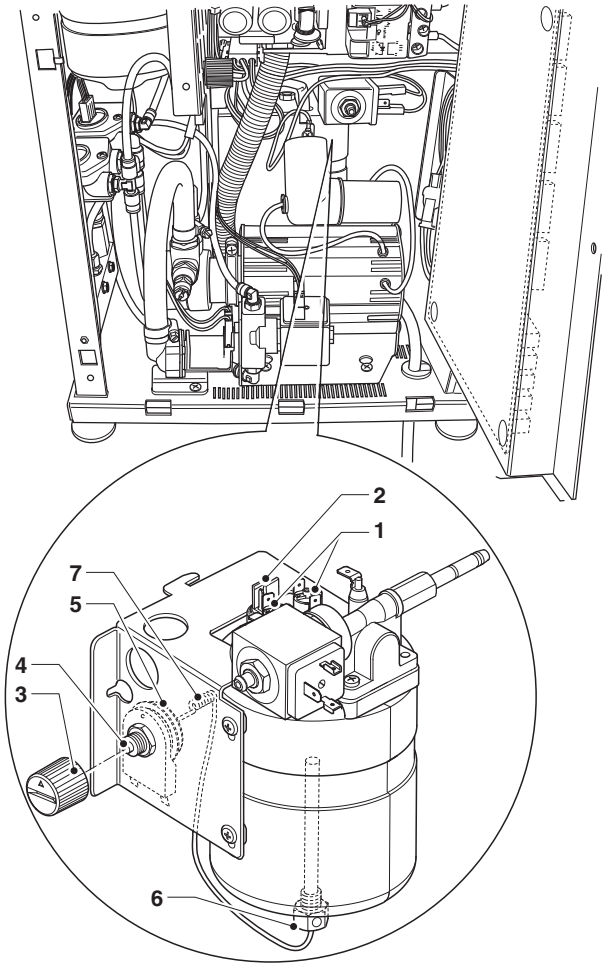


Fig. 42

1- Temperature probe
2- Capillary
3- Thermostat with capillary
4- Thermostat with capillary reset button
5- Thermostat with capillary reset button cover
6- Coupling for capillary

INSTANT BEVERAGE BOILER

The hot water boiler has a capillary safety thermostat, which intervenes in case the temperature in the boiler exceeds the safety temperature (140°C) in absence of water.
To reset the thermostat with capillary unscrew the cover and press the reset button.

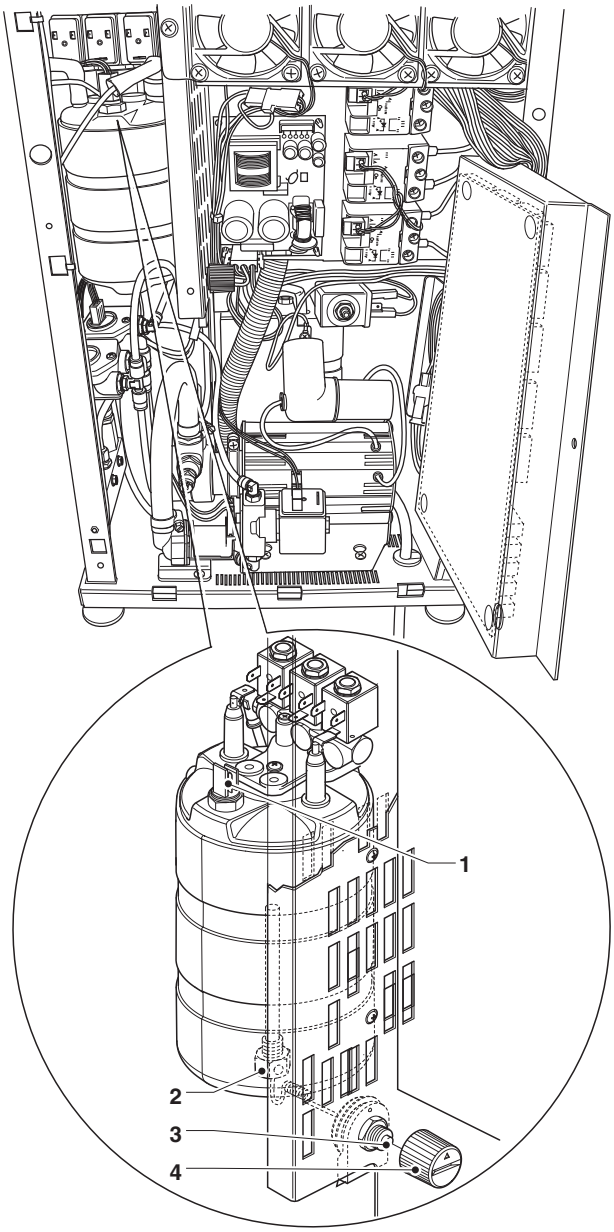


Fig. 43

1- Temperature probe
2- Coupling for capillary thermostat
3- Thermostat with capillary reset button
4- Thermostat with capillary reset button cover

STEAM BOILER

The steam boiler has a capillary safety thermostat, which intervenes in case the temperature in the boiler exceeds the safety temperature (155°C) in absence of water.
To reset the thermostat with capillary unscrew the cover and press the reset button.

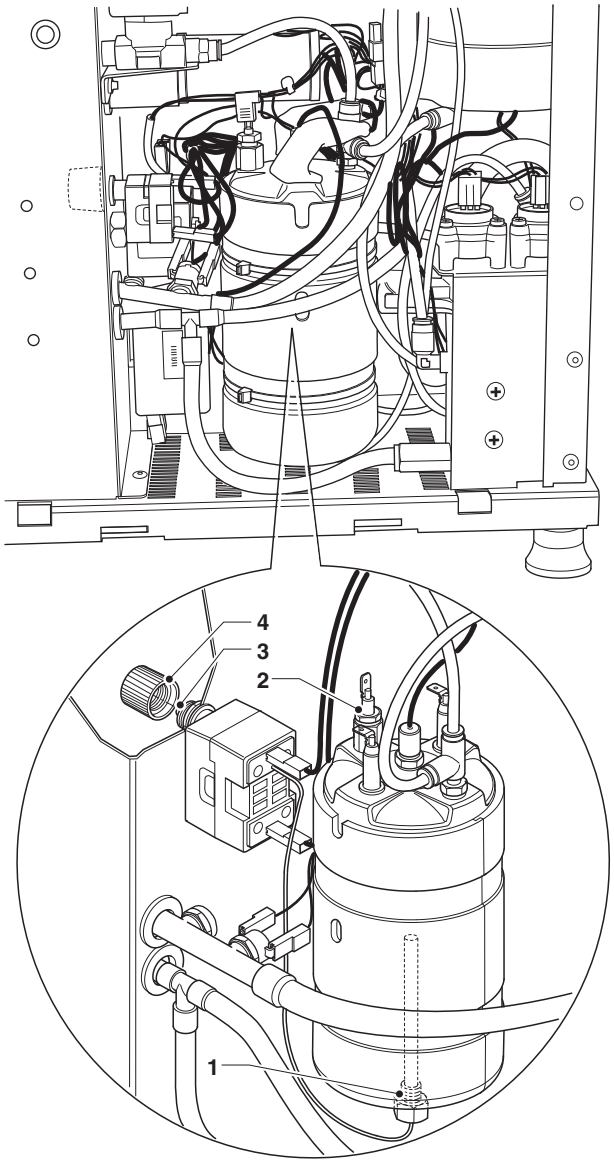


Fig. 44

1- Connection for capillary thermostat
2- Probe
3- Thermostat with capillary reset button
4- Thermostat with capillary reset button cover

SOFTWARE UPDATE

TOUCHSCREEN

- with the machine turned off, insert the USB drive of the touchscreen operating system
- turn on the machine and wait for the operation completed message.
- remove the USB drive
- turn off the machine

SOFTWARE

- Insert the USB drive of the software in the machine.
- turn on the machine and wait for the "Update complete Remove USB" message.
  The operation takes a few minutes and during this time messages on ongoing operations appear
- remove the USB drive
- turn off the machine and back on.

After the software update proceed to initialize the machine.

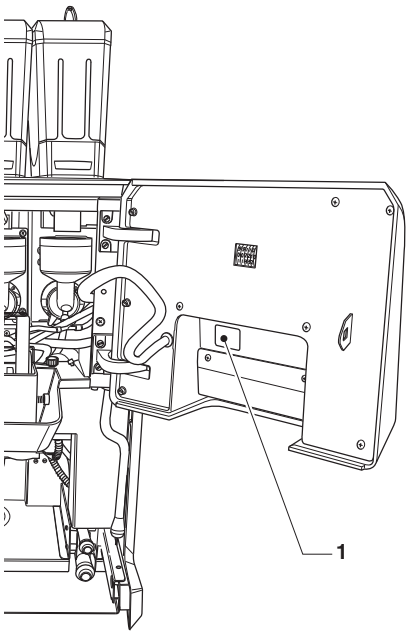


Fig. 45

1- USB jack

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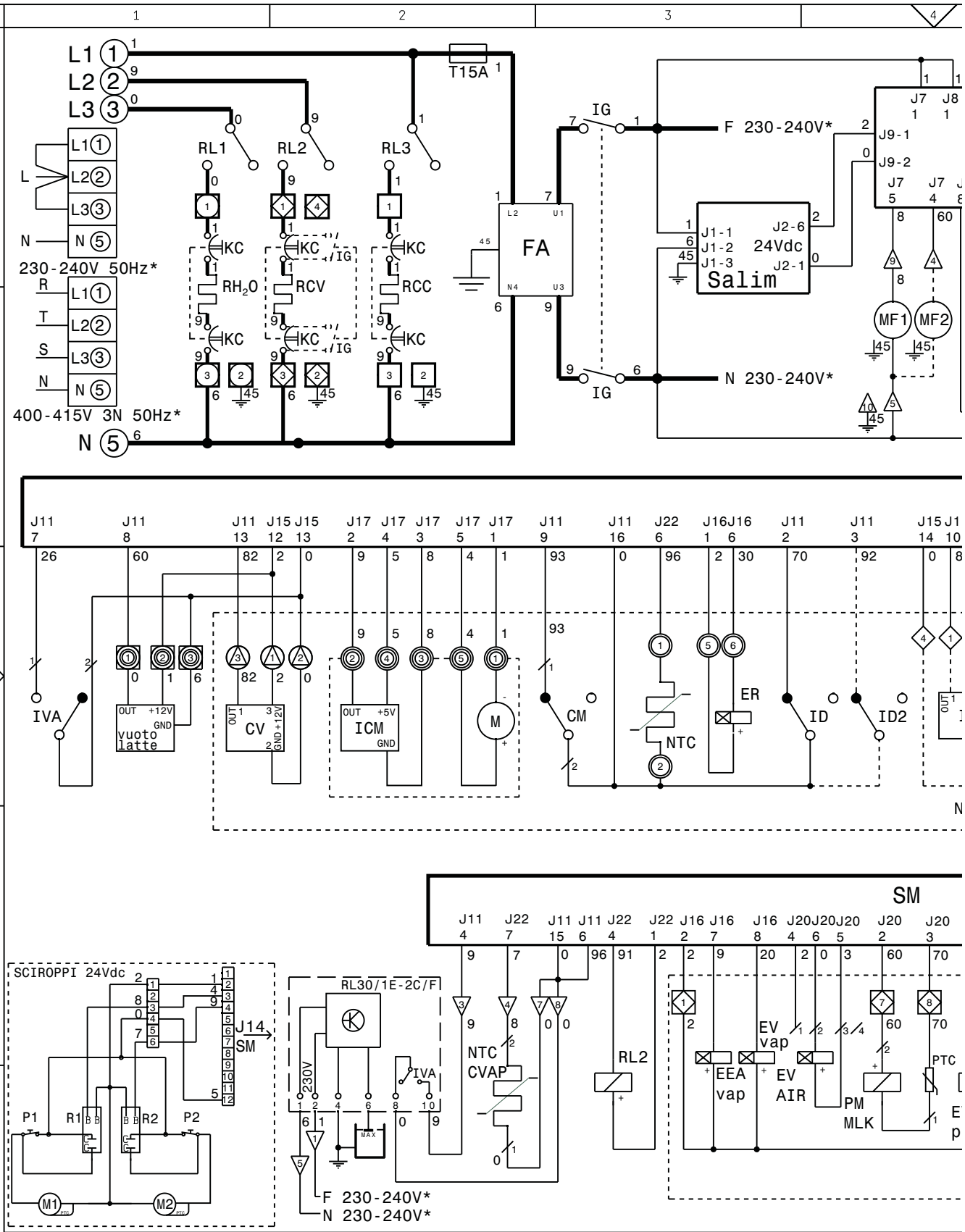
APPENDIX

WIRING DIAGRAMS

HYDRAULIC CIRCUITS

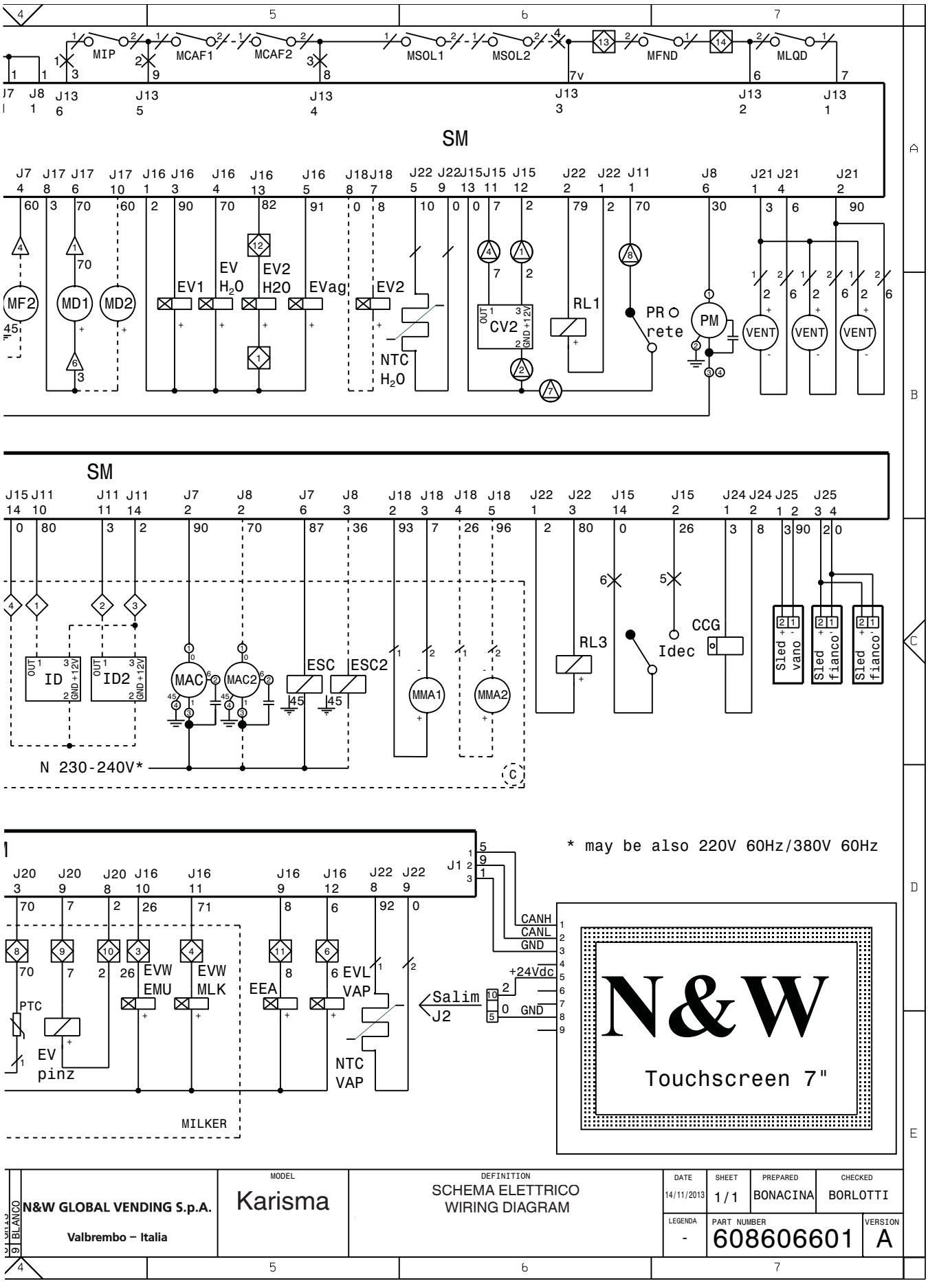
MENU BROWSING



0	NERO	BLACK
1	MARRONE	BROWN
2	ROSSO	RED
3	ARANCIO	ORANGE
4	GIALLO	YELLOW
5	VERDE	GREEN
6	BLU	BLUE
6	AZZURRO	LIGHT BLUE
7	ROSA	PINK
7	VIOLA	VIOLET
8	GRIGIO	GREY
9	BIANCO	WHITE
0	BLACK	NOIR
1	BROWN	MARRON
2	RED	ROUGE
3	ORANGE	ORANGE
4	YELLOW	JAUNE
5	GREEN	VERT
6	BLUE	BLEU
6	LIGHT BLUE	BLEU CIEL
7	PINK	ROSE
7	VIOLET	ROSE
8	GREY	GRIS
9	WHITE	BLANC
0	NOIR	SCHWARZ
1	MARRON	BRAUN
2	ROUGE	ROT
3	ORANGE	ORANGE
4	JAUNE	GELB
5	VERT	GRUEN
6	BLEU	BLAU
6	BLEU CIEL	HELLBLAU
7	ROSE	ROSA
7	ROSE	LILLA
8	GRIS	GRAU
9	BLANC	WEISS
0	SCHWARZ	NEGRO
1	BRAUN	MARRON
2	ROT	ROJO
3	ORANGE	NARANJA
4	GELB	AMARILLO
5	GRUEN	VERDE
6	BLAU	OSCURO
6	HELLBLAU	AZUL CLARO
7	ROSA	ROSA
7	LILLA	ROSA
8	GRAU	GRIS
9	WEISS	BLANCO

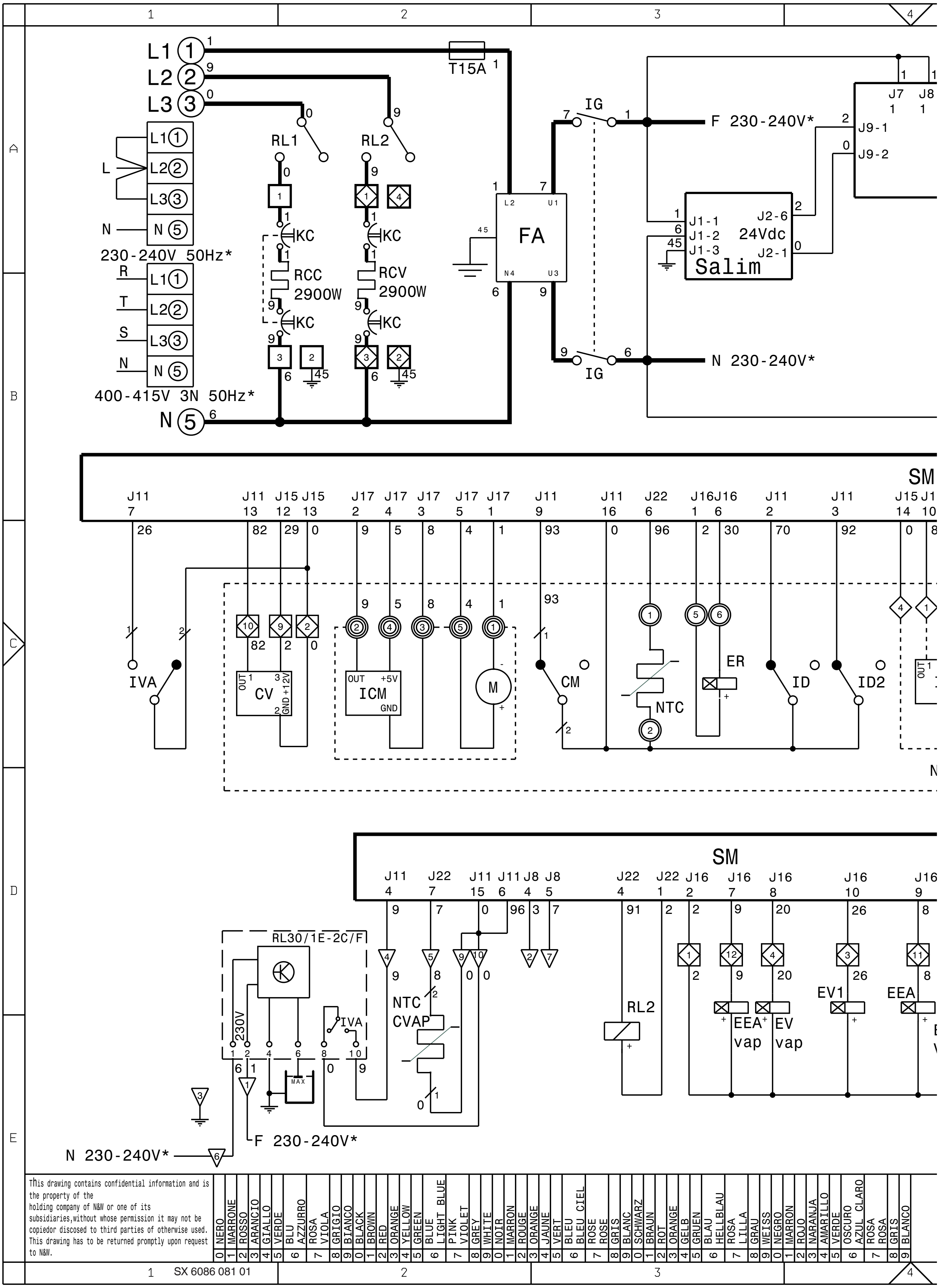
1 SX 6086 066 01

CCG	*GENERAL COUNTER*
CM	*MOTOR CAM*
CV1-..	*VOLUMETRIC COUNTER*
EEA	*WATER INLET SOLENOID VALVE*
EEAVAP	*WATER INLET SOLENOID VALVE FOR STEAM*
ER	*COFFEE DISPENSING SOLENOID VALVE*
ESC1-.	*COFFEE RELEASE ELECTROMAGNET*
EV1-..	*INSTANT SOLENOID VALVES*
EV2H2O	*INCREASED WATER FLOW SOLENOID VALVE*
EVAG	*WATER ADDITION SOLENOID VALVE*
EVAIR	*AIR SOLENOID VALVE*
EVH2O	*WATER SOLENOID VALVE*
EVLVAP	*STEAM NOZZLE SOLENOID VALVE*
EVPINZ	*HOSE CLAMP SOLENOID VALVE*
EVVAP	*STEAM SOLENOID VALVE*
EVWEMU	*MILKER NOZZLE WASH SOLENOID VALVE*
EVWMLK	*CAPPUCCINO DISPENSER WASH SOLENOID VALVE*
FA	*RADIO INTERFERENCE SUPPRESSOR*
ICM	*MOTOR CONTROL SWITCH*
ID1-..	*COFFEE DOSE SWITCH*
IDEC	*DECAFFEINATED DOOR SWITCH*
IG	*MAIN SWITCH*
IVA	*EMPTY WATER SWITCH*
KC1-..	*COFFEE BOILER CUTOUT*
M	*COFFEE UNIT MOTOR*
MAC1-.	*COFFEE GRINDER*

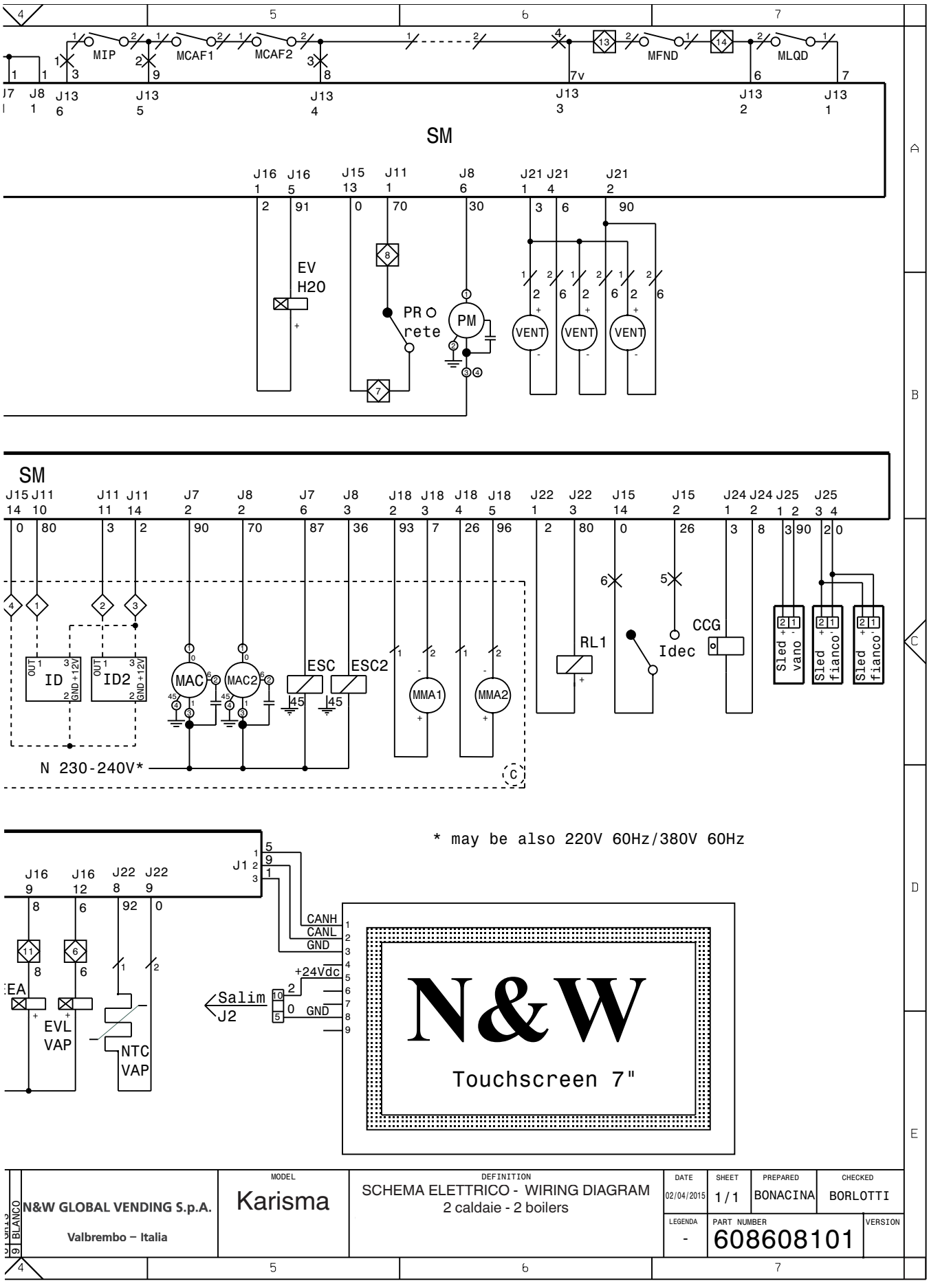


N&W GLOBAL VENDING S.p.A. Valbrembo – Italia	MODEL: Karisma	DEFINITION: SCHEMA ELETTRICO / WIRING DIAGRAM	DATE: 14/11/2013	SHEET: 1/1	PREPARED: BONACINA	CHECKED: BORLOTTI
			LEGENDA: -	PART NUMBER: 608606601		VERSION: A

MCAF1.	*COFFEE CONTAINER PRESENCE MICRO*
MD1-..	*INGREDIENT MOTORS*
MF1-..	*INSTANT WHIPPER MOTORS*
MFND	*SOLID RESIDUE CONTAINER MICRO*
MIP	*DOOR MICROSWITCH*
MLQD	*LIQUID RESIDUE CONTAINER MICRO*
MMA1-.	*GRINDING REGULATION MOTOR*
MSOL1.	*INSTANT CONTAINER PRESENCE MICRO*
NTC	*TEMPERATURE PROBE*
NTCCVA	*STEAM BOILER TEMPERATURE PROBE*
NTCH2O	*HOT WATER BOILER TEMPERATURE PROBE*
NTCVAP	*STEAM SPOUT TEMPERATURE PROBE*
PM	*PUMP*
PMMLK	*MILK PUMP*
PR	*PRESSURE SWITCH*
PTC	*PTC THERMAL SAFETY*
RCC	*COFFEE BOILER HEATING ELEMENT*
RCV	*STEAM BOILER HEATING ELEMENT*
RH2O	*HOT WATER BOILER HEATING ELEMENT*
RL1-..	*RELAIS*
SALIM	*POWER SUPPLY UNIT BOARD*
SLED	*LED BOARD*
SM	*MACHINE BOARD*
TX....	*DELAYED FUSE (X=CURRENT)*
VENT	*FAN*
VL	*MILK EMPTY SENSOR*



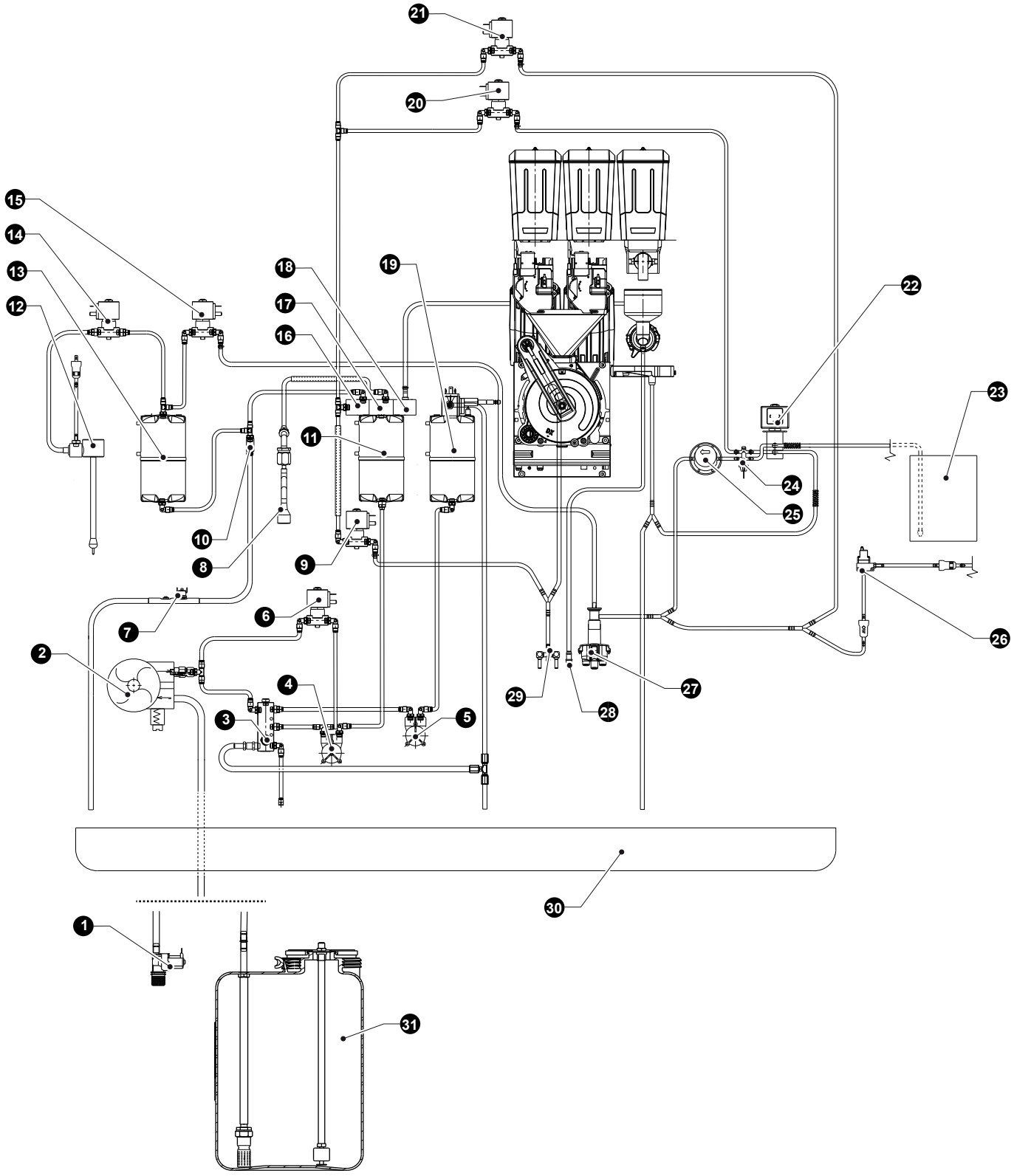
CCG	GENERAL COUNTER
CM	MOTOR CAM
CV1-..	VOLUMETRIC COUNTER
EEA	WATER INLET SOLENOID VALVE
EEAVAP	WATER INLET SOLENOID VALVE FOR STEAM
ER	COFFEE DISPENSING SOLENOID VALVE
ESC1-.	COFFEE RELEASE ELECTROMAGNET
EVH2O	WATER SOLENOID VALVE
EVLVAP	STEAM NOZZLE SOLENOID VALVE
EVVAP	STEAM SOLENOID VALVE
FA	RADIO INTERFERENCE SUPPRESSOR
ICM	MOTOR CONTROL SWITCH
ID1-..	COFFEE DOSE SWITCH
IDEC	DECAFFEINATED DOOR SWITCH
IG	MAIN SWITCH
IVA	EMPTY WATER SWITCH
KC1-..	COFFEE BOILER CUTOUT
M	COFFEE UNIT MOTOR
MAC1-.	COFFEE GRINDER
MCAF1.	COFFEE CONTAINER PRESENCE MICRO
MFND	SOLID RESIDUE CONTAINER MICRO
MIP	DOOR MICROSWITCH



N&W GLOBAL VENDING S.p.A. Valbrembo – Italia	MODEL: Karisma	DEFINITION: SCHEMA ELETTRICO - WIRING DIAGRAM 2 caldaie - 2 boilers	DATE: 02/04/2015	SHEET: 1/1	PREPARED: BONACINA	CHECKED: BORLOTTI
			LEGENDA: -	PART NUMBER: 608608101		VERSION

MLQD	LIQUID RESIDUE CONTAINER MICRO
MMA1-.	GRINDING REGULATION MOTOR
NTC	TEMPERATURE PROBE
NTCCVA	STEAM BOILER TEMPERATURE PROBE
NTCVAP	STEAM SPOUT TEMPERATURE PROBE
PM	PUMP
PR	PRESSURE SWITCH
RCC	COFFEE BOILER HEATING ELEMENT
RCV	STEAM BOILER HEATING ELEMENT
RL1-..	RELAIS
SALIM	POWER SUPPLY UNIT BOARD
SLED	LED BOARD
SM	MACHINE BOARD
TX....	DELAYED FUSE (X=CURRENT)
VENT	FAN

2 ESPRESSO CAPPUCCINO HYDRAULIC CIRCUIT

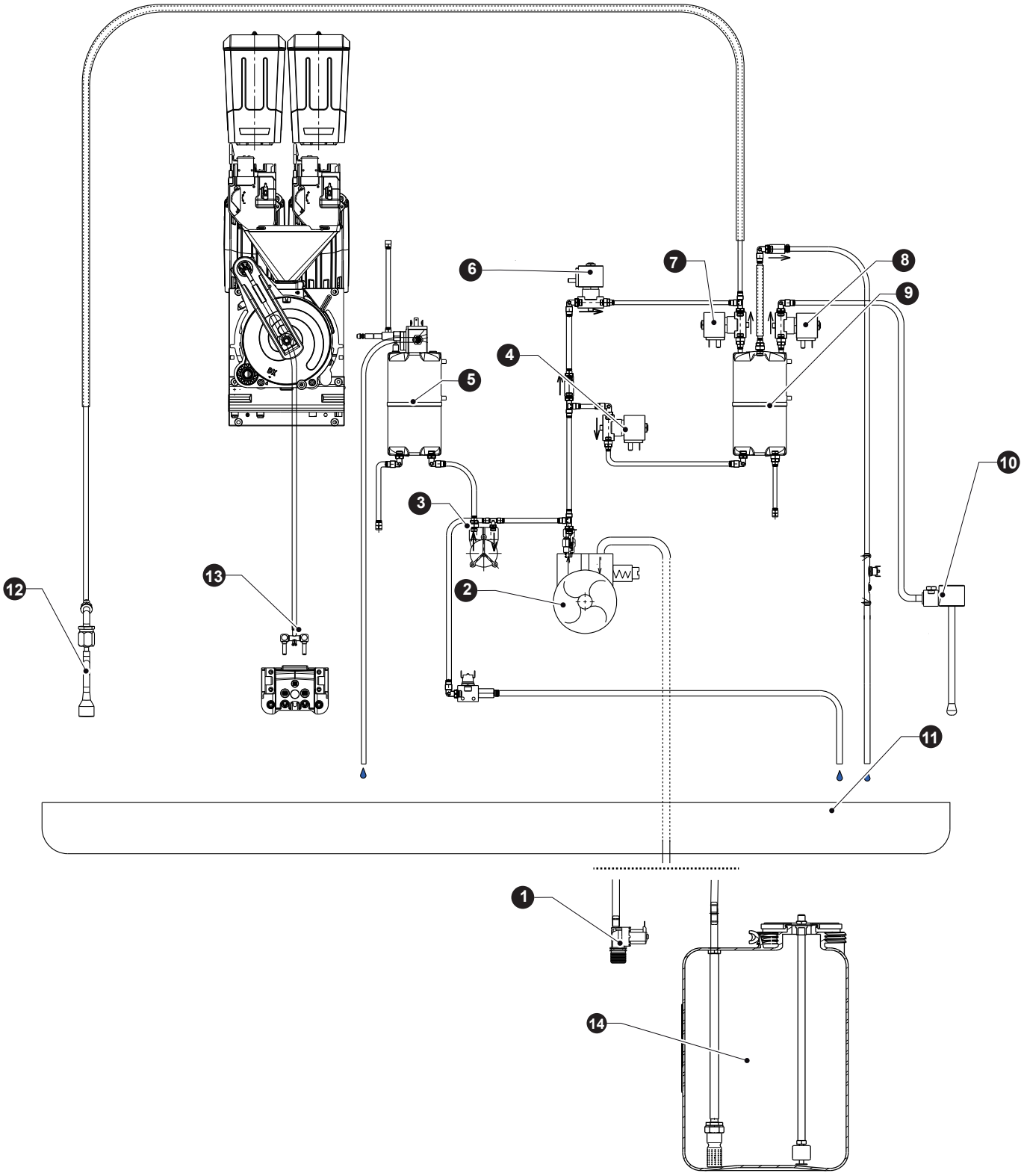


1- *MAINS WATER SOLENOID VALVE (EEA)*
2- *WATER PUMP*
3- *PRESSURE SWITCH*
4- *INSTANT BEVERAGE BOILER VOLUMETRIC COUNTER*
5- *ESPRESSO BOILER VOLUMETRIC COUNTER*
6- *INCREASED WATER FLOW SOLENOID VALVE (EV2H2O)*
7- *THERMOSTAT*
8- *"HOT WATER" SPOUT [1]*
9- *WATER ADDITION SOLENOID VALVE (EVAG)*
10- *SAFETY SOLENOID VALVE*
11- *INSTANT BEVERAGE BOILER*
12- *STEAM SPOUT [1]*
13- *STEAM BOILER*
14- *"STEAM" SPOUT SOLENOID VALVE (EVLVAP) [1]*
15- *STEAM SOLENOID VALVE (EVVAP) [2]*

16- *STEAM BOILER LOAD SOLENOID VALVE (EEAVAP)*
17- *"HOT WATER" SPOUT SOLENOID VALVE (EVH2O) [1]*
18- *INSTANT BEVERAGE SOLENOID VALVE*
19- *ESPRESSO BOILER*
20- *CAPPUCCINO MAKER WASH SOLENOID VALVE (EVWMLK) [2]*
21- *MILKER NOZZLE WASH SOLENOID VALVE (EVWEMU)[2]*
22- *PIPE CLAMP SOLENOID VALVE (EVPINZ) [2]*
23- *MILK CONTAINER [2]*
24- *FITTING [2]*
25- *MILK PUMP [2]*
26- *"AIR" SOLENOID VALVE (EVAIR) [2]*
27- *MILKER NOZZLE [2]*
28- *INSTANT BEVERAGE NOZZLE*
29- *FLOW DIVIDER COFFEE NOZZLE*
30- *LIQUID RESIDUE CONTAINER*
31- *SELF-SUPPLY TANK*

1 Only some models
2 Only models with cappuccino maker

2 ESPRESSO HYDRAULIC CIRCUIT



1- MAINS WATER SOLENOID VALVE (EEA)
2- WATER PUMP
3- ESPRESSO BOILER VOLUMETRIC COUNTER
4- STEAM BOILER LOAD SOLENOID VALVE (EEAVAP)
5- ESPRESSO BOILER
6- MIXING SOLENOID VALVE
7- "HOT WATER" SPOUT SOLENOID VALVE (EVH2O)
8- "STEAM" SPOUT SOLENOID VALVE (EVLVAP)
9- STEAM BOILER
10- STEAM SPOUT
11- LIQUID RESIDUE CONTAINER
12- "HOT WATER" SPOUT
13- FLOW DIVIDER COFFEE NOZZLE
14- SELF-SUPPLY TANK [1]

1 Only some models

ENTERING THE PROGRAMMING MODE

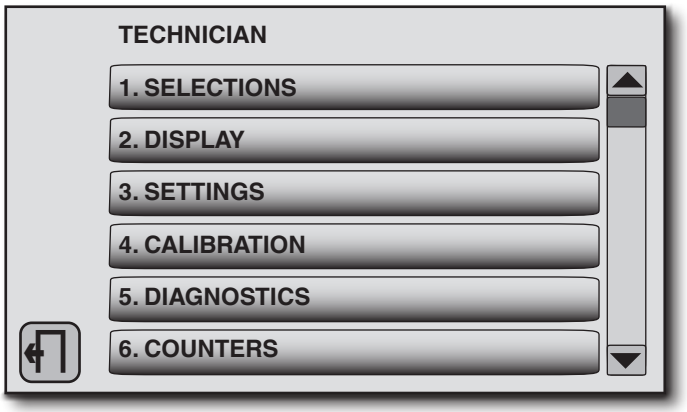
To access the menu for programming the machine press the touch screen area with the "Please select the drink" message for 3 seconds.

Alternatively, the programming menu can be accessed by opening the door.
It is proposed the selection screen that allow you to access the menus: Washes, USB, Manager, Technical.
To access the Manager and Technical menus, a password is required.
To access the "Washes" and "USB" menus, no password is necessary.
Touching the "EXIT" button, the machine returns to normal use.

NAVIGATION MODE

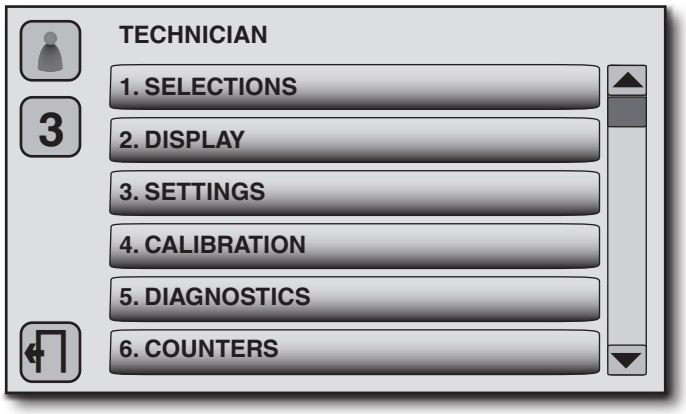
Scroll the menu using the scroll bar, locate and touch the function to operate on.
The menus are represented as follows:

FIRST LEVEL MENU



- The first row shows the menu in which we are operating (Manager, Technical, Washes, USB)
- On bottom left the EXIT button brings back to the menu selection screen
- In the middle are the first level menu entries with the reference number of the function

LOWER LEVEL MENU



The first row shows the upper level function in which we are operating

- on the left EXIT button (brings back to menu selection screen) and the button with the reference number of the upper level function (press to go back one level)
- In the middle are the lower level menu entries with the reference number of the function

INSERTING THE VALUES

When the machine software requires you to enter alphanumeric values, data and ON/OFF parameters it is possible to use one of the following methods:

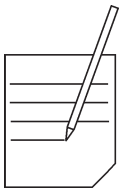
- keypad appearing on the screen
- from the list of proposed values
- "+" and "-" keys
- ON / OFF button

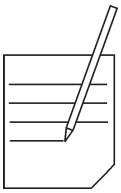
The screens allow to:

Button to confirm the values entered.
In the text shown as ↵

Button to cancel the values entered.
In the text shown as ←

Button for exiting the programming menu and return to normal use





EDITION 1 02 - 2014 **CODE H4535EN00**