INSTALLATION, OPERATION, MAINTENANCE
Translation of original instructions

Maestro Espresso

EN English

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CE

DICHIARAZIONE DI CONFORMITA' - DECLARATION OF CONFORMITY - DÉCLARATION DE CONFORMITÉ - KONFORMITÄTSERKLÄRUNG - DECLARACIÓN DE CONFORMIDAD - DECLARAÇÃO DE CONFORMIDADE - VERKLARING VAN OVEREENSTEMMING - OVERENSSTEMMELSESERKLÆRING - FÖRSÄKRAN OM ÖVERENSSTÄMMELSE - VAATIMUSTENMUKAISUUSVAKUUTUS - ERKLÆRING OM OVERENSSTEMMELSE - PROHLÁŠENÍ O SHODĚ - DEKLARACJA ZGODNOŚCI - ДЕКЛАРАЦИЯ СООТВЕТСТВИЯ -

IT La presente dichiarazione di conformità è rilasciata sotto l'esclusiva responsabilità del fabbricante. Si dichiara che l'apparecchiatura, descritta nella targhetta di identificazione, è conforme alle disposizioni legislative delle Direttive Europee e successive modifiche ed integrazioni.
Vengono riportate 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.

EN This declaration of conformity is issued under the manufacturer's sole responsibility. It is declared that the equipment described by the identification plate is in compliance with the legal provisions of the European Directives as well as its subsequent amendments and supplements.
The harmonised standards or the technical specifications (designations) applied in compliance with the safety rules of good practice in force in the EU are stated herein.

FR La présente déclaration de conformité est délivrée sous la responsabilité exclusive du fabricant. On déclare que l'appareillage décrit sur la plaquette d'identification est conforme aux dispositions législatives des Directives européennes et leurs modifications et intégrations ultérieures. Sont indiquées les normes harmonisées ou les spécifications techniques (désignations) qui ont été appliquées conformément aux bonnes règles de l'art en matière de sécurité en vigueur dans l'UE.

ES La presente declaración de conformidad se entrega bajo la exclusiva responsabilidad del fabricante. Se declara que el aparato, descripto en la etiqueta de identificación, es conforme con las disposiciones legislativas de las Directivas Europeas y con sus sucesivas modificaciones e integraciones.
Se indican las normas armonizadas o las especificaciones técnicas (designaciones) que han sido aplicadas de acuerdo con las reglas del buen arte en materia de seguridad en vigencia en la UE.

DE Diese Konformitätserklärung wurde unter ausschließlicher Verantwortung des Herstellers verfasst. Es wird erklärt, dass das auf dem Typenschild beschriebene Gerät den gesetzlichen Bestimmungen der Europäischen Richtlinien und anschließenden Änderungen und Ergänzungen entspricht. Es werden die harmonisierten technischen Spezifikationen (Bestimmungen) aufgeführt, die gemäß den Regeln der Kunst hinsichtlich den in der EU geltenden Sicherheitsnormen angewendet wurden.

PT A presente declaração de conformidade é emitida sob exclusiva responsabilidade do fabricante. Declara-se que o equipamento, descrito na placa de identificação, está em conformidade com as disposições legislativas das Diretivas Europeias e sucessivas modificações e integrações. São indicadas as normas harmonizadas ou as especificações técnicas (designações) que foram aplicadas de acordo com as regras de boa engenharia em matéria de segurança, em vigor na UE.

NL Deze verklaring van overeenstemming wordt uitsluitend onder de verantwoordelijkheid van de fabrikant verstrekt. Men verklaart dat het apparaat, beschreven op het identificatieplaatje, overeenstemt met de wettelijke bepalingen van de Europese Richtlijnen en daaropvolgende wijzigingen en aanvullingen.Hierna worden de geharmoniseerde normen of de technische specificaties (aanwijzingen) aangegeven die toegepast werden in overeenstemming met de regels van de goede techniek op gebied van veiligheid, die in de EU van kracht zijn.

DA Denne overensstemmelseserklæring udstedes ene og alene på fabrikantens ansvar. Det erklæres hermed, at apparaturet, der er beskrevet på udstyrets typeskilt, opfylder de lovgivningsmæssige i krav i de europæiske direktiver samt senere ændringer og tilføjelser. De anvendte harmoniserede standarder eller tekniske specifikationer (betegnelser), som er anvendt i overensstemmelse med reglerne i de tekniske sikkerhedsforskrifter gældende i EU.

SV Denna försäkran om överensstämmelse utfärdas av tillverkaren på dennes egna ansvar. Vi försäkrar att utrustningen, som beskrivs på märkskylten, överensstämmer med lagar och författningar i EU-direktiven och i ändrad och kompletterad lydelse. Harmoniserade standarder eller tekniska specifikationer (beteckningar) återges som har tillämpats enligt sunda tekniska principer i fråga om säkerheten som gäller inom EU och som anges i listan på samma sida.

FI Tämä vaatimustenmukaisuusvakuutus annetaan valmistajan yksinomaisen vastuun alla. Vakuutamme, että arvokilvessä kuvattu laite vastaa neuvoston direktiivejä sekä niihin liittyviä muutoksia ja täydennyksiä. Lisäksi annetaan yhdenmukaistetut standardit tai tekniset erittelyt (käyttötarkoitukset), joita on sovellettu EU-maissa, voimassa olevien turvallisuutta koskevien valmistukseen liittyvien määräysten ohella.

NO Denne samsvarserklæringen er utferdiget under eneansvar av produsenten. Det erklæres at apparatet, beskrevet på typeskiltet, er i samsvar med gjeldende europeiske direktiver og senere endringer og tillegg. Harmoniserte standarder eller tekniske spesifikasjoner (betegnelser) anvendt i samsvar med EUs gjeldende sikkerhetsregler er angitt.

CZ Toto prohlášení o shodě je vydáno v plné zodpovědnosti výrobce. Prohlašuje se, že zařízení popsané na identifikačním typovém lístku odpovídá legislativním nařízením Evropských směrnic ve znění pozdějších změn a doplňků. Harmonizované standardy nebo technické specifikace (označení) jsou aplikovány v souladu se správnou praxíplatnou v EU uvedenou níže.

Direttive e regolamenti europei **European directives and regulations**		**Norme armonizzate / Specifiche tecniche** **Harmonised standards / Technical specifications**	
2014/35/EU*	(LVD)	EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019 EN 60335-2-75:2004+A12:2010+A11:2006+A1:2005+A2:2008	EN 62233:2008
2006/42/EC*	(MD)	EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019	
2014/68/EU	(PED)	EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019	
2014/30/EU	(EMCD)	EN 55014-1:2017 EN 55014-2:2015	EN 61000-3-2:2019 EN 61000-3-3:2013
2002/72/CE+2008/39/CE			
EC 1935/2004		EN 16889:2016	EDQM Practical Guide CM/RES (2013)9
10/2011/EU+amendments			
EC 2023/2006	(GMP)		
2011/65/EU+ amendments	(RoHS)	EN 50581:2012	
2012/19/EU	(WEEE)		
2014/53/EU **	(RED)	EN 62311:2008 EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019 EN 60335-2-75:2004+A12:2010+A11:2006+A1:2005+A2:2008	ETSI EN 301 489-1 V2.1.1:2016 ETSI EN 301 489-1 V2.2.3:2019 ETSI EN 301 489-17 V3.2.4:2020 ETSI EN 301 489-52 V1.1.0:2016 ETSI EN 301 511 V12.5.1:2017 ETSI EN 301 908-1 V13.1.1:2019 ETSI EN 300 328 V2.2.2:2019

* Qualunque sia applicabile / Whichever applicable
**Solo con moduli radio di Evoca S.p.A. / Only with radio modules of Evoca S.p.A.

Il fascicolo tecnico è costituito e disponibile presso:
The technical file is compiled and available at:

Evoca S.p.A. 12/10/2020

ANDREA ZOCCHI
C.E.O

Ed. 10 20

Declaration of conformity

CE The declaration of conformity is issued under the manufacturer's sole responsibility.
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.

- The legal provisions of the European Directives in force (with the subsequent amendments and integrations thereof)
- The harmonised standards in force
- The technical specifications (designations) applied in compliance with the safety rules of good practice enforced in the EU and listed on the same page.

INTEGRATION OF RADIO MODULES

In compliance with Article 17 of Directive 2014/53/EU (RED), the manufacturer checks whether the radio equipment is in compliance with the essential requirements of article 3 of the Directive.
The procedure used to check compliance is at the manufacturer's discretion.
If a radio module is built in a "non-radio" equipment, the subject integrating the module will become the manufacturer of the end product and it must therefore check the compliance of the end product with the essential requirements of the 2014/53/EU (RED) Directive.
As a matter of fact, the integration of radio modules in other products can influence the compliance of the end product with the essential requirements of the Directive.

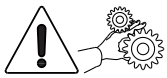
DEFINITIONS ACCORDING TO THE LAW

The **manufacturer** is a natural person who or a public body which manufactures radio equipment and/or electric material or has it engineered, manufactured or marketed by putting its own trademark or name on it.
An **importer** or **distributor** who places radio equipment or electric material on the market by putting its own name or trademark becomes the manufacturer.
An **importer** or **distributor** who makes any change to radio equipment or electric material already placed on the market to such an extent that the said change may condition the compliance with the listed directives is held to be the manufacturer and it must therefore assume the relative obligations according to the said directives.

Symbology

The following symbols may be present inside the machines, according to models (signs of danger)

Attention: dangerous voltage
Power off before removing the cover
To reduce the risk of fire or electric shock, don't remove the cover. No user-serviceable part inside.
Repairs should be done by authorized service personel only.



Attention
Danger of crushing your hands

Attention
Hot surface

The signs of danger must be readable and visible; they shall be neither hidden nor removed. Damaged or unreadable labels must be replaced.

Warnings

This document intended for the technical personnel is made available in the electronic format at the manufacturer's (reserved area web site).

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 use of kits and/or accessories not type-approved by the manufacturer can not guarantee the observance of safety standards, in particular for live parts.
The installer will be the sole person responsible for any damage improper installation may cause to the machine or to things and people.
The manufacturer declines all responsibility for the use of non type-approved components.

Assembly and any testing operation must be carried out by qualified personnel who have a specific knowledge of the machine operation from the point of view of electric safety and health rules.

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.

For the vending machines of hot drinkts only

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 over 8 years 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 not be allowed to play with the machine by the people in charge of their supervision
Children shall not be allowed to clean or service the machine.

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 2012/19/EU (Waste Electrical and Electronic Equipment - 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.

English

Introduction

ℹ The technical documentation supplied is an integral part of the equipment and it must therefore accompany the equipment whenever it is either moved or transferred to enable the various operators to consult it.

Before starting to install and use the machine, it is necessary to carefully read and understand the content of the documentation since it can supply important information on installation safety, utilisation rules and maintenance operations.

The manual is divided into tree chapters.

The **first chapter** is intended to describe the ordinary filling and cleaning operations that shall be carried out in areas of the machine that can be accessed with the simple use of the door key, without using any other tool.

The **second chapter** contains the instructions for correct installation as well as the information necessary for optimal utilisation of the machine performance.

The **third chapter** is intended to describe the maintenance operations involving the use of tools for access to potentially dangerous areas.

The operations described in the second and third chapter must be carried out only by the personnel who have a specific knowledge of the machine operation from the point of view of electric safety and health rules.

TRANSPORT AND STORAGE

TRANSPORT

To avoid any damage to the equipment and any injury to the people, the equipment must be handled with great care.

While handling, there is the danger of crushing one's hands and/or feet: never forget to use proper work gloves and shoes.

Handle the equipment by using lifting means suitable for the size and the weight of the equipment (e.g. lifting truck).

Lifting means may only be used by personnel fulfilling special requirements.

Please avoid:

- overturning and/or tilting the equipment;
- dragging or lifting the equipment by means of ropes or alike;
- lifting the equipment by its sides;
- shaking or impacting the equipment and its package.

STORAGE

The storage area must be dry and its temperature lie between 0 and 40°C

If the equipment should freeze, condition it at a temperature between 0° and 40°C.

Wait for the temperature of the equipment to adjust to the room temperature before powering it on.

Before powering on the equipment, please wait for the humidity condensate (if any) to dry completely.

IN CASE OF FAILURE

In most cases, any technical problem can be solved by carrying out minor operations. As a consequence, we suggest carefully reading this manual before contacting the manufacturer.

In case of failures or malfunctions that can not be solved, please apply to:

Evoca S. p. A.
Via Roma 24
24030 Valbrembo
Italy - Tel. +39 035606111

IDENTIFICATION OF THE MACHINE AND ITS FEATURES

Every single machine is identified by a specific serial number that can be found on the rating plate arranged inside.

The plate is the only one recognised by the manufacturer and it contains all the data that enable the manufacturer to supply technical information of any kind in a quick and safe manner and to facilitate the management of spare parts.

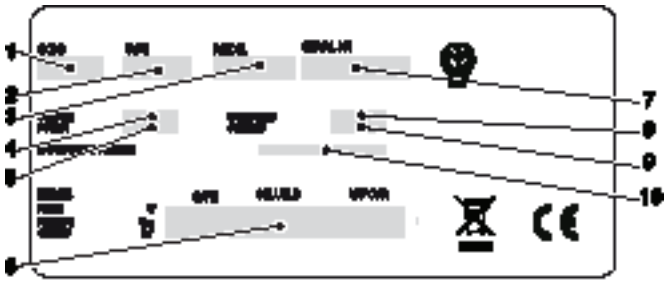


Fig. 1

1. product code
2. type
3. model
4. operating voltage
5. absorbed power
6. boiler data
7. serial number
8. operating voltage frequency
9. current
10. water network features

POSITIONING THE VENDING MACHINE

The machine is not suitable for installation outdoors. It must be installed in a dry room and **far from any source of heat** at a temperature ranging from 5°C to 34°C. It can not be installed in a room where water jets are used for cleaning (e.g. large kitchens, etc.).

The machine must be installed near a wall, but in such a way that the back is min. 4 cm. far from the wall in order to provide for regular ventilation; in no case, it shall be covered with any piece of cloth or alike.

If the equipment is placed close to other equipment, leave proper distance to enable the user to open the door.

The maximum inclination shall not exceed 2 degrees. If necessary, level it by using the adjustable feet.

DOUBLE-CUP MODELS

For double-cup models leave a distance of at least 15 cm between them.

TECHNICAL FEATURES

DIMENSIONS

Height	mm 1830
Width	mm 650
Depth	mm 760
Depth with open door	mm 1320
Width with open door	mm 1200
Weight	Kg 170

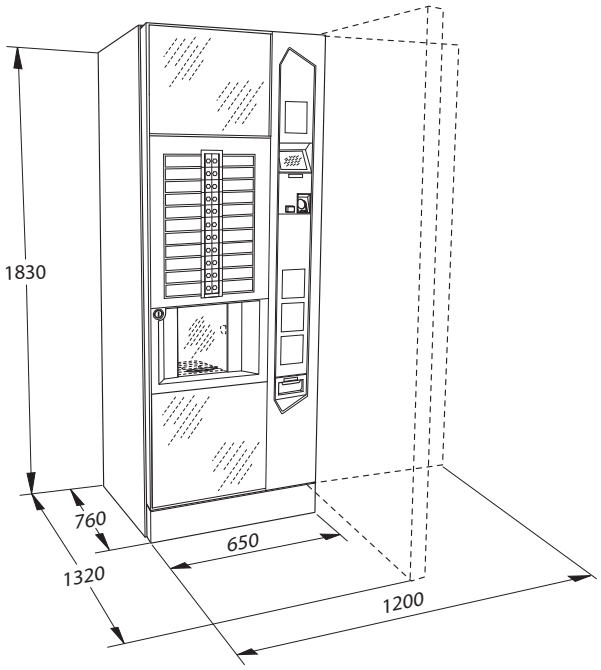


Fig. 2

ELECTRIC CONNECTION

Voltage	V~ 230/240
Frequency	Hz 50/60
Maximum power*	W 2500

* refer to the rating plate inside the equipment

NOISE LEVEL

The continuous, equivalent, weighted sound pressure level is below 70 dB.

Payment system

The machine can be electrically arranged for the systems with an Executive, BDV and MDB protocol and for the assembly of 24 Vdc validators.

The space is not only arranged to accommodate the coin mechanism, but also to assemble the most widespread payment systems (optionals).

Sales prices

You can set up a programmable different price for every single selection. A sales price that is the same for all selections is available for the standard setup.

Noise level

The continuous, equivalent, weighted sound pressure level is below 70 dB.

LIGHTING

By means of LEDs; the light produced by LED's is generally screened by panels (no risk).

If lighting is active without screening for any reason whatsoever (medium risk), **never look at the light sources steadily.**

ENERGY SAVING

You can set up the power off of leds and/or boilers to save electric energy during non-use periods.

COIN BOX

Made of sheet iron.

Cover and lock available as accessories.

WATER SUPPLY

Supplied by the network, the water pressure of which lies between 0.05 and 1 MPa (0.5 and 10 bar).

The machine software can manage the water supply from an internal tank (optional kit).

CUP DISPENSER

70/71 or 73/74 or 80/81 mm in diameter, according to models.

The second release system in double-cup models enables the user to dispense cups, 70/71 or 57 mm in diameter, according to models.

STIRRER DISPENSER

Double stacker for stirrers, 90, 105 or 115 mm in length (according to models).

ESPRESSO REGULATIONS

- Grinding degree (manual, motor-driven or automatic)
- Coffee dose
- Water dose

INSTANT REGULATIONS

- Instant powder doses
- Water dose

TEA REGULATIONS

For models with tea brewer only.

- Tea dose
- Water dose

TEMPERATURE REGULATION

The boiler temperature can be set up via software.

APPROVALS

- cup presence
- water presence
- coffee unit position
- liquid waste empty
- operation temperature reached
- no cup in the dispensing compartment

SAFETY DEVICES

- door switch
- boiler safety thermostat manually reset-table
- anti-boil thermostats of the instant boiler
- air-break float jam
- anti-flood solenoid valve
- float controlling liquid waste full
- boiler probe short-circuit / interruption control
- time-based protection for:
  - Pumps
  - Coffee unit ratio-motor
  - Coffee dispensing
  - Grinder
  - Cup shift arm ratio-motor
- protection for:
  - Ingredient motors
  - Coffee unit ratio-motor
  - Pump
  - Whipper motors
  - Grinder motor
- protection with fuse
  - Main electric circuit
  - Board and coin mechanism supply transformer (primary and secondary)

CANISTER CAPACITY

The machine may have different canister combinations.
The indicative product quantity they can contain is:

- Coffee beans 3.2 Kg
- Coffee beans (2ES) 2.1+2.1 Kg
- Tea (with tea brewer only) 2Kg

	canister	**capacity**
Coffee instant	2.5 Lt. 4.5 Lt. 6 Lt.	0.6 Kg 1 Kg 1.3 Kg
Chocolate instant	2.5 Lt. 4.5 Lt. 6 Lt.	1.7 Kg 3.2 Kg 4.5 Kg
Milk instant	2.5 Lt. 4.5 Lt. 6 Lt.	0.7 Kg 1.2 Kg 1.7 Kg
Tea Instant lemon	2.5 Lt. 4.5 Lt. 6 Lt.	2 Kg 3.5 Kg 5 Kg
Sugar	2.5 Lt. 4.5 Lt. 6 Lt.	2 Kg 3.5 Kg 5 Kg
Ginseng	2.5 Lt. 4.5 Lt. 6 Lt.	1.8 Kg - -
Broth instant	2.5 Lt. 4.5 Lt. 6 Lt.	1.4 Kg 2.5 Kg 3.5 Kg

ELECTRIC ENERGY CONSUMPTION

The electric energy consumption of the machine depends on many factors such as room temperature and ventilation, inlet water temperature, boiler temperature, etc.

The calculated energy consumption is indicative.

The following energy consumption values have been measured at a room temperature of 22°C:

- Temperature achieved: 375.7 Wh
- 24 hours stand-by: 3574 Wh

Accessories

Accessories and kits can be mounted on the machine to vary performances thereof.

The accessories and kits that can be applied on the equipment are made available at the manufacturer's.

The accessories and kits are supplied with mounting and testing instructions that shall be strictly followed to preserve the machine safety.

The installer is the sole person responsible for any damage improper installation may cause to the machine or to things and people.

Important !!!

The use of accessories and kits not type-approved by the manufacturer can not guarantee the observance of safety standards, in particular for live parts.

The manufacturer declines all responsibility for the use of non type-approved components.

Assembly and any subsequent testing operation must be carried out by qualified personnel who have a specific knowledge of the machine operation from the point of view of electric safety and health rules.

VARIABLE COMBINATION LOCK

Some models are supplied with a variable combination lock.

The lock is complete with a silver key, with the standard combination, for opening and closing.

It is possible to customise the locks by using a kit made available as an accessory and intended to change the lock combination.

The kit is composed by a change key (black) of the current combination as well as by change (gold) and use (silver) keys of the new combination.

Sets of change and use keys with other combinations can be supplied upon request.

Moreover, further sets of use keys (silver) may be requested by specifying the combination stamped on the keys.

Do not use the programming key for usual opening operations since this may damage the lock.

To change the combination:

1. Open the door of the equipment to avoid having to force the rotation.
2. Slightly lubricate by using a spray inside the lock.
3. Insert the current change key (black) and turn it until you reach the change position.
4. Remove the current change key and insert the change key (gold) with the new combination.
5. Turn the change key slightly several times without completing the rotation.
6. Turn it until you reach the close position and remove the change key.

The lock has now assumed the new combination.

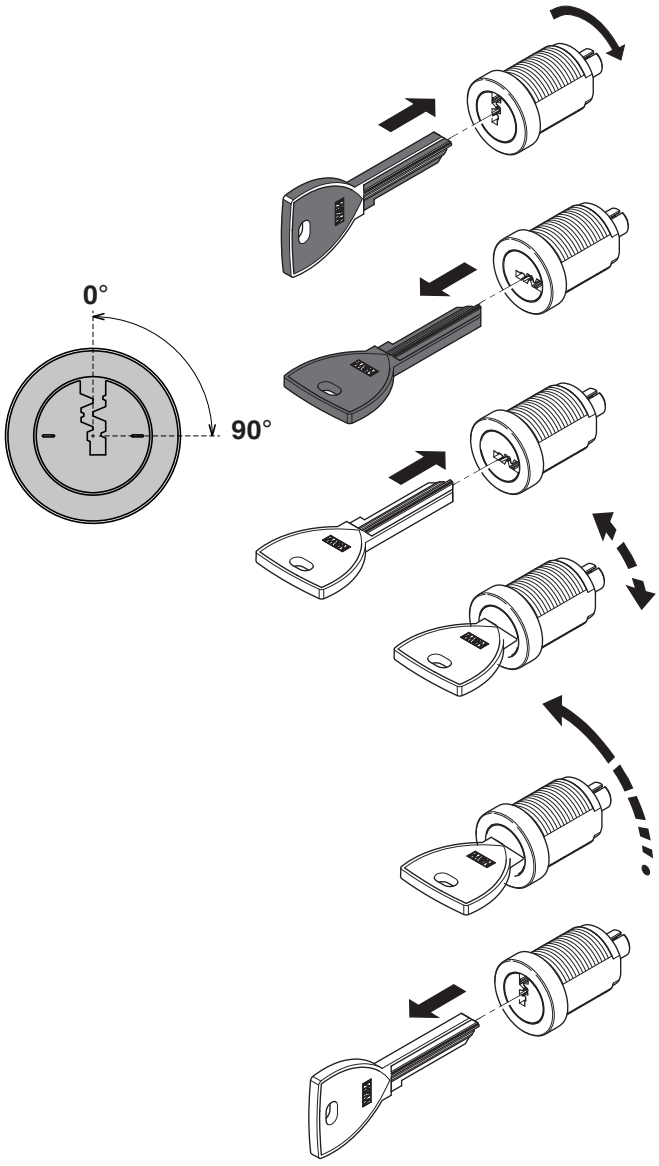


Fig. 3

The keys of the old combination can be no longer used.

To keep a correct operation all over the time, it is recommended to lubricate the lock every 6 months.

Use spray lubricants for locks.

Other types of lubricants may trap dirt and dust, thus causing the lock to jam.

Chapter 1
Loading and cleaning

The machine is not suitable for installation outdoors. It must be installed in a dry room at a temperature ranging from 2°C to 32°C. It can not be installed in a room where water jets are used for cleaning (e.g. large kitchens, etc.).

DOOR SWITCH

Whenever you open the door, a special switch will power off the electric installation of the equipment to allow the user to carry out the ordinary filling and cleaning operations described here below in totally safe conditions.

All the operations requiring the machine to be directly connected to a source of electricity when the door is open must be ONLY carried out by the personnel qualified and informed on the specific risks involved.

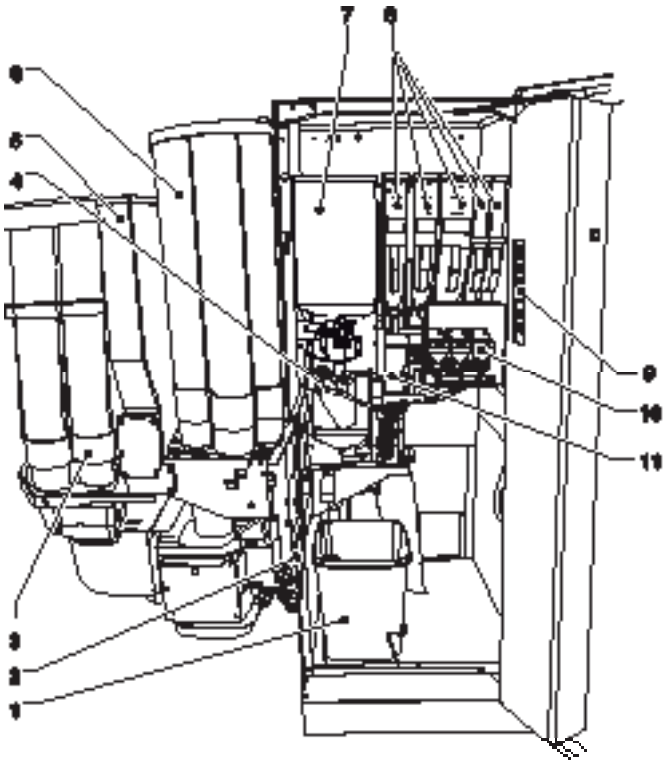


Fig. 4

1. Liquid waste bucket
2. Door switch
3. Secondary cup stacker (some models only)
4. Espresso unit cover
5. Sugar canister (if available)
6. Main cup stacker
7. Coffee beans canister (double or single)
8. Instant powder canister
9. Service buttons
10. Mixer
11. Tea brewer (some models only)

HYGIENE AND CLEANING

This manual shows the potential critical points and gives the instructions necessary to control any bacterial proliferation.

On the basis of the health and safety rules in force, the operator of the vending machine shall apply the self-control procedures established according to the provisions of the HACCP (Hazard Analysis Critical Control Point) directive and the national laws.

At the time of the installation, it is necessary to completely sanitise the water circuits and the parts in contact with foodstuffs in order to remove any bacterium that may have built up during storage.

It is recommended to use sanitising products to clean the surfaces, even if not directly in contact with foodstuffs.

Some parts of the machine can be damaged by corrosive detergents.

The manufacturer disclaims all responsibility for any damage caused by the non-observance of the above or the use of aggressive or toxic chemical agents.

Never forget to power off the machine before carrying out any maintenance operation requiring the disassembly of components.

USING THE DISPENSERS OF HOT DRINKS IN OPEN CANISTERS

The dispensers of hot drinks in open canisters (e.g. plastic cups, pottery cups, jugs) may be only used for selling and dispensing drinks obtained by:

- brewing of products, such as coffee and tea;
- reconstituting instant or freeze-dry packed products.

These products shall be declared as “suitable for automatic dispensing” in open canisters by the manufacturer.

Dispensed products shall be consumed immediately. Under no circumstance shall they be preserved and/or packed for later consumption.

Any other use shall be considered as improper and thus potentially dangerous.

CONTROLS AND INFORMATION

The machine shall work at a room temperature between 2 and 32°C.

The controls and information for the user are arranged outside the door.

The labels including the menu and the instructions are supplied with the machine and they shall be inserted at the time of the installation.

The programming button giving access to the functions of the machine, the mixer washing button and the connector for the RS232 serial port are arranged inside the machine, on the cover of the coin mechanism compartment.

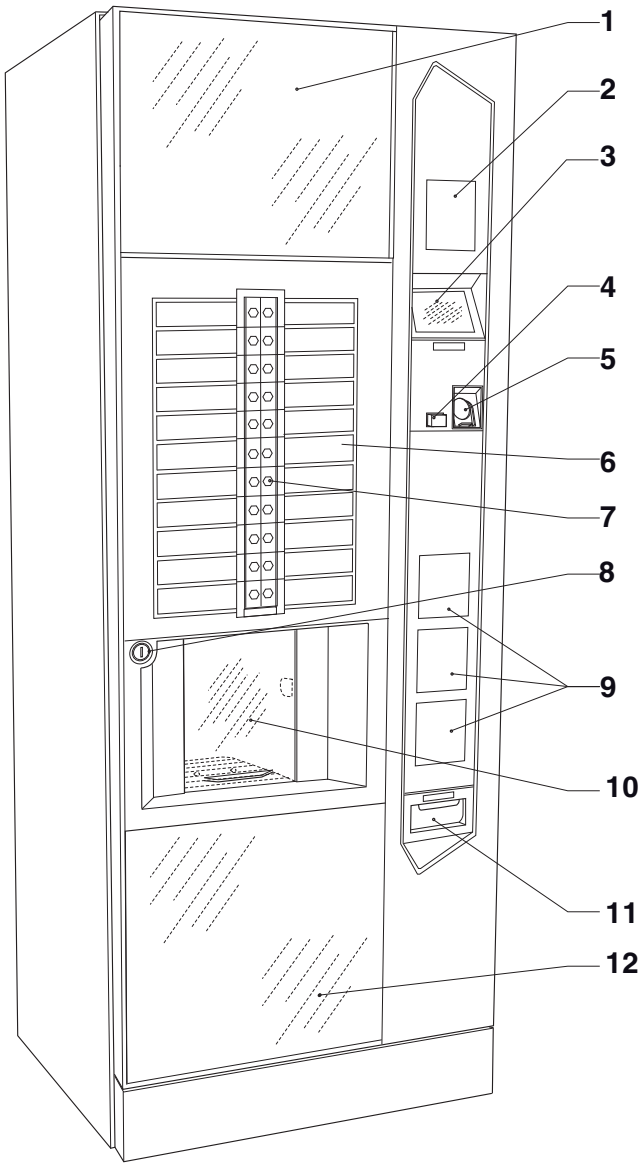


Fig. 5

1. Upper aesthetic panel
2. Space for bill validator
3. Display
4. Coin return button
5. Coin insert
6. Selection labels
7. Selection keyboard
8. Lock
9. Space for user information
10. Dispensing compartment
11. Coin return flap
12. Lower aesthetic panel

PRODUCT LOADING

ⓘ Before loading products, make sure that they have been preserved according to the producer's instructions for storage and holding temperature.

⚠ Before loading products, check the pull date.

The products shall be declared as “suitable for automatic dispensing” in open canisters by the manufacturer.

Products may even be loaded if canisters are partially full.

COFFEE BEANS

It is advisable to use good quality coffee beans to avoid any malfunction of the equipment due to the presence of impurities.

1. open the canister cover;
2. fill with coffee beans without exceeding the maximum level;
3. make sure that the canister shutter is open.

INSTANT PRODUCTS AND SUGAR

It is advisable to use quality instant products to avoid any malfunction of the equipment due to the presence of impurities.

1. open the instant powder canister cover.
2. fill with instant powder without exceeding the maximum level
3. close the cover carefully.

ⓘ Never compress powder to avoid packing.

ⓘ Make sure that the instant products you have loaded are not lumpy.

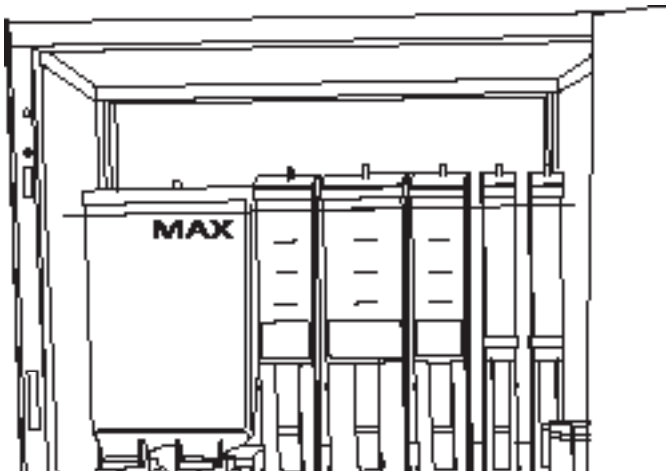


Fig. 6

CUPS

ⓘ Use cups declared as “suitable for automatic dispensing” only; other types of cups or cups “not suitable for automatic dispensing” may cause any malfunction in the release system or not be properly released.

The cup dispenser shelf has got a double articulated joint intended to improve the accessibility to the cup dispenser, in particular when the equipment is placed close to other equipment.

To load the cup columns, act as follows:

1. open the machine door,
2. pull the shelf to extract it,
3. unlock and turn the shelf to the outside,
4. remove the cover from the cup stacker to be loaded,
5. load the cups.

STACKER COMPLETELY EMPTY

If the cup stacker is completely empty:

1. Fill in the columns with cups, except for the one relative to the release hole.
2. Close the machine door and wait for the first full column to reach the release hole.
3. Open the machine door once again and load the column that has remained empty.

To close, act in the reverse order. Make sure that the shelf has completely moved backwards. Forcing is slightly required to close completely.

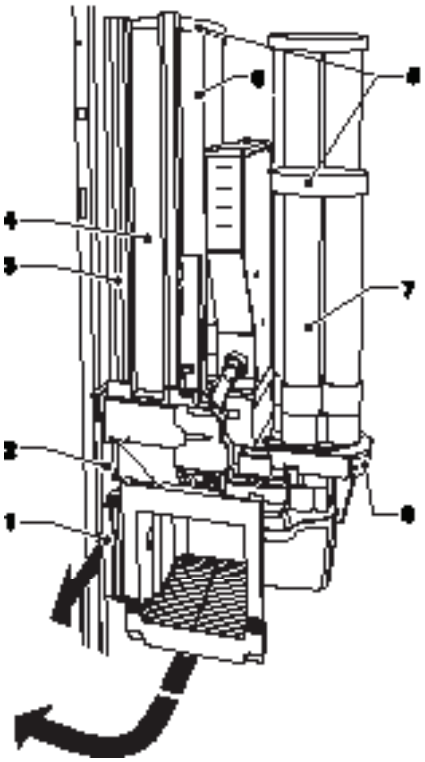


Fig. 7

1. shelf extraction handle
2. articulated shelf
3. stirrer guide
4. stirrer stacker
5. stacker cover
6. main cup stacker
*7. secondary cup stacker **
8. shelf rotation handle
*** some models only***

STIRRERS

Act as follows:

1. remove the external and internal weights for stirrers by extracting them from the top,
2. load the stirrers alternatively in the two stackers to equal the level of the two columns.
3. reposition the weights and make sure that the worked side is inserted into the slot,

ⓘ Stirrers must be flawless and straight.

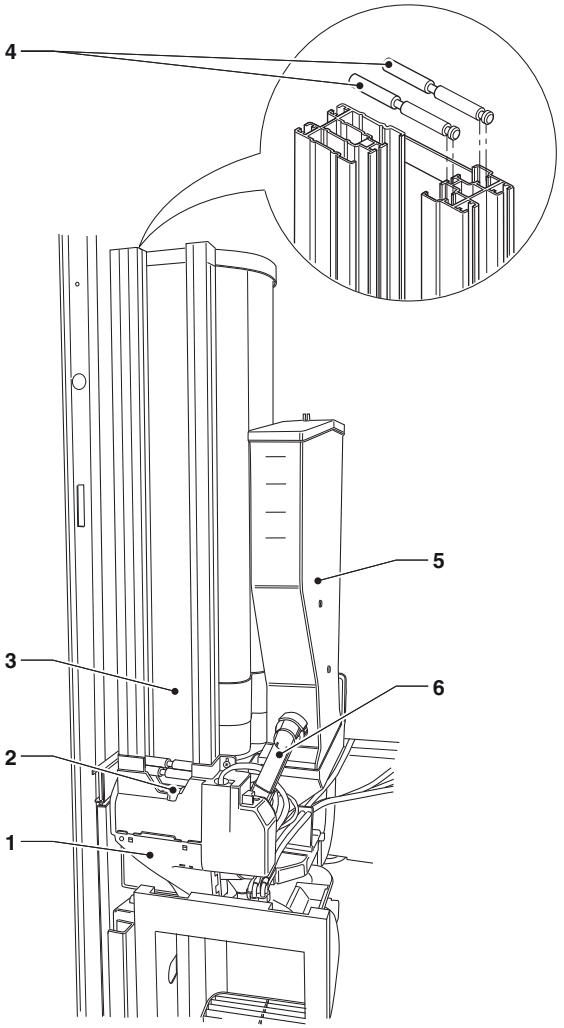


Fig. 8

1. stirrer chute
2. stirrer ejector
3. stirrer stacker
4. stirrer weights
5. sugar canister
6. sugar chute

SANITISING THE MACHINE

This manual shows the potential critical points and gives the instructions necessary to control any bacterial proliferation.

On the basis of the health and safety rules in force, the operator of the vending machine shall apply the self-control procedures established according to the provisions of the HACCP (Hazard Analysis Critical Control Point) directive and the national laws.

Frequently, according to the use of the machine and the inlet water quality, sanitise the machine carefully to guarantee the hygiene of dispensed products.

Sanitisation occurs by using disinfecting products and by mechanically removing the visible residuals and films by means of pipe cleaners and/or brushes.

Whenever products are loaded and/or weekly or more frequently, according to the use of the machine, the inlet water quality and the products in use, sanitise the mixers.

The parts to be cleaned are: powder deposit drawers, mixers and the conduit intended to dispense instant drinks

It is absolutely forbidden to use water jets for cleaning.

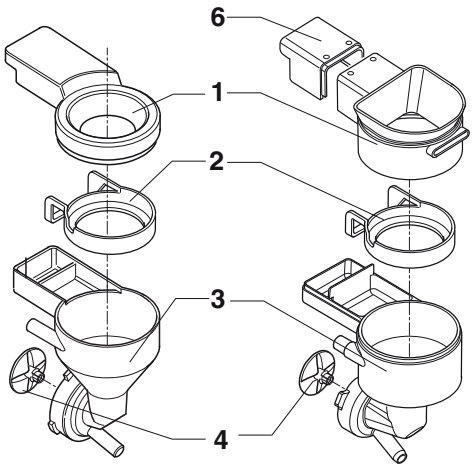


Fig. 9

1. powder funnel
2. splash-guard ring
3. water funnel
4. mixer impeller
5. mixer fastening ring nut
6. rear cover

To clean the mixers, act as follows:

1. open the cover of mixers and lift the powder ports as far as the retainer;
2. detach the instant drink tube from the water funnel connection;
3. rotate the ring nut intended to fasten the water funnel counterclockwise and remove the mixer from the machine;
4. separate all components (the funnels of instant products, water funnels, conveyors, powder deposit drawers);
5. remove the mixer impeller;

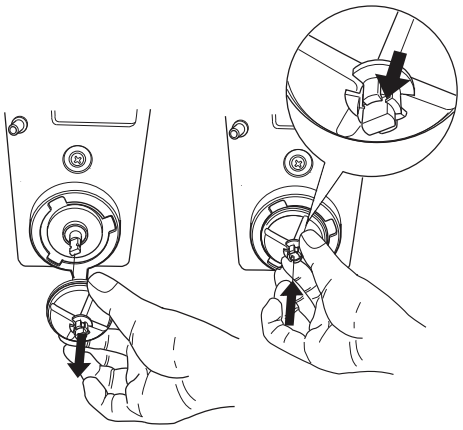


Fig. 10

6. dip the components into a container with the sanitising solution you have prepared before for about 20 minutes, wash and make sure that you have mechanically removed visible residues and films by using, if necessary, pipe cleaners or brushes;
7. re-assemble the impellers;
8. re-position the mixer.
   Make sure that the water funnel is properly inserted;
9. rotate the ring nut intended to fasten the water funnel clockwise to secure the mixer to the machine;

After having assembled the parts, act as follows:

- wash the mixers and add some drops of the sanitising solution into the various funnels;
- rinse the parts abundantly to remove any residue of the solution in use.

All the operations requiring the machine to be directly connected to a source of electricity must be ONLY carried out by the personnel qualified and informed on the specific risks involved.

CLEANING THE BREW UNIT

Whenever you fill or at least once a week, it is recommended to remove any powder residue from the external parts of the brew unit, in particular in the area of the coffee funnel, the filters and the scrapers.

Properly disassemble the brew unit cover and the coffee funnel at regular intervals.

To release the coffee funnel, just let it slide to the right.

Wash and rinse disassembled parts carefully.

⚠ It is absolutely necessary to reassemble the cover before setting the machine at work once again.

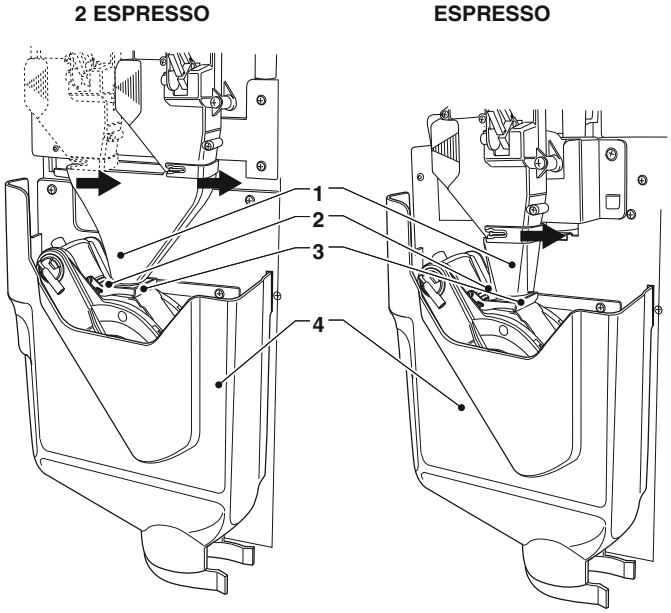


Fig. 11

1. coffee funnel
2. filter
3. scraper
4. unit cover

TEA BREW UNIT

For models with tea brew unit only.

Whenever you load and once a week, clean the outer parts, the scraper and perform the automatic wash cycle.

SCRAPER CLEANING AND AUTOMATIC WASHING

Act as follows:

1. remove the waste conveyor

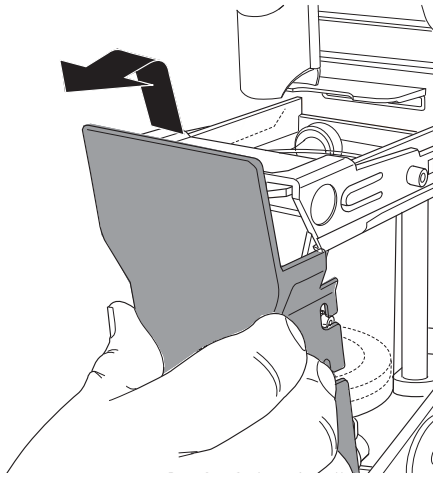


Fig. 12

2. unhook the scraper from the support

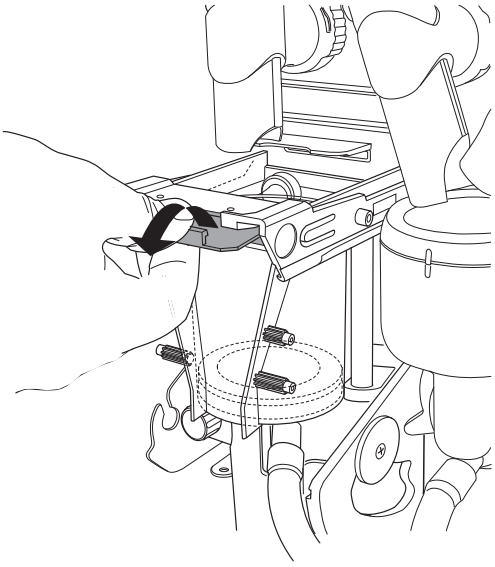


Fig. 13

3. use a brush and/or a piece of clean cloth to remove the tea residues from the components and the scraper
4. hook the scraper on its support
5. carry out the automatic wash cycle from the programming menus

Disassemble and sanitise the components of the unit every 500 tea selections, every month or according to use conditions.

DISASSEMBLE AND CLEAN COMPONENTS:

Act as follows:

1. remove conveyor, scraper and scraper support
2. detach the tube

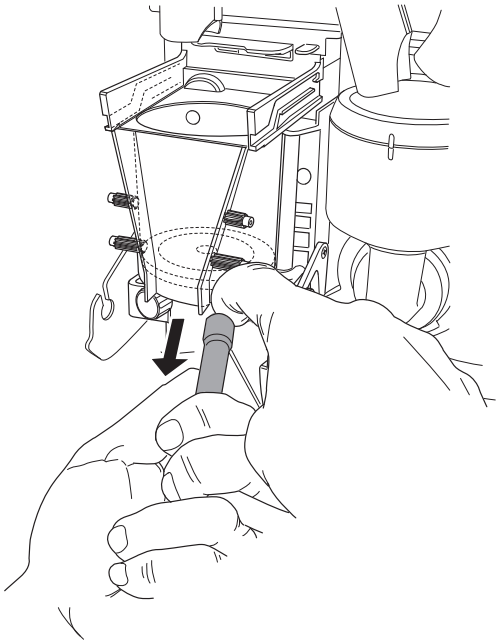


Fig. 14

3. unscrew the knurl intended to secure the piston stem cover

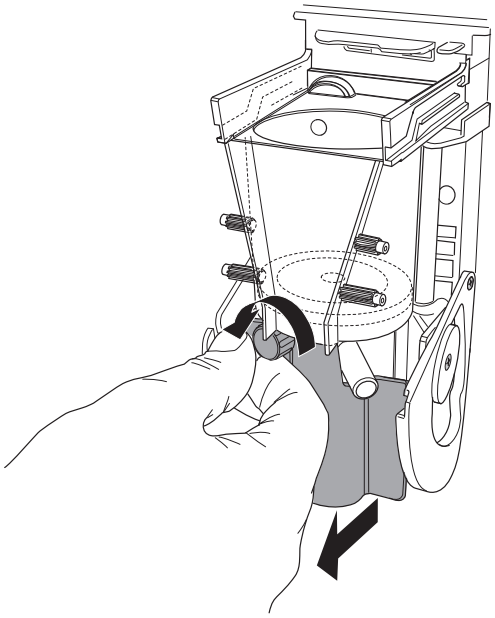


Fig. 15

4. unscrew the piston stem knurl

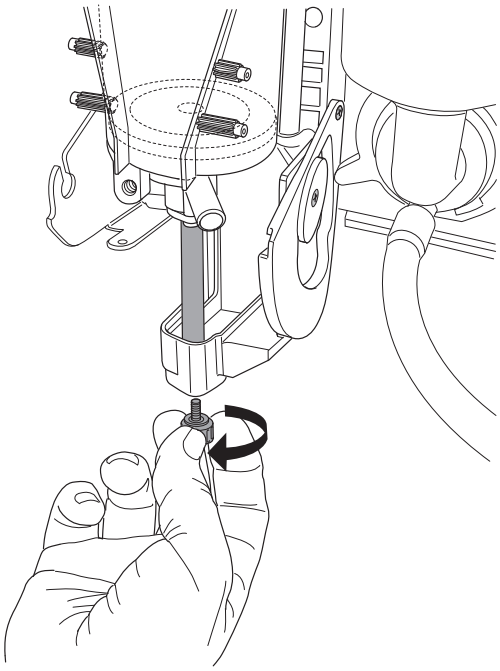


Fig. 16

5. lift the piston so as to reach the top dead center

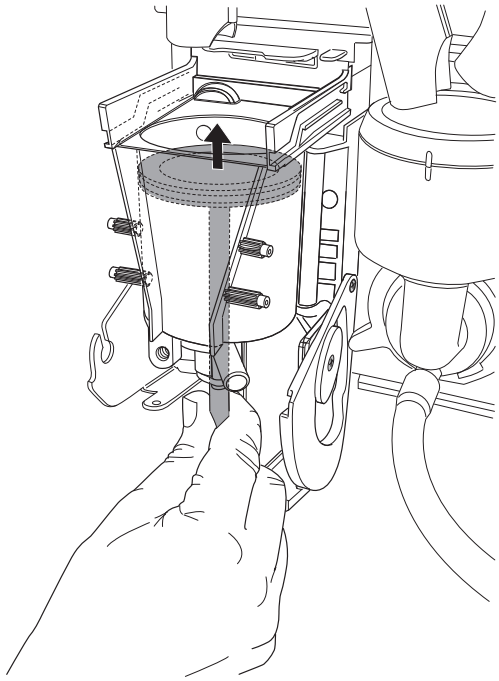


Fig. 17

6. rotate the brew chamber upwards and release it

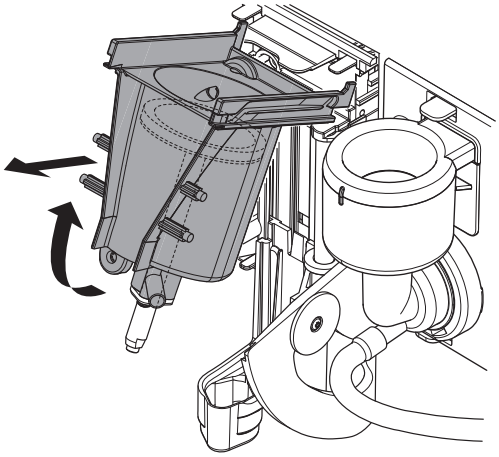


Fig. 18

7. extract the piston completely

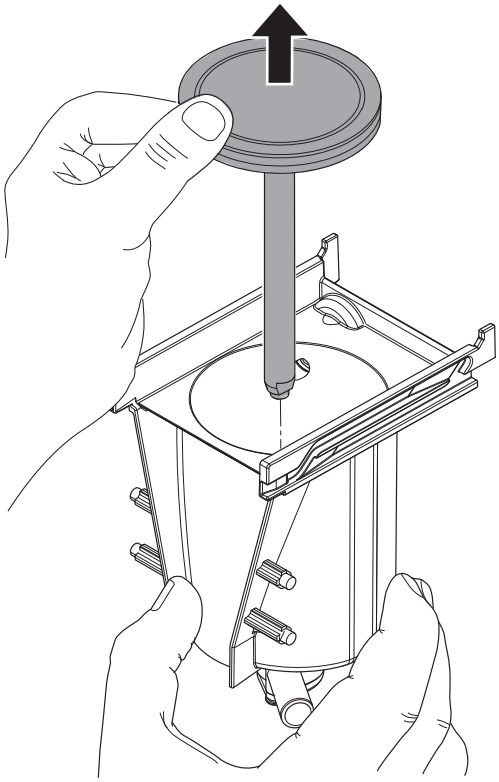


Fig. 19

After having disassembled all pieces, wash them carefully by using a detergent solution specific for tea brewers [1] and let the components immersed for one night.

1 Product tested Evoca detergent powder/tannin remover (de-tan)

To avoid leaving the equipment out of service (for too long), use components in the place of those to be sanitised (hygiene kit).

The parts replaced are to be sanitised and then made available as a hygiene kit.

After having carefully washed, rinsed and dried the parts, start assembling.

Check the state of the filter and/or gaskets; components must be any way replaced at regular intervals.

ASSEMBLY

Act as follows:

1. re-position the piston

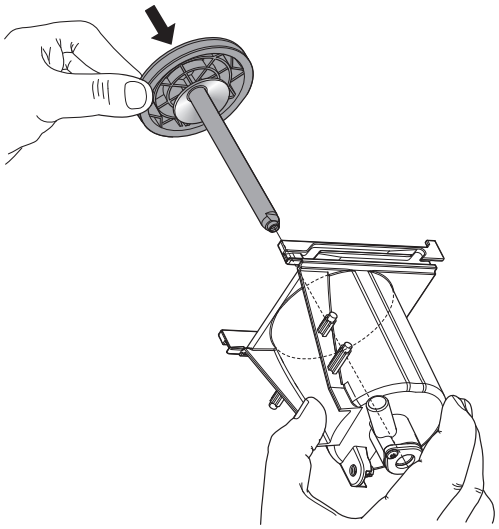


Fig. 20

2. hook the brew chamber, make sure that the water coupling is properly inserted

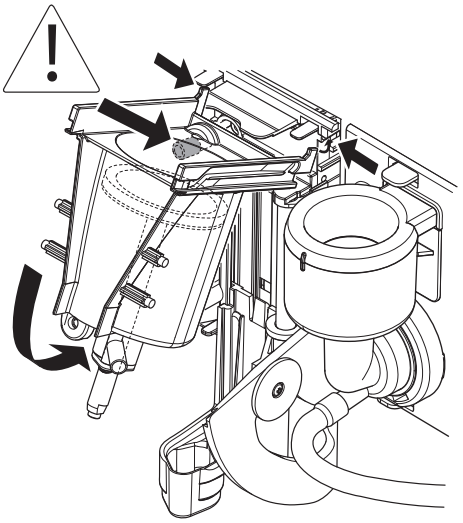


Fig. 21

3. screw the piston stem knurl

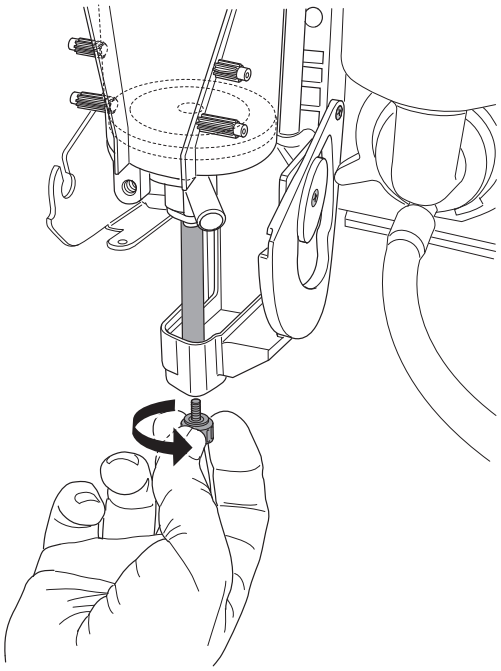


Fig. 22

4. screw the piston stem cover knurl

⚠ It is absolutely necessary to reassemble the cover before setting the machine at work once again.

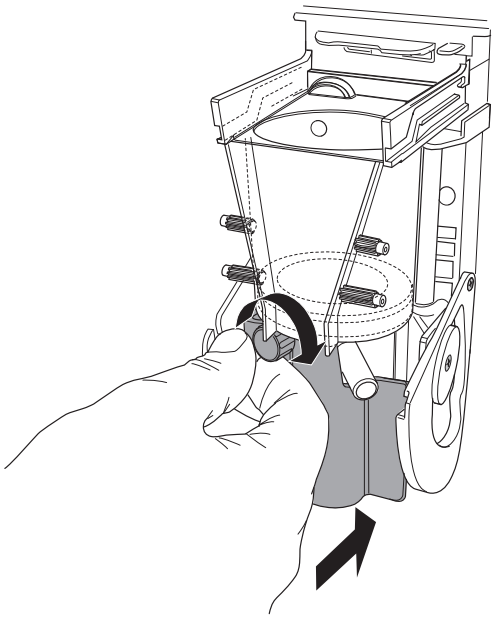


Fig. 23

5. connect the tube

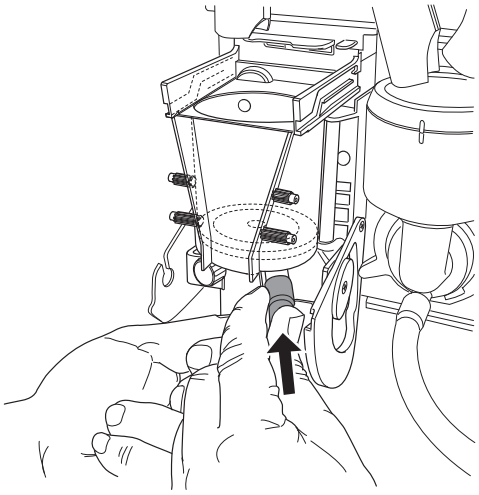


Fig. 24

6. hook the scraper on its support, insert the support into the lower guides

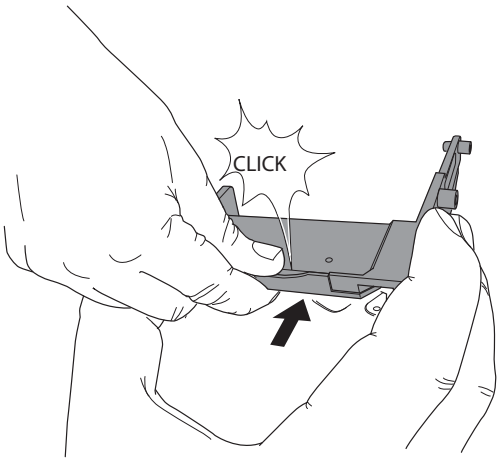


Fig. 25

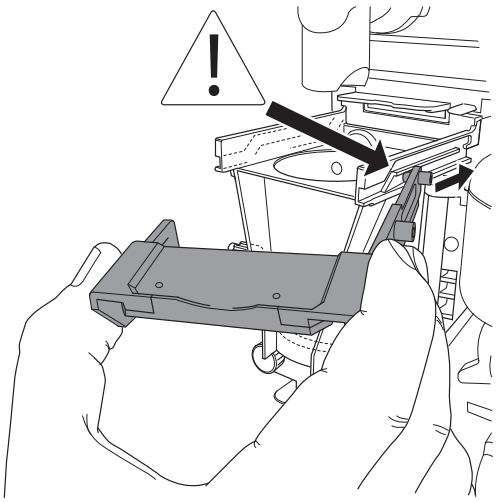


Fig. 26

7. push the scraper support as far as the limit stop and put it back in its home position

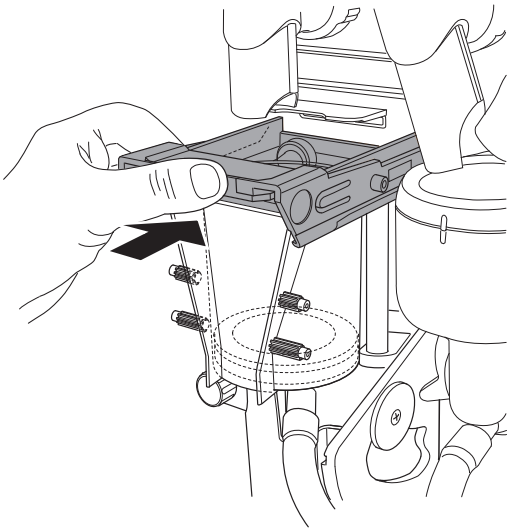


Fig. 27

8. hook the waste conveyor

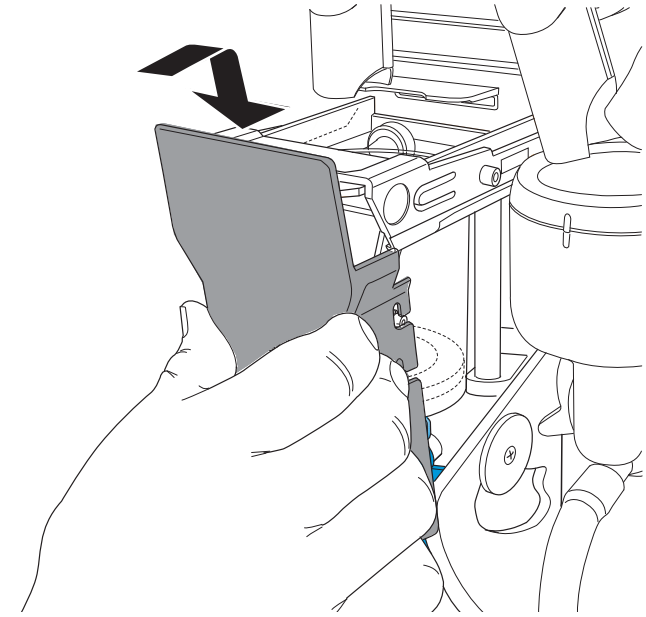


Fig. 28

- carry out the automatic wash cycle of the unit from the Technician menu > Test > Special functions.

The automatic repositioning of the tea brewer guarantees the correct position for the brew cycle (Technician menu > Test > Special functions).

From the technician menu > VM configuration> wash confirm the clean cycle of the tea brewer (signal counter reset).

SUGAR RELEASE

It is recommended to clean the sugar dispenser by using hot water at regular intervals on the models intended to dispense sugar directly in the cup. To do this, act as follows:

- Lift the flexible lever to release the nozzle.
- Extract the dispensing nozzle
- Extract the sugar chute
- Wash and dry carefully.
- After cleaning, reassemble everything in the reverse order.

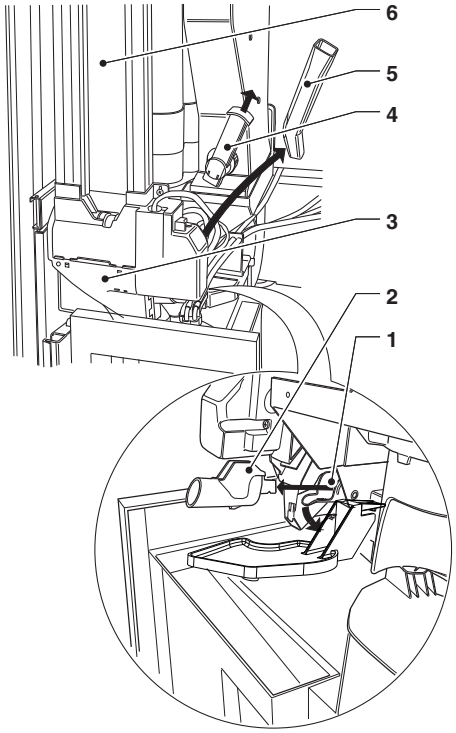


Fig. 29

1. Flexible lever
2. Sugar dispensing nozzle
3. Stirrer chute
4. Sugar conveyor
5. Sugar chute
6. Stirrer stacker

DISPENSING COMPARTMENT

To clean the dispensing compartment, remove it from the equipment.

To disassemble the dispensing compartment, unscrew the knurls to release the compartment and let it slide on the guide.

The dispensing compartment flap requires no special maintenance. Normal cleaning is enough.

If necessary, the knurl will help you disassemble the nozzle support arm.

On reassembling, pay attention to the position of the cup shift arm/s and to the position of the compartment on the guide. Make sure that the three fastening points are properly hooked.

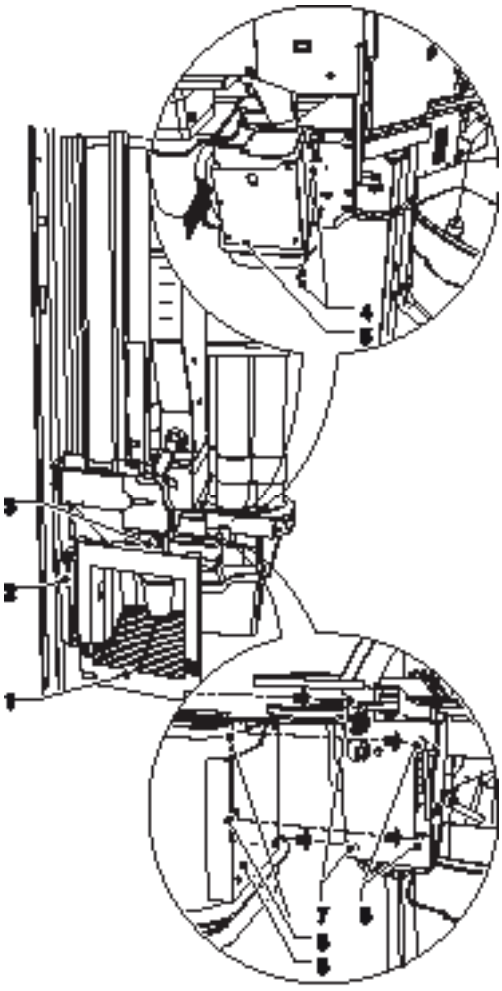


Fig. 30

1. dispensing compartment
2. shelf extraction handle
3. nozzle support
4. compartment fastening knurls
5. drink dispensing support
6. cover
7. fastening for guide
8. guide stop

CLEANING THE WATER SUPPLY TANK

Models with water supply tank only.

Every day, at the end of the service, empty the tank and remove any residual water; sanitise it and make sure that you have mechanically removed visible residues and films by using, if necessary, pipe cleaners or brushes.

CLEANING WASTE

Empty the solid and liquid waste at regular intervals or more frequently, according to the use of the equipment.

LIQUID WASTE

Liquid waste is discharged into the waste bucket.

Remove the bucket, discharge the liquid waste and wash the bucket carefully.

The float will trigger a microswitch to signal the liquid waste full.

ⓘ It is recommended not to wait for the liquid waste full signal, but to empty the bucket regularly.

SOLID WASTE

Solid waste is discharged into the bag fastened to the solid waste conveyor.

Act as follows:

1. pull the solid waste conveyor to the right

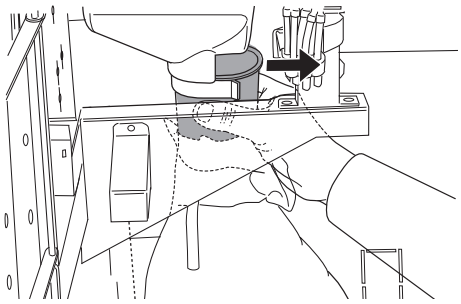


Fig. 31

2. act on the spring retaining the waste bag for release
3. clean the solid waste conveyor from any residue

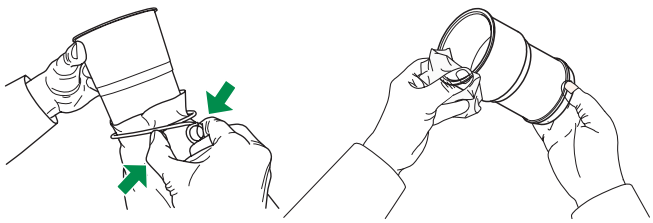


Fig. 32

4. replace the waste bag with a new one, insert it onto the waste conveyor and secure it by using a spring
5. re-position the waste conveyor.

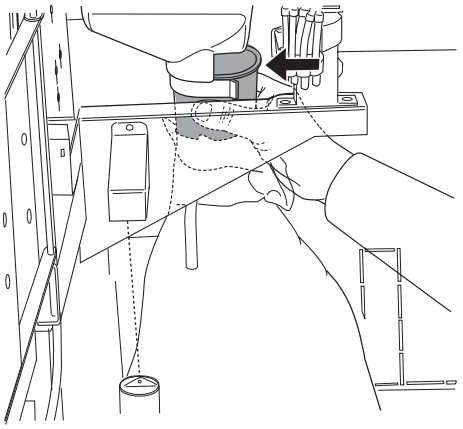


Fig. 33

SERVICE INTERRUPTION

If the machine should remain off for any reason for a long period of time, act as follows:

1. empty the canisters completely and wash them carefully by means of sanitising products;
2. empty the grinder completely and dispense till an empty message is displayed;
3. sanitise the mixers, the brew unit, the tea brewer (if any) and the food circuits;
4. close the cock upstream from the water supply tube and empty the hydraulic circuit completely.
   For the model complete with a tank empty any residual water;
5. detach the machine from the mains.

ⓘ Before setting the equipment at work again, clean and sanitise.

POWER ON

Whenever you power on, the machine carries out some initial checks by pouring some hot water from the nozzles.

The heating status of boilers is displayed.

Selections are not available until the machine has reached the operation temperature.

Chapter 2
Installation

Installation and any subsequent maintenance operation must be carried out when the **machine is live** and, therefore, by the personnel skilled and trained on the use of the machine as well as aware of the specific risks such a condition may involve.

The machine must be installed in a dry room at a temperature ranging from 2°C to 32°C. It can not be installed in a room where water jets are used for cleaning (e.g. large kitchens, etc.).

ⓘ While installing the equipment, wear working gloves and shoes according to the Law and classified and individual protection devices (IPD).

IPD's must be suitable for protection against any mechanical risk (cuts, scratches, crushing, ...) and physical risk (hot water, …).

ⓘ The machine must be installed in a room where it can be supervised by trained personnel.

ⓘ At the time of the installation, it is necessary to completely sanitise the water circuits and the parts in contact with foodstuffs in order to remove any bacterium that may have built up during storage.

DOOR SWITCH

Only the parts protected by covers and signalled by the following symbol remain live inside the machine.

Before removing these covers, detach the power supply cable from the mains.

Before removing these covers, detach the power supply cable from the mains.

To power on the equipment when the door is open, just insert the yellow key into the slot of the door switch.

⚠ All the operations requiring the machine to be directly connected to a source of electricity when the door is open must be ONLY carried out by the personnel qualified and informed on the specific risks involved.

Fig. 34

1. Door switch

UNPACKING THE VENDING MACHINE

After having unpacked the machine, make sure that the equipment is intact.

In case of doubt never use the equipment.

No packing material (plastic bags, foam polystyrene, nails, etc.) should be left within the reach of children since they are potential sources of danger.

Packing materials shall be disposed of in authorised dump sites and recyclable ones collected by specialised companies.

Important!!

The machine must be arranged in such a way that the maximum inclination will not exceed 2°.

If necessary, level it by using the adjustable feet supplied with the machine.

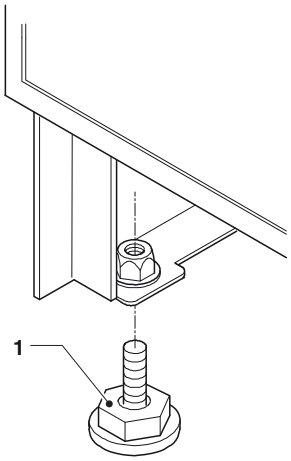


Fig. 35

1. Adjustable foot

PAYMENT SYSTEM ASSEMBLY

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.

Mount the payment system you have selected by following the instructions and make sure that:

- you have programmed the parameters correctly;
- regulate the reject lever in order to open the selector completely;
- regulate the coin chute according to the coin mechanism you have assembled.

WATER SUPPLY

The vending machine must be supplied with drinkable water according to the provisions in force in the place of installation of the equipment.

The machine must be connected with the drinkable water mains at a pressure between 0.05 and 1 MPa (0.5-10 bars).

Let water come out of the water network until it is limpid and free of any trace of dirt.

Use a tube, the min. inner diameter of which is 6 mm. (also available as a kit), capable of withstanding the mains pressure and suitable for use with foodstuff, to connect the water mains to the union of the water inlet solenoid valve.

It is recommended to apply a tap on the water network outside the machine in an accessible position.

To connect the machine with the water network, use sets of new gaskets and tubes only.

Never re-use the existing material.

WITH NO FILTER PRE-ARRANGEMENT

Connect the water network with the ¾"G union of the water inlet solenoid valve by means of a tube that can support the network pressure and of a type suitable for foodstuffs (min. inner diameter 6 mm).

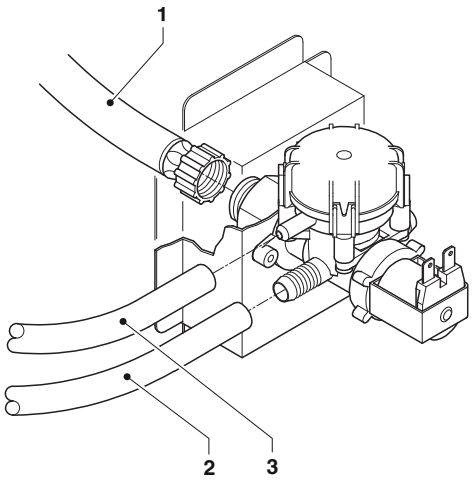


Fig. 36

1. *water inlet tube*
2. *supply tube*
3. *overflow tube*

WITH FILTER PRE-ARRANGEMENT

Connect the water network with the ¼"G union by means of a tube that can support the network pressure and of a type suitable for foodstuffs (min. inner diameter 6 mm.).

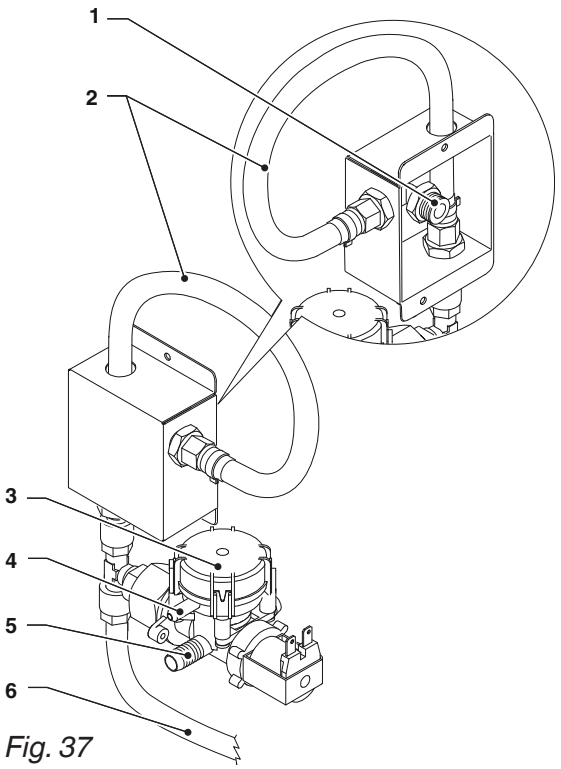


Fig. 37

1. *water inlet union*
2. *filter connection pre-arrangement*
3. *water inlet solenoid valve*
4. *overflow tube union*
5. *supply tube union*
6. *to the cold drink cooling unit (optional)*

OVERFLOW DEVICE

The water inlet solenoid valve is complete with an overflow device that can mechanically lock the water inlet as a result of a malfunction of the solenoid valve or the water level control gear.

To restore the normal operation, act as follows:

1. discharge water in the overflow tube;
2. close the water network tap outside the machine;
3. loosen the union intended to fasten the supply tube of the solenoid valve to discharge the residual network pressure and tighten it again;
4. open the cock and power on the machine.

FROM THE TANK

Models with tank only

Use the self-supply kit specific for the device; the kit is supplied with mounting and testing instructions that shall be strictly followed to preserve the machine safety.

Important!!

The use of kits not type-approved by the manufacturer can not guarantee the observance of safety standards, in particular for live parts.

The manufacturer declines all responsibility for the use of non type-approved components.

Assembly and any subsequent testing operation must be carried out by qualified personnel who have a specific knowledge of the machine operation from the point of view of electric safety and health rules.

DECALCIFIER

The machine is supplied without a decalcifier.

In case of connection with a network, the water of which is very hard, mount a decalcifier.

Use decalcifiers, the capacity of which is suitable for the actual use of the machine.

In case of supply from the tank, filtering cartridges can be used.

The cartridges must be replaced at regular intervals, according to the water quality and the manufacturer's instructions.

Decalcifiers, even available as an accessory, shall be regenerated or replaced according to the manufacturer’s instructions at regular intervals.

ELECTRIC CONNECTION

The machine is arranged for electrical operation at a 230-240 V~ single-phase voltage and it is protected by a 15A fuse.

For connection make sure that the rating will comply with the mains data, in particular that the supply voltage value shall lie within the limits recommended for the connection points.

It is absolutely necessary to use a main switch in compliance with the installation rules in force, placed in an accessible position. It shall be featured in such a way that it can support the maximum load required as well as ensure complete disconnection from the mains on the conditions of overvoltage category III and, therefore, the protection of circuits against earth faults, overloads and short-circuits.

The switch, the power socket and the corresponding plug shall be located in an accessible position.

The electrical safety of the machine is only ensured when the machine is correctly and efficiently grounded according to the safety standards in force.

It is necessary to check this fundamental safety requirement and, in case of doubt, to require professionally qualified personnel to check the installation carefully.

The supply cable is of a flexible type with a fixed plug.

If necessary, the connection cable shall be replaced by qualified personnel by using only flexible cables of the H05 RN - F or H05 VV-F or H07 RN-F type, 3x1-1.5 mm^2 in cross section.

It is forbidden to use adapters, multiple sockets and/or extensions.

THE MANUFACTURER DISCLAIMS ALL RESPONSIBILITY FOR ANY DAMAGE CAUSED BY THE NON-OBSERVANCE OF THE PRECAUTIONS MENTIONED ABOVE.

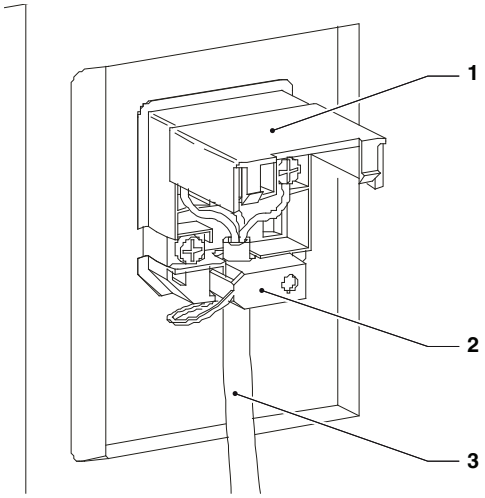


Fig. 38

1. *Small lift cover*
2. *Cable clamp*
3. *Supply cable*

MASTER / SLAVE CONNECTION

The machine is arranged for bank connection with other automatic vending machines by using special kits.

The kits are supplied with mounting and testing instructions that shall be strictly followed to preserve the machine safety.

In case of a Master / Slave bank connection, the equipment enables the operator to use one single payment system.

In case of a Master /Slave connection and if the function is enabled, the machine is configured as “Master”, i.e. controlling the second machine.

FIRST POWER-ON

As soon as you power on the machine for the first time, fill in the hydraulic circuit (installation).

The installation procedure varies, according to whether the machine is supplied from the tank or from the network.

WATER SUPPLY FROM THE TANK

- As soon as you power on the machine, the self-supply pump is started for 10 seconds The display shows “no water”.
- Start programming in the "Technician" mode and use the "Manual installation" special function of the "Test" menu. The machine performs the installation cycle.
- At the end of the installation cycle, reset the “no water” failure.

WATER SUPPLY FROM THE NETWORK

- As soon as you power on the machine, the network solenoid valve is automatically opened until the air break and the boilers are filled.
- The "coffee" solenoid valve is opened to bleed air in the boiler and let 600 cc water in.

The display shows the following for the whole duration of the cycle:

Please Note: If there is no water during the installation cycle, the machine will stop and wait for water.

If there is a considerable lack of water in the hydraulic circuit, fill in the hydraulic circuit by using the "manual installation" special function.

After having filled the hydraulic circuit, the display shows the following message:

The initial checks are carried out and the heat cycle of boilers started.

At the end of the heating cycle, a message appears on the display after some seconds, requiring the user to select a drink and the keyboard is lit up.

SANITISING FOR THE FIRST TIME

As soon as you install the machine, carefully disinfect the mixers, the tubes intended to dispense instant drinks and the tank (if any) in order to guarantee the hygiene of dispensed products.

It is absolutely forbidden to use water jets for cleaning.

Sanitise by making use of sanitising products.

Wash the mixers by adding some drops of a sanitising solution inside.

After having sanitised, rinse the mixers abundantly to remove any residue of the solution in use.

To dispense water in the mixers, use the rinse function from the "wash" menu.

ℹ The machine is equipped with an automatic washing system for the mixers with the relative hydraulic circuit and the brew unit.

If the machine is not used for a long time (week ends etc.), even for less than two days, it is recommended to enable the automatic washing functions (e.g. before starting to use the equipment)

OPERATION

BREW UNIT

Whenever you power on the equipment or request for a coffee selection, the brew unit will make a complete rotation to make sure that the unit will occupy the initial position.

DISPENSING CYCLE

Whenever you require a coffee-based selection, the grinder will operate to fill the coffee doser chamber.

When the doser is full, the ground dose is released into the brewing chamber vertically arranged inside the coffee unit.

The ratio-motor engaged onto the pinion will rotate the cranks that will cause the brewing chamber to rotate by 30°.

The upper piston will align with the brewing chamber and move down inside it. The stop position of the piston for brewing will depend upon the quantity of ground product in the chamber.

At the end of the coffee dispensing cycle, the upper piston will move down to mechanically compress the used coffee dose, thus helping water in excess to come out of the third way of the dispensing solenoid valve.

At the end of the cycle, the ratio-motor is driven in the opposite direction, thus lifting the upper piston and rotating the brewing chamber to the unload side, opposite the dispensing side; the lower piston will move up.

After having reached the unload position, the ratio-motor will reverse the direction of rotation once again, thus moving the brewing chamber back into its standby position.

The scraper will retain and drop the coffee dose whereas the lower piston will move back into its standby position.

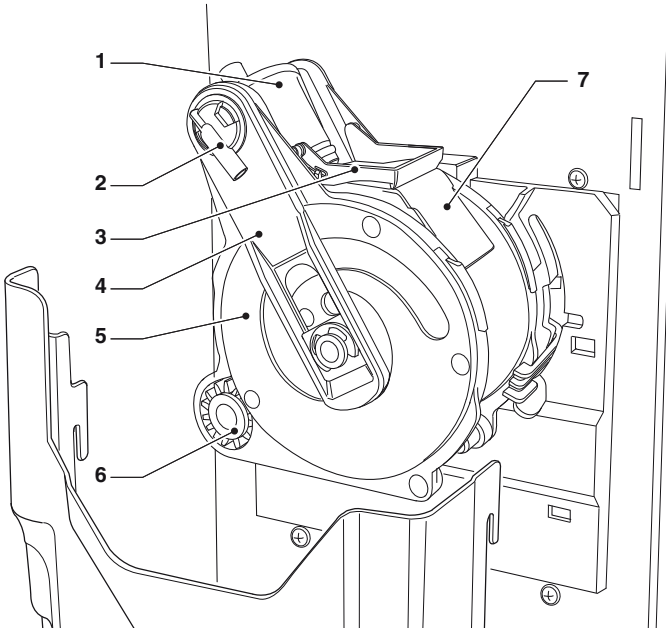


Fig. 39

1. upper piston
2. coffee outlet nozzle
3. scraper
4. connecting rods
5. cranks
6. pinion
7. waste coffee chute

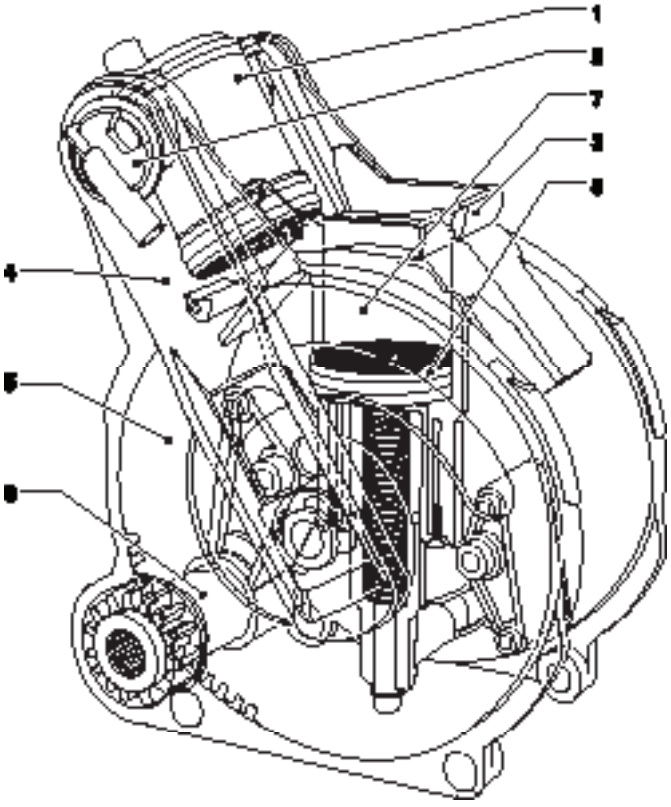


Fig. 40

1. upper piston
2. coffee outlet nozzle
3. scraper
4. connecting rods
5. cranks
6. pinion
7. brewing chamber
8. lower piston

BREWING CHAMBER VOLUME

The coffee doses the brew unit may use vary according to the models of the brew unit.

The upper piston will automatically position.

The unit may use the following doses according to the model or diameter of the brewing chamber.

Brew unit	**doses**
Z4000 SE (Ø 38)	6 - 8.5 gr.
Z4000 NE (Ø 46)	7.5 - 15 gr.

INSTANT DISPENSING

The dispensing cycles of the various selections are conceived to achieve the best result in terms of production rate and drink quality.

Instant drinks are dispensed according to a recipe with max. 4 ingredients.

Recipes can be modified from the programming menu.

Every single parameter (grams, water quantity, mixing, ...) can be modified for each ingredient from the “recipes” function.

The dispensing sequence of every single ingredient inside a recipe is programmable.

Powder is intermittently dispensed for chocolate-based selections and before water for the selections based on instant coffee.

Attention !!!

After modifying the parameters of instant powders, make sure that the mixer is properly rinsed without leaving any powder residue.

DOSER CALIBRATION

To dispense instant powders properly, set up the flow rate of every single doser in gr/s to calculate the grams to be dispensed.

Calibration is carried out from the programming menus.

BOILER TEMPERATURE REGULATION

The boiler temperature is controlled by the software.

The temperature can be regulated from the programming menu.

CHANGES IN THE SETUP OF INSTANT PRODUCTS

The dose of instant powders and the water dose can be modified from the drink recipe.

CUP SENSOR

Some models are equipped with a cup sensor intended to detect the presence of any object that may be placed between the reflex reflector and the sensor itself.

The cup sensor manages the power-on of the lamp intended to illuminate the dispensing compartment.

The sensor has one led intended to signal the state:

- Green: sensor supplied and no cup
- Orange: cup detected.

For a correct operation it is necessary to keep the emitter and the reflex reflector in front of it clean.

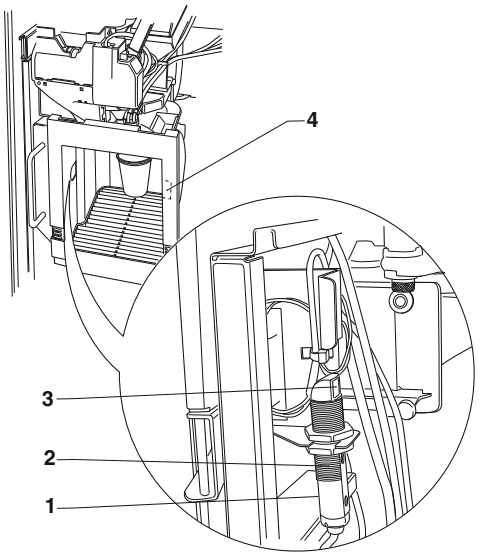


Fig. 41

1. *state signalling led*
2. *cup sensor*
3. *emitter*
4. *reflex reflector*

TEA BREWER

For models with tea brew unit only.

Whenever you power on the machine, the tea brew unit will perform an initialisation cycle.

DISPENSING CYCLE

- the piston is arranged in the bottom dead center while the gasket is keeping the drink outlet hole closed;
- the powder quantity is dispensed in the brew chamber;
- the solenoid valve is opened and the water quantity required by the selection is dispensed;
- after some seconds, the piston is lifted to let the drink flow out of the outlet hole of the brew chamber.
  If a larger water quantity is required by the selection, water is added during the dispensing cycle;
- the piston remains up to let the drink flow out;
- the motor operates the crank, the piston is lifted as far as the top dead center, thus operating the scraper and letting used powder fall into the solid waste.
  The position of the scraper and piston is signalled by microswitches.

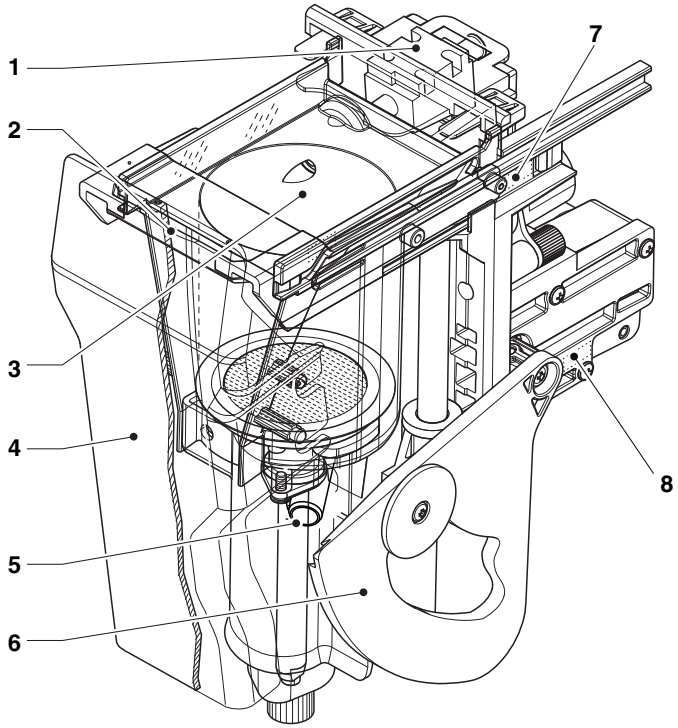


Fig. 42

1. brew water solenoid valve
2. scraper
3. brewing chamber
4. used powder chute
5. tea outlet hole
6. crank
7. microswitch "SCRAPER POSITION"
8. microswitch "PISTON POSITION"

STIRRER SUGAR DISPENSING

The dispenser is driven by a motor that will release a stirrer from the external stacker and a stirrer from the internal one.

The special profile of the cam driving the device will move the mobile stirrer support and accommodate a stirrer in the ejection area.

As soon as the cam re-enters, the return spring will dispense the stirrer.

If the machine is also required to dispense sugar, the motor will rotate longer and operate the mechanism intended to tilt the dispensing nozzle.

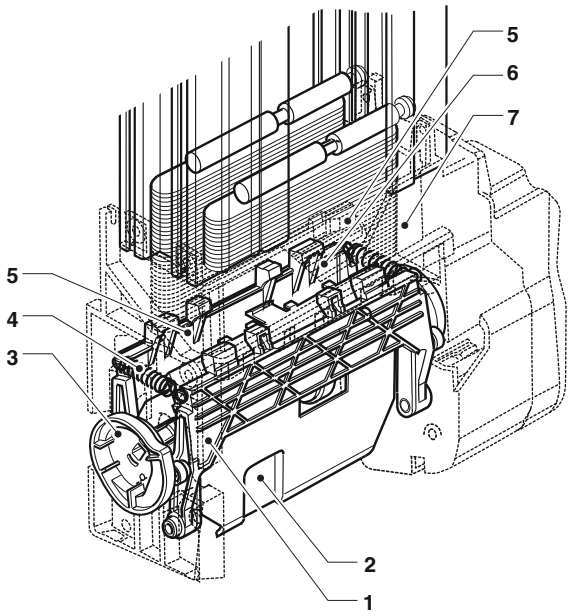


Fig. 43

1. mobile stirrer supports
2. main body
3. support operation cam
4. return spring
5. ejectors
6. stirrer support
7. cup stackers

DISPENSING COMPARTMENT LIGHTING

Some models have the dispensing compartment lighting.

The dispensing compartment is illuminated while the drink is being prepared and it remains illuminated for some seconds after the end of the dispensing cycle.

CONTROLLING AND ADJUSTING SETTINGS

To achieve the best results compared with the product in use, it is recommended to check:

- The used coffee dose shall be slightly compressed and moistened.
- The granulometry of ground coffee.
- The coffee dose of ground coffee.
- The dispensing temperature.
- The water dose.

GRINDER-DOSERS

One or two grinder-dosers can be mounted on the equipment, according to models.

The grinder-doser can be equipped with the automatic regulation device of the grinding degree (optional).

The operations described by this paragraph are referred to one single grinder-doser and they are also applicable for the second grinder-doser.

COFFEE DOSE REGULATION

The dose regulation lever can be positioned in one of the 10 reference notches. It shall be kept in mind that:

- if you lift the lever, the dose will increase;
- if you lower the lever, the dose will decrease;
- every single notch will vary the dose by about 0.35 gr.

To take the dose, just remove the brew unit and use the corresponding function "test components".

Important!!!

The dose you can get is approximately between 6 and 9.5 gr; if you vary the grinding degree, the dose will slightly vary.

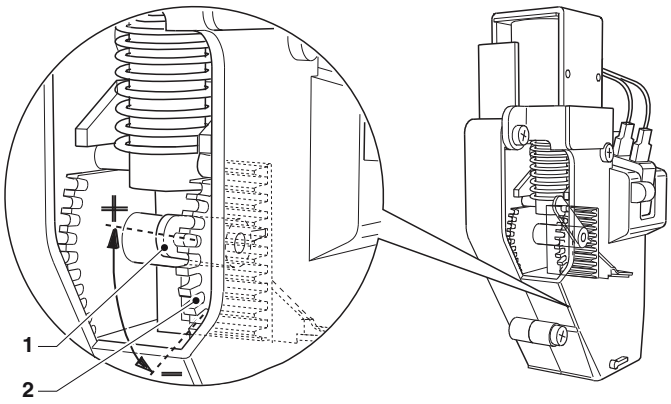


Fig. 44

1. dose regulation lever
2. reference notches
3. doser

MANUAL REGULATION OF GRINDING WHEELS

If it is necessary to change the grinding degree, properly act on the corresponding grinder knob and more precisely:

- turn counterclockwise to obtain a coarser grinding degree;
- turn clockwise to obtain a finer grinding degree.

It is recommended to vary the grinding degree during the operation of the coffee-grinder motor.

Please Note: after having changed the grinding degree, make at least 2 selections to check the new granulometry of ground products more carefully.

The finer the grinding degree, the longer the time required to dispense the coffee drink and viceversa.

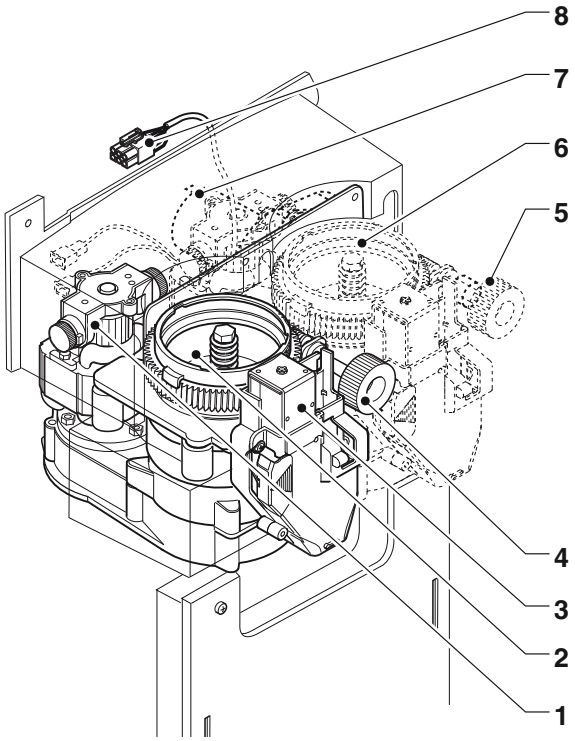


Fig. 45

1. grinder motor
2. grinder
3. coffee release electromagnet
4. grinding regulation knob
5. grinding regulation knob
6. second grinder (2es models)
*7. automatic grinding regulation motor**
8. grinder connector
**. models with automatic regulation*

AUTOMATIC REGULATION OF GRINDING WHEELS

A device intended to regulate the distance between the grinding wheels and, therefore, the grinding degree, automatically can be mounted on the grinder(s) as a standard or as an optional.

The device for the automatic regulation of the grinding wheels can keep the quality of coffee drinks constant all over the time by balancing any variation due to the product, the environment and the wear of the grinding wheels.

The automatic regulation of grinding wheels must be enabled from the menu.

To monitor the automatic regulation parameters of grinding wheels (grinding time and brew time) properly, the machine will assume the following as a reference:

- Brew time: time you wish to dispense the water quantity set up in the brew dose of reference.
- Brew dose: water dose of reference to measure the dispensing time.

The system will make sure that the brew time required to dispense the water quantity established by the recipe is actually reached. Otherwise, it will vary the grinding degree by acting on the bidirectional motor controlling the distance between the grinding wheels.

In all coffee-based selections, whose water doses are equal to or higher than the brew dose of reference, the brew time and the grind time of the coffee dose will be measured.

Example:

Cappuccino selection with 55 cdv and whose brew dose of reference is 50: the brew time and the grind time will be measured for the set-up brew dose (50), the remaining water quantity (5) is ignored.

In coffee-based selections, whose water doses are lower than the brew dose of reference, they are left out of consideration for the purpose of automatic regulation.

The coffee dose and water quantity being the same, the grinding degree will directly affect the brew time.

The automatic grinding regulation system will act to align the actual time with the one set up.

The change in the grinding degree is a result of a change in the brew time; grinding wheels will gradually approach (finer granulometry) to avoid compressing coffee.

During the normal operation of the machine, you can keep the optimal regulation of the grinding degree by constantly monitoring the brew time.

Please Note: To check the new brew time carefully, keep in mind that the effect of any automatic change in the grinding degree is perceived after some selections.

After the regulation has become stable, please also check the ground coffee quantity that can slightly change.

DEACTIVATION OF AUTOMATIC REGULATION

You can disable the operation of the automatic regulation from the machine settings for whatever reason it might be necessary.

The grinding wheels remain at the distance reached at the time when you disable the operation of the automatic regulator.

MOTOR-DRIVEN REGULATION OF GRINDING WHEELS

If you should change the distance to a considerable extent for any reason whatsoever, e.g. in order to service the grinding wheels, you can act manually by setting the change you wish via software.

This value is expressed in ⅛ of a turn of the grinding wheel ring nut.

To increase granulometry (coarser grinding), the motor-driven regulation occurs in one single operation;

To decrease granulometry (finer grinding), the motor-driven regulation occurs when the coffee grinder motor is operating.

ⓘ It is recommended to pick up the coffee release to avoid clogging the brew unit.

NORMAL OPERATION MODE

The message requiring the user to select a drink will appear on the display during the normal operation.

If the machine has a payment module - by inserting coins - or a cashless payment system, the credit still available will appear on the display.

Whenever you request for a selection, if the credit is not enough, the display will show the selection price, the credit available and the residual amount you have to insert in sequence.

A status bar is displayed during the dispensing cycle. It will show the drink preparation level.

If the control system should find out a failure, an error message will appear and specify the type of problem.

DRINK DISPENSING

Select a drink.

The screen page can be displayed with the customisations of the drink.

The preparation state is displayed during the preparation of the drink.

⚠ Never take your drink or put your hands in the dispensing compartment during the preparation: danger of burns.

ⓘ Take your drink only when the message “Drink Ready” is displayed.

Notes on programming

The electronics intended to control the machine will enable the operator to use many functions or not.

The machine programme is intended to describe all available functions, including those that are not used due to the specific configuration of the model (layout).

The following is supplied with the machine:

- Selection layout including the selections arranged for the specific model.
- Flow chart of programming menus.

The main functions required to manage the machine operation as well as possible are briefly explained here below, not necessarily in the order they are displayed in the menus.

The software release can be updated by using proper systems (PC, Giga, Upkey etc.)

The messages intended to display the operation in progress are fixed whereas the action the user is required to perform is flashing on and off.

The machine can work in three different operation modes.

The keyboard buttons may assume different functions, according to its operation state.

Normal operation mode

- The machine is powered on (the door is closed) and all checks are performed.
- Operations that can be carried out when the door is closed.
- The selection is dispensed and messages are displayed for the user.

Filler menu

- Statistical findings and execution of simple checks on the operation and on dispensing cycles.

Technician menu

- The setups and the performances of the machine are programmed, subdivided into two levels.

ACCESSING THE PROGRAMMING AND NAVIGATION MODE

To access the programming menus, power on the machine when the door is open by acting on the door switch.

To access the programming mode, press the programming key inside the machine door.

The machine displays the first-level menu items of the "filler menu".

An RS232 serial connector is intended to fetch the statistics from the machine.

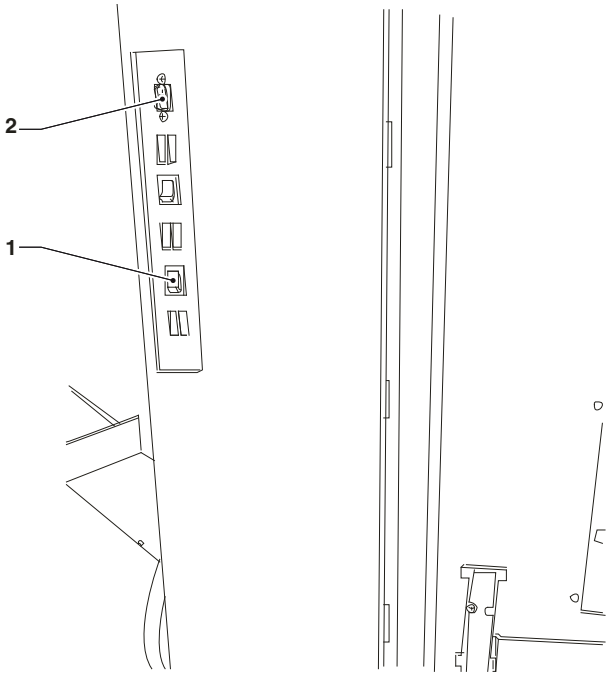


Fig. 46

1. Programming button
2. RS232 serial port

The interaction between the system and the operator occurs through the following components:

DISPLAY

10-line graphical display intended to display the user messages or the menu functions.

- If available, the menu title is highlit on the first line

MENU TITLE

- The cursor on the menu title is highlit.

Selected menu item

- The last line of the display specifies the menu in which we are acting (Filler or Technician), followed by the numeric position of the function, on which the cursor is placed.

TECHNICIAN> 2.1

KEYBOARD

According to models, the external keyboard may be by way of direct selection or, as an alternative, with numeric keys.

If the machine is set to the Filler or Technician mode, the keys of the selection pushbutton panel will assume the functions shown by the figure and the corresponding leds will turn on.

↑ ↓ SCROLLING KEYS:

used to scroll the menu items and to change the value or a state of an item (ON/OFF) or to enter alphanumeric characters.

✔ ENTER KEY:

Used to move from a menu to a sub-menu or to confirm the execution of a command.

✖ EXIT /CANCEL / DELETE KEY:

used to go back from a sub-menu to a higher level menu or not to execute the command that is currently active.

GRAPHICAL SCREEN CONFIGURATION EXIT KEY

To quit the configuration menus of the graphical screen and move back to the programming menus of the machine.

The key is active only in the models equipped with a graphical screen for the reproduction of promotional videos (optional).

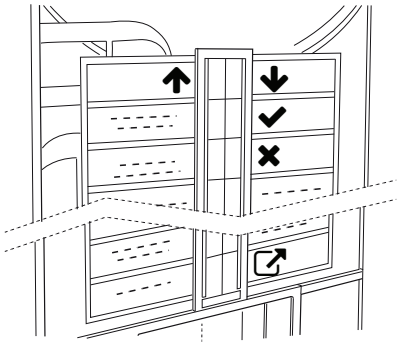


Fig. 47

FILLER MENU

Press the programming button on the machine door once to set the machine to the “filler menu” mode.

The display shows the first “filler” menu item with the series of operations made available.

The last line shows the menu and number showing the level you are in.

STATISTICS

All the machine operation data are stored in total and relative counters that can be reset without losing total data.

PRINT

This function is intended to print the data that have been stored for the machine operation.

Connect an RS232 serial printer having 9600 baud rate, 8 data bits, no parity, 1 stop bit with the serial port on the button board in order to print all statistics, i.e:

TOTAL

1 - counter by selection;

2 - counter by band;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

RELATIVE

1 - counter by selection;

2 - counter by band;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

The machine code, the date and the software release will be also printed.

To print, act as follows:- From the print function press key ✔ to display “Do you confirm?”;

- connect the printer;

- Press the Enter key ✔ to start printing.

DISPLAY

The function is intended to sequence-display the same data you can obtain by printing statistics.

Press the Enter key ✔ to sequence-display the following data:

Total counters

1 - counter by selection;

2 - counter by band;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

Relative counters

1 - counter by selection;

2 - counter by band;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

DELETE

Statistics can be reset for relative counters either globally (all types of data) or selectively for:

- selections
- discounts
- failures
- coin mechanism data.

Press the Enter key ✔ to display the blinking message: “Do you confirm?”

Press the Enter key ✔ to reset the statistics. The display shows the “Running” message during the operation and statistics are reset.

INDIVIDUAL PRICE

The machine can manage up to 4 different prices per selection, which can be active according to the time band you have set (standard or promotional) and/or the payment system in use.

Use this function to vary the sales price for every single selection by selecting among the price ranges available.

MANAGEMENT OF CHANGE TUBES

This function is active only if this operation can be carried out by the payment system you have set up.

Access the function to manually load or empty the change tubes.

If you confirm loading, “Credit : ——” will appear on the display. This is the value of the money made available in the tubes for the change. If you insert a coin into the validator, the display will increase the value of the money made available in the tubes for the change.

If you confirm unloading, you can establish the tube on which you wish to act. Whenever you press the Enter key ✔, a coin is ejected by the active tube.

TEMPERATURE DISPLAY

Use this function to read the coffee and instant boiler temperatures directly in °C.

TEST DISPENSING

Every single button (or key combination according to models) is intended to operate the relative selection for complete or partial test dispensing cycles (see the selection dose table).

Please Note For the selections based on espresso coffee, partial powder and water dispensing cycles are intended to dispense additions only; if no addition is involved in the selection, the display will show "Disabled Sel”.

Possible test dispensing cycles are listed here below:

- Complete dispensing
- Water-only dispensing
- Powder-only dispensing
- No-accessory dispensing (no cup, stirrer and sugar)
- Only-accessory dispensing (only cup, stirrer and sugar).

EVADTS TRANSFER

If you activate this function, the machine will be waiting for connection with a device in order to acquire EVADTS statistics.

TECHNICIAN MENU

The main software functions required to manage the machine operation as well as possible are briefly explained here below. They are grouped by logic of utilisation and not necessarily in the order they are displayed in the menus.

The software release can be updated by using proper systems (PC, Giga, Upkey etc...).

For more information and details refer to the dose table supplied with the machine. Please make reference to the machine software release.

Press key ← from the “Filler” mode to set the machine to the “Technician menu” mode.

PAYMENT SYSTEMS

You can decide which protocols to enable for the payment systems available and manage the relative functions..

The communication protocols for the payment systems available are listed here below:

- Validators
- Executive
- BDV
- MDB

Some parameters shared by several payment systems keep the set point even if you change the type of system.

If necessary, they can be modified by the menus of the various payment systems.

VALIDATOR

IMMEDIATE CHANGE

The amount relative to a selection is generally cashed after the machine has sent the “Successful selection” signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

LINE/VALUE ASSOCIATION

When the display is positioned on the “LINE-VALUE ASSOC.” (line programming) of the “programming” menu, you can vary the value of the 6 coin lines of the validator from A to F.

DECIMAL POINT

To set up the decimal point position, i.e.:

0: decimal point disabled

1: one decimal digit after the point (XXX.X)

2: two decimal digits after the point (XX.XX)

3: three decimal digits after the point (X.XXX)

OVERPAY

You can decide whether to cash any credit exceeding the selection amount or to leave it at the user's disposal.

Executive

Version

You have to choose among the following payment systems for the Executive system:

- Standard
- Price holding
- UKEY (Price holding price display)

Immediate change

The amount relative to a selection is generally cashed after the machine has sent the “Successful selection” signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

BDV

The BDV protocol menus enable the user to define the following functions.

Immediate change

The amount relative to a selection is generally cashed after the machine has sent the “Successful selection” signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

Type of sale

Used to set the operation mode by multiple or single dispensing. In case of multiple dispensing, the change is not automatically given at the end of a successful delivery, but the credit will remain available for further dispensing. If you press the coin return button, the remaining credit will be returned if its value is lower than the maximum change value.

Change refused

Used to enable/disable the credit return (escrow) if no dispensing has been performed.

If enabled, this function will provide for the return of the coins even if the first dispensing cycle has not occurred.

If a delivery has failed for any reason whatsoever, the change will be paid upon request.

Maximum credit

Function used to define the maximum accepted credit for inserted coins.

Maximum change

You can set a limit on the total amount of the change the coin mechanism will pay as soon as you press the change button or after one single dispensing.

The credit exceeding the amount you have programmed by this function will be cashed.

Coins accepted

Used to define which coins shall be accepted among those recognised by the validator.

For the coin/value correspondence check the label showing the position of the coins on the coin mechanism.

Coins not accepted

Used to program the refusal of a coin in case of “exact amount”.

For the coin/value correspondence check the label showing the position of the coins on the coin mechanism.

"exact change" value

Used to define the combination of empty tubes intended to set the coin mechanism to the “exact amount” mode. All possible combinations of empty tubes are listed here below.

For reasons of simplicity, the combination is described with reference to tubes A, B and C, where tube A will receive the lowest-value coins and tube C the highest-value coins.

0	=	A or (B and C)
1	=	A and B and C
2	=	A and B only
3	=	A and (B or C)
4	=	A only
5	=	A or B only (default)
6	=	A or B or C
7	=	A or B only
8	=	A or C only
9	=	B and C only
10	=	B only
11	=	B or C only
12	=	C only

Dispensing buttons

Function used to enable or disable the buttons arranged on the coin mechanism in order to discharge the coins in the change tubes.

C.P.C. peripheral unit

It is intended to inform the coin mechanism whether some peripheral units have been installed or removed from the serial connection (peripheral units of the C.P.C type - the default control unit is always enabled).

Minimum tube level

Used to warn the user in advance to “Insert exact amount” by adding a number of coins between 0 and 15 to the number of coins that has been programmed to establish the status of full change tubes.

VMC free sale

Most of the payment systems complete with a BDV protocol is intended to manage the free sale function.

However, there are some payment systems not having this function.

In this case, it is necessary to enable the VMC (vending machine control, disabled by default) free sale and to set the price of selections to zero if some selections are dispensed on a free basis.

MDB

The MDB protocol menus enable the user to define the following functions.

Immediate change

The amount relative to a selection is generally cashed after the machine has sent the “Successful selection” signal.

If you enable this function, which is disabled by default, the cash signal is sent at the start of the dispensing cycle.

The setup of this parameter is compulsory.

Decimal point

To set up the decimal point position, i.e.:

0: decimal point disabled

1: one decimal digit after the point (XXX.X)

2: two decimal digits after the point (XX.XX)

3: three decimal digits after the point (X.XXX)

Type of dispensing

Used to set the operation mode by multiple or single dispensing. In case of multiple dispensing, the change is not automatically given at the end of a successful delivery, but the credit will remain available for further dispensing. If you press the coin return button (if the function is enabled), the remaining credit will be returned up to the maximum change value.

Obligation to buy

To enable/disable the operation of the coin return button before dispensing a product.

- ON: the change is returned after having selected a product
- OFF: the change is returned just after having pressed the coin return key (the machine is acting as a coin changer).

Maximum credit

Function used to define the maximum accepted credit for inserted coins.

Maximum change

You can set a limit on the total amount of the change the coin mechanism will pay as soon as you press the change button or after one single dispensing.

The credit exceeding the amount you have programmed by this function will be cashed.

Coins accepted

Used to define which coins shall be accepted among those recognised by the validator when the change tubes are full.

For the coin/value correspondence check the coin mechanism configuration.

Coins returned

Used to define which coins shall be used to give the change among those available in the tubes. This parameter is active only with the coin mechanisms not intended to manage the choice of the tube in use automatically (Auto changer payout).

For the coin/value correspondence check the coin mechanism configuration.

Bills accepted

Used to define which bills shall be accepted among those recognised by the reader.

For the bill/value correspondence check the reader configuration.

Below level acceptance

Used to define which coins shall be accepted among those recognised by the validator when the machine is in the “exact amount” mode.

For the coin/value correspondence check the coin mechanism configuration.

Below level acceptance for bills

Used to define which bills shall be accepted among those recognised by the reader when the machine is in the “exact amount” mode.

For the bill/value correspondence check the reader configuration.

Cashless private

To protect the users’ privacy, this function is intended to display the string “-----” in the place of the credit on the cashless system.

Overpay

You can decide whether to cash any credit exceeding the selection amount or to leave it at the user's disposal.

Cash-sale management

Used to give evidence that cash transactions have occurred by means of a cashless system.

The values available are listed here below:

- 0 standard operation: cash transactions are recorded as such
- 1 forced sending to cashless 1: cash transactions are recorded as transactions performed by the first cashless system
- 2 forced sending to cashless 2: cash transactions are recorded as transactions performed by the second cashless system.

Parallel machine

Function used to enable the presence of a validator or parallel bill reader to recharge the keys.

Exact change equation

To choose among 15 different algorithms to enable the machine to give the change at the end of the selection.

Every single algorithm checks a series of requirements, such as the amount of coins in the tubes or the (empty or full) state of the tubes the coin mechanism will use to give the change.

If one of these requirements is not fulfilled, the machine can supply no change. In this case, the display will show the “No change” message.

Maximum cashless credit

Function used to set up the maximum credit a cashless key/card may have to be accepted by the system. If the key has a higher value, it will be rejected.

The setup value shall always be higher than or equal to the value set for the “Maximum cash revalue” function. If modified and lower, it will be automatically set to the same value as the “Maximum cash revalue”.

Maximum cashless recharge

Used to set up the maximum credit you can charge on a key or card system.

Minimum tube level

Used to set a number of coins between 0 and 15 in order to establish the status of full change tubes and to warn the user to “insert the exact amount”.

Bill reader function (bill revalue)

Used to enable the bill reader only to recharge the credit on the cashless system (key or card).

Non-defined credit acceptance

This function is intended to accept cashless payment systems (key or card) or not if the cashless system credit is not defined.

Groups of users

The function is intended to associate a price list (list 1, list 2 and list 3) to the groups of users (from 1 to 5).

All groups of users are associated to list 1 by default.

PRICES

From this menu you can set up prices individually (for every single selection) or globally (the same price for all selections) and define the ranges of the promotional time band.

The machine can manage up to 4 different prices per selection, which can be active according to the time band you have set (standard or promotional) and/or the payment system in use.

Prices are grouped into 4 lists and they can be programmed - for each one of the 4 lists - either globally (the same price for all selections) or by single selection.

The price of one single selection can be directly varied from the keyboard too.

If you have to sell most products at the same price, it will be advisable to programme the price globally and to change the price of the selections having a different sales price.

BDV, executive, validators

These systems enable you to manage not only the standard price list, but also a promotional price list if the time band is enabled by the corresponding function.

Selections will be dispensed at the price of the promotional list during the time intervals you have programmed.

mdb

These systems are intended to establish whether to use the 4 price lists at the same time or to use two alternative ranges according to the time band you have set up.

If you do not use the time band, you can manage not only the standard price list, but also three further price lists according to the type of cashless support in use (key 1-3).

If you use a time band, selections will be dispensed at a price other than the standard one for the cashless system. During the time intervals you may have programmed, selections will be dispensed at two different promotional prices for the standard list and the cashless system.

Promotional time band

4 programmable time bands for sale at different prices by using cashless payment systems.

The time bands can be set up by hours (from 00 to 23) and by minutes (from 00 to 59).

The time of reference is represented by an internal clock.

To disable the time band, set up the date as well as the start and end time to 0.

The time of reference is supplied by an internal clock that can be set from the configuration menu of the machine (see paragraph "VM configuration").

Cash price band

4 programmable time bands for cash sale at different prices.

The time bands can be set up by hours (from 00 to 23) and by minutes (from 00 to 59).

To disable the time band, set up the date as well as the start and end time to 0.

The time of reference is supplied by an internal clock that can be set from the configuration menu of the machine (see paragraph "VM configuration").

DOSES

This group of functions is used to define all the variables that contribute to the drink build-up.

Selection parameters

Confirm this function to access the sub-menus to manage the parameters; the first option consists in choosing the selection you wish to act on.

Press one key of the external keyboard to display the relative parameters, varying according to whether the key is a selection or a preselection.

Composition set

Use this group of functions to modify the doses and parameters relative to the waters and powders of the drink you have selected.

Confirm this function to display the list of the ingredients (powder/s and water) composing the drink, in the order the water dose is dispensed (see the dose table).

A drink can be composed by max. 4 ingredients (powder/s and water).

Every single water dose can be associated with several powders.

To dispense water, act on the following parameters:

Mixer

Mixing mode. For every single selection you can set the duration of the mixing cycle for every single water dose composing the selection.

The duration can be set in two different modes.

absolute

i.e. not depending upon the start time of the pump.

The mix time value is set in tenths of a second and calculated from the time the pump is started up.

relative

i.e. by way of difference, either in excess or in default, compared to the stop time of the pump.

E.g.: if the value is 0, mixing will stop as soon as the pump stops.

The duration of the mixing cycle is always expressed in tenths of a second.

Mixing speed (low / medium / high)

You can define the mix speed according to the appearance you wish for the product.

Mixing time

You can define how long the mixer shall be active after the pump stop within one single product.

Water doses

To dispense water, act on the following parameters:

Event Start (0 - 3)

Use the Event start function to define the dispensing sequence of ingredients.

Among the ingredients described in the recipe, the identification number of the ingredient first dispensed (start 0) will be considered as the start of the dispensing cycle of the next ingredient.

For instance, if the recipe of the "Cappuccino with chocolate" selection consists of:

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

the dispensing sequence of ingredients is:

1st -Ingredient 1 Milk (start 0)
2nd -Ingredient 2 Coffee (start 1)
3rd -Ingredient 3 Chocolate (start 2)

To vary the drink quality, e.g. with milk above, the dispensing sequence of ingredients might be:

1st -Ingredient 3 Chocolate (start 0)
2nd -Ingredient 2 Coffee (start 3)
3rd -Ingredient 1 Milk (start 2).

Delay Value

You can set up the mixer delay (in hundredths of a second) with respect to the pump start (event start).

Dose in CC

You can directly set up the water quantity you wish for every single event start in cc.

Dose in CDV (for espresso drinks only)

You can directly set up the water quantity you wish for the event start relative to an espresso drink in cdv (strokes).

Flow rate in cc/sec.

You can set up the working speed of instant water pumps to define the flow rate in cc/sec.

This value is used to calculate the time necessary to dispense the dose in cc.

Brew time

The brewing time can be set for the reference selection of the automatic grinding cycle only.

Powder doses

To dispense powders, act on the following parameters:

Dose in grams

You can directly set up the powder quantity you wish for every single ingredient composing the drink in grams.

Flow rate in gr/sec.

You can set up the working speed of ingredient motors to define the flow rate in gr/sec.

This value is used to calculate the time necessary to dispense the dose in gr.

DECAFF CYCLE OR STEP DISPENSING

Use this function to establish for every single instant coffee selection whether powder shall be dispensed according to a decaff cycle or on a step basis, compared to “global” setting.

- DECAFF CYCLE: use this parameter to dispense powder before water to improve the drink quality (recommended for instant coffee:
- BY STEPS: use this parameter to dispense powder at intervals (you can set up from 1 to 5) at the same time as water.

DRIPPING

You can define the wait time (you can programme it from 0 to 2000 hundredths of a second) from the end of delivery to the closure of the shift arm for every single selection to leave the tubes enough time to get empty.

SELECTION STATUS

You can define for every single selection key whether to enable it or not.

ACCESSORIES

For each accessory:

- sugar: ON/OFF
- stirrer: ON/OFF
- cup: OFF, cup 1 or cup 2
- sugar in the cup: (dose in gr.)

you can decide whether to add it to a selection or not.

COMPLETE SELECTION TEST

Use this function to dispense the following for every single selection when the door is open and without inserting the amount required.

- complete selection
- water only
- powder only
- no accessory (cup, sugar and stirrer)
- accessories only

PRODUCT CODE

Use this function to assign every single selection a 16-alphanumeric character identification code to process statistics.

GLOBAL POWDER DOSES

Use this function to regulate the powder dose of each ingredient motor relative to several selections at the same time. (function to be implemented)

PUMP CALIBRATION

The speed and flow rate of direct current pumps can be controlled electronically.

To adjust the control device to the actual flow rate, calibrate the pumps, i.e. measure the actual flow rate at a given speed.

The operation is performed at the factory, but you may have to repeat it for various reasons.

After having found out the mixer where to act and confirmed the type of nozzles in use, the pump is operated for a well-defined time at the minimum and maximum speed by means of the corresponding menu. The system can optimise the dispensing speed by storing the water quantities you get.

DOSER CALIBRATION

To convert the product dose values properly, set up the flow rate value of every single doser in gr/s to calculate the grams to be dispensed.

KEYBOARD

KEY <---> SEL

Use this function to vary the order of the selections associated with the keyboard and defined by the layout you have set up.

The display shows the list of available selections in sequence. Press the destination key to store the association.

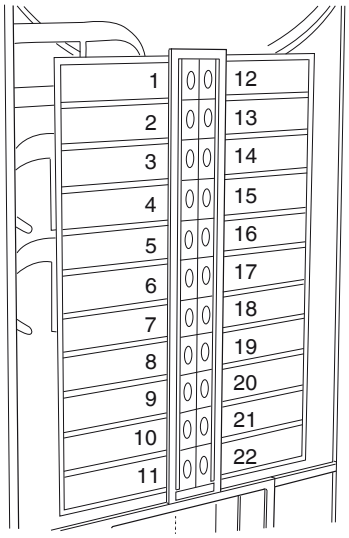


Fig. 48

DOUBLE KEY

Use this function to join 2 keys arranged one next to the other one vertically into one single key to use a double-size key for one single selection.

SELECTION NO. CHECK

To check the selection number associated with a key.

NO SUGAR

Use this function to set up all sugarless selections made available by default (ON).

Function valid on some models only.

DECAFF CYCLE

This function acts on instant coffee-based selections. Selections are identified in the layout and their identification can not be changed.

If you enable this function in all coffee-based selections (if made available), powder dispensing occurs before water dispensing.

However, you can change this parameter one by one, for every single instant coffee-based selection.

VM CONFIGURATION

This group of functions is intended to check all parameters relative to the machine operation.

DATE AND TIME SET

Function used to set up the current date and time.

The value is used by the machine to manage the time band and statistics.

BOILER TEMPERATURE

Use this function to set the operating temperature, expressed in °C, of the boilers actually available on the machine.

Press the Enter key ↵ after having selected the boiler where to act, the temperature value will flash on and off and it can be modified by using keys ↑ and ↓

DB MANAGEMENT

This group of functions is intended to manage the basic data of the machine operation.

INITIALISATION

This function shall be used in case of a memory data error or if the software is updated.

All statistic data are reset except for the general electronic counter.

When the display is set to the "Initialisation" function, you can initialise the machine by restoring all default data.

Press the Enter key ↵ to display the request for confirmation “Do you confirm?”. If you press the Enter key ↵ once again, you will be required to enter some parameters, i.e.:

"COUNTRY"

understood as the type of basic doses for the various selections (e.g. IT coffee = 60 cc - FR coffee = 106 cc).

The “countries” made available according to models.

"LAY OUT"

a well-defined number of Button-Selection combinations is available for selection for every single model and type of doses (the combinations available for every single layout are supplied by the selection dose table supplied with the machine).

"TANK"

To define whether water supply occurs:

0 - from the network

1 - with an internal tank

2 - with two internal tanks on management.

Confirm the options to display the message “Running” for some seconds.

SAVE DB CUSTOM

To save the current machine configuration on an external memory; this function is useful to customise (e.g. the parameters of selections), compared to default settings.

RESTORE DB CUSTOM

To restore the machine configuration you have customised and saved before by means of the “Save DB custom” function.

To restore factory settings, initialise the machine.

DISPLAY

This group of functions controls all display parameters.

LANGUAGE

Use this function to select the language you wish to use to display the messages among those made available by the software.

SECONDARY LANGUAGE

To select a second language to display the messages in the normal operation mode.

Promotional message

It groups all the functions relative to promotional messages displayed during normal operation mode.

Enabling the promotional message

To enable/disable the display of a promotional message you have set up.

Setting up the promotional message

The 5-line message can be composed by using the keys ↑ and ↓ to scroll all available characters.

If you press the Enter key ↵ , the first character you can modify will flash on and off.

Press key ← to store the message.

Promotional image

To enable/disable the promotional image on the display in the normal operation mode:

- ON: the message “Select a product” and the promotional image are alternated every 3 seconds in the normal operation mode
- OFF: only the message “Select a product” is displayed in the normal operation mode.

LCD contrast regulation

Use this function to regulate the display contrast from min. 5% to max. 99% (default).

Screen saver time

Use this function to set the screen saver after a programmable (in minutes) shutdown time of the vending machine. (default = 10 min.)

If the value is set to 0, the screen-saver is not active.

Currency symbol

The function is used to enable the currency symbol set up during the credit display (€, $ or £).

Time display

Use this function to enable the current time display in the normal operation mode.

Menu Management

Password

It is a 5-digit numeric code you are required to enter to access all menu functions (advanced).

The value of this code is set to 00000 by default.

Enabling the filler menu

Function used to make the first-level filler menus visible or not.

Press keys ↑ and ↓ to scroll the items of the first-level filler menu. Press key ↵ to modify the enable status of the menu you have chosen (ON/OFF).

Reduced / complete menu enable

To enable the request for password function in order to display all “advanced” functions of the Technician Menu as soon as you access the programming mode. The request for password is disabled by default.

espresso unit

It groups all the functions relative to the espresso unit.

pre-grinding

Use this function to enable or disable the grinding cycle of a coffee dose for the next selection. This will enable the user to reduce the time required to dispense a coffee selection.

The function is disabled by default.

water boost

Enable this function to heat the water circuit and the espresso unit before brewing espresso coffee.

If no espresso coffee-based selection is performed for a long time, a small hot water quantity is dispensed before releasing a coffee dose.

ESPRESSO UNIT POSITION

Function active on double espresso models only.

Use this function to set up the position of the unit while dispensing the ground coffee dose. Regulation occurs through scrolling keys ↑ and ↓

GRINDER LOCK

A sensor detects the actual rotation of the grinder during the grinding time.

In case of lock (foreign bodies, etc.), the grinder is locked and espresso-based selections are disabled.

Use this option to enable/disable the control of the grinder rotation.

REGULATION OF GRINDING WHEELS

Use this group of functions to check the parameters intended to regulate the distance between grinding wheels automatically and to enable or disable the function on the grinders complete with an automatic regulation device.

In particular, you can choose on which grinder - identified by a number - to act. After you have made your choice, the LEDs of the selection of reference corresponding to that grinder will turn on.

AUTOMATIC REGULATION ENABLE

For each grinder you can decide whether to let the automatic regulation device work or not.

AUTOMATIC REGULATION PARAMETERS

For each selection of reference, please program:

- the water dose (expressed in volumetric counter pulses -cdv-);
- the brew time (expressed in sec.);
- the manual regulation of the distance of grinding wheels; any variation will correspond to about 1/6 of a turn of the regulation ring nut. Positive values reduce granulometry (finer grinding), negative values increase it (coarser grinding).

NEW GRINDING WHEELS

This function is intended to reset the times stored with reference to the grinding wheel wear; in particular, the average initial grinding time stored during the first selections and used to establish when grinding wheels are worn (the grinding time is over 50% longer than the initial time).

TEST ON GRINDING WHEELS

Use this function after replacing the grinding wheels or, if necessary, the grinder.

The test must be carried out with no coffee.

- If you confirm the test, grinding wheels rotate and come close to each other to touch;
- the machine will stop, waiting for confirmation;
- If you confirm once again, grinding wheels depart and rotate the grinding wheel ring nut by some turns;
- the machine will stop, waiting for confirmation;
- if you pour coffee and dispense some selections of reference, grinding will automatically become stable.

UNIT MOVEMENTS

UNIT TURN

To operate the brew unit by rotating the unit itself.

PISTON PRESSURISATION

Function used to rotate the brew unit by means of the pressurised piston.

MANUAL UNIT WASHING

To start washing the espresso unit.

PRE-BREW TIME

Use this function to establish the pause time of the brew unit in tenths of a second before brewing. (default 100 t/sec.).

DRYING TIME

Use this function to establish the pause time of the brew unit in tenths of a second after brewing and before ejecting the used dose. (default 100 t/sec.).

PISTON PRESSURE TIME

Use this function to regulate the piston speed and the pressure exerted on the dose in the brewing chamber (default 5).

Act on this parameter to modify the drink aspect and quality.

WASHING

ENABLE THE WASHING KEY

Use this function to enable the operation of the mixer wash button.

They key is generally disabled.

AUTOMATIC MIXER WASHING

You can set the time at which you wish to wash the mixers automatically.

If you set the time to 12.00 p.m., the function is disabled (default).

AUTOMATIC ESPRESSO UNIT WASHING

Use this function to set up the time, at which you wish to wash the espresso unit automatically every day.

If you set the time to 12.00 p.m., the function is disabled (default).

MIXER HEATING

If the function is enabled and no dispensing has occurred in the milk or instant coffee mixers in the past 3 minutes, a small hot water quantity is dispensed before any selection of strong instant coffee, instant coffee with a drop of milk and espresso coffee with a drop of milk.

MIXER COOLING

(if the cool unit is available)

If the machine is equipped with a cooling unit, the function is enabled. If no dispensing has occurred in the mixers of cold drinks in the past 3 minutes, a small cold water quantity is dispensed before any syrup-based selection.

ACCESSORIES

TANK

Use this function to define whether the vending machine is supplied by the network or by internal tanks:

0 - water supply from the network;

1 - an internal tank managed individually;

2 - two internal tanks managed to load water alternatively from the two tanks.

PHOTOCELLS

The function is enabled by default.

The cup sensor (photocell) makes sure that the cup is taken at the end of the dispensing cycle and it prevents the machine from releasing a second cup until the dispensing compartment is free; the display shows the message "SERVE YOURSELF".

JUG FACILITIES

On some models complete with a special key you can obtain a number (programmable from 1 to 9.5 by default) of cup-free selections in order to fill in a jug.

STIRRER

To dispense the stirrers of the front column only (single column) or, alternatively, from the front column and the rear one (double column).

CUP SHIFT TIME

Use this function to increase the time (in t/s) the shift arm will spend in the cup collection position to help the cup fall properly before the cup is conveyed to the dispensing area by the shift arm.

COLD DRINK SHUTTER DELAY

You can set up a standby time (from zero to 2000 c/s) after the end of the dispensing cycle of cold drinks, after which the shutter will close and the end-of-dispensing sound signal is given.

HOT WATER SHUTTER DELAY

You can set up a standby time (from zero to 2000 c/s) after the end of the dispensing cycle of hot water, after which the shutter will close and the end-of-dispensing sound signal is given.

CUP TURRET TIME

Use this function to determine the rotation stop delay time of the cup stacker to balance any inertia due to the type of cup.

ENERGY SAVING

To save electric energy whenever the machine is not used, you may choose among the following energy saving option:

Energy Saving:

use this option to interrupt the vending machine service and power off the boiler/s at the time intervals set up by the “Energy Saving Parameters” function.

Selections are not available for the whole duration for the Energy Saving period.

Sleep Energy Saving:

use this option to power off the lighting LEDs of the front panel after a 15-minute inactivity of the vending machine and to lower down the boiler temperature to 70°C. Press any selection button to restore the normal operation of the machine. Selections are made available once again as soon as you reach the operating temperature.

Soft Energy Saving:

use this option to power off the lighting LEDs of the front panel at the time intervals set up by the “Energy Saving Parameters” function whereas the boiler/s will continue to operate normally. Press any selection button to turn on the LEDs and to restore the normal operation of the machine.

ENERGY SAVING PARAMETERS

Use this function to set up to 4 time bands in which to activate energy saving profiles (Energy Saving and Soft Energy Saving).

OUT-OF-SERVICE PANEL BACKLIGHTING

To define whether to turn on or off the LEDs intended to light the panels when the machine is out of service or the “Service interruption” time band has tripped.

COOL UNIT ID SETUP

Function active if the cool unit is available.

MAINTENANCE DISPENSING CYCLE SETUP

Use this function to establish how many test dispensing cycles to perform any time the door is opened.

The value is set to 0 by default and there is no limit to test dispensing cycles.

MASTER / SLAVE

The control system of the machine is arranged for bank connection with other automatic vending machines (Samba, Samba Top and Diesis).

SETTINGS

Use this function to set up the hierarchies of the master / slave1 / slave2 relations between connected vending machines.

This machine can be configured as a “Master”, i.e. controlling the second machine, or as a “Slave”, i.e. controlled by the other machine.

Moreover, set the numbering for 2-digit (XX) or 3-digit selections (0XX; 9XX).

The master/slave function is not enabled by default.

SLAVE PRICE HOLDING (PROT. EXECUTIVE)

If the Executive payment system is set to “Price Holding”, use this function to set up the same mode even in the slave machine software.

VIRTUAL PRICE RETURN (PROT. EXE / BDV)

In case of combined or virtual selections (whose relative menus are made available on slave machines), use this function to establish whether to retain (OFF) or not (ON) the partial amount if the second selection / dispensing cycle should fail.

MINI SLAVE RESET

Use this function to reset all settings relative to the master/slave function on the slave machine.

MONITOR SLAVE

Use this function to scroll all information on any slave, if connected.

After setting up this function, power on the slave machine to sequence-display the slave information about:

- software release
- type of slave (XX, 0XX, 9XX)
- presence of the photocells intended to detect the dispensing cycle
- number of trays and drawers
- presence of the device intended to prevent the dispensing compartment from opening
- temperature measured by the internal probe.

To quit the function, power off the master machine.

DISPLAY SLAVE INFORMATION

Function not active on this model.

Use this function to display the instantaneous temperature of the “slave” machine, if connected.

MACHINE SERIAL NUMBER

This function is used to change the eight-digit numeric code identifying the vending machine (0 by default).

PROGRAMMING THE OPERATOR CODE

When the display is set to the "Operator Code" function, you can change the six-digit numeric code identifying groups of machines (0 by default).

LOCATION CODE

When the display is set to the "Location Code" function, you can change the eight-digit numeric code identifying the place of installation of the machine (0 by default).

INSTALLATION DATE

This function is used to store the current system date as the installation date.

The date is printed at the time of rolling out statistics.

PROGRAMMING THE MACHINE CODE

When the display is set to the "Machine Code" function, you can change the eight-digit numeric code identifying the machine (0 by default).

ASPIRATOR MANAGEMENT

Use this function to set the continuous operation of the suction fan wheel of instant products:

- ON fan wheel always on;
- OFF fan wheel on only during the dispensing cycle and for the next 30 seconds.

WATER FILTER SETUP

Use this function to set the total litres of the filter and the average water quantity (in cc) of selections.

The values set up are used by the machine software to calculate after how many dispensing cycles the machine will display the message “regenerate the decalcifier”.

INITIAL UNIT TURN

Use this function to set up the rotation of the brew unit as soon as you power on the machine

- ON: the brew unit is rotated as soon as the machine is powered on
- OFF: the brew unit is not rotated as soon as the machine is powered on.

TEST

This menu is intended to group the functions relative to the machine test:

TEST DISPENSING

Use this function to dispense the following for every single selection when the door is open and without inserting the amount required.

- complete selection
- water only
- powder only
- no accessory (no cup, sugar and stirrer)
- accessories only (cup, sugar and stirrer).

SPECIAL FUNCTIONS

If you access the function, you can:

- operate the brew unit
- release a coffee dose
- open a solenoid valve to let air in if the boiler is emptied for maintenance purposes (ES only)
- operate the mechanism intended to dispense a stirrer: press key ↑ and ↓ to release the stirrers from the 2 (front and back) columns
- install the boiler manually
- operate fresh brew unit 1 and 2 (if available)
- regulate the grinding wheels (models with the automatic regulation of grinding wheels).

REGULATION OF GRINDING WHEELS

Use this group of functions to check the parameters intended to regulate the distance between grinding wheels automatically and to enable or disable the function on the grinders complete with an automatic regulation device.

In particular, you can choose on which grinder - identified by a number - to act. After you have made your choice, the LEDs of the selection of reference corresponding to that grinder will turn on.

AUTOMATIC REGULATION ENABLE

For each grinder you can decide whether to let the automatic regulation device work or not.

AUTOMATIC REGULATION PARAMETERS

For each selection of reference, please program:

- The water dose (expressed in volumetric counter pulses -cdv-)
- The brew time (expressed in sec.)
- The manual regulation of the distance of grinding wheels; any variation will correspond to about 1/6 of a turn of the regulation ring nut. Positive values reduce granulometry (finer grinding), negative values increase it (coarser grinding).

NEW GRINDING WHEELS

This function is intended to reset the times stored with reference to the grinding wheel wear; in particular, the average initial grinding time stored during the first selections and used to establish when grinding wheels are worn (the grinding time is over 50% longer than the initial time).

TEST ON GRINDING WHEELS

Use this function after replacing the grinding wheels or, if necessary, the grinder.

The test must be carried out with no coffee.

- If you confirm the test, grinding wheels rotate and come close to each other to touch;
- the machine will stop, waiting for confirmation;
- If you confirm once again, grinding wheels depart and rotate the grinding wheel ring nut by some turns;
- the machine will stop, waiting for confirmation;
- if you pour coffee and dispense some selections of reference, grinding will automatically become stable.

UNIT MOVEMENTS

UNIT TURN

To operate the brew unit by rotating the unit itself.

PISTON PRESSURISATION

Function used to handle (rotate) the espresso unit by means of the pressurised piston.

MANUAL UNIT WASHING

Function used to wash the brew unit.

AUTOTEST

The function is intended to check the operation of the main machine components half-automatically. Press the Enter key to display the “AUTOTEST” message flashing on and off.

You can skip every single operation and move to the next one by pressing the exit key; if you press the Enter key, you confirm and start the autotest cycle. Some checks occur automatically, others require the manual operation of the component under check.

In sequence:

- ingredient motors activated for 2 seconds
- whipper motors activated for 2 seconds at the various speed rates
- release of a cup
- release of a stirrer
- rotation of the brew unit/s.
  The machine grinds a coffee dose by adjusting the grinding wheels for machines with automatic grinding regulation, release of the ground dose and unit rotation)
- the washing button is checked
- liquid waste full; the machine remains in standby until the liquid waste full micro switch is manually operated
- LED test; the operation of the back-lighting of the front panels and the areas relative to the illuminated path for the user is checked (coin insert, cup ready and change ready)
- power-on of the dispensing compartment lamp (if available)
- the keyboard is checked; the machine will display the number of the button you shall press, turn on the relative led and wait for its operation before moving to the next key
- the operation of the temperature probe in the boiler is checked
- the operation of the sound signaller (buzzer) is checked
- the operation of the coin mechanism is checked
- aspirator management; the machine powers the powder suction fan wheel on and off
- the operation of the "open door micro switch" is checked: the machine remains in standby until the "open door micro switch" is operated.
  Operate the “open door micro switch” by turning the door lock key
- the display is checked; the machine powers on all display points to check the operation visually.

STATISTICS

It groups all the functions concerning the machine statistics.

ELECTRONIC COUNTER

DISPLAY THE ELECTRONIC COUNTER

An electronic counter is intended to store all the dispensing cycles you have performed since you last reset it in an aggregated manner.

RESET THE ELECTRONIC COUNTER

You can reset the electronic counter.

DISPLAY VENDS AT THE START-UP

To enable / disable the display of the total number of dispensing cycles that have been made since you last reset the statistics, while you are powering on the machine.

EVA DTS

The two codes used to identify the machine and recognise the data transfer terminal are established by the EVADTS (European Vending Association Data Transfer System) communication protocol:

COMMUNICATION PROTOCOL

Use this function to decide which communication protocol to use for the communication of the data acquisition device.

The communication protocols made available are:

DDCMP ENHANCED

with the following configurable parameters:

- Pass code: it is a four-digit alphanumeric code (0-9; A-F) that shall be the same as the one of the data transfer terminal for identification.
  Set to 0000 by default.
- Security code: it is an alphanumeric code for mutual recognition between machine and EVA DTS terminal. Set to 0000 by default.
- End-of-transmission: if enabled, it can recognise the end-of-transmission signal sent to the last package and interrupt data transmission.

DEX/UCS

No configurable parameter is expected for this protocol:

DATA TRANSMISSION

The function is intended to select which communication interface shall be used for data transfer. The following interfaces are made available:

- “RS232” and “IrDA”: for communication with acquisition devices
- “ALWAYS EVADTS” for communication with data acquisition and transmission devices (telemetry).

TYPE

The function will enable the operator to choose how to manage the communication speed with data acquisition devices.

- “ENHANCED”: the communication speed is automatically adjusted to the maximum speed the slowest device can support
- “FIXED”: the communication speed is fixed and it uses the communication speed set up by means of the “baudrate” function.

BAUDRATE (CONNECTION SPEED)

To set the transmission speed for communication (2400, 4800, 9600, 19200 bps).

Set to 2400 bps by default.

CONNECTION

If you activate this function, the machine will be waiting for connection with a device in order to acquire EVADTS data.

DISPLAY GENERAL STATISTICS

Press the Enter key ↵ to sequence-display the data stored, i.e.:

1 - counter by single selection;

2 - counter by band;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

RESET GENERAL STATISTICS

Statistics can be reset either globally (all types of data) or selectively for:

- selections
- discounts-overprices
- failures
- coin mechanism data

Press the Enter key ↵ to display the request for confirmation “Do you confirm?”, flashing on and off.

Press the Enter key ↵ to display the "Running" message for some seconds and statistics are reset.

DISPLAY RELATIVE STATISTICS

Press the Enter key ↵ to sequence-display the data stored, i.e.:

1 - counter by single selection;

2 - counter by band;

3 - discount counter;

4 - failure counter;

5 - coin mechanism data.

RESET RELATIVE STATISTICS

Statistics can be reset either globally (all types of data) or selectively for:

- selections
- discounts-overprices
- coin mechanism data

Press the Enter key ↵ to display the request for confirmation “Do you confirm?”, flashing on and off.

Press the Enter key ↵ to display the "Running" message for some seconds and statistics are reset.

BDV PROTOCOL AUDIT

The coin mechanism data are intended to supply the following information in real currency:

Aud.1
Money in the tubes**: Money currently available in the change tubes**

Aud 2
Money to the tubes: Money conveyed to the change tubes

Aud 3
Money to the coin box: Money conveyed to the coin box

Aud 4
Change returned: Total amount of the money that has been returned

Aud 5
Money dispensed: Total amount of the money that has been manually dispensed

Aud 6
Surplus: Surplus money. Amounts paid by the customer in excess and not returned (in case no money is available for change)

Aud 7
Total sales: Total sales value

Aud 8
Exact change: Sales value on the “Insert exact amount” condition

Aud 9
Mixed dispensing: Total dispensing value paid in a different way, e.g. also other types of payment (C.P.C., coin)

Aud 10
Manual load: Money inserted into the coin mechanism by means of the manual load function.

MDB PROTOCOL AUDIT

Aud.1
Money in the tubes**: Money currently available in the change tubes**

Aud 2
Money to the tubes: Money conveyed to the change tubes

Aud 3
Money to the coin box: Money conveyed to the coin box

Aud 4
Change returned: Total amount of the money that has been returned

Aud 5
Surplus: Surplus money. Amounts paid by the customer in excess and not returned (in case no money is available for change)

Aud 6
Unloading tubes: Value of the coins dispensed by means of the “Manage tubes” function

Aud 7
Loading tubes: Value of the coins cashed by means of the manual load function.

Aud 8
Cash sales: Value of the total sales made cash (coins + bills)

Aud 9
Bills cashed: Value of the bills that have been cashed

Aud 10
Key recharge: Value of the money that has been recharged on the key

Aud 11
Key sale: Value of the money that has been cashed through key-dispensing

Aud 12
Money dispensed manually: Value of the coins that have been manually dispensed through the dispensing button on the coin mechanism

PRINT

Connect an RS232 serial printer having 9600 baud rate, 8 data bits, no parity, 1 stop bit with the serial port on the button board to print all the statistics described in the paragraphs “display general statistics” and "display relative statistics”; the machine code as well as the software date and release will be also printed.

Statistics can be printed either relatively or totally.

To connect the printer, act as follows:

- press the Enter key ↵ to display the request for confirmation “Do you confirm?”;
- connect the printer before confirming;
- press the Enter key ↵ to start printing.

COMMUNICATION

UP-KEY

SETUP MANAGEMENT

UPKEY -> VENDING MACHINE

After having inserted the UpKey into the plug on the C.P.U. board, this function is used to select the setup file from the list on the display. Press the Enter key to load the setup file you have selected on the machine.

VENDING MACHINE ->UPKEY

After having inserted the UpKey into the plug on the C.P.U. board, this function is used to save on the UpKey a setup file with the same configuration currently available on the machine.

Please specify the name you wish to assign to the file (e.g. CANTO000.STP)

DELETE

Use this function to delete one or more than one setup file on the UpKey you have inserted.

DELETE ALL

Use this function to delete all the setup files on the up key you have inserted.

UPKEY STATISTICS MANAGEMENT

VENDING MACHINE ->UPKEY

Confirm this function after having inserted the UpKey into the plug on the C.P.U. board to save on the UpKey the statistics file with all the statistical data currently available on the vending machine. Please specify the name you wish to assign to the file (e.g. CANTO000.STA).

DELETE

Use this function to delete one or more than one statistics file on the UpKey you have inserted.

DELETE ALL

Use this function to delete all the statistics files on the UpKey you have inserted.

BANK NUMBER

The bank number (from 1 to 7) is intended to univocally define the machines acting as a “GSM slave”, i.e. sending the data by means of the “master” machine modem.

0 is intended to identify the machine directly connected with the modem, i.e. the “GSM master”, in a bank.

GRAPHICAL SCREEN

Use this group of functions to programme the device for the models complete with a graphical screen for promotional videos.

SCREEN ENABLE

To enable / disable the communication between the CPU and the graphical screen, if made available on the machine.
The function is disabled by default.

GRAPHICAL SCREEN PROGRAMMING

The control software of the graphical screen device is intended to programme the relative functions.

Use the keys on the push-button panel of the device to move inside the menus of the graphical screen.

- Up
- Down
- Confirm
- Quit

SCREEN RESET

Use this function to restart the graphical screen after acting on the software thereof.

QUIT

At the end of the operations, press key

Quit

to go back to the machine menu.

FAILURES

The machine is equipped with several sensors intended to control the various functional units.

As soon as a malfunction is found out, the type of failure is displayed and the machine (or part of it) is set out of order.

The failures are stored in special counters. The failures managed by the software may be relate4d to functional groups not available on the specific model. However, they are listed in scrolling menus.

READING CURRENT FAILURES

When the display is set to the “Failure” function, press the Enter key to display the current failures.

If there is no failure at the moment, press the Enter key to display the “Failure end” message.

Expected failures are highlit in the following cases.

NO WATER

If the air-break microswitch should remain closed for one minute, the water inlet solenoid valve will remain energized while waiting for the water flow to come back.

If the water supply kit from internal tank is mounted on the machine, the pump is powered off.

WASTE FULL

The float of the liquid waste bucket has tripped.

AIR-BREAK

The machine stops after 10 selections if the microswitch has never signalled any lack of water

NO CUPS 1

As soon as the no cups microswitch is opened (IVB), the cup column shift motor is actuated. The machine is put out of order if the microswitch has not closed after a complete rotation.

If the machine is complete with an (optional) cup sensor, the machine will display the “No cups” message.

Use the corresponding function to define whether the failure shall lock the machine or let it ready for a cup sale.

NO CUPS 2

As soon as the no cups microswitch is opened (IVB2), the cup column shift motor is actuated. The machine uses cup 1 for all the selections dispensed in cup 2 if the microswitch has not closed after a complete rotation.

CUP SHIFT ARM 1

The machine stops if the cup shift arm fails to reach the microswitch (ITB) within the pre-established time of 15 sec.

CUP SHIFT ARM 2

The machine stops if the cup shift arm fails to reach the microswitch (ITB2) within the pre-established time of 15 sec.

IMPELLER (VOLUMETRIC COUNTER)

The volumetric counter is not counting within a max. interval of time (impeller).

INSTANT BOILER

The machine stops if the instant boiler water has not reached the temperature after having heated for 20 minutes since you powered on the machine or last made a selection.

MACHINE BOARD

No communication between the C.P.U. board and the machine board.

COIN MECHANISM

The machine stops if it should receive an over 2-sec. pulse on a validator line or if the communication with the serial coin mechanism is not longer than 30 seconds (Executive protocol) or 75 seconds (BDV protocol).

COFFEE RELEASE

Coffee-based selections are disabled if the doser microswitch should signal the presence of coffee in the doser chamber after having released the dose of ground products.

NO COFFEE

If the grinder speed is above 1200 rev/minute for over 5 seconds, the "no coffee" failure is recorded.

You can enable this type of signalling and disable coffee-based selections by acting on the “No coffee enable” function of the Technician Menu.

GRINDER LOCK

If the grinder is not rotating or it is rotating too slowly, the espresso coffee-based selections are disabled. The selections based on decaffeinated coffee will remain available.

RAM DATA

One or more than one area of the RAM memory contain altered data that have been corrected by default values.

The machine continues to work, but it is recommended to initialise as soon as possible.

COFFEE UNIT

The position control microswitch of the coffee unit is read during the whole dispensing cycle.

According to the micro readout and the dispensing phase of the unit, any failure is declared by locking the selections based on espresso coffee.

COFFEE UNIT - MICRO UNIT FAILURE -

While the brew unit is being operated, the control micro is not operated within a certain time limit.
This failure may be associated with another positioning failure of the coffee unit.

COFFEE UNIT - START UNIT FAILURE -

The microswitch signals the coffee unit has not moved from the stand-by position.

COFFEE UNIT - BREW UNIT FAILURE -

The control micro signals that the coffee unit has not reached the brew position.

COFFEE UNIT - DISPENSING UNIT FAILURE -

During the brew phase, the control micro signals that the espresso unit is being handled.

COFFEE UNIT - DISCHARGE UNIT FAILURE -

At the end of the brewing phase, the control micro signals that the coffee unit has not reached the "used dose discharge" position.

COFFEE UNIT - STANDBY UNIT FAILURE -

The control micro signals that the brew unit has not moved back to the stand-by position after having discharged the coffee dose.

ESPRESSO BOILER

The machine stops if the espresso boiler water has not reached the temperature after having heated for 10 minutes since you powered on the machine or last made a selection.

CUP RELEASED

If the cup sensor photocell is mounted, the “No cup” message will appear on the display after having failed to dispense a cup for three times. Use the corresponding function to define whether the failure shall lock the machine or let it ready for sale with a pottery cup.

PISTON FB 1 - 2

With the fresh brew unit only.

It is due to a positioning error of the unit. The machine is not locked, but the selections based on fresh product are disabled.

BRUSH FB 1 - 2

With the fresh brew unit only.

It is due to a positioning error of the scraper. The machine is not locked, but the selections based on fresh product are disabled.

FLAP MOTOR

The machine stops if the opening - closing of the flap lock motor control switch is not read. (on models complete with a motor-driven flap only).

INGREDIENT MOTORS ...

If the current input of an ingredient motor falls outside the range of default values, all the selections involving that doser will be disabled.

WHIPPER MOTORS ...

If the current input of a whipper motor should fall outside the range of default values, all the selections involving that whipper will be disabled.

PUMP ...

If the current input of a pump should fall outside the range of default values, all the selections involving that pump will be disabled.

SHORT CIRCUIT MOSFET

The machine fails if a device intended to control direct current motors on the actuation board (mosfet) remains active.

SHORT CIRCUIT

This failure is displayed if the software should detect a short-circuit on one of the direct current motors connected with the actuation board. A failure may be simultaneously detected on one of the direct current motors.

SUGAR/STIRRER FAILURE

If the current input of the direct current motor should fall outside the range of default values, this failure is displayed. Sugarless drinks can be dispensed.

WATER FAILURE

The water failure is declared during the v.m. standby if the water inlet solenoid valve is operated for over 20".

If a water failure is available, you can manually restore the service by pressing a key of the pushbutton panel. The water inlet solenoid valve is supplied for max. 20"; if the level is not reached, the solenoid valve is closed and the water failure is signalled once again.

Wait 30 minutes before making another 2 attempts to restore. At the 4th attempt, the solenoid valve is permanently inhibited (now, power off / on the machine to be able to make another 3 attempts or to reset the failure from the programming menu).

COLD PRESSURE SWITCH

For models with a cool unit only.

Cold selections are disabled if the pressure switch at the network inlet signals no water.

COLD COMPRESSOR

For models with a cool unit only.

To signal that the cool unit compressor is not properly working.

NO SYRUP 1 AND 2

For models with a cool unit only.

The syrup used in selections is used up.

The selections based on used-up syrup are disabled.

CARBONATOR EMPTY

For models with a cool unit only.

The level control device signals that the carbonator is empty: cold selections are set out of order.

COOL UNIT BOARD

For models with a cool unit only.

It signals that the control board of the cool unit is not properly working.

RESET

Confirm the function to reset all current failures, if any.

HISTORY FILE

It can display the latest 16 failures, from the most recent to the most remote one by pressing scroll key ? and ?. Moreover, it displays the tripping date and time and whether the failure is still active or not (ON / OFF), similarly to the data in the EVADTS audit data.

HISTORY FILE RESET

Confirm the function to reset all the failures in the list "History file".

-

Chapter 3
Maintenance

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.

ⓘ Never forget to disconnect the machine from the electric network before carrying out any maintenance operation requiring the disassembly of components.

The operations described here below must be carried out only by the personnel who have a specific knowledge of the machine operation from the point of view of electric safety and health rules.

ⓘ While servicing the equipment, wear working gloves and shoes according to the Law and classified and individual protection devices (IPD).

IPD's must be suitable for protection against any mechanical risk (cuts, scratches, crushing, ...) and physical risk (hot water, …).

⚠ The equipment has got some LED's for lighting (compartment, aesthetic panels, …); the light produced by LED's is generally screened by panels (no risk or risk-free).

⚠ If lighting is active without shielding for any reason whatsoever (moderate risk), never look at the light sources steadily.

DOOR SWITCH

Only the parts protected by covers and signalled by the following symbol remain live inside the machine.

Before removing these covers, detach the power supply cable from the mains.

To power on the equipment when the door is open, just insert the yellow key into the slot of the door switch.

⚠ All the operations requiring the machine to be directly connected to a source of electricity when the door is open must be ONLY carried out by the personnel qualified and informed on the specific risks involved.

Fig. 49

1. Door switch

BREW UNIT MAINTENANCE

The brew unit must be serviced, even if slightly, every 10,000 dispensing cycles or, any way, every 6 months.

For maintenance remove the brew unit:

1. detach the coffee outlet nozzle from the unit by rotating it by 90° with respect to the connecting rod and by pulling it to the outside;
2. remove the cover from the brew unit;
3. operate the lever intended to retain the unit by rotating it to reach the horizontal position;
4. remove the brew unit.

DISASSEMBLING / REPLACING THE UPPER FILTER AND GASKET

To disassemble or replace the upper filter and gasket, act as follows:

1. Unscrew the side screw (5) intended to fasten the wrench (6) of the upper piston.
2. Rotate the upper piston (1) upwards.
3. Remove and replace the upper gasket (7).
4. Unscrew the upper filter (9) to remove and replace it.

DISASSEMBLING / REPLACING THE LOWER FILTER AND GASKET

To disassemble or replace the lower filter and gasket, act as follows:

1. Manually bring the unit into the unload position with the lower piston up (12).
2. Unscrew the central fastening screw to remove the filter (10).
3. Press on the end of the piston rod guide (14) to get an extra-travel of the lower piston (12).
4. Use a small screwdriver to extract the lower piston (12) from the piston rod (14). Pay special attention to avoid damaging the piston or the sealing elements.
5. Remove and replace the lower gasket (13).

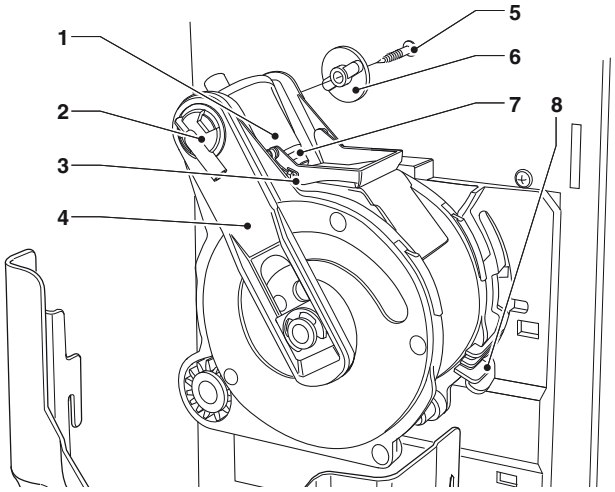
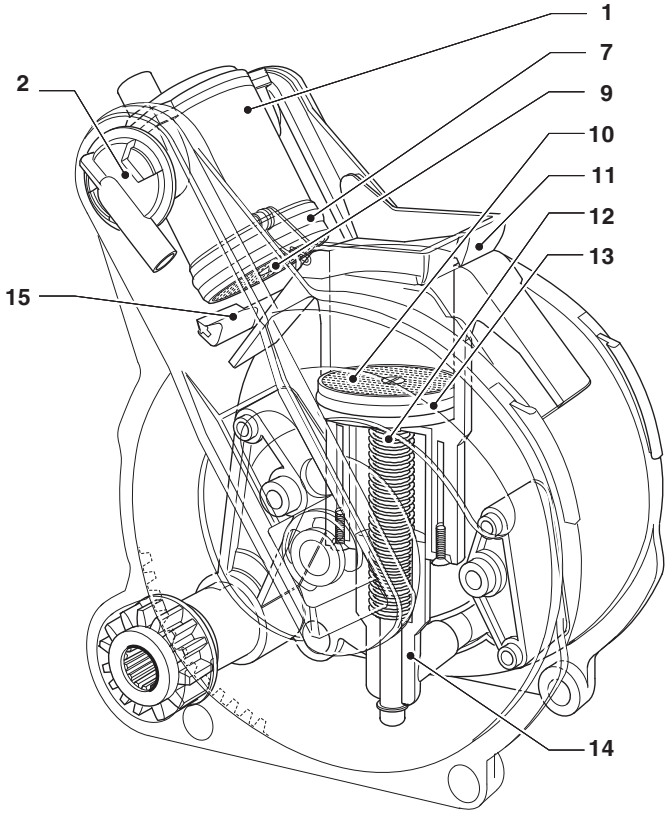


Fig. 50

1. upper piston
2. coffee outlet nozzle
3. lower scraper
4. connecting rod
5. side screw
6. wrench
7. upper gasket
8. unit retaining lever
9. upper filter
10. lower filter
11. lower scraper
12. lower piston
13. lower gasket
14. piston stem guide
15. upper scraper



PERIODICAL OPERATION

This manual shows the potential critical points and gives the instructions necessary to control any bacterial proliferation.

On the basis of the health and safety rules in force, the operator of the vending machine shall apply the self-control procedures established according to the provisions of the HACCP (Hazard Analysis Critical Control Point) directive and the national laws.

Clean and disinfect the whole circuit and the parts in contact with the foodstuffs at least every year or more frequently, according to the utilisation of the machine or the inlet water quality.

ⓘ Before cleaning, wash your hands and wear disposable gloves: the use of gloves is not removing the need for hand hygiene.

SANITISING

- remove all the components in contact with the foodstuffs, including tubes, from the machine and disassemble them in all their parts;
- remove all visible residues and films mechanically by using pipe cleaners and brushes, if necessary;
- the components shall be immersed into a sanitising solution for at least 20 minutes;
- the internal surfaces of the equipment shall be cleaned by using the same sanitising solution;
- rinse abundantly and reassemble the various parts.

Before setting the machine at work once again, sanitise the machine after having assembled all the components, as it is described by chapter "Sanitising mixers and food circuits".

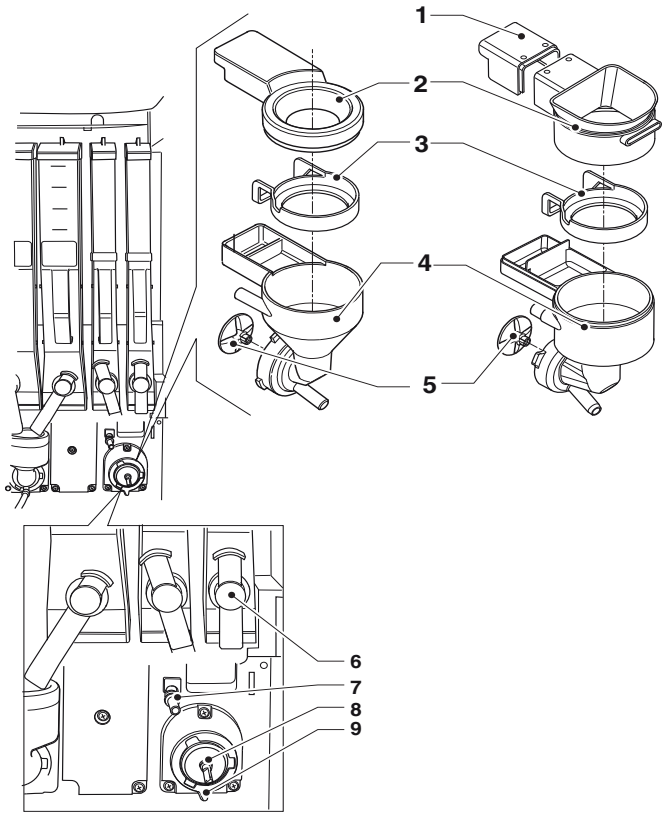


Fig. 51

1. rear cover
2. powder funnel
3. splash-guard ring
4. water conveyor
5. mixer impeller
6. powder port
7. water inlet nozzle
8. stuffing gasket
9. mixer fastening flange

MIXER

Act as follows:

1. detach the tubes from the connections of mixers;
2. turn the mixer fastening ring nut counter-clockwise and remove the mixer.
   Pay special attention when re-closing it completely during re-assembly;
3. separate the instant powder funnel, the powder deposit drawer and the water funnel;
4. disassemble the impellers: pull slightly to release them;

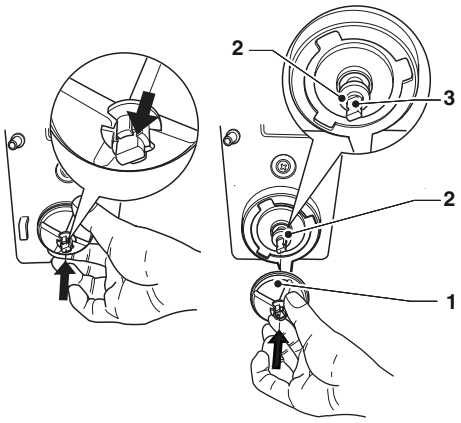


Fig. 52

1. mixer impeller
2. stuffing gasket
3. shaft undercut

5. dip the components into a canister with the sanitising solution you have prepared before for about 20'.
   Wash all the components by using sanitising products (observe the dosage recommended by the producer). Make sure that all visible residues and films are mechanically removed. Use pipe cleaners and brushes, if necessary;
6. check the state of wear of the seal gasket on the whipper motor shaft.
   If it is worn, torn and/or no longer elastic, replace it;
7. reassemble the powder deposit drawers and the powder funnels after having carefully rinsed and dried them up;
8. re-position the mixer.
   Make sure that the water funnel is properly inserted;

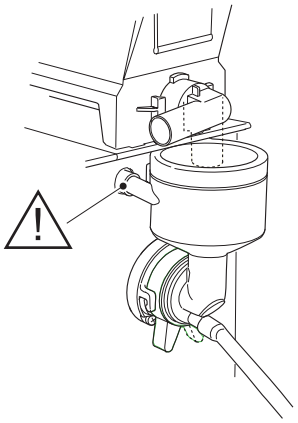


Fig. 53

9. rotate the ring nut intended to fasten the water funnel clockwise to secure the mixer to the machine.

After having reassembled the parts, act as follows, any way:

Wash the mixers and add some drops of the sanitising solution into the various funnels. Then rinse abundantly to remove any residue of the solution in use.

CLEANING PRODUCT CANISTERS

Act as follows:

1. remove the canisters from the machine;
2. disassemble the product outlet ports and extract the scrolls from the rear side of the canister;
3. clean all the parts by using a solution of hot water and sanitising products. Dry the parts carefully.

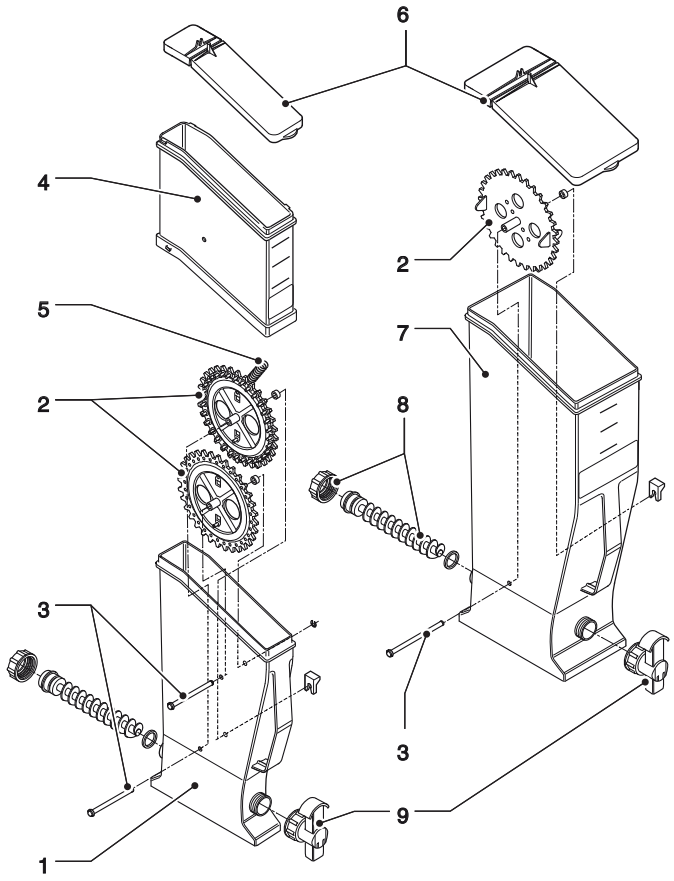


Fig. 54

1. powder port
2. instant powder canister
3. pin for toothed wheel
4. scroll
5. toothed wheel
6. scraper
7. canister extension (some models)
8. canister cover

MIXER NOZZLES

If it should be necessary to disassemble the instant shelf, pay attention to the nozzle/pump combination in use before during the reassembly phase.

Assemble 1-hole nozzles in such a way that the water inlet into the mixer will occur from the lower coupling.

ⓘ Any considerable variation in the doses of a drink may require the replacement of the corresponding nozzle to keep a correct flow rate.

Nozzles having a different flow rate are identified by the colour and number of holes:

Nozzle	Flow rate
Magenta (1 hole)	9 - 11 cc
Orange (1 hole)	11 - 13 cc
Magenta (2 holes)	19 - 22 cc
Orange (2 holes)	22 - 25 cc
White (1 hole)	22 - 25 cc

ⓘ If you change the nozzle, you shall set up the type of nozzle mounted in the pump calibration function.

ⓘ The white nozzle is used to dispense hot water only.

At the end of the procedure test the selections using that mixer to be sure that the drink dispensing cycle is correct.

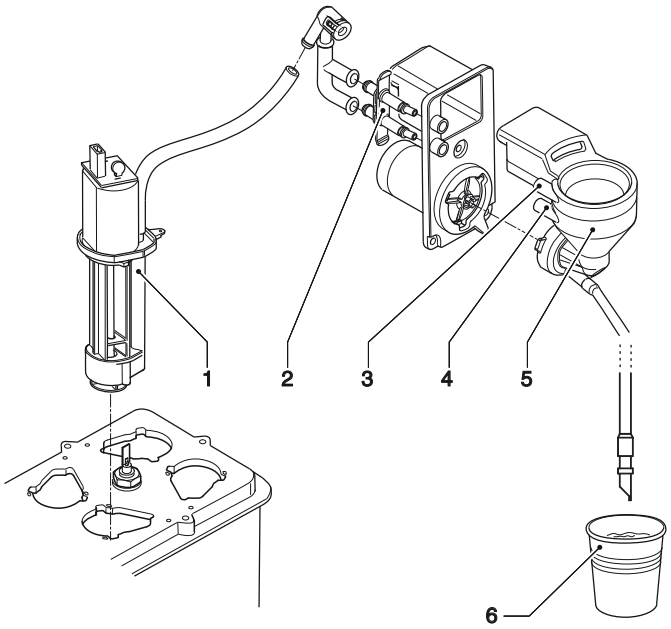


Fig. 55

1. pump
2. mixer nozzle (single or double)
3. upper coupling
4. lower coupling
5. mixer
6. dispensed drink

TEA BREW UNIT

For models with tea brew unit only.

Every 6 months or 2500 tea dispensing cycles and according to the use of the machine, the water quality and the product in use, check / replace the piston filter, the gaskets and clean the powder/vapour suction conduit

DISASSEMBLY

Act as follows:

1. remove the waste conveyor

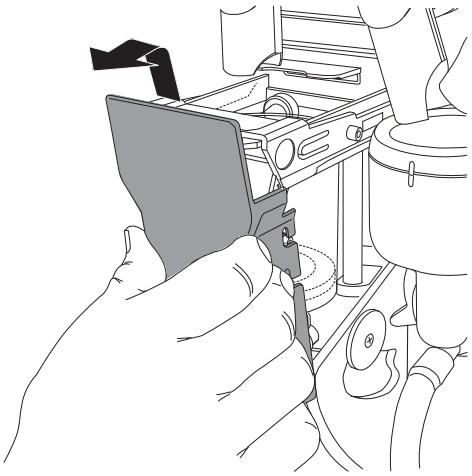


Fig. 56

2. remove the scraper from the support and remove the scraper

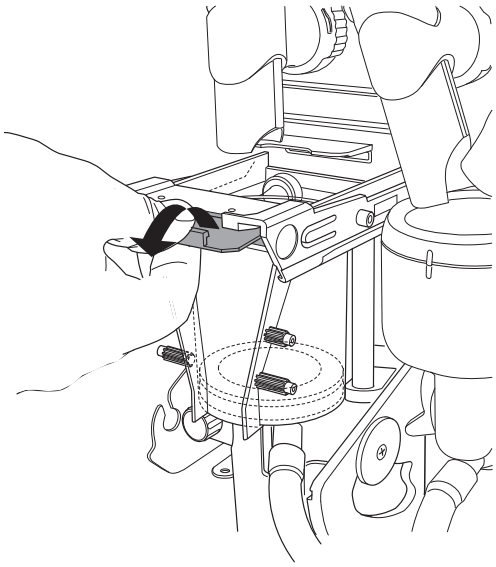


Fig. 57

3. detach the tube and the relative nozzle

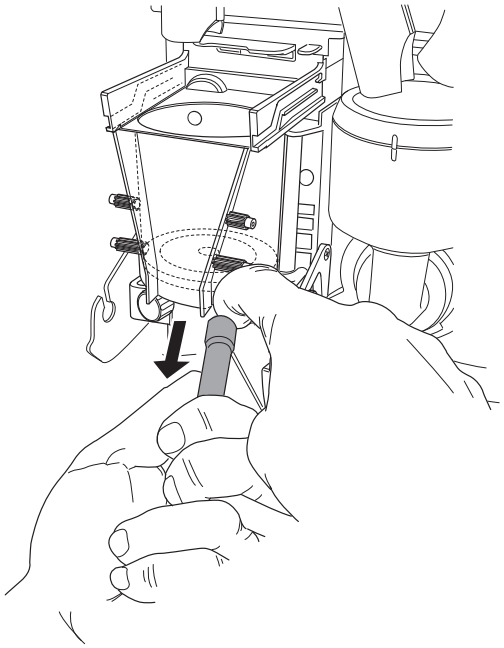


Fig. 58

4. unscrew the knurl intended to secure the piston stem cover

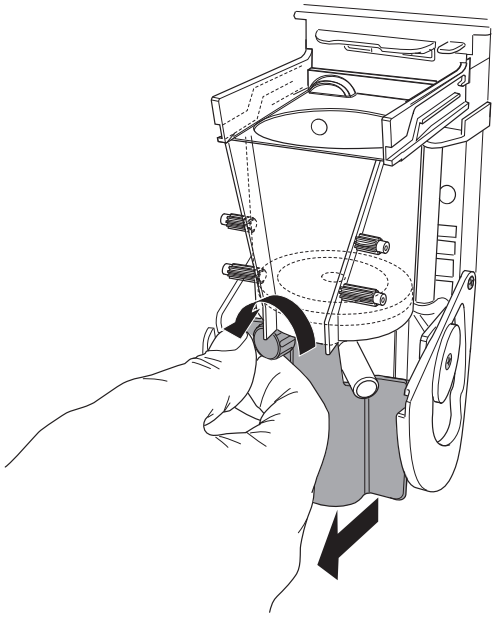


Fig. 59

5. unscrew the piston stem knurl

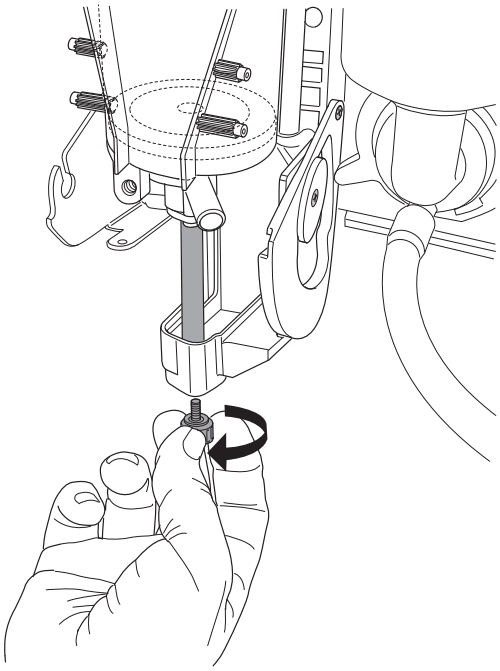


Fig. 60

6. lift the piston so as to reach the top dead center

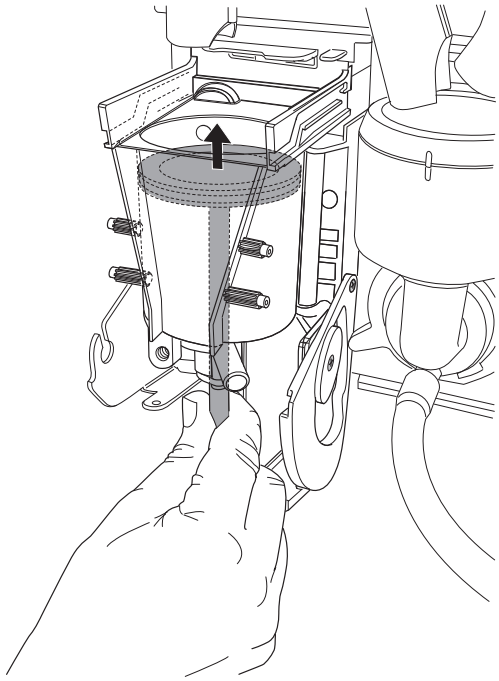


Fig. 61

7. rotate the brew chamber upwards and release it

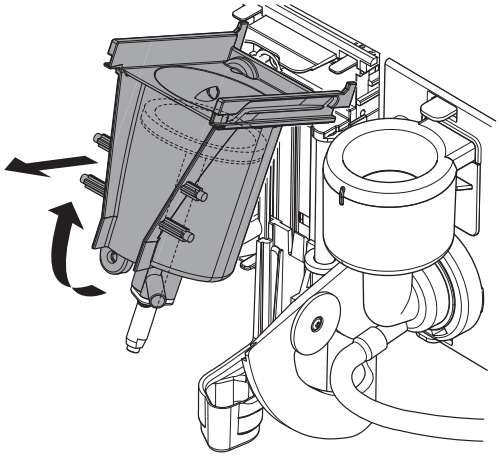


Fig. 62

8. extract the piston completely and check the status of the filter and/or the gaskets.

The piston filter must be replaced every 6 months or after 2,500 dispensing cycles.

Replace the gaskets at regular intervals.

If torn and/or no longer elastic, gaskets may negatively affect the performance of the unit and the tea quality.

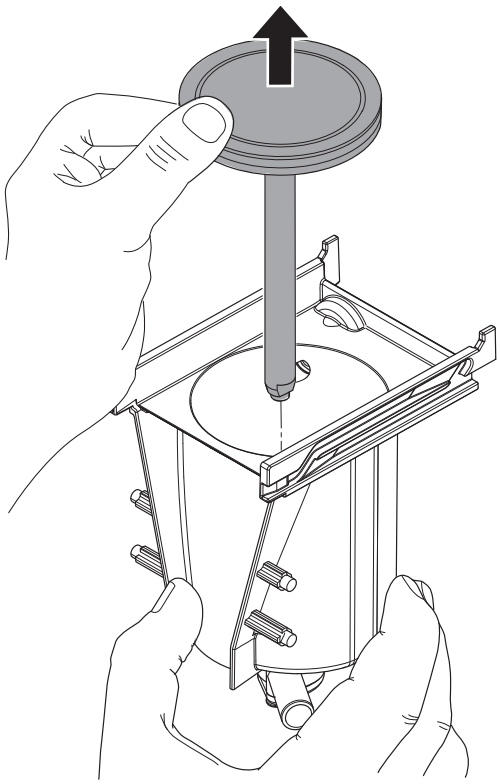


Fig. 63

The filter is secured to the stem by means of a bayonet connection.

To facilitate the removal of the filter seal ring and of the filter, use the piston retainer.

1. Insert the piston retainer on the piston
2. Turn the filter seal ring slightly.

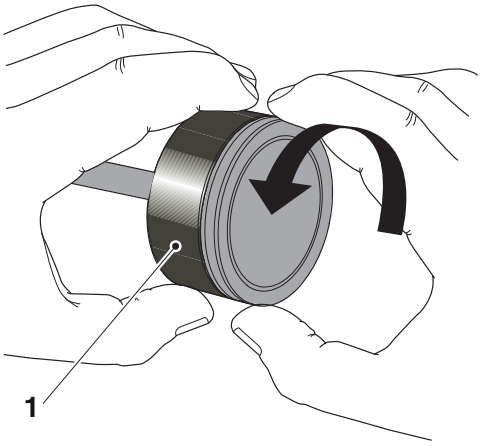


Fig. 64

1. Piston retainer

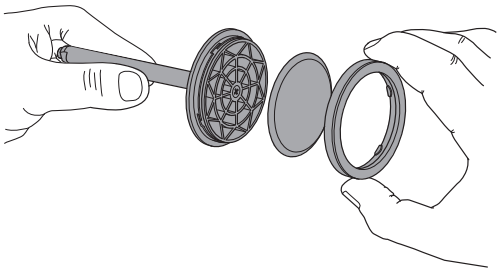


Fig. 65

Wash the components carefully by using a specific detergent solution for tea brewers[2].

Let the components immersed for one night.

To avoid leaving the equipment out of service (for too long), use components in the place of those to be sanitised (hygiene kit).

The parts replaced are to be sanitised and then made available as a hygiene kit.

2 Product tested DETERGENT POWDER/TANNIN REMOVER (DE-TAN)

ASSEMBLY

Act as follows:

1. re-mount the filter and the seal ring on the piston;
2. re-position the piston.
   Pay attention while positioning: the gasket must close the drink outlet hole. Use some fat (for food use) to grease the piston stem;

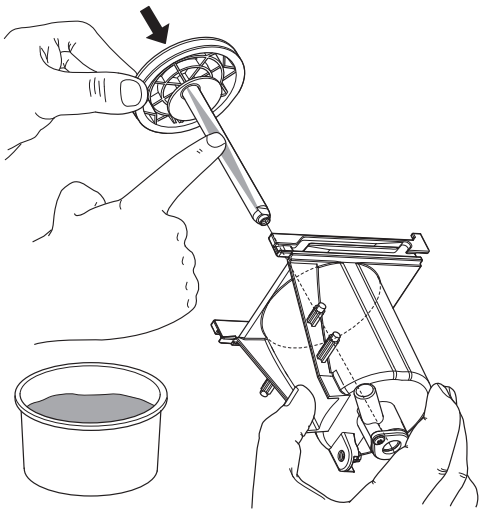


Fig. 66

3. hook the brew chamber, make sure that the water coupling is properly inserted;

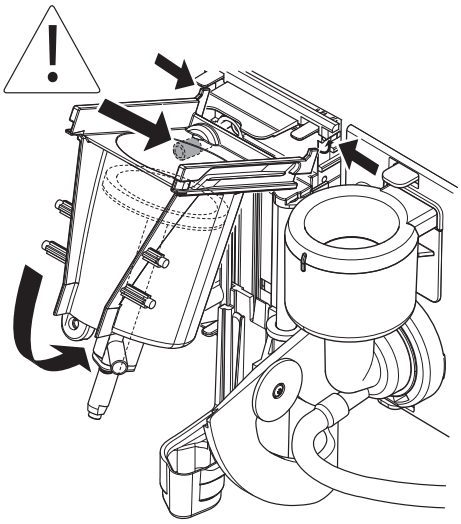


Fig. 67

4. screw the piston stem knur;

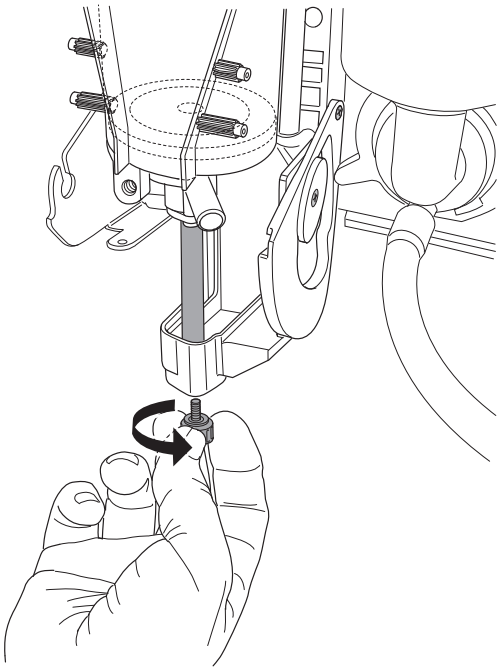


Fig. 68

5. screw the piston stem cover knurl

Attention!
It is absolutely necessary to reassemble the cover before setting the machine at work once again.

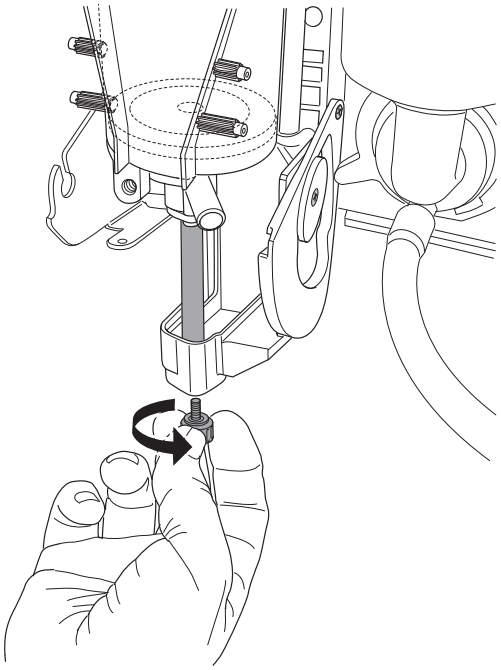


Fig. 69

6. connect the tube;

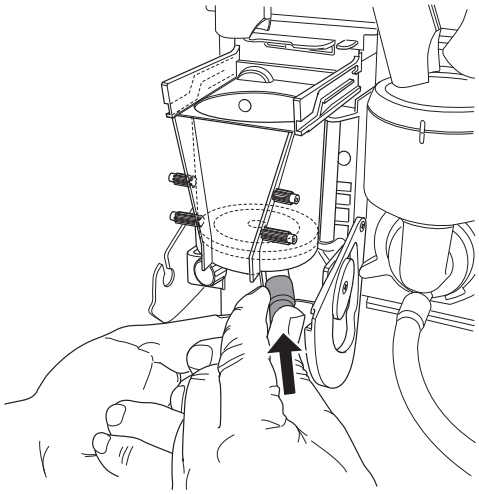


Fig. 70

7. hook the scraper on its support, insert the support into the lower guides;

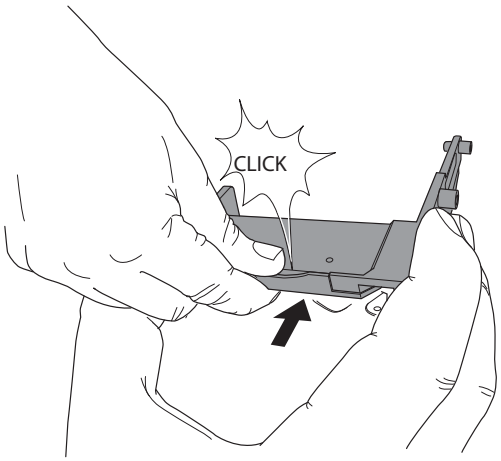


Fig. 71

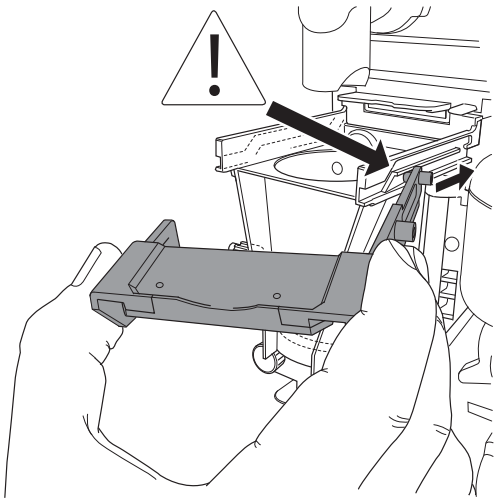


Fig. 72

8. push the scraper as far as the limit stop and put it back in its home position;

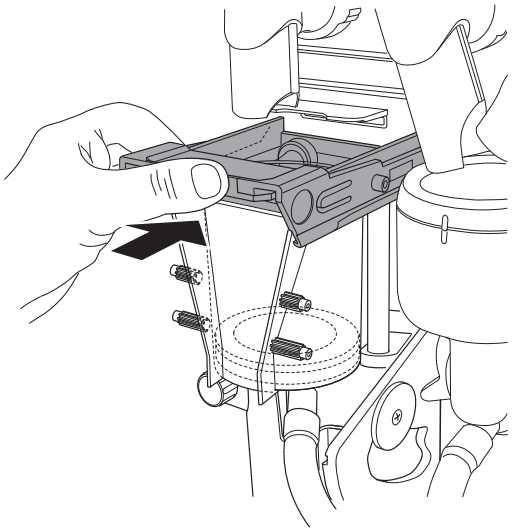


Fig. 73

9. hook the waste conveyor;

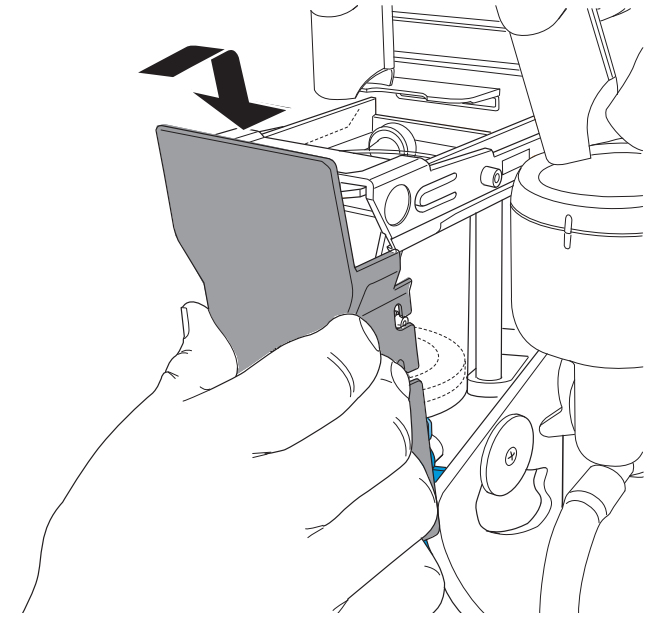


Fig. 74

10. wash the unit automatically.

The automatic repositioning of the tea brewer guarantees the correct position for the brew cycle.

Reset the counter managing the message "clean the tea brewer"

CUP DISPENSER

The cup dispenser is conceived in such a way that it can be easily disassembled for maintenance operations.

It is possible to disassemble every single column of the cup stacker and the cup release ring without making use of any tool, upon prior disassembly from the machine.

The cup release ring shall not be opened for normal cleaning.

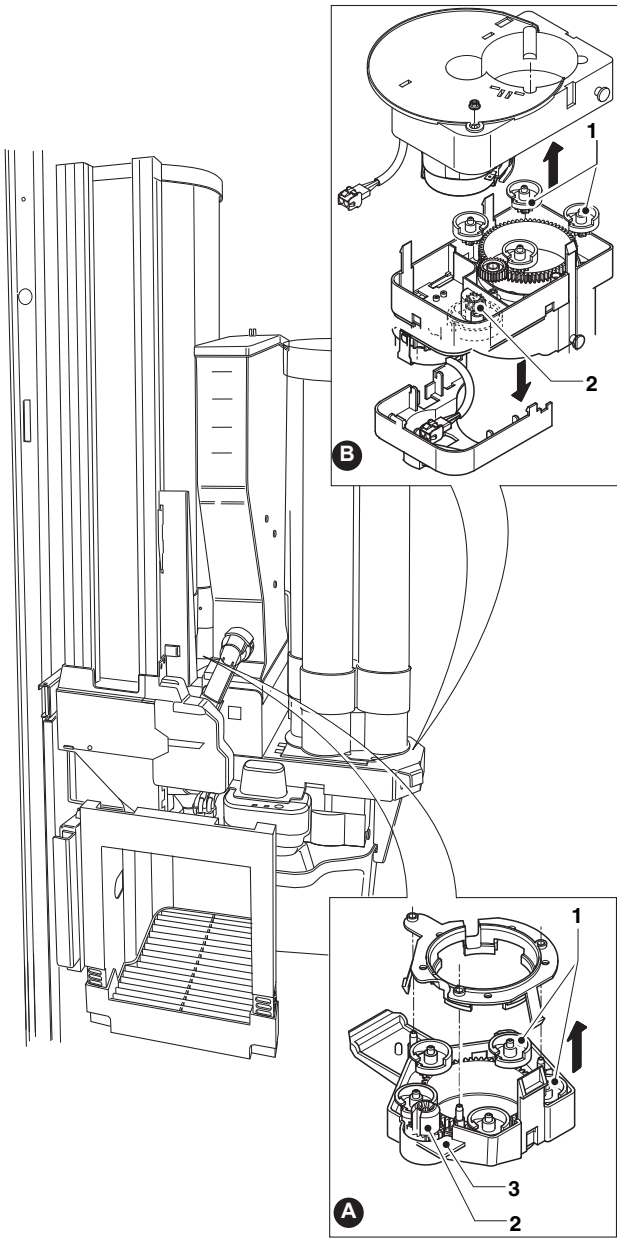


Fig. 75

A- primary cup dispenser
B- secondary cup dispenser
1. cup release scrolls
2. toothwheel activator
3. reference notch

If you are required to act, please follow the instructions here below at the time of reassembly:

- align the notch on the toothwheel microswitch activator gear with the scroll support arrow
- observe the orientation of scrolls as it is represented by the figure
- test the cup release to be sure that scrolls are positioned correctly

PRIMARY CUP DISPENSER 70/71 MM

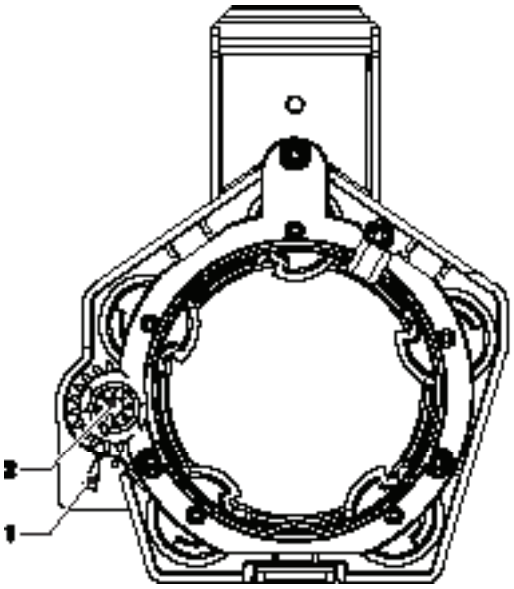


Fig. 76

1. toothwheel activator
2. reference notch

PRIMARY CUP DISPENSER 73/74 MM

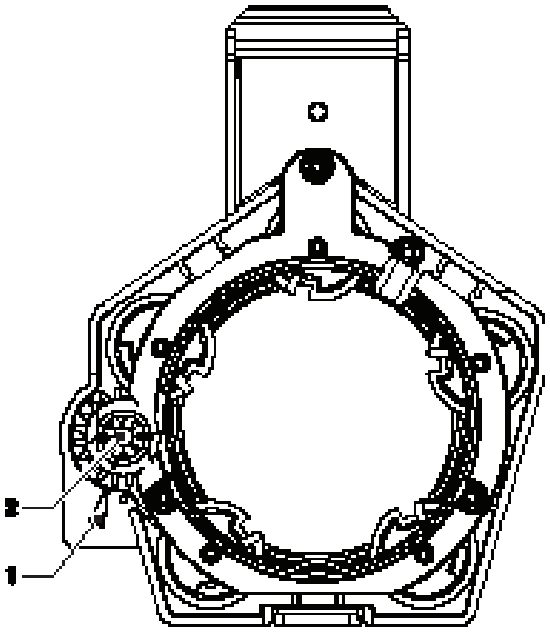


Fig. 77

1. toothwheel activator
2. reference notch

PRIMARY CUP DISPENSER 80/81 MM

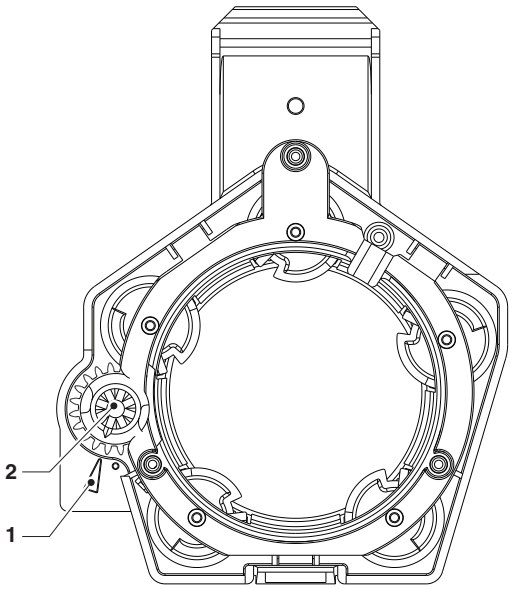


Fig. 78

1. toothwheel activator
2. reference notch

SECONDARY CUP DISPENSER 57 MM

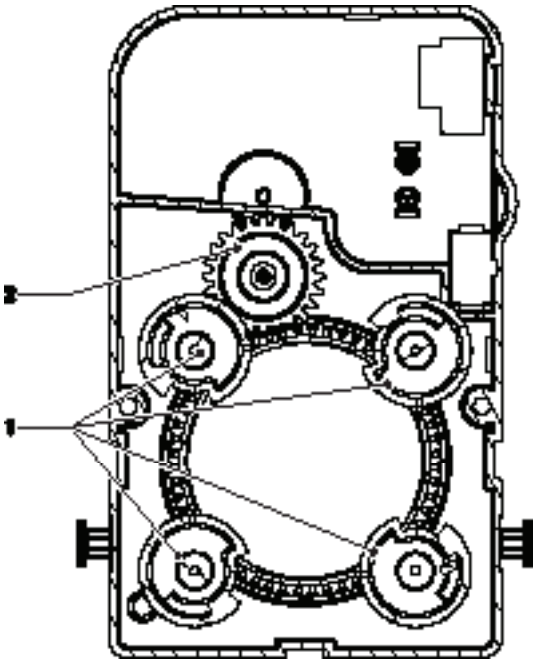


Fig. 79

1. scrolls
2. toothwheel activator

SECONDARY CUP DISPENSER 70/71 MM

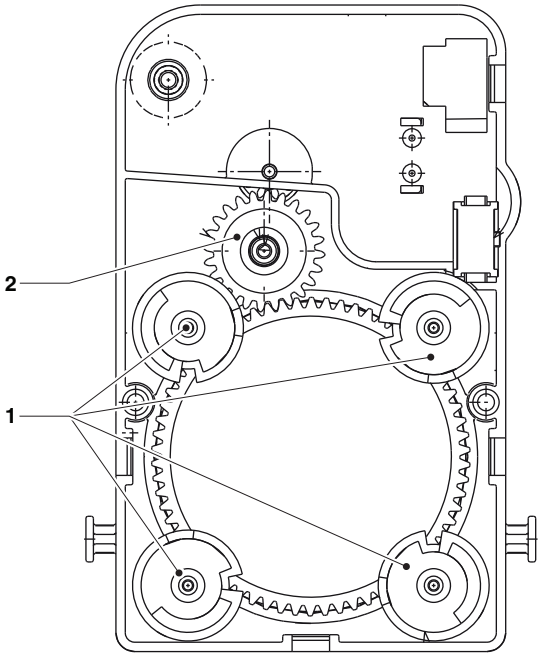


Fig. 80

1. scrolls
2. toothwheel activator

BOILER MAINTENANCE

Descale the boiler at regular intervals, according to the hardness of the network water and the number of selections you have performed.

This operation must be carried out by qualified technical personnel only.

To descale, remove the boiler from the machine.

To descale, use biodegradable, atoxic and non-aggressive products only.

Rinse abundantly before re-assembling the parts.

On re-assembling, make sure that:

- electrical contacts (terminals, faston, etc.) are perfectly dried and well-tightened;
- safety and anti-boil thermostats are properly positioned and connected;
- water connections are correct.

Important!!!

If the boiler heating system should work without water for any reason whatsoever, check the proper operation of the boiler temperature probe before setting the machine at work.

If dry heating should continue until the safety thermostat trips, the boiler temperature probe will be irreversibly damaged and must be necessarily replaced.

PUMP DISASSEMBLY

Pumps are secured to the cover by means of a bayonet connection.

To disassemble them:

- Detach the connector
- Turn the pump for forcing slightly to overcome the snap lock.

The direction of rotation is alternatively clockwise and counterclockwise.

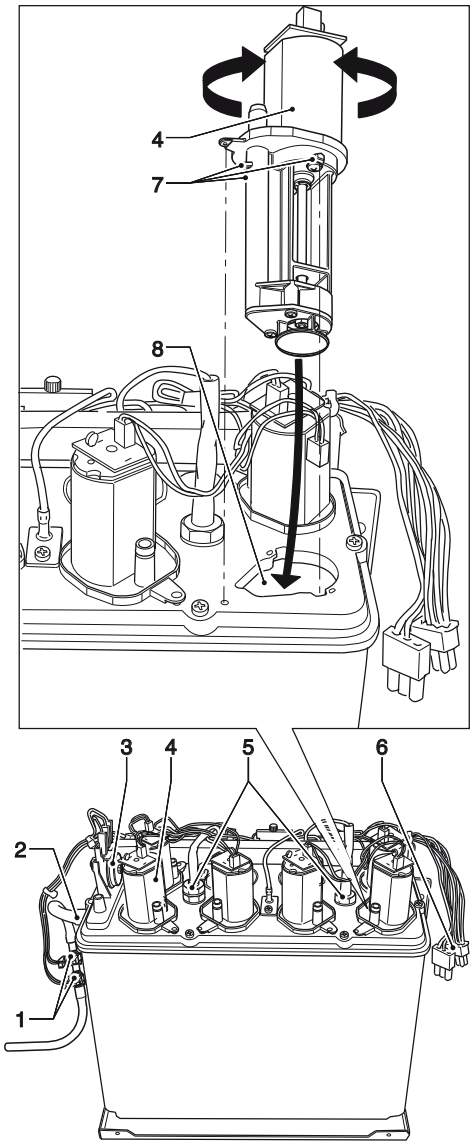


Fig. 81

1. Anti-boil thermostats (manually reset)
2. "overflow" tube
3. Safety thermostat (manually reset)
4. Dispensing pumps
5. Boiler heating element terminals
6. Boiler electric connectors
7. Bayonet connection
8. Seat for dispensing pumps

BOILER HEAT PROTECTION

In case of action check and remove the cause of the failure before restoring the thermostats manually.

INSTANT BOILER

Anti-boil thermostats (manually resettable) deactivate the boiler heating element as a result of a breakdown in the control system.

Anti-boil thermostats become active when steam is condensed in the overflow tube by way of boiling. Thermostats are set to act as soon as the temperature is above 80°C.

The safety thermostat (manually resettable) will deactivate the boiler heating element as a result of a breakdown in the temperature control system and the failure to act of anti-boil thermostats.

The safety thermostat will act (at a temperature above 105°C) to prevent the boiler from dry-heating.

ESPRESSO BOILER

The espresso boiler has got a contact safety thermostat that deactivates the boiler heating element whenever the boiler temperature should exceed 125°C.

To reset the safety thermostat, press the button on the thermostat.

Important!!!

If one of the safety thermostats should act, the boiler temperature probe will be irreparably damaged and you must necessarily provide for its replacement.

REPLACEMENT OF GRINDING WHEELS

(models with automatic grinding regulation only)

The function intended to check the grinding wheels will display the warning message “Grinding wheels worn out” as soon as you power on the machine when the grinding time is increasing more than 50% compared to the grinding time stored when the grinding wheels were new.

After having replaced the grinding wheels and reassembled the grinding wheel ring nut, use the function “New grinding wheels”. It is intended to reset the times you have stored and to store the new average initial grinding time you have measured during the first selections.

After having replaced the grinding wheels or the grinder, use the function “Grinding wheel test” before pouring coffee.

- If you confirm the test, grinding wheels come close to each other to touch.
- The machine will stop, waiting for confirmation.
- If you confirm once again, grinding wheels depart and rotate the grinding wheel ring nut by some turns.
- If you pour coffee and dispense some selections of reference, grinding will automatically become stable.

BOARD FUNCTION

CONFIGURATION OF ELECTRONIC BOARDS

The electronic boards are designed to be used on several equipment models.

If replaced or in order to change the machine performance, it will be necessary to check the configuration

of the boards and to download the corresponding software.

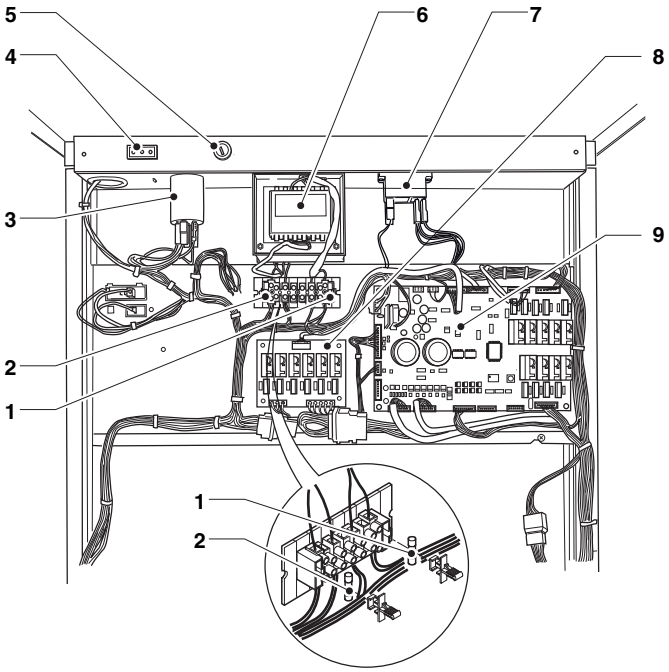


Fig. 82

1. *Transformer fuse*
2. *Transformer fuse*
3. *Interference suppressor*
4. *Socket* permanently live (2A max)
5. *Mains fuse*
6. *Transformer*
7. *Instant boiler heating activation relay*
8. *Expansion relay board*
9. *Actuation board*

C.P.U. BOARD

The C.P.U. (Central Process Unit) board can manage all the users arranged for the maximum configuration as well as the signals coming from the keyboard and the payment system. It can also manage the actuation board.

The LEDs can supply the following information during the operation:

- the green LED (26) is flashing on and off during the normal operation of the C.P.U. board;
- the yellow LED (28) will turn on when 5 Vdc is applied;
- the red LED (27) will turn on if the software is reset for any reason whatsoever.

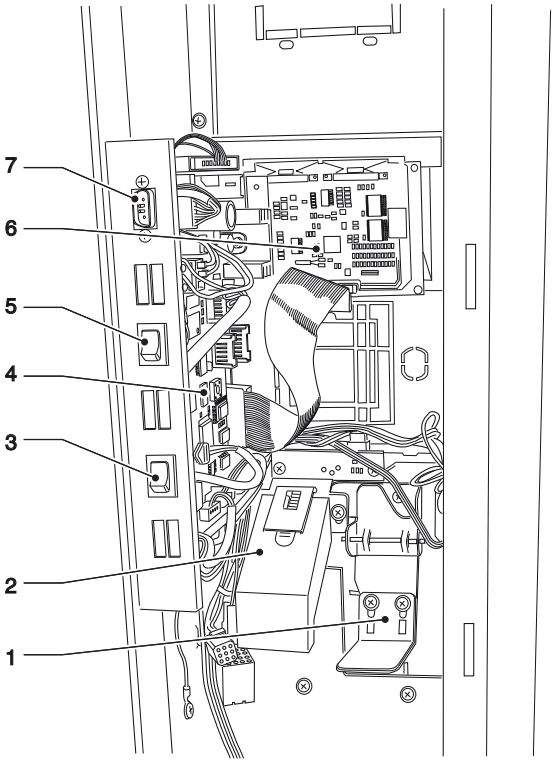


Fig. 83

1. *Coin return lever*
2. *Coin chute*
3. *"Programming" button*
4. *C.P.U. board*
5. *Mixer wash button*
6. *Display board*
7. *RS232 connector*

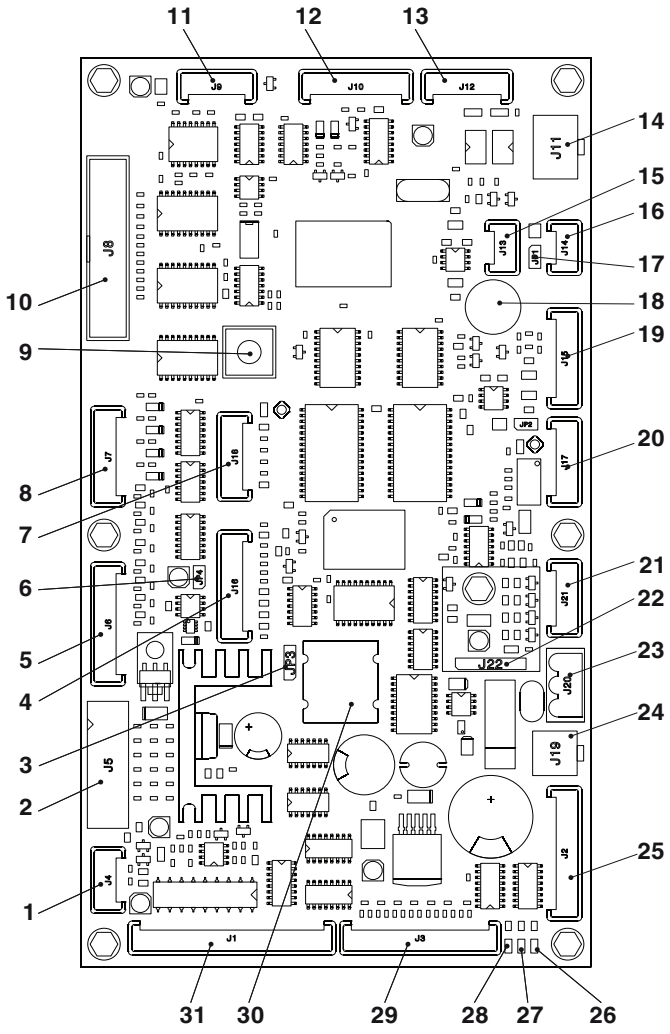


Fig. 84

1. Door micro switch (optional)
2. Validators
3. Battery jumper (2-3)
4. To the button/LED board
5. Not used
6. JP4 WDI jumper (closed)
7. Up-key
8. Numeric selection keyboard (optional)
9. SW1 programming button
10. Graphical display
11. not used
12. RS232 serial port
13. EXE/BDV payments
14. MDB payments
15. Can-Bus
16. Can-Bus
17. JP1 Can-Bus jumper (closed)
18. Buzzer
19. Not used
20. Not used
21. Not used
22. RAM data expansion (optional)
23. 34Vdc power supply
24. Door lighting connection
25. Lighted path and counter
26. DL3 “RUN” green Led
27. DL2 “RESET” red Led
28. DL1 “+5V” yellow Led
29. To the external programming and washing button
30. Battery
31. Not used

SOFTWARE UPDATE

The machine is equipped with Flash EPROM’s that can be electrically rewritten.

Use a proper program and system (personal computer or hand-held computer) to rewrite the machine management software without replacing the EPROM’s.

PRE-PROGRAMMING

After having loaded the software, use the new board to define which type of keyboard to use before initialising or programming the various parameters.

To access the pre-programming function (keyboard choice), act as follows:

- Press and hold down the programming button SW1 while powering on the machine.
- When the display shows the blinking message, release the button.
- Press and hold down the SW1 button for 2 seconds until you hear a "long" sound signal
- Press SW1 briefly to scroll the list of all available keyboards.
- Press and hold down the SW1 button for 2 secondto store
- Now, you can start initialising the machine.

ACTUATION BOARD

This board is intended to activate the users through relays and the direct current motors directly. Moreover, it can manage the signals from the cams and/or microswitches on the various users.

The board is supplied at 24Vac.

The software intended to manage the board is directly loaded onto the microprocessor (by means of RS232)

- The green LED 3 (27) is flashing on and off during the normal operation of the board
- The green LED 6 (33) is signalling that 5 Vdc is applied
- The red LED 4 (19) is on during the reset of the board
- The red LED 2 (8) is signalling the operation status of the espresso boiler heating element
- The red LED 1 (9) is signalling the operation status of the instant boiler heating element
- The green LED 8 (29) shows the volumetric counter pulses (if mounted)
- The green LED 5 (5) is signalling that 34 Vdc is applied
- The green LED 7 (24) is signalling that 34 Vdc is regulated and applied

RELAY FUNCTION (see the wiring diagram)

RL1 = PM
RL2 = MAC2
RL3 = ESC2
RL4 = ESC
RL5 = ER
RL6 = MAC
RL7 = EEA
RL8 = not used
RL9 = MSB
RL10 = MSCB

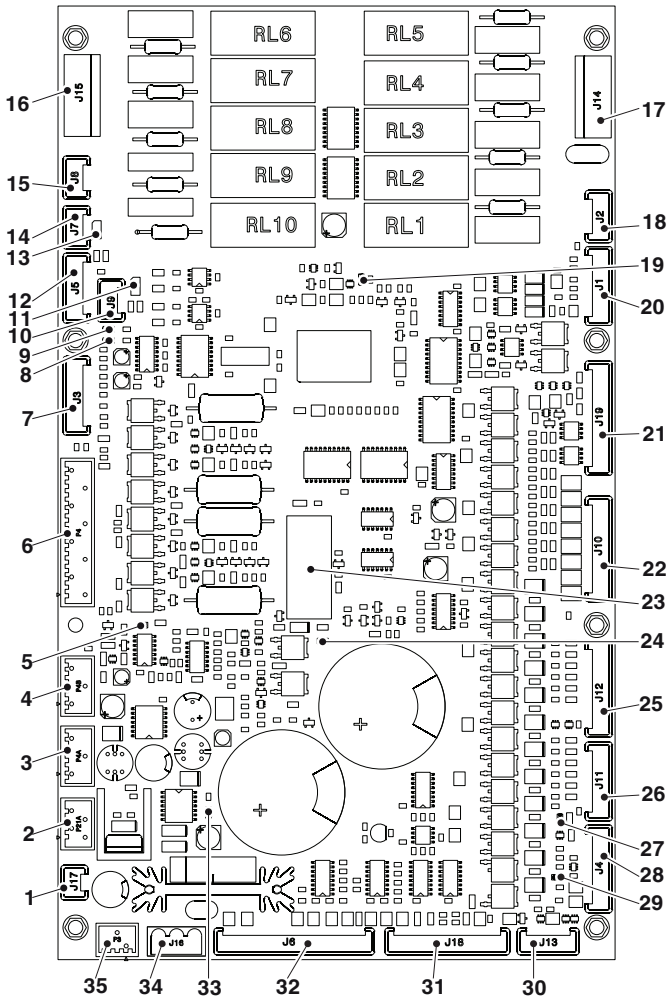


Fig. 85

1. Vapour suction
2. 34 Vdc safety relay coil
3. 34 Vdc power supply to the CPU
4. 34 Vdc power supply to the CPU
5. LED 5
6. Z4000 unit
7. To the relay expansion board
8. LED 2
9. LED 1
10. Not used
11. Not used
12. Boiler and temperature probe control boards
13. JP1 Can-Bus jumper (closed)
14. CAN bus
15. CAN bus
16. Users
17. Users
18. Not used
19. LED 4
20. Not used
21. 24 V input and output
22. Ingredient motors
23. 34 Vdc safety relay
24. LED 7
25. Whipper motors
26. Solenoid valves
27. LED 3
28. Board programming connector (RS232)
29. LED 8
30. Not used
31. Input
32. Input
33. LED 6
34. 24 Vac power supply
35. Not used

ESPRESSO BOILER CONTROL BOARD

The board is intended to control the trip of the espresso boiler heating element.

The board is arranged on the espresso shelf.

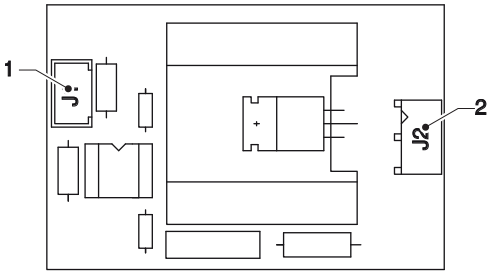


Fig. 86

1. To the actuation board
2. Connector to the boiler heating element

INSTANT BOILER CONTROL RELAY

This relay is intended to control the trip of the instant boiler heating element.

RELAY EXPANSION BOARD

It is an expansion board intended to activate some 230 V users through relays.

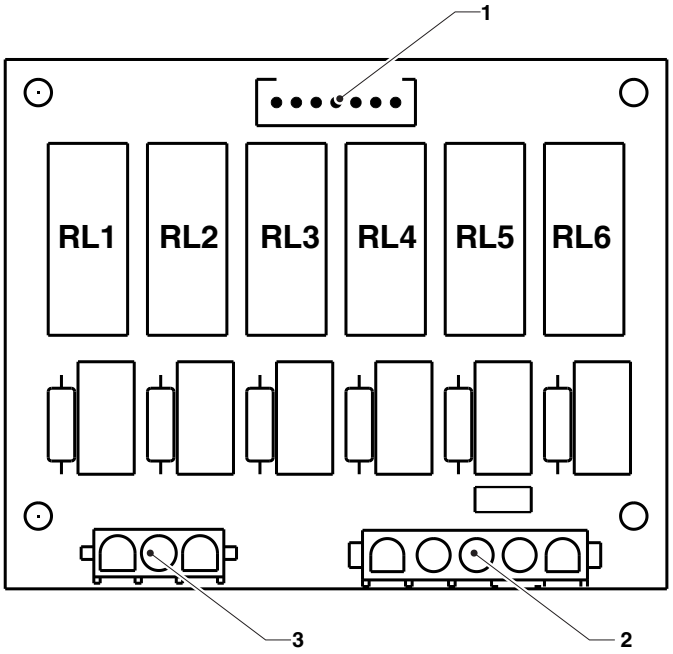


Fig. 87

1. To the actuation board (J1)
2. Users (J2)
3. Not used (J3)

RELAY FUNCTION (see the wiring diagram)
RL1 = not used
RL2 = not used
RL3 = MSB2
RL4 = MSCB2
RL5 = not used
RL6 = not used

CURRENT REGULATOR BOARD

The current regulator board will supply lighting LEDs by means of direct current.

The board will provide for the constant brightness of aesthetic panels.

The board is arranged at the bottom of the coin mechanism compartment.

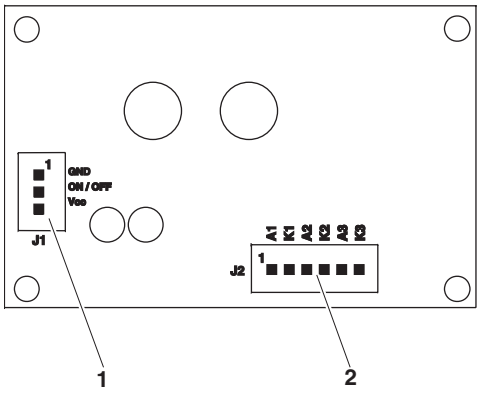


Fig. 88

1. To the CPU board
2. To the lighting LED's

COMPARTMENT LIGHTING BOARD

The board directly supplies the LED intended to light the dispensing compartment.

The board is arranged in the compartment where the cup sensor is placed.

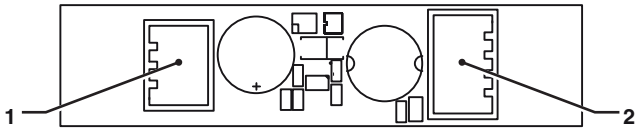
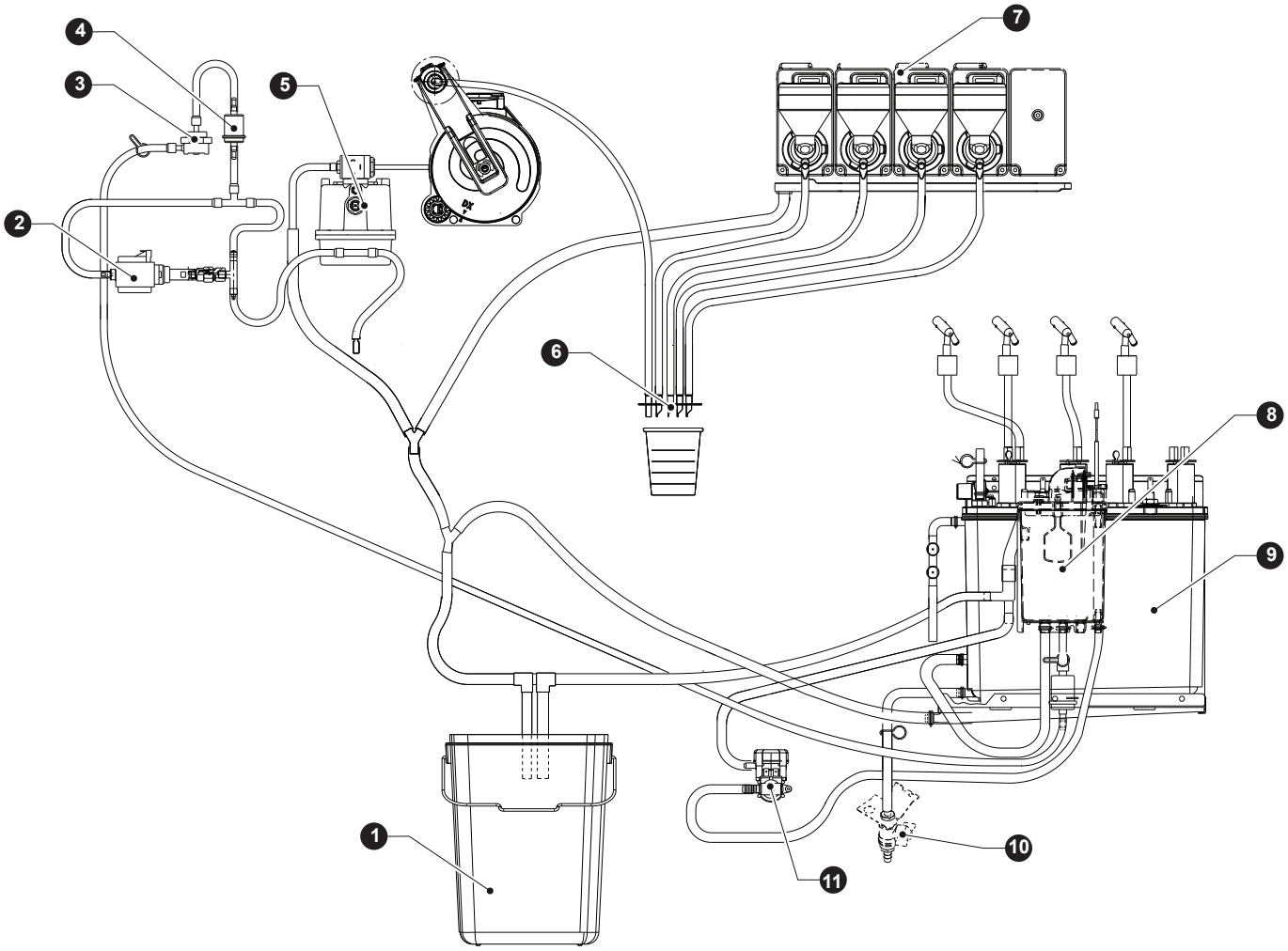


Fig. 89

1. To the actuation board
2. To the compartment lighting Led's

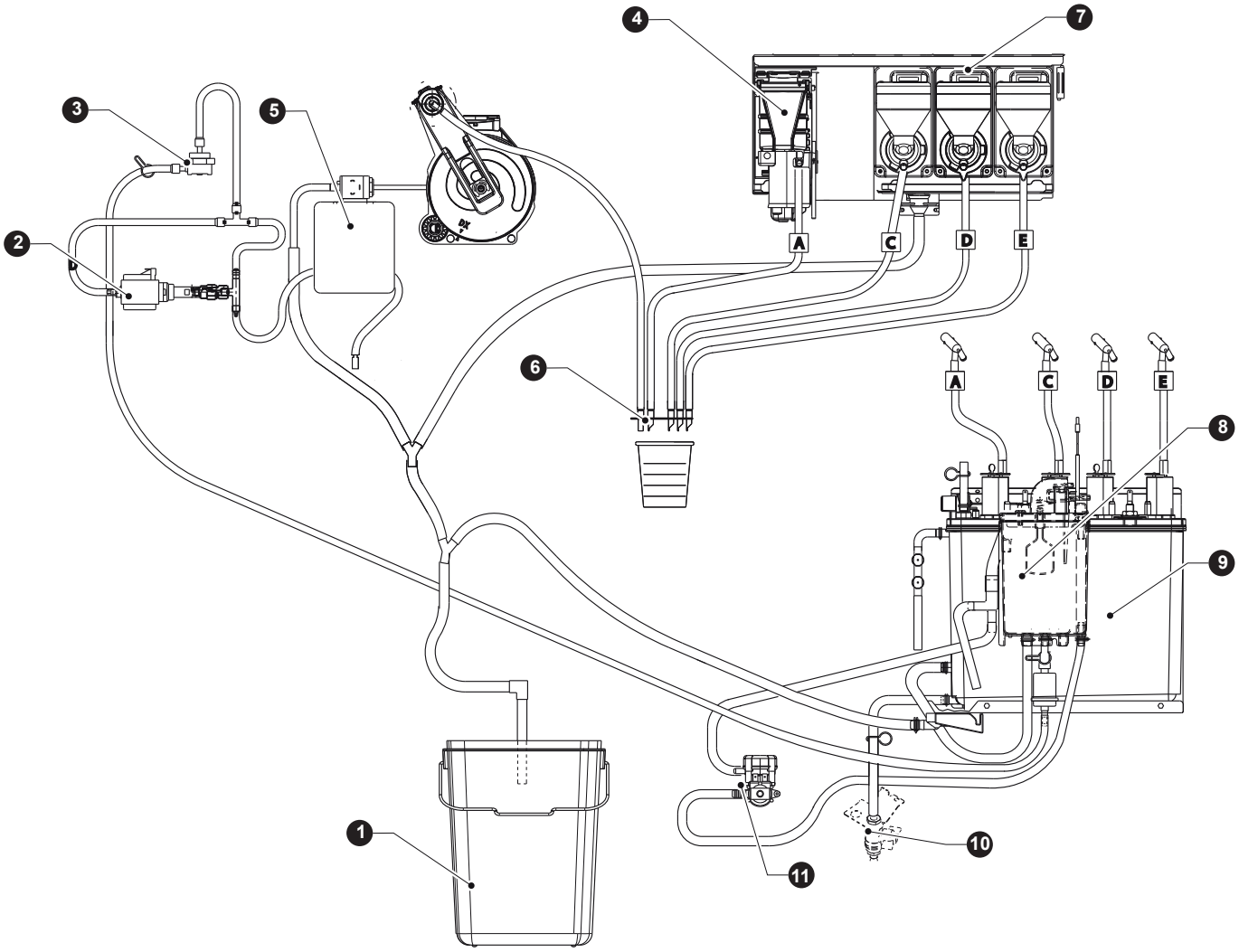
Appendix

HYDRAULIC CIRCUIT



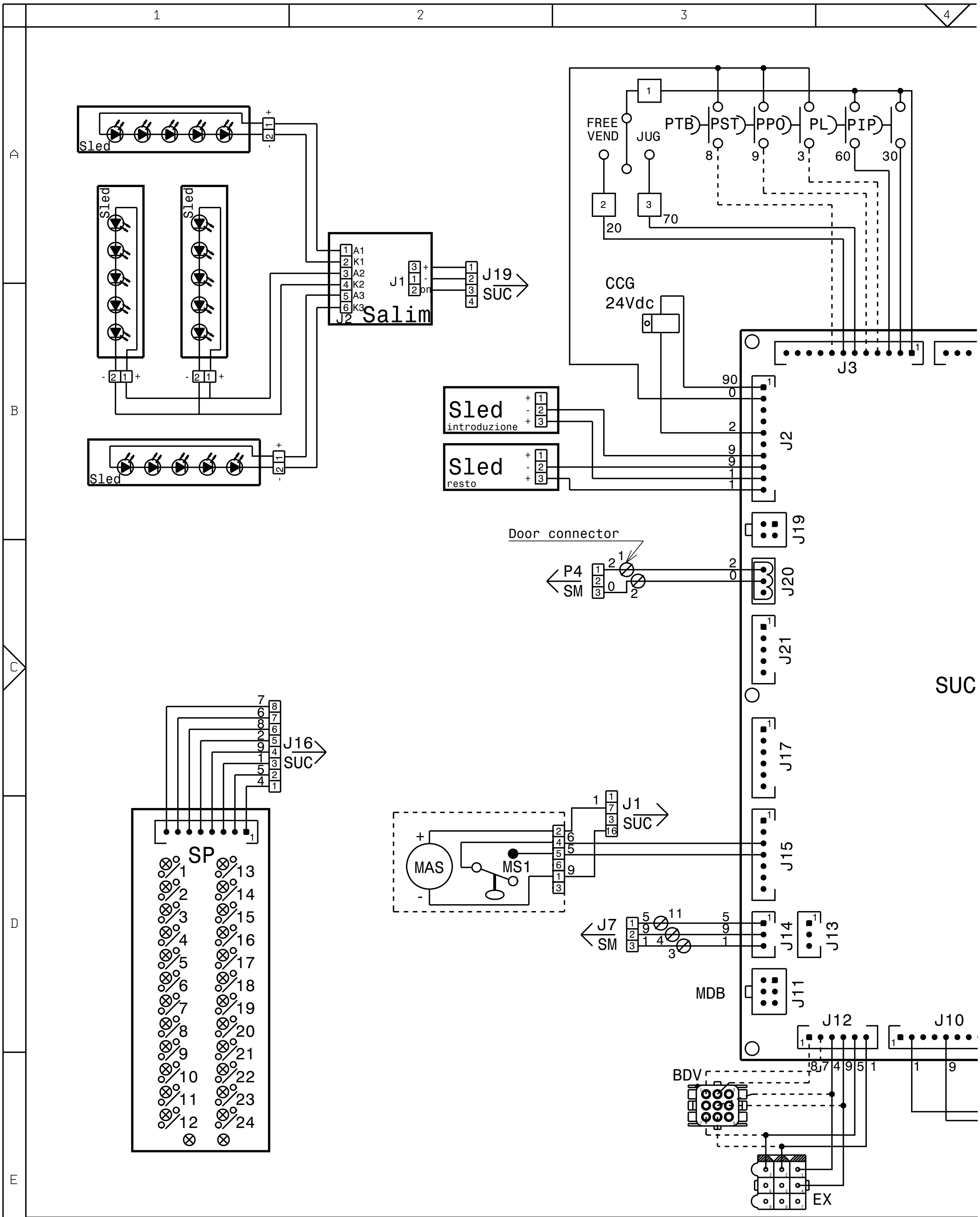
1. LIQUID WASTE BUCKET
2. COFFEE PUMP
3. VOLUMETRIC COUNTER
4. DAMPENING FILTER
5. ESPRESSO BOILER
6. DISPENSING NOZZLES
7. MIXER
8. AIR-BREAK
9. INSTANT BOILER
10. HOT WATER COCK (OPTIONAL)
11. WATER INLET SOLENOID VALVE

WATER CIRCUIT VERSION WITH TEA BREWER



1. LIQUID WASTE BUCKET
2. COFFEE PUMP
3. VOLUMETRIC COUNTER
4. TEA BREWER
5. ESPRESSO BOILER
6. DISPENSING NOZZLES

7. MIXER
8. AIR-BREAK
9. INSTANT BOILER
10. HOT WATER COCK (OPTIONAL)
11. WATER INLET SOLENOID VALVE



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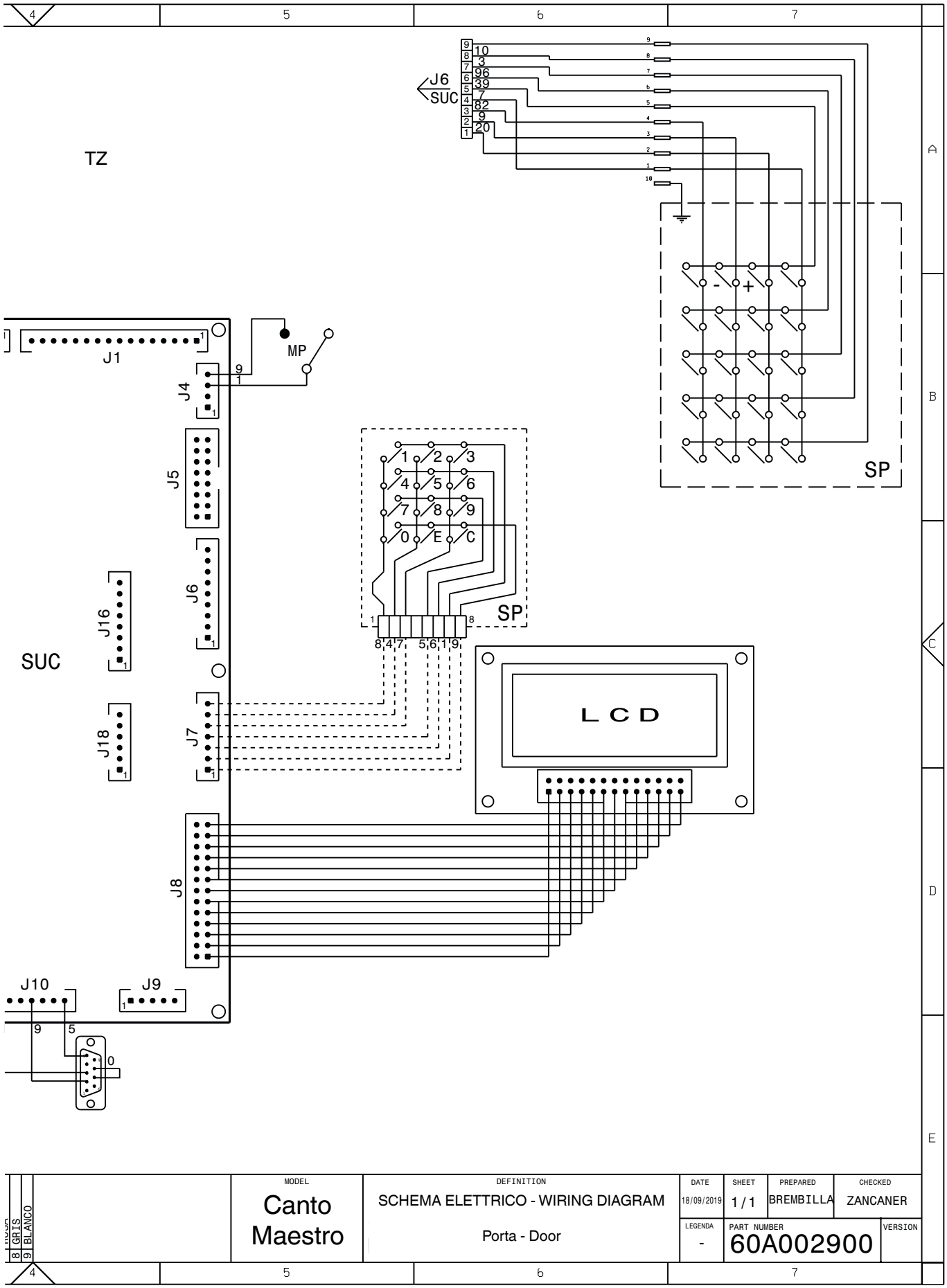
0	NERO	BLACK	NOIR	SCHWARZ	NEGRO
1	MARRONE	BROWN	MARRON	BRAUN	MARRON
2	ROSSO	RED	ROUGE	ROT	ROJO
3	ARANCIO	ORANGE	ORANGE	ORANGE	NARANJA
4	GIALLO	YELLOW	JAUNE	GELB	AMARILLO
5	VERDE	GREEN	VERT	GRUEN	VERDE
6	BLU AZZURRO	BLUE LIGHT BLUE	BLEU BLEU CIEL	BLAU HELLBLAU	OSCURO AZUL CLARO
7	ROSA VIOLA	PINK VIOLET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

1 SX 6085 487 01 2 3 4

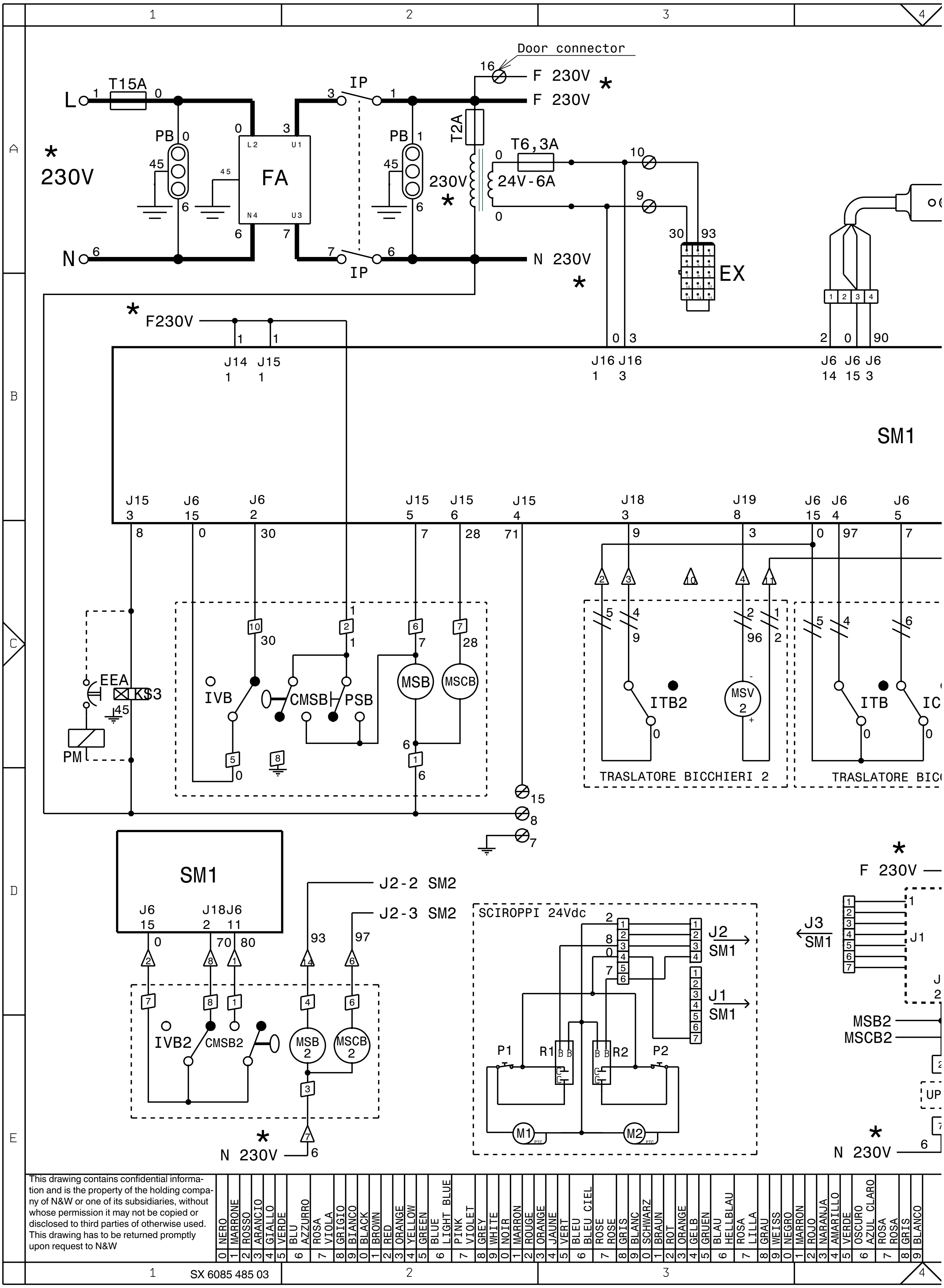
BDV *BDV COIN MECH CONNECTOR*
CCG *GENERAL COUNTER*
DOOR *DOOR CONNECTOR*
EX *EXECUTIVE COIN MECH CONNECTORS*
FREE *FREE VEND SWITCH*
JUG *JUG FACILITIES SWITCH*
LCD *LIQUID CRYSTAL DISPLAY*
MDB *MDB COIN MECH CONNECTOR*
MP *OPEN DOOR SIGNALLING MICRO*
PIP *PROGRAMMING BUTTON*



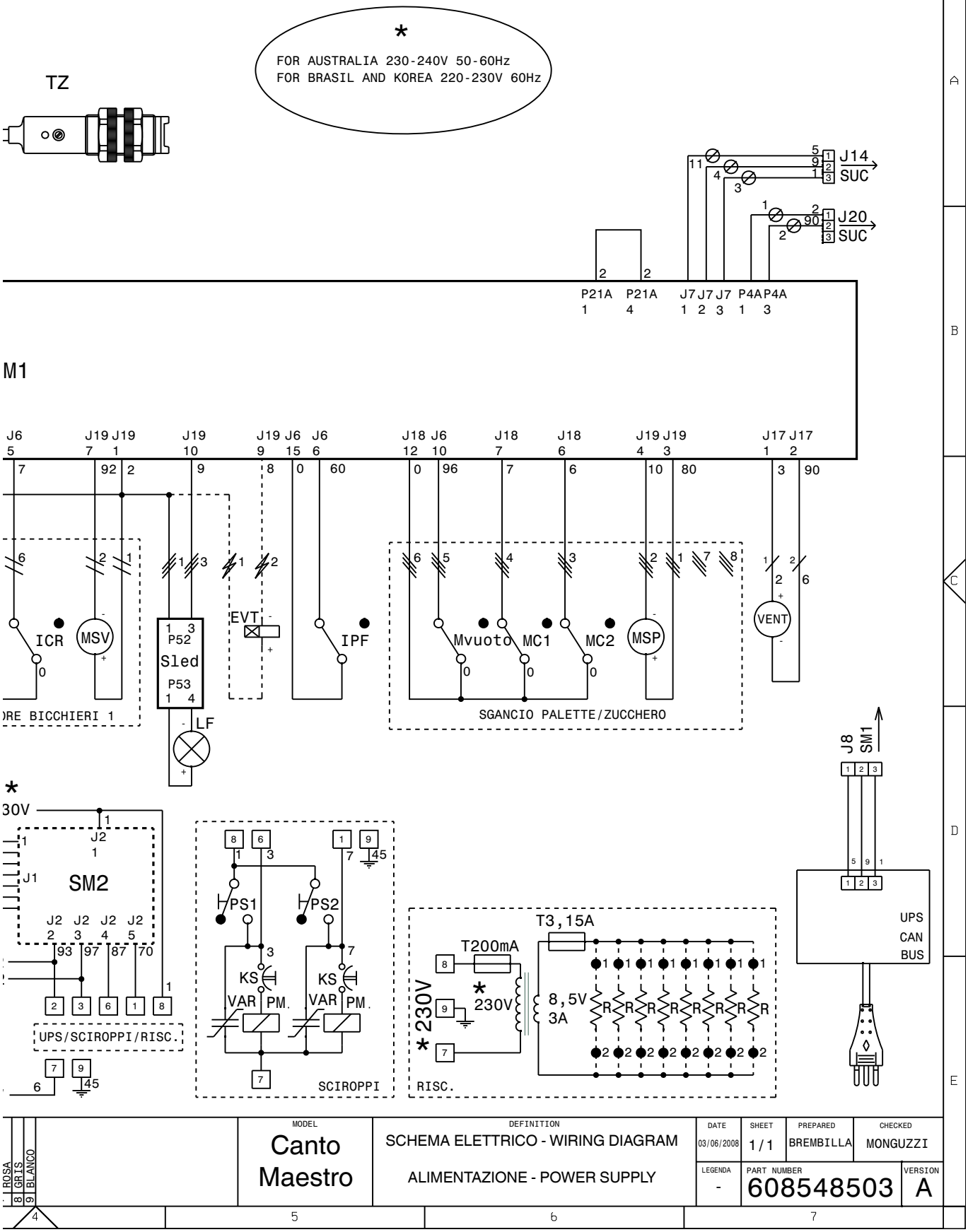
8 GRIS 9 BLANCO	MODEL Canto Maestro	DEFINITION SCHEMA ELETTRICO - WIRING DIAGRAM Porta - Door	DATE 18/09/2019	SHEET 1 / 1	PREPARED BREMBILLA	CHECKED ZANCANER
			LEGENDA -	PART NUMBER 60A002900		VERSION

PL *WASHING BUTTON*
PPO *"PRIMING" BUTTON*
PST *STATISTICS BUTTON*
PTB *CUPS SHIFTER BUTTON*

RS232 *SERIAL PORT*
SALIM *POWER SUPPLY UNIT BOARD*
SLED *LED BOARD*
SUC *C.P.U. BOARD*



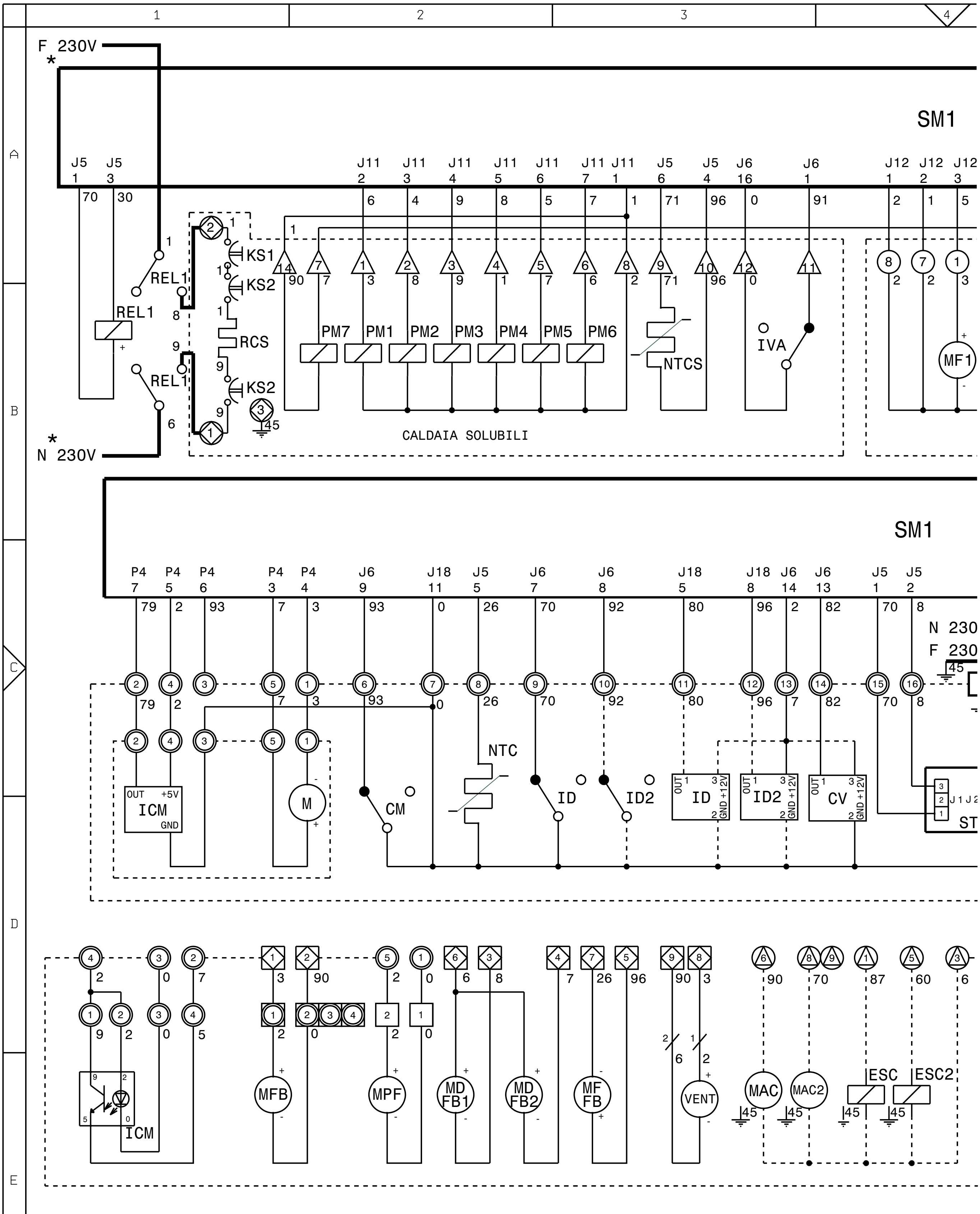
230 V	*TRANSFORMER*
CMSB	*CUP RELEASE MOTOR CAM*
DOOR	*DOOR CONNECTOR*
EEA	*WATER INLET SOLENOID VALVE*
EVT	*TANK SOLENOID VALVE*
EX	*EXECUTIVE COIN MECH CONNECTORS*
FA	*RADIO INTERFERENCE SUPPRESSOR*
ICR	*DRIP COVER SWITCH*
IP	*DOOR SWITCH*
IPF	*FULL WASTE SWITCH*
ITB	*CUP SHIFT ARM SWITCH*
IVB	*EMPTY CUP SWITCH*
KS1-2	*SAFETY CUTOUT*
KS3-4	*PUMP SAFETY CUTOUT*
LF	*LAMP*
MC1-..	*STIRRER COLUMN MICRO*
MSB	*CUP RELEASE MOTOR*



MODEL	DEFINITION	DATE	SHEET	PREPARED	CHECKED
Canto Maestro	SCHEMA ELETTRICO - WIRING DIAGRAM	03/06/2008	1 / 1	BREMBILLA	MONGUZZI
	ALIMENTAZIONE - POWER SUPPLY	LEGENDA -	PART NUMBER 608548503		VERSION A

7	ROSA
8	GRIS
9	BLANCO

MSCB	*CUP COLUMN SHIFT MOTOR*
MSP	*STIRRER RELEASE MOTOR*
MSV	*TRAY SHIFT MOTOR*
MVUOTO	*EMPTY STIRRER MICRO*
PB	*POWER SUPPLY SOCKET*
PM	*PUMP*
PS1-..	*SYRUP BUTTON*
PSB	*CUP RELEASE BUTTON*
R	*HEATING ELEMENT*
SLED	*LED BOARD*
SM1	*CONTROL BOARD*
SM2	*EXPANSION BOARD*
TZ	*CUP SENSOR*
UPS	*COLD UNIT BOARD*
VAR	*VARISTOR*
VENT	*FAN*



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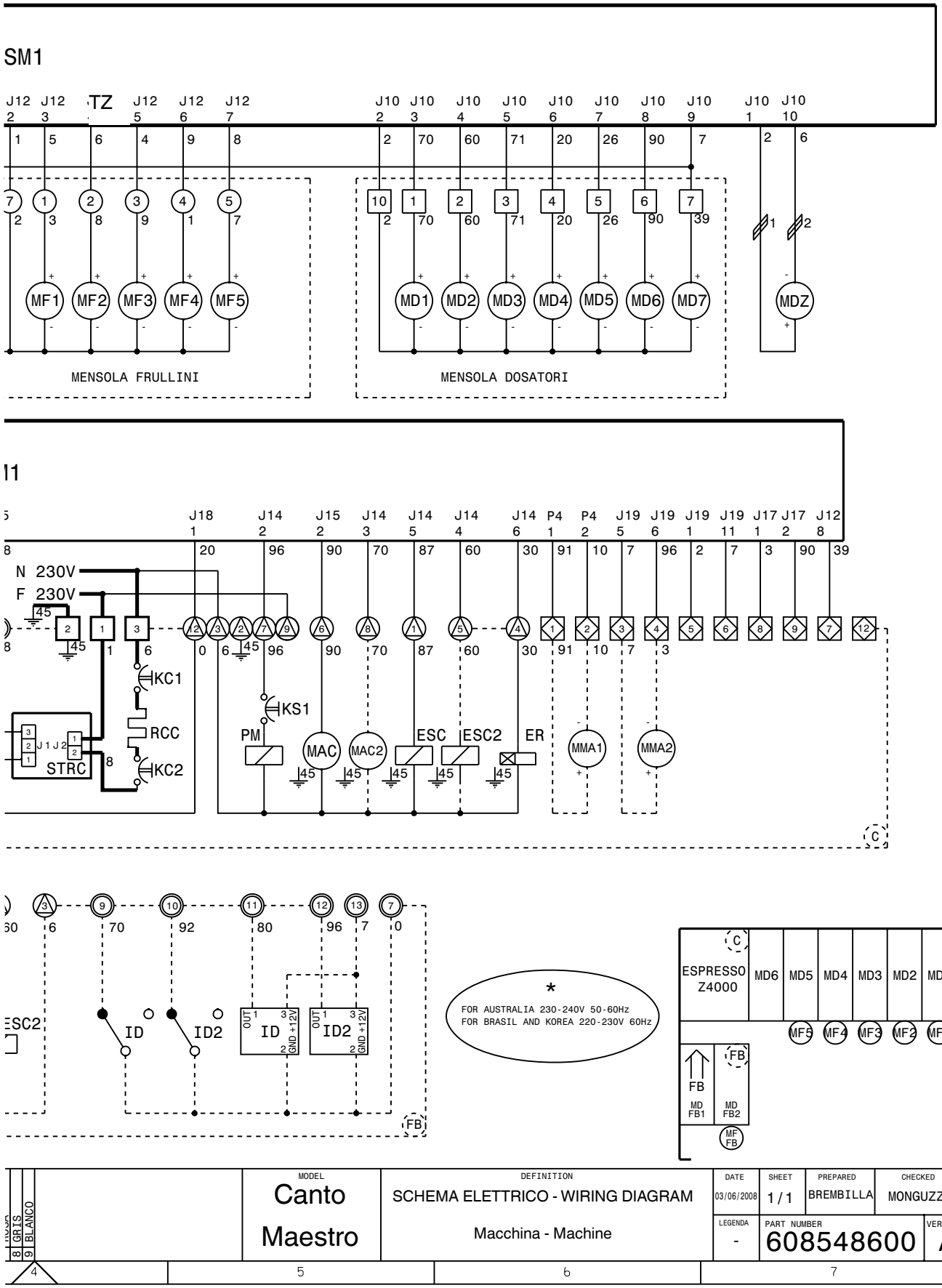
4	GIALLO	YELLOW	JAUNE	GELB	AMARILLO
5	VERDE	GREEN	VERT	GRUEN	VERDE
6	BLU AZZURRO	BLUE LIGHT BLUE	BLEU BLEU CIEL	BLAU HELLBLAU	OSCURO AZUL CLARO
7	ROSA VIOLA	PINK VIOLET	ROSE ROSE	ROSA LILLA	ROSA ROSA
8	GRIGIO	GREY	GRIS	GRAU	GRIS
9	BIANCO	WHITE	BLANC	WEISS	BLANCO

1 SX 6085 486 00 2 3 4

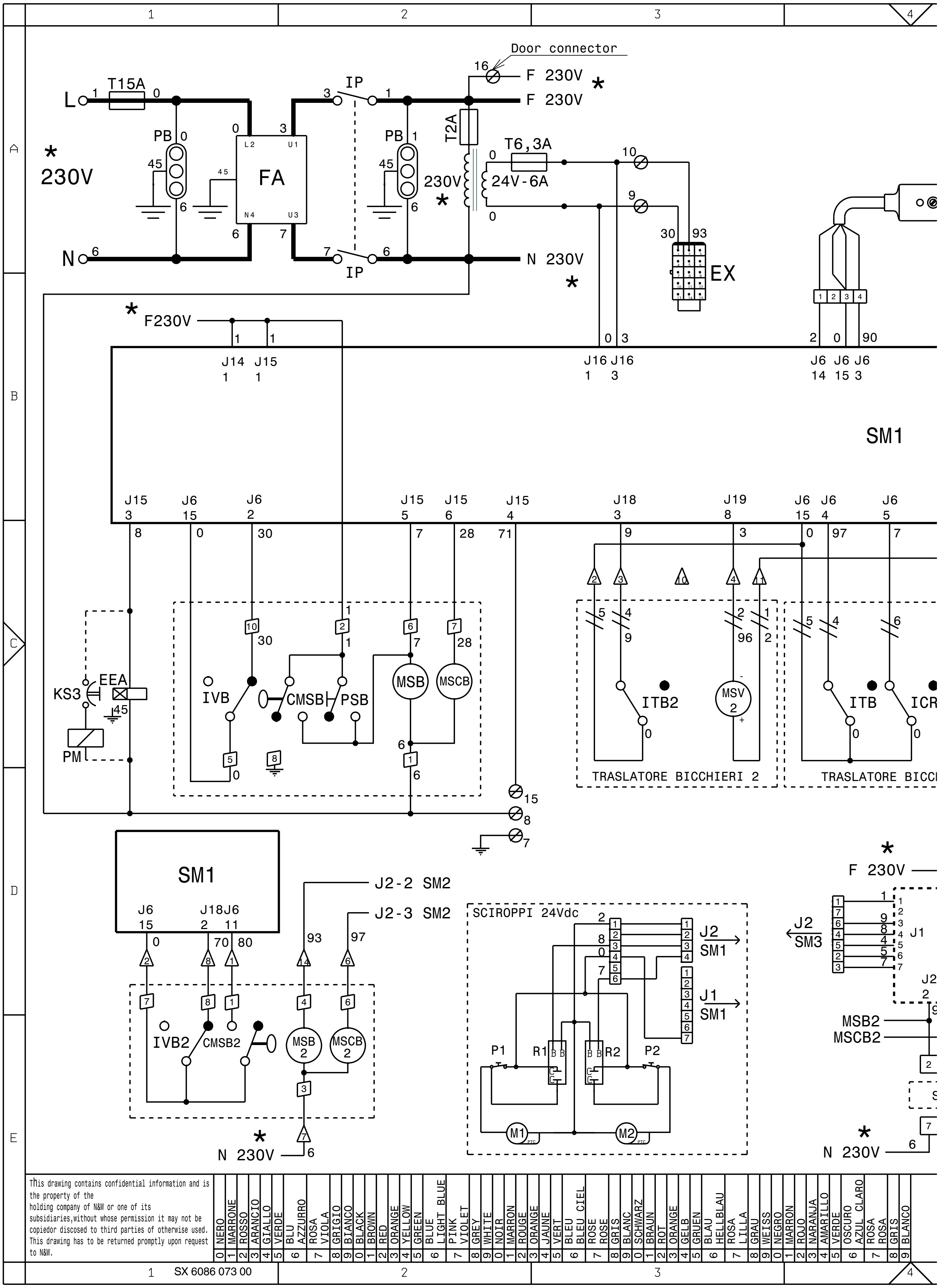
CM	*MOTOR CAM*
CV	*VOLUMETRIC COUNTER*
ER	*COFFEE DISPENSING SOLENOID VALVE*
ESC1-.	*COFFEE RELEASE ELECTROMAGNET*
ICM	*MOTOR CONTROL SWITCH*
ID1-..	*COFFEE DOSE SWITCH*
IVA	*EMPTY WATER SWITCH*
KC1-..	*COFFEE BOILER CUTOUT*
KS1-2	*SAFETY CUTOUT*
M	*COFFEE UNIT MOTOR*
MAC1-.	*COFFEE GRINDER*
MD1-..	*INGREDIENT MOTORS*
MDZ	*SUGAR INGREDIENT MOTOR*
MF1-..	*WHIPPER MOTORS*



MODEL: Canto Maestro	DEFINITION: SCHEMA ELETTRICO - WIRING DIAGRAM Macchina - Machine	DATE: 03/06/2008	SHEET: 1 / 1	PREPARED: BREMBILLA	CHECKED: MONGUZZI	
		LEGENDA: -	PART NUMBER: 608548600		VERSION: A	

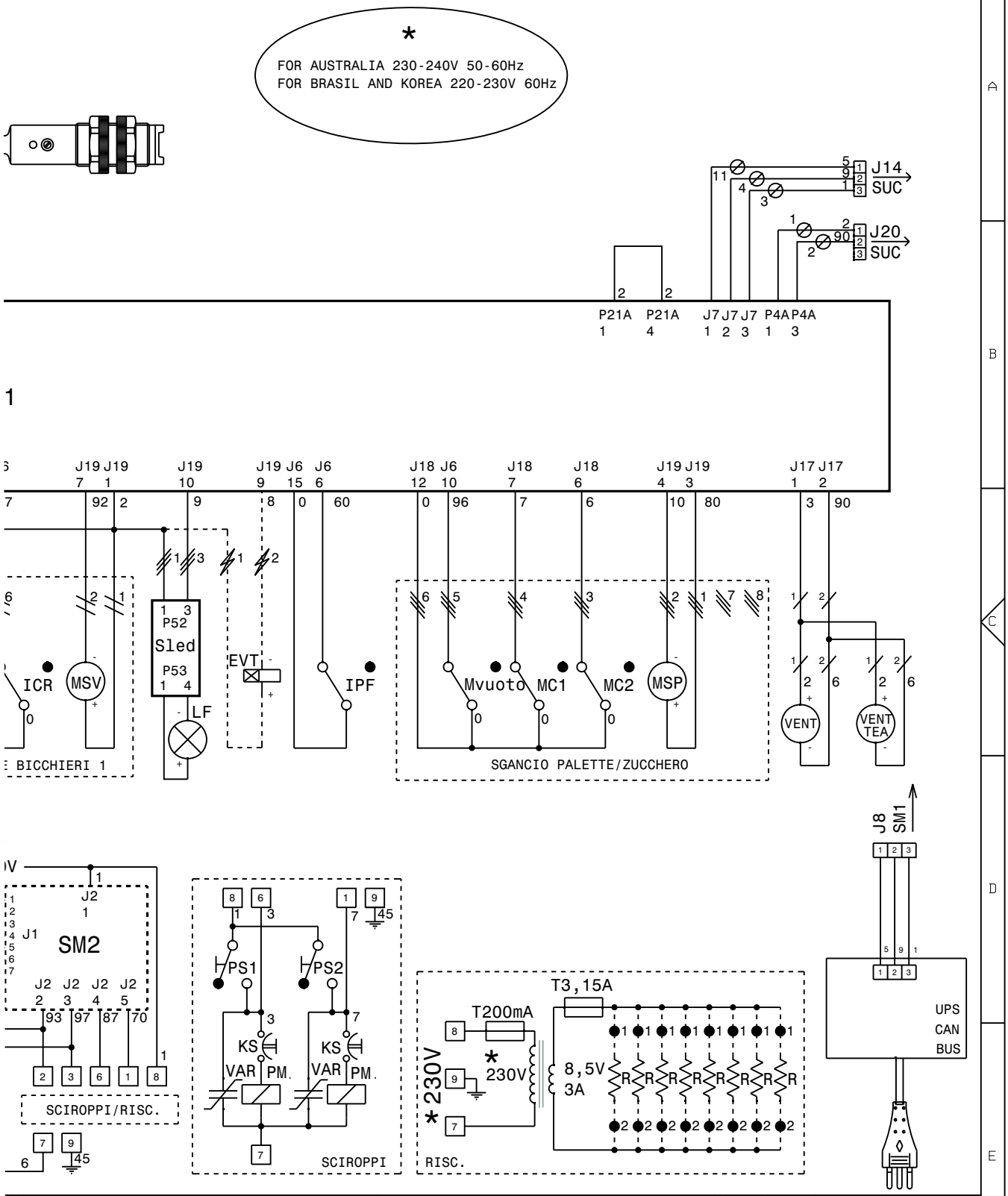
8 GRIS
9 BLANCO

MFB *FRESH-BREW MOTOR*
MMA1-. *GRINDER ADJUSTING MOTOR*
MPF *PRESH BREW PISTON MOTOR*
NTC *TEMPERATURE PROBE*
NTCS *INSTANT BOILER TEMPERATURE PRO*
PM *PUMP*
PM1-.. *WATER PUMP*
RCC *COFFEE BOILER HEATING ELEMENT*
RCS *INSTANT BOILER HEATING ELEMENT*
REL1-. *RELAY*
SALIM *POWER SUPPLY UNIT BOARD*
SM1 *CONTROL BOARD*
STRC *BOILER HEATING TRIAC BOARD*
VENT *FAN*



CMSB1- CUP RELEASE MOTOR CAM
EEA WATER INLET SOLENOID VALVE
EVT TANK SOLENOID VALVE
EX EXECUTIVE COIN MECH CONNECTORS
FA RADIO INTERFERENCE SUPPRESSOR
ICR DRIP COVER SWITCH
IP DOOR SWITCH
IPF FULL WASTE SWITCH
ITB1-. CUP SHIFT ARM SWITCH

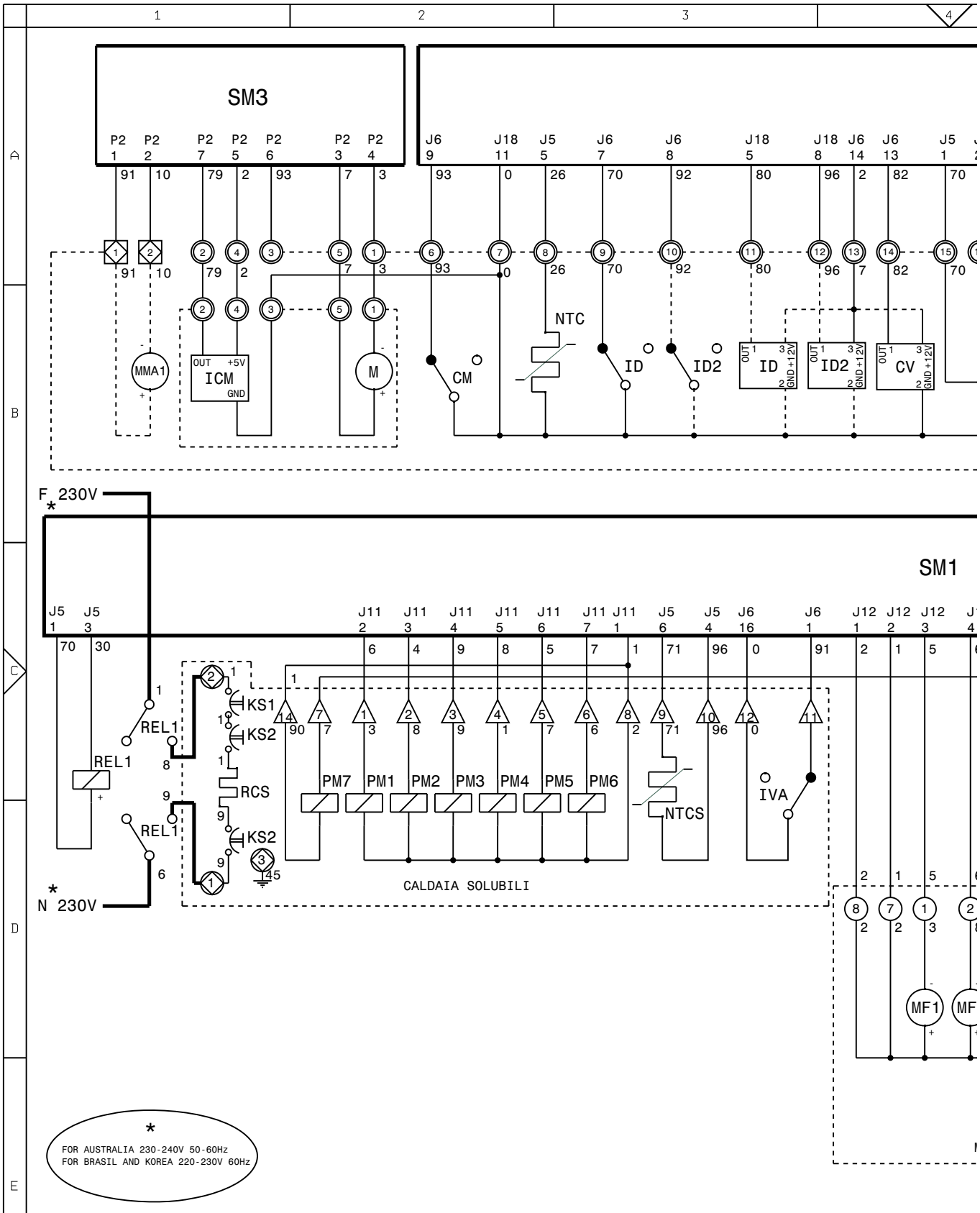
IVB1-. EMPTY CUP SWITCH
KS1-.. SAFETY CUTOUT
LF LAMP
MC1-.. STIRRER COLUMN MICRO
MSB1-. CUP RELEASE MOTOR
MSCB CUP COLUMN SHIFT MOTOR
MSP STIRRER RELEASE MOTOR
MSV TRAY SHIFT MOTOR
MVUOTO EMPTY STIRRER MICRO



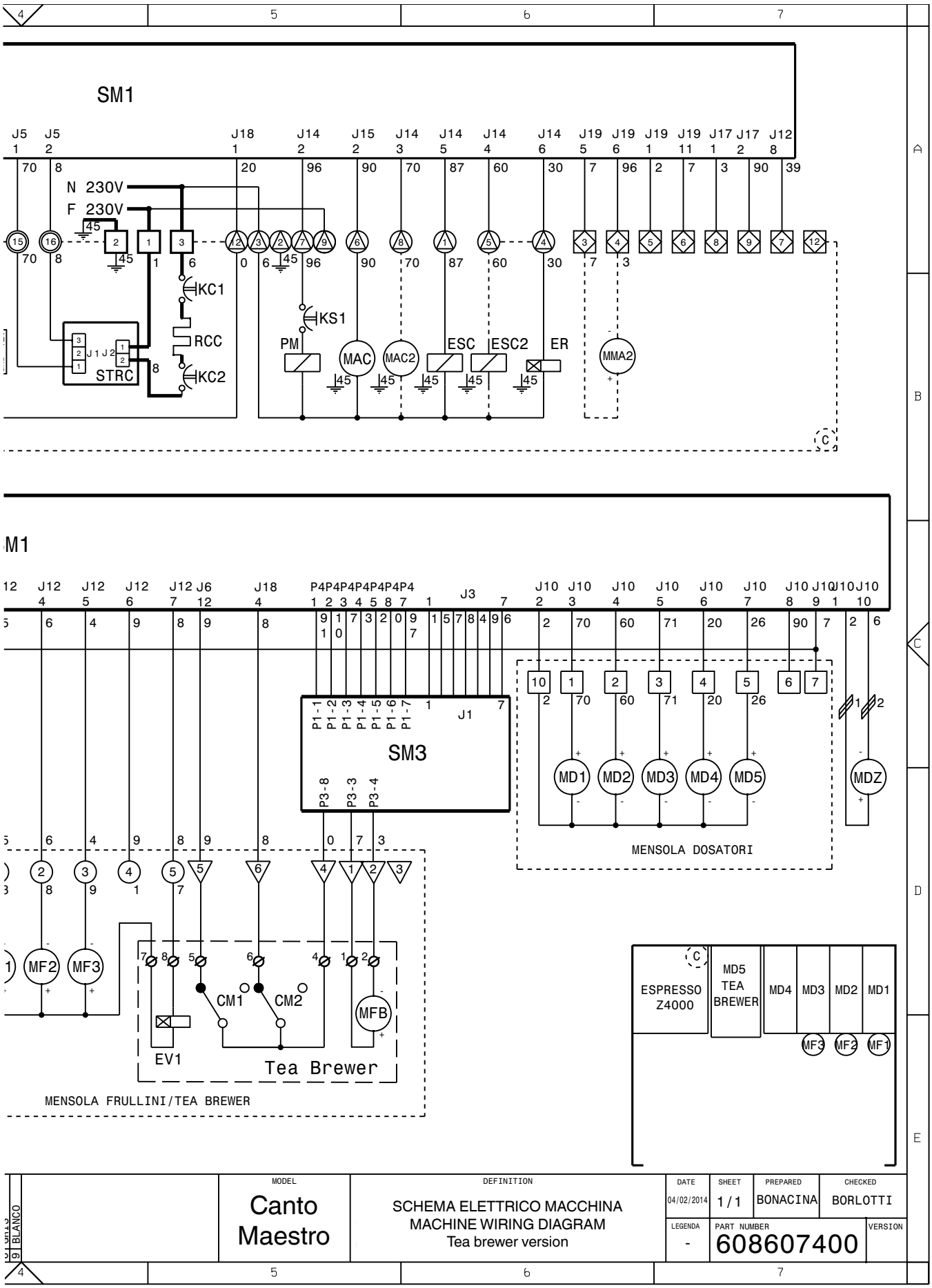
MODEL	DEFINITION	DATE	SHEET	PREPARED	CHECKED
Canto Maestro	SCHEMA ELETTRICO ALIMENTAZIONE POWER SUPPLY WIRING DIAGRAM Tea brewer version	04/02/2014	1 / 1	BONACINA	BORLOTTI
		LEGENDA: -	PART NUMBER: 608607300		VERSION

PB POWER SUPPLY SOCKET
PM PUMP
PS1-.. SYRUP BUTTON
PSB CUP RELEASE BUTTON
R RESISTOR
SLED LED BOARD
SM1 CONTROL BOARD
SM2 EXPANSION BOARD
SM3 RELAY BOARD

SUC C.P.U. BOARD
TX.... DELAYED FUSE (X=CURRENT)
TZ CUP SENSOR
VAR VARISTOR
VENT FAN



CM MOTOR CAM
CV VOLUMETRIC COUNTER
ER COFFEE DISPENSING SOLENOID VALVE
ESC1-. COFFEE RELEASE ELECTROMAGNET
ICM MOTOR CONTROL SWITCH
ID1-.. COFFEE DOSE SWITCH
IVA EMPTY WATER SWITCH
KC1-.. COFFEE BOILER CUTOUT
KS1-.. SAFETY CUTOUT
M COFFEE UNIT MOTOR
MAC1-. COFFEE GRINDER
MD1-.. INGREDIENT MOTORS
MDZ SUGAR INGREDIENT MOTOR
MF1-.. INSTANT WHIPPER MOTORS
MFB FRESH-BREW MOTOR
MMA1-. GRINDING REGULATION MOTOR
NTC TEMPERATURE PROBE
NTCS INSTANT BOILER TEMPERATURE PRO
PM PUMP
PM1-.. WATER PUMP



MODEL	DEFINITION	DATE	SHEET	PREPARED	CHECKED
Canto Maestro	SCHEMA ELETTRICO MACCHINA MACHINE WIRING DIAGRAM Tea brewer version	04/02/2014	1 / 1	BONACINA	BORLOTTI
		LEGENDA -	PART NUMBER 608607400		VERSION

RCC COFFEE BOILER HEATING ELEMENT
RCS INSTANT BOILER HEATING ELEMENT
REL1-. RELAY
SM1 CONTROL BOARD
SM3 RELAY BOARD
STRC1 BOILER HEATING TRIAC BOARD

EDITION 1 10 - 2019 CODE H5645EN00