

XX micro

type: xx



cafe

instant



INSTALLATION AND MAINTENANCE MANUAL
Translation of the original instructions

MAN1890105 rel. 02 dated 08.03.2017

**preliminary
safety
information**

before using the machine, carefully read this information that helps you behave properly and guarantee a safe use;
the following pages use the symbols listed here below, whose meaning is of attention:



GENERAL;

if the text is highlighted by this symbol, it is recommended to pay special attention to the performance of the procedures described; if not carefully performed on safe conditions, they can be source of general danger;



HIGH VOLTAGE;

if not properly performed, the actions marked by this symbol may expose to accidental contacts with electric voltage;



DANGEROUS TEMPERATURE;

if not properly performed, the actions marked by this symbol may expose to accidental contacts with high-temperature parts;



MOVING MEMBERS;

if not properly carried out, the actions marked by this symbol may expose to accidental contacts with moving members;

the same symbols are placed inside the vending machine to indicate the parts on which to act with the utmost caution;



SERVICE KEY IN USE;

the symbol recommends the utmost attention during the actions described; the use of the service key intended to activate all machine functions when the door is open is only reserved to the technical operators who know the operation of the vending machine, who are aware of potential risks and who make sure they are operating on totally safe conditions;

the use of the service key shall be strictly limited to the time necessary to perform the actions requiring the use thereof; users shall be informed of the prohibition on using and approaching the vending machine;



WEIGHT:

the symbol reminds the user to consider the machine weight carefully for handling and placing it definitively.



WATER SUPPLY;

it marks the parts duly requiring caution in case of leakage, if connected with the hydraulic network;



SUPPORT SURFACE;

it reminds the user to install the machine on a support surface, the max. inclination of which is 2°;

safety rules for using the vending machine

- *** pay special attention to the chapters and notes high lit by the symbols of alert; strictly observe the rules concerning, in particular, the operators' and users' safety;
- *** the vending machine may be used by children who are at least 8 years old and by people having reduced physical, sensory or mental capacities or not having all necessary experience and knowledge, provided that they are under supervision or after they have received all necessary instructions for using the machine on safe conditions and for understanding the dangers related thereto; children must be supervised and prevented from playing with the vending machine;
cleaning and servicing shall not be carried out by children;
- *** if you should find out a water leak or the presence of smoke, immediately detach the vending machine from the electric and hydraulic network, never try to restore its operation and apply to skilled technicians;
- *** the machine shall be installed according to national rules; pay special attention to the rules about the machines directly connected with the hydraulic network;
- *** room (during storage and operation):
temperature: 5 °C ÷ 35 °C
relative humidity: max 80 %
- *** the inclination of the vending machine support surface shall not exceed 2°;
- *** if the hydraulic connection tube is not supplied with the machine or in case of replacement, the connection must be carried out only with:
 - new tube;
 - of type-approved material for food use;
 - compliant with "IEC 61770 Electric appliances connected to the water mains";
 - it can support the working pressure;
- *** the user is not allowed to access the maintaining and servicing area that shall be properly signalled;
- *** never remove protections, never override safety devices and never modify the machine or its components;
- *** tools necessary to act with this vending machine:
 - a pair of scissors for electricians, a Phillips PH2 cross screwdriver for 4/6 mm self-threading screws, a set of wrenches up to 13 mm, a set of Allen wrenches from 2 to 8 mm;
 - it may be of use to procure some expendables, such as disposable paper, single-use gloves, clean cloths, cups and a bucket for the collection of waste water;
- *** never wash the machine by using water jets;
- *** for cleaning at regular intervals refer to chapter 12;

safety rules for using the vending machine



the symbol means that it is forbidden to dispose of the equipment as urban waste and compulsory to provide for separate collection in order to prevent any potential effect on the environment and human health; strictly follow the provisions of the European Parliament's 2012/19/EU Directive;



residual risks



a residual risk is understood as a potential danger that can not be eliminated and it persists despite all precautions in use since it is related to the intrinsic features of the product and it also includes non-identifiable risks;

the actions and behaviours listed here below are intended to reduce residual risks and you shall always adopt them when interacting with the machine;



wear clothes that can properly avoid any accident (never wear rings, chains, clothes with laces or excessively long sleeves, ...);



carefully evaluate the treatment of residues from installation (wood, plastics, ...) and utilisation (product powder, bags, ...);



never repair or carry out any technical action if you have not been properly trained;



signal that a technical action is in progress on the machine (barriers against approach, signs, ...), carry it out quickly without leaving the station;



install the machine in a sheltered, illuminated, ventilated and noiseless environment; keep it clean and never place tools or any other object on it; never install it outdoors or, anyway, never expose it to atmospheric agents;



make sure it can be neither reached by water sprays or vapours nor hit by objects that might damage it;



carefully consider the machine weight and stability during the installation and in the final working position;



supply the machine within voltage, temperature, pressure and hydraulic limits, ... as it is detailed on the following pages and provide for an effective earthing;



even if detached from supply, the machine may contain hot pressurised water at a high temperature;



never detach hydraulic and electric supplies when they are active;

general guarantee conditions

these conditions regulate Rheavendors Industries S.p.A.'s obligations with reference to guarantee and repair; any other term or condition, either verbal or written, is not applicable, including those in the purchaser's purchase orders, if not explicitly accepted and signed by Rheavendors Industries S.p.A.; if the guarantee terms here below should be held not to be valid and/or lawful in the Country where the product is sold, they will not be effective whereas all the other clauses will remain valid and applicable;

- 1st the mechanical and electronic components of the machine are guaranteed for twelve months, starting from the sales date certified by the fiscal receipt;
- 2nd the guarantee shall be understood as the free replacement or repair of any part of the machine that – at the manufacturer's unquestionable discretion – should prove to be originally defective due to manufacturing defects; the cost of sending the manufacturer machines, defective pieces and spare parts will be totally charged to the user's account; the manufacturer reserves the right to use new or reconditioned components for repair; if replaced, original components will be guaranteed for 12 months; the parts replaced under guarantee will become the property of Rheavendors Services S.p.A. (request for "Form PO 19.01/2b" Materials under guarantee – Authorisation to return);
- 3rd in case of irreparable failure or if a failure of the same origin is repeated, the manufacturer may – at its unquestionable discretion – replace the machine with another one, the model of which is either the same or an equivalent one; the guarantee of the new machine will be extended up to the original term of guarantee of the replaced machine;
- 4th all the parts that should prove to be defective due to negligence or carelessness (non-observance of the instructions for the operation of the machine), incorrect installation or maintenance by unauthorised personnel, transport damage or any circumstance – anyway – not due to the manufacturing defects of the machine are not covered by guarantee; the installation and connection with supply plants as well as the maintenance operations mentioned by the installation manual are also excluded from any performance under guarantee; the guarantee will not cover payment systems either; whether installed on the machine or supplied as an accessory, they are subject to their manufacturer's guarantee whereas Rheavendors Industries S.p.A. will just act as a broker; all changes made to the machine and not agreed with the manufacturer in writing will involve the immediate termination of the guarantee period and anyway fall under the Customer's total responsibility;
- 5th the guarantee is excluded in all cases of improper use of the machine;
- 6th Rheavendors Industries S.p.A. will disclaim all responsibility for any damage that may be directly or indirectly caused to people, animals or things as a result of:
improper use of the vending machine; incorrect installation;
improper energy or water supply; serious maintenance deficiency;
actions or changes not explicitly authorised; use of non original spare parts;

in case of failure, Rheavendors Industries S.p.A. is obliged neither to compensate any economic damage due a forced stop of the machine nor to extend the guarantee period;
- 7th if the machine should be transferred to a centre designated by the manufacturer for overhaul or repair, the relative transportation risks and costs will be charged to the user's account. The freight charges of machines, defective pieces and spare parts are always understood as charged to the user's account;

declaration of conformity

Rheavendors Industries S.p.A. declares that this drink vending machine has been designed and manufactured in compliance with the following directives and safety standards:

(*) = if complete with a modem

Directives:

2014/30/UE; 2006/42/EC; 2014/53/UE (*); 2011/65/EC (RoHS); 2012/19/EC (RAEE);

Regulations:

1907/2006/EC (REACH); 1935/2004/EC;

Standards:

SAFETY:

EN 60335-1: 2012 ; A11: 2014
EN 60335-2-75: 2004 + A1: 2005 + A11: 2006 + A2: 2008 + A12: 2010;

EMC:

EN 55014-1: 2006 + A1: 2009 + A2: 2011;
EN 55014-2: 1997 + A1: 2001 + A2: 2008;
EN 61000-3-2: 2014;
EN 61000-3-3: 2013;
EN 301 489-1 V.1.9.2 – EN 301 489-7 V.1.3.1 (*);

EMF:

EN 62233: 2008;

RADIO:

ETSI EN 301 511 V9.0.2: 2003 (*);

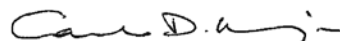
manufacturer

Rhea Vendors Group S.p.A.
Via Valleggio, 2/bis – 22100 Como – (CO) - Italia

factory



Rheavendors Industries S.p.A.
Via Garavaglia, 58 - 21042 Caronno Pertusella – (VA) – Italy

CEO & Legal Representative



(C. D. Majer)

marking

conformity	quality
	

ISO 9001 certification



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in the listed chapters, the manual describes a

XX micro

vending machine in its hardware and software components for a complete and fully-aware use of all machine functions; due to the large variety of available options and the constant technical update of our vending machines, some special device or function might be indicated and described not in the manner you expect; in this case, do not hesitate to contact us;

telephone: 0039 02 966 551
fax: 0039 02 96 55 086
e mail: rheavendors@rheavendors.com



ATTENTION: this label applied next to the serial number label inside the vending machine points out that the instructions supplied by this manual must be carefully read before the installation and operation of the vending machine;




please, print this manual only if necessary; environmental protection is our common interest;

02	08.03.2017	general update;	
01	30.10.2014	supplement EN60335 5th edition and declaration of conformity;	A4
00	21.07.2011	First issue;	
rel.	date	description	
this document is made available electronically on site www.rheavendors.com			

01. legend

01.01. abbreviations and pictograms

- I = dispensing cycle of drinks based on instant products;
- A = machines with internal water tank;
- R = machines with external water supply;
- ✕ = mixer for mixing the instant product with water;
- VSF = worm screw pitch in the product canister;
- § = product shaker of instant canisters;
-  = water supply pressure range of the vending machine;

02. introduction

02.01. copyright information

© Rheavendors Industries S.p.A.; all rights reserved;
this document contains some confidential information of Rheavendors Industries S.p.A.'s exclusive property; the content of this document can be neither disclosed in favour of third parties, nor copied or reproduced in any form whatsoever, either fully or partially, without Rheavendors Industries S.p.A.'s prior authorisation in writing; the utilisation, reproduction or disclosure of the technical information in this document can be protected by Rheavendors Industries S.p.A. according to the Law;

this manual is intended for the owner of the vending machine; it is an integral part of the machine and it shall be kept with it;

the information supplied by this manual are intended to achieve the best performances of the vending machine within the scope of application established by the Manufacturer; Rheavendors Industries S.p.A. reserves the right to improve future production without serving any prior notice and without assuming any obligation to update the products on the market; the manufacturer will disclaim all responsibility for any inaccuracy due to misprints;

02.02. contacts

Rheavendors Services S.p.A. is at disposal for any kind of support and information on this vending machine;

telephone: + 39 02 966 551
fax: +39 02 96 55 086
e mail: rheavendors@rheavendors.com

for any reference about our partners all over the world please visit site : www.rheavendors.com

02.03. serial number labels


to be able to identify the vending machine rapidly and univocally as well as to get the best support, please specify the data of the serial number label;

code : D12345A67890 (example)
s/n: 1234 56 7890

silvery serial number labels are applied inside and outside the case of the machine;



03. technical data

03.01. dimensions	height: width: depth:	520 mm 275 mm 410 mm
03.02. mass		16 kg
	values and indications for standard machine <u>anyway refer to serial number label data</u>	
	see 02.03.	
03.03. supply	<div>water</div> <div>energy</div>	<div>- connection by means of a solenoid valve with 3/8" gas male face; - supply by a submersible pump; - connection from internal tank;</div> <div>- 230 V ac, 50/60 Hz; single-phase and ground; - cable of the following type: H05VV-F 3G 1 mm² 300/500 V;</div> <div>from 0.1 MPa to 0.8 Mpa 24 V dc, 1.2 max.; 2.2 litre capacity</div> <div>1,400 W</div>
03.04. sound pressure	A-weighted sound pressure level;	less than 70 dB(A)
03.05. keyboard	six selection buttons;	
03.06. dispensing cpt.	open;	maximum 115 mm
03.07. drip tray	drip tray beneath the cup surface:	capacity 400 ml
03.08. dispenser	a fixed dispensing place;	
03.09. safety	<div>water</div> <div>energy</div> <div>heat</div> <div>software</div>	<div>overflow sensor; water inlet solenoid valve with anti-flood sensor;</div> <div>a main switch, a door switch; two 6.3x32 mm fuses;</div> <div>manually resettable sensors;</div> <div>time limits for water dispensing cycles;</div> <div>230 V ac; 12 A delayed</div> <div>88°C</div>
03.10. pump	rotary pumps:	24 V dc
03.11. product motors	max three, according to the machine configuration:	95 r.p.m. 24 V dc
03.12. mixing bowls	two;	
03.13. mixer motors	two:	15,000 r.p.m. 24 V dc
03.14. boiler	not pressurised (open-top boiler);	2.2 litres, 1,300 W

03.15. product canisters

max. three, according to the machine configuration; single (55 mm) or double (110 mm) width; dispensing worm screws 9 mm or 18 mm in pitch; with mixer gear and stirrer, if arranged by the configuration and with standard or shorter product slide outlet (see 05.14.);

- canister capacity:

width 55 mm		width 110 mm	
capacity 1.7 litres		capacity 3.5 litres	
chocolate	0.94 kg	chocolate	2.20 kg
milk	0.38 kg		
coffee	0.33 kg		

03.16. miscellaneous

machine parameters programmable by means of a flash key or selection keyboard; data collection by means of a flash key (see 09.05.);

03.17. notes

the water and energy supply tolerance limits that can ensure a good and proper operation of the **XX micro** machine are:

water:

- total hardness:
- recommended conductivity:

from 10 °f to 25 °f (*)
400 µS @ 20 °C

(*) if harder, please use anti-limestone filters;

energy:

- nominal voltage:

+10 % /- 15 %

room (during storage and operation):

- temperature:
- relative humidity:

5 °C ÷ 35 °C
max 80 %

electric consumption:

- power (vending phase):

from 48 Wh to 360 Wh

the complete data according to the EVA-EMP Energy Measurement Protocol, are made available upon request (see 02.02.);



the power supply cable supplied with the vending machine shall not be altered under any circumstance; in case of loss or damage replace it by using an original component only;

make sure that the electric installation can deliver the power suitable for the machine (see 03.03.);

a good ground connection is not only a legal obligation for the protection of users and operators, but it can also provide for correct power supply;

04. configurations

04.01.

a. product canisters

b. water supply

c. numbering

04.02. examples of configurations

XX micro configurations are numerous; they are coded by means of some categories exemplified here below in the abbreviation of the machine:

number of the instant products:

- external, by means of the inlet solenoid valve:
- internal, from the internal tank to the vending machine:

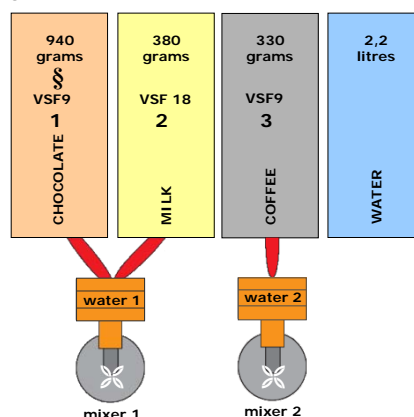
product canisters, mixing bowls and mixers are numbered in progression, from the left to the right, as it is shown later on; this numbering is used in the chapter on how to programme (see 09.) drinks;

XX micro I3

XX micro I3 R

XX micro I3 A

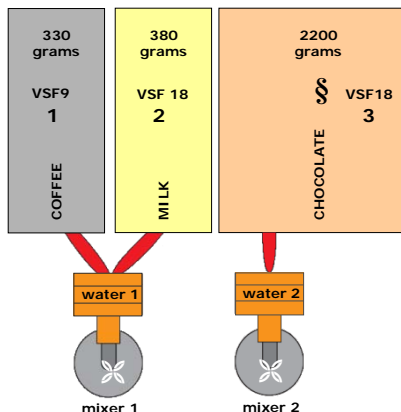
V.M. **XX micro** I3 A



keyboard selections

1. short coffee
2. long coffee
3. short white coffee
4. long white coffee
5. cappuccino
6. chocolate

V.M. **XX micro** I3 R



keyboard selections

1. short coffee
2. long coffee
3. short white coffee
4. long white coffee
5. cappuccino
6. chocolate

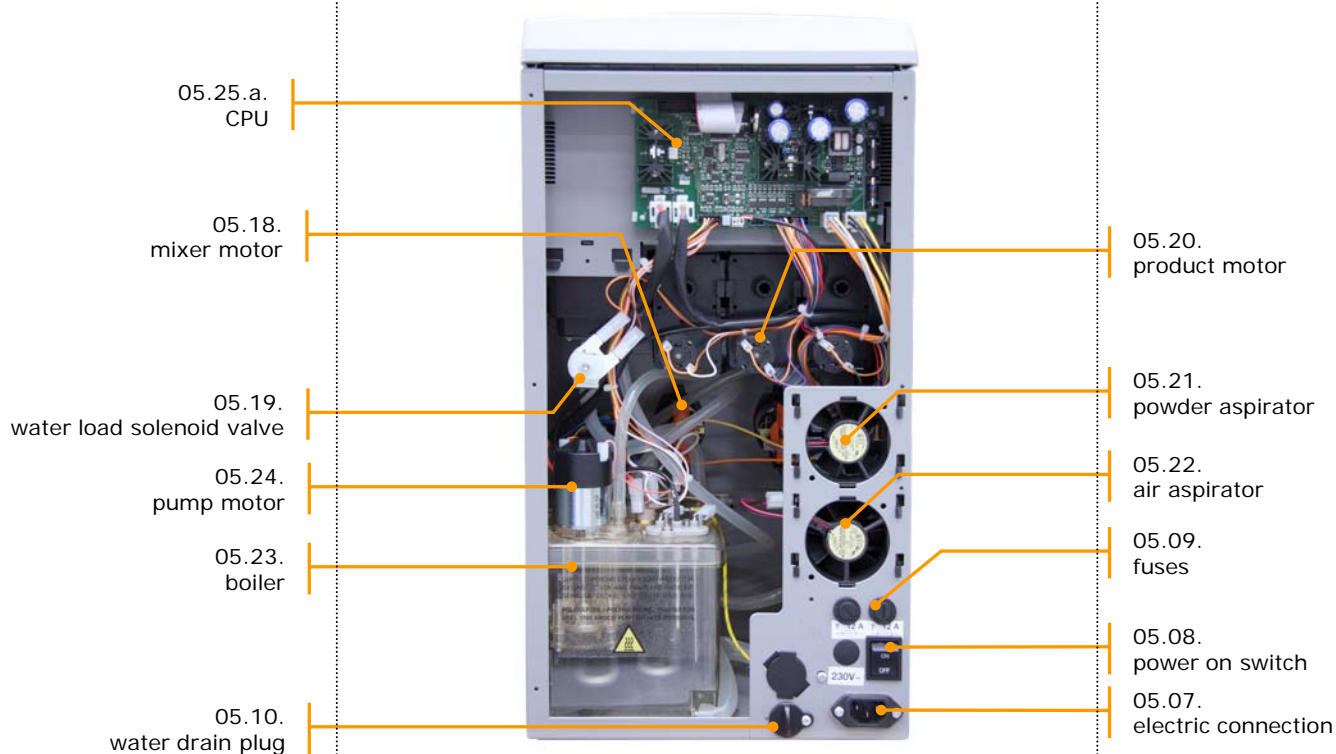
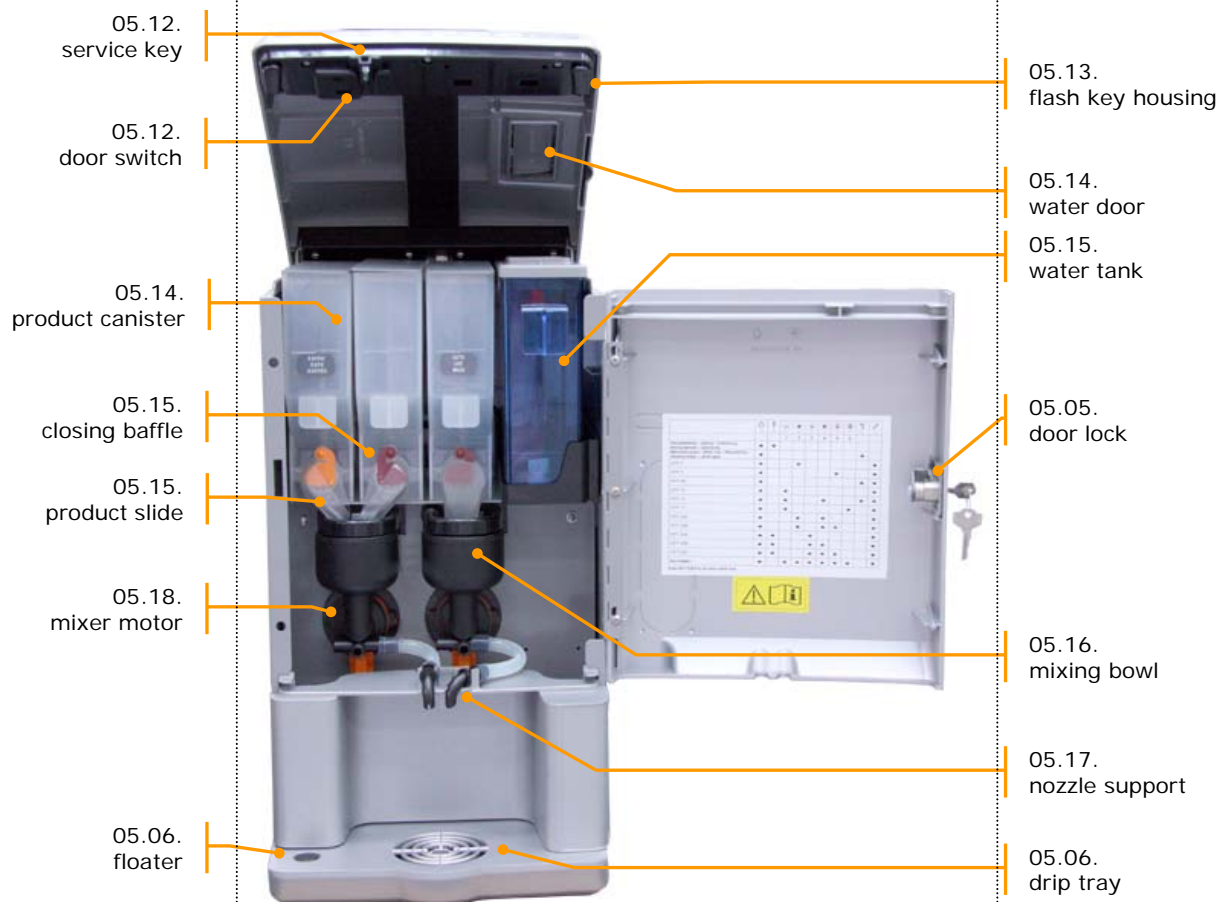
the configurations above are just some of possible **XX micro** configurations, considering the vending machine releases and programmability; the principles of operation and information are anyway universal and applicable to all machines of the **XX micro** range;

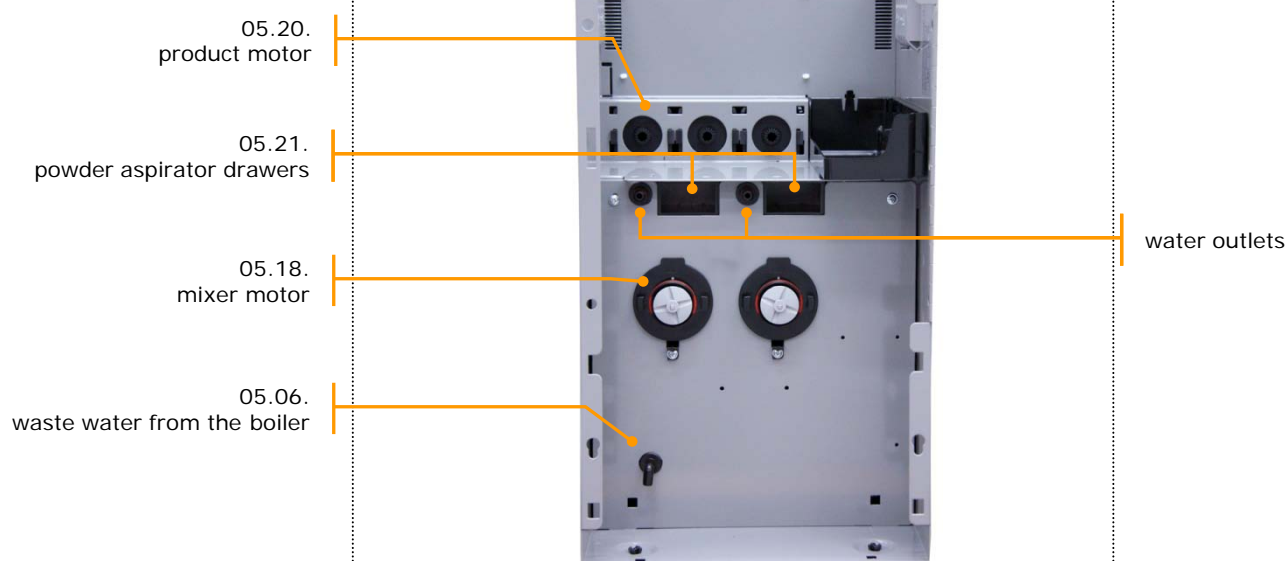
04.03. accessories

to complete and supplement the vending machines of the **XX micro** range, Rheavendors Industrie S.p.A. has got a series of accessories manufactured for these machines, such as cabinets, autonomous water supply kits, anti-limestone filters, ... ;

Rheavendors Services S.p.A. is at disposal for any kind of support and information on special configurations (see 02.02.);

05.
presentation





the following is present in addition to the six leds corresponding to selection keys:

- supply leds: to signal the mains voltage presence;
- temperature: to signal whether the water temperature in the boiler is lower than the programmed value (see 09.01.b.);
- water led: it is on if the water quantity in the boiler is lower than the required level;
- led off: to signal an operation error (see page 30);

05.01. general information



the Rhea **XX micro** vending machine is a machine explicitly designed for being easily used by all users since no specific competence is required in preparing drinks;

the function consists in dispensing drinks by mixing food products and water at a proper temperature; the correct operation of the vending machine occurs in closed rooms in normal environmental conditions and at a room temperature between 5 °C and 35°C, the relative humidity below 80%;

use only specific ingredients for vending machines;

dispense by briefly pressing a key of the selection keyboard (see 05.02); make sure that the cup has been properly positioned at the dispensing station;

05.02. selection keyboard

after having closed the door, press the buttons to dispense;

05.03. label slot

apply the label into the slot on the machine cover;

05.04. dispenser

the XX micro vending machine has got a fixed drink dispenser on the cup support surface;

05.05. door lock

the door is closed by means of a lock; the key is mapped and numbered for identification;

05.06. drip tray

it collects possible residual drops from the dispenser and, if necessary, the waste water in excess from the boiler; it is slid at the bottom of the machine case, in the front, and it is composed by a covering drawer and a gridded cover that can be washed by running water (see 12.01. and 13.10.); the floater is raised if the content is in excess;

05.07. electric connection

a three-terminal socket is arranged at the back of the case for the connection of the mains cable;

05.08. power on switch

to power on and off the machine;

05.09. fuses

installed on the mains power supply to protect the machine (see 03.09.); fuses must be necessarily replaced by specialised technical personnel only;

05.10. water drain plug

from where to let the silicone tube from the boiler come out for emptying;

05.11. water inlet solenoid valve

the water inlet solenoid valve on R machines only has got an anti-flood safety device intended to stop the water inlet in case of failures; to its electrical pins can be connected in parallel an any submersible pump (see 03.03.);

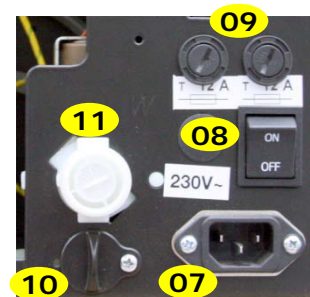
05.12. door switch

to power off the machine when the door is open;

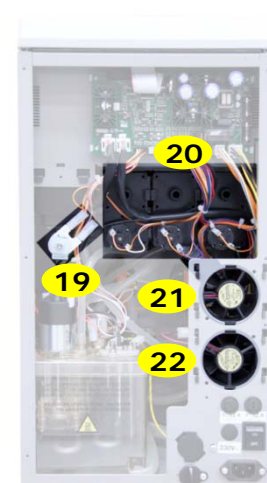


attention
some parts remain anyway network-connected
act extremely carefully;

use the service key to supply the vending machine if it is necessary to activate the machine when the door is open;



- 05.13. flash key housing a connector that can accommodate the programming flash key (see 09.05) or reading/writing terminals (see 05.28.) is available in the right side of the cover;
- 05.14. water door in A machines, a door on the vending machine cover will enable you to access to the internal water tank and fill it in; an internal water tank is complete with a float signalling by means of a red strip if you have filled it in excess;
- 05.15. product canisters product canisters dispense their content in the underlying mixing bowls; an internal worm screw driven by the product motor will push the instant product to the product slide; they can be equipped with a wheel and a stirrer for constant dispensing; the outlet, the dimension of which can be either standard or smaller, has got a closing baffle; canisters are closed by a cover to protect products; a water tank is intended to replace the last product canister on the right in the releases not including the water connection with the network (see 01.01.); this tank can be filled by means of a door on the vending machine cover (see 05.13.);
- 05.16. mixing bowls the mixing bowls of the mixers will accommodate the instant products you have poured to mix them with water; the fan of mixer motors will act at the bottom and the drink outflow to the dispenser occurs by means of a silicone tube; mixing bowls and outlet tubes can be washed with lukewarm running water;
- 05.17. nozzle support a fixed support on the cup station is intended to accommodate the two dispensers coming from the mixing bowls;
- 05.18. mixer motor the motors of mixers help to mix instant products with water by means of the rotation of the fan mounted on their axis; the rotation speed can be adjusted (see 09.01.a.) to the features of the various products;
- 05.19. water load solenoid valve in A machines, the water load solenoid valve shall channel the internal tank water to the underlying boiler;
- 05.20. product motors they are intended to rotate the worm screws inside instant product canisters to pour the product quantity necessary for selection in the mixing bowls;
- 05.21. powder aspirator an aspirator will eject suspended product residuals from the vending machine; the aspirator is connected with a drawer beneath product slides to intercept the residual impalpable powder coming from selections; the action time of the aspirator is programmable by means of a software parameter (see 09.01.c.); aspirated air is ejected through the slots of the rear panel;
- 05.22. air aspirator to aspirate the air from the internal environment of the machine to avoid any condensate;

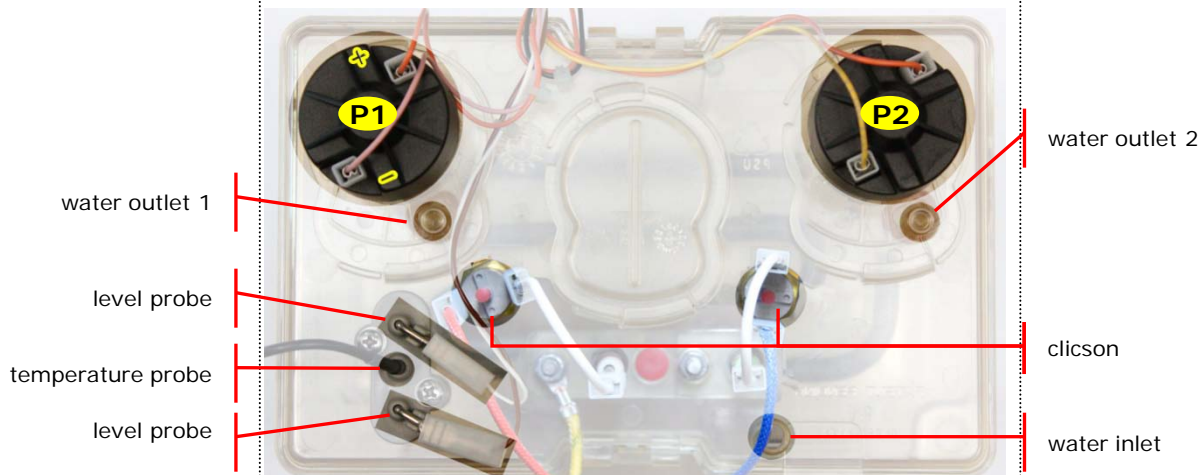


**attention**

these components may be very hot even if the machine is off;

05.23. boiler

boiler with all active elements (heating element, thermal protections, temperature sensor, pumps) fastened to the cover;



05.24. boiler pumps

pumps with turbine immersed in the boiler water; water is conveyed in two tubes feeding mixing bowls; attention to the polarisation of motors (see 03.10.);

the water quantity of instant selections is established by the time set in the "water N" parameter (see 09.01.a.);

pump	name sw	outlet
P1	water 1	mixing bowl 1
P2	water 2	mixing bowl 2

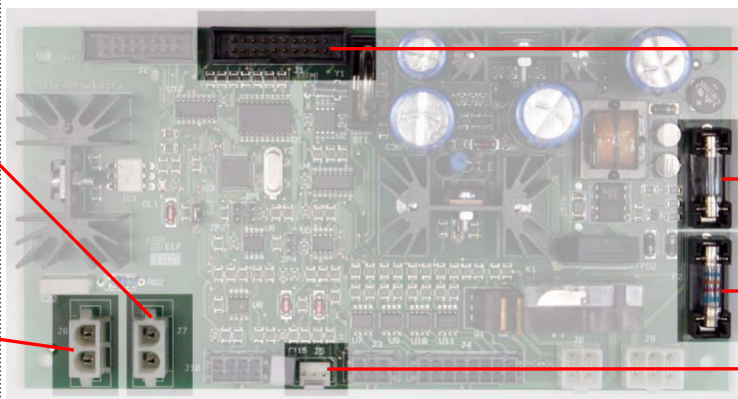


05.25. electronics

05.25.a. CPU

IN 230 V ac

heating element supply



the CPU board is intended to govern the machine operation; it is the place of location of machine programs and it is secured to the frame by means of four board supports; the selection keyboard cable provides for the signal exchange with the keyboard (see 05.02.) and with the flash key housing (see 05.18.) arranged inside the door; the temperature probe cable is separated from the machine wiring to avoid hampering the removal of the probe;

05.25.b. keyboard p.c.b.

the keyboard p.c.b. secured on the cover is connected to the CPU by means a flat cable;

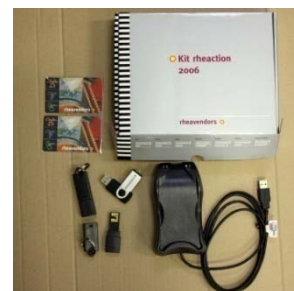
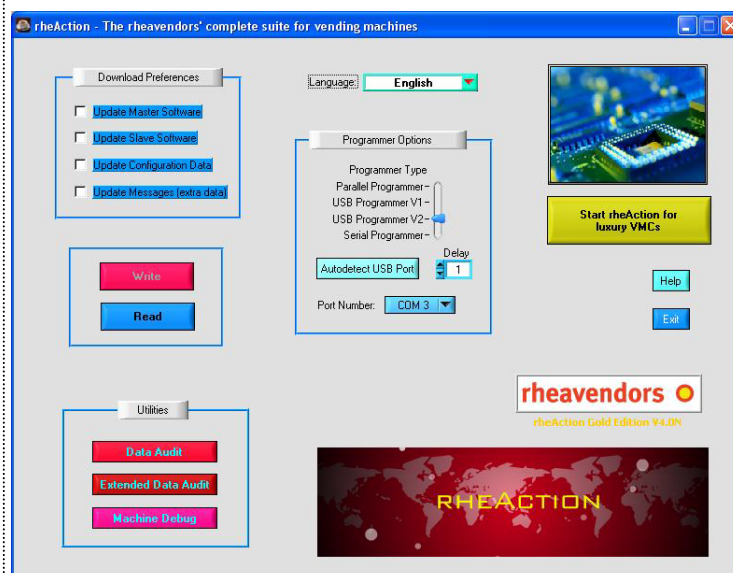
05.26. software

the software installed in XX micro can be subdivided into two different chapters called:

- master: it is the software determining the machine cycles, the links between the functions, the order of execution of operations; this software can not be modified by the operator, but it can be replaced in the CPU by means of a flash key written at works or by means of rheAction (see 09.05. and 05.27.);
- configuration: it is the software determining the times and the succession of dispensing drinks, the display modes, ...; the variables can be modified by the operator both manually on the machine and by means of rheAction to adjust the end users' needs to the behaviour of the machine (product quantities and mixtures, warning messages ...), (see 09.);

05.27. rheAction

a system called rheAction is intended to complete and supplement the programming executable in the machine; it is composed by a software and hardware, installable in a pc, capable of storing, modifying and writing the configuration data of Rhea machines; Rheavendors Services S.p.A.is at disposal for any kind of support and information on the RheAction system (see 02.02.);




05.28. programming terminals


the **XX micro** vending machine is not complete with a display; to display and programme the machine data, such as configuration ones, use the external terminals necessary for these operations; these three terminals shall be connected in the connector in the right side of the cover (see 05.13.) when the machine is off; they have different characteristics and possibilities:

reading and writing terminals:

MT1
0020040327CL TERMINALE "MT1"
to programme all machine parameters by means of its keyboard and display; press key "P" to access and quit the programming mode; press key "T" to confirm some values you have entered (see e.g. 09.01.h. product de-counter "product qty");

MT2-A (red)
0020040331CL TERMINALE "MT2-A"
press the key at the bottom at the back  (its action is the same as key "P" of MT1) to achieve the same functionalities as terminal MT1 by using the machine keyboard for programming purposes (see 05.02.);

read-only terminal:

MT2-B (black)
0020040326CL TERMINALE "MT2-B"
press the key at the bottom at the back  to read the number of total and partial dispensing cycles;



06. preliminary actions

06.01. handling



the vending machine may be transported, handled and positioned by skilled and trained personnel only; while handling, never overturn the machine; observe the orientation arrows on the package;

attention

handle the machine carefully to prevent the authorised personnel from being injured; considering the weight and overall dimensions of the vending machine, it is recommended to use a truck at low speed;



06.02. unpacking



- approach the packed vending machine to its work position;
- cut the two plastic belts;
- lift the external package;
- extract the protection bag up;
- lift the vending machine and arrange it on the work surface;

attention

the materials composing the package shall never be left within the reach of people from outside, in particular of children, because they represent a potential source of danger; only specialised companies may be charged to provide for the disposal of package components;



06.03. positioning



the vending machine shall be arranged for work in a sheltered room by using a support suitable for the weight of the machine (see 03.02.); its distance from the walls shall provide for good air circulation and easy access;

any inclination of the surface shall not exceed 2°;

it is recommended to arrange an easily cleanable impermeable protection beneath the vending machine to collect any accidental product fall;



06.04. preparation

when the machine is in its final working position:

- cut the clamp intended to secure the door keys and the hydraulic fitting in R machines;
- insert the door key into the lock (see 05.05.), rotate it and open the door;
- remove the envelope of documents and labels;
- take the power supply cable;
- apply the label into the slot on the machine cover;



07.
connections

07.01. water



make sure that the water used to supply the vending machine has all proper features for human consumption;

make sure that there is no sign of impurity and check the degree of hardness; if necessary, contact an analysis lab;

if necessary, use a softening filter and replace the cartridge at regular intervals, in observance of the manufacturer's instructions, to preserve the machine components;

make sure that the network pressure is the one preset for the machine (see 03.03.); use a pump or a reducer in case of non-compliance; it is recommended to install a tap to detach the machine from the network; connection shall occur by means of:

- new tube;
- of type-approved material for food use;
- compliant with "IEC 61770 Electric appliances connected to the water mains";
- it can support the working pressure;

if the tube is not supplied with the machine or in case of replacement use tubes featured as above only;

if the machine is supplied by an internal water tank, make sure that the tank is properly positioned in its seat and fill it;

for the drinkability features of "waters intended for human consumption" refer to the following Internet address:

[http://eur-lex.europa.eu/
directive 98/83/EC of 03/11/1998](http://eur-lex.europa.eu/directive_98/83/EC_of_03/11/1998)

07.02. energy



observe the rules on connections with the electric network, in particular on grounding; connect the machine permanently without using any reduction, adaptor, multiple socket or extension; use the network connection cable supplied with the vending machine only; it is recommended to install a switch detaching the machine from the network;

it is recommended to install a differential current device operating below 30 mA, detaching the machine from the mains and promptly tripping in case of improper electric input in order to considerably reduce the risks arising out of any short-circuit;

attention

check the power plant capacity to supply the power required by the machine (see 03.03) and the observance of the rules in force; strictly refer to the data of the serial number label (see 02.03.)

insert the cable into the connection socket (see 05.07.); then, connect the plug with the socket and supply the vending machine;

for a correct and safe configuration of the electric power supply installation refer to the following Internet address, if necessary:

[http://eur-lex.europa.eu/
directive 2006/95/EC of 12/12/2006](http://eur-lex.europa.eu/directive_2006/95/EC_of_12/12/2006)

08. first power on

08.01. introduction



after having unpacked the vending machine, arranged it firmly in the work place and connected, or supplied it (machine "A", see 01.01., fill in the water tank through the door on the vending machine cover, see 05.14.), hydraulically and electrically, carry out some actions to operate it;

wash hands thoroughly with water and soap before handling the machine and the products; only use potable water to clean the components;



08.02. activity



power on the main switch of the machine (see 05.07.); all selection keyboard leds turn on and off three times; then, the green power supply led turns on;

at the end of the assembly and final inspection, discharge the water used for tests from the machine; at the time of the first power on, fill in the whole water circuit; the machine will continuously load water to fill in the boiler properly; during this phase, the red water shortage led turns on and off; at the end of the operation, the red water shortage led turns off;

attention

the boiler and the tank have quite a similar capacity; it will be therefore necessary to fill in the water tank a second time;

the phase intended to heat water in the boiler will start now, the temperature of which shall reach the setup value (see 09.01.d.); during this phase, the red temperature led turns on and off to signal that the heating element has been powered on and that water is heating in the boiler; all green leds turn on at the end of heating operations;



08.03. washing



open the door and connect terminal MT1 or MT2-A (see 05.28.); insert the service key into the door switch (see 05.12.);

attention

the vending machine is supplied and running to all effects; act extremely carefully;

when the display shows:

machine
ready

press key "P" of MT1 or the same as for MT2-A; the display shows:

1=PROG. 2=DATA
3=FREE 4=CLEAN

attention

arrange a cup beneath the nozzles; the machine will dispense a pre-fixed water quantity for each wash cycle;

press "4" to enable the wash cycle of the water circuit (boiler, tubes, mixing bowls,); the display shows:

cleaning
sel. 1-2

keys "1" and "2" will dispense water into the two mixing bowls; (see 05.15);

repeat the operation for some times to rinse the whole water circuit of the machine; during the wash cycles, the display shows:

cleaning N

press key "P"; power off the vending machine by means of the service key and arrange it in its support; disconnect terminal MT1 or MT2-A; close the door, power on the main switch of the machine, which is now ready for normal use;

08.04. daily wash cycle



to keep the dispensing circuits of drinks surely clean, it may be of use to perform a complete wash cycle whenever you power on the machine;
 arrange a cup beneath the nozzles;
 power off the vending machine; when the machine is off and the door closed, press selection keys "1" and "2" at the same time, hold them down and power on the vending machine;
 the wash cycles of mixing bowls are automatically activated; wait about 20 seconds and then release the two selection keys;
 repeat this operation 2 or 3 times; in doing so, you can remove any trace of dirt from the boiler;
 only in some versions, the same operation intended to wash mixing bowls is activated by simply pressing key 6 of the selection keyboard;

08.05.

prepare a chlorine-based anti-bacterial sanitising solution by observing the instructions supplied with the product; remove and immerse the following into the solution the product canisters you have disassembled, the trays of mixers, their fans and the silicone tubes intended to dispense products; the time necessary to sanitise is specified by the anti-bacterial product package; at the end, remove all the parts you have sanitised from the solution, dry them carefully by using clean cloths and reassemble them into the machine; rotate the baffles of the product slides of instant canisters to close them and load the canisters with reference to the machine configuration (see 04.02.) and to the canister labels; close the canisters with their upper covers; rotate the baffles of the product slides (see 05.15.) to open them; (see also 12.);

to clean and treat food products properly, refer to the content of the following Internet address:

[http://eur-lex.europa.eu//
regulation 2004/852/EC of 29/04/2004](http://eur-lex.europa.eu//regulation%202004/852/EC%20of%2029/04/2004)

lower down the cover and close the door by means of the lock keys (see 05.05.) and place them in a safe place;

08.06.

power on the machine by means of the main switch; temperature red led will flash till the water temperature of the boiler is suitable for the value set in the memory (by default);

at the end of this phase intended to heat water in the boiler, the vending machine is ready to dispense;

**09.
programming**

the vending machine is programmed by means of parameters considered standard for the specific configuration required; values forming the composition of recipes – written in the board memories – enable the user to dispense drinks without requiring the installer to set up special programmes; to modify these parameters to adapt the drinks you have produced, refer to the following; at the end of the chapter (see 09.06.), a summary table may help the user trace back all the programming items;

to access the programming mode, open the front door, connect the programming terminal made available, power on the machine and insert the service key into the door switch (see 05.12.);

attention

the vending machine is supplied and running to all effects in this mode of operation; act extremely carefully;

access the programming mode

press key "P" of terminal MT1 or the same key as for terminal MT2-A; the display will show the message:

- "1" to access the programming mode of machine variables;
- "2" to display the drink quantities you have dispensed;
- "3" to dispense on a free basis;
- "4" to dispense water to wash the water circuits;

1=PROG. 2=DATA
3=FREE 4=CLEAN

quit the programming mode

after having programmed, press "1" and then the key "P" of terminal MT1 or the same key as for terminal MT2-A; to go back to the usual operation of the vending machine and to store all changes you have made; the display will show:

END PROGRAMMING
wait

09.01. "progr"

press key "P" of terminal MT1 or the same key as for terminal MT2-A; press "1" of MT1 or of the machine; the buttons of the MT1 keyboard or of the machine will assume the following functions:

Key 1	to scroll the items forward
Key 6	to scroll the items backward

Key 2	to scroll the variables of items forward
Key 3	to scroll the variables of items backward

Key 4	to increase the value of the variable on the screen
Key 5	to decrease the value of the variable on the screen

the items are (scroll by means of key "1"):

09.01.a. key 1 contains the variables composing selection 1;

...
key 6 contains the variables composing selection 6;

PROGRAMMING
BUTTON N

09.01.b. temperature to set up the open-top boiler water temperatures;

PROGRAMMING
TEMPERATURE

09.01.c. miscellaneous to programme different options;

PROGRAMMING
MISCELLANEOUS

09.01.d. diagnostics to display some machine parameters;

DIAGNOSTICS

09.01.e. sales audit to display the quantity of dispensing cycles you have performed;

SALES AUDIT

09.01.f. clock to set up the machine clock;

PROGRAMMING
CLOCK

09.01.g. out of service to record any failure that may have occurred;

PROGRAMMING
OUT OF SERVICE

09.01.m. product qty	to check and enable product dispensing cycles;	PROGRAMMING PRODUCT QTY
09.01.a. button from 1 to 6	<p>press key "2" when the display shows "key n" to scroll the variables composing the function of that key;</p> <p>the display shows:</p> <p>and pressing "4" and "5" appears on display:</p> <ul style="list-style-type: none"> - if you press "2" when "FUNCTIONING", the key will perform the function you have programmed (dispensing cycle of a drink); - if you press "2" when "INHIBITED", the key will be inhibited and it will perform no function; <p>use key "2" to scroll the following items:</p> <p>press keys "4" and "5" to change the rotation time of the N product motor, thus changing the product quantity you have dispensed; if time is zero, no product N will be dispensed;</p> <p>if the time you have programmed is other than zero, the N product motor will be activated at the expiry of the delay time you have programmed; the delay time is increased or decreased by pressing keys "4" and "5";</p> <p>to determine the pump power on time and the water quantity it will deliver;</p> <p>water will be dispensed in the mixing bowls at the expiry of the delay time you have programmed;</p> <p>the water flow in mixing bowls can be regulated between low, medium, high by pressing keys "4" and "5"; (see 13.11.);</p> <p>the rotation time of the mixer motor can be changed by pressing keys "4" and "5"; if time is equal to zero, the mixer will not rotate;</p> <p>if the rotation time is other than zero, the mixer motor will be rotated at the expiry of this delay time;</p> <p>the mixer rotation speed can be regulated between "0" maximum and "5" minimum, by pressing keys "4" and "5";</p>	<p>FUNCTIONING</p> <p>INHIBITED</p> <p>PRODUCT N 0= inhib. 00.0</p> <p>start delay PRODUCT N 00.0</p> <p>WATER N time 0= inhib. 00.0</p> <p>start delay WATER N 00.0</p> <p>water flow : N medium</p> <p>MIXER N 0= inhib. 00.0</p> <p>start delay MIXER N 00.0</p> <p>MIXER speed N 00</p>
09.01.d. temperature	<p>press key "2" to display:</p> <p>use keys "4" and "5" to increase or decrease the boiler water temperature; (see also 10.02.);</p>	TEMPERATURE boiler NN
09.01.e. miscellaneous	<p>the "miscellaneous" item includes some options (press keys "4" and "5" to modify the values of these options):</p> <ul style="list-style-type: none"> - machine code A and B: you can number the machine to distinguish it from others similar (data collection); - access code: to access the programming mode only after having typed a password you can choose by pressing keys "4" and "5"; carefully note down the combination you have chosen; 	<p>machine code A NN</p> <p>machine code B NN</p> <p>access code NN</p>

	<ul style="list-style-type: none"> - fan delay: to determine for how many minutes after the latest dispensing cycle the powder suction fan will remain active; 	<div>fan time min. NN</div>
	<ul style="list-style-type: none"> - beep time: beep time active at the end of each machine function; 	<div>Beep time 0.0</div>
	<ul style="list-style-type: none"> - with respect to the setup in 09.01.a: <ul style="list-style-type: none"> - the rotation speed of the boiler pumps can be changed (keys "4" and "5") by +/- 30 %; the change concerns all the activations of the pumps for all selections; (see also 13.10.); - the rotation time of every single product motor can be changed (key "4" and "5") by +/- 30% compared to the time set in the recipe variables (see 09.01.a.); the change concerns all the activations of the product motors for all selections; 	<div>tuning pump N percent +00 %</div> <div>tuning motor N percent +00 %</div>
09.01.f. diagnostics	<p>press key "2" to access diagnostics and to enable the machine to display (keys "4" and "5") the standby message and the boiler water temperature, alternatively;</p> <p>press "2" once again to display the voltage value intended to supply devices at 24 V dc;</p>	<div>HABIL. DISPLAY TEMPERA. 1= YES N</div> <div>VOLTAGE volt: NN.N</div>
09.01.g. sales audit	<p>this menu is intended to gather the quantities of the selections made by the machine: names are assigned according to the EVA-DTS standard:</p> <ul style="list-style-type: none"> - VA 102 quantity of total vends (parameter not resettable); - VA 104 quantity of the vends made after the reset; - VA 202 quantity of total tests (parameter not resettable); - LA 1*1 selections sold; 	<div>TOTAL SELECTIONS NN</div> <div>PART. SELECTIONS NN</div> <div>N TESTS 00</div> <div>TOTAL SEL N 00</div>
09.01.l. clock	<p>this chapter is intended to determine:</p> <ul style="list-style-type: none"> - for each day of the week you can establish a time band during which the machine will accept no selection and disable the water heating of the boiler; - the machine will perform a wash cycle at the time you have specified provided that it has performed at least five dispensing cycles after the last wash cycle; - current time; - current day; - current month; - current year; 	<div>SWITCHING ON: xxxxx 00:00</div> <div>SWITCHING OFF: xxxxx 00:00</div> <div>CLEANING: 00:00</div> <div>HOUR: 00:00</div> <div>DAY: 00</div> <div>MONTH: 00</div> <div>YEAR: 00</div>
09.01.m. out of service	<p>to display the recording of the twenty errors last occurred in the machine; press key "2" to scroll the records and key "4" to reset the recording (see 11.);</p>	<div>n. N off NN hh:mm dd-mm-yyyy</div>

09.01.n. product qty

each product motor can be assigned a time credit in seconds that will be decreased at each dispensing cycle of that product; after having used up the credit, the selection key flash on and off whenever a request is made for that product; this control is disabled at the beginning and the machine has got no constraint; to programme the credit time of a product motor, set the variable by pressing key "4" and "5";

after having reached the time quantity you wish, press key "T"; the value will be copied between parentheses on the left of the display;

quit the programming mode as usual;

product qty N
[0.0] 170.0

product qty N
[170.0] 170.0



09.02. "data"

choose the option "data" to enable the display to show the data of the dispensing cycles you have performed in succession, just as in 09.01.e.;

09.03. "free vend"

to dispense selections on a free basis; the selections made in this mode are counted separately, just as in 09.01.e.;

TEST VEND

09.04. "clean."

choose this option and press "1" or "2" to enable the vending machine to dispense a pre-fixed water quantity to wash the corresponding circuit (see 08.03.);

cleaning
sel. 1-2-3

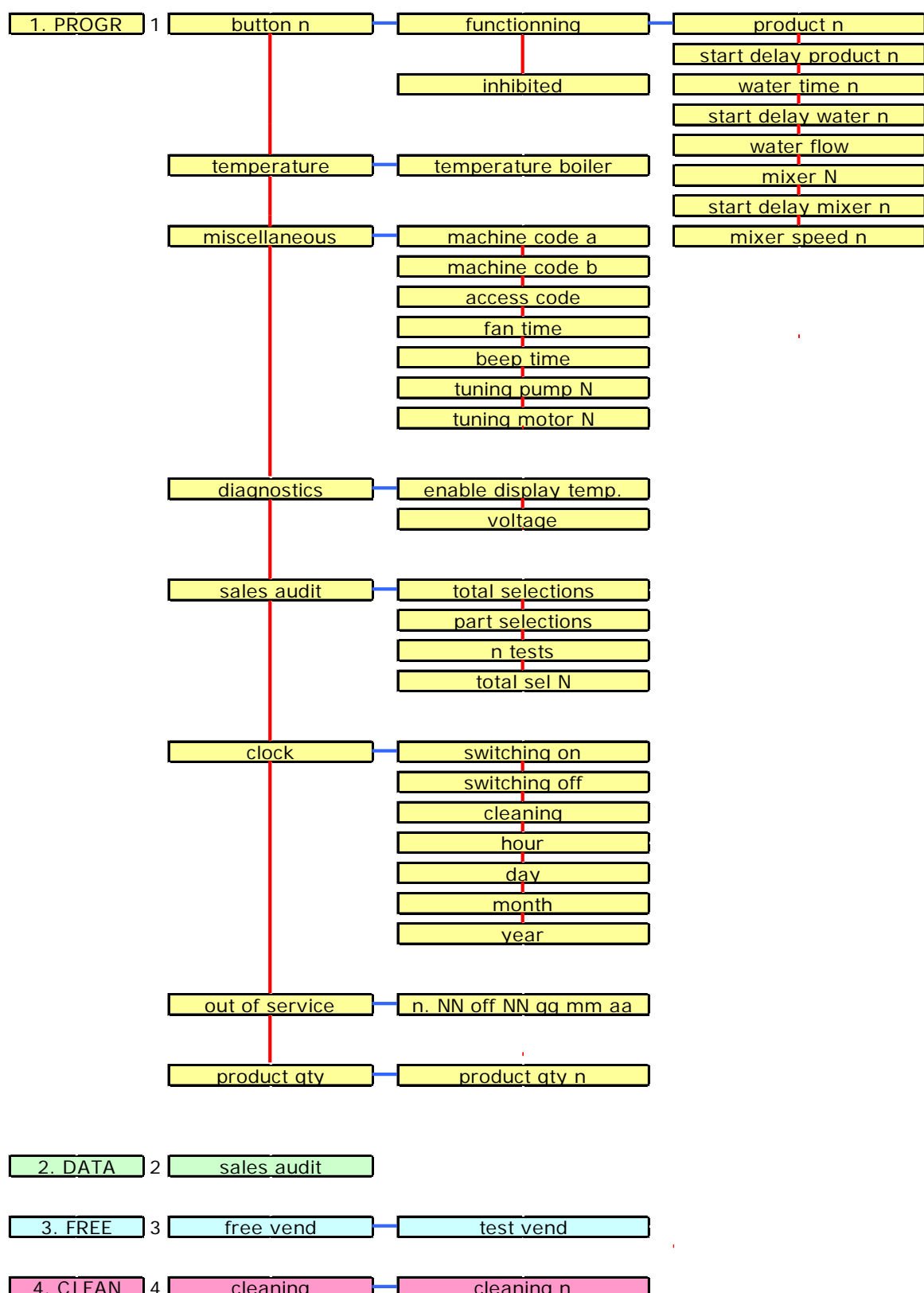
09.05. data support

the values of the variables composing the machine programming (configuration) can be transferred from an external support, i.e. the flash key, to the machine; to do this:

- open the door;
- insert the flash key into the apposite connector (see 05.13.);
- power on the machine by means the service key ;
- all leds of the selection keyboard flash on and off together during the data transfer phase;
- wait for the keyboard leds to turn on steadily in order to signal that programming has come to an end;
- power off the machine by means the service key and remove the flash key;

please note that the flash key used for these software handlings must have been previously initialised (with RheAction for example);





**10.
parameters**

the following tables are intended to supply some information on the programmable parameters of the **XX micro** software; if not otherwise specified, the numeric time values of devices are understood in tenths of a second (e.g. 27 corresponds to 2 seconds and 7 tenths);

10.01. configuration

the parameters intended to dispense the drinks with the different possible products are supplied here below, just by way of example; these values enable the operator to program the selections of reference and they can be used to obtain some functional dispensing cycles even if it may be necessary to make some slight changes to appeal to the users;

see 04.02.

product canisters

1. espresso

prod. 3	11	delay prod. 3	0
water 2	30	delay water 2	10
mixer 2	35	delay mixer 2	12

chocolate	P1
milk	P2
coffee	P3

2. cappuccino

prod. 2	20	delay prod. 2	10
prod. 3	19	delay prod. 3	70
water 1	50	delay water 1	0
mixer 1	60	delay mixer 1	3
water 2	40	delay water 2	60
mixer 2	51	delay mixer 2	63

3. latte macchiato

prod. 2	50	delay prod. 2	7
prod. 3	13	delay prod. 3	80
water 1	65	delay water 1	0
mixer 1	75	delay mixer 1	3
water 2	30	delay water 2	75
mixer 2	35	delay mixer 2	78

4. long

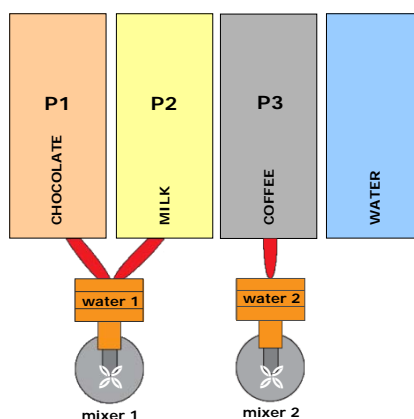
prod. 3	16	delay prod. 3	10
water 2	85	delay water 2	0
mixer 2	45	delay mixer 2	3

5. mocha

prod. 1	28	delay prod. 1	10
prod. 2	20	delay prod. 2	20
prod. 3	21	delay prod. 3	80
water 1	50	delay water 1	0
mixer 1	65	delay mixer 1	3
water 2	40	delay water 2	70
mixer 2	50	delay mixer 2	73

6. chocolate

prod. 1	44	delay prod. 1	15
water 1	85	delay water 1	0
mixer 1	100	delay mixer 1	3



the table is intended to list the minimum and maximum values you can assign to programmable variables;

	m.u.	from	to
product	sec.	0	20
product start delay	sec.	0	20
water time	sec.	0	20
water start delay	sec.	0	20
water flow	→	→	→
mixer	sec.	0	20
mixer start delay	sec.	0	20
mixer speed	→	→	→
temperature boiler	°C	0	95
product decounter	sec.	0	6.000
machine code A and B	n.	0	65.535
message number	n.	0	7
fan delay	min.	0	180
beep time	sec.	0	1,5
tuning pump	→	→	→
tuning motor	→	→	→

0 = no product;
0 = no delay;
0 = no water;
0 = no delay;
low, medium, high
0 = no mixer;
0 = no delay;
low, medium, high

0 = no limit;





+/- 30%
+/- 30%

11. solution of problems

some malfunctions produce an error message shown by the display of terminal MT1 or MT2-A or signalled by some leds that will specifically turn on (see page 30); some general information is supplied here below for these messages;
see also: Technical Information no. 138 → error messages;

<u>error</u>	<u>actions/comments</u>	<u>cause</u>
OFF 5	EAROM of the CPU board failed; replace the CPU board (see 05.25.a.);	no data storage
OFF 6B	there is a control connecting water reloads with the drinks you have dispensed; if some water reloads occur without dispensing any drink, this will produce the 6B error; make sure there is no leakage in the water circuit;	water reloads without dispensing any drink
OFF 10	the values written in the EAROM are not compatible with the operation of the machine or deleted; reload them; replace the CPU board CPU; (see 05.25.a.);	loss of programming data
OFF 14	there is a control causing the machine to reload water after a well-defined number of dispensing cycles; otherwise, error 14 is produced; make sure that the water supply from the outside is correct (see 03.03. and 05.11.) and that the water circuit of the machine is orderly (tubes, gaskets, ...);	no water reload
OFF 17	a key of the selection keyboard is not operating (short-circuited); it may also occur if an operator should operate it for too long while programming the machine (keys 4 and 5 to increase and decrease the quantities); (see 05.02.);	selection keyboard out of order
OFF 24A	the 24 V dc power supply should exceed the limit value; replace the CPU board (see 05.25.a.);	24 V dc power supply excessive
OFF 24B	after al long inactivity, if this error happens, could be enough to switch off and switch on the machine; if the power failure persists, pay attention to the cause: a 24 V actuator could be faulty (mixer or product motor, water inlet electrovalve, ...); check the alternate power supply at the board input; the voltage regulator might be faulty; replace the CPU board (see 05.25.a.);	24 V dc power supply inadequate or lacking
OFF 33A	the boiler temperature has exceeded the one you have programmed (see 09.01.b.); replace the temperature probe; the device of the CPU board is not working according to control; replace the CPU board;	water temperature high
OFF 33B	temperature safety devices tripped (clicons, thermofuses, ...); restore or replace them; heating element not supplied or not operating; check the connections and continuity of the heating element; if necessary, replace it;	water temperature low
OFF 33C	temperature probe interrupted; connector to the board, wiring; make sure that the cable between the probe and the CPU board is not interrupted or replace the probe (see 05.25.a.);	temperature probe



			1	2	3	4	5	6		
warming	●	●								
No water: ricaricare l'acqua e premere il tasto 6 per continuaure	●								●	
Eseguire un lavaggio premendo il tasto 6								●		
OFF 5 error EAROM	●						●			●
OFF 6 B too many water recharges	●								●	●
OFF 10 error DATA	●		●							●
OFF 14 too many selections without water refilling	●		●			●			●	●
OFF 17 selection keyboard out of order	●		●					●		●
OFF 24A 24 V dc power supply excessive	●			●		●				●
OFF 24B 24 V dc power supply inadequate or lacking	●			●		●	●			●
OFF 33A water temperature high	●	●			●					●
OFF 33B water temperature low	●	●			●	●				●
OFF 33C temperature probe error	●	●			●	●	●			●
NO MASTER	●		●	●	●	●	●	●		●

12. maintenance

the **XX micro** vending machine requires no special maintenance procedure to do its job; however, if you provide for careful and frequent cleaning, this may help the machine keep its performance constant, prevent failures and ensure the high quality of dispensed drinks; the frequency of cleaning operations largely depends upon the number of dispensing cycles and the hardness of water in use (use a softener system) and it shall be adjusted to the working conditions of the vending machine;

the actions described are intended to prevent the bacterial growth in the machine areas directly in contact with foodstuffs and to keep the parts conveying drink-composing products clean; after having disassembled the parts of the machine listed here below, use plenty of lukewarm water to remove any residue that might build up;

the support of a bacterialstatic or bactericidal solution may strengthen a deep cleaning action, provided it is compatible with human health and the supply of foodstuffs; reassemble all the parts you have cleaned after having dried them by means of a clean piece of cloth;

refer to the content of the Internet address:

<http://ec.europa.eu/food/safety/biosafety/>

this site is intended to supply the European Parliament recommendations for properly and safely processing foodstuffs;

consult also the 2004/852/EC European Community regulation

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:f84001>

before accessing the machine for each maintenance operation, it is recommended to warn the users by means of boards properly positioned that it is forbidden to approach the vending machine and to use it;



attention

never wash the machine by using water jets;

wash hands thoroughly with water and soap before handling the machine and the products;

only use potable water;

all components must only be cleaned with warm running water;



12.01. weekly

external body




power off the machine; detach the power supply cable and carefully make sure that there is no sign of wear; carefully check the stability and efficiency of the internal connections of the mains supply;

use a non-abrasive piece of cloth after having dampened it with lukewarm water; only if necessary, use a neutral, non-foamy, detergent;

attention

use neutral detergent products only; never use abrasive cloths, steel sponges, aggressive or foamy detergents and other solvents, hot water and acids;

cups station

extract the drip tray, remove the upper grilled cover and wash them abundantly with water "A"; clean the seat of the drip tray and the nozzles holder spout "B"; to remove the clamp of the cup station, just press the two side hooks  ;

product slides

remove them from the product containers, wash them abundantly with lukewarm water (product slides are bayonet-fastened) "C";

dispensing system

turn the fastening small levers of the mixing bowls "D" clockwise, remove the dispensing nozzles "B", pull the mixing bowl and the powder suction ring; wash the assembly of disassembled parts abundantly with lukewarm water;

walls and bottom of the machine

remove any trace of residue from the internal surfaces of the machine and clean by using a damp piece of cloth;

internal wall of the door

remove any trace of residue from the surfaces inside the door, above all in the proximity of the cup station;

12.02. monthly

environmental and powder aspirators

carefully make sure that the motors of the two aspirators can freely rotate and have no obstacles or obstructions; make sure that the corrugated tube connecting the powder aspirator and the aspiration drawer is clean and free of any product deposit "G";

products canister

close the slides, remove the canisters from the machine, clean them externally; clean the support surface carefully to remove any trace of product;

12.03. yearly

dispensing system

replace the gasket at the base of the mixing bowl of the mixer; remove the mixer motor fan by pulling it; replace the gasket of the mixer motor shaft "E";

products canister

disassemble the products canister from the machine; empty them, disassemble them in their basic components and wash them carefully "F";

powder aspirator drawer

disassemble the mixing bowls; pull out the extraction drawers "H"; wash them with plenty of lukewarm water;

boiler

empty the boiler by means of a drain pipe; extract it from the machine, remove the cover and wash the tank by removing any solid residue that may have built up at the bottom; remove any calcareous deposit from active elements: temperature probe, heating element, level probes, the shafts of rotary pumps, ...;

silicone tubes

make sure that the water transport tubes are intact and that they have kept their transparency, replace them, if necessary;



12.04. out of order

if the vending machine should be inactive for a long period, please act as follows:

temporary

- set the boiler water temperature to zero (see 09.01.b.);
- detach the water and energy supply;
- empty the boiler and the internal water tank;
- empty the liquid waste tray;
- empty and clean the product canisters;
- clean the internal and external surfaces by using a wet piece of cloth;
- cover the machine by means of a cloth;
- store it in a sheltered place, at a temperature not below 5 °C, at a relative humidity not above 80%;

definitive



if you should definitively set the vending machine out of commission and provide for the disposal of some parts thereof, after having carried out the operations above, disassemble the vending machine by separating every single component and subdividing the parts according to the nature of materials; the applied symbol means that the components of the vending machine shall be not processed as home rubbish, but delivered to the collection points capable of recycling electric and electronic equipment; refer to the 2002/96/EC Directive and to the relative rules;

the complete text of the European directive about this specific subject-matter is made available on the Internet site:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0096&from=IT>

13.

how to do to:

13.01. empty the drip tray

the drip tray is arranged in its work seat and retained by the notches in the structure; pull to remove it;

see 05.06.

13.02. remove the instant canister

rotate the dispensing slide closure and pull the canister by lifting it slightly; to reassemble it, insert the rear bush into the motor gear and the lower pin into the horizontal surface hole; disassemble the product slides from the canisters by turning them counter clockwise;

see 05.15.

13.03. access to the rear

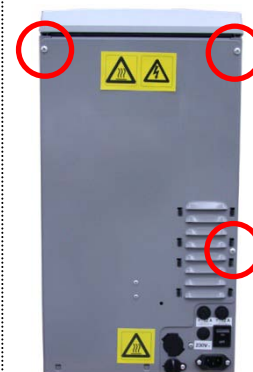


attention

make sure that the power supply cable has been detached from the mains before

unscrew the three screws shown by the picture 

all internal components of the machine can be now accessed;



13.04. remove water

arrange a bucket beneath the support surface of the machine; remove the plug intended to close the boiler drain tube and wait for the water outlet; remove the internal water tank by lifting it up;

see 05.10. e 05.15.

13.05. replace the o-ring of mixing bowls

remove the silicone tubes intended to dispense the product; turn the orange ring nut clockwise; pull the mixing bowl body and extract the mixer motor; you can now access the w-ring of the motor shaft; the water inlet gaskets of the mixing bowl and the mixing bowl gaskets;

see 05.16.

13.06. replace the mixer motor

remove the silicone tubes intended to dispense the product; turn the orange ring nut clockwise and pull the mixing bowl body; unscrew the crosshead screw and extract the motor; the power supply wires can be removed without any tool;

see 05.18.

13.07. replace the product motor

remove the product canister; access the rear part of the machine; extract the two small electric cables from the motor, hold the body, push it to the bottom to release it from the bayonet connection of the structure; the power supply wires can be removed without any tool (observe the polarities);

see 05.20.

13.08. determine water and product times

the times specified by table 10.01. can be referred to as the times functional for the machine and the products to be dispensed; however, they can be adapted to the capacity of the user's cups (by changing "time water N") and its tastes (by changing "product N"); please, never forget to make sure that the dispensing time of the instant product is always lower than the one of corresponding water;

see 09.01.a.

13.09. programme delays

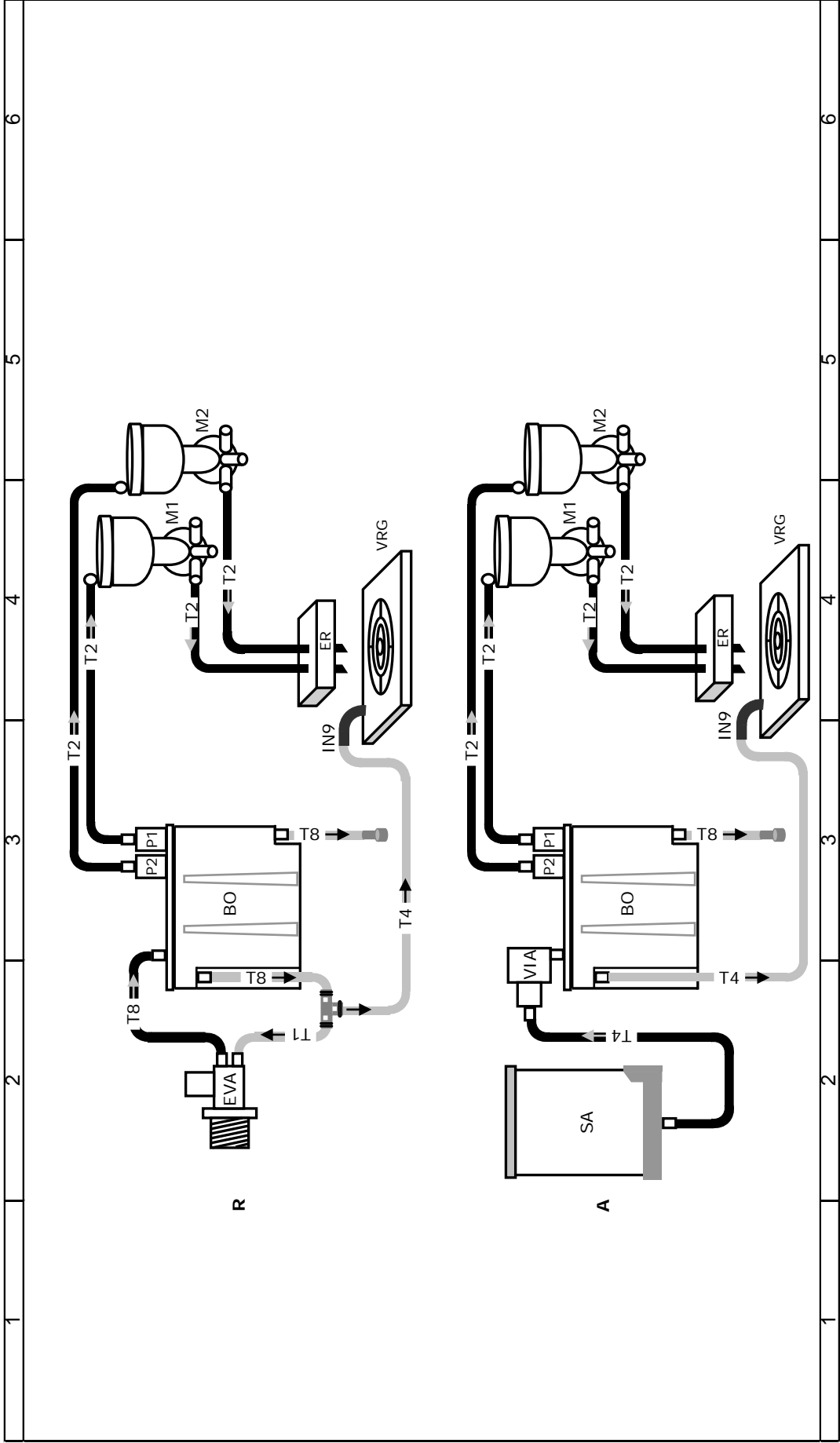
dispensing starts as soon as the user presses a selection key; the order in which instant products are poured into the cup depends upon the values of delays (e.g. the one, the delay value of which is zero, will be dispensed before the one, the value of which is 40, dispensed four seconds after the user has pressed the selection key); pay special attention when programming the delays in dispensing a product and the water diluting it in the mixing bowl; except for the instant coffee product, for which just the opposite is applicable, it is recommended to dispense water before the product to enable the latter to drop on the water film already present in the mixing bowl for a better mix;

see 09.01.a.

13.10. regulate the speed of mixers	the rotation speed of the motors of product mixers can be adjusted between 15,000 r.p.m. (value 0) and 5,000 r.p.m. (value 5); the drink quality of instant products depends a lot upon the action of the fans of mixers: instant chocolate generally requires a long mixing time at the maximum speed for dissolution in water whereas instant tea shall not be mixed to get a drink quality without any bubble on the surface;	see 09.01.a.
13.11. tune the water flow for instant products	regulation is admitted for boiler pumps (see 05.23. and 05.24.) within the +/-30% maximum limits only when the programmed water flow is "average"; when it is "low", it can be only increased (max. by 30%) whereas – when it is "high" - the flow can be only reduced (max. 30%);	see 09.01.a.
13.12. determine the suction fan time	to remove the residual powder of instant products from inside the machine, it is recommended to use the value in minutes you have already programmed (three); if you should use particularly volatile products, increase the time to five (and more) minutes;	see 09.01.c.
13.13. external cleaning of the machine	use neutral products only; <u>attention</u> never use abrasive cloths, steel sponges, aggressive or foamy detergents and other solvents, hot water and acids;	
13.14. daily wash cycle	refer to chapter 08.04. to make sure that the water circuits of the machine are clean;	
13.15. return some material under guarantee	if you should return any material under guarantee that is either defective or not in compliance with your requirements, fill in the form "MOD. PO 19.01/2B Materials under guarantee – Authorisation to return" and send it to the fax number above to apply for authorisation; only after having received the authorisation form signed and numbered, you are permitted to send the goods at your expenses to the address specified by the form;	



14. hydraulic diagram



L	column	symbol	name	column	symbol	name
E	2	EVA	water inlet solenoid valve	3	P3	boiler pump 3
G	3	VIA	water load solenoid valve	5	M1	mixer 1
E	2	SA	water internal tank	5	M2	mixer 2
N	3	BO	boiler	4	ER	nozzle support
D	3	P1	boiler pump 1	4	VRG	drip tray
	3	P2	boiler pump 2	4	IN9	90° joint

column	symbol	name
/	T1	silicone hose 05/08T
/	T2	silicone hose 06/09T
/	T4	silicone hose 07/11T
/	T8	silicone hose 10/14T