

TECHNICAL INSTRUCTIONS



Optima Soft



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INTRODUCTION AND GENERAL NOTES

Thoroughly read the instructions contained in this booklet because it gives important information regarding safety for installation, use and maintenance.

Keep this booklet in a safe and accessible place for further consultation.

This machine must be used only for the purpose it was designed:

dispensing coffee, cappuccino, pouring hot water.

Any other use is to be considered inappropriate and therefore dangerous.

The manufacturer declines all responsibility for damage caused by any improper, incorrect and unreasonable use of the machine.

The use of any electric appliance implies the observance of some fundamental rules.

More specifically:

- The appliance should be placed on a stable flat surface with the bodywork at a minimum distance of 20mm from the back wall, furthermore, it must be installed taking into account that the highest shelf must sit at a height that is at least 1.5 mt. During installation, fit a device that guarantees disconnection from the mains, duly sized according to the power of the equipment (see rating plate), as well as protection against leakage current with a value equal to 30mA. This cut-off device must be assembled on the power supply line in compliance with installation rules.
- do not touch the appliance with your hands or feet wet or damp
- do not use the appliance with bare feet
- do not pull the power cord to disconnect the plug from the power socket
- do not leave the appliance exposed to the weather (rain, sun, frost)
- do not let children or untrained persons use the appliance.

Before carrying out any cleaning and maintenance, disconnect the appliance from the power supply, pulling the plug from the power socket and turning off the main switch.

In case of failure or malfunction turn the machine off and do not attempt to carry out any repairs or direct operations on the machine.

All repairs must be carried out in an authorized service centre, using original spare parts only.

Failure to comply with the above recommendations will compromise the safety of the machine and the warranty conditions.

If this machine is no longer used we recommend that it is made inoperative by disconnecting the cable from the power supply, and all potentially dangerous parts are made harmless, especially to protect children who might use the machine for their games.

INSTALLATION NOTES

Installation must be carried out according to the manufacturer's instructions.

An incorrect installation can cause damage to persons, animals or things; the manufacturer declines all responsibility for such situation.

Place the machine on a table having minimum height of 0.95mt. Furthermore the surface has to be flat, having a maximum inclination of 5°, in order to secure a perfect stability. Check also that the table can bear the weight of the machine.

This is a commercial machine and is not designed for home use and must be operated by duly qualified persons.

The machine must not be used by children or people with reduced mobility, sensory, mental or lack of experience or education, unless there is a supervisor.

After unpacking check that the machine is not damaged.

If in doubt, do not use the machine and contact an Carimali S.p.A. Authorized Service Centre.

All packing materials (plastic wrapping, polystyrene, nails, etc.) are potentially dangerous and must be kept out of children's reach and disposed of in a safe manner for the environment.

Before connecting the machine to the power supply make sure that the rating information of the machine correspond to that of the power supply, and that the power supply is adequate to additional power absorption of the machine.

The machine is supplied with power cord and without plug, connect the machine to the main switch with knife switch and protection fuses. In case of maintenance, open the knife switch.



The machine with single phase voltage, having a rated current more than 16A, must be connected to power supply with a dedicated impedance.

The electrical safety of this machine can be guaranteed only if correctly connected to an efficient earth circuit as indicated by current electrical safety regulations.

It is necessary to check this fundamental safety prerequisite, and in case of doubt, ask a professionally qualified technician to check the circuit.

The manufacturer declines all responsibility for any damage caused by failure to earth the equipment.

In order to avoid any dangerous overheating, we recommend that the power cord be fully unwound.

In case of damage to the cord, contact exclusively an authorized service centre to have it replaced.

The power cord of this machine must not be replaced by the customer.

Do not leave the machine connected unnecessarily.

Turn off the main switch of the machine when not in use.

Do not cover the ventilation openings of the machine.

Place the machine at an adequate distance from walls, objects, etc.

The machine must be connected to a system with a water pressure which is not greater than 0.6 MPa. Do not use pipes and coupling gaskets already used for previous installations.

If the pressure is greater, a pressure reducer must be installed.

The machine must be connected to a softener.

ENVIRONMENTAL CONDITIONS TO USE THE MACHINE

Environmental temperature: 5 – 30 °C (empty the hydraulic system in case of freezing)

Maximum humidity: 80% relative humidity

Water hardness: 5° eh, 7° dH, 13° Fh

1. Essential operational requirements

1.1 The machine shall be supplied with water for human consumption, in compliance with the laws in force where the installation is performed. The installer shall check with the owner or manager of the machine if the water complies with the requirements above.

1.2 The components and materials to be used during the installation are those supplied with the machine. In case other components are needed, the installer shall check if they are suitable to be used in contact with water for human consumption.

1.3 The installer shall set up hydraulic connections in compliance with the rules about hygiene, water safety and environment in force where the installation is performed.

1.4 At the end of the installation the machine is activated, brought to nominal operating conditions and left in the "ready for operation" mode. Then it is turned off and the whole water circuit is drained from the initial water to eliminate any impurities.

Then the machine is once again loaded and brought to nominal operating conditions.

When the machine is in the "ready for operation" mode, the following deliveries are performed:

- 2 liters from the hot water outlet (in case there are more outlets, the 2 liters shall be equally divided)
- 1 liter of water from each coffee outlet
- each steam outlet is kept open for 1 minute

At the end of the installation, it is recommended to write a report of the operations that were performed.

USE AND MAINTENANCE NOTES

For a correct functioning of the machine it is fundamental to comply with the manufacturer's instructions, having qualified personnel to carry out special maintenance and to check all safety devices.

Do not use the machine without water.

Avoid to expose hands or other parts of the body to the coffee dispensing spouts or to the steam or hot water nozzles.

The water and steam from the nozzles is very hot and can cause severe burns.

The water and steam nozzles and the filter holders are very hot and therefore must be handled with care, holding them in the appropriate points.

Do not leave the machine in rooms where the temperature is below 0°C or 32°F without having first drained the boiler and the hydraulic circuit.

Cups and coffee cups must be placed on the cup-warmer tray (if fitted) only after having been fully drained.

Only the crockery related to the machine should be placed on the cup-warmer tray.

Placing any other object on the tray is to be considered incorrect.

The machine is not waterproof and therefore should not be cleaned with water jet.

1. Use of the machine

1.1 At the beginning of operations, and in any case at least once a day, all the water inside the machine shall be changed, following the instructions:

- for fully automatic machines, carry out a group washing and a power cleaner washing.
- for traditional machines, see the paragraph about draining the boiler.

1.2 Before the steam wand is used, it shall always be purged from the condensation water for at least 2 seconds or according to the instructions by the manufacturer.

2. Maintenance and repair

2.1 The components used during the maintenance or repair shall be guaranteed to meet the same hygiene and safety requirements as the machine. Genuine spare parts offer this guarantee.

2.2 After components related to parts that come into contact with water or food are repaired or changed, a washing procedure shall be carried out as indicated in the paragraph about the rules for the installation.

HACCP SCHEDULE

We hereby declare that our HORECA machines have been designed and constructed to comply the European Community Sanitary law and that their sales are authorized by the Health Authorities.

A HACCP schedule (Hazard Analysis Critical Control Points) for risk identification and assessment is required. You should carry out a risk analysis on your premises.

With correct installation, care, maintenance and cleaning with approved detergent, Carimali meet the requirement above mentioned.

Carry out cleaning instruction, provided with machine, every day or at 8 hours shift intervals, to ensure that your system contains a minimum bacteria.

GENERAL CHARACTERISTICS

Number of coffee dispensing groups	1
Number of milk frother	1
Number of grinders	1or2
Number of product containers/mixer	1
Hot water dispenser	1
Maximum quantity of dispensable drinks per minute	4 Espressos - 2 Large Coffee -2 Large Cappuccinos - 2 Large Chocolate – 2 Tea cups
Hot water capacity per hour (lt)	30
Machine width (mm)	325
Machine height (mm)	814
Machine depth (mm)	561
Net weight (Kg)	50
Coffee hopper capacity (gr)	1300
Instant canister capacity (lt)	4
Coffee Boiler capacity (lt)	1
Steam Boiler capacity (lt)	1,8
Coffee Boiler resistor (W)	1800/2500
Steam Boiler resistor (W)	2000/2800
Voltage (V)	200V-1+N – 50/60Hz 220V-1+N – 50/60Hz 230V-1+N – 50/60Hz 240V-1+N – 50/60Hz 230V-3 – 50/60Hz 400V-3+N – 50/60Hz
Brewer group resistor PTC (W)	70

MACHINES IN SELF CONFIGURATION (see exploded view manual for code number)

Functions are absent or disabled by software:

- steam wand: absent
- extra milk function by pushing the cappuccino/latte dose key: disabled by sw
- function to stop the dose delivery by pushing a dose key: disabled by sw
- function to switch off the machine by pushing Shift and then Info keys: disabled by sw

Included features:

- Kit to block the drip tray
- Kit to block the decaf door

Recommended optionals:

- Lock for beans hoppers and product canisters
- Lock for the coffee grounds bin, placed instead of the missing steam wand OR
- Direct coffee grounds.

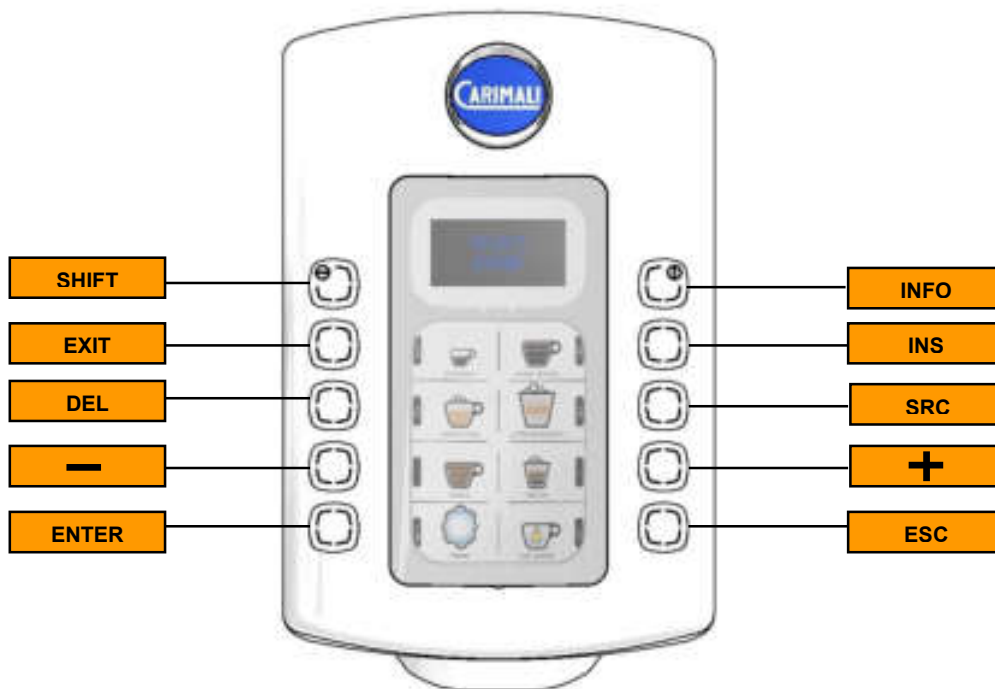
Materials used:

- Stainless steel for boiler
- Teflon/Copper for hydraulic tubes
- Aluminium with stainless steel lining for the brewing group
- Plastic for grinder with conic grinder blades
- Other accessories in food plastic which are in contact with the ground coffee or drink
- Plastic for working area and cups tray
- Painted metal or stainless steel for machine body.

POWER CONSUMPTION

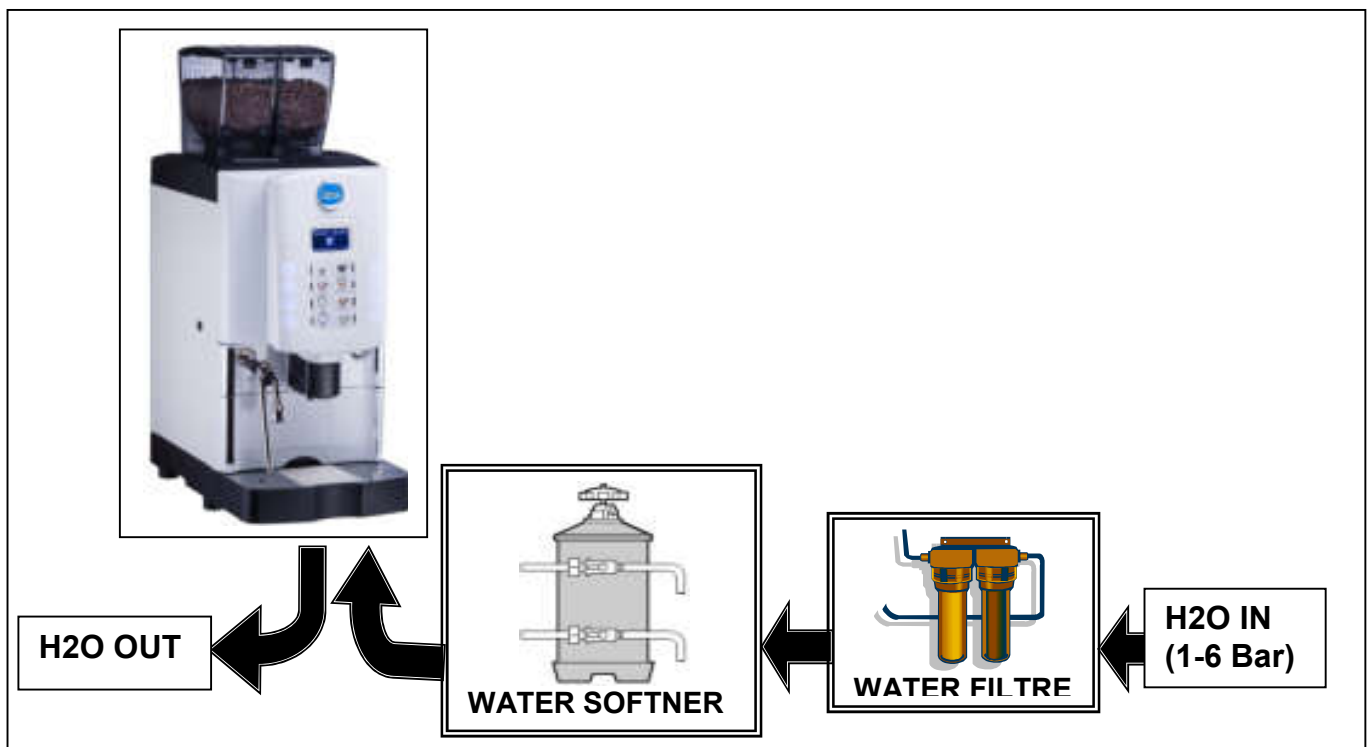
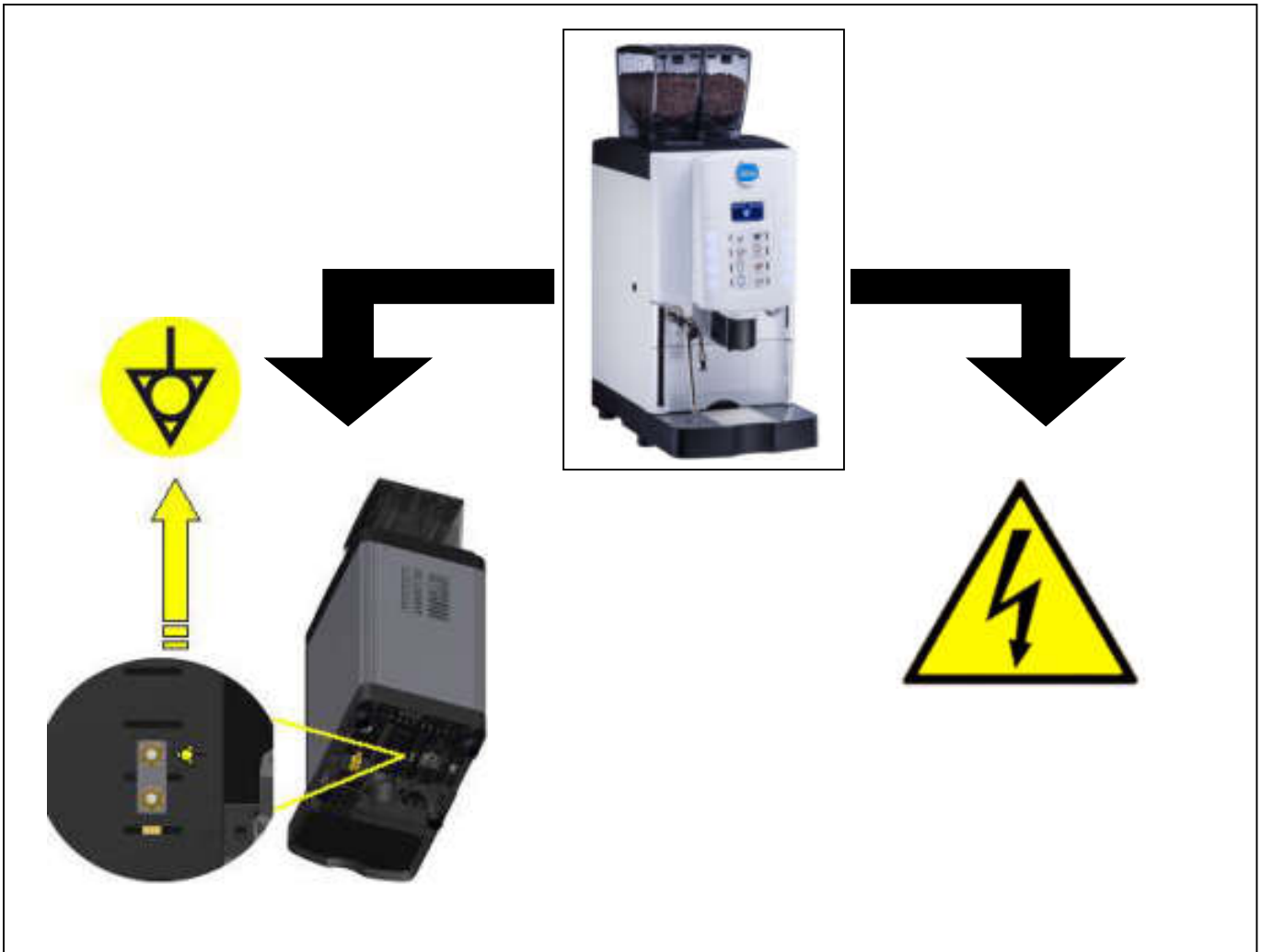
Machine type: Optima 380V three phases (3+N) Coffee boiler 1.0 litre heating element 1.8 KW (single phase) Steam boiler 1.8 litre heating element 2.0 KW (three phases) Machine load 5,58 KW Environment temperature: 22°C	MEASUREMENT
1. HEAT UP PHASE To reach operational coffee boiler temperature, 90°C, in 2'.30" (min, sec) To reach operational steam boiler temperature, 124°C, in 5'.40" (min, sec)	Consumption 0.2 KW/h HU = 200 W
2. IDLE PHASE Stand by at 90°C coffee boiler, 124°C steam boiler during 24 hours	Consumption 3.58 KW/24h IM = 3580 W, 149,16 W/h
2.1 IDLE PHASE IN ENERGY SAVE MODE Stand by 80°C coffee boiler, 110°C steam boiler 24 hours	Consumption 3.1 KW/24h IM = 3100 W, 129,16 W/h Recovery time: 41 sec. Consumption: < 100 W
2.2 IDLE PHASE IN ENERGY SAVE MODE Stand by 70°C coffee boiler, 105°C steam boiler 24 hours	Consumption 2.8 KW/24h IM = 2800 W, 116,66 W/h Recovery time: 64 sec. Consumption: < 100 W
2.3 IDLE PHASE IN ENERGY SAVE MODE Stand by 60°C coffee boiler, 100°C steam boiler 24 hours	Consumption 2.4 KW/24h IM = 2400 W, 100 W/h Recovery time: 80 sec. Consumption: < 100 W
3 VENDING PHASE Delivery of No. 30 cups of coffee of 100ml, one cup every 2 minutes	L = ml 100 DV = ml 3000 VM = 500 W/h (vending phase) DT = 89,4° C (average drink temperature) ECPL = 166,6 Wh/l (energy consumption per litre)

MACHINE KEYPAD



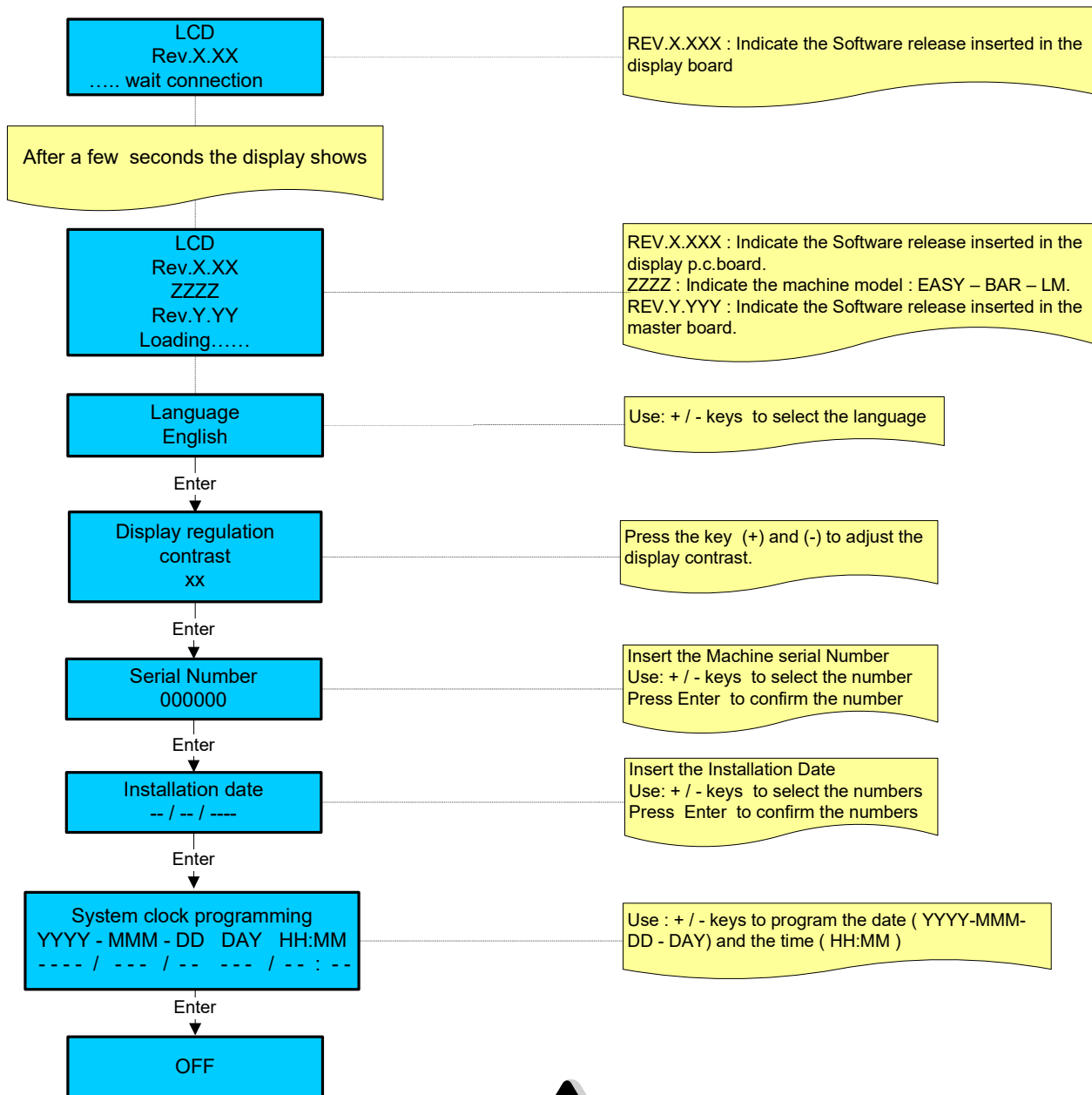
	KEY REFERENCE	FUNCTION
DOSE KEYS	1	Espresso / (Edit)
	2	Black coffee / (Insert blank)
	3	Cappuccino / (Delete character)
	4	Latte macchiato / (Scroll)
	5	Choco / (-)
	6	Mocha / (+)
	7	Steam / (Enter)
	8	Hot water / (Esc)
SERVICES KEYPAD	9	Info
	10	Shift /Clean

ELECTRIC - HYDRAULIC CONNECTION



STARTING UP

After having connected the machine to the water and electric networks, turn the switch on (see diagram).
The display shows:



WARNING:

A - If the language choice is not displayed, keep the machine in OFF mode; it is absolutely necessary to carry out a **TECHNICIAN PRESET CONFIGURATION DATA** procedure.

B - If a **FACTORY PRESET CONFIGURATION DATA** has been carried out , also the **MACHINE CONFIGURATION** parameters will be displayed . (See the System manager paragraph).

Press the key N°11(ON/OFF) , the display shows:

Filling - up steam boiler

During this stage the steam boiler is being filled up.

WARNING: The solenoid valve of the steam nozzle automatically opens to release the air inside the boiler.

When the steam boiler has been filled up, the display shows:

Filling - up coffee boiler
Press B1
When water exits

During this stage the coffee boiler is being filled up

WARNING:

The upper piston of the coffee group positions itself inside the brewing chamber, and the coffee boiler starts filling up. When the coffee spout starts dispensing water, press the key dose N° 1 to confirm that the filling up procedure has been carried out. When the coffee boiler has been filled up, the display shows:

Steam Coffee
XXX °C YYY °C

Where:

- XXX °C indicates the temperature of the steam boiler

- YYY °C indicates the temperature of the coffee boiler

WARNING:

A) DURING THIS STAGE THE MILK FROTHER AND STEAM WAND SOLENOID VALVES WILL STAY OPEN UNTIL 95°C. THIS WILL RELEASE THE AIR FROM THE BOILER AND GENERATE STEAM.

B) WHEN THE BOILER TEMPERATURE OF 50°C ITS REACHED THE MACHINE CARRY-OUT A RINSING GROUP .THIS IS USEFULL TO RELEASE AIR FROM THE WATER COFFEE CIRCUIT; THE DISPLAY WILL SHOW :

G.Auto Rinsing

When the set-up temperature is reached , the keypad lights are on and the display shows:

For machine configurations: Standard.

Select drink

For machine configurations: Self.

The display shows:

Select drink

Alternated with the message:

Position the cup

For machine configurations: waiters' card

The display shows:

Place card

For machine configurations: Self + credit card

The display shows:

Place card

For machine configuration: Self with coin box.
The display shows:



For machine configuration: Self with coin box + credit card.
The display shows:



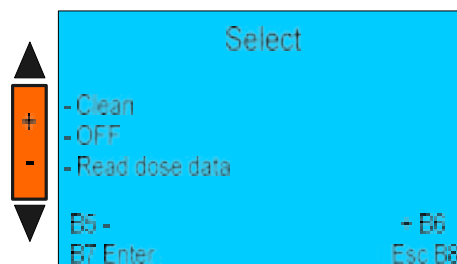
WARNING:

- a) For Self with coin box configuration the selections doses are enabled only when the set-up temperature of both boilers (Coffee- Steam) have been reached.
- b) To switch ON the machine on every type of Self – configuration, keep key n°10 (shift) pressed and then press key n° 9 (info), the display shows:



After insert the password (61111) the machine goes to on.

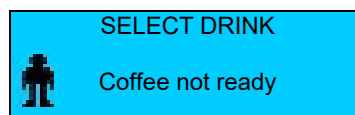
To switch OFF the machine, open the front door or place the smart card and keep key n°10 (shift) pressed and then press key n° 9 (info) ; or keep key n°10 (shift) pressed for 5 seconds, and after insert the password, the display shows:



Press the key n°6 (+) to select OFF and then press the key n°7 (Enter) to confirm.

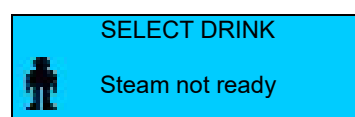
- c) In case of temporary voltage drop, the machine will be automatically turned back to the stage previous to the voltage drop.

If the display shows:



The displayed message indicates that the set up heating temperature in the coffee boiler has not been reached yet, and therefore coffee based dispensing are not enabled

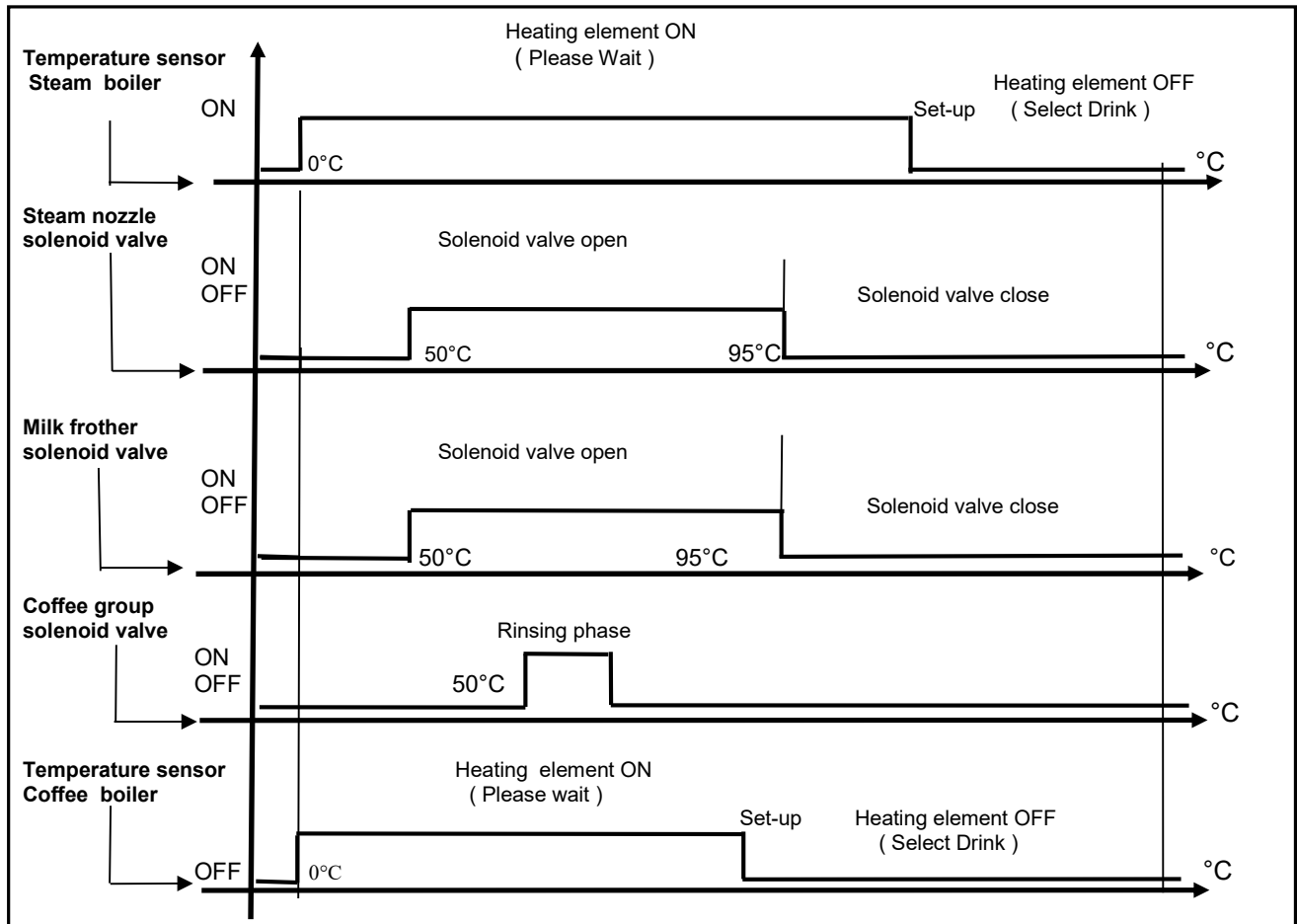
If the display shows:



The displayed message indicates that the set up heating temperature in the steam boiler has not been reached yet, and therefore milk based dispensing and hot water dispensing are not enabled.

In both cases wait until the boiler has reached the set up heating temperature.

SCHEMATIC SUMMARY OF STEAM AND COFFEE BOILER HEATING PHASE



ACCESS THE MAIN SETTING MENUS WITH PASSWORD OR SMART-CARD

A) ACCESS THE MAIN SETTING MENUS WITH PASSWORD

To enter the programming environments, a password is required which define the access rights to the different environments.

The password must be composed with 5 numbers.

To insert the passwords proceed as follows:

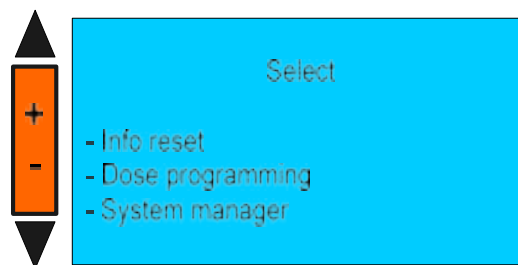
- Turn the machine OFF
- Keep N°10 "SHIFT" key pressed for 5 seconds. The display shows:



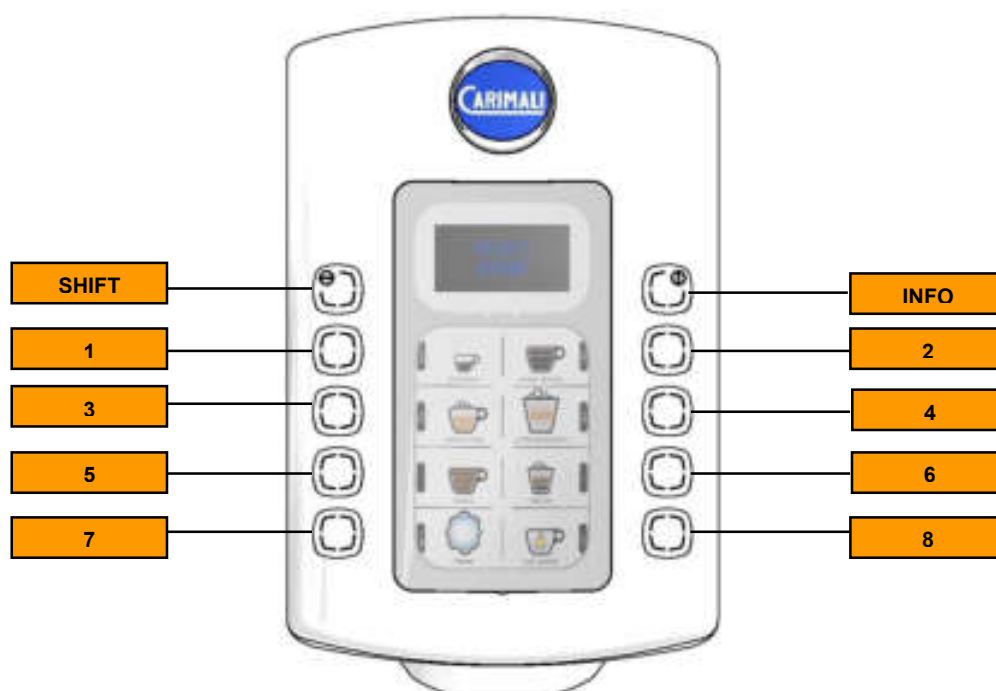
Enter one of the following passwords:

- Waiter 6 1 1 1 1
- Roaster 1 1 1 1 1
- Owner 2 2 2 2 2
- Service 3 3 3 3 3
- Technician (for Technician password contact the Carimali S.p.A. Technical Service).

After insert the password the display shows the main menu programming environments:

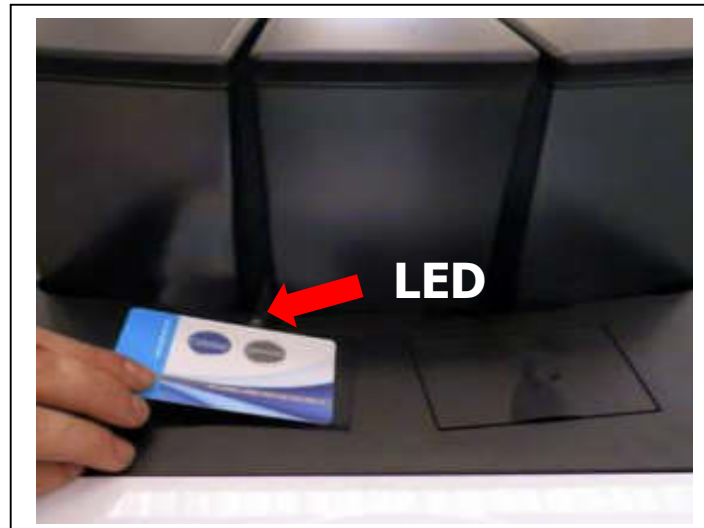


KEY REFERENCE FOR PASSWORD



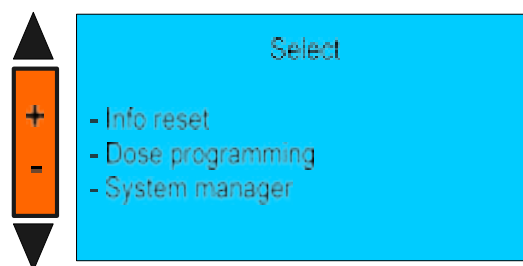
B) ACCESS THE MAIN SETTING MENUS WITH SMART CARD.
(ONLY FOR MACHINES WITH TRANSPONDER INSTALLED)

To enter the programming environments , place one of the following smart cards above the proper reader with the led light on and the machine in off :



- WAITER SMART CARD
- ROASTER- SMART CARD
- OWNER SMART CARD
- SERVICE SMART CARD
- TECHNICIAN SMART CARD

if the inserted card it is correct the reader led light off .
Keep N°10 "SHIFT" key pressed for 5 seconds. The display shows:



WARNING:

If you use a card having a card code different from the machine code, the reader light flash simultaneously

PROGRAMMABLE PARAMETERS IN ACCORDING WITH SMART CARD OR PASSWORD

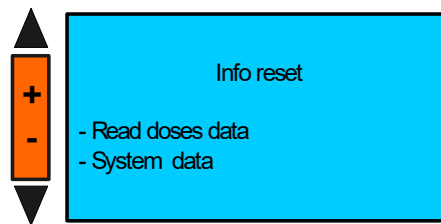
		WAITER	ROASTER	OWNER	SERVICE	TECHNICIAN
INFO - RESET						
Reard dose data	Douse counter A	X	X	X	X	X
	Douse counter B	X	X	X	X	X
System data	Group cleaning				X	X
	Mixer cleaning				X	X
	Milker cleaning				X	X
	Grinder cycles				X	X
	Water filter				X	X
	Group cycles				X	X
	Total group cycles				X	X
	Total machine cycles				X	X
DOSE PROGRAMMING						
	Set doses				X	X
	Price set-up			X	X	X
	Grinder-milker calib.				X	X
	Instant dispenser Calib.					X
MACHINE CONFIGURATION						
	Main power 200-400v/ 100-120v				X	X
	N° of Grinders					X
	Air break Desabled/Enabled				X	X
	Water tank					X
	Tea hot water Desabled/Enabled					X
	N° of Dispenser - Mixer					X
	Steam boiler Desabled/Enabled					X
	Steam boiler Cleaning Frequency				X	X
	Sequential heater				X	X
	Milker Desabled/Enabled					X
	Milk pump					X
	Fridge Desabled/Enabled					X
	Machine type					X
	Remote controller					X
MACHINE PARAMETER						
	Language				X	X
	Serial			X	X	X
	Ground N°	X	X	X	X	X
	Milk pump position				X	X
	Milk pump time pre Milk pump speed.				X	X
	Milk pump time post				X	X
	Rinse after milk dose					X
	Pause after milk					X
	Waiting time milk dose A - B					X
	Additional Milk					X
	Decimal price					X
	Scale factor price					X
	Multi vending					X
	Token					X
	Max credit on card					X
	Alarm detail					X
	Temp. Misure unit					X
	Coffee temperature	X°	X°	X°	X	X
	Steam temperature	X°	X°	X°	X	X
	Energy saver				X	X
	Keyboard sound				X	X
	Gsm: Sim card pin				X	X
	Gsm: Service phone number				X	X

	Modem set-up parameters				X	X
	Remote password				X	X
	User message	X	X	X	X	X
	Serial N°				X	X
	Installation date				X	X
SYSTEM CLOCK PROGRAMMING						
	YY-MM-DD Day HH:MM	X°	X°	X°	X	X
	Clock display			X	X	X
	Auto start -up			X	X	X
	On - Off			X	X	X
	Day Off			X	X	X
DISPLAY REGULATION						
	Contrast			X	X	X
	Display mode			X	X	X
	Default colour			X	X	X
SERVICE						
Clean/Rinse	Cleaning time	X		X	X	X
	Cycle cleaning alarm					X
	Group cleaning Programming					X
	Group auto rinsing		X	X	X	X
	Whisk cleaning program					X
	Whisk rinsing					X
	Milker cleaning program.					X
	Milker auto rinsing					X
Maintenance set -up						
	Waiter filter				X	X
	Machine service				X	X
	Grinders				X	X
	Group cycles				X	X
SMART CARD MANAGER						
	System code				X	X
	Credit load			X	X	X
	Enable/disable waiter N°			X	X	X
CHANGE PASSWORD						
	Roaster		X	X	X	X
	Owner			X	X	X
	Service				X	X
	Technician					X
GROUP MANUAL MOVEMENTS						
	Group manual movements				X	X
TEST ACTUATORS						
	Test actuators				X	X
	Milk pump speed				X	X
	Mixer test				X	X
	Dispenser test				X	X
	Exhaust fan test				X	X
BOILER DRANING						
	Boiler draining				X	X
ALARM HISTORY						
	Alarm history	X°	X°	X°	X	X
PRESET CONF. DATA					X	X
	Preset configuration data				X	X

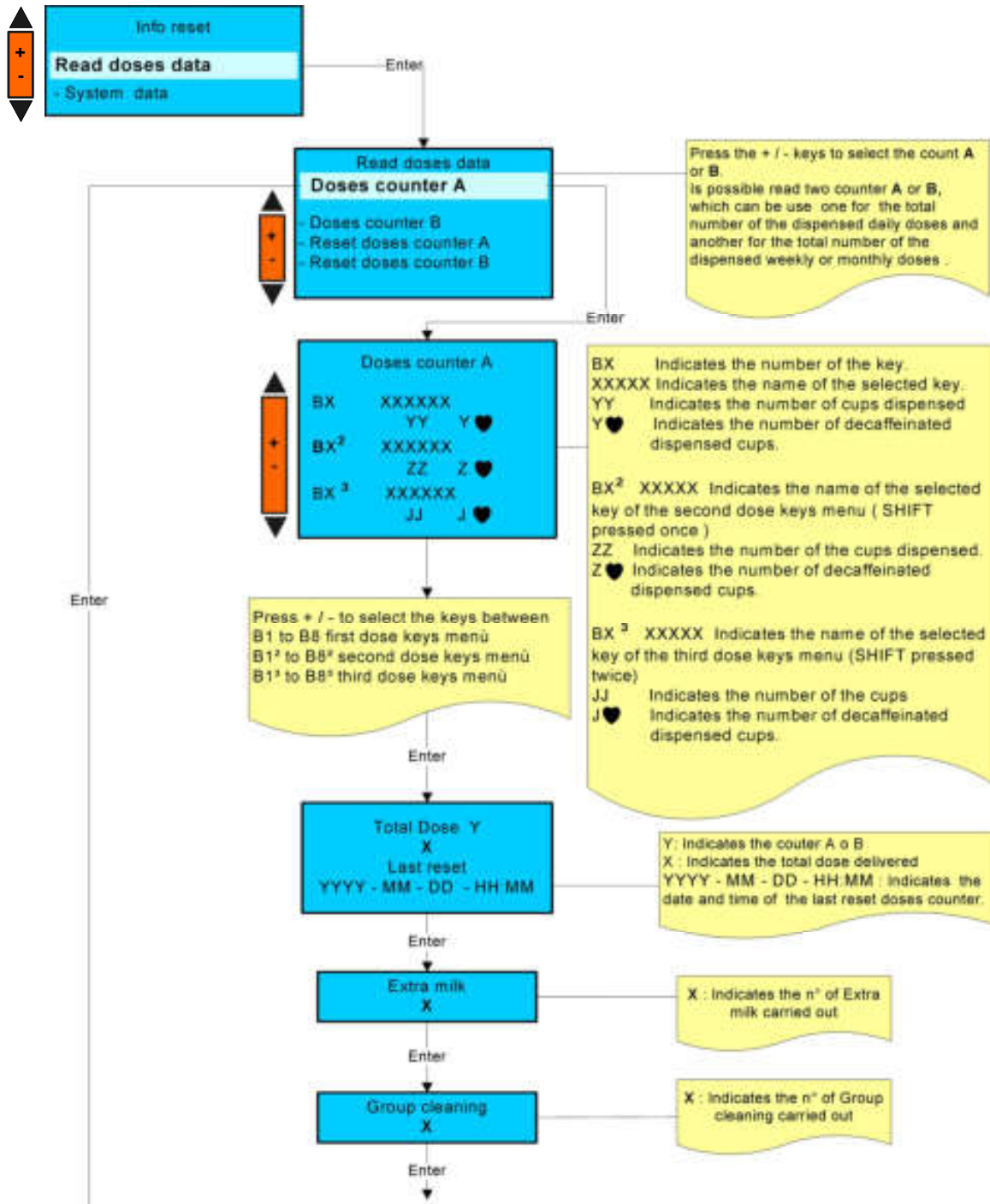
Where X indicate the available program and X° indicate the partial available program.

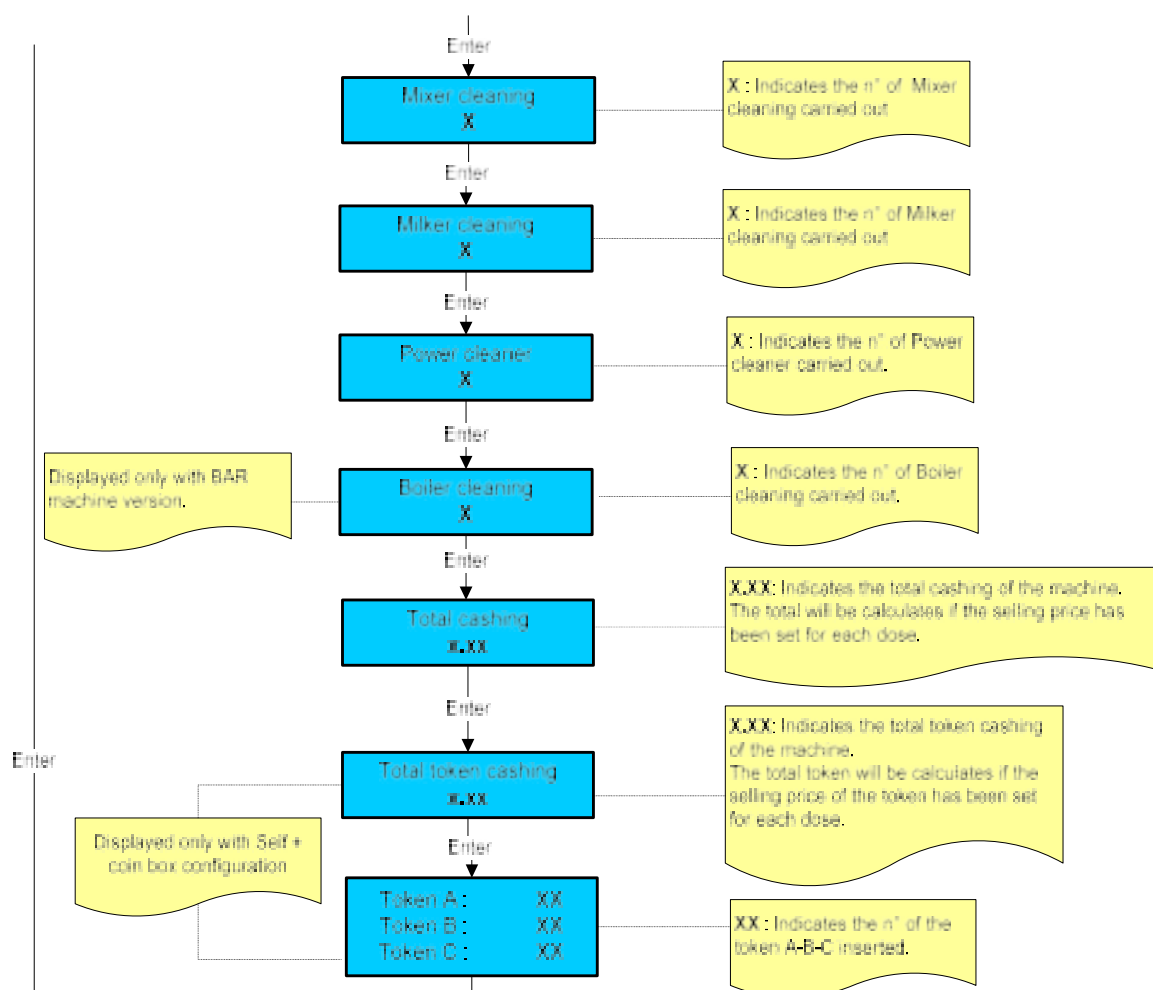
N.B. :A) If the “ PRESET CONFIGURATION DATA “ is done with the Service smart card or password will be reseted only the service accessible parameters.

INFO-RESET

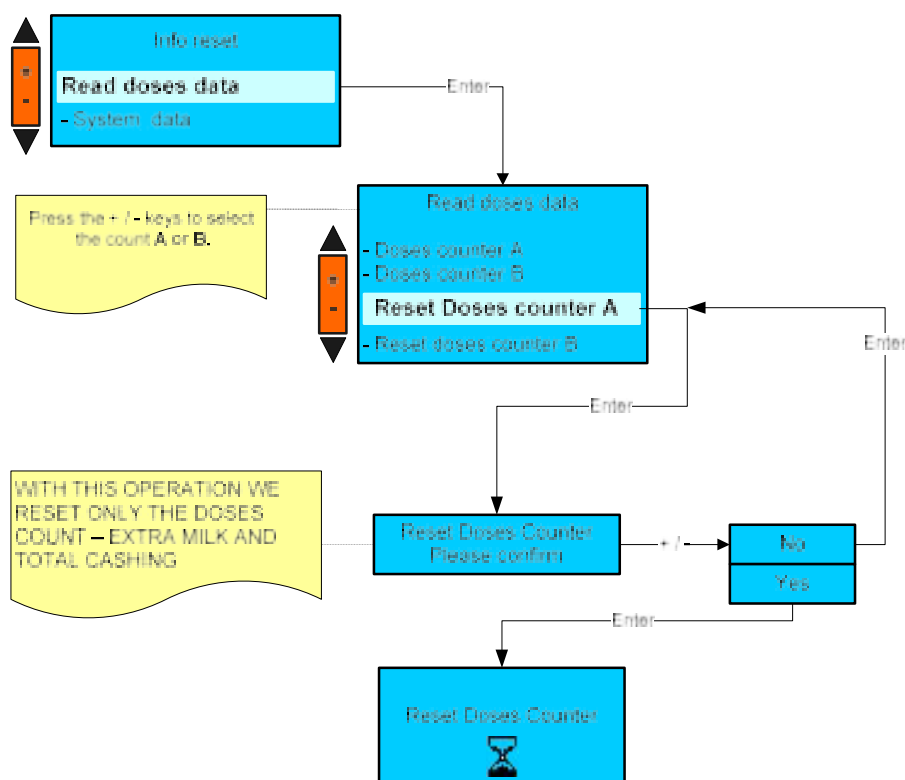


A1) READ DOSES DATA (Doses counter A/B)

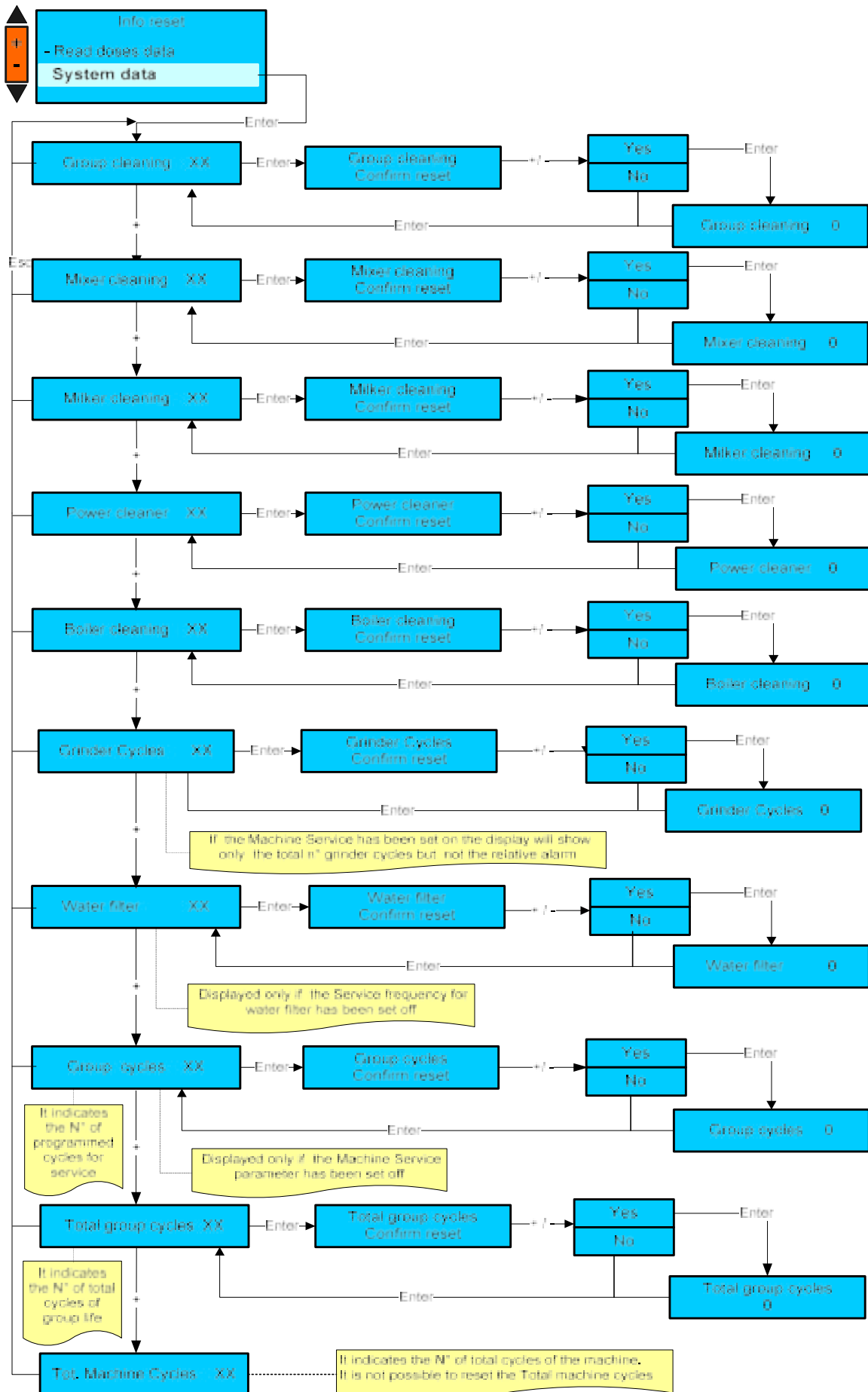




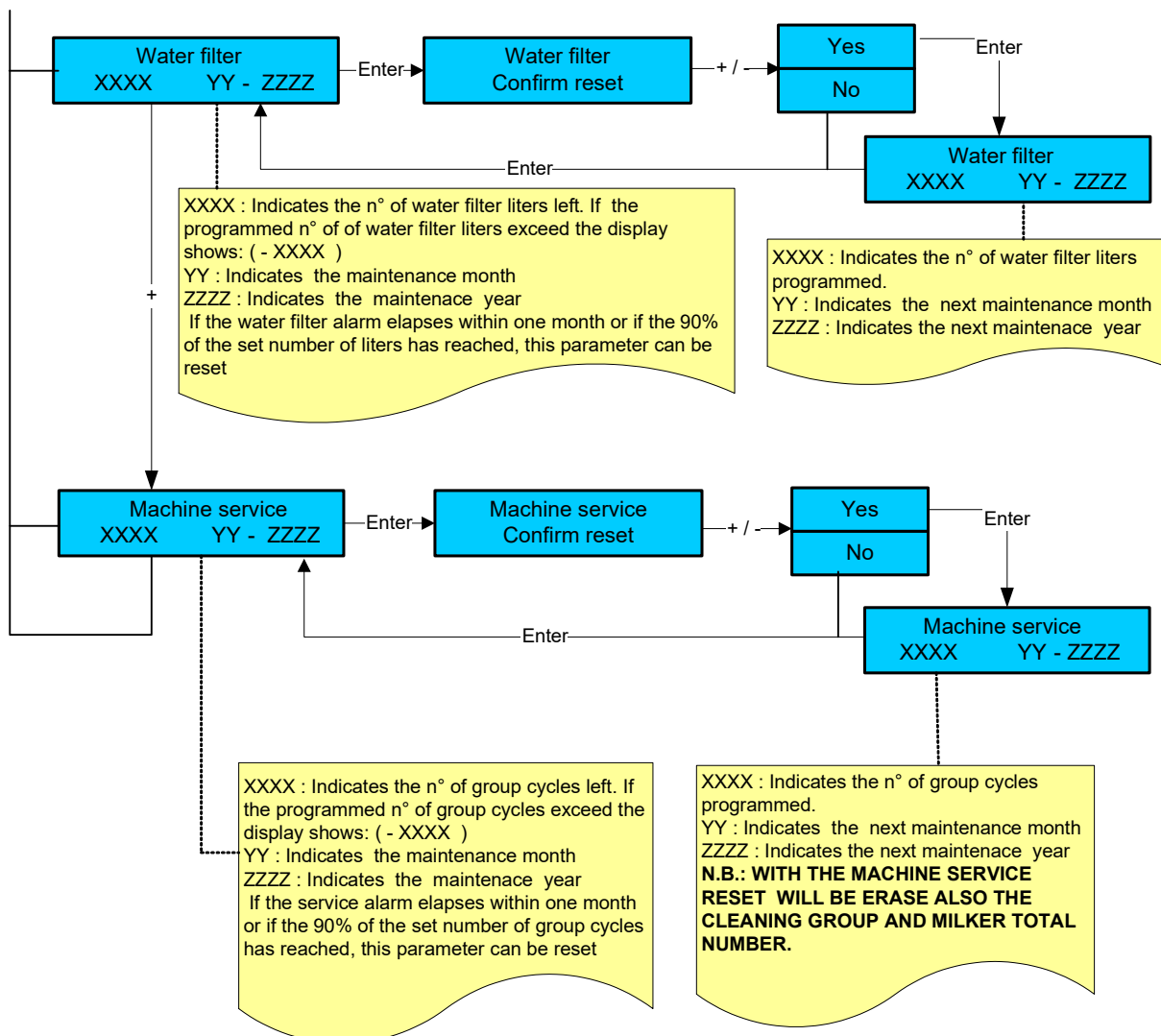
A2) READ DOSES DATA (Reset doses counter A/B)



B) INFO RESET SYSTEM DATA



THE FOLLOWING INFO ARE DISPLAYED ONLY WHEN THE CLOCK IS PROGRAMMED



WARNING:

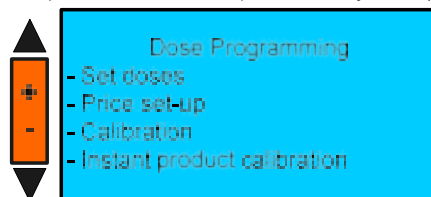
The owner's card can only enter total dose reset environment and water softener alarm reset.

Environments: group cycles, M1 tools time, M2 tools time and water filter litres will be displayed only if values higher than 000 (zero) have been set during the programming stage.

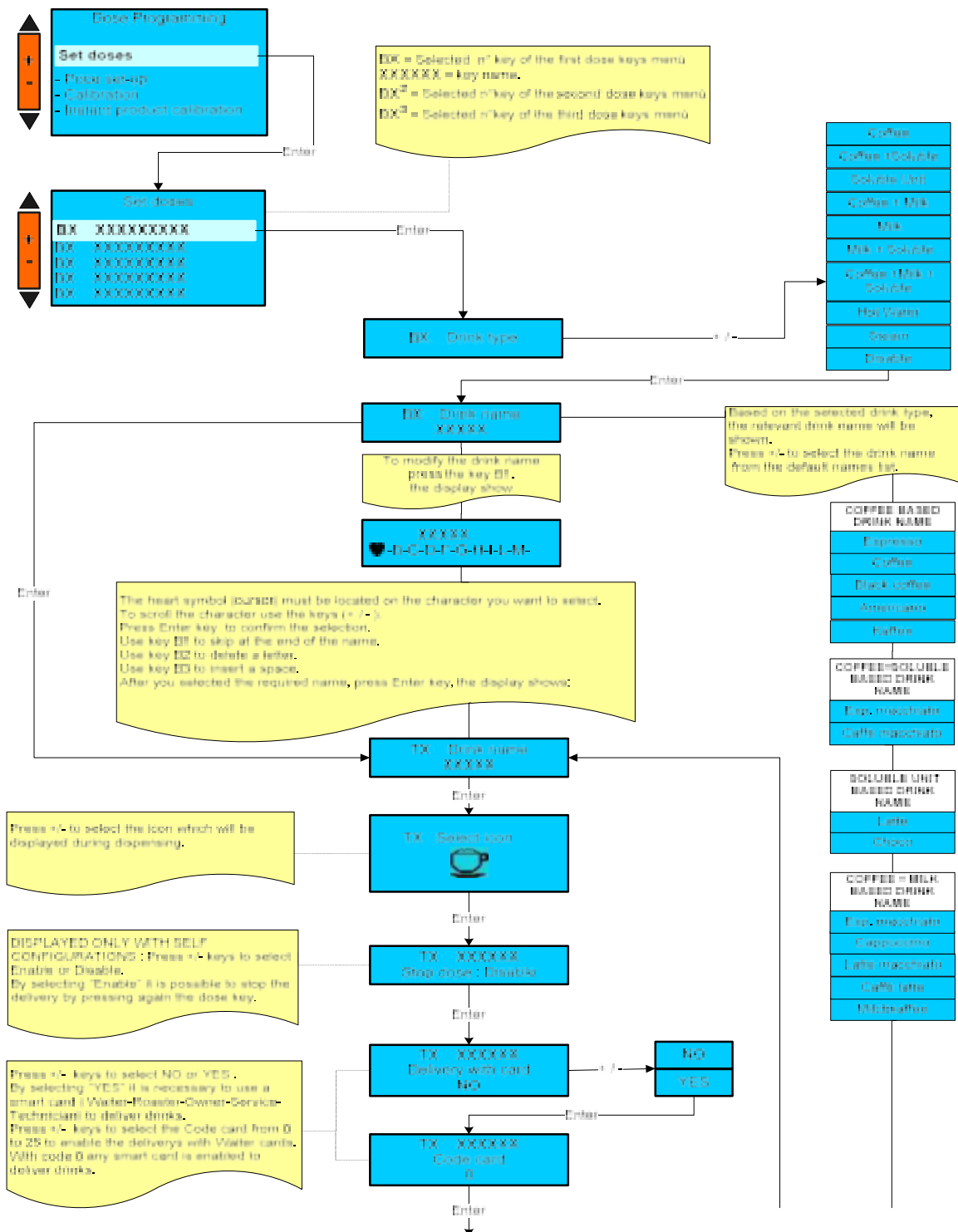
DOSES PROGRAMMING

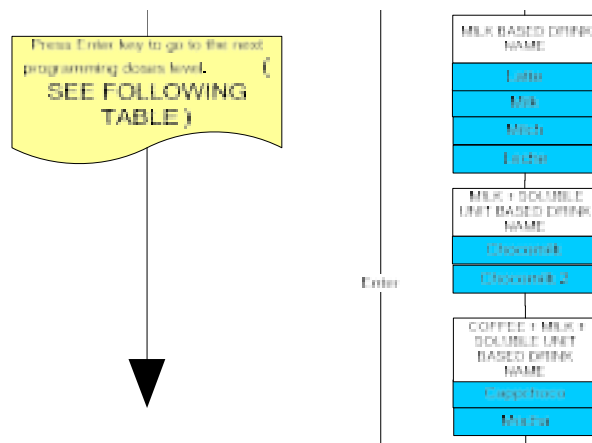
PLEASE NOTE : TO ACCESS TO THE DOSES PROGRAMMING THE MACHINE MUST BE AT THE SET-UP TEMPERATURE.

Press the key No 5 (-) and No 6 (+) to select the parameter and then press the key No 8 (Enter) to confirm the selection.



A) SET DOSES





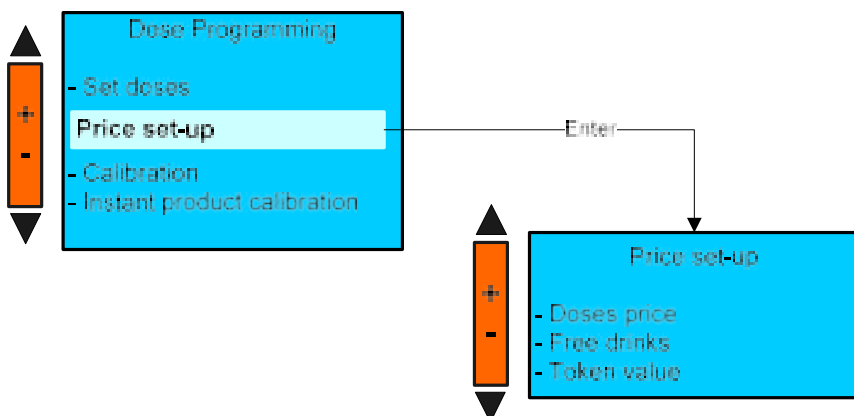
DOSE PARAMETERS	Coffee Drink type	Coffee+ Soluble Drink type	Soluble Drink type	Coffee + Milk Drink type	Milk Drink type	Milk + Soluble Drink type	Coffee+ Milk + Soluble Drink type	Hot Water drink type	Steam
PRODUCT A : PRE	-	X	X	-	-	X	X	-	-
PRODUCT A : POST	-	X	X	-	-	X	X	-	-
DECAFFEINATED Enabled/Disabled	X	X	-	X	-	-	-	-	-
GRIND TIME G1-2	X	X	-	X	-	-	X	-	-
PRE-INFUSION XX ml. PAUSE XX sec.	X	X	-	X	-	-	X	-	-
COFFEE WATER VOLUME XX ml.	X	X	-	X	-	-	X	X	-
EXTRA WATER XX ml. START AFTER XX ml.	X	X	-	X	-	-	X	-	-
PRODUCT A COLD WATER Yes / No	-	X	X	-	-	X	X	-	-
PRODUCT A Water with product ml.	-	X	X	-	-	X	X	-	-
PRODUCT A Whisk speed Xx %	-	X	X	-	-	X	X	-	-
PRODUCT DENSITY A aaa gr./100ml (GGG gr./100 ml)	-	X	X	-	-	X	X	-	-
POST WATER XX ml.	-	X	X	-	-	X	X	-	-
Solu. Drink pause Sec.	-	X	X	-	-	X	X	-	-
BOILER TEMPERATURE	X	X	-	X	-	-	X	-	-
COFFEE CAKE DECOMP. 10 = 0.5mm. - XX Puls.	X	X	-	X	-	-	X	-	-
WATER PUMP Enabled /Disabled	X	X	-	X	-	-	X	-	-
REPETITION CYCLE	X	-	-	-	-	-	-	-	-
COLD MILK xx sec. MILK PUMP SPEED Xx %	-	-	-	X	X	X	X	-	-
EXTRA MILK Enabled/Disabled	-	-	-	X	X	X	X	-	-
STEAM MILK PRE sec MILK PUMP SPEED Xx %	-	-	-	X	X	X	X	-	-
FOAMED MILK PRE sec MILK PUMP SPEED Xx %	-	-	-	X	X	X	X	-	-
PAUSE MILK-COFFEE se	-	-	-	X	X	X	X	-	-
STEAM MILK POST sec MILK PUMP SPEED Xx %	-	-	-	X	X	X	X	-	-
FOAMED MILK POST sec MILK PUMP SPEED Xx %	-	-	-	X	X	X	X	-	-
CODE I/O	X	X	X	X	X	X	X	X	X
CODE I/O EXTRA-MILK	-	-	-	X	X	X	X	-	-
STEAM TIME	-	-	-	-	-	-	-	-	X
PURGE AFTER STEAM PAUSE XX.Sec	-	-	-	-	-	-	-	-	X
PURGE AFTER STEAM PURGE XX.Sec.	-	-	-	-	-	-	-	-	X
DELIVERY TEST	X	X	X	X	X	X	X	-	-

Depending on the drink type, the necessary dose parameters will be activated to set the drink.
 Press the key N°7 (Enter) to confirm the modification carried out and shift to the next level.
 Press the key No 5 (+) and No 6 (-) to modify the level mode.
 Press the key N° 8 (Esc) to return to the previous environment and/or exit.

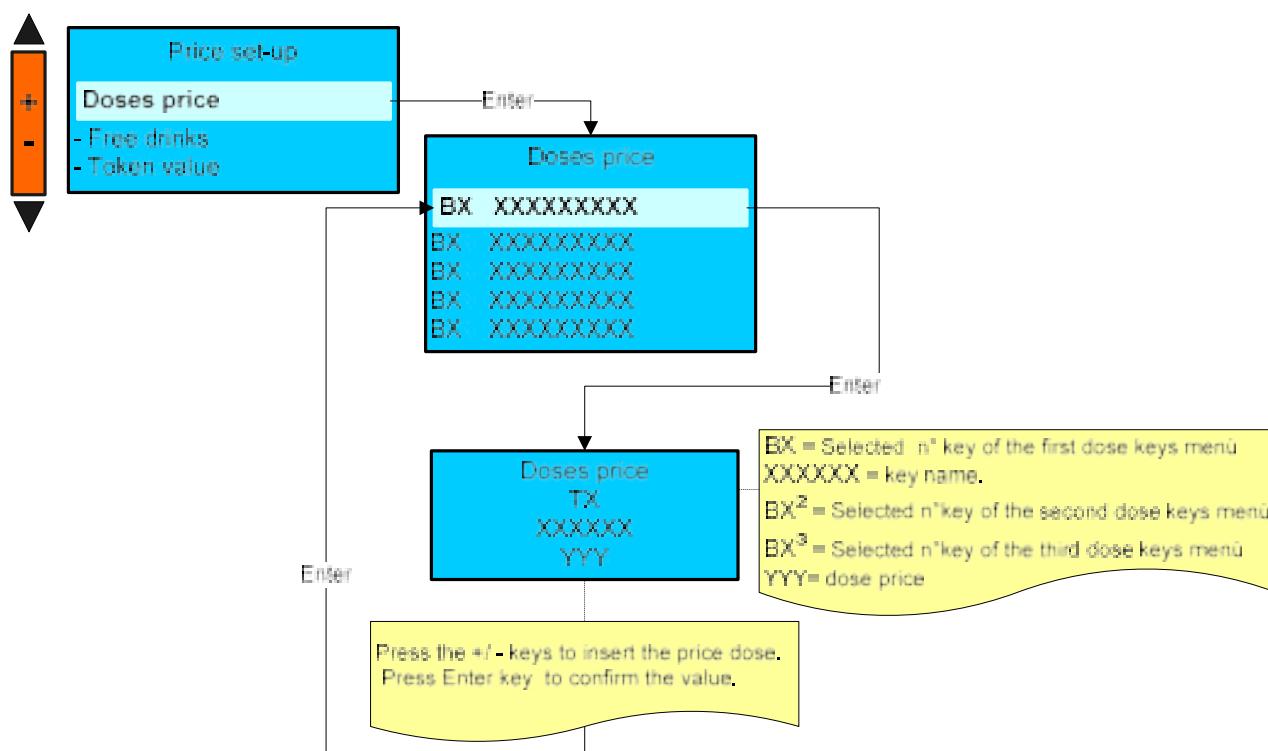
Please note:

- A) Some dose parameters will be displayed only if the relevant component has been activated in the "MACHINE PARAMETERS" environments : **milker- interface i/o hartwall or coin mechanism.**
 B) For Coffee + Milk and Milk drink type the "repetition cycle "is not available.
 C) The "Milk pump speed and Cold milk parameters" will be displayed only for machine with the milk pump installed.

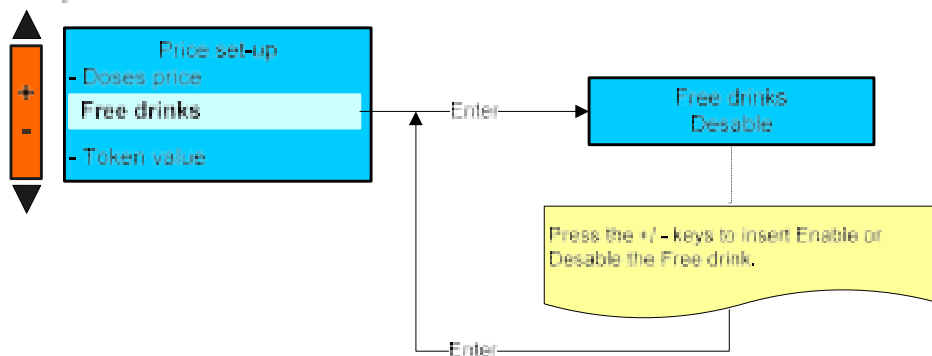
B) PRICE SET-UP



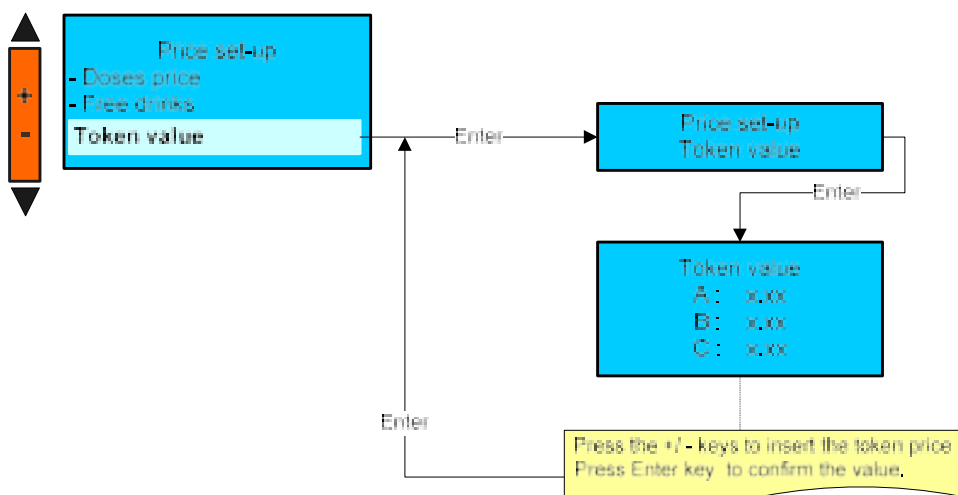
B1) Doses price



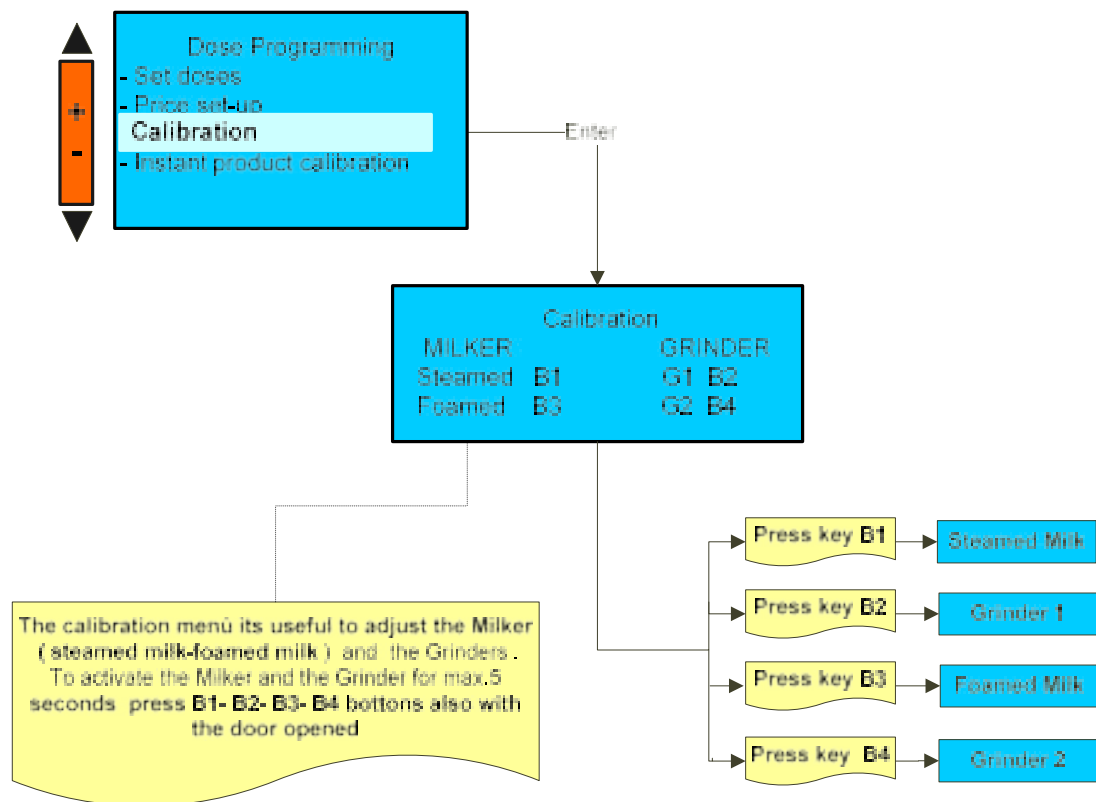
B2) Free drinks



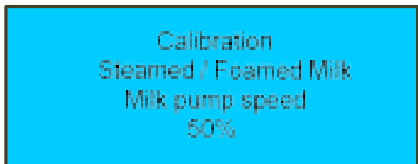
B3) Token value



C) CALIBRATION (Grinder-Milker)

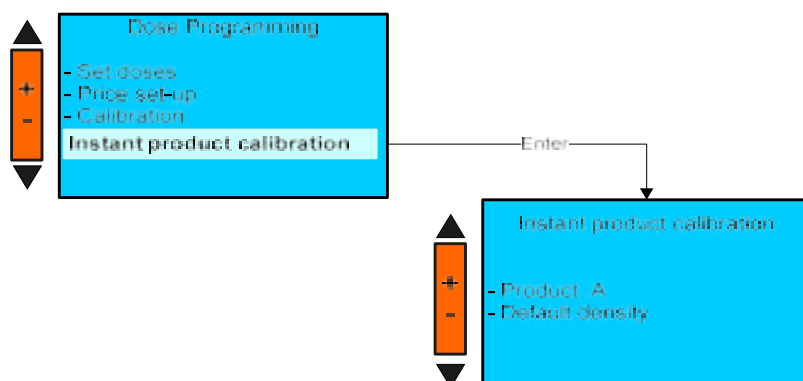


WARNING:
If milk pump enabled , it is possible to set the pump speed by pressing +/- buttons during the delivery, the display shows :

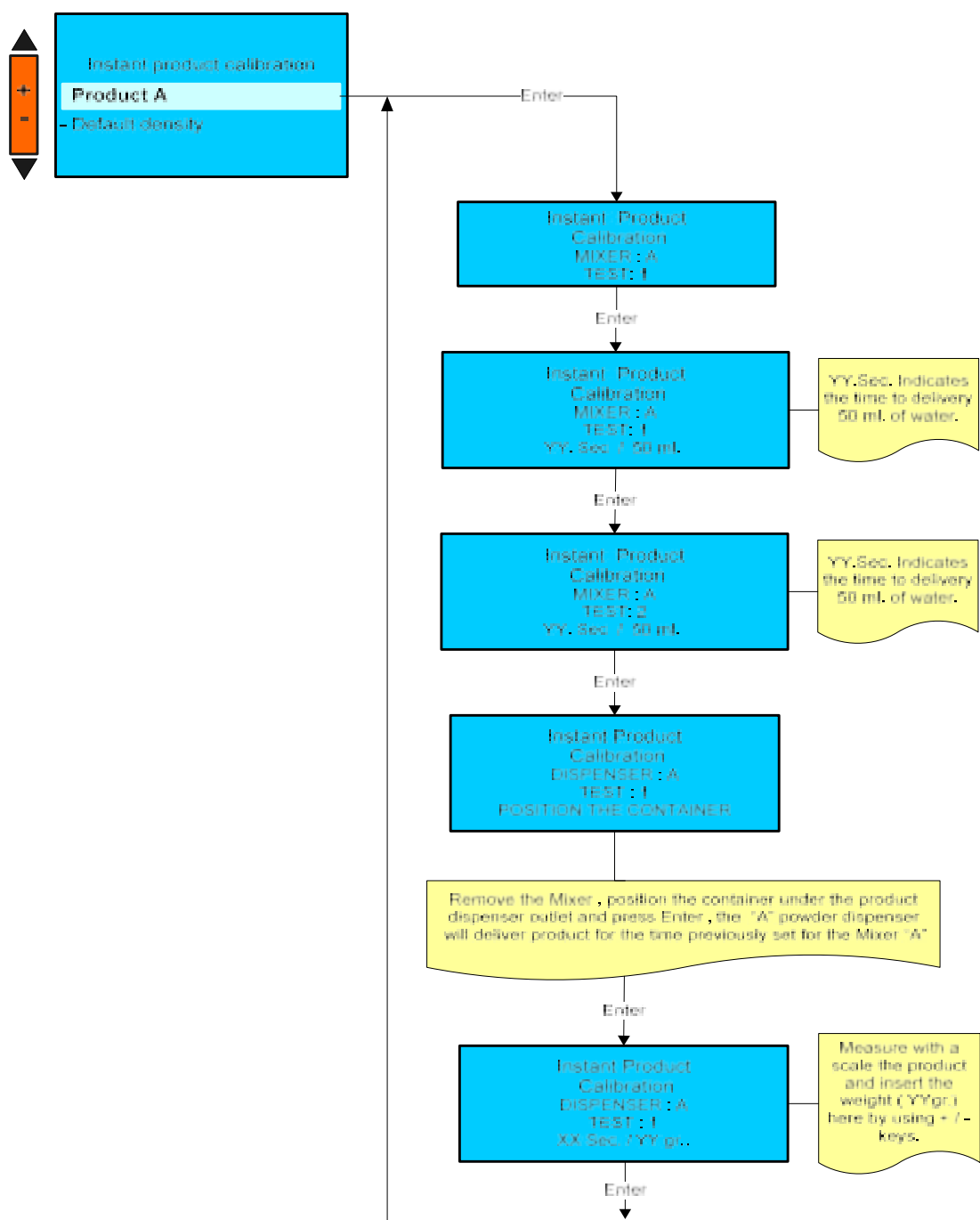


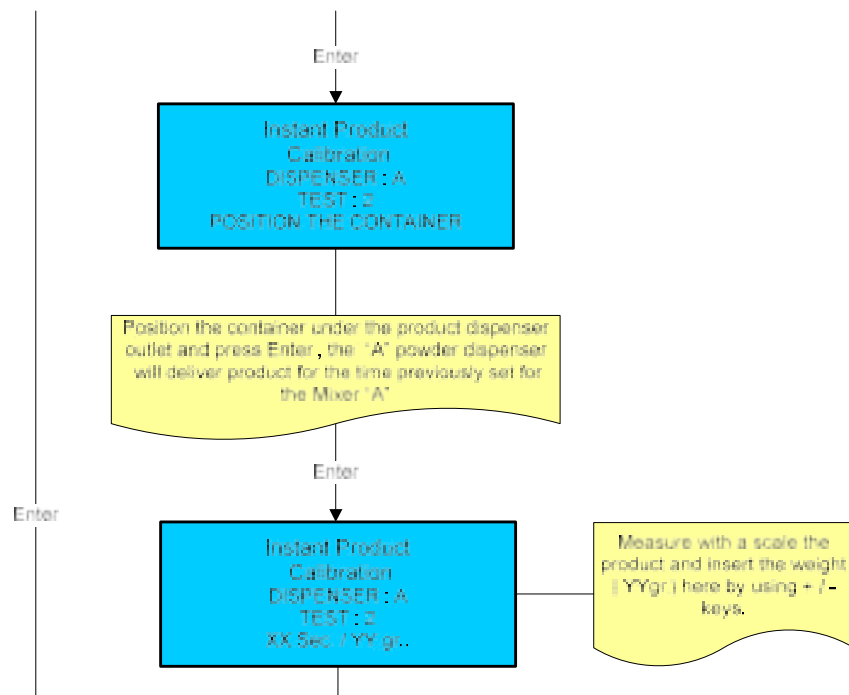
the set value will be saved in all drinks with steamed foamed milk.

D) INSTANT DISPENSER CALIBRATION

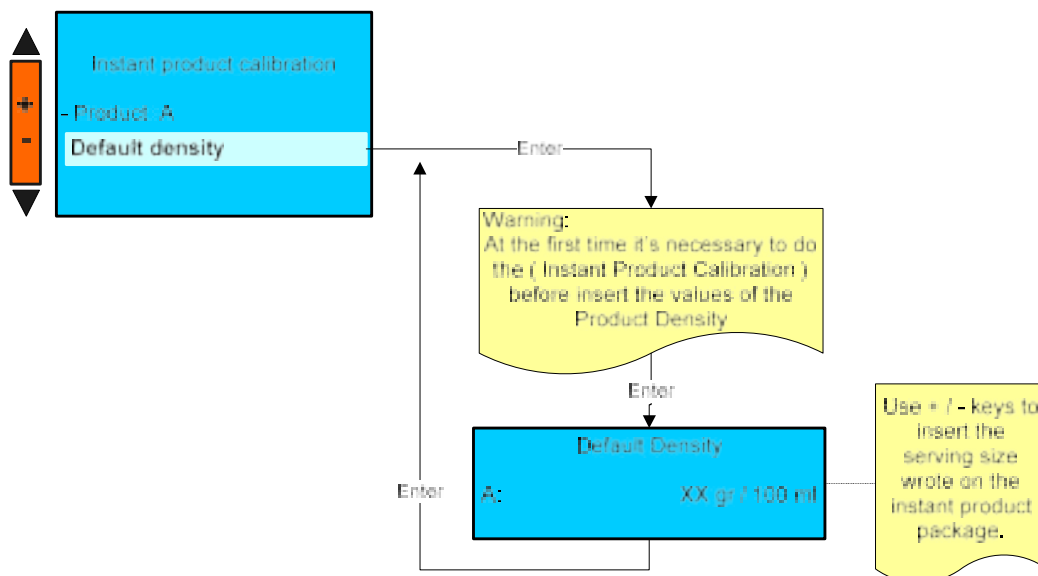


D1) Product A

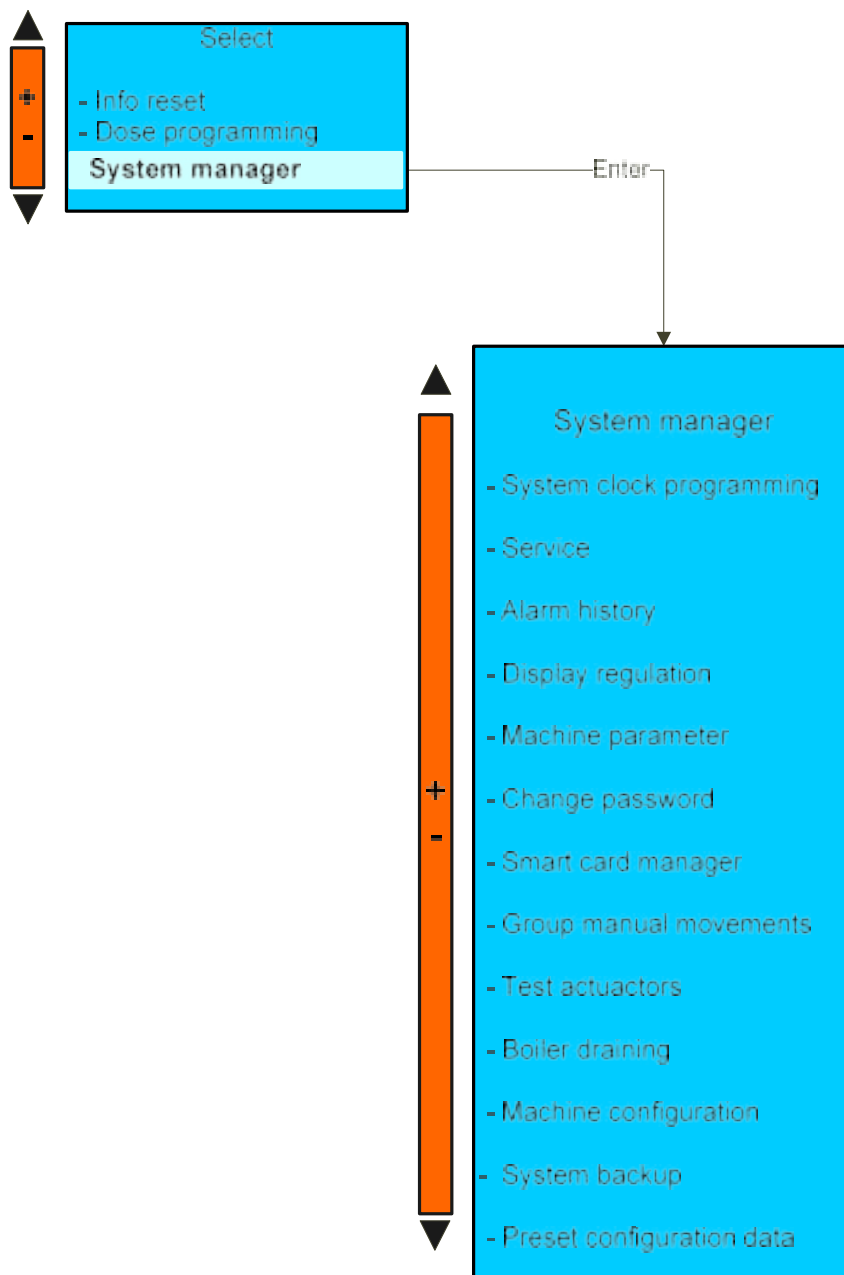




D2) Default density

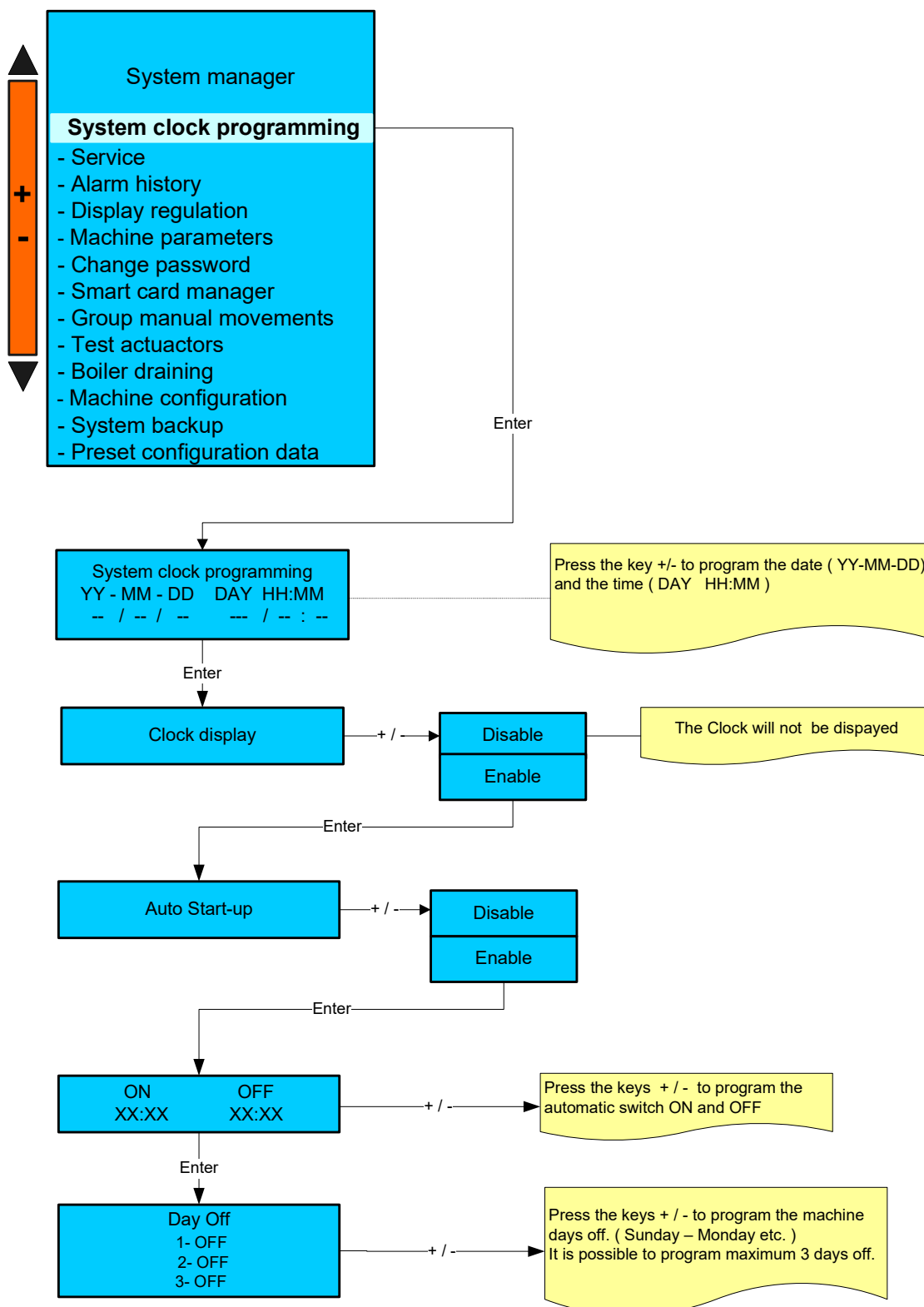


SYSTEM MANAGER

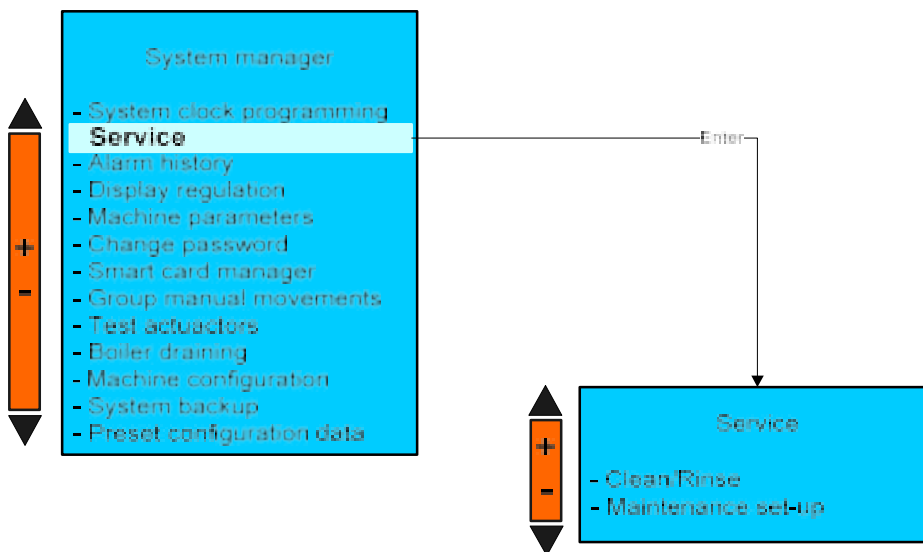


the key N°7 (Enter) to confirm entering the desired environment.
Press the key N° 8 (Esc) to exit .

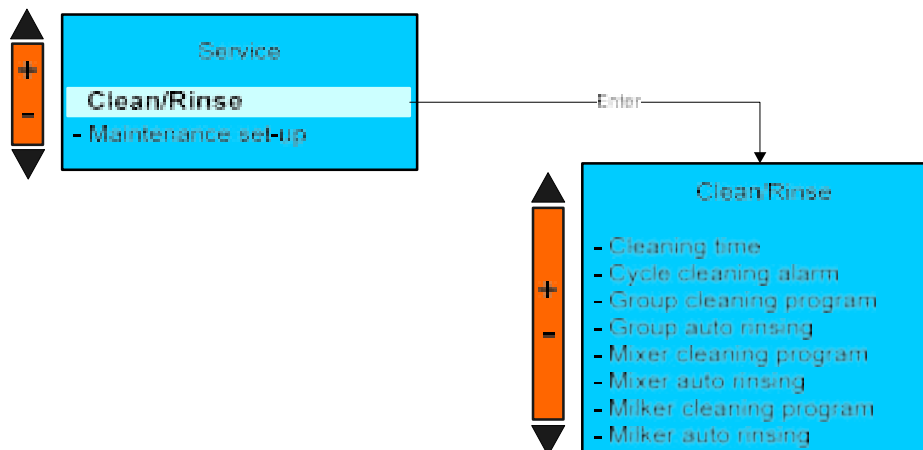
SYSTEM CLOCK SET-UP



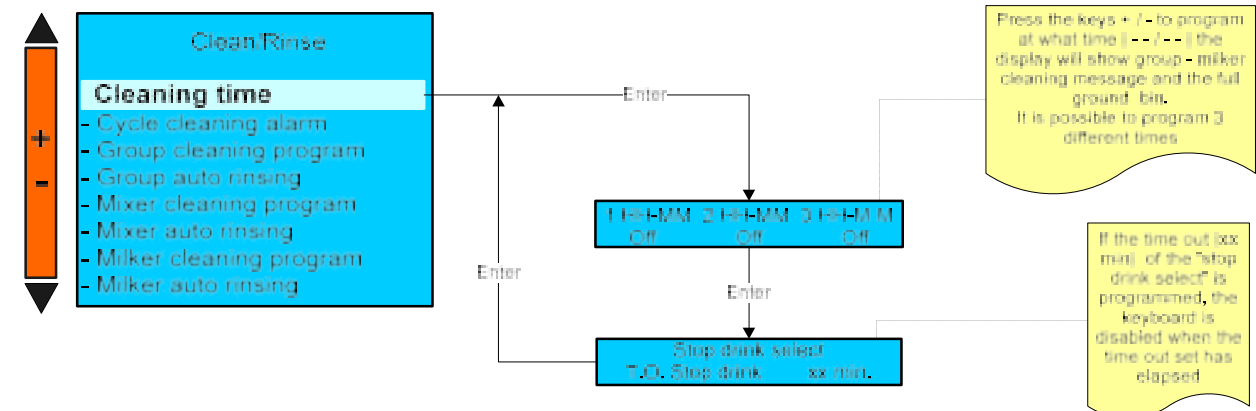
SERVICE



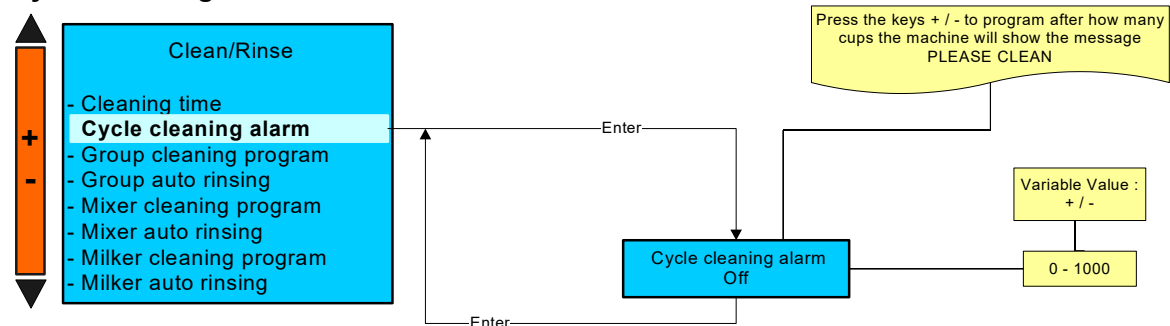
Clean rinse



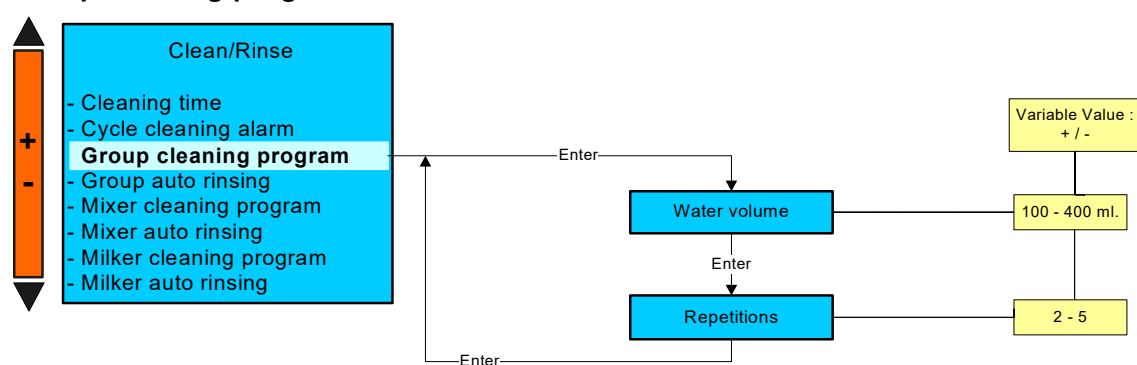
Cleaning time



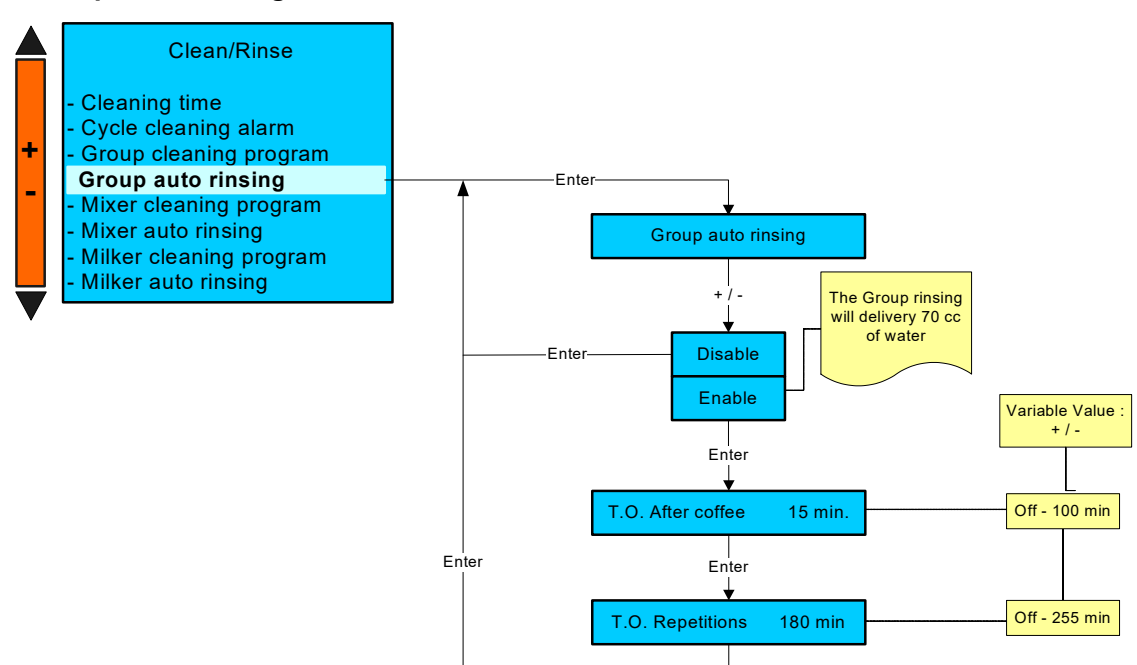
Cycle cleaning alarm



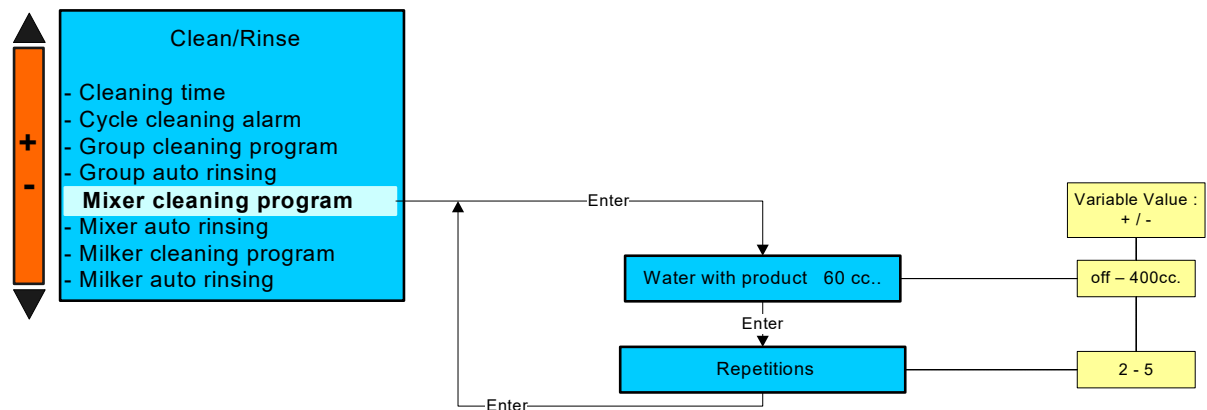
Group cleaning program



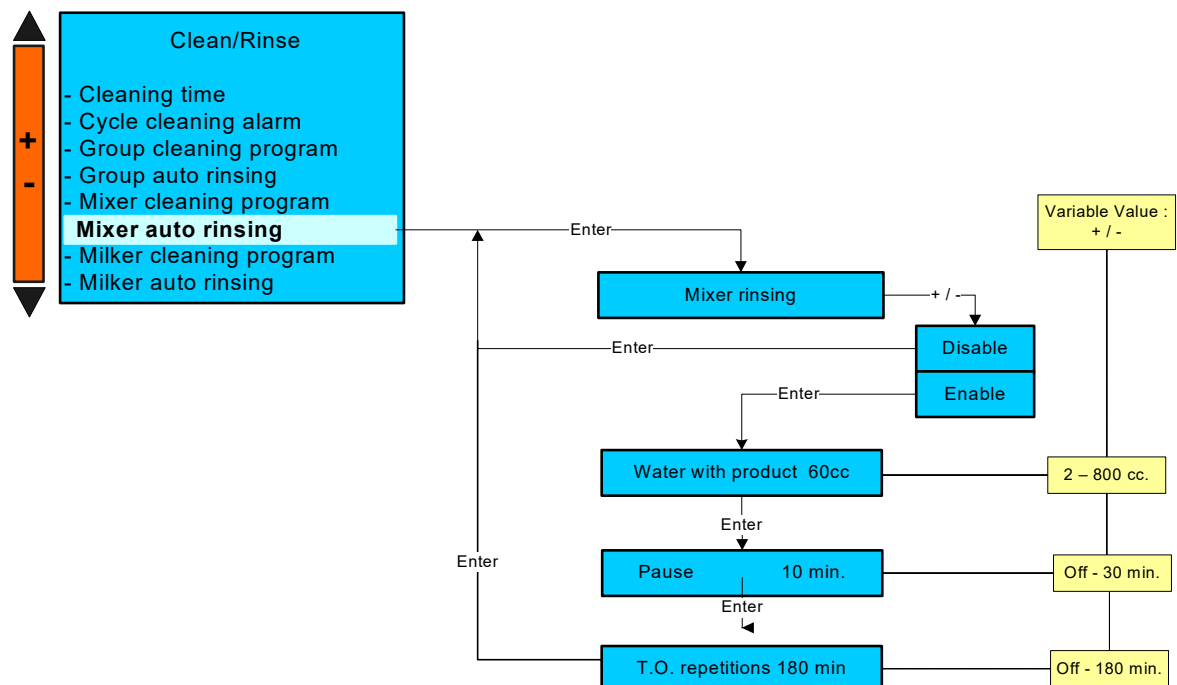
Group auto rinsing



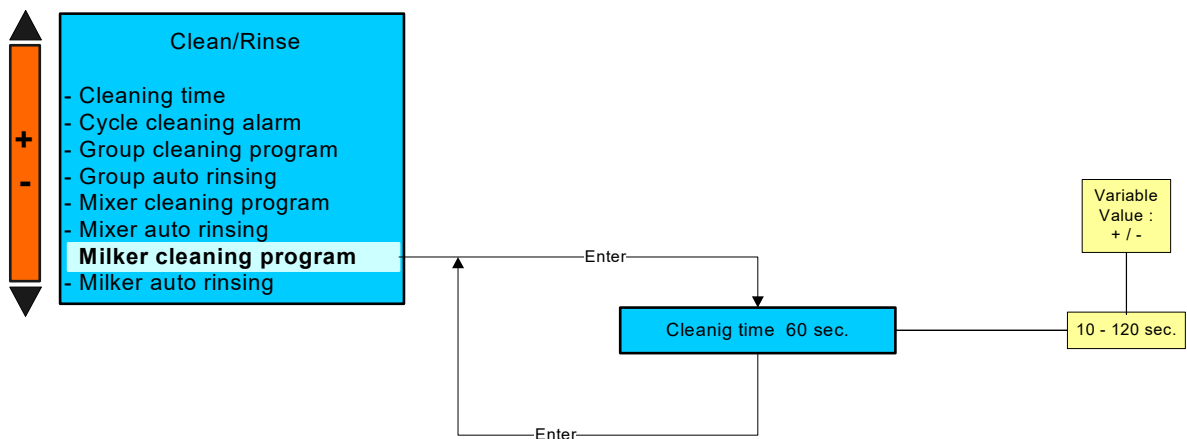
Mixer cleaning program



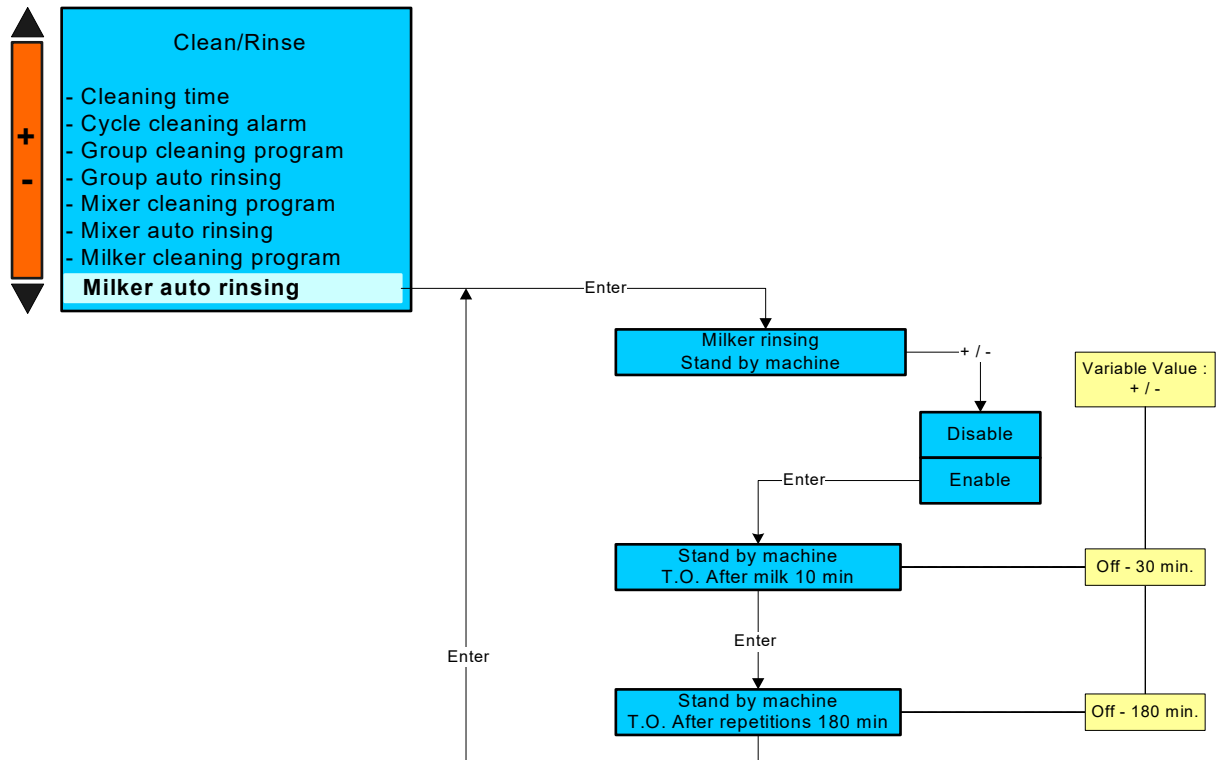
Mixer auto rinsing



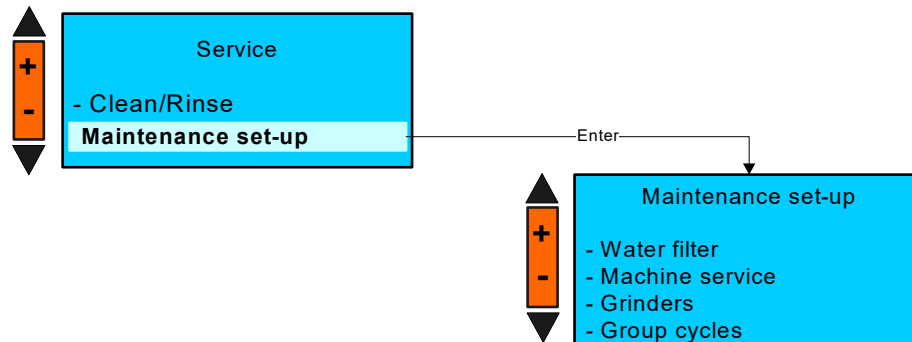
Milker cleaning program



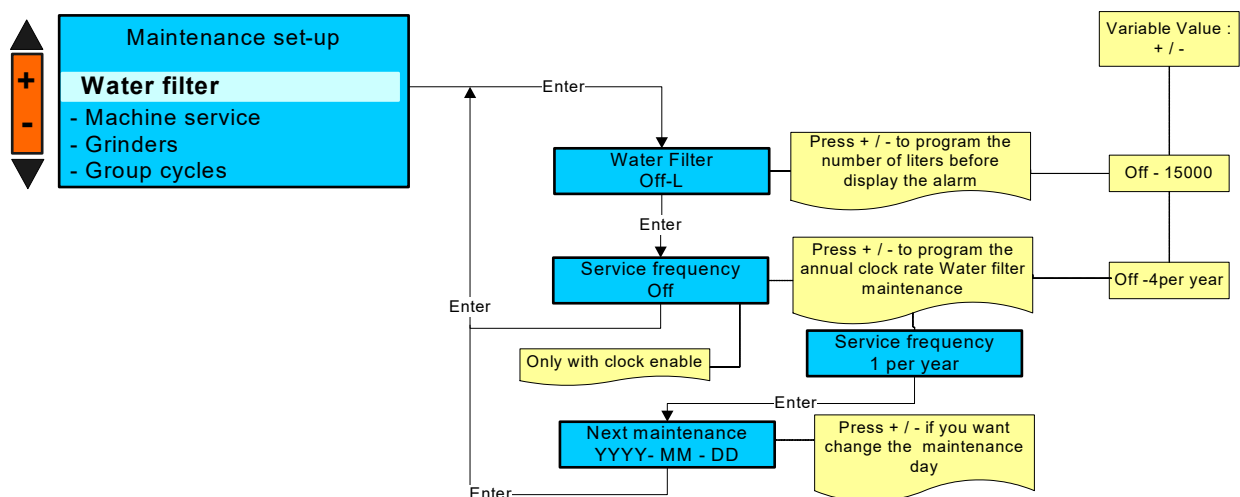
Milker auto rinsing



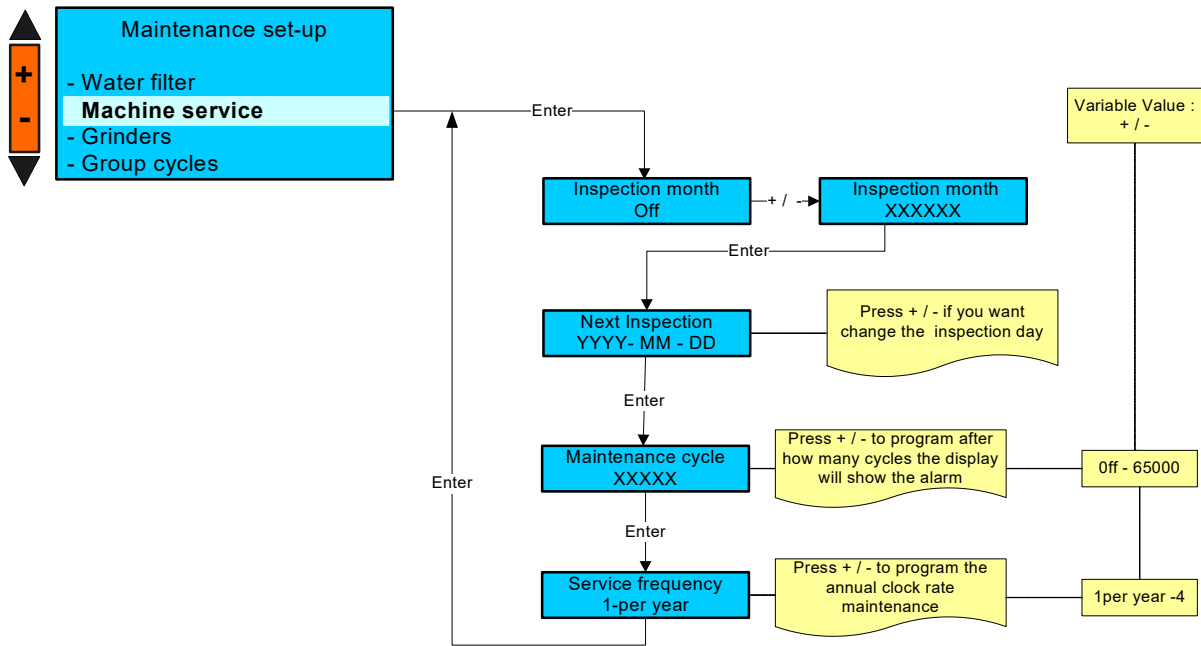
Maintenance set-up



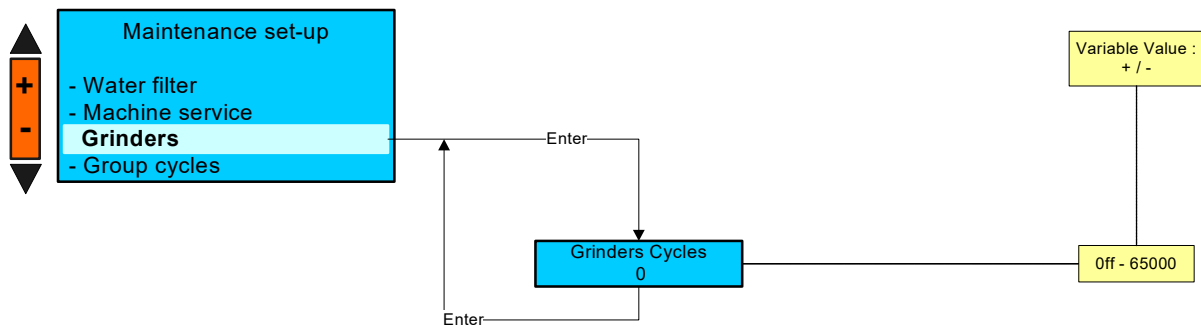
Water filter



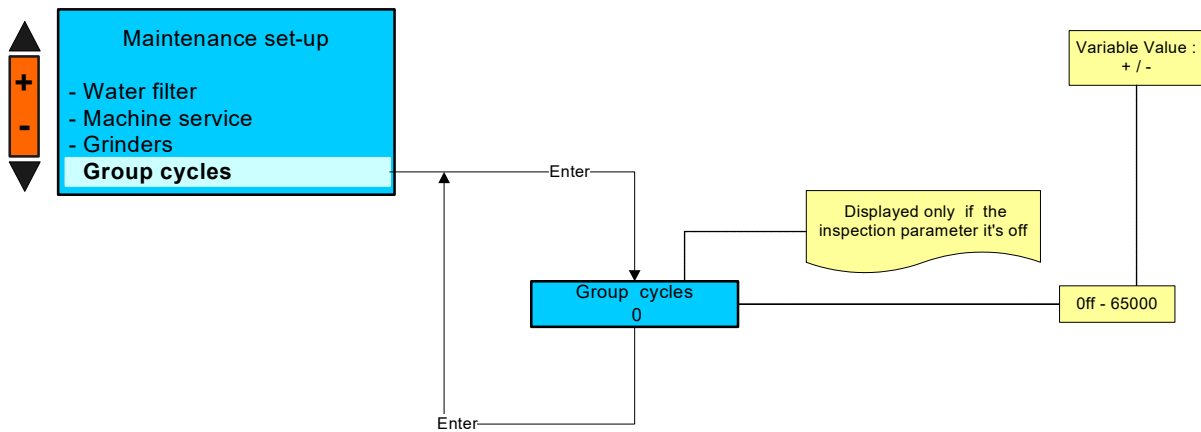
Machine service



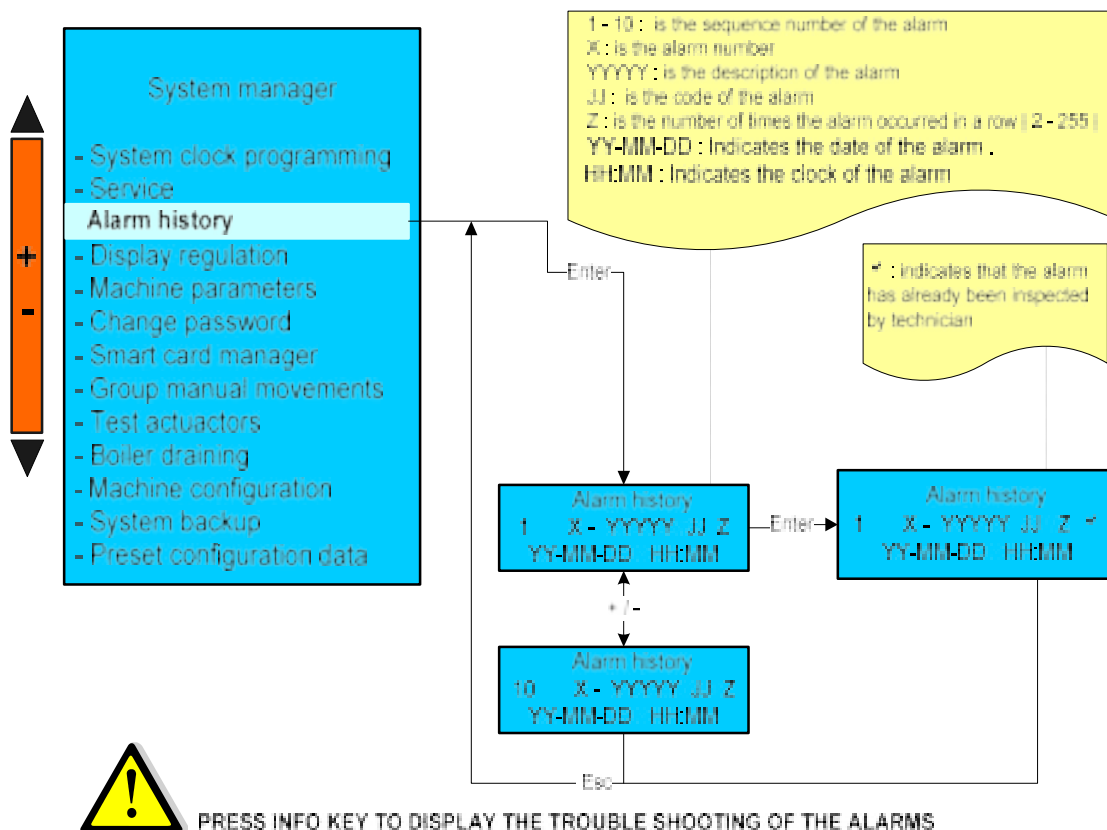
Grinders



Group cycles



ALARM HISTORY

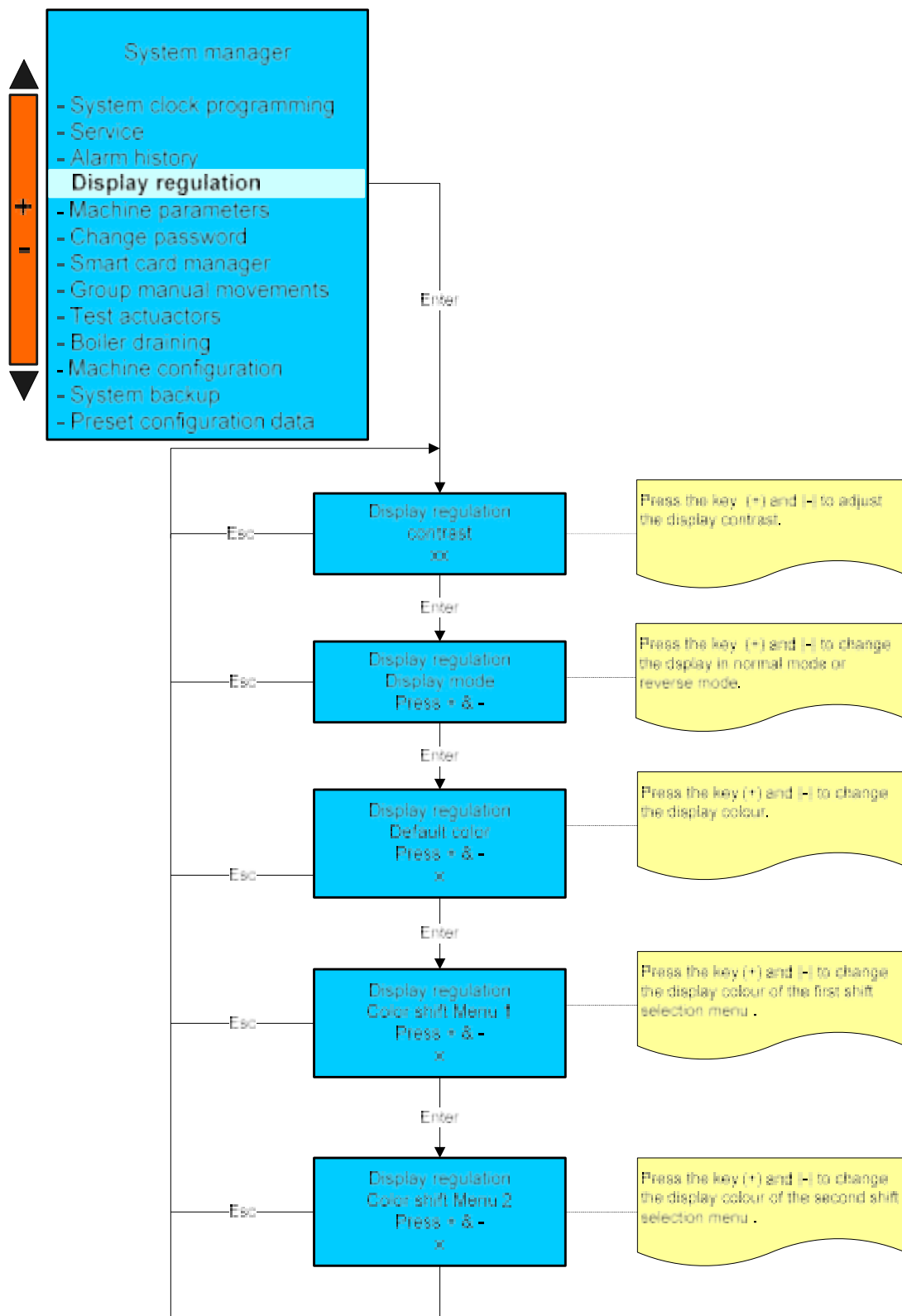


ALARM DETAILS	ALARM CODE
NO H. MOTOR PULS	10
NO L. MOTOR PULS	11
H. MOTOR ERROR	12
L. MOTOR ERROR	13
FILLING UP T.O.	32
COFFEE HEAT T.O.	33
STEAM HEAT T.O.	34
CHECK FLOW LINE	35
COFFEE TEMPERATURE	37
STEAM TEMPERATURE	38
INFUSION T.O.	41
CORRUPTED DATA	60
CLOCK ERROR	63
MOTOR BLOCK	65
TRASPONDER PCB	66
COIN VALIDATOR ERROR	70
CHANGE H2O FILTER	90
GROUP MAINTENA.	91
GRINDER MAINTENA.	93
TOO MUCH COFFEE	15
MAINTENANCE	92

Please Note:

- The maximum alarm number the machine can save is 10.
 - To reset the alarm data memory, carry out "Preset Configuration Data" procedure.
- Press the N°7 Enter key to return to the previous environment and/or exit

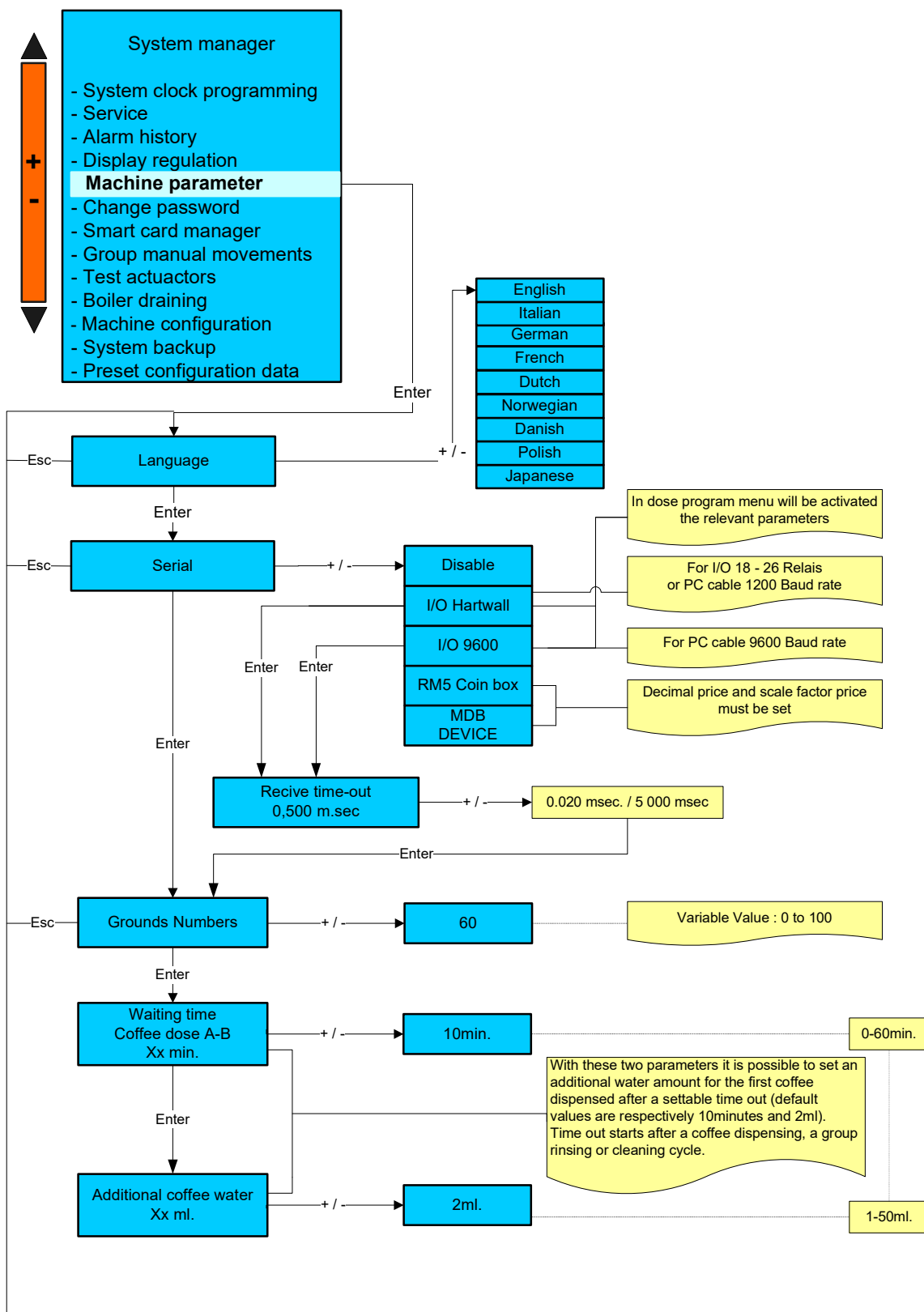
DISPLAY REGULATION

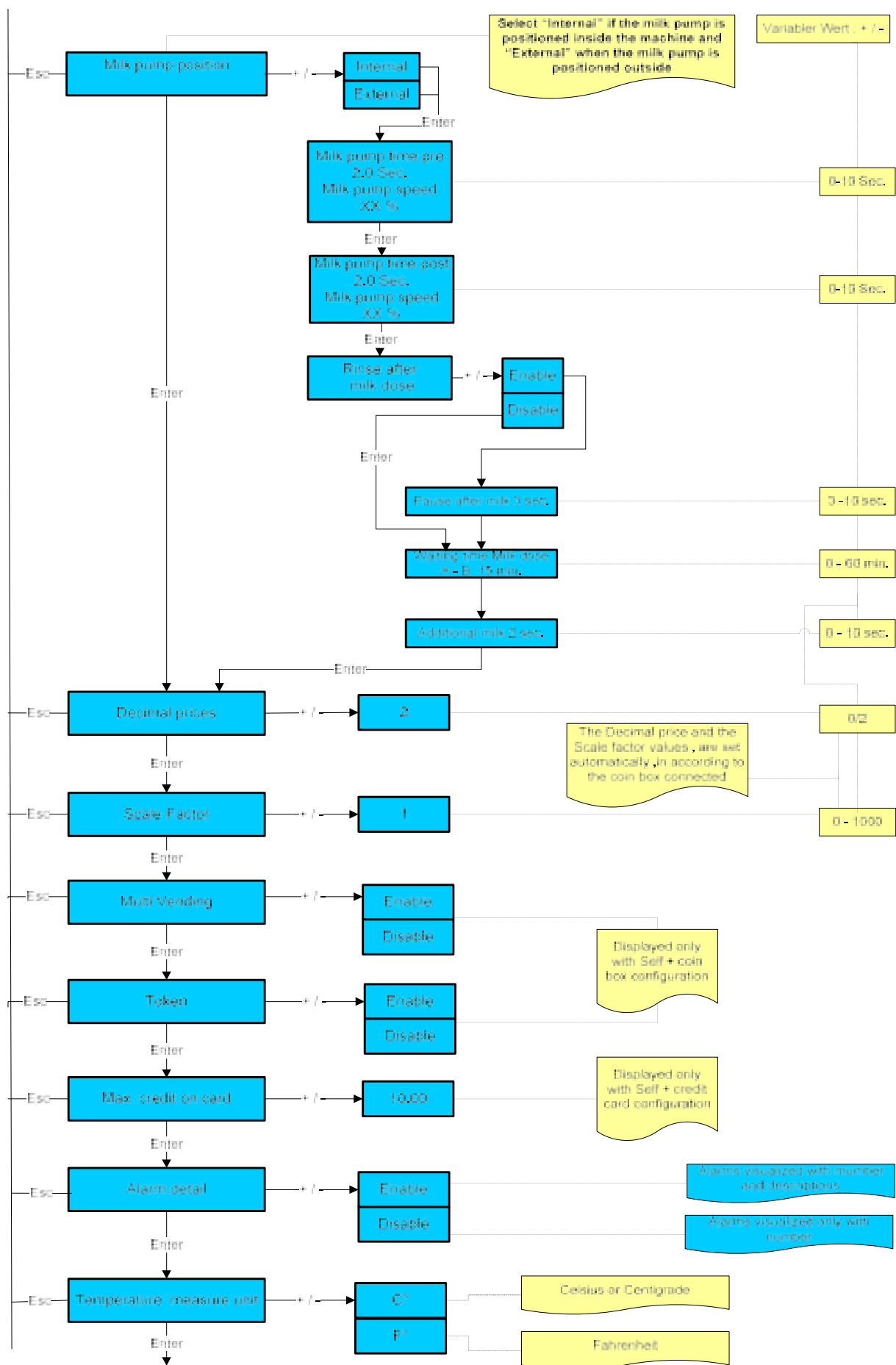


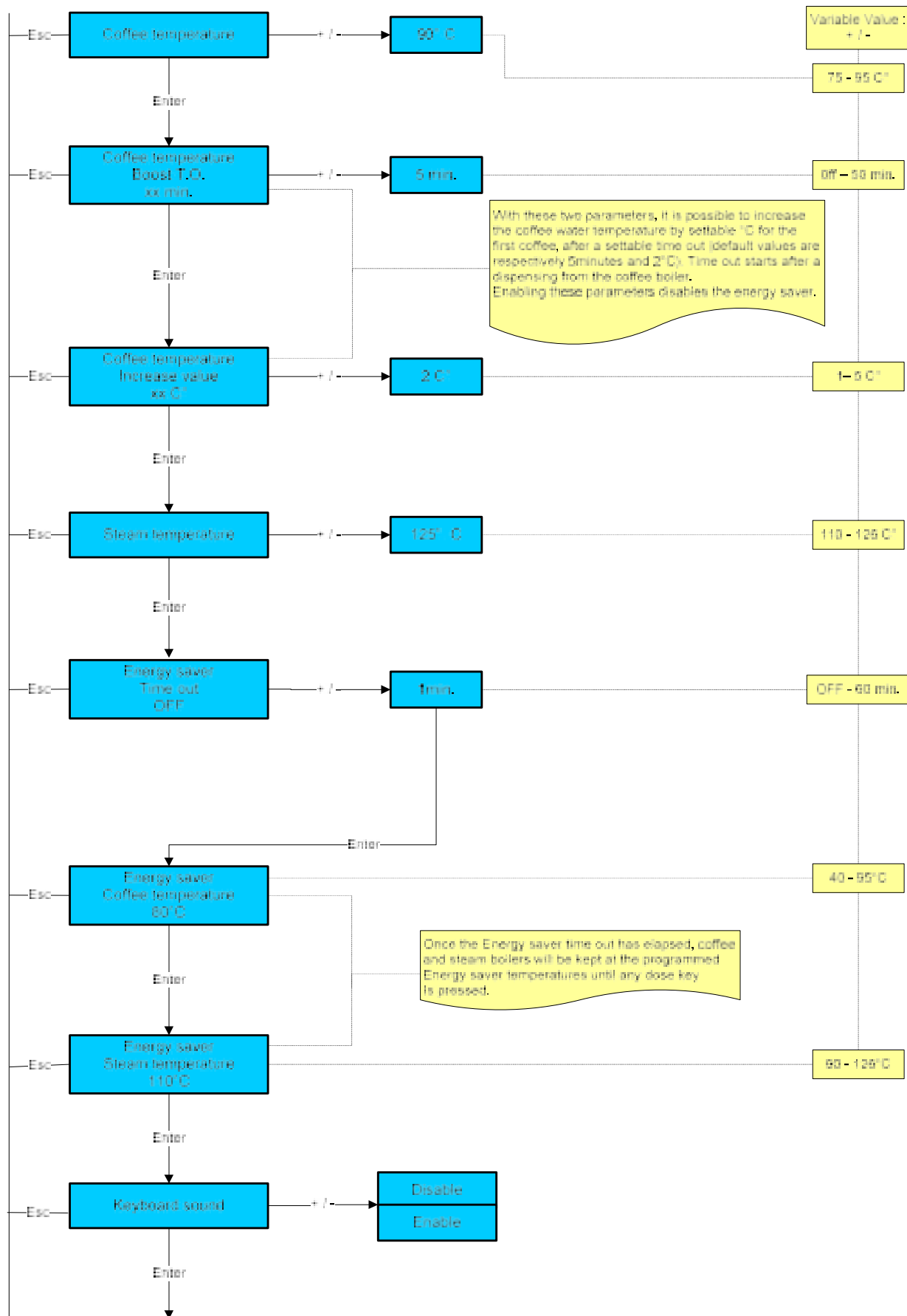
MACHINE PARAMETERS

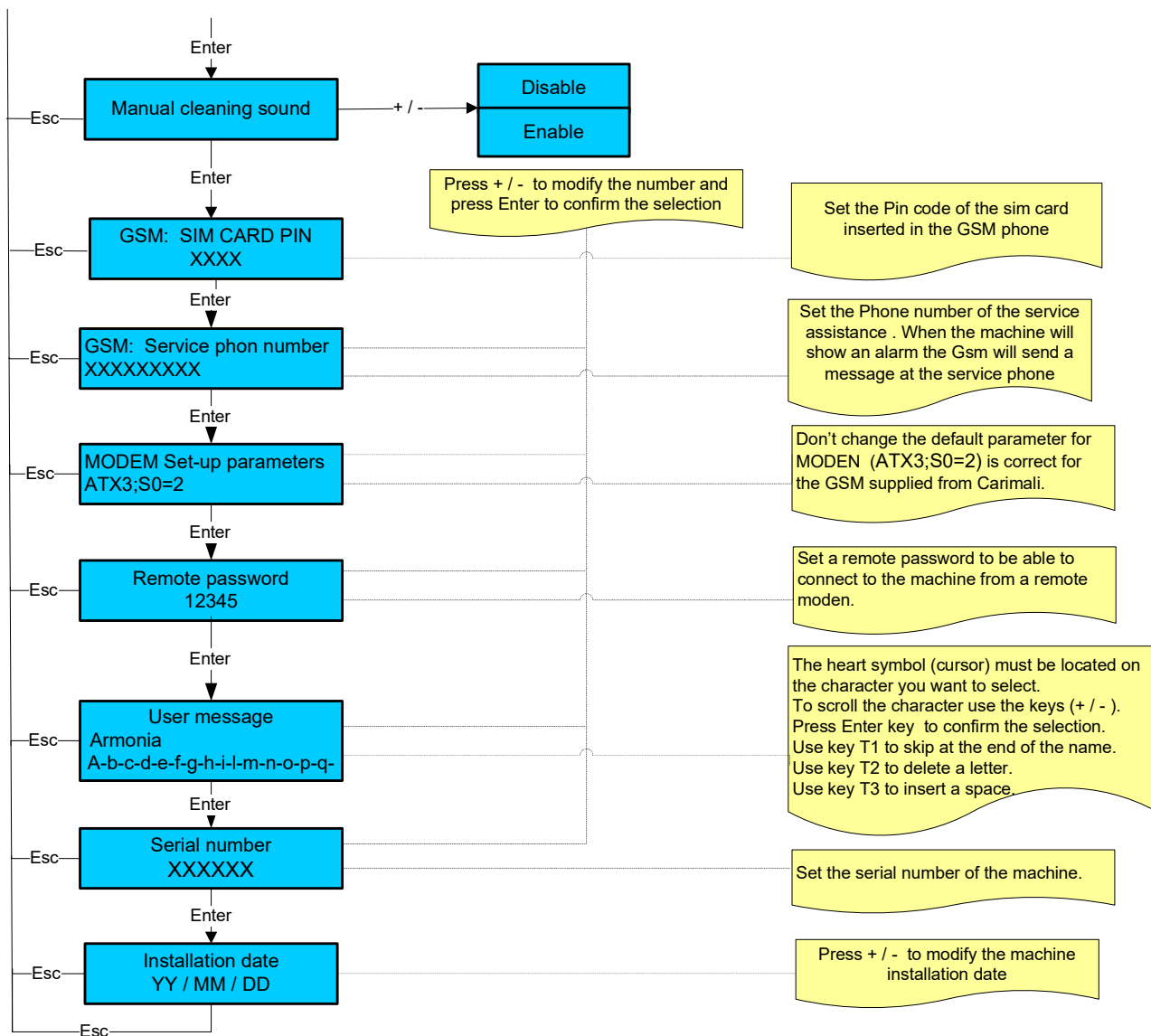
PLEASE NOTE :

some of the following parameters may not be displayed depending to the machine configuration previously programmed.



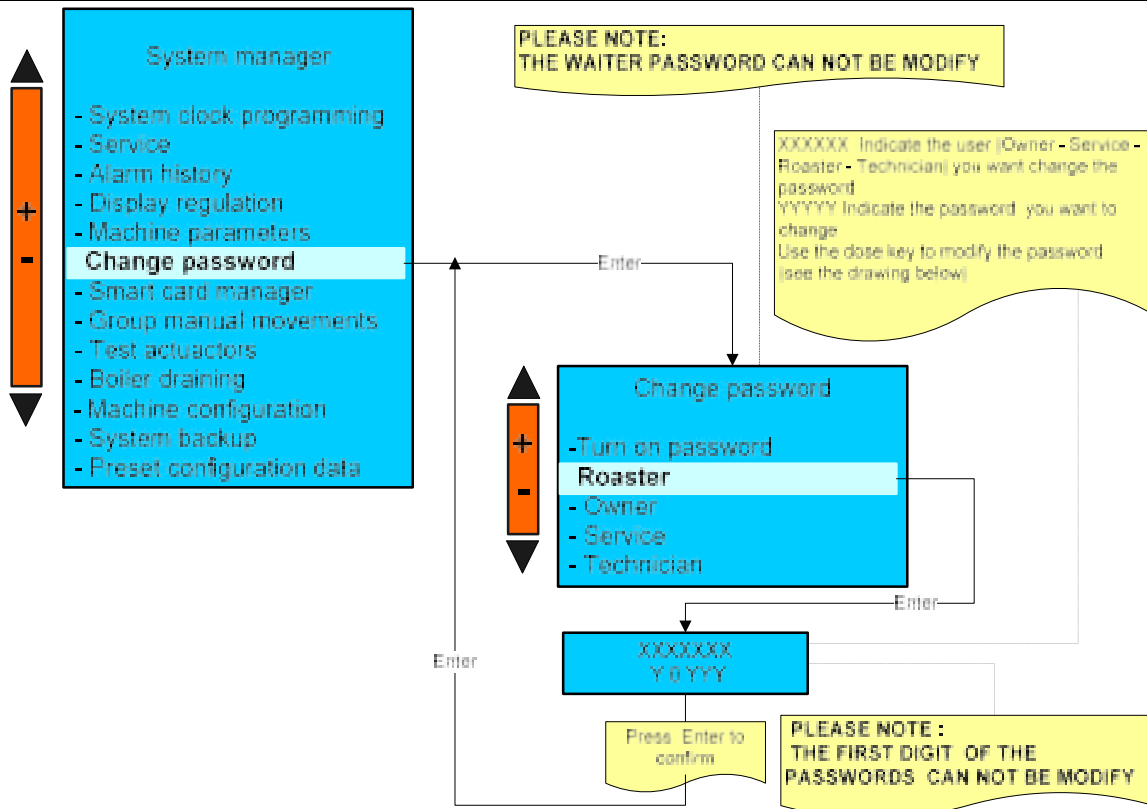






Please note: for machines without GSM it is possible to carry out a Local data download by setting the Serial number and the Remote password only. (For more information see the Wizard manual

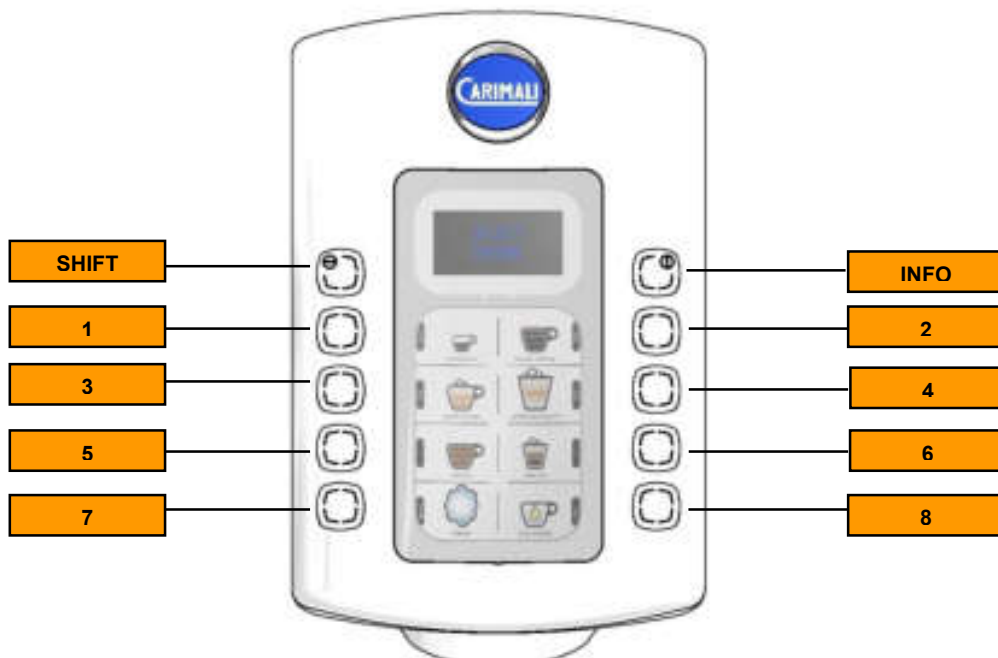
CHANGE PASSWORD



Please note :

If the TURN ON PASSWORD is enabled , to turn on the machine is necessary insert the password.

KEY REFERENCE FOR PASSWORD



Following Password can be modify

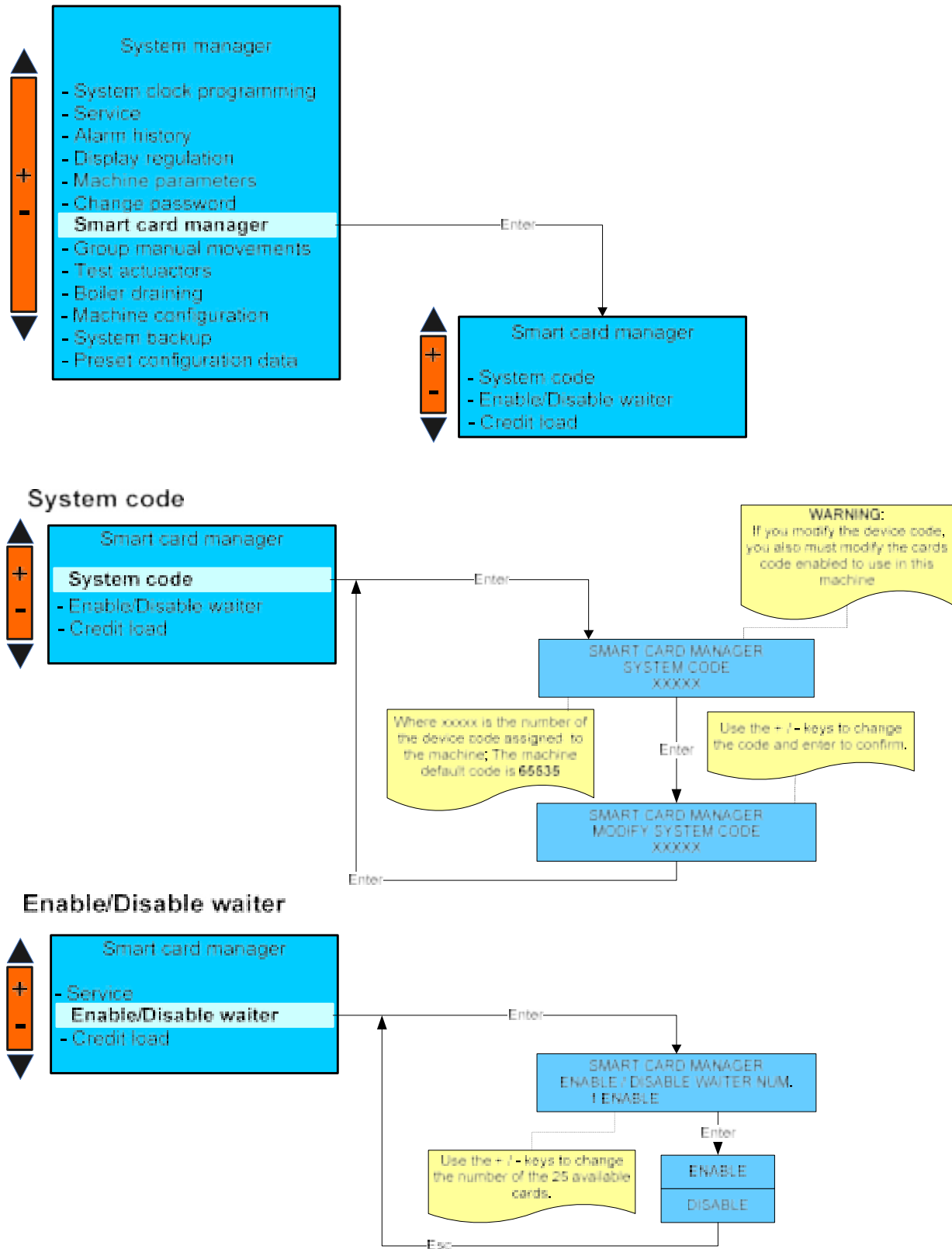
Entered Password	Waiter	Roaster	Owner	Service	Technician
Waiter					
Roaster		X			
Owner		X	X		
Service		X	X	X	
Technician		X	X	X	X

SMART CARD MANAGER

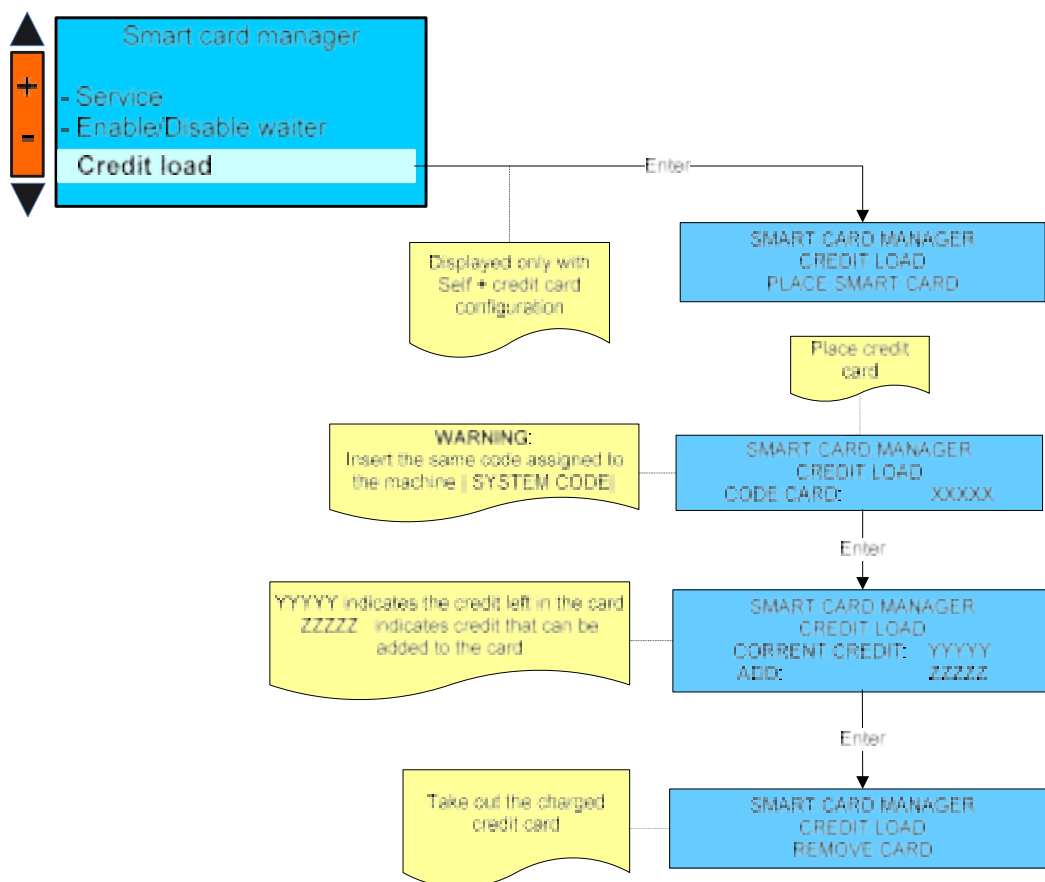
PLEASE NOTE:

A -THE SMART CARD MANAGER IS DISPLAYED ONLY FOR COFFEE MACHINE WITH TRANSPONDER INSTALLED.

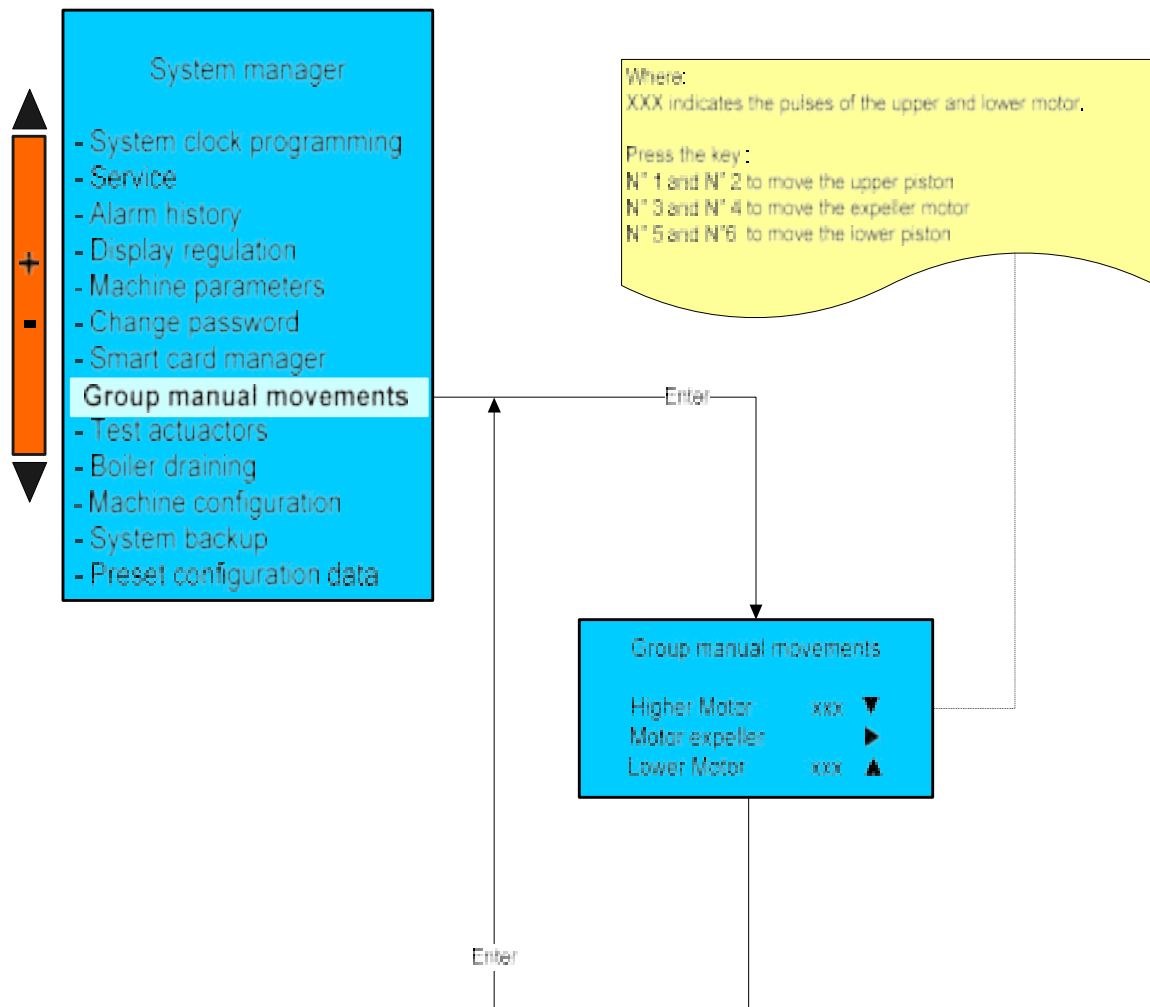
B -TO CREATE A NEW CARD (TECHNICIAN – SERVICE – OWNER – ROASTER AND WAITER) ITS NECESSARY USE AN EXTERNAL PC TOOL.



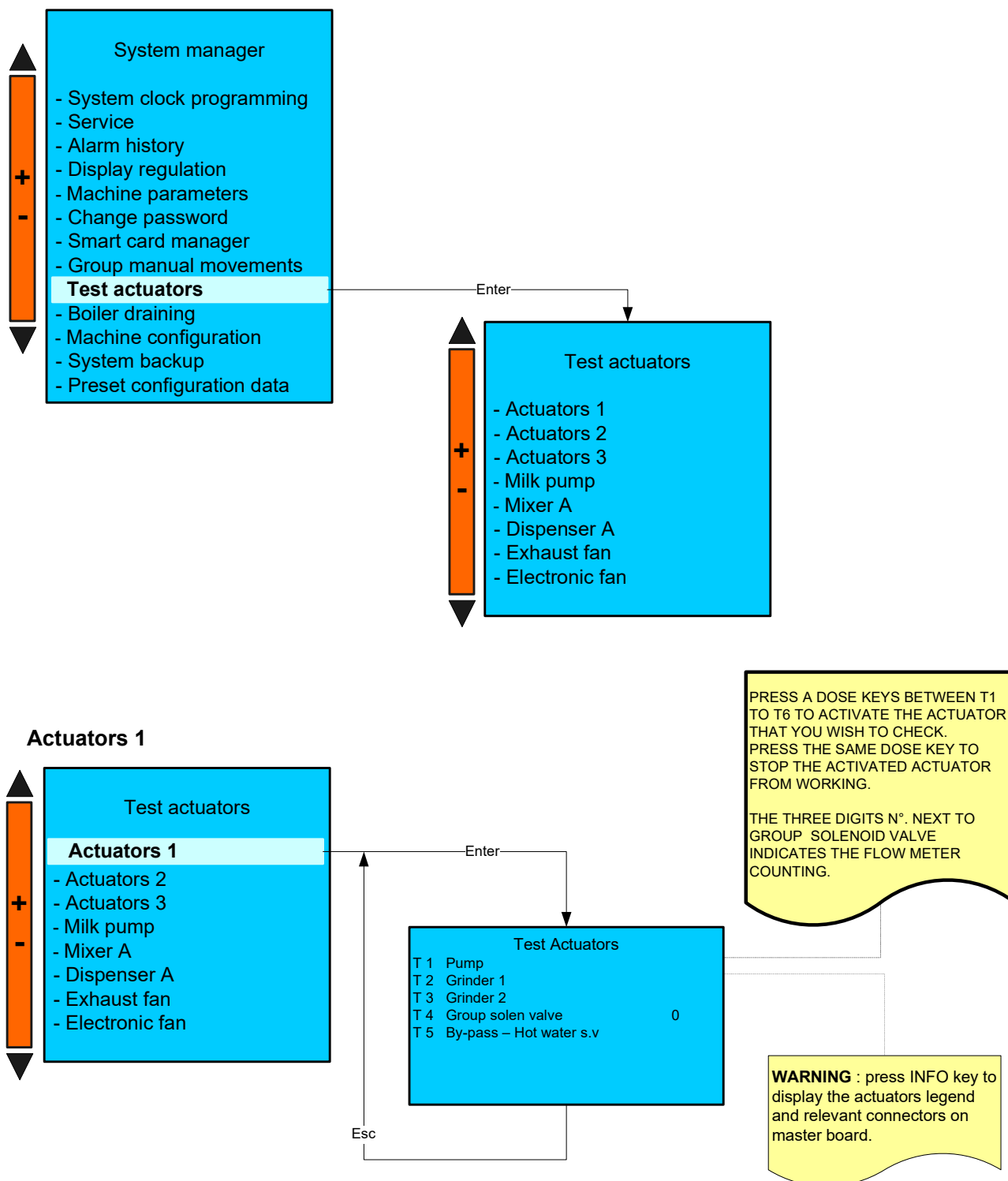
Credit load



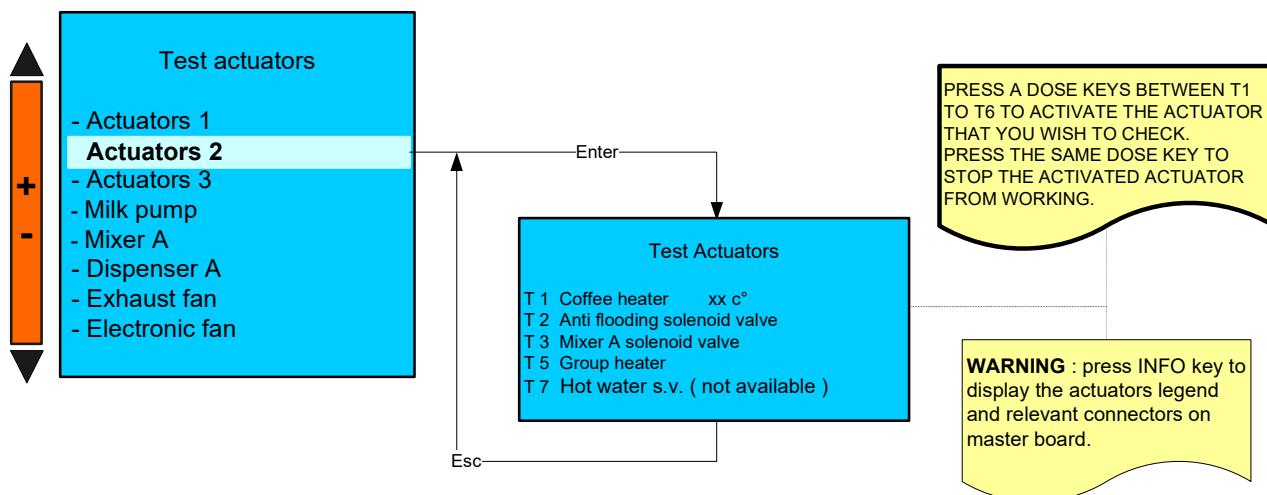
GROUP MANUAL MOVEMENTS



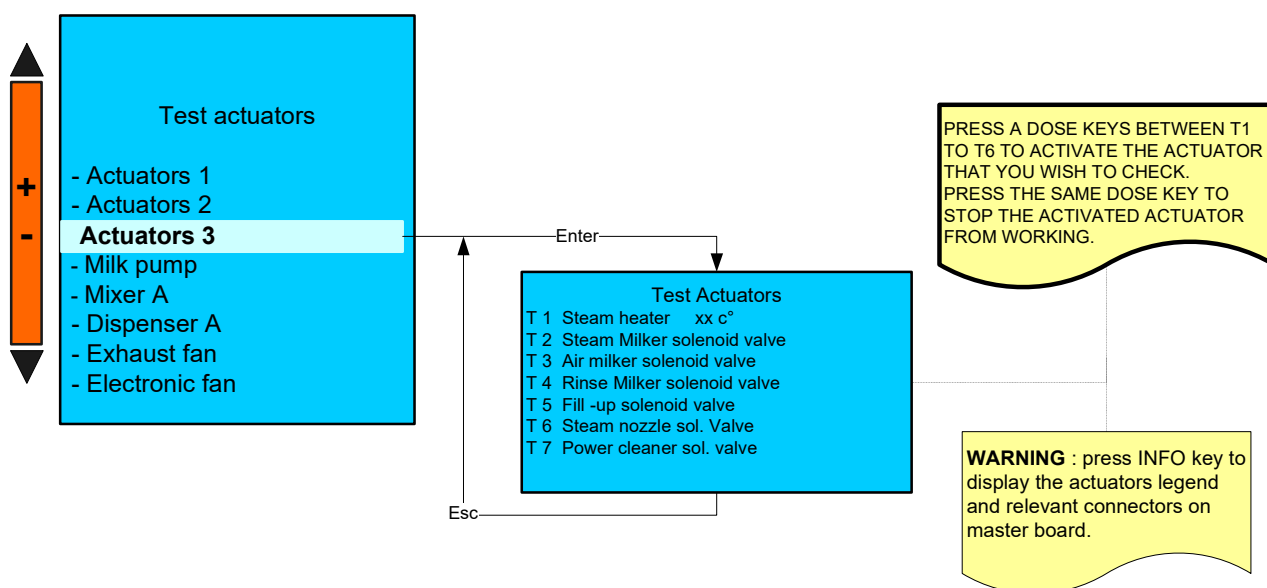
TEST ACTUATORS



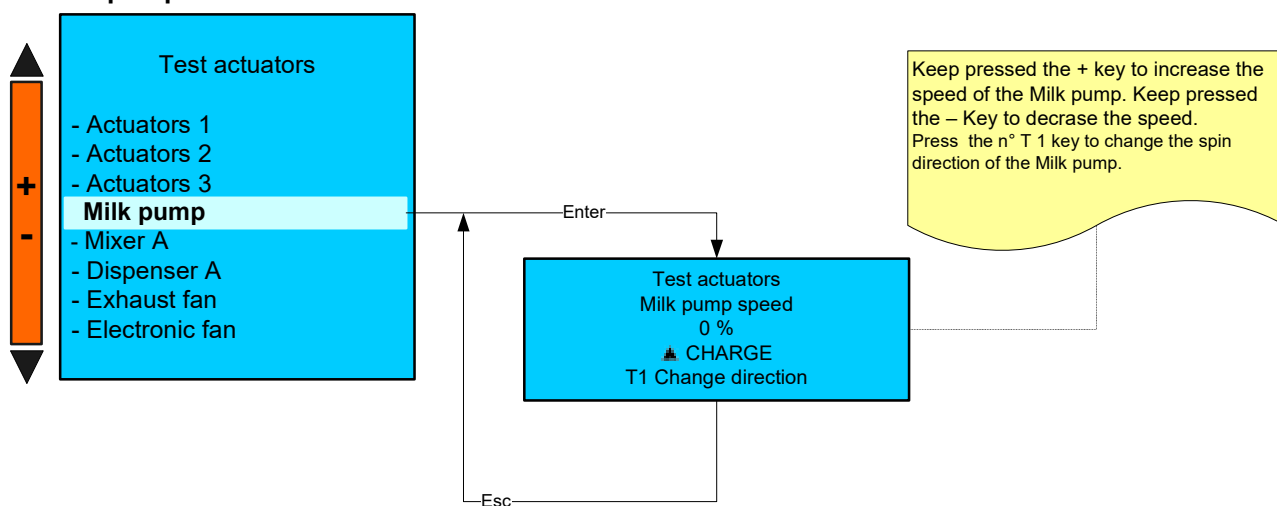
Actuators 2

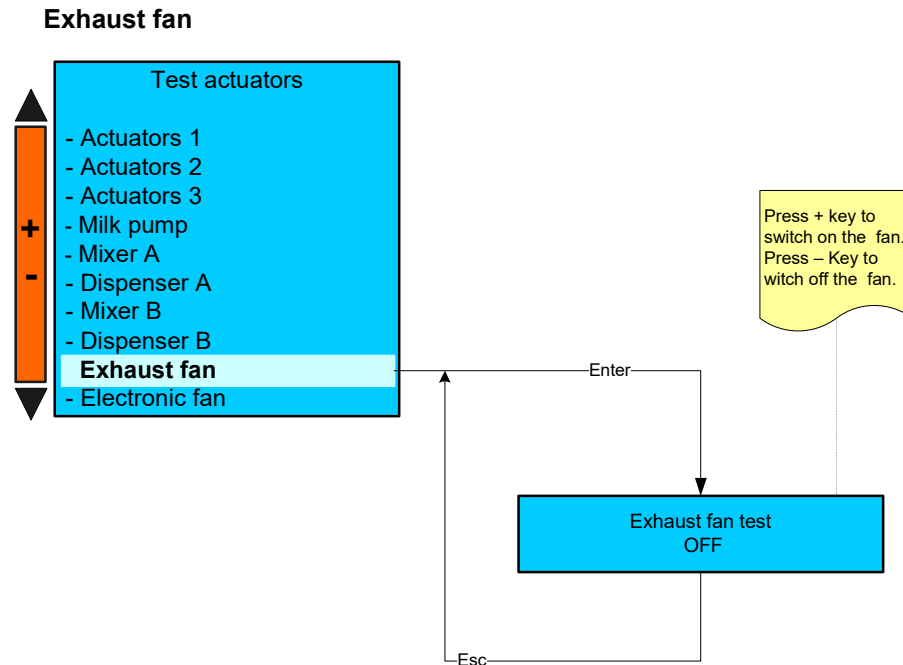
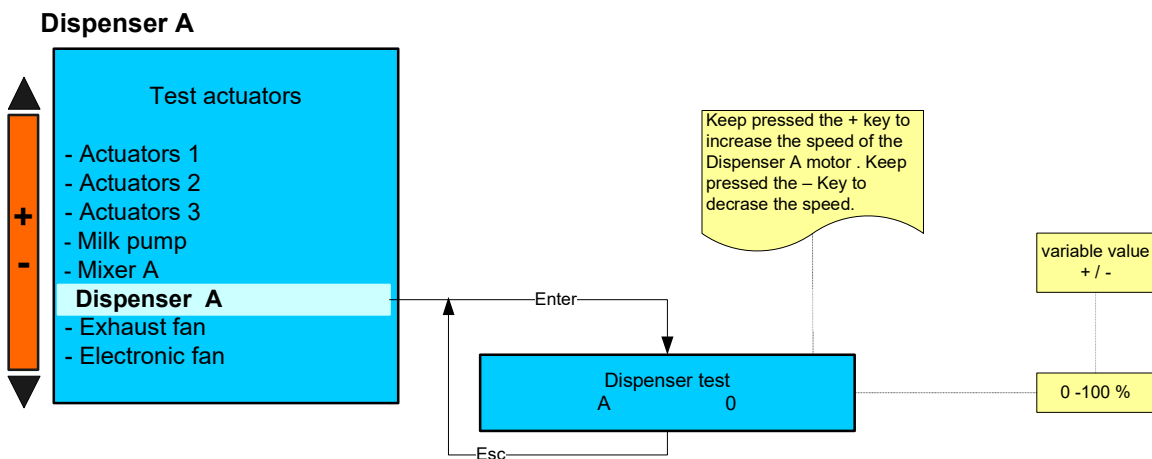
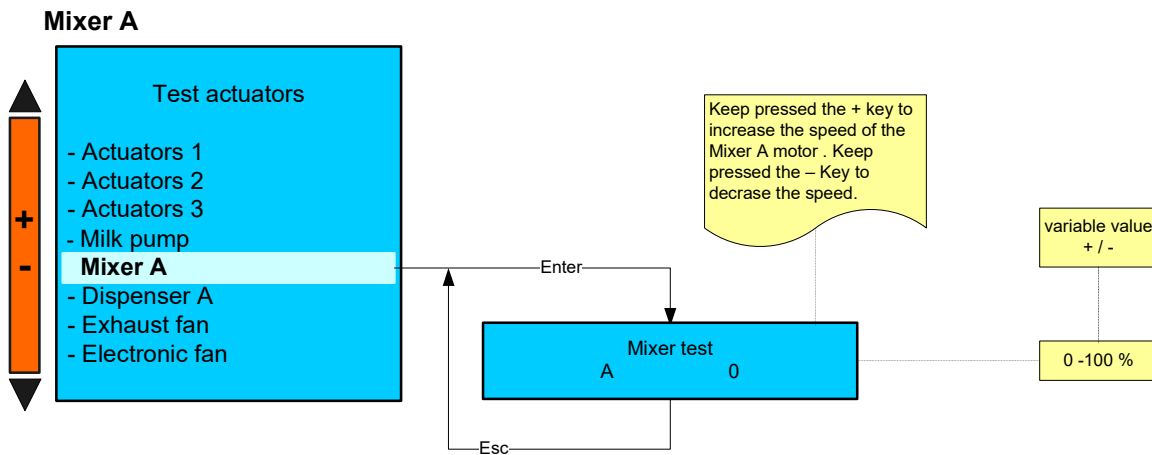


Actuators 3



Milk pump

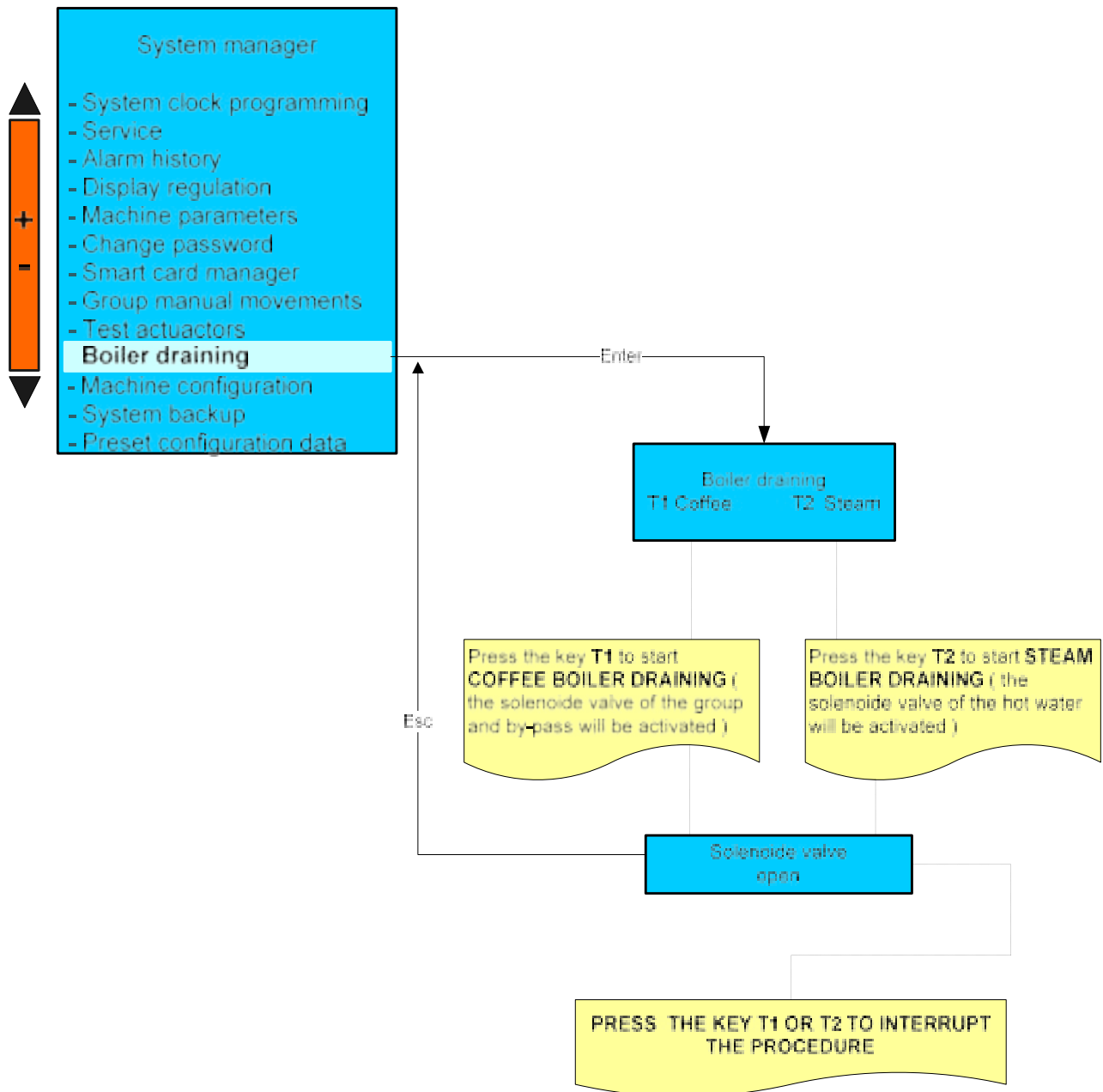




WARNING:

- You can activate more than one actuator at the same time.
- Once a time-out of 5 seconds has elapsed, the activated actuators will be automatically interrupted.
- The "Milk pump speed" parameter will be displayed only for machine with milk pump installed.

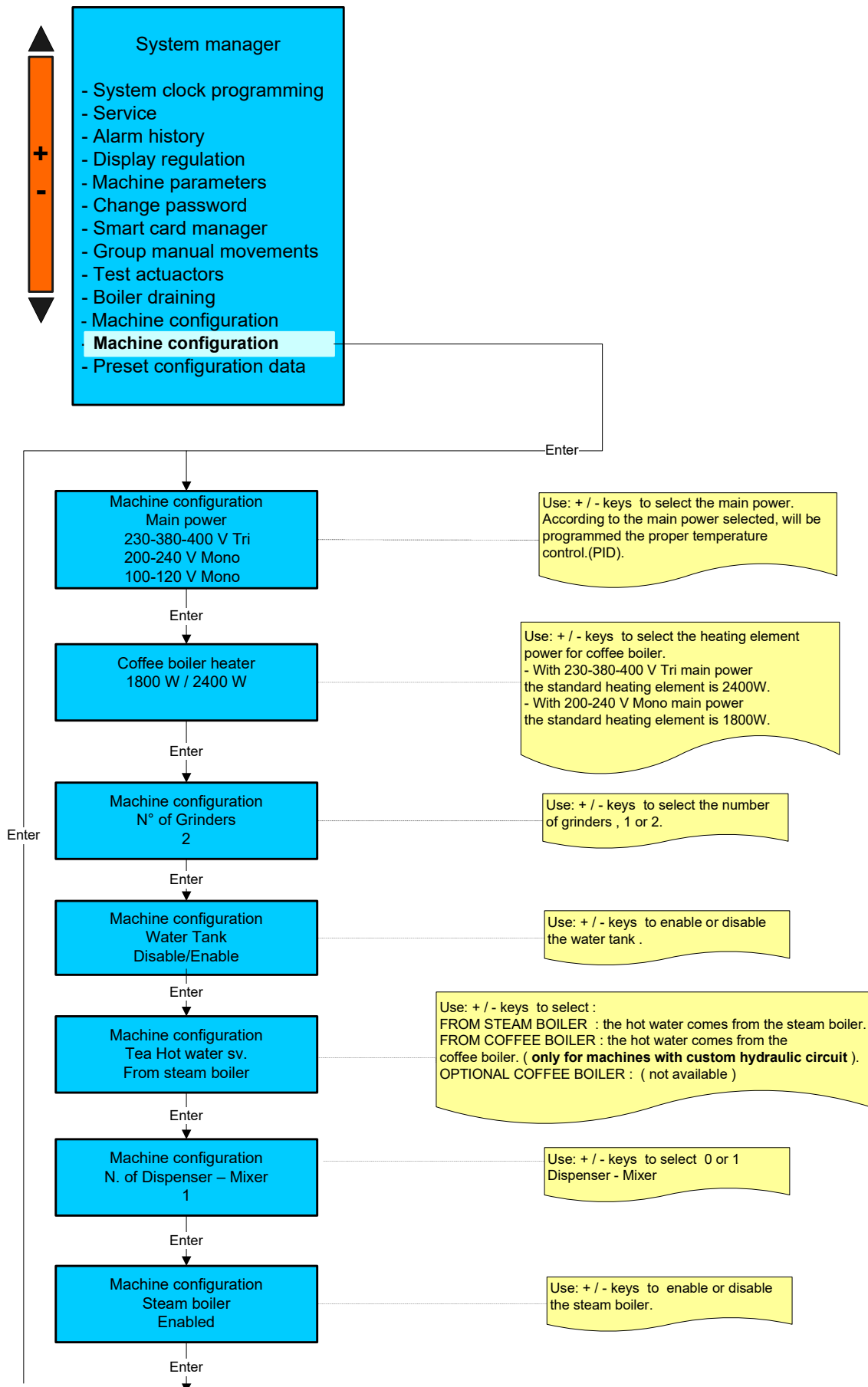
BOILER DRAINING

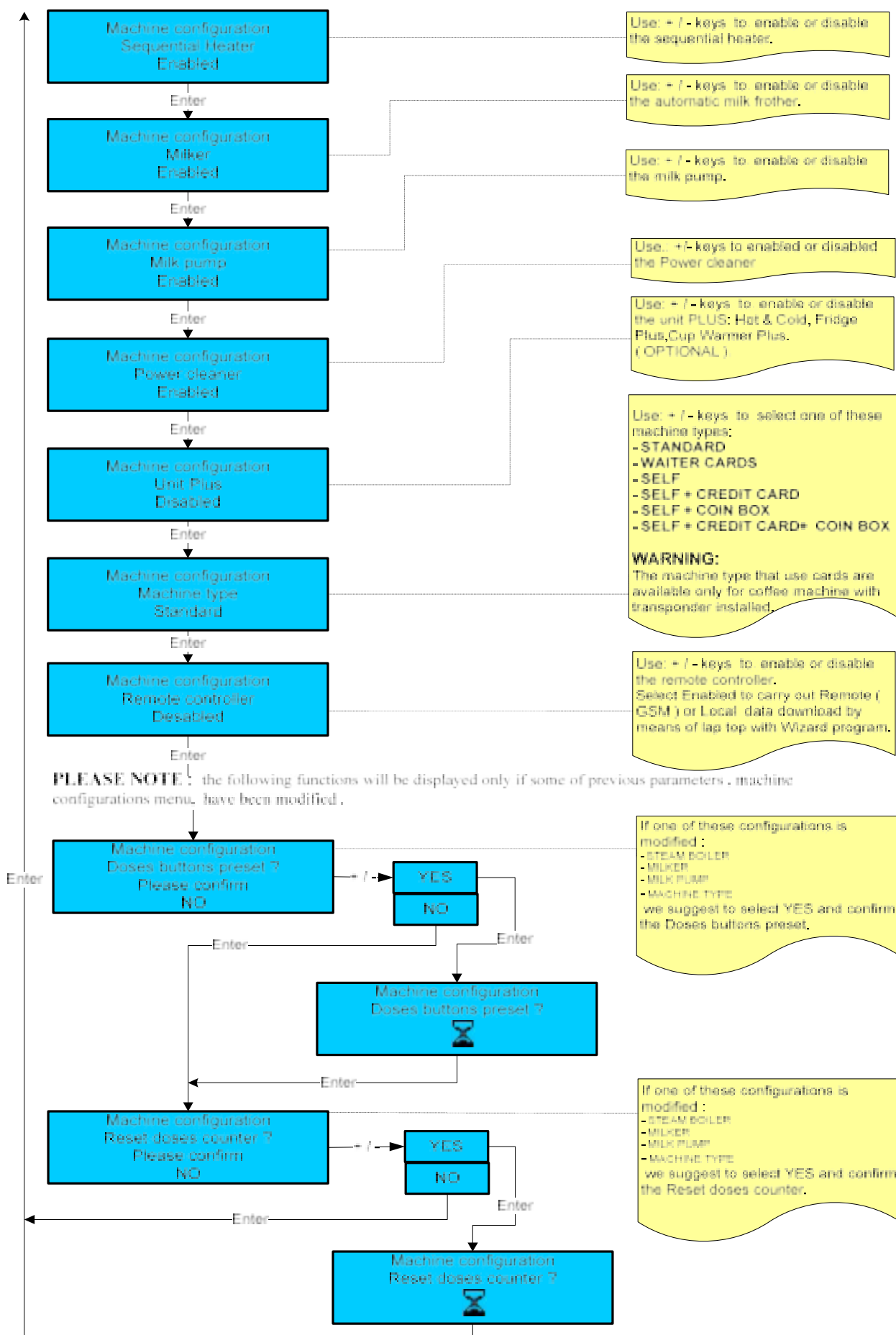


WARNING:

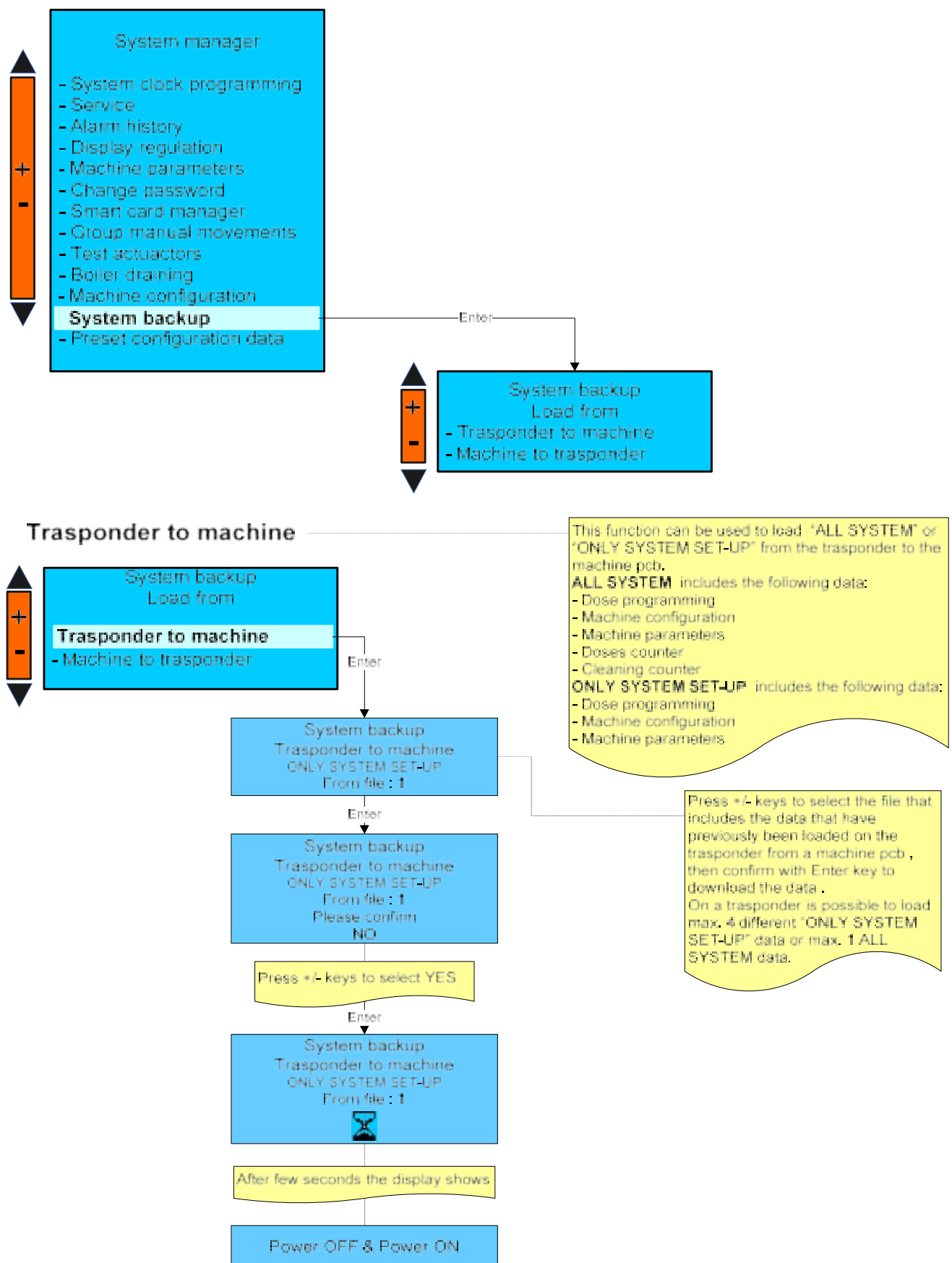
A) After the boiler draining procedure, when the machine is turned back on, the boilers charge will be carried out according to the procedure described in the chapter “Starting up procedure”.

MACHINE CONFIGURATION



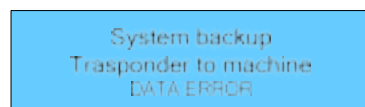


SYSTEM BACKUP



PLEASE NOTE:

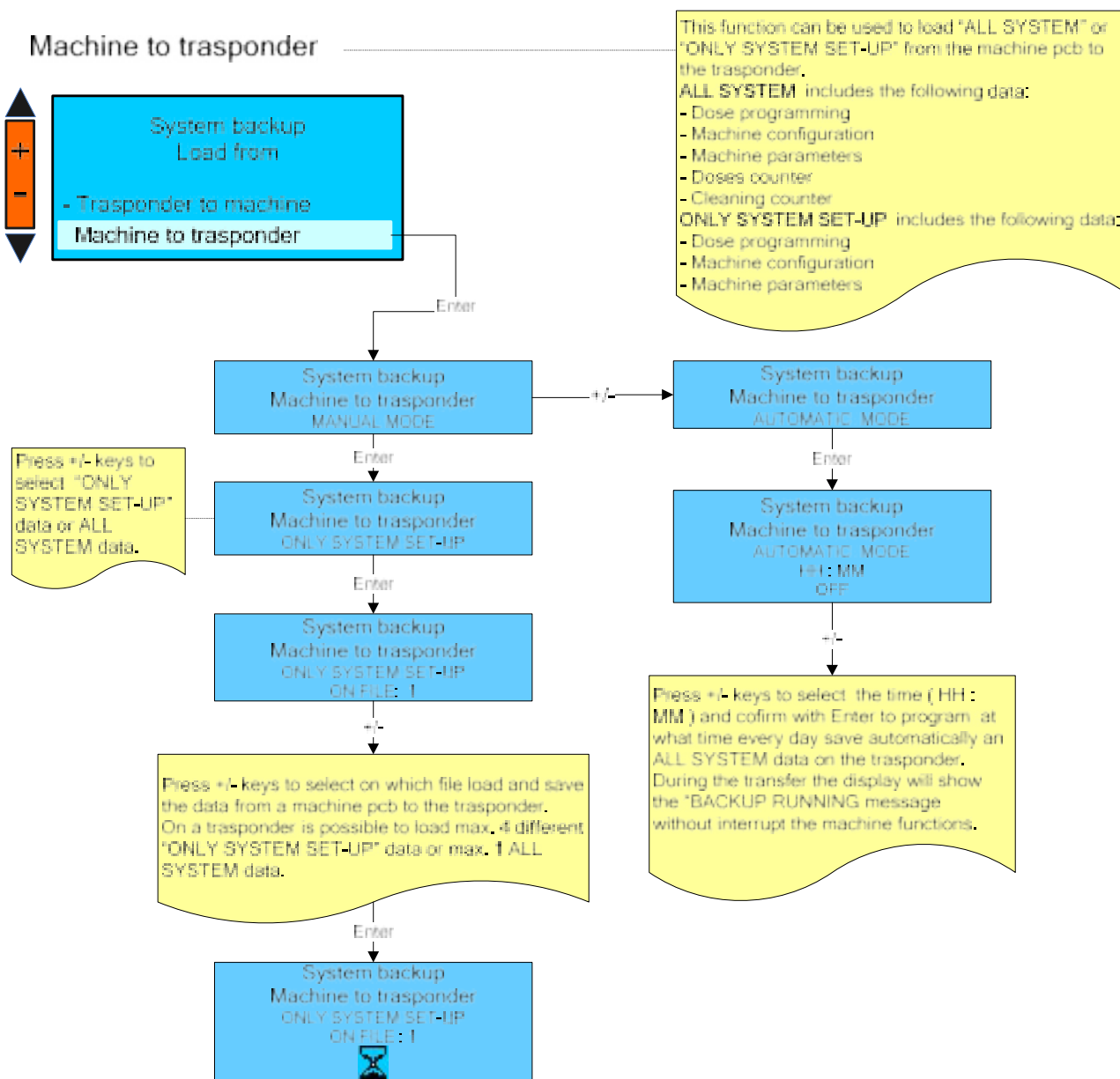
A- If on a trasponder any data has not been saved , and you try to carry out a load from " TRASPONDER TO MACHINE", the display shows :



B- If the data saved on the trasponder have been loaded from a version software different from the software machine the display will show :



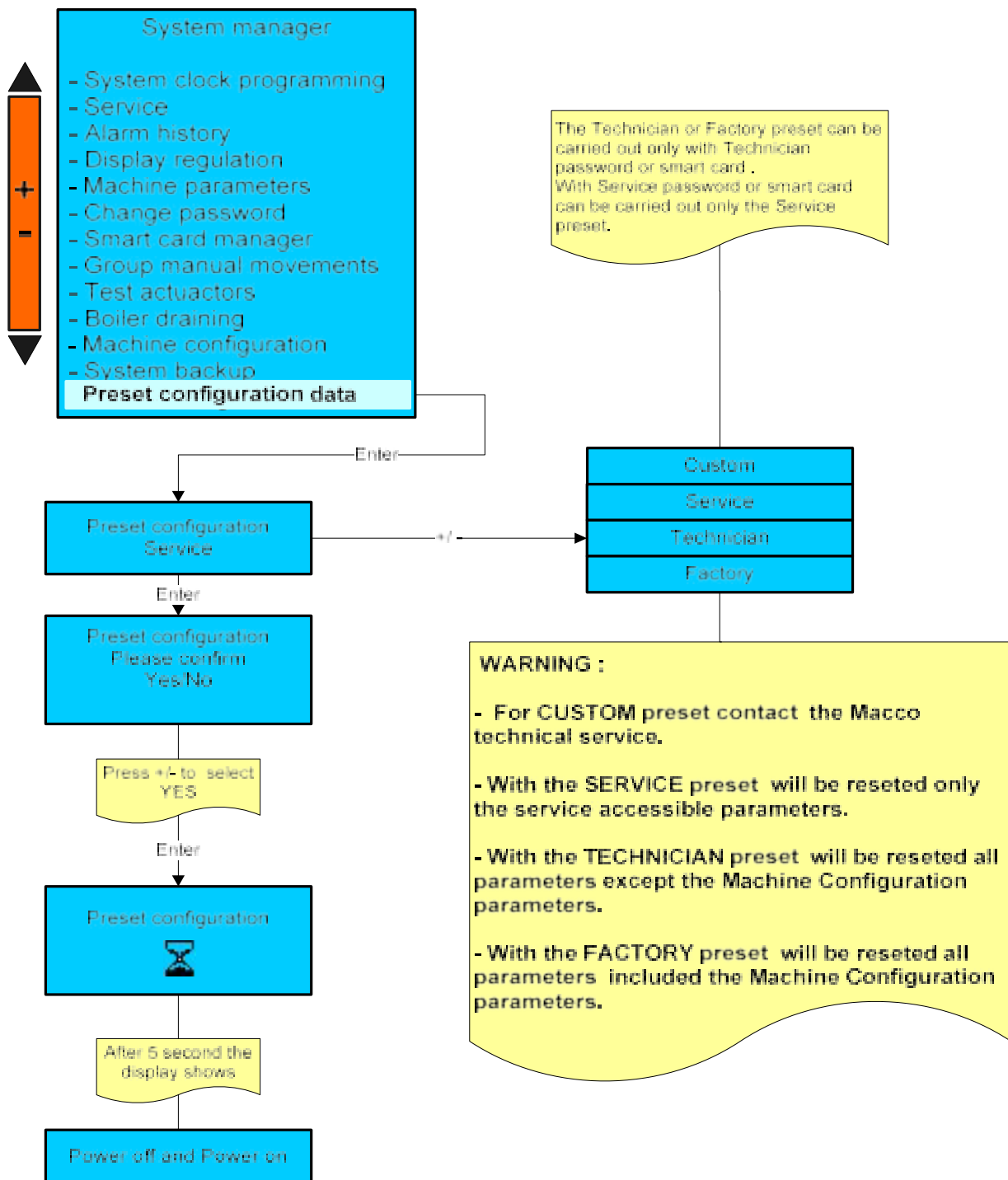
- See the "TROUBLE SHOOTING" paragraph for further information.



PLEASE NOTE:

-By power OFF and power on, it is meant clearing and giving voltage to the machine.

PRESET PARAMETERS



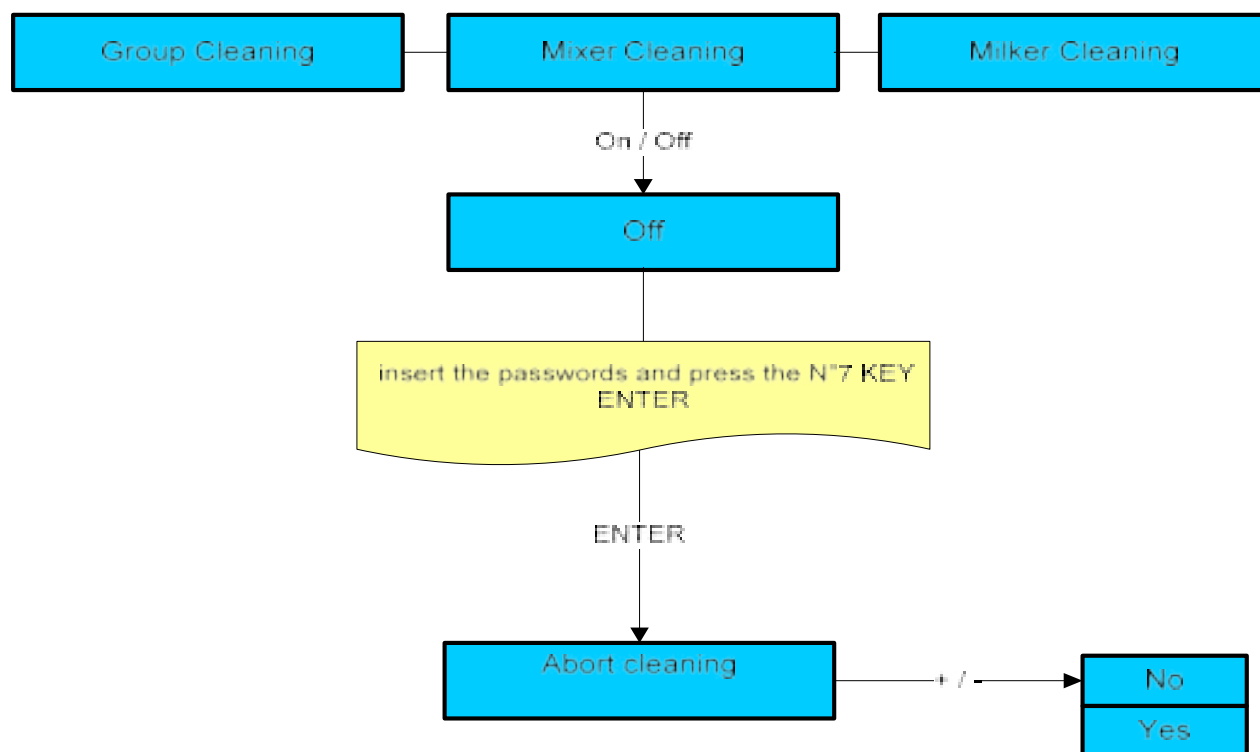
With this function, all the set up values, machine counters and passwords take the default values set up by the manufacturer.

PLEASE NOTE:

A -By power OFF and power on, it is meant clearing and giving voltage to the machine.

CLEANING PROCESS ABORT

If you want to interrupt the cleaning procedure for group or whisk or milk frother follow the procedure:
(ONLY WITH THE TECHNICIAN OR SERVICE PASSWORD)



1) N°10 Time out pulses, upper piston motor.



H. Motor puls 10

This alarm is visualised on display by code 10

Causes: the upper motor encoder has not received pulses for 3 seconds, since the motor is not running

Result: the machine is switched OFF.

Check the following:

1. Wrong or misconnect electric connections
2. Faulty gear motor electric
3. Faulty encoder card
4. Faulty master card

2) N°11 Time out pulses, lower piston motor.



L. Motor puls 11

This alarm is visualised on display by code 11.

Causes: the lower motor encoder has not received pulses for 3 seconds, since the motor is not running.

Result: the machine is switched OFF.

Check the following:

1. Wrong or misconnect electric connections
2. Faulty gear motor electric
3. Faulty encoder card
4. Faulty master card

3) N° 12 Upper motor error alarm.



H. Motor error 12

This alarm is visualised on display by code 12

Causes: a mechanical shutdown occurred to the gear motor or the upper piston encoder is not reading the impulses correctly.

Result: the machine is switched OFF.

Check the following:

- 1) Gear motor defective
- 2) Gear motor not aligned with the brewing chamber
- 3) Faulty master card.

4) N° 13 Lower motor error alarm.



L. Motor error 13

This alarm is visualised on display by code 13.

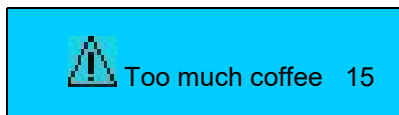
Causes: a mechanical shutdown occurred to the gear motor or the lower piston encoder is not reading the impulses correctly

Result: the machine is switched OFF.

Check the following:

- 1) Gear motor defective
- 2) Gear motor not aligned with the brewing chamber
- 3) Faulty master card.

5) N° 15 Alarm of too much coffee in the brewing chamber.



This alarm is visualised on display by code 15

Causes: the upper piston has positioned itself where the wet seal of the piston gasket in the brewing chamber is not guaranteed.

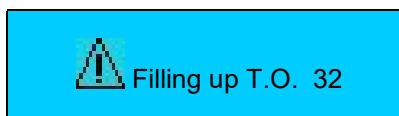
Result: the machine is switched OFF.

Solution: carry out the following controls.

- 1) Reduce coffee quantity
- 2) Clean the upper piston gasket from any coffee residue
- 3) Check the upper piston alignment with the brewing chamber.
- 4) Faulty encoder

Please Note: before show the alarm the upper piston tries to insert itself into the brewing chamber twice.

6) N° 32 Boiler filling alarm.



This alarm is visualised on display by code 32

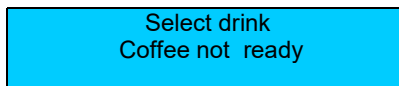
Causes: the stage of boiler fillings has exceeded the maximum time of 2 minutes; the level of the probe (SLC) has not been reached.

Result: the machine is OFF.

Check the following:

- 1) Level probe (SLC) is dirty, so isolated from the water (the complete filling of the boiler is checked)
- 2) no water from mains
- 3) low water pressure
- 4) faulty motor pump
- 5) faulty filling solenoid valve
- 6) incorrect electrical connections (level probe -SLC- misconnected wire).
- 7) PC board relè

7) N° 33 Coffee boiler time-out temperature alarm .



This alarm is visualised on display by code 33

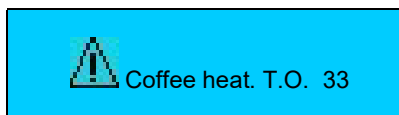
Cause: the coffee boiler temperature has reached the minimum value of 60°C

Result: boiler heating is interrupted and the buttons of coffee-based, milk-based and filter drinks are disabled.

Solution: turn off the machine and then turn it back on. If the alarm sets off again, verify:

WARNING:

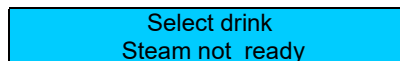
- a) If the alarm sets off again, wait until the machine reaches the working temperature
- b) If the machine is in OFF mode, the display shows:



It indicates that the heating up stage of the coffee boiler has exceeded 12' time-out, verify:

- 1) Faulty temperature probe
- 2) Temperature probe stopped
- 3) Faulty TRIAC
- 7) Faulty master board
- 8) Turn the machine in OFF mode and then turn it back on with the key N°11 (ON-OFF).

8) N° 34 Steam boiler time-out temperature alarm .



This alarm is visualised on display by code 34

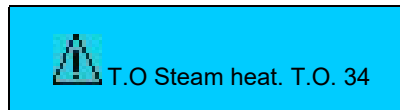
Cause: the steam boiler temperature has reached the minimum value of 105°C

Result: boiler heating is interrupted and the buttons of coffee-based, milk-based and filter drinks are disabled.

Solution: turn off the machine and then turn it back on.

WARNING:

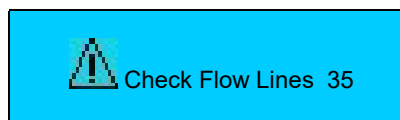
- a) If the alarm sets off again, wait until the machine reaches the working temperature
- b) If the machine is in OFF mode, the display shows:



It indicates that the heating up stage of the coffee boiler has exceeded 12' time-out, verify:

- 1) Faulty temperature probe
- 2) Temperature probe stopped
- 3) Faulty TRIAC
- 4) The steam boiler safety thermostat has set in (see alarm description of steam boiler safety thermostat)
- 5) Faulty master board
- 6) Turn the machine in OFF mode and then turn it back on with the key N°11 (ON-OFF).

9) N° 35 Check flow lines



This alarm is visualised on display by code 35

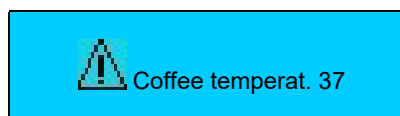
Cause: It indicates that when the machine is in stand-by there is a leakage from the coffee hydraulic circuit.

Result: the machine is OFF.

Check the following:

- 1) leakage from the expansion valve
- 2) leakage from the third way of the coffee group solenoid valve.
- 3) leakage from the by pass solenoid valve.
- 6) leakage from the tubes of the coffee hydraulic circuit
- 7) leakage from the no-return valve

10) N° 37 Coffee boiler temperature alarm.



This alarm is visualised on display by code 37

First case: the temperature inside the coffee boiler has reached the limit value of 105°C (221°F) or more.

Result: boiler heating is interrupted and the buttons of coffee-based, coffee +milk-based and filter drinks are disabled.

Solution: turn OFF the machine. Replace the TRIAC of the heating element coffee boiler. Turn the machine ON.

Second case: the temperature probe is defective. The probe sends the following signal to the pcb: 0 Ohm.

To check the temperature the probe sends to the pcb press key no. 15 without any smart card into the slot

Result: boiler heating is interrupted and the buttons of coffee-based, coffee+ milk-based and filter drinks are disabled.

Solution: turn OFF the machine. Replace the temperature probe. Turn the machine ON.

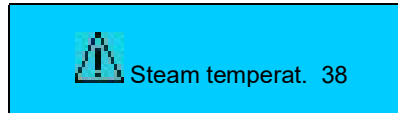
Third case: the temperature probe is defective. The probe sends the following signal to the pcb: 154 Ohm (short circuit).

To check the temperature the probe sends to the pcb press key no. 15 without any smart card into the slot

Result : boiler heating is interrupted and the buttons of coffee-based, coffee+ milk-based and filter drinks are disabled.

Solution: Turn OFF the machine. Replace the temperature probe. Turn the machine ON.

11) N° 38 Steam boiler temperature alarm.



This alarm is visualised on display by code 38

First case: the temperature inside the steam boiler has reached the limit value of 129°C (264.2°F) or more.

Result: boiler heating is interrupted and all dose buttons are disabled.

Solution: turn OFF the machine. Replace the TRIAC of the heating element steam boiler. Turn the machine ON.

Second case: the temperature probe is defective. The probe sends the following signal to the pcb: 0 Ohm.

Result: boiler heating is interrupted and all dose buttons are disabled.

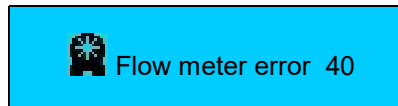
Solution: turn OFF the machine. Replace the temperature probe. Turn the machine ON.

Third case: the temperature probe is defective. The probe sends the following signal to the pcb: 154 Ohm (short circuit).

Result: boiler heating is interrupted and all dose buttons are disabled.

Solution: turn OFF the machine. Replace the temperature probe. Turn the machine ON.

12) N° 40 Flowmeter alarm.



This alarm is visualised on display by code 40.

Cause: the flow meter is not sending signals to the control unit within a time-out of 5 seconds.

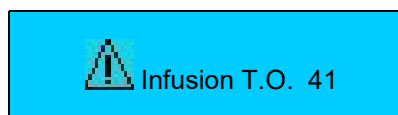
Result: delivery continues up to a time-out of 120 seconds or until the selected key is pressed.

Check the following:

- 1) No water from mains (coffee is not dispensed)
- 2) clogged group piston filters (coffee is not dispensed)
- 3) faulty group solenoid valve (coffee is not dispensed)
- 4) clogged inlet filters (coffee is not dispensed)
- 5) blocked flow meter (coffee is not dispensed)
- 6) or faulty flow meter (coffee dispensed continuously)
- 7) faulty electrical connection (coffee dispensed continuously).

Note: If the coffee is dispensed continuously, use the machine as if it were manual: press the required key to start up the dose, then press the same key to stop the dose being dispensed, after checking the amount in the cup.

If dispensing continues until the above mentioned time-out of 120 seconds, the dispensing will be stopped and display shows:

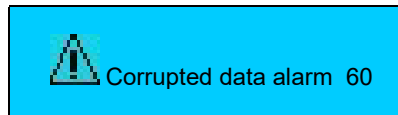


This alarm is visualised on display by code 41.

The message signals that a time-out problem of the flow meter occurred.

At the next dose the message will be cancelled if dispensing is carried out correctly.

13) N° 60 Corrupted data alarm.



This alarm is visualised on display by code 60

First case: This alarm is visualised during machine functioning

Cause: incorrect operating data in machine memory.

Result: machine shutdown.

Solution: carry out the following controls.

- 1) Verify programming data relevant to the operation that is being carried out. They might be varied and therefore the machine does not recognise the new data.
- 2) Carry out "PARAMETERS PRESET" procedure (see chapter system programming configuration data preset).

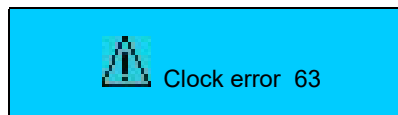
Second case: software programming values or data incorrect, data inserted by means of P.C. programming incorrect.

Result: machine shutdown.

Solution:

- 1) Carry out "PRESET CONFIGURATION DATA" procedure
- 2) Insert new software by means of P.C.

14) N° 63 Clock error.

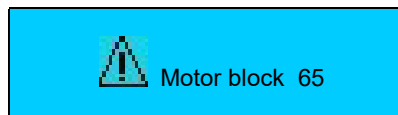


This alarm is visualised on display by code 63

Solution: check the following:

- a) run down battery
- b) faulty master board

15) N° 65 Motor block alarm.



This alarm is visualised on display by code 65

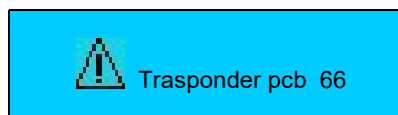
Causes: a mechanical block occurred to the Mixer.

Result: the machine is switched OFF.

Check the following:

- 1) Mixer motor defective
- 2) Master board defective

16) N° 66 Trasponder PCB alarm.

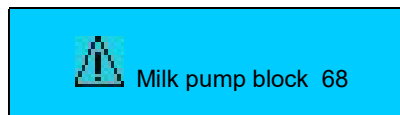


This alarm is visualised on display by code 66

Solution: check the following :

- 1) Trasponder cable
- 2) Trasponder p c board defective
- 3) Faulty master board

17) N° 68 Milk pump motor block alarm.



This alarm is visualised on display by code 68

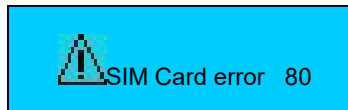
Causes: a mechanical block occurred to the milk pump motor.

Result: the machine is switched OFF.

Check the following:

- 1) Milk pump motor defective
- 2) Master board defective

18) N°80 Sim card alarm (only for machine with GSM Modem kit)



This alarm is visualised on display by code 80

Solution: check the following :

- a) SIM card not inserted into GSM Modem
- b) faulty SIM card.
- c) SIM card not properly inserted.
- d) faulty GSM Modem .

19) N°81 Modem GSM alarm (only for machine with GSM Modem kit)

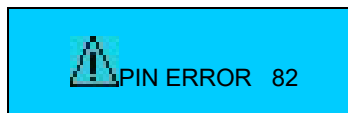


This alarm is visualised on display by code 81

Solution: check the following :

- a) check the power supply of the gsm modem installed in the coffee machine.
- b) check that the serial cable is properly connected in the gsm modem and in the master board (CN 16).

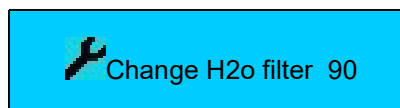
20) N°82 PIN of the modem gsm alarm (only for machine with GSM Modem kit)



This alarm is visualised on display by code 82

Solution: check that the PIN number programmed in the parameters "GSM : SIM CARD PIN " is the same as the Sim card inserted in the gsm Modem .

21) N° 90 Water softener alarm.



This alarm is visualised on display by code 90

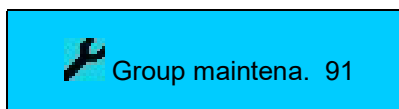
Cause: the flowmeter has reached the maximum value of XXXXX litres of previously programmed water, which may be dispensed.

Result: none.

Solution: renew the softener salts. To cancel the alarm, see the Info -Reset paragraph for further information.

Note: this alarm does not block dispensing. The softener alarm can be excluded by setting the litre value to zero (see Service – Maintenance set-up paragraph).

22) N° 91 Group maintenance alarm.



This alarm is visualised on display by code 91

Cause: the group has reached the number of programmed cycles (see Service chapter).

Result: none.

Solution: check the group and cancel the alarm following the procedure of the chapter info reset.

23) N° 92 Machine maintenance alarm.



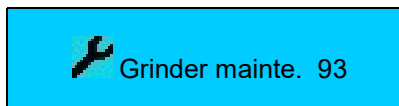
This alarm is visualised on display by code 92

Cause: the machine has reached the number of programmed cycles or the inspection date (see Service chapter).

Result: none.

Solution: check or/and replace the wear parts and cancel the alarm following the procedure of the chapter Info reset.

24) N° 93-Tools maintenance alarm.



This alarm is visualised on display by code 93

Cause: the tools have reached the set up working time (see Service chapter)

Result: none.

Solution: replace the tools and cancel the alarm following the procedure explained in the info reset chapter.

25) Safety valve operation.

No messages on the display

Cause: overpressure in steam boiler

Result: the safety valve opened at 1.7-1.9 bars, the steam is conveyed to the drip tray by means of a silicone tube.

Cause: overpressure in the steam boiler or faulty safety valve.

Solution: carry out the following controls.

- 1) Temperature probe of the boiler (see boiler temperature alarm)
- 2) Contacts of the electromagnetic switch of the electric element are stacked
- 3) Replace the safety valve in case it releases steam at a pressure lower than 1.7 bars,

26) Steam boiler Klicson cutoff.

No messages on the display

Cause: The temperature of the boiler has reached the limit of 145°C.

Result: the steam boiler heating is interrupted.

Solution: carry out the following controls.

- 1) Faulty temperature probe
- 2) Faulty TRIAC of the heating element
- 3) Faulty klicson
- 4) Faulty Level probe
- 5) The water level in the boiler has dropped lower than the heating element.

WARNING:

To activate the safety thermostat, it is necessary to press the button placed at the centre of the thermostat itself.

27) Coffee boiler Klicson cutoff.

No messages on the display

Cause: The temperature of the boiler has reached the limit of 120°C.

Result: the coffee boiler heating is interrupted.

Solution: carry out the following controls.

- 6) Faulty temperature probe
- 7) Faulty TRIAC of the heating element
- 8) Faulty klicson
- 9) No water inlet.

WARNING:

To activate the safety thermostat, it is necessary to press the button placed at the centre of the thermostat itself.

SPECIAL FUNCTIONS FOR MACHINE CALIBRATION

1) Calibrating the coffee dispensing pressure (pump pressure).

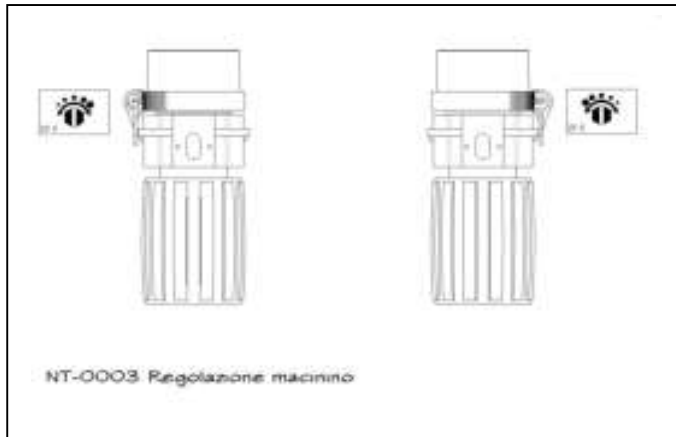
To calibrate the coffee dispensing pressure (8-9 Bars), rotate the "MP" pumping body screw (see hydraulic diagram) clockwise to increase it, and anti-clockwise to decrease it.

The adjusting screw is reached through the special hole behind the coffee grounds bin.

The coffee dispensing pressure is displayed on pressure gauge, when the machine is in the coffee dispensing phase

2) Calibrating the coffee grinding degree.

To calibrate the coffee grinding degree, rotate the grinder's adjusting screw (see annex) clockwise to increase it, and anti-clockwise to decrease it.



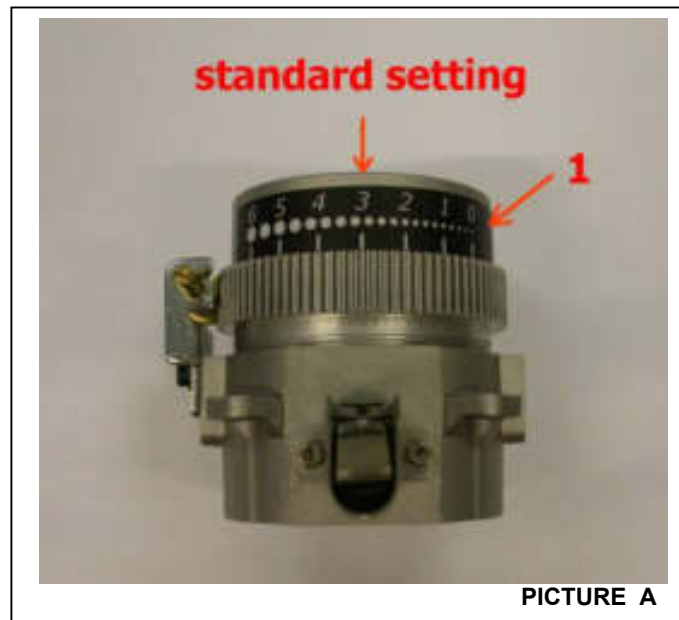
See the sticker "1" (PICTURE A) for a better setting of the grinder.

The setting position 3 refers to medium coarseness.

If you like to make it coarser turn the adj. screw 4 turns to reach the position 4 (coarse).

If you like to make it finer, turn the adj. screw 4 turns to reach the position 2 (fine).

Turn the adj. screw in the direction indicated by the sticker inside the machine.



PICTURE A

3) Calibrating the flow adjustment of the coffee outlet.

In order to calibrate the dispensing speed and change the amount of coffee cream, turn the screw of the coffee outlet regulator on the upper piston (see hydraulic diagram) clockwise to decrease it and anti-clockwise to increase it

We recommend making the above adjustment while the coffee is being dispensed.

RECOMMENDATIONS FOR A CORRECT PREVENTIVE MAINTENANCE

The aim of this schedule is to prevent as far as possible equipment from breaking down, through the periodical check-up and replacement of components subject to fair wear and tear, thus reducing service calls and relevant cost in working hours.

This schedule is based on the suppliers recommendations along with previous service history on equipment currently out in the field.

It is designed to assist in extending the operational life of the equipment.

A. Pre delivery inspection:

We test all machines before shipping using water and at least 1/2Kg of coffee. Therefore we consider our machines ready to installation.

Anyway we suggest to carry out a Pre Delivery Inspection on all machines before deliver them to final customer. PDI can detect inconveniences which may occur during transportation or a long storage. For instance:

- screws and nuts which fit the body-work may become loose;
- flowmeter may be block by dust especially after long storage;
- screws which fit the power supply wires may become loose.

B. 2 or 3 weeks after installation:

Parts to be checked or adjusted:

- the grinder/s settings
- the dose settings
- if daily cleaning of group and milk frother is carried out by the operator.

C. At 4 months' intervals:

Parts to be changed:

1. o-rings for milk frother
2. milk silicone tube for milk frother
3. o-rings for group pistons.
4. Internal Mixer gasket

Parts to be cleaned or replaced (check and decide on site):

5. o-rings for the drip tray
6. group upper piston micro screen
7. group lower piston screen
8. milk frother
9. clean the hopper by the oil of the coffee
10. clean the coffee chute by means of a dry brush

Parts to be checked or adjusted:

11. grinder/s setting (coarseness of the coffee powder)
12. air adjustment for milk frother
13. coffee silicone tube
14. pump pressure should be 8-9 bars for rotation pump and 11 bars for vibration pump, check after had closed the coffee flow valve on upper piston or use the dedicated tool, code no. A 0128
15. coffee boiler expansion valve should leak at 13 bars after a few coffee deliveries
16. front door switch
17. grounds beans tray induction switch
18. check the gasket underneath the sweeper (it is glued to the sweeper)

Check the functioning of the machine with the customer:

19. dose settings (setting of milk frother, steam boiler pressure...)
20. that the double coffee spout delivers consistent quantity of coffee in the cup, if not replace it
21. check how many times the group cleaning procedure has been carried out
22. check how many times the milk frother cleaning procedure has been carried out.

D. Check at 12 months' intervals

Same as points C1-22, plus replace the following:

- steam boiler safety valve
- coffee boiler expansion valve
- replace flat burrs grinder after having grounded approximately 300-500 Kg of coffee
For grinder with conical burrs, check and/or replace the complete grinder after 50000 cycles
- if the group has delivered 75.000 cycles replace the motors
- group upper piston micro screen
- group lower piston screen
- milk frother
- milk frother air adjustment.

E. Every 24 months

Replace these components:

- silicone steam tube between boiler and milker.
- silicone steam tube between boiler and steam wand
- switch cover.

Suggestions:

Use the Test Actuators menu to check all loads of the machine: grinder/s, solenoid valves, contactor and heating element.
Check Alarm History menu, if you find any alarm check and solve the problem.

Test Actuators and Alarm History menu are part of the System Manager menu.

PLEASE NOTE: It is very important to verify that your customers carry out recommended daily cleaning procedures of brewing unit and milk frother. More parts may be checked depending on your personal experience and also coffee/water quality.

CONTROL UNIT LEGEND

A) MASTER BOARD code no. 96.00841 (see electric diagram)

Functions of the fuses:

FU1 value: 4 A 250V. type: D : fuse for mixer motor 1

FU2 value: 4 A 250V. type: D : fuse for mixer motor 2

Please Note :

THE OTHER ACTUATORS ARE PROTECTED FROM ELECTRONIC FUSES (PTC – VDR).

B) MASTER BOARD LED LEGEND

LED1 LD1 - Vcc : (red colour) 5 V. DC power supply for microprocessor and electronic component

LED LD2 - VH: (red colour) 24 V. DC main power supply for master board

LED LD3 - VREG : (red colour) 12 V. DC power supply for triac and on/off relays

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The manager
Maurizio Boffelli
Firma del Responsabile della Documentazione



Carimali S.p.A. con socio unico - Sede Amministrativa: Via Industriale, 1 - 24040 Chignolo d'Isola (BG) - Italy
T: +39.035.4949555 - F: +39.035.905447 - www.carimali.com - carimali@carimali.com

Sede Legale: Via Monte Grappa, 7 - 24121 Bergamo (Italy) - Capitale Sociale Euro 1.661.520 i.v.
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