



FTS 30 E - FTS 60 E

FTS 30 - FTS 60 - FTS 120

FTS 60 B E

*model version 2.0*

FTS 60 E

FTS 60 - FTS 120

*model version 1.0*

Milano MTS 60

Beverage Systems

Software Operative Manual



# INDEX

<b>1 INTRODUCTION .....</b>	<b>5</b>
<b>2 USE USB MEMORY STORAGE TO INSTALL OR EXPORT FILES .....</b>	<b>6</b>
2.1 USB MEMORY STORAGE ARCHITECTURE .....	6
<b>3 BOOT MENU .....</b>	<b>7</b>
3.1 BOOT SCREEN .....	8
<b>4 USER INTERFACE SCREENS .....</b>	<b>10</b>
4.1 MAIN SCREENS .....	10
4.2 STANDBY SCREEN .....	12
4.3 MAIN MENU SCREEN .....	14
4.4 BEVERAGE SCREEN .....	19
<b>5 HOW TO PREPARE A BEVERAGE ..</b>	<b>21</b>
<b>6 PROGRAMMING MENU.....</b>	<b>24</b>
6.1 HOW TO .....	24
6.1.1 BROWSE MAIN SCREEN .....	24
6.1.2 BROWSE TO SECTION .....	26
6.1.3 INTERACT WITH SECTION'S ITEMS .....	27
6.1.3.1 SET VALUE.....	27
6.1.3.2 SET CONDITIONAL OPTION.....	29
6.1.3.3 BROWSE SECTION'S TAB.....	31
6.1.3.4 SAVE.....	32
6.1.3.5 ACTION BUTTON.....	37
6.1.4 BROWSE SELECTION SECTION ELEMENT .....	38
6.1.4.1 SELECTIONS TAB .....	39
6.1.4.2 SELECTION BUTTON DESCRIPTION .....	39
6.1.4.3 SELECTION "xx" SUB-SECTION .....	43
6.2 CLEANING/RINSING .....	44
6.2.1 START RINSING .....	45

6.2.2	START CLEANING BREWER (E, E+) .....	47
6.2.3	START CLEANING MILK MODULE (E, E+).....	59
6.2.4	RINSE 1-4 .....	65
6.2.5	DESCALING PROCEDURE (E, E+).....	67
6.2.6	GRINDER CLEANING (E, E+).....	79
6.2.7	SCHEDULED RINSING .....	89
6.3	CLOCK .....	90
6.4	DATA AUDIT .....	91
6.5	DEVICES .....	93
6.6	ESPRESSO CALIBRATION .....	95
6.6.1	STEP BY STEP.....	96
6.6.2	RECALIBRATION .....	105
6.7	INSTANT CALIBRATION .....	107
6.8	MAINTENANCE .....	108
6.8.1	FIRST INSTALLATION PROCEDURE .....	110
6.8.1.1	E MODEL .....	110
6.8.1.2	E+ MODEL .....	112
6.8.1.3	I MODEL .....	113
6.8.2	DEINSTALLATION .....	115
6.8.2.1	E MODEL .....	117
6.8.2.2	E+ MODEL .....	118
6.9	MANUAL .....	120
6.10	MILKER.....	121
6.10.1	MILK MODULE PERIODIC RINSING.....	123
6.11	MISCELLANEOUS.....	124
6.12	PAYMENT SYSTEM .....	126
6.13	PRODUCT QUANTITY .....	128
6.14	SELECTION (max 48) .....	129
6.15	TEMPERATURE.....	132
6.16	OLD PROG MENU.....	133

## **7 OFF LIST .....134**

## **8 PROGRAMMING MENU: ANALYTIC INDEX .....137**

GLOSSARY	
<b>VM</b>	Vending machine
<b>TS</b>	Touch screen model
<b>TP</b>	Touch panel model
<b>E+</b>	Espresso induction
<b>E</b>	Espresso boiler
<b>I</b>	Instant model
	Supported by Rheamedia2 tool
	Supported by rheAction tool

<b>File name</b>	<b>Status</b>	<b>date</b>	<b>Rev.</b>	<b>Pages</b>	<b>Change description</b>
NESTLE OPERATIVE MANUAL SW TS (BL V+) TP - Rev 1.0 - 20200619	release	2020.06.19	1.0	102	NA
NESTLE OPERATIVE MANUAL SW TS (BL V+) TP - Rev 1.1 - 20200711	release	2020.07.11	1.1	103	- Clean and rinse terms review.
NESTLE OPERATIVE MANUAL SW TS (BL V+) TP - Rev 1.2 - 20201218	release	2020.12.18	1.2	111	- Update procedure messages for brewer cleaning (look at "5.2.2 START CLEANING BREWER").
NESTLE OPERATIVE MANUAL SW TS (BL V+) TP - Rev 1.3 - 20210806	release	2021.08.06	1.3	139	- Add minor notes - Update with v2.5 features. - Add chapter "6.2.5 DESCALING PROCEDURE". - Add chapter "6.2.6 GRINDER CLEANING". - Add chapter "1 INTRODUCTION".

# 1 INTRODUCTION

"NESTLE OPERATIVE MANUAL SW TT (BL V+) TS" is intended to provide the necessary information to configure and use the VM (only for touch screen model).

The manual is composed by five main chapters:

- USB MEMORY STORAGE TO INSTALL OR EXPORT FILES: it describes the correct way to format USB memory storage to install or export files to/from VM. Read more at "2 USE USB MEMORY STORAGE TO INSTALL OR EXPORT FILES".
- BOOT MENU: it provides information about version/name of installed files. It allows to install/export files too. Read more at "3 BOOT MENU".
- USER INTERFACE SCREENS: it describes the main screen shown on display during the VM usage. Read more at "4 USER INTERFACE SCREENS".
- HOW TO PREPARE BEVERAGE: it shows a possible way to proceed with drink delivery. Read more at "5 HOW TO PREPARE A BEVERAGE".
- PROGRAMMING MENU: full description of all option available on various VM configurations. Read more at "6 PROGRAMMING MENU".

## 2 USE USB MEMORY STORAGE TO INSTALL OR EXPORT FILES



### **DISCLAIMER:**

- It is strongly recommended not to downgrade your current CPU and/or GPU and/or GUI and/or DA3.

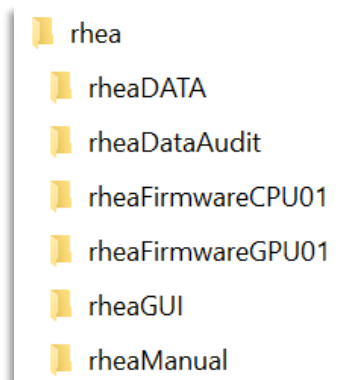


### **NOTE:**

- Any file should be saved just in a 4GB maximum USB memory storage (formatted as FAT32).

## 2.1 USB MEMORY STORAGE ARCHITECTURE

The VM needs the following architecture to be able to use stored files.



- The root of the USB memory storage contains main "rhea" folder. Inside this one you find:
  - "**rheaDATA**" folder: the files (file.da3) containing all "setups" is available in "**rheaDATA**" folder. This software has been set for: times, stages for beverages dispensing, payment system protocol, display modes. Any operator can edit all variables: manually aboard the VM or by means of rheAction tool or using a USB memory storage. Note: all files inside "rheaDATA" folder can be transfer either from USB memory storage into the VM, or from VM into USB memory storage.
  - "**rheaDataAudit**" folder: to download EVA-DTS "Audits" (file.txt) from the VM.
  - "**rheaFirmwareCPU01**" folder: contains "master" files (file.mhx). This software has been set for VM cycles, links among all functions, order of operations (8 master files maximum). **This software is not editable but** can be replaced in the CPU by means of a USB memory storage by the manufacturer. Note: all files in this folder can only be transfer from USB memory storage to the VM.
  - "**rheaFirmwareGPU01**" folder: it contains "master" files (file.mh6). These files are GPU card firmware. **This software is not editable but** can be replaced in the GPU by means

of a USB memory storage by the manufacturer. Note: all files in this folder can only be transfer from USB memory storage to the VM.

- **"rheaGUI"** folder: it includes graphical interface folders either on the VM in stand-by either dispensing mode. RheaMedia2 tool (read more at: "RHEAMEDIA2 MANUAL") is used to create or modify the graphical VM interface. Use GUI-pack (a package of images) then import some settings from the configuration file created by rheAction. Each selection allows to change: icons, scroll images and info, menu pages, content in standby mode, content while preparation of the beverage, content when beverage is ready, some text strings on different screen pages.
- **"rheaManual"** folder: The manual can be saved in this folder. It can be consulted accessing programming menu in the manual section (read more at "6.9 MANUAL").

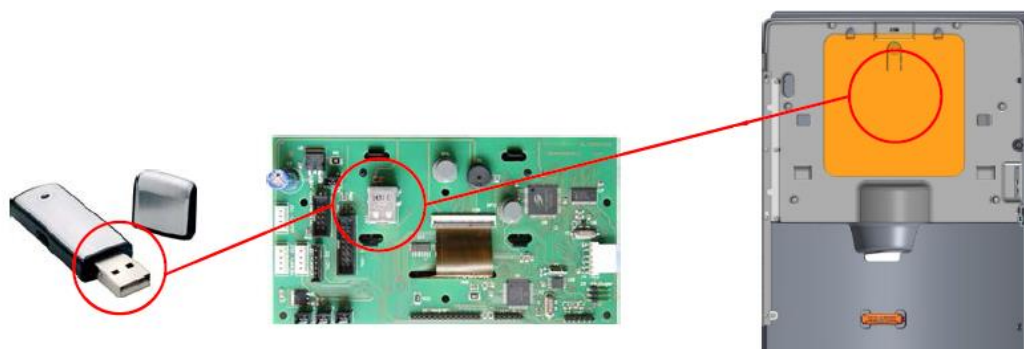
## 3 BOOT MENU

Follow the steps below to access to boot menu, where installing or exporting your files.

**STEP 1:** follow "2.1 USB MEMORY STORAGE ARCHITECTURE" instructions to create the USB memory storage.

**STEP 2:** first, switch off the VM and open its cage. Then, extending the fixing fin, slightly take off the orange protection carter.

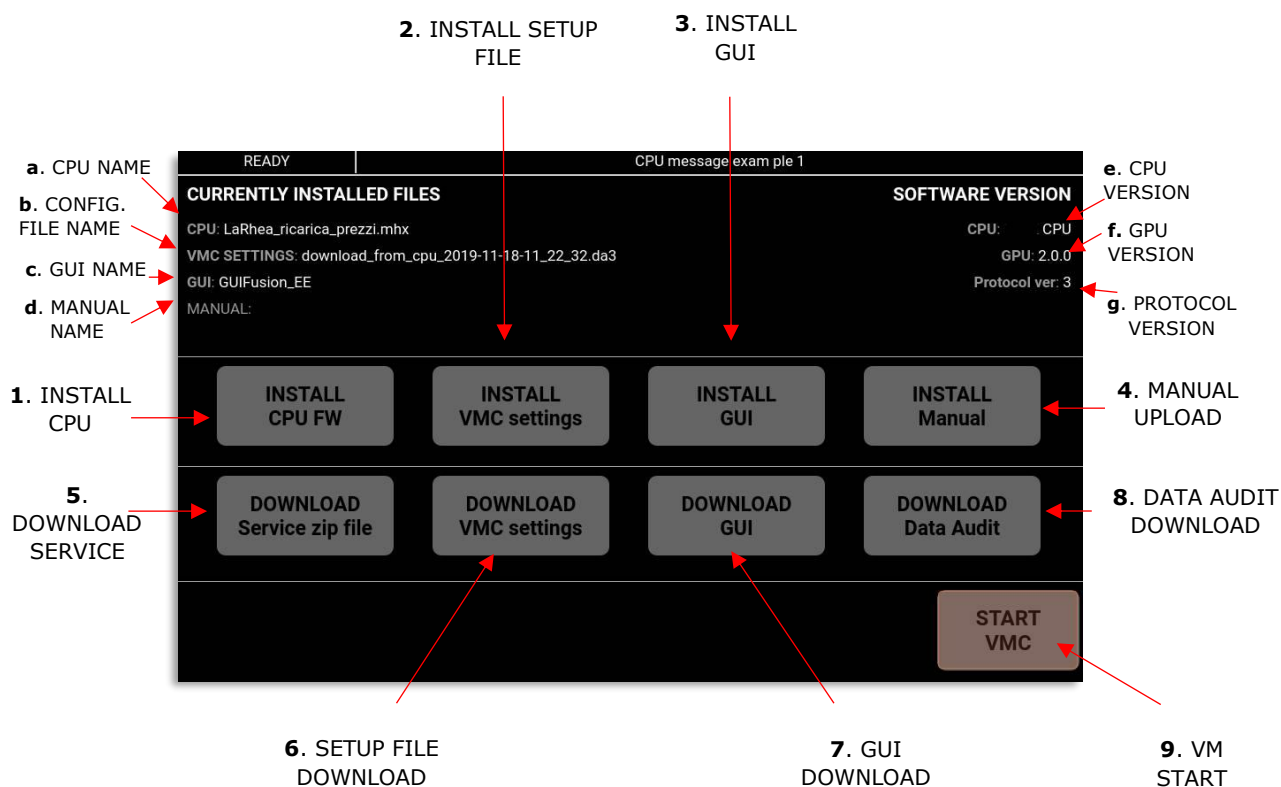
**STEP 3:** connect your USB memory storage to the display board.



**STEP 4:** switch on the VM, using the key service on the cover.

## 3.1 BOOT SCREEN

The image below shows the new boot screen and the main new elements. As soon as inserting the USB memory storage into GPU board, this screen will be visible. (**Note:** GPU installing screen is the same of the previous release and will be shown before the new boot screen).



1. Write CPU FW (USB => VM).
2. Write configuration file (USB => VM).
3. Write GUI (USB => VM).
4. Load manual for specific VM (USB => VM).
5. Read package info (share this .zip in case of issue) (VM => USB).
6. Read configuration file (VM => USB).
7. Read GUI (VM => USB).
8. Read data audit (VM => USB).
9. Start VM.

- a. CPU file name.
- b. Configuration file name.
- c. GUI name.
- d. Manual name for specific VMC.
- e. CPU Current version.
- f. GPU current version.
- g. Protocol version.



## **NOTE:**

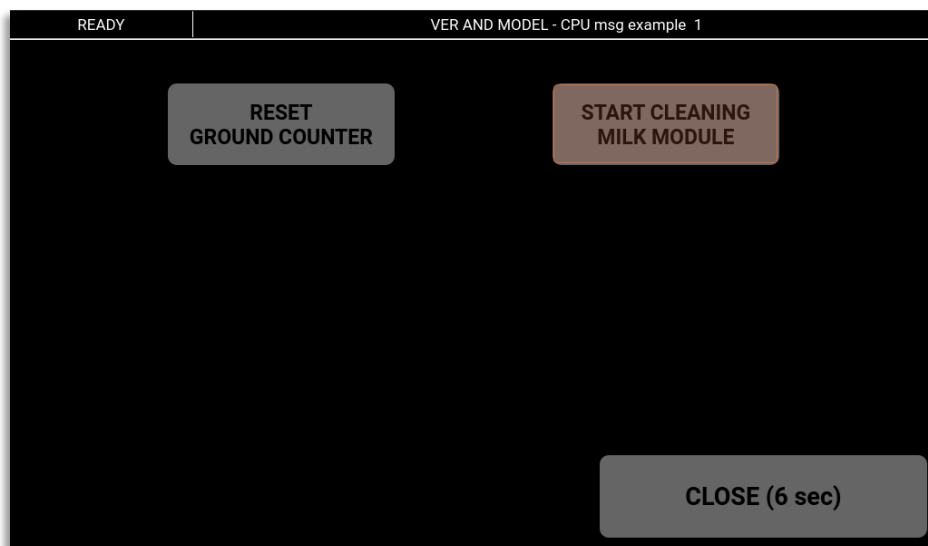
- Before any new installation, is strongly recommended to backup data (.da3 file configuration and GUI folder).
- Installing new files in the USB memory storage (CPU version, GPU version, configuration file, GUI) will overwrite previous installed files on the VM.
- To avoid installing error it is strongly recommended not to change CPU and GPU original file names. If any of these files should be rename, mind to use only upper and lower cases or numbers. Instead of spaces, you better use underscore or special characters. Don't ever change or delete hash code.

CPU\_LRV+\_TS60E\_PRO\_1G\_IH13\_x\_x\_x\_x\_IT-GB\_V111RC\_191112\_

cb865084

mxh  
HASH CODE

The image below shows the screen while enabling single options.




The image above shows two important buttons:

- **"RESET GROUND COUNTER"** button will be only shown if "COFFEE GROUND DECOUNTER" is different to zero (read more at item "6.8 MAINTENANCE").
- **"START CLEANING MILK MODULE"** button will be only shown if "SHOW MILKER-CLEANING BUTTON AT STARTUP" has been set to "YES" (read more at "6.10 MILKER").


# 4 USER INTERFACE SCREENS

## 4.1 MAIN SCREENS


As soon as VM has started you can browse different screens:

- **STANDBY SCREEN**  : contains slide show images and info messages about VM status (read more at "4.2 STANDBY SCREEN") (read more at "2.1.3 PAGE STANDBY" on "RHEAMEDIA2 MANUAL").



- **MAIN MENU SCREEN**  : contains all available beverage icon (read more at "4.1 MAIN MENU SCREEN") (read more at "2.1.5 PAGE MAIN MENU" on "RHEAMEDIA2 MANUAL").



- **BEVERAGE SCREEN**  : info about selected beverage to start delivering. If cup customization option is enabled, you can customize your beverage (read more at "4.4 BEVERAGE SCREEN") (read more at "2.1.5 PAGE MAIN MENU" on "RHEAMEDIA2 MANUAL").



## 4.2 STANDBY SCREEN



Here down below: standby screen. Tap on the screen to enter main menu screen.

1. CPU  
MESSAGES



3.  
STANDBY  
IMAGE

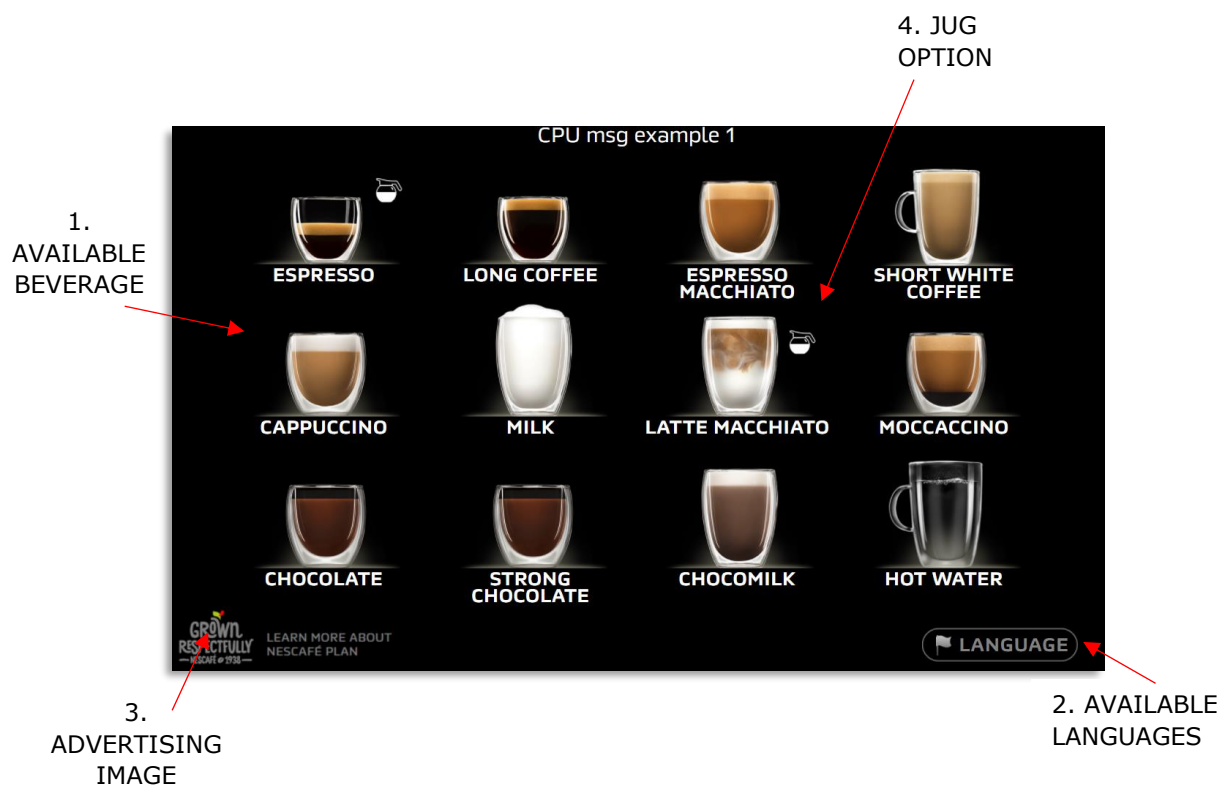
2. CUSTOM MESSAGE


1. **CPU MESSAGES:** this text box could show warning messages, low quantity level of product messages, etc.
2. **CUSTOM MESSAGE**  : this message is customizable by rheaMedia2 tool (read more at "2.1.3 PAGE STANDBY" on "RHEAMEDIA2 MANUAL").
3. **STANDBY IMAGE**  : it's an images slide show: these images are configurable by rheaMedia2 tool (read more at "2.1.3 STANDBY PAGE" on "RHEAMEDIA2 MANUAL").



## 4.3 MAIN MENU SCREEN

The image below shows how beverages menu looks like.



1. **AVAILABLE BEVERAGE** : this screen shows all available beverages. Tapping on one of the beverage icons will show its beverage screen (read more at "BEVERAGE SCREEN"): i.e. tap on "CHOCOLATE" icon.



By rheaMedia2 tool (read more at "2.1.5 PAGE MAIN MENU" on "RHEAMEDIA2 MANUAL") you can change the number of rows and columns on the grid (image above 3x4) of beverages images.

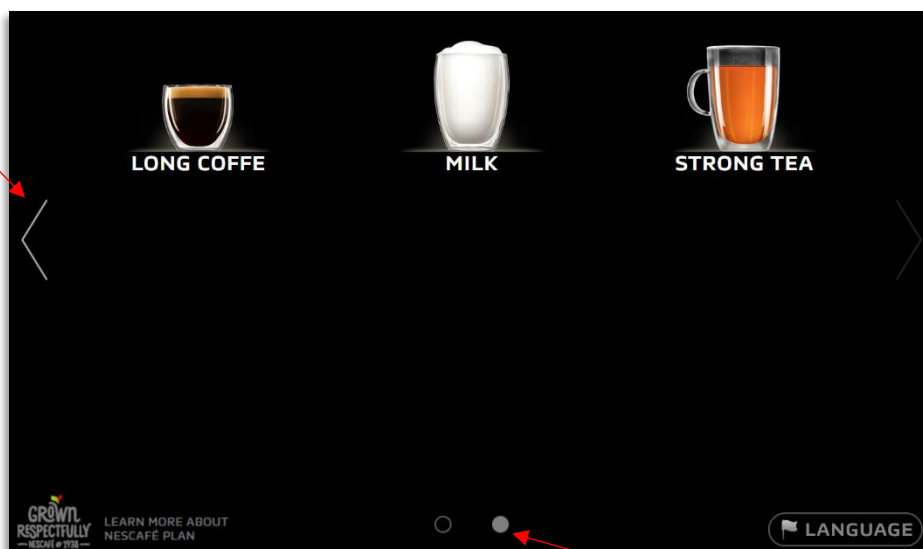
Configuring 3x3 grid, the screen will look like the image below.

b. NEXT PAGE



a. CURRENT  
PAGE (1/2)

c.  
PREVIOUS  
PAGE



a. CURRENT  
PAGE (2/2)

a. **CURRENT SCREEN:** the image above contains two different screens.

b. **NEXT SCREEN:** to browse to next screen:

- Tap the arrow of the image above.
- Scroll from right to left by horizontal.



c. **PREVIOUS SCREEN:** to browse to previous screen:

- Tap central left arrow of the image above.
- Scroll from left to right by horizontal.



2. **AVAILABLE LANGUAGES** : tapping on "LANGUAGE" buttons will show a screen with all available languages of the GUI.



Use RheaMedia2 tool to define available languages (read more at "2.1.1 LANGUAGE SETTINGS" on "RHEAMEDIA2 MANUAL") and/or edit button image (read more at "2.1.9 FOOTER CONFIGURATION" on "RHEAMEDIA2 MANUAL").

3. **ADVERTISING IMAGE** : tap on the screen, low left corner, to show advertising image.



To select advertising images, use RheaMedia2 (read more at "2.1.7 PAGE LEARN MORE" on "RHEAMEDIA2 MANUAL") and/or edit button image (read more at "2.1.9 FOOTER CONFIGURATION" on "RHEAMEDIA2 MANUAL").

4. **JUG OPTIONS:** image identifies the beverage which support jug option (read more at "2.1.10 JUG OPTIONS" on "RHEAMEDIA2 MANUAL").



## RINSING/CLEANING SHORTCUT



### **NOTE:**



- The access to rinse/clean shortcut and data audit could be protected by a password (look at "6.11 MISCELLANEOUS" option "QUICK MENU PIN CODE").

Tap three times, top left on screen, to enter setup rinsing, milk module cleaning (look at "6.2 CLEANING/RINSING"), SW version (information about CPU, GPU, configuration file and GUI installed), data audit (partial ones).








## 4.4 BEVERAGE SCREEN



1. **BEVERAGE IMAGE**  : selected beverage image.
2. **INFO BEVERAGE**: tap this button to get information about chosen beverage (description and nutritive table  ).

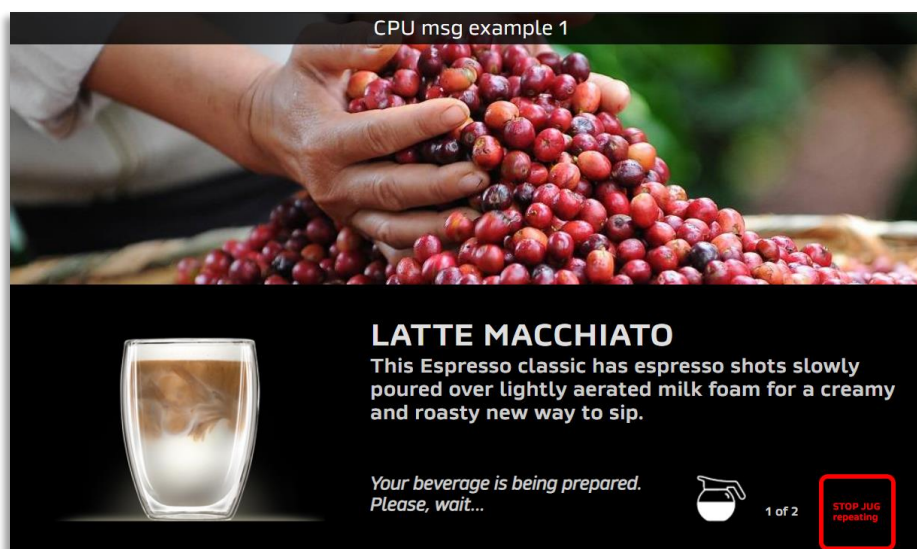


3. **BEVERAGE NAME**  : selected beverage name.
4. **BEVERAGE PRICE**: selected beverage price.
5. **OPTION A**  : configurable option A for selected beverage (i.e. sugar/no sugar, grinder 1/grinder 2, dark chocolate/normal chocolate). Silver button shows the active configuration for option A (to change configuration tap on the other one).
6. **OPTION B**  : configurable option B for selected beverage (i.e. sugar/no sugar, grinder 1/grinder 2, dark chocolate/normal chocolate). Silver button shows the active configuration for option B (to change configuration tap on the other one).
7. **CUP SIZE**  : configurable cup size. Silver cup shows the active configuration.
8. **START DELIVERY**: start delivering tapping this button.
9. **JUG**  : to enable or disable JUG option to current selected beverage. Silver button shows the active configuration.



It is possible to stop jug repetition (by pressing “STOP JUG repeating”) while beverage delivering.

**Note:** repetition will be ended before starting the next one.



RheaMedia2 tool allows to edit some of those elements (read more at “2.1.4 DEFAULT CUP CUSTOMIZATION”, “2.1.5 PAGE MAIN MENU”, “2.1.10 JUG OPTION” on “RHEAMEDIA2 MANUAL”).

## 5 HOW TO PREPARE A BEVERAGE

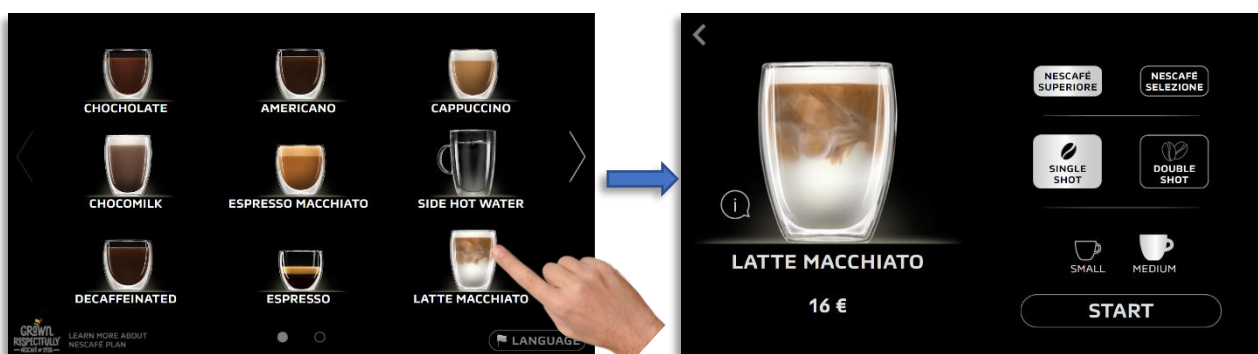
Follow these steps to prepare any beverage.

**STEP 1:** place the cup under the nozzle.

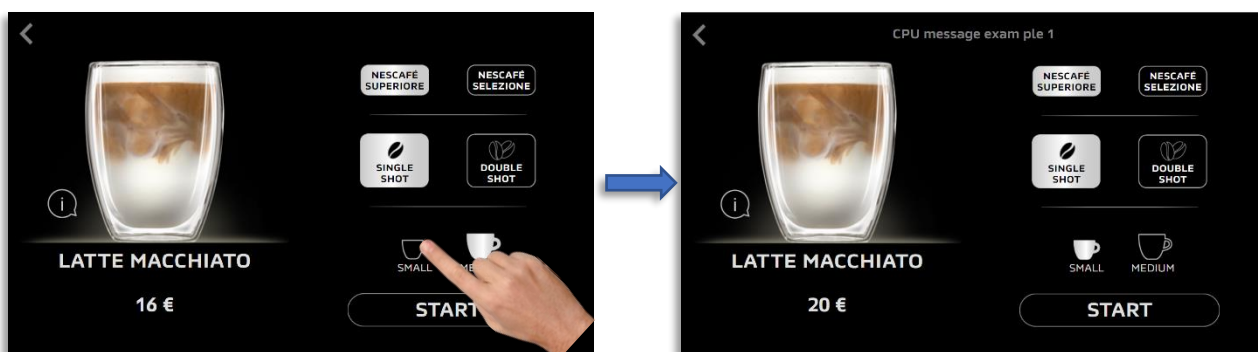
**STEP 2:** enter beverages screen selections tapping on the screen (just in case VM is in standby screen).



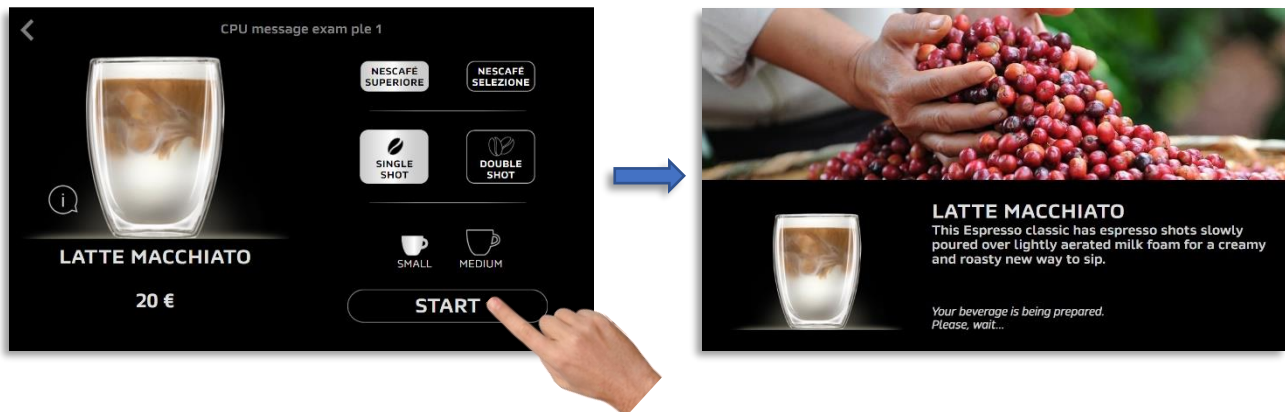
**STEP 3:** select your beverage tapping on the screen.



**STEP 4:** any beverage can be customized enabling cup customization (i.e. select the small one).



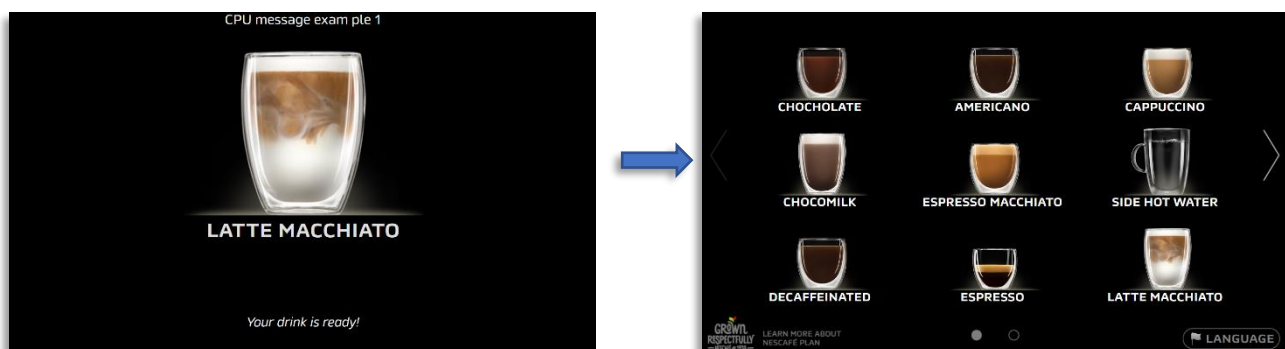
**STEP 5:** once set all customization, you are ready to deliver your beverage. Tap on "START" button.



**STEP 6:** hang on your beverage delivery and enjoy it.



**STEP 7:** the screen will turn back to "beverages screen" after delivered your beverage.



**STEP 8:** standby mode will be enabled after set time (customize it by RheaMedia2 tool read more at "2.1.3 STANDBY PAGE" on "RHEAMEDIA2 MANUAL").



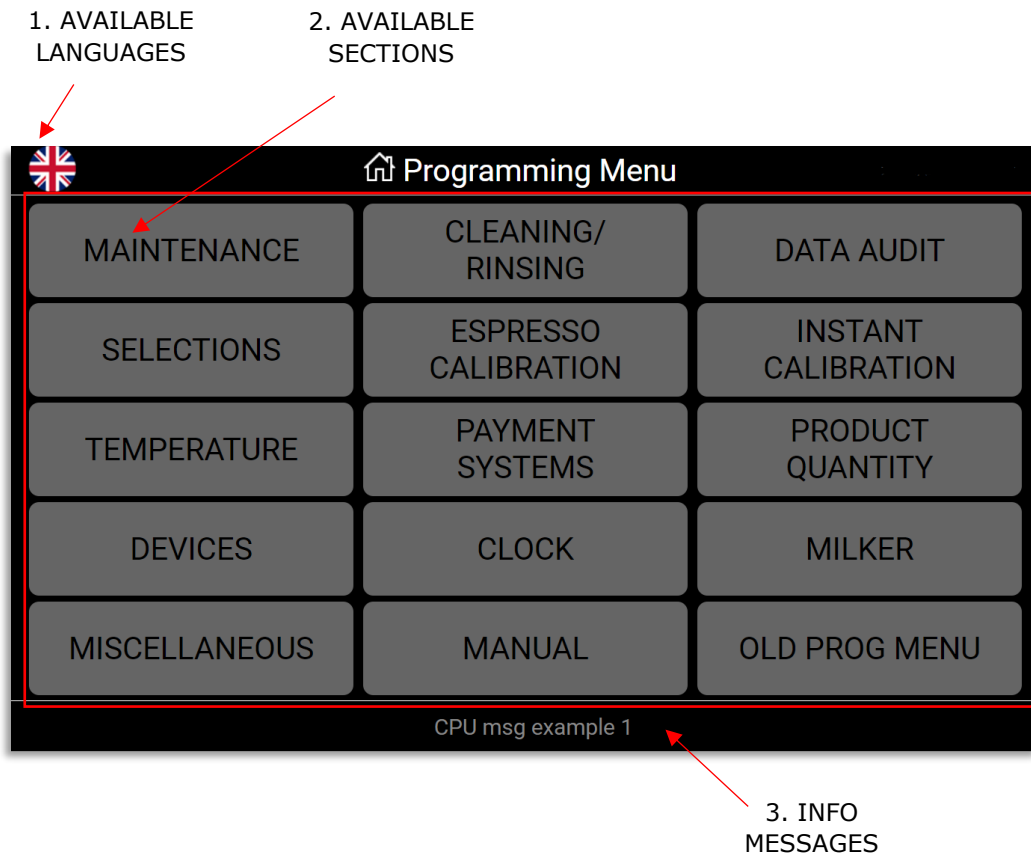
# 6 PROGRAMMING MENU

## 6.1 HOW TO

How to interact the new programming menu.

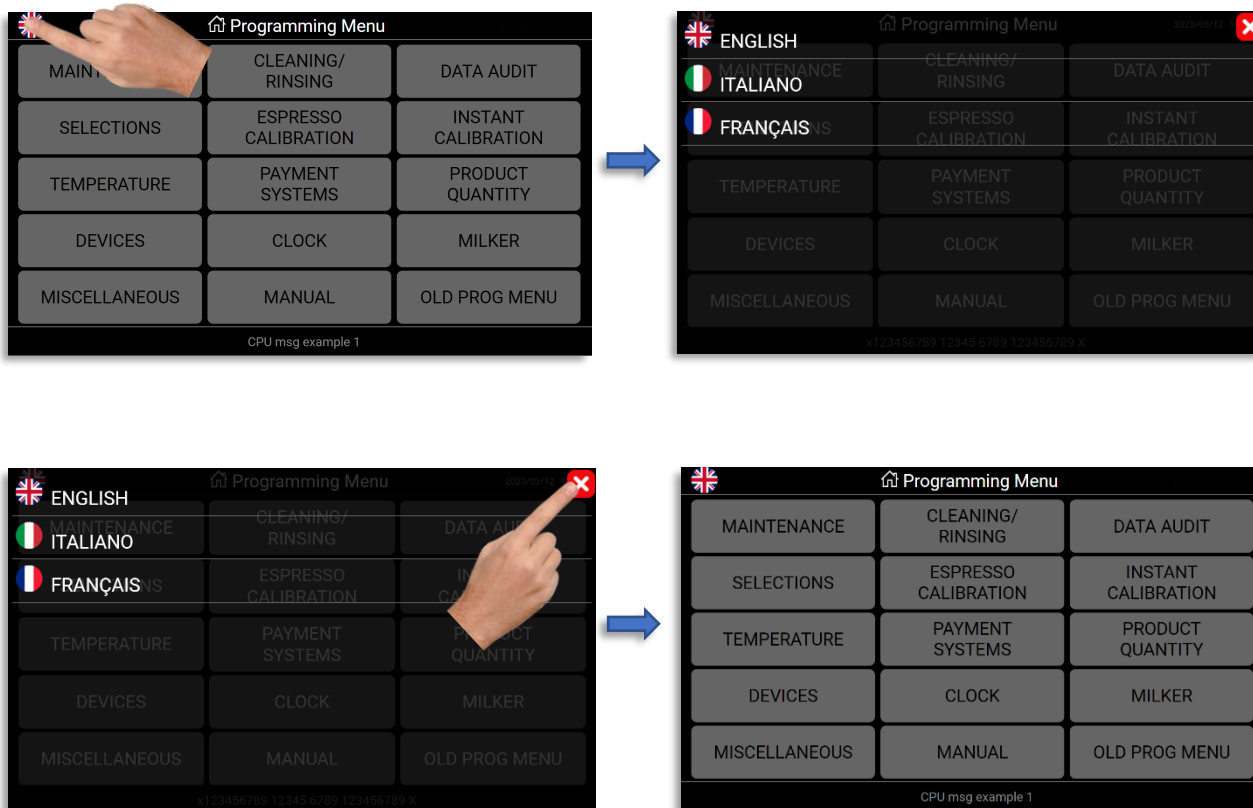
### 6.1.1 BROWSE MAIN SCREEN

The image below shows the new main "programming menu".



The image above shows the main element on this screen:

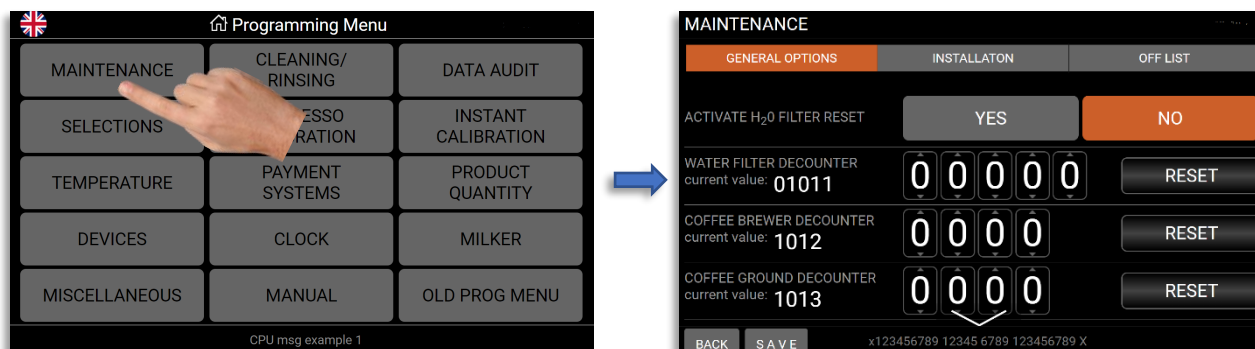
1. **AVAILABLE LANGUAGES:** to enter configurable languages section, tap on its flag button.



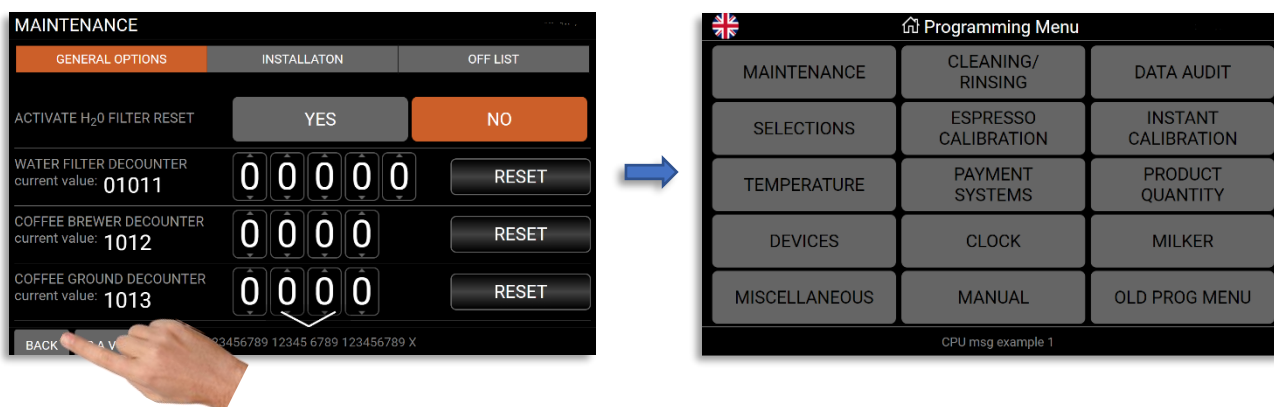
2. **AVAILABLE SECTIONS:** to enter any parameters section, tap on its buttons.
3. **INFO MESSAGES:** shows info messages about warning, OFF, etc.

## 6.1.2 BROWSE TO SECTION

To enter any available section, tap one of the buttons above. Tap on "MAINTENANCE" button, to browse from main programming menu to the selected section.



Tap "BACK" button to return to main programming menu.



To edit more available parameters, read more at "6.1.3 INTERACT WITH SECTION'S ITEMS"

## 6.1.3 INTERACT WITH SECTION'S ITEMS

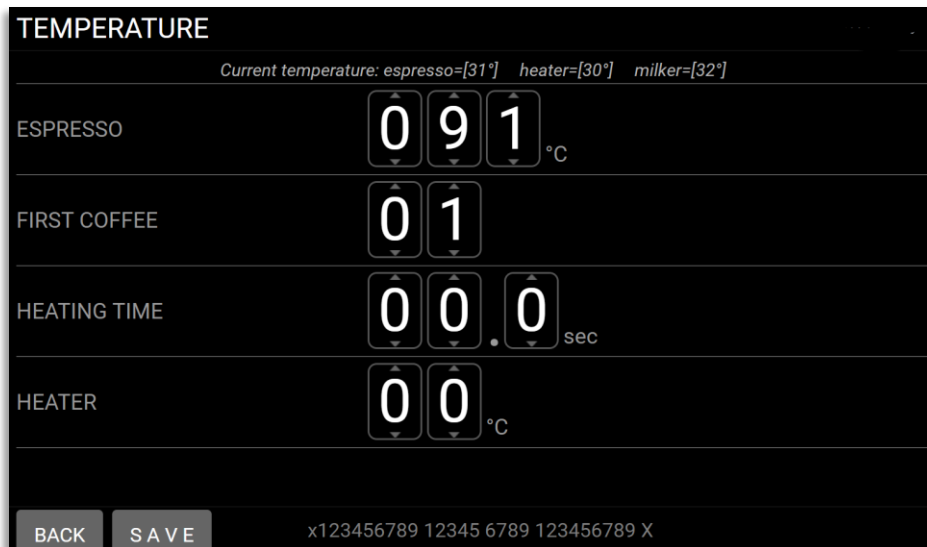
Here is explained the proper way to interact with all available items on the section screen.

You will be guided, step by step, on a real case studied.

### 6.1.3.1 SET VALUE

**GOAL:** changing espresso temperature from 91°C to 82°C.

**STEP 1:** tap on "Temperature" button on main "Programming menu" (read more at "6.1.2 BROWSE TO SECTION").



The screenshot shows a "TEMPERATURE" screen with the following elements:

- Header:** "TEMPERATURE" in white text on a black background.
- Status Bar:** "Current temperature: espresso=[31°] heater=[30°] milker=[32°]" in small white text.
- ESPRESSO:** A row with the label "ESPRESSO" on the left and three digit boxes containing "0", "9", and "1" followed by "°C". Each digit box has up and down arrows.
- FIRST COFFEE:** A row with the label "FIRST COFFEE" on the left and two digit boxes containing "0" and "1". Each digit box has up and down arrows.
- HEATING TIME:** A row with the label "HEATING TIME" on the left and three digit boxes containing "0", "0", and "0" followed by "sec". Each digit box has up and down arrows.
- HEATER:** A row with the label "HEATER" on the left and two digit boxes containing "0" and "0" followed by "°C". Each digit box has up and down arrows.
- Footer:** A black bar containing a "BACK" button, a "SAVE" button, and a long alphanumeric string "x123456789 12345 6789 123456789 X".

**STEP 2:** edit the first "TEMPERATURE" item. Because all digits are independent, to change value from 91 to 82, decrease digit "9", at first, then rise digit "1".

**STEP 3:** to decrease selected digit tap its lower side.



**STEP 4:** to increase selected digit tap its upper side.



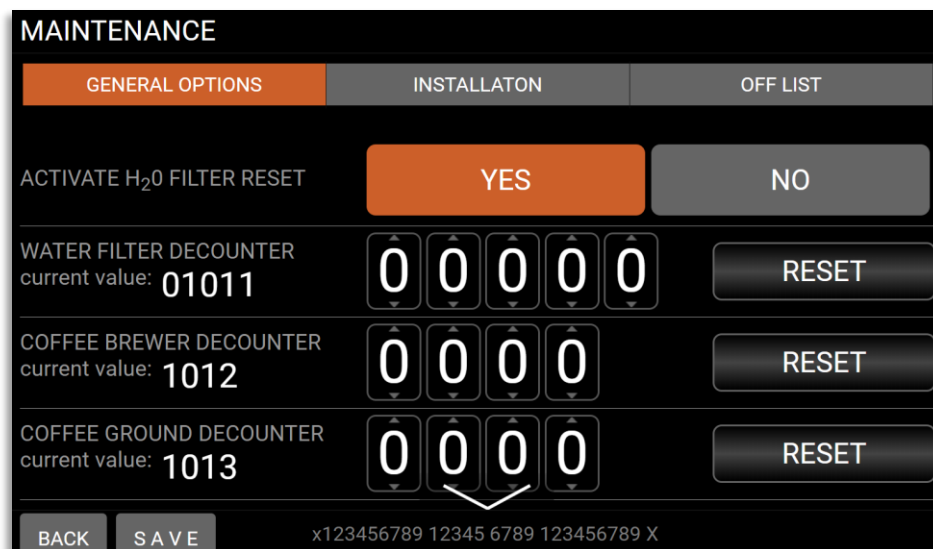
**STEP 5:** save after editing (read at item "6.1.3.4 SAVE").

### 6.1.3.2 SET CONDITIONAL OPTION

#### EXAMPLE 1

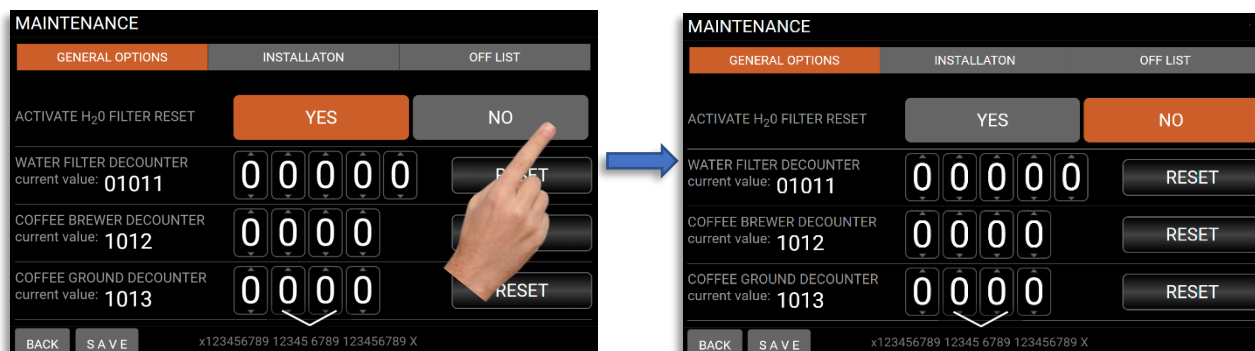
**GOAL:** disabling water filter reset.

**STEP 1:** go to section "Activate H2O filter reset" item ("MAINTENANCE" section). Read more at "6.1.2 BROWSE TO SECTION".



**STEP 2:** first edit "MAINTENANCE" item. Enabling option (on "YES") will turn orange the button background colour.

**STEP 3:** tap on "NO" button to disable filter reset. Enabling option (on "NO") will turn orange the button background colour.

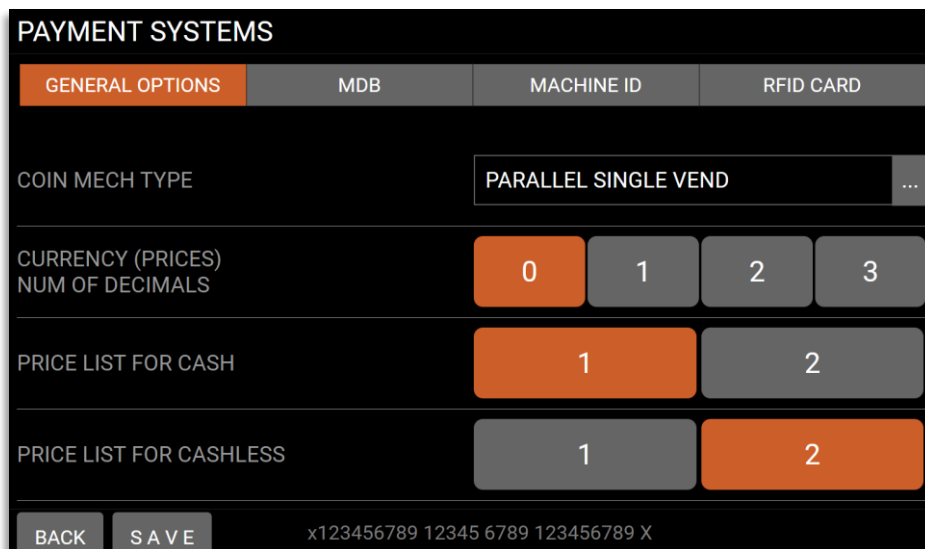


**STEP 4:** Save after editing (read at item "6.1.3.4 SAVE").

## EXAMPLE 2: drop-down menu

**GOAL:** changing "coin mech type" from "PAR. SING. VEND" to "MDB".

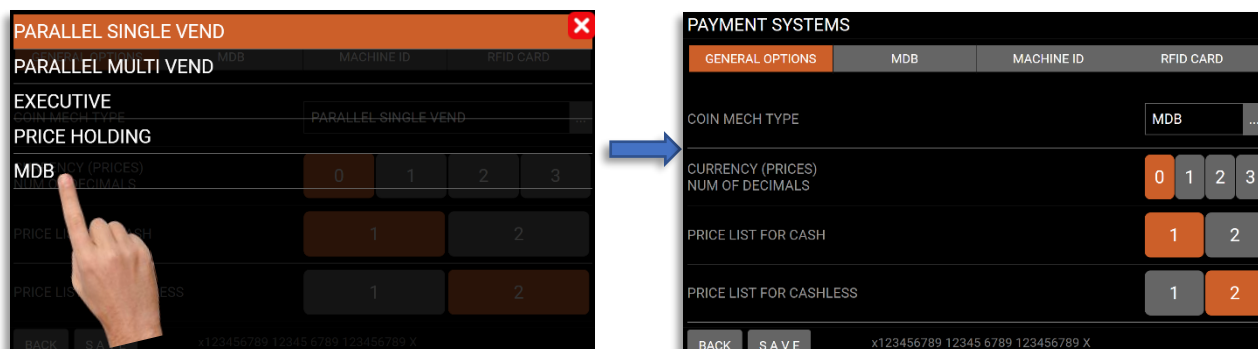
**STEP 1:** go to payment items ("PAYMENT SYSTEM" section). Check "5.1.2 BROWSE TO SECTION".



**STEP 2:** tap on the three dots, right side on screen, to go to "COIN MECH TYPE" item.



**STEP 3:** select "MDB" option.

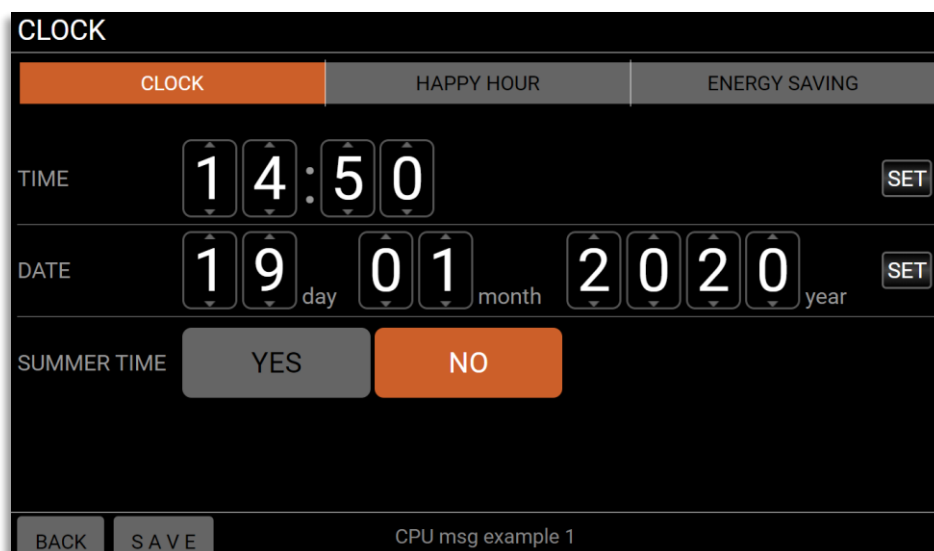


**STEP 4:** save after editing (check item "5.1.3.4 SAVE").

### 6.1.3.3 BROWSE SECTION'S TAB

**GOAL:** set "happy hour time 1".

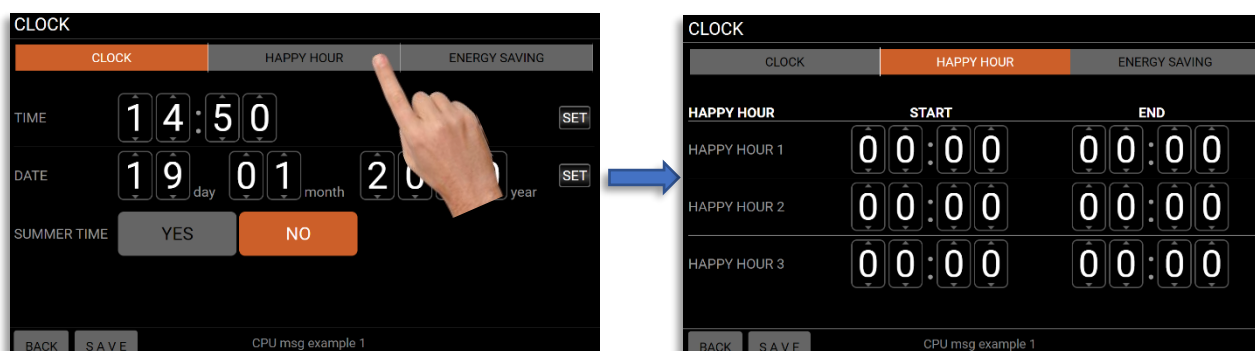
**STEP 1:** browse to "CLOCK" section. Read more at "6.1.2 BROWSE TO SECTION".



**STEP 2:** there are three different option tabs:

- 1) CLOCK: the current screen has always an orange background.
- 2) HAPPY HOUR: tap on this button to browse to this configuration.
- 3) ENERGY SAVING: tap on this button to browse to this configuration.

**STEP 3:** tap on "HAPPY HOUR" tab to browse to this section.



**STEP 4:** set starting and ending time for happy hour slot (read more at "6.1.3.1 SET VALUE").

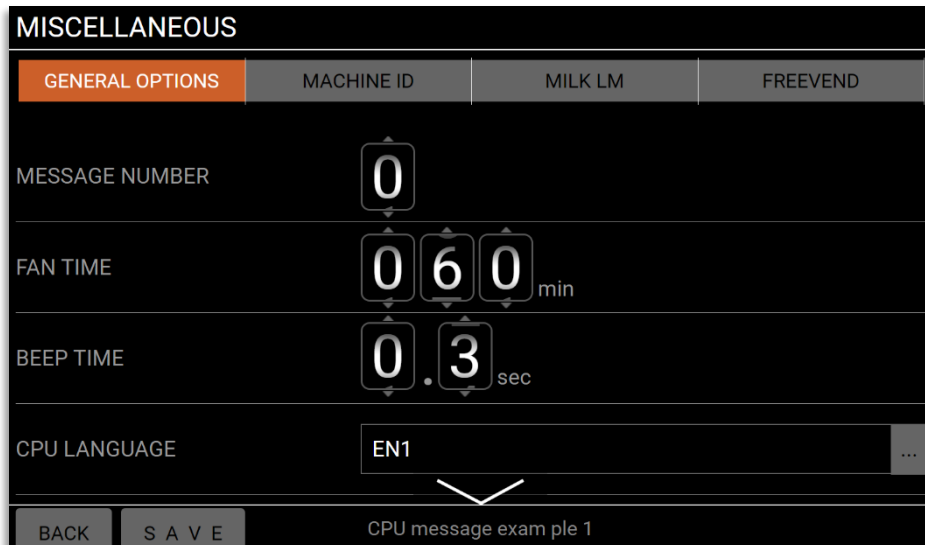
**STEP 5:** save after editing (check item "SAVE").

### 6.1.3.4 SAVE

#### SAVE SINGLE OPTION CONFIGURATION

**GOAL:** set "FAN TIME" value.

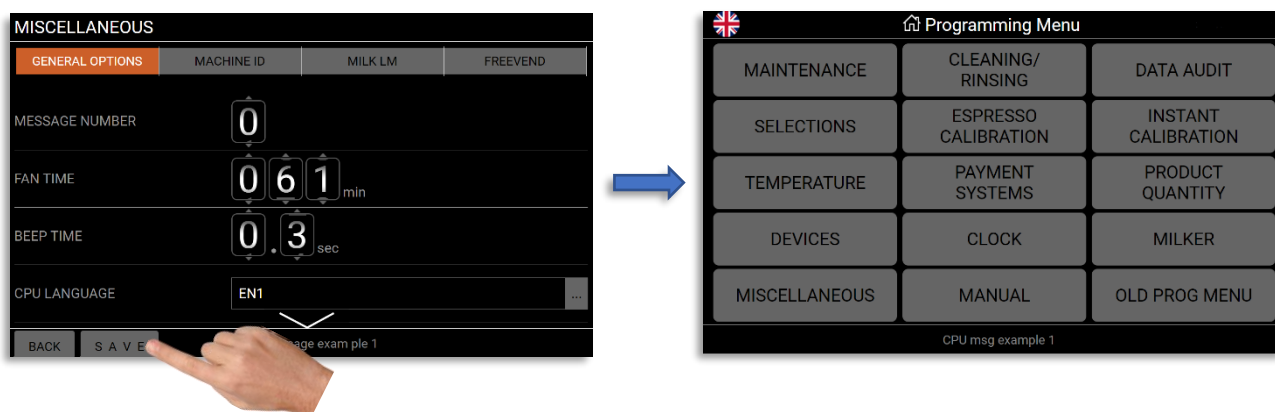
**STEP 1:** browse to "MISCELLANEOUS" section. Read more at "6.1.2 BROWSE TO SECTION".



**STEP 2:** set a new value for "FAN TIME" (read more at "6.1.3.1 SET VALUE").



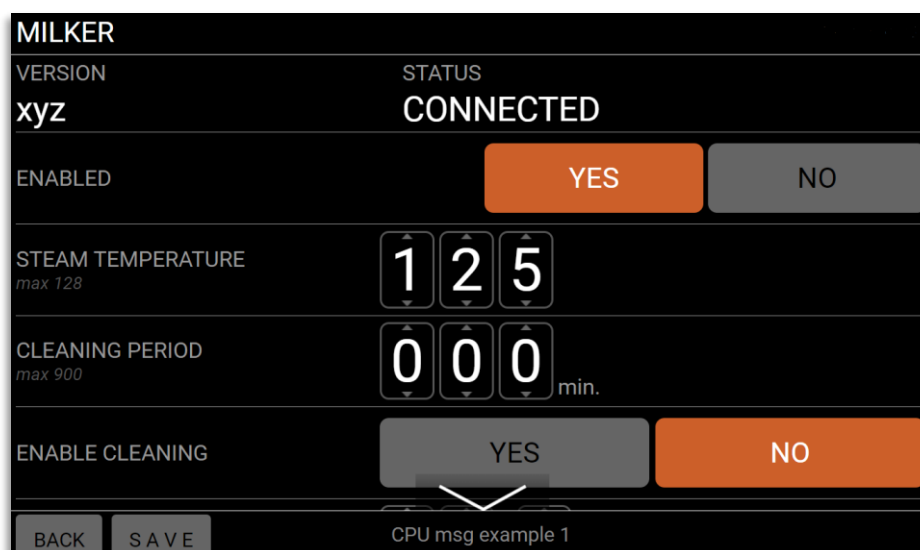
**STEP 3:** save (tapping on button "SAVE") after editing or discard (tapping on button "BACK").



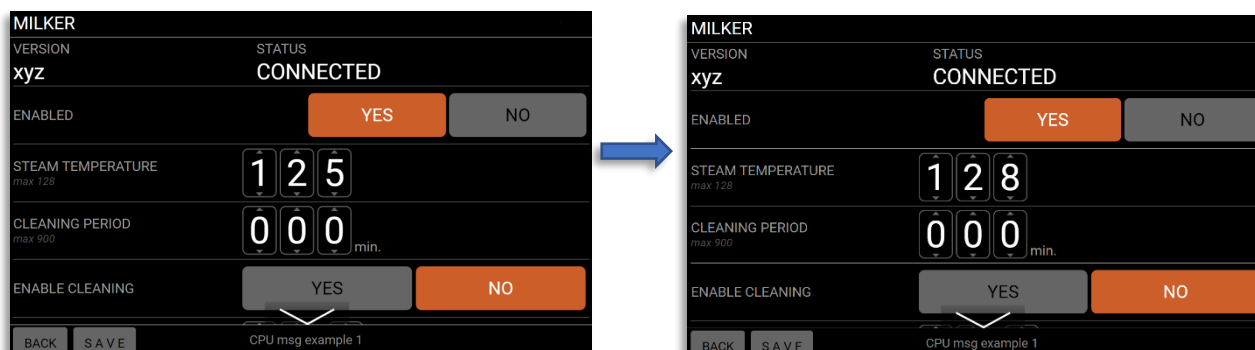
## **SAVING MULTIPLE OPTION CONFIGURATIONS ON THE SAME SCREEN SECTION**

**GOAL:** set "STEAM TEMPERATURE" values to 128 °C and enable "ENABLE CLEANING" options.

**STEP 1:** browse to "MILKER" section. Read more at "6.1.2 BROWSE TO SECTION".



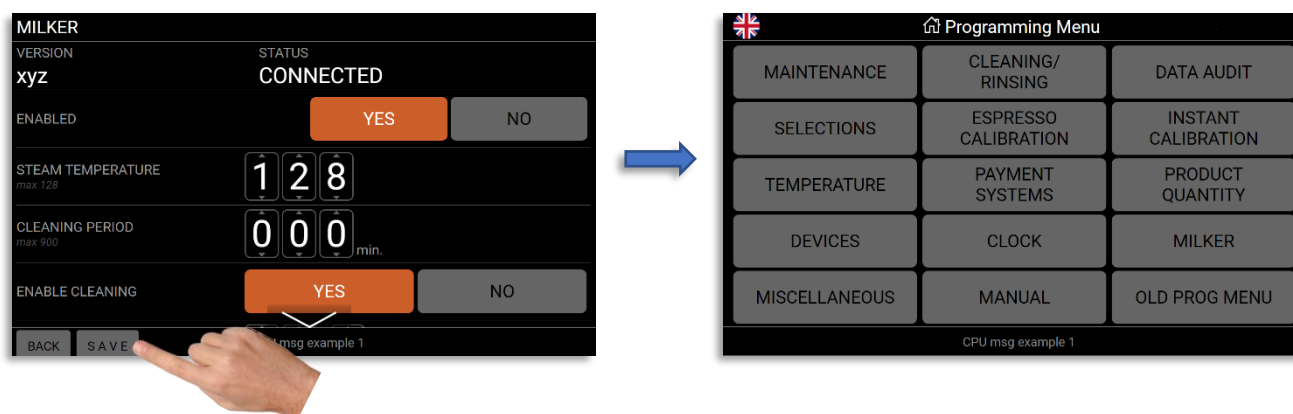
**STEP 2:** set "STEAM TEMPERATURE" value to 128 (read more at paragraph "6.1.3.1 SET VALUE").



**STEP 3:** set "ENABLE CLEANING" to "YES" (read more at "6.1.3.2 SET CONDITIONAL OPTION").



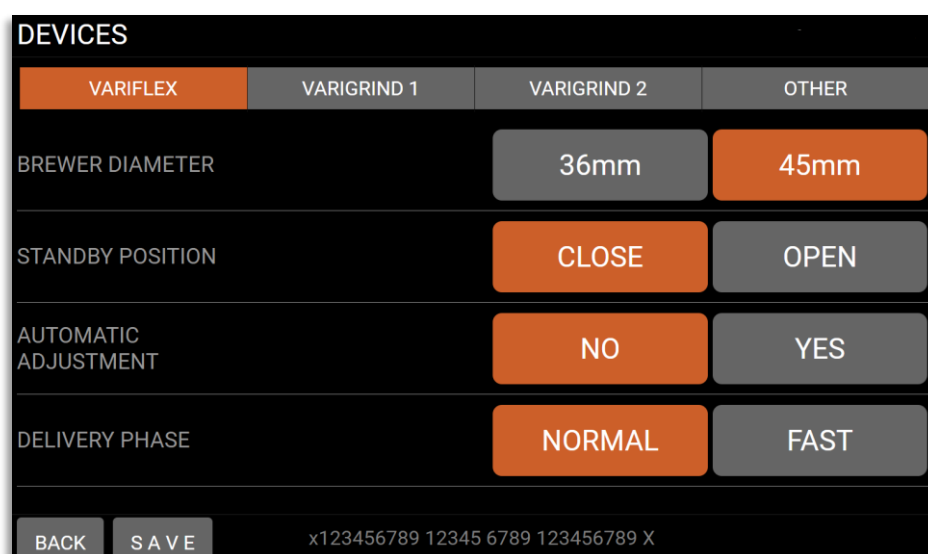
**STEP 4:** save (tapping on button "SAVE") after editing or discard (tapping on button "BACK"). All changes saved tapping on "SAVE" button.



## SAVE MULTIPLE OPTION CONFIGURATIONS ON DIFFERENT SECTION SCREEN TAB'S

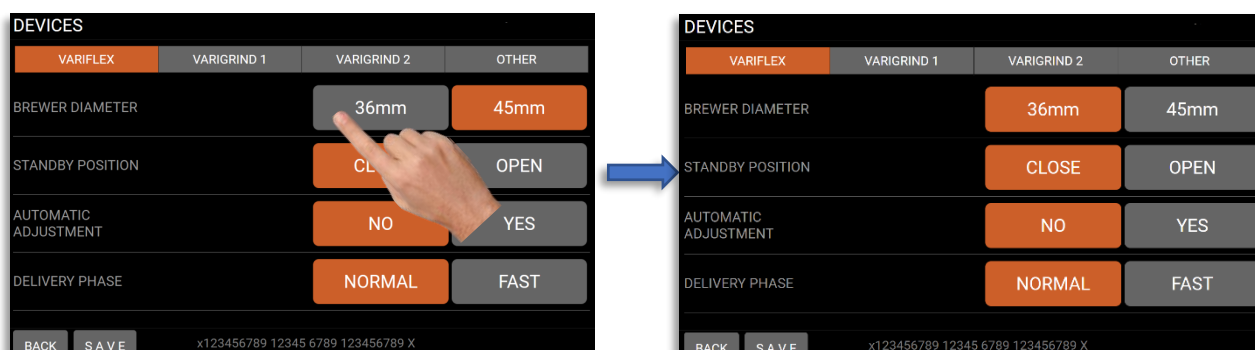
**GOAL:** set "BREWER DIAMETER" value and enable "DRIPTRAY DETECTION" option.

**STEP 1:** browse to "DEVICES" section. Read more at "6.1.2 BROWSE TO SECTION".



DEVICES			
VARIFLEX	VARIGRIND 1	VARIGRIND 2	OTHER
BREWER DIAMETER	36mm	45mm	
STANDBY POSITION	CLOSE	OPEN	
AUTOMATIC ADJUSTMENT	NO	YES	
DELIVERY PHASE	NORMAL	FAST	
<div> <div>BACK</div> <div>SAVE</div> <div>x123456789 12345 6789 123456789 X</div> </div>			

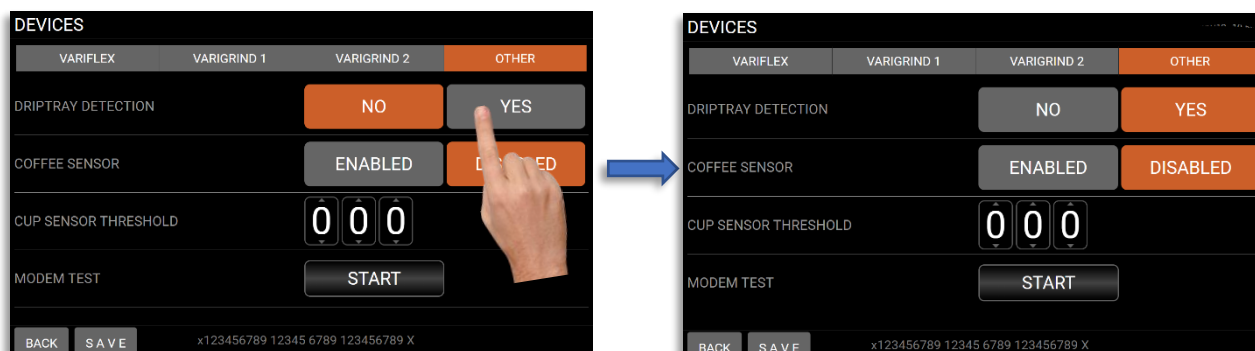
**STEP 2:** set "BREWER DIAMETER" to 36mm value (read more at "6.1.3.2SET CONDITIONAL OPTION").



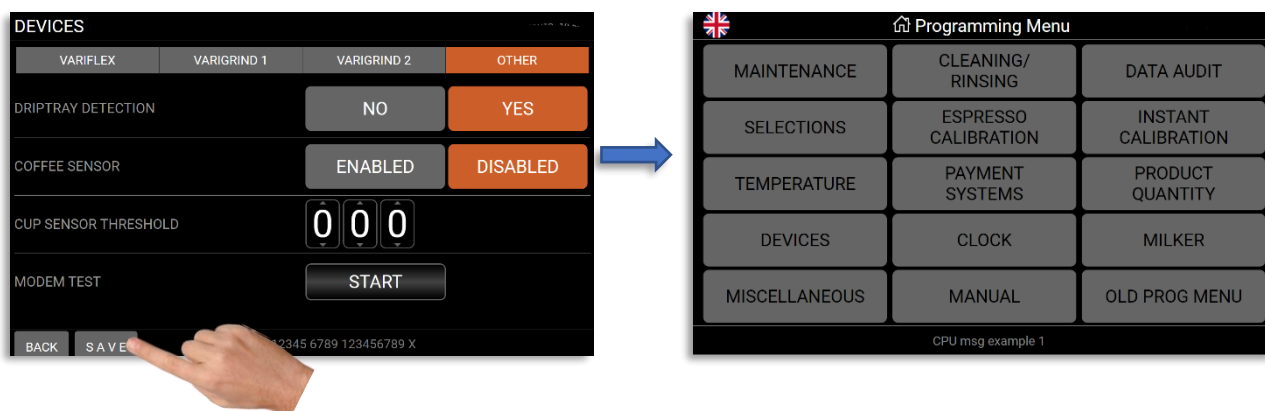
DEVICES			
VARIFLEX	VARIGRIND 1	VARIGRIND 2	OTHER
BREWER DIAMETER	36mm	45mm	
STANDBY POSITION	CLOSE	OPEN	
AUTOMATIC ADJUSTMENT	NO	YES	
DELIVERY PHASE	NORMAL	FAST	
<div> <div>BACK</div> <div>SAVE</div> <div>x123456789 12345 6789 123456789 X</div> </div>			

**STEP 3:** move to "OTHER" tab to enable "DRIPTRAY DETECTION" option (look at paragraph "6.5 DEVICES").

**STEP 4:** set to enable "DRIPTRAY DETECTION" option (read more at "6.1.3.2 SET CONDITIONAL OPTION").



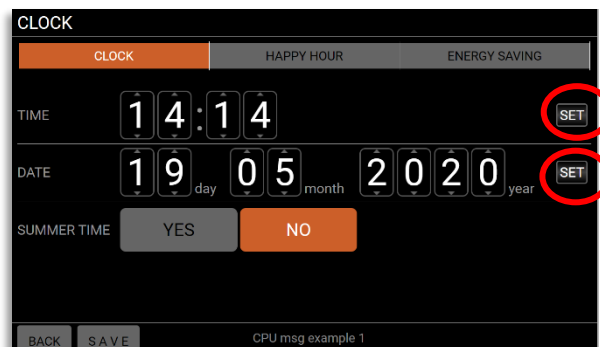
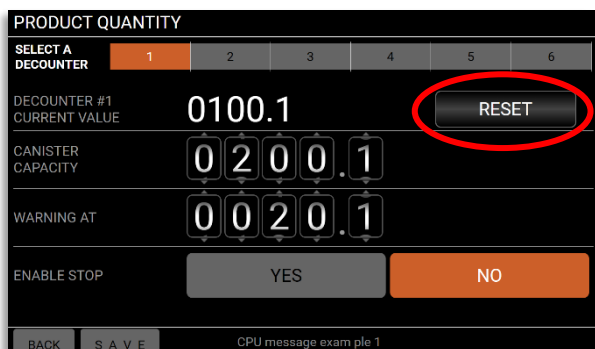
**STEP 5:** save (tapping on button "SAVE") after editing or discard (tapping on button "BACK"). Tapping "SAVE" button, all changes in this section will be saved.



### 6.1.3.5 ACTION BUTTON

Action buttons are referred to command (i.e. "SET", "RESET", "CALIBRATE", "TEST IT") or starting procedures (i.e. cleaning procedure). These buttons have their own background texture. The previous item allows settings to give each button a different background texture. Some examples are shown in the next image. Some examples are shown in the next image.

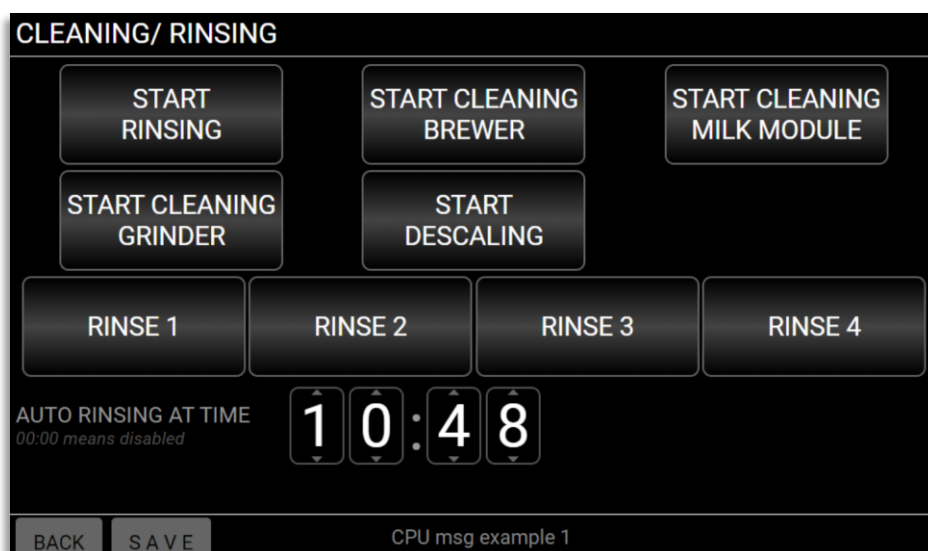
COMMAND examples:



On the image above, left side: "RESET" button for "DECREMENTER #1 CURRENT". Set a new "canister capacity" values, tap on RESET will update what is displayed on "DECREMENTER #1 CURRENT".

On the image above, right side: "SET" button allows to set time or/and date.

STARTING PROCEDURE example:



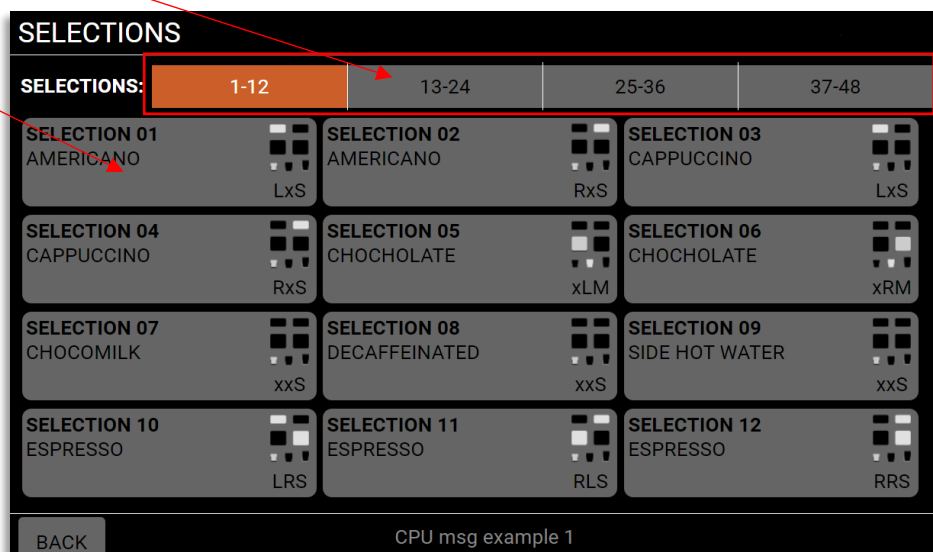
Available buttons to start any kind of cleaning/rinsing are shown on the image above.

## 6.1.4 BROWSE SELECTION SECTION ELEMENT

The following screen shows SELECTIONS TABS and its SUB-SECTION.

1. SELECTION TAB

2.  
SELECTION  
BUTTON

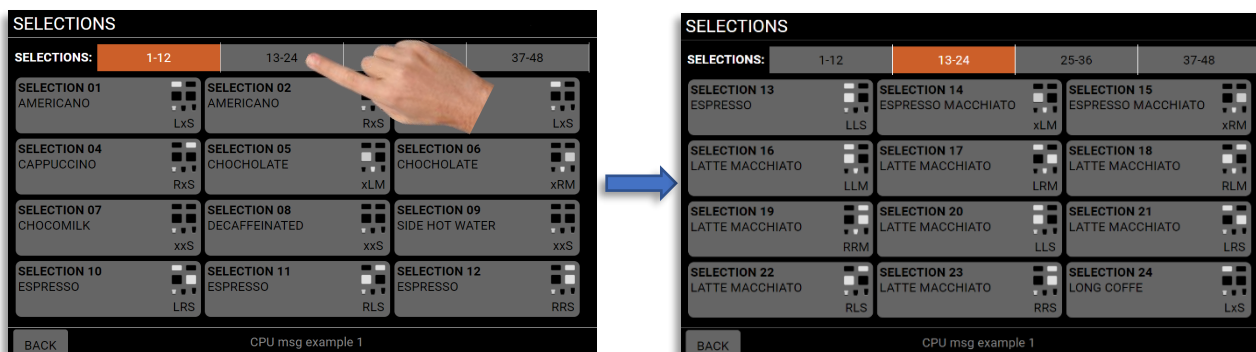


1. **SELECTIONS TABS:** to browse among forty-eight selections.
2. **SELECTION'S SUB-SECTION:** to set any beverage selections.

### 6.1.4.1 SELECTIONS TAB

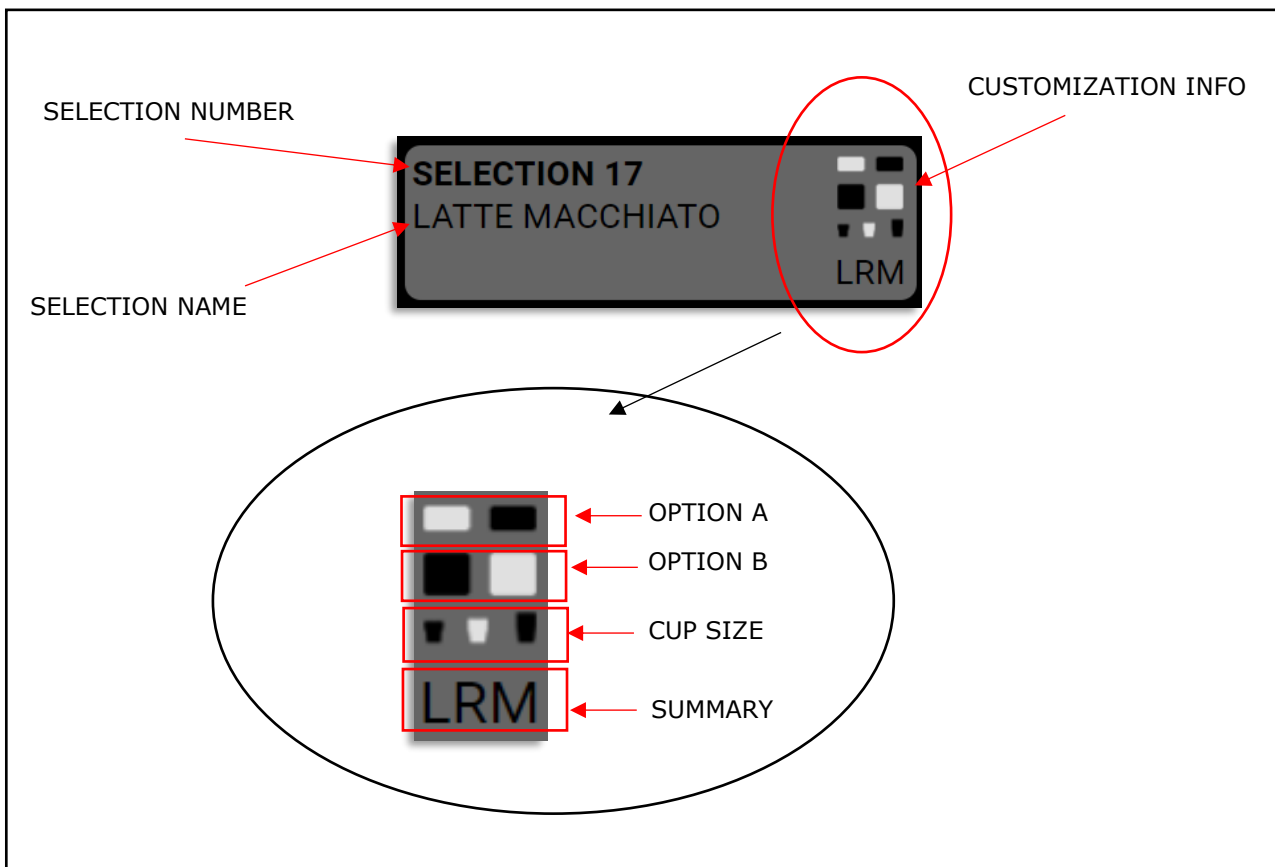
Selection tabs includes forty-eight selections. Each tab includes twelve selections.

Tap on edit selections to choose a range in the text tab (read more at "6.1.3.3 BROWSE SECTION'S TAB") (read more at "2.1.5 PAGE MAIN MENU" on "RHEAMEDIA2 MANUAL"). Guess to browse from 1-12 range table to 13-24 table.



### 6.1.4.2 SELECTION BUTTON DESCRIPTION

Each sub-section option can be customized. Check each button to verify.



The acronym, in the summary button, matches to the previous field properties. (option A, option B, cup size).

Alternative to option A (first kind of summary):

- L = Left
- R = Right
- X = undefined

Alternative to option B (second kind of summary):

- L = Left
- R = Right
- X = undefined

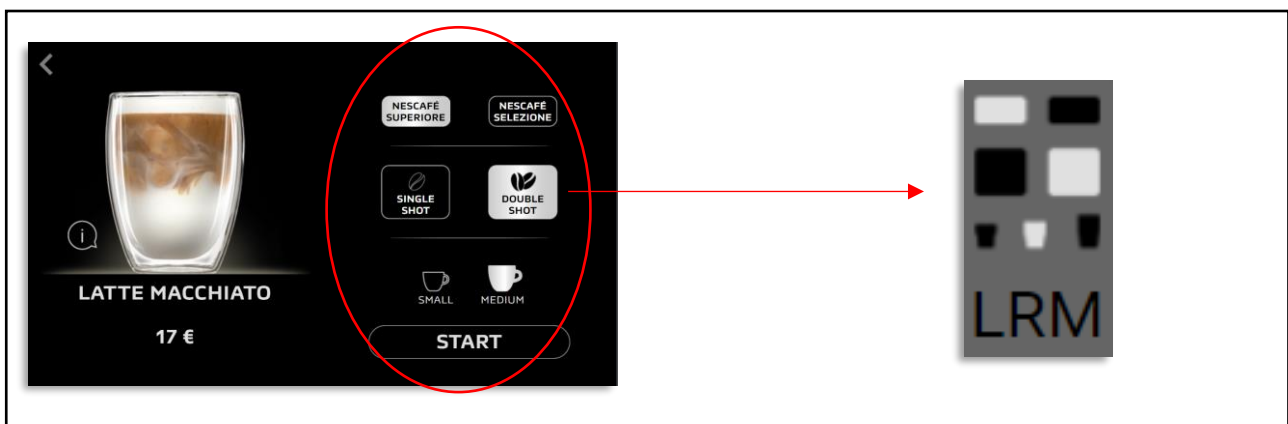
Alternative to cup size (third kind of summary):

- S = Small
- M = Medium
- L = Large

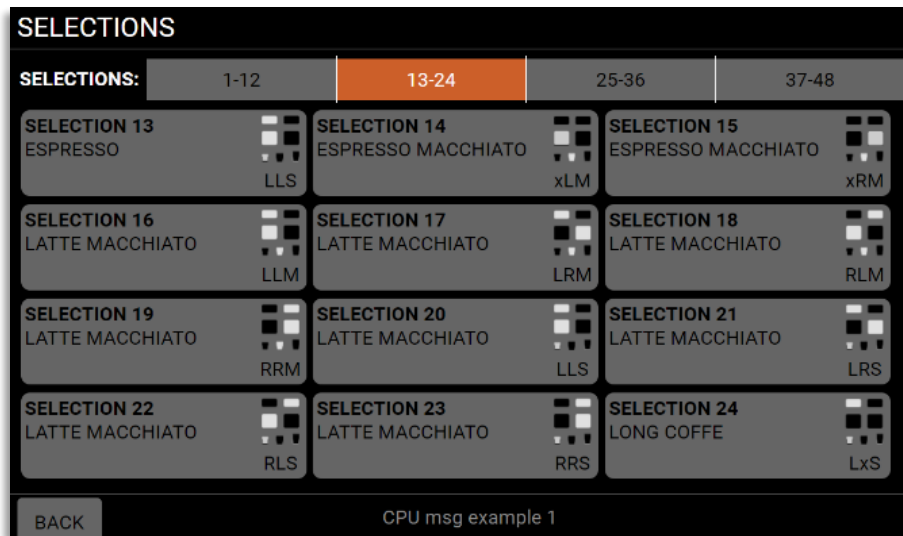
The summary of the example above is the result of:

- L: option A on the left is active.
- R: option B on the right is active.
- M: medium cup size

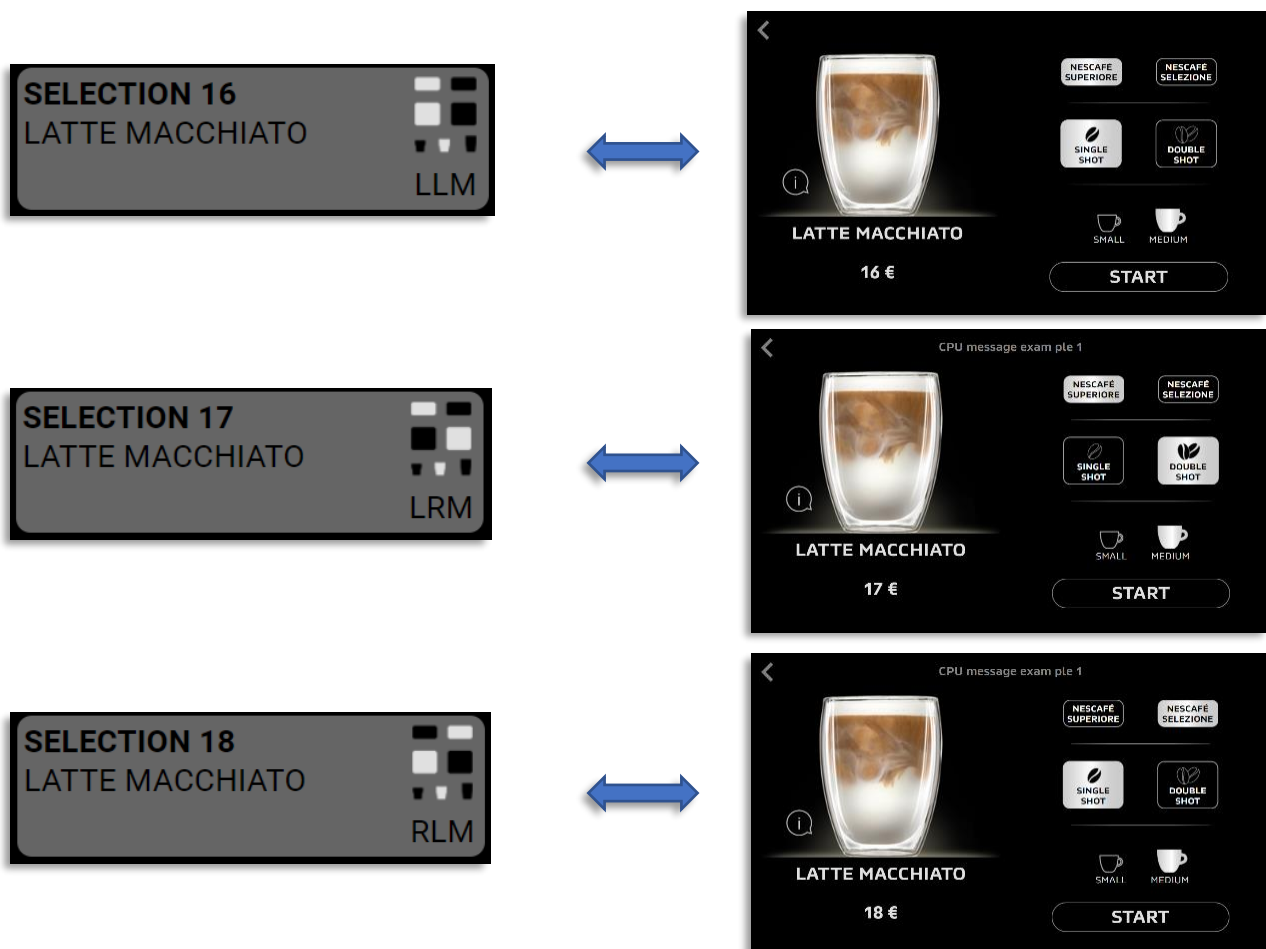
Mind not to confuse similar beverages before any delivery (read more at "4.4 BEVERAGE SCREEN").

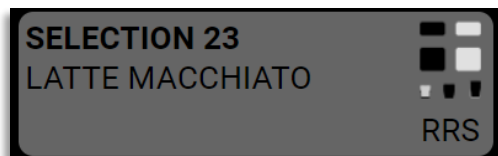
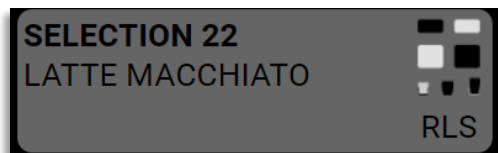
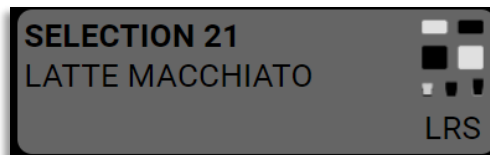
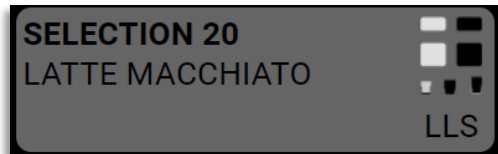
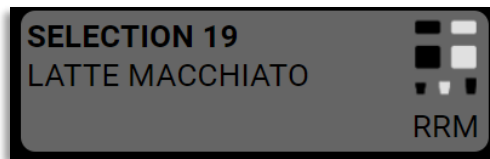


As an example, "LATTE MACCHIATO" beverage (from SELECTION 16 to SELECTION 23).



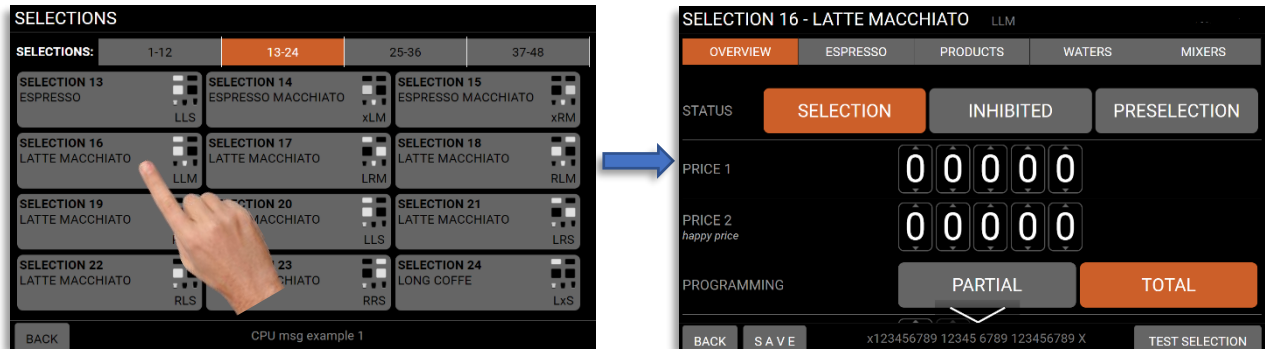
Underneath, multiple choices for LATTE MACCHIATO correlations.








### 6.1.4.3 SELECTION "xx" SUB-SECTION

Tap to select and start any beverage configuration.





The following screen allows to edit any parameter for the selected beverage, i.e. SELECTION 16 (read more at "6.1.3 INTERACT WITH SECTION'S ITEMS").

## 6.2 CLEANING/RINSING

- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
- **I**: INSTANT
-   : RHEACTION
-  : RHEAMEDIA2

### CLEANING/RINSING

START RINSING  
 START CLEANING BREWER (**E+**, **E**)  
 START CLEANING MILK MODULE (**E+**, **E**)  
 START CLEANING GRINDER (**E**, **E+**, **D**)  
 START DESCALING (**E**, **E+**, **D**)  
 RINSE 1  
 RINSE 2  
 RINSE 3  
 RINSE 4  
 AUTO RINSING AT TIME  

PARAMETERS	RANGE VALUE	DESCRIPTION
START RINSING	-	Through the coffee brewer and all mixer bowls (look at "6.2.1 START RINSING").
START CLEANING BREWER	-	This function enables a special washing cycle to sanitise the coffee brewer. All tabs will be washed by proper rinsing products (look at "6.2.2 INTRODUCTION").
START CLEANING MILK MODULE	-	To clean milk module hydraulic circuits when connected (look at "6.2.3 START CLEANING MILK MODULE (E, E+)").
START CLEANING GRINDER	-	To start cleaning procedure for grinder 1 and grinder 2.
START DESCALING	-	To start descaling procedure for hydraulic circuits.
RINSE 1	-	Through the coffee brewer (E+, E) or the mixing bowl 1 (I). Look at "6.2.4 RINSE 1-4".
RINSE 2	-	Through the mixing 2 bowl. Look at "6.2.4 RINSE 1-4".
RINSE 3	-	Through the mixing 3 bowl. Look at "6.2.4 RINSE 1-4".
RINSE 4	-	Direct hot water. Look at "6.2.4 RINSE 1-4".
AUTO RINSING AT TIME	00:00-23:59	Time settings to start cleaning the coffee brewer and all mixer bowls (read more at "6.2.7 SCHEDULED RINSING") (read more at "2.1.11 RINSING CONFIGURATION" on "RHEAMEDIA2 MANUAL").

## 6.2.1 START RINSING

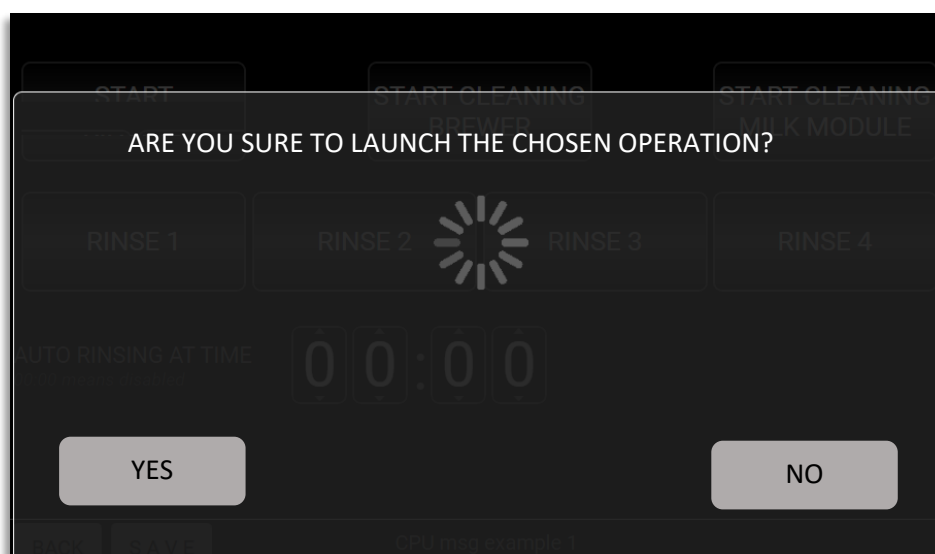


### **DISCLAIMER:**

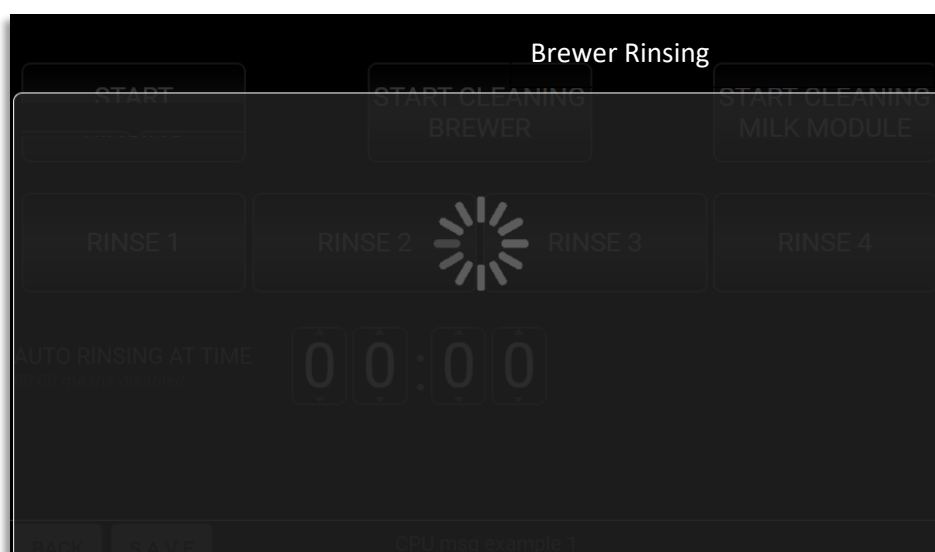
- Mind carefully to all maintenance procedure.

Dispense water, for a few second, through each nozzle excluding the one assigned to hot water only ("X" = number of current rinsing). Make sure to have, at least, a couple of mugs to place beneath the product nozzles.

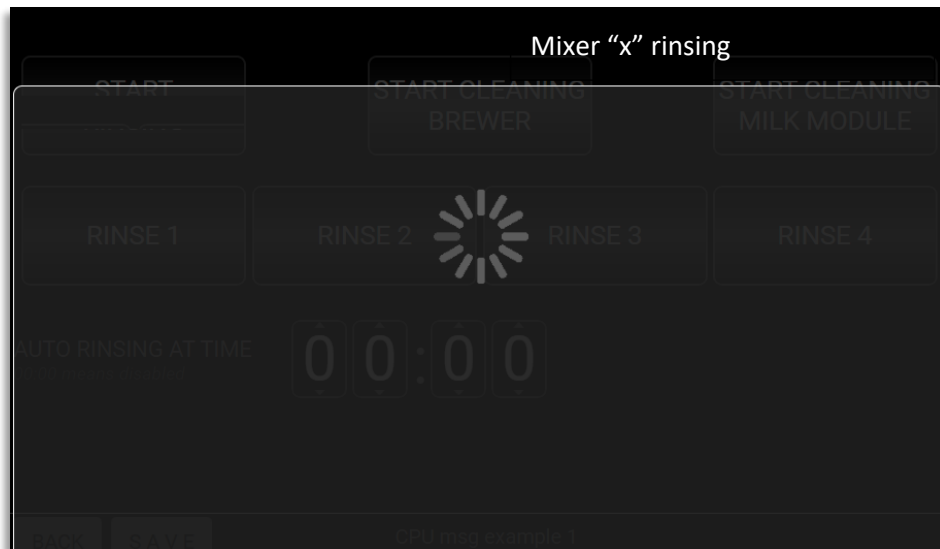
Start rinsing tapping on "YES" button, otherwise back to CLEANING/RINSING section.



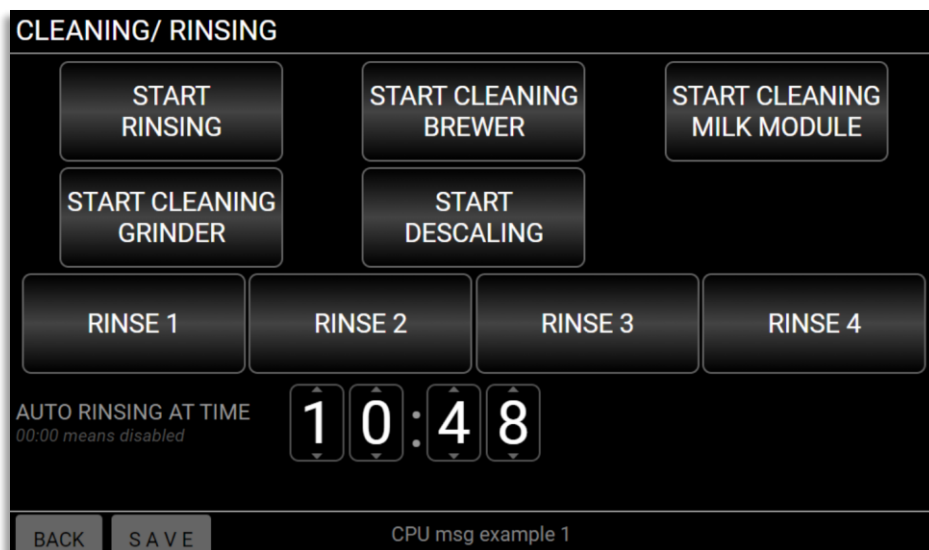
Message for Espresso nozzle (for Espresso model).



Message for the mixer nozzles.



On procedure ended up (alerted by five beep sound), the display will show cleaning/rinsing options again.



## 6.2.2 START CLEANING BREWER (E, E+)

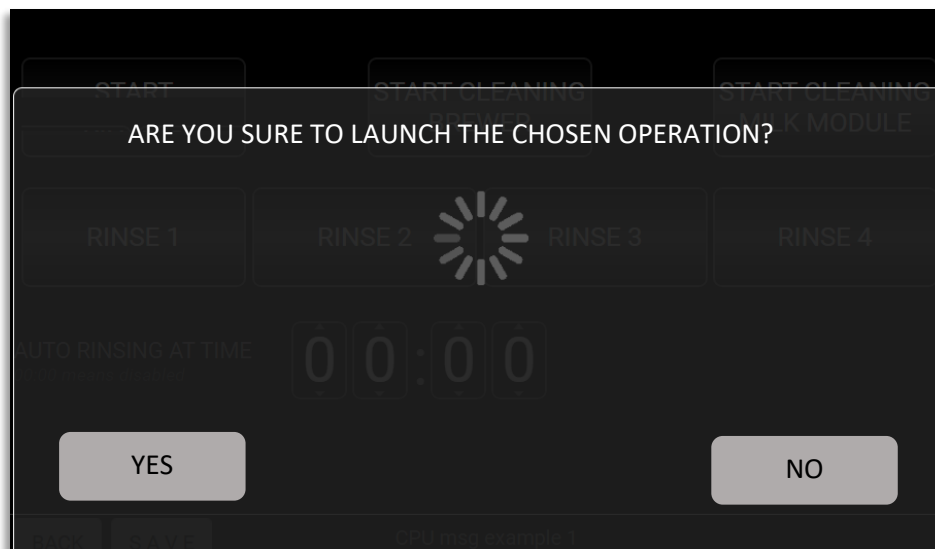


**DISCLAIMER:**

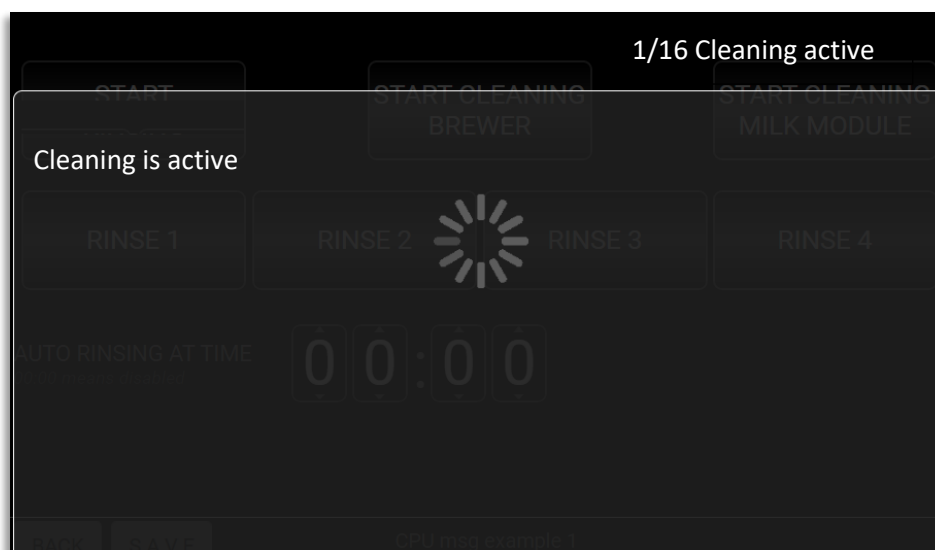
- Mind carefully to all maintenance procedure.

- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT

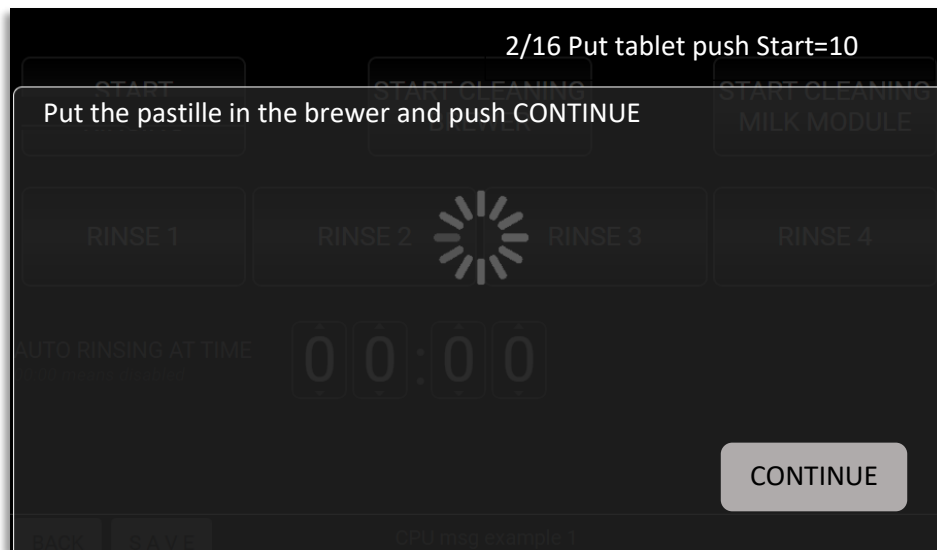
Start sanitary washing with tab tapping on "YES" button (only for espresso model), otherwise back to CLEANING/RINSING section.



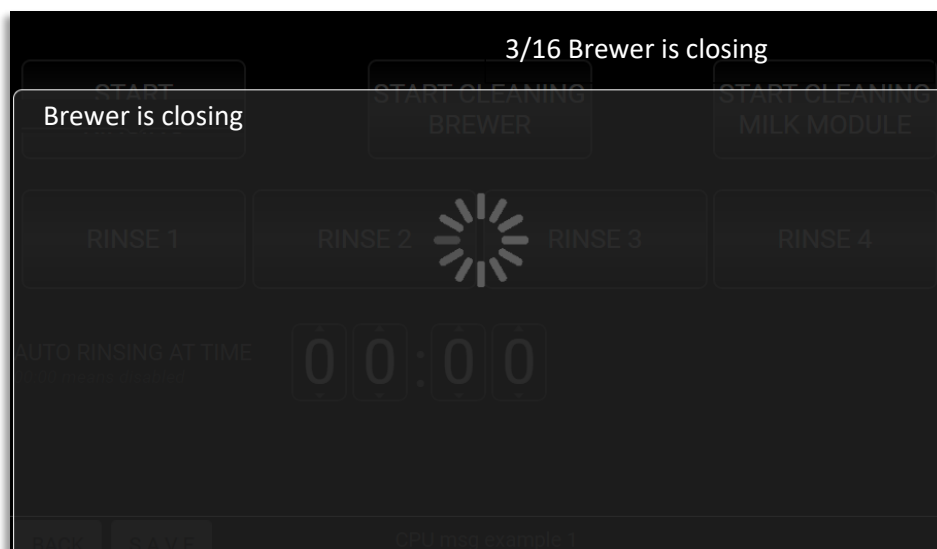
Water dispensing for a few seconds through the brewer.



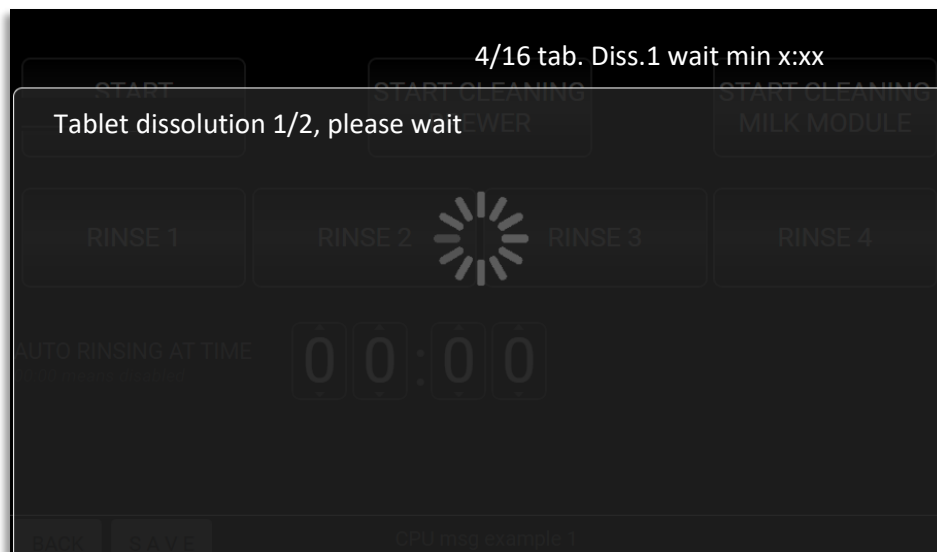
Variflex brewer reset cycle: to allow insertion of the cleaning tablet (pastille) the brewer chamber moves up and down and stops in an open position.



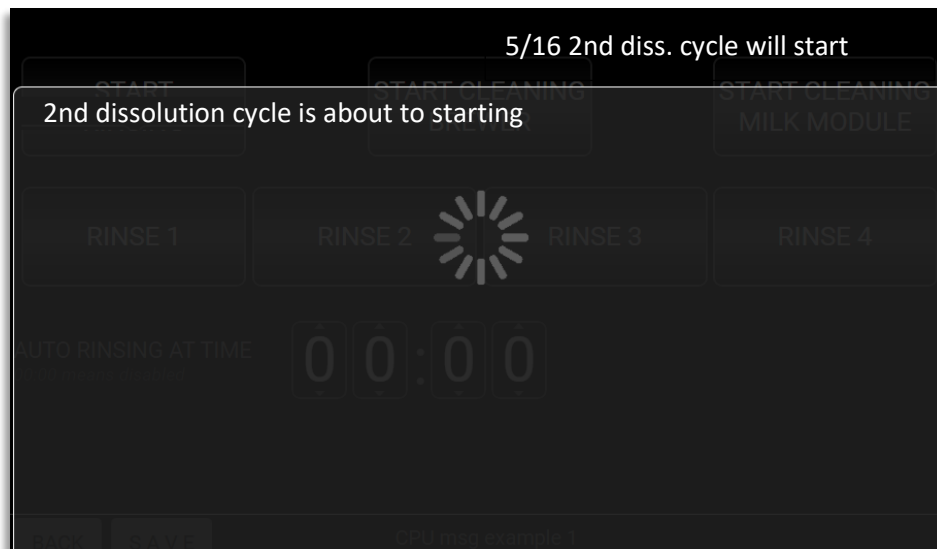
Insert a cleaning tablet and tap on CONTINUE. The Variflex will move up to close the infusion chamber. While Variflex moves on place, "wait please" will be displayed on screen.



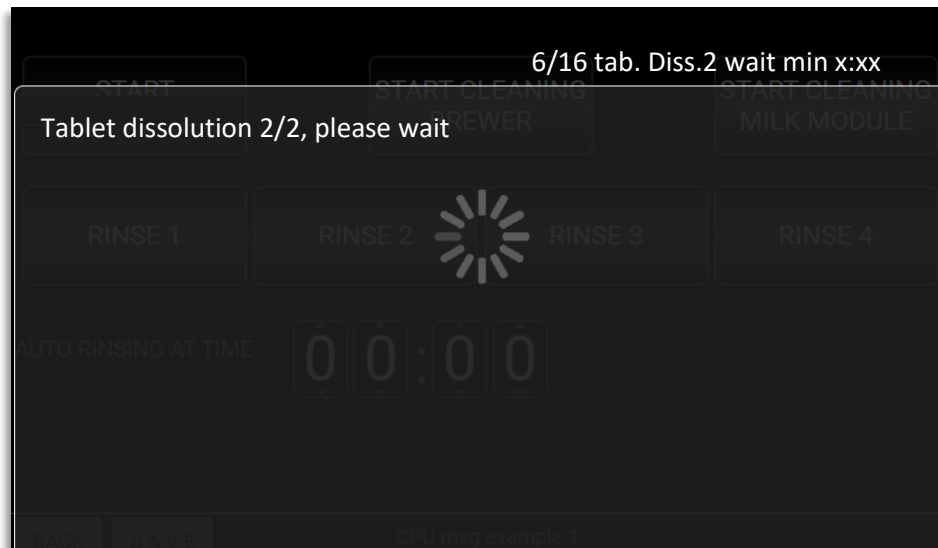
Wait for the tab to be dissolved (ninety seconds). Open espresso pump around each twenty seconds.



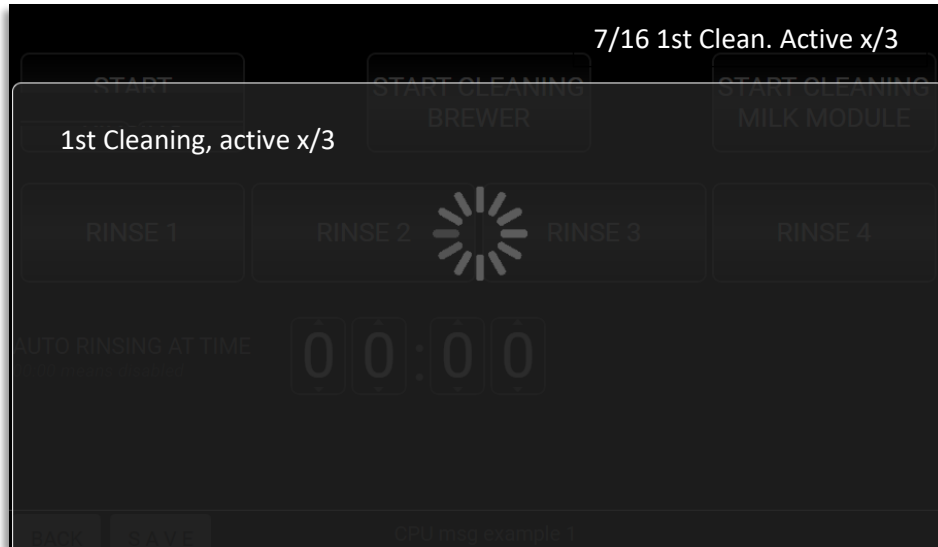
Start 2<sup>nd</sup> dissolution cycle.



Wait for the tab to be dissolved (ninety seconds). Open espresso pump around each twenty seconds.

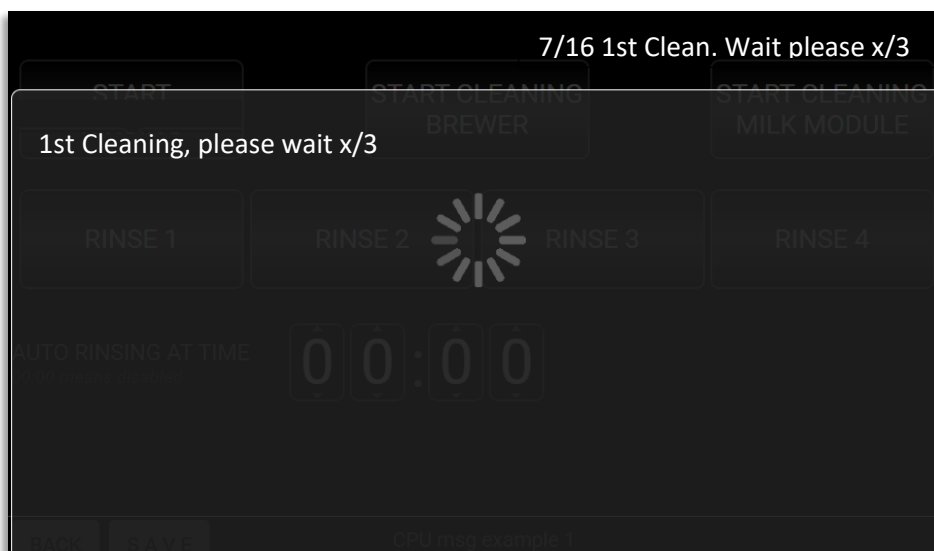


Start rinsing sequence. The water flows through the brewer ("x" current reps) each ten seconds.

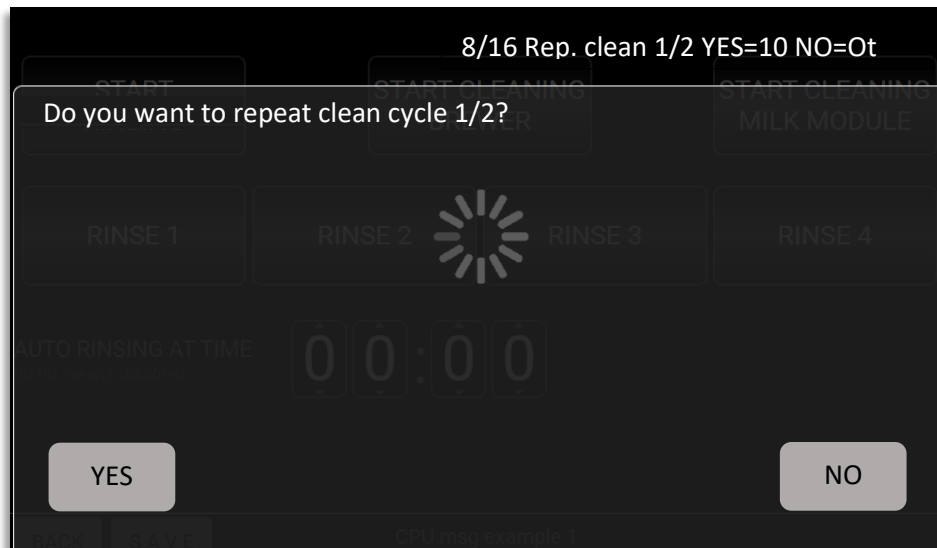


**x3**

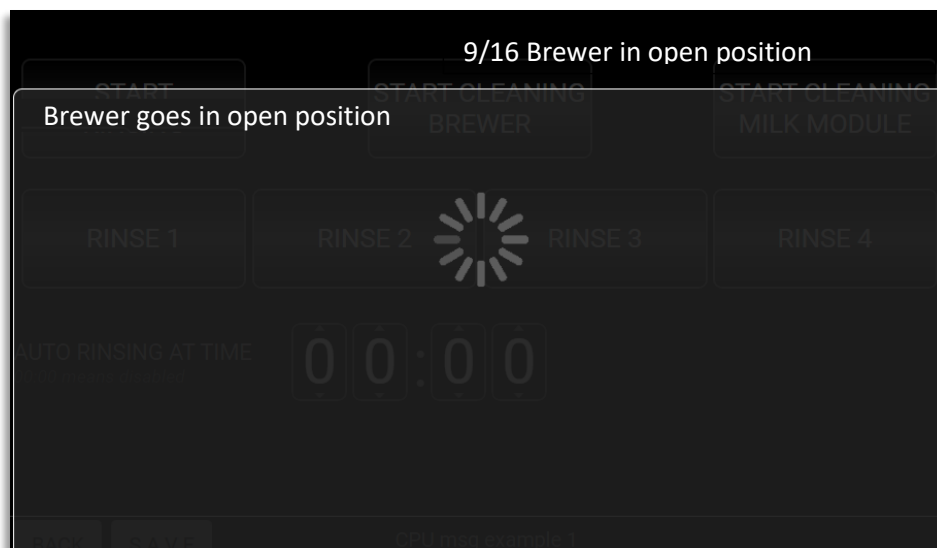
"Wait" message will be displayed on screen on each water delivery.



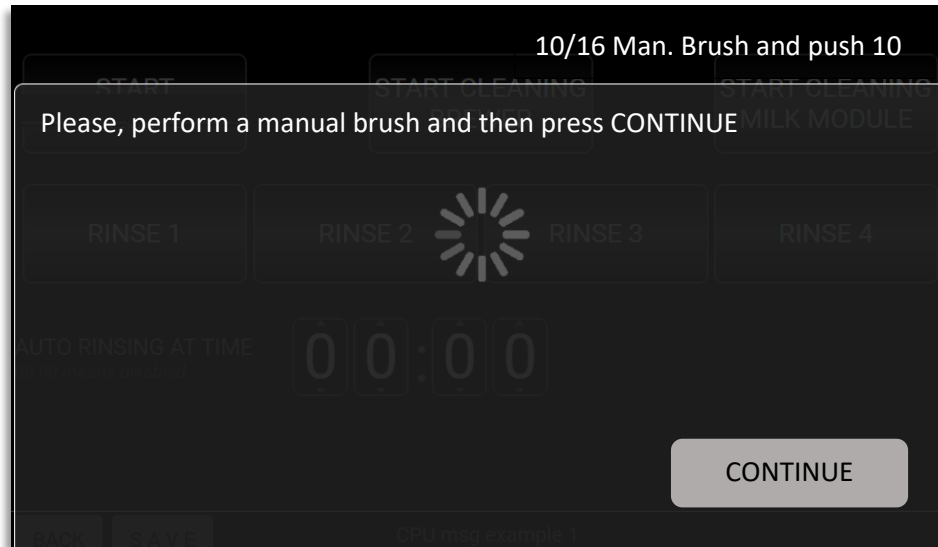
Choose YES or NO to repeat cleaning procedure.



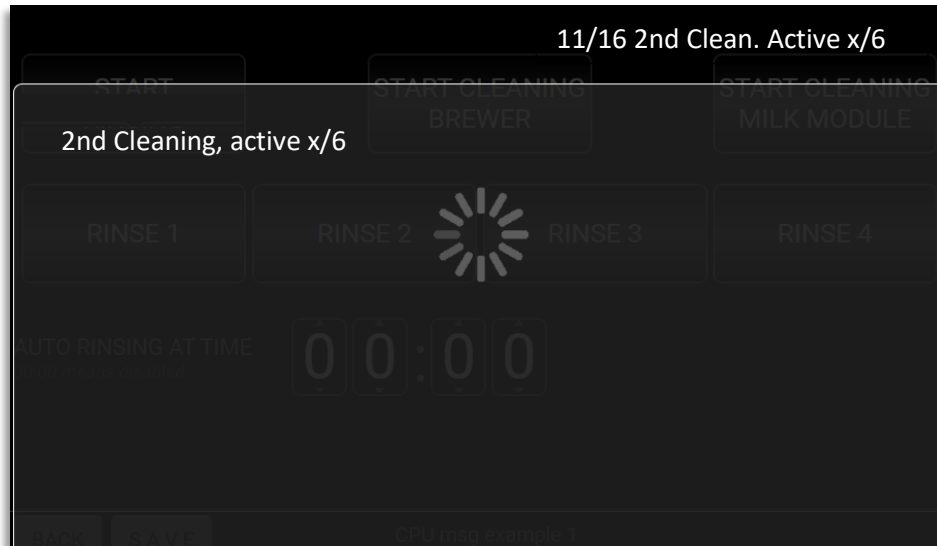
To allow filter cleaning by a brush, the brewer chamber will move down.



Tap on CONTINUE when ready.

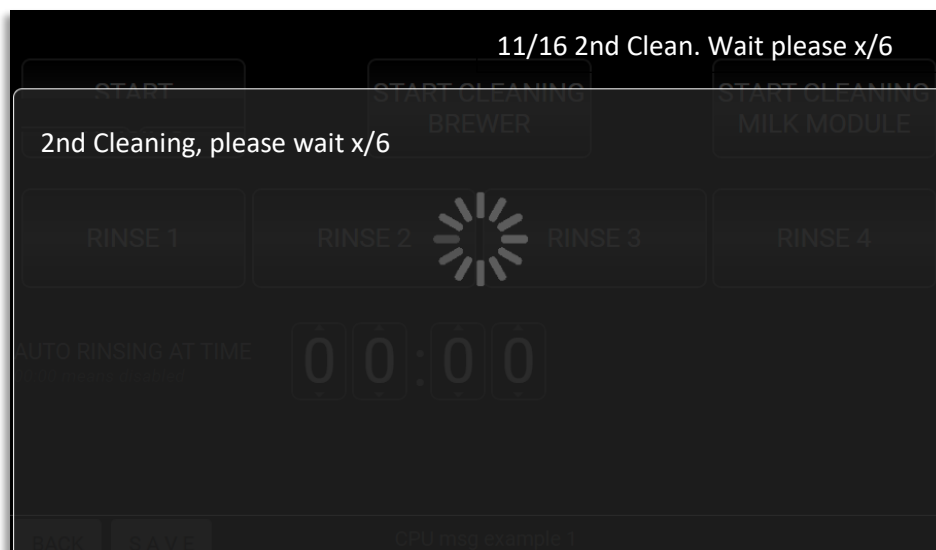


Start rinsing sequence. The water flows through the brewer ("x" current reps) each ten seconds.

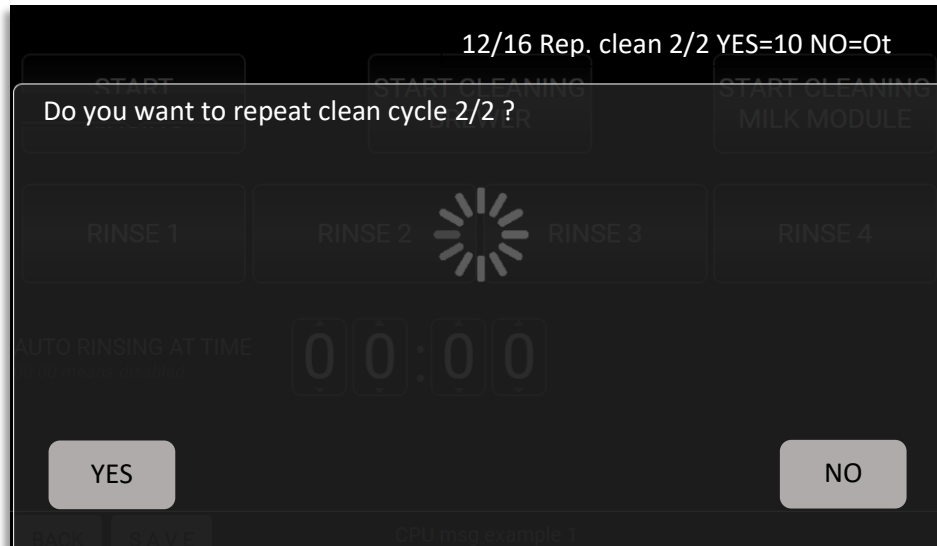


**X6**

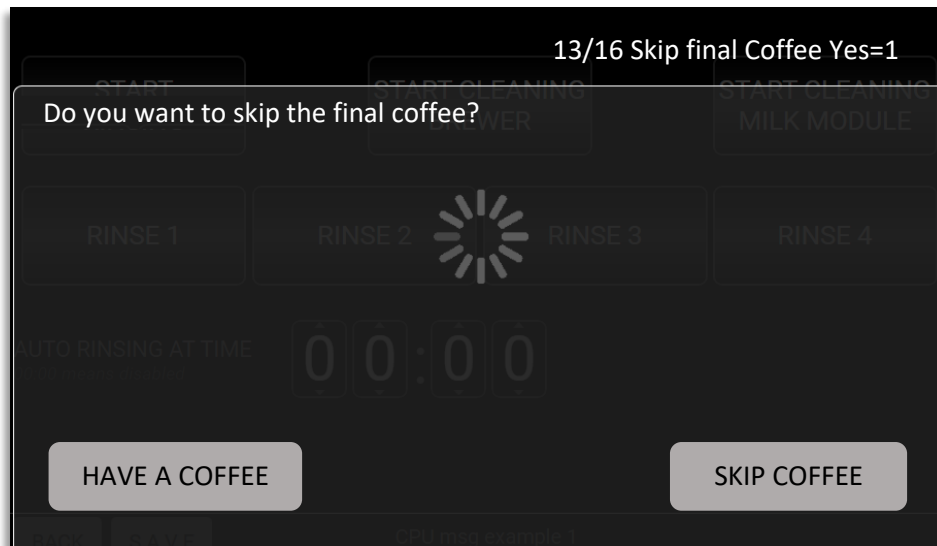
"Wait" message will be displayed on screen on each water delivery.



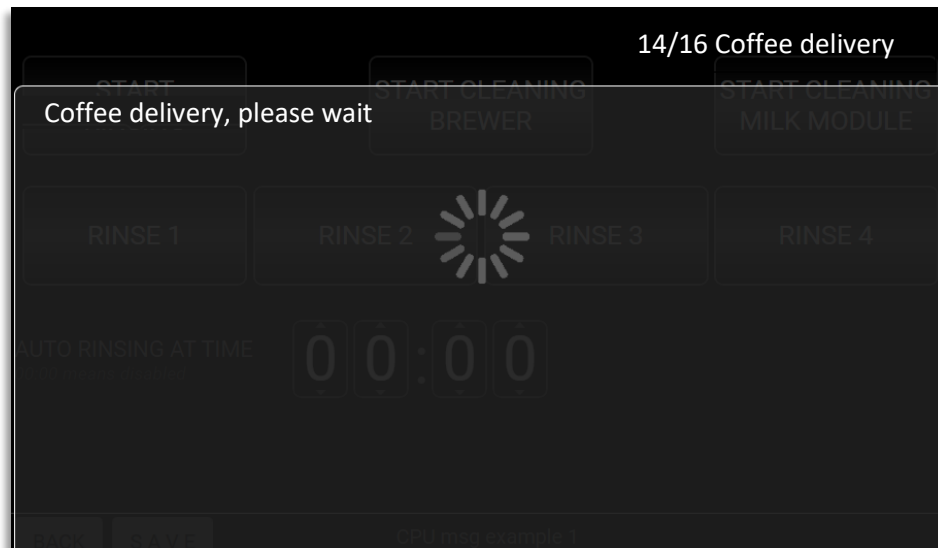
Choose YES or NO to repeat cleaning procedure.



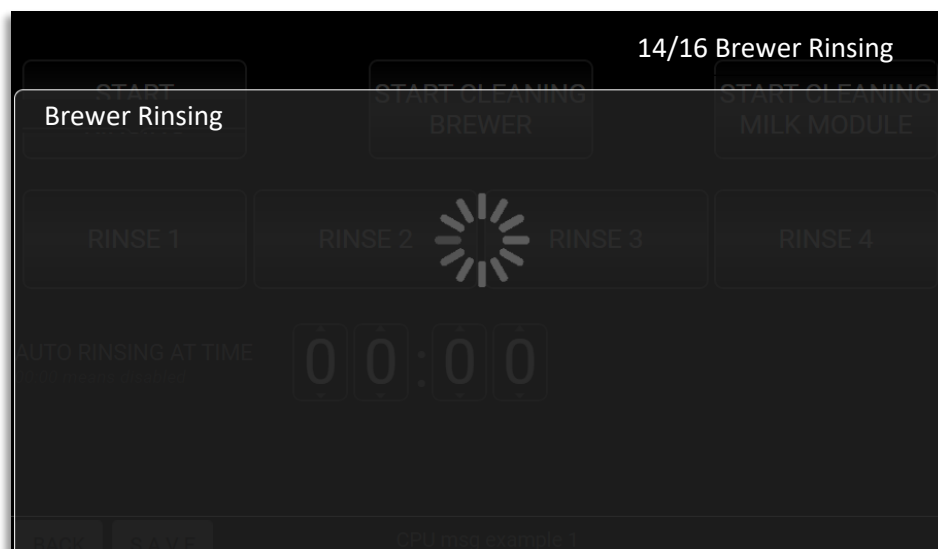
Choose between HAVE A COFFEE or SKIP COFFEE.



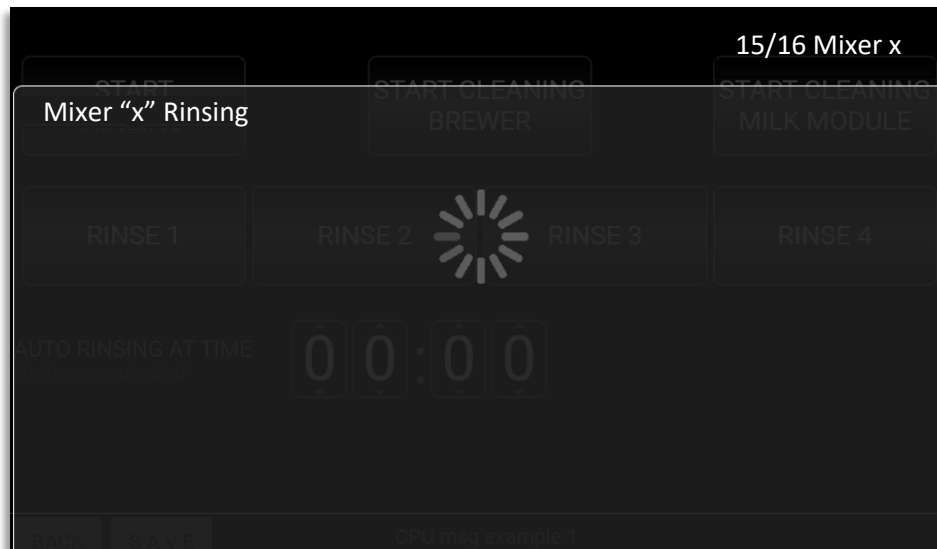
Start "Espresso" delivery or...



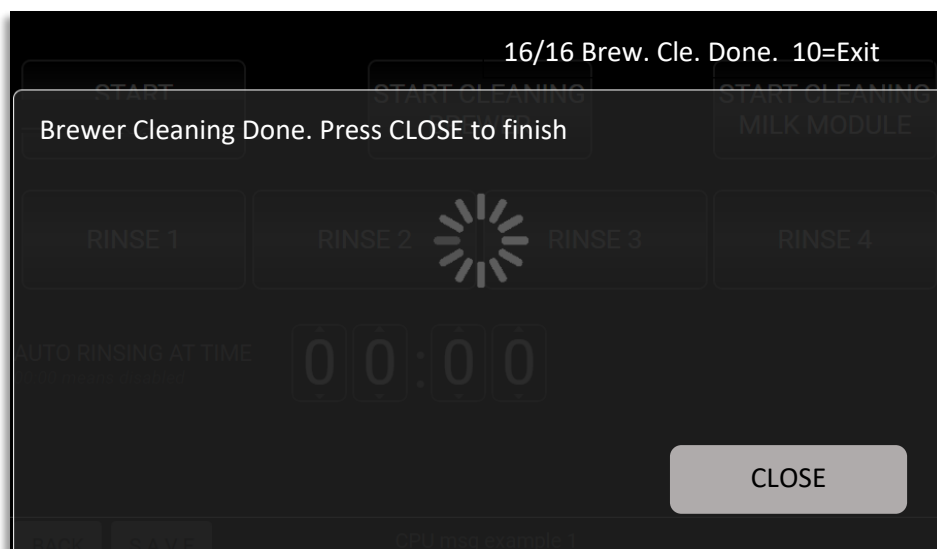
...dispensing water through brewer nozzle.



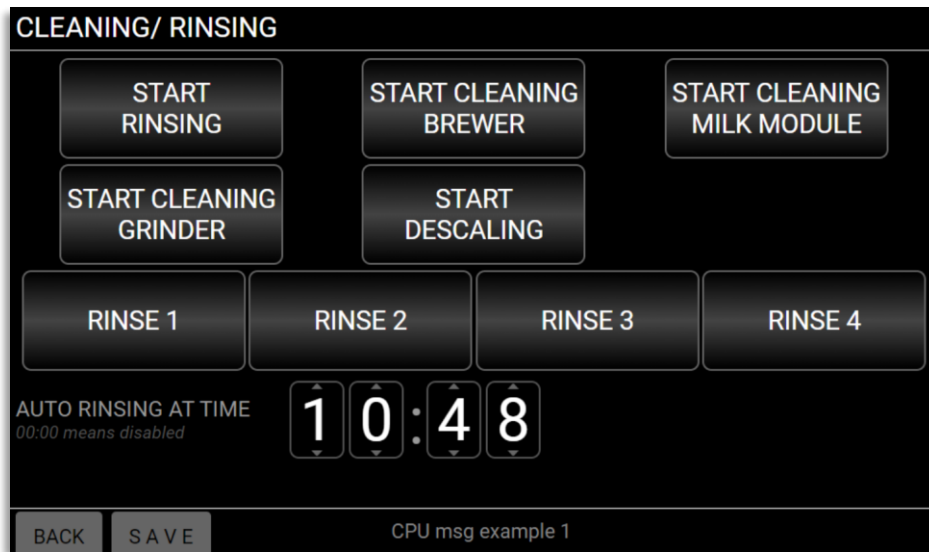
Dispense water, for a few seconds, through each nozzle, excluding the assigned one for hot water ("x" = number of current rinsing). Make sure to have, at least, a couple of mugs to place beneath the product nozzles.



Procedure ended message will be displayed on screen.



On procedure ended up (alerted by five beep sound), the display will show cleaning/rinsing options once again.



**NOTE:**

- If not successfully completed, sanitary cleaning is required while the VM reboots.

## 6.2.3 START CLEANING MILK MODULE (E, E+)



### **DISCLAIMER:**

- Mind carefully to all maintenance procedure.

- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT

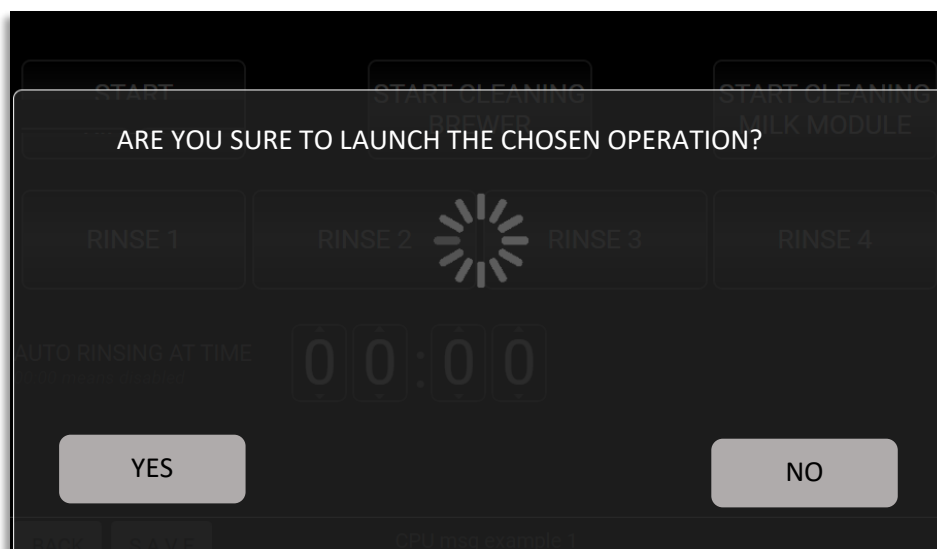


### **NOTE:**

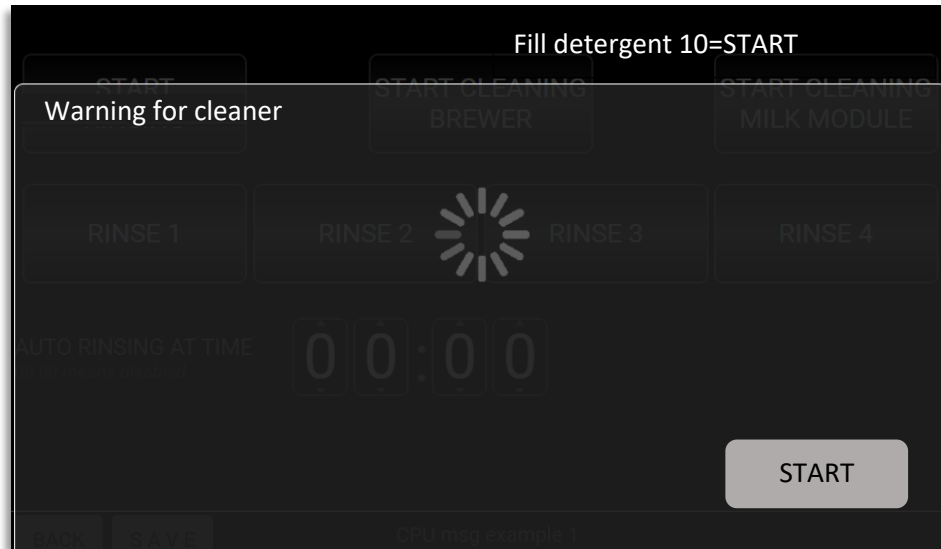
- Connect milk module to VM and enable it before starting this procedure (Set "steam temperature" different to zero. Read more at "6.10MILKER").

Before starting milk module cleaning procedure, more steps are required.

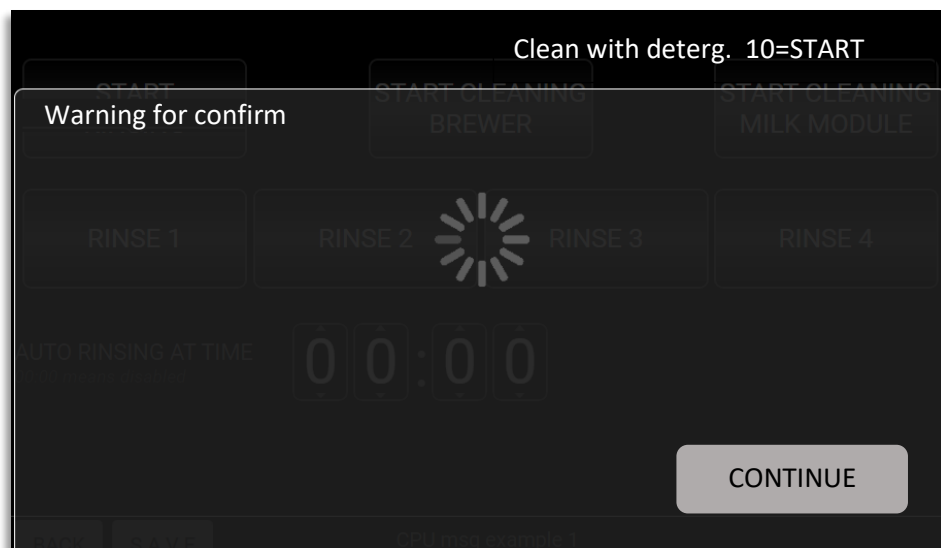
Start milk module cleaning procedure tapping on "YES" button, otherwise back to CLEANING/RINSING section.



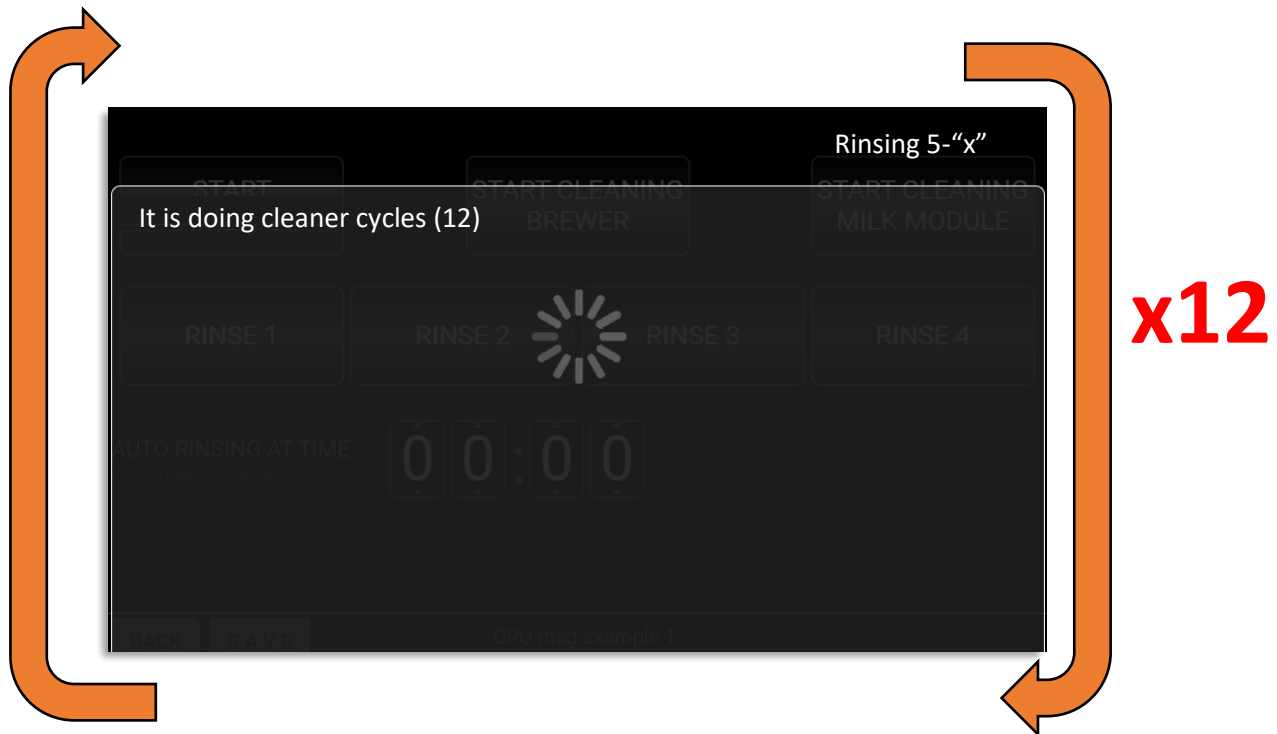
Pour a detergent into milk module tray. When ready, tap on button "START" to continue.



Use a cleaner to rinse. Tap on button "CONTINUE" to move forward.



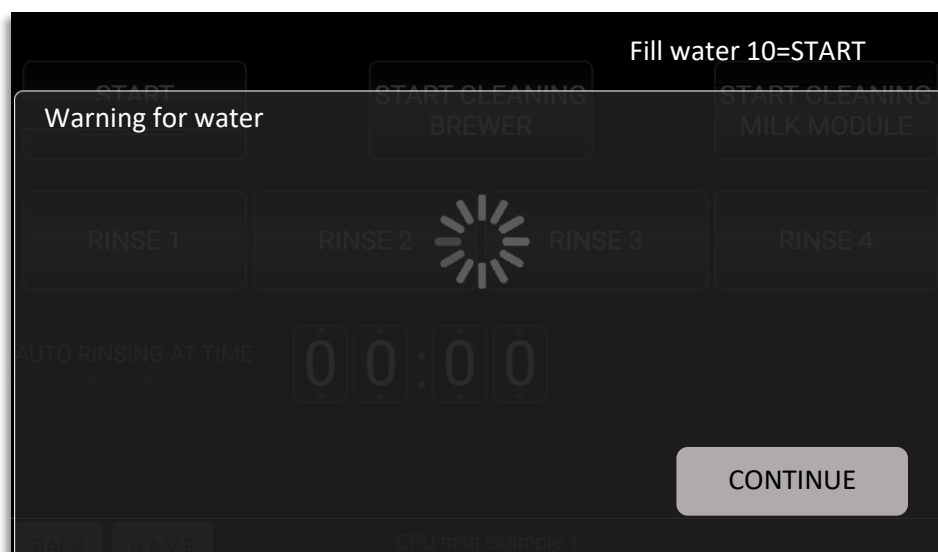
Clean milk module using a detergent ("x" = number of repetitions left).

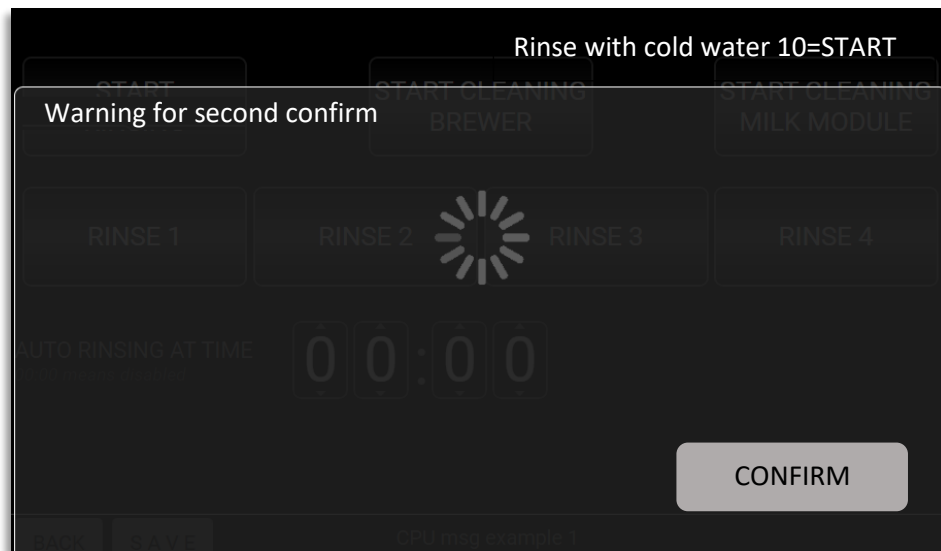


Cleaning steps:

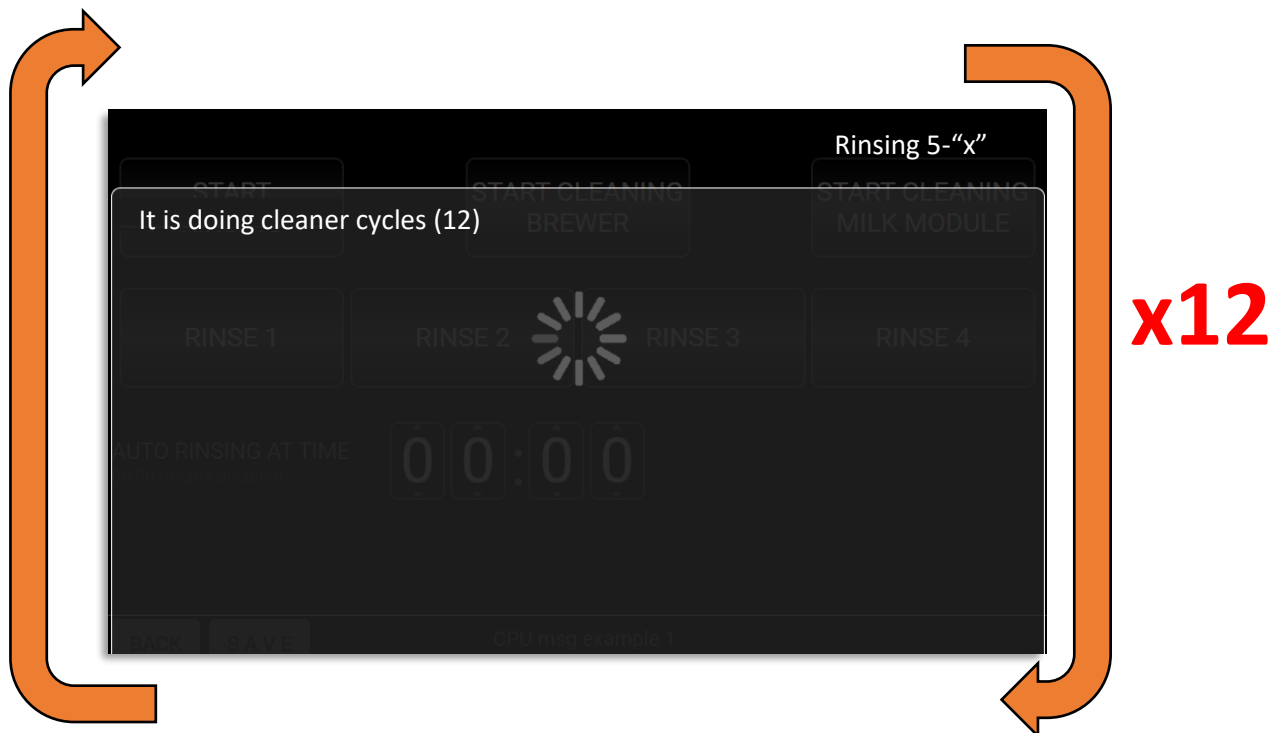
- 1) Open EV milk module for about thirty seconds.
- 2) Twelve sprays (about six seconds between each).

When ready, fill milk module tray with cold water. Tap on button "CONTINUE" and "CONFIRM" to go forward.





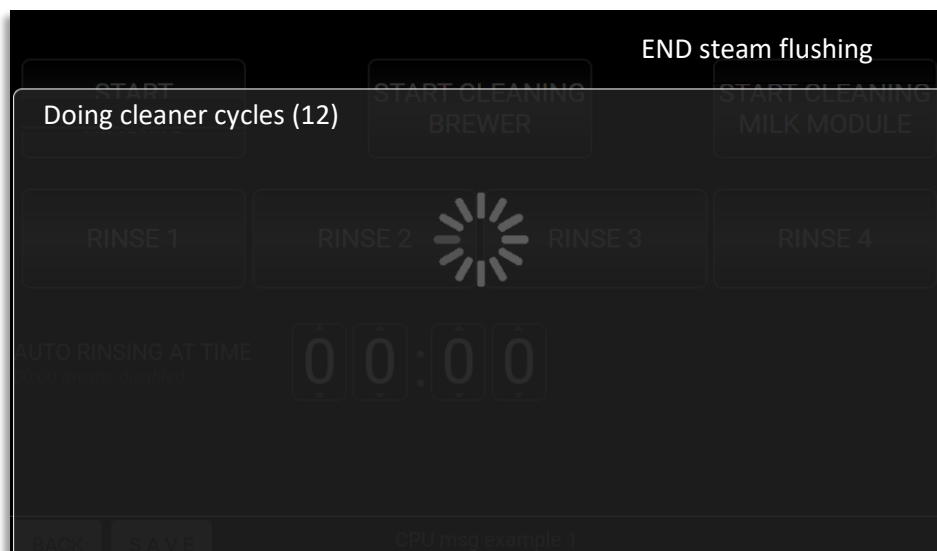
Clean milk module using a detergent ("x" = number of repetitions left).



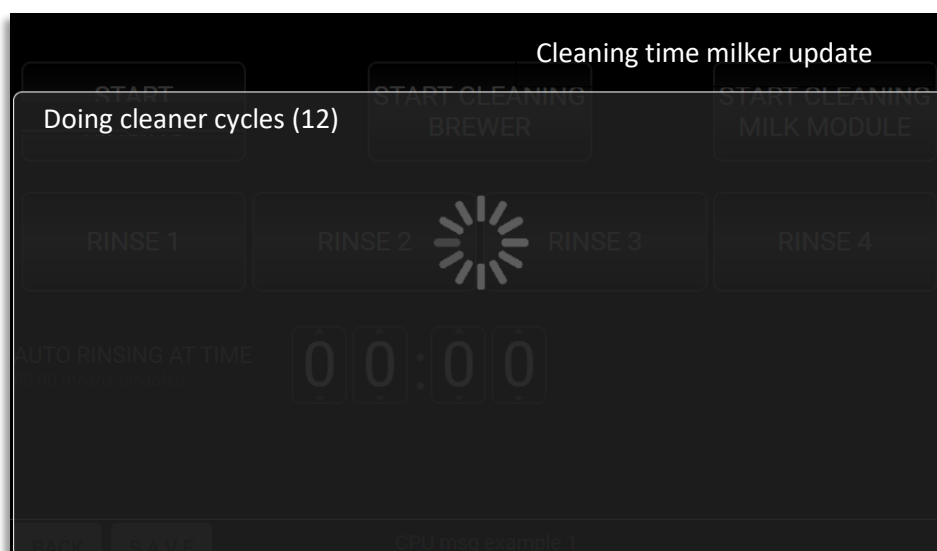
Cleaning steps:

- Twelve splashes (on each six seconds about).

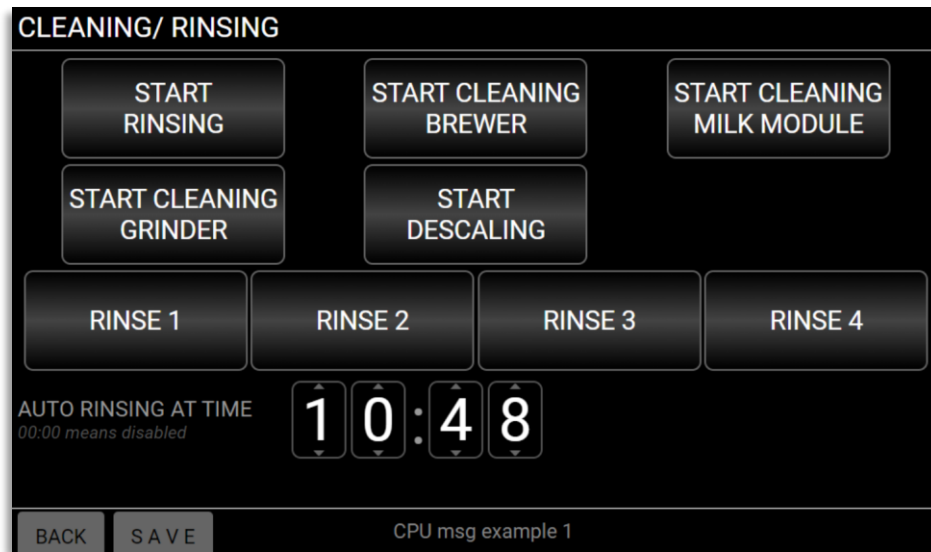
End up cleaning milk module procedure.



The VM stores the time for next mandatory milk module, if "RINSE TIMEUPDATE 1=ENABLE" parameter has been set on 1 (read more at "6.10 MILKER").



On procedure ended up (alerted by five beep sound), the display will show cleaning/rinsing options once again.



**NOTE:**

- Milk module clean is required during VM reboot if it has not been completed successfully.

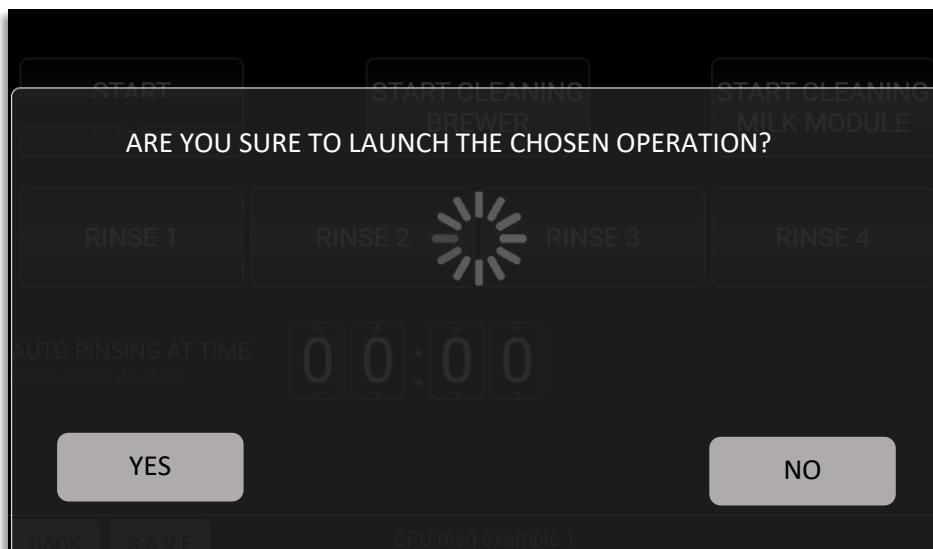
## 6.2.4 RINSE 1-4



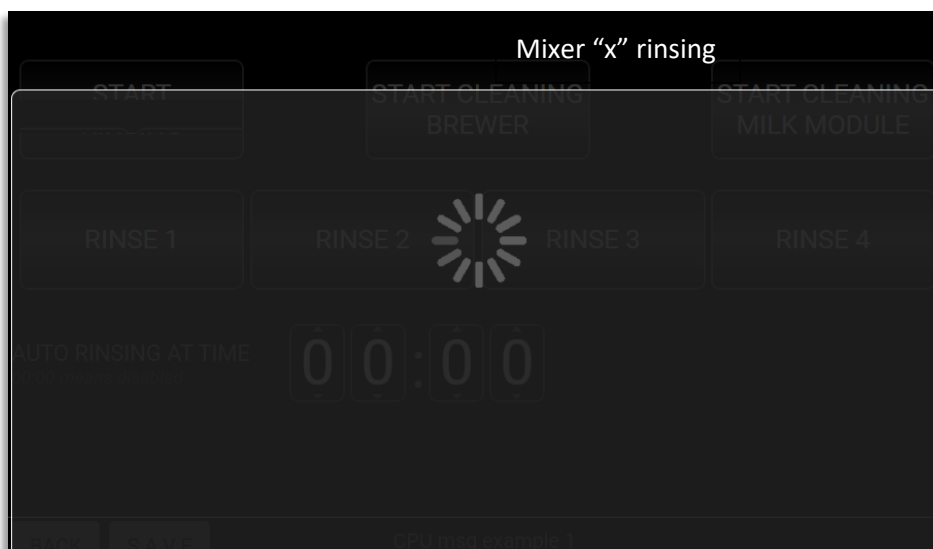
**DISCLAIMER:**

- Mind carefully to all maintenance procedure.

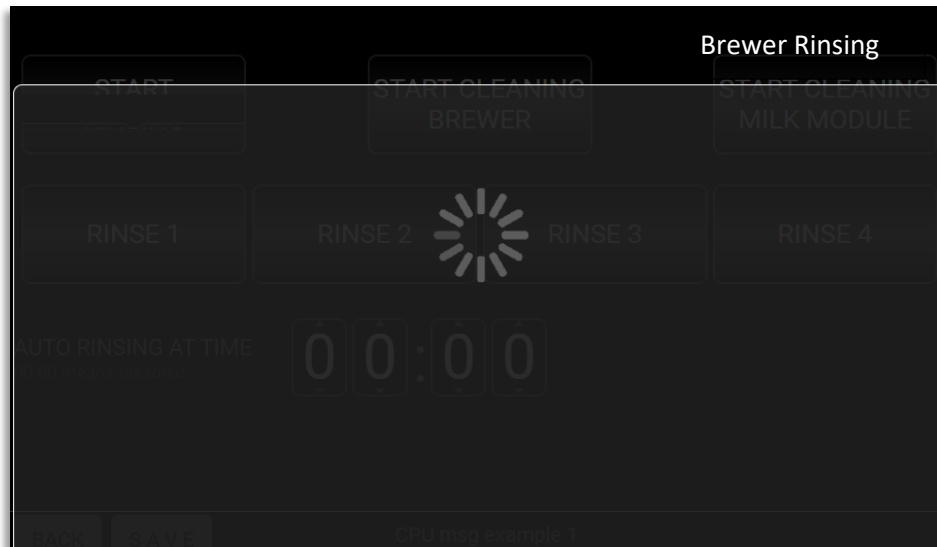
Start rinsing procedure tapping on "YES" button, otherwise back to CLEANING/RINSING section.



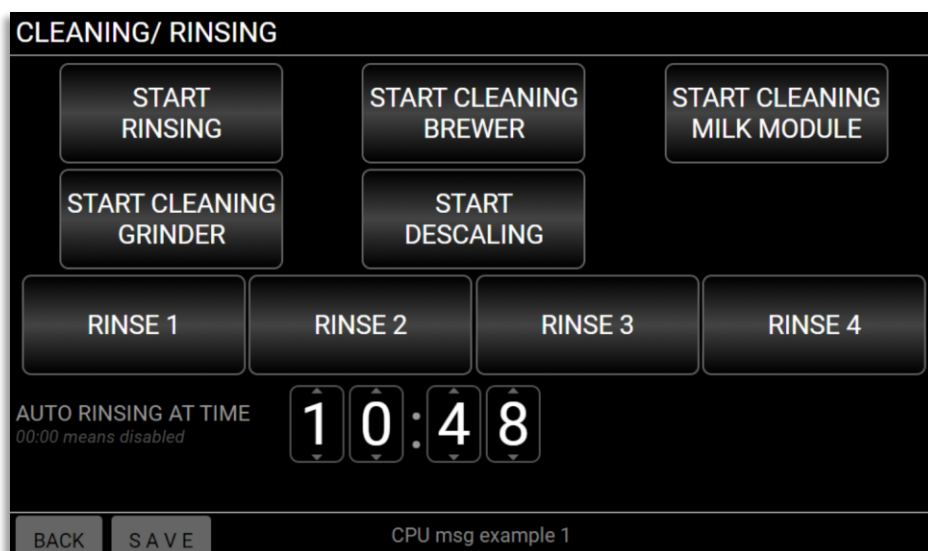
Start dispensing water for some seconds through the selected mixing bowl ("x" = number of selected rinsing).



For espresso model if "RINSE 1" button is pressed will dispense some water through brewer.



On procedure ended up (alerted by five beep sound), the display will show cleaning/rinsing options once again.



## 6.2.5 DESCALING PROCEDURE (E, E+)



### **DISCLAIMER**

- Mind carefully to all maintenance procedure.

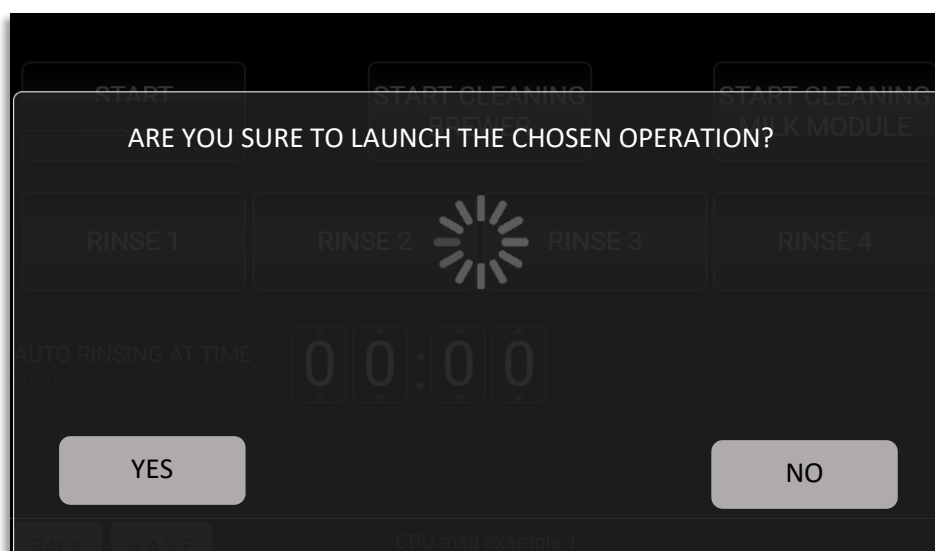
- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT



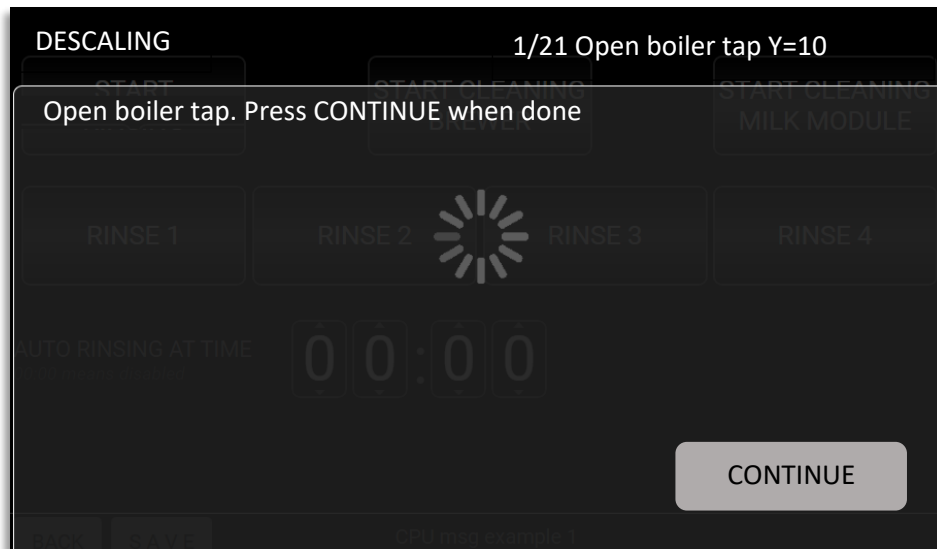
### **NOTE:**

- Check for Descaling procedure for espresso boiler model is composed by twenty-one steps, while for induction espresso model is composed by seventeen steps.

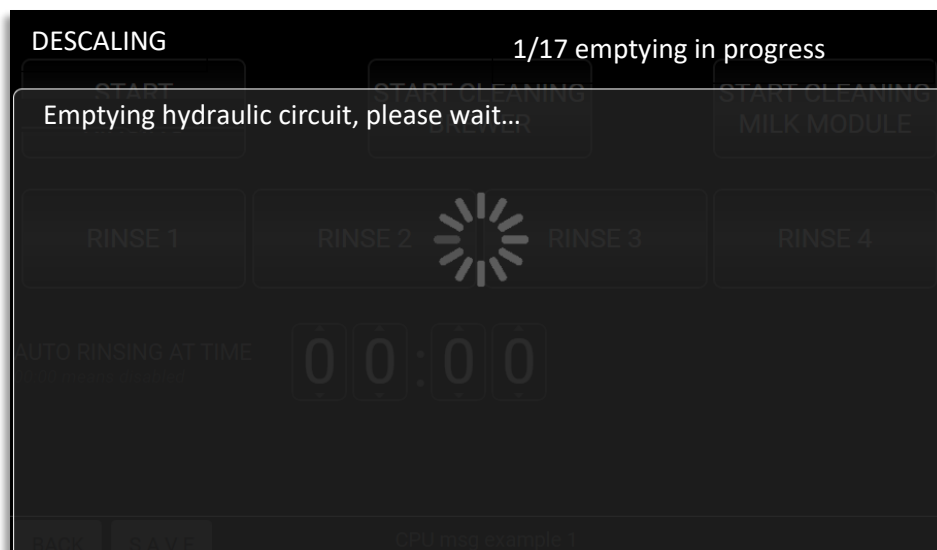
Start descaling procedure by descaling liquid tapping on "YES" button (only for espresso model), otherwise back to CLEANING/RINSING section.



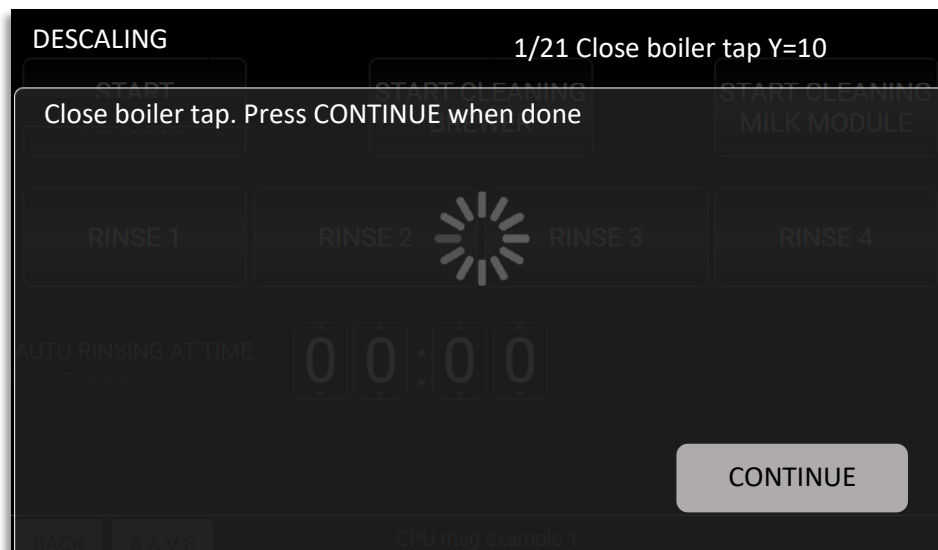
Open boiler tap to drain water (only for espresso boiler model).



Water circuit emptying in progress.



Close boiler tap after draining water process finished (only for espresso boiler model).

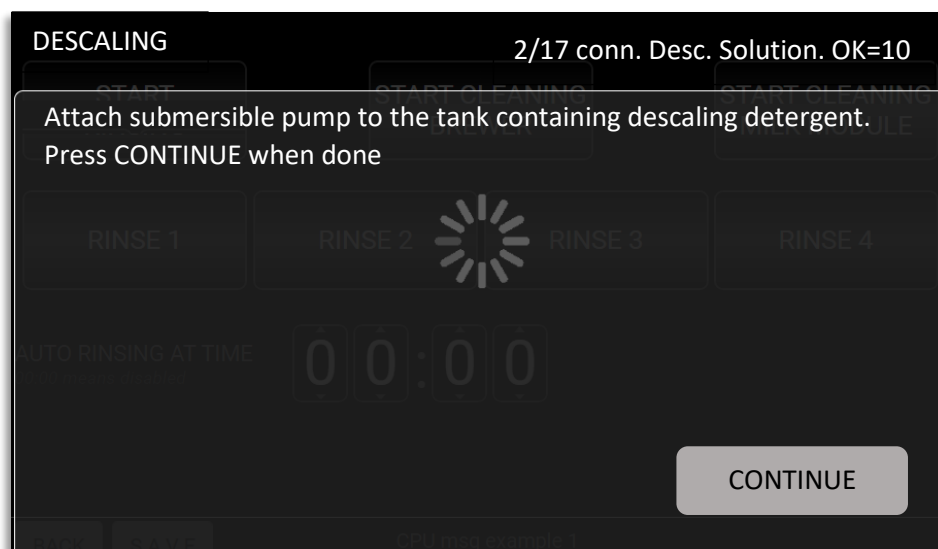


Attach submersible pump to the tank containing descaling detergent. Tap on "CONTINUE" button to continue.

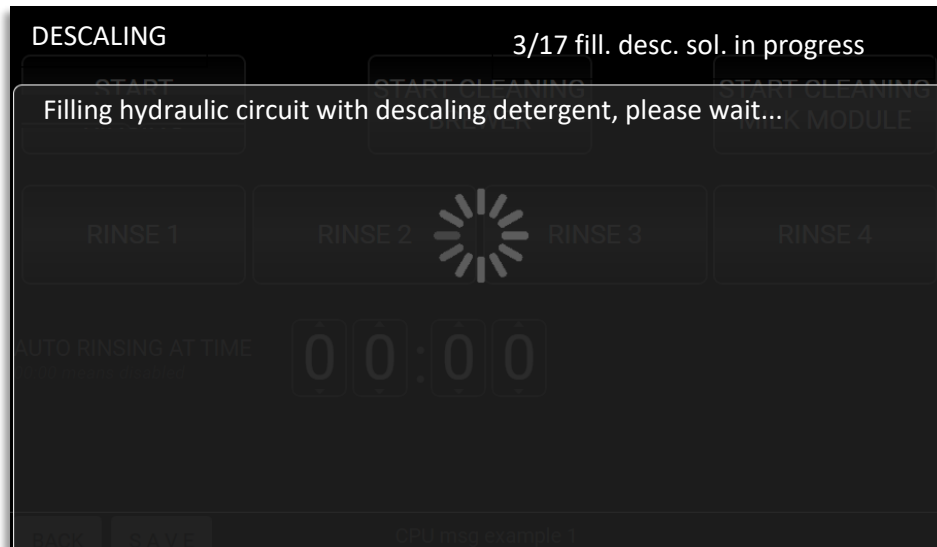


**NOTE:**

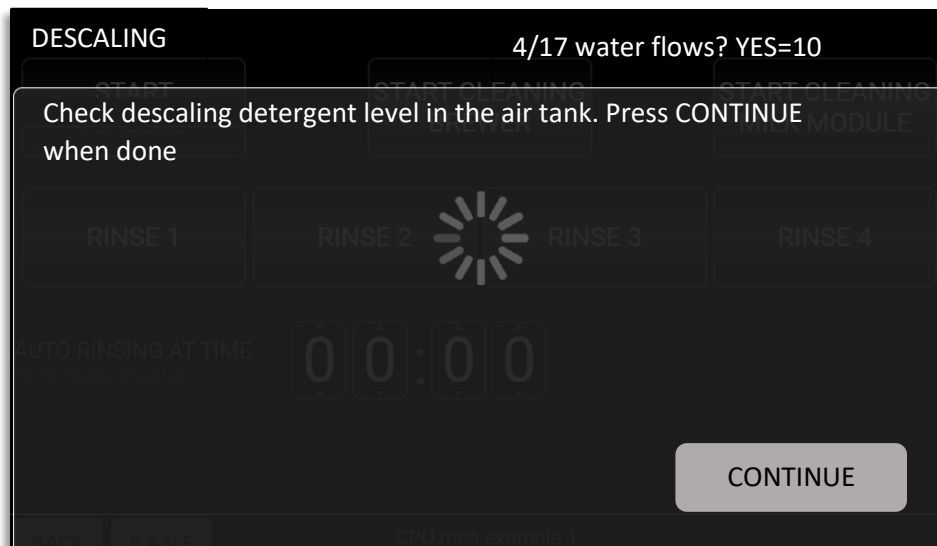
- Check for dilution (water-detergent ratio) above the descaling detergent product label.



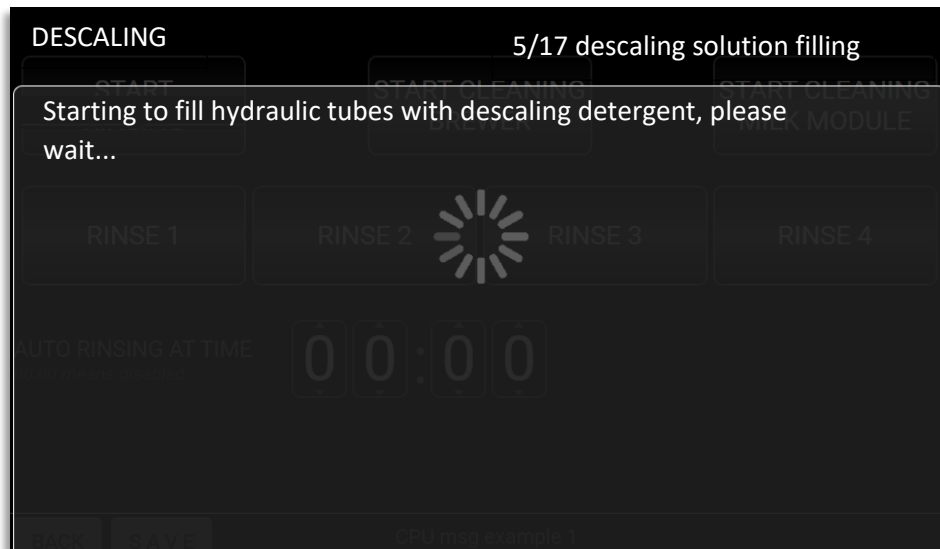
Hydraulic circuit filling with descaling detergent.



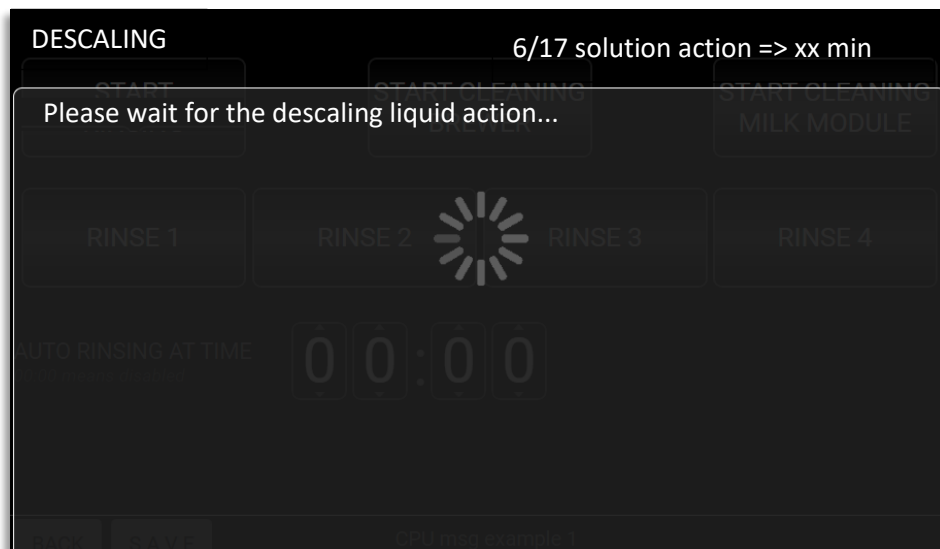
Check descaling detergent level into the air tank. Tap on "CONTINUE" button to continue.



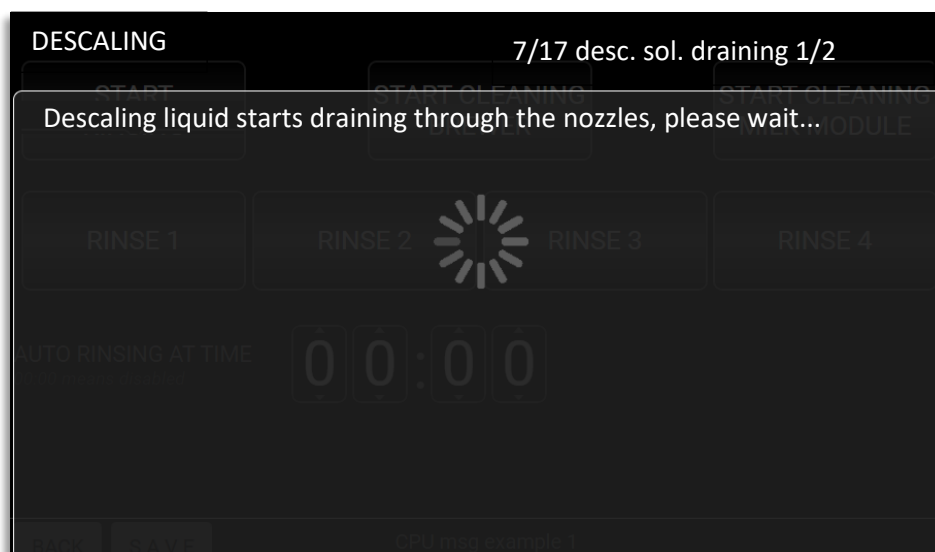
Descaling detergent start to fill hydraulic tubes.



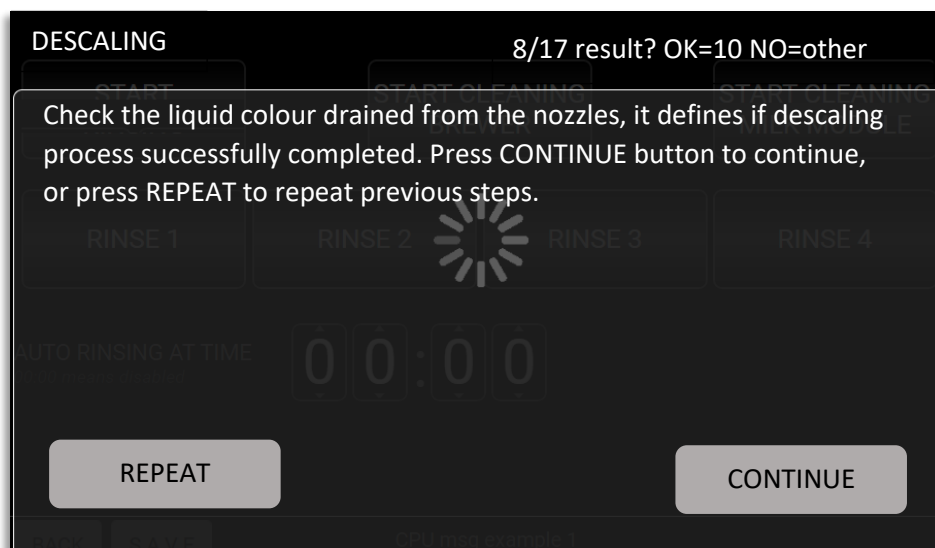
Wait ten minutes for the descaling liquid action.



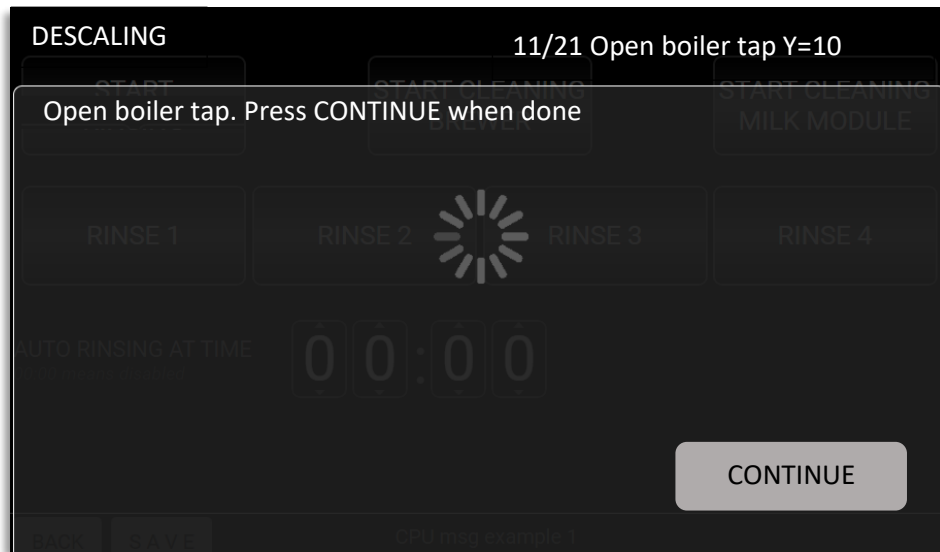
Then descaling liquid starts draining through the nozzles at about 70-80°C.



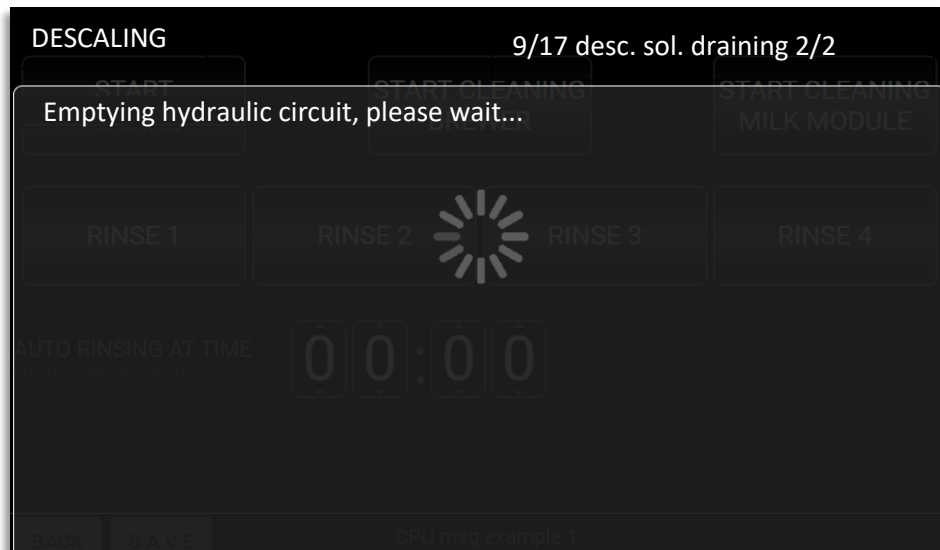
Check the liquid colour drained from the nozzles: it defines if descaling process successfully completed. Tap on "CONTINUE" button to continue, or "REPEAT" button to repeat previous steps.



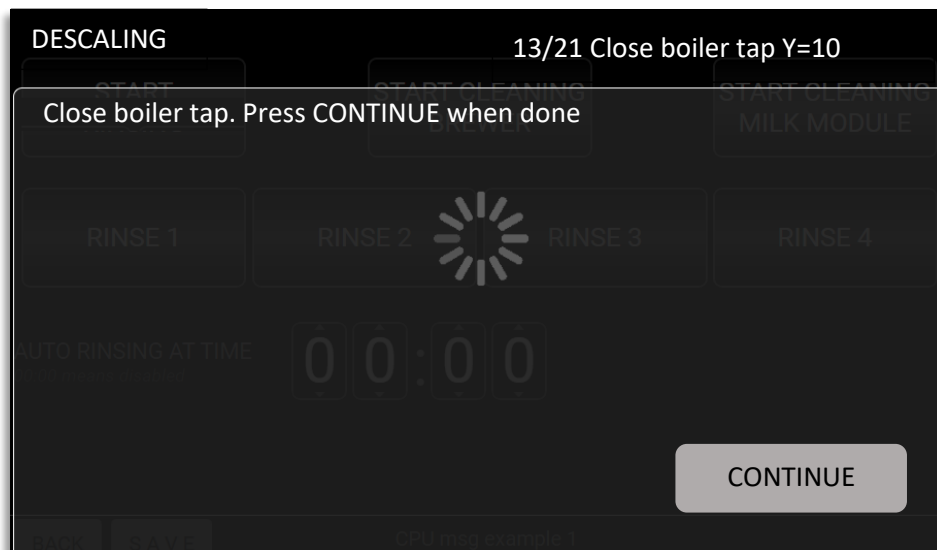
Open boiler tap to drain descaling liquid (only for espresso boiler model).



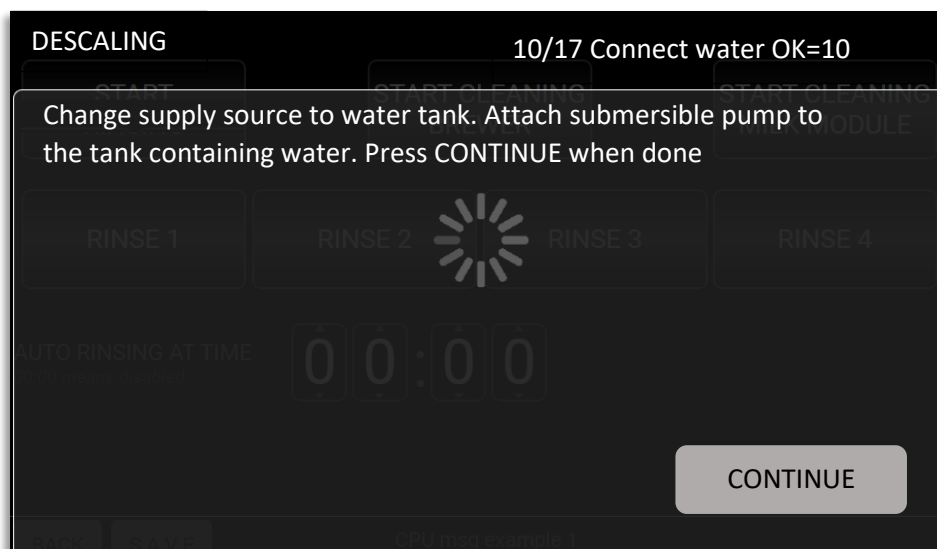
Water circuit emptying in progress. All descaling liquid drain out through the nozzle.



Close boiler tap when descaling liquid is completely drained out (only for espresso boiler model).

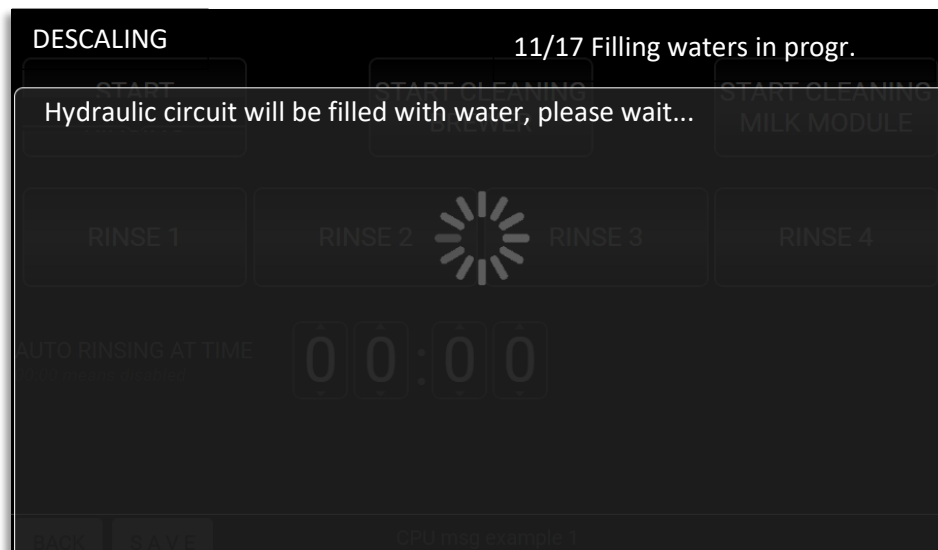


Once descaling detergent flow out, change supply source to water tank. Attach submersible pump to the tank containing water. Tap on "CONITNUE" button to continue.

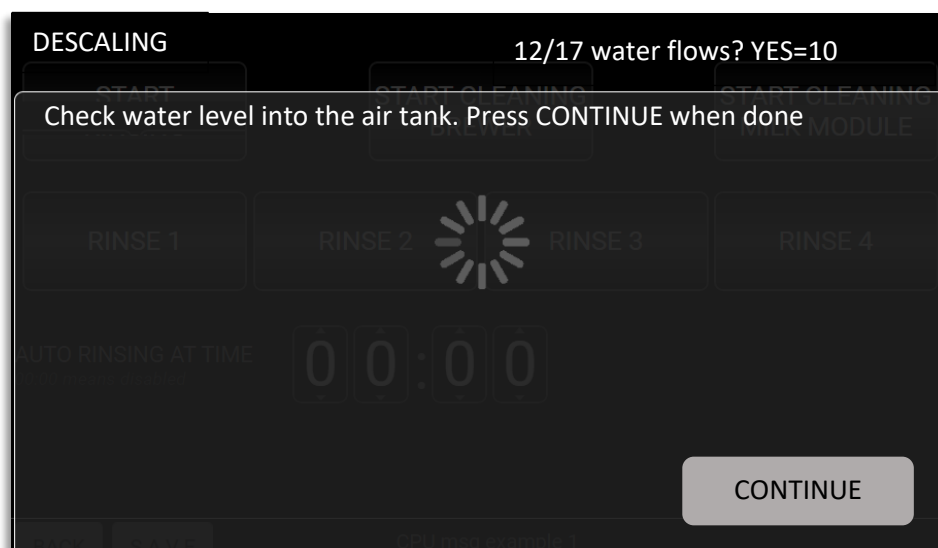


Hydraulic circuit will be filled with water.

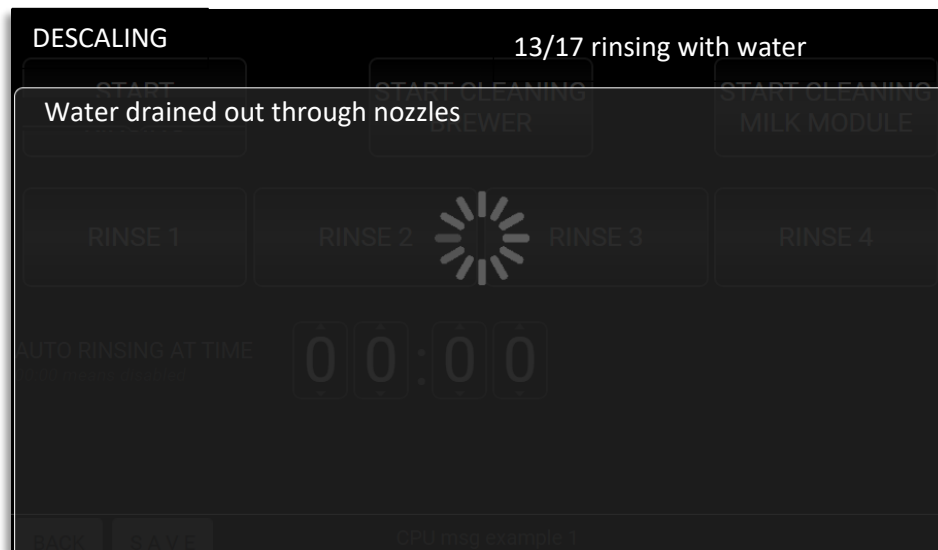
Software Operative Manual (TS) rev. 1.3 dated 06.08.2021



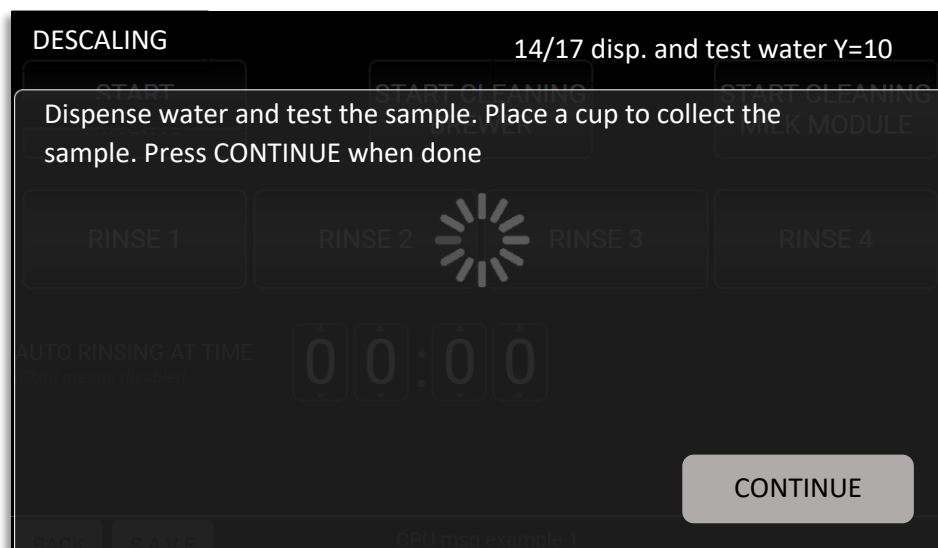
Check water level into the air tank. Tap on "CONTINUE" button to continue.



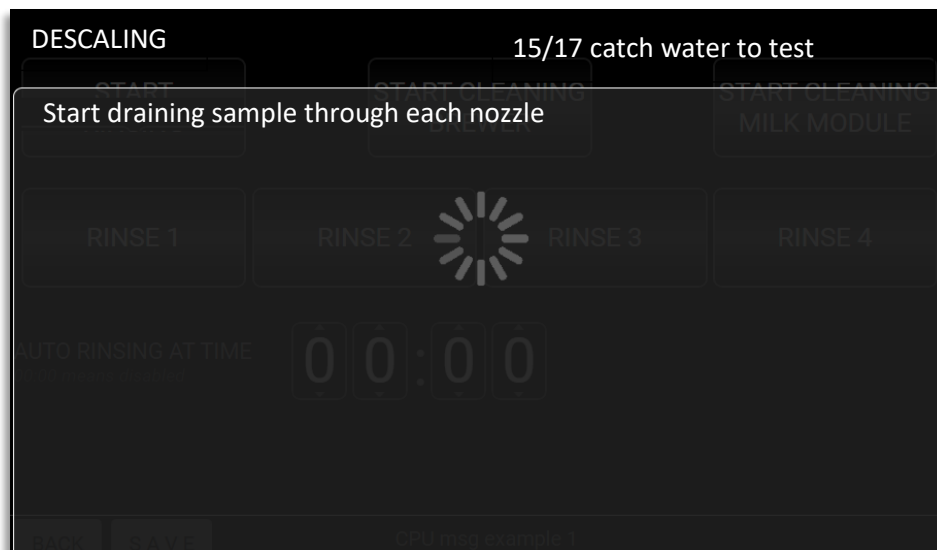
Water drained out through nozzles.



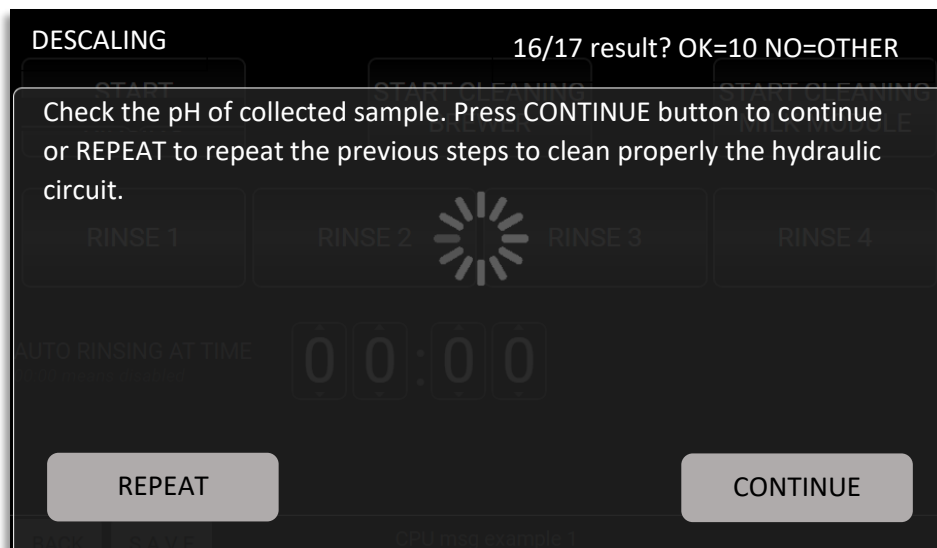
Dispense water and test the sample. Place a cup to collect the sample. Tap on "CONTINUE" button to continue.



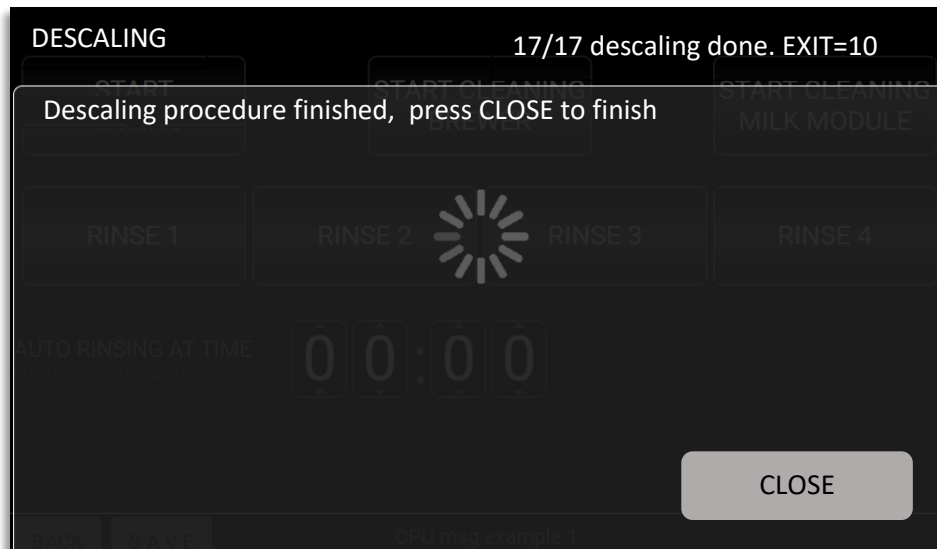
Start draining sample through each nozzle.



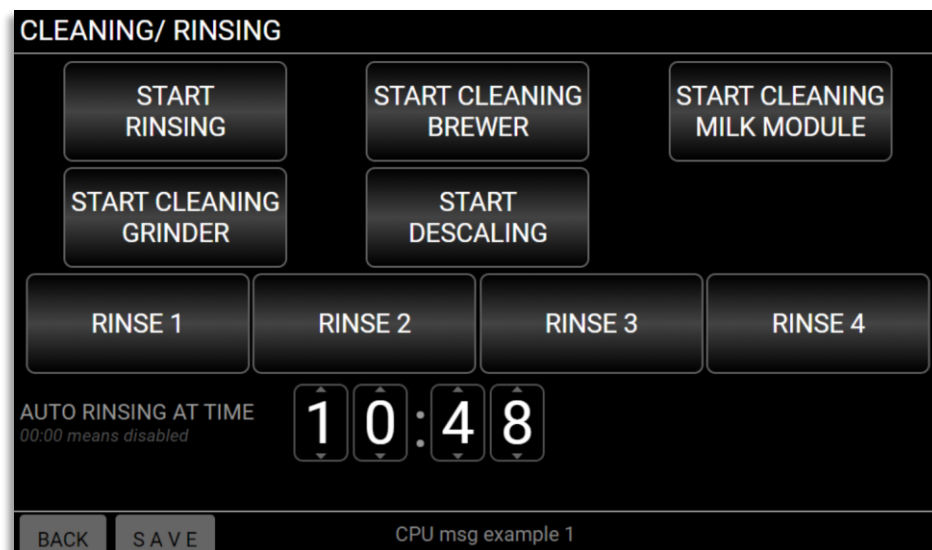
Check the pH of collected sample. Tap on "CONTINUE" button to continue or "REPEAT" button to repeat the previous steps to clean properly the hydraulic circuit.



Descaling procedure ended.



On ended procedure up (alerted by five beeps sound), rinsing/cleaning options will be displayed again.



## **NOTE:**

- Descaling procedure is needed while VM reboot when it has not been successfully completed.

## 6.2.6 GRINDER CLEANING (E, E+)

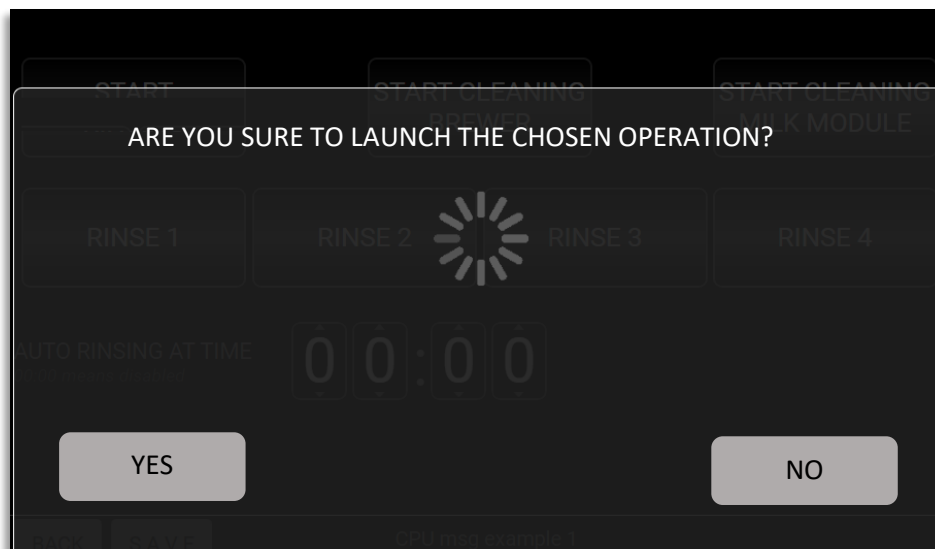


### **DISCLAIMER**

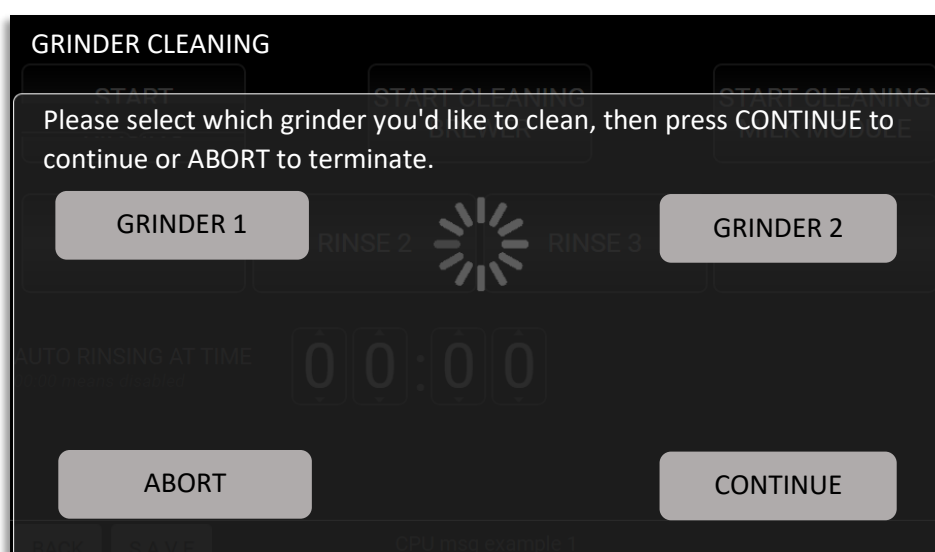
- Mind carefully to all maintenance procedure.

- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT

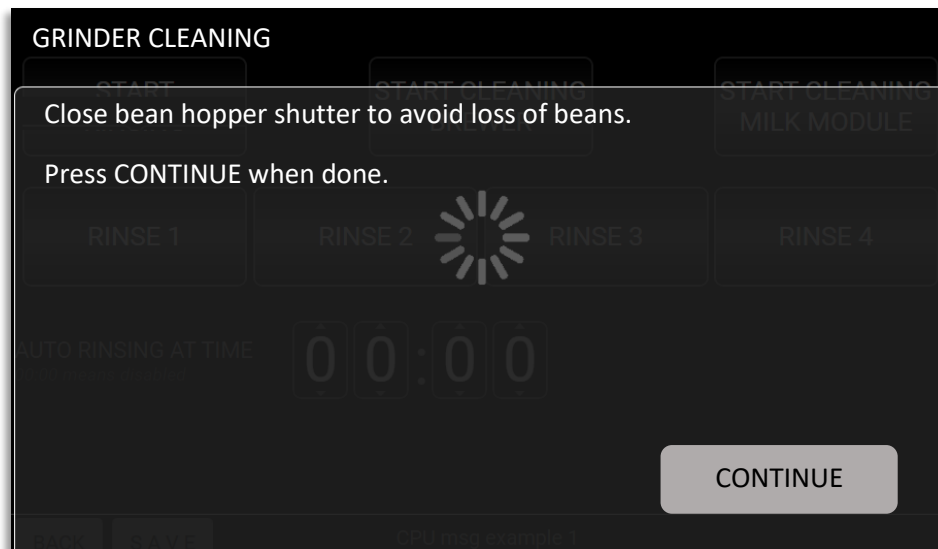
Start grinder cleaning procedure tapping on "YES" button (only for espresso model), otherwise back to CLEANING/RINSING section.



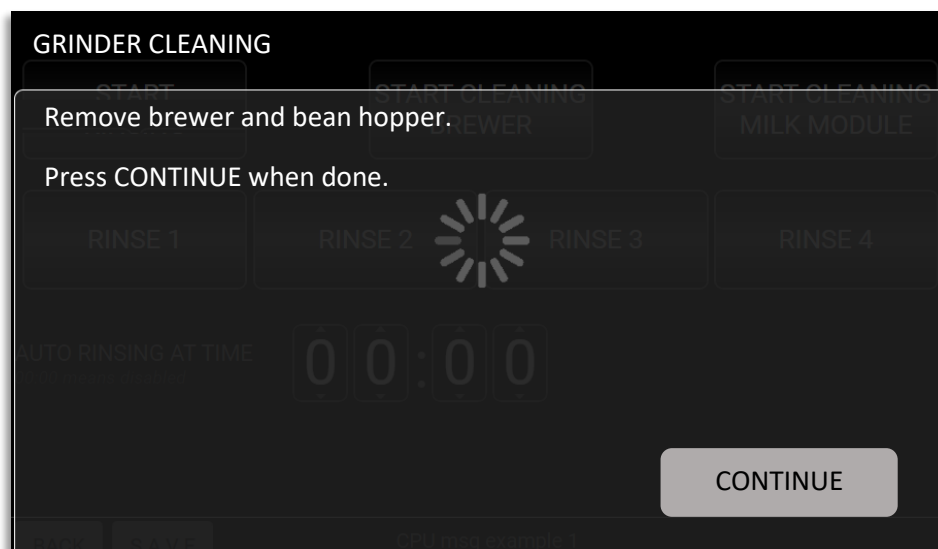
Confirm which grinder must be cleaned by tap "grinder 1" or "grinder 2" button (grinder 2 could not be available), then press "CONTINUE" to start or "ABORT" to end this procedure.



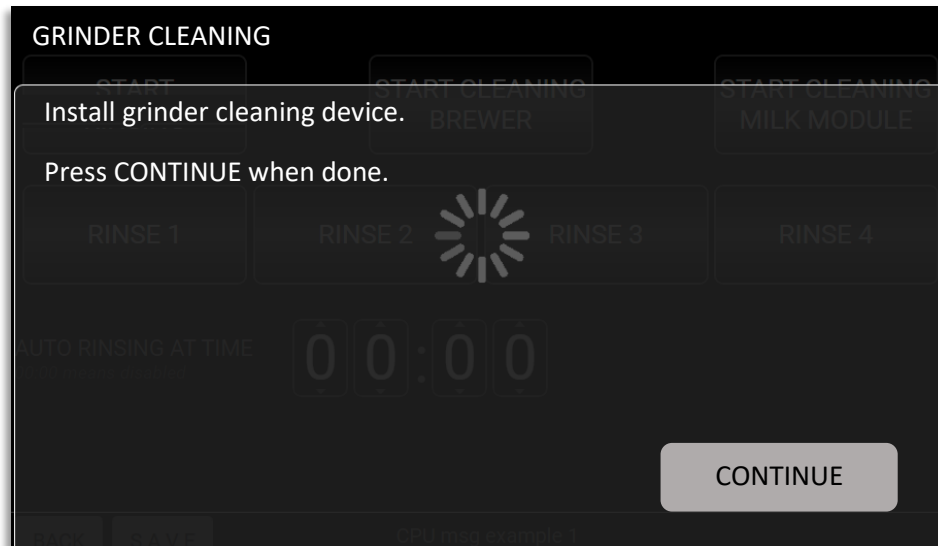
Close bean hopper shutter to avoid loss of beans (note: "x"=1 for grinder 1, "x"=2 for grinder 2). Tap on "CONTINUE" to move forward.



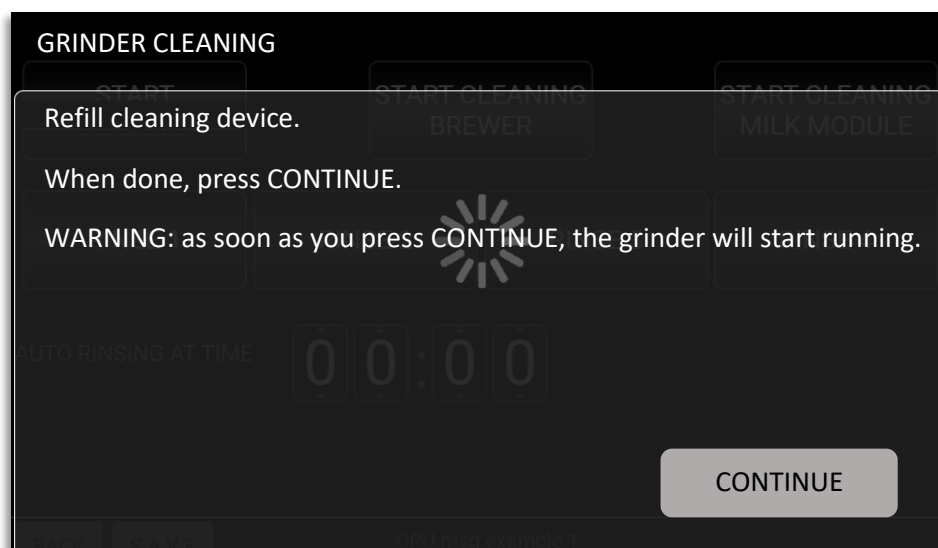
Remove brewer and bean hopper. Tap on "CONTINUE" button to move forward.



Install grinder cleaning device, and refill it with product cleaning. Tap on "CONTINUE" button to move forward.

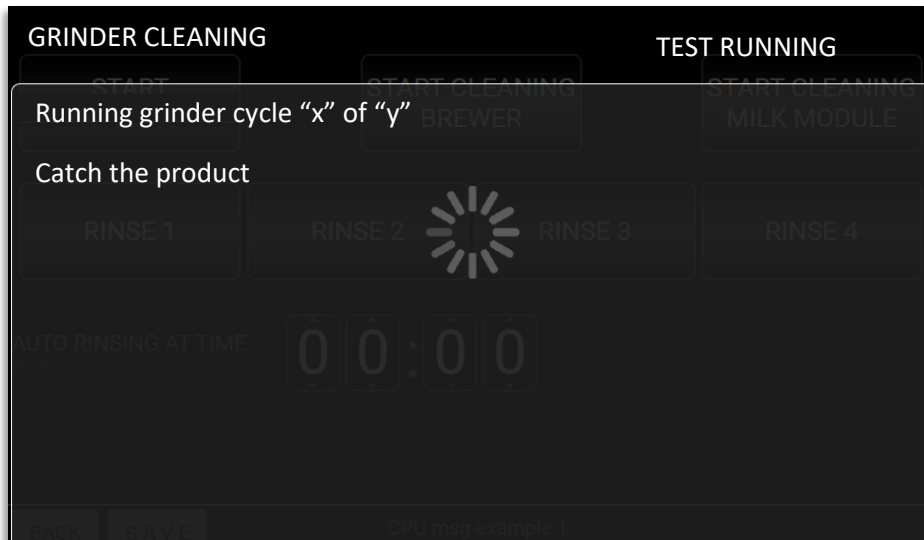


Grinder runs 5 cycles: 5 seconds ON and 10 seconds OFF. Tap on "CONTINUE" button to move forward.

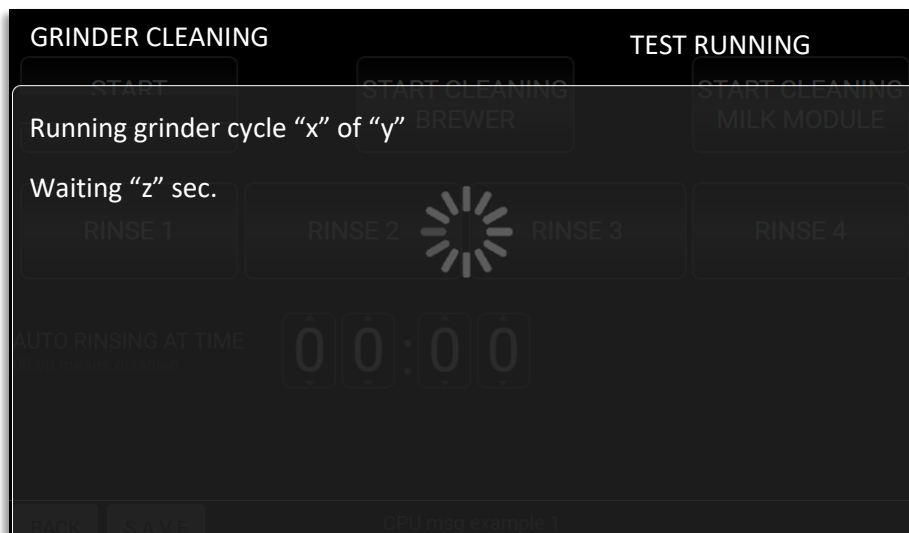


While grinder runs display shows current step ("x") of total steps ("y")

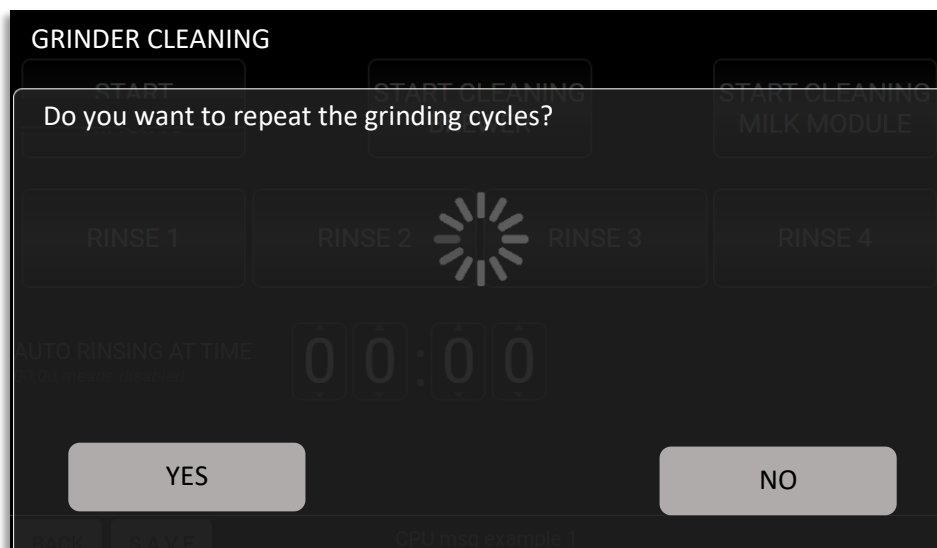
**x5**



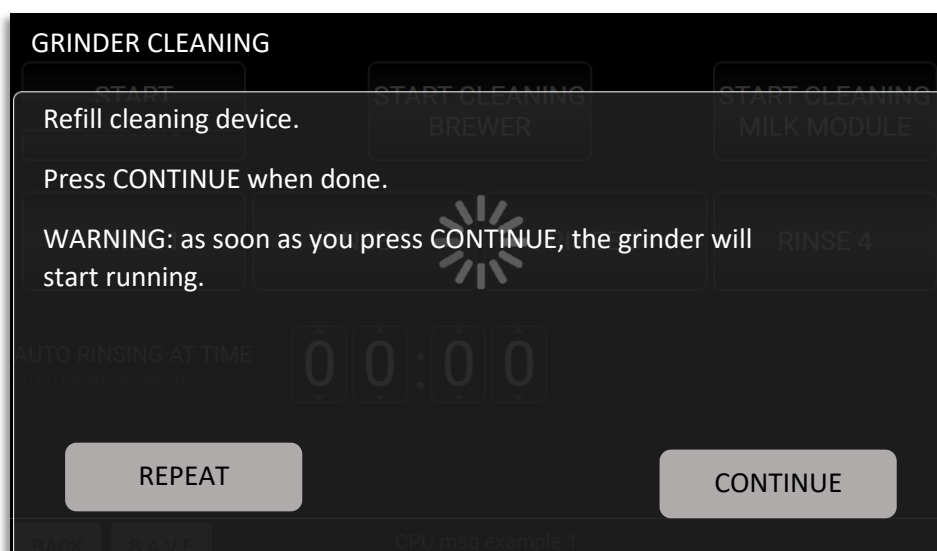
Timeout between grinder cycles ("z").



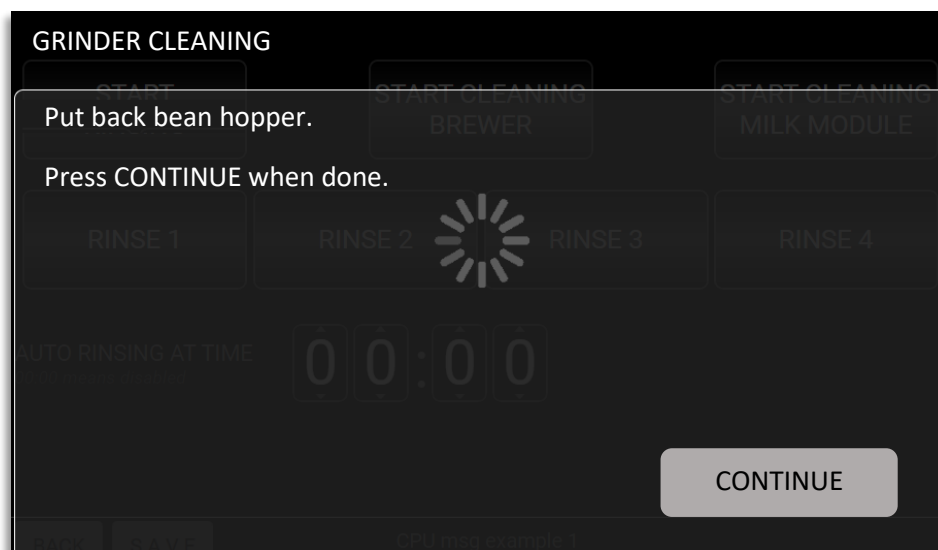
Catch cleaning product and check if there is any coffee residue. Tap on "YES" button to continue or on "NO" to repeat previous step.



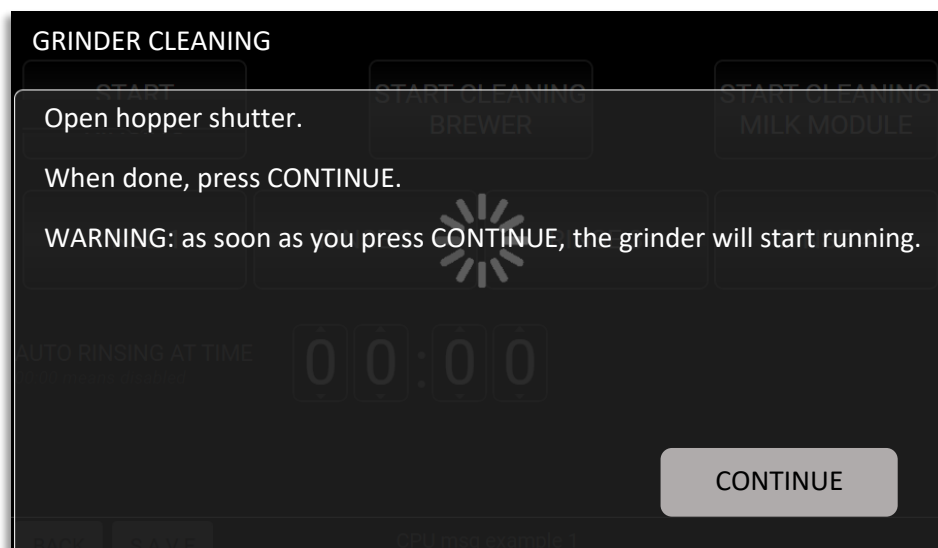
Refill cleaning device if "YES" button in previous step. If press "NO" button skip to "Insert bean hopper" next step.



Insert bean hopper. Tap on "CONTINUE" button to move forward.



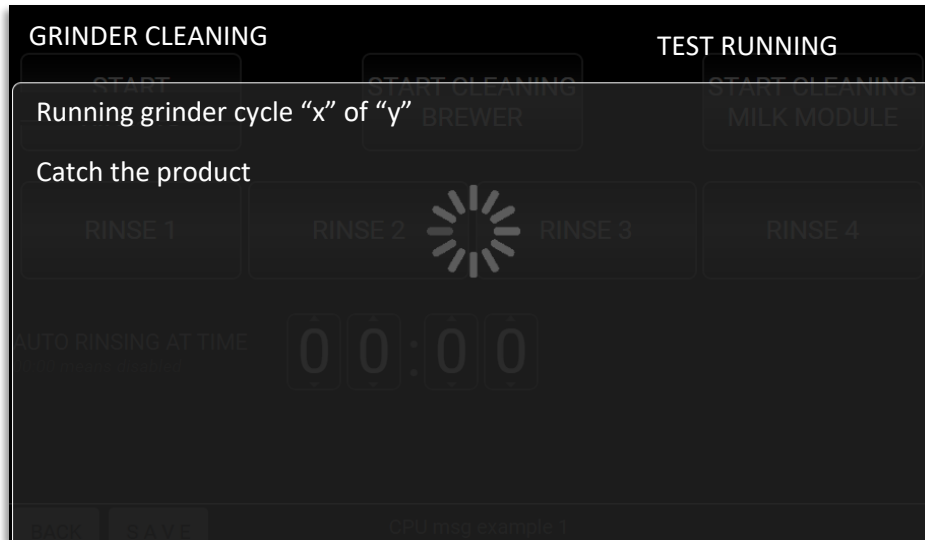
Open bean hopper. Tap to "CONTINUE" button move forward. The grinder will start running.



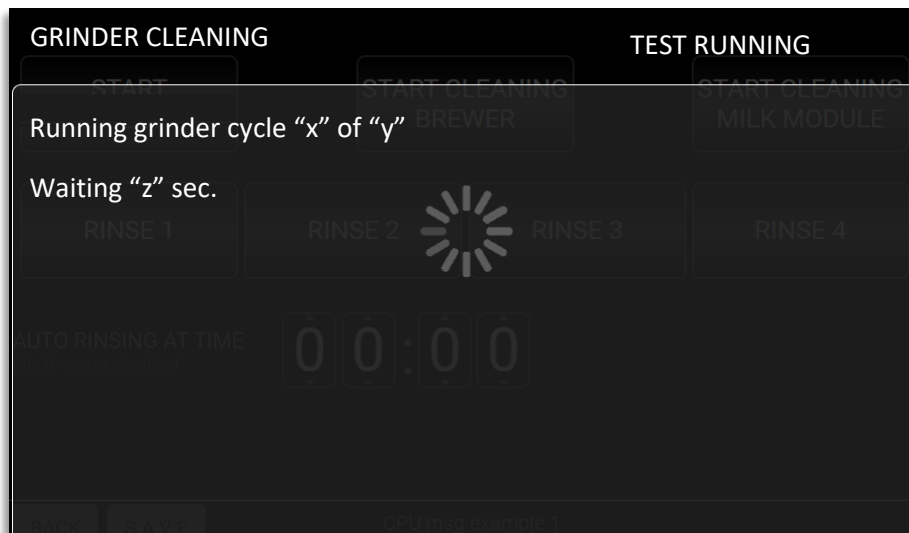
Grinder runs 5 cycles: 5 seconds ON and 10 seconds OFF.

While grinder runs display shows current step ("x") of total steps ("y")

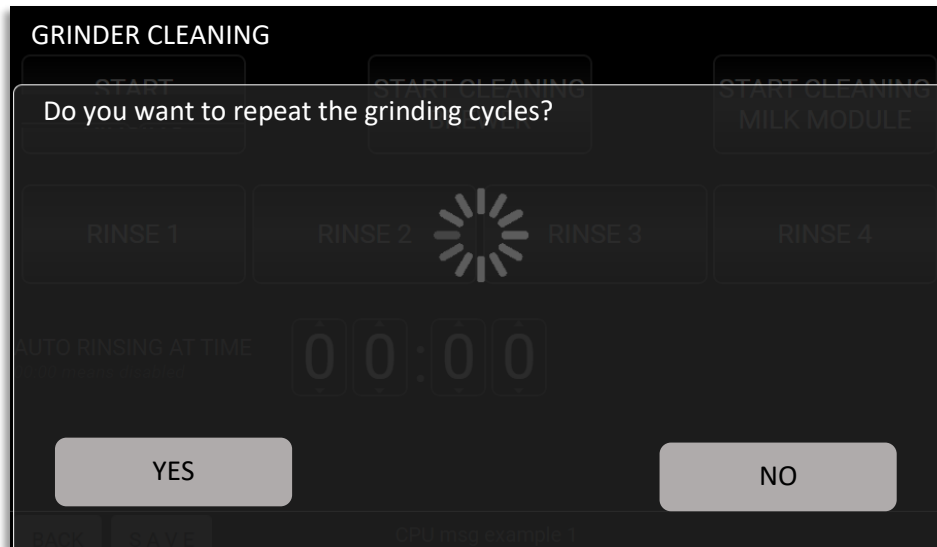
**x5**



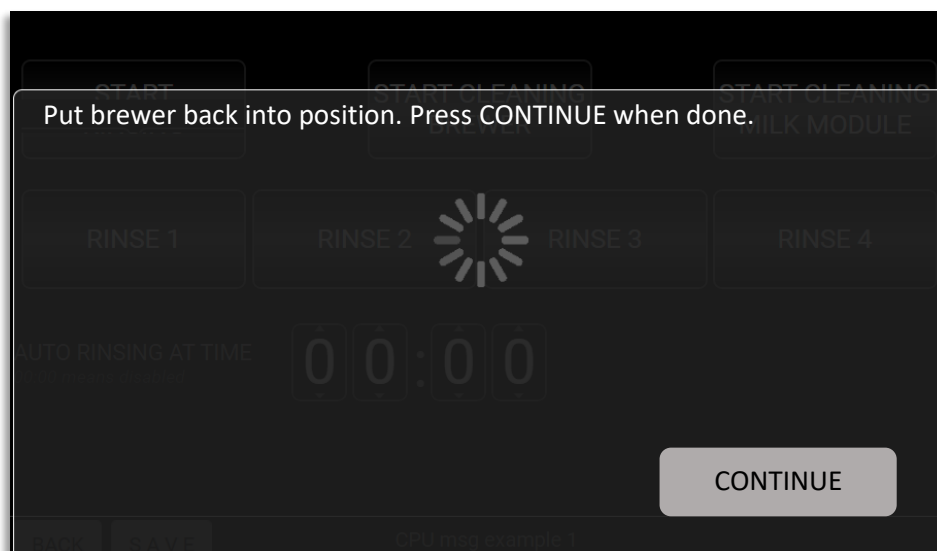
Timeout between grinder cycles ("z").



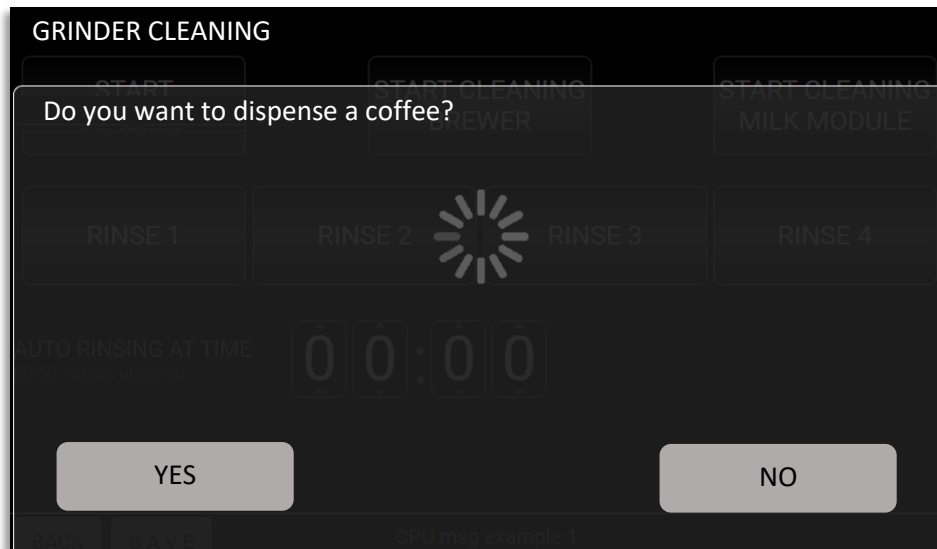
Catch coffee and check if there are any product cleaning residues. Tap "YES" button to continue or on "NO" button to repeat previous step.



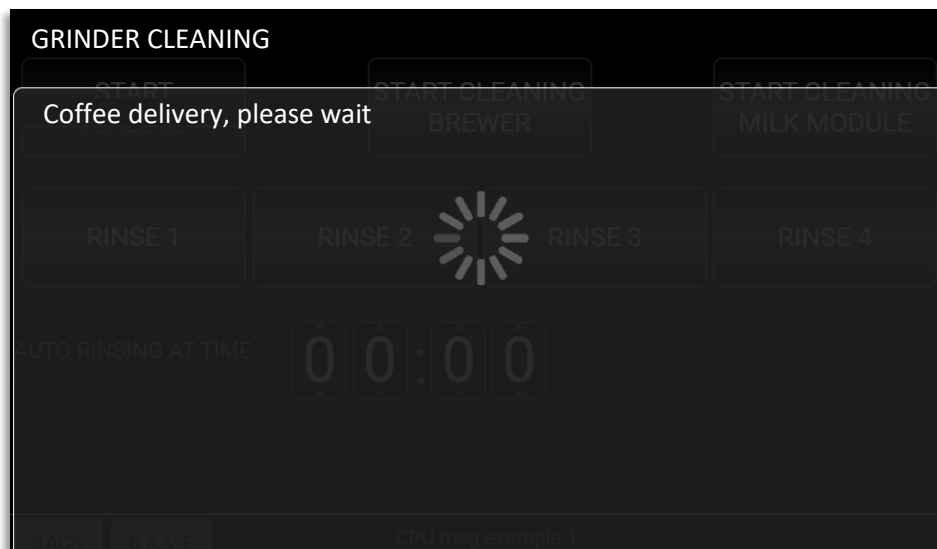
Put back brewer. Tap on "CONTINUE" button to move forward.



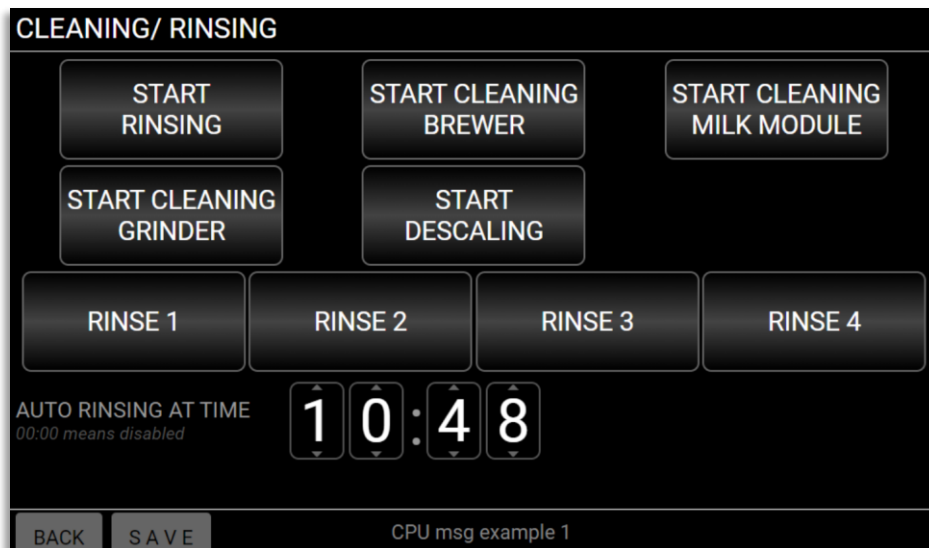
Start "Espresso" beverage delivery (tapping on "YES" button) or skip it (tapping on "NO" button).



Start "Espresso" delivery: tap on "YES" button.



On ended procedure up (alerted by five beeps sound), rinsing/cleaning options will be displayed again.



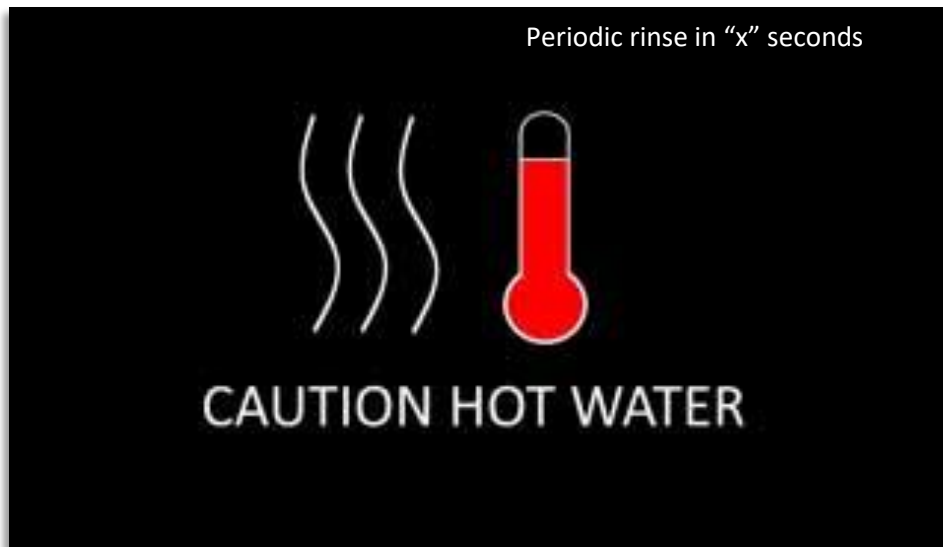
## 6.2.7 SCHEDULED RINSING



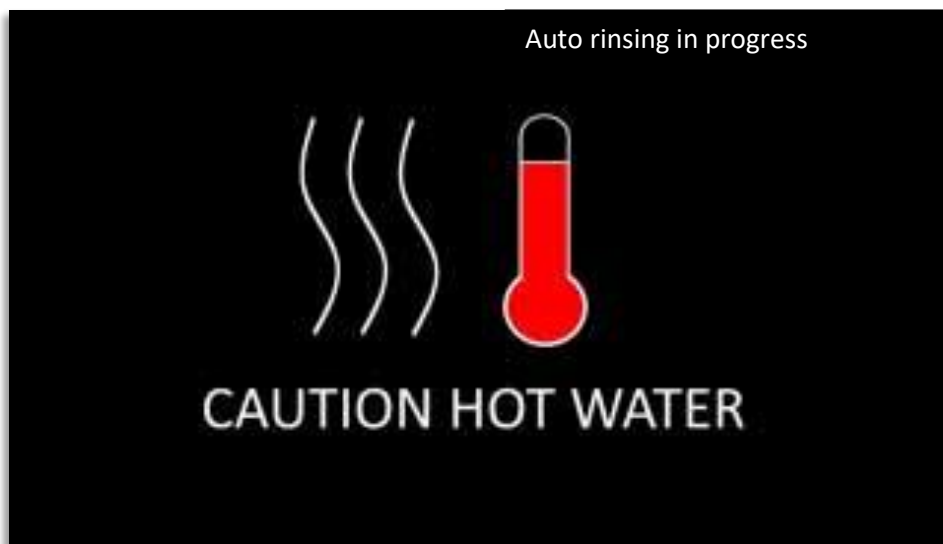
**DISCLAIMER:**

- Mind carefully to all maintenance procedure.
- Hot water from all nozzles.

Countdown (starting from 10 seconds) and an image will be displayed before rinsing starts ("x" = remaining seconds).




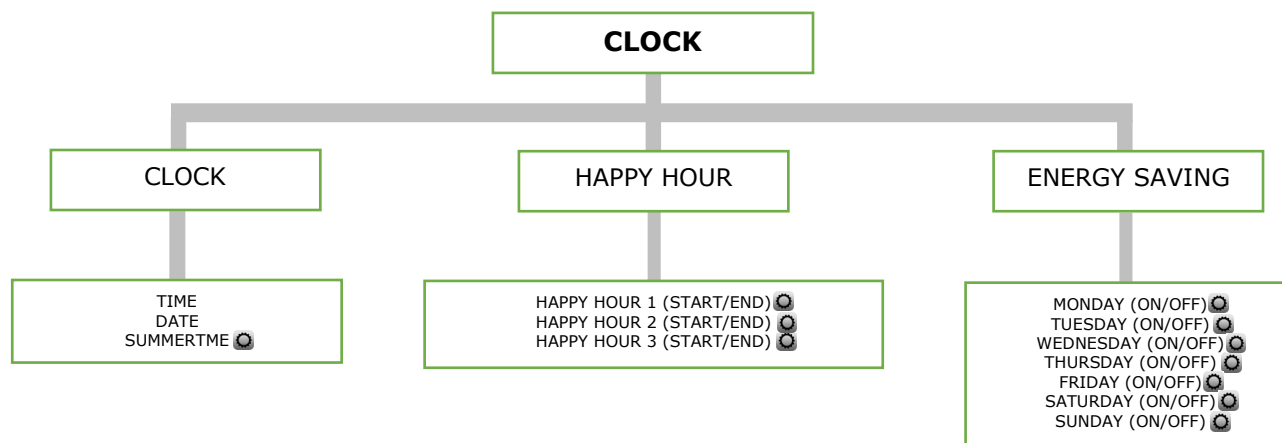
Rinsing from all nozzles starts at the end of countdown.



Read more at "2.1.11 RINISNG CONFIGURATION" on "RHEAMEDIA2 MANUAL".

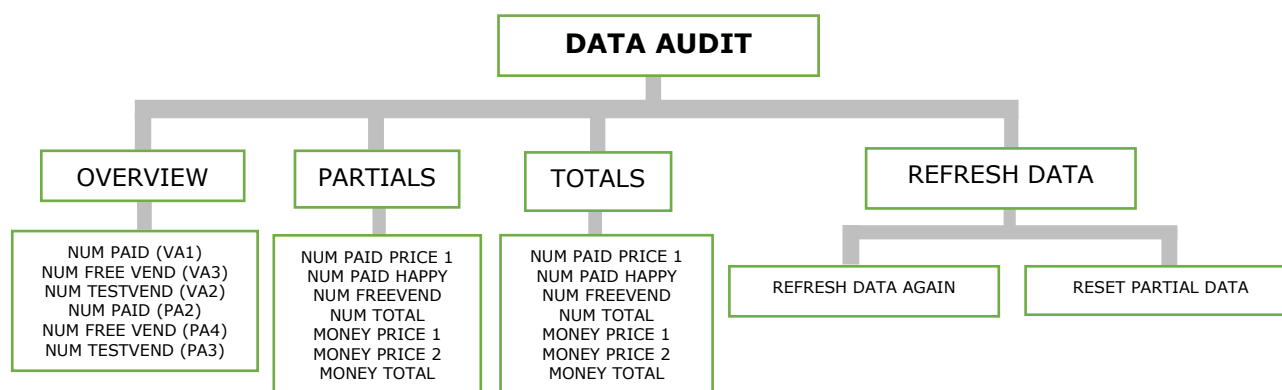
## 6.3 CLOCK

- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT
-  : RHEACTION



TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
CLOCK	TIME	00:00-23:59	Current time.
	DATE	XX-YY-ZZZZ	Current date.
	SUMMERTIME	YES NO	To enable the summertime function (from the last Sunday in March to last Sunday in October, the set time is automatically increased by one).
HAPPY HOUR	HAPPY HOUR 1	00:00-23:59	To set three-time bands when the machine will apply "happy prices". Use three pairs of parameters (Starting on F1 and Ending on F1).
	HAPPY HOUR 2	00:00-23:59	To set three-time bands when the machine will apply "happy prices". Use three pairs of parameters (Starting on F2 and Ending on F2).
	HAPPY HOUR 3	00:00-23:59	To set three-time bands when the machine will apply "happy prices". Use three pairs of parameters (Starting on F3 and Ending on F3).
ENERGY SAVING	MONDAY	00:00-23:59	To set a time band, for each weekday, not to accept any selection.
	...	00:00-23:59	To set a time band, for each weekday, not to accept any selection.
	SUNDAY	00:00-23:59	To set a time band, for each weekday, not to accept any selection.


## 6.4 DATA AUDIT

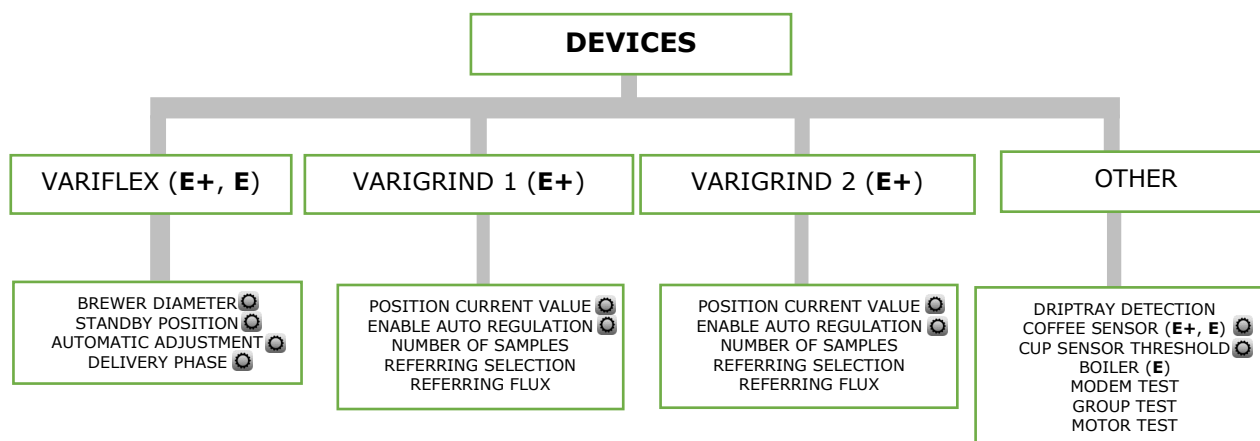


TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
OVERVIEW	NUM PAID (VA1)	-	All payment sources will be recorded from initialisation. Do not reset (total), reset (partial). Tests and free sales are not included. Includes: coins, paper money, cards, discount, free vend token, and zero price vends.
	NUM FREE VEND(VA3)	-	Number of all free vends performed. Non-Resettable (total), resettable (partial).
	NUM TESTVEND (VA2)	-	Number of all test vends performed. Non-Resettable (total), resettable (partial).
	NUM PAID (PA2)	-	The number of products of this type vended where the sale is a paid sale. Does not include free vends and test vends. Includes coin, bill, card, discount, free vend token, and zero price vends. Non-Resettable (total), resettable (partial).
	NUM FREE VEND (PA4)	-	The number of free vends of this product performed. Non-Resettable (total), resettable (partial).
	NUM TESTVEND (PA3)	-	The number of test vends of this product performed. Non-Resettable (total), resettable (partial).
PARTIALS	NUM PAID PRICE 1	-	(PA7) The number of paid products for each selection with price list 1 (partial ones).
	NUM PAID HAPPY HOUR	-	(PA7) The number of paid products for each selection with price list 2 (happy hour). (partial ones).
	NUM FREEVEND	-	(PA7) The number of freevend product for each selection. (partial ones).
	NUM TOTAL	-	(PA7) Total number of products dispensed. (partial ones).
	MONEY PRICE 1	-	(PA7) Value of product sell with price list 1 (partial ones).
	MONEY PRICE 2	-	(PA7) Value of product sell with price list 2 (happy hour). (partial ones).
	MONEY TOTAL	-	(PA7) Total value of sold product. (partial ones).

TOTALS	NUM PAID PRICE 1	-	(PA7) The number of paid product for each selection with price list 1(total ones).
	NUM PAID HAPPY HOUR	-	(PA7) The number of paid products for each selection with price list 2 (happy hour) (total ones).
	NUM FREEVEND	-	(PA7) The number of freevend product for each selection (total ones).
	NUM TOTAL	-	(PA7) Total number of products dispensed. (total ones).
	MONEY PRICE 1	-	(PA7) Value of product sell with price list 1 (total ones).
	MONEY PRICE 2	-	(PA7) Value of product sell with price list 2 (happy hour) (total ones).
	MONEY TOTAL	-	(PA7) Total value of sold product (total ones).
REFRESH DATA	DOWNALOD DATA AGAIN	-	Refresh data audit
	REFRESH PARTIALS DATA	-	Re-initalize all resettable data (the partial ones)

## 6.5 DEVICES


- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
- **I**: INSTANT
-  : RREACTION



TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
VARIFLEX	BREWER DIAMETER	36mm 45mm	To set installed coffee brewer diameter.
	STANDBY POSITION	OPEN CLOSE	It defines, in the standby phase (close), if opening or closing the coffee brewer percolation chamber inserted in the upper piston.
	AUTOMATIC ADJUSTMENT	YES NO	To enable coffee grinder adjustment.
	DELIVERY PHASE FASTER 1=yes	0-1	Set on 1 (yes) will show message: "remove your cup" (after beverage delivery). Variflex will switch back to idle position.
VARIGRIND 1	POSITION CURRENT VALUE	0-520	Tap on key "4" to open grinding wheels (counterclockwise rotation) and get a coarse granulometry. Tap on key "5" to close grinding wheels (clockwise rotation) and get a fine granulometry. On the first installation it will be set on 280.
	ENABLE AUTO REGULATION	YES NO	0 =no = disabled. 1= yes = enabled.
	NUMBER OF SAMPLES	10-100	Number of deliveries after start check. Option visible only if "ENABLE AUTO REGULATION" is set to 'YES'.
	REFERRING SELECTION	1-48	Selection beverage used as sample. Option visible only if "ENABLE AUTO REGULATION" is set to 'YES'.
	REFERRING FLUX	0.00-9.00	Desired referring flux. Option visible only if "ENABLE AUTO REGULATION" is set to 'YES'.

VARIGRIND 2	POSITION CURRENT VALUE	0-520	Tap on key "4" to open grinding wheels (counterclockwise rotation) and get a coarse granulometry. Tap on key "5" to close grinding wheels (clockwise rotation) and get a fine granulometry. On the first installation it will be set on 280.
	ENABLE AUTO REGULATION	YES NO	0 = no = disabled. 1 = yes = enabled.
	NUMBER OF SAMPLES	10-100	Number of samples to repeat. Option visible only if "ENABLE AUTO REGULATION" is set to 'YES'.
	REFERRING SELECTION	1-48	Selection beverage used as sample. Option visible only if "ENABLE AUTO REGULATION" is set to 'YES'.
	REFERRING FLUX	0.00-9.00	Desired referring flux. Option visible only if "ENABLE AUTO REGULATION" is set to 'YES'.
OTHER	DRIPTRAY DETECTION	NO YES	When the user preselects "jug" function (read more at: "pre-selection") and this value has been set on 1: the machine will wait for removing the drip tray before the dispensing cycle.
	COFFEE SENSOR	ENABLED DISABLED	It enables the product sensor for the coffee beans canister.
	CUP SENSOR THRESHOLD	0-180	It detects a cup and sets the behaviour of the machine. "Own cup" option management is needed. When "Own cup" has been placed and the cup sensor has been activated, there will be not dispensing. Any cup should be removed after dispensing, otherwise there will not be further dispensing.
	BOILER	0-1	Set the model type before uninstalling: "0" boiler 400 cc. "1" boiler 800 cc.
	MODEM TEST	-	Modem test
	GROUP TEST	-	Tapping on button "START" a test will be performed. Six pair of values will be displayed on test over. Each pair will be displayed on screen for 5 seconds: <ul style="list-style-type: none"> <li>- 1: average soaking up (over 3 cycles) up and down</li> <li>- 2: maximum soaking up and down.</li> <li>- 3: time soaking up and down</li> <li>- 4: cycle 1, average soaking up and down</li> <li>- 5: cycle 2, average soaking up and down</li> <li>- 6: cycle 3, average soaking up and down</li> </ul> Note: these values will be just displayed, but not saved.
	MOTOR TEST	-	Remove Variflex unit, tap on button "START". Two values will be displayed in a single message on test over. Soaking up of gearmotor, soaking down of gearmotor. Note: these values will be just displayed, but not saved.

## 6.6 ESPRESSO CALIBRATION

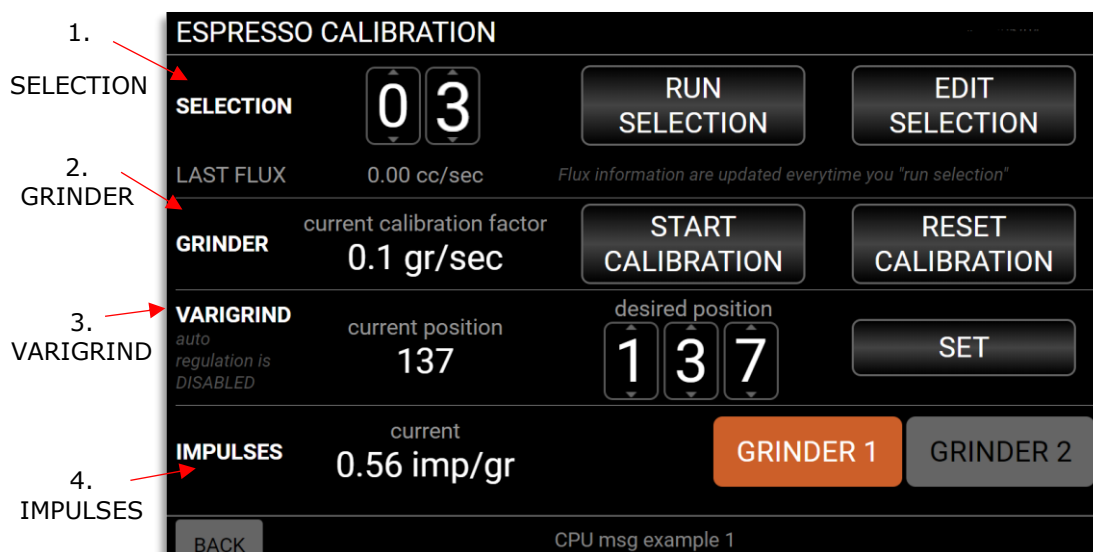
- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
- **I**: INSTANT
-  : RHEACTION

### ESPRESSO CALIBRATION (E+, E)

SELECTION  
GRINDER  
VARIGRIND  
IMPULSES

PARAMETERS	RANGE VALUE	DESCRIPTION
SELECTION	0-48	Its software will acquire reference data during the dispensing cycle. Click on "Run selection" to start delivery the selected beverage. Click on "edit selection" to edit any selection.
GRINDER	-	Checks the height of the ground dose in the coffee beans canister.
VARIGRIND	0-520	Current position: current position desired position: Desired value for position set: set to desired position
IMPULSES	GRINDER 1 GRINDER 2	The machine checks cycles of espresso to use, in the next selection, measured parameters. As main source, we consider: in a Ø 45 mm brewer group, one gram of grounded coffee is nine-tenths of a millimetre high (when compressed). It generates three pulses of the coffee brewer transducer motor. During any dispensing cycle, its software reads and stores these parameters as compression degree references for grounded coffee pad. The following cycle of espresso will use these measurements to set and manage work of the grinder and movements of the coffee group.

## 6.6.1 STEP BY STEP



This new calibration page includes all required functionalities for the espresso machine calibration:

1. **SELECTION:** the recipe, defined as reference, for granulometry setting. It should be defined according to these parameters:
  - *coffee grams*
  - *water cc*
  - *dispensing time*
  - more parameter as *pressure, pre-infusion, etc.*

Buttons "RUN SELECTION" and "EDIT SELECTION" allow to test and, if needed, to edit, from this page, reference selection.
2. **GRINDER:** to run or delete calibration shows current "calibration factor (gr/sec)" and buttons "START CALIBRATION" and "RESET CALIBRATION".
3. **VARIGRIND:** shows the potentiometer "current position" and a button to "SET" a new position ("desired position").
4. **IMPULSES:** current Variflex impulses/grams factor, for "GRINDER 1" and for "GRINDER 2". The pictures down below show GRINDER 1 calibrated, and GRINDER 2 not calibrated.

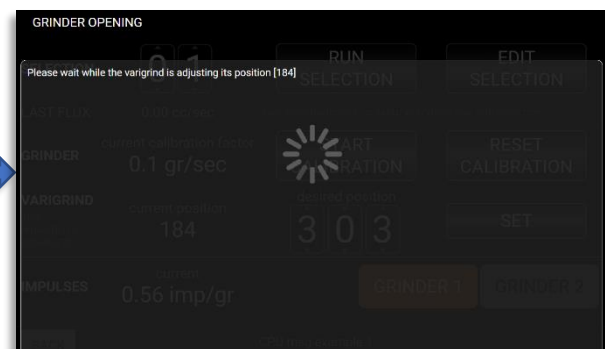
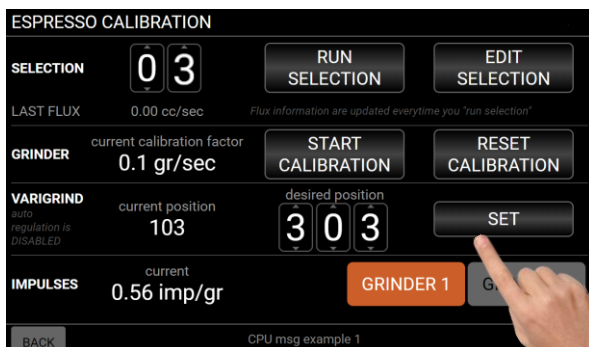
## STEP BY STEP GUIDE



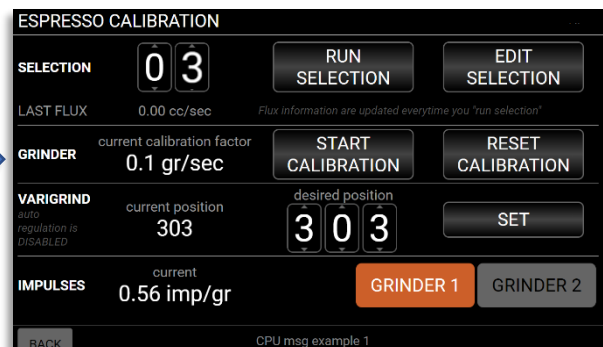
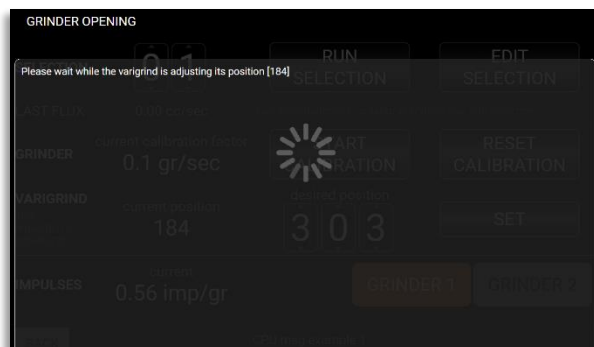
### **DISCLAIMER:**

- Mind carefully to all maintenance procedure.
- Switch off the VM once the procedure is ended.

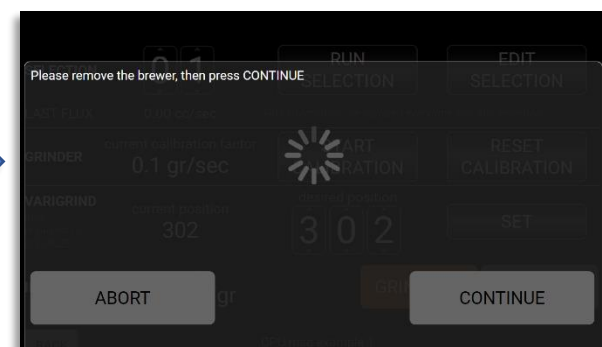
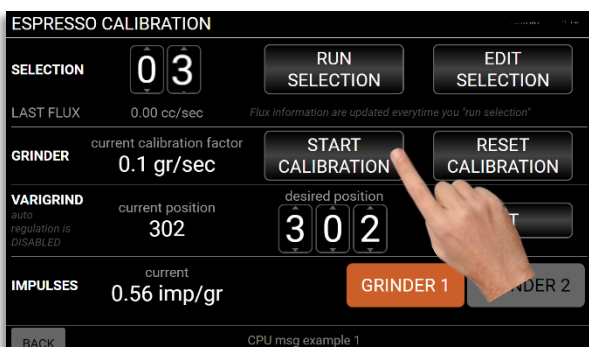
- 1) Set an opening position for the Varigrind blades: "desired position" (read more at: "6.1.3.1 SET VALUE"). To save, tap on "SET" button. In the following example we are going to calibrate GRINDER 1 (same procedure for GRINDER 2).



Varigrind will reach required position, as shown in "current position" value.



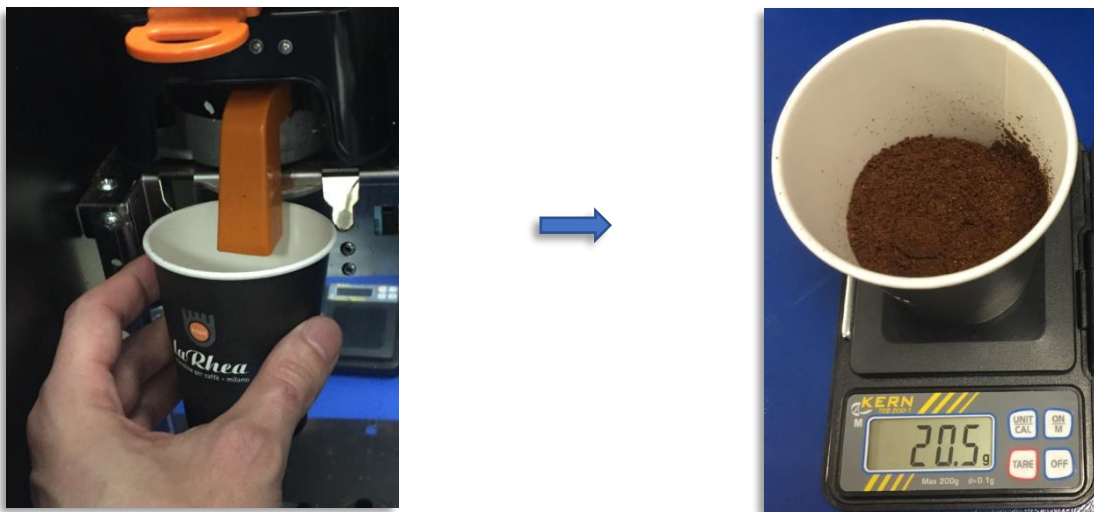
- 2) Tap on button "START CALIBRATION".



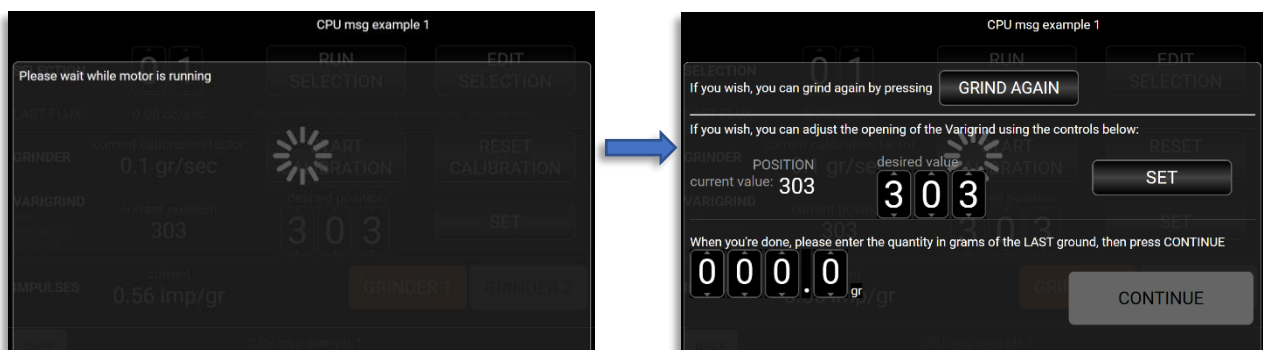
- 3) Remove the brewer and tare a mug on a scale. Tap on "CONTINUE" button.



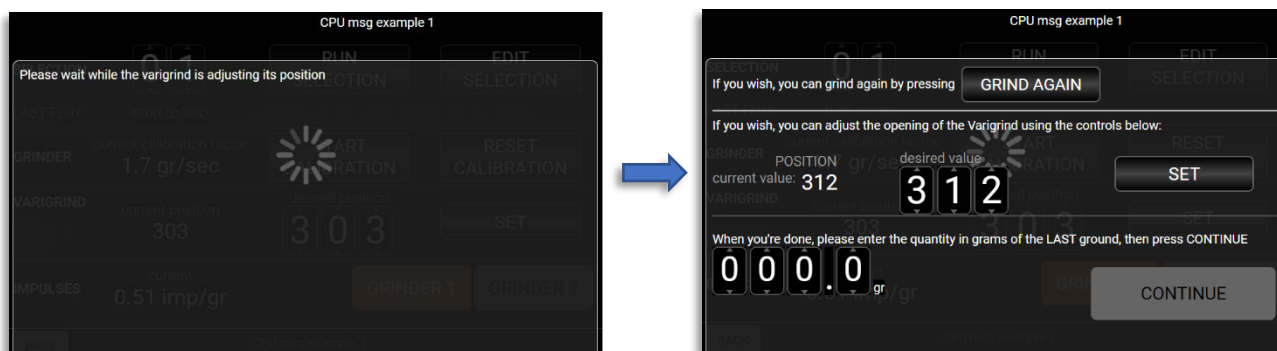
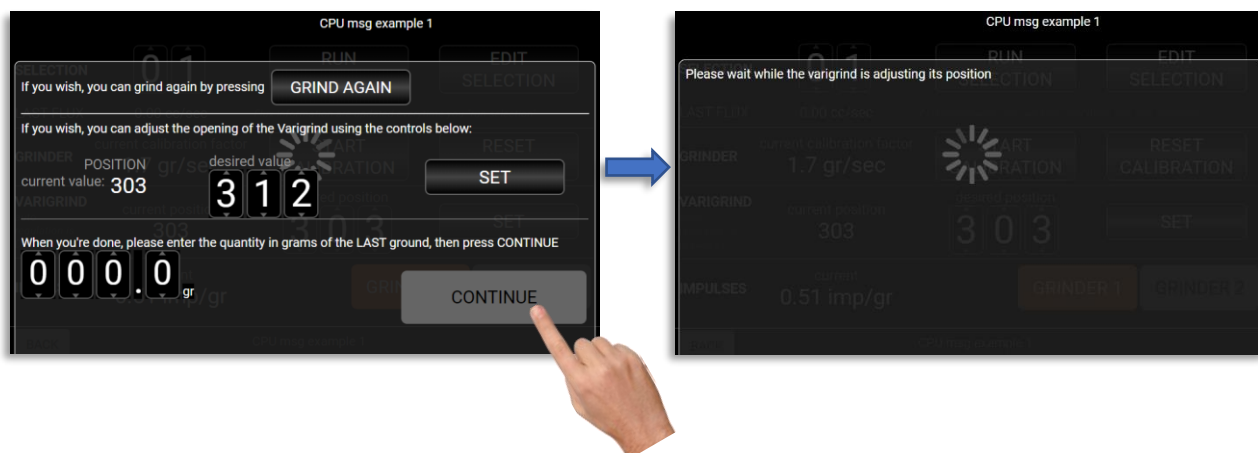
- 4) A predefined grinding time will be activated. Collect all grounded coffee and weight it.



- 5) On reached weight, set its value manually in the screen box.

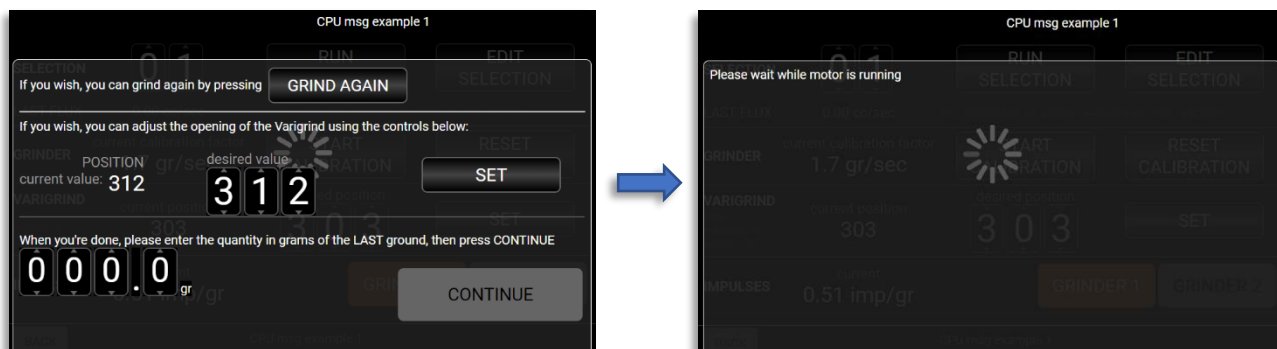


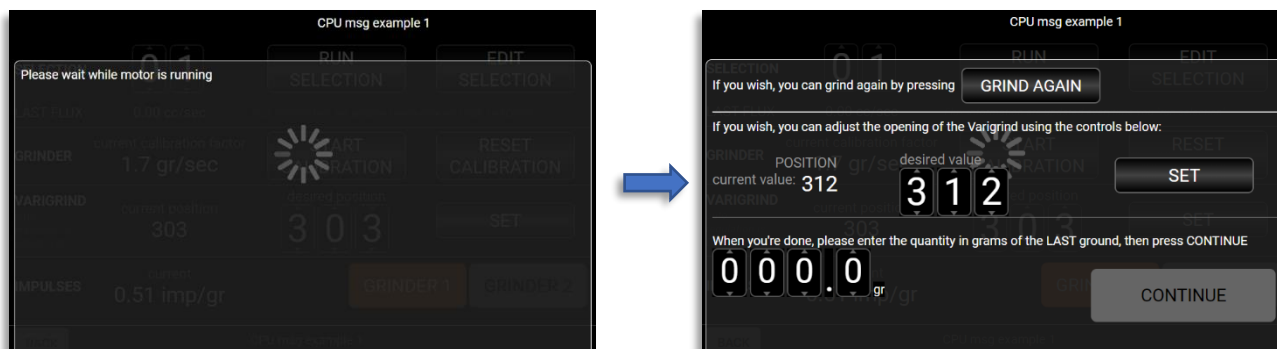
Change coffee grinder settings when the granulometry looks not proper ("desired value" box). Define a new potentiometer position and tap on "SET" button.



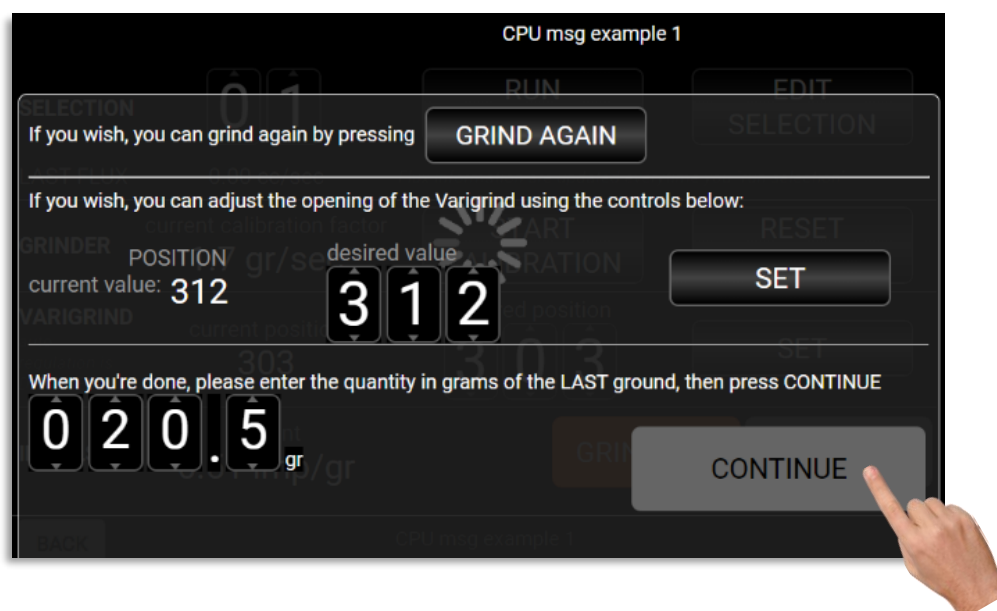
Varigrind motor will move to the new position. The message "Please wait while the Varigrind is adjusting its position ['x']" reports Varigrind is moving to desired position. The updated value for current Varigrind engine position will be 'x'.

Tap on "GRIND AGAIN" button and change old weight value with the new one. When ready, tap on "CONTINUE" button.

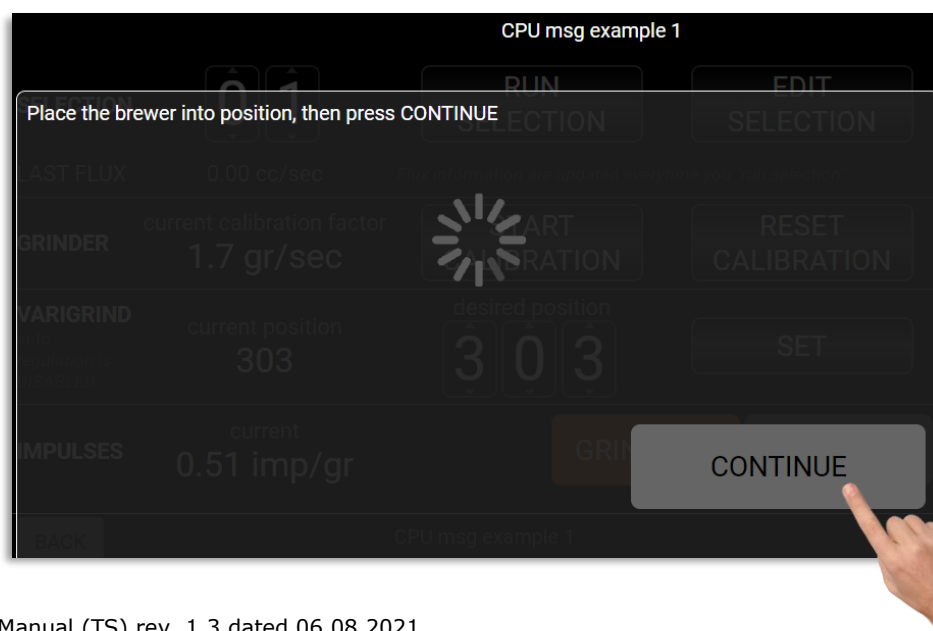




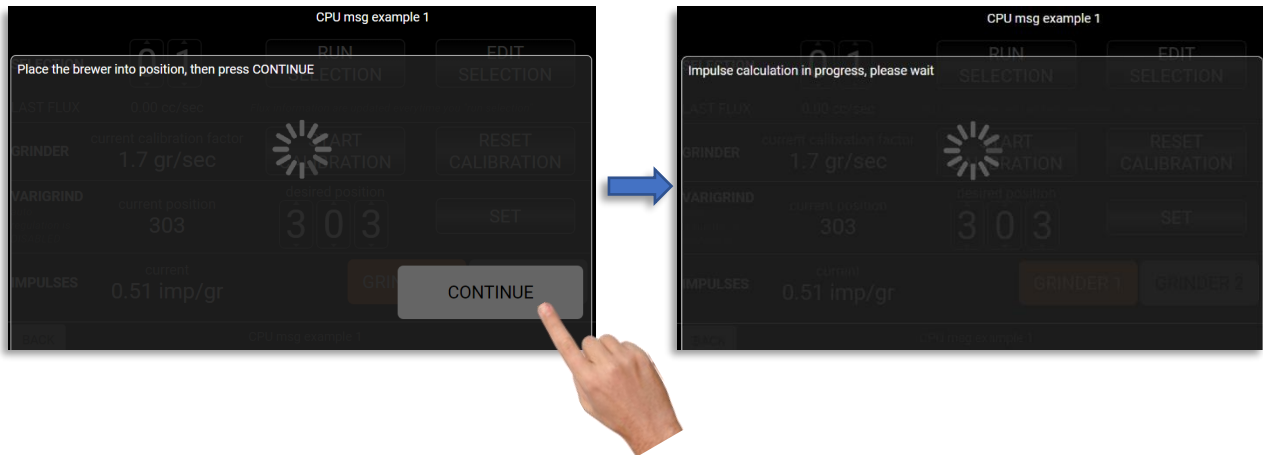
Reach a desired weight (as an example 20.5g), insert the value in its screen box, then tap on "CONTINUE" button.



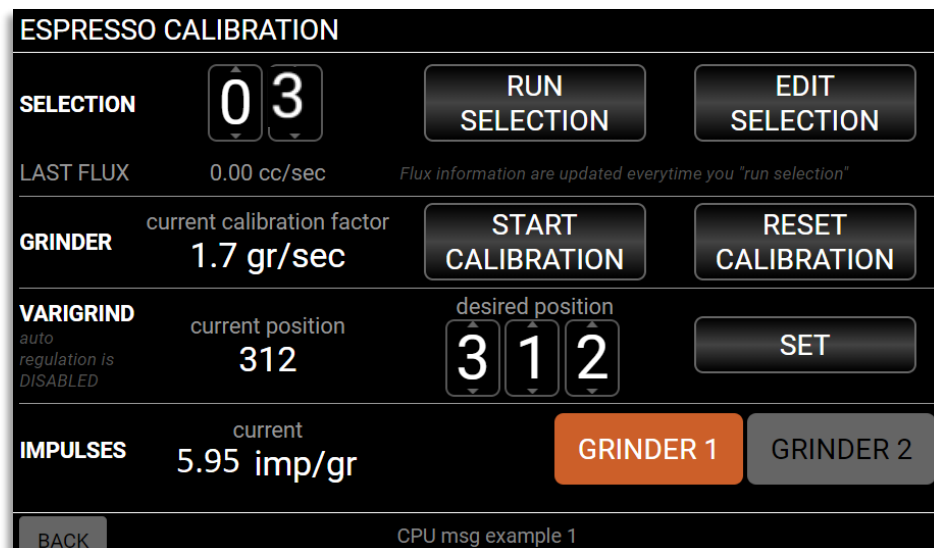
6) Reinstall the brewer and tap on "CONTINUE" button.



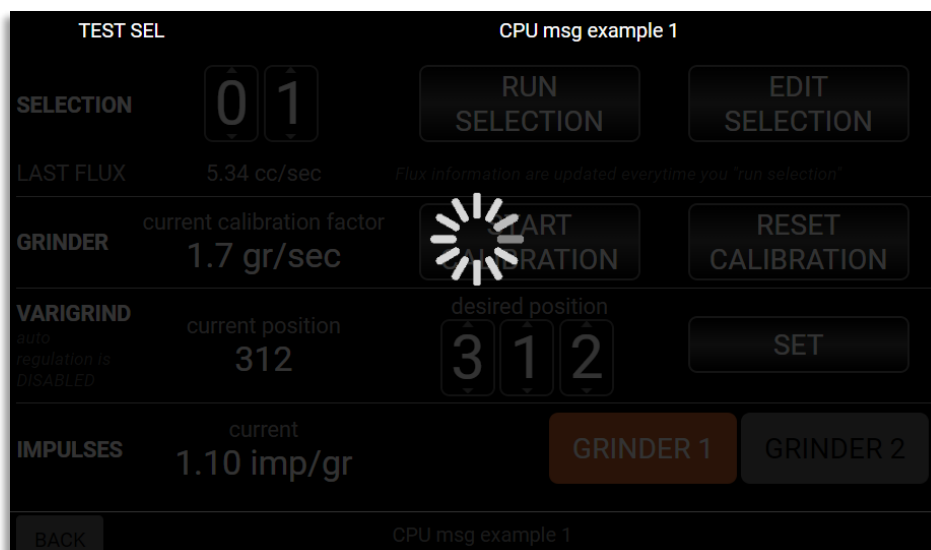
- 7) The machine will grind a pre-defined amount of coffee to calculate impulses/grams value.



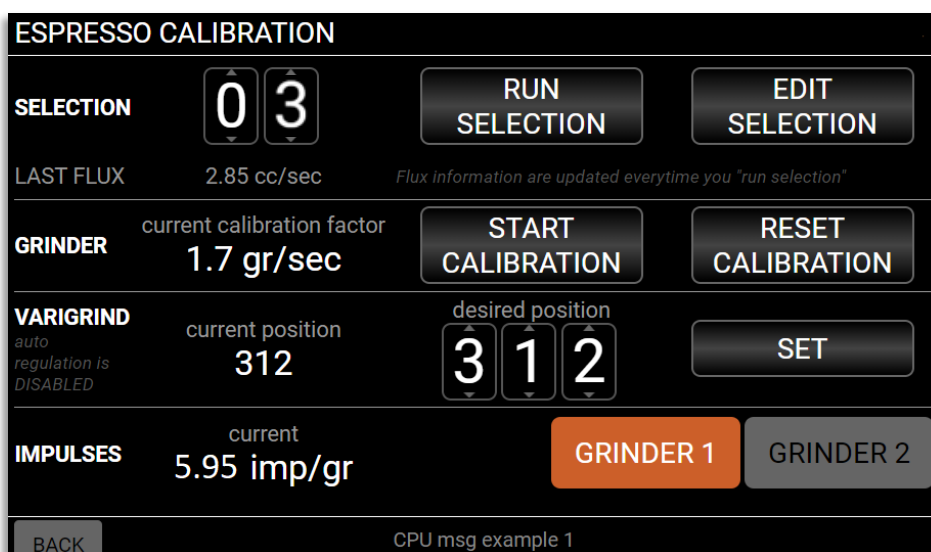
- 8) All acquired values will be displayed on screen: "current calibration factor" [gr/sec] and "current" [imp/gr] impulses.



- 9) To measure dispensing time, tap on "RUN SELECTION" button. A reference beverage will be dispensed. Simultaneously grinding time will be calculated. It will be based on grams value of the reference recipe and on calculated calibration factor gr/sec. Expected grams will be grinded. No need to check it in a different menu.

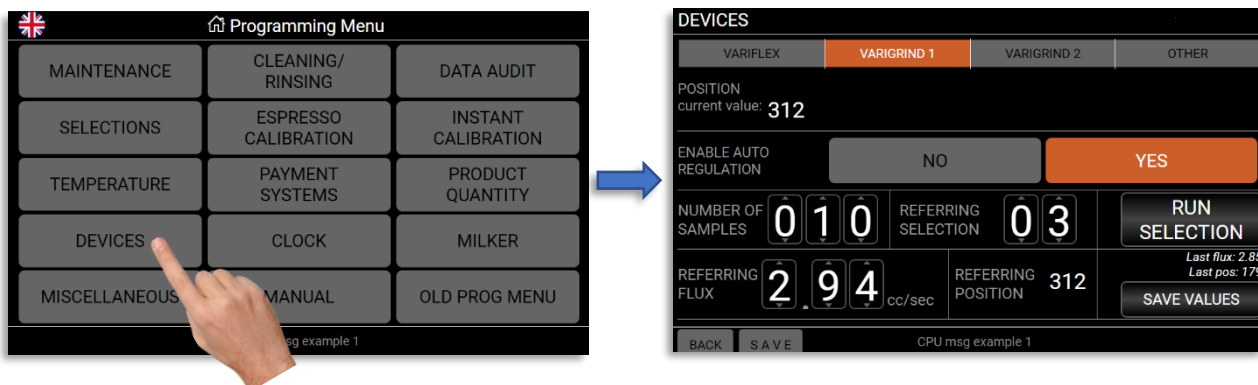


- 10) "LAST FLUX" value will be displayed as well.

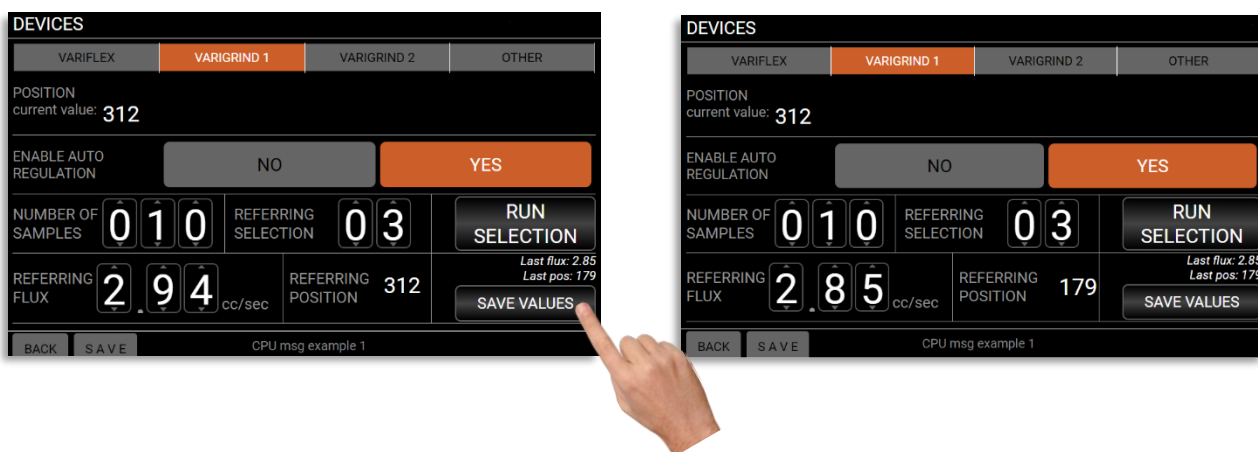


- 11) If dispensing flux is wrong, repeat steps from 1 to 10, to achieve expected results.
- 12) On Varigrind option available, itself regulation function can be enabled following all steps. On Varigrind not available, skip further.

13) Move to "DEVICES" section and tap on "VARIGRIND" tab (read more at "6.5 DEVICES").



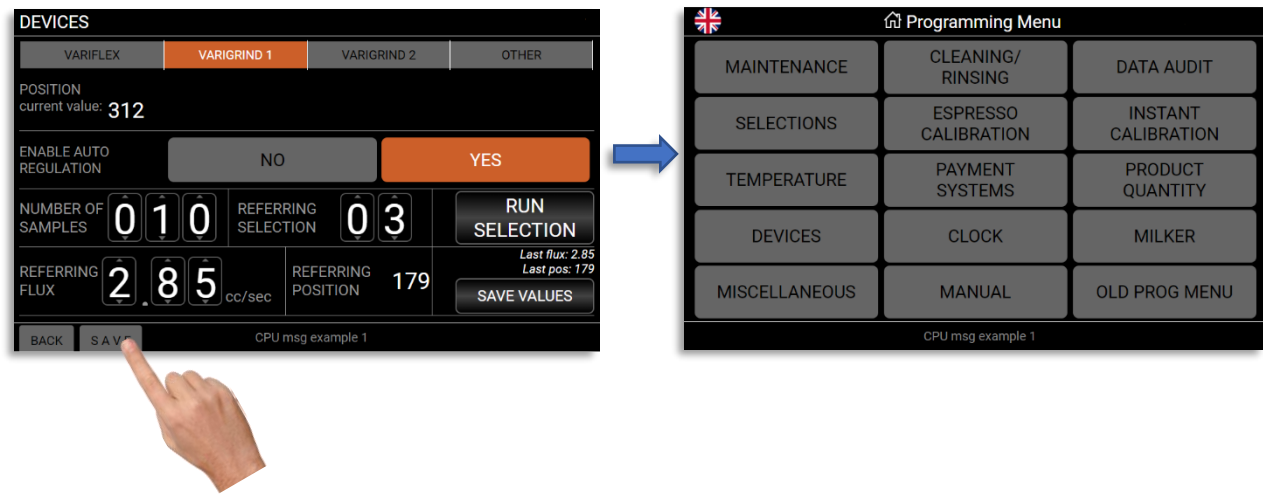
Make sure "REFERRING SELECTION" box has the same selection value defined in "ESPRESSO CALIBRATION" section on item "SELECITON". Tap on "SAVE VALUES" button to store defined references flux on previous dispensing.



"REFERRING FLUX" value will have the same "Last flux" value.

"REFERRING POSITION" value will have the same "Last pos" value.

14) Tap on "SAVE" and exit the menu.



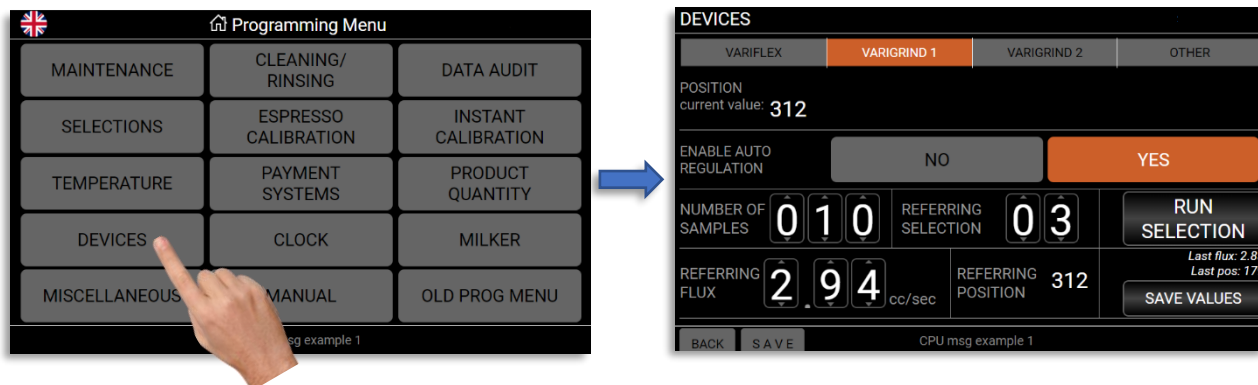
## 6.6.2 RECALIBRATION



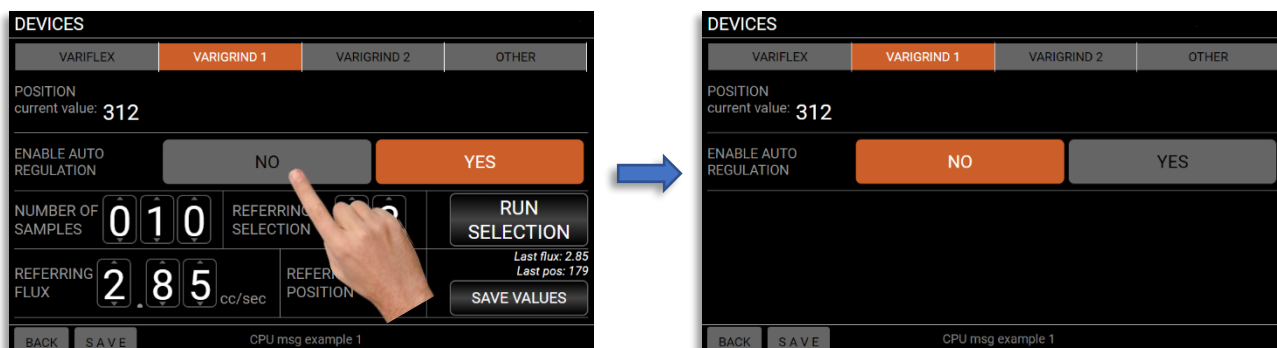
### **DISCLAIMER:**

- Mind carefully to all maintenance procedure.

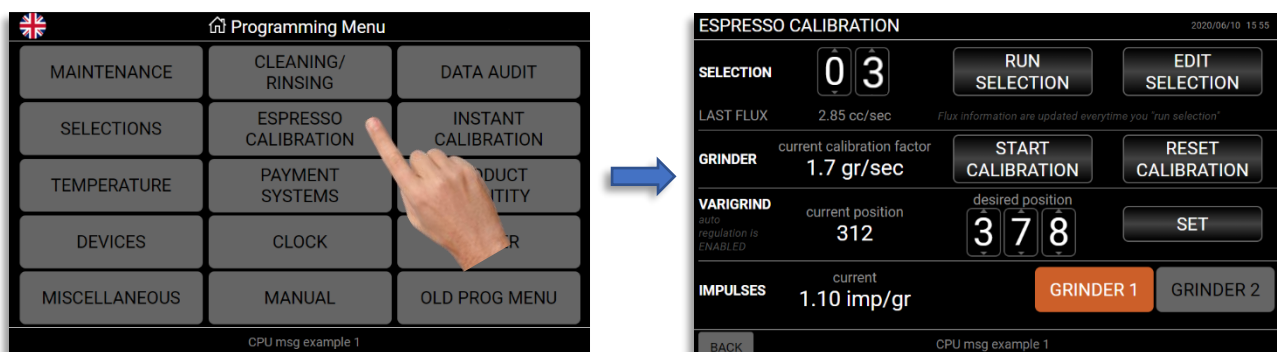
On recalibration required, move to “DEVICES” section, and tap on “VARIGRIND” tab (read more at “6.5 DEVICES”).



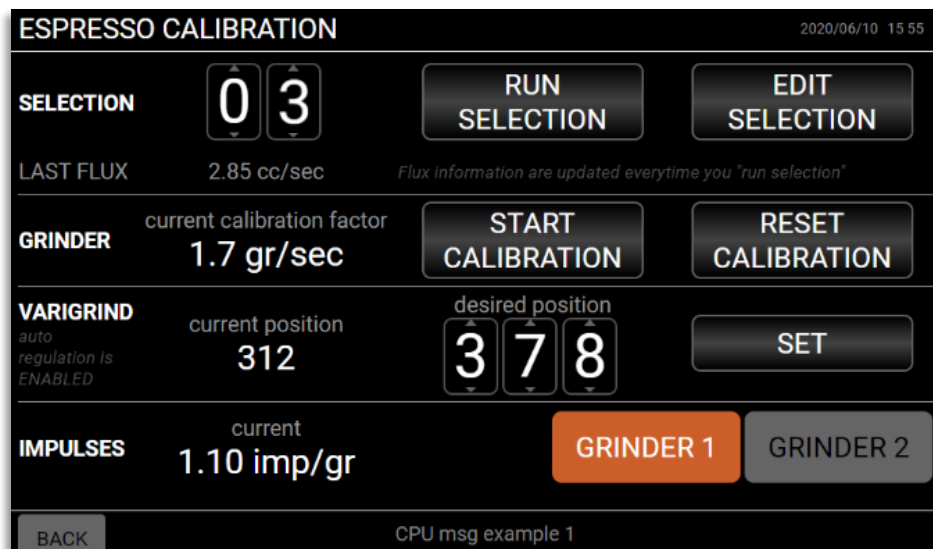
To modify the Varigring reference position “ENABLE AUTO REGULATION” option should be temporary disabled (set on ‘NO’).



Save (tapping on button “SAVE”). Move to “ESPRESSO CALIBRATION” section.



On "VARIGRIND" option, open or close the Varigrind changing "DESIRED POSITION" value (follow example, from 312 to 378). Tap on "SET" button to confirm.



**ESPRESSO CALIBRATION** 2020/06/10 15 55

**SELECTION** 03 RUN SELECTION EDIT SELECTION

**LAST FLUX** 2.85 cc/sec Flux information are updated everytime you "run selection"

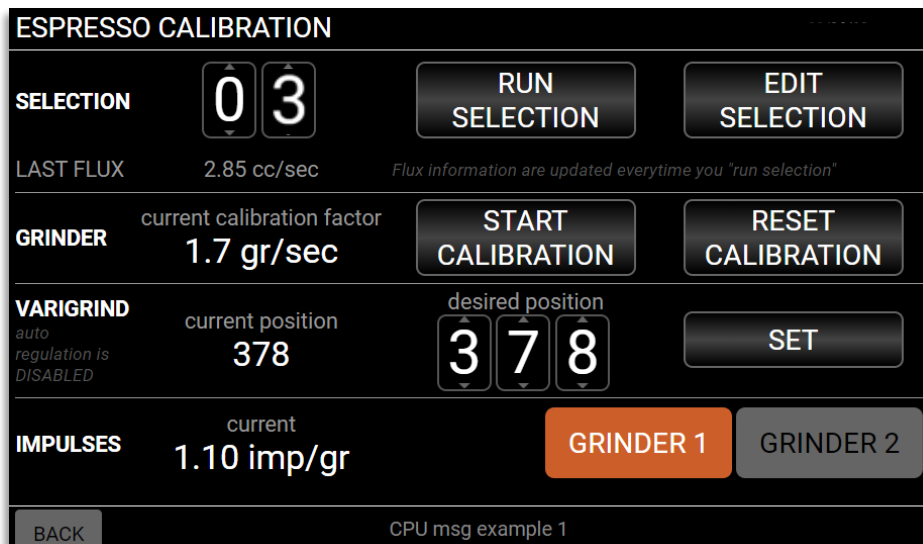
**GRINDER** current calibration factor 1.7 gr/sec START CALIBRATION RESET CALIBRATION

**VARIGRIND** auto regulation is ENABLED current position 312 desired position 378 SET

**IMPULSES** current 1.10 imp/gr GRINDER 1 GRINDER 2

BACK CPU msg example 1

As shown on "CURRENT POSITION" value, Varigrind will open to set position. Follow steps from 1 to 10 (read more on "6.6.1 STEP BY STEP"). Perform calibration process and run reference recipe, to achieve the required result.



**ESPRESSO CALIBRATION** 2020/06/10 15 55

**SELECTION** 03 RUN SELECTION EDIT SELECTION

**LAST FLUX** 2.85 cc/sec Flux information are updated everytime you "run selection"

**GRINDER** current calibration factor 1.7 gr/sec START CALIBRATION RESET CALIBRATION


**VARIGRIND** auto regulation is DISABLED current position 378 desired position 378 SET

**IMPULSES** current 1.10 imp/gr GRINDER 1 GRINDER 2







BACK CPU msg example 1

When ready, move to "DEVICE" section and tap on "VARIGRIND" tab. Set on 'YES' to "ENABLE AUTO REGULATION" option. Tap on "SAVE VALUES" button to store last dispensed flux and position values.

## 6.7 INSTANT CALIBRATION


- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT
-  : RHEACTION

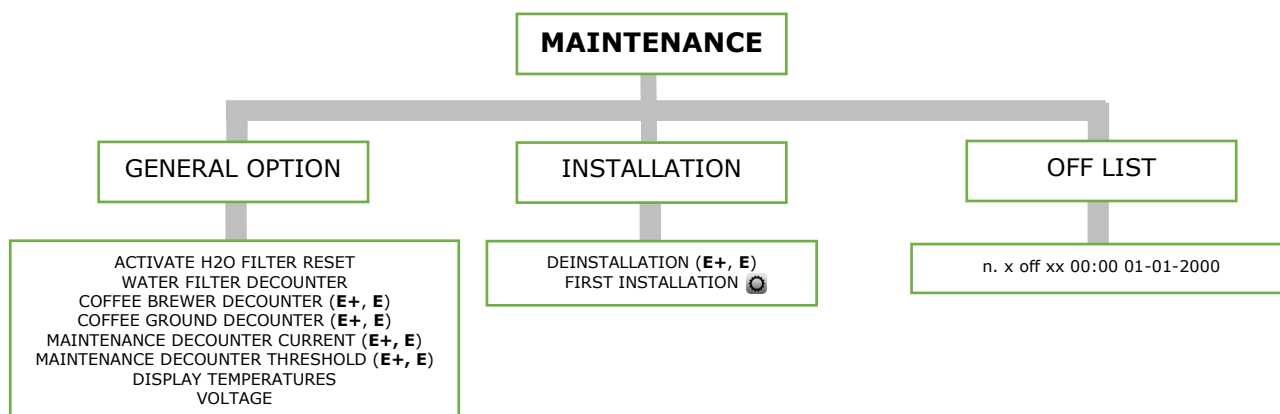
### INSTANT CALIBRATION

MOTOR 1(I)   
MOTOR 2 (I)   
MOTOR 3   
MOTOR 4   
MOTOR 5   
MOTOR 6 

PARAMETERS	RANGE VALUE	DESCRIPTION
MOTOR 1	0.0-25.0	Select the product canister on which to act: place the cup to collect the product, press "PROG" button of the service keyboard; the product motor will be operated for 10 seconds; weigh the product (pay attention to the tare) and set the value of the grams by pressing key "4" and "5"; press 1=ok; the product dose in the recipe will be now expressed in grams; if you wish to go back to the programming and displaying mode in time and not in grams, reset all parameters to zero;
MOTOR 2	0.0-25.0	See motor 1.
MOTOR 3	0.0-25.0	See motor 1.
MOTOR 4	0.0-25.0	See motor 1.
MOTOR 5	0.0-25.0	See motor 1.
MOTOR 6	0.0-25.0	See motor 1.

## 6.8 MAINTENANCE

- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
- **I**: INSTANT
-  : RHEACTION



TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
GENERAL OPTIONS	ACTIVATE H2O FILTER RESET	YES NO	Press "PROG" button, the operator will reset the water filter decounter, if enabled.
	WATER FILTER DECOUNTER	00000-60000	Number of dispensing cycles, before external filter cartridge needs to be replaced. "Change water filter" will be displayed as soon as 500 dispensing cycles are left. "Out of service water filter" will be displayed reaching 0 on the decounter, any delivery will be inhibited.
	COFFEE BREWER DECOUNTER	0000-1000	Espresso cycles needed before serving coffee dispenser. As soon as 10 dispensing cycles are left, the display will show "make brewer cleaning" and as soon as the decounter has reached 0, it will display "out of service cleaning brewer", thus inhibiting the operation of the machine.
	COFFEE GROUND DECOUNTER	0000-1000	Espresso dispensing cycles before having to empty the grounds container; as soon as the decounter has reached 10, it will display the message "remove coffee grounds" until the decounter has reached 0, thus inhibiting the operation of the machine and the display will show "out of service coffee grounds".
	MAINTENANCE DECOUNTER CURRENT VALUE	000000- 655000	It is general decounter used for preventive maintenance. When delivery drink is performed it decreased its value by one. When it reaches zero value the display will show a message that maintenance must be performed.

	MAINTENANCE DECOUNTER THRESHOLD	000000- 655000	It set a threshold for maintenance decounter: when it reaches this value a warning message like "forthcoming scheduled maintenance" will show.
	DISPLAY TEMPERATURES	YES NO	To enable the machine to display the standby message and the water temperature, alternatively.
	VOLTAGE	-	To display the voltage value intended to supply devices at 24 V dc.
INSTALLATION	DISINSTALLATION	-	To empty water circuits automatically.
	FIRST INSTALLATION	0-1	Needed to check water circuit will be filled in on the next power on When value is zero, on the next power on the machine will perform a new cycle.
OFF LIST	n. x off xx 00:00 01-01-2000	-	To display the last twenty errors occurred in the machine.

## 6.8.1 FIRST INSTALLATION PROCEDURE



**DISCLAIMER:**

- Mind carefully to all maintenance procedure.

To make sure the water circuit will be filled in on next power on. Setting value of "first installation" on zero, the machine will perform a cycle just on next power on.

### 6.8.1.1 E MODEL



**DISCLAIMER:**

- Mind carefully to all maintenance procedure.

First installation procedure starts. Cold water dispensed from brewer nozzle.



Wait the end of procedure "first installation" parameters automatically set to one (to avoid the repetition of procedure).



VM will be restart and then it will be fully functional.



### 6.8.1.2 E+ MODEL



**DISCLAIMER:**

- Mind carefully to all maintenance procedure.

First installation procedure starts. Varigrind (if present) is set to standard position (280°).



Wait the end of procedure. "first installation" parameters automatically set to one (to avoid the repetition of procedure).



VM will be restart and then it will be fully functional.



## 6.8.1.3 I MODEL



### DISCLAIMER:

- Mind carefully to all maintenance procedure.

First installation procedure starts.



Cold water dispensed from brewer nozzle from the leftmost nozzle. Wait the end of procedure.



Wait the end of procedure "first installation" parameters automatically set to one (to avoid the repetition of procedure).



## 6.8.2 DEINSTALLATION



### **DISCLAIMER:**

- Mind carefully to all maintenance procedure.



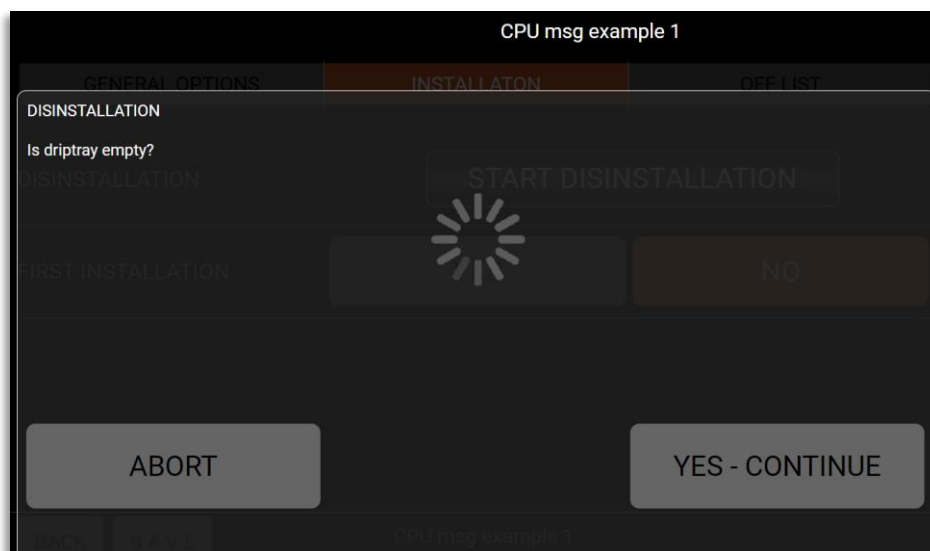
### **NOTE:**

- Check option "boiler CC" (look at "6.5 DEVICES") is properly configured before starting procedure.

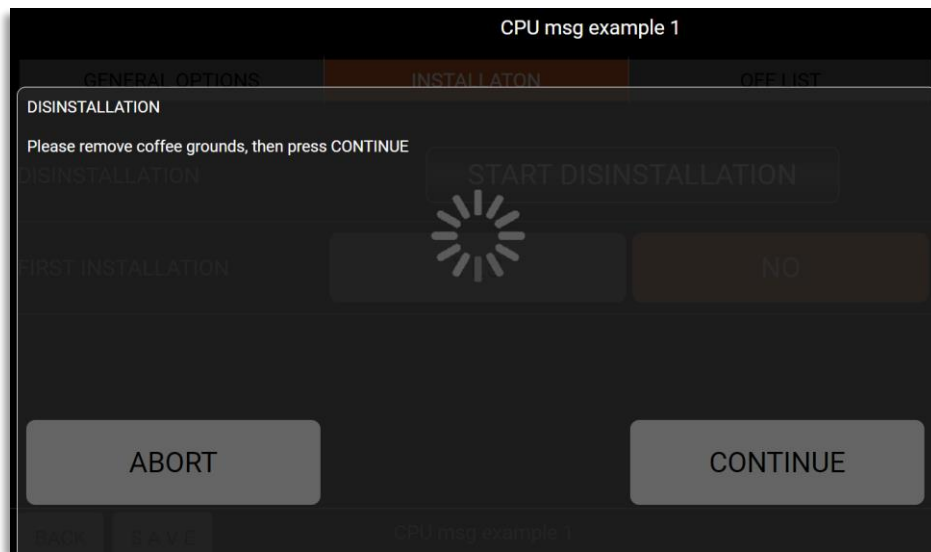
Use this procedure to empty VM water circuits.

Some checks are required before starting deinstallation procedure.

Check the water level in drip tray to avoid OFF during the procedure or water leaking. Tap button "YES-CONTINUE" to move forward.



Check coffee grounds (only for espresso model).



## **NOTE:**

- In instant machines, remove the plug intended to close the boiler drain tube and wait for the water outlet.

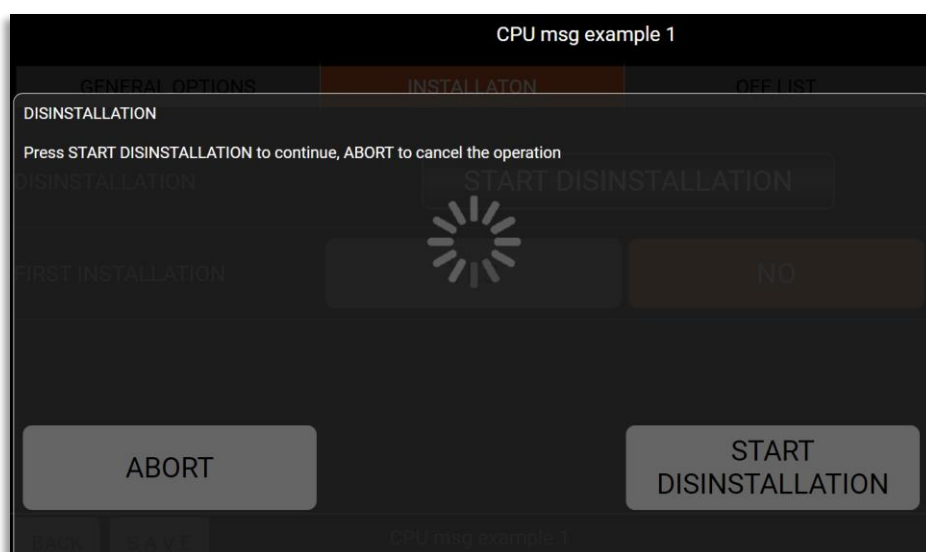
### 6.8.2.1 E MODEL



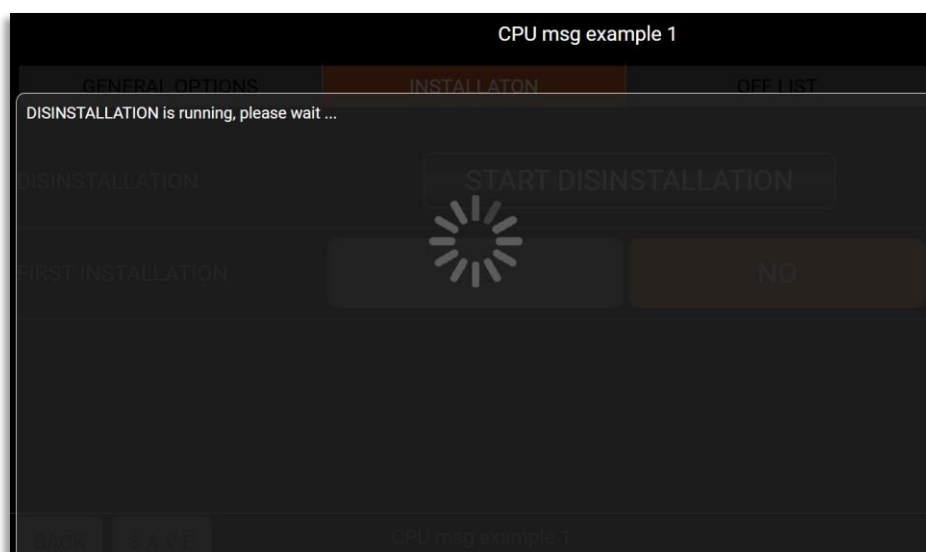
**DISCLAIMER:**

- Mind carefully to all maintenance procedure.

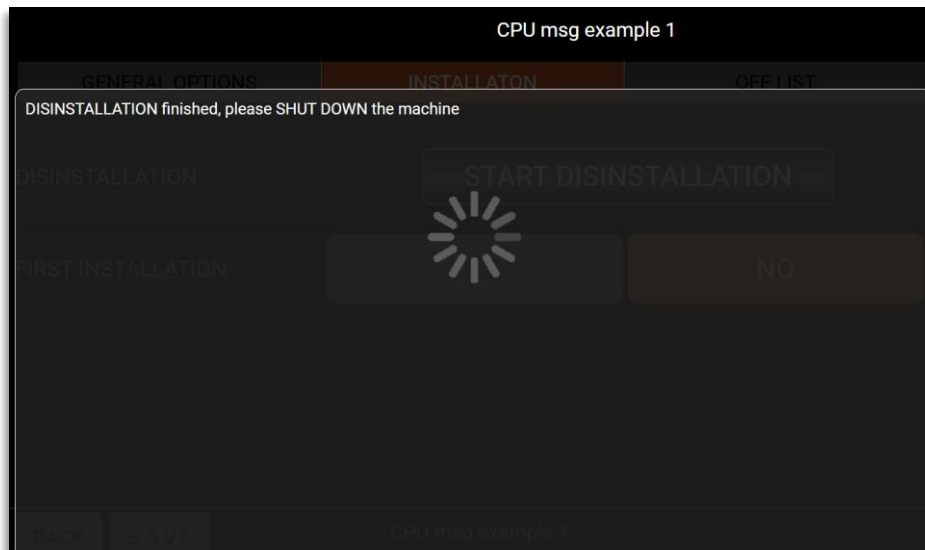
Close and disconnect the water supply, insert an extension into the drain tap of the pressure boiler, remove the plug from the outlet hose of the air break put them close to a bucket and press "START DISINSTALLATION" button.



Deinstallation procedure starts: emptying water circuit in progress.



Remove the tube, close the pressure boiler tap and reinsert the drain plug of the air break.



At the end of the uninstall cycle, the boiler water temperatures will be set to zero and the VM set automatically "first installation" parameter to zero.

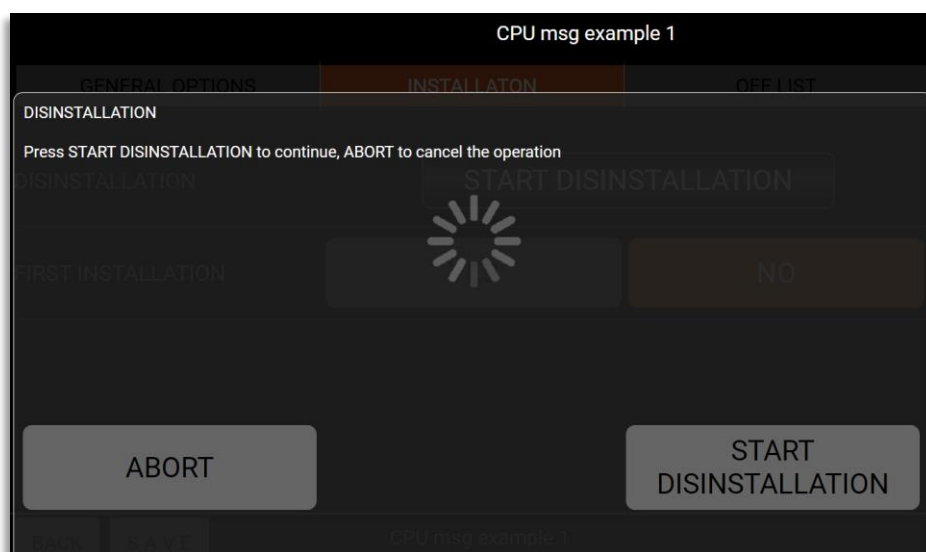
## 6.8.2.2 E+ MODEL



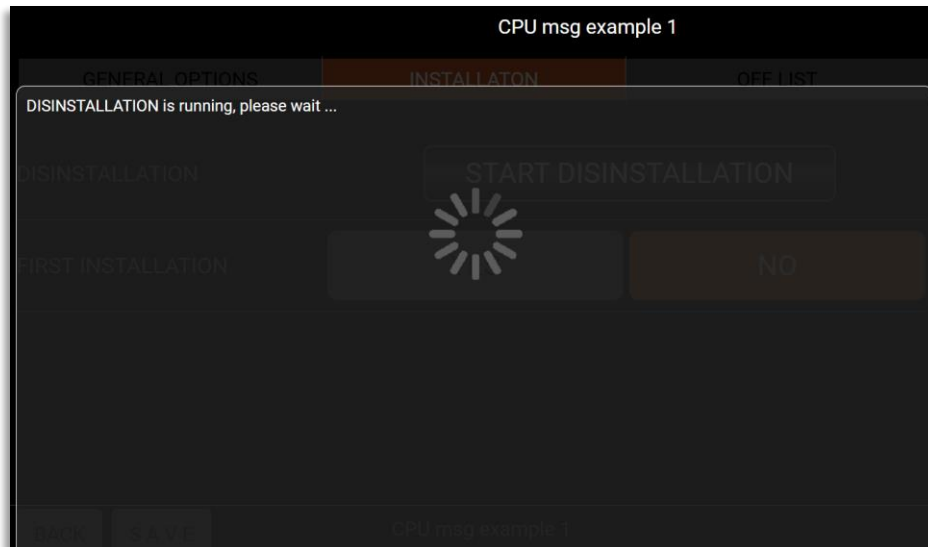
### **DISCLAIMER:**

- Mind carefully to all maintenance procedure.

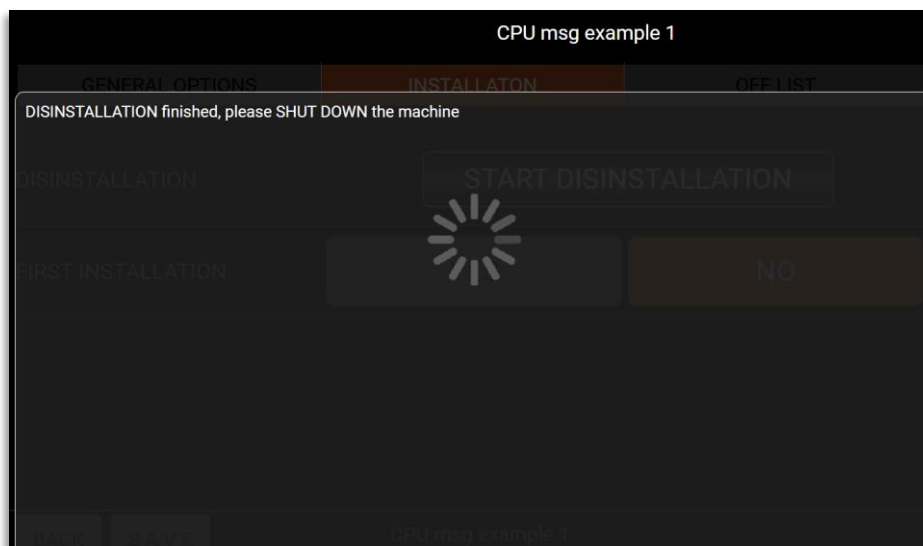
Press "START DISINSTALLATION" to start empty water circuit or "ABORT" to stop the procedure.



Deinstallation procedure starts: water dispensed from all nozzles in order to empty water circuit.



"FIRST INSTALLATION" parameters automatically set to zero to avoid that VM warm up without water in hydraulic circuit. First installation procedure starts during next VM reboot (look at "6.8.1 FIRST INSTALLATION PROCEDURE").

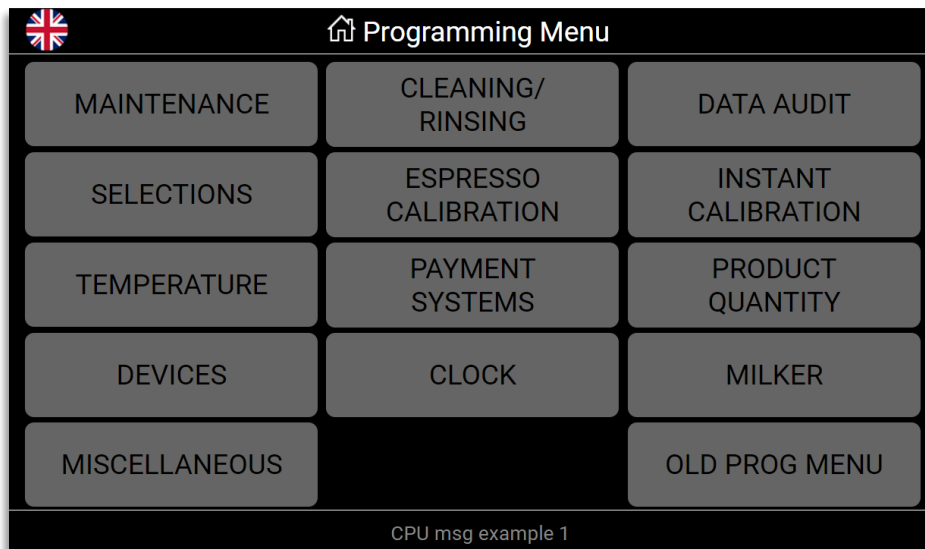


Shut down the VM at the end of the uninstall cycle. The VM set automatically "first installation" parameter to zero: first installation will execute during next VM reboot to fill water circuit.

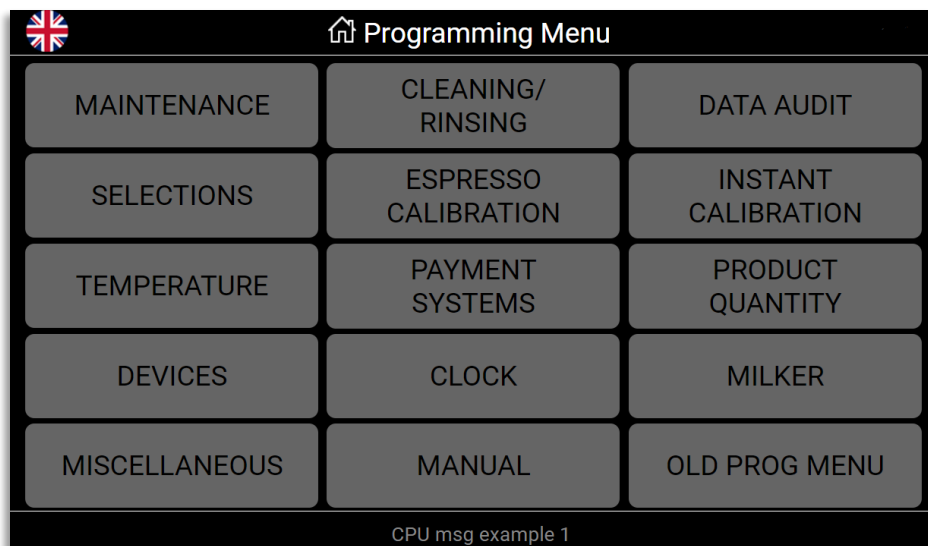
## 6.9 MANUAL

This section will be only shown after installing its manual in the machine memory (read more at "3.1 BOOT SCREEN").

In case the manual has not been installed in its memory, the programming menu will be displayed as follows.





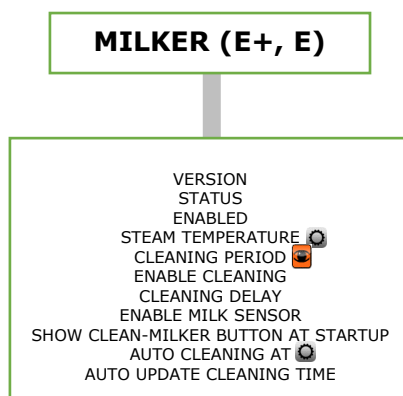
If the manual has been properly installed in its memory, the main programming menu screen will be displayed as follows.



Tapping on "manual", the uploaded manual will be displayed.

## 6.10 MILKER

- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
- **I**: INSTANT
-  : RHEACTION
-  : RHEAMEDIA2



PARAMETERS	RANGE VALUE	DESCRIPTION
VERSION	-	It shows <b>CAPPUCCINO-R</b> SW version.
STATUS	-	It shows <b>CAPPUCCINO-R</b> status: CONNECTED: <b>CAPPUCCINO-R</b> connected to VM. NOT CONNECTED: CAPPUCCINO-R not connected to VM. DISABLED: <b>CAPPUCCINO-R</b> disabled.
ENABLED	YES NO	It enables or disable the communication between VM and <b>CAPPUCCINO-R</b> .
STEAM TEMPRATURE	0-128	This variable sets pressure boiler temperature if the machine is connected with a <b>CAPPUCCINO-R</b> .
CLEANING PERIOD	0-900	If elapsed time after the latest selection is longer than the one programmed (in minutes), <b>CAPPUCCINO-R</b> dispenses, anyway, water and steam quantity described above. (Read more at "6.10.1 MILK MODULE PERIODIC RINSING") (read more at "2.1.1 RINSING CONFIGURATION" on RHEAMEDIA2 MANUAL").
ENABLE CLEANING	YES NO	It enables or disables this function.
CLEANING DELAY	0.0-10.0	To set start delay after dispensing.
ENABLE MILK SENSOR	0-3	If capacitive and optical milk sensors are not working properly, you can disable them while enabling <b>CAPPUCCINO-R</b> to work: 0 = to disable capacitive sensor and optical sensor; 1 = to enable capacitive sensor and optical sensor; 2 = to disable capacitive sensor and to enable optical sensor. 3 = to enable capacitive sensor and to disable optical sensor.

SHOW CLEAN-MILKER BUTTON AT STARTUP	YES NO	Shows cleaning button while powering to start cleaning milk module.
AUTO CLEANING AT TIME	00:00-23:59	Auto cleaning at time, for <b>CAPPUCCINO-R</b> , to set time the display will alternatively show a recall for the sanitary wash cycle execution and a standby message. Even though this message does not inhibit any dispensing cycles that don't use fresh milk, it's strongly recommended to perform the sanitising procedure.
AUTO UPDATE CLEANING TIME	YES NO	YES: time start of a new milker module clean, overwrites the previous scheduled one. The following milker module clean will be scheduled the next day, same time. The new scheduled milk module washing time coincide the ending time of the latest milk module clean. NO: star time of a new milker module clean doesn't overwrite the previous scheduled one. The next milker module clean will be scheduled at the time defined in "AUTO CLEANING AT TIME".

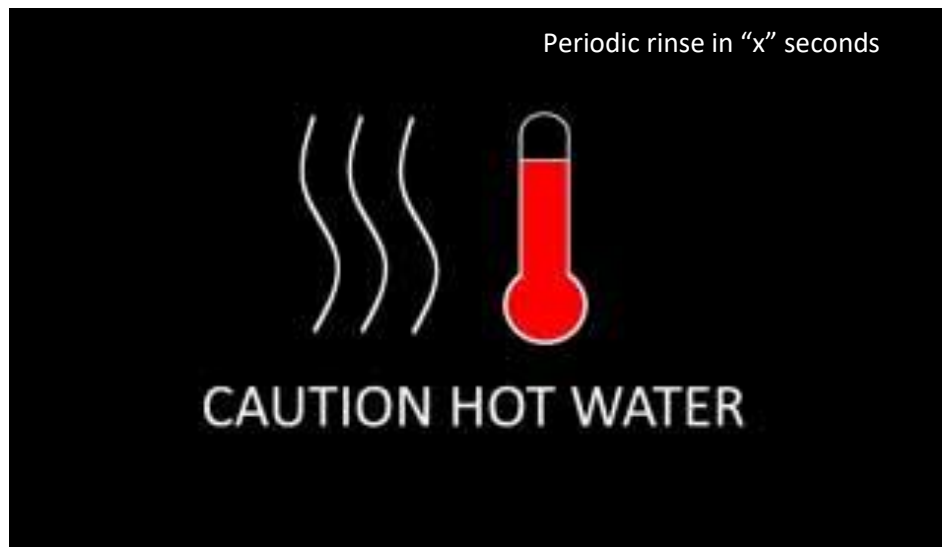
## 6.10.1 MILK MODULE PERIODIC RINSING



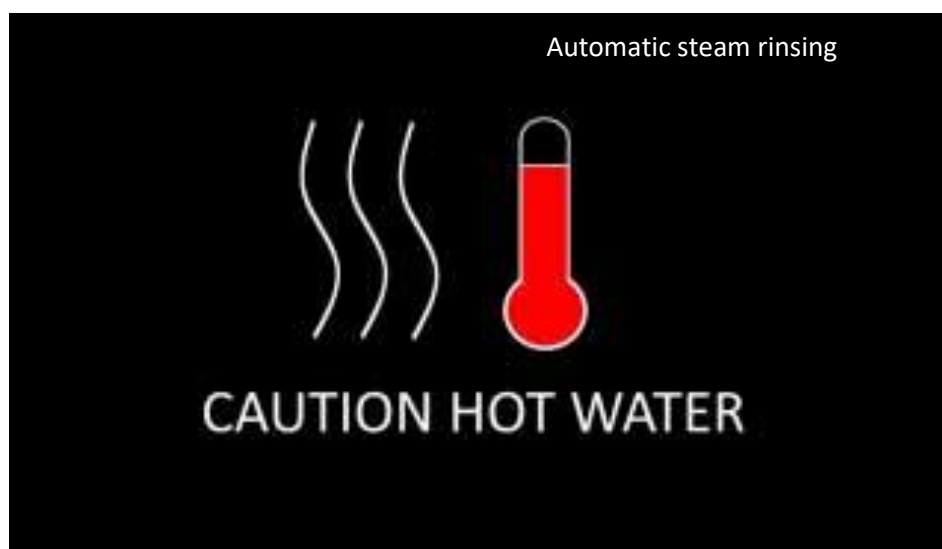
**DISCLAIMER:**

- Mind carefully to all maintenance procedure.
- Hot steam from fresh milk nozzle.

Countdown (starting from 10 seconds) and an image will be displayed before rinsing starts ("x" = remaining seconds).




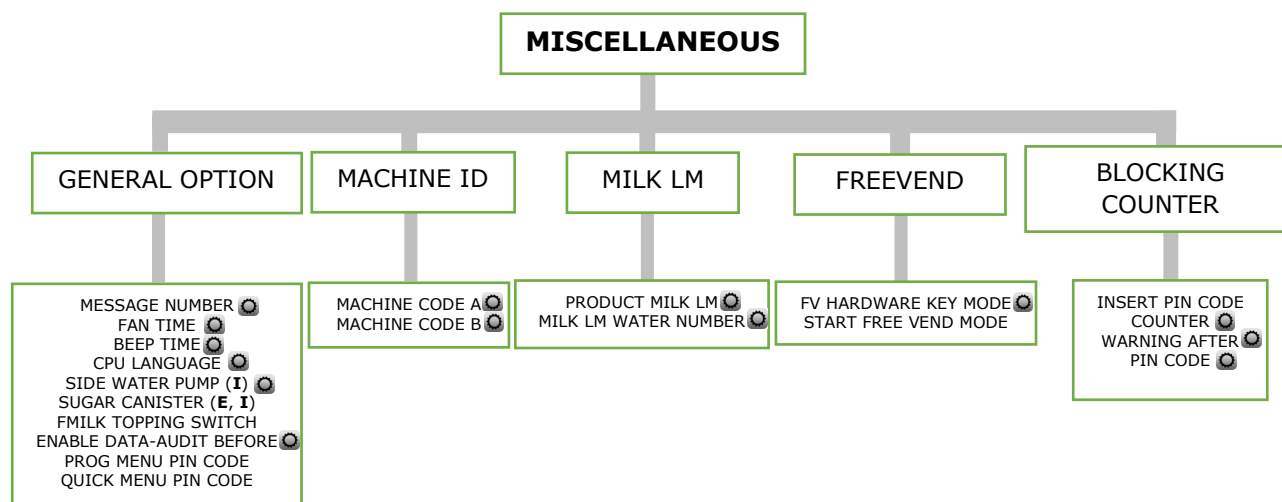
Steam rinsing from fresh milk nozzle starts at the end of countdown.



Read more at "2.1.11 RINISNG CONFIGURATION" on "RHEAMEDIA2 MANUAL".

## 6.11 MISCELLANEOUS


- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
- **I**: INSTANT
-  : RHEACTION

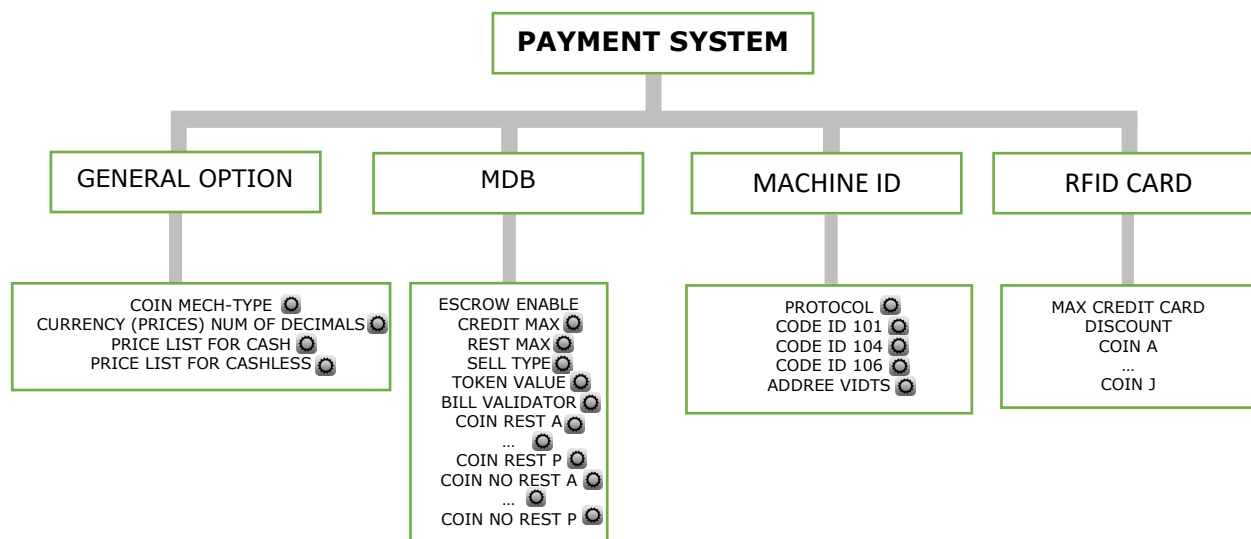


TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
GENERAL OPTIONS	MESSAGE NUMBER	0-7	Choose one of the message number to display in standby mode.
	FAN TIME	0-180	To set how long the powder suction fan will stay active after the latest dispensing cycle.
	BEEP TIME	0.0-1.3	To set active beep time at the end of each function.
	CPU LANGUAGE	Language 1 English	To display messages in the available languages.
	SIDE WATER PUMP	0-4	To use hot water of the second side, select the same pump used for direct hot water.
	SUGAR CANISTER	0-6	To choose the sugar canister.
	FMILK TOPPING SWITCH	YES NO	Only active with CAPPUCINO-R variable.
	ENABLE DATA-AUDIT BEFORE	YES NO	To increase sales statistics after a beverage delivery, choose: yes or no.
	PROG MENU PIN CODE	00, 111-999	To enable a password to access programming menu or test vend menu (look at paragraph "6 PROGRAMMING MENU"). Take note of your password. To disable = 00.
	QUICK MENU PIN CODE	00, 111-999	To enable a password to access data or cleaning/rinsing menu (look at paragraph "4.3 MAIN MENU SCREEN"). Take note of your password. To disable = 00.
MACHINE ID	MACHINE CODE A	00000-65535	Assign a number to the machine to identify it among similar ones (data collection).
	MACHINE CODE B	00000-65535	Assign a number to the machine to identify it among similar ones (data collection).

MILK LM	PRODUCT MILK LM	0-6	To set which product canister should be used for the second milk dispensing cycle.
	MILK LM WATER NUMBER	0-3	To set the quantity of water to use for the second milk dispensing cycle.
FREEVEND	FV HARDWARE KEY MODE	DISABLED ENABLED 1 ENABLED++	To enable the free vend mode: disabled, ENABLE 1 (only one beverage will be free), ENABLED++ (all beverages will be on a free basis).
	START FREE VEND MODE	0-255	Setting a greater value than zero, the machine will switch to "FREE VEND" mode for a wished number of hours, in a range of 48 hours. When the number of set hours will be passed, the machine will return to normal operation settings. To enable this function switching on and off the machine is needed.
BLOCKING COUNTER	INSERT CODE	-	Insert a code to enter a block counter and perc. Threshold disabled
	COUNTER	00000-10000	Set a value after the VM will be blocked.
	WARN AFTER	0-50	Threshold warning in percent is referred to counter blocking.
	PIN CODE	111-999	Set new pin code.

## 6.12 PAYMENT SYSTEM


- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT
-  : RHEACTION

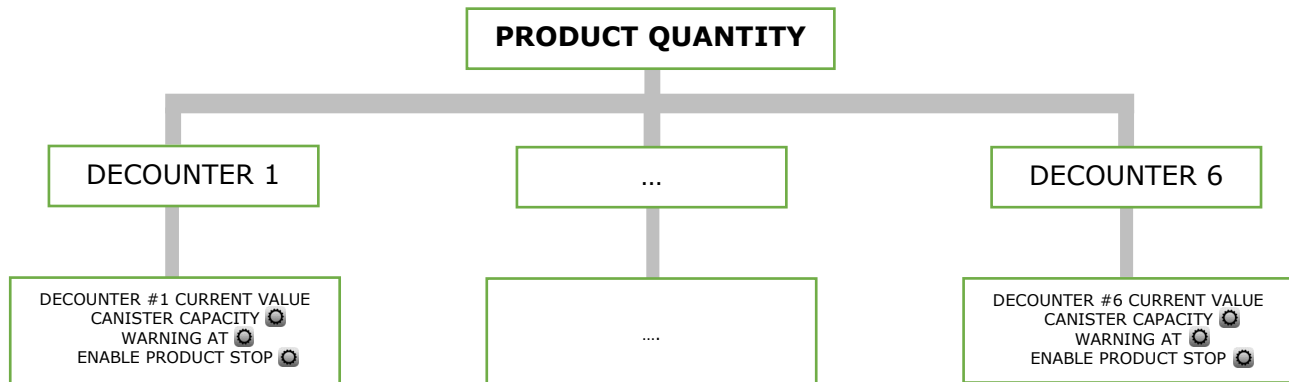


TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
GENERAL OPTION	COIN MECH-TYPE	PAR. SING. VEND PAR. MULTI VEND EXECUTIVE PRICE HOLDING MDB	Coins programming option process: it displays payment system communication options.
	CURRENCY (PRICES) NUM OF DECIMALS	0-3	Decimals: to set number of decimals to examine to compare between price selection and inserted credit.
	PRICE LIST FOR CASH	0-1	Price list when payments have been set on cash. 0: link to price list 1. 1: link to price list 2. Look for "price 1" and "price 2" at paragraph "6.14 SELECTION (max 48)".
	PRICE LIST FOR CASHLESS	0-1	Price list when payments have been set on cashless: 0: link to price list 1. 1: link to price list 2. Look for "price 1" and "price 2" at paragraph "6.14 SELECTION (max 48)".

MDB	ESCROW ENABLE	YES NO	Changeover enable: to enable coins changeover.
	CREDIT MAX	0-60000	Maximum credit: to set maximum credit amount acceptable.
	REST MAX	0-60000	Maximum change: to set maximum change amount acceptable.
	SELL TYPE	SINGLE MULTI	Single/multiple vend: to hold or not a residual credit amount after a dispensing cycle.
	TOKEN VALUE	0-10000	Token value: to measure the value of token.
	BILL VALIDATOR	0-2	Set on "0": to enable the bill validator. On "1": bill validator switched on, only if change giver has, at least, 5 euro inside. On "2": to enable the bill validator, only if cashless key is inserted.
	COIN REST A	ACCEPTED NO	Coins change A: to set change coins to use when available.
	...	ACCEPTED NO	Coins change "N": to set change coins to use when available.
	COIN REST P	ACCEPTED NO	Coins change P: to set change coins to use when available.
	COIN NO REST A	ACCEPTED NO	Coins no change A: to set coins not to accept when the machine is unable to give change; from A to P.
	...	ACCEPTED NO	Coins no change "N": to set coins not to accept when the machine is unable to give change; from A to P.
	COIN NO REST P	ACCEPTED NO	Coins no change P: to set coins not to accept when the machine is unable to give change; from A to P.
MACHINE ID	PROTOCOL	TM-ON DDCMP 2400++ DEX DEX reset DDCMP 9600 baud DDCMP 1200 baud TEST FUN IRDA	To transfer data from the machine to an external device. Choose one of these protocols: - "TM-ON" RS232 protocol typical of Rheavendors. - "DDCMP 2400++": DDCMP standard protocol. - "DDCMP 9600 baud": DDCMP protocol at fixed 9600 baud speed. - "DDCMP 1200 baud": DDCMP protocol at fixed 1200 baud speed. - "DEX": DEX-UCS standard protocol. - "DEX reset": DEX-UCS protocol with data reset of partial audits. - "TEST FUN": reserved test protocol.
	CODE ID 101	00000000- 99999999	Machine number.
	CODE ID 104	00000000- 99999999	Location number.
	CODE ID 106	00000000- 99999999	Machine configuration.
	ADDRESS VIDTS	000-999	Connection address by DDCMP protocol.
RFID CARD	MAX CREDIT CARD	0-60000	Top credit to load from RFID card.
	DISCOUNT	0% : -80%	When RFID board is engaged, define percent to use to reduce set prices in HAPPY PRICE.
	COIN A	ACCEPTED NO	When the RFID card is available, to accept any coin (from A to J).
	...	ACCEPTED NO	When the RFID card is available, to accept any coin (from A to J).
	COIN J	ACCEPTED NO	When the RFID card is available, to accept any coin (from A to J).


## 6.13 PRODUCT QUANTITY

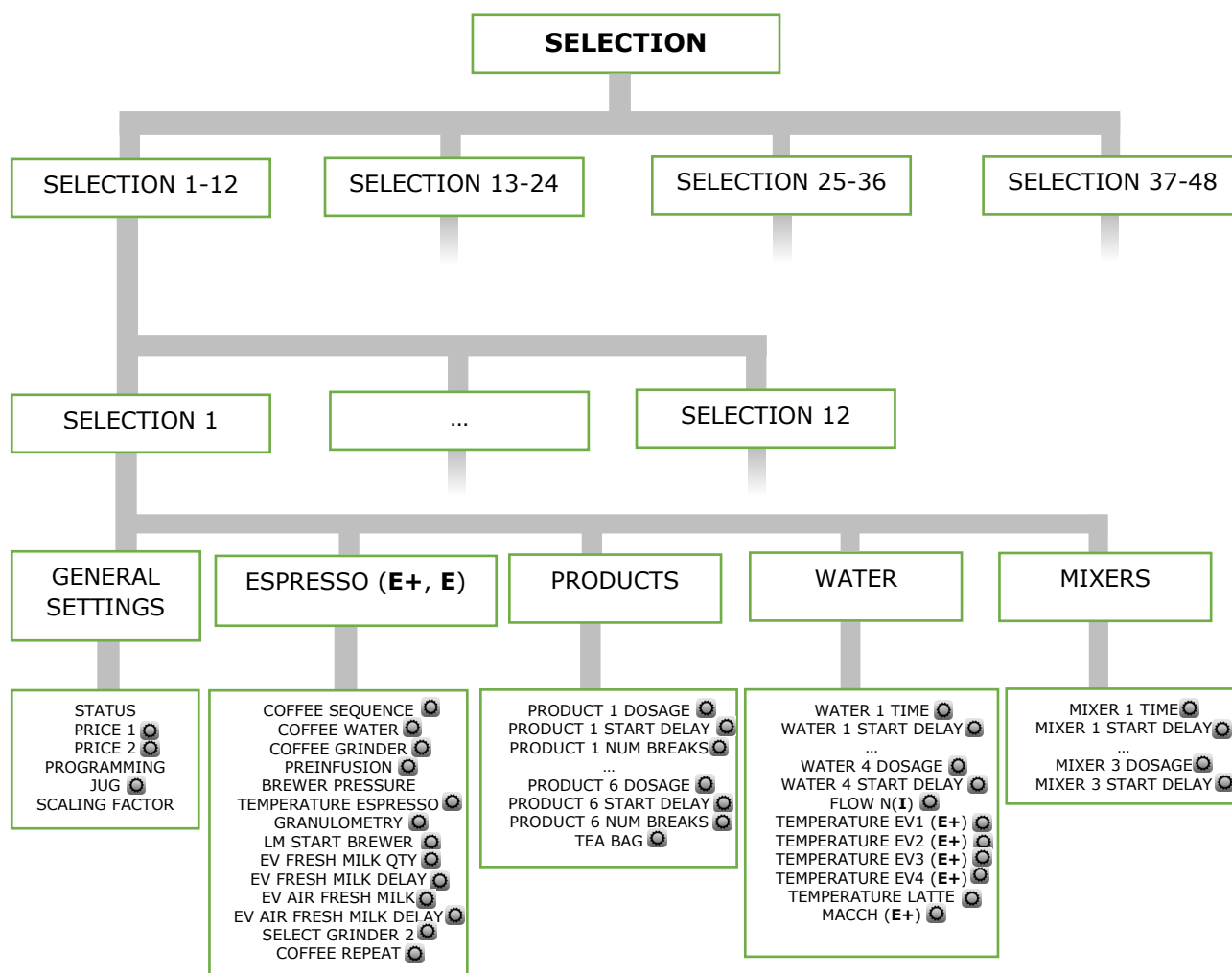
- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
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-  : RHEACTION



TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
DECOUNTER N	DECOUNTER #N CURRENT VALUE	0.0-6000.0	Decounter #N current value for.
	CANISTER CAPACITY	0.0-6000.0	To set a decounter for product engine, press on "PROG" button. Set value will be copied, in parentheses, on left side of the display. If the product engine calibration has been performed, the value will be set in grams, otherwise in seconds. The entered value is the top limit for a given product. Any time a selection uses that product, its value decreases of the used quantity (or duration) in the recipe.
	WARNING AT	0.0-6000.0	Remember you can programme the first warning threshold. If exceeded, an alarm message will be show. This message will not interfere on any operation.
	ENABLE PRODUCT STOP	YES NO	Product selections dispensing cycle can inhibited, when out of credit. When the product decounter value is lower than the quantity / duration of its implementation within the recipe, its selection will not be available ("Selection not available" will be shown on screen).

## 6.14 SELECTION (max 48)

- **E+:** ESPRESSO INDUCTION
- **E:** ESPRESSO BOILER
- **I:** INSTANT
-  : RHEACTION




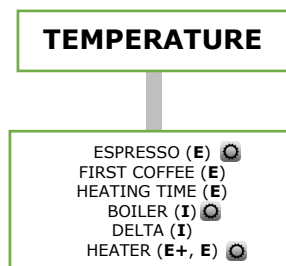
TAB	PARAMETERS	RANGE VALUE	DESCRIPTION
GENERAL SETTINGS	STATUS	SELECTION INHIBITED PRESELECTION	On "SELECTION" selected, a beverage will be dispensed. On "INHIBITED" selected, no function will be available. On "PRE-SELECTION" selected, the key you chose before the final selection will fulfil the function.
	PRICE 1	0-65000	Price list 1: Configurable with "PL for cash" and "PL for cashless" (look at paragraph "6.12 PAYMENT SYSTEM")
	PRICE 2	0-65000	Price list 2:Used for happy hour band time.

			Configurable with "PL for cash" and "PL for cashless" (look at paragraph "6.12 PAYMENT SYSTEM").
	PROGRAMMING	TOTAL PARTIAL	Choose "total" to display all variables. Choose "partial" to display parameters values other than zero.
	JUG	0-10	This option allows to repeat the selection N times to get a high quantity of beverage in (jug).
	SCALING FACTOR	80% : 120%	To modify a programmed recipe (from 80% to 120%) ingredients quantity, water and mixer (and their delays) percentage of. The recipe will be unchanged on value 100%.
ESPRESSO	COFFEE SEQUENCE	AFTER BEFORE	Before: coffee will be dispensed before. After: coffee will be dispensed after.
	COFFEE WATER	0-50.0	Quantity of water in a cup: on variable set on zero, espresso will be not dispensed (just beverages of instant products).
	COFFEE GRINDER	0.0-20.0	To calibrate ground coffee quantity dispensed and poured into the beverage.
	PREINFUSION	0-15	After a coffee ground dose compression, enable this option to let the pump deliver water just for one second. Set here seconds of stop (from 01 to 15) and resume the usual dispensing cycle.
	BREWER PRESSURE	0-10	Needed to set coffee dispensing enlarging the dispensing chamber from 0 to 10 mm.
	TEMPERATURE ESPRESSO	95-110	Defines water temperature for espresso.
	GRANULOMETRY	DISABLED FINE REFERRING ROUGHLY	Select "granulometry" among programming menu items. In case this selection requires a special grinding degree, compared to the basic one, this variable can position the grinding wheels as follows: - <b>disabled</b> : grinders will keep reference value. - <b>fine</b> : before selection, grinders will end up on an angular position suitable for "fine granulometry" (10 degrees to close grinders referring to the standard value). - <b>referring</b> : Grinders will be set out as planned into reference selection before selection. - <b>roughly</b> : before selection, grinders will end up on an angular position suitable for "fine granulometry" (10 degrees to opening grinders referring to the standard value).
	LATTE MACCHIATO START BREWER	0.0-50.0	On "Latte macchiato" selected, it defines a delay between a second milk and an espresso dispensing cycle.
	EV FRESH MILK QTY	0.0-50.0	To modify fresh milk dose into dispensing beverage. CAPPUCCINO-R milk solenoid valve will not be open and milk will not be dispensed if parameter has been set on "0.0".
	EV FRESH MILK DELAY	0.0-50.0	To set milk dispensing delay.
	EV AIR FRESH MILK		To set an air solenoid valve opening time. It will be mixed with CAPPUCCINO-R milk, deciding the froth quantity.
	EV AIR FRESH MILK DELAY	0.0-50.0	Defines delay between milk opening and air solenoid valve.

	SELECT GRINDER 2	YES NO	This option is only on models with double canisters of coffee beans. Two different coffee blends are selectable: NO= coffee hopper on the left; YES= coffee hopper on the right.
	COFFEE REPEAT	0-2	This setting allows to repeat the espresso delivery. Setting on 2 will deliver one espresso plus 2 more delivery.
PRODUCTS	PRODUCT N DOSAGE	0.0-50.0	To vary N product time rotation engine, to change product dose dispensed. If time has been set on 0, N product will not be dispensed. Perform a "time test" on set-up value.
	PRODUCT N START DELAY	0.0-50.0	Product N engine will be delayed as programmed, setting time greater than zero.
	PRODUCT N NUM BREAKS	0-2	Product motor rotation time can be temporarily interrupted once or twice during any dispensing cycle. On value = 0 there will be no interruption.
	PRODUCT LM DOSAGE	0.0-50.0	To define milk quantity for the second dispensing cycle.
	PRODUCT LM START DELAY	0.0-50.0	It defines delay for the second milk dispensing cycle.
	PRODUCT LM NUM BREAKS	0-02	It defines suspensions the second milk dispensing cycle.
	TEA BAG	0-03	0= inhibited; 1/2/3= run the spiral to dispense the tea bag desired.
WATER	WATER N TIME	0.0-50.0	It defines opening time for the instant solenoid valve and the dosage of dispensed water. Follow up a "time test" on the set-up value.
	WATER N START DELAY	0.0-50.0	Defines the water delay into the mixing bowl.
	FLOW N	LOW MED HIGH	Water pump speed can be set on: slow, medium, fast.
	WATER LM TIME	0.0-50.0	It defines the quantity of water for the second milk dispensing cycle.
	WATER LM START DELAY	0.0-50.0	It defines the delay of the water dose for the second milk dispensing cycle.
	TEMPERATURE EV1	75-98	To define water temperature in bowl 1.
	TEMPERATURE EV2	75-98	To define water temperature in bowl 2.
	TEMPERATURE EV3	75-98	To define direct water temperature in the cup.
	TEMPERATURE EV4	75-98	It defines water temperature for lateral water (E+ model).
	TEMPERATURE LATTE MACC	75-98	"Latte Macchiato": defines water temperature of second milk in " Latte Macchiato " selections.
MIXERS	MIXER N TIME	0.0-50.0	Mixer rotation time can be modified. Setting time on 0 will not allow any rotation of the mixer. Follow up a "time test" on the set-up value.
	MIXER N START DELAY	0.0-50.0	Define a rotation time is greater zero to delay the mixer fan.
	MIXER N SPEED	LOW MEDIUM HIGH	Mixer rotation speed can be set on: slow, medium, fast.
	MIXER LM TIME	0.0-50.0	It defines mixer rotation time for the second milk dispensing cycle.
	MIXER LM START DELAY	0.0-50.0	To delay mixer power-on, set time above 0.
	MIXER LM SPEED	LOW MEDIUM HIGH	Mixer rotation speed can be set on: slow, medium, fast.

## 6.15 TEMPERATURE

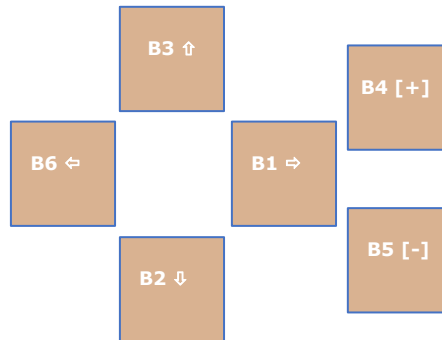
- **E+**: ESPRESSO INDUCTION
- **E**: ESPRESSO BOILER
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PARAMETERS	RANGE VALUE	DESCRIPTION
ESPRESSO	75-120	To define espresso water temperature.
FIRST COFFEE	0-30	To define next espresso delivery minutes after the latest one.
HEATING TIME	0-10.0	To increase water temperature, define time of power on for pressure boiler heating element.
BOILER	75-92	Boiler temperature set point.
DELTA	0-25	Max pause between "real temperature" and "espresso" temperature. Setting, for instance, "espresso" temperature on 90° and delta temperature on 15°, VM status will be ready when detected real temperature will get to 75 °C.
HEATER	0-40	It defines heating temperature for the coffee brewer.

## 6.16 OLD PROG MENU

Press button "OLD PROG MENU" in order to use old interface of programming menu.



Key 1	To scroll items forward
Key 6	To scroll items backward

Key 2	To scroll variables of item forward
Key 3	To scroll variables of item backwards

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

To have more info about browsing on this menu, read more at "3. PROGRAMMING MENU" in "NESTLE OPERATIVE MANUAL SW TT (BL V+) TP".

# 7 OFF LIST

OFF CODE	CONTEST	DESCRIPTION
OFF 1	Cup dispenser	No cup available: when a cups stack is over, the machine rotates the other cup stacks to find any available cups. The machine will stop if no cup is available. Error "1A" means there are no cups in the stack close to the door hinge. <b>OFF 1A:</b> No cup available in dispenser 1 (the closer to the door hinge). <b>OFF 1B:</b> No cup available in dispenser 2 (the further to the door hinge).
OFF 2	Payment system	No connection between payment system and vending machine CPU. A programming error or a payment system malfunction, could cause an improper power supply. <b>OFF 2E:</b> No connection between CPU and payment system (Executive mode). <b>OFF 2M:</b> No connection between CPU and payment system (MDB mode).
OFF 3	Waste water	When wastewater reaches maximum allowed level, its sensor will be activated. Empty it and lay back the drip tray. Check to lay it properly.
OFF 4	Pipes Movement	Pipes movement engine has not rotated according to its command or control. Its movement has not been detected by microswitch. Such an error could be cause by any mechanical obstacle between the two stretchable arms.
OFF 5	EAROM	those built in the CPU board fail to work properly; replace the CPU board.
OFF 6	Water supply	No Water - Water supply problem. <b>OFF 6A</b> (instant): Instant boiler filling time is too long; water supply might be totally lacking, its pressure might be not enough or some obstacle might slow down the regular water flow (filter grilled cover, load pipes either choked or clogged). Water inlet solenoid valve safety has tripped. <b>OFF 6B</b> (instant): instant boiler circuit has been refilled with water, but no beverage has been dispensed. Supply circuit might have a leakage. <b>OFF 6C</b> (espresso): air break filling time is too long; water supply might be totally lacking, its pressure might be not enough or some obstacle might slow down regular water flow (filter grilled cover, load pipes either choked or clogged). Water inlet solenoid valve safety device has tripped. Check microswitch functionalities. <b>OFF 6D</b> (espresso): Air break circuit has been refilled with water, but no beverage has been dispensed. Supply circuit might have a leakage. Check microswitch functionalities.
OFF 7	Espresso circuit	Espresso circuit problem checks as well coffee grinding quantity and degree of coffee beans poured into the coffee brewer chamber. <b>OFF 7A:</b> Espresso circuit pump power-on time has exceeded its limit. Water flow has had more resistance than usual and volumetric counter pulses produced required too long interval time to dispense a cycle within proper limits. <b>OFF 7C:</b> Along brewing phase, because of pressure its chamber has moved down, beyond safety position. <b>OFF 7D:</b> volumetric counter cannot detect pulses within three seconds. Check volumetric counter functionalities. <b>OFF 7R:</b> water recirculation phase error. Check volumetric counter functionalities.
OFF 8	Coffee brewer	<u>Along dispensing cycle (capital letters).</u> Check brewer functionalities. It should move freely. Check gear engine components: engine, pulleys, belt. Check its encoder board and CPU board and wirings. <b>OFF 8A:</b> while brewing chamber moves to reach its grinding position, any obstacle is detected, preventing the engine to work. <b>OFF 8B:</b> brewer is not placed, microswitch control is not pressed or is not working. Check coffee brewer is properly installed or microswitch is properly working. <b>OFF 8C:</b> while brewing chamber moves to reach its brewing position, any obstacle is detected, preventing the engine to work. <b>OFF 8D:</b> time out exceeded while its chamber is moving up; the engine is disconnected or not working. <b>OFF 8E:</b> while brewing chamber is moving down, engine power required is higher than admitted. <b>OFF 8F:</b> time out exceeded while its chamber is moving down. <b>OFF 8G:</b> time out exceeded while its chamber is moving up. <b>OFF 8H:</b> time out exceeded while its chamber is compressing for brewing. <b>OFF 8I:</b> power consumption limit is detected before the chamber reaches its brewing position. Too much coffee ground into the brewing chamber. Such a check will be performed just if the coffee brewer has been calibrated.

		<p><b>OFF 8L:</b> while brewing, its chamber is not moving properly.  <b>OFF 8M:</b> engine not connected, encoder not working, excessive engine effort.  <b>OFF 8N:</b> engine not connected, encoder not working, excessive engine effort.  <b>OFF 8P:</b> after brewing, brewing chamber fails reaching the lower position.  <b>OFF 8Q:</b> after coffee grounds have been ejected, brewing chamber fails reaching upper position.  <b>OFF 8R:</b> standby position not reached.  <b>OFF 8S:</b> dose not decompressed.</p> <p><u>Along resetting or starting-up cycle (small letters).</u>  Check functionalities of coffee brewer. It should move freely. Check components of gear engine: engine, pulleys, belt. Check encoder board, CPU board and the wirings.  <b>OFF 8a:</b> coffee brewer engine does not work or is not connected. CPU does not detect encoder pulses.  <b>OFF 8b:</b> coffee brewer is not placed, control microswitch is not switched on or does not work. Check the coffee brewer is properly installed or the microswitch is properly working  <b>OFF 8c:</b> while brewing chamber is moving up, power consumption limit is reached too soon.  <b>OFF 8d:</b> while chamber is moving up time out exceeded. Engine disconnected or not working properly.  <b>OFF 8e:</b> while brewer infusion chamber moves to stand-by position, engine required power is higher than admitted.  <b>OFF 8f:</b> while coffee brewer infusion chamber moves to stand-by position time out exceeded, time out exceeded.</p>
OFF 9	Coffee beans	<p>Maximum coffee grinding time has been exceeded. Completing coffee grinding phase, Variflex® coffee brewer chamber moves up, to upper piston to compress grounded coffee. In case, in this phase, engine fails to reach expected resistance, it means ground coffee dose is less than required or completely lacking. Inside two canisters of coffee beans.  <b>OFF 9A:</b> left canister coffee shortage.  <b>OFF 9B:</b> right canister coffee shortage.  <b>OFF 9C:</b> Coffee grinder- angular position beyond minimum angular value.</p>
OFF 11	Cup sensor	A cup or other obstacle has been detected inside cup station at selection starting.
OFF 12	Cup station with fork	Cup support fork does not properly rotate. Device engine might be malfunctioning, disconnected or its rotation hindered or slowed down by any obstacle.
OFF 13	Cup station	The cup is not properly on place to accept any selection. Although properly released, it could be unwell positioned as detection system is unable to recognize it.
OFF 14	Water inlet	<p>Error 14 will be displayed when, after six dispensing cycles, water is not refilled. Even a different water inlet pressure value, from the pre-set one, might give such an error, thus filling pressure boiler or boiler in excess and providing a higher number of dispensing cycles than the pre-set one. When dispensing is done with a limited water quantity, this error is more likely to occur.  <b>OFF 14A:</b> Instant boiler.  <b>OFF 14B:</b> Pressure boiler.</p>
OFF 15	Cup dispenser	<p>Cups column has not properly rotated. This error is displayed when the machine rotates columns to search one containing cups and fails within a pre-set time out.  <b>OFF 15A:</b> for the cup column closest to the vending machine door hinge.  <b>OFF 15B:</b> for the cup column furthest to the vending machine door hinge.</p>
OFF 16	Programming keyboard	Programming keyboard has a short-circuited key or it has been tapped too long. In the latest case, cups stack manual release button might generate such an error.
OFF 16	DB button	<p><b>OFF 16A:</b> DB cup dispensing button has a short-circuited or it has been tapped too long. A for far DB the hinge, B for DB close to the hinge.  <b>OFF 16B:</b> DB cup dispensing button has a short-circuited or it has been tapped too long. A for far DB the hinge, B for DB close to the hinge.</p>
OFF 17		<p>A button will be displayed as if it were constantly pressed.  <b>OFF 17A:</b> Selection Keyboard button has, at least, one button trapped.  <b>OFF 17B:</b> Sugar Keyboard button has, at least, one button trapped.</p>
OFF 24	Power supply	<p>Power supply unit problem.  <b>OFF 24A:</b> the actual 24 V dc voltage value is higher than the allowed one.  <b>OFF 24B:</b> measured 24 V dc voltage value is below the admitted threshold or totally absent, e.g. because a fuse has tripped. Check and remove causes of such an error before powering on the machine again.</p>

OFF 25	Cup dispensing cycle	<b>OFF 25C:</b> even if properly released, the cup is not in the correct standby position. Cup sensor is not activated.
OFF 31	Espresso coffee water	Espresso coffee water problem. <b>OFF 31A:</b> pressure boiler water temperature is higher than set value. <b>OFF 31B:</b> water fails to achieve set temperature. <b>OFF 31C:</b> temperature probe is interrupted, or its electric connector is detached. <b>OFF 31D:</b> temperature fails to achieve set value within time out limit. <b>OFF31H:</b> No power into the inductor transducer. <b>OFF 31V:</b> induction dissipator temperature is too high or there is temperature probe problem.
OFF 32	Coffee brewer chamber	Coffee brewer chamber temperature problem. <b>OFF 32A:</b> coffee brewer chamber temperature is higher than set value. <b>OFF 32B:</b> coffee brewer chamber temperature is lower than set value. <b>OFF 32C:</b> chamber temperature probe is faulty.
OFF 32	Coffee brewer heater	Coffee brewer heater temperature problem. <b>OFF 32A:</b> coffee brewer temperature is higher than set value. <b>OFF 32B:</b> coffee brewer temperature is lower than set value <b>OFF 32C:</b> coffee brewer temperature probe is faulty.
OFF 33	Instant Product Water Temperature	<b>OFF 33A:</b> boiler water temperature is higher than set value. <b>OFF 33B:</b> boiler water has failed to achieve set temperature value. <b>OFF 33C:</b> boiler temperature probe is interrupted. Its electric connector is detached.
OFF 41	Water Filter Counter	Number of dispensing cycles made needs the operator to replace water filter cartridge outside the machine.
OFF 42	Coffee Brewer Counter	coffee brewer must be serviced after dispensing a high number of espresso.
OFF 43	Grounds Counter	Maximum limit of coffee doses into waste tray reached.
OFF 44	Blocking counter	VM blocking number reached.
OFF 55	Connection	data exchange failure among CPU, cups and stirrers delivery system board (by USB cable).
OFF 56	door	<b>OFF 56A:</b> port issue for doppio&cup.
OFF 77	CPU	"Clock" function not properly performed. Buffer battery might be low. after restoring function, check clock-related functions: happy hour, time bands etc. Any of these might have been damaged, caused by lack time references.
OFF 80	MDB changer giver	<b>OFF 80 4:</b> A pipe sensor is not working. <b>OFF 80 6:</b> Validator is not inserted or disconnected. <b>OFF 80 7:</b> A coin tube is not properly working. <b>OFF 80 8:</b> ROM with reading/writing error. <b>OFF 80 C:</b> Coin locked in acceptance path. <b>OFF 80 D:</b> Attempt at fraud and coin removal.
OFF 99	Product Counters	Value disabling product counters reached.
OFF 121	ModulOn Cappuccino	Pressure boiler filling time is too long. Water supply might be totally lacking. Its pressure might be not high enough or some obstacle slow down regular water flow (master machine grinded filter, load pipes either choked or clogged). Master machine water inlet solenoid valve safety has tripped.
OFF 122	ModulOn Cappuccino	Error 122 will be displayed when, after six dispensing cycles, water has not been refilled. Such an error could be given by water inlet pressure value other than set one. This will fill in pressure boiler or boiler in excess and providing a higher number of dispensing cycles than pre-set one. If a limited water dose will be used for selections, this error is more likely to be displayed.
OFF 123	ModulOn Cappuccino	<b>OFF 123A:</b> boiler water temperature is higher than the set one. <b>OFF 123B:</b> boiler water has failed to achieve pre-set temperature. <b>OFF 123C:</b> boiler temperature probe is interrupted. Its electric connector is detached.
OFF 124	ModulOn Cappuccino	internal optical sensor does not detect milk in the transport tubes.

# 8 PROGRAMMING MENU: ANALYTIC INDEX

## A

ACTIVATE H2O FILTER RESET .....	108
ADDRESS VIDTS.....	127
AUTO CLEANING AT TIME .....	122
AUTO RINSING AT TIME .....	44
AUTO UPDATE CLEANING TIME .....	122
AUTOMATIC ADJUSTMENT .....	93

## B

BEEP TIME .....	124
BILL VALIDATOR.....	127
BOILER.....	132
BOILER CC.....	94
BREWER DIAMETER .....	93
BREWER PRESSURE .....	130

## C

CANISTER CAPACITY.....	128
CLEANING DELAY .....	121
CLEANING PERIOD.....	121
CODE ID 101 .....	127
CODE ID 104 .....	127
CODE ID 106 .....	127
COFFEE BREWER DECOUNTER.....	108
COFFEE GRINDER .....	130
COFFEE GROUND DECOUNTER .....	108
COFFEE REPEAT .....	131
COFFEE SENSOR .....	94
COFFEE SEQUENCE.....	130
COFFEE WATER .....	130
COIN.....	127
COIN MECH-TYPE .....	126
COIN NO REST .....	127
COIN REST .....	127
COUNTER .....	125
CPU LANGUAGE .....	124
CREDIT MAX .....	127
CUP SENSOR THRESHOLD .....	94
CURRENCY (PRICES) NUM OF DECIMALS .....	126

## D

DATE.....	90
DECOUNTER #N CURRENT VALUE.....	128
DELIVERY PHASE FASTER .....	93
DELTA .....	132
DISCOUNT .....	127
DISINSTALLATION .....	109
DISPLAY TEMPERATURES.....	109
DRIPTRAY DETECTION .....	94

## E

ENABLE AUTO REGULATION .....	93; 94
ENABLE CLEANING.....	121
ENABLE DATA-AUDIT BEFORE .....	124
ENABLE MILK SENSOR .....	121
ENABLE PRODUCT STOP .....	128
ENABLED (milker).....	121
ENERGY SAVING.....	90
ESCROW ENABLE.....	127
ESPRESSO .....	132
EV AIR FRESH MILK .....	130
EV AIR FRESH MILK DELAY .....	130
EV FRESH MILK DELAY .....	130
EV FRESH MILK QTY.....	130

## F

FAN TIME.....	124
FIRST COFFEE .....	132
FIRST INSTALLATION .....	109
FLOW N .....	131
FMILK TOPPING SWITCH .....	124
FV HARDWARE KEY MODE .....	125

## G

GRANULOMETRY .....	130
GRINDER .....	95
GROUP TEST .....	94

## H

HAPPY HOUR 1 .....	90
HAPPY HOUR 2 .....	90
HAPPY HOUR 3 .....	90
HEATER .....	132
HEATING TIME .....	132

## I

IMPULSES.....	95
INSERT CODE.....	125

## J

JUG.....	130
----------	-----

## L

LATTE MACCHIATO START BREWER .....	130
------------------------------------	-----

## M

MACHINE CODE A .....	124
MACHINE CODE B .....	124
MAINTENANCE DECOUNTER CURRENT VALUE .....	108
MAINTENANCE DECOUNTER THRESHOLD ....	109
MAX CREDIT CARD .....	127
MESSAGE NUMBER .....	124
MILK LM WATER NUMBER .....	125
MIXER LM SPEED .....	131
MIXER LM START DELAY .....	131
MIXER LM TIME .....	131
MIXER N SPEED .....	131
MIXER N START DELAY .....	131
MIXER N TIME .....	131
MODEM TEST .....	94
MONEY PRICE 1 .....	91; 92
MONEY PRICE 2 .....	91; 92
MONEY TOTAL .....	91; 92
MOTOR .....	107
MOTOR TEST .....	94

## N

n. x off xx 00:00 01-01-2000 .....	109
NUM FREE VEND (PA4) .....	91
NUM FREE VEND(VA3) .....	91
NUM FREEVEND .....	91; 92
NUM PAID (PA2) .....	91
NUM PAID (VA1) .....	91
NUM PAID HAPPY HOUR .....	91; 92
NUM PAID PRICE 1 .....	91; 92
NUM TESTVEND (PA3) .....	91
NUM TESTVEND (VA2) .....	91
NUM TOTAL .....	91; 92
NUMBER OF SAMPLES .....	93; 94

## P

PIN CODE .....	125
POSITION CURRENT VALUE .....	93; 94
PREINFUSION .....	130
PRICE 1 .....	129
PRICE 2 .....	129
PRICE LIST FOR CASH .....	126
PRICE LIST FOR CASHLESS .....	126
PRODUCT LM DOSAGE .....	131
PRODUCT LM NUM BREAKS .....	131
PRODUCT LM START DELAY .....	131
PRODUCT MILK LM .....	125
PRODUCT N DOSAGE .....	131
PRODUCT N NUM BREAKS .....	131
PRODUCT N START DELAY .....	131
PROG MENU PIN CODE .....	124
PROGRAMMING .....	130
PROTOCOL .....	127

## Q

QUICK MENU PIN CODE .....	124
---------------------------	-----

## R

REFERRING FLUX .....	93; 94
REFERRING SELECTION .....	93; 94
REFRESH DATA AGAIN .....	92
RESET PARTIALS DATA .....	92
REST MAX .....	127
RINSE 1 .....	44
RINSE 2 .....	44
RINSE 3 .....	44
RINSE 4 .....	44

## S

SCALING FACTOR .....	130
SELECT GRINDER 2 .....	131
SELECTION .....	95
SELL TYPE .....	127
SHOW CLEAN-MILKER BUTTON AT STARTUP .....	122
SIDE WATER PUMP .....	124
STANDBY POSITION .....	93
START CLEANING BREWER .....	44
START CLEANING GRINDER .....	44
START CLEANING MILK MODULE .....	44
START DESCALING .....	44
START FREE VEND MODE .....	125
START RINSING .....	44
STATUS .....	129
STATUS (milker) .....	121
STEAM TEMPRATURE .....	121
SUGAR CANISTER .....	124
SUMMERTIME .....	90

## T

TEA BAG .....	131
TEMPERATURE ESPRESSO .....	130
TEMPERATURE EV1 .....	131
TEMPERATURE EV2 .....	131
TEMPERATURE EV3 .....	131
TEMPERATURE EV4 .....	131
TEMPERATURE LATTE MACC .....	131
TIME .....	90
TOKEN VALUE .....	127

## V

VARIGRIND .....	95
VERSION(milker) .....	121
VOLTAGE .....	109

## W

WARN AFTER .....	125
WARNING AT .....	128

WATER FILTER DECOUNTER .....	108	WATER N START DELAY .....	131
WATER LM START DELAY .....	131	WATER N TIME .....	131
WATER LM TIME .....	131		