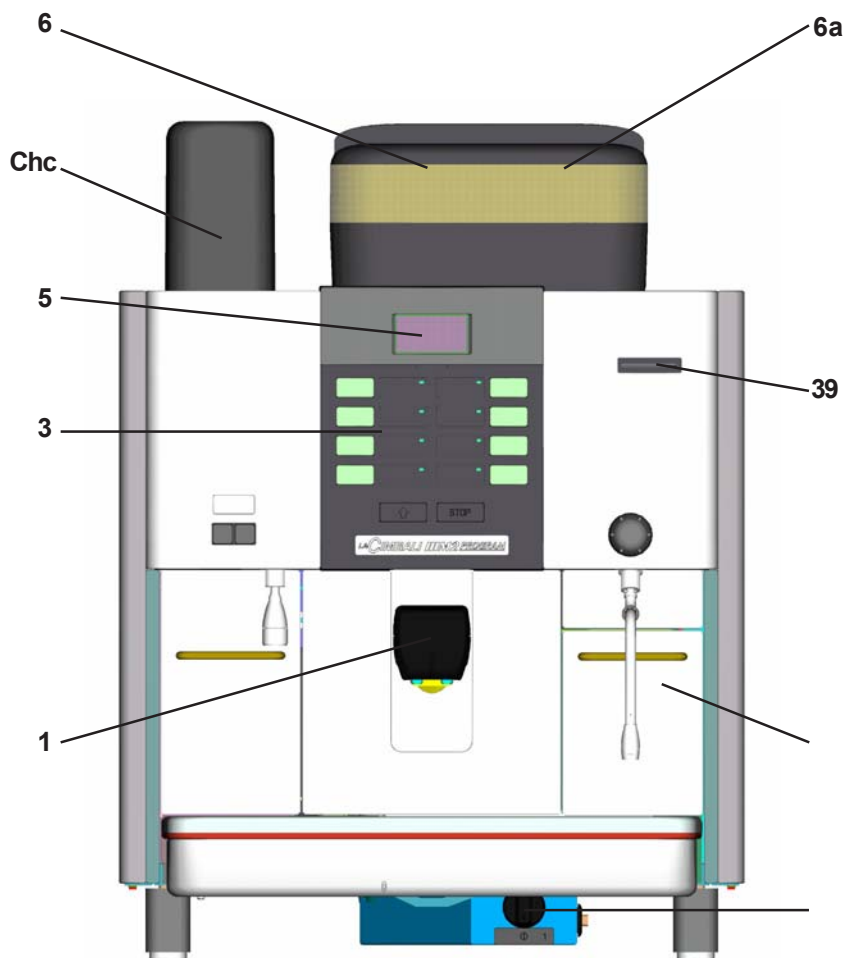


INDEX

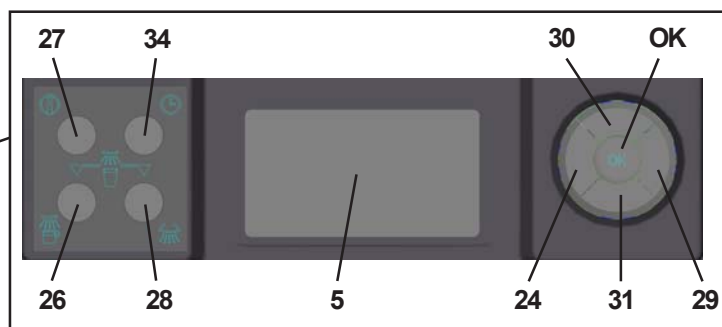
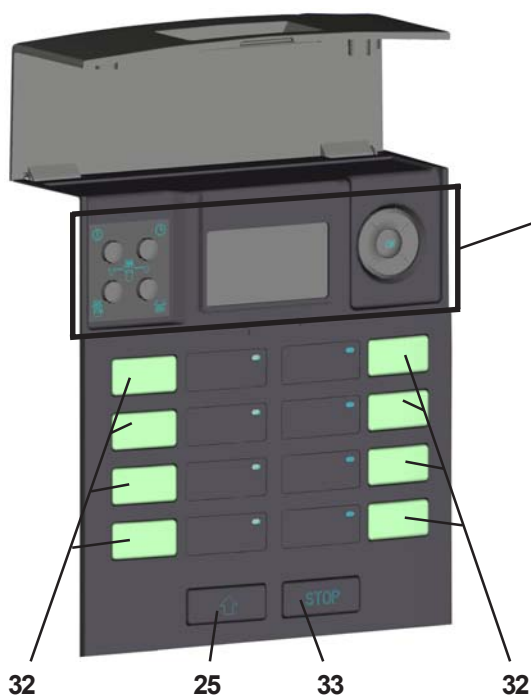
| | INDEX | Page |
|----|-------------------------------------------------|-----------|
| 1. | Machine and control panel description | 14 |
| 2. | Data flow chart - Technician programming | 15 |
| 3. | Programming | 16 |
| 4. | Key menu | |
| | Key menu - Chocolate selection | 16 |
| | Key menu - "Mixed Chocolate" selection | 17 |
| | "Mixed chocolate start" function | 18 |
| 5. | Configuration menu | |
| | Chocolate parameters | 19 |
| | Washing options | 19 |
| 6. | Entering Standard Data | 20 |
| 7. | Manual control panel | 21 |

1. Machine and control panel description

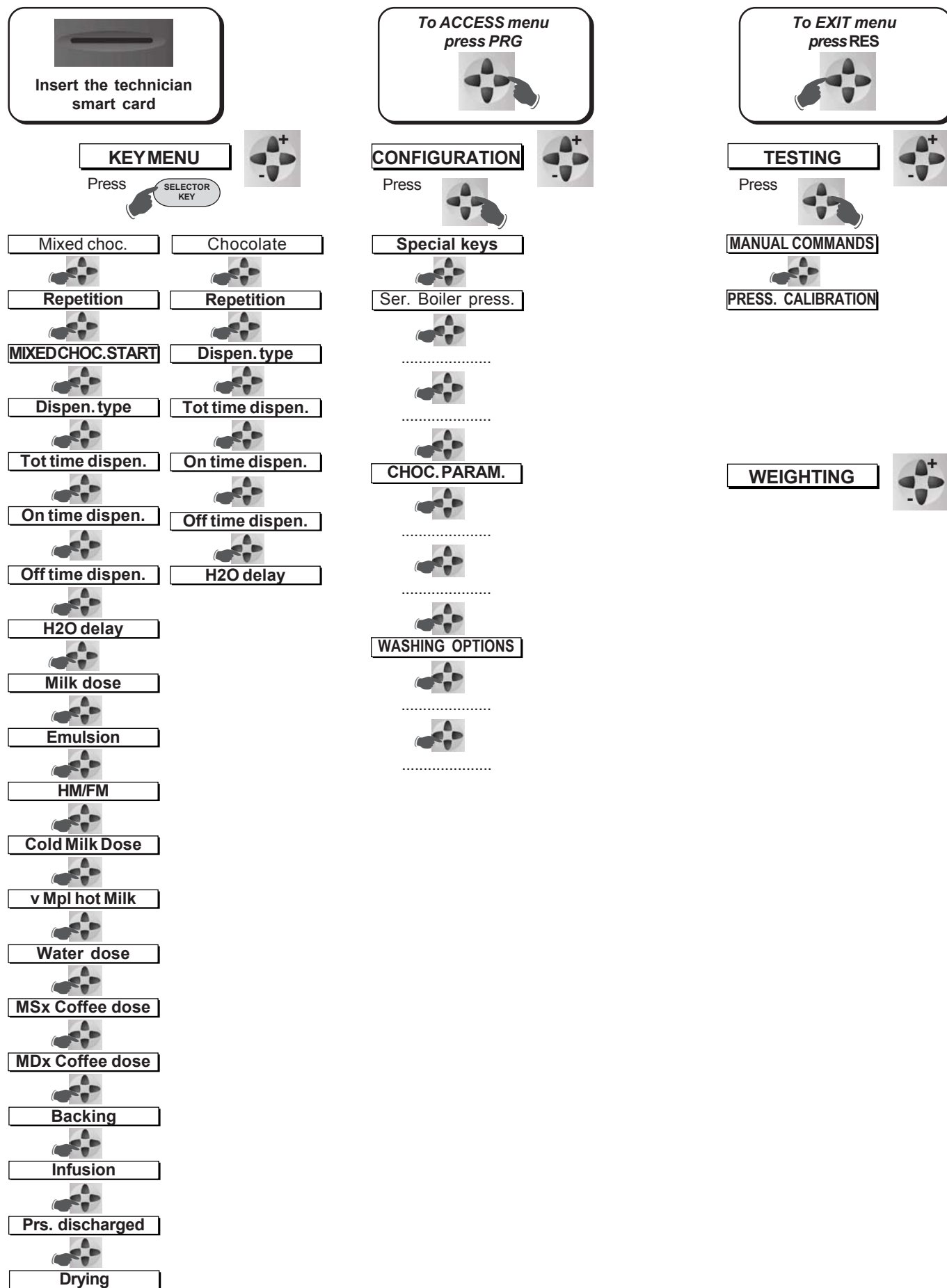


DESCRIPTION OF THE COMPONENTS

- 1 Delivery spout coffee/cappuccino/ chocolate
- 3 Selection panel
- 5 Graphical display
- 6 Coffee hoppers 1
- 6a Coffee hoppers 2
- 17 Coffee dregs drawer
- 23 Main switch
- 24 "RES" key (to quit programming mode)
- 25 Special key
- 26 Coffee circuit flushing key / short washing
- 27 "i" key (displays the counters)
- 28 Milk circuit wash key - automatic wash
- 29 "PRG" key (to access programming mode/menu)
- 30 "+" key (to modify parameters/clock)
- 31 "-" key (to modify parameters/clock)
- 32 Beverage selector key
- 33 "STOP" button (stops products from being dispensed)
- 34 "CUSTOMER PARAMETERS" key
- 35 Hot water "STOP-CONTINUOUS" key
- 39 Card services slit (technical programming)
- Chc Chocolate module
- OK Input data confirmation key



2. Data flow chart - Technician programming



3. Programming

How to enter "Programming" menu: Insert the smart card. Besides the date and hour, the word **TECHNICIAN** will appear.

| | |
|-------------|----------|
| 07 December | 2005 |
| wednesday | 15:15:04 |
| Technician | |

Display of available menus: Press the PRG (29) key.

| | |
|-------------------|---|
| * TECHNICAL PROG. | + |
| KEY MENU | ↑ |
| CONFIGURATION | |
| TESTING | |
| WEIGHTING | |
| | ↓ |
| | - |

Access to menus: Use the "+" (30) and "-" (31) keys to position the cursor on the desired line, then press the PRG (29) key.

Access and modification of sub-menus: Use the "+" (30) and "-" (31) keys to position the cursor (black line) on the desired line, then press the PRG (29) key.

| | |
|-----------------|----------|
| * KEY MENU | |
| Type | 1 coffee |
| Water dose | 090 |
| MSX cof, dose | 043 |
| MDX cof, dose | 000 |
| Backing | 00.2 |
| Infusion | 00.3 |
| Prs. discharged | 00.5 |

Use the "+" (30) and "-" (31) keys also to modify the message or number.

N.B.: When modifying data, the cursor changes to "→".

| | |
|-----------------|----------|
| * KEY MENU | |
| → Type | 1 coffee |
| Water dose | 090 |
| MSX cof, dose | 043 |
| MDX cof, dose | 000 |
| Backing | 00.2 |
| Infusion | 00.3 |
| Prs. discharged | 00.5 |

Exiting the programming menu: there are 2 possibilities:

- 1) confirm the modifications brought pressing the **OK** key
- 2) exit from the menu leaving the values unchanged

4. Key menu - Chocolate selection

Press one of the dispensing keys. The following message will appear on the display:

| | |
|----------------|-------------|
| * KEY MENU | + |
| Type | 1 chocolate |
| repetition | 001 |
| dispen. type | step |
| tot time disp. | 12.0s |
| on time disp. | 3.0s |
| off time disp. | 1.0s |
| H2O delay | 3.0s |

The following chocolate selection parameters can be modified:

- **type** (key personalizing, e.g.: 1 coffee, 1 cappuccino, 2 coffee, 2 cappuccini, 1 chocolate, 2 chocolates, 1 mixed chocolate, 2 mixed chocolate, 1 milk, 2 milk, short washing, stop, null);

- **repetition** (it represents the number of distributions of the selected drink, from 001 to 099);
- **dispen. type** (dispenser type, 2 setting options of the cacao powder dispensing:
 - continuous*: continuous powder distribution for the time set in "tot time disp.",
 - step*: step powder distribution, where "on time disp." indicates the powder distribution time and "off time disp." the off time);
- **tot time disp.** (total time dispenser, 0 ÷ 30 seconds with increments of 0.1; it represents the time of distribution of the dispenser, correspondent at the total time of activation in continuous modality);
- **on time disp.** (time of activation of the dispenser, 0 ÷ 5 seconds with increments of 0.1; only in *step* modality);
- **off time disp.** (off time of the dispenser, 0 ÷ 5 seconds with increments of 0.1; only in *step* modality);
- **H2O delay** (water time distribution after the time of distribution of the dispenser, 0 ÷ 5 seconds with increments of 0.1).

Key menu - "Mixed Chocolate" selection

Press one of the dispensing keys. The following message will appear on the display:

| | | |
|-------------------|--------------|---|
| * KEY MENU | | + |
| type | 1 mixed choc | ↑ |
| repetition | 001 | |
| MIXED CHOC. START | | |
| dispen. type | step | |
| tot time disp. | 12.0s | |
| on time disp. | 3.0s | ↓ |
| off time disp. | 1.0s | - |

The following mixed chocolate selection parameters can be modified:

- **type** (key personalizing, e.g.: 1 coffee, 1 cappuccino, 2 coffee, 2 cappuccini, 1 chocolate, 2 chocolates, 1 mixed chocolate, 2 mixed chocolate, 1 milk, 2 milk, short washing, stop, null);
- **repetition** (it represents the number of distributions of the selected drink, from 001 to 099);
- **MIXED CHOC. START** (pressing the PRG key (29) will appear a special panel where is possible to program the sequence of coffee, milk and chocolate distribution in order to obtain the wished combination).
See paragraph "Mixed chocolate start" on the following pages.
- **dispen. type** (dispenser type, 2 setting options of the cacao powder dispensing:
continuous: continuous powder distribution for the time set in "tot time disp."; *step*: step powder distribution, where "on time disp." indicates the powder distribution time and "off time disp." the off time);
- **tot time disp.** (total time dispenser, 0 ÷ 30 seconds with increments of 0.1; it represents the time of distribution of the dispenser, correspondent at the total time of activation in continuous modality);

- **on time disp.** (time of activation of the dispenser, 0 ÷ 5 seconds with increments of 0.1; only in *step* modality);
- **off time disp.** (off time of the dispenser, 0 ÷ 5 seconds with increments of 0.1; only in *step* modality);
- **H2O delay** (water time distribution after the time of distribution of the dispenser, 0 ÷ 5 seconds with increments of 0.1).
- **Milk dose** (milk dispensing time: 0 ÷ 60 seconds, with increments of 0.1);
- **Emulsion** (foamed milk dispensing time, from 0 to 60, with increments of 0.1 seconds);
- **HM/FM** (this parameter lets you decide which type of milk - frothed (**FM**) or regular (**HM**) - to dispense first.
YES: regular milk – frothed milk
NO: frothed milk – regular milk.
- **cold milk dose** (cold milk dose; from 0 to 20 with increments of 0.1 seconds);
- **v Mpl hot milk** (hot milk pump motor speed, from 1 to 256 pulses with increments of 1.
Milk temperature depends from this parameter:
- low value = high milk temperature;
- high value = low milk temperature);
- **Water dose** (volumetric dosage pulses: 0 ÷ 999, with increments of 1)
- **Coffee dose MSx** (left grinder encoder pulses: 0 ÷ 200, with increments of 1)
- **Coffee dose MDx** (right grinder encoder pulses: 0 ÷ 200, with increments of 1)
- **backing** (the return time for the chamber, which can be adjusted for each key: from 0 to 1 with increments of 0.1 seconds.)
- **infusion** (infusion time: 0 ÷ 6 seconds, with increments of 0.1)
- **pressure release** (pressure release time: 0 ÷ 5 seconds, with increments of 0.1)
- **drying** (pod drying time; 0 ÷ 5 seconds, with increments of 0.1).

"Mixed chocolate start" function

With the "Mixed chocolate start" function is possible to program the sequence and the duration of distribution of coffee, milk and chocolate cycles in order to obtain the wished combination.

| | | |
|------------------------|--------------|---|
| * KEY MENU | | |
| type | 1 mixed choc | + |
| repetition | 001 | ↑ |
| MIXEDCHOC.START | | |
| dispen. type | step | |
| tot time disp. | 12.0s | |
| on time disp. | 3.0s | ↓ |
| off time disp. | 1.0s | - |

Pressing the PRG key (29), on the display will appear:

| | |
|--------------|-----|
| Coffee start | 10s |
| start cycle | |
| ▶ | 90 |
| | 15s |
| | 12s |

The durations of the single beverage cycles are represented with rectangles, at the right side of which appear:

- pulses, for the coffee (first line);
- the total duration in seconds, for milk (second line) and chocolate (third line).

Use the "+" (30) and "-" (31) keys to position the cursor on a beverage line; the first two lines display the corresponding parameters:

- **start** (dispensing delay of the selected beverage; 0 to 90, with increments of 1 second, or with the OFF option that disable the corresponding beverage);
- **from** (beverage dispensing start, 4 setting options:
 - start cycle*, from the pressure of the selection key;
 - end of coffee*, from the end of the coffee cycle;
 - end of milk*, from the end of the milk cycle;
 - end of choc.*, from the end of the chocolate cycle).

In order to change the described parameters, position the cursor ▶ on the corresponding beverage, then press the PRG (29) key; the first two lines and the beverage rectangle blink:

| | |
|----------------|-----|
| ■ Coffee start | 10s |
| start cycle | |
| | 90 |
| | 15s |
| | 12s |

Move the cursor ■ to the entry to be modified and press again the PRG (29) key; programming mode is now active and the cursor will turn in an arrow →.

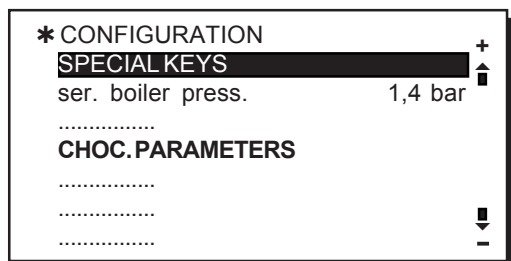
Using the "+" (30) and "-" (31) keys is possible to change the value; at the same time, see also the effect on the composition of the final cycle in the lines below.

| | |
|----------------|-----|
| → Coffee start | 10s |
| start cycle | |
| | 90 |
| | 15s |
| | 12s |

Once the operation is completed, press the RES (24) key to confirm the data, to change menu or to exit programming mode.

5. Configuration menu

Chocolate parameters

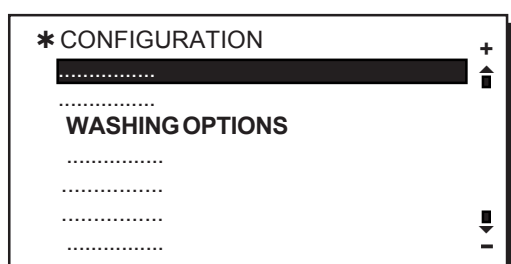


CHOCOLATE PARAMETERS - includes 2 sub-menus:

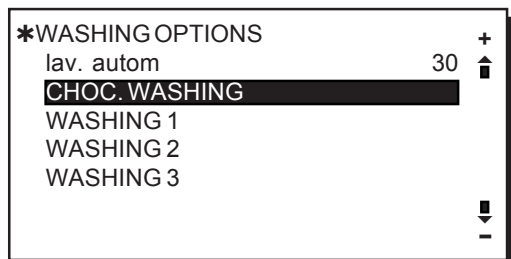
disp. delay - dispenser activation waiting time from the beginning moment of the cycle; 0 to 5, with increments of 0.1 second;

mixer delay - time of activation of the mixer at the end of the cycle in order to aspirate steam; 0 to 5, with increments of 0.1 second.

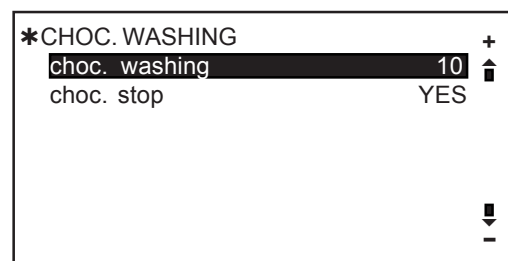
Washing options



WASHING OPTIONS - includes five sub-menus for setting washing parameters, one of which to program the chocolate circuit washing cycle:



CHOCOLATE WASHING - includes 2 parameters:



choc. washing - when the setting time of this parameter runs out, appear the chocolate circuit washing demand. 1 to 20, with increments of 1 second, or OFF (wash cycle demand is disabled). The timer starts at the end of each chocolate dispensing phase.

choc. stop - when the function (YES) is set, if the wash cycle does not take place within 60' from the moment that the message appears, the machine is blocked and all selections for chocolate are inhibited.

EXECUTION MODALITY - when the buttons (26) and (28) are pressed at the same time (for at least 1 second), the chocolate circuit washing is performed.

The cycle can be activated with the same modality also without a washing demand.

6. Entering Standard Data

Setup

The "Setup" entry displays the setup settings introduced during the Data Standard insertion phase:

```
STANDARD DATA
--> 1 GR
--> Cappuccino
--> OK YES
--> Choc. YES
--> TURBOSTAM NO
--> Menu 1
```

Entering Standard Data

Before performing this operation, switch off the machine and position **dipswitch 1** on display screen = **ON**, then switch on the machine. If the procedure described above is not performed (dip1=ON), this message will appear on the display:

```
*****
NEWSOFTWAREVERSION
LOAD
STANDARD DATA
*****
```

When inputting the Standard Data, you are prompted to input data regarding model and type of machine:

- **MODEL:** 1 group;
- **TYPE:** cappuccino, coffee;
- **OK KEY:** YES / NO;
- **CHOCOLATE MODULE:** YES / NO;
- **TURBOSTEAM:** YES / NO;
- **MENU:** different types of drinks

Using the "+" key (30) and the "-" key (31), select the parameters, then press the "PRG" key (29) to confirm the details.

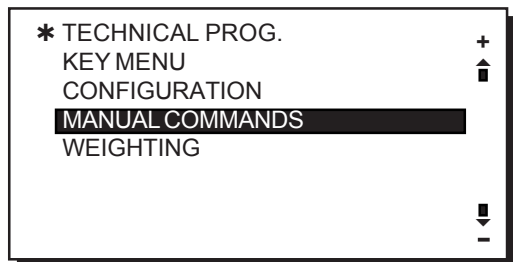
After this operation, switch off the machine and reset the **dipswitch 1** display screen to **OFF**.

Then:

- Switch on the machine again
- Reset date and time, and reset the desired language, if needed.
- Reset maintenance parameters (see "Configuration menu - Maintenance")
- Zero the error and wash log.

7. Manual control panel

Move the cursor to the "manual commands" line with the "+" (30) and "-" (31) keys to access the manual control panel.



A pressure of "PRG" key (29), visualizes on display the following panel:

Panel 1

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|
| M | C | S | x | | 1 | | | M | L | | 1 | | | M | C | D | x | | 1 | |
| M | S | x | | 0 | 4 | 1 | | D | K | | 1 | | | M | D | x | | 0 | 0 | 0 |
| L | I | V | | O | K | | | F | 2 | | 0 | | | | | | | | | |
| E | V | C | | O | F | F | | F | 1 | | 1 | | | D | v | | | 0 | 0 | 0 |
| R | C | | | O | F | F | | F | 3 | | 0 | | | C | F | | | 1 | | |
| P | | 1 | . | 3 | b | a | r | | | | | | | R | G | R | | O | F | F |
| T | V | | 0 | 6 | 5 | ° | C | | | | T | G | R | | 0 | 8 | 5 | ° | C | |
| | ± | | → | | P | R | G | | → | | X | X | X | : | | R | E | S | | |

- Press "+" (30) or "-" (31) to display the various components;
- Press "PRG" (29) to select the component to move and to switch to the next panel M2;
- Press "RES" (24) to quit manual mode.

Panel 2

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---|---|---|---|---|---|---|---|
| M | C | S | x | | 1 | | | M | L | | 1 | | | M | C | D | x | | 1 | | |
| M | S | x | | 0 | 4 | 1 | | D | K | | 1 | | | M | D | x | | 0 | 0 | 0 | |
| L | I | V | | O | K | | | F | 2 | | 0 | | | | | | | | | | |
| E | V | C | | O | F | F | | F | 1 | | 1 | | | D | v | | | 0 | 0 | 0 | |
| R | C | | | O | F | F | | F | 3 | | 0 | | | C | F | | | 1 | | | |
| P | | 1 | . | 3 | b | a | r | | | | | | | R | G | R | | O | F | F | |
| T | V | | 0 | 6 | 5 | ° | C | | | | | | T | G | R | | 0 | 8 | 5 | ° | C |
| | ± | | → | | R | E | S | | → | | X | X | X | : | | O | F | F | | | |

- Press "+" (30) or "-" (31) to activate the components, if they have a direction, use "+" (30) and "-" (31) to alternate the activations (+Lh/-Rh or +Up/-Down).
- Press "RES" (24) to return to panel M1.

Legend

1. **F1** Unit limit switch: middle 0/1*
F2 Unit limit switch: high 0/1*
F3 Unit limit switch: low 0/1*

*1, limit switch in position

2. **CF** Grounds drawer
Dv Volumetric meter, displays incremental count, zeroed on entry of M1 menu
DK Decaffeinated coffee drawer
LIV Water level in boiler
MCDx "No coffee" sensor right hopper
MCSx "No coffee" sensor left hopper
MDx Right grinder counter
ML "No milk" sensor
MSx Left grinder counter
RC Boiler resistance
RGR Unit resistance
TGR Unit temperature, in C° (or F°)
TV Steam temperature (if the Turbosteam system is not present, this parameter is not displayed)

3. **xxx** defines the moving part that can be accessed.

Here is the table of symbols used to define the moving parts that can be accessed:

| | |
|----------------|------------------------------------------------------------------------|
| Mgr | motor unit ratiomotor |
| Ech/Eci | Water solenoid valve and steam solenoid valve of the chocolate machine |
| Mmx/Mix | Chocolate machine mixer motor |
| Mds/Dsp | Chocolate machine dispenser motor |
| Eva | Water after solenoid valve |
| Ei | Cappuccino maker wash cycle solenoid valve |
| Ear | Air solenoid valve |
| Em | Milk solenoid valve |
| Evc | Boiler load solenoid valve |
| Eac | Hot water solenoid valve |
| G | Coffee dispensing solenoid valve |
| Mpm | pump motor |
| MDx | grinder 2 motor |
| MSx | grinder 1 motor |