

EQUINOX

Software revision c18.00.180 102



Easy Reference:

Model name of the scale:	
Serial number of the unit:	
Software revision number (Displayed when power is first turned on):	
Date of Purchase and Address:	
Name and address of the supplier:	

CONTENTS
PN 3.01.6.6.14277, Rev B, June 2018

1.0	SAFETY INSTRUCTIONS AND WARNINGS	3
2.0	STORAGE CONDITIONS	3
2.1	OVERVIEW AND ACCESSORIES INSTALLATION.....	4
2.2	INSTALLATION LOCATION.....	6
2.3	START-UP.....	6
3.0	SERIAL INTERFACE CONNECTIONS	8
3.1	TOUCH SCREEN DISPLAY OPERATION	9
3.1.1	<i>Operating instructions of the numeric and alphanumeric keypads for entering data.....</i>	<i>11</i>
4.0	STANDBY, LOGOUT, SWITCHING OFF FUNCTIONS	13
5.0	SIMPLE WEIGHING	14
6.0	CUSTOMISED SETTINGS	16
6.1	SELECTING THE LANGUAGE	17
6.2	SETTING DATE AND TIME.....	18
6.3	CREATING, CHANGING AND SELECTING THE USER PROFILE	19
6.3.1	<i>Recovering and removing passwords.....</i>	<i>24</i>
6.4	PREFERENCES: LANGUAGE, DISPLAY APPEARANCE, BRIGHTNESS AND BEEPER 25	
6.5	SETTING THE WEIGHING PARAMETERS.....	26
6.6	SELECTING THE UNIT OF MEASUREMENT	27
6.7	SELECTING THE CUSTOM MEASUREMENT UNITS	28
6.8	CALIBRATING AND SETTING THE CALIBRATION MODE	29
6.9	SETTING THE PERIPHERALS	32
6.10	INFO ABOUT THE SOFTWARE.....	36
6.11	SERVICE.....	36
6.11.1	<i>System data backup and restore.....</i>	<i>36</i>
6.11.2	<i>Factory reset.....</i>	<i>38</i>
6.11.3	<i>Softwareupdate</i>	<i>39</i>
6.11.4	<i>Balance technical service.....</i>	<i>39</i>
7.0	FUNCTIONS MENU	40
7.1	USING THE DATABASE	41
7.2	PARTS COUNTING FUNCTION.....	42
7.2.1	<i>Parts count screen with “Statistics” function.....</i>	<i>44</i>
7.2.2	<i>Parts count screen with “Check weighing” function.</i>	<i>45</i>
7.3	“CHECK WEIGHING” FUNCTION.	46
7.3.1	<i>“Check weight” screen function</i>	<i>47</i>
7.4	“PERCENTAGE WEIGHT %” FUNCTION	48
7.4.1	<i>Percentage Weight % with “Statistics” function.....</i>	<i>50</i>
7.4.2	<i>Screen of Weight % with “Check weighing” function.</i>	<i>51</i>
7.5	DENSITY FUNCTION	52
7.5.1	<i>“Density of a solid” calculation function screen.</i>	<i>54</i>
7.5.2	<i>“Density of a liquid” calculation function screen.....</i>	<i>54</i>

7.5.3	<i>“Density index” calculation function screen</i>	55
7.6	“STATISTICS” FUNCTION	56
7.6.1	<i>“Simple statistics” function screen</i>	57
7.6.2	<i>“Database statistics” function screen</i>	58
7.7	“TEXTILE” FUNCTION	60
7.7.1	<i>“Textile” function screen</i>	61
7.7.2	<i>Textile function database with statistics enabled screen</i>	62
7.8	DYNAMIC/ ANIMAL WEIGHING FUNCTION.....	64
7.9	“PEAK HOLD” FUNCTION	66
7.10	“FORMULATION” FUNCTION.....	67
7.10.1	<i>Simple formulation function screen</i>	70
7.10.2	<i>Database formulation function screen</i>	71
7.11	SETTING THE GLP DATA.....	73
8.0	TECHNICAL FEATURES	75

1.0 SAFETY INSTRUCTIONS AND WARNINGS



CAUTION!

Please read these instructions for installation and operation carefully before starting your work with the new balance. Using a balance other than the one in this manual does not guarantee the safety of the product. Carefully store the instruction manual.

Equinox balances comply with the directives and standards for electrical equipment, electromagnetic compatibility and safety requirements.

If the installation is not performed in accordance with the instructions given or is improperly used, all warranty rights will lapse.



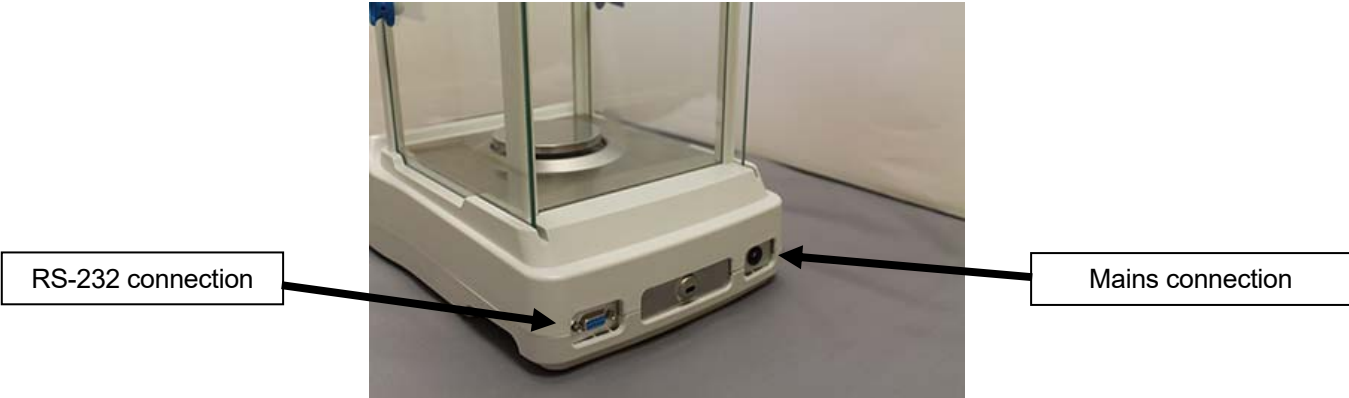
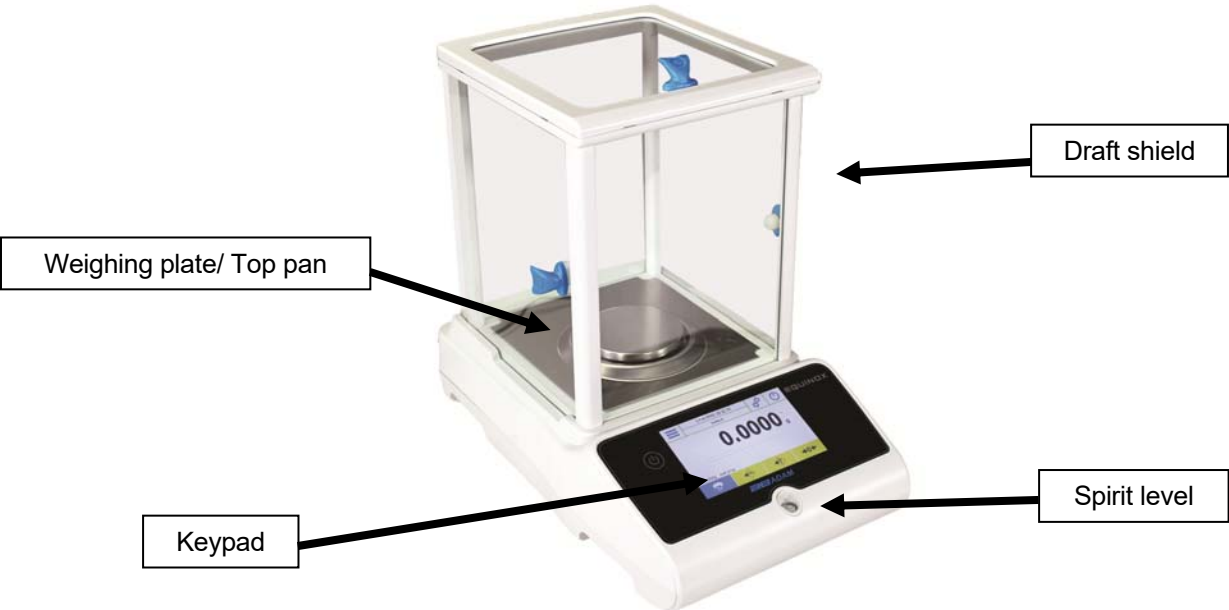
- Do not use the balance in areas at risk of explosion.
- Before starting the balance for the first time, check if the power supply unit or the power cord is damaged and check if the power voltage corresponds to the mains voltage.
- To disconnect the balance from mains power, unplug the power cord first.

2.0 STORAGE CONDITIONS

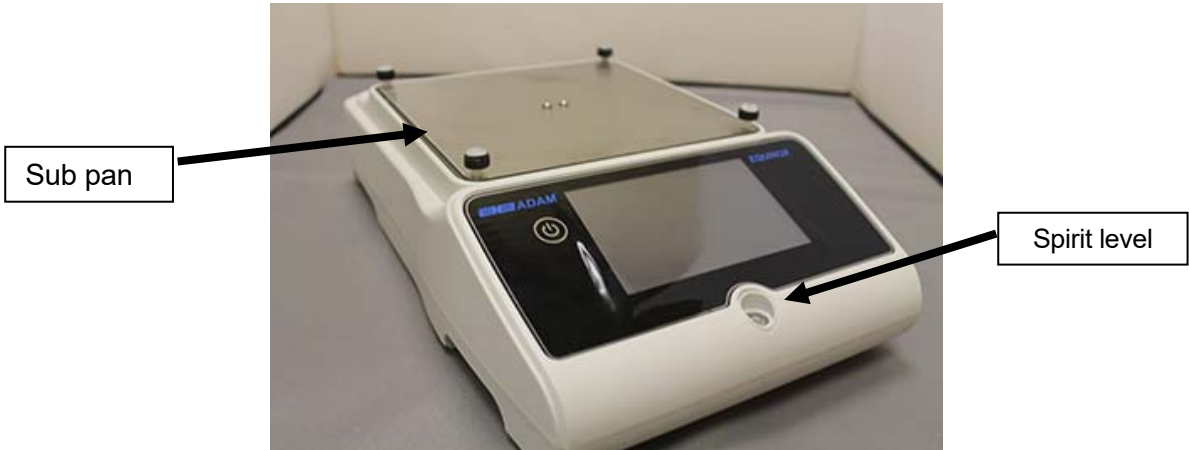
- **Storage temperature:** +5 °C...+40°C
- **Storage humidity:** 45% - 75%.
- **Keep the balance packaging.** In the event of return for service; disconnect all cables, top pans and any accessories to prevent unnecessary damage in transit.
- **Do not expose** the balance to extremes of temperature and humidity, and avoid violent shocks.

2.1 OVERVIEW AND ACCESSORIES INSTALLATION

EAB & EPB models



ETB models




2.2 INSTALLATION LOCATION


- **Remove** the balance and all its accessories, from the packaging and check for visible damage to the balance.
- **Do not install** the balance in any room where there are any air currents, strong heat shifts, and vibrations.
- **Do not use** the balance in explosive atmospheres.
- **The ambient humidity** to use the balance should be between 45% and 75%.

2.3 START-UP

For internal calibration models, manually remove the brass screw at the bottom left-hand of the balance and in its place, insert the chrome screw.



CAUTION!



EAB & EPB models

- 1) Level the balance by adjusting the legs on the front of the balance.

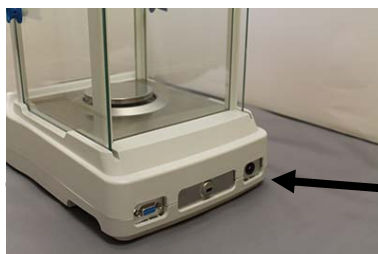


Adjustable feet

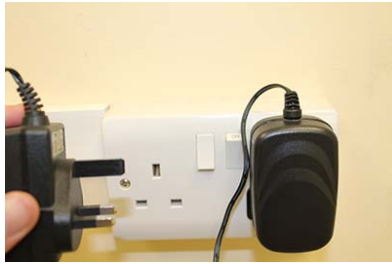


Spirit level

- 2) Insert the supplied power supply unit jack into the connector on the back of the balance.



3) Then connect the power adapter to the power outlet near the balance. Do not use cables/extensions that do not comply with applicable regulations.



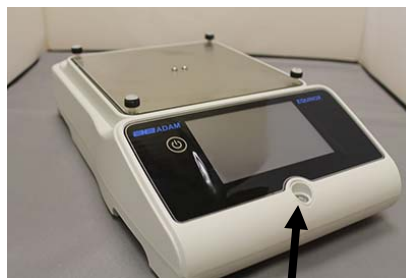
N.B. Check that the power shown on the balance plate label corresponds to the one in use in the country of use.

ETB models

1) Level the balance by adjusting the legs on the front of the balance.

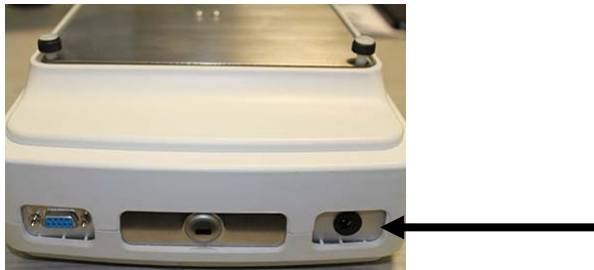


Adjustable feet

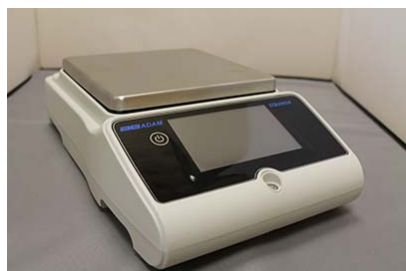


Spirit level

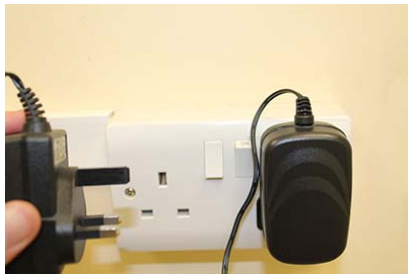
2) Insert the supplied power supply unit jack into the connector on the back of the balance.



3) Fit the top pan onto the 4 prongs located on the sub pan, adjust until stable.



4) Then connect the power adapter to the power outlet near the balance. Do not use cables/extensions that do not comply with applicable regulations.



N.B. Check that the power shown on the balance plate label corresponds to the one in use in the country of use.

All models:

Wait 30 minutes after switching on and calibrate the balance after leveling it. For calibration procedures, please refer to the "**calibration chapter**". Perform the balance calibration whenever it is moved to another place.

Do not drop excess weight objects on the balance weighing plate to prevent damaging it.

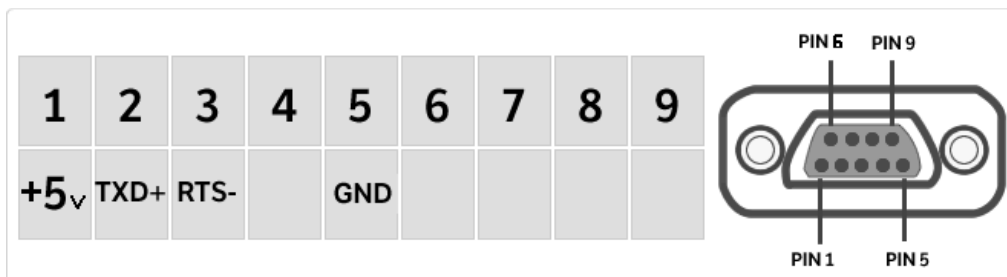
Service must be performed by specialized personnel and the spare parts used must be genuine. To do so, contact the dealer or Adam Equipment at www.adamequipment.com.

3.0 SERIAL INTERFACE CONNECTIONS

The balance is equipped with an RS 232C interface for connection to a serial printer. To ensure communication between the balance and a printer, the following conditions must be met:

Connect the printer using a suitable cable matching the position of the pin outputs with the balance pin outputs shown below.

Set the transmission speed and type of printer correctly according to the parameters of the printer. See Chapter 6.9.



N.B. It is recommended that you use the Adam ATP printer to ensure proper print operation. (If you are using different printers, you may not be able to print the chart).

3.1 TOUCH SCREEN DISPLAY OPERATION

The balance comes with a 5" colour touch screen display that lets you touch the screen in active areas to quickly access the various menus and features.



1

Indication area for weighing values

g

Measuring unit indication, by tapping the symbol, you can access the measurement unit menu and select the desired unit.

~

Stability indicator.

□□□□

Capacity tracker

Max 6200g d=0.01g

Shows the balance maximum capacity and increment.

2

The Top Bar displays the date, time, user selection, access to weighing functions, weighing and balance shutdown parameters setting.



Default

Tap this area to access the available function menu.

Tap this area to access the menus for weighing settings, display preferences, peripheral units setup, and user customisation.

Tap this area to access the switching on or off menu for the balance standby parameters.

Tap this area to access the users menu to quickly select programmed users.

3

Function key display bar.



Touching the keys displayed in this area, operates the corresponding function. Below are all the keys available in the simple weighing screen. The function key display bar varies according to the selected applications.

Key bars available in simple weighing screens:



Print: Data printing key.



-0-: Zero key.



-T-: Tare operation key.



Tm: Key for manually entering a tare value.

3.1.1 Operating instructions of the numeric and alphanumeric keypads for entering data

The operation of the alphanumeric keyboard described below works for all data entry operations in the various operating modes.

Mode 1



Alphanumeric keypad.

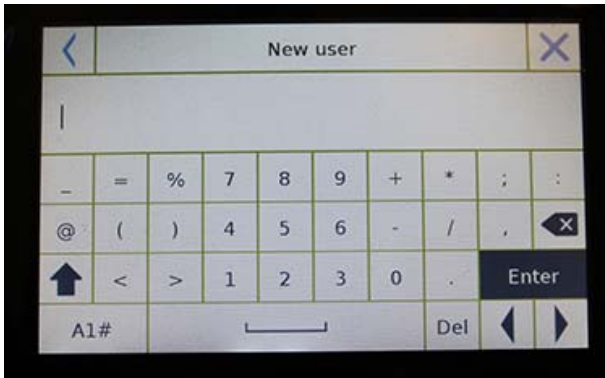


Selection key for entering uppercase or lower case letters



Delete key of the last entered character

Mode 2



Delete key for all entered characters

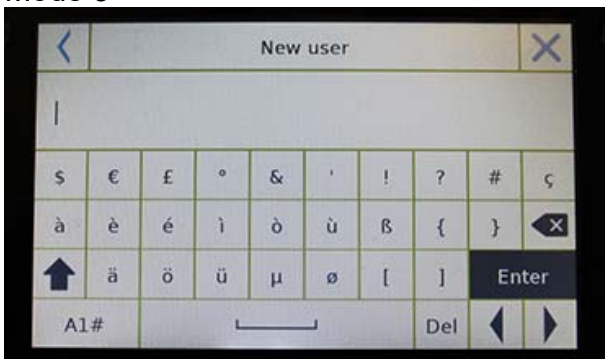


Back and forward cursor movement key on the inserted data string



Key to confirm and store the entry

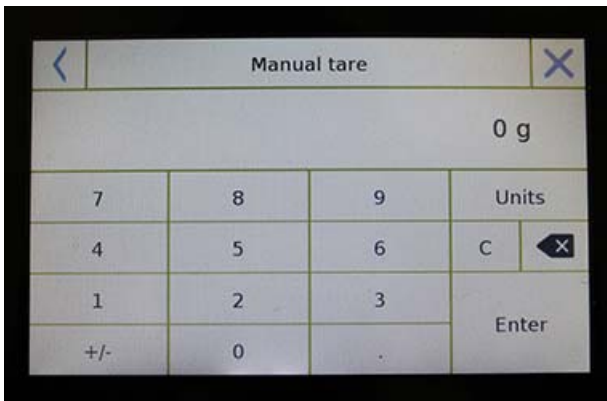
Mode 3



Keyboard character selection key. Tap this key to rotate the various characters available for entry:
Mode 1, Mode 2, Mode 3



Cancel key.



Numeric keypad.



Delete key of the last entered character



Key to confirm and store the entry



Delete key for all entered characters



Input operation cancellation key.



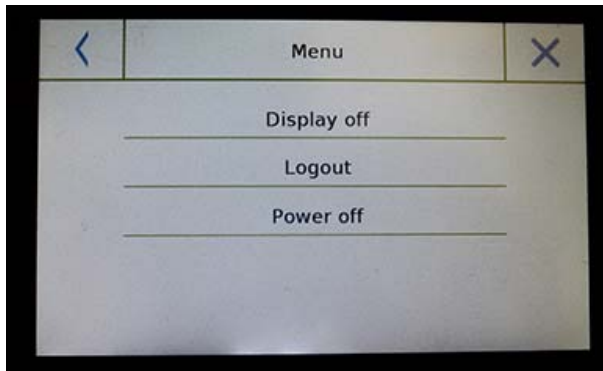
Key for selecting the unit of measurement.

4.0 STANDBY, LOGOUT, SWITCHING OFF FUNCTIONS

After inserting the power cord into the mains socket, the balance will automatically turn on showing the basic weighing screen.



Tap the area with the symbol below to access the power off menu.



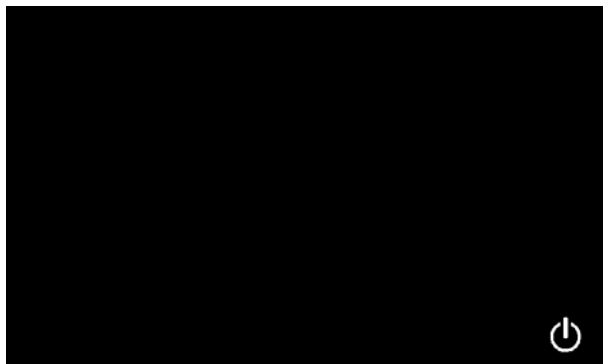
There are 3 power off modes:

- Display off.
- Logout.
- Power off.

Display off

By selecting the display off mode, the balance will enter standby mode, the display will be off and it will remain ON only in the lower-right command to turn on the system again.

Touch the symbol to return to the basic weighing screen.



Logout

Select the logout mode and touch the “Start” key to open the user login, if the user is password-protected, you will be required to enter it.

Touching the key , will let you select another user and start the balance again.

Switching off

By selecting the power-off command, the balance will be off. To restart, you will need to press the on/off button or remove the power plug and reinsert it.

5.0 SIMPLE WEIGHING



On the entry weighing screen, the area displaying the weight shows the weight value on the top of the balance's weighing plate/ Top pan.

Use the **-0-** key to set a new zero point and reset all tare values.

If working with containers, first zero the balance. Place the container and press the **"-T-"** key.

Or use the **Tm** key to enter a known tare value manually.

The **Net** symbol on the display indicates the net weight. Press **"Net"** to see the gross weight **"Lrd"**.

"T= " indicates the tare value captured.

Place the material to be weighed on the balance and wait for the stability symbol (see previous image) to light up before detecting the value.

Stability symbol



Press “**Gro**” and “**Net**” to display the gross and net weights and vice versa.

To reset the balance, remove all items from the plate and press the “- 0 -” key.

If you entered a manual tare, press “**T-Man/ Tm**” and “**C**” key to clear the tare value.



6.0 CUSTOMISED SETTINGS

This section explains all the customisation features of the balance. Each function described below will allow you to set up the balance differently for each user.

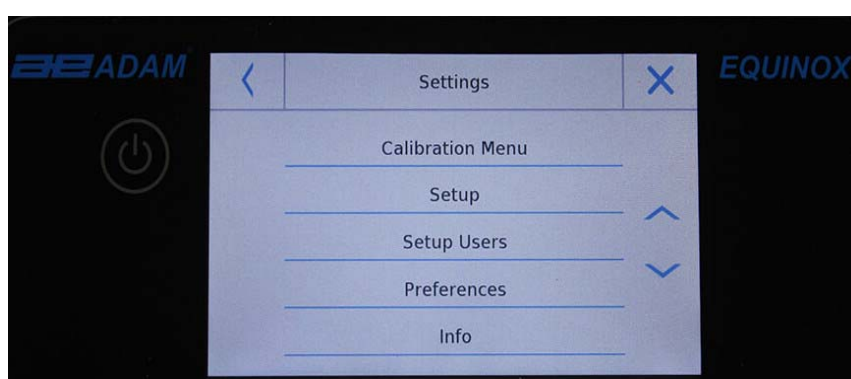
N.B. Some settings can only be modified by users with administrator permissions.

- Calibration menu
- Setup
- Users setup
- Preferences
- Info
- Service

To access the settings menu, tap the button in the top bar of the display:



The following screens will be displayed with all the functions of the setup menu.



To scroll through the next and back pages, tap on the arrows.

Return to the previous screen



Exit from the menu



Function indicator not available or not enabled for users without administrator rights.

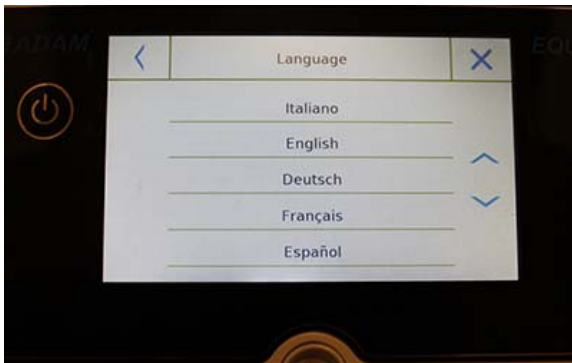
6.1 SELECTING THE LANGUAGE

In the settings menu, select the "Preferences" function.



Tap "Language" in the menu list.

You can select the balance's use language.



Then select the desired language.

Automatically, all screens will be translated into the selected language.

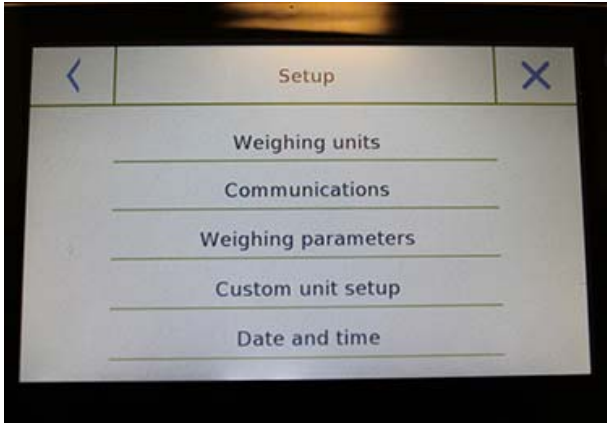
N.B. The selected language will only be assigned to the user with whom the selection was made.

6.2 SETTING DATE AND TIME

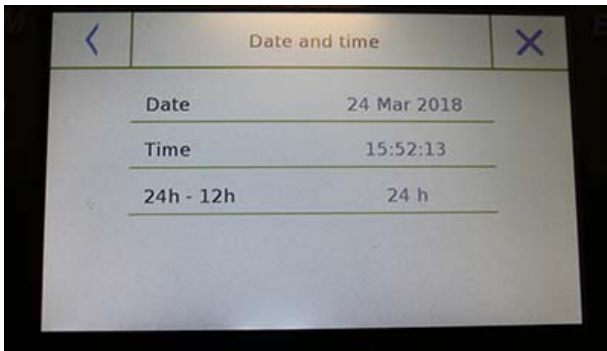
Select **“Setup”** in the setup menu.

Enter the new date and time values. You can also select the 24-hour or 12-hour format for the hour.

N.B. The date and time setting is not customisable for each user, but once defined it will be changed for all users.



Tap **“Date and time”** in the menu list.

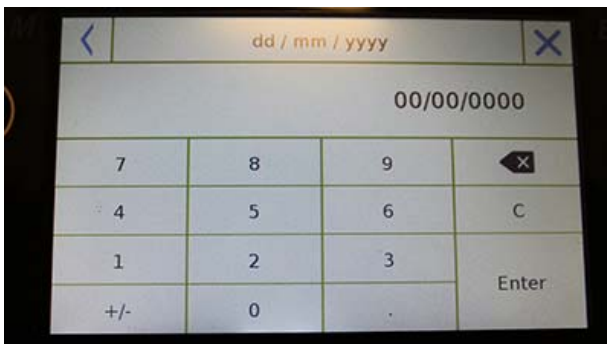


Tap **“Date”** in the menu list to change the date.

Tap **“Time”** in the menu list to change the time

Tap **“24h – 12h”** in the menu list to set the time format.

A numeric keypad will be displayed for entering the date and time in **“dd/mm/yyyy”** mode for the date and **“hh:mm:ss”** for the time



Tap **“OK”** to confirm the new settings, **“C”** to delete all entered data or tap **“X”** to exit without changing the value.

6.3 CREATING, CHANGING AND SELECTING THE USER PROFILE

The balance can be customised for multiple users. You can create up to 10 different user profiles. When first turned on, the “**Default**” user is enabled and this user cannot be either deleted or renamed.

Each user can then fully customise all the database settings. Once you've created your profile, just touch "**User Area**" on the Home screen and select the user you want. All settings for the selected user will then be loaded. From this moment on, any changes made to the enabled user will be stored and made available each time the user is selected.

You can create two types of user:

- **Administrator**
- **Standard**

Creating an administrator user allows the user to access all the balance setting features and changing or deleting other users.

Creating a standard user allows the user to access only some of the balance setting features. The “No Access” display that appears when you touch a feature that is not available for the standard user is:



You must log on with an administrator user to change the protected functions. After you have created an administrator and standard user, you will be able to assign an access password that will be required each time you select the user and turn on the balance.

Below are all operations related to user modification and deletion.
In the settings menu, select "**Setup Users**"



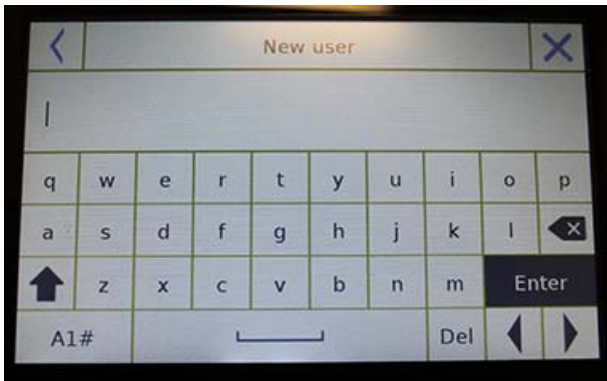
This screen allows you to enter the following functions:

- New user
- Edit user
- Rename user
- Copy users
- Delete user
- User Password



▪ **New user**

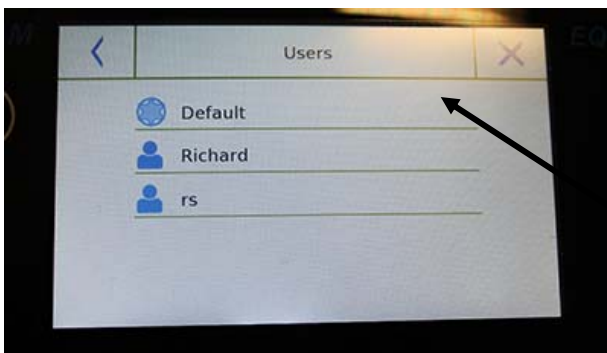
By selecting the "New User" function, you can define a new user. The maximum number of users that can be entered is 10. You will be prompted to select whether the user you want to create must have administrator powers or be a standard user.



The keyboard for entering the username will then be automatically activated. The maximum number of characters allowed is 30.

The insertion method distinguishes between uppercase and lowercase letters, for example, a user entered as "TEST" will be different from a user entered as a "test".

After searching for a new user, go back to the main screen.



Tap the user selection area and select the user you have just created. From now on, all changes to the functions, databases, or analytics results will be associated with the user, and each time they are called, they will be automatically reloaded.

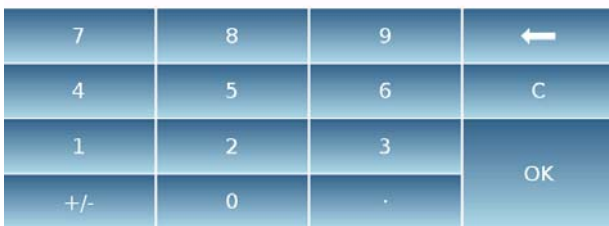
The left-hand symbol of the username indicates the type of user:



Administrator



Standard



▪ **Edit user**

In the "Edit user" menu, you can change the user type ("Standard or Administrator") and temporarily unlock the standard user locked settings.

Type

If the user is a standard type in order to modify the user type, a user's password with administrator rights will be required.

Select "**Standard**" to set the user in standard mode or select "**Administrator**" to set the user with administrator rights.

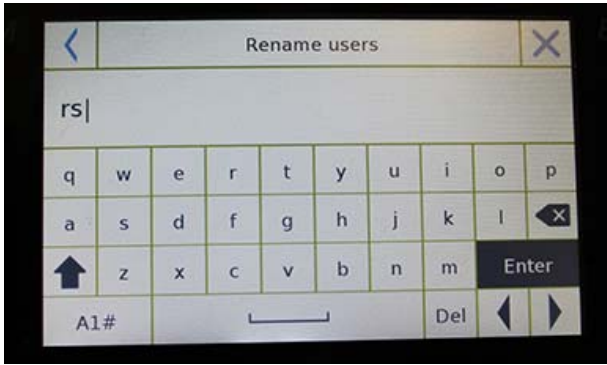
Settings

Selecting this function will prompt you to enter a user's password with administrator rights.

Then select the "**Enable**" function to temporarily unlock the standard user or select the "**Disable**" function to lock the user again.

After you unlock the user in the base screen on the left side of the username, an open padlock will appear.

Unlocking will remain active until it is locked again through the user editing menu, or when another user is selected or the balance is turned off.



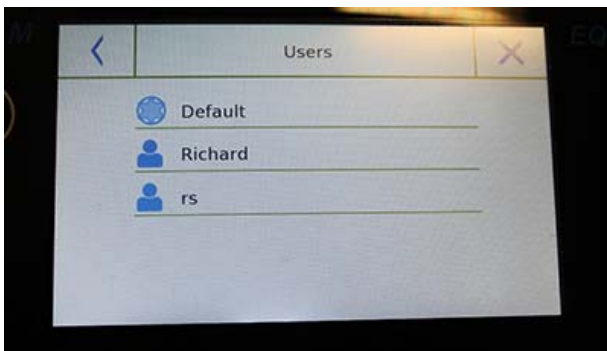
- **Rename users**

By selecting the "Rename Users" function, you can change the name of the selected user.

Select the user you want to rename.

The name change keyboard will be displayed.

Tap "X" to cancel the operation or change the name and confirm with the "**Enter**" key.

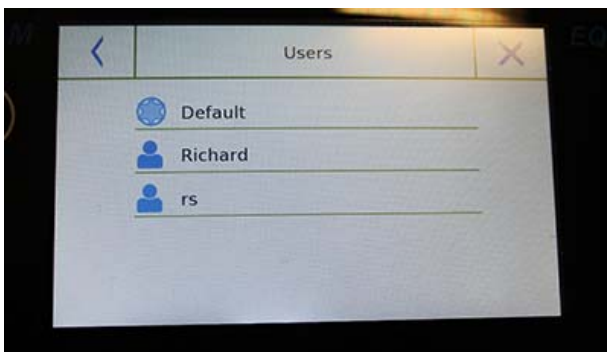


- **Copy users**

By selecting the "Copy Users" function, you can create a new user with the same configuration as an existing user. Existing databases will not be copied and no new password protection will be enabled. To copy the databases of another user, you need to export and import them to the desired user.



Select the user you want to duplicate.

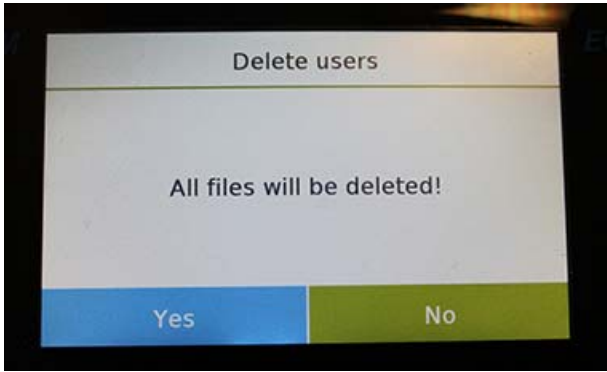


Enter the name to assign to the new user and confirm with the "**Enter**" key.

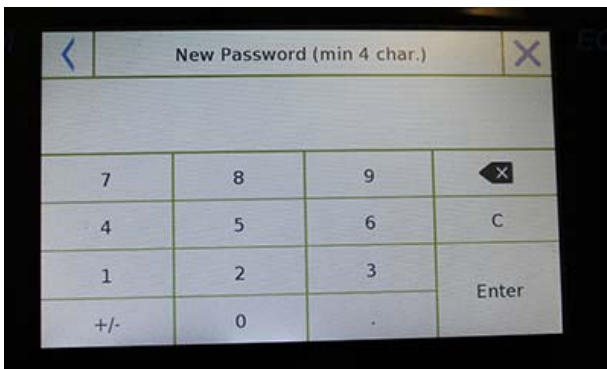
- **Delete users**

By selecting the "Delete Users" function, you can permanently delete a user and its databases.

The list of stored users will be displayed, then select the user to delete.



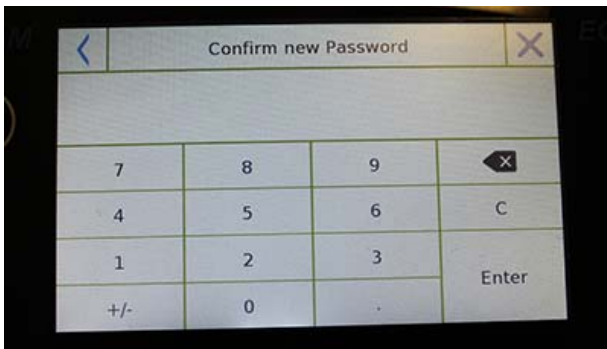
Confirm by tapping the **"Yes"** key or cancel the operation by tapping the **"No"** key.



▪ **User password**

By selecting the "User Password" function, you will be able to assign a "Standard" or "Administrator" user password.

You will then be asked to re-enter the password for confirmation.



Enter it and tap the **"OK"** key.

From this moment on, every time you want to access the user, you will be required to enter your password.

N.B. Write down your password and store it in a safe place.

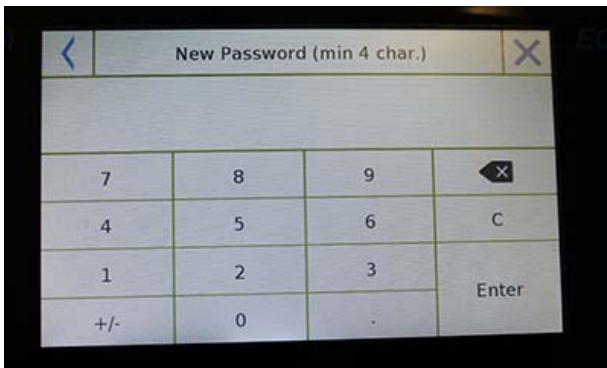
Warning! In case of loss, you will only be able to recover the password for the "Standard" user. The recovery procedure is described in chapter 6.3.1.

6.3.1 Recovering and removing passwords

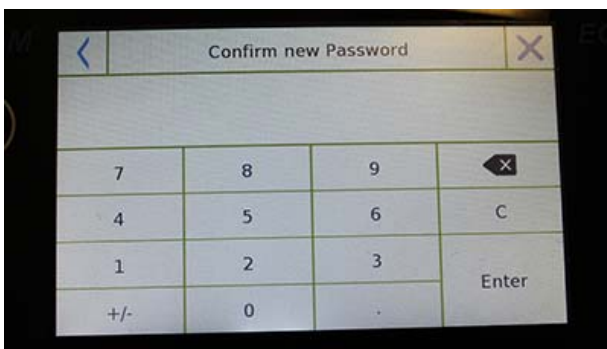
User password protection is applicable to both "Standard" and "Administrator" users. In the first case, if the user forgets their password, you can update it from the **"User Password"** menu.



After selecting "User Password", you will be asked to enter the **"Old Password"**. Enter an administrator password.



Then enter the **"New password"** to assign to the user.



Confirm the password you have just entered.

From now on, the "Standard" user will have a new login password.

N.B.
To remove the password, upon the request for entering the new password and confirmation of the new password, tap the **"OK"** key without typing any value.

CAUTION! If the lost password is that of an administrator, you will need to contact a Service Center to retrieve it.

6.4 PREFERENCES: LANGUAGE, DISPLAY APPEARANCE, BRIGHTNESS AND BEEPER

For each user, you can set a preference display, the language of use, the activation tone of the beeper and the brightness of the display. Below are the various options available and their activation mode.

In the settings menu, select the "**Preferences**" function.



The parameters that can be set in the "**Preferences**" menu are as follows:

- Language (see chapter 6.1)
- Appearance
- Background
- Brightness
- Sound
- Functions

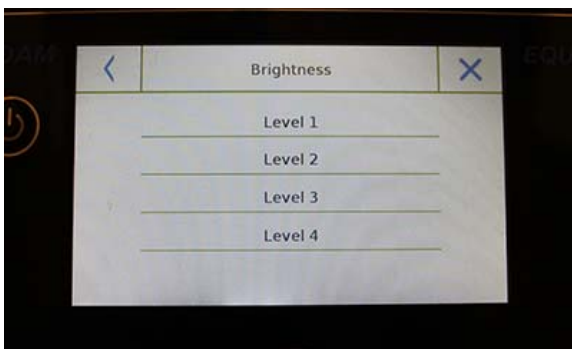


Appearance

You can choose between 5 different colour combinations and select the desired one by tapping the corresponding key

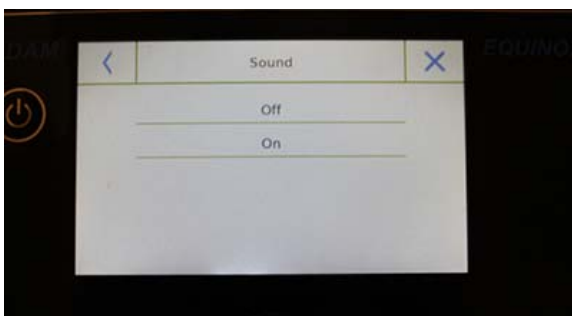
Background

You can choose a white or black background. Select the desired one by tapping the corresponding key.



Brightness

There are 4 levels of brightness on the display. Select the desired one by tapping the corresponding key.



Sound

The sound function enables you to activate or deactivate the beeper. When activated, whenever you touch the active parts of the touch screen, a beep sound is made.

6.5 SETTING THE WEIGHING PARAMETERS

For proper use of the balance, it is important to make the correct weighing parameter settings according to the operating environment.

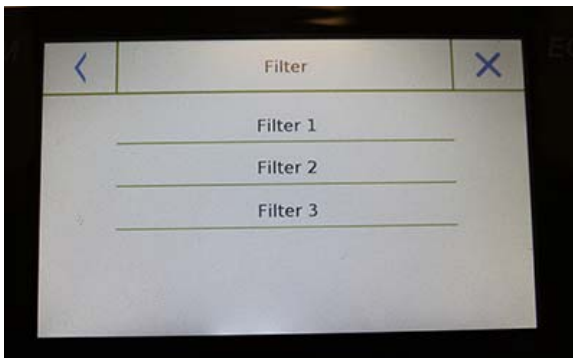
This section describes the filter parameters, stability, auto-zero and weighing units.

In the settings menu, select the "**Setup**" function and then select "**Weighing parameters**".



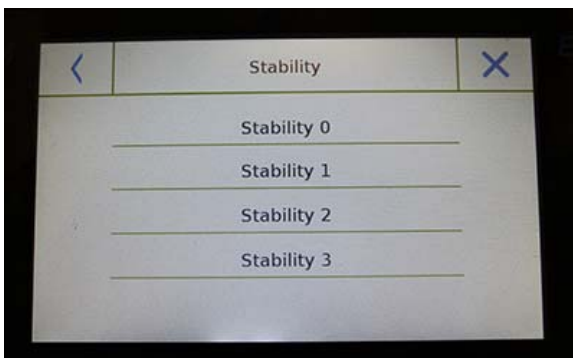
In the "**Weighing parameters**" screen, the set values (in the box to the right of the parameter) are shown.

By touching the parameter key you want to change, you can change the value.



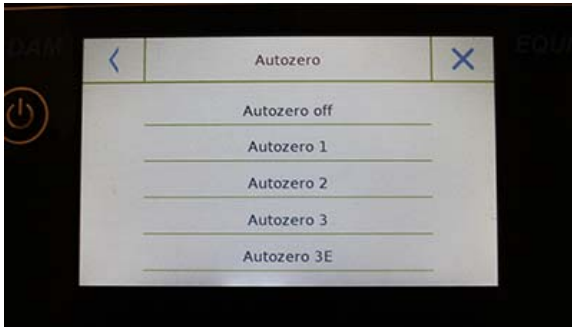
- **Filter:** the filter function allows the user to speed or slow down the balance's response according to weighing requirements and environmental conditions. By selecting Level1, the response will be immediate, but the balance will remain more sensitive to environmental disturbances such as ventilation and vibration. By increasing the level, the response will be slower and the indication more stable.

- **Filter 1:** dosage conditions
- **Filter 2:** stable conditions
- **Filter 3:** unstable conditions



- **Stability:** this function allows you to adjust the balance to the working environment. When using the balance in a vibration-free environment, select level 0. The default level is 2. Use level 3 for very disturbed environments.

- **Stability 0:** For stable environments.
- **Stability 1:** For poorly stable environments.
- **Stability 2:** For unstable environments.
- **Stability 3:** For heavily unstable environments.

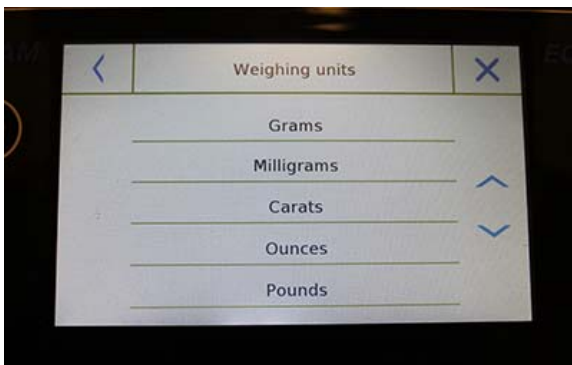


- **Auto-zero:** automatic zero constantly adjusts the weight value shown to zero. Variations may be due to dirt, moisture or dust that can be deposited on the plate. You can disable this function by selecting "**Off**" mode. Autozero 1 is for minor correction until it reaches level 3E which is the maximum correction.

6.6 SELECTING THE UNIT OF MEASUREMENT

Weighing operations can be performed with different units of measurement. Below is shown how to select the desired weighing unit.

In the settings menu, select the "**Setup**" function and then the "**Units selection**" function.



On the "**Units Selection**" screen, all available weighing units are immediately displayed. Tap the desired unit to select and enable it.



The last three units of measure, **K1**, **K2**, **K3**, are customizable units. For reference, refer to the chapter 6.7 "**Selecting the custom measurement units**".

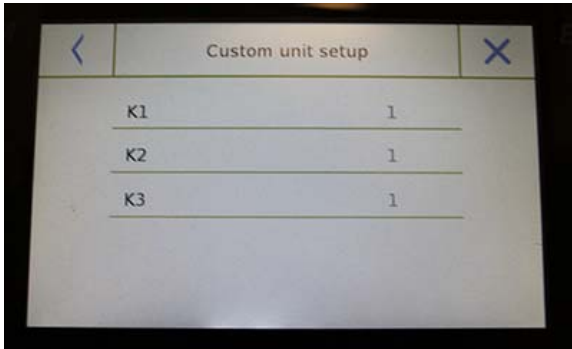


N.B.: The measurement unit selection can also be made directly from the weighing screen; by tapping the symbol of the current unit displayed, you will have access directly to the list of available units.

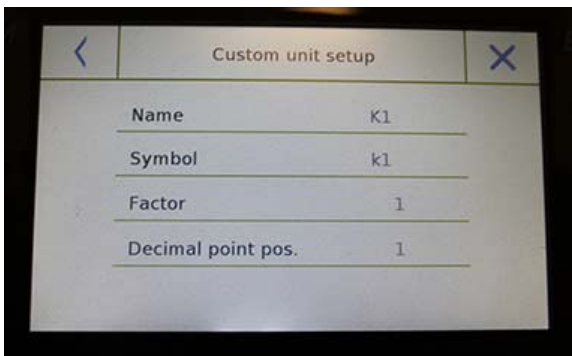
6.7 SELECTING THE CUSTOM MEASUREMENT UNITS

You can define up to three custom units per user. This allows you to perform calculations directly from weighing detection (i.e. volume, paper grammage g/m³). The custom weight unit can be recalled in all fields and menus where the units can be selected.

In the setup menu, select the "**Setup**" function and then "**Custom units setup**".



On the "**Custom units setup**" screen, you can select one of the three units K1, K2, K3 available to personalise it.



After the selection, enter the following data:

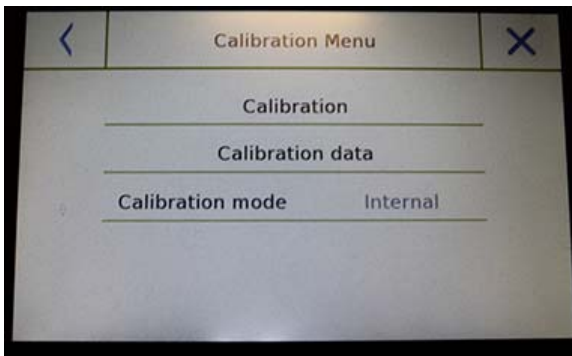
- **Name:** enter the unit identifier (max 15 characters).
- **Symbol:** enter the symbol you want to assign to the unit of measurement (max. 3 characters). The weight units g, kg, lb and so on are not allowed.
- **Multiplier factor:** enter the multiplicative factor with which the weighing result has to be calculated
- **Decimal point position:** enter the position of the decimal point with which you want to display the result (i.e. entering 1, the value 123,123 will be displayed as follows: 12312,3)

6.8 CALIBRATING AND SETTING THE CALIBRATION MODE

Electronic balances perform mass measurements using gravity (g). Differences in geographic regions and altitude vary the gravity acceleration (g).

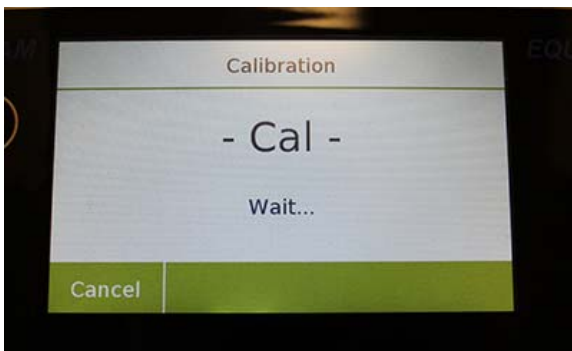
Therefore, in order to obtain accurate measurements, the balance must be adapted to the place of use and environmental conditions. This adjustment is performed by the calibration function.

Select the "**Calibration menu**" function in the settings menu.



In the calibration menu, you can calibrate, display and print the data for the last calibration and set the calibration mode.

Before performing the calibration procedure, check that the pan is empty.



- **Calibration:** By tapping the calibration key, the calibration procedure corresponding to the set calibration mode will be activated.

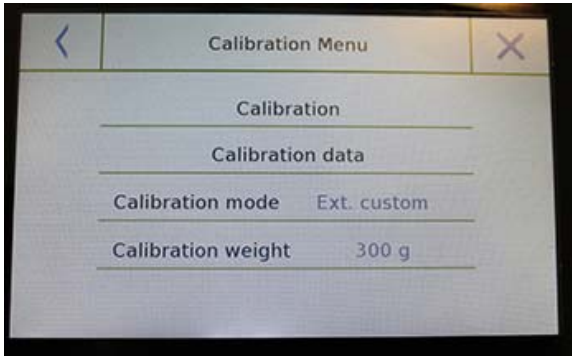
Load the required calibration weight or tap the "**Cancel**" button to cancel the calibration procedure.



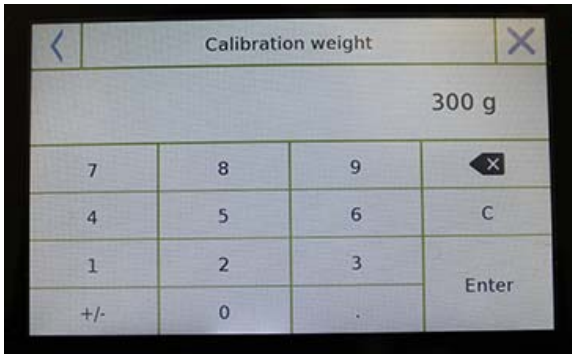
Wait for weight capture.

If the operation is successful, the weighing screen will display with the calibrated weight value.

Remove the weight from the plate.



- **Calibration data:** in the calibration data screen, you can check the date when the last calibration was performed, the mode with which it was performed, the weight value used, and the correction made with respect to the previous calibration. By tapping the **"Print"** button, you can print the displayed data.



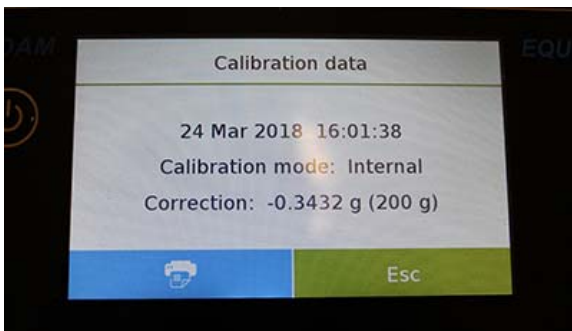
- **Calibration mode:** the balance can be set to calibrate with two different modes:

External default

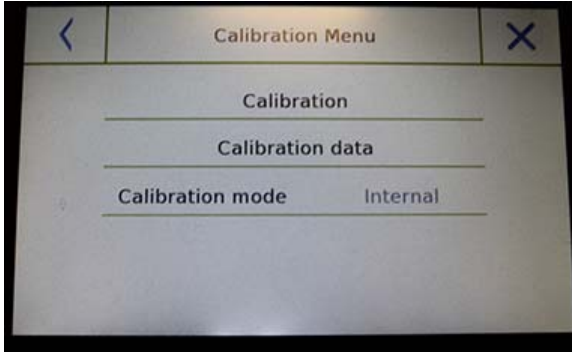
By selecting the default calibration mode when the calibration command is given, the required weight will be the factory default setting, the value of which will vary depending on the balance model.

External custom

By selecting the external custom" calibration mode, you can set a custom calibration weight value.



After selecting the "mode of choice", tap the Weight Setting button to set the desired weight value.



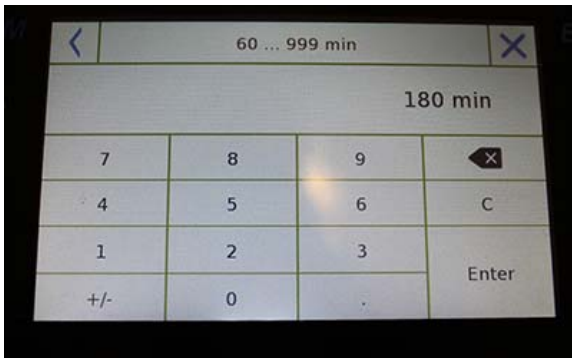
If your balance has internal calibration:

Internal*

By selecting the internal calibration mode when the calibration command is given, the balance is automatically calibrated through the motorized auto-calibration internal system.

Automatic*

By selecting the automatic calibration mode, the balance automatically calibrates when the ambient conditions change or within a set time of 60 to 999 minutes. Also with this mode, you can calibrate each time you want by tapping the "Calibration" key.



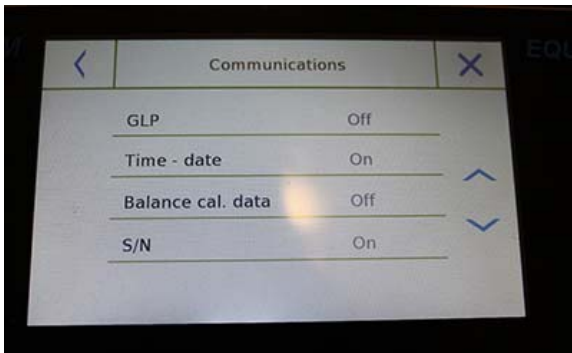
To change the auto-calibration range, tap the "**Calibration Weight**" key and set the desired range between 60 and 999 minutes.

*** The internal and automatic calibration mode is only available for auto-calibration models.**

6.9 SETTING THE PERIPHERALS

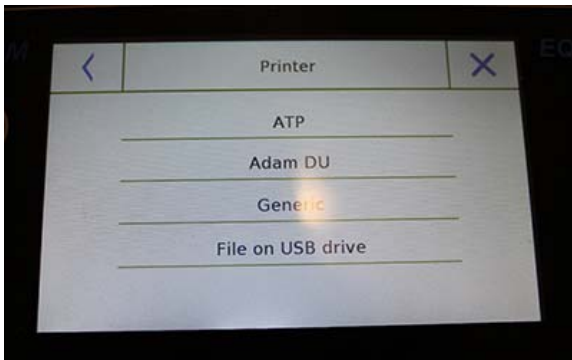
This section describes the features and settings of the RS232 and USB serial outputs that the balance is equipped with.

In the setup menu, select the "**Setup**" function and then the "**Communication**" functions.



In the "**Communications**" menu screen, you can immediately check the values of the parameters set (in the box on the right of the parameter).

Tapping the parameter key to be set will activate its screen with the list of the various selectable options.



- **Printer:** this function allows you to select the pre-programmed balance connected to the serial output.

- **ATP:** command print, by touching the "**Print**" button for the Adam ATP printer.

- **Adam DU:** command print, by touching the "**Print**" button for the Adam DU software.

- **Generic:** command print, by touching the "**Print**" button for generic serial type printer.



Liquid density:
1.0 g/cm³

Air P.: 200.04 g

Liq. P.: 100.02 g

Result (Solid Dens.):
2.0000 g/cm³

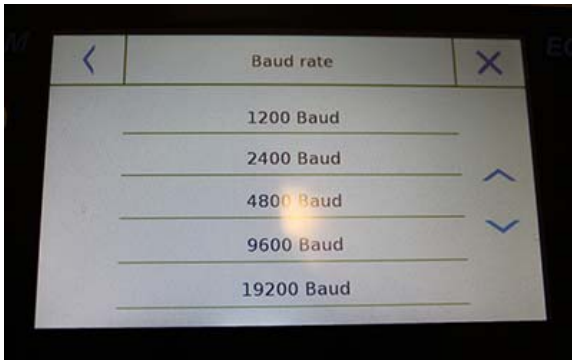
➤ **File on Usb-Key:** command print, touching the "**Print**" button will print to file. In order to use this mode, you will need a USB stick to save the files. (You can use a dedicated USB stick for that purpose only). With the "File on Usb_Key enabled" mode before executing the print command, verify that the save USB stick is inserted in the USB port on the left side of the balance. While saving the file on the screen, you can scroll through the information that will be saved in the file.

At the end of the save, the name of the file assigned automatically will appear on the screen.

The USB stick will then contain a compressed file with a text file (.txt) showing the weighing data or the result of the function used.

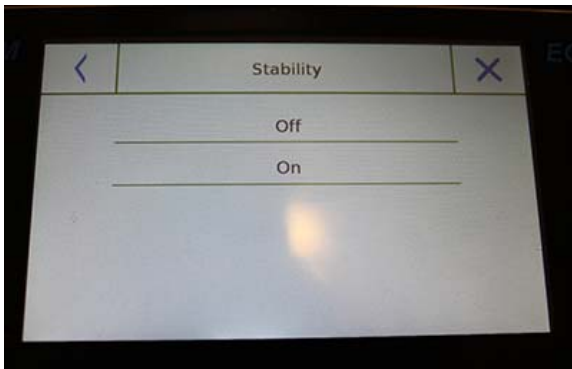
Example of printing with density function.

←



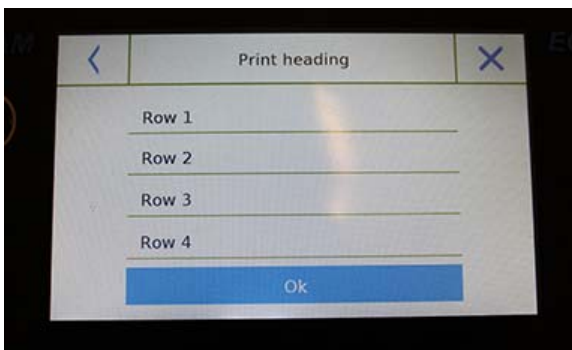
- **Baud Rate:** serial transmission speed selection parameter.
Selectable speeds are as follows:

- **1200 Baud.**
- **2400 Baud.**
- **4800 Baud.**
- **9600 Baud.**
- **19200 Baud.**
- **38400 Baud.**



- **Stability:** check of the stability before data is transmitted. It is possible to decide whether to enable or disable stability control before printing the weight value:

- **On.** Check enabled.
- **Off.** Check disabled.



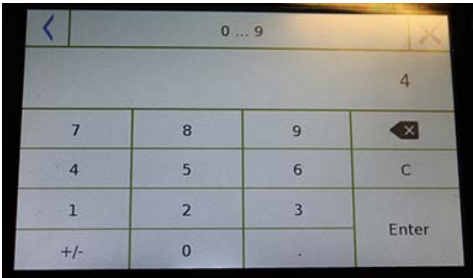
- **Print heading:** this function allows you to place a header at the beginning of the receipt. The function can be:

- **On.** Heading enabled.
- **Off.** Heading disabled.
- **Print heading Setup:** Activation of the screen for inserting the desired text for the receipt header.

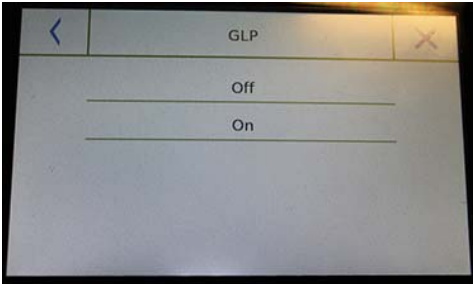
In the print header screen, tap the rectangles that indicate the line number to automatically enable the alphanumeric keypad and enter the desired text with a maximum number of 40 characters per line.

Tap the "Ok" key to confirm the entered text.

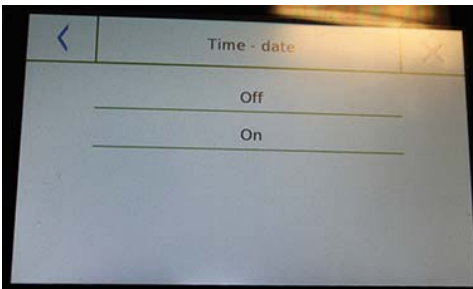
NB. You can enable and disable the header function without losing the inserted text, which will remain stored until the contents of the various lines are deleted.



- **Line feed:** this function allows you to set a blank number of lines to add at the end of the printout to allow the printer to exit from it. The input numeric keypad will automatically turn on, so enter the desired number of lines (between 0 and 9) and tap the "**Enter**" key to confirm the entered number.

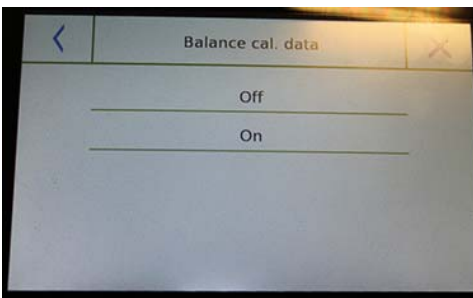


- **GLP:** this function allows you to enable or disable the GLP data printing after user have entered it
 - **On.** GLP data print enabled.
 - **Off.** GLP data print disabled.



- **Time and date:** this function enables you to enable or disable the time and date printing.
 - **On.** Calibration data print enabled.
 - **Off.** Calibration data print disabled.

Time and date printing cannot be deactivated with the GLP function enabled.

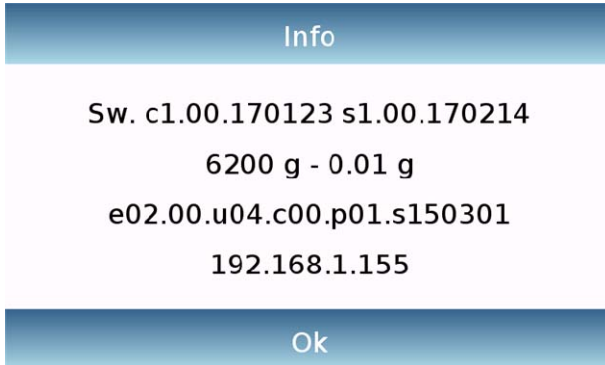


- **Balance cal. data:** this function enables you to enable or disable the calibration data printing of the balance.
 - **On.** Calibration data print enabled.
 - **Off.** Calibration data print disabled.

6.10 INFO ABOUT THE SOFTWARE

This section explains how to view information about the software versions of the tool.

In the settings menu, select the **"Setup"** function then the **"Info"** one.

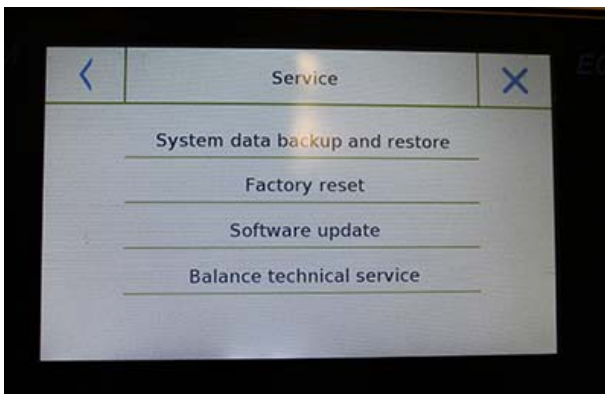


The information on the Info screen will be requested by the technical staff in case of assistance request.

6.11 SERVICE

This section describes all the functions related to the Service and Backups of the balance data.

In the settings menu, select the **"Setup"** function then the **"Service"** one.



The functions available in the **Service** menu are as follows:

- System data backup and restore
- Factory reset
- Software update
- Balance technical service

6.11.1 System data backup and restore



You can back up the system completely or restore data and configuration previously saved on a USB stick.

This section describes the steps to be taken to export or import the data.

N.B. It is recommended to use an empty USB stick that is dedicated to data save and recovery operations.



- **System backup:** this command allows you to save all users and their configurations stored in the system, including its drying database and saved test results.

You must have a USB stick to back up.

Insert the stick into the USB port on the left side of the balance, and press the **"OK"** key.

Tap the **"Cancel"** button to cancel the backup operation.



If the USB stick is inserted successfully, after confirmation, the alphanumeric keypad will automatically be displayed for entering the name that you want to assign to backup.

A screen with the message **"Done!"** will confirm that the export operation was successful.

A backup folder with the assigned name was then created on the USB stick.

Opening the folder, you will find a set of files and subfolders that contain all the data.

N.B: Do not modify or rename any files to avoid damaging the content. The folder will be automatically restored to the balance by using the System Restore command.



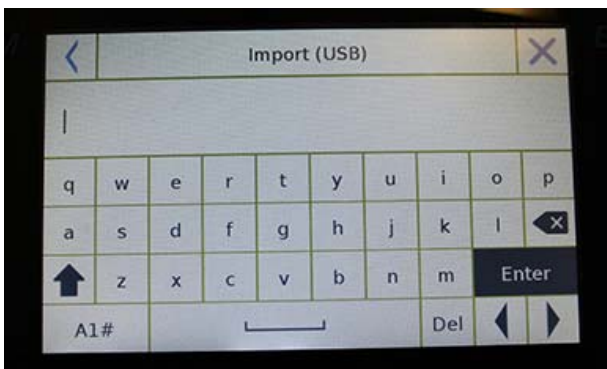
- **System restore:** this command allows you to restore all users and their system configurations previously exported with the backup command on a USB stick.



N.B. You can import the exported data from another balance, so you can configure multiple balances with the same users and the same settings.

Insert the USB stick into the USB port on the left side of the balance, and press the "OK" key.

Tap the "Cancel" button to cancel the system restore operation.



If the USB stick is inserted correctly, after confirmation, the alphanumeric keypad will automatically be displayed for entering the name of the backup you want to restore.



A screen with the message "Done!" will confirm that the system recovery operation was successful.

6.11.2 Factory reset

You can perform a total reset of the balance to bring it back to the initial conditions.

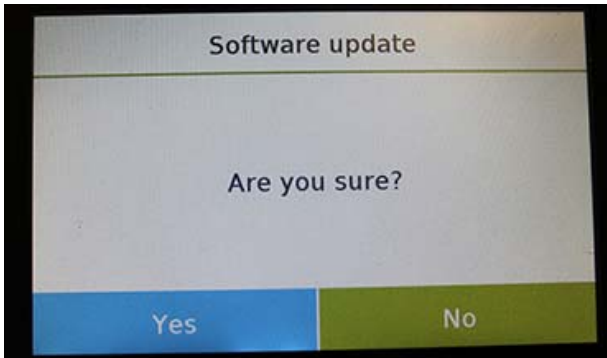
Tap the "**Factory Reset**" button, confirm by touching the "Yes" button, or cancel the operation by tapping the "No" button.

N.B. Be careful as all data of all users including their databases will be lost. If you want to save them, make a backup before the factory reset.

6.11.3 Softwareupdate

You can make any software updates provided by AE Adam via the USB port.

Below are the steps to be taken to upgrade.



Selecting the "Software Update" function will display the screen with the confirmation request.

Select "**No**" to cancel the operation, or "**Yes**" to continue.



Before you insert the USB stick into the port on the left side of the balance, check that the stick is loaded with the upgrade program supplied by AE Adam and confirm with the "Ok" key.

If the selected file is correct, the upgrade operation will be enabled and a displayed counter will indicate the progress status.

N.B. Once the software upgrade operation has begun, do not power off the balance until the operation completes.

During the upgrade, the balance will turn off and restart automatically; do not press any key, but wait for the operation finished successfully indication.

6.11.4 Balance technical service


The technical service function of the balance can only be accessed by password only to the authorised technical service personnel.

7.0 FUNCTIONS MENU

This section describes all the functions available for weighing. All of the features described below are customisable in their databases for each user; they can be enabled, disabled, and sequenced according to its usage needs. (See section on preferences in the functions section.)

So each time you change the user, its function settings will vary.

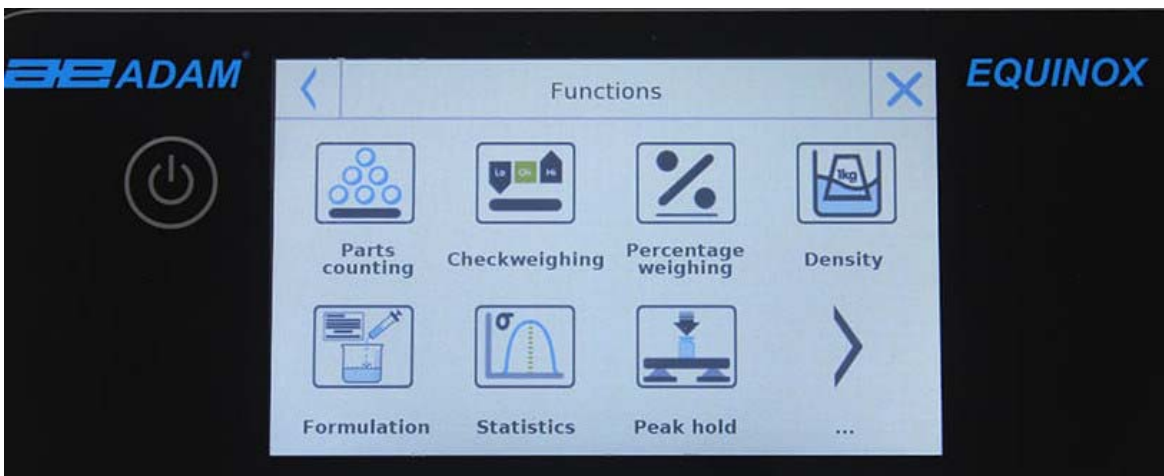


Tap the  button to access the functions menu.



Use the keys  ,  to scroll through the displayed, back and next pages.

Tap the icon corresponding to the function, you want to access the relevant settings.



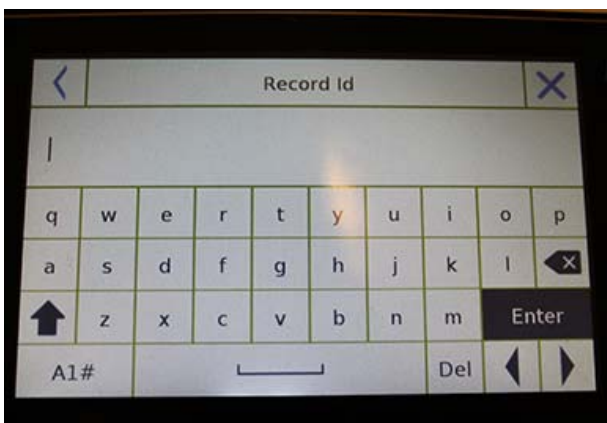
To exit the functions menu, tap the button  or  located at the top of the screen.

7.1 USING THE DATABASE

All functions can be customised for each user by storing the desired modes and items through the relevant database.

The following are the search, save, delete, and editing functions for all databases. For entering data in the database, refer to the paragraph corresponding to the desired function.

After selecting the desired function, tap the "**Database**" key to access the database menu for the desired function.



- Every time a new user is created, the database will be completely empty. The following describes all the functions available to all databases:
- **Selection by name:** by tapping this key you can call up a program by entering the corresponding name.
- **Selection list:** by tapping this button you can call up a program by selecting it from a list.
- **New:** insert new record (refer to the paragraph corresponding to the desired function).
- **Edit:** by tapping this button, you can access the editable parameters of the function.
- **Delete:** tap this button to delete one or more previously stored records.
- **Print:** by tapping this button, you can select a record and print it.
- **Export (Usb):** by tapping this button you can export the database to the USB stick.
- **Import (Usb):** by tapping this key, you can import a previously predefined database from a USB stick.

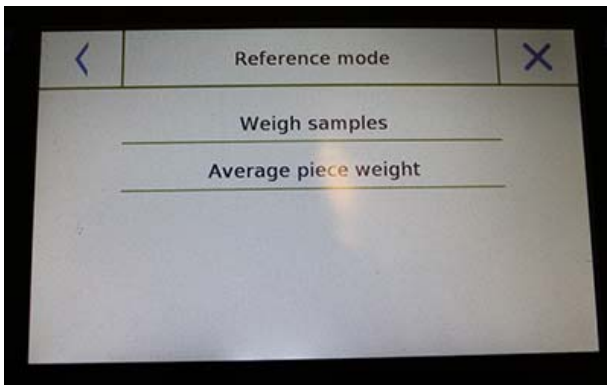
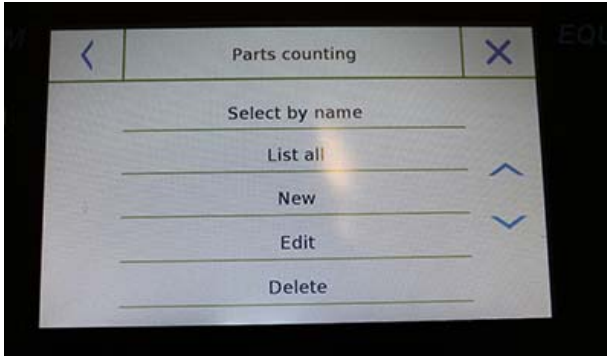
Use the keyboard to enter the name to assign to the new record. The maximum number of characters that can be entered is 30.

Tap the "**Enter**" key to confirm.

7.2 PARTS COUNTING FUNCTION

The parts counting function allows you to count parts through sampling with a certain number of parts or by entering entry the average weight value of the number of parts to be counted.

To access the function from the "Functions" menu, tap the "**Parts Counting**" icon.



Parameters entry:

Mode:

By tapping this key, you can select the count mode:

- **Weigh samples.**

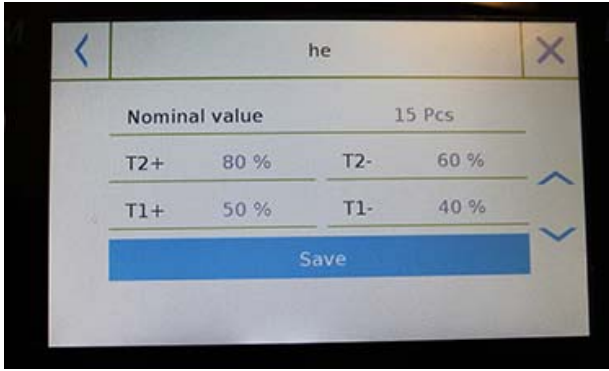
Counting by sampling a certain number of pieces. Enter the number of samples you want to use for the count by tapping the "Number of samples" key.

- **Unit mean weight.**

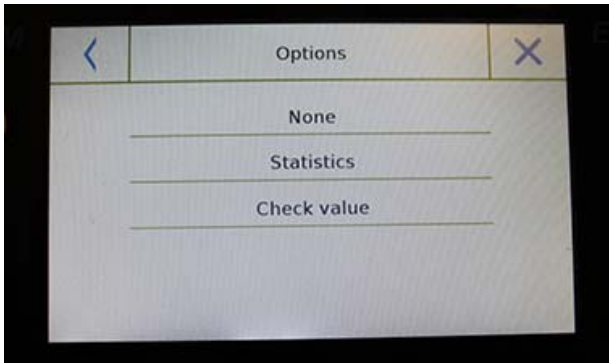
Count by entering the weight value of the single piece to be counted. Enter the weight value by tapping the button "Unit mean weight"

Start:

After selecting the count mode, tap the "Start" button to perform the count of the pieces.



If the user wishes to tare out a container, before sample counting, they will be required to load the number of pieces chosen (for sampling) on the plate, while in average unit weight mode you can count pieces directly.

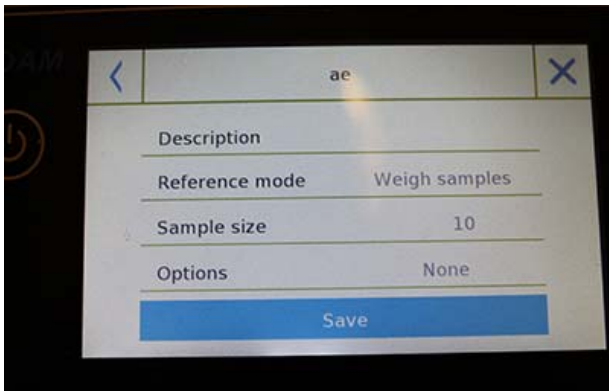


Database:

By tapping the "**Database**" key, you can create a custom counting database of different items and methodologies.

Using the database in addition to piece counting, you can perform statistical count control and use up to two threshold levels for packing control.

Tap the "**New**" key and enter the name of the new record to be stored.

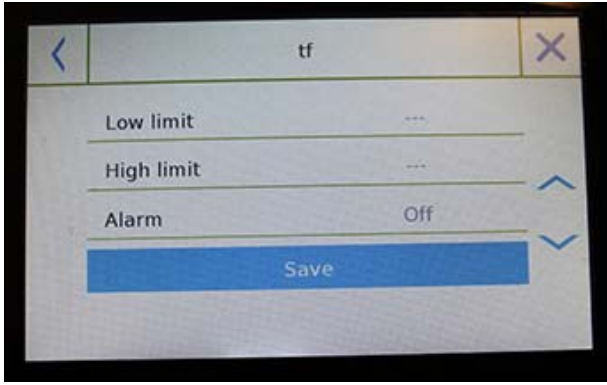


- **Description:** enter a description of the item.
- **Mode:** select the count mode.
- **Samples number/ Unit mean weight:** enter the number of samples or the average unit weight of the pieces.
- **Options:** you can select the statistical control by activating the "Statistics" function or by controlling the pieces by activating the "Control of value" function.



Statistics:

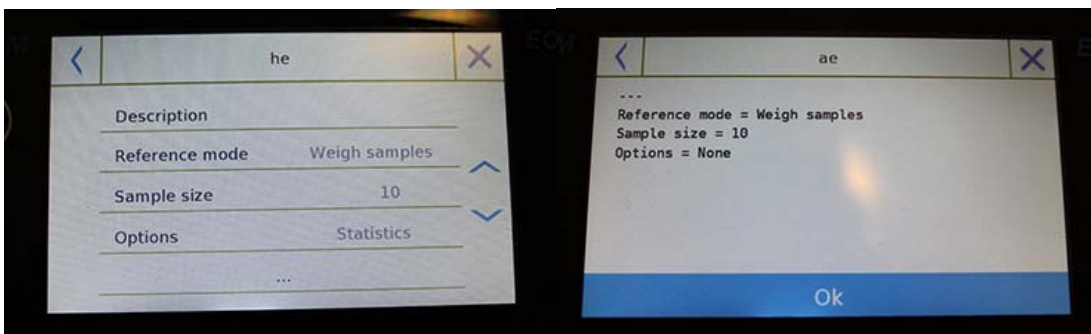
- To enable this function, you need to include:
- **Nominal value:** enter the nominal value of the number of pieces to be controlled.
- **T2+, T2-, T1+, T1-:** enter the error tolerance threshold values. (Optional entry).
- **Save:** tap the "Save" button to store the recorded record.



- To enable this function, you need to enter:
- **Lower limit:** enter the minimum number of acceptable pieces.
 - **Upper limit:** enter the maximum acceptable number of pieces.
 - **Sound:** you can activate or deactivate the beep function when the number of pieces is within the set range.
 - **Save:** tap the "Save" button to store the recorded value.

7.2.1 Parts count screen with "Statistics" function.

The following describes the pieces counting functions with statistical calculation.



Parameters used for counting

A1
Reference mode = Weigh samples
Samples number = 10
Options = Statistics
Nominal value = 10 Pcs
T2+ = 5 %
T1+ = 2 %
T1- = 2 %
T2- = 4 %

Statistics

Samples =	3
Minimum value =	10 Pcs
Maximum value =	14 Pcs
Difference =	4 Pcs
Sum =	36 Pcs
Average =	12 Pcs
Standard deviation =	2 Pcs
Coeff. of variation =	16.67 %
Out T2+: 2	66.7 %
Out T1+: 0	0.0 %
Out T2-: 0	0.0 %
Out T1-: 0	0.0 %

Weights performed

N. 001	V =	10 Pcs
N. 002	V =	12 Pcs > T2+
N. 003	V =	14 Pcs > T2+

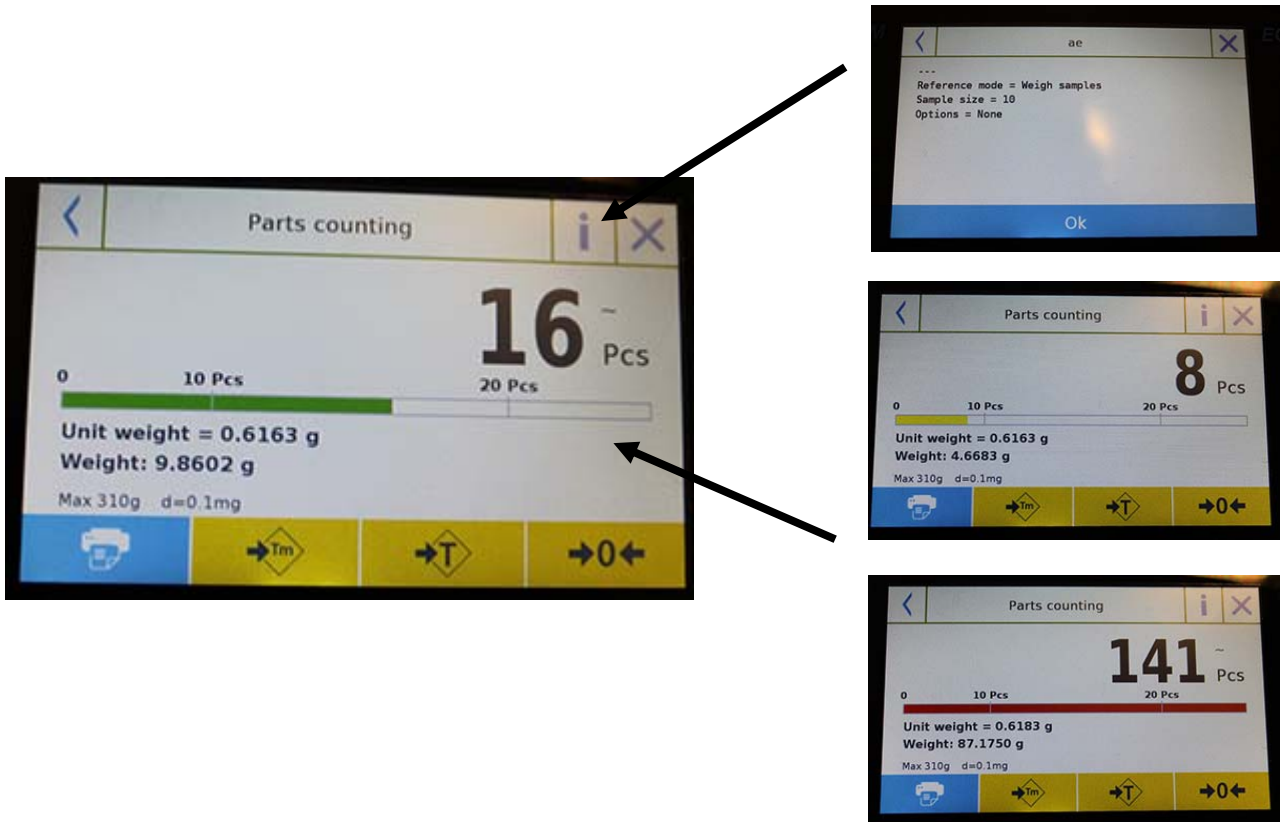
Last weighing delete key.

Tap the "Ok" key to capture a new weight and tap the "End" key to end the capture and perform the final statistical calculation.

7.2.2 Parts count screen with "Check weighing" function.

The following describes the parts counting functions with check weighing.

By tapping the "i" key you can see the parameters used for counting the parts.



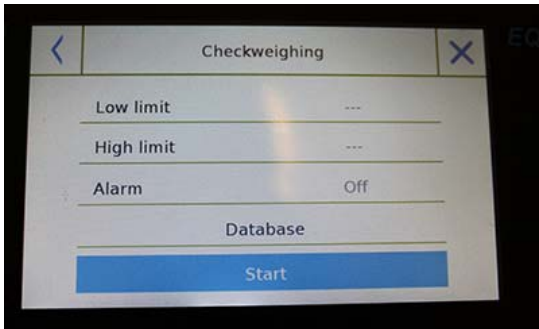
The parts number control bar is yellow when the number of parts loaded is lower than the Lo limit. It is green when the parts are within the set range (with the beep indication when activated) and red when the number of parts exceeds the upper limit set.

7.3 "CHECK WEIGHING" FUNCTION.

This function allows you to define three different weight check methods:

- **Weight check with High limit.**
- **Weight control with Low limit**
- **Weight control within the OK limit.**

To access the function from the "Functions" menu, tap the "**Checkweighing**" icon.

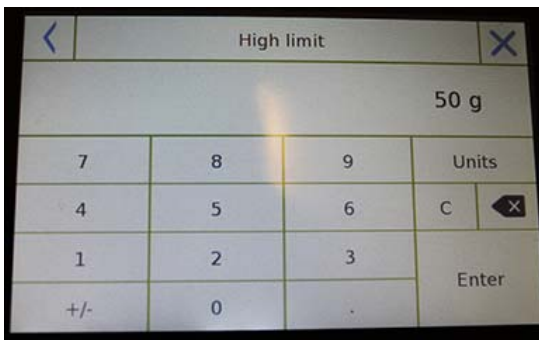


To activate the function, enter the values for the "**lower limit**" or "**upper limit**" or both, according to the method you want.

Lower Limit, Upper Limit:

In the Limit Input screen, you can select the unit of measurement to be used for testing by tapping the "**Unit**" key.

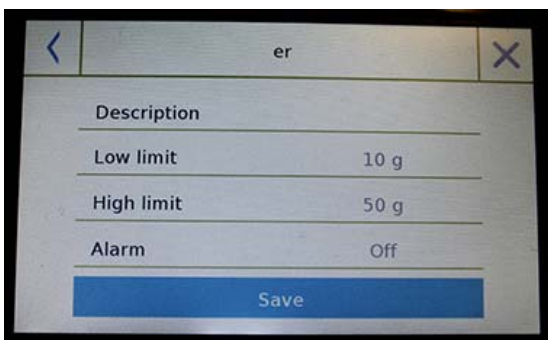
To deactivate the limit, enter the value "0" or tap the "C" key and then tap the "enter" key.



Alarm: enable or disable the beeper. In case of enabling when the weight value is within the set range, a beep is release.

Start:

After entering the required data, tap the "Start" button to activate the weight check function.



Database:

By tapping the "database" button, you can create a custom weight check database with different items and methods.

Tap the "**New**" key and enter the name of the new record to be stored.

Enter the required data:

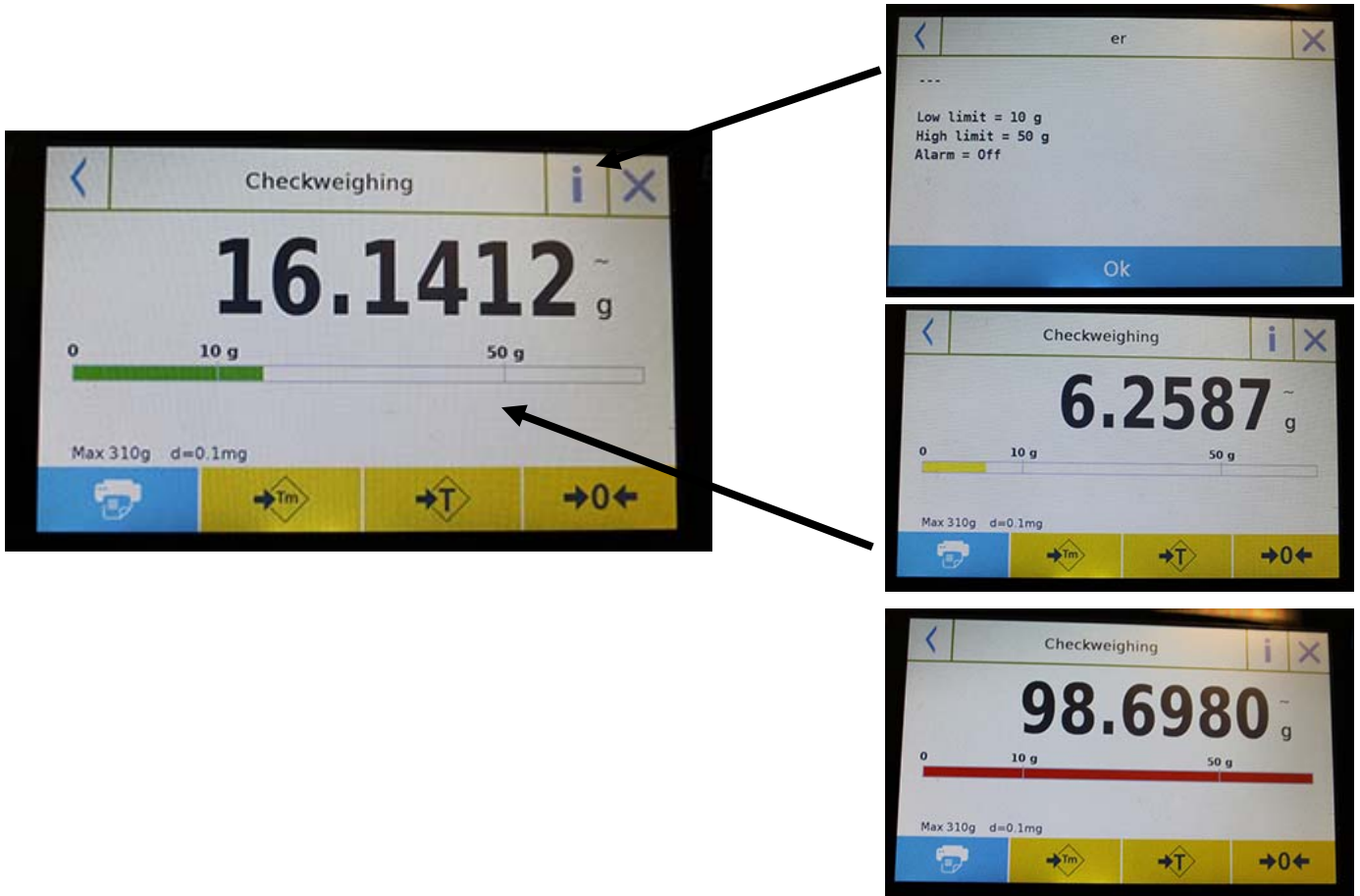
- **Description:** enter a description of the item.
- **Lower limit**
- **Upper limit**
- **Alarm**

Then tap the "**Save**" button to save the record.

7.3.1 "Check weight" screen function

The Check weight function screen is described below.

By tapping the "i" key, you can see the parameters used for counting the parts.



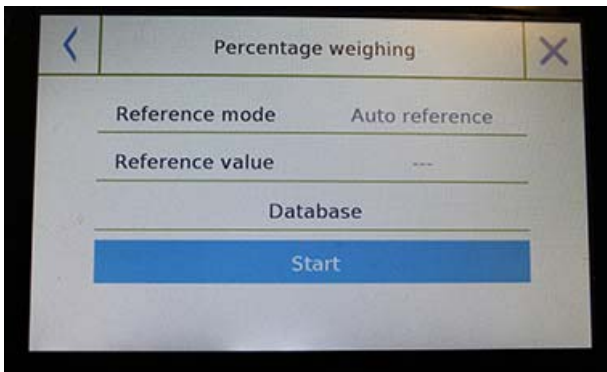
The Check weighing bar is yellow when the loaded weight is lower than the low limit and green when the weight is within the set range (with the beep indication when activated) and red when the weight is greater than the high limit.

7.4 "PERCENTAGE WEIGHT %" FUNCTION

This function allows you to determine the weight percentage of a sample based on a reference weight.

The value of the reference weight can be obtained by a sample weight or by manually entering the weight value.

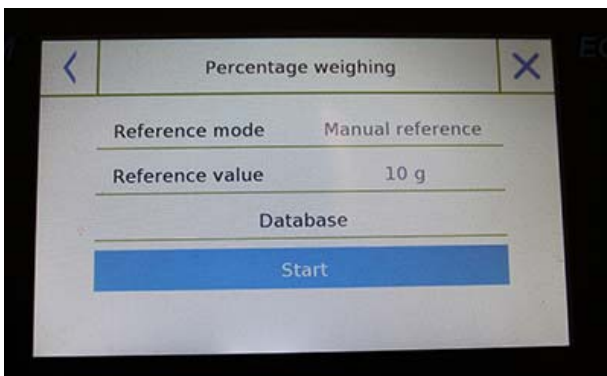
To access the function from the "Functions" menu, tap the "**Weight %**" icon.



Select the mode:

Automatic reference:

Selecting this mode upon startup will require you to load the reference sample weight (100%) onto the weighing plate.

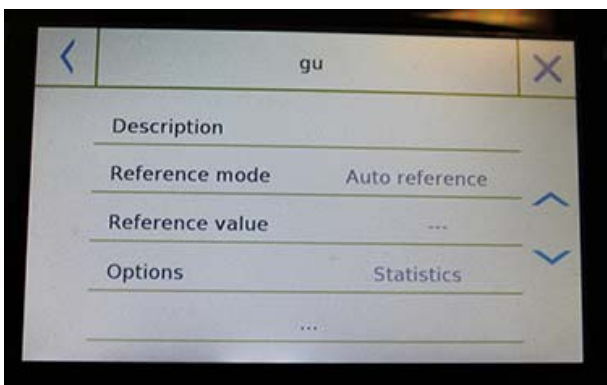


Manual reference:

When selecting this mode, you are required to enter the reference weight value (100%). Tap the "**Reference Weight**" key and enter the weight value in the input screen and select the desired unit of measurement.

Start:

After selecting the desired mode and entering the required data, tap the "Start" button to run the "Weight%" function.

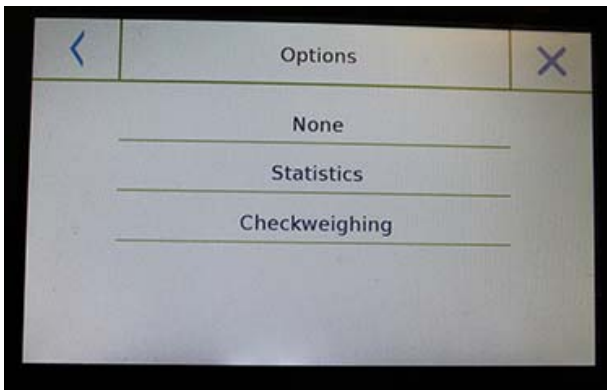


Database:

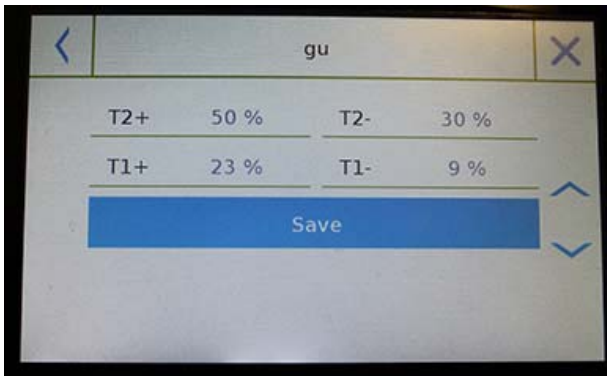
By tapping the "Database" button, you can create a custom database to perform percent weighing with different methodologies.

Using the database in addition to the simple percentage weighing, will allow you to perform statistical weighing checks or set up to two levels of weight check thresholds. Tap the "**New**" key and enter the name of the new record to be stored.

- **Description:** enter a description of the item.
- **Mode:** select the weight reference mode.



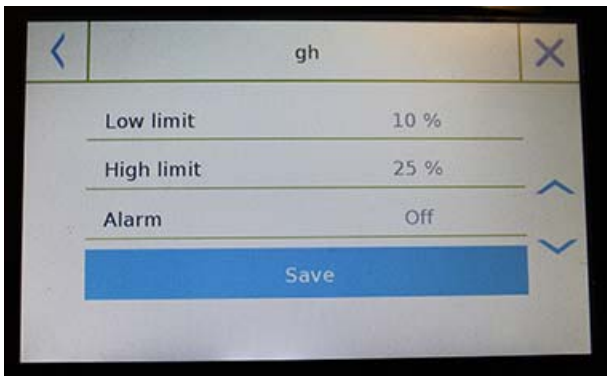
- **Reference weight:** enter the reference weight value in manual weight mode.
- **Options:** you can select the statistical control by activating the "Statistics" function or the weight check by activating the "Value check" function.



Statistics:

To enable this function, you need to enter:

- **Nominal value:** Enter the nominal weight value to be checked.
- **T2+, T2-, T1+, T1-:** enter the error tolerance threshold values. (Optional entry).
- **Save:** tap the "Save" button to store the recorded record



Check weighing:

To enable this function, you need to enter:

- **Lower limit:** enter the minimum acceptable weight value.
- **Upper limit:** enter the maximum acceptable weight value.
- **Sound:** you can activate or deactivate the beeper function when the weight is within the set range.
- **Save:** tap the "Save" button to store the recorded value.

7.4.1 Percentage Weight % with "Statistics" function.

The following are the functions of the weighing% with statistical calculation.

Parameters used for the weight %

A1
 Reference mode = Manual reference
 Reference value = 10 g
 Options = Statistics
 T2+ = 5 %
 T1+ = 2 %
 T1- = 2 %
 T2- = 4 %

Weighting statistics

Samples =	4
Minimum value =	55.8 %
Maximum value =	2110.0 %
Difference =	2054.2 %
Sum =	6177.6 %
Average =	1544.4 %
Standard deviation =	993.6 %
Coeff. of variation =	64.34 %
Out T2+: 3	75.0 %
Out T1+: 0	0.0 %
Out T2-: 1	25.0 %
Out T1-: 0	0.0 %

Weighting performed

N. 001	P =	100.0 %
N. 002	P =	100.0 %
N. 003	P =	300.0 % > T2+
N. 004	P =	50.0 % < T2-

Last weighing delete key.

Tap the "Ok" key to capture a new weight and tap the "END" key to end the capture and perform the final statistical calculation.

7.4.2 Screen of Weight % with "Check weighing" function.

The following are the functions of the weight% with checkweighing.

By tapping the "i" key, you can see the parameters used for weight check.

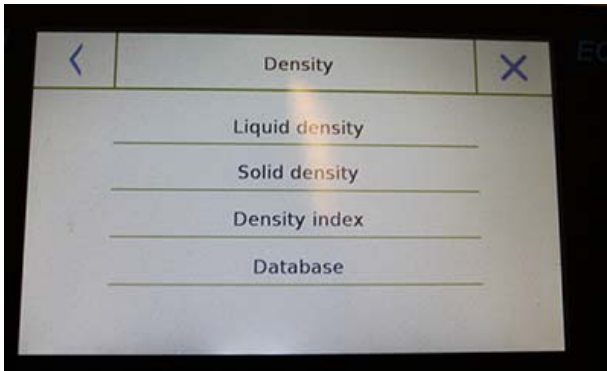


The percentage weight check bar is yellow when the loaded weight is lower than the low limit, green when the weight is within the set range (with the beep indication when activated) and red when the weight is greater than the high limit.

7.5 DENSITY FUNCTION

The density function allows the user to determine the density value of solid or liquid substances. The determination is based on Archimedes' principle that a body immersed in a liquid receives an upward thrust equal to the weight of the volume of the displaced fluid. For the determination, you can use a below balance weighing balance (if present in the scale or the "optimal density weighing kit" to place on the weighing plate.

To access the function from the "Functions" menu, tap the "**Density**" icon.



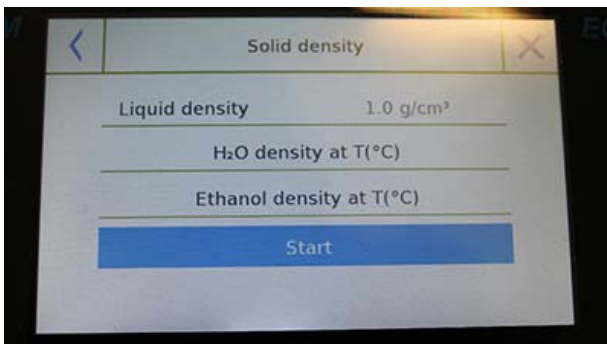
Select the mode:

Liquid density: when selecting this type of measure, you will be required to enter the solid density value (g/cm³) to be used to determine the density of the liquid.

Then tap the "**Start**" button to proceed with the measurement.

Solid density: when selecting this type of measure, you will be required to enter the liquid density value (g/cm³). If using distilled water or ethanol, select the relevant item below and enter only the liquid temperature value. The density of the selected liquid at the entered temperature will automatically be entered. (The reference tables are stored inside the balance).

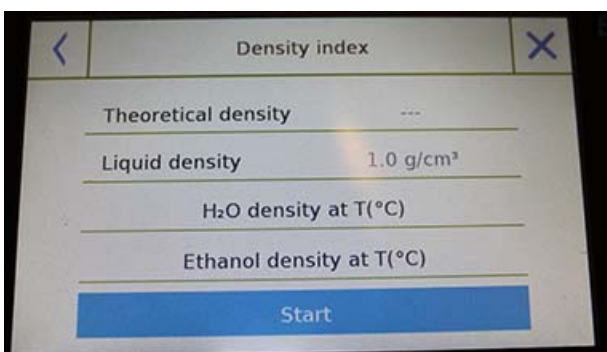
Tap the "**Start**" button to proceed with the measurement.

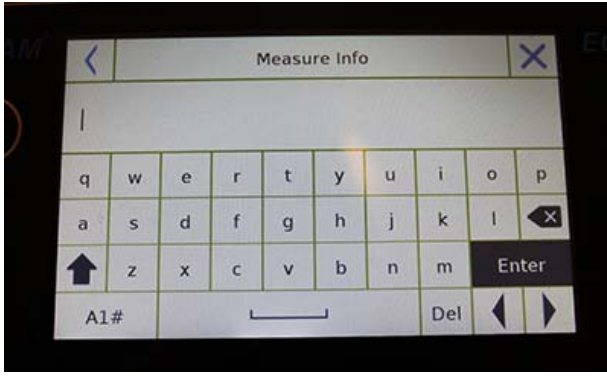


Density index: by selecting this type of measurement, you can determine the difference in density as a percentage between two solid samples. (One solidified at room temperature and the other under vacuum).

The density index can be determined by measuring the density value for both samples, or by using the "**theoretical density**" value for the sample solidified at room temperature and measuring the density value only for the vacuum sample. In this case, you need to tap the "**Theoretical density**" key to enter the value.

Then tap the "**Start**" button to proceed with the measurement.

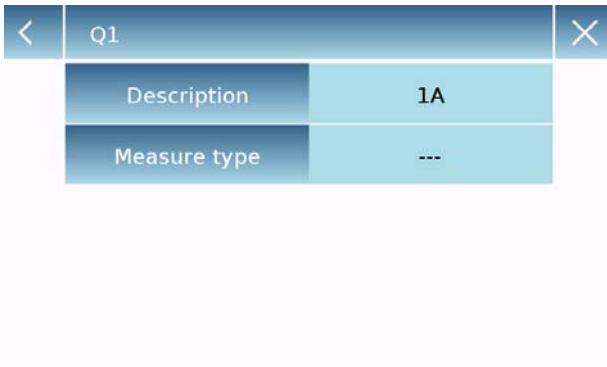




Optional information about the measurement to be performed will be required.

Tap the **"Enter"** key to confirm.

Now perform the steps shown on the display to determine the density index.



Database:

By tapping the **"database"** key, you can create a custom database to determine the different density types.

Tap the **"New"** key and enter the name of the new record to be stored.

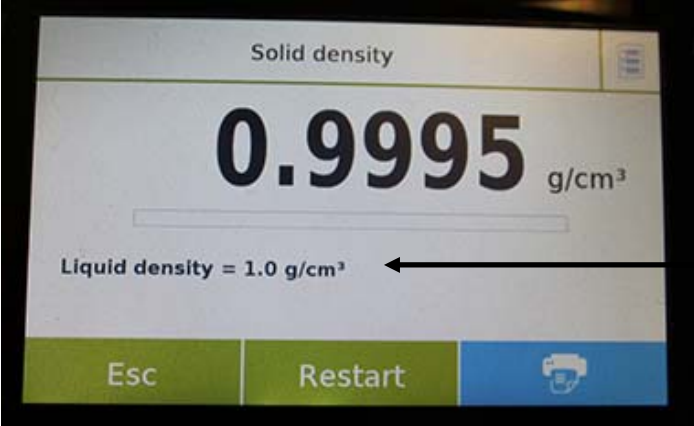
- **Description:** enter a description of the item.
- **Measurement type:** Select the type of density to be determined.

After entering all required data, tap the **"Save"** key to save the new record.

7.5.1 "Density of a solid" calculation function screen.

Below are the functions for calculating the density of a solid.

Detected values for density determination



Q1
A1

Liquid density = 1 g/cm³
Weight in AIR = 12.98 g
Weight in LIQUID = 4.26 g

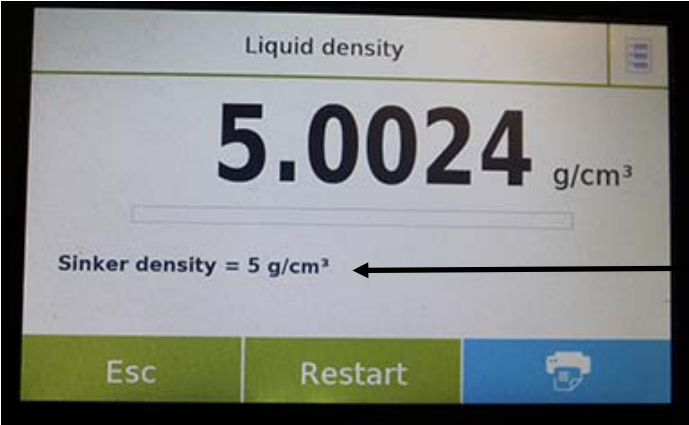
Information about the database used:
Record name
Test description

Tap the "Esc" key to exit the function, the "Restart" key to make a new measurement, and the "Print" key to print the measurement result.

7.5.2 "Density of a liquid" calculation function screen

Below are the functions for calculating the density of a liquid.

Detected values for density determination



Q1
A1

Sinker density = 3 g/cm³
Weight in AIR = 12.82 g
Weight in LIQUID = 4.27 g

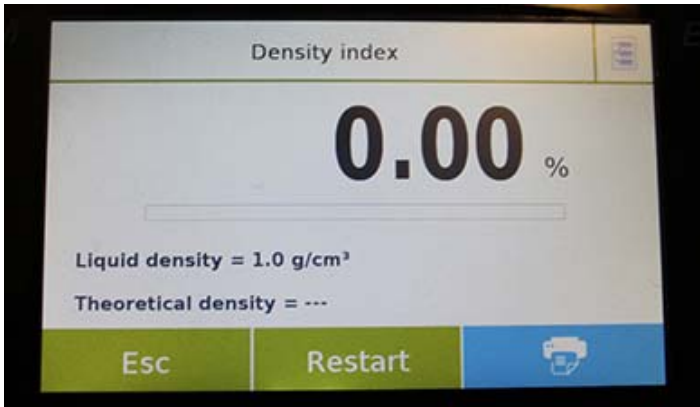
Information about the database used:
Record name
Test description

Tap the "Esc" key to exit the function, the "Restart" key to make a new measurement, and the "Print" key to print the measurement result.

7.5.3 "Density index" calculation function screen

Below are the functions for calculating the density index.

Detected values for density determination



```
Q1
A1

xx
Liquid density = 1 g/cm3

Theoretical density = 1 g/cm3
Density VACUUM = 1.4967 g/cm3
```

```
Q1
A1

Weight in AIR (VACUUM) = 12.87 g
Weight in LIQUID (VACUUM) = 4.27 g
```

Information about the database

used:

Record name

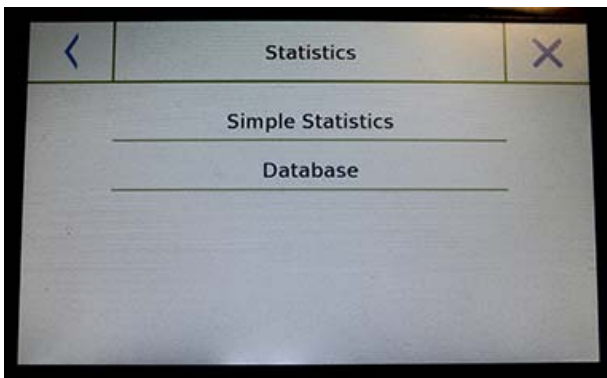
Test description

Tap the "**Esc**" key to exit the function, the "**Restart**" key to make a new measurement, and the "**Print**" key to print the measurement result.

7.6 "STATISTICS" FUNCTION

This function allows you to perform weighing statistics in simple mode, without defining the nominal weight and tolerance value, or, using database statistics, you can define the relative nominal weight and tolerance values. At the end of the procedures in both cases, it is possible to print the statistical result of the weights.

To access the function from the functions menu, tap the "**Statistics**" icon.



Select the mode:

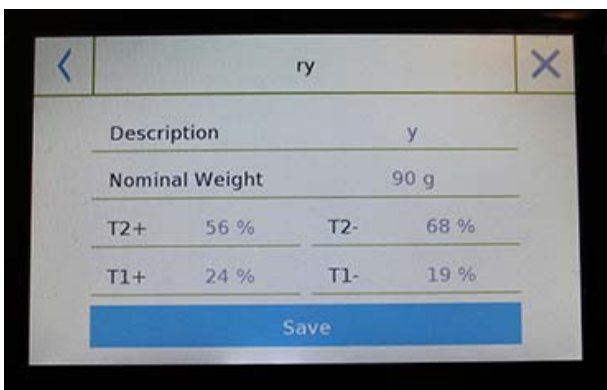
Simple statistics: by selecting the simple function, you can perform the statistics up to 500 consecutive weights.

Tap the "Simple Statistics" button and immediately the screen will be activated to perform the weighing.

Database: by selecting the statistical mode from the database, you can store and then recall a custom statistics method.

By tapping the "database" key, you can create a custom database to determine the different density types.

Tap the "**New**" key and enter the name of the new record to be stored.

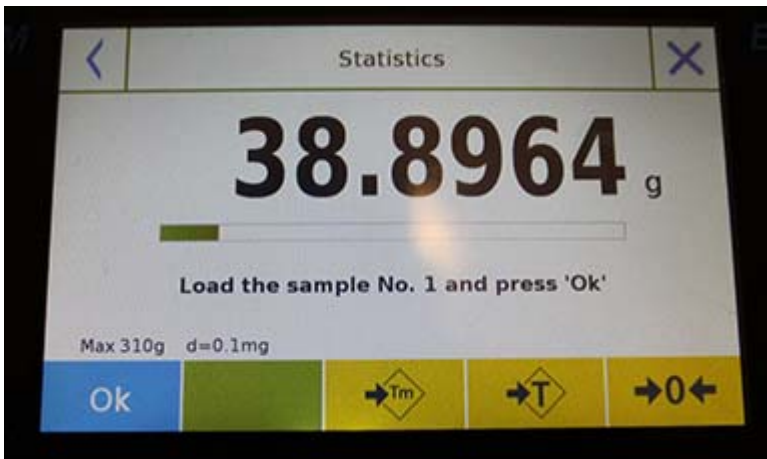


- **Description:** enter a description of the item.
- **Nominal weight:** enter the nominal weight value and select the desired unit of measurement.
- Enter values for tolerance check (Optional Data).
 - **T2+ :** 2nd positive tolerance
 - **T2- :** 2nd negative tolerance
 - **T1+ :** 1st positive tolerance
 - **T1- :** 1st negative tolerance

After entering all required data, tap the "**Save**" key to save the new record. Before performing the save, a check of the entered data is performed. An error will be reported to make the necessary corrections if necessary. After, press the save key.

7.6.1 "Simple statistics" function screen

Below are the simple statistical functions.



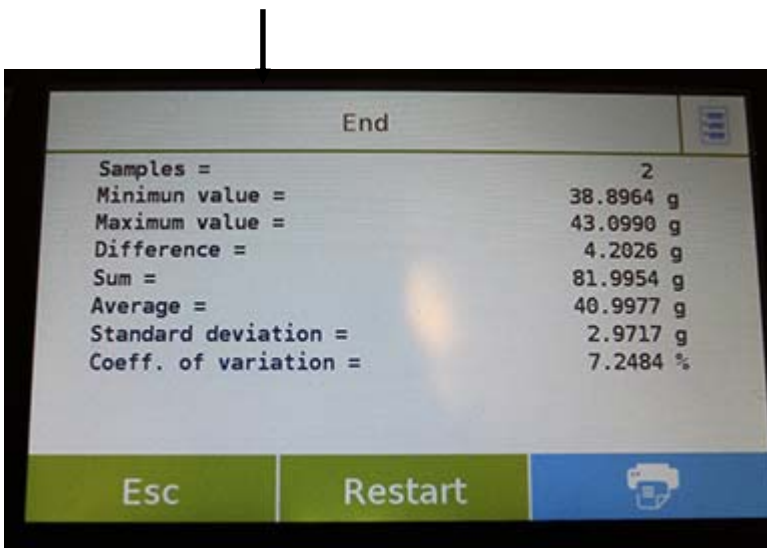
Tap the "Ok" key to capture a new weight.

Tap the "Tm" key to enter a manual tare value

Tap the "-T-"key to run a manual tare

Touch the "- 0" key to reset the plate.

Tap the "End" key to end the weighing acquisition and follow the statistical calculation



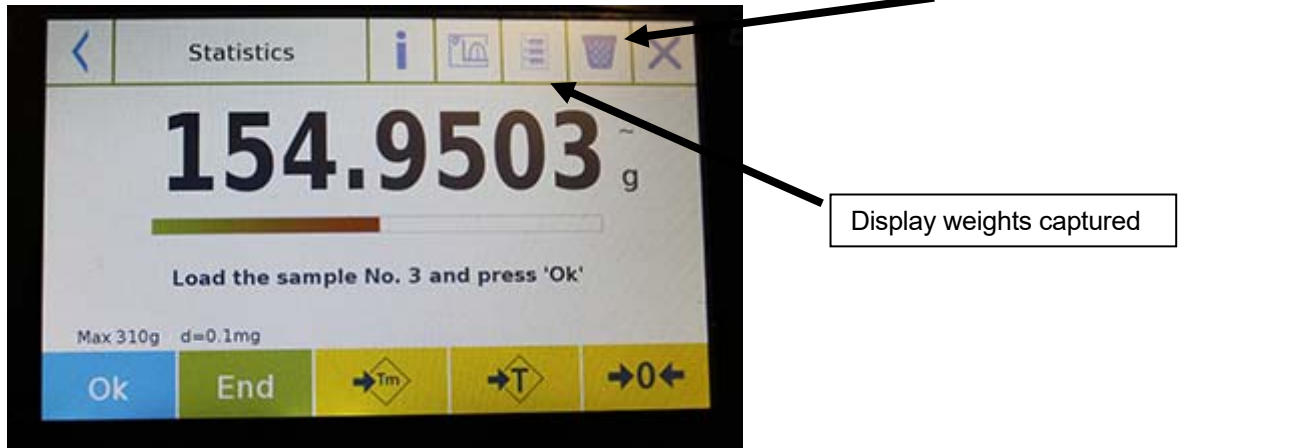
← List of the values captured

N. 001	W =	8.60 g
N. 002	W =	12.91 g
N. 003	W =	12.88 g
N. 004	W =	17.13 g
N. 005	W =	4.35 g
N. 006	W =	9.92 g

Tap the "Esc" key to exit the function, the "Restart" key to make a new measurement and the "Print" key to print the measurement result.

7.6.2 “Database statistics” function screen

Below are the functions related to the database statistics function.




Tap the “**Ok**” key to capture a new weight.

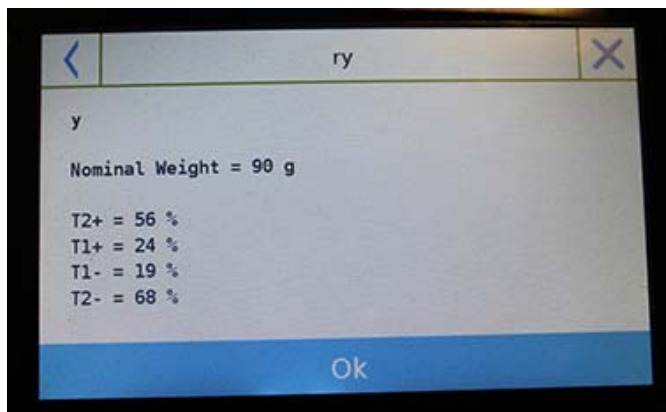
Tap the “**Tm**” key to enter a manual tare value

Tap the “**-T-**”key to run a manual tare

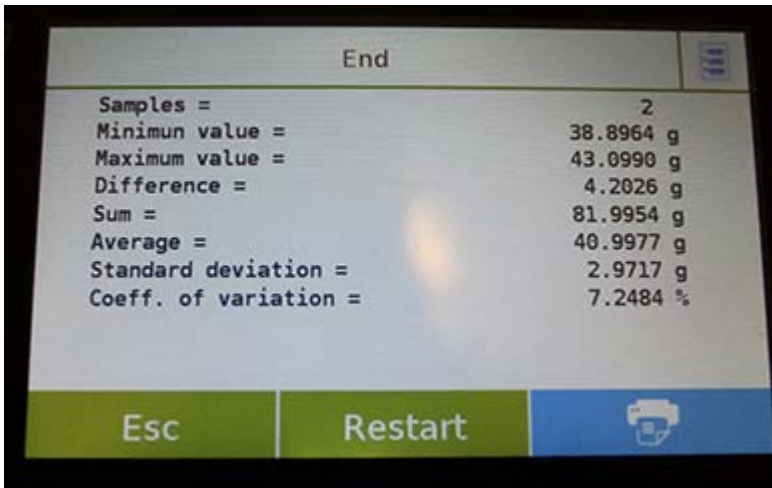
Touch the “**- 0**”key to reset the plate.

Tap the “**End**” key to end the weighing acquisition and follow the statistical calculation

Tap the key  to display the parameters set for statistical calculation



After tapping the “**End**” key, the screen with the result of the weighing statistics is displayed.



Tap the "**Esc**" key to exit the function, the "**Restart**" key to make a new measurement and the "**Print**" key to print the measurement result.

7.7 "TEXTILE" FUNCTION

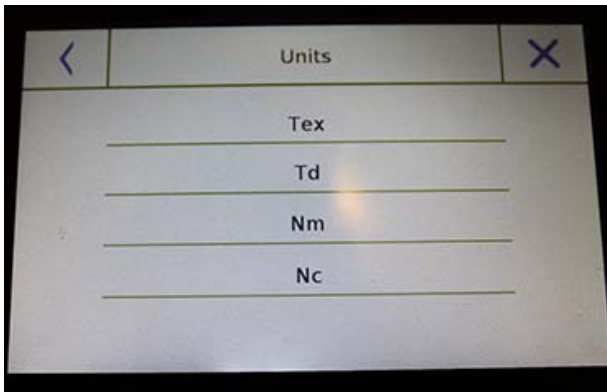
This function determines the number of the yarns by weighing a known length bundle. Using the database function, you can also perform a weighing statistics.

To access this function from the "Functions" menu, tap the "**Textile**" icon.



Length:

Enter the value of the bundle length; the value can be expressed in meters or yards. To select the desired unit on the Length Input Screen, tap the "**Units**" key and make the selection.

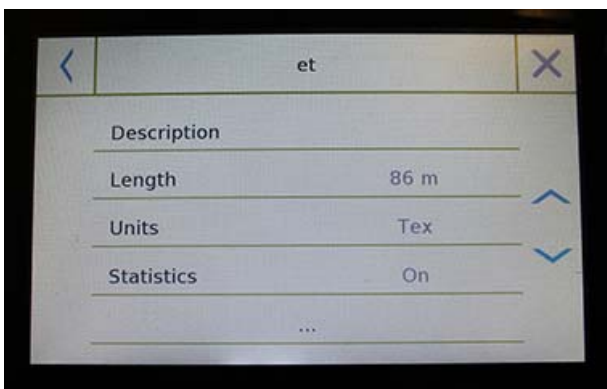


Units:

Select the unit with which you want to view the result. (Tex, Td, Nm, Nc). However, the selected unit can still be modified during weighing by tapping the symbol displayed to the left of the weight.

Start:

After entering the required data, tap the "**Start**" button to execute the "Textile" function.



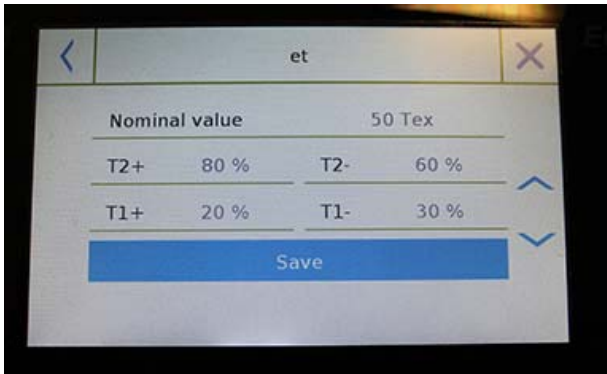
Database:

By touching the "**database**" key, you can create a custom database for "Textile" weighing.

Using the database in addition to the simple "textile" weighing, you can perform the statistical check of the weights.

Tap the "**New**" key and enter the name of the new record to be stored.

- **Description:** enter a description of the item.
- **Length:** select the desired measurement unit and enter the length of the bundle.



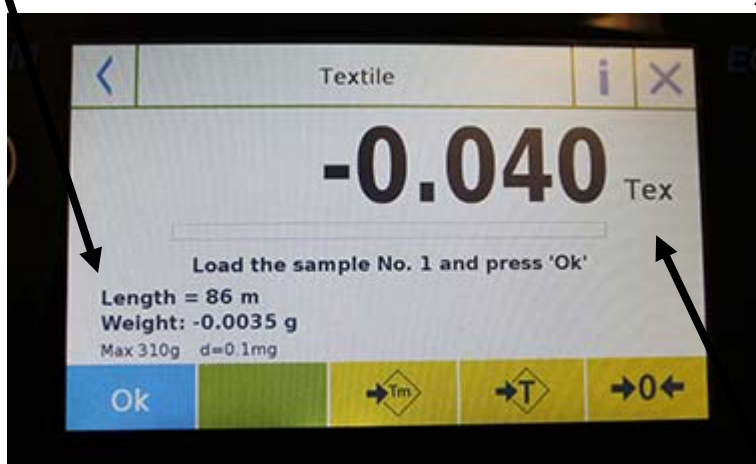
- **Unit:** select the unit with which you want to view the result. (Tex, Td, Nm, Nc). However, the selected unit can still be modified during weighing by tapping the symbol displayed to the left of the weight
- **Statistics:** you can activate the statistical check of the weights. Activating this function, you must enter the following data:
 - **Nominal value:** select the unit of measurement and enter the nominal weight value to be checked.
 - **T2+, T2-, T1+, T1-:** enter the error tolerance threshold values. (Optional entry).
 - **Save:** tap the "Save" button to save the entered record

7.7.1 "Textile" function screen.

Below are the functions in the "Textile" screen.

Bundle length information and weight value in g

Exit the function



Measured unit selection key displayed

Tap the "Ok" key to acquire a new weight
 Tap the "Tm" key to enter a manual tare value
 Tap the "-T-"key to run a manual tare
 Touch the "- 0 -"key to reset the plate.

7.7.2 Textile function database with statistics enabled screen

Below are the functions related to the statistical database textile function.



Tap the **"Ok"** key to acquire a new weight.


Tap the **"Tm"** key to enter a manual tare value

Tap the **"-T-"** key to run a manual tare


Touch the **"- 0 -"** key to reset the plate.

Tap the **"End"** key to end the weighing acquisition and follow the statistical calculation


Tap the key  to delete the last weight acquired.

Tap the key  to view the weights acquired

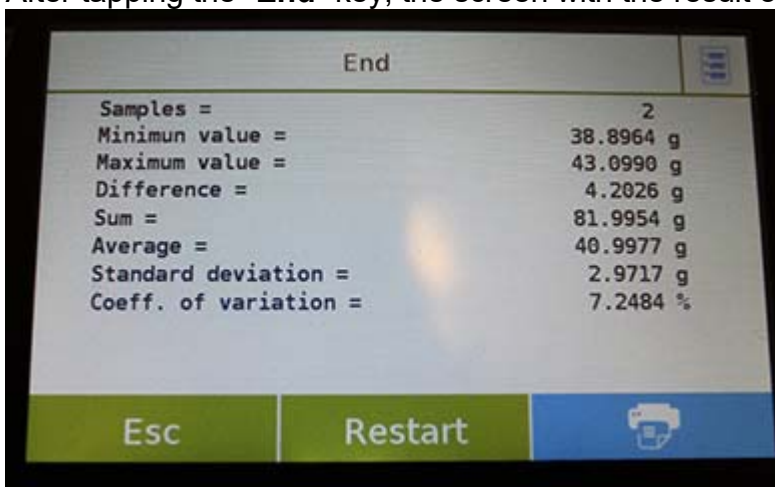
N. 001	V =	9.4 Tex < T2-
N. 002	V =	9.4 Tex < T2-
N. 003	V =	13.1 Tex > T2+
N. 004	V =	13.1 Tex > T2+

Tap the key  to display the parameters set for statistical calculation

```
A1
Length = 10 m
Units = Tex
Statistics = 0n
Nominal value = 10 Tex
T2+ = 1.5 %
T1+ = 1 %
T1- = 1 %
T2- = 1.5 %
```

Tap the key  to display the temporary statistical report

After tapping the "End" key, the screen with the result of the weighing statistics is displayed.

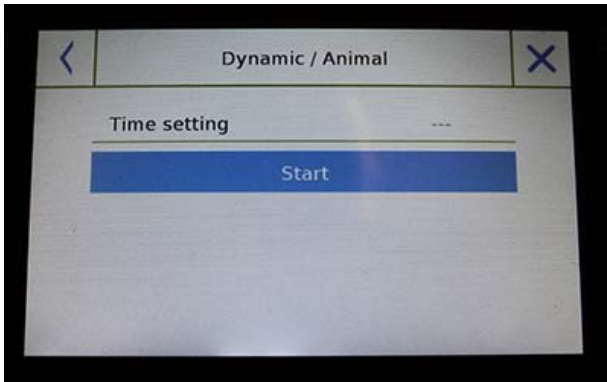


Tap the "Esc" key to exit the function, the "Restart" key to make a new measurement and the "Print" key to print the measurement result.

7.8 DYNAMIC/ ANIMAL WEIGHING FUNCTION

This function allows you to measure the weight of unstable samples (i.e. animals) or samples that are in very unstable environments. The weight is determined in the form of an average value based on multiple weight measurement cycles within the set time interval.

To access the function from the "Functions" menu, tap the "**Animal Dynamic**" icon.

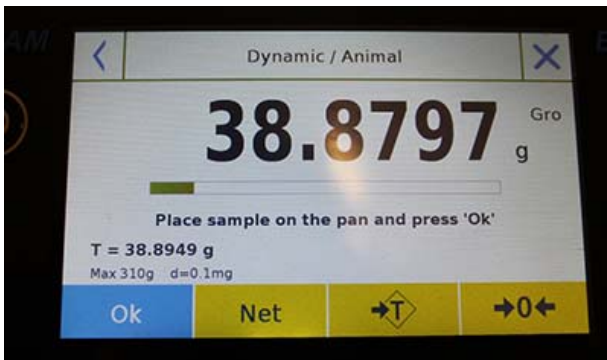


Time setting:

Enter the express measurement time in seconds. (Minimum value 5 seconds, maximum 90 seconds)

Start:

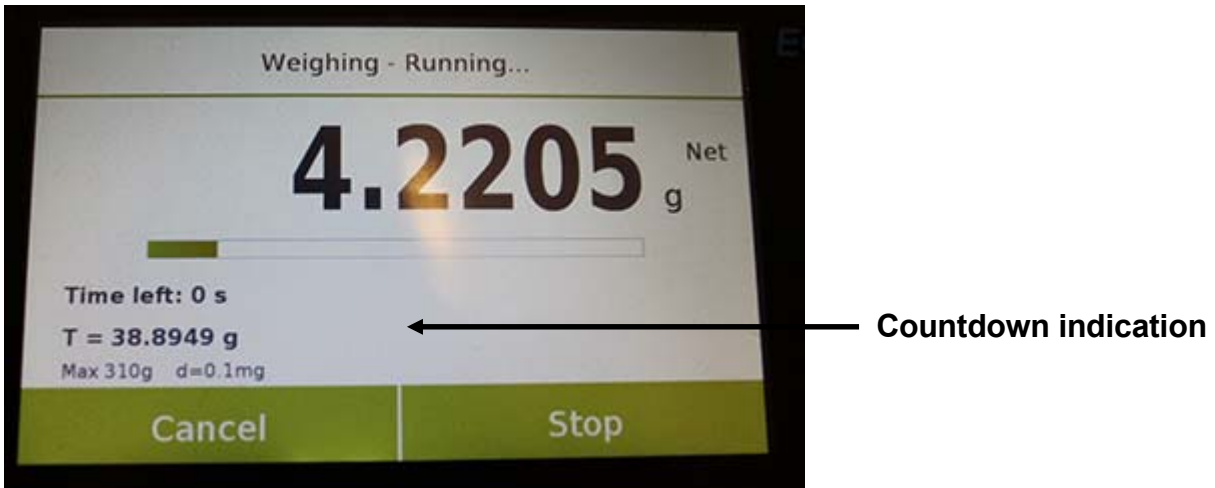
After entering the required data, tap the "Start" button to perform the "Animal weighing" function.



If necessary, reset the indication or load any tare.

Load the sample to be analyzed and tap the "Ok" key.

Information during weight capture



Tap the "**Cancel**" button to cancel the measurement
Tap the "**Stop**" button to stop the countdown and display the result

Information at the end of weight capture



Tap the "**Esc**" key to exit the function, the "**Restart**" key to make a new measurement and the "**Print**" key to print the measurement result.

7.9 "PEAK HOLD" FUNCTION

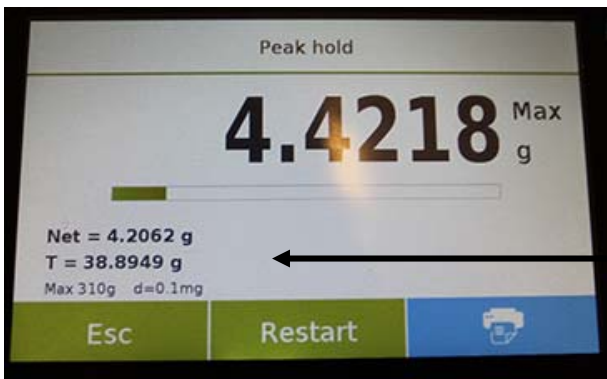
This function allows to measure the peak hold level.

To access the function from the "Functions" menu, tap the "**Peak hold**" icon.



Selecting the function immediately displays the measurement screen.

- Prepare the sample to be tested on the weighing plate.
- Perform tare or zero reset if necessary.
- Tap the "**Ok**" key to start the test.



Once the tested peak level is reached, the maximum weight will be displayed.

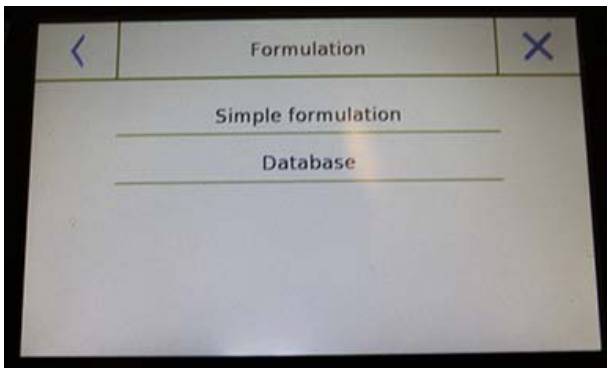
Weight detected on the plate

Tap the "**Esc**" key to exit the function, the "**Restart**" key to make a new measurement and the "**Print**" key to print the measurement result.

7.10 "FORMULATION" FUNCTION

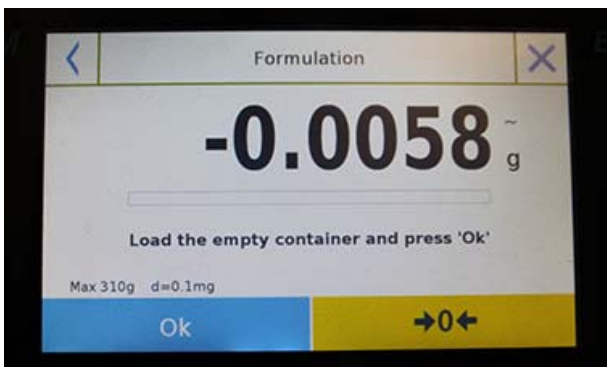
This function allows you to prepare a compound by dosing a set of components in manual mode "Simple formulation" or by calling a formula with ingredients and tolerances previously entered in the formulations database.

To access the function from the "Functions" menu, tap the "**formulation**" icon.

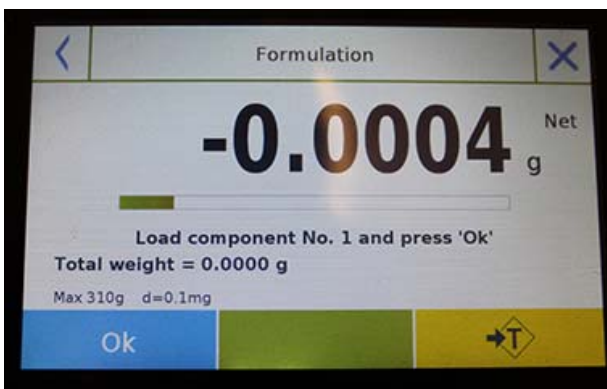


Simple formulation:

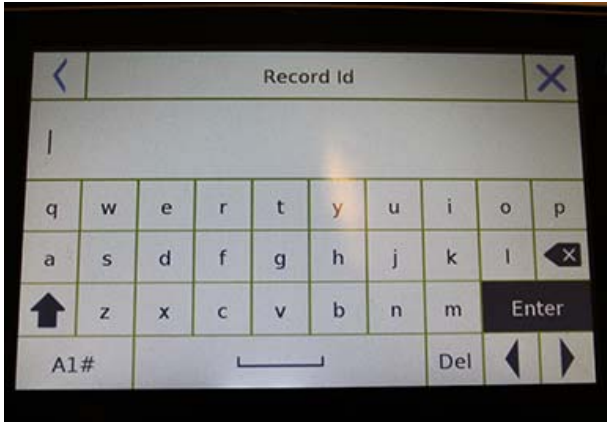
This mode allows you to carry out a series of consecutive weights and finally get the total weight of the dosed components and the relative list with the value of the individual weights.



Tapping the "Simple formulation" button immediately displays the measurement screen.



- Load any container and run the tare. Or, if necessary, reset the indication with the "0" key.
- Now dose the first component and tap the "Ok" key to confirm the capture.
- Then repeat the operation for all the components of the formulation.
- To finish the dosing operation of the components, tap the "End" key.



Database formulation:

By tapping the "**database**" key, you can create a custom database for the "formulation" function.

Using the database, you can store custom formulations with a set of components and their tolerances.

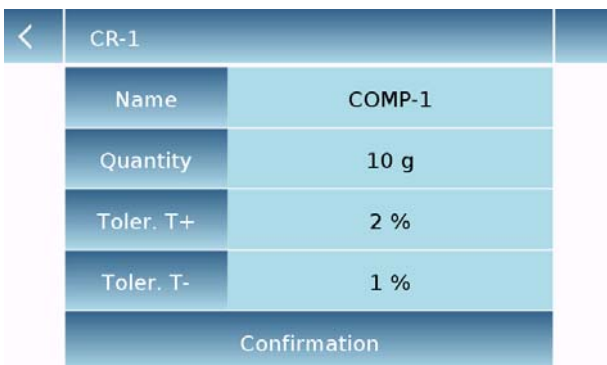
Tap the "**New**" key and enter the name of the new record to be stored.

- **Description:** enter the items description.
- **Add:** tap the add button to insert a component.

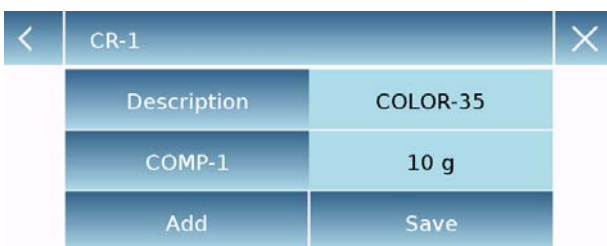


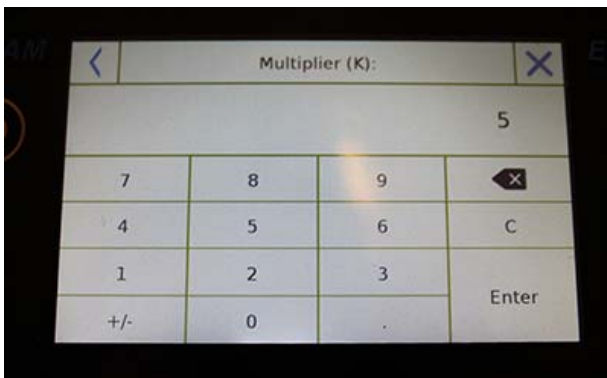
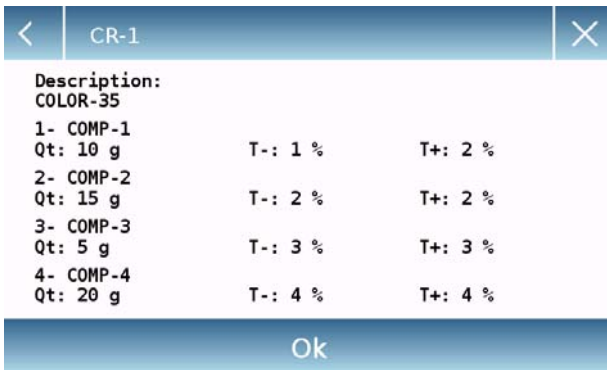
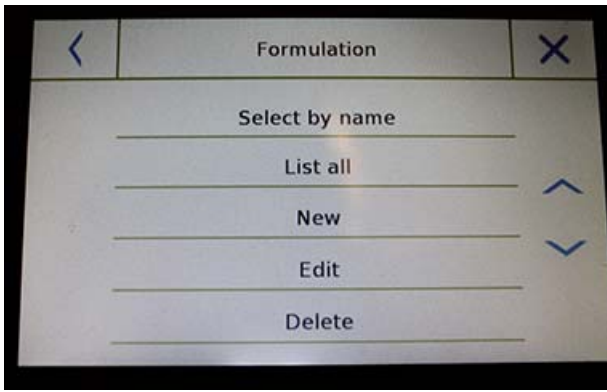
- **Name:** enter the name of the component.
- **Quantity:** select the desired unit of measurement and enter the nominal quantity of the component.
- **Toll T+:** enter positive percentage tolerance.
- **Toll T-:** enter negative percentage tolerance.
- **Confirmation:** tap the confirmation key to accept the entered values. Verification of the correctness of the data entered in case of error signal will be performed; check that all parameters entered are congruent.

After confirming, proceed with the "add" button to enter all the desired components.



- **Save:** after entering all the desired components, tap the "Save" button to store the formulation.





To recall the formulation entered in the database, use the **"Select From List"** command, select the formulation you want and proceed as shown below.

After selecting the desired formulation, a summary screen will be displayed showing all the components and their amount needed to make the formulation.

Tap the **"Ok"** key to confirm and proceed by entering the multiplication factor needed to determine the total amount of the formulation.

(i.e. if the formulation has been stored to produce 10g of product and you want to produce 100g insert a "K" factor of 10). If the entered value does not allow the dosing of one of the components because its quantity exceeds the scale capacity, it will not be accepted.

If the total weight of the formulation instead exceeds the scale capacity, but the individual components are lower, the user will be asked whether to proceed with the "separate formulation".

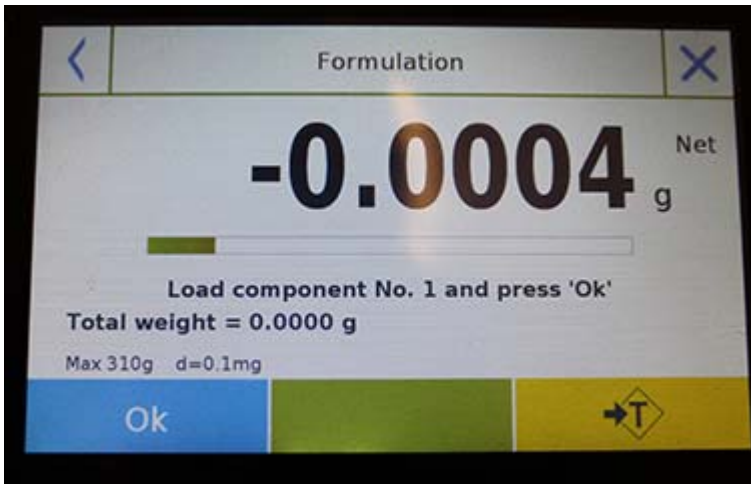
- **Yes:** to proceed with the separate formulation.
- **No:** to change the value of the multiplier factor "K" and reduce the quantities.

The formulation screen shows the type of formulation you are using by displaying two symbols as described below:

Symbol displayed in case of **"unique formulation"**.


Symbol displayed in case of **"separate formulation"**.


7.10.1 Simple formulation function screen.



Tap the "**Ok**" key to acquire a new weight.

Tap the "**End**" key to end the weighing capture and follow the statistical calculation

Tap the  key to clear the last weight acquired.

Tap the  key to view the weight acquired.

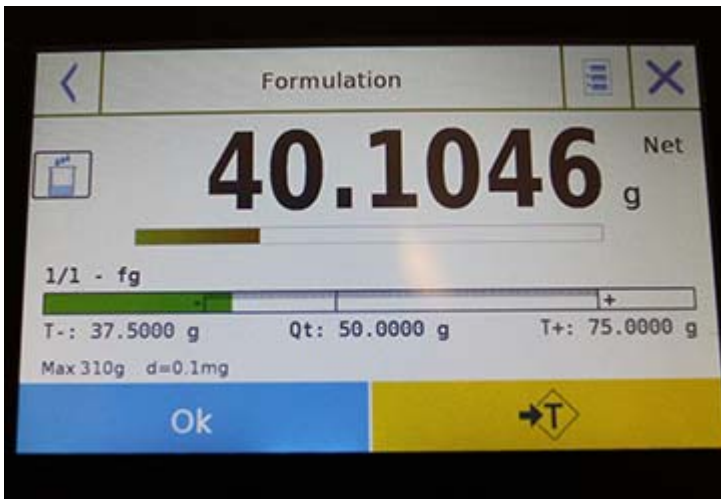
Comp. No. 01	Q.ty =	12.93 g
Comp. No. 02	Q.ty =	4.30 g
Comp. No. 03	Q.ty =	8.71 g

After tapping the "End" key, the screen appears with the result for the sum of the weights.



Tap the "**Esc**" key to exit the function, the "**Restart**" key to make a new measurement and the "**Print**" key to print the measurement result.

7.10.2 Database formulation function screen



Tap the "Ok" key to acquire a new weight.
Tap the "T" key to reset the weight indication.



Tap the key to view the list of the formulation components and the components already entered:

CR-1			
Description:			
COLOR-35			
Total nominal quantity: 500.00 g			
1- COMP-1			
Q.Eff:	0.00 g	Q.Nom:	100.00 g
T-:	99.00 g	T+:	102.00 g
2- COMP-2			
Q.Eff:	0.00 g	Q.Nom:	150.00 g
T-:	147.00 g	T+:	153.00 g
3- COMP-3			
Q.Eff:	0.00 g	Q.Nom:	50.00 g
T-:	48.50 g	T+:	51.50 g

Dosing bar:



The dosing bar works with automatic graduated enlargement. When the dosed quantity approaches the two levels of tolerance, the center zone is automatically enlarged to allow dosing with a greater sensitivity.

The bar takes on different colours:


Yellow when the loaded weight is lower than the low limit.

Green when the weight is within the set range.

Red when the weight is higher than the high limit.

When the correct dosage of all components is completed, the actual dosed amount will be displayed:

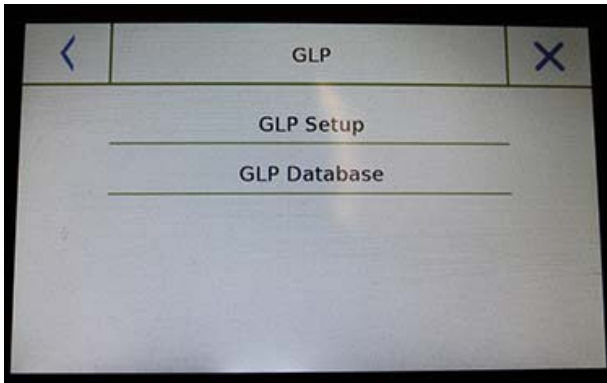


Tap the  key to view the complete list of components and their dosed quantities.

Tap the "**Esc**" key to exit the function, the "**Restart**" key to make a new measurement and the "**Print**" key to print the measurement result.

7.11 SETTING THE GLP DATA

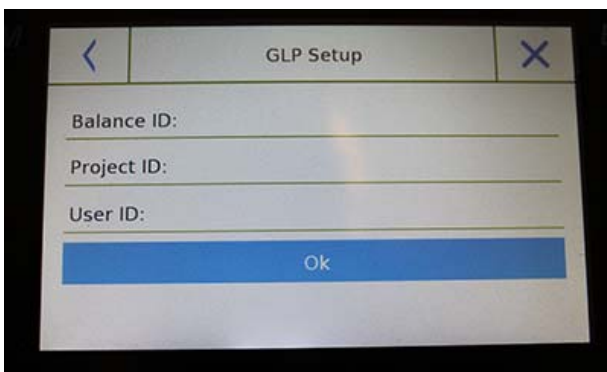
This function allows you to customise and create a database with GLP parameters. To access the function from the "Functions" menu, tap the "GLP" icon.



GLP Setup: use this command to enter GLP parameters when you do not want to save them to the database.

The data entry screen will be displayed. Tap the corresponding parameter to enter the desired data.

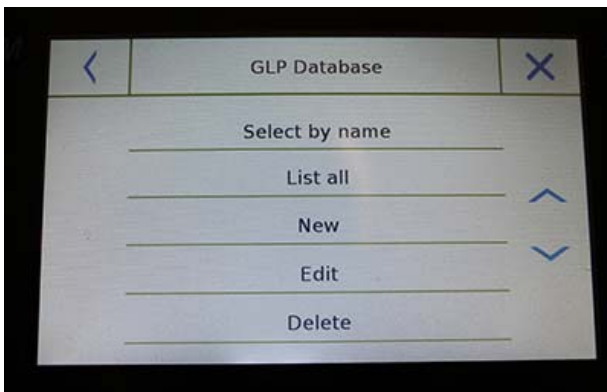
- **Balance ID**
- **Project ID**
- **User ID**



After entering the data, press the "Ok" key to confirm.

Note that the maximum number of characters allowed per parameter is 20.

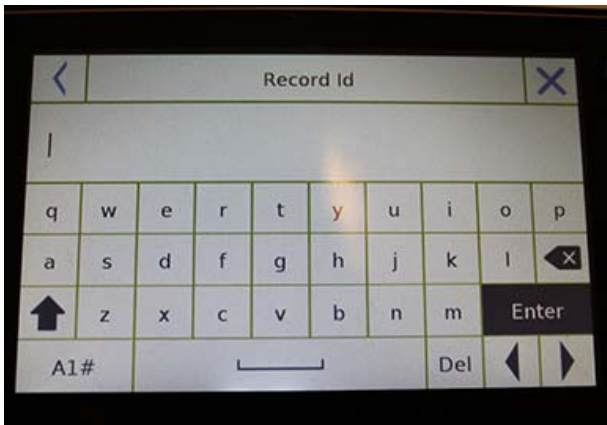
GLP Database: by tapping this command, you can access the GLP parameter database management menu



Below are all the available functions

- **Select by name:** by tapping this key, you can call up a program by entering the corresponding name.
- **List all:** by tapping this button, you can call up a program by selecting it from a list.
- **New:** by tapping this button, you can enter a new record.
- **Edit:** by tapping this button, you can access the GLP parameters that can be changed.
- **Delete:** tap this button to delete one or more previously stored records.
- **Print:** by tapping this button you can select a GLP record and print it.
- **Export (Usb):** by tapping this button, you can export the database to the USB stick.



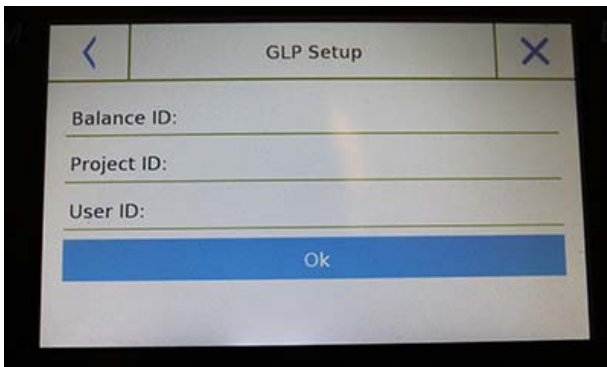


- **Import (Usb):** by tapping this key, you can import from a USB stick a predefined database previously

The selection, edit, delete, print, export and import commands are the same as described in **chapter 7.1**

New: this command allows you to enter a new record.

Enter the name you want to assign to the record and confirm with the **"Enter"** key.

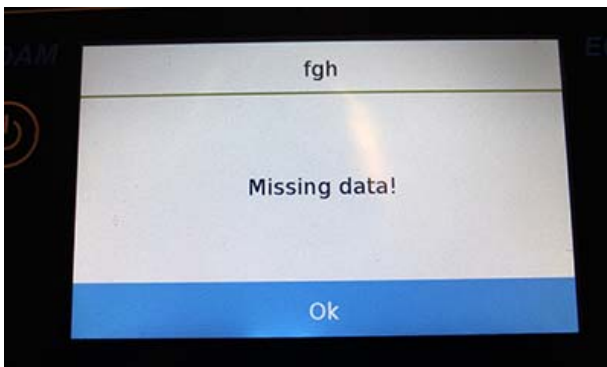


The data entry screen will be displayed. Tap the corresponding parameter to enter the desired data.

- **Balance ID**
- **Project ID**
- **User ID**

After entering the data, press the **"Save"** key to confirm.

In order to save data, at least one of the three fields must be filled in, otherwise an incomplete data screen will be displayed.



After entering the record, use the **"Select from list"** or **"Select by name"** command to select it.

Tap the desired record and confirm with the **"Ok"** key.



N.B. By entering the **"GLP"** command in the print setup menu or in the save file, the data set in the **"Balance id, Project id, User id"** fields will be reported.

8.0 TECHNICAL FEATURES

The Equinox series of balances are all intended for indoor use. Maximum height of use: 4000m; Degree of Pollution: 2; Overvoltage category: II

For M models:

Power supply unit supplied:	INPUT: Switching 100-240Vac~ 50/ 60Hz, OUTPUT: 24V DC 550mA, Potential Max overload power 13.2VA
Adaptation to environmental conditions:	Selectable filters
Autozero:	Selectable from menu
Serial output:	RS232C
Working temperature:	+5°C - +35°C

WARRANTY INFORMATION

Adam Equipment offers Limited Warranty (Parts and Labour) for the components failed due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Adam Equipment Company. The company or its authorised Technician reserves the right to repair or replace the components at any of its workshops depending on the severity of the problems. However, any freight involved in sending the faulty units or parts to the service centre should be borne by the purchaser.

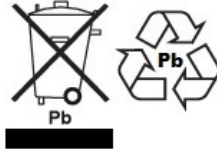
The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Adam Equipment.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorised modifications or attempted repair or failure to observe the requirements and recommendations as given in this User Manual. Additionally rechargeable batteries (where supplied) are not covered under warranty.

Repairs carried out under the warranty does not extend the warranty period. Components removed during the warranty repairs become the company property.

The statutory right of the purchaser is not affected by this warranty. The terms of this warranty is governed by the UK law. For complete details on Warranty Information, see the terms and conditions of sale available on our web-site.

WEEE 2012/19/EU



This balance may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements. Disposal of batteries (if fitted) must conform to local laws and restrictions.

Cet appareil ne peut être éliminé avec les déchets ménagers. L'élimination de la batterie doit être effectuée conformément aux lois et restrictions locales.

Dieses Gerät nicht mit dem Hausmüll entsorgt.

Dispositivo no puede ser desechado junto con los residuos domésticos

Dispositivo non può essere smaltito nei rifiuti domestici.

FCC / IC CLASS A DIGITAL BALANCE EMC VERIFICATION STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital balance, pursuant to Part 15 of the FCC rules and Canadian ICES-003/NMB-003 regulation. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Adam Equipment products have been tested with, and are always supplied with mains power adaptors which meet all legal requirements for the intended country or region of operation, including electrical safety, interference and energy efficiency. As we often update adaptor products to meet changing legislation it is not possible to refer to the exact model in this manual. Please contact us if you need specifications or safety information for your particular item. Do not attempt to connect or use an adaptor not supplied by us.

ADAM EQUIPMENT is an ISO 9001:2008 certified global company with more than 40 years' experience in the production and sale of electronic weighing equipment.

Adam products are predominantly designed for the Laboratory, Educational, Health and Fitness, Retail and Industrial Segments. The product range can be described as follows:

- Analytical and Precision Laboratory Balances
- Compact and Portable Balances
- High Capacity Balances
- Moisture analysers / balances
- Mechanical Scales
- Counting Scales
- Digital Weighing/Check-weighing Scales
- High performance Platform Scales
- Crane scales
- Mechanical and Digital Electronic Health and Fitness Scales
- Retail Scales for Price computing

For a complete listing of all Adam products visit our website at www.adamequipment.com

<p>Adam Equipment Co. Ltd. Maidstone Road, Kingston Milton Keynes MK10 0BD UK Phone: +44 (0)1908 274545 Fax: +44 (0)1908 641339 e-mail: sales@adamequipment.co.uk</p>	<p>Adam Equipment Inc. 1, Fox Hollow Rd. Oxford, CT 06478 USA Phone: +1 203 790 4774 Fax: +1 203 792 3406 e-mail: sales@adamequipment.com</p>	<p>AE Adam GmbH. Instenkamp 4 D-24242 Felde Germany Phone +49 (0)4340 40300 0 Fax: +49 (0)4340 40300 20 e-mail: vertrieb@aeadam.de</p>
<p>Adam Equipment S.A. (Pty) Ltd. 7 Megawatt Road, Spartan EXT 22 Kempton Park, Johannesburg, Republic of South Africa Phone +27 (0)11 974 9745 Fax: +27 (0)11 392 2587 e-mail: sales@adamequipment.co.za</p>	<p>Adam Equipment (S.E. ASIA) PTY Ltd 70 Miguel Road Bibra Lake Perth 6163 Western Australia Phone: +61 (0) 8 6461 6236 Fax +61 (0) 8 9456 4462 e-mail: sales@adamequipment.com.au</p>	<p>Adam Equipment (Wuhan) Co. Ltd. A Building East Jianhua Private Industrial Park Zhuanyang Avenue Wuhan Economic & Technological Development Zone 430056 Wuhan P.R.China Phone: + 86 (27) 59420391 Fax + 86 (27) 59420388 e-mail: info@adamequipment.com.cn</p>

© Copyright by Adam Equipment Co. All rights reserved. No part of this publication may be reprinted or translated in any form or by any means without the prior permission of Adam Equipment.

Adam Equipment reserves the right to make changes to the technology, features, specifications and design of the equipment without notice.

All information contained within this publication is to the best of our knowledge timely, complete and accurate when issued. However, we are not responsible for misinterpretations which may result from the reading of this material.

The latest version of this publication can be found on our Website.

www.adamequipment.com