



RADWAG BALANCES AND SCALES
ADVANCED WEIGHING TECHNOLOGIES

IMMB-11-01-09-20-EN

Start up Guide

Moisture Analyzer

- MA X2.A
- MA X2.IC.A

To view a complete User Manual go to the website or scan QR code:



radwag.com/en/manuals/9315

1. CONTENT



Moisture analyzer
x1



Disposable pan
x10



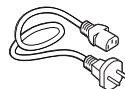
Cross-shaped
holder
x1



Drying pan
handle
x1



Drying pan
shield
x1

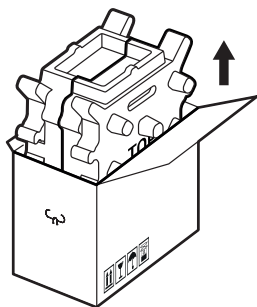


Power cord*
x1

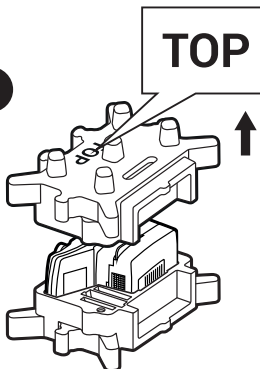
**The plug type may vary by country.*

2. UNPACKING

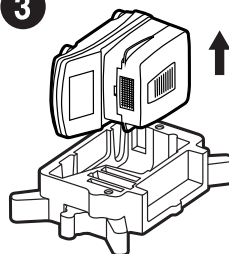
1



2

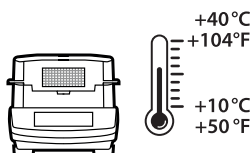


3



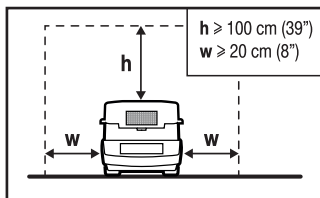
Keep the packaging should a
warranty claim or service be required.

3. RECOMMENDATIONS AND WARNINGS

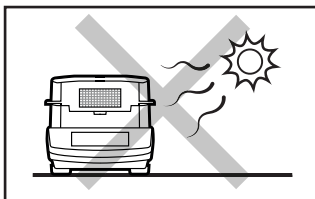


Operate the device in a room where the temperature ranges between 10–40 °C (50–104 °F) and where the relative humidity is below 80%.

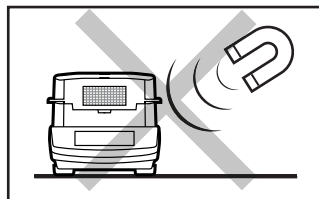
Place the moisture analyzer on a solid surface to ensure stability. To obtain stable and repeatable weighing results, an anti-vibration table is recommended.



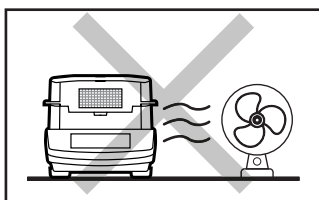
Keep free space around the device:
h = min. 100 cm (39 in.),
w = min. 20 cm (8 in.).



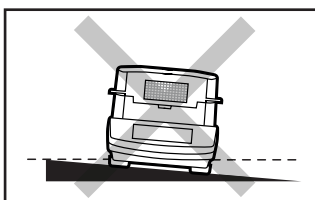
Place the device away from heat sources. Avoid exposing the device to the sunlight.



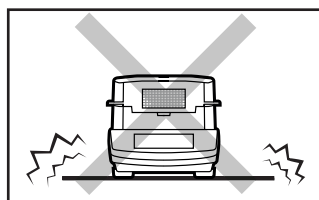
Avoid exposing the device to a magnetic field. Do not weigh magnetic substances.



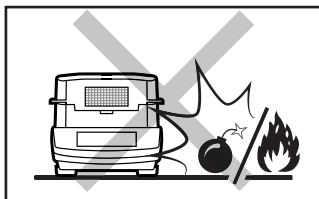
Avoid air drafts and air movements at the workstation.



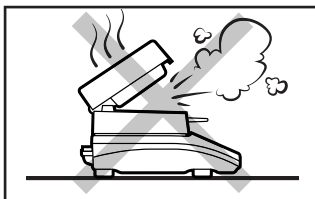
Make sure that the device is placed on an even surface.



Do not place the device on an unstable surface exposed to shocks and vibrations.



Do not place the device in a hazardous area. Do not weigh explosive or flammable materials.



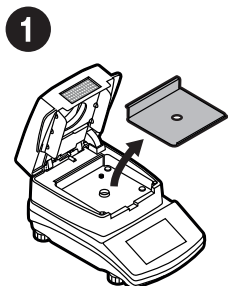
Do not open in the course of operation since the heating components reach very high temperature.



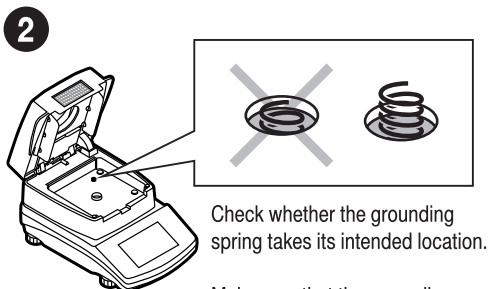
Be extremely careful while taking the sample out. The sample and the moisture analyzer elements may be hot.

4. ACTIVITIES TO BE DONE PRIOR TO OPERATION

Grounding spring check

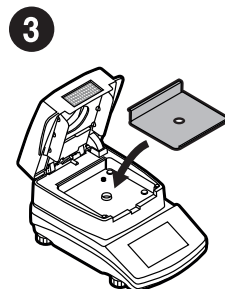


Remove the base insert.



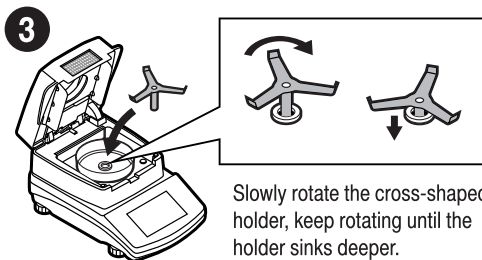
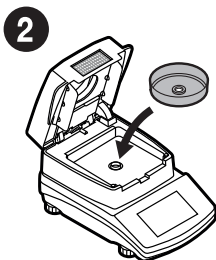
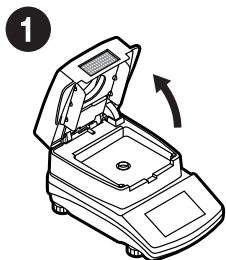
Check whether the grounding spring takes its intended location.

Make sure that the grounding spring juts slightly out of the hole.

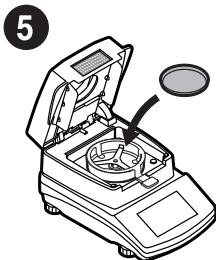
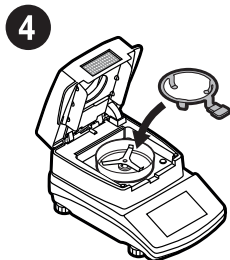


Install the base insert.

5. COMPONENTS ASSEMBLY



Slowly rotate the cross-shaped holder, keep rotating until the holder sinks deeper.

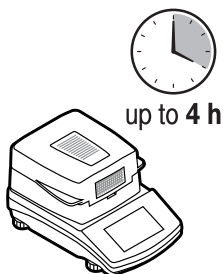


6. PREPARING FOR WORK



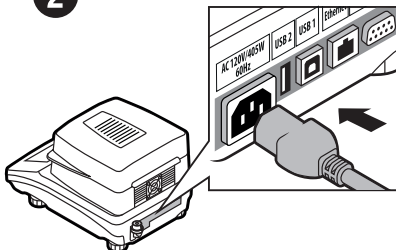
Place the moisture analyzer at the workstation, wait until it reaches room temperature.

6.1. Temperature stabilisation



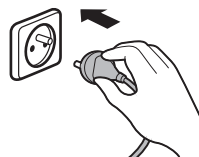
Prior to switching the device on let it reach room temperature (estimated stabilisation time: up to 4 hours).

2



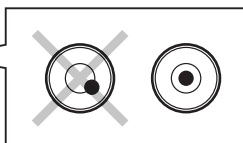
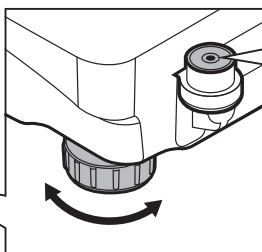
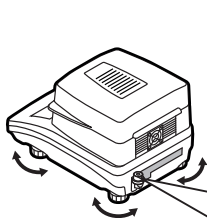
Connect the power cord to the AC socket located at the back of the device.

3



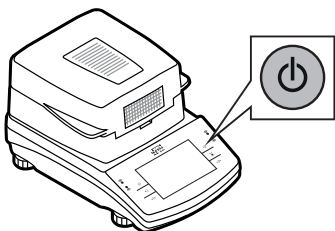
Connect the device to the mains.

6.2. Levelling



To level the balance turn its feet, keep turning the feet until the level indicator takes central position.

6.3. Switching the device on



To switch the device on, press ON / OFF key.

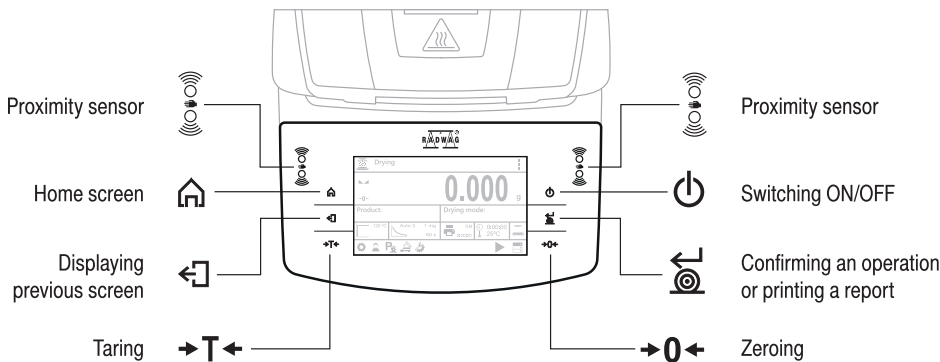


The moisture analyzer is ready to use!

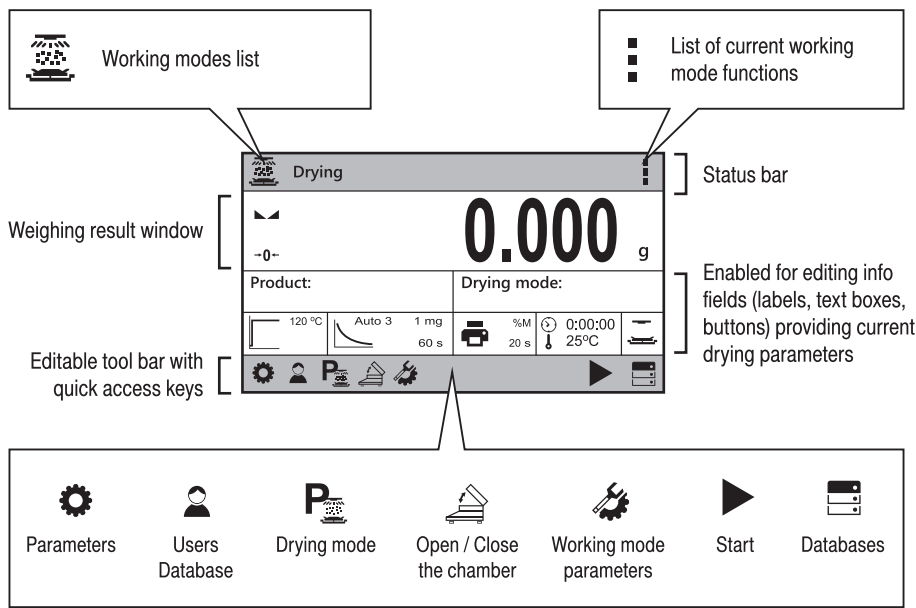
Before using WEIGHING mode, carry out instrument adjustment: refer to section 8.1. (adjustment is not required for DRYING mode).

7. PANEL AND SCREEN

7.1. Panel keys

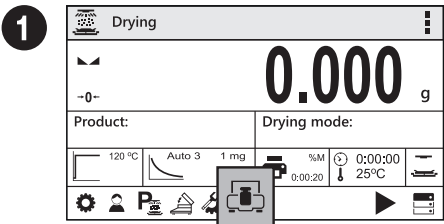


7.2. Home screen

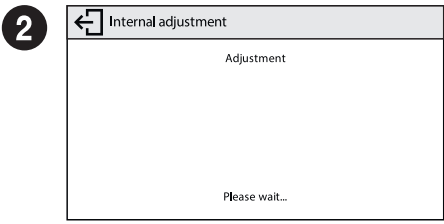


8. BASIC OPERATIONS

8.1.1. Adjustment (for models with an internal adjustment only)



Press “Adjustment” button.



Wait for the process completion.

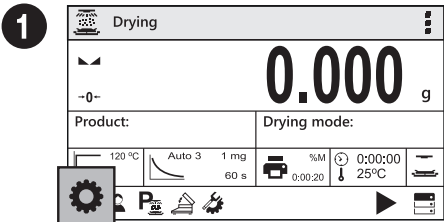
8.1.2. Adjustment (for models with an external adjustment only)

It is recommended to carry out adjustment operation prior to running the WEIGHING mode (adjustment is not required for DRYING). External adjustment is carried out using an external mass standard of the right accuracy and weight value, which value depends on device type and capacity.

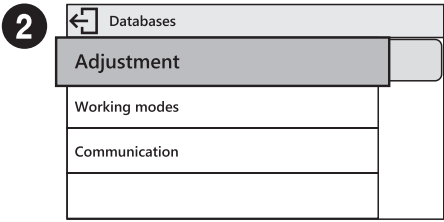
 **The adjustment mass standard does not come with the moisture analyzer. Prior to adjustment prepare the right mass standard. You are recommended to use mass standard of class F1 or F2. View the table and select the mass standard you need.**

Caution! Make sure that the disposable weighing pan has been installed (read point 5.5.). Do not close the drying chamber in the course of adjustment.

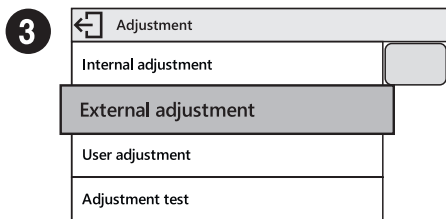
Balance model	Mass standard [g]
MA 50/1.X2.A	50
MA 50.X2.A	50
MA 110.X2.A	100
MA 210.X2.A	200
MA 210/1.X2.A	200



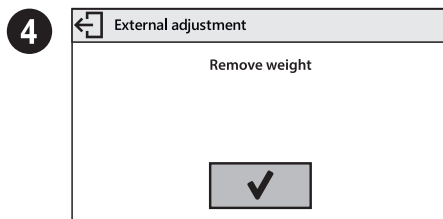
Press “Parameters” button.



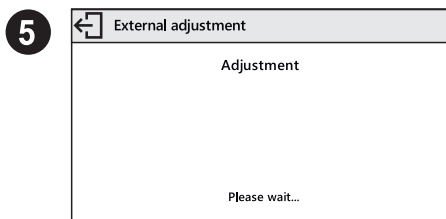
Respective parameters list is displayed, select Adjustment option.



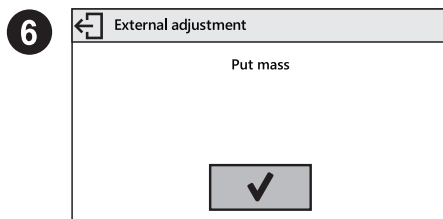
Press "External Adjustment" parameter.



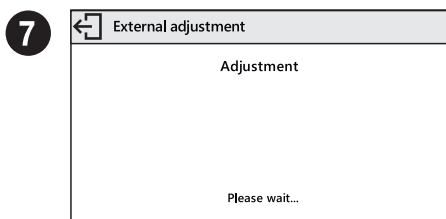
Make sure that the weighing pan is empty and press ☒ button for confirmation.



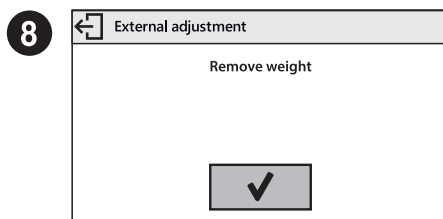
Wait for completion of the start mass determination process.



Load the weighing pan with mass standard and press ☒ button for confirmation.

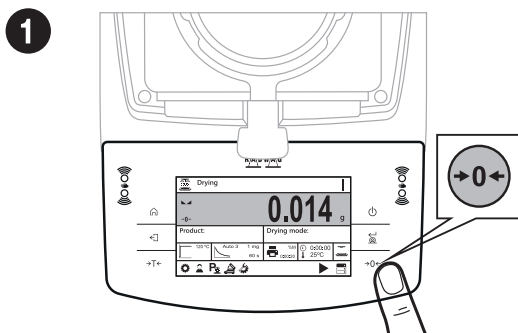


Wait for the process completion.

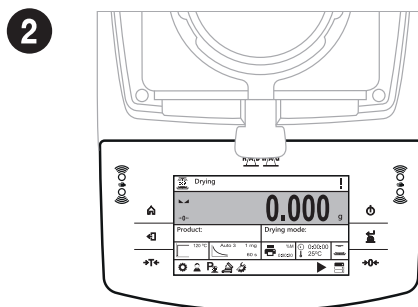


Unload the weighing pan.

8.2. Zeroing

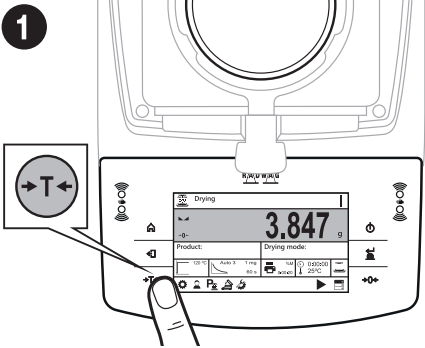


Make sure that the weighing pan is empty and press "Zeroing" button.

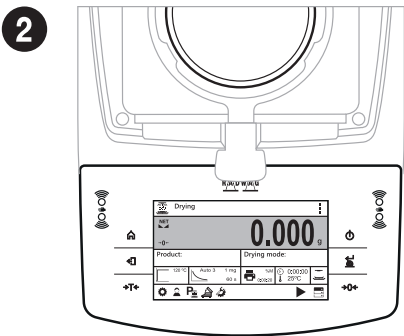


The moisture analyzer has been zeroed.

8.3. Taring

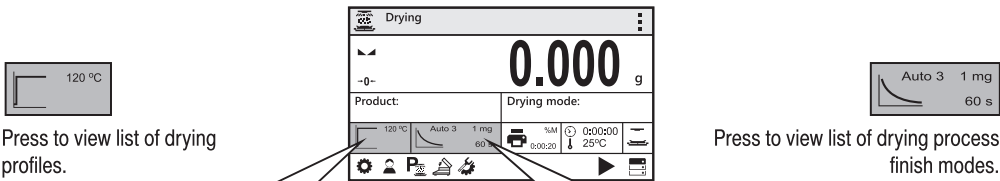


With loaded weighing pan: upon stabilisation of the weighing result, press “Tare” button.



The moisture analyzer has been tared.

8.4. Drying profiles / drying process finish modes



← Drying profile

Drying profile

Temperature

Standard

Fast

Mild

Step

Drying profiles:

- Standard:**
the most precise moisture content measurement
- Fast:**
for samples with moisture content 5% - 15%
- Mild:**
the most precise moisture
- Step:**
for substances with moisture content higher than 15%

← Finish mode

Finish mode

Automatic

Manual

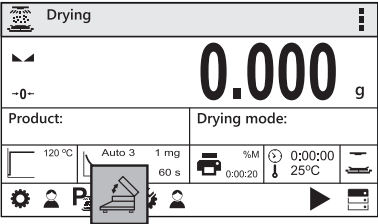
Time defined

User defined

Drying process finish modes:

- Automatic:**
triggered in accordance with automatic settings
- Manual:**
triggered manually by the user
- Time-defined:**
triggered after passage of declared time
- User-defined:**
triggered in accordance with user settings

8.5. Automatically opened and closed drying chamber



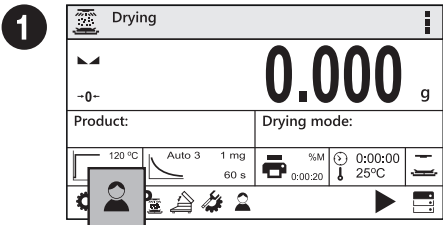
In order to open/close the drying chamber, press an on-screen button: “Open / Close the chamber”

9. SETTINGS

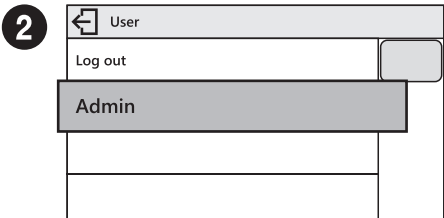


Some balance settings are accessible for Administrator exclusively.
Prior to balance parameters setup, log in as Administrator.

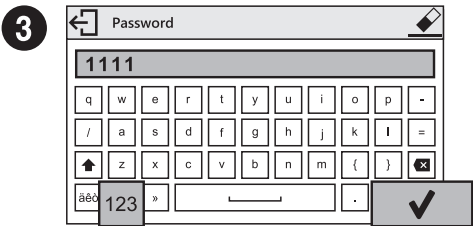
9.1. Administrator’s logging in



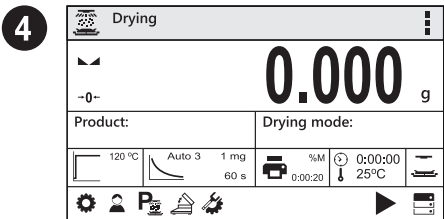
Press “Operators” button.



Users list is displayed, select “Admin” option.



Press **123** button to activate numeric keyboard.
Enter „1111” password and press **✓** button to confirm.



You have logged as the Administrator.

9.2. User settings



Prior to balance users setup, log in as Administrator (point 9.1.).

1

Drying

0.000 g

-0-

Product: Drying mode:

120 °C Auto 3 1 mg %M 0:00:00

60 s 0:00:20 25 °C

⚙️ P ⚙️

▶️ 🗂️

Press “Databases” button.

2

Databases

Products	0
Users	1
Packaging	0
Customers	0

Select “Users” database.

3

Users

Admin

+

Press **+** button.

4

New

Name	New
Code	
Password	*****
Permissions	User

Select “Name” parameter.

5

Name

John Smith

q w e r t y u i o p -

/ a s d f g h j k l =

↑ z x c v b n m { } *

áo 123 »

✓

Enter user name and press **✓** button to confirm.

6

New

Name	John Smith
Code	
Password	*****
Permissions	User

User name has been entered.

7

Following the above procedure, set remaining parameters:

Code:

Enter user ID

Password:

Enter user password

Access levels:

Set respective access level (user, advanced, admin)

New

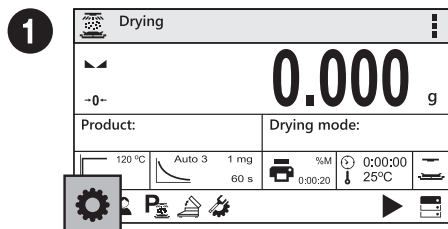
Name	John Smith
Code	
Password	*****
Permissions	User

9.3. Proximity sensors setup

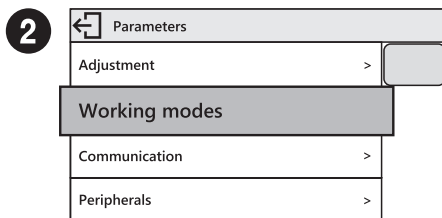


Prior to balance users setup, log in as Administrator (point 9.1.).

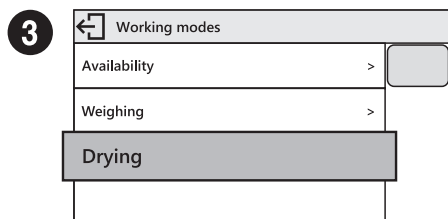
You can assign the proximity sensors with different functions for each working mode (the sensors will trigger different operation for each working mode). See the below procedure of sensors setup for the weighing mode.



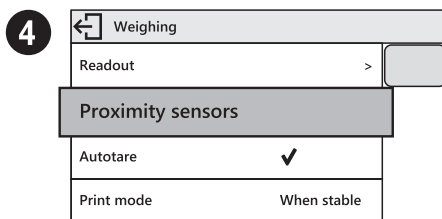
Press "Parameters" button.



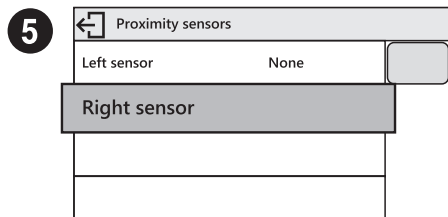
Parameters list is displayed, select "Working Modes" parameter.



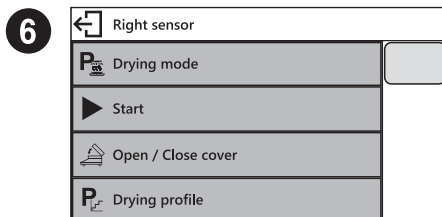
Select "Weighing" parameter.



Select "Proximity Sensors" parameter.



Select the appropriate sensor (right or left).



Select function that is to be assigned to the chosen sensor.



Following the above procedure you can configure sensors for other working modes.

10. SAMPLES AND DRYING METHODS

10.1. Preparing samples



Optimal sample structure and size are crucial features influencing measurements speed, accuracy and repeatability.



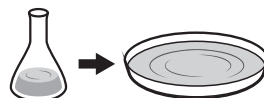
Solids:

- sample crushing necessary,
- sample of low weight required,
- large sample surface.



Samples with low moisture content:

- sample of heavy weight required (10 - 15 g).



Liquids:

- large sample surface.

10.2. Handling hazardous samples



Some sample types require particular caution!

They may pose risk for people and objects. It is the moisture analyzer operator who is responsible for potential loss being a result of such samples use.



Substances that in the course of heating may emit vapours causing corrosion (e.g. acids).

Apply small amount of samples, this helps to prevent risk of settling of vapour over cool housing components.



Explosive and flammable and materials that in the course of heating emit flammable vapours.

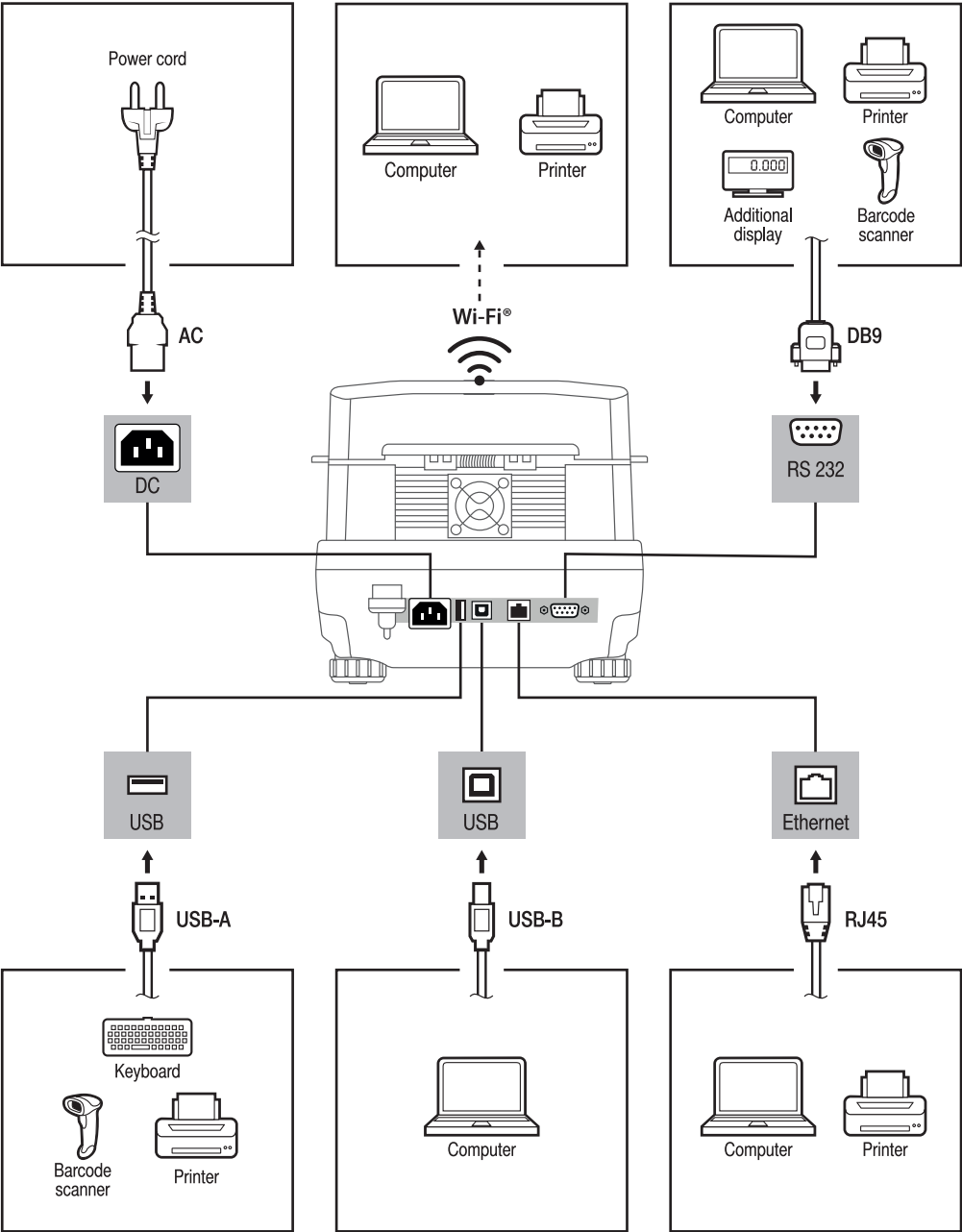
Apply small amount of samples and lower drying temperature, this helps to prevent flames from rising and explosion. Use glasses and protective gloves.



Toxic and corrosive substances and substances that in the course of heating emit toxic vapours.

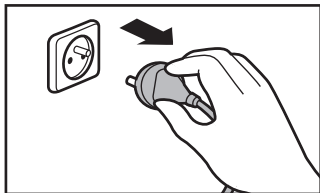
Due to risk of eyes, skin and lungs irritation, and due to risk of death, such samples must be dried in fume cupboard.

11. PERIPHERAL DEVICES CONNECTORS

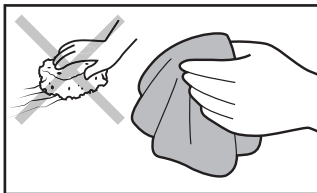


12. DEVICE CLEANING

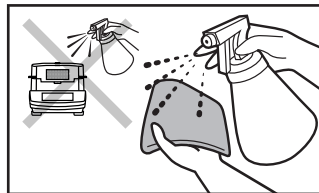
12.1. General recommendations



Prior to cleaning, it is necessary to disconnect the balance from the mains.



Use soft cloths made of microfiber, natural fiber or man-made fiber. Avoid using abrasive cloths or cloths that might scratch the surface.



Apply the cleanser onto the cloth first. Avoid applying the cleanser directly onto the device.



Do not use aggressive cleaning agents (e.g. solvents, chlorine preparations, corrosive chemicals, bleach).



Neither use substances of sharp structure nor intended for scrubbing.



Make sure that neither dust nor liquid gets inside the weighing system (device inside).

12.2. Cleaning instructions

- **GLASS PANES AND COMPONENTS** can be cleaned using window cleaner.
- **WEIGHING PANS AND STAINLESS STEEL OR ALUMINIUM COMPONENTS** can be cleaned using a cloth slightly soaked in a solution of water and gentle cleanser (e.g. soap or dishwashing liquid).
- **OPERATION PANEL AND HOUSING** can be cleaned using a cloth slightly soaked in a solution of water and gentle cleanser (e.g. soap or dishwashing liquid).
- Dry sample leftovers can be removed using either brush or handheld vacuum cleaner.
- Clean components can be dried using soft cloth or dust-free paper towel, with this the remaining moist will be absorbed.
- **Install all the components providing they are completely dry.**



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