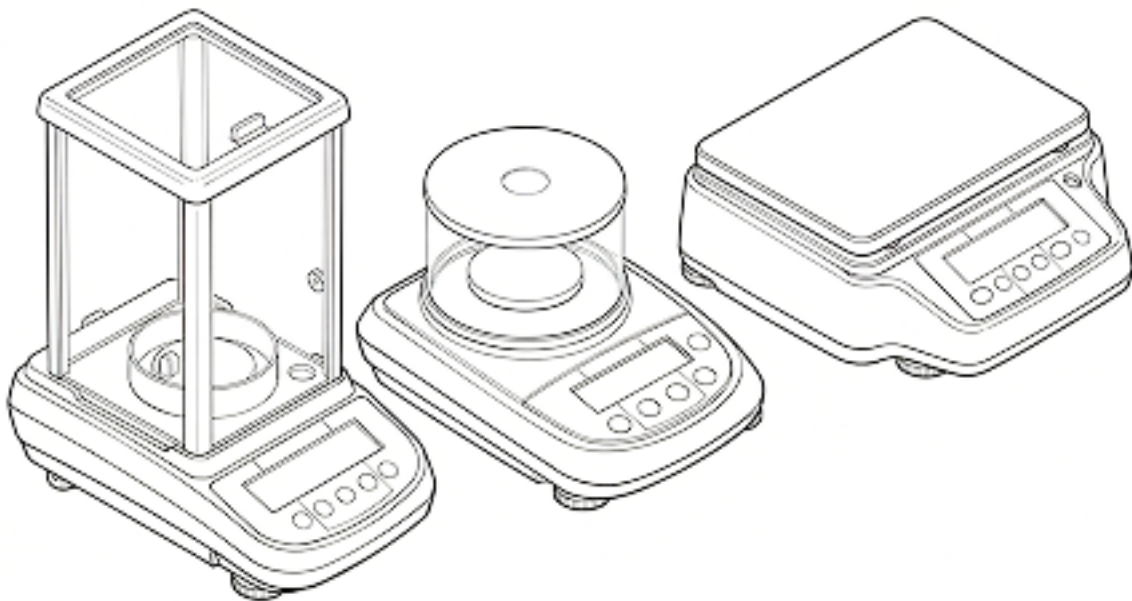


GRAM  **Core**

TGI/TB/TG



ELECTRONIC PRECISION BALANCES
(LCD, GRAPHIC, TOUCHSCREEN DISPLAY)

QUICK GUIDE



This is just a guide in order to start using the instrument.

The complete **USER MANUAL** describing in depth correct use and all functions, parameters, and features of the instrument it is accessible by scanning the QR code or visiting the following URL:

<https://gram-group.com/services/download/>

Once there, please search for **the corresponding model name (TGI, TB or TG)** to download the corresponding documentation.

Any use of the instrument other than the one described in the user manual does not ensure anymore the safety of the product.

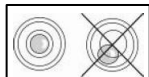
USER MANUAL



PREPARATION OF THE INSTRUMENT



- **Remove** the balance and the accessories from the package and check if the instrument has not suffered any damage due to transportation. Do not throw away the original package.
- **In models with internal calibration, if present**, remove the brass screw, in the left lower part of the balance (see “balance components” chapter of this guide). The screw may also be absent without affecting the operation of the balance.



- **Do not install** the balance in places with air drafts, heavy temperature changes and vibrations.
- **Place** the support pan and weighing pan on the balance (**Note**: 0,01mg balances don't have support pan)
- **Level the balance** using the levelling feet and position the bubble level in the centre
- **Insert** the supplied power supply unit into the connector on the back of the device then connect the power adapter to the mains outlet near the instrument; do not use cables/extensions that do not comply with applicable regulations. Check that the power shown on the device plate label corresponds to the one in use in the country where you are installing the device.
- **Balance Warm-up time:** wait for 8-12 hours from switch-on for balances with 0,01 mg and 0,1 mg resolution and 30 minutes for other models. Then calibrate the balance using an appropriate weight following the instructions of the paragraph “calibration” of this guide.

To ensure the correct use of the instrument do not disconnect the balance from the mains. If you wish to switch it off, use the ON / OFF button to change into Stand-by mode (in order to avoid the warm-up waiting time).

- **Technical assistance** must be provided by specialized personnel and the spare parts to use must be original. Always contact the distributor where the instrument has been purchased.

Important precautions for 0,01mg and 0,1mg models

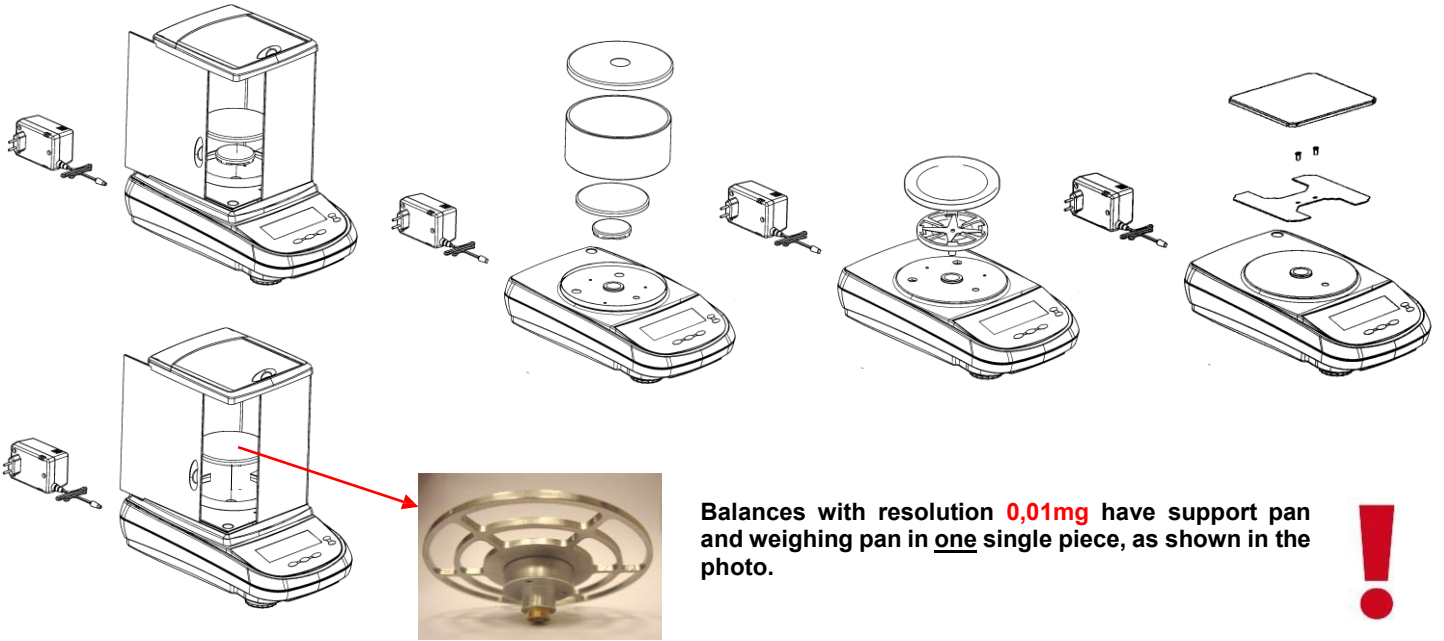
- Place the balance in an isolated location: not install it near doors to prevent air drafts. Avoid locations with heavy traffic. Protect the balance from air conditioning or ventilation fans.
- Keep the **room temperature** as constant as possible, between 15°C and 30°C.
- Keep the **humidity** as constant as possible, between 40% and 65%.
- Place the balance away from heat sources, e.g. heaters, light bulbs (use tubular lamps), windows (the sun's rays can filter out the window and may affect the weighing result).

- The table where the balance is placed must be **stable** (e.g. Laboratory bench or marble / granite countertop):
- It must be as **anti-magnetic** and **anti-static** as possible. It must be **reserved** to the balance.
- Place the balance as close as possible to the table legs as there are less vibrations in comparison with the middle of the table.

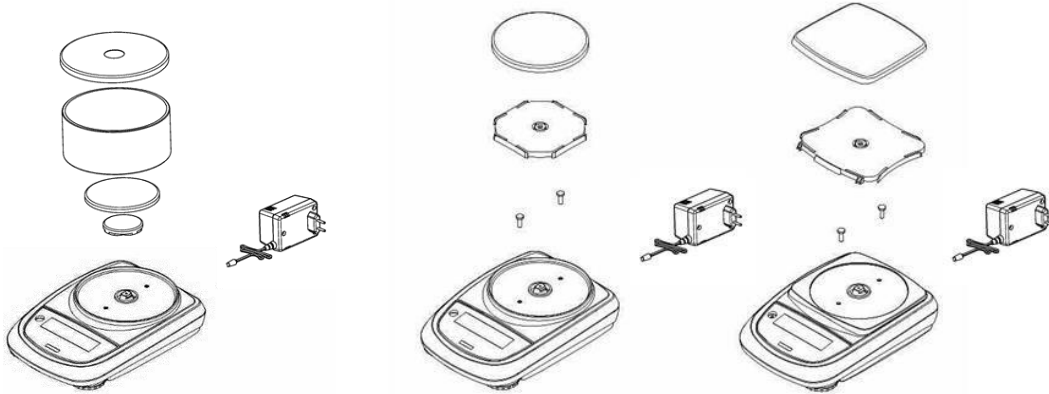
- Load the sample to weigh always in the **center of the plate** to avoid possible errors.
- Open the glass windshield as rarely as possible and use the **tweezers** to load/unload the samples to be weighed.
- Pay attention to possible **static charges** that may be generated due to containers with materials of low electrical conductivity or due to dry air (less than 40% moisture). Electrostatic charges can alter the results of the weighing. It is recommended to use an ionizer (optional) to eliminate static charges present on samples or accumulated on balance components.
Because of static charges the results of weighing are always different, the balance is not repeatable.
- Consider the **dynamic push**: a big **temperature** difference between the sample to be weighed and the weighing chamber creates air drafts along the sample. A colder object appears heavier while a warmer object lighter, this effect is reduced when the thermal equilibrium between sample and weighing chamber is reached.
With dynamic push you will get results that lean in one direction depending on whether the material is colder or warmer.
- Consider substances that can **evaporate** (alcohol) or **absorb humidity** (silicone gel). Because of these types of materials, weight may vary constantly in one direction.
- Consider **magnetic** materials: magnetic objects will attract each other, this force might be wrongly interpreted as a load.
With magnetic materials the weighing results are hardly repeatable, the indication remains stable but weighing provides different results.

ASSEMBLY

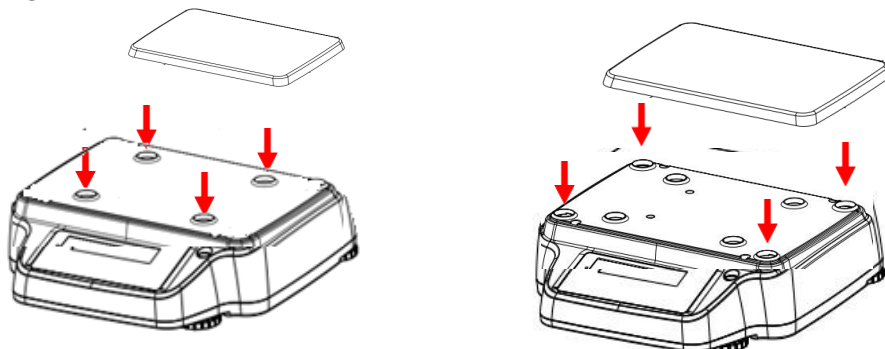
Model Series: TGI



Model series: TB



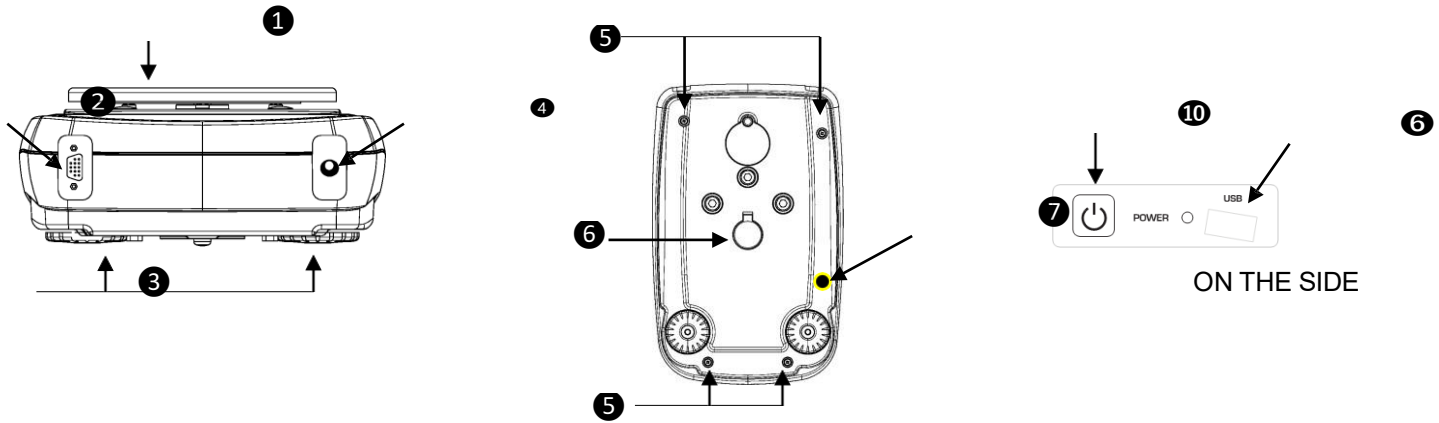
Model series: TG



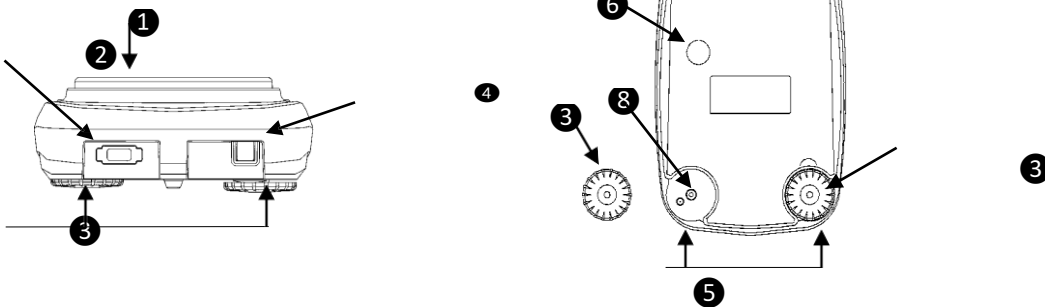
BALANCE COMPONENTS

1	Weighing pan
2	9 poles (pin) female connector for RS232 interface for connection to printer/PC (not for SEB models)
3	Levelling feet
4	Slot for power supply
5	Screws for balance casing. In models with 4 feet, it is necessary first to remove the two rear feet (one fixed and one moving) to access the closing screws
6	Hook for under-balance weighing. Hook is not available in internal calibration models. Note: please remove the cap to access the hook
7	Locking screw for internal autocalibration motor (only in models with internal calibration). ATTENTION: this locking screw could be missing for technical reasons, without having any kind of negative consequence in terms of operation
8	Reset button (Press with a pointy object inside the hole to reset the instrument when necessary)
9	USB port (only in Touchscreen models)
10	Switch on/off key (only in Touchscreen models)

Model series: TGI



Model series: TB



Model series: TG

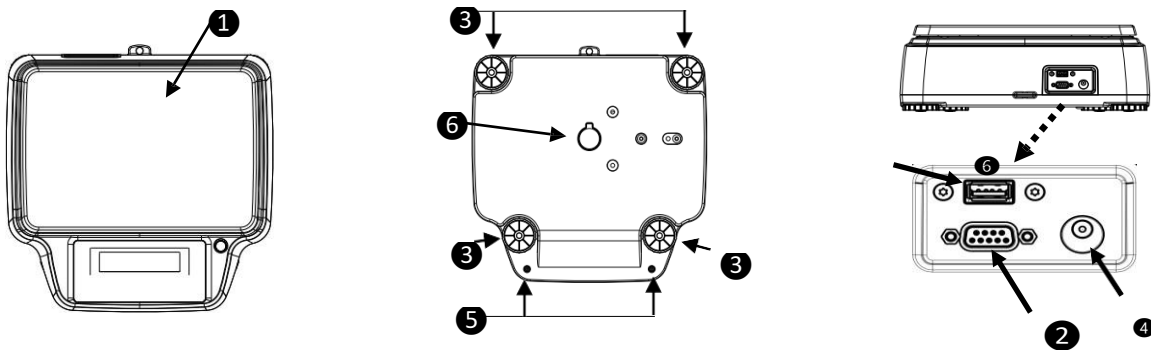










FIGURE	BUTTON	FUNCTION
	MENU	SHORT KEY PRESSING: application menu of the balance HOLDING DOWN UNTIL SOUND STOPS: enter/exit of user menu of balance
	Arrow down	menu scroll forward arrow
	ON/OFF switch	Standby button (OFF) or switch on (ON). Exit button (ESC)
	TARE and Zeroing	TARING, ZEROING
	Arrow up	left scroll arrow
	PRINT	SEND data to printer/interface
	Arrow ENTER	CONFIRM selection
	CALIBRATION	balance CALIBRATION
	Arrow up	menu scroll backward arrow

SYMBOL DISPLAYED	MEANING
*	Stability indicator
O	Zero indicator
%	Percentage weighing
PC	Piece counting
	Battery level indicator
▼	Data input mode
H	Higher threshold
L	Lower threshold
DS	Density measure
ct, ozt, lb, GN, dwt, Kg, mg	Measuring unit

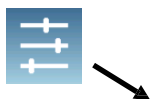
1 - Indication area for weighing values

g	Measuring unit indication, by tapping the symbol, you can access the weighing unit menu and select the desired unit
*	Stability indicator
T Man	Indication of the weight displayed. Net net value, Gro gross value
T =	Tare value indicator
▬▬▬▬	Analog indicator bar of magnitude being measured.
Max 6200g d=0.01g	Indication of the metrological data of the balance
T = 12.81 g	Information about tare value

2- Bar displaying date/time, user selection, access to functions, settings, device shutdown.

	Tap this key to access the available functions menu.
	Tap this key to access the menu for weighing settings , display preferences, peripheral units setup, and user customization.
	Tap this key to switching the device to standby mode.
Default	Tap this key to access the user menu to quickly select the desired user.

How to enter the **calibration** menu of the balance:



Press the Settings menu button on the main window and select the "**Calibration menu**"

<	Calibration Menu	×
	Calibration	
	Calibration data	
	Calibration mode	Ext. default
	Calibration weight	2000 g

In the calibration menu, you can calibrate, display and print the data from the last calibration and set the calibration mode. Before performing the calibration procedure, verify that the plate is empty.

By tapping the calibration key, the calibration procedure corresponding to the set calibration mode will start. Load the required calibration weight and wait for weight acquisition.

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

Remove the weight from the plate.

3 - By tapping the keys displayed in this area, their function will be executed. Keys available in simple weighing mode are:

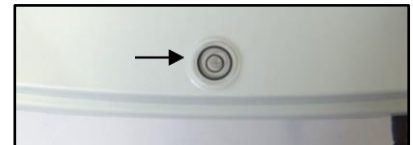
Print	Gro	-T-	-0-	Print: Data printing activation key. -0-: Zeroing key. -T-: Tare key. Gro/Net: Net or gross weight display mode key. T Man: Key to enter a tare value manually.
Print	T Man	-T-	-0-	

SWITCHING ON

In “**STANDBY**” mode press the **ON/OFF** button (in verified balance models, upon switch-on of the balance the display visualizes the message “WARM UP” and a countdown). Place the sample to be weighed on the pan, wait the stability symbol ✖ (asterisk) to appear and then read the weight value. Press again **ON/OFF** button to return to “**STANDBY**” mode.

LEVELLING

Level the balance with bubble level, adjusting the front feet until the air bubble is placed in the centre of the indicator. To lift the balance → rotate front feet clockwise. To lower the balance → rotate feet anticlockwise. Once level bubble is properly placed, lock the feet screwing the disk foot- locking (not in all models)



TARING

Place the container on the pan and press **O/T** button. “**O-t**” is displayed. As soon as the stability is reached the value of zero “**0.000**” will be displayed (weight of container is stored internally). Place the sample to be weighed in the container, the net weight will now be displayed.

CALIBRATION of the balance



For accurate measurements, the balance must be adjusted to the local environment, using the calibration function. Select the desired calibration mode in the Calibration menu of the balance.

NOTE: if there is any interference or instability during calibration process, an error message will be visualized.

External calibration (external calibration is not available in verified balance models)

Press the **CAL** button with the weighing pan empty. Wait until the value of required calibration weight appears flashing on the display, then put the required calibration weight carefully in the center of the pan. Display will stop flashing. After calibration is performed, remove the calibration weight. Balance will automatically return to the weighing mode.

If you wish to calibrate with a different (must be a multiple value) weight from the calibration weight, hold down the **CAL** button to start the LOAD function. Calibration then proceeds the same as described above.

Internal calibration (ONLY for models with internal calibration)

Press the **CAL** button when the weighing pan is unloaded. You will see the message “**CAL**” displayed and then the balance calibration will be automatically performed. At the end of the calibration the balance returns automatically to standard weighing mode

Automatic calibration (ONLY for models with internal calibration)

In this mode the balance performs an automatic calibration when the temperature variation exceeds a (factory set) value or at time intervals (factory set), the first of the two that occurs first. The autocalibration is performed through the internal mass and only when the weighing pan is unloaded and only when no

other weighing operations are being performed. At the end of the calibration the balance returns automatically to standard weighing mode.

If, due to vibrations or strong air drafts, the calibration is not terminated, the message “**CAL but**” is displayed. Press again the **CAL** button to retry.

If the problem does not disappear, select the “external calibration” mode and perform a calibration, then contact the service center.

In this mode it is also possible to perform a calibration with the internal mass by pressing the **CAL** key manually at any time, being sure that weighing pan is unloaded.

ACCESS TO BALANCE FUNCIONS and SETTINGS MENU

LCD and GRAPHIC DISPLAY MODELS

Press tue **MENU** button to enter the balance function menu (Piece-counting, Percentage weighing, etc.), then browse the menu through **MENU** and **CAL** buttons and confirm using the **PRINT** button.

Hold down the **MENU** button to enter the balance configuration menu (Measuring units, Language, Date setup, etc.), then browse the menu through **MENU** and **CAL** buttons and confirm choices using the **PRINT** button.

TOUCHSCREEN DISPLAY MODELS



Tap this key to access the available function menu.



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



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