



Internal Calibration Analytical Balance

FM-IAB-A100

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1. Safety Measures

- Turn on the power supply according to the requirements to allow the balance to warm up before use.
- The working environment and conditions must meet the specified environmental requirements.
- The total weight placed on the weighing tray must not exceed the specified weighing capacity.
- If the weighing results are inaccurate, calibrate the balance using standard weights in accordance with the relevant requirements.
- If any defects are detected, do not attempt to disassemble or repair the balance yourself, as this could damage the precision components.

2. Introduction

Internal Calibration Analytical Balance FM-IAB-A100 is designed to enhance accuracy and reliability of measurements. It is quite sensitive and gives precise and reliable measurements. Speed set to adjust the response time or measurement speed of the balance. Analytical balance is constructed with durable, lightweight aluminium material.

3. Features

- Electromagnetic sensors for accurate and responsive weight measurement
- Large space with wind proof cover
- LCD display to view measured weight
- Tare function provides net weight measurement of the desired substance
- Alarm for overload
- Unit conversion function as per users convenience (g/mg/ct/oz)

4. Specifications

Model No.	FM-IAB-A100
Capacity	500 g
Readability	0.01 g
Minimum weighing capacity	0.004 g
Repeatability	± 0.02 g
Linearity	± 0.003 g
Stable time	≤ 3 S
Pan size	Ø 100 mm
Operational temperature	15 to 35 °C
Appearance size	340 × 215 × 350 mm
Draft shield size	240 × 190 × 265 mm
Calibration	External calibration
Calibration weight	200 g
Interface	RS232
Options	Printer/ under weighing
Dimensions	415 × 285 × 430 mm
Packaging dimensions	490 × 360 × 510 mm
Gross weight	10 kg

5. Applications

Internal Calibration Analytical Balance is used to measure the mass of the substances precisely across various industries like scientific, pharmaceutical research, bakeries, and chemical laboratories, etc.

6. Operations

6.1 Working Conditions

- 1) Working Temperature: 0° to 40°C,
- 2) Temperature Fluctuation: 5°C/h,
- 3) Comparative Humidity: 50 % to 85 %
- 4) Maximum Consumed Power: 5W
- 5) Power Supply: 220V±10 % , 50HZ±1HZ

6.2 Operation Requirements

When in operation, the Analytical balance should be placed on a stable work platform to avoid interference from mechanical vibrations, direct sunlight, and air currents.

6.3 Operation

- 1) Power On.
- 2) Switch on the power supply located at the back of the balance.
- 3) The display will sequentially show "8.8.8.8.8." followed by the "Max weighing capacity," and then "=", "=", "=", "=", "=" Finally, it will display the weighing mode as "XXX.XXX."
- 4) If an error appears on the display, turn the balance off and on again to resume normal operation.

6.4 Calibration

1) Calibration Requirements

- When significant errors occur during weighing, the balance should be recalibrated to ensure accuracy.
- The recalibrated balance must be placed on a stable platform, free from air currents, vibrations, and strong electromagnetic interference.
- For the most accurate calibration results, wait 20 minutes after the balance is powered on before conducting measurements.

2) Calibration Procedure

(A) One-point Calibration:

1. Turn on the balance; it will display "0.00" in weighing mode.
2. Press the "CAL" button until "CAL" appears on the display, then release.
3. The standard weight value will blink on the display. Place the corresponding standard weight on the balance.
4. The display will show "===== ". Once the weight value stabilizes, remove the weight.
5. The display will again show "===== " followed by "0.00".
6. Calibration is complete.

(B) Three-point Calibration:

1. Turn on the balance; it will first display "8.8.8.8.8.8."
2. Press the "CAL" button until "CAL" appears on the display, then release.
3. Follow the steps below for the three-point calibration:
 - The first standard weight value will blink on the display. Place the corresponding weight on the balance.
 - Once the weight stabilizes, remove it. The display will show "=====
 - The second standard weight value will blink on the display. Place the corresponding weight on the balance.
 - Once the weight stabilizes, remove it. The display will show "=====
 - The third standard weight value will blink on the display. Place the corresponding weight on the balance.
 - Once the weight stabilizes, remove it. The display will show "0.00".
4. Calibration is complete.

6.5 Weighing

1. Power on the balance and allow it to warm up until it stabilizes and displays "0.00."
2. Place the object on the weighing tray. The weight is stable when the displayed value stops fluctuating.

6.6 Tare

1. The balance will display its weight if a container is placed on the weighing tray.
2. Press "Enter," and the balance will reset to "0.00," indicating the tare (container weight) has been deducted.
3. Add the item to the container, and the balance will display the item's weight alone.

6.7 The counting operation of balance

- (1) Press the "SET" button, and "COU" will appear on the display. The value for the counting mode (5, 10, 20, 40, 50, 100, 200, 300, 400, or 500) will blink. Press the "TARE" button to select the desired mode value. Place the specified quantity of items on the weighing tray that matches the selected mode value, then press the "SET" button again. The display will show "=====".
 - Shortly after, the stable mode value will appear on the display, indicating the counting setup is complete. You can now perform the counting operation. Place the items on the weighing tray, and the display will show the quantity.
 - For accurate counting, the total weight of the items must be at least four times the minimum readable value. If the weight is too low, the counting accuracy may be compromised, and the operation cannot be completed.
- (2) **Quit the counting operation:**
 - Press the "SET" button, and "=====
 - The balance will then exit the counting mode and return to the standard weighing mode.

(3) Overload Warning

- If the item's weight exceeds the balance's maximum capacity, the display will show "-----," indicating an overload.
- The item should be removed immediately to prevent damage to the balance.

6.8 Units

There are three units that can be chosen, press "O" and choose the unit you need: g, ct, oz.



Fison Instruments Ltd 272 Bath Street Glasgow G2 4JR UK

Email: info@fison.com | **Website:** www.fison.com