

## SOP for Periodic Sensitivity Tests (Routine Tests)

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## General

To test the sensitivity of a balance, a large test weight is more suitable than a small one.

### Basic Rules for Handling Balances

- Before using a balance, make sure the balance was left on power for a sufficient period of time (mentioned in the balance operating instructions).
- Make sure the balance is leveled.
- Minimize environmental influences, e.g. open windows, direct sunlight or strong drafts.
- Do not enter the draft shield with hands. Use gloves or long tweezers.
- Place objects gently and in the center of the pan.

### Basic Rules for Handling Weights

#### Test Weights

- Only an external test weight with calibration certificate can make a balance a “traceable” piece of equipment.
- Test weights should always be placed gently on a clean weighing pan and put back immediately in their storage place after use.
- Test weights (since they are also part of measuring equipment) need to be re-calibrated at specified intervals (ISO 9001).
- Any incident, which might have affected the value of the test weight, should trigger an immediate re-calibration. METTLER TOLEDO’s calibration services will give advice on this.

#### How to Store Test Weights

- Test weights should be stored in their original box.
- Test weights should be stored in the same room as the balance they are used with, since temperature differences between test weights and their surrounding lead to measurement errors.
- Test weights that have not been stored at the same temperature need acclimatization, which can take several hours.

#### How to Move Weights

- Test weights should only be handled with appropriate tools such as tweezers, forks, handles or gloves (see METTLER TOLEDO’s accessories for weights).
- These tools should be exclusively used for transferring test weights, to avoid possible contamination.

# Sensitivity Test

## Preparation

- Before the test is performed, the test weight must be acclimatized to the ambient temperature of the balance.
- Prepare a sheet where you can note the readings of the sensitivity test.

## Test Procedure

- Empty the pan
- If required, place the tare load on the weighing pan
- Tare the balance (if required press zero)
- Place the test weight on the weighing pan
- Read the stable value from the display and note it

## Evaluation

- Evaluate whether the noted value exceeds the defined "Warning Limit" <sup>1)</sup>.
- Evaluate whether the noted value exceeds the defined "Control Limit" <sup>2)</sup>.

## Deviation

### Warning Limit <sup>1)</sup> (where defined)

- If the warning limit is exceeded, repeat the test.
- If the warning limit is exceeded again, report that the warning limit was not met to the laboratory supervisor or the person responsible for the balance.
- Level the balance, perform adjustment with built-in or external adjustment weight and repeat the test.
- If the warning limit is still exceeded, report the problem to the laboratory supervisor or the person responsible of the balance. Optionally, contact METTLER TOLEDO's service organization for advice.

### Control Limit <sup>2)</sup>

- If the control limit is exceeded, report the problem to the laboratory supervisor or the person responsible of the balance.
- Mark the balance as "out of control limits".
- Contact METTLER TOLEDO service organization for advice.

<sup>1)</sup> – Values within the warning limit: No action is necessary.  
– Values between the warning and control limit are within the tolerance but must be kept under surveillance. Corrective action may be appropriate, depending on the direction in which the values are changing.

<sup>2)</sup> – Values within the control limit, see <sup>1)</sup>  
– Values beyond the control limit show that weighing process is no longer under control and immediate action is therefore required.

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