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CALIBRATION TABLE
in Empower CDS

A quick guide to the main parameters

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X VALUE

The amount or concentration assigned to the standard.
This is the **theoretical value** used for calibration.

Important note:
this is not simply the Value entered in the Component Editor.
That is the final Amount (or Concentration) calculated with other parameters.

Amount (Std) =
Value × Purity × Sample Weight / Dilution

Concentration (Std) =
Value × Purity × Sample Weight / Dilution x Inj Volume

RESPONSE

The detector response for the peak – typically area or height.
This is the actual measured signal.

CALC. VALUE

The Amount or Concentration calculated by Empower from the calibration curve.

First, the calibration curve is built using:

- X Values
- Responses

Then the standards are calculated as samples using this calibration curve → resulting in the Calc. Value.

Ideally, this value should be very close to the X Value.

% DEVIATION

Shows how far the Calc. Value differs from the X Value (theoretical value).

% Deviation =
(Calc. Value - X Value) / X Value × 100%

Helpful for quickly spotting problematic calibration points.

MANUAL POINT

Indicates whether calibration data (Response, Level, and/or X Value):

- were modified manually
- entered manually
- or copied from another processing method

Always worth checking during review.

IGNORE

This checkbox excludes a point from the calibration curve calculation.
If selected, Empower calculates the curve without using this point.
In the calibration plot, the ignored point is marked with an X.

In GMP environments, this action should always be justified.

LEVEL

If you work with calibration Levels, they are shown here.

When are Levels typically used?
Usually when standard values are entered in the Processing Method rather than through the Component Editor in the Sample Set.

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