Intercomparisons on calibration of laboratory weighing instruments	Issue 1	
Approved by Håkan Källgren	Date 2026-11-20	Page 1 (5)

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Swedish Metrology and Quality AB (SMQ) is organizing this intercomparison on calibration of:

1.	Calibration, analytical balance	Max 220 g, d=0,01 mg
2.	Calibration of precision scale	Max 30 kg, d=0,1g
3.	Calibration of platform scale (U-beam)	Max 2000 kg, d=0,5 kg
4.	Calibration of pallet lifter scale	Max 2000 kg, d=0,5 kg

Participants may choose the objects they want to calibrate and up to which capacity they are able to calibrate (e.g. 100 g on the 220 g instrument).

This concept of the intercomparison on calibration has been decided by the advisory group related to this calibration areas. No subcontractors are involved in the intercomparison.

Participants in the intercomparison

There are three categories of laboratories that may participate in this comparison:

- Accredited laboratories.
- Laboratories that will apply for accreditation.
- Laboratories that want to evaluate their calibration quality.

The result of the intercomparison will establish a base for the expanded uncertainty values (CMC) in calibrations for the laboratories.

The minimum number of participants is 5.

Description of the values included in the intercomparison.

A reference value will be stablished as a base for calculations

Possible expanded uncertainty values established by the reference laboratory are described in the calibration points below.

Time schedule and detailed documented instructions

The time schedule for calibration will be established in cooperation with the participants during the week 2 in 2027.

A detailed time schedule and technical instructions together with the reporting protocol in the form of an excel document will be sent to the participants who have registered to the ILC.

Each participant will have access to the instruments for maximum 1,5 hours and use its own method for calibration.

Preliminary data in a specified excel document from the calibration shall be sent to the organiser by e-mail directly after finishing the measurements. The final calibrating certificate can have the form you are used to and shall be sent as pdf-file one week after finalizing the work.

Calibration site

TILLQUIST
Renvägen 1
Växjö Sweden

You may hire 500 kg weights from TILLQUIST.
Please contact Daniel Moggia.
Daniel.moggia@tillquist.se

The organiser will be present during the work.

Calibration points

The participants shall calibrate according to their own method and use their reference equipment. The calibration points will be:

220 g instrument g	Possible expanded uncertainty including drift* mg
1	0,015
10	0,030
50	0,040
100	0,050
220	0,070

30 kg instrument kg	Possible expanded uncertainty including drift* g
1	0,1
5	0,1
10	0,2
20	0,2
30	0,3

2000 kg instrument, Platform scale (U-beam) kg	Possible expanded uncertainty including drift* kg
20	0,5
100	0,5
500	0,5
1000	0,5
2000	0,5

2000 kg instrument, Pallet weigher kg	Possible expanded uncertainty including drift* kg
20	0,5
100	0,5
500	0,5
1000	0,5
2000	0,5

*95% confidence level

There shall be no adjustment made except zeroing

Statistical analyses that will be used

The organiser establishes the reference value that will be used as reference in the calculations.

The formula described in ISO/IEC 17043:2023 annex B6 will give En-values

Reporting

The participants shall give the organiser a filled in excel sheet (given by the organiser) before leaving the site and they shall send the calibration certificate to the organiser within one week after the calibrations are finished.

A draft report will be given to the participants within 4 weeks from the time when the last participant has reported the results in a calibration certificate.

The participant shall comment on the draft report within two weeks after receiving the draft report.

A participant not following the described reporting rules without giving reasons will be excluded from the report.

A participant may decide to leave the work before the draft report is distributed to the participants.

The participant may appeal to the full report if there are major faults in the report.

The report will be anonymous, and the participants will get an identification code related to the results in a separate e-mail.

Damaged PT item

The participant shall immediately inform the organiser about any damages on the PT item and the organiser will take appropriate actions.

Price for participation

Price for laboratories:

- Base price for laboratories having maximum 3 technicians 750 EUR
- Base price for laboratories having more than 3 technicians 980 EUR
- In addition, 590 EUR on calibration of each instrument

The base price shall be paid at registration

If the laboratory decides not to fulfil their part of the agreement the base price shall be paid.