Intercomparisons on calibration and verification of an industrial weighing instrument	Issue 1	
Approved by Håkan Källgren	Date 2025-02-12	Page 1 (5)

Content

ILC weighing instruments 2024:1

Swedish Metrology and Quality AB (SMQ) is organising this intercomparison on calibrations:

1. Calibration on an industrial weighing instrument Max=10 000 kg
2. Verification on a weighing instrument Max=10 000 kg

Participants may choose which part they want to do and up to which capacity they are able to calibrate (e.g., 8 000 kg on the 10 000 kg instrument)

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

Participants in the intercomparison

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

- Accredited laboratories
- Laboratories that will apply for accreditation.
- Laboratories that want to evaluate their calibration or verification competence.

The result of the intercomparison will establish a base for the CMC values in calibrations for the laboratories as well as the accreditation scope for product verification and subsequent verification.

Number of participants

Minimum 3 and maximum 10

Time schedule and detailed documented instructions

The time schedule for calibration will be established in cooperation with the participants during the period 2025-03-30 to 2025-07-30

A detailed time schedule and technical instructions together with the reporting protocol in 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 14 days including transport and use its own method for calibration and verification.

Preliminary data from the calibration shall be given to the organiser by using the excel forms established by the organiser. The final calibrating and verification certificate/report shall have the form you are used to and shall be sent as pdf-file.

Calibration points

The participants shall calibrate according to their own method and use their reference equipment or rented weights.

The principles of EURAMET calibration guide 18 will be used to establish the reference values as described in chapter 5.2 alternative 2 continuously increasing by steps without unloading between the separate steps.

Description of the weighing capacity and expected uncertainty in the intercomparison.

The calibration points that will be included in the report will be:

10 000 kg instrument, kg	Resolution d=kg	Possible reference uncertainty (U) value*, kg	Estimated uncertainty (including drift) during circulation
0	10		
100	10	1	5
1000	10	2	5
2000	10	2	5
2500	10	2	5
3000	10	2	5
4000	20	2	5
5000	20	2	5
6000	50	2	5
7000	50	2	5
8000	50	3	5
9000	50	3	5
9500	50	3	5
10000	50	3	5

*Using high resolution on the instrument

There shall be no adjustment made except zeroing

A reference value will be stablished as a base for calculations based on calibration at the start and end of the circulation.

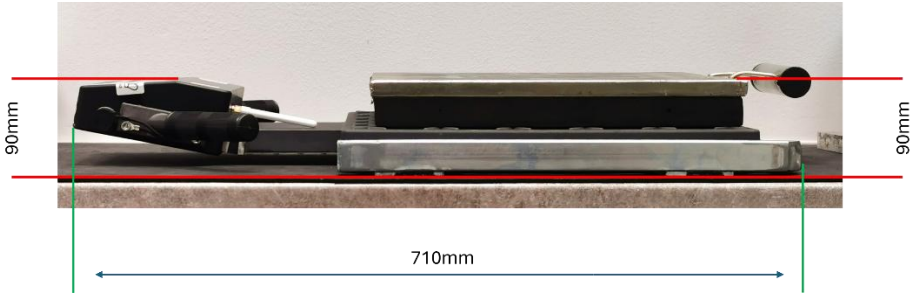
Verification

Verification will be based on type approval certificate (TAC) Fi.981.01 Model Ecocar 2000 and performed according to EN 45501

We will deliver the TAC and Declaration/certificate of conformity if you want to do a subsequent verification.

Platform dimensions

Width 40 cm and length 40 cm



A rubber plate as you can see in the picture will be included in the parcel.

Statistical analyses that will be used

The organiser establishes an assigned reference value to be used in the calculation of En-numbers.

The formula is described in ISO/IEC 17043:2023 annex B (formula B6).

Reporting

The participants shall hand over a filled-in excel sheet (provided by the organiser) to the organiser before leaving the site and shall send the calibration certificate to the organiser within one week after the calibrations/verifications are finished.

A draft report will be sent 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 inter-comparison report will be anonymously, and the participants will get an identification code related to the results in a separate e-mail.

Price for participation

Price for laboratories:

- Basic price including calibration 1 580 EUR
- In addition, 500 EUR on verification the instrument according to EN 45501

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