

## MSL Proficiency Test MSL-PT-M01-2021

### Precision Laboratory Balance

#### Technical Protocol

#### 1. **PROTOCOL**

Two precision electronic top pan laboratory balances have been made available by the Measurement Standards Laboratory of New Zealand (MSL) for the purpose of this measurement audit. The balances are located in the Mass and Pressure section of MSL, which is located at the Callaghan Innovation site at 69 Gracefield Road, Gracefield, Lower Hutt.

IANZ accredited balance calibration laboratories are invited to send their approved signatories to calibrate one of the balances before the end of April 2021. It is anticipated that laboratory staff will schedule this measurement audit calibration with other work to be conducted in the Wellington region.

Laboratories should contact either Greg Reid, Dr Yin Hsien Fung or Dr Rebecca Hawke at MSL to make arrangements for visiting MSL to conduct the calibration. Contact details follow.

Mr. Greg Reid  
DDI (04) 931-3544  
[greg.reid@measurement.govt.nz](mailto:greg.reid@measurement.govt.nz)

Dr. Yin Hsein Fung  
DDI (04) 931-3344  
[yinhsien.fung@measurement.govt.nz](mailto:yinhsien.fung@measurement.govt.nz)

Dr Rebecca Hawke  
DDI (04) 931-3668  
[Rebecca.hawke@measurement.govt.nz](mailto:Rebecca.hawke@measurement.govt.nz)

#### 2. **EQUIPMENT**

2 x Mettler Toledo ME204  
Capacity 220 g  
Resolution 0.1 mg

Additional balance(s) may be available at a later date.

#### 3. **CALIBRATION INSTRUCTIONS**

Please calibrate the balance using your standard procedures as if it were a customer's balance. Greg Reid, Yin Hsien Fung or Rebecca Hawke are the "customer" contacts. An MSL staff member may observe part or all of the balance calibration.

**4. DOCUMENTS TO BE SUBMITTED**

Within 2 weeks of participants completing the measurements, participating laboratories are required to send MSL the calibration report and a copy of the worksheets used to perform the balance calibration and generate the report. To make the analysis of the proficiency testing results more precise (by avoiding rounding errors) it would be useful if the calibration worksheets showed an extra digit (compared to the reported values).

**5. ANALYSIS OF RESULTS**

The participant's balance calibration results will be compared to results from balance calibrations done on the same balance by an MSL staff member before and/or after the proficiency testing calibration. Statistical tests will be used to determine whether the participant's values are consistent with MSL's reference values.

**6. MEASUREMENT AUDIT REPORT**

MSL staff will prepare a confidential report for each participant, summarising the results of their measurement audit. These will be distributed to the participant's laboratory within two weeks of receiving the required documents (within one month of the measurements being done).

The report will include:

- Statement of consistency between the participant's values and MSL's reference values and a plot comparing the values.
- Comments or recommendations with respect to the participant's methods and procedures.
- General comments.

**7. COST**

\$499.00 (inclusive of GST) per participant. Participants are required to register through the prescribed platform [here](#).