

Mass & Force Calibration Services

Traceable calibration of weights, balances and force instruments with documented measurement uncertainty



Comparison calibration of mass and force instruments against traceable reference standards

Mass and force calibration establishes the relationship between the value indicated by a weighing or force instrument and the true mass or force realised by a reference standard. At Mizan, weights, balances and force-measuring devices are calibrated against reference mass standards and force-proving instruments traceable to national and international standards – in the laboratory or on the customer's site – for manufacturing, automotive, aerospace, food & beverage, pharmaceutical and other process industries.

What We Calibrate

- **Weights & mass standards**
 - Reference and working weights to OIML R 111
 - Calibration weights, classes E1 to M3
 - Specialist and small-mass standards
 - Adjustment and tare weights for balances
- **Force instruments**
 - Force-proving instruments and load cells (ISO 376)
 - Tension and compression force gauges
 - Hand-held and bench force devices
 - Hydraulic and mechanical force testers
- **Balances & scales**
 - Analytical and precision laboratory balances
 - Mass comparators (sub-milligram resolution)
 - Industrial and platform scales
 - Bench, floor and weighbridge scales
- **Force machines & specialist**
 - Universal testing machines (ISO 7500)
 - Tensile, compression and hardness test forces
 - Spring testers and crimping force testers
 - Reference torque transducers

Every mass and force calibration is a documented comparison to a traceable reference – measured, not assumed



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Traceability & Uncertainty

Every calibration result is linked, through an unbroken chain of comparisons, to national and international standards of mass and force. The reference weights and force-proving instruments are themselves calibrated by accredited and national laboratories.

- Reference standards calibrated by accredited or national laboratories
- Traceability to national and international mass and force standards
- Expanded uncertainty evaluated to the GUM (ISO/IEC Guide 98-3)
- Results reported at a coverage factor of $k = 2$, about 95% confidence



A precision mass comparator calibrates weights against reference standards

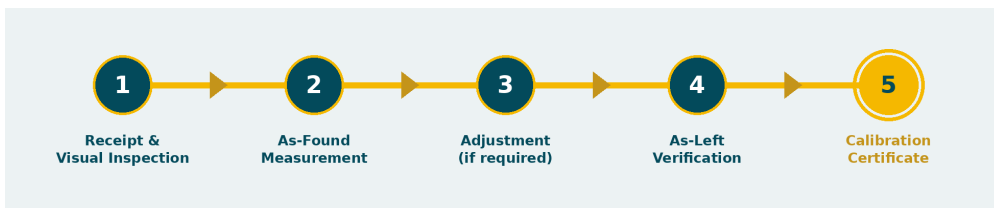
The Calibration Certificate

Each calibration is documented on a certificate that records:

- Identification of the instrument and the reference standards used
- As-found and as-left readings at each calibration point
- The measurement result with its expanded uncertainty
- Ambient conditions during the calibration
- A statement of metrological traceability
- Calibration date and recommended recalibration interval

The Calibration Process

Every instrument follows a defined, documented calibration process. Its condition is recorded before any adjustment is made and verified again afterwards, so that the calibration is repeatable and the result can be relied upon.



Calibrations are performed under controlled environmental conditions by trained personnel, following documented procedures and using reference standards traceable to national and international standards.

Measurement you can trace. Uncertainty you can see.



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