Confidence and Results

Highest deadweight calibration capabilities of any commercial lab in the US

Primary standards are 10 to 50 times better than other force calibration suppliers using secondary standards

ISO/IEC 17025:2017 accredited ASTM E74, ISO 376 and other force calibrations

We calibrate instruments from 1 lbf through 2,250,000 lbf

Accredited torque calibration to ISO/IEC 17025 as well as standards like ASTM E2428

For over a century, Morehouse has worked with companies across diverse industries that prioritize the quality of their force and torque applications. We achieve measurement uncertainties 10-50 times lower than competitors for superior accuracy and lower risk. We achieve this with:

- Primary Standards laboratory, directly traceable to SI through NIST.
- ISO/IEC 17025 Accredited force calibration services through 2,250,000 lbf (10 MN) in compression and 1,000,000 lbf (4.4 MN) in tension.
- Deadweight force calibration up to 120,000 lbf (600 kN), accurate to 0.0016 % of applied force.
- Audits performed by A2LA, NVLAP, and Nuclear Procurement Issues Committee (NUPIC) for compliance with 10 CFR 50 Appendix B, and 10 CFR Part 21.
- Second lowest torque uncertainty in the world from 1 N m to 2 kN m. Deadweight Primary Standards, range 0.74 to 1475 lbf ft (0.5 to 100 N m) with CMC of 0.005%

We calibrate torsion cells, load cells (including multi-axis), proving rings, force gauges, dynamometers, crane scales, aircraft scales, and other force-measuring instruments.

Accredited Calibration Services (MF-7101)

Following Published and Accepted Legal Standards	Commercial Calibration	To an Accuracy Specification
(ASTM E74 and ISO 376 for force and ASTM E2428 for torque)	Performed to quantify specifications such as Non-Linearity, Hysteresis, Static Error Band (SEB), and Non-Repeatability	Such as % of Full Scale (%FS), Indicated Value (%IV), or Range, using ISO/IEC 17025:2017 Decision Rules

Force Calibration Capability

ASTM E74 Calibration

Required for calibrating instruments following ASTM E74, ASTM E4, ASTM C39, ASTM E10, ASTM E18, AASHTO T22, AASHTO T68. Types include:

1. Ascending (upscale force readings)
   - Compression only
   - Tension only
   - Compression and Tension
2. Ascending and Descending (down scale force readings)
   - Compression only
   - Tension only
   - Compression and Tension

ISO 376 Calibration

This is required for calibrating instruments following ISO 376 & ISO 7500 standards. Types include Case C or Case D:

- Compression only
- Tension only
- Compression and Tension

ISO 376 Case A and B type calibrations are available for limited load devices such as Brinell calibrators, expanded scale force gauges, and other force-measuring devices.

Single Run, 10-11 pt Calibration

Instrument is calibrated and adjusted using agreed ISO Decision Rules. Types include Ascending (upscale force readings)

- Compression only
- Tension only
- Compression and Tension

Two Run or Three Run, 10-11 pt Calibration

Instrument is calibrated and adjusted, based on the average reading of the runs, using agreed ISO Decision Rules. Types include Ascending (upscale force readings)

- Compression only
- Tension only
- Compression and Tension

These calibrations are common for force-measuring devices reading in gf, lbf, klbf, kgf, N, kN, MN, lb, kg, N.m, lbf.in, lbf.ft, t, mA, and 0-10 V.

Single Run, 5, 6, 10, or 11 pt Calibration

The force-measuring instrument is calibrated typically in mV/V. Types include:

1. Ascending (upscale force readings)
   - Compression only
   - Tension only
   - Compression and Tension
2. Ascending 10 Pts and 1 Descending Pt
   - Compression only
   - Tension only
   - Compression and Tension
3. Ascending and Descending 5 pt, 10 pt, 20 pt (Up & Down Scale Force Readings)
   - Compression only
   - Tension only
   - Compression and Tension

Torque Calibration Capability

ASTM E2428 Calibration

Required for calibrating instruments following ASTM E2428, single run, dual run to an accuracy specification Clockwise and Counter Clockwise up to 2 kN m (1475 lbf ft)

If you require a calibration not listed above, or have special requirements, please contact Morehouse.

Notes:

- Ascending and descending calibration is typically required for low cycle fatigue machines, nuclear requirements, and universities conducting a lot of research.
- For all calibrations, extra points and extra runs are available upon request.