

# Transducer Calibrations and Machine Hire

When you're making important investment or operational decisions, you need to be confident that your data is as accurate as it can be. Ensuring your instruments are regularly calibrated by an accredited laboratory is one important step towards peace of mind.

## Benefits of Traceable Calibration

Implementing a regular calibration regime traceable to national standards will have a direct benefit on overall profitability, ensuring:-

- Consistency between different instruments (ensuring component parts manufactured at two different locations are compatible)
- Repeatability over time to help maintain product quality and reduce unnecessary scrap and waste

Increasingly accreditation to an accepted quality standard is a prerequisite to doing business. In recognition of the link between measurement good practice and product quality, calibration and traceability feature prominently in certification to ISO 9000 and underpin all testing.

## NPL Credentials

As the UK's national standards laboratory, NPL maintains the national standard of force which is directly traceable to the standards for mass, length, and time. We maintain confidence in our facilities, expertise, and measurements through regular intercomparisons with other national standards laboratories.



*Calibrating a 4.5 MN force transducer in NPL's 1.2 MN deadweight machine*

## Force Calibrations

With a turnaround time of two weeks and using the national standard force machines (see overleaf for details), NPL regularly provides calibration and certification of force transducers to national and international force standards, including:-

- BS EN ISO 376
- ASTM E 74
- BS 8422 standard calibration and supplementary calibrations A, B, E, L, and R

We also offer a bespoke service to meet unique calibration requirements.

The facilities can also be used for creep tests and non-destructive testing of components.

## National Force Standard Machines Measurement range and uncertainties

Mode	Force Range	Force Uncertainty*	ISO 376 Class Capability	UKAS-Accredited Facility
Tension & Compression	1.5 N up to 25 N	±0.002 %	00	✓
	25 N up to 1.2 MN	±0.001 %	00	✓
	1.2 MN up to 5 MN	±0.05 %	1.0	✓
Compression Only	5 MN up to 10.8 MN	±0.10 % (incremental)	2.0	-
		±0.35 % (decremental)	N/A	-
	10.8 MN up to 30 MN	0.20 %	N/A	-

\* This is an expanded uncertainty, giving a level of confidence of approximately 95%.

Details of the individual machines' specifications, including dimensions of the minimum and maximum working spaces, are available online at <http://www.npl.co.uk/force/services/facilities.html> - alternatively a leaflet or e-mail attachment can be provided.

### Equipment Hire

Customers wishing to perform tests or calibrations to their own procedures can hire NPL's facilities, together with a qualified operator who will assist with setting up and operation of the machines.

### Service Summary

- Two week turnaround
- NPL calibration certificate
- Calibration to National and International Standards or customer's own procedure
- High accuracy force transducer calibration can be used for the verification and checking of high accuracy force standard machines
- Non destructive testing of component parts
- Creep testing to customer's own procedure
- Facility hire – including destructive testing in hydraulic machines

For further information or to discuss your requirements, please contact us.

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