



# Primary Standard Calibration Laboratory

Calibration of  
Flow meter

High Precision  
Calibrator Calibration

NABL accredited  
for Lab and site

Transformer  
Testing

First in India  
NABL accredited laboratory  
to calibrate  
Reference Energy Meter of 0.02 class  
at site

Facilities for Calibration of  
❖ DMM 8½ & 6½  
❖ MFC 9100/5500/others

## NABL Accreditations

- **Calibrators like Fluke 5520A / 5500A / 9100 & Digital Multimeters upto 8 ½ digit**
- **Energy & Power using Class 0.01 COM 3003 Zera, Germany**
- **CT/PT & High Voltage Calibration**
- **High Voltage upto 100kV AC**
- **Megger, Insulation Tester upto 10 T/ 10kV.**
- **Metering Unit for Open Access Connection, ABT Meter**
- **Pressure Dead Weight Tester Calibration**
- **Flow Meter upto 3500 m<sup>3</sup>/h (on-line)**
- **LUX Meter Calibration**
- **RF Calibration: Oscilloscope, Function Generator, Spectrum Analyser etc**
- **Other Electro-technical, Mechanical & Thermal Calibration**
- **Electrical Testing: Testing of Distribution & Power Transformers, Energy Meter**



**C and I Calibrations Pvt. Ltd.**

NABL Accredited ISO/IEC 17025  
Testing & Calibration Laboratory



C-0768, 0769, 0981, 1047  
T-2730

**C&I GROUP**

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# C and I Calibrations Pvt. Ltd. JAIPUR



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## Electro-technical Calibration : NABL C-0768 (Lab & Site)

### Calibration of High Precision Calibrator / DMM upto 8 ½ digit

- Multi Function Calibrator (9100, 5500, 5520 Fluke / Time / Transmile & equivalent).
- Digital Multimeter (Upto 8 ½ digit).
- RF Power and Voltage, Frequency.
- Pico Ampere Meter & Source.
- LCR Meter Inductance, Capacitance, Resistance Box.
- High Voltage Meggar, Insulation Tester upto 10 T/ 10kV.
- Time (Stop Watch, Timer), Counter
- High Voltage Source & Probe upto 100 kV AC & upto 25 kV DC.**
- Oil BDV Impulse, Hi-Pot Tester
- Electrical safety Device Calibrator
- Transformer Turn Ratio Meter.
- Oscilloscope.
- Universal Calibrator, Voltage & Current Calibrator, Loop Calibrators, Process Meter
- Frequency Meter, Frequency Counter/ Generator.
- Motor Checker, Earth Tester
- Voltmeter, Ammeter, Watt meter, kV meter, Kelvin Bridge, Wheat Stone Bridge.
- Temperature Simulator, Indicator & Recorder.

### Energy and Power

- Equipped with COM 3003 Zera Germany, Master directly traceable to NPL India and DKD Germany.
- First NABL Accredited Laboratory to calibrate 0.01 Class Reference Energy Standard at site.
- Meeting the requirements of Electricity Regulatory Boards.
- Calibration of ABT Meter, Energy Meter, LT/HT Accuchek, Energy Meter Calibrator, Power Meter/Analyzer, CT/PT Burden Box, Meter Test Bench / Source, Reference Standard.

### CT / PT & Open Access Connection Metering Unit

- Calibration of Standard CT and PT, Instrument Transformer Test Set, Current and Voltage Source.
- On-site calibration of CT/PT and ABT Meter for Open Access Connection.
- Primary/Secondary Injection Set, High Voltage

### Lux Meter/Luminous Intensity

## Mechanical Calibration 'NABL C-0769 (Lab & Site).

### Pressure: Absolute Pressure, Barometric Pressure and Vacuum.

- Primary Standard for **Dead Weight Tester Calibration** upto 1200 Bar using Cross Float Method.
- Equipped with DH-Budenberg UK Dead Weight Tester of Class 0.007% rdg. directly traceable to UKAS, UK for Calibration Dead Weight Tester, Pressure Calibrator, Master Pressure Gauge, Pressure Transmitter, Transducer, Digital Pressure Indicator.
- Absolute Pressure, Barometric Pressure and Vacuum Gauges and Calibrators.

### Dimension:

- Vernier Caliper, Micrometer, Dial Gauge, Height Gauge, Feeler Gauge, Tape, Scale, Spirit Level, Bevel Protector, Combination Set, Clinometer, Thickness Gauge.
- Weight (1mg to 50kg), Balance Upto 100kg.
- Volume** (10 µl to 5 L).
- Density** (Hydrometer 0.6 to 2 g/ml).
- Speed (RPM)**. From 10 RPM-90000RPM
- Sound Level Meter.**
- Force (Tension 0.1kN-50kN, Compression 40kN-2000kN).



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## Thermal Calibration : NABL C-1047 (Lab & Site)

- ▶ Temperature (-80°C to 1600°C).
- ▶ Humidity: Hygrometers
- ▶ Thermal Imaging Cameras, Pyrometers. Oven, Furnace. RTD, Thermocouples, Thermometer,., Black Body Source
- ▶ **Temperature Mapping & Validation**

## Fluid Flow Calibration : NABL C-0981 (Lab & Site).

- ▶ **Flow meter upto 3500 m<sup>3</sup>/h**

## Electrical Testing : NABL T-2730(Lab/Site)

### Type Test for Distribution & Power Transformers (As per IS, IEC & CBIP)

- ▶ Temperature Rise Test
- ▶ Measurement of short circuit impedance and load losses
- ▶ Measurement of no load losses and current
- ▶ Induced AC Voltage Test
- ▶ Separate source AC withstand voltage test.
- ▶ Measurement of Unbalanced Current.
- ▶ Measurement of Zero sequence impedance for 3 phase transformer.
- ▶ Measurement of winding Resistance.
- ▶ Measurement of voltage ratio and check of phase displacement (vector group).
- ▶ Measurement of insulation resistance to earth of the windings.
- ▶ Magnetic Balance Test at Low Voltage.
- ▶ Magnetizing Current at Low Voltage.

### Type Test for Energy Meter

- ▶ AC Voltage Test
- ▶ Insulation Resistance Test
- ▶ Test on Limits of Errors
- ▶ Test of Meter Constant/Registration
- ▶ Test of Starting Conditions
- ▶ Test of No-load Condition
- ▶ Test of Repeatability of error
- ▶ Initial start-up of the energy meter



## Training and Consultancy Division

- ▶ Technical Training on Mechanical, Thermal , Electro-technical, Fluid flow & Electrical testing.
- ▶ Consultancy for Accreditation as per ISO/IEC 17025 for Testing and calibration Laboratory & as per ISO 15189 for Medical Laboratory.
- ▶ Consultancy for NABH accreditation of Hospital.
- ▶ Consultancy for Quality, Environment and Food Management System Certification.
- ▶ Consultancy for Environment & Pollution Control, Waste Water Management.

## Research and Development Centre

- ▶ Waste Tyre Pyrolysis for recovery of value added product.
- ▶ Solar applications for energy conservation.
- ▶ Water purification with magnetic De-scaling device.
- ▶ Recovery and reuse of Effluent Water for Zero Water Discharge.
- ▶ Patent Published for "A process for treating dye house waste water for reclamation & reuse"

*We are committed to achieve customer satisfaction by providing Credible, Competitive and Quality Services*

**Our Customers** include State Electricity Boards viz. JVVNL, AVVNL, JDVVNL, DGVCL, DHBVN, HVPN, MGVCL, GSECL, MPPKVCL, YMPL, Reliance, NFL, BHEL, NTPC, NPCIL, TAPP, Tata Motors, RITES, Shriram Institute, ADANI, ESSAR, L&T, Crompton Greaves, CFCL, GAIL, IOCL, BPCL, HPCL, Ordnance Factory, Pepsico, Coca-Cola, Cadbury, Godrej, Exide Battery, Havells, Surya, Samtel, Vedanta, Hindustan Zinc, Aditya Birla, NBC, ACC, Shree Cement, Ambuja Cement, JK Tyre, SRF, YKK, Suzlon, Enercon, Escorts, Visteon, ETDC Hyderabad, ETDC Jaipur, ETDC Mohali, IMP Power, Zera India Pvt. Ltd., Genus, BOSCH, TELK, TOSHIBA, HONEYWELL to name few.



## C and I Calibrations Pvt. Ltd.

**Regd. Office** : H-13(d), Electronic Complex, Road No. 1, I.P.I.A., Kota-324 005. (Rajasthan) India.

**(Correspondence Address)** Ph.: +91 (744) 2434994 Fax: +91 (744) 2435443 M: 8003095302

**Works** : J-448, Sitapura Industrial Area, Jaipur-302 022 (Rajasthan) India.

Ph.: +91 (141) 2770405, 2771849 M: 8003095301

E-mail : infocicpl@gmail.com, ashokpatnijain@gmail.com

*visit us at [www.cicpl.in](http://www.cicpl.in)*