

# Calibration at Haefely Trench



Quality systems such as the ISO 9000 series are very strict with respect to calibration and instrument maintenance. Under certain circumstances, adherence to such standards can be associated with considerable financial outlay. We can help you to comply with quality standards in a simple and cost-effective way. Our special calibration and testing services are explicitly aligned with ISO 9000 specifications. When your company outsources these services, you save time, money, and nerves.

If you have customers all over the world, it may be useful to you if your measuring systems are calibrated by our accredited laboratory. This often eliminates costly and time-consuming discussions with customers, because the calibration certificates of accredited laboratories are recognized in almost every country. Also, calibration by an accredited lab assures traceability to national standards and thus minimizes the degree of uncertainty associated with your measurements.

Simple instrumentation tests such as those specified in IEC 60-2 for high-voltage measurement systems is another of our cost-effective services. This service quickly informs you whether the key characteristic data of your instrumentation is still within the specification range and whether you can continue to use it until the next calibration is scheduled.

## Your advantages:

- We are an independent calibration laboratory on the Haefely Trench premises.
- We are DKD-accredited for voltage calibrations (AD, DC IMP).
- We perform calibration services in-house and on site at the customer's location (around the globe).
- We offer comprehensive services including maintenance, repair and calibration of your measurement equipment or systems.
- We calibrate all types of instruments used in a high-voltage test bay (i.e. Tan Delta, PD, general instrumentation, oscilloscopes, etc.).
- Our service engineers have extensive experience in the field of high voltage metrology.
- Our calibration laboratory is staffed with highly qualified personnel.
- We can assist you in compiling a Record of Performance.

On-site calibrations have the following advantages:

- Calibration under the actual conditions encountered at the measurement site.
- Time savings (1–2 days of down time instead of weeks).
- No disassembly and reassembly of measuring system.
- No transport risks, no transport costs.
- You can be present during the calibration procedure.
- All calibrations are conducted according to the same strict guidelines.
- Traceability of reference instruments, calibration according to IEC, test reports and certificates in compliance with ISO 9000 and IEC are part of our service philosophy.



## DKD calibration

(calibration in compliance with EN 45000)

### Scope of calibration

High-voltage dividers, measuring instruments and high-voltage measuring systems for AC, DC, LI, LIC, SI.

### Method

Comparative measurements with reference measurement systems, linearity measurements with "approved measurement systems", comparative measurements with calibrators.

### Objective

IEC 60-2, IEC 1083-1.

Calibration of measurement resources

- with themselves are used to calibrate other measuring instruments
- with respect to strict requirements in conjunction with uncertainties
- which are used to test "goods" within the scope of quality assurance
- which are to be deployed primarily in international markets
- with respect to strict requirements regarding reliability and longevity and/or which are very expensive (instrumentation used by utilities).

### Result

Calibration certificate with DKD stamp and DKD calibration seal.

Content

Indication of characteristic value(s) identified and deviations from references, if any, with uncertainty coefficient(s).



## Haefely Trench calibration

(calibration in compliance with ISO 9000/EN 45000)

### Scope of calibration

High-voltage dividers, measuring instruments and high-voltage measuring systems for AC, DC, LI, LIC, SI, coupling capacitors and coupling quadrupoles for partial discharge measurements, PD detectors, C tan delta bridges, standard capacitors, shunts, current and voltage transformers up to 40 A/400 V, multimeters (current, voltage, resistance, capacitance), oscilloscopes.

### Method

Comparative measurements with calibrated instruments and/or calibrators; determination of characteristic values with calibrated measuring instruments (component method).

### Objective

IEC 60-2, IEC 1083-1, IEC ...

Calibration of measurement resources, which must be traceably calibrated in regular intervals on the basis of relevant standards (such as IEC 60-2 or ISO 9000), but which do not require the calibration certificate of an accredited calibration laboratory.

### Result

Haefely Trench calibration certificate and calibration seal.

Content

Indication of characteristic value(s) identified and deviations from references, if any, with uncertainty coefficient(s). List of measuring instruments and calibrators used, and dates when they were last calibrated.



# Measurement system check

(tests in compliance with ISO 9000/EN 45000)

## Scope of calibration

High-voltage dividers, measuring instruments and high-voltage measuring systems for AC, DC, LI, LIC, SI, coupling capacitors and coupling quadrupoles for partial discharge measurements, PD detectors, C tan delta bridges, standard capacitors, shunts, current and voltage transformers up to 40 A/400 V, multi-meters (current, voltage, resistance, capacitance), oscilloscopes.

## Method

Comparative measurements (single-point) with calibrated instruments (ratio measurement instruments) and/or calibrator;  
determination of characteristic values with calibrated measuring instruments (component method).

## Objective

IEC 60-2, IEC 1083-1, IEC ...

Check of measurement resources which must be tested at regular intervals on the basis of relevant standards (such as IEC 60-2 or ISO 9000).

## Result

Haefely Trench Protocol of measuring device check.

### Content

Confirmation of test, indication of method.

**No indication** of characteristic value(s) identified nor of deviations from references, if any.

**No indication** of uncertainty coefficient.

List of measuring instruments and calibrators used, and dates when they were last calibrated.

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Protocol of measuring device check

Client: ...  
Device: ...  
Date: ...  
Status: ...

Measuring Instruments: ...  
Calibrators: ...

Signature: ...  
Date: ...

Contact address:

Calibration laboratory Haefely Trench AG  
Lehenmattstrasse 353, P. O. Box  
CH-4028 Basel/Switzerland

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