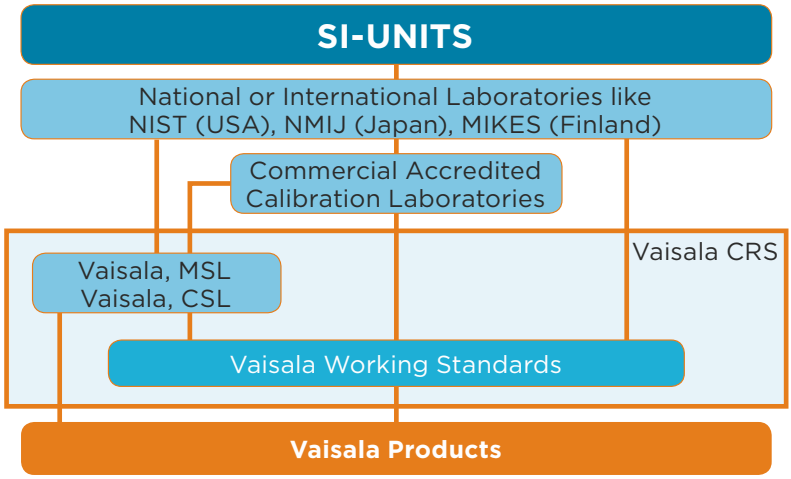
# Maintenance and Calibration FAQs

## 1. Why is calibration important?

Anything worth measuring is worth measuring right, and all electronics and sensors are subject to drift over time.

Why are you measuring in the first place? Any advantage you plan to gain by the measurement can be lost if instruments are not maintained properly.




## 2. What is traceability?

All Vaisala Calibration and Repair Services are traceable to SI-Units. This means there is an unbroken chain of calibrations from the product being calibrated up to a national or international measurement laboratory.

## 3. What is the difference between a calibration and an adjustment?

Calibration = comparing the output of a measurement instrument against a reference instrument and merely reporting the result.

Adjustment = changing the output to correspond to the output of a reference instrument (not performed by all labs).

Be sure to ask the calibration lab about this when requesting service so that you know what you will receive.

## 4. How often should I calibrate?

This depends on your accuracy requirements and specific operating environment. No single answer is correct! Do you have stability specifications? Start with a shorter inspection interval – lengthen gradually. Be sure to record any drift values over time to determine future calibration intervals. For clean, dry HVAC environments, a yearly calibration interval is a good place to start. If you are measuring in extremely clean and dry compressed air, you may be able to increase that to every two years. On the other hand, high temperature and/or humidity or harsh chemicals will require more frequent calibration than once per year.

Verify that your certificate of calibration includes “as found” and “as left data”. This will demonstrate exactly how much drift has occurred over that period. With this information, you can determine the best calibration interval for your application.

## 5. What are the main causes of drift?

Extreme temperature and/or humidity, cleaning agents/detergents, construction materials such as paint, packaging materials, automotive exhausts to name a few.

## 6. What is Accredited (ISO/IEC 17025) Calibration, and do I need it?

ISO/IEC 17025 is the international standard used to accredit testing and calibration laboratories for measured quantities. Some industries are required by regulatory bodies to comply with the most strict quality standards. These calibrations are performed, and certificates are issued in compliance with the requirements of the ISO/IEC 17025 and are recognized by all the major international accreditation organizations.

Vaisala is an accredited calibration provider, and is audited by world's leading accreditation authorities.

The majority of Vaisala products include a standard, traceable certificate that is sufficient for most customers. You will need to notify your vendor or calibration lab if your company or facility requires Accredited (ISO/IEC 17025) Calibrations.

## 7. What are my calibration options?

There are a few options to consider based on the level of accuracy required, and the resources available at your facility.

i. Calibration at a Certified Vaisala Calibration and Repair Services Center will ensure the highest accuracy and keep your instrument as close to "new" as possible. We offer standard, custom and Accredited (ISO/IEC17025) options. These services are available for single or multi-year calibration plans.

For some products, such as low dew point measurement sensors, this may be the only option as it is nearly impossible to replicate these conditions in most non-lab facilities.

Here in our Online Store where you can find all calibration options for existing Vaisala products.

ii. Perform calibrations at your own site using a few of our calibration tools. We always recommend implementing a set of working guidelines, as well as a dedicated individual who is familiar with the calibration procedure. There are a few options for this:

a. For humidity measurement, use our HMK15 Humidity Calibrator Kit. This allows you to generate up to five humidity points (11, 33, 75, 85, 97%) using certified salts and distilled water. Whenever possible, it is best to perform calibrations in a dedicated room with a stable temperature level.

b. Perform a traceable calibration using a high accuracy reference meter for single point calibrations. Vaisala's HM70 Hand-Held Humidity and Temperature Meter can connect to other Vaisala fixed transmitters via a cable and view both readings along with the difference. This is a great solution for HVAC installations, or areas operating at the same temperature and humidity level most of the time. The reference meter should be sent to a Vaisala Service center annually to receive a calibration giving you a traceable transfer standard

c. The optimal solution for field calibration is to combine the HMK15 kit with the HM70 portable meter. The HM70 meter is the reference and provides a traceable calibration of the fixed instrument, while HMK15 kit allows you to calibrate at multiple relative humidity points.

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