

# Functional tests / Calibration



<b>Performance tests</b>	<b>Hazardous substance measuring</b>	<b>Traffic and noise</b>
<b>Emission measuring</b>	<b>Air quality measuring</b>	<b>Machine noise &amp; vibrations</b>
<b>Emission declarations</b>	<b>Diffusion calculation</b>	<b>Building acoustics</b>
<b>Functional tests</b>	<b>Noise prognosis</b>	<b>Wind prognosis</b>

Operators of industrial plants requiring official approval and special plants that do not require approval are obliged to measure their emissions. The Federal Immission Control Act (BImSchG) forms the legal basis for emission monitoring. This monitoring can be performed on either a discontinuous individual measurement basis or with large mass flows on a continuous basis with certified and specially approved automatic measuring systems (AMS).

In order to guarantee the quality of data recorded by AMS, an installation certificate must be obtained before emission monitoring systems are set up. An annual functional test (AST) must be performed by a test institute approved according to §26 BImSchG, as well as calibration (QAL2) every three years. The maintenance and identification of the necessary quality of measuring results during normal operation is generally the responsibility of the plant operator (QAL3).

## Installation certificate

Installation certification includes the following tests:

- [Conformity test](#)
- [Inspection of installation location](#)
- [Inspection of installation](#)
- [Inspection of Vergleichsmessstelle](#)
- [Functional test of AMS](#)
- [Inspection of documentation](#)

## Functional test (AST)

The functional test includes the following procedures:

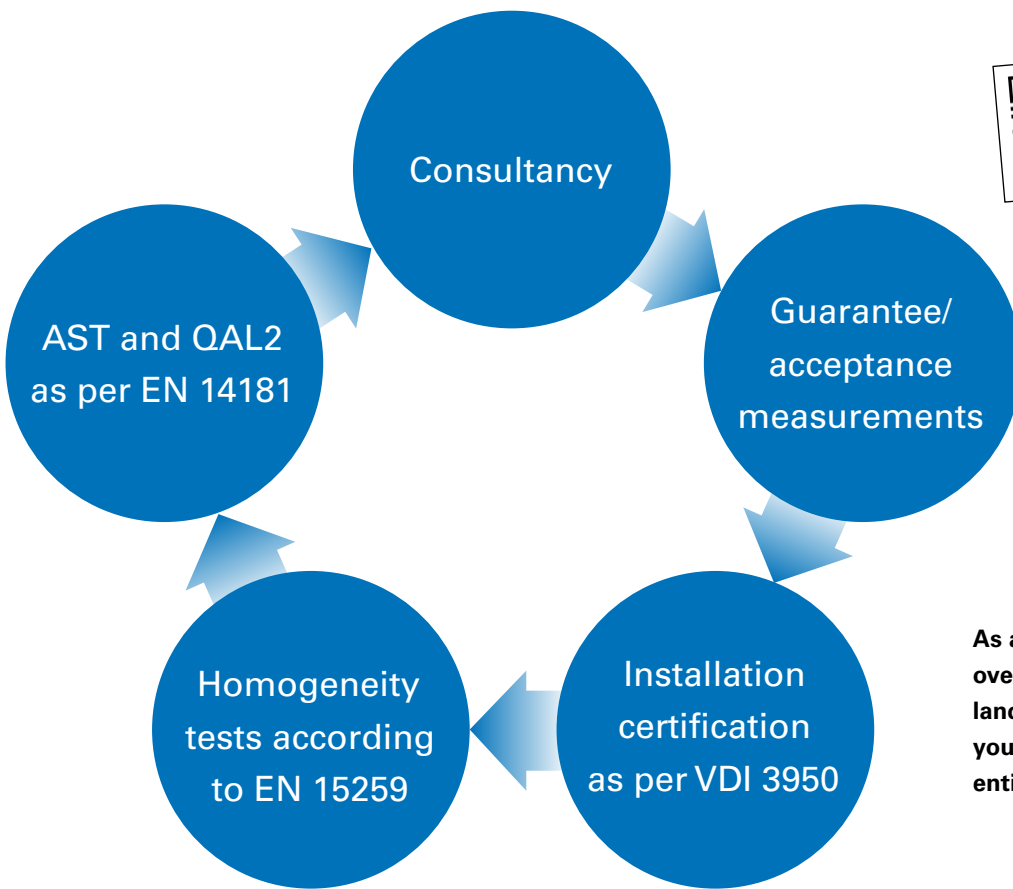
- [Visual inspection](#)
- [Leakage test](#)
- [Response time test](#)
- [Zero and span point tests](#)
- [Lack of fit](#)
- [Cross sensitivities](#)
- [Zero and span point drift](#)
- [Inspection of documentation](#)
- [5 reference measurements using reference measuring procedure](#)



**Calibration (QAL2)**

In addition to the functional tests, a further 10 reference measurements are performed during calibration to calculate the calibration curve and define the parameters. All work and tests are carried out exclusively by TÜV Rheinland staff. No extra staff or additional test equipment are required from the system manufacturer. TÜV Rheinland provides you with high quality measurements, tests and expert statements. We are an approved test institute. We also have over 25 years experience in calibrating temperature measuring de-

vices for the monitoring of combustion conditions and for acceptance measurements in Germany and abroad. TÜV Rheinland Energie und Umwelt GmbH is an approved test institute according to §26 BImSchG in all of Germany, and is also accredited for emission measurement, functional tests, calibration and the performance testing of measuring systems, chimney height calculation and immission estimates according to EN ISO/IEC 17025:2005.



**As an accredited test institute with over 25 years experience, TÜV Rheinland Energie und Umwelt GmbH is your expert contact for your systems entire lifecycle.**

**Always a good sign.**



This mark stands for all the information about products, services and systems that are tested, certified or inspected by TÜV Rheinland.

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Precisely Right.

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