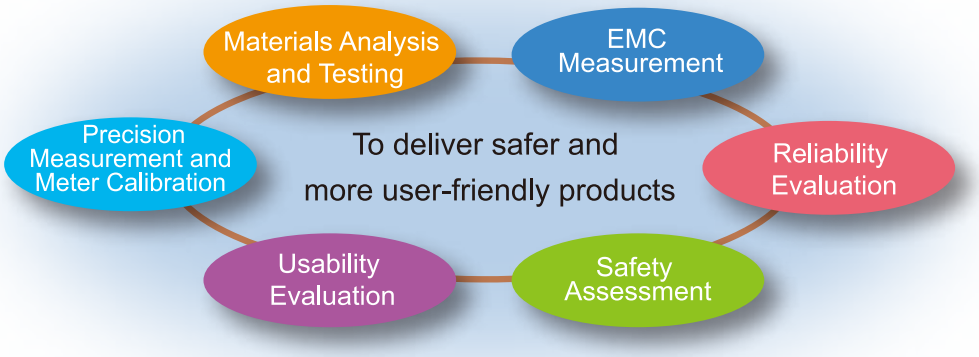
SHIMADZU
Excellence in Science

Quality Center

- For Continuously Improving Quality -

In December 2013, Shimadzu Corporation opened the Quality Center as a central collection of equipment and functions within Shimadzu used to ensure quality at every stage of the product life cycle, not only during the stages from development and design to manufacturing, but also for prompt action for quality enhancement and improvement in the marketplace as well.
The approximately 5,500 m^2 three-story steel frame building expands our facilities for evaluating quality, such as by testing safety during the development stage, and for improving operability. In addition, it is equipped with equipment and staffed with experts for supporting quality control during the manufacturing stage or for analyzing and resolving any problems that occur in the marketplace.

Functions of Quality Center



Anechoic Chamber inside Quality Center

Quality Center

Functions of Quality Center

The following describes how the activities at Quality Center help improve the quality of Shimadzu products.

Materials Analysis and Testing

We help ensure and improve quality by using various analytical and measuring instruments to ensure materials used in products conform to standards and to quickly investigate and analyze any problems that may occur during research and development, manufacturing, or in the marketplace.

Analytical and measuring instruments

Precision Measurement and Meter Calibration

1) Precision Measurement

Actual part dimensions and shape can be measured precisely down to 1 µm (one thousandth of a millimeter) units to verify that they are as designed. Personnel with specialized expertise and qualifications test products in a room that is temperature-controlled 24 hours a day.

2) Meter Calibration

In order to manufacture high-quality products based on accurate measurements, all measuring instruments and devices used within the Shimadzu Group are regularly calibrated to ensure their precision.

Measurement using CMM

JCSS Mass calibration

3) JCSS (Japan Calibration Service System)

The CS Management Department at Shimadzu Corporation is accredited as a Japan Calibration Service System(JCSS) provider compliant with ISO/IEC 17025 and the Japanese Measurement Law for calibrating balances and weights.
The accreditation No.is 0065, and this certification is proof that the laboratory meets international standards.

JCSS 0065

Usability Evaluation

Usability evaluation verifies that products and services are easy to use. Usability testing is performed to ensure products and services are safe, easy to use, and can be used without worry.

Usability Evaluation

EMC Measurement

We measure electromagnetic noise from our product to ensure neighboring devices operate without any failure, and evaluate the operation of our product under the influence of external noise. These tests are conducted in a room that is unaffected by external electromagnetic waves, referred to an anechoic chamber.
The Quality Center has three anechoic chambers of different sizes.
The EMC testing laboratory is an accredited laboratory compliant with ISO/IEC 17025 that provides testing services performed according to regulations specified in various countries or regions.

Anechoic Chamber

JAB Testing RTL03960

EMC Measurement

Reliability Evaluation

Reliability is evaluated by determining whether or not the product continues functioning reliably and correctly at the customer site.

1) Temperature and Humidity Testing

Temperature and humidity testing subjects products or parts to various temperature or humidity loads to confirm their resistance to such loads.

2) Vacuum Testing

In a vacuum, even slight amounts of materials remaining on parts can negatively affect product performance. Specialized equipment is used for testing.

3) Endurance Testing

Products include parts that are used on a daily basis, such as covers, doors, cables, and switches. These parts are tested over several tens of thousands of cycles to verify the product's durability.

Temperature and Humidity Resistance Test

Endurance Test

4) Vibration Testing

Products are tested assuming they are exposed to a variety of vibration stresses, such as being transported over a bumpy road.

Vibration Test

Safety Assessment

1) Safety Testing

To ensure that products can be used safely, they are tested to verify they comply with safety standards.

2) Environmental and Electrical Fault Testing

Tests are performed to verify whether a problem that occurred in the product's electrical circuits could cause a fire and/or whether products will function safely when exposed to water.

Safety Test

Electrical Fault Test

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