IS 9001 (Part 20) : 2010

Indian Standard

GUIDANCE FOR ENVIRONMENTAL TESTING

PART 20 CALCULATION OF UNCERTAINTY OF CONDITIONS IN CLIMATIC TEST CHAMBERS

1 Scope

This part of lEC 60068 demonstrates how to estimate the uncertainty of steady-state temperature and humidity conditions in temperature and humidity chambers. Since this is inextricably linked to the methods of measurement, these are also described. This standard is equally applicable to all environmental enclosures, including rooms or laboratories. The methods used apply both to temperature chambers and combined temperature and humidity chambers.

This standard is meant to help everyone using climatic test chambers. Those already familiar with uncertainty of measurement will find it useful for guidance on typical sources of uncertainty and how they should be quantified and combined. It is also intended to assist the first-time or occasional user who has little or no knowledge of the subject.

To discuss uncertainty, it is important first to understand what is being measured or characterized. The calibration or characterization of the performance of a chamber is concerned with the humidity and temperature of the air in the chamber, as experienced by the item under test, at a given set point. This should not be confused with characterizing or calibrating the chamber sensor, which is a separate matter.

2 Normative references

The following referenced documents are indispensable for the application of this document For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

lEC 60068-3-5: *Environmental testing - Part* 3-5: *Supporting documentation and guidance Confirmation* of *the performance* of *temperature chambers*

lEC 60068-3-6: *Environmental testing - Part* 3-6: *Supporting documentation and guidance Confirmation of the performance of temperature/humidity chambers*

ISO 3534-1:2006, *Statistics - Vocabulary and symbols - Part* 1: *General statistical terms and terms used in probability*

ISO 3534-2:2006, *Statistics - Vocabulary and symbols - Part 2:Applied statistics*

International Vocabulary of basic and general standard terms in metrology. ISO, Geneva, Switzerland 1993 (ISBN 92-67-10175-1) – VIM

Guide to the expression of uncertainty in measurement. ISO. Geneva. Switzerland 1993.(ISBN 92-67-10188-9) - GUM