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**Oscillation-type density meters —**  
**Part 2:**  
**Process instruments for homogeneous**  
**liquids**

*Densimètres à oscillation —*

*Partie 2: Instruments industriels pour liquides homogènes*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 15212 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15212-2 was prepared by Technical Committee ISO/TC 48, *Laboratory glassware and related apparatus*, Subcommittee SC 4, *Density measuring instruments*.

ISO 15212 consists of the following parts, under the general title *Oscillation-type density meters*:

- *Part 1: Laboratory instruments*
- *Part 2: Process instruments for homogeneous liquids*

## Introduction

Density values of pure water at different temperatures and information on how to calculate the density values at different pressures can be found in ISO 15212-1:1998, annex A.

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# Oscillation-type density meters —

## Part 2:

## Process instruments for homogeneous liquids

### 1 Scope

This part of ISO 15212 specifies metrological requirements, among others, for oscillation-type density meters as well as for functional units (see 4.2) of oscillation-type density meters, which are used in process for all kinds of homogeneous liquids. This includes liquified gases. Instructions and methods for installation, preadjustment, adjustment and calibration of process instruments are also given. The instruments are either integral systems or functional units, which can be combined into an integral measuring system.

This part of ISO 15212 does not describe the method of use of process density meters for particular applications or products, e.g. petroleum products or beverages. Such methods of use can be defined by relevant institutions such as ISO or responsible Government agencies.

This part of ISO 15212 does not define an instrument specification for any particular application. For this information reference should be made to the relevant standard covering the method of use.

This part of ISO 15212 is addressed to manufacturers of density meters and to bodies, testing and certifying the conformity of density meters. This part of ISO 15212 also gives recommendations for adjustment and calibration of process density meters.

Oscillation-type density meters used in laboratories are addressed in ISO 15212-1.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 15212. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 15212 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 15212-1:1998, *Oscillation-type density meters — Part 1: Laboratory instruments*

IEC 61010-1, *Safety requirements for electrical equipment for measurement, control and laboratory use — Part 1: General requirements*

IEC 61326-1, *Electrical equipment for measurement, control and laboratory use — EMC requirements*

*Guide to the Expression of Uncertainty in Measurement (GUM)*. BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML