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JIS B 7525 : 1997

Density hydrometers

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ICS 17.060

**Descriptors** : relative density, hydrometers, density, glass

**Reference number** : JIS B 7525 : 1997 (E)

## Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently, JIS B 7525:1992 is replaced with JIS B 7525:1997.

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In the event of any doubts arising as to the contents,  
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## Density hydrometers

**Introduction** This Japanese Industrial Standard has been prepared on the basis of **ISO 649-1** published as the first edition in 1981 without making any modification on technical contents, except requirements of Annex 3 (Density hydrometer—J series) and Annex 4 (Specific gravity hydrometer) that not specified in the corresponding International Standard are supplemented as Japanese Industrial Standard.

**1 Scope** This Japanese Industrial Standard specifies requirements for five basic series of glass hydrometers of constant mass which are graduated to indicate density ( $\text{kg/m}^3$  or  $\text{g/cm}^3$ ) at 20 °C.

Each series comprises hydrometers which between them cover the interval 600  $\text{kg/m}^3$  to 2000  $\text{kg/m}^3$  or 0.6  $\text{g/cm}^3$  to 2.0  $\text{g/cm}^3$ . The hydrometers are graduated appropriately for use in liquids of low, medium or high surface tension.

It also specifies three sub-series of hydrometers which are graduated to indicate density at either 20 °C or 15 °C. These hydrometers having smaller tolerances on scale error are limited to the range 600  $\text{kg/m}^3$  to 1100  $\text{kg/m}^3$  or 0.6  $\text{g/cm}^3$  to 1.1  $\text{g/cm}^3$  and are for use in liquids of low surface tension.

This Standard does not cover hydrometers with a built-in thermometer. These hydrometers comply with the requirements of **ISO 387**.

A table of standard categories of surface tension is given in Annex 1. A table of recommended stem diameters is given, for guidance in manufacture, in Annex 2.

In addition to the five series and three sub-series, Annex 3 describes J series. Further, the requirements for specific gravity hydrometers as specified in former Standard is given in Table 4.

Examples of shape of density hydrometer are shown in Fig.1.

Remarks: **ISO 649-1** *Laboratory glassware—Density hydrometers for general purposes—Part 1: Specification*

**2 Normative references** The following standard contains provisions which, through reference in this Standard, constitute provisions of this Standard.

ISO 387 *Hydrometers—Principles of construction and adjustment*

**3 Basis of scale** The basis of scale shall be density (mass per unit volume) in kilograms per cubic meter ( $\text{kg/m}^3$ ) or grams per cubic centimetre ( $\text{g/cm}^3$ ).

Remarks: The symbol g/ml may be used.

## 4 Reference temperature

**4.1** The reference temperature for density hydrometers, excluding the sub-series L50SP, M50SP and S50SP, shall be 20 °C. When used in a liquid at this temperature, the hydrometer shall indicate the density of the liquid at 20 °C.