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**Methods for viscosity measurement
of liquid**

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In the event of any doubts arising as to the contents,
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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by the Society of Instrument and Control Engineers (SICE)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS Z 8803**:1991 has been replaced with this Standard.

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Methods for viscosity measurement of liquid

1 Scope

This Japanese Industrial Standard specifies the methods of measurement for the dynamic viscosity, kinematic viscosity, dynamic viscosity $\times$ density and apparent viscosity of liquid by using a capillary viscometer, falling ball viscometer, rotational viscometer and vibrating viscometer.

NOTE : The viscous properties of liquid are generally classified roughly into a Newtonian liquid and a non-Newtonian liquid as defined in clause 3. For the measurement of Newtonian liquids, when the conditions of measurement are satisfied in any method of measurement, the same dynamic viscosity, kinematic viscosity or dynamic viscosity $\times$ density determined by a single meaning of primary importance can be obtained. For the measurement of non-Newtonian liquid, the apparent viscosity differs corresponding to slip velocity, however the flow curve can be obtained by using the coaxial double cylinder type and cone-flat plate type viscometer.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) listed below shall be applied.

JIS B 1501 *Rolling bearings—Balls*

JIS Z 8809 *Standard liquids for calibrating viscometers*

3 Terms and definitions

For the purposes of this Standard, the following terms and definitions apply.

3.1 Newtonian liquid

a liquid whose slip velocity (shear velocity) is directly proportional to its slip stress (shear stress)

3.2 non-Newtonian liquid

a liquid whose slip velocity (shear velocity) is not directly proportional to its slip stress (shear stress)

NOTE : A specimen liquid which shows the same dynamic viscosity value at the same temperature and pressure regardless of the magnitude of its slip velocity or slip stress is a Newtonian liquid, but a specimen consisting of a non-Newtonian liquid shows different dynamic viscosity values according to the magnitude of its slip velocity or slip stress.