Synopsis

Doc: WRD1(12866)

IS ...../ ISO 4185:1980

Title: Measurement of liquid flow in closed conduits - Weighing method

Scope: This Standard specifies a method of liquid flowrate measurement in closed conduits by measuring the mass of liquid delivered into a weighing tank in a known time interval. It deals in particular with the measuring apparatus, the procedure, the method for calculating the flow-rate and the uncertainties associated with the measurement.

The method described may be applied to any liquid provided that its vapour pressure is such that any escape of liquid from the weighing tank by vaporization is not sufficient to affect the required measurement accuracy. Closed weighing tanks and their application to the flow measurement of liquids of high vapour pressure are not considered in this International Standard.

This Standard does not cover the cases of corrosive or toxic liquids.

Theoretically, there is no limit to the application of this method which is used generally in fixed laboratory installations only.

However, for economic reasons, usual hydraulic laboratories using this method can produce flow-rates of 1.5 m3/s or less. Owing to its high potential accuracy, this method is often used as a primary method for calibration of other methods or devices for mass flow-rate measurement or volume flow-rate measurement provided that the density of the liquid is known accurately.

It must be ensured that the pipeline is running full with no air or vapour pockets present in the measuring section.

Salient features of content:	This standard covers General terms in fluid mechanics, Principle, apparatus and Procedure for Static and dynamic weighing method. Calculation of flow-rate, Calculation of the overall uncertainty of the measurement of the flow-rate are covered. Technical Corrigendum 1 is an integral part of the standard.
Types/grades/classes, if any covered in the standard:	None

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