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# NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE PEOPLE'S REPUBLIC OF CHINA

# JJF 1787-2019

## Program of Pattern Evaluation of Liquid Level Gauges

液位计型式评价大纲

**(English Translation)**

**Implemented on: March 31, 2020**

**Issued by: State Administration for Market Regulation**

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## Introduction

JJF 1016 "Guidelines for Compiling the Outline of Evaluation of Measuring Instruments", JJF 1059.1-2012 "Evaluation of Uncertainty in Measurement" "Determining and expressing" together constitute the basic series of specifications formulated in this outline.

The requirements and methods of the test items in this outline refer to JJG971 "level gauge", GB/T 18271.3 "process measurement" and control devices general performance assessment methods and procedures Part 3. Tests for the influence of influence quantities, GB/T 25480 "Basic environmental conditions and test methods for instrumentation, transportation and storage", GB/T 17626 "Electromagnetic compatibility test and Normative documents such as Measurement Technology.

This outline is published for the first time.

Outline of Type Evaluation of Liquid Level Gauge

1 Scope

This type evaluation outline is applicable to the type evaluation of the level gauge with the classification code of measuring instruments of 01320000.

2 Reference documents the outline refers to the following documents.

JJG971 level gauge

GB/T 17626.2 Electromagnetic compatibility test and measurement technology Electrostatic discharge immunity test GB/T 17626.3 Electromagnetic compatibility test and measurement technology RF electromagnetic field radiation immunity test GB/T 17626.4 Electromagnetic compatibility test and measurement technology Electrical fast transient pulse group immunity test GB/T 17626.8 EMC test and measurement technology power frequency magnetic field immunity test GB/T 17626.11 Electromagnetic compatibility test and measurement technology for voltage sags, short interruptions and voltage changes Immunity test GB/T 18271.3 General performance evaluation methods and procedures for process measurement and control devices Part 3. Influence Quantity impact test GB/T 25480 Basic environmental conditions and test methods for transportation and storage of instrumentation for dated reference documents, only the dated version applies to this specification; for those without date references the latest version (including all amendments) is applicable to this specification.

3 Overview

Liquid level gauges are widely used for the measurement of internal liquid levels or interfaces in tanks, kettles, towers, bottles, furnaces, channels, etc. in industrial processes with control. According to the measurement principle, the liquid level gauge can be divided into combined type, buoyancy type, pressure type, reflection type, and electrical



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characteristic type.

Combined type. (quartz) glass tube level gauge, glass plate level gauge;

Buoyancy type. magnetic turning column (plate) level gauge, magnetostrictive level gauge, servo level gauge, steel belt level gauge, (electricity) Float level gauge, float level gauge;

Pressure type. static pressure (input) level gauge (transmitter), differential pressure level gauge (transmitter);

Reflective. radar level gauge, ultrasonic level gauge, guided wave radar level gauge;

Electrical characteristics. RF admittance level gauge, capacitance level gauge, etc.

4 Legal management requirements

4.1 Unit of measurement the liquid level gauge shall adopt the national legal measurement unit m (meter), or its decimal multiple unit. mm, cm, etc.

4.2 Maximum allowable error the maximum allowable error of the level gauge should be expressed by absolute error or quoted error.



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