

JJF

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JJF 2121-2024

**Calibration Specification for Constant Revolution Speed
Sources
(English Translation)**

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Introduction

JJF 1001-2011 "General metrological terms and definitions", JJF 1071-2010 "National metrological calibration specifications" the two standards, JJF 1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", together constitute the basis for the

formulation of this calibration specification.

Basic series of specifications.

This specification mainly refers to JJG326 "Speed Standard Device" and JJF 1156 "Vibration Shock Speed Measurement" "Terms and Definitions" and other metrological technical specifications.

This specification is published for the first time.

Constant speed source calibration specification

1 Scope

This specification is applicable to the calibration of constant speed sources with a speed range of (100~250)r/min.

Calibrate according to this specification.

2 References

This specification references the following documents.

JJG366 Ground Resistance Meter JJG622 Insulation resistance meter (megohmmeter) for any referenced document with a date, only the version with the date is applicable to this specification; for any referenced document without a date, the latest version (including all amendments) shall apply to this specification.

3 Overview

Constant speed source and constant speed device are constant speed driving devices for calibrating various specifications of insulation resistance meters and ground resistance meters.

The working principle of the speed source is to use a stepper motor to output a pulse signal through the central processing unit (CPU) to drive the motor.

To achieve the corresponding speed output and display; the speed controller uses a DC servo motor, and the output is adjusted by manually adjusting the voltage regulator.

Analog voltage drives the servo motor to generate speed, and measures and determines the speed through optical or photoelectric principles. Constant speed the source and the speed controller are composed of a speed regulating unit, a speed driving unit, a transmission unit, a fixed unit for the meter under test, and an angle adjustment unit.

The speed output value calibration method in this specification includes digital and stroboscopic There are two types.

Figure 1. Block diagram of the working principle of the constant speed source

4. Metering characteristics

4.1 Speed range

(100~250)r/min.

4.2 Speed indication error not exceeding ± 2 r/min.

Note: All the above indicators are not applicable to qualification determination and are only provided for reference.