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Calibration Specification for Linear Velocity Measuring Instrument

线速度测量仪校准规范

(English Translation)

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Introduction

This specification is based on JJF 1071 "Rules for the Compilation of National Metrology and Calibration Specifications", JJF 1059.1 "Measuring Uncertainty "Assessment and Representation" and other measurement technical specifications are compiled.

This specification mainly refers to JJG105 "speed meter", JJG326 "speed standard device", JJF 1193 "non-connected Measurement technical specifications such as the Calibration Specification for Touch-Type Automobile Speedometer, JJF 1156 "Terms and Definitions for Vibration and Impact Speed Measurement".

This specification is released for the first time.

Calibration specification for linear velocity measuring instrument

1 Scope

This specification applies to (0.1~4)m/s contact linear velocity measuring instrument and (0.3~30)m/s double-point linear velocity for the calibration of measuring instruments, other linear velocity measuring instruments can be calibrated with reference to this specification.

2 Reference documents this specification refers to the following documents.

JJG105 Tachometer

JJG326 Speed standard device JJF 1156 Vibration impact speed measurement terms and definitions JJF 1193 Non-contact car speedometer calibration specification for dated reference documents, only the dated version applies to this specification; for undated reference documents, the latest version (including all amendments) is applicable to this specification.

3 term

3.1 Linear speed

The displacement of any point on the rotating rigid body in unit time. It can be used to describe the motion characteristics of any point on a rotating rigid body.

3.2 Two-point linear velocity measuring instrument A measuring instrument that measures the linear velocity of a rotating rigid body or the linear velocity of an object moving in a straight line with two measuring points at a fixed position.

4 overview

Linear speed measuring instruments are divided into contact linear speed measuring instruments and non-contact linear speed measuring instruments. Contact line speed the degree measuring instrument is generally composed of a speed plate connected with a front shaft and a collection part. When the working surface of the speed plate is when the measured object is in contact, the linear velocity of the measured object is measured

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according to the circumference and speed of the speed plate. Commonly used non-contact line the speed measuring instrument is a two-point linear speed measuring instrument, which is composed of a pair of switch sensors and supporting collectors.

When the two sensors are firmly installed on the path of the measured object at a certain distance, by measuring the measured object the length of the path between the two sensors and the time when the measured object triggers the two sensors to calculate the line of the object speed. Figure 1 is a block diagram of the working principle of the contact linear velocity measuring instrument, and Figure 2 is the working principle of the double-point linear velocity measuring instrument the schematic block diagram, Appendix A is a schematic diagram of the calibration method.

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