

JJF

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

JJF 1401-2013

**Calibration Specification for Vibrating Wire Frequency Readouts
(English Translation)**

Issued on: January 1, 1970

Implemented on: January 1, 1970

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine**

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Introduction

This specification based JJF 1071-2010 "National Calibration Specifications writing rules" establishment.

This specification reference to GB/T 3412.1-2009 "dam monitoring instrument detector Part 1. vibrating wire instrument Control detector "; GB/T 15406-2007" geotechnical engineering

instrument basic parameters and general technical conditions "relating to the vibrating wire the basic parameters of instruments received the instrument, the instrument receives technical requirements for entry in conjunction with such general-purpose products conventional techniques Surgery requirements. The specification for the first time to develop.

VW frequency reader calibration specification

1 Scope

This instruction applies calibration 300Hz ~ 6000Hz various types of vibrating wire frequency reader in the frequency range. its He vibrating wire frequency measurement calibration system can refer to this specification.

2. References

This specification references the following documents.

GB/T 3412.1-2009 dam monitoring instrument detectors - Part 1. VW instrument detector
GB/T 15406-2007 geotechnical engineering instrument basic parameters and general technical conditions for dated references, only the dated edition applies to this specification; undated references the latest version (including with amendments) apply to this specification.

3 terminology and units of measurement 3.1 vibrating wire sensors vibratingwiretransducer Use of vibrating wire sensors to measure changes in the natural frequency of the relevant parameters.

3.2 excitation External energy (voltage, current, etc.) from the sensor to work properly applied.

3.3 Vibrating frequency reader vibratingwirefrequencyreadout it has to provide incentives for the signal vibrating wire sensors, measuring sensor output frequency, or frequency display module Etc., and have the data storage, communication and other functions of special instruments.

3.4 hub box terminalbox Connecting the sensor, with manual or automatic measuring point switching function of special equipment.

3.5 Frequency modulus Vibrating wire sensor output frequency f (Hz) divided by the square of 1000 the value obtained. English letters F , he said that is. $F = f^2 \times 10^{-3}$.

4 Overview

Metal strings at a certain tension, stress has a certain natural frequency, vibration theory elastomer according push Guide, natural frequency string chord suffered tension, stress was a single-valued function. Various types of vibration manufactured based on this principle String instruments are used in wide range of safety monitoring dams, tunnels,

highways, bridges, mines and construction project.

VW frequency reader (hereinafter referred to as vibrating wire instrument) for the vibrating wire sensor readings instrument designed to measure Frequency vibrating wire sensor output, physical access to relevant projects through the measured frequency.

NOTE: VW frequency reader in GB/T 3412.1-2009 designated as "vibrating wire instrument detector." VW instrument by the time base and the main control circuit, the excitation signal generating circuit, a detection circuit and a display storage circuit group A working principle shown in Figure 1.