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JJG

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

JJG 950-2012

Replacing JJG 950-2000

**Verification Regulation of Analyzers for Oil Content in Water
(English Translation)**

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Table of Contents

Introduction (II)	
1 Scope (1)	
2 Overview (1)	
3 Metering performance requirements (1)	
3.1 A class of instrument (1)	
3.2 B class equipment (1)	
4 General Requirements (2)	
4.1 Appearance (2)	
4.2 Insulation Resistance (2)	
5 Control of measuring instruments (2)	
5.1 Verification Conditions (2)	
5.2 Verification Project (3)	
5.3 Verification Methods (3)	
5.4 Verification Results Processing (6)	
5.5 Test cycle (6)	
Appendix A Test recording format (A type instrument) (7)	
Appendix B Test recording format (Class B equipment) (9)	
Appendix C Test certificate page format (A type instrument) (11)	
Appendix D Test certificate page format (Class B instruments) (13)	
Appendix E Test results in the notice page format (A type instrument) (15)	
Appendix F Test results in the notice page format (B equipment category) (17)	

3 Metering performance requirements (1)

3.1

A class of instrument (1)

5.5 Test cycle (6)

Appendix A test recording format (A type instrument) (7)

Appendix B test recording format (Class B equipment) (9)

Appendix C test certificate page format (A type instrument) (11)

Appendix D test certificate page format (Class B instruments) (13)

Appendix E test results in the notice page format (A type instrument) (15)

Appendix F test results in the notice page format (B equipment category) (17)

G carbon tetrachloride purification and testing methods Appendix (19)

Introduction

JJG 950-2012 is JJG 950-2000 revised version. Compared with JJG 950-2000, except Editorial changes outside the main technical changes are as follows.

--- Increased introduction;

--- This procedure is in accordance with the measured infrared GB/T 16488-1996 "water quality oil and animal and vegetable oils light Degree Law "oil in water concentration analyzer analysis methods were developed;

--- Increased infrared spectrophotometry instrument test content;

--- Added Appendix carbon tetrachloride purification and test methods;

--- The procedures referenced ASTM D3921-96 "oil, grease and petroleum hydrocarbons in water Standard Test Method

"(Standard Test Method for Oil and Grease and Petroleum Hydrocarbons in Water).

Oil in water concentration analyzer test procedures

1 Scope

The order applies to the principles of the water by infrared spectrophotometry oil concentration analyzer initial verification, use and subsequent verification Check.

2 Overview

Oil in water by infrared spectrophotometry concentration analyzer (hereinafter referred to as the oil content analyzer) is based on the molecules of the substance in the infrared region Characteristic absorption spectra and Lambert - Beer law, the extracted oil in water measurement points after the instrument. Water and oil through tetrachloride Carbon extraction in the wave number of 2930cm⁻¹ (CH₂ groups CH bond stretching vibration), 2960cm⁻¹ (Stretching vibration CH₃ groups CH bond) and 3030cm⁻¹ (aromatic CH bond stretching vibration) all or part of the characteristic absorption bands, carbon tetrachloride extraction agent in the feature area no absorption peaks characteristic absorption material Mainly oil, animal and vegetable oils, and its content from the absorbance at the characteristic bands are calculated.

Oil Analyzer into infrared spectrophotometry oil content analyzer (hereinafter referred to as Class A equipment) and non-dispersive infrared spectrophotometric measurement Oil

meter (hereinafter referred to as Class B instruments) categories.

A class instrument, you can wave number scanning, quantitative measurement of oil in multiple infrared absorption characteristics, such as the wave number 2930cm⁻¹, 2960cm⁻¹ and characteristic peaks at 3030cm⁻¹ is. Such equipment by using the experimental method is divided into Room, three kinds of portable and on-line.

Class B instruments fixed wave number, usually only the feature 2930cm⁻¹ absorption at 3.4μm or measured.

3 metering performance requirements

3.1 A class instrument

3.1.1 Indication error Measuring range ≤10mg/L, the indication error does not exceed ± 0.8mg/L;

Measuring range > 10mg/L, the indication error does not exceed ± 8%.

3.1.2 Repeatability

Not more than 2% repeatability.

3.1.3 Drift

Laboratory equipment, portable instruments continuously running 30min, online instrument run continuously 3h, zero drift does not exceed Over ± 0.5mg/L, show drift of no more than ± 5%.

3.1.4 The minimum detectable concentration the minimum detectable concentration of not more than 0.5mg/L.

3.1.5 Effect of the supply voltage Using alternating current equipment, when the power supply voltage variation is within ± 10% of rated voltage, showing the value of the instrument error the difference shall meet the requirements of 3.1.1.

3.2 Class B instruments