



**National Metrological Verification  
Procedures of the People's Republic of  
China**

JJG 1094-2013

---

**Water Quality On-line Analyzers of Total  
Phosphorus and Total Nitrogen**

**总磷总氮水质在线分析仪**

**Issued on November 28, 2013**

**Implemented on February 28, 2014**

---

**Issued by the State Administration of Quality Supervision, Inspection  
and Quarantine**

**National Metrological Verification Procedures  
of the People's Republic of China**



---

**Jurisdiction unit:** National Technical Committee on Environment  
Stoichiometry

**Main drafting unit:** Zhejiang Province Institute of Metrology

**Drafting participation units:** Focused Photonics (Hangzhou) Inc.  
Zhejiang Province Environmental Monitoring Center

**This regulation is interpreted by National Technical Committee on Environment  
Stoichiometry upon entrustment.**

**Main drafters of this regulation:**

Lin Zhen (Zhejiang Province Institute of Metrology)

Zhang Xiao (Zhejiang Province Institute of Metrology)

**Drafting participators:**

Wang Jing (Focused Photonics (Hangzhou) Inc.

Xu Yuanyuan (Zhejiang Province Institute of Metrology)

Fu Jun (Zhejiang Province Environmental Monitoring Center)

# Contents

<b>Introduction</b> .....	1
<b>1 Scope</b> .....	2
<b>2 Overview</b> .....	2
<b>3 Metering performance requirements</b> .....	2
<b>4 General technical requirements</b> .....	3
<b>4.1 Appearance and power-on inspection</b> .....	3
<b>4.2 Security requirements</b> .....	3
<b>5.1 Verification conditions</b> .....	4
<b>5.2 Verification items</b> .....	4
<b>5.3 Verification method</b> .....	5
<b>5.4 Verification results handling</b> .....	7
<b>5.5 Verification cycle</b> .....	7
<b>Annex A Preparation of standard solution</b> .....	8
<b>Annex B Original Records of Water Quality On-line Analyzers of Total Phosphorus and Total Nitrogen</b> .....	10
<b>Annex C Inside Page Format of Verification Certificate/Verification Results</b> .....	13

## **Introduction**

This regulation is developed in accordance with the provisions in JJF 1002 - 2010 “The Rules for Drafting National Metrological Verification Regulation”, JJF 1001 - 2011 “General Terms in Metrology and Their Definitions” and JJF 1059.1 - 2012 “Evaluation and Expression of Uncertainty in Measurement”.

Technical indicators of this regulation refer to relevant contents of HJ/T 102 - 2003 “The technical requirement for water quality automatic analyzer of total nitrogen” and HJ/T 103 - 2003 “The technical requirement for water quality automatic analyzer of total phosphorous”.

This regulation is developed for the first time.

# **Verification Regulation of Water Quality On-line Analyzers of Total Phosphorus and Total Nitrogen**

## **1 Scope**

This regulation applies to initial verification, follow-up verification and in-use inspection of water quality on-line analyzers of total phosphorus and total nitrogen.

## **2 Overview**

The instruments are divided into instruments for separate measurement of total phosphorus or total nitrogen and integrated measuring instrument of total phosphorus and total nitrogen, used to automatically and continuously measure total phosphorus concentration and total nitrogen concentration in surface water, domestic sewage, industrial waste water and other water bodies.

Total phosphorus measurement adopts ammonium molybdate spectrophotometric method; use oxidizing agent to turn phosphorus and oxygen contained into orthophosphate, which generates blue complex after reaction with color developing agent; obtain total phosphorus content through measuring the absorbance value at a specific wave length.

Total nitrogen measurement mainly adopts alkaline potassium digestion UV spectrometry and hydrazine sulfate reduction visible spectrophotometry. The former uses oxidizing agent to turn nitrogen compounds in water to nitrate and obtains total nitrogen content through measuring absorbance value at a specific wavelength; the latter first oxidizes nitrogen-containing compound, and then reverts to nitrite for color reaction and obtains total nitrogen content through measuring absorbance value at a specific wavelength. In addition, total nitrogen measurement may also adopt chemiluminescence method or other methods.

The instrument is mainly composed of sampling system, aqueous sample treatment system, detection system and data acquisition, processing and transmission system, etc.

## **3 Metering performance requirements**

See table 1 for metering performance of the instrument.

---

---

**完整版本请在线下单/Order Checks Online for Full version**

**联系我们/or Contact:**

TEL: 400-678-1309

QQ: 19315219 | Skype: Lancarver

Email : [info@lancarver.com](mailto:info@lancarver.com)

<http://www.lancarver.com>

---

---

**线下付款方式 :**

**I. 对公账户 :**

**单位名称 :** 北京文心雕语翻译有限公司

**开户行 :** 中国工商银行北京学清路支行

**账 号 :** 0200 1486 0900 0006 131

---

---

**II. 支付宝账户 : [info@lancarver.com](mailto:info@lancarver.com)**

**III. Paypal: [info@lancarver.com](mailto:info@lancarver.com)**

---

---

注: 付款成功后, 请预留电邮, 完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱, 如需索取发票, 下单成功后的三个工作日内安排开具并寄出, 预祝合作愉快!

**NOTE** All documents on the store are in electronic Adobe Acrobat PDF format, there is not sell or ship documents in hard copy. Mail the order and payment information to [info@lancarver.com](mailto:info@lancarver.com), you will shortly receive an e-mail confirming your order.

---

