Silicate Analyzer

User Manual

CAS TECHNOLOGY
中科特肯

CONTENT

1 Overview 3
1.1 Instrument Appearance 3
1.2 Applicable Standard 3
1.3 Main Functions and Features 3
2 Technical Specifications 4
3 Working Principle 5
4 Instrument Installation 6
4.1 Accessory Inspection 6
4.2 Instrument Installation 7
5 Instrument Operation 8
5.1 Display Description 8
5.2 Function Menu and Settings 9
6 Water Sample Measurement 19
6.1 Color Development Method for Water Samples 19
6.2 Measurement Method for Water Samples 19
7 Attention 20
8 Troubleshooting of Common Instrument Faults 21
9 Solution Preparation 22
9.1 Analytical Method with Ammonium Ferrous Sulfate as Reducing Agent 22
9.2 Analytical Method with 1-Amino-2-naphthol-4-sulfonic Acid as Reducing Agent 23
9.3 Preparation of Standard Solution 24
9.4 Steps for Preparing Color Developing Solution 24
9.5 "Reverse Reagent Addition" Solution 25
About Zhongke Tk 26

1 Overview

The silicate analyzer is one of the laboratory photocolorimetric analytical instruments produced by our company, designed for the analysis and detection of soluble silicon dioxide and silicate content in water. The instrument housing is made of ABS material, featuring high durability and water resistance. The display adopts a high-resolution 7-inch color display module; all data, interfaces and operation prompts can be displayed in both Chinese and English, with the characteristics of easy understanding and simple operation. The current measured values can be saved as required.

1.1 Instrument Appearance

See Figure 1-1 for the instrument appearance. The silicate analyzer consists of a main unit, power cord, drain pipe, and sample cup (with bracket).

Figure 1-1

1.2 Applicable Standard

GB/T12149-2007 *Determination of Silicon in Industrial Circulating Cooling Water and Boiler Feed Water*

1.3 Main Functions and Features

(1) The instrument adopts a high-brightness monochromatic cold light source with excellent performance, stable signal, low power consumption and long service life.

(2) Measured data is directly readable for easy reading.

(3) Unique blank calibration function, which can be completed with pure water only, greatly simplifying the calibration process.

(4) Concise full Chinese prompt menu for easy understanding and operation.

(5) Press the storage key on the measurement interface, the instrument automatically stores the silicate concentration value and time on the measurement interface, and can store 200 sets of data.

(6) Displays the current time to provide a time reference for the recording function.

Notes:

1. The user manual must be read in detail before operating the instrument.

2. All values in the pictures of this manual are illustrative examples and shall not be used as reference data.

3. In case of any discrepancy between the manual and actual operation, the instrument shall prevail.

2 Technical Specifications

Display: 1024×600 touch screen, Chinese/English;

Repeatability: ≤ 1%;

Measurement Range: (0.00～200.00) μg/L; (0.00～2000) μg/L (optional);

Indicated Value Error: ±2%F.S;

Resolution: 0.1μg/L;

Ambient Temperature: (5～45)℃;

Ambient Humidity: ≤ 90%RH (no condensation);

Overall Dimension: 400mm×180mm×260mm;

Power Supply: AC (220±22) V, Frequency (50±1) Hz;

Power: 30W;

Weight: 4kg;

3 Working Principle

Under the condition of pH 1.1～1.3, soluble silicon in water reacts with ammonium molybdate to form a yellow silicomolybdenum complex. The silicomolybdenum complex is reduced to silicomolybdenum blue using 1-amino-2-naphthol-4-sulfonic acid (1-2-4 acid) or ammonium ferrous sulfate as a reducing agent, and the silicon content is determined by the silicate analyzer.

Note: Adding oxalic acid as a masking agent can prevent interference from phosphate and a small amount of iron ions in water.

The instrument measures based on the photocolorimetric principle. According to the Lambert-Beer Law: When a beam of monochromatic parallel light passes through a colored solution, part of the light energy is absorbed by the solution. If the thickness of the liquid layer remains unchanged, the degree of light energy absorption (absorbance A) is proportional to the concentration of the colored substance in the solution. Its mathematical expression is:

$$\lg \frac{I_o}{I} = K \cdot C \cdot L \text{ 或 } A = K \cdot C \cdot L$$

I_0 — Incident light intensity

I— Transmitted light intensity

C — Concentration of colored substance

L — Thickness of colored solution

K — Constant (related to solution properties and incident light wavelength)

A — Absorbance

4 Instrument Installation

4.1 Accessory Inspection

After unpacking, check the instrument model, specification and the quantity of accessories according to the packing list. The accessories are listed in Table 1:

Table 1

Name	Model	Unit	Quantity
Silicate Analyzer	-	Set	1
Power Cord	-	Piece	1
Fuse	-	Piece	2
Drain Pipe	-	Meter	1
Sample Cup and Bracket	-	Set	1
Silicate Standard Solution	-	Bottle	1
Operation Manual	-	Copy	1
Certificate of Conformity	-	Copy	1
Warranty Card	-	Copy	1

Notes:

1. Open the instrument packing box and check for damage to the instrument;

2. Verify the instrument model and accessories against the packing list.

4.2 Instrument Installation

1. Location Requirements

(1). The instrument shall be placed on a flat, clean and dust-free workbench;

(2). The installation location of the instrument shall be free from large vibrations;

(3). The instrument shall be placed away from harmful gases or areas with liquid dripping;

(4). Ensure that the power cord does not come into contact with high-temperature or abrasive objects.

2. Instrument Installation

(1). Place the instrument steadily on the workbench, take out the instrument reagent cup assembly from the packing box, then loosen the fastening screw of the reagent cup bracket counterclockwise and remove the bracket, as shown in Figure 4.2.1:

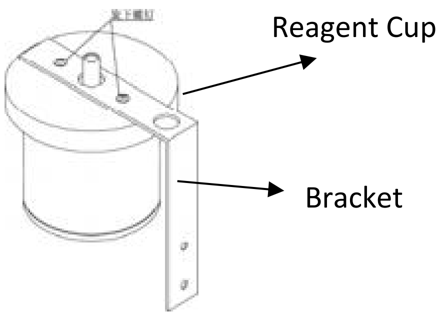


Figure 4.2.1

(2). Reverse the bracket by 180° and fasten it with the removed screw, as shown on the left of Figure 4.2.2; when installing the bracket, note that the side of the reagent cup cover with screws shall face left to facilitate reagent addition, as shown on the right of Figure 4.2.2:

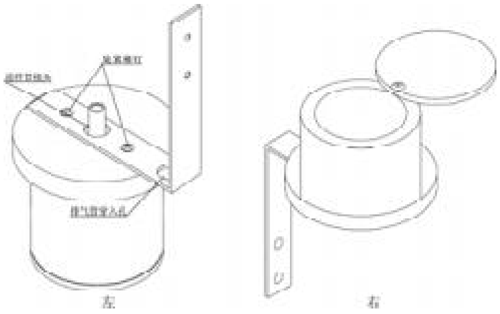


Figure 4.2.2

3. Connect the power cord to the AC 220V three-pin socket of the instrument; the instrument shall have a good grounding condition. After all preparations are completed, turn on the power switch of the instrument to start up, as shown in Figure 4.2.3:

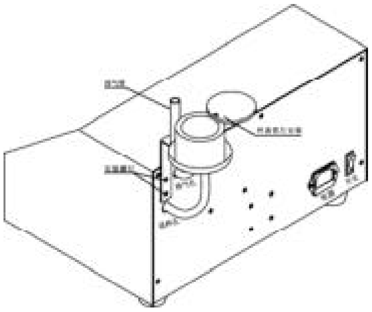


Figure 4.2.3

5 Instrument Operation

5.1 Display Description

After connecting the instrument power supply and turning on the power switch, a welcome screen will appear first, as shown in Figure 5.1.1:

欢迎使用

WELCOME

Figure 5.1.1

The main interface will be entered after 2 seconds, as shown in Figure 5.1.2:


2025-03-14 15:04:00

Figure 5.1.2 (Measurement / Data Records / Calibration Records / Settings /)

5.2 Function Menu and Settings

5.2.1 Measurement

Touch and select the "Measurement" item on the main interface (Figure 5.1.2), as shown in Figure 5.2.1. The corresponding function interface will be entered, as shown in Figure 5.2.2:


2025-07-04 10:51:57 Friday

计时器一： 300 s

10.2 ug/L 稳定

本底功能： close

本底： 3.6

Figure 5.2.2

(1) Reagent Addition Timing

Since the addition of reagents during water sample color development requires a reaction waiting time, this function is set on the instrument. On the interface of Figure 5.2.2, select the corresponding timer directly to start the countdown, as shown in Figure 5.2.3:


2025-07-04 10:55:03 Friday

计时器一： 296 s

10.2 ug/L 稳定

本底功能： close

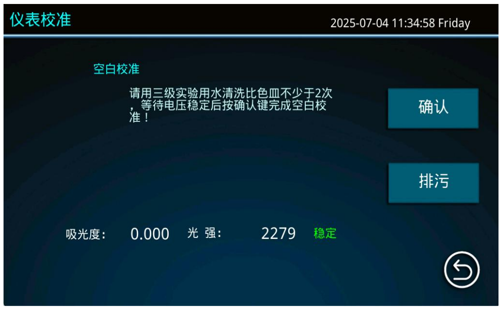
本底： 3.6

Figure 5.2.3

An alarm will sound when the countdown ends; press the corresponding timer button to cancel the alarm.

(2) Blank Calibration

This function is mainly used to correct the instrument's electrical drift, optical drift, temperature drift, etc., to ensure the accuracy of measured data. It is recommended to perform blank calibration before the instrument measures samples to eliminate instrument errors. On the interface of Figure 5.2.2, press "Blank" to enter the blank calibration interface. According to the interface prompts, clean the cuvette through injection and drainage operations with high-purity water, then inject an appropriate amount of high-purity water again. After the voltage value is stable, click the "Confirm" button to complete the calibration and automatically return to the measurement interface, as shown in Figure 5.2.4:


仪表校准

2025-07-04 11:34:58 Friday

空白校准

请用三级实验用水清洗比色皿不少于2次，等待电压稳定后按确认键完成空白校准！

吸光度： 0.000 光 强： 2279 稳定

Figure 5.2.4

Note: The user does not need to perform curve calibration frequently, only blank calibration in daily use is required.

(3) Data Storage

Press the "Store" key on the measurement interface (Figure 5.2.2), the interface will automatically jump to the data record interface for viewing after successful storage, as shown in Figure 5.2.5:

2025-07-04 11:14:11 Friday

数据记录

序　号：1

数　值：3.7 ug/L

储存时间：2024-04-03 13:46:59

Figure 5.2.5

(4) Printing

Press the "Print" key on the measurement interface (Figure 5.2.2), the thermal printer will automatically print the measurement results for viewing, as shown in Figure 5.2.6:

2025-07-04 13:22:42 Friday

计时器一：480 s

10.0 ug/L

稳定

本底功能：close

本底：3.6

Figure 5.2.6

(5) Instrument Drainage

Press the "Drain" key on the measurement interface (Figure 5.2.2), the instrument will automatically discharge the measured water sample, and the drainage time will be displayed in the upper left corner (10s drainage countdown), which will be hidden automatically after the countdown ends, as shown in Figure 5.2.7:


2025-07-04 11:16:15 Friday

正在排污：10s

计时器一： 300 s

10.2

稳定

ug/L

本底功能： close

本底： 3.6

Figure 5.2.7

5.2.2 Data Records

Press "Data Records" on the main menu (Figure 5.1.2) to enter the data record viewing interface. This item mainly provides viewing of stored data and export to a USB flash drive, as shown in Figure 5.2.8:


2025-07-04 11:14:11 Friday

数据记录

序 号： 1

数 值： 3.7 ug/L

储存时间： 2024-04-03 13:46:59

Figure 5.2.8

5.2.3 Calibration Records

Press the "Calibration Records" option on the main menu (Figure 5.1.2) to enter the calibration record viewing interface, where the instrument calibration records can be viewed and generated automatically, as shown in Figure 5.2.9:


2025-07-04 16:40:30 Friday

校准记录

序 号： 1

本底数值： 3.7

校准零点： -9.8

校准斜率： 324.9

校准时间： 2024-04-03 13:46:59

Figure 5.2.9

5.2.4 Settings

Press the "Settings" option on the main menu (Figure 5.1.2) to enter the setting interface, where corresponding parameters can be set, as shown in Figure 5.2.10:

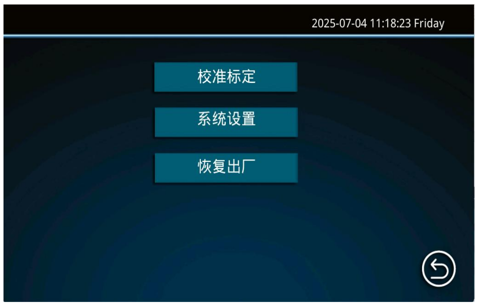


Figure 5.2.10

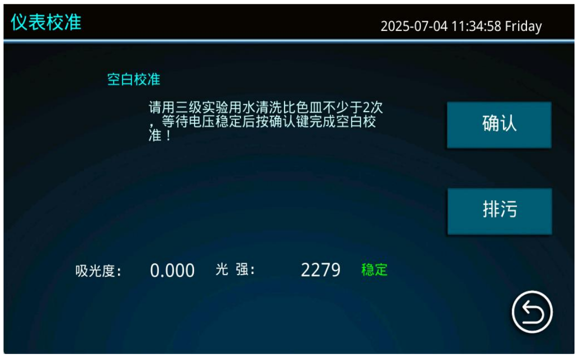
(I) Calibration

The instrument must be subjected to curve calibration when used for the first time or not used for a long time to ensure the accuracy and reliability of measured data. After preparing the colored standard solution, press "Calibration " in the settings menu (Figure 5.2.10) to perform calibration and enter the blank calibration interface, as shown in Figure 5.2.11:

Recommendation: Perform a blank calibration before each measurement to improve the accuracy of measurement results.

Note: For the preparation method of standard solution and color developing reagent required for instrument calibration, please refer to Chapter 9 Appendix - Solution Preparation. The instrument adopts at least two-point calibration; it is recommended that the user perform at least the second standard solution calibration, i.e., two concentration points of 10μg/L and 80μg/L. The second point can be selected according to actual conditions (10μg/L and 1600μg/L for 0-2000μg/L range).

① Blank Calibration



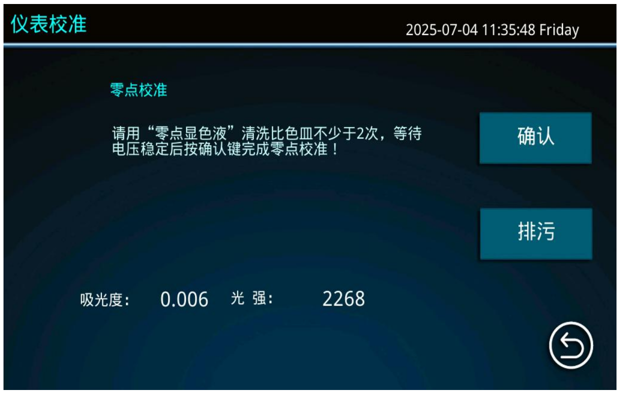
空白校准

请用三级实验用水清洗比色皿不少于2次，等待电压稳定后按确认键完成空白校准！

吸光度： 0.000 光 强： 2279 稳定

Figure 5.2.11

According to the interface prompts, add high-purity water from the instrument sample cup. After the overflow of the instrument drain pipe ends, press the "Drain" key to discharge the water. Repeat the operation twice to complete the cuvette cleaning. Add pure water again, and after the voltage value is stable (generally, the fluctuation is no more than ±1mV), press the "Confirm" key to complete the blank calibration and enter the zero calibration interface at the same time, as shown in Figure 5.2.12:



零点校准

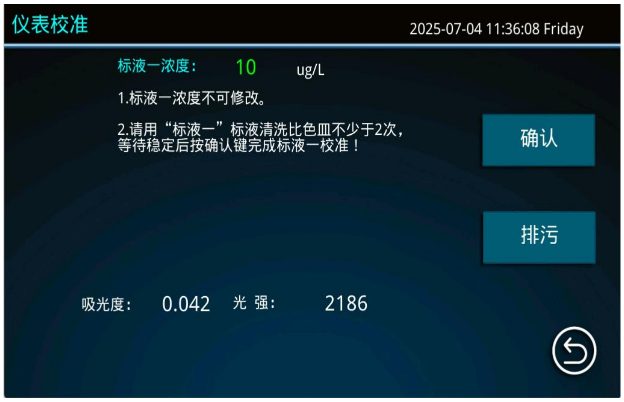
请用“零点显色液”清洗比色皿不少于2次，等待电压稳定后按确认键完成零点校准！

吸光度： 0.006 光 强： 2268

Figure 5.2.12

② Zero Calibration

According to the interface prompts, add the "reverse reagent addition" solution from the instrument sample cup. After the overflow of the instrument drain pipe ends, press the "Drain" key to discharge the solution. Repeat the operation twice to complete the cuvette cleaning. Add the "reverse reagent addition" solution again, and after the voltage value is stable, press the "Confirm" key to complete the reverse reagent addition calibration and enter the standard solution 1 calibration interface at the same time, as shown in Figure 5.2.13:



标液一浓度： 10 ug/L

1.标液一浓度不可修改。

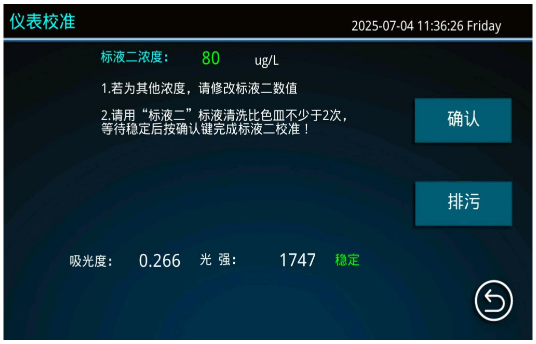
2.请用“标液一”标液清洗比色皿不少于2次，
等待稳定后按确认键完成标液一校准！

吸光度： 0.042 光 强： 2186

Figure 5.2.13

③ Standard Solution 1 Calibration

According to the interface prompts, add the colored standard solution with a concentration of 10μg/L from the sample cup. After the overflow of the instrument drain pipe ends, press the "Drain" key to discharge the standard solution. Repeat the operation twice to complete the cuvette cleaning. Add "Standard Solution 1" again, and after the voltage value is stable, press the "Confirm" key to complete the standard solution 1 calibration and enter the standard solution 2 calibration interface at the same time, as shown in Figure 5.2.14:



标液二浓度： 80 ug/L

1.若为其他浓度，请修改标液二数值

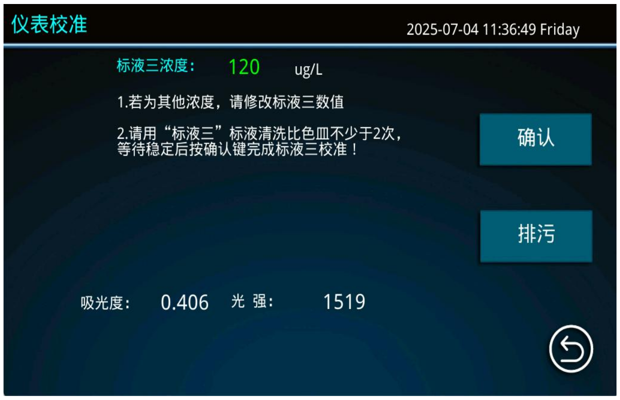
2.请用“标液二”标液清洗比色皿不少于2次，
等待稳定后按确认键完成标液二校准！

吸光度： 0.266 光 强： 1747 稳定

Figure 5.2.14

④ Standard Solution 2 Calibration

According to the interface prompts, add the colored standard solution with a concentration of 80μg/L from the sample cup (80μg/L by default, the concentration can be modified, greater than standard solution 1 and less than the maximum range. If you want to modify the concentration of standard solution 2 at this time, change the number 80 to the desired value). After the overflow of the instrument drain pipe ends, press the "Drain" key to discharge the standard solution. Repeat the operation twice to complete the cuvette cleaning. Add "Standard Solution 2" again, and after the voltage value is stable, press the "Confirm" key to complete the standard solution 2 calibration and enter the standard solution 3 calibration interface at the same time, as shown in Figure 5.2.15:



仪表校准

2025-07-04 11:36:49 Friday

标液三浓度： 120 ug/L

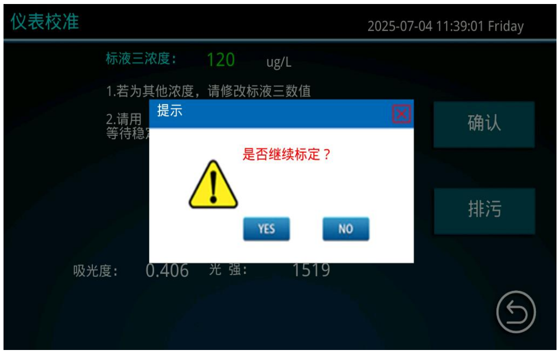
1.若为其他浓度，请修改标液三数值

2.请用“标液三”标液清洗比色皿不少于2次，
等待稳定后按确认键完成标液三校准！

吸光度： 0.406 光 强： 1519

Figure 5.2.15

On the standard solution 3 interface, press "Return" to prompt whether to continue calibration. Press the "YES" key to continue calibration and enter the standard solution 3 calibration prompt interface. Press the "NO" key to end the calibration, as shown in Figure 5.2.16:



仪表校准

2025-07-04 11:39:01 Friday

标液三浓度： 120 ug/L

1.若为其他浓度，请修改标液三数值

2.请用
等待稳

提示

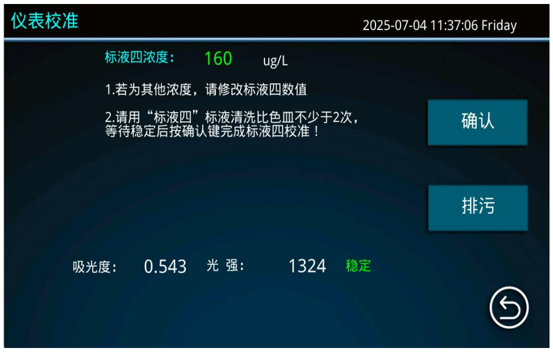
是否继续标定？

吸光度： 0.406 光 强： 1519

Figure 5.2.16

⑤ Standard Solution 3 Calibration

According to the interface prompts, add the colored standard solution with a concentration of 120μg/L from the sample cup (120μg/L by default, the concentration can be modified, greater than standard solution 1 and less than the maximum range. If you want to modify the concentration of standard solution 3 at this time, change the number 120 to the desired value). After the overflow of the instrument drain pipe ends, press the "Drain" key to discharge the standard solution. Repeat the operation twice to complete the cuvette cleaning. Add "Standard Solution 3" again, and after the voltage value is stable, press the "Confirm" key to complete the standard solution 3 calibration and enter the standard solution 4 calibration interface at the same time, as shown in Figure 5.2.17:


仪表校准

2025-07-04 11:37:06 Friday

标液四浓度： 160 ug/L

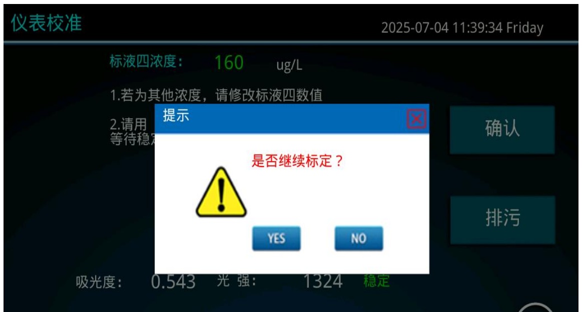
1.若为其他浓度，请修改标液四数值

2.请用“标液四”标液清洗比色皿不少于2次，
等待稳定后按确认键完成标液四校准！

吸光度： 0.543 光 强： 1324 稳定

Figure 5.2.17

On the standard solution 4 interface, press "Return" to prompt whether to continue calibration. Press the "YES" key to continue calibration and enter the standard solution 4 calibration prompt interface. Press the "NO" key to end the calibration, as shown in Figure 5.2.18:


仪表校准

2025-07-04 11:39:34 Friday

标液四浓度： 160 ug/L

1.若为其他浓度，请修改标液四数值

2.请用
等待稳

提示

是否继续标定？

吸光度： 0.543 光 强： 1324 稳定

Figure 5.2.18

⑥ Standard Solution 4 Calibration

According to the interface prompts, add the colored standard solution with a concentration of 160μg/L from the sample cup (160μg/L by default, the concentration can be modified, greater than standard solution 3 and less than the maximum range. If you want to modify the concentration of standard solution 4 at this time, change the number 160 to the desired value). After the overflow of the instrument drain pipe ends, press the "Drain" key to discharge the standard solution. Repeat the operation twice to complete the cuvette cleaning. Add "Standard Solution 4" again, and after the voltage value is stable, press the "Confirm" key to complete the standard solution 4 calibration and automatically enter the calibration record interface to display the calibration results, as shown in Figure 5.2.19:

2025-07-04 16:40:30 Friday

校准记录

序　号：1
本底数值：3.7
校准零点：-9.8
校准斜率：324.9
校准时间：2024-04-03 13:46:59

Figure 5.2.19

(II) Parameter Settings

To eliminate the influence of background silicon in the standard solution on the concentration and make the measurement more accurate, this function is set to realize background compensation. This function has two options (On/Off) for selection, as shown in Figure 5.3.19. It is recommended that the user turn on this function during measurement, especially for the measurement of samples with low silicon content. After each instrument calibration, the instrument will automatically calculate the background silicon content in the calibration solution, and the background value will be displayed on the test interface.

Figure 5.2.20

6 Water Sample Measurement

6.1 Color Development Method for Water Samples

① Take 100mL of the water sample to be tested and pour it into a plastic cup, add 3mL of Reagent 1, shake well and let stand for 5 minutes;

② Add 3mL of Reagent 2, shake well and let stand for 1 minute;

③ Add 2mL of Reagent 3, shake well and let stand for 8 minutes, the color development of the water sample is completed.

6.2 Measurement Method for Water Samples

1. Perform blank calibration on the instrument before measuring the water sample, and then measure the water sample after the blank calibration is completed.

2. On the main measurement interface, press the drain key directly to discharge the water sample remaining in the instrument, then add the colored water sample to be tested directly into the sample cup until the drain pipe overflows, then drain the water.

Repeat the above operation 2～3 times, then add the colored water sample to be tested until the drain pipe overflows, and read the value after the displayed value is stable.

Note: Perform blank calibration on the instrument before each water sample measurement, and then conduct the sample measurement.

7 Attention

1. Do not open and repair the instrument by yourself when there is an obvious fault; contact the manufacturer in a timely manner.

2. If there is no display when the instrument is turned on, check whether the fuse at the three-pin power cord interface on the back of the instrument (Figure 7.1) is intact; if the fuse is broken, replace it.

Note: The instrument is equipped with a spare fuse at the factory, located as shown in Figure 7.1. The fuse holder only needs to be taken out for replacement.

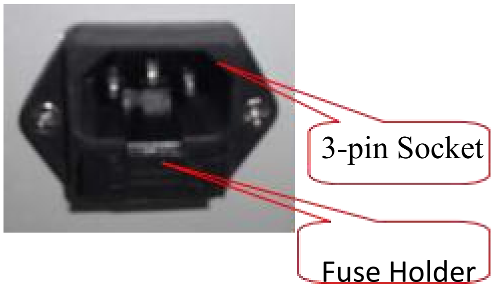


Figure 7.1

3. In case of any discrepancy between the manual and actual operation, the instrument shall prevail.

4. All reagents shall be stored in specially marked polyethylene plastic bottles. Before use, they must be thoroughly cleaned with detergent and water, and then rinsed several

times with high-quality deionized water. All reagents shall be of analytical grade or higher and within the shelf life.

5. The grade II reagent water used for preparing the solution must be high-purity pure water to minimize the measurement error caused by the contamination of grade II reagent water.

6. If too much silicate standard solution or color developing reagent is poured into the sample cup, the calibration solution shall be poured out, and the sample cup and the utensils used for preparing the solution shall be cleaned before preparation again.

7. Flush the sample injection system of the instrument with high-purity water after each instrument calibration. When no test is performed, the sample injection system of the instrument shall be filled with high-purity water to keep it moist.

8. When no test is performed, the instrument shall be placed in a dry environment to avoid unstable measurement caused by moisture.

8 Troubleshooting of Common Instrument Faults

Fault Phenomenon	**Fault Diagnosis**	**Troubleshooting Method**
1. No display when the instrument is turned on	1) Power not connected 2) Power fuse blown	1) Check if the power cord is connected 2) Replace the fuse (be sure to cut off the power first)
2. Unstable digital display	1) Short preheating time of the instrument 2) Unstable external voltage 3) Poor grounding of the	1) Improve the working environment of the instrument 2) Improve the grounding status of the instrument

Fault Phenomenon	Fault Diagnosis	Troubleshooting Method
3. Measured value is too high or too low	1) Contamination of the measurement system 2) Electrical drift	1) Flush the instrument measurement flow path with high-purity water 2) Perform curve calibration on the instrument
4. Poor drainage of the instrument	1) Clogged drainage connector 2) Folded drainage pipe	1) Flush the instrument measurement flow path with high-purity water 2) Check if the drainage pipe is folded

9 Solution Preparation

Caution: Use concentrated sulfuric acid with care. Especially when diluting concentrated sulfuric acid, add concentrated sulfuric acid **slowly into water**!

9.1 Analytical Method with Ammonium Ferrous Sulfate as Reducing Agent

(I) Acidic Ammonium Molybdate Solution

① Dissolve 50g of ammonium molybdate $[(NH_4)_6Mo_7O_{24} \cdot 4H_2O]$ in about 500mL of high-purity water.

② Add 42mL of sulfuric acid (specific gravity 1.84) to 300mL of high-purity water with constant stirring.

③ Add solution ① to solution ②, then dilute to 1L with high-purity water.

(II) 10% Oxalic Acid Solution (mass/volume)

Weigh 100g of oxalic acid and dissolve it in 1L of high-purity water.

(III) Ammonium Ferrous Sulfate Reducing Agent

Weigh 12g of ammonium ferrous sulfate [(NH4)2Fe(SO4)2•6H2O] (or 8.7g of (NH4)2Fe(SO4)2) and dissolve it in 500mL of high-purity water. After complete dissolution, add 12mL of concentrated sulfuric acid slowly with constant stirring. After cooling, dilute to 1L with water.

9.2 Analytical Method with 1-Amino-2-naphthol-4-sulfonic Acid as Reducing Agent

(I) Acidic Ammonium Molybdate Solution

① Dissolve 50g of ammonium molybdate [(NH4)6Mo7O24•4H2O] in about 500mL of high-purity water.

② Add 42mL of sulfuric acid (specific gravity 1.84) to 300mL of high-purity water with constant stirring.

③ Add solution ① to solution ②, then dilute to 1L with high-purity water.

(II) 10% Oxalic Acid Solution (mass/volume)

Weigh 100g of oxalic acid (or tartaric acid) and dissolve it in 1000mL of high-purity water.

(III) 1-Amino-2-naphthol-4-sulfonic Acid Reducing Agent

a) Weigh 1.5g of 1-amino-2-naphthol-4-sulfonic acid [H2NC10H5(OH)SO3H] and 7g of anhydrous sodium sulfite (Na2SO3), and dissolve them in about 200mL of high-purity water.

b) Weigh 90g of sodium bisulfite (NaHSO3) and dissolve it in about 600mL of high-purity water.

c) Mix solution a) and solution b), dilute to 1L with high-purity water. Filter the solution if it becomes turbid before use.

9.3 Preparation of Standard Solution

The instrument is equipped with a bottle of 10μg/mL silicate standard solution at the factory (100μg/mL silicate standard solution for large-range instruments).

The calculation formula for taking the 10μg/mL silicate standard solution is as follows:

$Cs \times Vs = Ct \times Vt$

Cs— Concentration of silicate standard solution (10μg/mL or 100μg/mL);

Vs— Volume of silicate standard solution to be taken;

Ct — Concentration of the standard solution to be prepared;

Vt— Volume of pure water to be taken.

Example: Preparation of 100mL standard solution with a concentration of 10μg/L

According to Formula 1 above, 0.1mL of 10μg/mL silicate standard solution is required to prepare 100mL of colored standard solution with a concentration of 10μg/L. First, inject a little pure water into a 100mL volumetric flask, then take 0.1mL of 10μg/mL silicate standard solution with a pipette and add it to the pure water, shake well and dilute to 100mL with pure water. Pour the above 100mL standard solution into a plastic cup, add 3mL of Reagent 1, shake well and let stand for 5 minutes; add 3mL of Reagent 2, shake well and let stand for 1 minute; add 2mL of Reagent 3, shake well and let stand for 8 minutes. The standard solution preparation is completed.

9.4 Steps for Preparing Color Developing Solution

1. Take 100mL of the solution (standard solution or water sample to be tested), add 3mL of acidic ammonium molybdate, mix well and let stand for 5 minutes;

2. Add 3mL of oxalic acid solution, shake well and let stand for 1 minute;

3. Finally, add 2mL of 1-amino-2-naphthol-4-sulfonic acid reducing agent, shake well and let stand for 8 minutes. The color development is completed.

9.5 "Reverse Reagent Addition" Solution

Inject 100mL of high-purity water into a plastic cup, first add 2mL of 1-amino-2-naphthol-4-sulfonic acid reducing agent and shake well, then add 3mL of 10% oxalic acid (or tartaric acid) solution and shake well, finally add 3mL of acidic ammonium molybdate solution and shake well.

Prompt: The reverse reagent addition solution shall be used as soon as possible within 2 minutes after preparation; otherwise slight drift may occur.

High-purity water refers to secondary deionized water with a SiO2 background lower than 5μg/L.

Note:

Use national pharmaceutical analytical grade reagents for preparing chemicals and calibration solutions. All containers (including stirrers) shall not be glass products, but plastic products; imported plastic containers are recommended for purchase

About Zhongke Tk

Zhongke Tk (Shandong) Intelligent Technology Co., Ltd.

Founded in 2015, headquartered in Jinan, Shandong, is a high-tech enterprise specializing in the R&D, production, sales and service of water quality analysis equipment.

The company has a professional R&D team. With profound expertise and rich practical experience, team members continuously drive innovation and progress in water quality analysis technology, ensuring products remain at the industry-leading level.

Zhongke Tk's products cover various water quality analyzers, including pH meters, conductivity meters, dissolved oxygen meters, multiparameter water quality analyzers, etc. The company also provides customized solutions, tailoring suitable water quality analysis equipment and monitoring plans according to customer requirements.

Adhering to the business philosophy of "Technology Innovation, Quality First, Service Supreme", Zhongke Tk continuously improves product quality and service, provides customers with suitable water quality equipment and solutions, and contributes to the development of the water quality analysis industry.

Company Info

Zhongke Tk (Shandong) Intelligent Technology Co., Ltd.

Address: Room 101-02, Building 22, Jinan Artificial Intelligence Technology Valley
(Middle Zone), No. 730 Qicai Road, Caishi Subdistrict, Licheng District, Jinan,
Shandong, P.R.China

Tel: 0531-88908220
Website: www.tekenwater.com