Ⅰ、Overview

WGZ Series scattered light turbidimeter is used to measure the insoluble particles suspended in water or a transparent liquid substance produced by the degree of scattering, and can quantitatively these suspended solids content of the particulate material of the standard card. Turbidity measurement can be widely used in power plants, purified water plant, water plant, sewage treatment plants, beverage plants, environmental protection departments, industrial water, the wine industry and the pharmaceutical industry, and epidemic prevention departments, hospitals and other departments.

Ⅱ、 the technical indicators

1, the measurement principle: 90 ° scattered light

2, measuring range: 0 ~ 200NTU

3, minimum: 0.1NTU

4, the basic error: ± 2.5% F.S

5, Repeatability: ≤ 1% F.S

6, zero drift: ± 1% F.S

7, the power fluctuations: ± 0.5% F.S

8, power supply: 220V

9, ambient temperature: 5 ~ 35 ℃, -20 ~ 55 ℃ storage

10, relative humidity: ≤ 80% RH

Ⅲ、Notes

WGZ Series scattered light turbidity meter is the photoelectric combining precision measuring instruments,

Should be read carefully before operating manual and correct operation in order to obtain accurate results.

1, the use of the environment must comply with the conditions of work.

2, measuring tanks must be prolonged clean and dry, free of dust, shading shall be sealed when not in cover.

3, humid climates, must be extended accordingly boot time.

4, the test solution should be carefully pour along the sample bottle to prevent the

generation of bubbles affect measurement accuracy.

5, replace the sample bottle to be re-calibrated after being properly serviced.

6, non-professional maintenance engineers, do not open the instrument for repair.

Ⅳ、working conditions

1, the ambient temperature is 5～35 ℃;

2, relative humidity less than 80%;

3, the frequency of the supply voltage 220V ± 22V 50 ± 0.5Hz, and has a good grounding.

4, the instrument should be placed horizontally in smooth test stand, avoid direct light;

5, around the instrument should be sufficient space to facilitate heat dissipation, and have no strong vibration source and a strong magnetic field interference;

6, no obvious dust and corrosive gases in ambient air.

Ⅴ、 measurement ready

1, turn on the power switch of the instrument to warm up for 30 minutes;

2 not drop the hair soft cloth to wipe the sample bottle water stains and fingerprints, as difficult to wipe available detergent soak, then rinse rinse;

3, ready for school petty zero turbidity water and preparation the calibration of 100NTU Formazine turbidity standard solution;

4, with a cleaning container collection to a representative sample;

Ⅵ measuring step

1, zero turbidity of the water into the sample bottle to the mark, then unscrewed the cap on the bottle and wipe the bottle of water traces and fingerprints Kai hours should also be careful not to directly take the bottle by hand, so as not to stay on Fingerprints, affect the measurement accuracy.

2, will be packed zero turbidity water sample bottle placed in the sample holder, and to ensure that the scale of the sample bottle line should be aligned with the specimen holder positioning the white line, and then covered with a light shield cover.

3, wait for the reading to stabilize and adjust the zero knob, the display to zero.

4, using the same method means calibration 100NTU standard solution, and placed within the sample holder, adjusting the correction button, causes the display of the standard value of 100.

5 Repeat 2,3,4 steps to ensure zero and the correction value is correct and reliable.

6, into the sample specimen bottles, etc. in mind the water sample turbidity value after the reading is stable.

Ⅶ、measurement techniques

Must have excellent quality in order to obtain an accurate measurement of turbidity value, in addition to the instrument itself, but also on good laboratory technicians operating skills and serious and rigorous work attitude. Such as the use of clean sample bottle, the correct way to handle, carefully remove air bubbles,

To ensure that the working conditions of the instrument, will allow more accurate measured results, more accurate, reproducibility, linearity will be better.

Sampling measurement to avoid temperature changes in particle sedimentation and water samples should be measured from the results of lack of authenticity.

2, the sample bottles must be cleaned very clean, avoid scratches leave scratches. Washed with a laboratory detergent to the inside and outside of the sample bottle, and then repeatedly rinsed with distilled water, dried in a dust-free oven, such as the use of a long time, dilute hydrochloric acid soak for two hours, and finally with distilled water repeatedly rinsing. Hold the sampling bottle can only take the bottle body the upper part, in order to avoid that the fingerprints into the optical path.

3, correctly formulated Formazine standard solution for calibration points, the turbidity measurement technology, to ensure the correct calculation, pay attention to each step in the preparation of the standard solution, uniform shaking dope, accurate pipetting pour zero turbidimeter should be noted the scale, the

turbidity standard solution should be used in large-capacity volumetric flask, to reduce formulation errors.

4, select the correct standard solution, the content should be used in the measurement process of full scale value is appropriate, and should shake it well before scaling, should ensure that the correction value is correct before measurement. Must use the same bottle of calibration and testing for the low turbidity measurement and high accuracy measurement should be considered to measure the difference between the bottles. School zero zero turbidity of the water should be used, less demanding, we can use distilled water.

5, a representative sample can accurately reflect the authenticity of the source of water. Therefore, the water samples taken from each sampling point before the measurement must be thoroughly mixed, to avoid watery settlement and larger particles. Provisioning should removal of the bubble of the vial. Measuring the low temperature of the water samples, sample bottles appreciate condensing water droplets. Therefore must be allowed to stand for a period of time prior to the measurement, the water temperature junction near room temperature, and then dry the the Jingping body of water traces.

Measurement not only to consider the correctness of the clean sample bottle sampling, at the same time to ensure the consistency of the measurement position. The bottle body tick marks should be aligned with the specimen holder positioning line, and need to cover the shading cover, to avoid stray light.

Sample measurement drift due to particulate matter in the water samples, the value will change back and forth, you can wait after a certain period of time, the value will gradually stabilize, you can read the water sample turbidity values. Also possible data has been instability, which is due to air bubbles in the water samples by excessive or suspended impurities caused. When reading, you should take the middle value, that is, the maximum display value plus the minimum display value divided by 2 to come to the middle value.

VIII、 matters needing attention

1, long time without deactivating, should be regularly warm-up for a period of time, to dispel the machine within the tidal.

2, during storage or transportation, should avoid high temperature or low temperature and damp places, in order to prevent damage to the apparatus within the optical system and electric element.

3, regular cleaning the sample bottles and removal of sample holder in the dust, can effectively improve the accuracy of measurement, cleaning, can't scratch the glass surface.

4, in the optical element can not be directly touched by hands, so as not to affect the light through rate. Maintenance, usable cotton dipped in alcohol and ether mixture liquid to erase the dust on the surface of.

IX、 maintenance and repair

Maintain.

Correct measurements and regular maintenance can prolong the service life of equipment.

1, long time without deactivating, should be regularly warm-up for a period of time, to dispel the machine within the tidal.

2, during storage or transportation, should avoid high temperature or low temperature and damp places, in order to prevent damage to the apparatus within the optical system and electric element.

3, regular cleaning the sample bottles and removal of sample holder in the dust, can effectively improve the accuracy of measurement, cleaning, can't scratch the glass surface.

4, machine of the optical elements can not directly with the hand touch, so as not to affect the light through rate. Maintenance, usable cotton with alcohol and ether mixture liquid to erase the dust on the surface of. (in general do not need maintenance)

Overhaul.

Failure phenomenon	Possible causes	Repair method
1,after starting up, display	A 、 power line and socket connection is bad or loose	A、fastening socket or for power line
2,measuring reaction	A, light damage B, internal connector loose C, electrical system fault	A, replacement B, fastening C, maintenance
3,measurement instability or drift	A, solution with bubbles or particles in does not stop moving B, circuitry within the apparatus of damp C, the outer surface of the bottle water sample D, external interference E, the supply voltage instability of	A, re-sampling or extended reading time B, prolonging start prehea Time preheating dehumidification C, dry specimen bottle D, eliminating the interference source E, exclusion of unstable factors
4.zero, less than zero	A, adjustable zero without the use of zero turbidity water B, zero potentiometer damage C, zero range migration D, light path offset	A, should adopt zero turbidity water B, replacement potentiometer C, W2 potentiometer adjustment board D, adjustment
5,not to the correction value	A, standard solution standard value is not accurate B, correction potentiometer is damaged C, range migration correction D, light path offset	A, accurate preparation of standard solution B, replacement C, W1 potentiometer adjustment board D, adjustment
6.short stroke	A, due to the transport screen vibration caused by poor contact B, LCD LCD screen damage C, circuit board fault C、Circuit board failure	A, check B, replacement C, maintenance

Warranty issues:

In the user compliance apparatus provides a method of operation, for users to purchase within one year of the date of manufacturing quality problems, because of being damaged or cannot work, factory is responsible for free repair for the user; because of improper use of the user and damage to equipment, factory is charged for parts and labor costs; warranty products, manufacturing plant responsible for the maintenance of life.

X、a package box

1, turbidity meter 1

2, the specimen bottle 3

3, 400NTU foal horse hydrazine (Formazine) turbidity standard solution . 1

4, manual, certification, warranty card information 1

5, power line 1

Appendix 1

Zero turbidity water preparation

With reference to the international standard as specified in the ISO7027 method, selection of aperture 0.1um (or 0.2um) microporous membrane filtration of distilled water (or water, electrodialysis ion exchange water), the need for repeated filter more than two times, the filtrate is used for calibrating zero turbidity water. The water stored in clean, and the water flushing after the glass bottle.

Zero turbidity water used for turbidity meter zero adjustment and foal horse hydrazine (Formazine) standard solution dilution.

Appendix 2

Foal horse hydrazine (Formazine) turbidity standard solution preparation

1, nephelometer test was used in the State Bureau of Technical Supervision issued by the Formazine standard substance, such as GBW12001 400 (NTU, FTU) turbidity (Formazine) standard material, fixed value uncertainty± 3%, effectively use the period of 1 years.

Different turbidity value of Formazine standard solution, with zero turbidity water and certified by the volumetric apparatus, according to the proportion of accurate dilution Formazine turbidity standard substances and.

400NTU Formazine standard material to be stored in the refrigerator refrigerating chamber (4-8 ℃) and low temperature preserved without light, has been diluted to low turbidity value of standard solution of unstable, should not be saved, should be with the use of the match.

In 2, when it is difficult to achieve Formazine standard substance, according to " ISO7027 " set by the methods of preparation, strict control condition and the reagent dosage, method of excerpts:

2.1 instruments and reagents

Analysis of balance: load sense 200g, 0.1mg certified.

Capacity: 100ml, a bottle, certified.

A pipette: 5ml, a, certified.

Hydrazine sulfate (N2H6SO4): analysis of pure, purity should be greater than 99%.

Six methyl four amine (C6H12N4): analysis of pure, purity should be greater than 99%.

Constant temperature box (or water bath box): volume can accommodate 200ml volumetric flask, temperature 25± 1℃, continuous operation 24h