

WATER QUALITY ANALYSIS / DATA SHEET

SW31-01

DESKTOP HIGH PRECISION WATER QUALITY ANALYZER

Desktop high-precision analyzer for multi-item colorimetric water-quality testing, data storage and scientific analysis.

Overview

SW31-01 uses high-brightness LED cold-light sources, photoelectric sensors and an advanced optical system designed for stable optical performance and reliable test results. A high-resolution 7-inch touch color screen, user-oriented interface, intelligent curve recognition and straightforward operation support professional and non-professional users in scientific research, data analysis and water-quality testing.



7-inch TOUCH COLOR SCREEN	-3.5-3.5 Abs ABSORBANCE DETECTION	0.001 Abs ABSORBANCE RESOLUTION	200,000 h LIGHT SOURCE LIFE
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FEATURES & APPLICATIONS

Key Features & Applications

Key Features

- Intelligent water-quality testing system; system upgrade.
- NFC curve recognition system; three-in-one colorimetric system.
- High-quality LED cold-light source; professional reagents.
- Configurable thermal printer; bidirectional full-plane optical path design.
- Data storage function; intelligent operating system.

Application Areas

- University research; environmental testing; wastewater treatment.
- Biomedicine; printing and dyeing textiles; metallurgy and steel.
- Petrochemical; aquaculture; precision electronics.

MEASUREMENT PRINCIPLE

Optical and Colorimetric Measurement

SW31-01 combines high-brightness LED cold-light sources, photoelectric sensors and a bidirectional full-plane optical path. Its three-in-one colorimetric system and NFC curve-recognition system support multi-item water-quality testing; the available methods and digestion conditions are listed in the technical tables.

TECHNICAL SPECIFICATIONS

Technical Parameters

Parameter	Specification
Absorbance Detection	-3.5-3.5 Abs
Measurement Accuracy	$\leq \pm 5\%$
Repeatability	$\leq \pm 3\%$
Turbidity Accuracy	$\leq \pm 1$ NTU or $\pm 5\%$, whichever is greater
Chroma Accuracy	$\leq \pm 4$, < 70 ; $\leq \pm 5\%$, > 70
Optical Path Stability	≤ 0.002 Abs/30 min
Absorbance Resolution	0.001 Abs
Operation Repeatability	$\leq \pm 0.005$ Abs

Parameter	Specification
Storage Data	40,000 pcs
Light Source Life	200,000 hours
Power Supply	DC 24 V / 2.5 A; power consumption <11 W
Usage Environment	Temperature: 0-50 °C; relative humidity: 0-90% RH (non-condensing)
Dimensions	412 x 253 x 164 mm
Weight	Net weight 4.6 kg; gross weight 6.6 kg
Storage Temperature	-10-60 °C; relative humidity 0-90% RH (no condensation)

TEST METHODS

Primary Test Methods

Test Item	Method	Measuring Range	Digestion Temperature
COD	Potassium dichromate method	0-15,000 mg/L	165 °C, 20 min
COD	Potassium permanganate method	0-25 mg/L	100 °C, 30 min
Ammonia Nitrogen	Salicylic acid method	0-50 mg/L	No digestion required
Ammonia Nitrogen	Nessler's reagent method	0-100 mg/L	No digestion required
Total Phosphorus	Ammonium molybdate method	0-20 mg/L	150 °C, 15 min
Total Nitrogen	Thymol method	0-500 mg/L	125 °C, 30 min

SUPPORTED TEST ITEMS

Test Items and Measuring Ranges

No.	Test Item	Range	No.	Test Item	Range
1	COD	0-15,000 mg/L	28	Total Chromium	0-3 mg/L
2	COD (High Chloride)	0-400 mg/L	29	Copper	0-2 mg/L
3	CODMn (Permanganate Index)	0-25 mg/L	30	Total Copper	0-4 mg/L
4	Ammonia Nitrogen (Salicylic Acid)	0-50 mg/L	31	Ferrous Iron	0-3 mg/L
5	Ammonia Nitrogen (Nessler)	0-100 mg/L	32	Total Iron	0-3 mg/L
6	Total Phosphorus	0-20 mg/L	33	Manganese	0-20 mg/L
7	Total Nitrogen	0-500 mg/L	34	Total Manganese	0-20 mg/L
8	Residual Chlorine	0-12 mg/L	35	Nickel	0-5 mg/L
9	Total Chlorine	0-12 mg/L	36	Total Nickel	0-5 mg/L
10	Ozone	0-2.5 mg/L	37	Lead	0-6 mg/L
11	Chlorine Dioxide	0-5 mg/L	38	Zinc	0-5 mg/L
12	Dissolved Oxygen	0-20 mg/L	39	Total Zinc	0-5 mg/L
13	Phosphate	0-2 mg/L	40	Aniline	0-2 mg/L
14	Nitrate	0-40 mg/L	41	Volatile Phenol	0-5 mg/L
15	Nitrite	0-0.3 mg/L	42	Silicon	0-100 mg/L
16	Urea	0-20 mg/L	43	Cadmium	0-1 mg/L
17	Total Alkalinity	0-3,000 mg/L	44	Total Cadmium	0-1 mg/L
18	Total Hardness	0-500 mg/L	45	Fluoride	0-2 mg/L
19	Sulfide	0-1 mg/L	46	Cyanide	0-0.5 mg/L
20	Chloride	0-600 mg/L	47	TSS	0-1,000 mg/L
21	Cyanuric Acid	0-160 mg/L	48	Turbidity	0-1,000 NTU
22	Formaldehyde	0-1.5 mg/L	49	Color	0-500 Pt-Co

No.	Test Item	Range	No.	Test Item	Range
23	Sulphate	0-200 mg/L	50	Bromine	0-4.5 mg/L
24	Silver	0-1 mg/L	51	Iodine	0-7 mg/L
25	Aluminum	0-0.5 mg/L	52	Anionic Surfactant	0-2 mg/L
26	Cobalt	0-2 mg/L	53	Potassium	0-30 mg/L
27	Hexavalent Chromium	0-3 mg/L			

Note: The specific test items and detection scope are subject to the actual supply situation.

CONTACT / SUPPORT

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