

T9010Ni

Nickel Water Quality

Online Automatic Monitor

Product Overview:

Nickel is a silver-white metal with a hard and brittle texture. It remains stable in air at room temperature and is a relatively inactive element. Nickel reacts readily with nitric acid while its reaction with dilute hydrochloric or sulfuric acid is slower. Nickel occurs naturally in various ores, often combined with sulfur, arsenic, or antimony, and is primarily sourced from minerals such as chalcopyrite and pentlandite. It may be present in wastewater from mining, smelting, alloy production, metal processing, electroplating, chemical industries, as well as ceramic and glass manufacturing.

This analyzer is capable of operating automatically and continuously without long-term manual intervention based on field settings. It is widely applicable for monitoring industrial pollution discharge wastewater, industrial process wastewater, industrial sewage treatment plant effluent, and municipal sewage treatment plant effluent. Depending on the complexity of the on-site testing conditions, a corresponding



pretreatment system can be optionally configured to ensure reliable testing processes and accurate results, fully meeting the needs of various field scenarios.

Product Principle:

This product utilizes the spectrophotometric measurement method. After the water sample is mixed with a buffer agent, and in the presence of a strong oxidizing agent, nickel is converted into its higher valence ions. In the presence of a buffer solution and an indicator, these higher valence ions react with the indicator to form a colored complex. The analyzer detects this color change, converts the variation into a nickel concentration value, and outputs the result. The amount of colored complex generated corresponds to the nickel concentration.

Technical Parameters:

No.	Specification Name	Technical Specification Parameter
1	Test Method	Dimethylglyoxime Spectrophotometry
2	Measuring Range	0~10mg/L (Segment measurement, expandable)
3	Lower Detection Limit	≤ 0.05
4	Resolution	0.001
5	Accuracy	$\pm 10\%$
6	Repeatability	$\pm 5\%$
7	Zero Drift	$\pm 5\%$
8	Span Drift	$\pm 5\%$
9	Measurement Cycle	Minimum testing cycle 20min

10	Measurement Mode	Time interval (adjustable), on-the-hour, or triggered measurement mode, configurable
11	Calibration Mode	Automatic calibration (1~99 days adjustable), manual calibration configurable based on actual water sample
12	Maintenance Cycle	Maintenance interval >1 month, each session approx. 30min
13	Human-Machine Operation	Touchscreen display and command input
14	Self-check & Protection	Self-diagnosis of instrument status; data retention after abnormality or power failure; automatic clearing of residual reactants and resumption of operation after abnormal reset or power restoration
15	Data Storage	5-year data storage capacity
16	Input Interface	Digital input (Switch)
17	Output Interface	1x RS232, 1x RS485, 2x 4~20mA analog outputs
18	Operating Environment	Indoor use, recommended temperature 5~28° C, humidity ≤ 90% (non-condensing)
19	Power Supply	AC220 ± 10% V
20	Frequency	50 ± 0.5 Hz
21	Power Consumption	≤ 150W (excluding sampling pump)
22	Dimensions	520mm (H) x 370mm (W) x 265mm (D)