

Please refer to page 7 for selection details

## Water Quality Analysis

# Ozone Analyzer OP-20



### Overview

The industrial online ozone meter (hereinafter referred to as the instrument) is a water quality online monitoring instrument with a microprocessor. Applied to drinking water treatment plants, drinking water distribution networks, swimming pools, industrial wastewater, and cooling circulating water for continuous monitoring and control of ozone content in water. The instrument adopts LCD liquid crystal display screen; Intelligent Chinese menu operation; Equipped with current output, freely adjustable measurement range, high and low limit alarm prompts, and two sets of relay control switches, with adjustable delay range; Multiple automatic calibration methods for electrodes.

### Function Characteristics

Intelligence: Using a single-chip micro-processor to measure ozone levels; High impedance preamplifier: high input impedance, anti noise, strong anti-interference ability; Multiple calibration methods such as zero calibration, slope calibration, and on-site calibration; Human computer dialogue: menu operation structure, users can operate according to the prompts on the screen; Multi parameter screen display: Simultaneously display ozone value and working status or output current value; Output signal: The software selects 0-20mA, 4-20mA, or 20-4mA output; The measurement range and alarm upper and lower limits can be freely set; Alarm prompt for upper and lower limit exceeding limits; Two sets of relay control switches, with adjustable hysteresis control range; Operation record: It can record operations such as calibration and modification of instrument parameters;

### Application

Applied to drinking water treatment plants, drinking water distribution networks, swimming pools, industrial wastewater, and cooling circulating water for continuous monitoring and control of ozone content in water.

## Product Model

Product Model	OP20-S1	OP20-S2
Product Image		
Display	4.3-inch LCD color screen	3.2-inch LCD screen
Measurement Range	0-20mg/L (ppm) (other ranges can be customized)	0-20mg/L (ppm) (other ranges can be customized)
Measurement Accuracy	Ozone: $\pm 5\%$ F.S, Temperature: $\pm 0.5$ °C	Ozone: $\pm 5\%$ F.S, Temperature: $\pm 0.5$ °C
Resolution	0.001mg/L	0.001mg/L
Stability	At room temperature, monthly drift < 2% F.S	At room temperature, monthly drift < 2% F.S
Automatic Temperature Compensation Range	0-99.9 °C (other temperatures can be customized), with 25 °C as the reference temperature	0-99.9 °C (other temperatures can be customized), with 25 °C as the reference temperature
Signal Output	0-20mA (load resistance < 750 $\Omega$ ); 4-20mA (load resistance < 750 $\Omega$ ); 20-4mA (load resistance < 750 $\Omega$ )	2-channel 4-20mA, 1-channel RS485, 1-channel RS232 (supporting Modbus protocol), printer (optional)
Two Sets Of Relay Contacts	3A 240VAC, 3A 28VDC or 120VAC	3A 240VAC, 3A 28VDC or 120VAC
Power Supply	85-265VAC $\pm 10\%$ , 50 $\pm 1$ Hz, power $\leq 3$ W; 9-36VDC, power $\leq 3$ W	85-265VAC $\pm 10\%$ , 50 $\pm 1$ Hz, power $\leq 3$ W; 9-36VDC, power $\leq 3$ W
Power	$\leq 3$ W	$\leq 3$ W
Quality	0.5kg	-
Overall Dimensions	180x157x84.5mm	96x96x125mm
Installation Opening	Disk mounted 138x138mm (wall mounted)	Disk mounted 92 x 92mm
Terms Of Use	Temperature 0-45 °C, humidity not exceeding 85%, no electromagnetic field interference	Temperature 0-45 °C, humidity not exceeding 85%, no electromagnetic field interference
Data Function	Data storage, operation logs, Bluetooth printing	-

## Ozone Analyzer Electrode Series

### Measurement Principle:

The instrument consists of signal measurement, operation, display, and panel instructions. This instrument uses a specific negative voltage amplitude applied between the polarizing electrode and the reference electrode to selectively select ozone to participate in the reaction, causing it to undergo an electrochemical reaction at the cathode of the electrode, thereby forming a current signal proportional to the concentration of ozone. The instrument calculates the concentration of ozone by collecting and analyzing current signals, making it highly selective, with no replacement parts, and requiring minimal maintenance; Long electrode lifespan; Characteristics of high reliability.

### Structural Features:

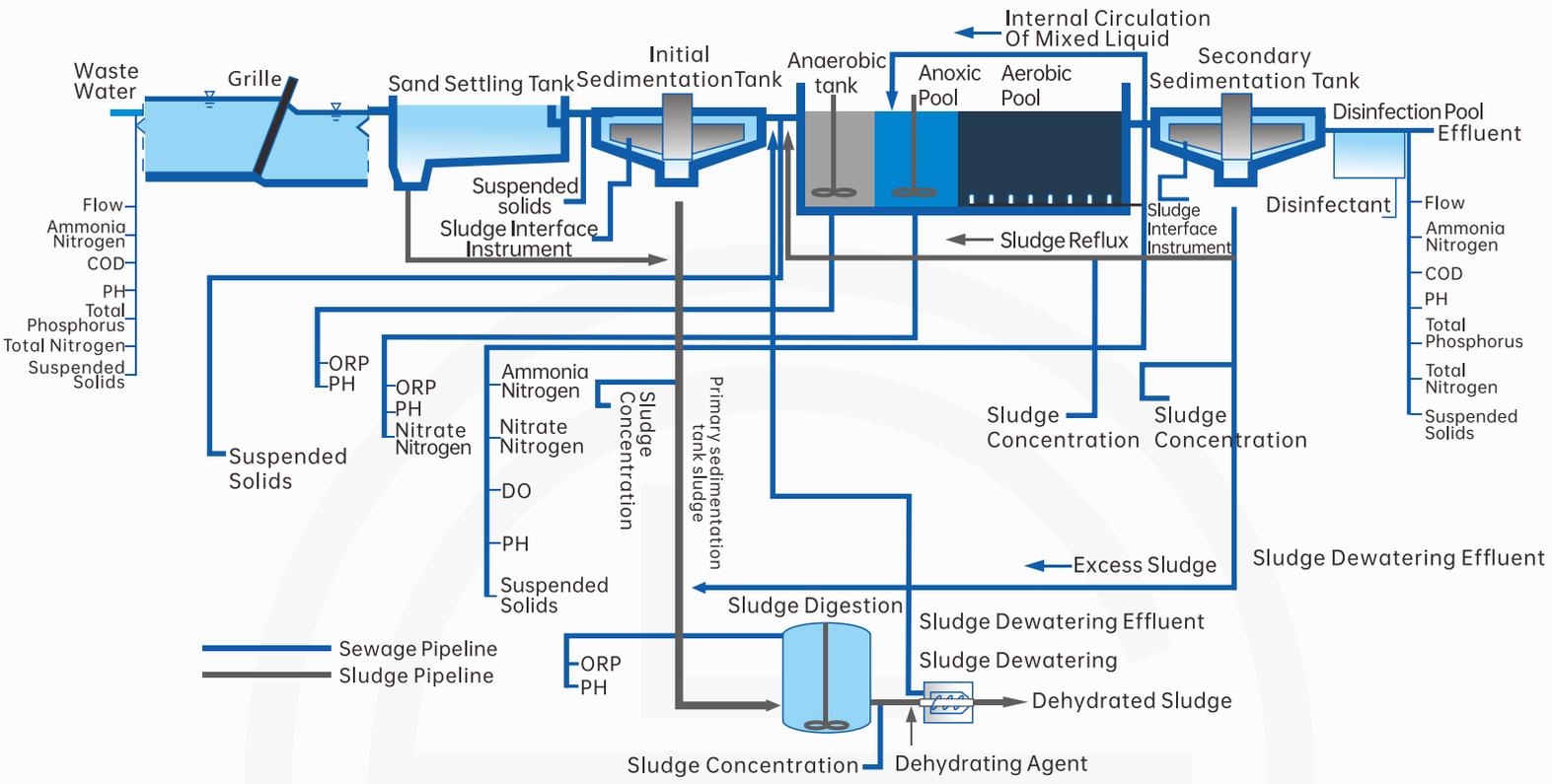
The entire measurement system mainly consists of three parts: instruments (secondary instruments), ozone electrodes (primary instruments), and measuring flow cups. The ozone electrodes come into contact with the measured aqueous solution, and the instruments display the ozone value and working status of the aqueous solution.

### Product Model

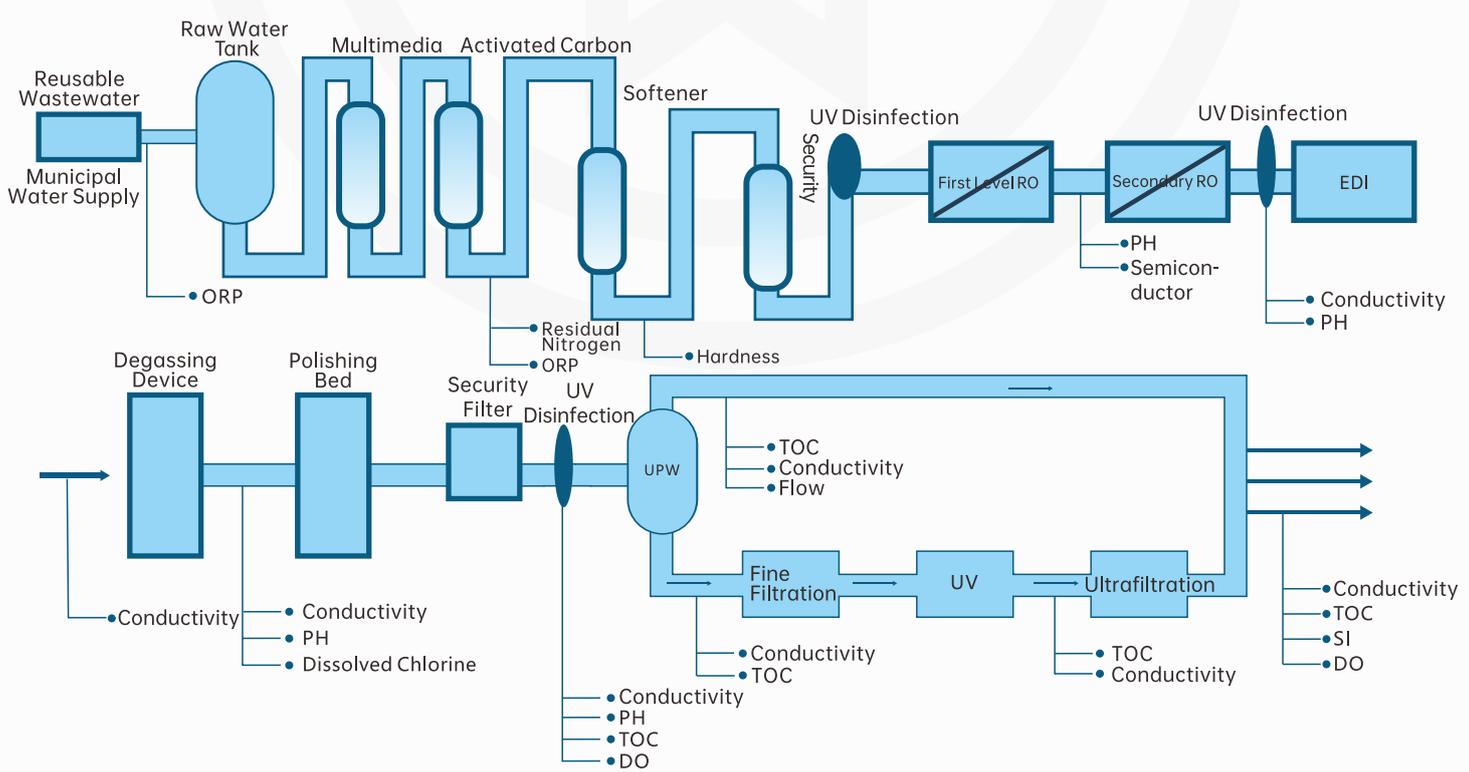
Product Model	D1 Ozone Measurement Electrode
Product Image	
Testing Scope	0 ~ 20mg/L (ppm)
Temperature Range	0 ~ 60°C
Resolution	0.001mg/L
Basic Error	±5%F.S
Stability	At room temperature, monthly drift < 2% F.S
Output	RS485
Thread	M20*1.5
Electrode Type	Glass + Double Platinum Ring
Line Length	10m

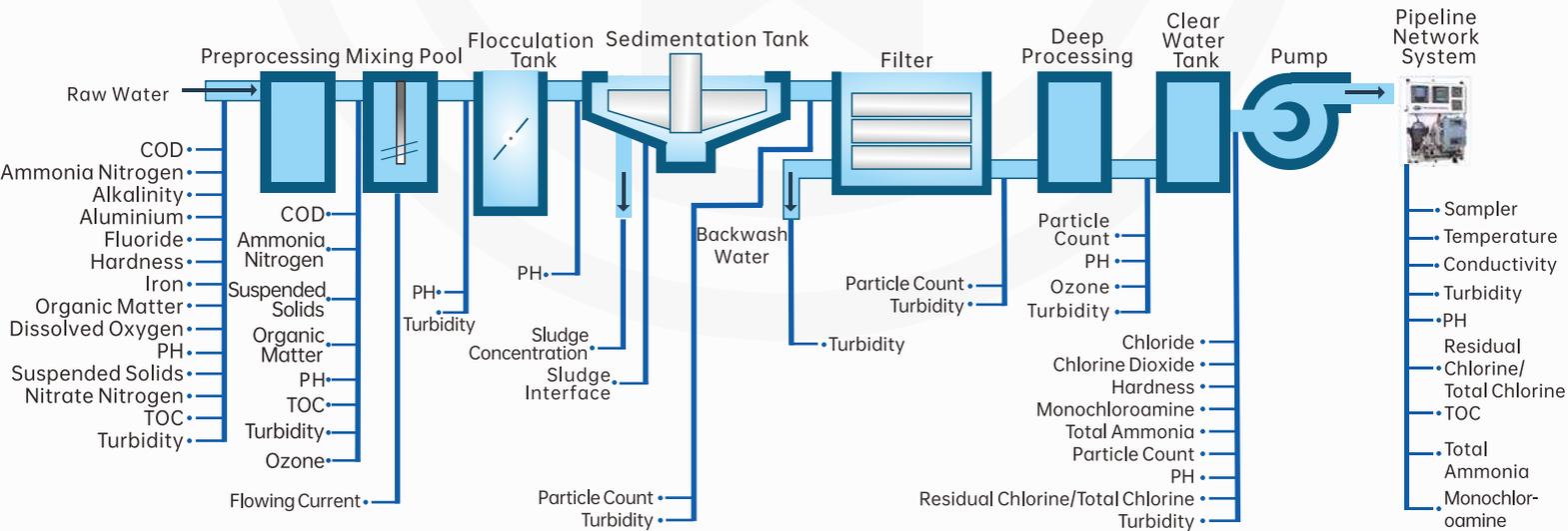
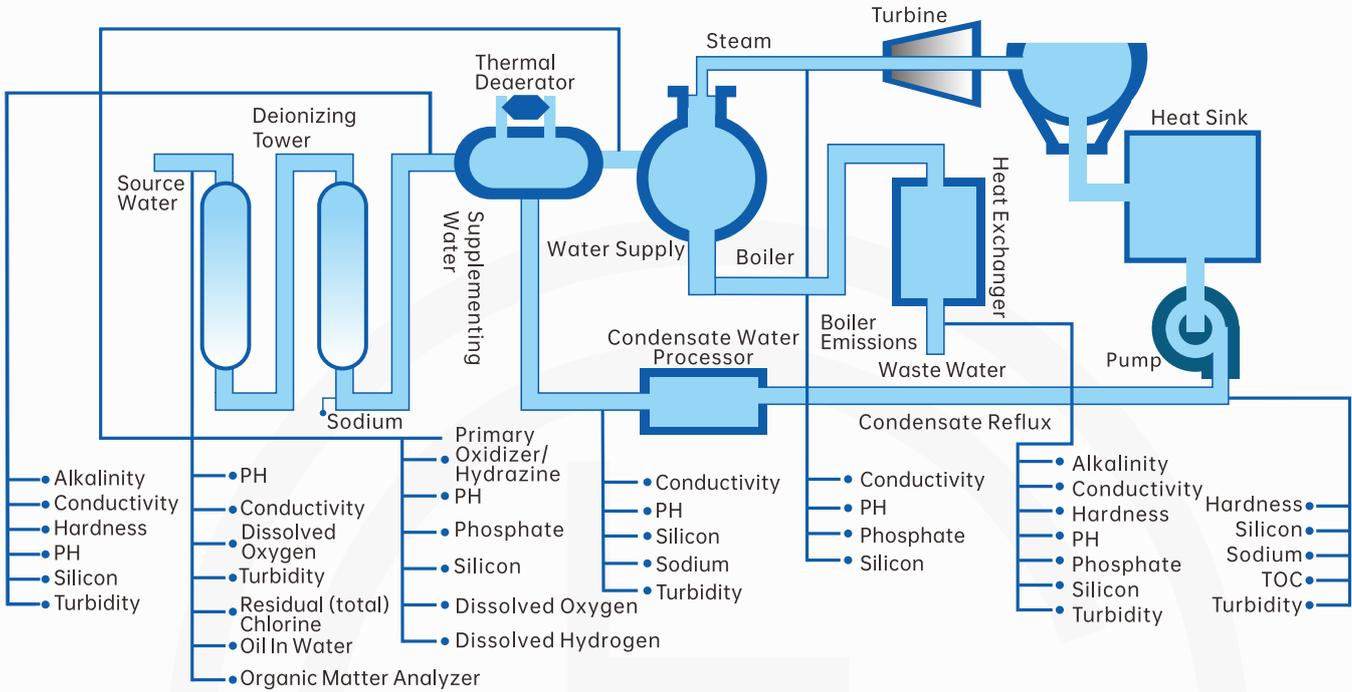


# Sewage Treatment Process Diagram

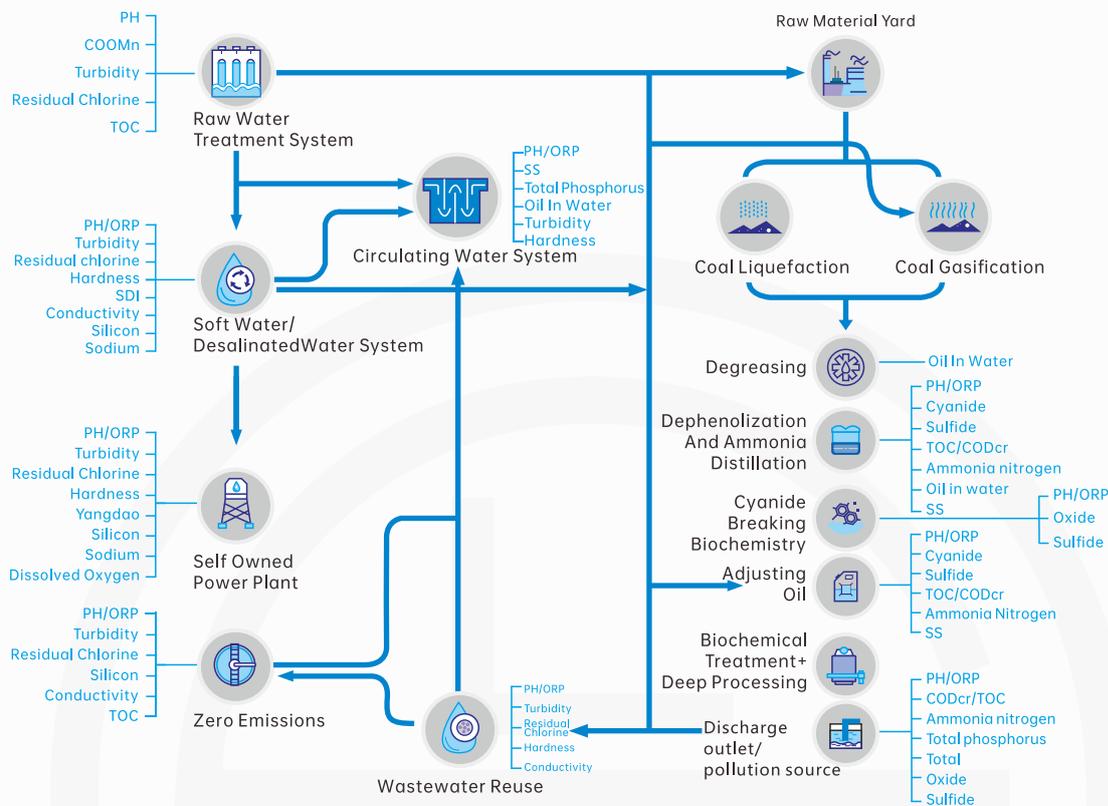


# Electronic Industry Water/Wastewater Reuse Process and Water Quality Monitoring Plan



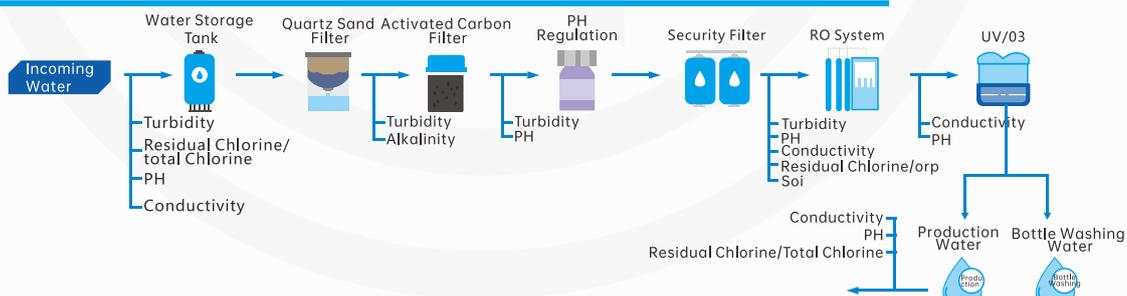


# Petrochemical Environmental Water Treatment Process Diagram

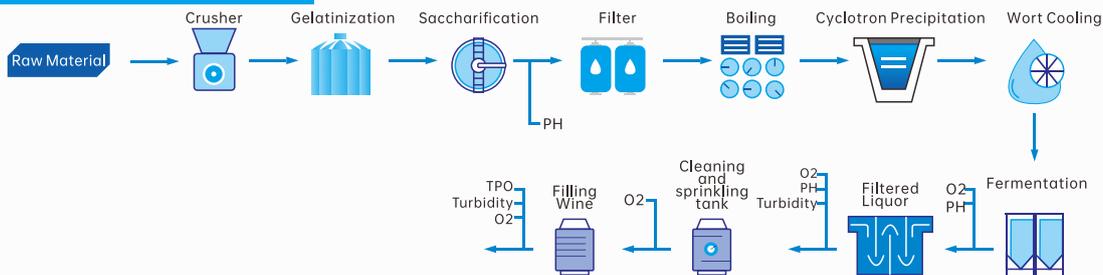


# Wastewater Treatment Process And Water Quality Monitoring Plan For The Beer And Beverage Industry

## Process Flow Of Beer Beverage Raw Water Pretreatment



## Beer Water Usage Process



## Composition of Ozone Analysis Selection

Example Of Selection **OP-20-** **S1** **D1** **N** **V** **A** **N** **S** **F** **H** **L**

Required 1   Required 2   1   2   3   4   5   6   7   8

Transmitter Specifications (required)	<b>S1</b>	4.3-inch LCD color screen
	<b>S2</b>	3.2-inch LCD screen
	<b>N1</b>	No need for transmitter, only electrodes are optional
Electrode Model (required)	<b>D1</b>	Ozone measuring electrode
	<b>T()</b>	Other electrodes
1. Range Of Measurement	<b>N</b>	0~20mg/L (ppm)
	<b>T()</b>	Other range of measurement
2. Resolution	<b>V</b>	0.001mg/L
	<b>M</b>	0.01mg/L
	<b>T()</b>	Other resolutions
3. Output Signal	<b>A</b>	4~20mA
	<b>B</b>	4~20mA+RS485
	<b>C</b>	4~20mA+RS232
	<b>T()</b>	Other output signals
4. Material	<b>N</b>	Glass+Double Platinum Ring
	<b>T()</b>	Other materials
5. Power Supply	<b>S</b>	24VDC
	<b>V</b>	220VAC
6. Protection Level	<b>E</b>	IP65
	<b>F</b>	IP68
	<b>T()</b>	Other protection levels
7. Cable Length	<b>H</b>	10m
	<b>I</b>	5m
	<b>G</b>	15m
	<b>T()</b>	Other lengths
8. Install Interface	<b>L</b>	M20*1.5
	<b>T()</b>	Other installation interfaces

## Explanation:

The ozone analyzer adopts a 4.3-inch LCD color screen and is equipped with ozone measuring electrodes. The range is 0-20mg/L (ppm), the resolution is 0.001mg/L, the output signal is 4-20mA, the material is glass+double platinum ring, the power supply is 24VDC, the protection level is IP68, the cable length is 10m, and the installation interface is M20 \* 1.5.

## Product Certification

Compliance and approval; The Ludwig water quality analyzer meets key standards and certifications for process measurement technology; To ensure the highest reliability in such settings;