

Please refer to page 8 for selection details

Water Quality Analysis Industrial PH Analyzer



Operational Principle

The instrument consists of signal measurement, calculation, display, network communication, and panel commands. The impedance transformation of pH and temperature transforms pH into a low resistance signal of 59.16PH (25 °C); Transform NTC into a voltage signal.

The instrument is matched with a pH electrode to monitor the pH value of the solution. The sensor is a battery composed of a pH glass electrode and a calomel (or Ag/AgCl) reference electrode, which generates a potential difference related to the pH value of the solution based on the Nernst equation: $E = E_0 + SPH$.

The potential difference is amplified by a preamplifier with high input impedance, and the thermistor sends a signal corresponding to the temperature value. After the two sets of signals are amplified, they are converted into A/D and processed by an I/O interface chip. After being processed by a single microprocessor, they are prominently displayed on the display screen.

Functional Characteristics

Intelligence: Using a single-chip microprocessor to complete pH measurement, temperature measurement, and compensation;

Dual high impedance preamplifier: high input impedance, anti noise, strong anti-interference ability;

There are three calibration methods: one point calibration, two point calibration, and known concentration calibration;

Human machine dialogue: menu operation structure, users can operate according to the prompts on the screen;

Multi parameter screen display: simultaneously displaying pH value, temperature value, and working status;

Software setting output method: The software selects 0-10mA or 4-20mA output;

Free setting of measurement range and alarm upper and lower limits; Upper and lower limit exceeding alarm prompt;

Two sets of relay control switches, with adjustable hysteresis control range;

Self cleaning switch setting, setting cleaning time and interval;

After sales service: Provide technical support and contact information for after-sales service to users;

Product Application

Widely used in wastewater treatment, purified water, circulating water, boiler water and other systems, as well as in processes such as electronics, electroplating, printing and dyeing, chemistry, food, pharmaceuticals, etc., it has demonstrated outstanding performance in large-scale sewage treatment plants, desulfurization, industrial process monitoring, and other applications.

Product Model

Product Model	Industrial PH Analyzer	
Product Diagram		
Display	4.3-inch LCD Color Screen	3.2-inch LCD screen
Measuring range	0~14PH	0~14PH
Measurement accuracy	±0.1PH Temperature: ±0.5°C	±0.1PH Temperature: ±0.5°C
Resolving power	0.001/0.01PH	0.001/0.01PH
Isolation output current	4-20mA(Load Resistance<800Ω)	4-20mA(Load Resistance<800Ω)
Communication interface	RS-485 Modbus Standard Communication Protocol	Optional RS-485 Modbus Standard Communication Protocol
Two sets of relay contacts	3A 240VAC, 6A28VDC or 120VAC	3A 240VAC, 6A28VDC or 120VAC
Power supply	85-260VAC/50-60Hz or 24VDC	85-260VAC/50-60Hz or 24VDC
Power	≤3W	≤3W
Quality	0.82kg	0.5kg
External dimensions	180x157x84.5mm	96X96X125mm
Installation opening	Plate mounted 138x138mm (wall mounted)	Plate mounted 92X92mm
Usage conditions	Temperature 0-45 °C, humidity not exceeding 85%, no electromagnetic field interference	Temperature 0-45 °C, humidity not exceeding 85%, no electromagnetic field interference
Electrode selection	Analog signal, digital signal electrode	Analog signal electrode
Data function	Data storage, operation logs, Bluetooth printing	-







Measurement Principle Of PH Electrode Series:

The pH sensor is based on the ion selective electrode method. The principle is to use a membrane electrode to represent the concentration of the measured ion as the electrode potential value, and determine the ion concentration in the solution by measuring the electrode potential. Specifically, two different electrodes are inserted into the tested solution, and the potential changes with the concentration of hydrogen ions, known as the working electrode; The other electrode has a fixed potential and is called a reference electrode. These two electrodes form a primary battery, measure the potential between the two electrodes, and determine the pH value of the measured solution according to the Nernst equation.

Kind Reminder:






When the PH electrode is not in use, it is necessary to keep the glass bulb on the electrode head moist and not dry (which is prone to premature failure). Users with conditions can purchase maintenance solution to clean and maintain the electrode, helping to restore its function.

Product Model

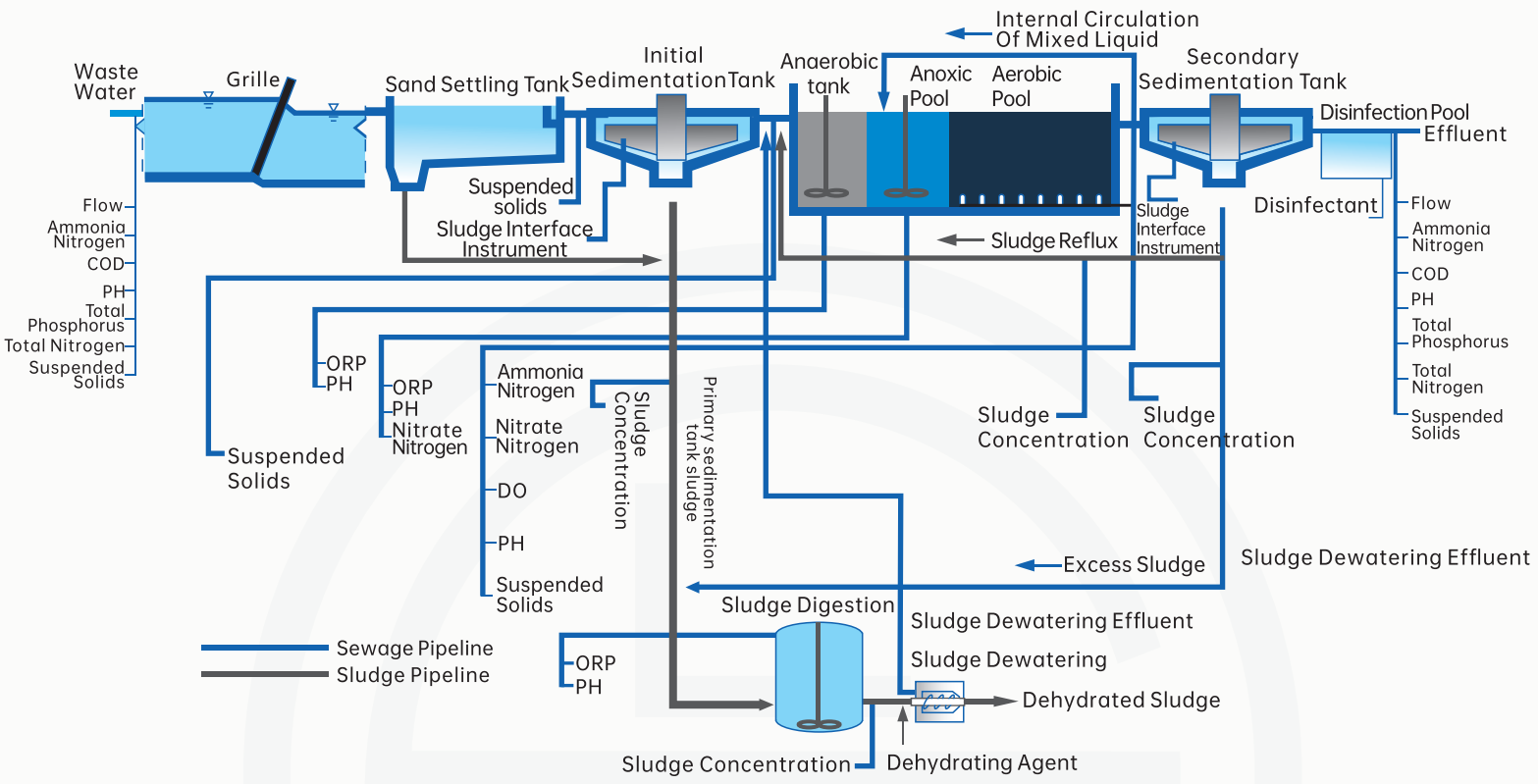
Model	PH-A1 Sewage Electrode	PH-A2 Pure Water Electrode	PH-A3 Glass Electrode	PH-A4 High-temperature Electrode
Product diagram				
Measuring range	0-14PH	0-14PH	0-14PH	0-14PH
Temperature range	0 -60℃	0 -60℃	0 -60℃	0 -100℃
Temperature compensation type	NTC2252, NTC10K, PT1000, PT100	NTC2252, NTC10K, PT1000, PT100	NTC2252, NTC10K, PT1000, PT100	NTC2252, NTC10K, PT1000, PT100
Power supply	-	-	-	-
Output signal	-	-	-	-
Liquid receiving material	PPS, Quartz Glass, Tetrafluoro	PPS, Quartz Glass, Tetrafluoro	Quartz Glass	Quartz Glass
Installation interface	Up and down NPT3/4	Up and down NPT3/4	PG13.5MM	PG13.5MM
Electrode withstand voltage	0 . 3Mpa, 0.6Mpa	0 . 3Mpa, 0.6Mpa	0 . 3Mpa, 0.6Mpa	0 . 3Mpa, 0.6Mpa
Applicable scenarios	Sewage, surface water, tap water, etc	Pure water	Sewage swimming pool aquaculture water tap water, etc	Fermentation tanks, biotechnology, pharmaceutical industry, food and dietary technology, starch slurry, etc



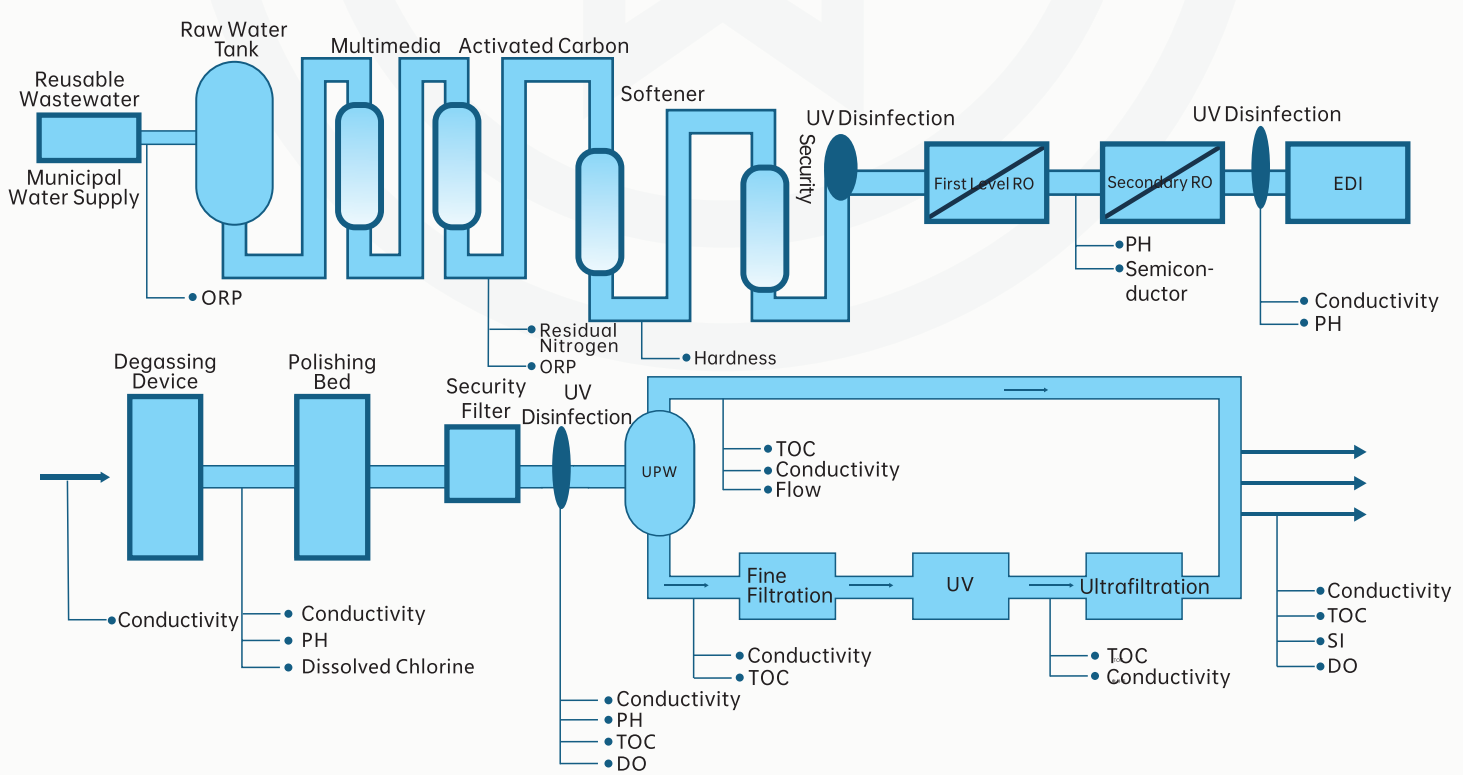
Product Model

Model	PH-A5 Tetrafluoro Electric Grade	PH-A6 Antimony Electrode	PH-A7 Desulfurization Electrode	PH-A8 Digital Electrode	PH-A9 Explosion-proof Electrode
Product Diagram					
Measuring range	0-14PH	0-14PH	0-14PH	0-14PH	0-14PH
Temperature range	0-60°C	0-60°C	0-100°C	0-60°C	0-60°C
Temperature compensation type	NTC2252, NTC10K PT1000, PT100	NTC2252, NTC10K PT1000, PT100	NTC2252, NTC10K PT1000, PT100	-	NTC2252, NTC10K PT1000, PT100
Power supply	-	-	-	12-24VDC	12-24VDC
Output signal	-	-	-	RS485	2 Channels 4-20mA,RS485
Liquid receiving material	PPS, Quartz Glass, Tetrafluoro	PPS, Quartz Glass, Tetrafluoro	PPS, Quartz Glass, Tetrafluoro	PPS, Quartz Glass, Tetrafluoro	PPS, Quartz Glass, 304, Tetrafluoro
Installation interface	Up and down NPT3/4	Up and down NPT3/4	Up and down NPT3/4	Up and down NPT3/4	Up and down NPT3/4
Electrode withstand voltage	0.3Mpa, 0.6Mpa	0.3Mpa, 0.6Mpa	0.3Mpa, 0.6Mpa	0.3Mpa	0.3Mpa, 0.6Mpa
Applicable scenarios	Sewage surface water tap water, etc	Used for fluorinated wastewater	Suitable for working conditions that require desulfurization	PH compensation for drinking water, swimming pool water, surface water, residual chlorine, etc	Integrated display for explosion-proof applications, chemical industry

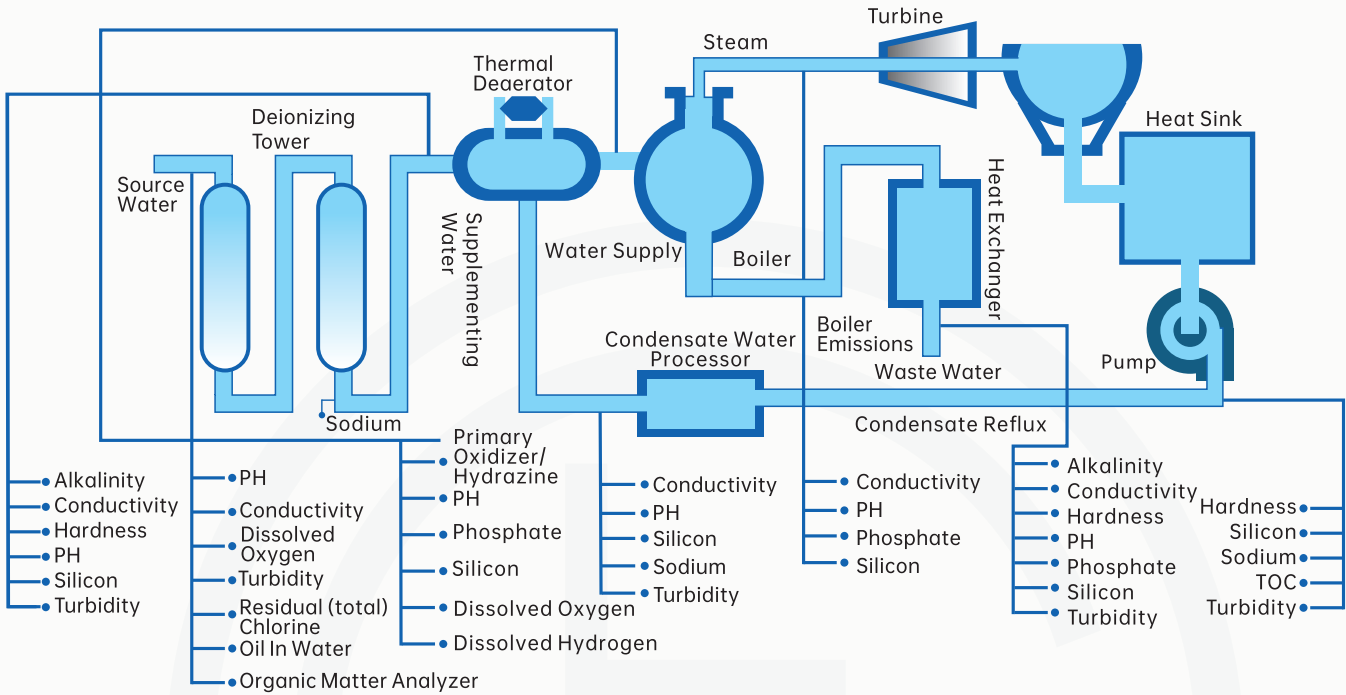
Sewage Treatment Process Diagram



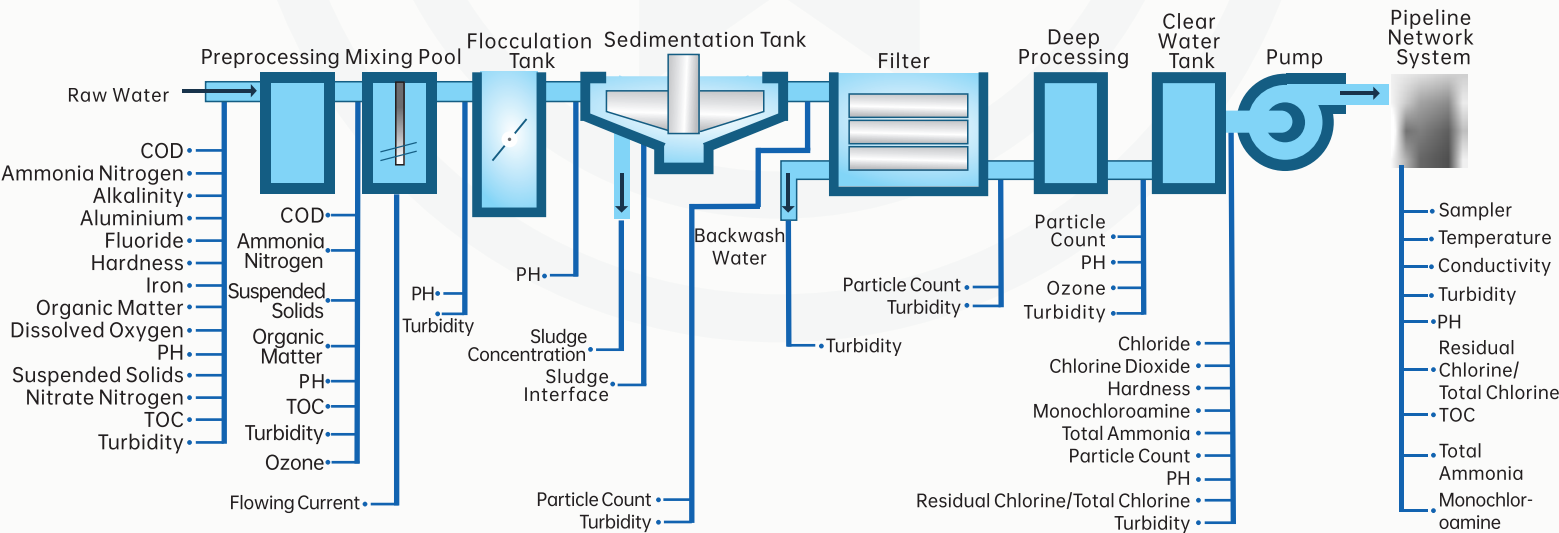
Electronic Industry Water/Wastewater Reuse Process and Water Quality Monitoring Plan



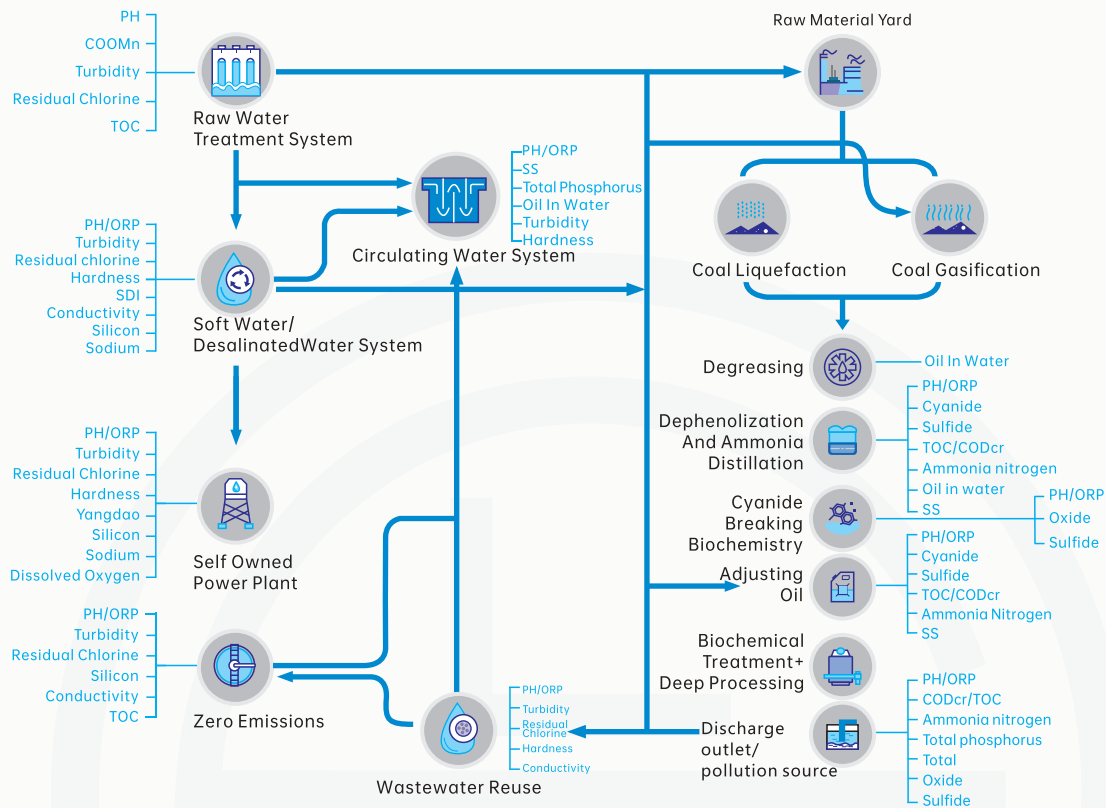
Boiler Water Flow Diagram



Drinking Water Treatment Process Diagram

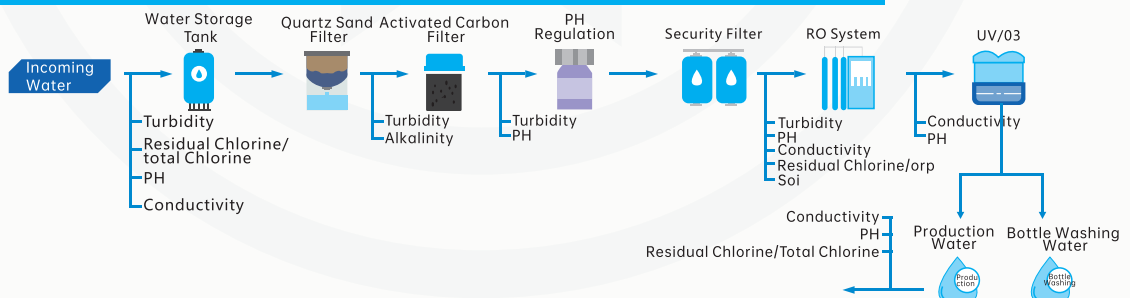


Petrochemical Environmental Water Treatment Process Diagram

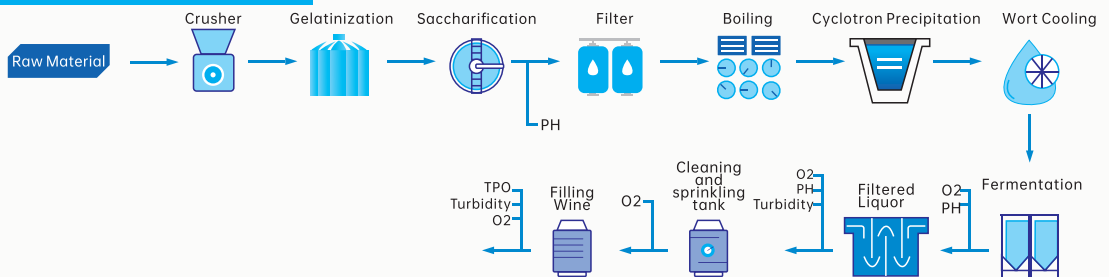


Wastewater Treatment Process And Water Quality Monitoring Plan For The Beer And Beverage Industry

Process Flow Of Beer Beverage Raw Water Pretreatment



Beer Water Usage Process



PH Selection Composition

Selection example PH-

1	A1	2	E	3	H	4	R	5	L	6	D	7	A	8	J	9	A	10	N	11	W	12	-	13	-
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1. Model	A1	Sewage electrode	
	A2	Pure water electrode	
	A3	Glass electrode	
	A4	High-temperature electrode	
	A5	Tetrafluoroelectrode	
	A6	Antimony electrode	
	A7	Desulfurization electrode	
	A8	Digital electrode	
	A9	Explosion-proof electrode	
2. Display size <small>(Only explosion-proof electrode select this item)</small>	E	4.3-Inch LCD color screen	
	F	3.2-Inch LCD screen	
3. Instrument type	G	Integrated (Explosion-proof Electrode Only)	
	H	Split	
4. Range	R	0~14PH	
	T()	Other ranges	
5. Electrode Material	L	PPS(0~60°C)	
	M	PTFE(0~60°C)	
	N	Glass + PTFE(0~60°C)	
	O	Glass + Stainless steel (0~60°C)	
	P	Glass + PTFE(0~100°C)	
	Q	Glass + Stainless steel (0~100°C)	
	U	Glass + PTFE(0~135°C)	
	V	Glass + Stainless steel (0~135°C)	
	W	PPS+ Antimony (0~60°C)	
T()	Other materials		
6. Step output	D	4~20mA	
	E	4~20mA+HART(Explosion-proof Electrode Only Select This Item)	
	F	4~20mA+RS485	
	G	4~20mA+RS232	
	T()	Other output	
7. Precision	A	±0.1PH Temperature: ±0.5°C	
8. Resolution	J	0.01PH	
	K	0.001PH	
9. Mounting Interface	A	3/4NPT	
	B	PG13.5 mm	
	T()	Other interface	
10. Class of protection	M	IP67	
	N	IP68	
	T()	Other levels of protection	
11. Authentication	U	Intrinsically safe explosion protection	
	V	Flameproof	
	W	Non-explosion Proof	
	T()	Other certifications	

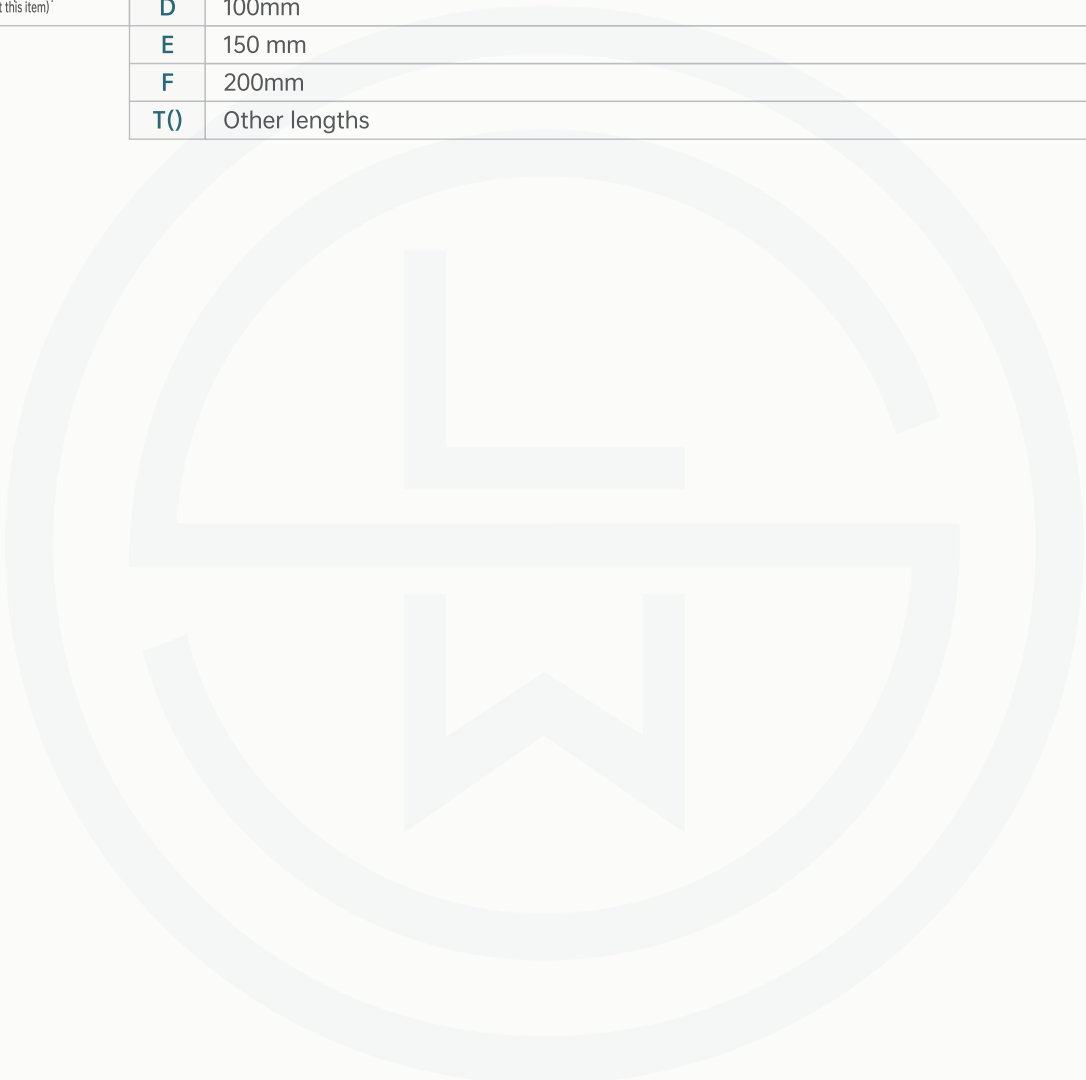


PH Selection Composition

Selection example PH-

1	A1	2	E	3	H	4	R	5	L	6	D	7	A	8	J	9	A	10	N	11	W	12	-	13	-
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12. Flange specifications <small>(Only explosion-proof electrode select this item)</small>	F1	DN15(1/2")
	F2	DN20
	F3	DN25(1")
	F4	DN40(1½")
	F5	DN50(2")
	T()	Other flange sizes
13. Measure the length <small>(Only explosion-proof electrode select this item)</small>	C	50mm
	D	100mm
	E	150 mm
	F	200mm
	T()	Other lengths



Explanation:

The PH-A1 analyzer is equipped with a sewage electrode, a 4.3-inch LCD color screen, split installation, a range of 0-14PH, electrode material PPS (0-60 °C), output of 4-20mA, accuracy of ± 0.1PH, temperature of ± 0.5 °C, resolution of 0.01PH, installation interface of 3/4NPT, protection level of IP68, and no explosion-proof.

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;