Please refer to page 7 for selection details

Water Quality Analysis

Conductivity Analyzer CE

Operational Principle

To avoid electrode polarization, the instrument generates a highly stable sine wave signal applied to the electrode. The current flowing through the electrode is proportional to the conductivity of the measured solution. The instrument converts the current from a high impedance operational amplifier to a voltage signal, which is amplified by a programmable signal, phase sensitive detection, and filtering to obtain a potential signal reflecting the conductivity; The microprocessor alternately samples the temperature signal and conductivity signal through switch switching, and after calculation and temperature compensation, obtains the conductivity value and temperature value of the measured solution at 25 ℃.The conductivity of electrolyte solutions is affected by temperature changes and requires temperature compensation. The temperature coefficient of a weak aqueous solution is 2.00% ℃, and the higher the concentration, the smaller the temperature coefficient. The temperature coefficient for solutions with lower concentrations (1 μ S · cm-1) is not set at 2.00% ℃, but is set by the user, ranging from 0.00 to 9.99%.

Functional Characteristics

Using a single-chip microprocessor to complete conductivity 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 display on the same screen: simultaneously displaying conductivity values, temperature values, 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;

Maintenance is very simple, it is recommended to calibrate once a month;

Adopting multiple calibration methods to ensure measurement accuracy;

Chinese and English menus are optional.

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 shown outstanding performance in large-scale sewage treatment plants, industrial process monitoring, and other applications.

✆ 400-860-9760

For more product information, please visit www.ludwig-schneider.com.cn

LUDWIG INSTRUMENT

Product Model

Product Model	CE	
Product Diagram	 	
Display	4.3-inch LCD color screen	3.2-inch LCD screen
Measuring range	0~20~200~2000~20000uS/cm~1999mS/cm	0~20~200~2000~20000uS/cm~1999mS/cm
Measurement accuracy	Conductivity: ± 1% F · S, TDS: ± 1% F·S, Temperature: ± 0.5 ℃	Conductivity: ± 1% F · S, TDS: ± 1% F·S, Temperature: ± 0.5 ℃
Resolving power	0.001/0.01 (depending on electrode)	0.001/0.01 (depending on electrode)
Isolation output current	4-20mA (load resistance<800Ω)	4-20mA (load resistance<800Ω)
Communication interface	Optional 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/50-6OHz or 24VDC	85-260VAC/50-6OHz or 24VDC
Power	≤3W	≤3W
Quality	0.82kg	0.5kg
External dimensions	180x157x84.5mm	96 x 96 x 125mm
Installation opening	Plate mounted 138x138mm (wall mounted)	Plate mounted 92 x 92mm
Usage conditions	Temperature 0-45 ℃, humidity not exceeding 85%, no electromagnetic field interference	Temperature 0-45 ℃, 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	-

Conductivity Meter Electrode Series

Measurement Principle:

Conductivity represents the ability of a solution to conduct current. The conductivity of pure water is very low. When the water contains inorganic acids, alkali salts, or organic charged colloids, the conductivity increases. The conductivity of an aqueous solution depends on the properties and concentration of the charged substance, as well as the temperature and viscosity of the solution.

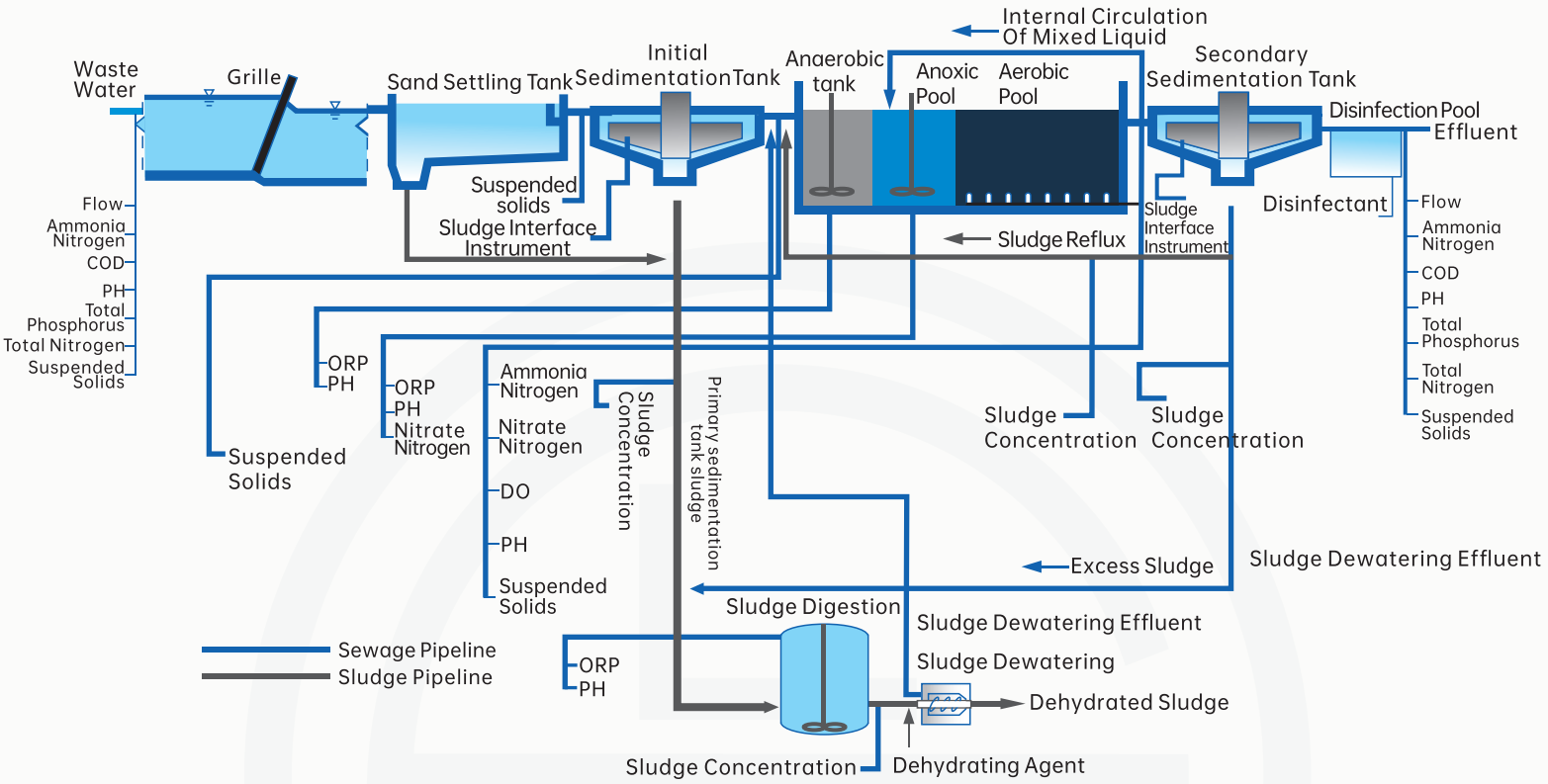
Kind Reminder:

The measurement range of conductivity depends on the constant K (J) of the electrode: K=0.01 (0-20μS/cm, K=0.1 (0-200)μS/cm, K=1.0 (0-2000)μS/cm) K=10.0 (0-20ms/cm or above); 1mS=1000μS.

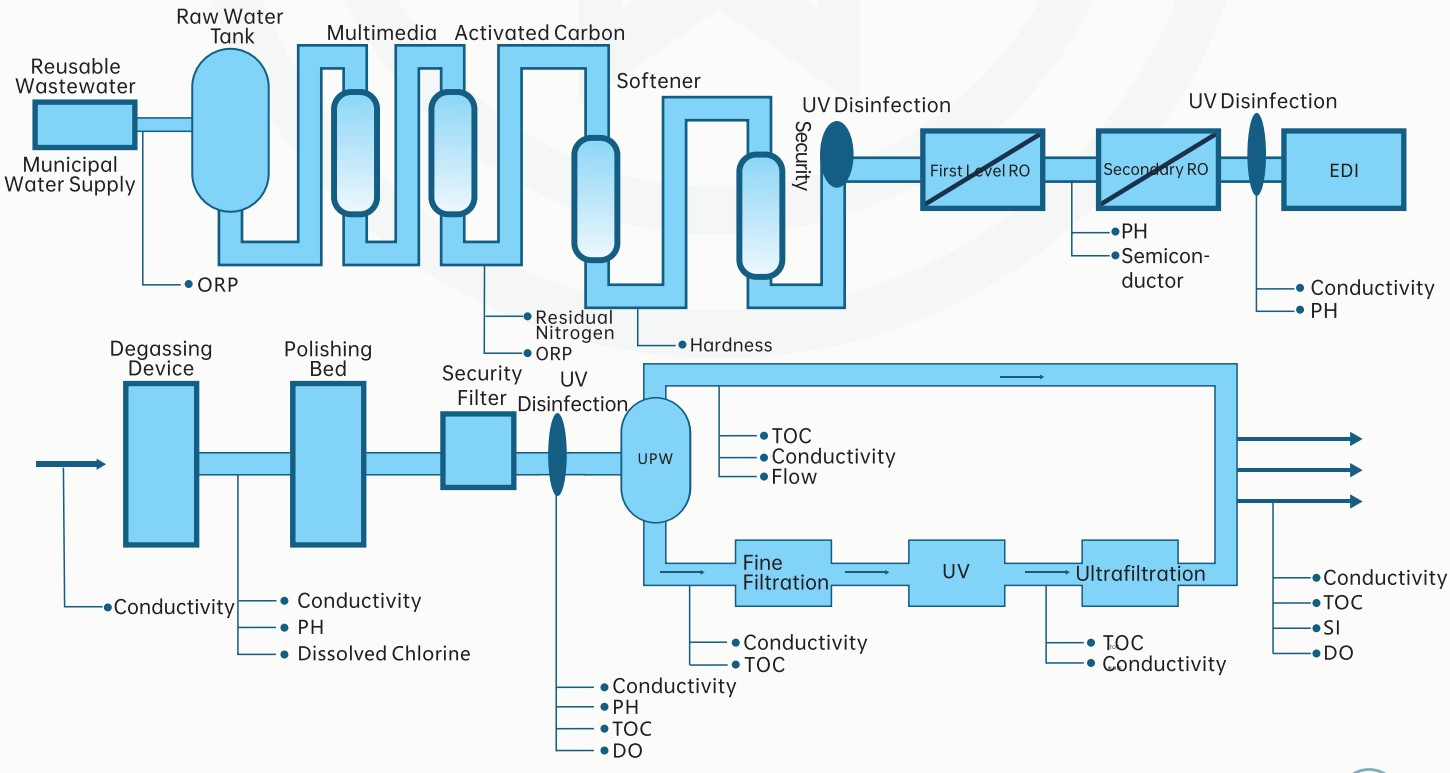
Product Model

Model	CE-D1 Stainless steel shell (conventional) electrode	CE-D2 Plastic shell Electrode	CE-D3 Sanitary Electrodes	CE-D4 Ultra Large Range Electrode	CE-D5 Digital Quantity Electrode
Product Diagram					
Detection scope	-	-	-	-	Graphite two electrode or four electrode
Measuring range	0.01-2000μS/cm	0.01-2000μS/cm	0.01-2000μS/cm	0.01-2000μS/cm	0-70000μS/cm 0-300ms/cm
Temperature range	0-60℃	0-60℃	0-60℃	0-60℃	0-50℃
Temperature compensation type	NTC2252，NTC10K PT1000，PT100	NTC2252，NTC10K，PT1000，PT100	NTC2252，NTC10K PT1000，PT100	NTC2252，NTC10K PT1000，PT100	-
Liquid receiving material	304，Tetrafluoro	PPS	304、Tetrafluoro	Hurricane material	PPS,Graphite
Installation interface	Up and down NPT3/4	Up and down NPT3/4	Chuck 50.5mm	Quick connect 8mm	Up and down NPT3/4
Electrode withstand voltage	0.6Mpa	0.3Mpa	0.3Mpa，0.6Mpa	Circulation type	-
Using water depth	-	-	-	-	IP38,10mMax
Power supply	-	-	-	-	12-24VDC
Response time	-	-	-	-	T90 < 30s
Size	-	-	-	-	Length: 140mm Diameter: 31mm
Output signal	-	-	-	-	RS485
Applicable scenarios	Sewage,Pure water, Tap water, Food, Surface water, Chemical industry, Electricity, Metallurgy, Environmental protection, Etc	Tap water, Sewage, Surface water, Food, Chemical industry, Electricity, Metallurgy, Environmental protection, Etc	Pure water, Tap water, Surface water, Chemical industry, Food, Environmental protection, Etc	Sewage, Chemical industry, Environmental protection, Seawater, Etc	Sewage, surface Water, Chemical industry, Seawater, Environmental protection, Etc

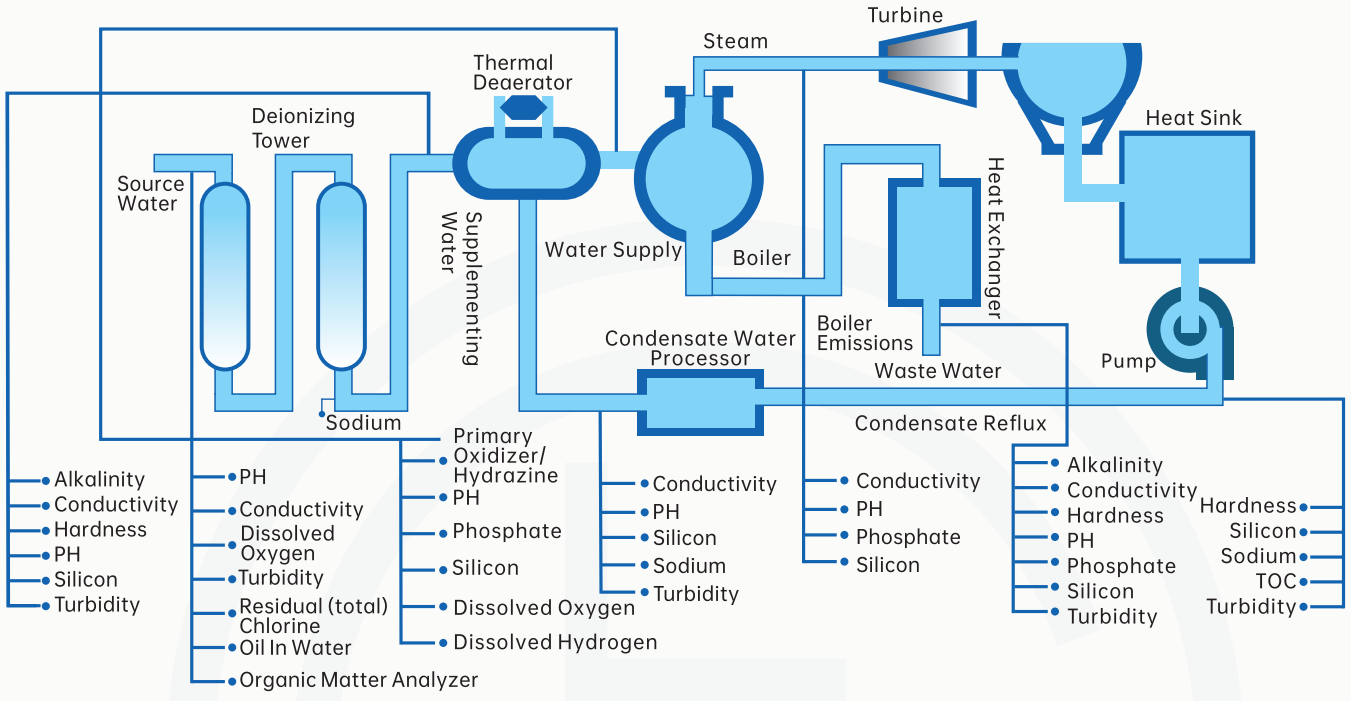
Sewage Treatment Process Diagram



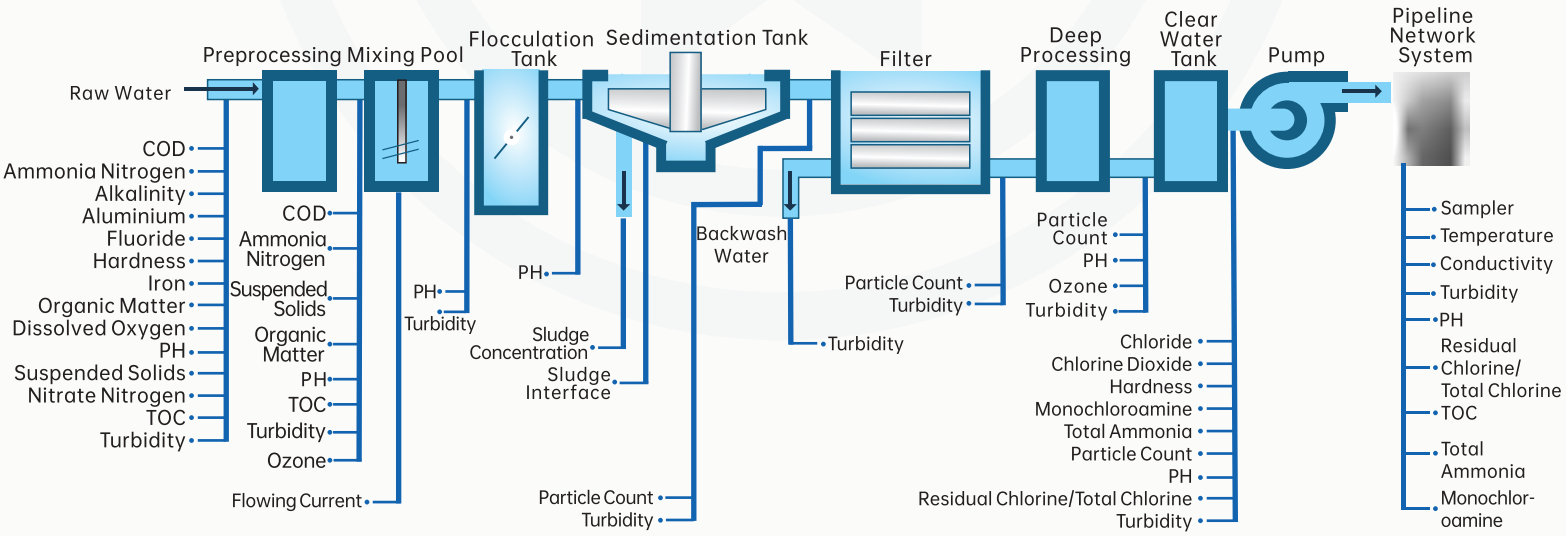
Electronic Industry Water/Wastewater Reuse Process and Water Quality Monitoring Plan



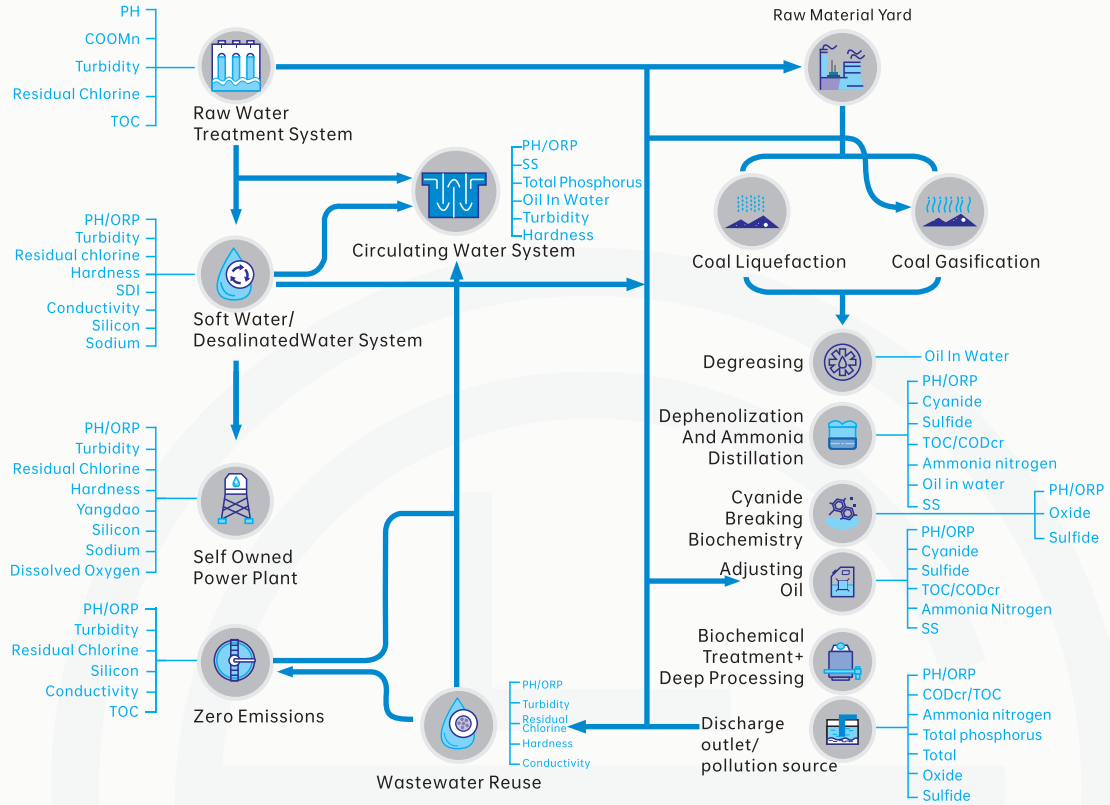

Boiler Water Flow Diagram


Turbine
Steam
Thermal Deaerator
Deionizing Tower
Heat Sink
Source Water
Supplementing Water
Water Supply
Boiler
Heat Exchanger
Boiler Emissions
Condensate Water Processor
Waste Water
Pump
Sodium
Condensate Reflux
Alkalinity
Conductivity
Hardness
PH
Silicon
Turbidity
PH
Conductivity
Dissolved Oxygen
Turbidity
Residual (total) Chlorine
Oil In Water
Organic Matter Analyzer
Primary Oxidizer/ Hydrazine
PH
Phosphate
Silicon
Dissolved Oxygen
Dissolved Hydrogen
Conductivity
PH
Silicon
Sodium
Turbidity
Conductivity
PH
Phosphate
Silicon
Alkalinity
Conductivity
Hardness
PH
Phosphate
Silicon
Turbidity
Hardness
Silicon
Sodium
TOC
Turbidity


Drinking Water Treatment Process Diagram

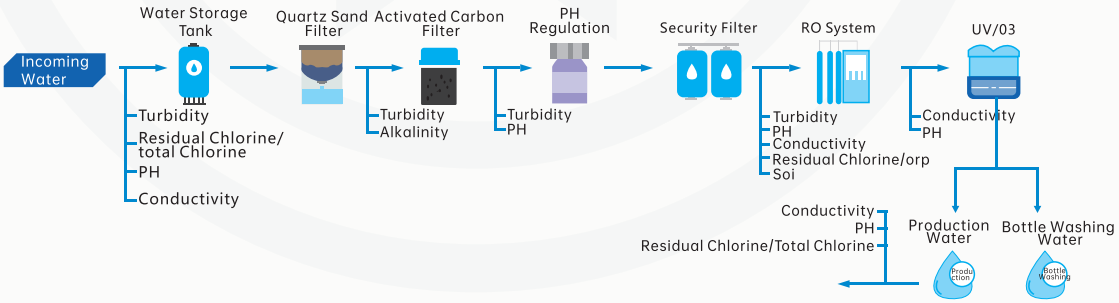

Raw Water
Preprocessing Mixing Pool
Flocculation Tank
Sedimentation Tank
Filter
Deep Processing
Clear Water Tank
Pump
Pipeline Network System
COD
Ammonia Nitrogen
Alkalinity
Aluminium
Fluoride
Hardness
Iron
Organic Matter
Dissolved Oxygen
PH
Suspended Solids
Nitrate Nitrogen
TOC
Turbidity
COD
Ammonia Nitrogen
Suspended Solids
Organic Matter
PH
TOC
Turbidity
Ozone
Flowing Current
PH
Turbidity
PH
Sludge Concentration
Sludge Interface
Particle Count
Turbidity
Backwash Water
Turbidity
Particle Count
Turbidity
Particle Count
PH
Ozone
Turbidity
Chloride
Chlorine Dioxide
Hardness
Monochloroamine
Total Ammonia
Particle Count
PH
Residual Chlorine/Total Chlorine
Turbidity
Sampler
Temperature
Conductivity
Turbidity
PH
Residual Chlorine/ Total Chlorine
TOC
Total Ammonia
Monochlor-oamine

Petrochemical Environmental Water Treatment Process Diagram

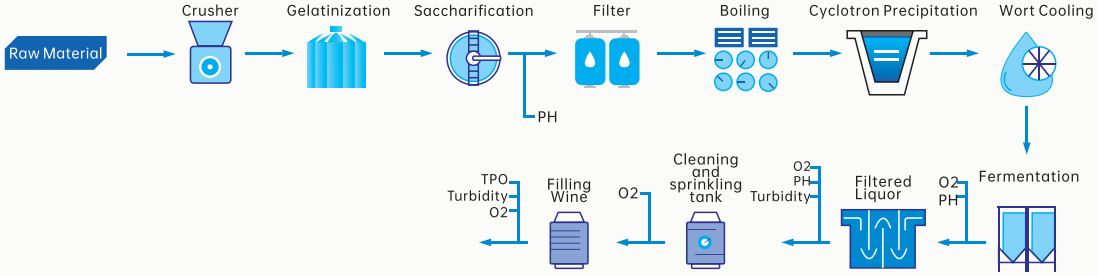


Wastewater Treatment Process And Water Quality Monitoring Plan For The Beer And Beverage Industry

Process Flow Of Beer Beverage Raw Water Pretreatment



Beer Water Usage Process



CE Selection Composition

Selection example CE- D1 G N V A N S F H L
1 2 3 4 5 6 7 8 9 10

1.Electrode model	D1	Stainless steel shell (conventional) electrode	
	D2	Plastic shell electrode	
	D3	Sanitary electrodes	
	D4	Ultra large range electrode	
	D5	Digital quantity electrode	
2.Display Size	G	4.3-inch LCD color screen	
	H	3.2-inch LCD screen	
3.Range ranges	N	0.01-20000μS/cm	
	O	0-70000μS/cm，0-300ms/cm	
	T( )	Other range ranges	
4.Resolutions	V	0.001	
	W	0.01	
	T( )	Other resolutions	
5.Output signals	A	4~20mA	
	B	4~20mA+RS485	
	C	4~20mA+RS232	
	T( )	Other output signals	
6.Materials	N	304 room temperature (stainless steel shell (conventional) electrode)	
	O	304 high temperature (stainless steel shell (conventional) electrode)	
	P	PPS (plastic shell electrode)	
	Q	Graphite (digital electrode)	
	M	304 (sanitary electrode)	
	R	Hurricane material (ultra large range electrode)	
	T( )	Other materials	
7.Source	S	24VDC	
	V	220VAC	
8.Protection levels	E	IP65	
	F	IP68	
	T( )	Other protection levels	
9.Lengths	H	10m	
	I	5m	
	G	15m	
	T()	Other lengths	
10.Installation interfaces	L	Up and down NPT3/4	
	M	Chuck 50.5mm (sanitary motor)	
	N	Quick connect 8mm (digital electrode)	
	T()	Other installation interfaces	

Explanation:

CE-D1 conductivity analyzer, equipped with a stainless steel shell (conventional) electrode and a 4.3-inch LCD color screen, with a range of 0.01-20000μS/cm, resolution 0.001, output signal 4-20mA, material 304 room temperature, power supply 24VDC, protection level IP68, cable length 10m, installation interface up and down NPT3/4.

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;