



Beijing Bianhuadian Chemical Analytical Instruments Co., Ltd (Huadian)

Overview of textile
wastewater treatment
technology



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○ Company overview ○

About Huadian
Trend of water treatment
Our advantage
Overview of our qualifications



01



30+

Years of experience



Global customers

1st

Only registered research
institute in China

120+

National patents

¥ 25m

Registered capital

2000+

Business partners

120+

Skilled workers

140+

Cities covered by our projects
in China till 2024

About Huadian

Beijing Bianhuadian chemical Analytical Instruments Co., Ltd (Huadian) was established in 1992, is a leading high-tech enterprise specializing in water treatment solutions in China.

Huadian is dedicated to the research, development, manufacture and sales of water quality analyzers and professional water treatment equipment. As the first and only company to set up a registered research institute in China, Huadian has been at the forefront of the industry in providing comprehensive water treatment solutions including industrial wastewater treatment, municipal wastewater treatment, and ultrapure water production.

With a registered capital of 25 million RMB, we have a professional team with more than 30 years of experience in water treatment. We have more than 120 highly skilled professionals serving customers all over the world. Our research team at the Huadian Research Institute in Beijing specializes in the development of water quality analysis equipment and holds more than 120 Chinese patents. By the end of 2024, we have over 2,000 business partners worldwide and have successfully completed water treatment projects in 140 cities in China.

Trend of water treatment

The world's water treatment industry has shown a rapid development trend in recent years, mainly driven by global water shortage, increasing environmental pollution and rising demand for clean water from population growth.

1. **Technological innovation and intelligence:** Advanced water treatment technologies, such as membrane filtration, ultraviolet disinfection, and electrochemical technologies, are constantly being upgraded. In addition, the application of digital technology has led to the trend of intelligent water treatment systems, which are capable of monitoring water quality in real time, optimizing treatment processes and reducing energy consumption.
2. **Circular economy and resource recovery:** water treatment is no longer limited to purification and discharge, more and more companies are concerned about the recovery of resources from wastewater to achieve sustainable development.
3. **Policy and Regulatory Drivers:** Governments are increasing their support for the water treatment industry through legislation and policy incentives, such as carbon neutral targets for energy efficiency in wastewater treatment plants. Environmental optimization and reduction of emissions is the inevitable direction of future policy development.
4. **Marketization and international cooperation:** The water treatment industry is gradually expanding from a single local business to a globalized market. There is growing cooperation between multinational corporations, international organizations and local governments to address water management challenges.



Tech innovation



Resource recovery



Policy incentives



International cooperation

Our advantages

We are one of the few suppliers who cover the whole process of design, manufacturing, on-site construction, commissioning and after-sales service. When developing wastewater treatment solutions, we prioritize reliable, cost-effective, and energy-efficient technologies based on site-specific conditions to ensure that the facilities operate stably, are easy to operate and maintain, and comply with relevant local regulations and discharge standards. We are also committed to meeting the needs of our customers and realizing sustainable business strategies based on long-term mutual trust. We aim to keep up with the trend and contribute to the world's environmental protection!

We can offer to you:



Comprehensive product

The only enterprise in the industry covering the whole industrial chain of water treatment (most environmental protection companies only have design capability). Huadian has its own research institute, production workshop and assembly workshop. Effectively guarantee the independent design and production of the whole product, and control the production cost in the most reasonable range. Provide our customers with any products they want.



High-standard product

Over 30 years of industry experience, holding comprehensive national patents, research institutes and highly-skilled professionals. Ensuring that our products are at the forefront of the world's water treatment innovations. Providing our customers with the most stable, efficient and reliable products available.



Full service

Professional pre-sales and after-sales team, online and local on-site combined service mode, for optimization of the customer's using experience. The support of the whole industrial chain guarantees flexible proposal design, ensuring that customers can get the water treatment solutions that best meet their practical needs. Provide our customers with the most satisfactory experience.

Qualifications-management certificates

CERTIFICATE
OF REGISTRATION



Certificate No.: U23Q28020136R1S

The Quality Management Systems of

Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.

Unified Social Credit Code:91110108802090204U

Registration address:710, Floor 7, Building 3, Yard 11, Lianqiao Second Street, Haidian District, Beijing

Office address: 710, 7th Floor, Building 3, No. 11 Courtyard, Lianqiao Second Street, Haidian District, Beijing

Production address: Building B, No. 66 Factory Area, Nanyan Road, Liucun Town, Changping District, Beijing

has been assessed by GICG and complying with

GB/T19001-2016/ISO9001:2015

For the following activities

Production (branch company only) and sales of water quality analysis instrument, steam and water sampling and dosing device

Date of Issue:	Date of Expiry:	Date of Initial Certification:
19 December 2023	18 December 2026	21 December 2020



Scan for certificate status

The granting of this certificate does not mean that the certificate holder can avoid any legal obligation. If the products or activities covered in the scope of certification require administrative license, the certificate shall be only valid within the scope of administrative licensing. The registered organization shall be subject to regular annual supervision by GICG, and the continual validity of the certificate is base upon conformity of audit. Please scan two-dimension code at left to find the certificate information. This certificate can be queried at Certification and Accreditation Administration of the People's Republic of China official website (www.cnca.gov.cn) & GICG website (www.gicg.com.cn)



GICG WeChat public number

Signature: 

Guardian Independent Certification Ltd
Registered in England
114 St Martin's Lane, Covent Garden, London WC2N 4BE
Accredited by Member of IAF MLA



MEMBER OF MULTILATERAL
ACCOGNITION ARRANGEMENT



UKAS
MANAGEMENT
SYSTEMS

0045

CERTIFICATE
OF REGISTRATION



Certificate No.: U23E28020137R1S

The Environmental Management Systems of

Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.

Unified Social Credit Code:91110108802090204U

Registration address:710, Floor 7, Building 3, Yard 11, Lianqiao Second Street, Haidian District, Beijing

Office address: 710, 7th Floor, Building 3, No. 11 Courtyard, Lianqiao Second Street, Haidian District, Beijing

Production address: Building B, No. 66 Factory Area, Nanyan Road, Liucun Town, Changping District, Beijing

has been assessed by GICG and complying with

GB/T24001-2016/ISO14001:2015

For the following activities

Environmental management activities of places relating to production (branch company only) and sales of water quality analysis instrument, steam and water sampling and dosing device

Date of Issue:	Date of Expiry:	Date of Initial Certification:
19 December 2023	18 December 2026	21 December 2020



Scan for certificate status

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MEMBER OF MULTILATERAL
ACCOGNITION ARRANGEMENT



UKAS
MANAGEMENT
SYSTEMS

0045

CERTIFICATE
OF REGISTRATION



Certificate No.: U23S28020138R1S

The Occupational Health and Safety Management Systems of

Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.

Unified Social Credit Code:91110108802090204U

Registration address:710, Floor 7, Building 3, Yard 11, Lianqiao Second Street, Haidian District, Beijing

Office address: 710, 7th Floor, Building 3, No. 11 Courtyard, Lianqiao Second Street, Haidian District, Beijing

Production address: Building B, No. 66 Factory Area, Nanyan Road, Liucun Town, Changping District, Beijing

has been assessed by GICG and complying with

GB/T45001-2020/ISO45001: 2018

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Occupational health and safety management activities of places relating to production (branch company only) and sales of water quality analysis instrument, steam and water sampling and dosing device

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MEMBER OF MULTILATERAL
ACCOGNITION ARRANGEMENT



UKAS
MANAGEMENT
SYSTEMS

0045

Qualifications-attestation of compliance



ATTESTATION OF COMPLIANCE

Reference No: TTC-24-2601/03/02

Applicant: Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.
710, 7th Floor, Building 3, Courtyard 11, Lianqiao Second Street, Haidian District, Beijing.

Manufacturer: Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.
Changping Branch.
Building B, Factory Area, No. 66 Nanyan Road, Liucun Town, Changping District, Beijing.

Product: Dosing device

Type/Model: HD series.

Reference Directive(s): 2006/42/EC MD (Machinery Directive).
2014/35/EU LVD (Low Voltage Directive).
2014/30/EU EMC (Electromagnetic Compatibility).

Reference Standard(s): EN ISO 12100:2010, EN 60204-1:2018, EN 61000-6-4:2019,
EN IEC 61000-6-3:2021, EN IEC 61000-6-2:2019, EN IEC 61000-6-1:2019.

Base of attestation: File of technical documentation TRC-24-2601/03/TD02

Issue Date: 26.01.2024 Expiry Date: 26.01.2029

Integra96, hereby confirms, that the presented file of technical documentation declares conformity of the above mentioned product(s) with the technical requirements of Parliament and Council Directive 2006/42/EC Annex-I (Machinery Directive), 2014/35/EU Annex-I (Low Voltage) & 2014/30/EU Annex-I (Electromagnetic Compatibility). This attestation has been issued as per company required. This attestation does not abrogate the compulsory obligation of the manufacturer to issue the declaration of conformity. This document has been issued in accordance with the European Commission's note of 14 September 2022 ref. Area (2022) 6342894 concerning voluntary certifications...

Captiz TAHIR
INTEGRA96 Belgelendirme
İZMİR, (rev. 00) <26.01.2024>

İNTEGRA96 ULUSLARARASI ÖLÇEN VE SİSTEM BELGELENDİRME
BAĞIMSIZ DENETİM, GÖZETİM VE EĞİTİM HİZMETLERİ LTD. ŞTİ.
Mithatpaşa Mahallesi 39060/1 Sokak, No:5/A, Çiğli / İzmir / TÜRKİYE
Tel : +90 332 482 30 51-52 Faks : +90 332 482 30 51 e-mail:info@integra96.com www.integra96.com





ATTESTATION OF COMPLIANCE

Reference No: TTC-24-2601/03/03

Applicant: Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.
710, 7th Floor, Building 3, Courtyard 11, Lianqiao Second Street, Haidian District, Beijing.

Manufacturer: Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.
Changping Branch.
Building B, Factory Area, No. 66 Nanyan Road, Liucun Town, Changping District, Beijing.

Product: Water and steam sampling.

Type/Model: HD series.

Reference Directive(s): 2006/42/EC MD (Machinery Directive).
2014/35/EU LVD (Low Voltage Directive).
2014/30/EU EMC (Electromagnetic Compatibility).

Reference Standard(s): EN ISO 12100:2010, EN 60204-1:2018, EN 61000-6-4:2019,
EN IEC 61000-6-3:2021, EN IEC 61000-6-2:2019, EN IEC 61000-6-1:2019.

Base of attestation: File of technical documentation TRC-24-2601/03/TD03

Issue Date: 26.01.2024 Expiry Date: 26.01.2029

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ATTESTATION OF COMPLIANCE

Reference No: TTC-24-2601/03/01

Applicant: Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.
710, 7th Floor, Building 3, Courtyard 11, Lianqiao Second Street, Haidian District, Beijing.

Manufacturer: Beijing Bianhua Electrochemical Analysis Instrument Co., Ltd.
Changping Branch.
Building B, Factory Area, No. 66 Nanyan Road, Liucun Town, Changping District, Beijing.

Product: Conductivity meter.

Type/Model: HD-9533Z

Reference Directive(s): 2014/35/EU LVD (Low Voltage Directive).
2014/30/EU EMC (Electromagnetic Compatibility).

Reference Standard(s): EN 61010-1:2010+A1:2019, EN 61326-1:2021.

Base of attestation: File of technical documentation TRC-24-2601/03/TD01

Issue Date: 26.01.2024 Expiry Date: 26.01.2029

Integra96, hereby confirms, that the presented file of technical documentation declares conformity of the above mentioned product(s) with the technical requirements of Parliament and Council Directive 2006/42/EC Annex-I (Machinery Directive), 2014/35/EU Annex-I (Low Voltage) & 2014/30/EU Annex-I (Electromagnetic Compatibility). This attestation has been issued as per company required. This attestation does not abrogate the compulsory obligation of the manufacturer to issue the declaration of conformity. This document has been issued in accordance with the European Commission's note of 14 September 2022 ref. Area (2022) 6342894 concerning voluntary certifications...

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Tel : +90 332 482 30 51-52 Faks : +90 332 482 30 51 e-mail:info@integra96.com www.integra96.com



Qualifications-certificates of credibility



Qualifications-patents (part of)



○ Analysis of textile wastewater ○

Characteristics of textile wastewater
Treatment process and technologies



02

Characteristics of textile wastewater

Characteristics



High organic load

Textile wastewater contains high concentrations of organic substances, such as dyes, starch and cellulose, making it difficult to treat.



High alkalinity

Due to the extensive use of alkaline solutions in the dyeing process, the wastewater exhibits a high pH value, making it strongly alkaline.



High chromaticity

The presence of a variety of dyes results in high levels of chromaticity, posing significant processing challenges.



Varied quality

Different fiber types and processing technologies lead to significant differences in the quality and quantity of wastewater, which adds to the complexity of treatment.



Multiple pollutants

In addition to organic substances, wastewater contains inorganic salts, heavy metals and other pollutants, resulting in a complex composition.

Treatment technology



Physico-chemical technology

Mechanical grille
Cooling
Equalization
Air flotation
Coagulation



Biological treatment technology

Anoxic treatment
Aerobic treatment
Biosedimentation



Advanced treatment technology

Membrane separation
Ultrafiltration (UF)
Reverse osmosis (RO)
Thick water treatment

Solution



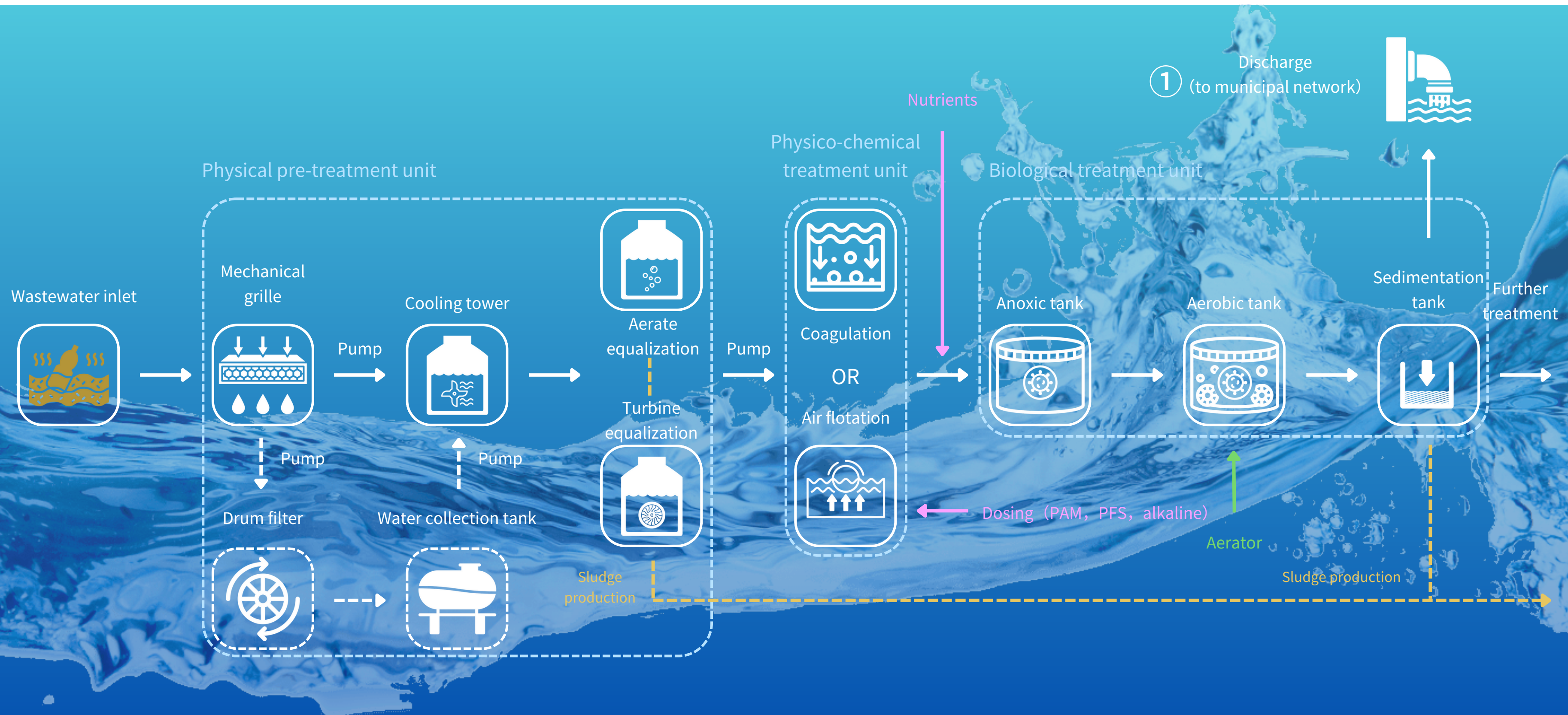
Discharge



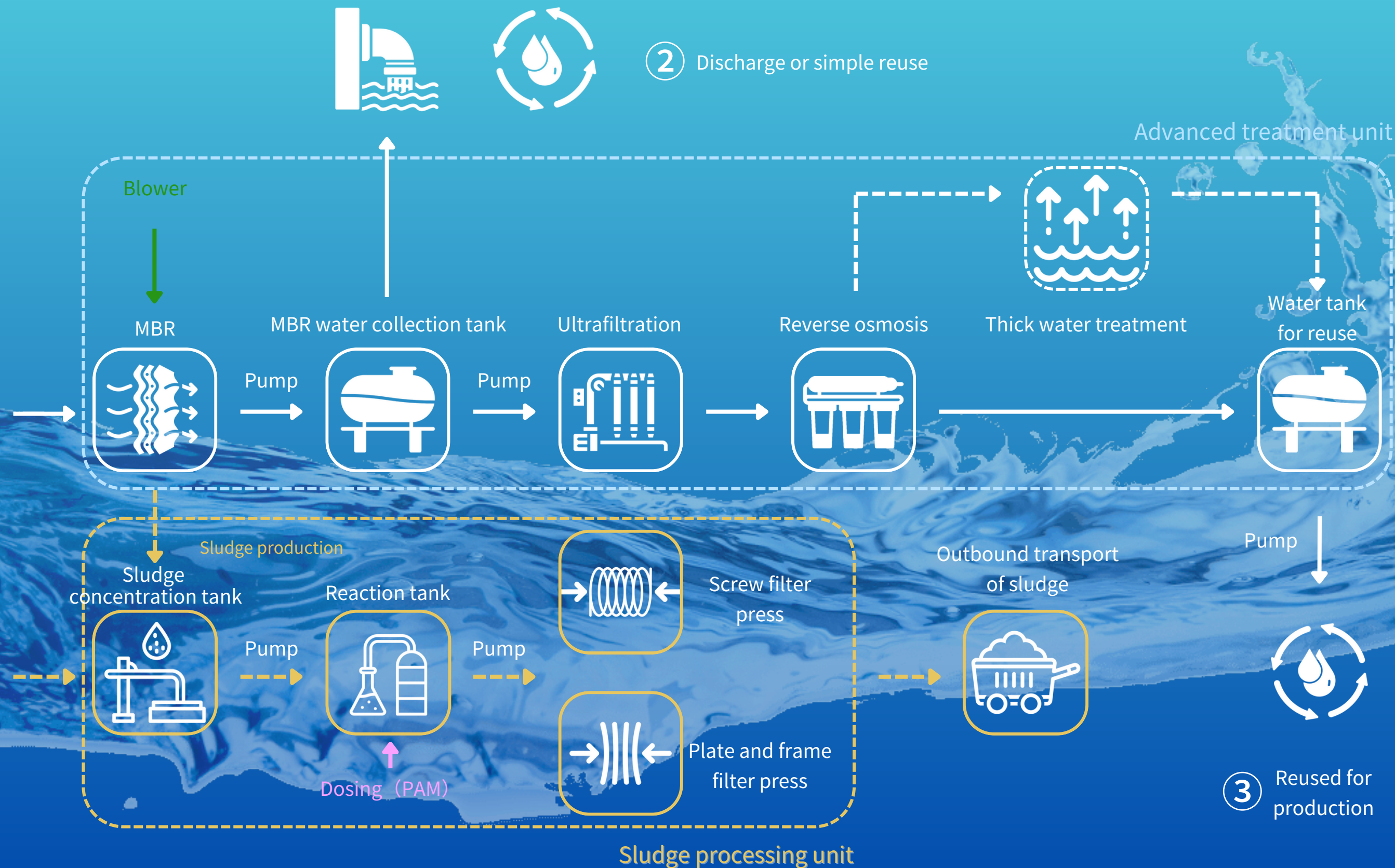
Reuse

* We offer solutions to meet different water reuse rates based on the specific needs of our customers (see subsequent presentations for details) in order to safeguard the economic viability, local regulatory compliance, overall system stability, and efficiency of the water treatment program.

Treatment process and technologies



Treatment process and technologies



This process is a typical printing and dyeing textile wastewater treatment discharge/reuse process, according to the water quality of different customers' discharge and reuse requirements, we can develop different solutions.

When the customer does not have the requirement of reuse, we can do the process to the ① stage in the illustration, that is, the stage of sedimentation tank water, in most cases can meet the requirements of discharge to the municipal network, COD can reach 300 to 500 mgO₂ per liter.

When the water quality of customer's reuse water is not very high, we can do the process to the ② stage in the above diagram, that is, MBR membrane effluent stage, which can meet the requirements of simple reuse, and the COD can reach 50-100 mgO₂ per liter, suitable for activities with low water quality requirement such as cleaning the ground and irrigation.

When the customer's water quality requirements for water reuse is very high, need to be used back to the production line, we can do the process to the above illustration of the ③ stage, that is, reverse osmosis effluent, the effluent water quality is better than the tap water quality, COD can be achieved between 0-5 mgO₂ per liter, the conductivity can be achieved below 200 μ S/cm.

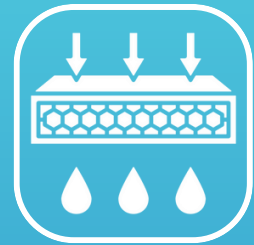
Product introduction

Basic information about key equipment

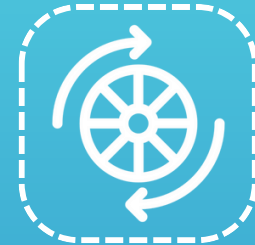


03

Physical pre-treatment unit



Mechanical grille



Drum filter

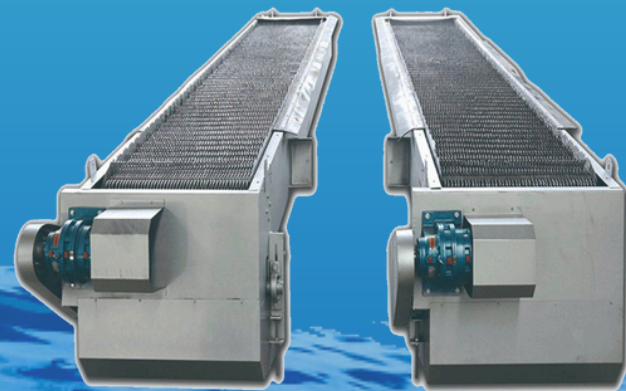


Cooling tower



Equalization tank

Reference image (For reference only, actual equipment style is subject to solution design)



Functions

Prevents large pieces of solid entering the subsequent treatment process, reduces the risk of damage and clogging of subsequent equipment, reduces wear and tear on pumps and machines, reduces subsequent sedimentation loads, and avoids particulate matter from affecting the growth environment of microorganisms. This effectively reduces the repair cost and maintenance frequency of the equipment, and improves the overall operating efficiency of the system.

Effectively intercepts suspended matter such as fibers, cloth scraps, dye particles, etc. that may be present in the dyeing and textile wastewater. Prevents them from entering subsequent treatment units, causing clogging. For example, it avoids fibers becoming entangled in the impeller of the pump. In addition, the equipment provides a relatively stable influent water quality for subsequent chemical and biological treatment processes.

The wastewater is cooled in this tower, the temperature is able to reach the appropriate range required for subsequent treatment processes. Biological treatment for instance, have certain requirements on temperature. Generally speaking, the microorganisms in biological treatment can play the best treatment effect between 20 - 35 °C, the cooling tower can provide the biological treatment unit with the appropriate temperature of the input water.

Equalization tank can make the substances in the wastewater fully mixed, so that the wastewater quality is remained stable. It can also store the water to ensure that the subsequent treatment facilities can operate under a relatively stable flow. To overall avoid the ineffectiveness of subsequent treatment process by the impact of sudden changes in water quality and quantity.

Physico-chemical treatment unit

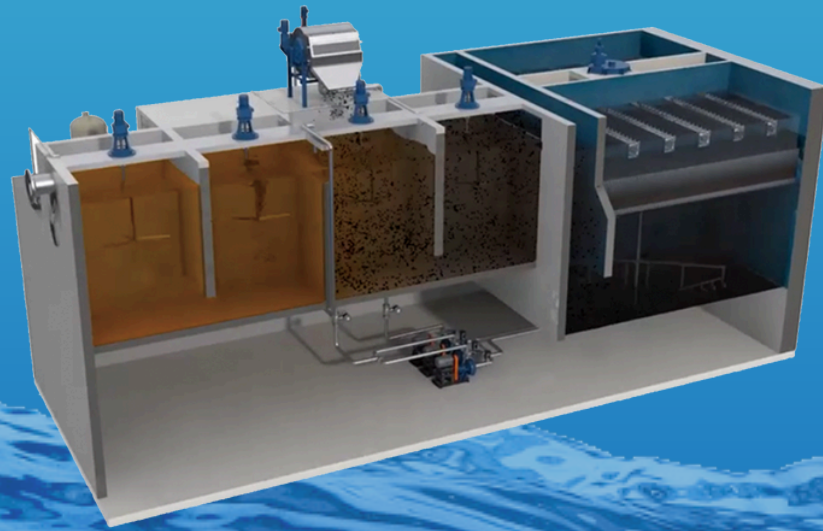


Coagulator



Air flotation machine

Reference image (For reference only, actual equipment style is subject to solution design)



Functions

Printing and dyeing wastewater contains a large number of suspended matter, such as fibers, cloth debris, undissolved dye particles and so on. Coagulator by adding coagulant to the wastewater, through the charge neutralization effect to make the suspended particles destabilized. The destabilized suspended particles collide with each other and coalesce to form larger flocs. The formed flocs will gradually settle to the bottom of the tank under gravity. The settled sludge can be discharged regularly through the sludge discharge device. This effectively removes most of the suspended matter from the printing and dyeing wastewater, reduces the turbidity of the wastewater, and reduces the burden on the subsequent treatment equipment (e.g., filters, biological treatment units, etc.).

Air flotation machine works by generating tiny air bubbles, which cause these suspensions to attach to the bubbles and then float up to the surface of the water and scraped away. This approach is particularly effective for tiny suspended particles that are difficult to settle naturally. For example, some dye particles and fiber fragments with small particle sizes can be quickly separated from the wastewater through the air flotation process, greatly reducing the turbidity of the wastewater. Additionally, the oil and grease will be also adsorbed on the surface of the bubbles and float together with the bubbles, and the colloidal substances can be easily combined with the bubbles due to their surface properties. This can effectively remove the grease and colloid in the printing and dyeing wastewater.

Biological treatment unit



Anoxic tank

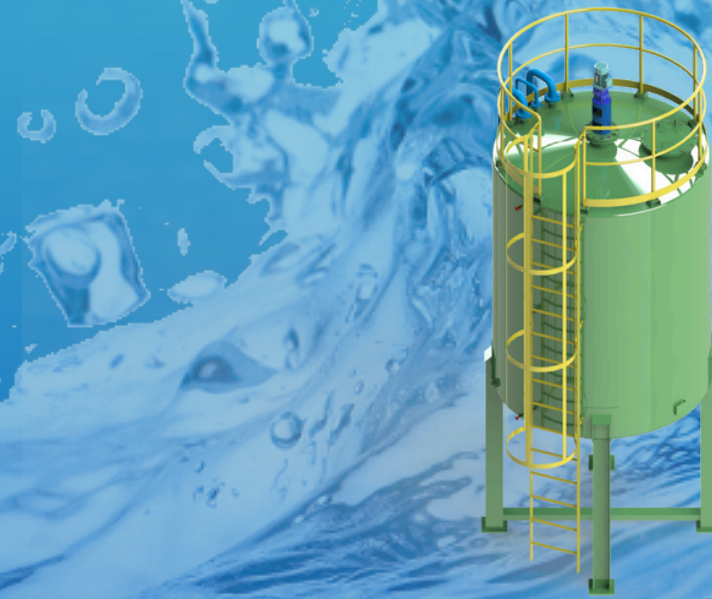


Aerobic tank



Sedimentation tank

Reference image (For reference only, actual equipment style is subject to solution design)



Functions

Printing and dyeing wastewater contains a large number of complex organic matter, such as dye molecules, printing and dyeing auxiliaries. Anaerobic microorganisms decompose these macromolecules into small molecules through hydrolysis and acidification. This process provides a more easily degradable substrate for the subsequent aerobic treatment and improves the removal efficiency of organic matter in the whole system.

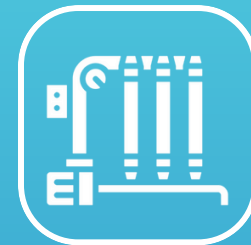
Aerobic microorganisms carry out deep oxidative decomposition of treated small molecule organic matter under aerobic conditions. The organic matter is thoroughly oxidized to carbon dioxide and water. In printing and dyeing wastewater treatment, aerobic microorganisms can effectively decompose small molecule organic matter produced by the decomposition of various dye intermediates and auxiliaries. Thus, the chemical oxygen demand (COD) of wastewater is greatly reduced, and the organic matter in printing and dyeing wastewater is effectively removed.

The biochemical sedimentation tank utilizes the principle of gravity settling to make the activated sludge (microbial aggregates) settle to the bottom of the tank, while the treated supernatant flows out from the upper part. These sludge is mainly composed of microorganisms and their metabolites, and after settling at the bottom of the tank, it can be returned to the front end of the bioreactor through the sludge reflux system to continue to participate in the treatment of printing and dyeing wastewater, while the concentration of pollutants in the supernatant has been greatly reduced, and it can meet certain discharge standards or enter the subsequent advanced treatment unit.

Advanced treatment unit



MBR (membrane bioreactor)



Ultrafiltration (UF) system



Reverse osmosis (RO) system



Thick water treatment device: mechanical vapor recompression (MVR)

Reference image (For reference only, actual equipment style is subject to solution design)



Functions

MBR separates microorganisms by means of ultrafiltration or microfiltration membranes. The separation is much more precise than in conventional sedimentation tanks, and the very small pore size of the membrane modules, typically between 0.02 - 0.4 μm , ensures that the clarity of the effluent and the very low suspended solids content allow the treated water to reach higher water quality standards directly.

The pore size of the ultrafiltration membrane of the ultrafiltration system is generally between 0.001 - 0.1 μm , and these tiny pore sizes can effectively retain suspended matter and colloids. This helps to reduce the turbidity and suspended solids content of the wastewater, making it clear. Some degree of water reuse can be achieved with this equipment.

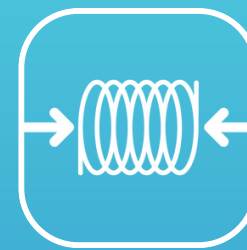
The reverse osmosis system can effectively remove the salts in the wastewater. The pore size of the reverse osmosis membrane is very small, generally between 0.1 - 1nm, and can retain most of the salt ions. For some printing and dyeing wastewater reuse scenarios with strict salinity requirements, such as the printing and dyeing process of high-quality fabrics, deep desalination is very critical.

Its main function is to evaporate thick (high salinity) wastewater and concentrate the remaining substances, thus reducing the volume of wastewater. The equipment has a compact structure, and is equipped with an intelligent control system, which is convenient for operation and maintenance. It is suitable for the treatment of high salt wastewater, high COD wastewater, etc. MVR technology is especially suitable for industries that need to realize zero discharge.

Sludge processing unit



Sludge concentration tank

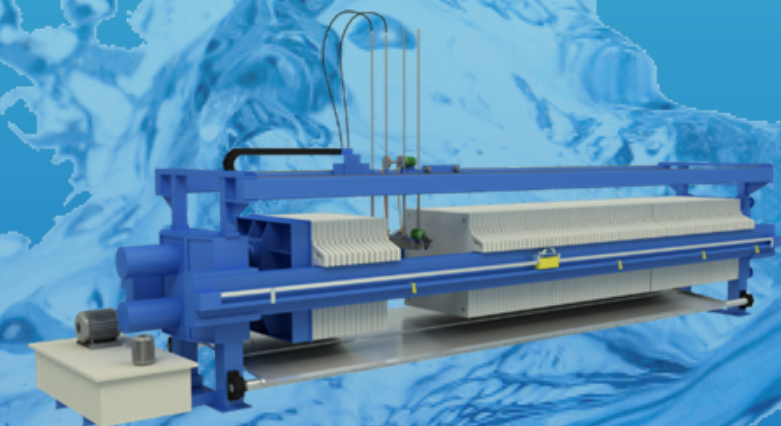
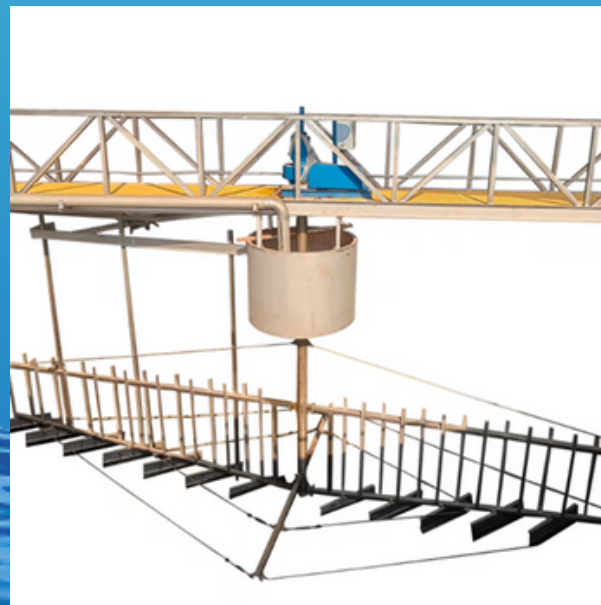


Screw filter press



Plate and frame filter press

Reference image (For reference only, actual equipment style is subject to solution design)



Functions

It can reduce the water content of sludge. After effective concentration, the liquid content of sludge can be decreased from 1% - 2% to 4% - 6%. Less water content makes it easier for the sludge to react with chemicals during subsequent treatment and improves the dewatering of the sludge in the dewatering plant to a state where it can be easily disposed of.

The screw filter press can effectively dewater these sludges. It gradually squeezes the sludge through the rotation of the screw shaft, so that the water in the sludge is discharged from the filter slits. The initial water content of printing and dyeing sludge may be as high as 98% - 99%, but after treatment with the screw filter press, the water content can be reduced to about 80%, which greatly reduces the volume of sludge. This dewatered sludge is more convenient for subsequent transportation, landfill or other disposal methods, which reduces the cost of sludge treatment.

After being pressed by the plate and frame filter press, the water content of the sludge can be reduced to 60% - 80%. As a result, the volume of the sludge is significantly reduced, which facilitates subsequent sludge disposal, such as landfill and incineration of the sludge. At the same time, the reduction of water in the sludge also helps to reduce the transportation costs of the sludge, as the weight of the treated sludge is reduced, requiring fewer vehicles and less energy consumption during transportation.

Other equipments



Dosing unit



Analytical instruments

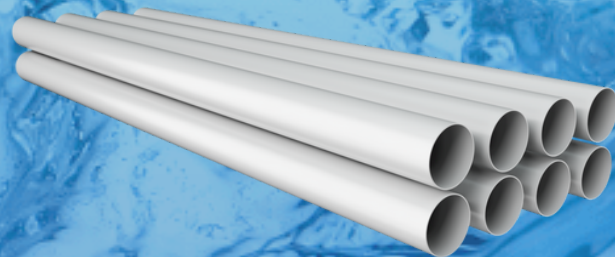
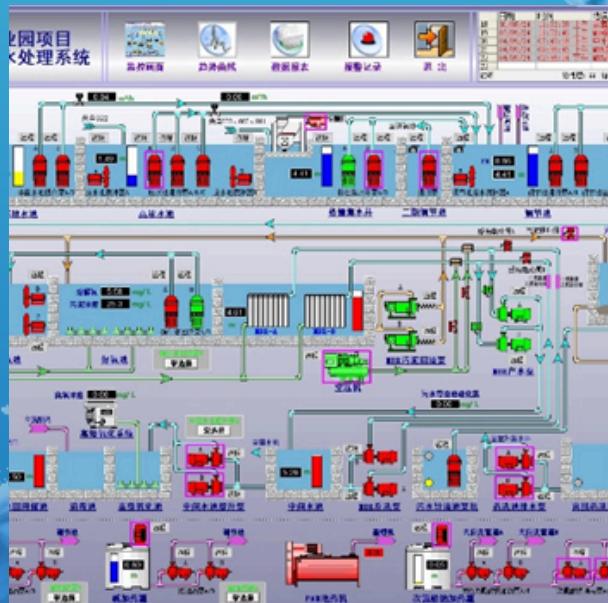


Automatic control system



Pipeline system and electrical network

Reference image (For reference only, actual equipment style is subject to solution design)



Functions

The core role of automated dosing units in wastewater treatment is to improve treatment efficiency, reduce costs, protect equipment and secure treatment outcome. The input of chemicals can enhance the coagulation effect, accelerate precipitation, improve separation efficiency, but also adjust the pH value, oxidative decomposition of organic matter, disinfection and sterilization, etc.

Process analysis, control instruments mainly include thermometers, flow meters, level meters, pressure sensors, COD online detector, PH online detector and other instruments. Well-equipped analysis and control instrumentation can play a role in water quality monitoring, process water quality control, optimization of the treatment process, fault warning and safety, and energy saving.

The water quality of printing and dyeing wastewater is complex and variable, and the automatic control system can monitor various parameters of wastewater in real time. In addition, the automatic control system can accurately calculate the dosage of chemicals according to the water quality and quantity of incoming water. Its usually equipped with remote monitoring functions and data logging, etc., and managers can remotely access the operating data and status of the wastewater treatment system through the Internet.

The role of the pipe system in wastewater treatment is to ensure the smooth running of the wastewater treatment process by collecting, transporting and treating wastewater.

An efficient electrical network improves energy efficiency, reduces costs, enhances safety and enables intelligent management. By monitoring and controlling the distribution system in real time, wastewater treatment plants are able to manage energy use more effectively and reduce unnecessary energy consumption, thereby improving overall operational efficiency.

Customer feedback



04

Customer feedback



Global cooperation

Our international cooperation over the last 30 years has covered global companies, including water treatment projects in overseas factories and foreign companies in China, as well as being responsible for the supply of instruments for water treatment projects of large international environmental companies, such as Veolia France.



All-industry coverage

Our projects cover industries including but not limited to chip manufacturing (NXP), food (Nestle), energy (Sinopec), automotive (Volkswagen), and textile (Baofeng Printing & Dyeing). We have a full range of capabilities for water treatment solution design, equipment production, construction and installation, and after-sales maintenance.



Guarantee of satisfaction

According to the customer satisfaction questionnaire for the year 2023 to 2024, the customer's overall satisfaction with our project is as high as 89% (the assessment criteria include quality of work, construction progress, technical competence, management level, communication ability, and warranty).

Vestas

VEOLIA



TOYOTA

Nestlé



CNPC
中国石油

ROHM
SEMICONDUCTOR

CAT

NXP
恩智浦半导体

GM

SINOPEC
中国石化

Part of our business partners



Technology Safeguards the Source of Life
Together Creating a Sustainable Future
Making every drop gets hope!

Thank you for watching