一诺环境
INNOVATION ENVIRONMENT

Liaoning Innovation Environment Group Co., Ltd.

COMPANY BROCHURE

Beautiful China · Green Ecology

Faithful Guardian of Ecological Environment

Build the Largest One-Stop Comprehensive Platform for Ecological Environment Products and Services in China

Liaoning Innovation Environment Group Co., Ltd.

www.yinuohuanjing.com

400-082-9898

Yinuo Environmental Industrial Park, Beipiao Economic Development Zone, Chaoyang City, Liaoning Province

[Innovation Environment Official WeChat Account]

[Sales and Technical Consultation]

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COMPANY PROFILE

Corporate Culture

Learning · Innovation · Responsibility

Corporate Mission

To be a faithful guardian of the ecological environment

Corporate Vision

To build the largest one-stop comprehensive platform for ecological environment products and services in China

Liaoning Innovation Environment Group Co., Ltd. is located in Beipiao City, Liaoning Province—the hometown of the “Dragon Bird”—within the Yinuo Environmental Industrial Park. The park, independently funded and constructed by Liaoning Innovation Environment Group Co., Ltd., covers a total area of 270 mu (approximately 180,000 square meters), with a planned construction area of 140,000 square meters.

Focusing on the R&D of advanced environmental protection technologies and the manufacturing of integrated environmental equipment, Liaoning Innovation Environment has developed a “8+4” business model—eight major product series and four major operation and maintenance services. The company boasts the most comprehensive product lines in the environmental governance field in China, and operates the largest single-site production base nationwide. It has established a leading one-stop platform for environmental governance products and services in terms of scale and completeness of offerings.

The eight major product lines include: ① Integrated wastewater treatment equipment, ② Municipal water plant equipment integration, ③ Leachate treatment equipment, ④ Decentralized wastewater treatment equipment, ⑤ Sodium hypochlorite disinfection equipment, ⑥ UED advanced high-concentration wastewater treatment units, ⑦ Livestock and poultry manure resource utilization equipment, ⑧ Septic tanks supporting the “Toilet Revolution” initiative. The four major operation and maintenance services include: ① Entrusted operation and maintenance services for wastewater treatment stations, ② Emergency wastewater treatment services, ③ Leachate treatment services for landfill sites, ④ Treatment services for “three-high” wastewater (high toxicity, high salinity, high concentration)

With the mission of contributing to a “Beautiful China and Green Ecology,” Liaoning Innovation Environment is the first company in China to propose and implement the concept of a rural carbon cycle. By integrating domestic and international R&D resources and introducing advanced technologies, the company strives to support the construction of a beautiful China and serve as a faithful guardian of the ecological environment.

Over 20 Years
of accumulated expertise in environmental management technologies

700+ Professionals
Skilled technical personnel providing one-stop services

140,000 m²
Production area for 11 major product series

Over 400 Sets
Advanced production and processing equipment from domestic and international sources

3 Major Technical Centers
Located in Beijing, Jinan, and Shenyang

Over 80 Sets
of laboratory and testing equipment, including an in-house water quality testing center

51 Certifications
Comprehensive qualification and compliance assurance

5 Strategic Partners
Supported by leading partners: DuBang, Dongli, Ronghua, XPURE, and Veolia

DEVELOPMENT HISTORY

2004

- Launch of the Group's Informatization Reform Plan
- Established the first waste collection station

2008

Industry leader in water purifiers and purified water business

Recognized as one of China’s Top 10 Water Purifier Brands

- Official water purification service provider for the Beijing Olympic Games
- Among the top manufacturers of membrane-based water purification equipment
- Equipment supplier for purified water to Wahaha and Coca-Cola
- Commended by the Ministry of Water Resources as an advanced enterprise in earthquake relief efforts

2012

Dual-driven development in industrial and municipal water supply and drainage treatment

- Successful launch of proprietary ultrafiltration membrane production line
- Completion and commissioning of the Innovation Green Building as Beijing headquarters
- Strategic investment from Legend Capital and Lenovo Star
- Established two major business divisions: Industrial and Municipal, covering both water supply and wastewater treatment
- Secured the first leachate BOT project
- Undertook the second-largest nanofiltration system project in China, located in Xilinhot

2015

Launched rural environmental protection and PPP investment businesses

- Introduced Kerong Environment, a listed company, as a strategic investor
- Initiated rural sewage treatment projects
- Implemented the first PPP project for tap water supply
- Completed the first enterprise-level sewage BOT project
- Secured rural wastewater treatment projects around the Beijing region
- Undertook the first ammonia-based flue gas desulfurization system project

2018

Innovation Environment was spun off as an independent entity, focusing on the full business chain for rural and township markets

- Completed the Yinuo Environmental Industrial Park, dedicated to the manufacturing of a full range of environmental protection products
- The Group restructured its environmental business into four major segments: Products, Engineering, Operation, and Trade
- 65,000 m^2 of factory space was completed and put into production
- A 100,000-ton tap water plant, funded and constructed by the Group, was completed and put into operation
- Achieved standardized and large-scale production of underground and containerized sewage treatment equipment
- Ranked No.1 in water treatment for the waste incineration and biomass power generation sectors
- Became China’s largest tap water plant equipment manufacturer and one-stop integrated service provider

2020

Completed R&D of six major rural environmental products—years of groundwork culminated in breakthrough achievements

- Certified as a National High-Tech Enterprise
- Became the largest DTRO leachate treatment equipment manufacturer in northern China
- Rural environmental products accredited by the Ministry of Agriculture and Rural Affairs and the Ministry of Industry and Information Technology
- Jointly established the Rural Environmental Industry Technology Research Institute with leading universities
- Certified as a "Chick Eagle Enterprise" of Liaoning Province
- Integrated wastewater treatment equipment widely applied in the Xiong'an New Area
- Finalized the business layout of six major products and two key services
- Became one of China’s leading enterprises in the ecological and environmental sector, with the most extensive product lines and the largest production capacity

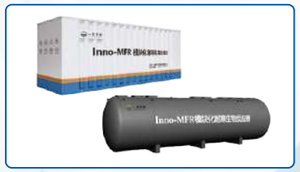
2024

Innovation Environment embarks on a new 20-year journey

- Recognized as a “Specialized, Refined, Distinctive, and Innovative” National Little Giant Enterprise
- Certified as a Provincial Enterprise Technology Center
- Improved and expanded the national sales and service network
- Established three Business Development Centers to enhance nationwide coverage
- Fully upgraded the “8+4” product and service system and application scenarios
- Official market launch of new products: UED and HF filler series
- A new chapter begins in Innovation Environment’s 20-year journey

8+4 BUSINESS AREAS

8 Major Products



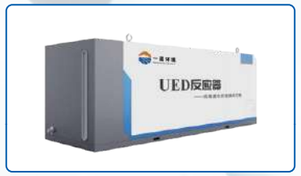
1. Integrated Sewage Treatment Equipment

2. Integrated Equipment for Tap Water Plant Construction

3. Landfill Leachate Treatment Equipment

4. Decentralized Sewage Treatment Equipment

5. Sodium Hypochlorite Disinfection Equipment



6. UED Equipment for High-Concentration and Refractory Wastewater Treatment

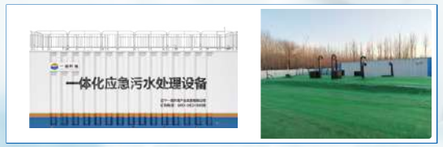
+ 4 Major Services

7. Livestock and Poultry Manure Resource Utilization Equipment

8. Supporting Septic Tanks for the “Toilet Revolution”

Other water treatment equipment and services of the Group

1. Third-Party Operation and Maintenance Services for Sewage Treatment Stations



2. Emergency Sewage Treatment Services

3. Emergency Sewage Treatment Services

4. “Three High” Wastewater Treatment Services (High Toxicity, High Salinity, High Concentration)

TECHNOLOGY AND R&D

Three Major Technology Centers as Strong Support

Beijing R&D Center
Focuses on integrating domestic and international technological achievements, developing core treatment processes, product R&D and design, and introducing new technologies and products.

Jinan Environmental Engineering Design Institute
Specializes in feasibility studies for customer projects, detailed engineering design, and on-site technical support.

Shenyang Technology Center
Concentrates on IT system and cloud platform development for products, technical support during production, and provision of customer solutions.

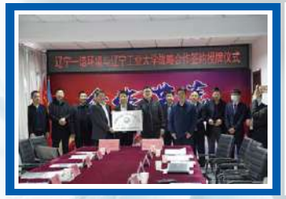
Beijing R&D Center

Jinan Environmental Engineering Design Institute

Shenyang Technology Center

University-Enterprise Collaboration & International Cooperation

Liaoning Innovation Environment Group has established close R&D cooperation with top institutions such as the Chinese Academy of Sciences, Tsinghua University, China Agricultural University, and the University of Science and Technology Beijing. The Group has built a technology industrialization base and founded the Rural Environmental Industry Technology Research Institute and a graduate training base within the Yinuo Environmental Industrial Park. Meanwhile, it has formed strategic partnerships in China with global leaders such as DuPont (USA) and Toray (Japan), jointly promoting the practical application of cutting-edge international environmental technologies.



University-Enterprise Cooperation

中国科学院 CHINESE ACADEMY OF SCIENCES
清华大学 Tsinghua University
中国农业科学院 CHINESE ACADEMY OF AGRICULTURAL SCIENCES
中国农业大学 CHINA AGRICULTURAL UNIVERSITY
山东农业大学 SHANDONG AGRICULTURAL UNIVERSITY
北京科技大学 University of Science and Technology Beijing

‘TORAY’ Innovation by Chemistry — Torel China Strategic Partner

DUPONT — DuPont China Strategic Partner

International Cooperation

In-house Testing Center

To support product research and development and serve users, Innovation Environment has established its own testing center, equipped with more than 80 advanced testing devices, capable of performing over 100 types of water quality and environmental indicator tests, offering free services to users.

General Physical and Chemical Indicators Testing Room

Routine Ion Testing Room

Metal Indicators Testing Room

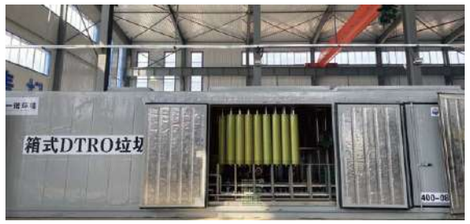
Microbiological Indicators Testing Room

WORKSHOP

On-site Photography Scene Display

1. Integrated Sewage Treatment Equipment Production Workshop

2. Municipal Water Plant Construction Equipment Production Workshop



3. Landfill Leachate Treatment Equipment Production Workshop

4. Decentralized Sewage Treatment Equipment and Toilet Revolution Supporting Septic Tanks Production Workshop

5. Sodium Hypochlorite Disinfection Equipment Production Workshop

6. Livestock and Poultry Manure Resource Treatment Equipment Production Workshop

DIGITAL INTELLIGENCE

World-Class Domestic and International Production Equipment, Intelligent Manufacturing Systems, Ensuring Product Quality

1.CNC Laser Cutting Machine
Grating Control System
Capable of cutting 10-20mm sheet metal

2. Hydraulic CNC Turret Punch Press
Siemens CNC Punch
Press Dedicated System
32-Station Mechanical Closed Turret

3. Hydraulic CNC Bending Machine
Delem CNC System from the Netherlands
Single-axis positioning accuracy ±0.01mm, repeat positioning accuracy 0.01mm

4. Welding Robot
Six-Axis Welding Robot with ABB Mechanical Arm
Automatic weld seam recognition and tracking

5. CNC Wire Cutting Machine
P3-level lead screw ensuring accuracy ±0.01mm
Uses Taiwan's upper roller linear guide rail for the whole machine

6.Cross-arm Automatic Welding Equipment
Submerged Arc Automatic Cantilever Welding
Capable of welding ϕ500-ϕ5000 ring seams

7. SMC Sheet Production Line
Multi-Screw SMC Sheet Machine
Fully automated dosing system to ensure dosing accuracy

8.2000T Four-Column Hydraulic Press
Nominal pressure of 2000KN ejector pressure
Can produce SMC parts up to 1.8x3.5m

9.INNOVATION Intelligent Management System
Interconnected production equipment
Production process visible, controllable, and traceable

QUALIFICATION AND HONOR

National High-Tech Enterprise

National Standardized Environmental Protection Equipment Manufacturing Enterprise

Liaoning Province Specialized and Innovative "Little Giant" Enterprise

Liaoning Province Provincial Green Factory

Liaoning Province Provincial Enterprise Technology Center

Liaoning Province Provincial Professional Technical Innovation Center

Liaoning Province Provincial Industrial Design Center

Liaoning Province Provincial Industrial Design Center

Liaoning Province Provincial Industry Technology Research Institute

[Construction Industry Enterprise Qualification Certificate]
We focus on the quality, environment, and safety of our products and services

- Municipal Public Works (excluding gas engineering) General Contracting Level II
- Mechanical and Electrical Engineering General Contracting Level II
- Environmental Protection Engineering Professional Contracting Level II

Weapon Equipment Quality Management System Certification

ISO9001 Quality Management System Certification

ISO14001 Environmental Management System Certification

ISO14001 Environmental Management System Certification

Health License and Water-related Approval Documents

Cold Region Testing Report

Quality Testing Report

Hygiene Evaluation Report

[Invention Patents]
3 items

[Utility Model Patents]
30 items

[Software Copyrights]
16 items

Appearance Patents
2 items

Integrated Sewage Treatment Equipment
Inno-MFR Modular Cold-Resistant Bioreactor

Above-Ground Type

Buried Type

Standardized Supporting Equipment

1. Regulating Tank
Due to the characteristics of domestic sewage—such as significant fluctuations in water quality and quantity—a regulating tank is set up to ensure the continuous and stable operation of the treatment system. It is used to regulate water flow and homogenize water quality. The designed hydraulic retention time is 8–12 hours.
The regulating tank is equipped with a submersible sewage pump and a reflux mechanism to ensure stable sewage lifting to the subsequent biological treatment system, reducing the impact load caused by water volume fluctuations.
To prevent sediment buildup in the tank, a submersible mixer or perforated pipe is used for agitation.
Material & Structure: The main structure is made of Q235-A carbon steel with internal and external anti-corrosion treatment; fiberglass-reinforced plastic (FRP) is also optional.

2. Equipment Room
The equipment room is available in two types: integrated and separate. The integrated type is made of anti-corrosion carbon steel and is built together with the main equipment. The separate type is a prefabricated above-ground building that can be custom-designed based on on-site conditions.
By integrating the blower, water pump, dosing system, etc., into the equipment room, land usage is minimized, and daily maintenance becomes more convenient. Depending on project needs, insulation, heating, ventilation, and lighting systems can be added.

3. IoT Controller
The “IoT Controller” is equipped with an ARM 32-bit CORTEX-M4 high-performance processor and the latest NB-IoT communication technology, along with advanced sensing and control technology. It accurately and efficiently uploads operational and sensor data to the cloud server, enabling 24/7 real-time online monitoring.
It supports multiple network access options including NB-IoT, 2G, 3G, 4G, LORA, and Wi-Fi. Whether the device is installed indoors or in a remote outdoor area, the terminal can connect to the cloud network using the most suitable method, meeting the needs of various user groups.

Four Core Technologies Solving Four Key Challenges

Challenge 1: Low and fluctuating water volume		For typical rural sewage projects where actual inflow is often lower than the design capacity and fluctuates seasonally, the system adopts a unique modular reactor design and a level-difference intelligent controller. It allows flexible operation within a design capacity range of 20%–120%.
Challenge 2: Highly variable water quality		The self-developed HF-type bio-carrier enables rapid control and adjustment of microbial species and populations. Combined with multifunctional modular bioreactors, the treatment process can be flexibly switched to match varying influent loads.
Challenge 3: Unreliable performance in winter		In collaboration with the Institute of Ecology of the Chinese Academy of Sciences, cold-resistant specialized microbial agents were developed and fixed into the HF-type bio-carriers using special techniques. This ensures the activity and population of specialized microbes under low temperatures, delivering consistent and stable treatment performance.
Challenge 4: Lack of professional operators, making management difficult		An independently developed IESC cloud platform—composed of smart hardware, new-generation sensors, and an information system—supports online monitoring, remote control, and exception alerts. It enables truly unattended operation while ensuring efficient and reliable production and management.

Application Scenarios


Centralized integrated sewage treatment in villages and towns


Domestic sewage treatment in expressway service areas


Sewage treatment at national highway gas stations


Fieldwork station sewage treatment


Hospital sewage treatment


School domestic sewage treatment


Hotel sewage treatment


Military sewage treatment


Domestic sewage from industrial enterprises


Residential area sewage treatment


Temporary construction site sewage treatment


Scenic spot/exhibition sewage treatment

Inno-MFR-I Series Integrated Equipment

The Inno-MFR-I Series adopts core processes such as A^2/O + MBBR (or A^3/O + MBBR, PTA^2O, etc.), and features the independently developed HF immobilized microbial carrier. It offers advantages such as short acclimation periods and strong resistance to shock loads, making it especially suitable for wastewater treatment in the cold northern regions.

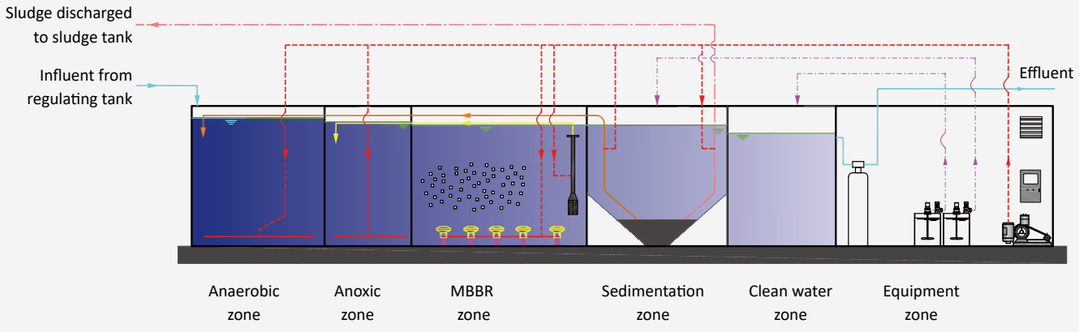
Effluent Standard:
Effluent consistently meets Class A or better of the Discharge Standard of Pollutants for Municipal Wastewater Treatment Plants (GB18918-2002).

Inno-MFR-II Series Integrated Equipment

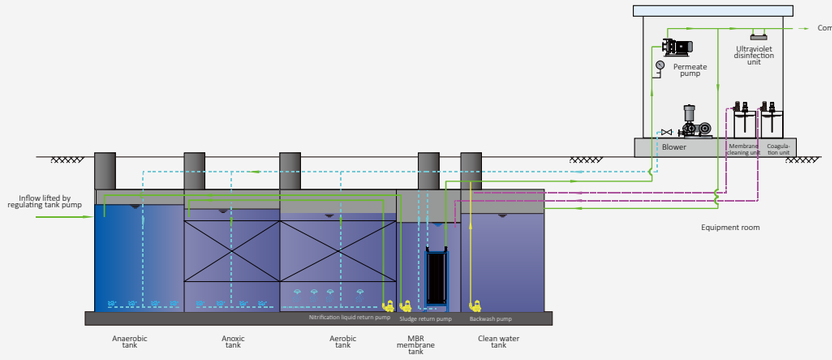
The Inno-MFR-II Series adopts the A^2/O + MBR process as its core technology, replacing the traditional secondary sedimentation tank with an MBR membrane module. It utilizes high-efficiency membrane separation technology to maintain a high sludge concentration within the system. The process is optimized based on influent and effluent water quality to ensure stable and compliant discharge.

Effluent Standard:
Effluent can meet Class IV or V (excluding total nitrogen) of the Environmental Quality Standards for Surface Water (GB3838-2002).

Process Flow



Process Flow



Equipment Selection

Inno-MFR-I Integrated Wastewater Treatment Equipment

Model	Treatment Capacity (m^3/d)	Equipment Dimensions (L×W×H, m) (excluding equipment room)	Material	Operating Weight (t)
MFR-I-10	10	3.5×1.2×2.0	Anti-corrosion carbon steel / FRP	10
MFR-I-30	30	4.0×2.0×2.5	Anti-corrosion carbon steel / FRP	22
MFR-I-50	50	4.5×2.5×3.0	Anti-corrosion carbon steel / FRP	36
MFR-I-80	80	7.0×2.5×3.0	Anti-corrosion carbon steel / FRP	55
MFR-I-100	100	8.5×2.5×3.0	Anti-corrosion carbon steel / FRP	70
MFR-I-150	150	10.5×3.0×3.0	Anti-corrosion carbon steel / FRP	102
MFR-I-200	200	13.5×3.0×3.0	Anti-corrosion carbon steel / FRP	130

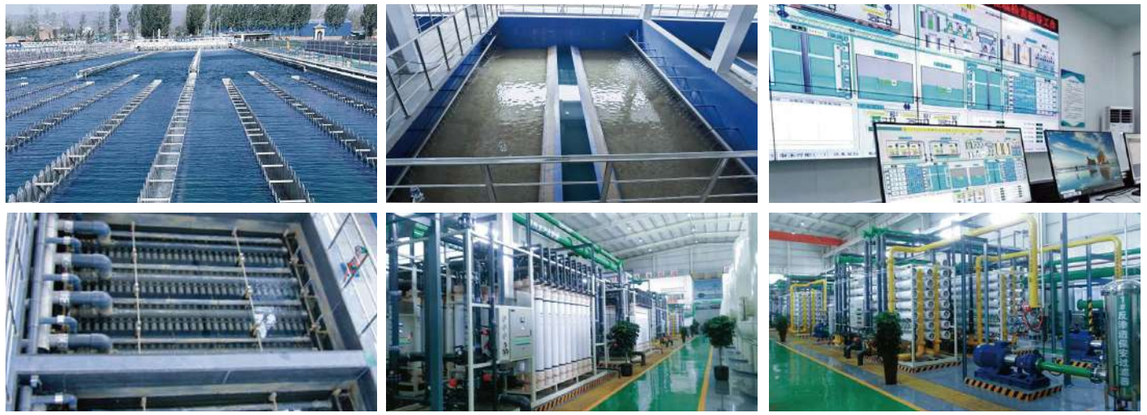
Equipment Selection

Inno-MFR-II Integrated Wastewater Treatment Equipment

Model	Treatment Capacity (m^3/d)	Equipment Dimensions (L×W×H, m) (excluding equipment room)	Material	Operating Weight (t)
MFR-II-10	10	3.5×1.5×2.0	Anti-corrosion carbon steel / FRP	12
MFR-II-30	30	4.0×2.0×2.5	Anti-corrosion carbon steel / FRP	22
MFR-II-50	50	4.3×2.5×3.0	Anti-corrosion carbon steel / FRP	35
MFR-II-80	80	6.5×2.5×3.0	Anti-corrosion carbon steel / FRP	52
MFR-II-100	100	7.0×3.0×3.0	Anti-corrosion carbon steel / FRP	66
MFR-II-150	150	9.5×3.0×3.0	Anti-corrosion carbon steel / FRP	87
MFR-II-200	200	12.0×3.0×3.0	Anti-corrosion carbon steel / FRP	115

Integrated Equipment Solutions for Water Treatment Plant Construction
01 – Equipment Supply and Operation Services for Water Treatment Plant Construction

Water Treatment Plant Construction Equipment Supply and Operation Services



With nearly 20 years of technical accumulation, our company possesses extensive experience and proven performance in the construction of small, medium, and large-scale water treatment plants. We provide project management consulting services, as well as integrated solutions covering design, procurement, installation, and construction, helping clients effectively mitigate project risks and ensure efficient and orderly implementation.
We not only supply system-integrated non-standard equipment, disinfection units, dosing systems, and sludge treatment equipment, but also apply IoT and big data technologies to ensure the efficient and stable operation of the entire water treatment plant. We are a key technical provider in safe drinking water projects.

Our Strengths

Full-Process Process Design

Expertise in end-to-end design for water treatment processes, mastering various advanced water purification technologies.

Independent R&D and Manufacturing

As one of the largest and most comprehensive environmental equipment manufacturing bases in northern China, we possess full in-house capabilities for processing and manufacturing all types of treatment systems and complete electrical and automation equipment, effectively ensuring construction timelines and equipment quality.

Four Major Advantages

20 Years of Experience in Water Plant Construction

Nearly two decades of experience in constructing water plants, with dozens of successful project references.

Rich Operational and Management Experience

We are responsible for the long-term supply of potable water to 500,000 residents in Beipiao City, Liaoning Province, and have extensive experience in project operation, management, and emergency response.

INNOVATION ENVIRONMENT — Your One-Stop Partner Who Best Understands the Pain Points of Water Treatment Plant Construction and Operation

Typical Water Treatment Processes

Process	Applicable Water Quality Issues	Product Water Standard
Coagulation + Sedimentation + Filtration + Disinfection	Algae, turbidity, color exceed limits	Standards for Drinking Water Quality (GB5749-2022)
Ozone + Activated Carbon Combined Technology	Organic matter, disinfection by-products exceed limits	
Conventional Process + Immersed (Column-type) Ultrafiltration	Algae, turbidity, bacteria exceed limits	
Pretreatment + Ultrafiltration + Reverse Osmosis	Algae, turbidity, bacteria, cations, anions exceed limits	
Pretreatment + Nanofiltration	Hardness, cation, and anion salinity exceed limits	
Manganese Sand Filter	Iron, manganese exceed limits	
Activated Alumina, Molecular Sieve, etc.	Fluoride exceeds limits	

Representative Projects and Achievements

Xiong'an Rongcheng County Surface Water Plant Phase II
Treatment Capacity: 25,000 m³/d
Main Process: Coagulation + Sedimentation + Dissolved Air Flotation + Ultrafiltration + Disinfection

Dongchengfang Surface Water Plant, Zhuozhou, Hebei
Treatment Capacity: 150,000 m³/d
Main Process: Coagulation + Sedimentation + Filtration + Disinfection

Zhonglao Water Plant, Chaoyang City
Treatment Capacity: 100,000 m³/d
Main Process: Coagulation + Sedimentation + Filtration + Disinfection

Xilinhot, Inner Mongolia Water Plant
Treatment Capacity: 33,600 m³/d
Main Process: Manganese sand filtration + Self-cleaning + Nanofiltration

Woniushan Water Plant, Yantai Economic & Technological Development Zone
Treatment Capacity: 67,000 m³/d
Main Process: Dual-membrane system of Ultrafiltration + Reverse Osmosis

Ningdong Base Nanhu Water Plant
Treatment Capacity: 38,400 m³/d
Main Process: Ozone oxidation + Chemical softening sedimentation + V-type filter + Ultrafiltration + Reverse Osmosis

Qiqihar Gannan Town Water Plant Upgrading Project
Treatment Capacity: 15,000 m³/d
Main Process: Coagulation + Sedimentation + Filtration + Reverse Osmosis

Koubei Water Plant, Chaoyang City
Treatment Capacity: 20,000 m³/d
Main Process: Ultrafiltration + Reverse Osmosis + Disinfection

Taiji Water Plant, Beipiao City
Treatment Capacity: 90,000 m³/d
Main Process: Coagulation + Sedimentation + V-type filter + Disinfection

Integrated Equipment for Water Treatment Plant Construction
02 – Modular Integrated Water Purification Plant Equipment

>>Modular Integrated Water Purification Plant Equipment<<

The self-developed modular integrated water purification plant equipment by INNOVATION ENVIRONMENT integrates advanced treatment technologies such as micro-vortex high-efficiency reactors, high-efficiency sedimentation tanks, V-shaped filters, and sodium hypochlorite disinfection into one highly integrated unit. The system features advanced technology, rational layout, convenient operation and maintenance, and high treatment efficiency. Combined with the central control room and automated subsystem modules, it builds an intelligent water management system to achieve full automation and smart operation of the plant.

Product Features

Economical and Durable	Main structure made of high-quality stainless steel.
Strong Purification Capacity	Capable of treating 100–25,000 tons of water per day.
Low Construction Cost	Novel process design, aesthetically pleasing appearance, highly integrated equipment, and reduced overall construction cost.
Short Construction Period	Short construction time thanks to modular factory prefabrication and on-site assembly, saving time and labor.
Intelligent Management	High degree of automation, convenient operation and maintenance, low operating costs, adaptable to various raw water qualities, enabling smart plant operation.
Small Footprint	Saves 50% of land use compared with traditional civil-structure water treatment plants.

Implementation Process

1. On-Site Project Investigation — Conduct a comprehensive and detailed investigation of project information to fully understand user needs.
2. Equipment Selection and Matching — Select and match the appropriate equipment types and parameters based on project information and requirements.
3. Plant Layout Optimization — Design optimized water purification solutions in accordance with design specifications and relevant standards.
4. Equipment Manufacturing and Integration — Provide high-quality water purification equipment through advanced technology and stringent manufacturing processes.
5. Transportation and Installation — Provide high-quality water purification equipment through advanced technology and stringent manufacturing processes.
6. System Commissioning and Operation — Design optimized water purification solutions in accordance with design specifications and relevant standards.
7. Testing / Training / Acceptance — Select and match the appropriate equipment types and parameters based on project information and requirements.
8. Safe Water Supply — Conduct a comprehensive and detailed investigation of project information to fully understand user needs.

Equipment Selection

Model	Treatment Capacity (m^3/d)	Dimensions (L×W×H, m)	Material	Operating Weight (t)
YNJS-1	350	4.78x1.5x3.2	**Stainless Steel**	30
YNJS-2	600	5.6x2x3.2	**Stainless Steel**	45
YNJS-3	850	7.84x2x3.2	**Stainless Steel**	62
YNJS-4	1200	8.96x2.5x3.2	**Stainless Steel**	91
YNJS-5	2000	11.2x3x3.2	**Stainless Steel**	137
YNJS-6	2500	14.93x3x3.2	**Stainless Steel**	182
YNJS-7	3000	17.5x3.2x3.2	**Stainless Steel**	235
YNJS-8	3500	20.36x3.3x3.2	**Stainless Steel**	276

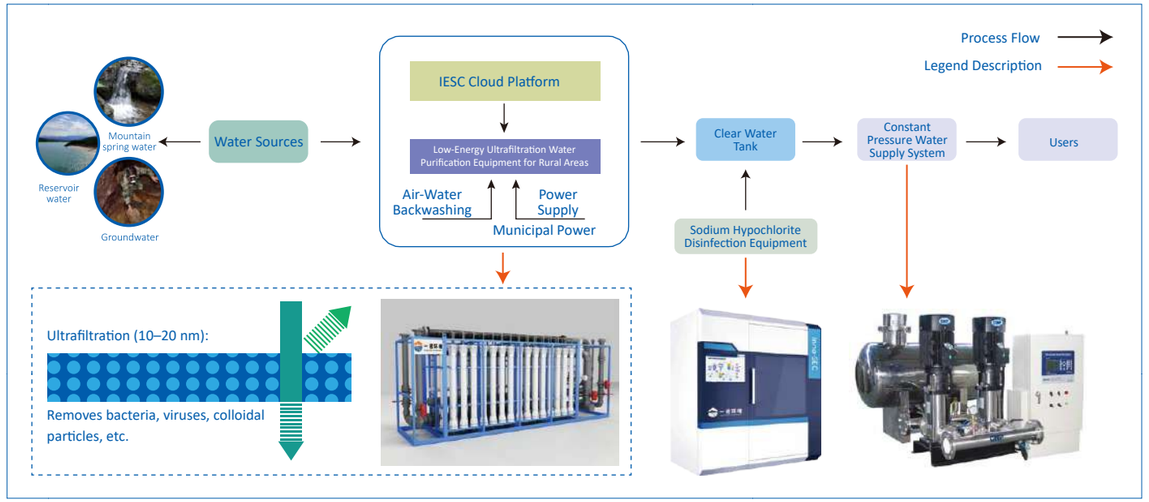
Case Studies

Drinking Water Plant Construction & Equipment Integration
03 – Integrated Safe Drinking Water Purification Equipment

>> Integrated Safe Drinking Water Purification Equipment <<

The company's self-developed integrated safe drinking water purification equipment is centered on our proprietary PVDF ultrafiltration membranes and reverse osmosis membranes. It offers standardized modular water plant solutions—including micro-power ultrafiltration systems for villages and towns, dual-membrane water purification systems for rural areas, targeted contaminant removal equipment, and household purification devices. Equipped with IoT and big data technologies, the system effectively resolves water quality safety issues and remote operation challenges in rural drinking water scenarios.

Process Flow of Micro-Power Ultrafiltration Water Plant for Villages and Towns



Equipment Advantages

Direct Drinking: Utilizes ultrafiltration technology with a bacteria and virus removal rate of up to 99.99%, meeting direct drinking water standards.	Unattended Operation: Applies IoT and big data technologies to enable fully unattended equipment operation.
Chemical-Free: No coagulants are added during the treatment process.	Energy Saving: Employs siphon technology to reduce power consumption during operation.
Warranty: Five-year warranty for key components including ultrafiltration membranes, pumps, blowers, and sensors.	Modular Integration: Highly integrated modular equipment with short construction cycles, small footprint, and easy expansion or modification.

Single Contaminant Treatment and Household Water Purification Equipment


Iron and manganese removal equipment


Fluoride removal equipment

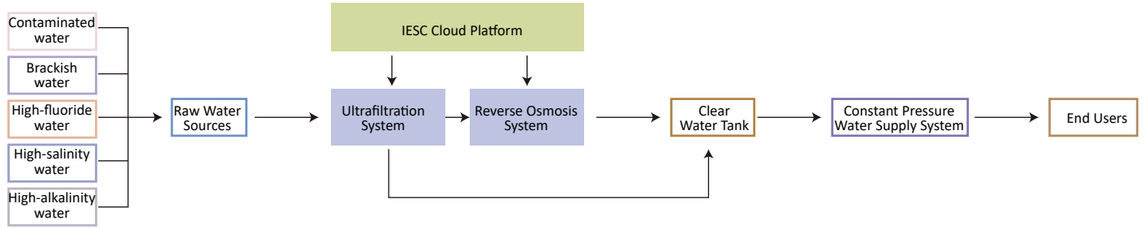

Nitrate removal equipment


Calcium and magnesium removal equipment


Household safe drinking water equipment


Under-sink household safe drinking water equipment

Under-sink household safe drinking water equipment



Full-Process Visualized Operation Monitoring of Water Stations


水质监测、智能调控终端
制水工艺流程监测
实时视频监控


供水站运行监控组态图

Online metering and billing services, along with visualized operation monitoring, have become essential for energy-saving and intelligent development in water treatment. By implementing intelligent control across key treatment units and the entire process, the system can automatically adjust parameters based on operating conditions, optimize performance, and reduce resource consumption. Leveraging the advantages of regional centralized management, standardized inspections and centralized services are adopted to achieve informatization and detailed cost management of water supply projects and distribution networks.

Leachate Treatment Equipment
DTRO-Based Leachate Reduction Emergency Treatment Equipment & Full-Volume Treatment System

Innovation Environment provides mature technologies for both reduction and full-volume treatment of landfill leachate, serving various owners and engineering companies effectively. The leachate is first reduced through a two-stage DTRO treatment system independently developed by Innovation Environment. The concentrated brine is then further concentrated via evaporation, and the resulting salt sludge is solidified to achieve full-volume treatment.

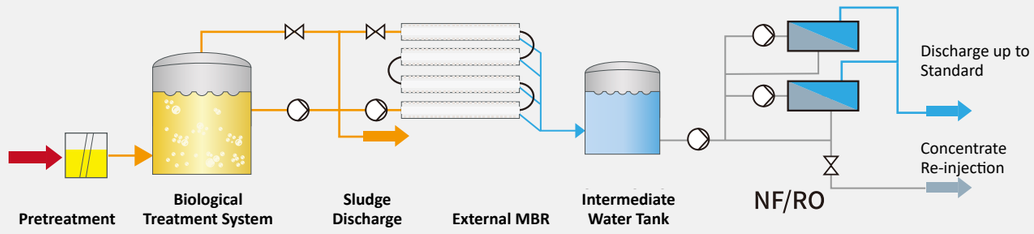
Equipment Selection

Skid-Mounted Type

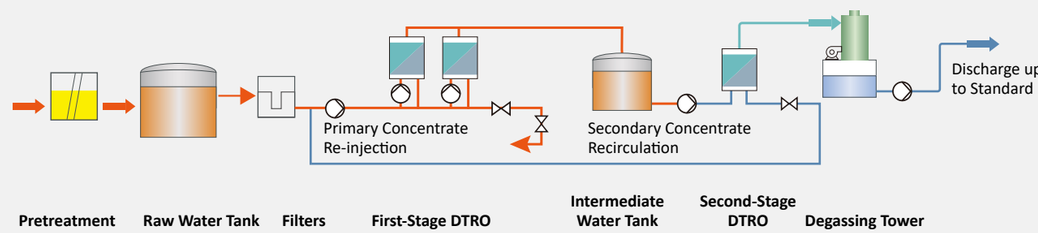
Containerized Type

Model	INNO-DT-100	INNO-DT-200
Treatment Capacity (t/d)	80-130	180-240
Recovery Rate	70%-80%	70%-80%
Core Process	Pretreatment + DTRO + Post-Treatment (optional)	Pretreatment + DTRO + Post-Treatment (optional)
Pressure Level (bar)	75-120	75-120
Installed Power (kW)	75	135
Voltage (V)	380	380
Equipment Weight (t)	18	28
Main Equipment Dimensions (L×W×H: m)	12×2.4×2.9	12×2.4×2.9 6×2.4×2.6

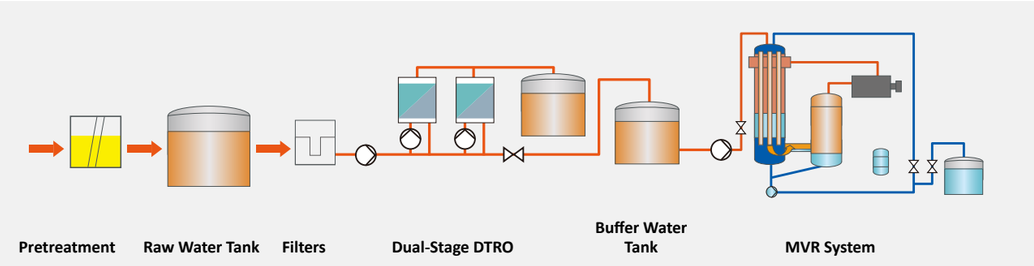
Conventional Treatment Process Flow



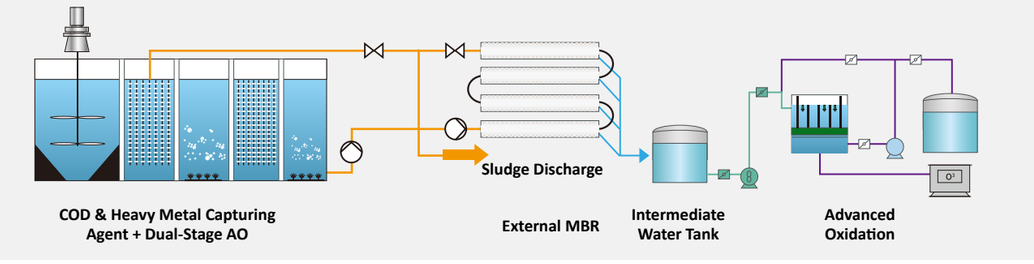
DTRO Treatment Process Flow



Full-Volume Treatment Process Flow



Municipal Waste Transfer Station Treatment Process Flow



Decentralized Wastewater Treatment Equipment
Inno-PF Zero-Carbon Ecological Circulation Purification Tank

(PF-I Type)

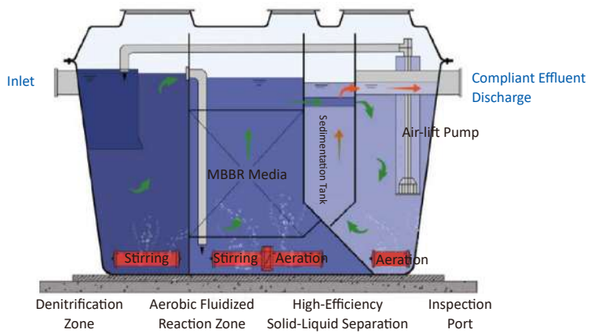
(PF-II Type)

The Inno-PF zero-carbon ecological circulation purification unit, independently developed by Innovation Environment, is a household-type decentralized wastewater treatment system. It adopts a treatment process comprising a denitrification zone + aerobic fluidized zone + high-efficiency solid-liquid separation zone. Wastewater undergoes denitrification, aerobic fluidized reaction, and solid-liquid separation within the unit, effectively removing organic pollutants, ammonia nitrogen, suspended solids, and more.

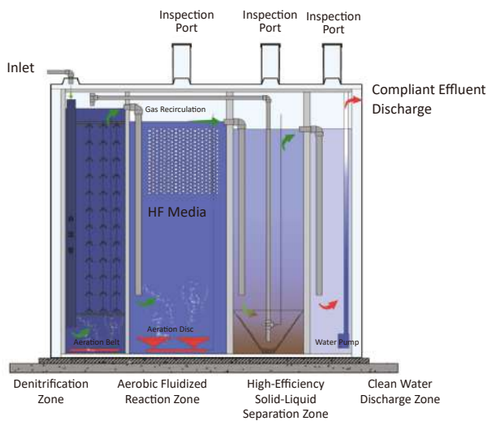
The treated effluent meets the Class 1B standard of the Discharge Standard of Pollutants for Municipal Wastewater Treatment Plants (GB18918-2002) or the Irrigation Water Quality Standard (GB5084-2021). The equipment is made of molded or wound fiberglass-reinforced plastic (FRP), offering excellent corrosion resistance and a long service life. Powered by photovoltaic solar panels, it supports green and low-carbon operation. This product is widely applicable for rural single-household, multi-household, or other decentralized residential wastewater treatment.

Working Principle

In the denitrification zone, denitrifying bacteria utilize organic carbon in the influent as an electron donor to convert nitrite and nitrate in the return mixed liquor into nitrogen gas. The alkalinity generated during denitrification compensates for the alkalinity consumed in the subsequent nitrification process.
The wastewater then flows into the aerobic fluidized reaction zone, where most organic matter is decomposed. Through nitrification, ammonia nitrogen is converted into nitrite and nitrate, reducing pollutant concentrations.
Finally, the water enters the high-efficiency solid-liquid separation zone, where entrained biofilms, colloidal substances, and other particulates are separated. The clarified water is discharged after meeting the required standards.



(PF-I Type)



(PF-II Type)

Advantages of the Equipment

01 Corrosion-resistant material, with a service life of over 35 years

02 Highly integrated design with small footprint

03 Equipped with HF solidified microbial media and low-temperature bacteria, ensuring excellent treatment performance

04 Driven by green energy, no external power required, zero carbon emissions

05 Vertical tank structure, strong and durable, suitable for deep burial

06 Unattended operation via cloud platform, enabling full lifecycle equipment management

Equipment Selection

Model	Treatment Capacity (m^3/d)	Product Dimensions (m)	Material	Power Supply Type	Burial Depth (m)	Equipment Weight (kg)	Effluent Standard
PF- I	1.0	1.78×1.1×1.2	SMC	Mains Power / Solar Power	⩽0.8	95	《Irrigation Water Quality Standard》 (GB5084-2021)
	2.0	2.02×1.28×1.2				160	
PF- II	1.0	ϕ1.2×1.8	FRP		⩽2	170	
	2.0	ϕ1.2×2.3				190	
	1.0	ϕ1.02×1.4			⩽3	930	《Discharge Standard of Pollutants for Municipal Wastewater Treatment Plants》 (GB18918-2002) Class 1B
	2.0	ϕ1.22×1.4				1060	
	1.0	ϕ1.22×1.6				1090	
	2.0	ϕ1.52×1.6				1150	

Application Scenarios

Rural villages

Villas

Scenic areas

Boutique guesthouses

Farmyards

Sodium Hypochlorite Disinfection Equipment
Intelligent 3S Sodium Hypochlorite Generator

(Main Unit of Sodium Hypochlorite Generator)

The Intelligent 3S Sodium Hypochlorite Generator is a water treatment disinfection and sterilization device that uses diluted brine as raw material to produce a low-concentration sodium hypochlorite solution through electrolysis. During operation, the system utilizes an integrated intelligent brine proportioning system to optimally blend softened water with saltwater. By applying the appropriate voltage to the electrolytic cell, the device generates sodium hypochlorite solution.

This equipment can be used for disinfection in water supply plants and wastewater treatment plants, and is also suitable for hospitals, swimming pools, domestic drinking water, domestic wastewater, food processing facilities, medical equipment, restaurants, public canteens, and disinfection of utensils in various settings.

Working Principle

The sodium hypochlorite generator adopts a non-membrane electrolysis method. It generates low-concentration sodium hypochlorite disinfectant by electrolyzing low-concentration brine, avoiding the production of harmful by-products such as chlorate and chlorite that commonly exceed limits in chemical disinfection systems.

Overall Reaction Equation: $NaCl + H_2O \rightarrow NaClO + H_2\uparrow$

Standard Series Sodium Hypochlorite Generator – Technical Parameters

No.	Model	Available Chlorine Output (g/h)	Power Supply (kW)	Salt Dissolving Tank (L)	Storage Tank (L)	Selection Reference (Based on Daily Tap Water Production, t/d)
1	YN-50	50	1.0	100	100	600~1200
2	YN-300	300	1.8	200	200	3600~7200
3	YN-1000	1000	6.0	1000	1000	12000~24000
4	YN-3000	3000	18.0	2000	3000	36000~72000
5	YN-10000	10000	60.0	10000	10000	10000~24000
6	YN-40000	40000	240.0	40,000 PE Reinforced Concrete Structure	50,000 PE Reinforced Concrete Structure	480000~980000

Process Principle

01 Water from the pipeline network enters the softening unit (Fig. ①) by gravity. Through ion exchange, calcium and magnesium ions are removed to reduce water hardness.

02 A portion of the softened water flows into the brine tank (Fig. ②), where it is mixed with refined salt automatically delivered by the salt feeding machine (Fig. ③) to produce saturated brine.

03 The remaining softened water is stored in the soft water tank (Fig. ④) for preparing a ~3% diluted brine solution.

04 The properly diluted brine is fed into the generator unit (Fig. ⑤), where it undergoes electrolysis between electrodes powered by direct current to produce the disinfectant.

05 The generated sodium hypochlorite solution is collected in a food-grade PE storage tank (Fig. ⑥).

06 A precision metering pump dosing system (Fig. ⑦) is used to dose the sodium hypochlorite solution as needed.

07 The entire process is automatically controlled by the PLC electrical control system (Fig. ⑧).

08 When the system detects scale build-up that meets cleaning thresholds, the intelligent acid-washing system (Fig. ⑨) is automatically activated to clean the electrode chamber, ensuring normal operation.

Sodium Hypochlorite Workstation Diagram

Equipment Features

High Durability
The generator's core components—the anode and cathode plates—are made of solid titanium, ensuring high stability and durability.

Flow Stabilization
Stable brine intake and dosing technology improve electrolysis efficiency and ensure uniform dosing.

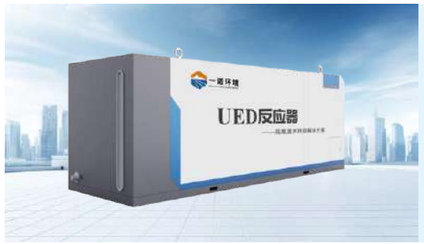
Fully Intelligent
The system can operate fully autonomously and is capable of automatic monitoring and alarm functions.

Composite Hydrogen Discharge
Dual hydrogen exhaust channels and a three-stage hydrogen release system, paired with a hydrogen gas alarm, ensure safe system operation.

Modular Design
Highly integrated modular structure saves space. Protective enclosures ensure safer operation during electrolysis.

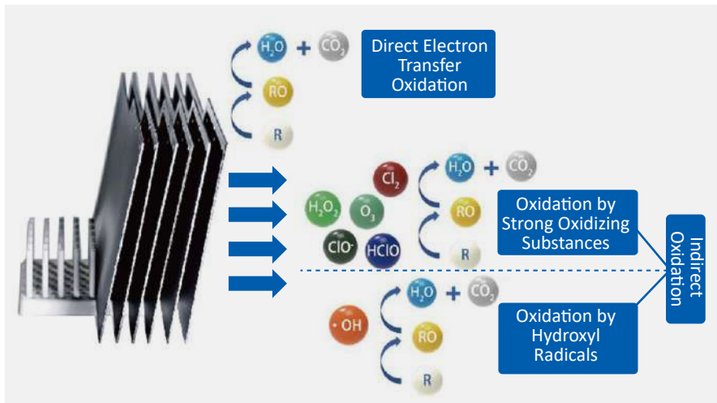
Application Scenarios

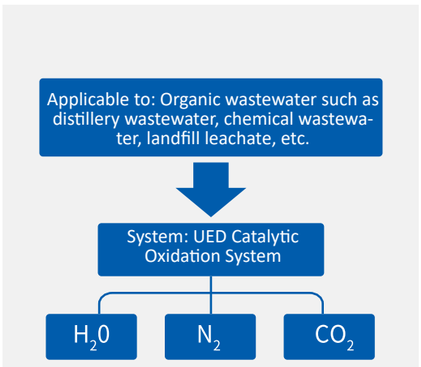
UED High-Concentration & Refractory Wastewater Treatment System
UED Intelligent Integrated Equipment



UED is an advanced, clean, and environmentally friendly advanced oxidation technology. It uses FCD electrodes (Functional Conductive Diamond) as the anode. When low-voltage power is applied, a large amount of strong oxidizing substances—such as hydroxyl radicals (·OH)—is instantly generated. These radicals rapidly decompose complex organic molecules and ultimately convert them into harmless carbon dioxide and water. Compared to conventional advanced oxidation technologies, the reaction rate is 3–5 times faster and the degradation of organic compounds is more thorough. This makes UED an ideal process solution for removing COD, TOC, ammonia nitrogen, emerging contaminants (such as persistent organic pollutants, endocrine disruptors, antibiotics), color, and other indicators in high-salinity, high-toxicity, and high-concentration wastewater.

Technical Principles





Process Advantages

Flexible application and modular combination, seamlessly integrated with conventional processes.

- Small Flow Rate (1–50 m³/d)
- Extremely high pollutant concentrations
- Reduce the difficulty of comprehensive wastewater treatment

Source treatment for high-salinity / high-toxicity / high-concentration wastewater

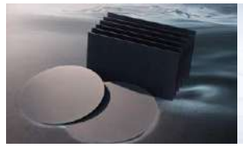
- Reduce the biological toxicity of wastewater
- Improve biodegradability of wastewater

Pretreatment

- Existing system cannot consistently meet discharge standards, though exceedance is slight and expansion is difficult
- Ultra-fast treatment in 3–10 minutes
- Achieve compliant discharge

Final effluent compliance assurance

Material Advantages



Three Major Advantages of FCD Electrodes
A stable and efficient anode material is the core of electrochemical processes.

- Ultra-high hydrogen evolution potential
- Exceptional stability
- Ultra-wide electrochemical window

Product Advantages

Clean	Only electricity is needed; no secondary pollution; operates at ambient temperature and pressure.
Flexible	Can be used for source treatment, pretreatment, and discharge compliance assurance; seamlessly integrates with conventional processes.
Broad-spectrum	Universally applicable to high-difficulty wastewater across various industries; tolerates extreme raw water conditions (e.g., high salinity, high biological toxicity, high concentration).
Efficient	Powerful catalytic oxidation enables rapid bond-breaking and ring-opening reactions of organic molecules in a very short time.
Convenient	Standard modular equipment; no need for civil works or additional structures; extremely convenient for production, installation, and maintenance.

Product Series

UED Portable Test Unit

For technical promotion and on-site testing

UED Core Module

Supports customized system design

UED Intelligent Equipment

For engineering applications

Typical Applications

Special Industries

Pharmaceutical and Chemical Industry

Deep purification of kitchen waste liquids

Advanced treatment of industrial park / brewery wastewater

Membrane concentrate treatment of landfill leachate

Livestock and Poultry Manure Resource Utilization Equipment

High-Efficiency ETF Manure Resource Utilization Equipment

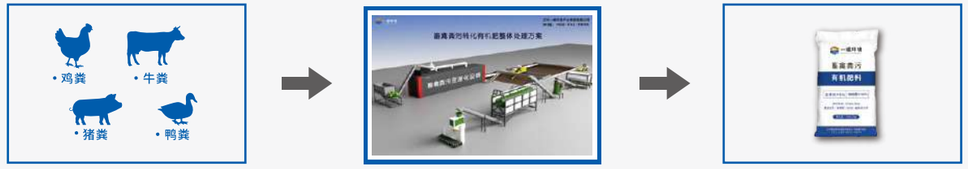
The High-Efficiency ETF Manure Resource Utilization Equipment adopts a stacked box-type sealed structure. Livestock and poultry manure is used as raw material, mixed evenly with auxiliary materials and microbial inoculants to adjust moisture content and carbon-nitrogen ratio. The mixed material then enters the main fermentation unit, where it undergoes high-temperature aerobic fermentation with oxygen supplied by air blowers.

An integrated deodorizing spray tower ensures odor removal within 4 hours, and organic fertilizer can be produced in 48–72 hours through rapid fermentation. This process eliminates pathogens and weed seeds, improves the farming environment, and transforms waste into value, thereby enhancing economic benefits. The final organic fertilizer complies with the Ministry of Agriculture Standard for Organic Fertilizer (NY/T 525-2021) and can be reused in farmland.

Working Principle

The High-Efficiency ETF Livestock and Poultry Manure Resource Utilization Equipment is an integrated system specifically designed for the treatment of organic waste such as livestock and poultry manure. It adopts a high-temperature aerobic fermentation process, in which natural microorganisms and inoculated thermophilic aerobic microbes decompose and deodorize the materials rapidly under oxygen-rich conditions.

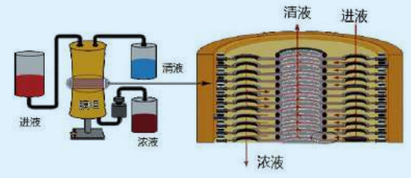
This all-in-one equipment features fast fermentation, short processing cycles, and a high degree of automation. During fermentation, temperatures can reach 60–70°C, effectively eliminating pathogens, parasite eggs, and other harmful substances in the waste, and converting it into high-quality organic fertilizer.



Equipment Parameters

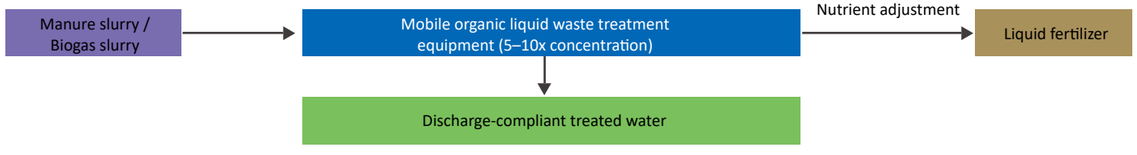
Model	ETF-5	ETF-10	ETF-20	ETF-30	ETF-50
Equipment Name	High-Efficiency ETF Livestock and Poultry Manure Resource Utilization Equipment				
Treated Material	Animal manure from livestock and poultry farms				
Treatment Standard	"Organic Fertilizer" (NY/T525-2021) standard by the Ministry of Agriculture and Rural Affairs of China				
Process Description	High-temperature aerobic fermentation process				
Daily Capacity (t/d)	5	10	20	30	50

Livestock Manure Slurry and Biogas Slurry Reduction Service



The system for livestock slurry concentration and fermentation-based liquid fertilizer production includes pretreatment, filtration, flocculation, complexation, membrane concentration, and nutrient blending. It converts waste into high-quality liquid fertilizers such as irrigation fertilizers and foliar fertilizers that improve soil and enhance plant resistance to diseases and pests.
Fermented biogas slurry meets the NY/T 2596-2014 Organic Fertilizer from Biogas Slurry standard
Concentrated liquid fertilizer meets enterprise standards for Liquid Organic Fertilizer

Treatment Process

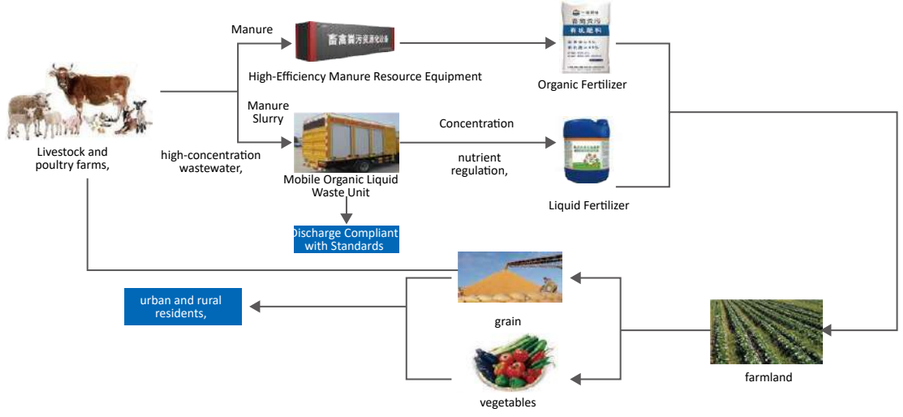


- Solves the accumulation problem of high-concentration manure and biogas slurry
- Treatment capacity: 5–50 t/d (larger capacity customizable)
- Operation modes: Purchase, Commissioned Operation, Equipment Rental
- Integrated nutrient management system for direct liquid fertilizer production
- High-quality liquid fertilizer can be sold at premium prices (thousands of RMB per ton)
- Ideal for: Organic fertilizer plants using livestock waste, Farms dealing with manure slurry or biogas slurry, High-concentration livestock wastewater users

★ Help livestock farms achieve stable wastewater compliance, improve living environment; by-products are high-quality liquid fertilizers, truly turning waste into valuable resources.

7 days to arrive on site | 3 days for trial operation | 5 days to produce liquid fertilizer

Integrated Waste and Resource Utilization Model



Toilet Revolution Supporting Septic Tanks

INNOVATION ENVIRONMENT's supporting triple-chamber septic tanks, developed in response to the national "Toilet Revolution," are available in two series: compression-molded and filament-wound. Both are designed based on the latest national standards and specifically address key issues in northern regions such as extreme cold, deep burial requirements, and risks of deformation or leakage. Constructed with FRP (fiberglass reinforced plastic), the tanks offer superior mechanical strength and corrosion resistance compared to other materials. Through innovative structural and sealing designs, problems like side leakage and cross-contamination are effectively resolved.

Product Features

Specially Designed for Northern Cold Regions
The tanks feature a dense annular corrugated structure and can be buried up to 3 meters deep. Their impact resistance is excellent, and compressive strength is 1.5 times that of traditional septic tanks.

No Cross-Contamination or Leakage
The middle partition is sealed with water-expanding rubber strips, and all stainless-steel screw connections are sealed with glass glue, ensuring a tight seal that completely eliminates water crossover.

Wear and Corrosion Resistant
Made with 30% high-strength glass fiber material, the tanks have outstanding oxidation resistance, acid-alkali resistance, and corrosion resistance, with excellent aging durability.

Compact Footprint
The cylindrical underground design offers large processing capacity with a footprint only 60% that of traditional septic tanks, saving land and allowing for more flexible site selection.

Low Cost
The total cost is approximately 80% of that of reinforced concrete tanks, making this product a highly recommended green solution by urban construction authorities.

2000T Compression Molding Machine
Ensures product wall thickness exceeds 6 mm, maximizing both structural strength and tank volume.

Certified Testing Reports

Quality Inspection Report | Hygienic Evaluation Report | Cold Climate Performance Report

Supporting Products

FRP Compression-Molded Septic Tanks

FRP Squat Toilets

FRP Filament-Wound Septic Tanks

Toilet Houses

Equipment Selection

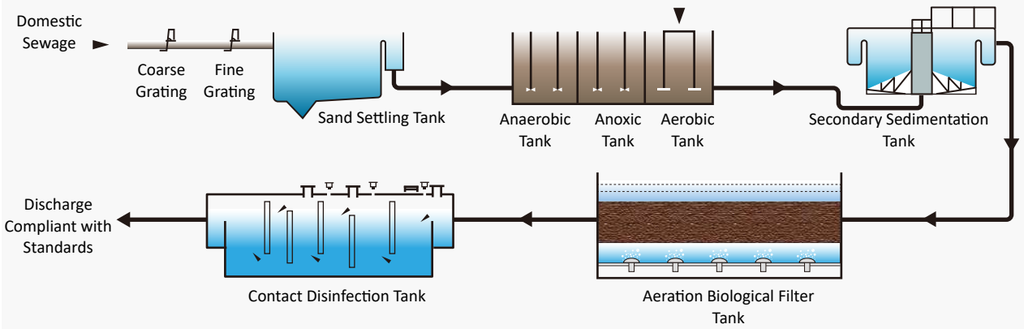
Model	FRP-1.5	SMC-1.5	SMC-2.0
Dimensions (L×W×H) (m)	ϕ1.2×1.4	1.778×1.187×1.22	1.9×1.2×1.25
Average Wall Thickness (mm)	6	6	7
Volume (m^3)	1.5	1.5	2.0
Material	Filament-Wound FRP	SMC Compression-Molded FRP	SMC Compression-Molded FRP
Tensile Strength (MPa)	⩾60	⩾60	⩾60
Flexural Strength (MPa)	⩾109	⩾109	⩾109
Barcol Hardness	⩾34	⩾34	⩾34
Weight (kg)	75	93	135
Inlet Size	DN200	DN300	DN400
Inspection Port Size	DN100	DN200	DN200/DN300
Cleaning Port Size	DN200	DN300	DN400
Vent Port Size	DN100	DN100	DN100
Sludge Transfer Pipe Size	DN100	DN100	DN100

The volume can be customized according to customer requirements.

Municipal/Industrial Park Sewage Treatment Plant Construction

Municipal sewage primarily comes from domestic, government, commercial, and urban public facilities' wastewater and a certain amount of industrial production wastewater. It is characterized by large water volumes, with notable variations in flow rates based on time of day and season. The pollutants in municipal sewage mainly include organic matter, nitrogen, phosphorus, etc., which typically have good biodegradability and can be easily degraded by microorganisms. Municipal sewage treatment often uses biochemical methods, with activated sludge processes being the most common, which offer strong treatment capacity and high-quality effluent. Our company provides a full range of services for municipal sewage treatment plants, including feasibility study preparation, process design, non-standard equipment design and manufacturing, project construction, equipment installation, and commissioning.

Conventional Sewage Treatment Process for Sewage Treatment Plants



Our Advantages

4 Major Advantages

Full Process Design	Specialized in the full-process design of sewage treatment plants, with expertise in advanced sewage treatment technologies for pre-treatment, biochemical treatment, and deep treatment.
Extensive Experience in Sewage Plant Construction	With 20 years of experience in sewage treatment plant construction, we have undertaken engineering and equipment contracting for numerous sewage treatment plant projects.
Independent R&D and Production	One of the largest and most comprehensive environmental protection equipment manufacturing bases in the northern region, capable of independently producing various non-standard equipment, electrical systems, and control systems, ensuring equipment quality and construction schedules.
Advanced Sewage Plant Operation and Management	We manage several sewage treatment plants through third-party entrusted operations, with advanced smart operation systems and management models.

Primary Pre-Treatment

Grating

Centrifugal Sand Settling Tank

Flow-type Sedimentation Tank

Secondary Biochemical Treatment

Oxidation Ditch Process

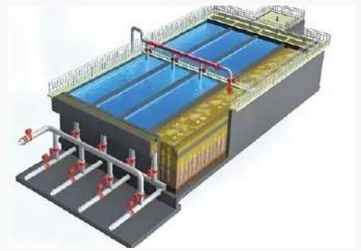
A2O Process

SBR Process

Primary Pre-Treatment

MBR Process

High-density Tank



Aeration Biological Filter Tank

HF Immobilized Microbial Filler

HF filler is a new type of immobilized microbial filler independently developed by our company, primarily composed of two parts: porous filler and specialized microbial strains.

Porous Filler

The HF immobilized microbial filler uses hydrophilic modified polymer materials as the main material. It has a micron-level porous structure inside, which provides a large specific surface area, facilitates microbial adhesion, and ensures good fluidization effects. This offers natural habitats and a suitable living environment for microbial growth and reproduction.

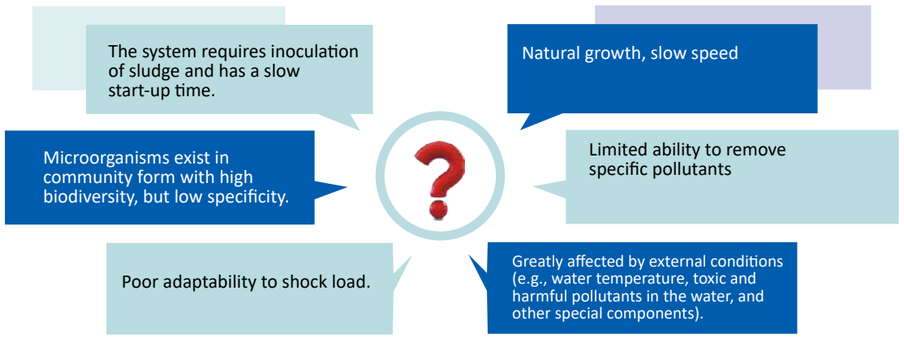
Specialized Microbial Strains

In response to the low water temperatures in the winter in northern China, where treatment effects cannot be guaranteed, we have collaborated with the Shenyang Ecological Institute of the Chinese Academy of Sciences to screen extreme psychrophilic bacteria (Psychrophile) from the cold regions of northeastern China. After domestication and expansion, we obtained specialized cold-resistant microbial strains.

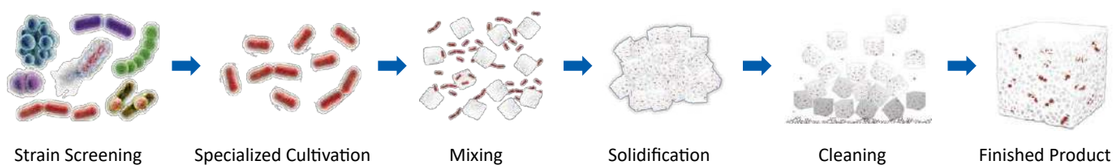
Depending on different treatment needs, specific microbial strains and nutrient components are fixed and distributed within the porous grid filler through a special synthesis process, forming cubic particles of a certain volume—HF (Hardy Filler) filler. This keeps the microorganisms highly active within the filler and allows rapid proliferation under suitable conditions. Not only can this effectively shorten the start-up period of the biochemical system, but it can also maintain a high treatment efficiency under water temperatures of 5-10°C during winter.

Background Introduction

Traditional biological treatment processes mainly include activated sludge and biofilm methods, which have the following issues:



Production Process



Product Types

HF-I Biological Filler

The product consists of cubic particles with a side length of 4 cm × 4 cm. During the preparation process, natural high-molecular polysaccharide organic substances, biological promoters, and enzyme preparations are added to the filler. Its main function is to accelerate the growth and reproduction of microorganisms, promote the formation of microbial colonies in a short period, quickly remove organic pollutants from wastewater, effectively shorten the system startup period, and reduce the volume of the aerobic reaction area.

HF-II Biological Filler

The product consists of cubic particles with a side length of 2 cm × 2 cm. Through a special process, specific strains (such as cold-resistant/psychrophilic bacteria, salt-resistant/halophilic bacteria, nitrifying/denitrifying bacteria, etc.) are fixed inside the micro-pores of the filler. After being added to the reactor, the specific microorganisms continuously proliferate in the filler's internal channels, rapidly increasing the biomass. It can maintain stable and efficient removal rates under special conditions (such as low temperature, high salt, etc.).

Comparison of HF Filler and Traditional Fillers

Project	HF Filler	Traditional Filler
Appearance	Cubic	Spherical, honeycomb, columnar
Immobilization Method	Specific strains fixed inside the filler	Biological film naturally attaches to the surface
Microorganism Type	Specific bacteria	Naturally growing mixed microorganisms
Dosage Ratio	5%-20%	15%-40%
Remaining Sludge Amount	None or very little	Relatively more
Low-Temperature (5-10°C) Adaptability	Strong	Average

Product Application

New Projects

For new wastewater treatment projects, HF filler can be added alone or combined with activated sludge into the biological tank. After a short period (2-3 days) of cultivation and acclimatization, the system can be successfully started. HF filler fully contacts and fluidizes with the wastewater under anaerobic, anoxic, or aerobic conditions. Pollutants in the wastewater can enter the filler's micro-pores and internal channels, where they come into full contact and react with the specific microorganisms that have been pre-immobilized, ensuring rapid and efficient pollutant removal. The reaction products diffuse through the micro-pores and return to the wastewater.

Upgrading Existing Projects

For existing facilities with insufficient treatment capacity or difficulty in meeting standards, HF filler can be directly added to the original biological tank. This not only activates the fixed specific microorganisms but also effectively activates the microbial activity in the original system, rapidly improving the biomass and treatment capacity of the system.

Operation and Maintenance Services
Sewage Treatment Plant Entrusted Operation and Maintenance Services

Sewage Treatment Plant Entrusted Operation and Maintenance Services

Innovation Environment, leveraging professional technical expertise, its self-developed cloud platform, and a nationwide after-sales service network, can provide a variety of third-party, fully entrusted, specialized services for rural sewage treatment plants, including project management, upgrades, technical guidance, equipment maintenance, and supply of consumables and parts.

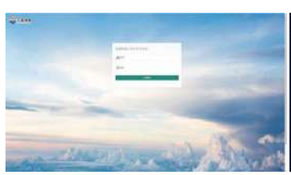
Industry Pain Points and Service Content

- Diverse Process Types
  Numerous Sites
  Scattered Locations
- Poor Quality of Pipe Networks
  Large Water and Quality Fluctuations
  Difficult Stable Operation
- Lack of Professional Operation and Maintenance Personnel
- Seasonal Control Loss at Sites
- Low Single Site Budget

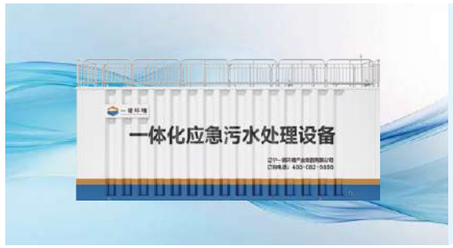
Innovation Village and Town Sewage Operation Services

- Problem Diagnosis
- Process Control
- Biochemical System Recovery
- Water Quality Analysis
- Equipment Maintenance
- Parts and Reagents Supply
- Personnel Training
- Sludge Treatment and Disposal
- Upgrades
- Smart Operation and Maintenance (Cloud Platform, Remote Monitoring, Unmanned Operation)

Service Advantages




Operation and Maintenance Services
Emergency Sewage Treatment Services



Emergency Sewage Treatment Services

In response to scenarios such as sewage treatment plant upgrades, sudden increases in water volume, system failures, and natural disasters, where the existing sewage treatment system's capacity and performance do not meet expectations, Innovation Environment has launched its self-developed modular emergency sewage treatment equipment, providing an ideal solution for urgent situations.

Application Scenarios


1. Transitional treatment during sewage plant upgrade and reconstruction
2. Township sewage inspection and treatment of substandard water quality
3. Increased water volume during the rainy season, with limited capacity of existing sewage treatment equipment
4. Sudden water quality pollution, where sewage cannot be treated in time

Solution

Equipment Model	Treatment Capacity (m^3/d)	Single Equipment Dimensions (L×W×H: m) (including equipment room)	Quantity	Equipment Material	Single Equipment Operating Weight (t)
MFR-200	200	17.5×3.0×3.0	1	Carbon steel anticorrosive/Glass fiber	142
MFR-500	500	24.99×3.04×3.538	1	Carbon steel anticorrosive/Glass fiber	230
MFR-1000	1000	24.99×3.04×3.538	2	Carbon steel anticorrosive/Glass fiber	230
Modular assembly, any combination, customized according to needs					

Process Advantages

Highly Compact

The equipment structure is designed to be compact with no wasted space, maximizing land area savings.

Advanced Technology

The system uses an activated sludge-coupled biological film process and adds self-developed specialized microorganism carriers, ensuring stable and compliant discharge of COD, BOD, NH_3-N, TN, TP, SS, and other indicators.

Energy-saving

Fully considering shared power, gas lifting, and other measures, the design optimizes every small detail to reduce operational energy consumption.

Smart Operation and Maintenance

High-quality components are carefully selected to ensure fault-free operation. The use of a cloud platform enables intelligent operation and maintenance with unmanned operation.

Ecological Integration

The equipment appearance integrates organically with the local environment, blending seamlessly. The effluent can undergo further ecological treatment, improving water quality and beautifying the site.

Operation and Maintenance Services
Landfill Leachate Treatment Services

Landfill Leachate Treatment Services

The container leachate emergency treatment equipment is based on dual-stage DTRO high-pressure reverse osmosis technology. It is primarily used for treating high-concentration, challenging wastewater such as landfill leachate. The system features simple on-site installation, no civil construction requirements, fast delivery times, strong scalability, no need for pre-treatment, and space-saving design. It operates fully automatically, enabling unmanned operation, and can treat raw leachate to meet discharge standards.

Application Fields

Emergency treatment of leachate from existing landfill waste

Emergency treatment of wastewater from incineration plants and industrial parks

Emergency treatment of reverse osmosis concentrate

Emergency treatment for industrial wastewater reduction

Technical Features

- Short delivery time and fast commissioning
- Compact system design, saving land and construction costs
- Mature technology with over 100 successful applications
- Compact and mobile design, enabling unmanned operation

Cooperation Models

- 1 Equipment Purchase
- 2 Equipment Purchase + Operation Services

Cooperation Models

- 3 Purchase Service Model (water volume-based charging)
- 4 EPC (Engineering, Procurement, and Construction) Total Package

Operation and Maintenance Services
"Three Highs" Wastewater Treatment Services

"Three Highs" Wastewater Treatment Services

Industrial enterprises often generate "Three Highs" wastewater—high toxicity, high salinity, and high concentration—which poses significant treatment challenges. INNOVATION ENVIRONMENT provides a one-stop operation and maintenance service solution centered around the UED intelligent integrated treatment equipment. We are responsible for the investment, construction, and operational management, while clients only need to provide basic utilities such as water, electricity, and space. Charges are based on actual treatment volume and performance, making it an ideal solution for tackling complex wastewater problems.

Applicable Scenarios

Small-volume, high-difficulty wastewater generated during production, not suitable for mixing with other streams.

Wastewater that is difficult to treat and has been long stored in tanks, posing environmental risks.

Wastewater outsourced to third-party transport and treatment, resulting in high costs.

Wastewater discharge is periodic or intermittent, making it unsuitable for permanent treatment facilities.

Existing wastewater system frequently exceeds discharge standards, with no space for upgrades or expansions.

Perfectly Solving Three Major Customer Pain Points

1 Lack of Capital

No upfront investment required. Payment is made periodically based on treated water volume—solving financial pressure from lump-sum payments.

2 Environmental Inspections

For projects not meeting standards or facing emergencies, we commit to arriving on site within 3 days and achieving standard discharge on the day of installation.

3 Winter Operation

Equipment operates reliably in all seasons, unaffected by temperature, ensuring full-process, worry-free service year-round.

Technical and Service Advantages

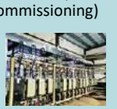
1. Project information collection

2. Water quality testing and analysis

3. Lab-scale testing and validation

4. On-site pilot testing and economic analysis of technical solutions

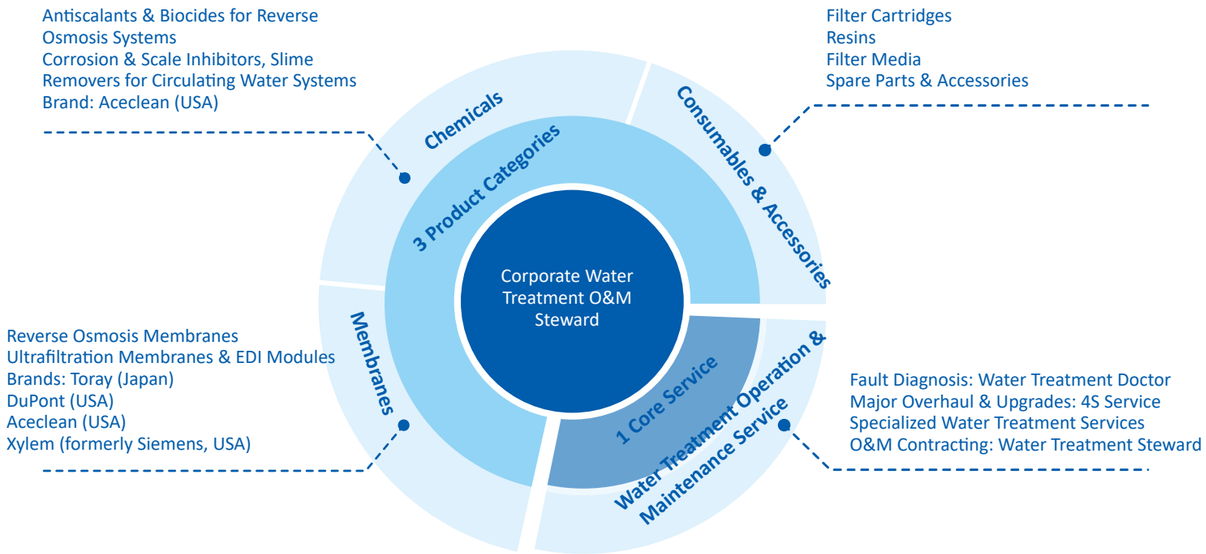
5. Project implementation (design, production, installation, commissioning)



6. Ongoing operation and maintenance tracking

GROUP BUSINESS

Corporate Water Treatment O&M Steward (3+1 Model)



7 Key Operational Advantages

1. Cost Advantage
Through full-industry-chain coverage (design, procurement, production, engineering, operation, trade), procurement and operating costs can be reduced by 10–30%.

2. Technical Advantage
Over 60 patents and copyrights; smart cloud platform IESC based on big data and IoT technology.

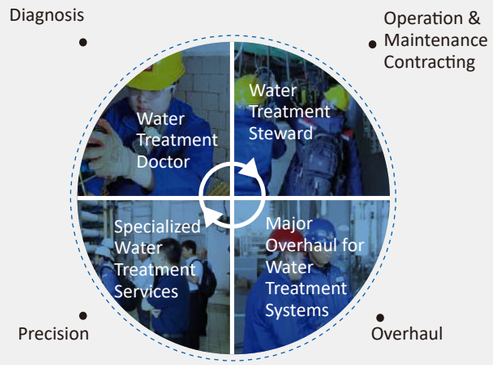
3. Personnel Advantage
Over 300 professional water treatment O&M engineers, each with more than 8 years of industry experience.

4. Performance Advantage
Serving 66 industries across 33 countries and regions, with over 3,000 customers, including more than 20 Fortune Global 500 companies.

5. Testing Advantage
1,500 m² in-house water quality lab equipped with professional instruments to test all water quality indicators across various industries, ensuring scientific operation.

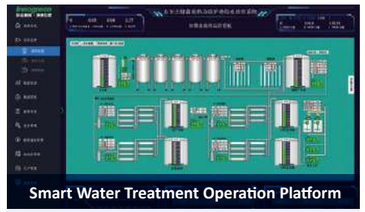
6. Platform Advantage
With over 20 years in the water treatment industry, focusing on membrane-based water treatment system design, manufacturing, installation, and O&M.

7. Chemical Advantage
Authorized distributor of globally renowned chemical brands: NALCO, SUEZ, ACECLEAN, DUPONT, and PWT.



20+ Year	Over 20 years of engineering and implementation experience
3000+	Experience from over 3,000 customer sites
3000+	Operation and maintenance of 3,000+ water treatment systems across 66 industries
20+ Year	O&M team with over 20 years of hands-on experience in water treatment system management
5G	Smart water treatment operation platform based on cloud computing and IoT (5G) technologies

Water Treatment Doctor


Smart Water Treatment Operation Platform

- Utilizes advanced computer technology to simulate system operations and assist experts in providing technical services and troubleshooting for water treatment systems

Remote Inspection & Diagnosis

- Expert remote diagnostics based on the smart water treatment operation platform


On-site Inspection & Diagnosis

- Membrane system diagnostics
- On-site water quality analysis
- Maintenance planning for membrane systems
- Membrane cleaning guidance
- On-site services by professional engineers

Our Competitive Edge

- We don't compete on price—
  We compete on technically advanced services.
- We don't compete on price—
  We compete with certified professionals for calibration and commissioning.
- We don't compete on price—
  We compete with our in-house water quality and environmental testing center, capable of analyzing over 100 water and environmental parameters.

Water Treatment Steward

Fully outsourced operation & maintenance

Chemical total solution contracting

On-site deployment of professional O&M personnel

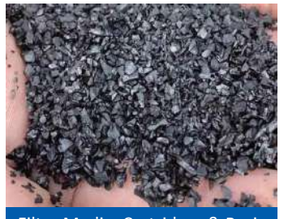
4S Overhaul, Expansion & Upgrade Services

Overhaul solution design

Overhaul planning

Overhaul execution

Water Treatment Consumables & Specialized Services



Filter Media, Cartridges & Resin Replacement

- Customers often only purchase resin/media but lack the skills or manpower to replace them
- Resin and filter media appear simple, yet price competition dominates due to low technical entry threshold

Instrumentation Calibration & Commissioning

- Instrument inaccuracy is one of the most common on-site problems
- Most site personnel lack the expertise to calibrate or commission instruments
- Instrument manufacturers often struggle to provide timely after-sales support

Water Quality Testing & Analysis

- On-site testing conditions are often inadequate, with insufficient equipment
- Third-party testing is costly and may not cover all desired indicators

Membrane Replacement, Installation & Commissioning

- Membrane installation may seem simple but requires technical expertise
- Installation techniques—orientation, method, pressure, end-cap sealing—can all affect membrane performance and lifespan

Comprehensive Water Treatment Solutions

Engineering Business Areas

1. Ultrafiltration, Reverse Osmosis (RO), and EDI Systems
2. Industrial Water Purification Systems and EPC Projects
3. Greywater Reuse, Wastewater Treatment, and Zero-Liquid Discharge (ZLD) Systems
4. Civil, Commercial, and Military Water Purification Systems

Desalination systems for chemical and metallurgical industries

Boiler feedwater systems for power plants

Greywater reuse systems

Industrial wastewater treatment and zero-liquid discharge solutions

Non-negative pressure water supply equipment

Reverse Osmosis Systems for the Food and Beverage Industry

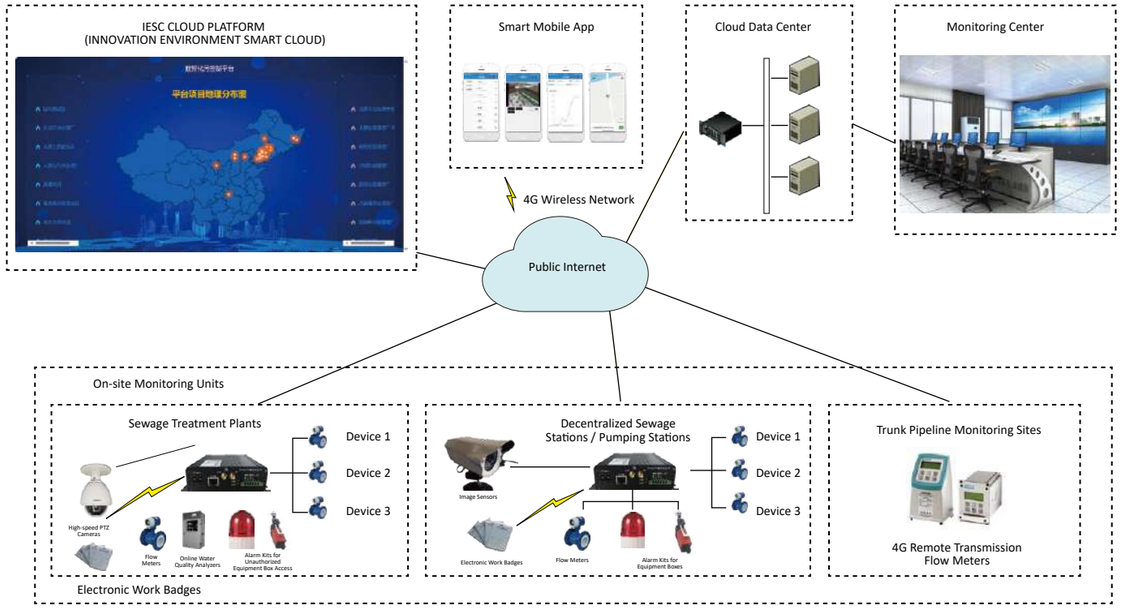
Rural Public-Benefit Water Supply Stations

Containerized Mobile Water Purification Units

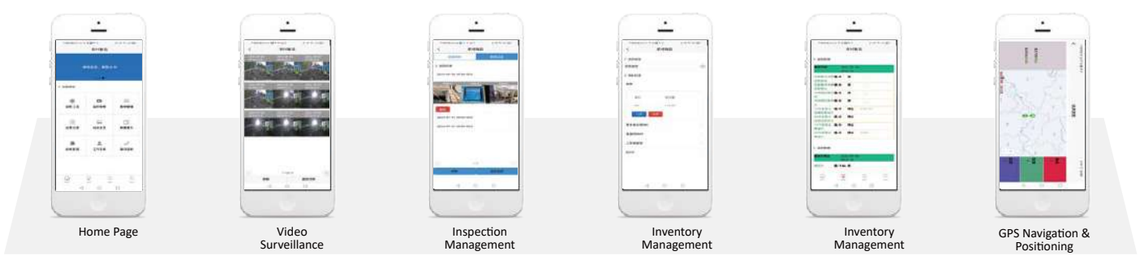
Mobile Water Purification Vehicles

IESC CLOUD PLATFORM (INNOVATION ENVIRONMENT SMART CLOUD)

IESC Cloud Platform (Intelligent Environmental Supervisory and Control System) is a remote management and monitoring platform based on IoT technology. Independently developed by the product R&D team to address the operational requirements and pain points of Innovation Environment's ecological environmental protection equipment, the platform empowers control systems with AI-based operating models to handle complex scenarios through big data statistics, analysis, and computation.
The platform supports integration with all product lines, including: Rural toilet renovation systems, Integrated sewage treatment units, Septic tank purification systems, Livestock and poultry manure treatment equipment, Sodium hypochlorite generators, Rural safe drinking water systems



Mobile App Functional Modules



Function Modules Overview (PC Version)

1. Homepage
The system comprises 12 functional modules, including Project Management, Real-time Operation Status, Video Management, Inventory Management, O&M Management, Inspection Management, Archive Management, Cost Accounting, IoT Device Management, among others.

2. Real-time Operation Status
Continuously updates the online status and monitoring data of each site. Supports remote control and alert functions.

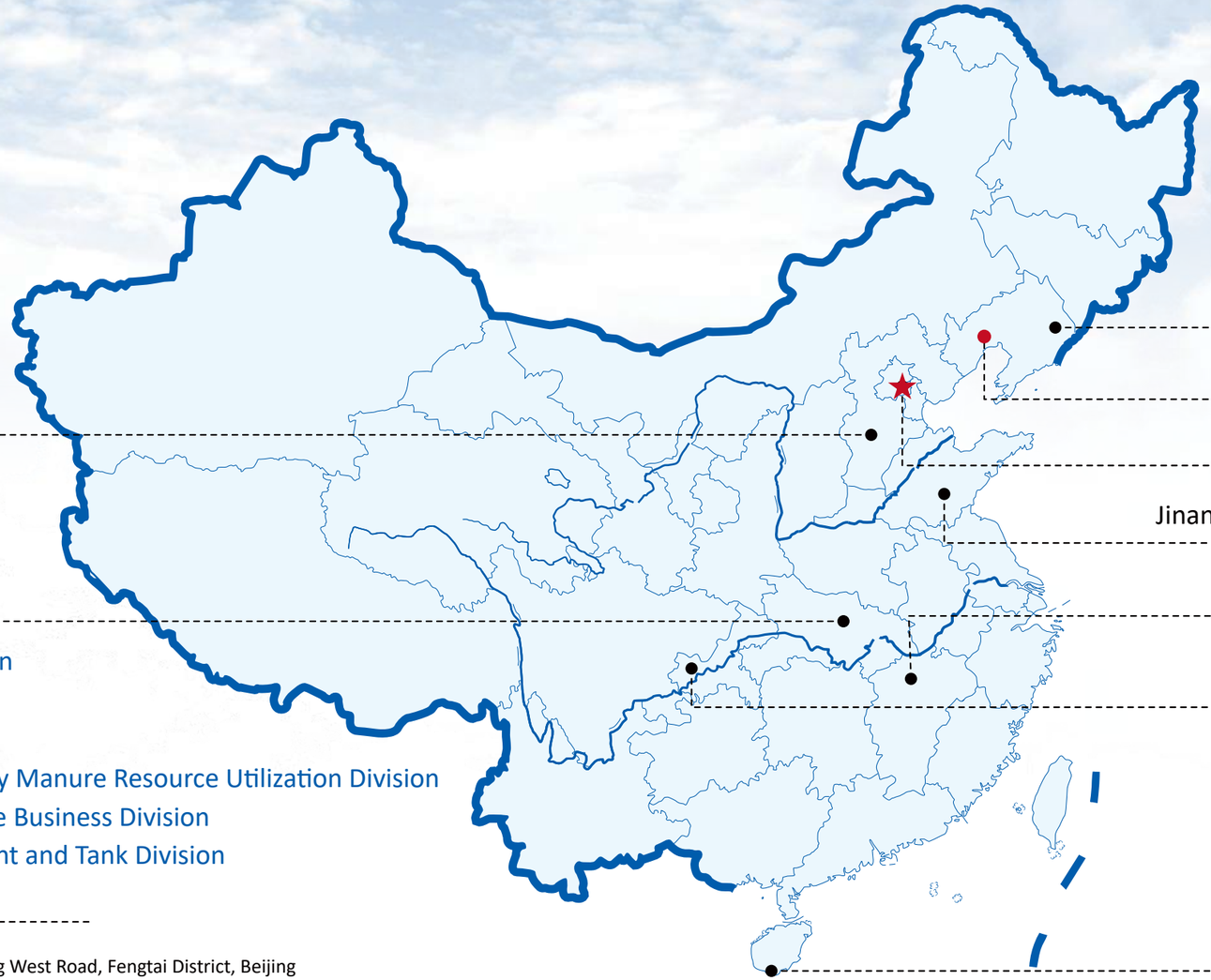
3. O&M Management
Collects and analyzes historical operational data from all connected systems. Automatically generates statistical reports based on aggregate values, providing data support for equipment management. Enables storage and retrieval of monitoring data, control data, alarm data, and operation logs, ensuring complete maintenance records for all connected water treatment equipment.

4. Knowledge Base Management
1. Supports entry, modification, deletion, and search of knowledge data;
2. Categorizes and manages related information to establish a centralized knowledge platform, ensuring continuous updates and providing basic information services.

5. Cost Accounting
Breaks down and aggregates various O&M expenses to calculate total cost, unit cost, and revenue. Aims to support statistical analysis, optimize cost-related decision-making, and strengthen cost control.

6. Video Management
Provides clients with high-definition monitoring views of water treatment stations and pump station surroundings. Supports real-time snapshots and image browsing functionality.

Marketing and Collaboration



Shenyang Technical Center

Beipiao Manufacturing Center

Group Headquarters (Beijing R&D Center)

Jinan Environmental Engineering Design Institute

Jiangxi Service Center

Chongqing Service Center

Hainan Service Center

Hebei Service Center

Hubei Service Center

Northeast Region
East China Region
North China Region
Southwest Region

Beijing Region
Xiong'an Region
Shandong Region
Livestock and Poultry Manure Resource Utilization Division
Sodium Hypochlorite Business Division
Membrane Treatment and Tank Division

Group Headquarters (Beijing R&D Center):
Building A, Zhonglin Real Estate Tower, No. 28 South 3rd Ring West Road, Fengtai District, Beijing
Beipiao Manufacturing Center:
Yinuo Environmental Protection Industrial Park, Beipiao Economic Development Zone, Chaoyang, Liaoning Province
Shenyang Technical Center:
Room 1505, Tower A, Qianyuan Fortune Business Center, No. 18 Xinghua North Street, Tiexi District, Shenyang, Liaoning Province
Jinan Environmental Engineering Design Institute:
Room 1303, Tower B, Jiaheng Business Building, No. 1825 Hualong Road, Licheng District, Jinan, Shandong Province
Hebei Service Center:
Room 2511, Zhonghua City, Weiming South Street, Qiaoxi District, Shijiazhuang, Hebei Province
Jiangxi Service Center:
Room 205, 2nd Floor, Xinchuang Building, Renhe Road, Shahe Town, Zhanggong District, Ganzhou, Jiangxi Province
Hubei Service Center:
Room 2613, Building 8, Phase II, Gezhouba Jingkai Zijun Lanyuan, Plot 209M, Wuhan Economic & Technological Development Zone, Hubei Province
Chongqing Service Center:
Room 310, 3rd Floor, Logistics Center, No. 55 Kangyuan Road, Ecological Industrial Park, Caotang Town, Fengjie County, Chongqing
Hainan Service Center:
Room 664, Building 7, Entrepreneurship Incubation Base, National University Science Park, Hainan Tropical Ocean University, No. 1 Yucai Road, Jiyang District, Sanya, Hainan Province