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**Hongfa Environmental Protection  
Agricultural & Livestock Waste Valorization**

**Solutions · Technologies · Equipment**

China·Hongfa Scientific Industrial & Trading Co.,Ltd



Integrity · Commitment · Expertise · Innovation

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山东生产基地一区



山东生产基地二区



广西生产基地一区





## Company Profile

Shandong Hongfa Scientific Industrial & Trading Co., Ltd was established in 1990. After more than 30 years of development, the company has built two industrial bases in Yinan, Shandong and Nanning, Guangxi, with seven production plants. The headquarters is located at Hongf Road, Dazhuang Town, Yinan County, Shandong. The company's industries include: circular agriculture, agricultural and livestock solid waste treatment equipment, wastewater treatment equipment, organic fertilizer production equipment, organic fertilizers and fermentation agents, artificial quartz stone equipment and panels, aerated concrete equipment, block forming machines, and new environmental protection machinery manufacturing.

The company has a complete production, education, research, and promotion system with self-operated import and export rights. It produces over 7,000 sets of various mechanical equipment annually and 100,000 tons of organic fertilizer. Products are sold throughout China and exported to dozens of countries and regions including Russia, Bangladesh, Guinea, Angola, Vietnam, Mongolia, and North Korea.

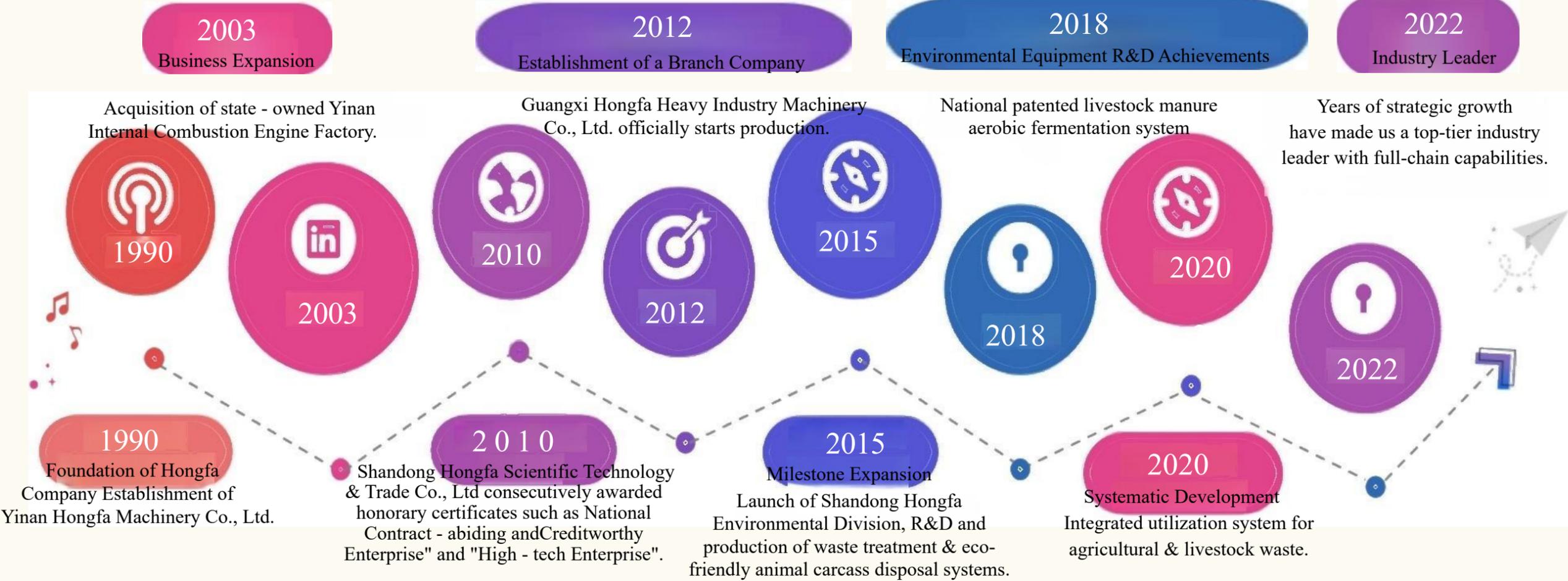
Environmental Equipment Company Adhering to the development direction of green, low-carbon cycling and efficient resource utilization, in response to the comprehensive utilization requirements of agricultural and livestock solid waste, we have gathered domestic authoritative institutions for joint R&D cooperation. We have independently developed multiple sets of environmental treatment conversion equipment and process solutions for agriculture and animal husbandry, achieving a series of scientific and technological accomplishments. We are the drafting unit for local standards on aerobic fermentation composting production technology and the recommended unit for integrated technology and supporting equipment of livestock manure resource utilization.

Hongfa Environmental Protection's main products include: complete technical process solutions for resource utilization of agricultural and livestock organic solid waste, intelligent processing plants for fertilizer utilization of agricultural and livestock organic solid waste, straw and manure aerobic fermentation equipment, organic waste aerobic fermentation devices, various specialized turners adopting the "one factory, one policy" approach, and organic fertilizer production line equipment - all advanced comprehensive utilization treatment and conversion equipment and process solutions for agricultural and livestock waste.

Our company and products have obtained 33 national patents over the years, and we have been honored as National Contract-abiding and Creditworthy Enterprise, China Well-known Trademark, Provincial High-tech Enterprise, Provincial Leading Enterprise in Poverty Alleviation, Shandong Famous Brand, Silver Award at China Animal Husbandry Expo, Gold Award at Shandong Animal Husbandry Expo, Gold Award at Anhui Straw Expo, and Linyi Science and Technology Award. Some products have obtained the agricultural machinery promotion certification from the Ministry of Agriculture and Rural Affairs. We are committed to supporting agricultural development and rural revitalization.

Adhering to technological innovation and committed to environmental development, creating value for customers, continuously providing advanced and economical process equipment for agriculture and animal husbandry, promoting intelligent development of agricultural equipment, and creating a low-carbon, circular, sustainable, and environmentally friendly ecological civilization are the new mission and goals of Hongfa Environmental people. Let us join hands, stay true to our original aspirations, forge ahead, cooperate for mutual benefit, and move toward the future together!

# Corporate Development History



# Corporate Honors

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- **Well - Known Trademark of China**
- **National Contract-Honoring & Creditworthy Enterprise**
- ISO 9001:2008 Certified Enterprise
- National High-Tech Enterprise
- Holder of Multiple National Utility Model Patents
- Agricultural Machinery Promotion Certification (MARA)
- Multi-Award Winner at China Animal Husbandry Expo
- Technical Partner: Shandong Mechanical Design Institute
- Provincial Leading Enterprise in Poverty Alleviation



# Corporate Honors & Certifications

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# A Integrated Agricultural & Livestock Waste Solutions

## ◎ Intelligent Aerobic Fermentation Plant for Organic Waste

### Solution Overview:

An intelligent, efficient, and practical system utilizing aerobic microbial fermentation to process livestock manure, crop straws, food waste, herbal residues, and municipal sludge into organic fertilizers. Ideal for farms, centralized waste treatment centers, and organic fertilizer plants.

### Key Features:

Utilizing biochemical principles of microbial decomposition, the aerobic fermentation process is implemented through industrialized integrated design and modular production, forming a smart factory that enables fully automated operation from raw materials to finished fertilizer with high automation and intelligence.

### Process Description:

1. Organic solid waste materials, additives, and fermentation agents enter the pre-treatment zone. They are separately fed into variable-frequency intelligent dosing silos, automatically proportioned according to the moisture content and C/N ratio required by the aerobic fermentation process. The mixed materials are then conveyed to the rapid harmless treatment system, where they undergo 2-3 hours of processing for rapid heating, microbial activation, deodorization, and fermentation. The treated materials then enter the fermentation zone, completing pre-treatment.

2. The materials enter the fermentation zone and are transported by an automatic spreader to the starting end of the turning system. The turning system operates in an automated cycle, moving the materials backward to achieve automatic displacement. The fermentation tank is equipped with multi-point temperature sensors for data collection, automatically adjusting aeration levels in different working sections to create an optimal temperature environment for aerobic microbial growth. This accelerates fermentation, achieving rapid decomposition, maturation, pest/egg inactivation, moisture reduction, and deodorization. After approximately 15–20 days, the fermented materials are collected by the automatic discharge system and stored in the packaging zone.



# A Integrated Agricultural & Livestock Waste Solutions

## ◎ Intelligent Aerobic Fermentation Plant for Organic Waste

- 3、 The matured product is organic fertilizer, which can be further processed into powder or granules as needed.
- 4、 The entire processing and production area is equipped with an exhaust gas collection system for deodorization and dust removal, ensuring compliance with environmental emission standards.
- 5、 Multi-point monitoring, data collection, and centralized intelligent control are implemented.

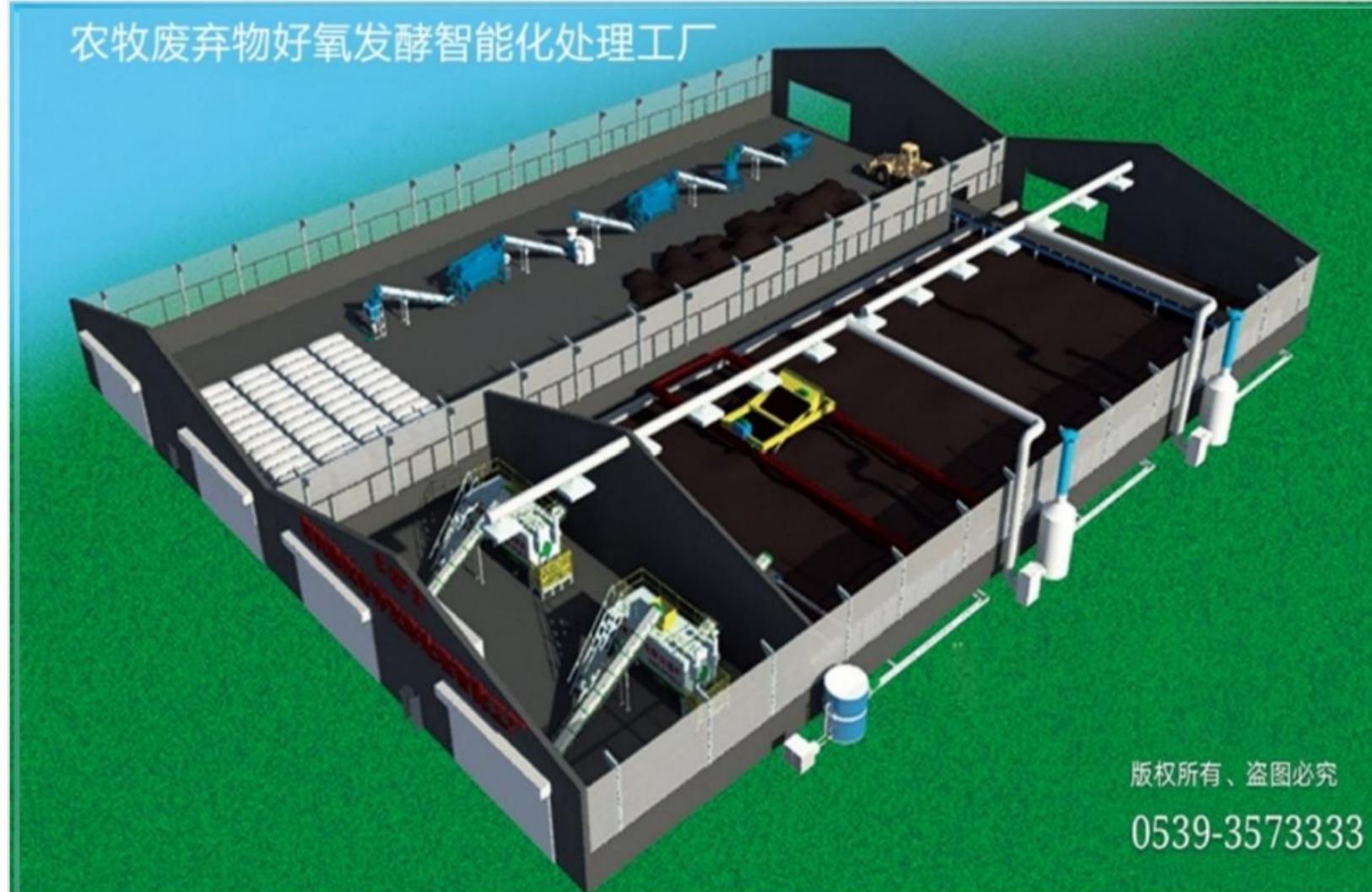
This process solution consists of three major production zones and eleven systems, with customized design and configuration based on processing capacity requirements. Production modes include: Basic Treatment Type, Semi-Intelligent Conversion Production Type, and Fully Intelligent Conversion Production Type for multiple options.



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## ©Organic Fertilizer Granulation Production Line

### 50,000 T/Y Organic Fertilizer Production Line





### © Blended Fertilizer Production Line



### © Organic Fertilizer Extrusion Granulator

- XKJ320 Granulator: Capacity 800-1000Kg/h

Motor Power: 22KW Grade 6;

- XKJ420 Granulator: Capacity 1500-2000Kg/h

Motor Power: 37KW Grade 6;

- XKJ550 Granulator: Capacity 2000-3000Kg/h

Motor Power: 55KW Grade 4;

- XKJ650 Granulator: Capacity 3000-5000Kg/h

Motor Power: 75KW Grade 4.

### © Disc Pelletizer

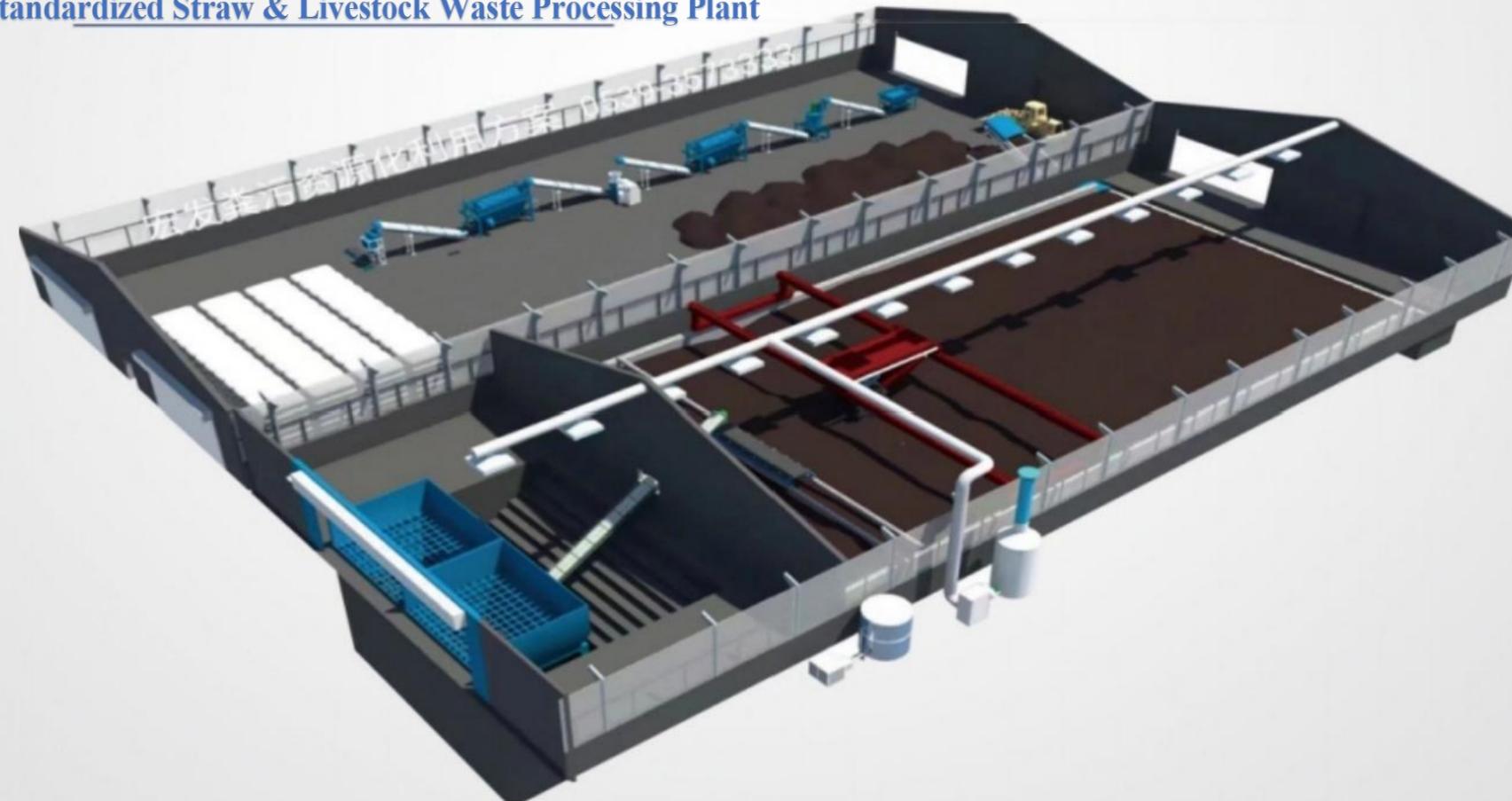




## **A** Integrated Agricultural & Livestock Waste Solutions

This model addresses the limitations of traditional single-purpose waste treatment equipment and processes, incorporating user needs to independently develop a comprehensive agricultural and livestock organic waste recycling solution. Through market application, it has gained high recognition from industry professionals and experts as the most advanced, reliable, energy-efficient, and eco-friendly manure treatment system available today.

### © Standardized Straw & Livestock Waste Processing Plant





# A Integrated Agricultural & Livestock Waste Solutions

## ◎ Standardized Utilization Model for Organic Waste

This system can be categorized into three types: Basic Processing Type, Semi-Automated Processing & Production Type, Fully Automated Intelligent Processing & Production Type.

The complete model consists of 3 major production zones with 11 integrated systems:

### I. Pre-Processing Zone (3 Systems)

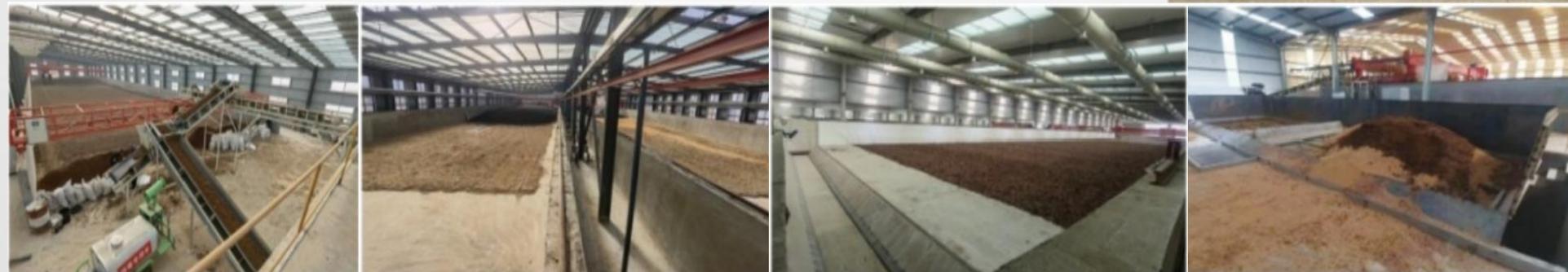
Material Storage & Dosing System, Material Conveying System, Rapid Pre-Mixing System.

### II. Enclosed Fermentation Zone (6 Systems)

Automated Material Spreading System, Automated Mobile Turning System, Zoned Aeration System, Exhaust Gas Collection & Treatment System, Discharge System, Integrated Control Room System.

### III. Automated Packaging Line Zone (2 Systems)

Automated Powder Packaging Line, Automated Granule Packaging Line.





# A Integrated Agricultural & Livestock Waste Solutions

## ©11FFC Aerobic Fermentation Device

### Product Introduction:

This patented product of our company is a laminar aerobic fermentation device for organic waste. Based on the fermentation characteristics of aerobic microorganisms, it adopts a multi-layer screen bed design with intelligent control, integrating functions of drying, fermentation, deodorization and sterilization. Materials enter from the upper layer and are spread on the screen bed, which runs cyclically and falls layer by layer to the bottom for finished product discharge, achieving top-inlet and bottom-outlet continuous production.

### Features:

**I. Integrated Design:** From batching, material distribution, temperature raising, turning, fermentation, aeration, deodorization to discharging, it supports one-key start, intelligent control and automatic operation.

**II. Thick Assembled Composite Insulation Layer:** Equipped with a perfect waste heat recovery device to reduce heat loss, featuring high thermal efficiency. Heat generated by self-fermentation meets the needs of production cycle, requiring only about 10 kWh per cubic meter of fermentation material, energy-saving and power-saving.

**III. Top-Inlet & Bottom-Outlet Mode:** According to treatment effect requirements, fertilizer can be produced within 2-7 days, enabling continuous production to meet various production demands.

**IV. Anti-Corrosion Design:** The frame uses galvanized steel with anti-corrosion coating, and the insulation layer and fermentation bed main body are all made of 304 stainless steel for durability.

**V. Reasonable Design & Complete Functions:** Equipped with automatic batching, strain addition, fixed-thickness spreading, falling and turning, oxygen supply ventilation, waste heat utilization, exhaust gas treatment, temperature measurement devices, featuring high degree of automation.

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## ©11FFC Aerobic Fermentation Device

**VI. Flexible Configuration:** Multiple units can be configured according to the treatment capacity to double the processing volume. It has wide applications, suitable for organic matter fermentation and material drying to meet different production needs.

**VII. Technical Environment Creation:** Inside the equipment, technical means create a suitable environment for the growth and reproduction of aerobic microorganisms, accelerating the fermentation process, shortening the fermentation cycle, improving treatment capacity, with controllable process and good treatment effect.

**VIII. Diversified Heating Options:** Optional electric heating, biomass heating, solar heating and air energy heating adapt to different production environments.





# A Integrated Agricultural & Livestock Waste Solutions

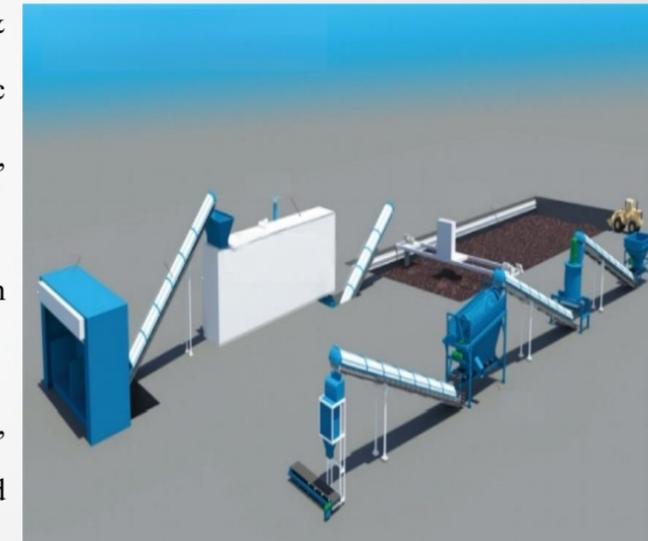
## ◎ Integrated Organic Fertilizer Production from Livestock Manure

### Solution Introduction

This solution is applicable for treating organic wastes such as livestock manure, straw & vegetable residues, and food waste through aerobic fermentation to convert them into organic fertilizers. After high-temperature fermentation, the treated manure raw materials become odorless, harmless, and have low moisture content, suitable for use as farmyard manure. The solution features scientific configuration, complies with fermentation process principles, and ensures low operation costs.

This solution is also suitable for decentralized treatment in small and medium-sized farms, enabling centralized processing of livestock manure. After fermentation, deodorization, and harmless treatment, the manure is convenient for transportation to regional treatment centers or organic fertilizer plants for deep processing into organic fertilizers.

With small investment, easy installation, flexible configuration, complete functions, small footprint, low operation cost, energy-saving and power-saving features, the solution delivers excellent practical effects.

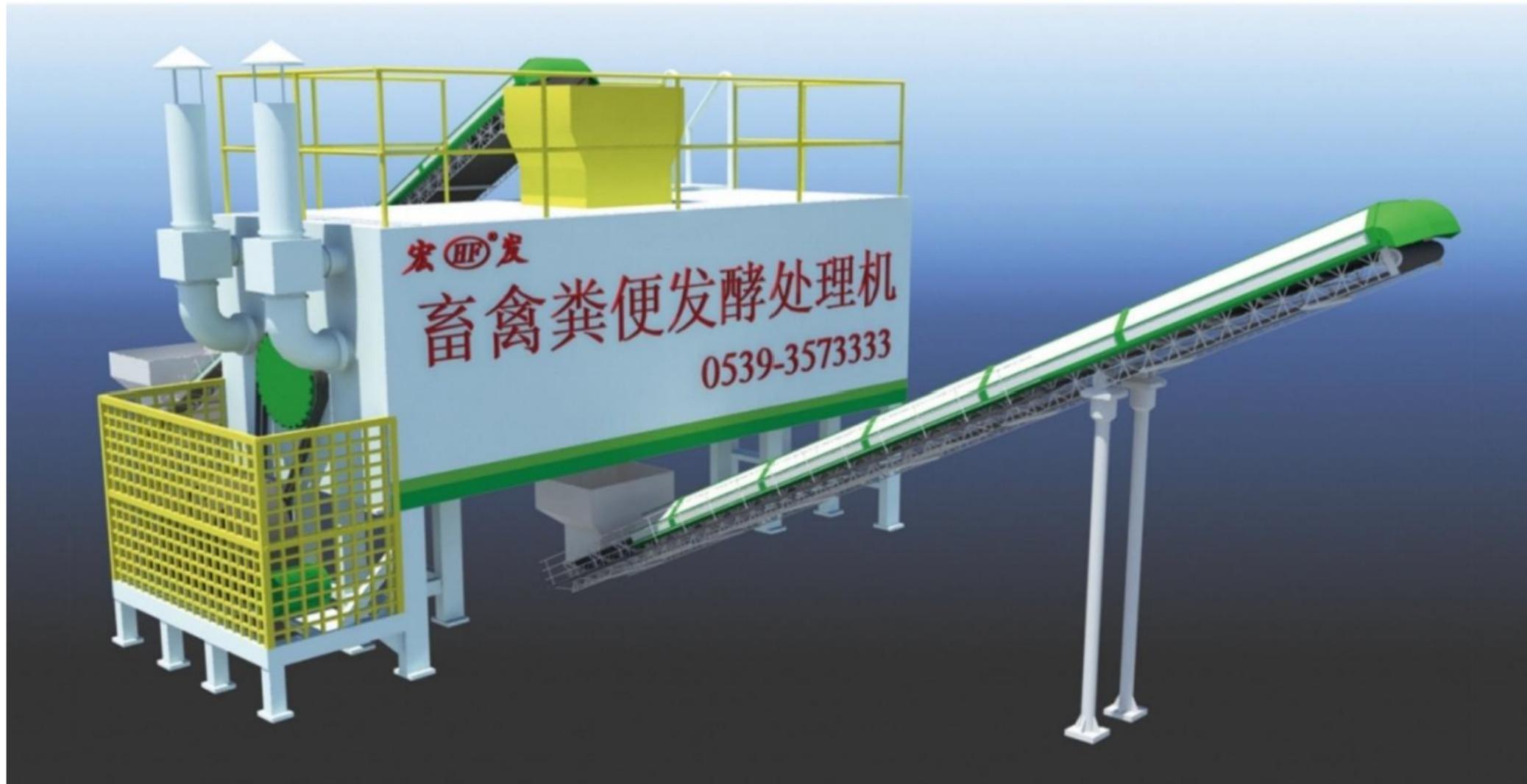


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# A Integrated Agricultural & Livestock Waste Solutions

## © HFK Series Livestock Manure Harmless Rapid Enzymatic Hydrolysis Machine

### Product Introduction:

Developed and manufactured by our company, the HFK series livestock manure fermentation treatment machine (rapid enzymatic hydrolysis machine) is designed for the fermentative treatment of solid organic wastes, including livestock manure, agricultural straws, biological feed, food waste, municipal sludge, and traditional Chinese medicine residues. It processes one batch within 2-3 hours, with a per-batch capacity of 2-20 m<sup>3</sup> and a daily throughput of 8-80 m<sup>3</sup>. Ideal for small-scale farmers, it enables primary manure fermentation, deodorization, and harmless treatment. The treated manure becomes odorless, safe for transportation, and ready for centralized deep processing in organic fertilizer plants.

### Process Features:

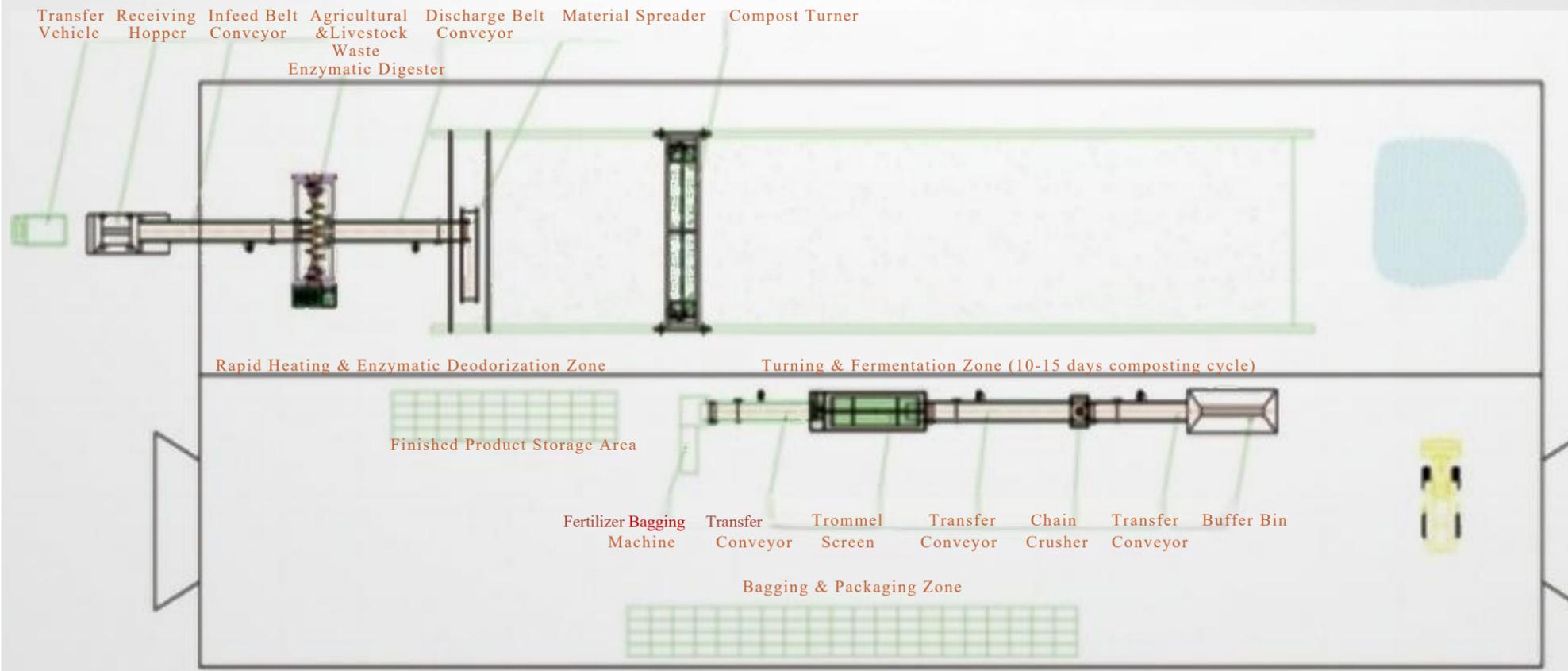
After collection and pretreatment, materials are mixed with auxiliary agents to adjust moisture (around 60%) and C/N ratio, followed by strain inoculation. Once blended, the mixture rapidly heats up, activating microbial fermentation strains to multiply and produce various biological proteases. These enzymes break down macromolecules like cellulose, proteins, fats, and sugars, achieving deodorization in approximately 2-3 hours. After discharge, materials are transferred to the curing area, piled 1.2-1.8 m high. Temperatures are monitored regularly; when exceeding 60° C, the piles are turned 3-4 times until the temperature drops naturally, completing the maturation process.





# A Integrated Agricultural & Livestock Waste Solutions

## © Treatment Solution for Rapid Enzymatic Hydrolysis Fertilizer Production from Livestock Wastes





# A Integrated Agricultural & Livestock Waste Solutions

## ◎ Nano Membrane Composting Solution

### Solution Introduction:

This solution is suitable for composting livestock manure, crop straw, food waste, and municipal sludge.

The membrane covers the compost material with sealed edges, controlling the exchange of matter and energy between the material and the surrounding environment, ensuring the process remains unaffected by weather or rain, and providing a stable internal environment for fermentation.

### Membrane Structural Features:

**I. Low infrastructure and equipment investment:** No fermentation workshop is required—only simple ground hardening or fermentation trenches as needed. Low operation and maintenance costs: The system is highly efficient and energy-saving, with composting costs as low as ¥20 per ton of organic fertilizer.

**II. Minimal labor input:** Only one worker is needed for initial material mixing and stacking. The subsequent process is fully automated, requiring no manual intervention.

**III. Stable aerobic fermentation conditions:** The membrane maintains optimal conditions regardless of external weather, significantly improving efficiency. Compared to traditional windrow or trench composting, the fermentation cycle is shortened by 50%.

**V. High-quality fertilizer output:** Prolonged high-temperature fermentation ensures thorough sanitization. The membrane effectively blocks the loss of volatile compounds, preserving nutrient content and producing higher-quality fertilizer compared to other composting methods.

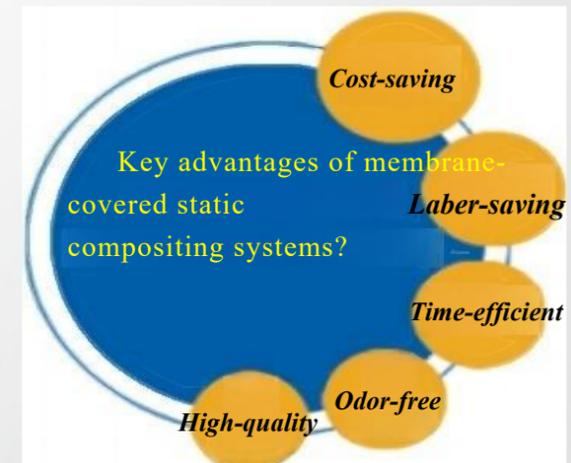
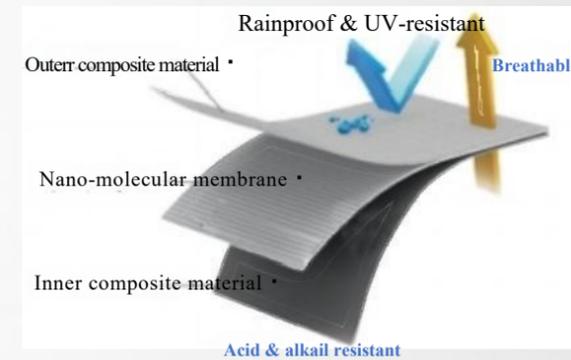
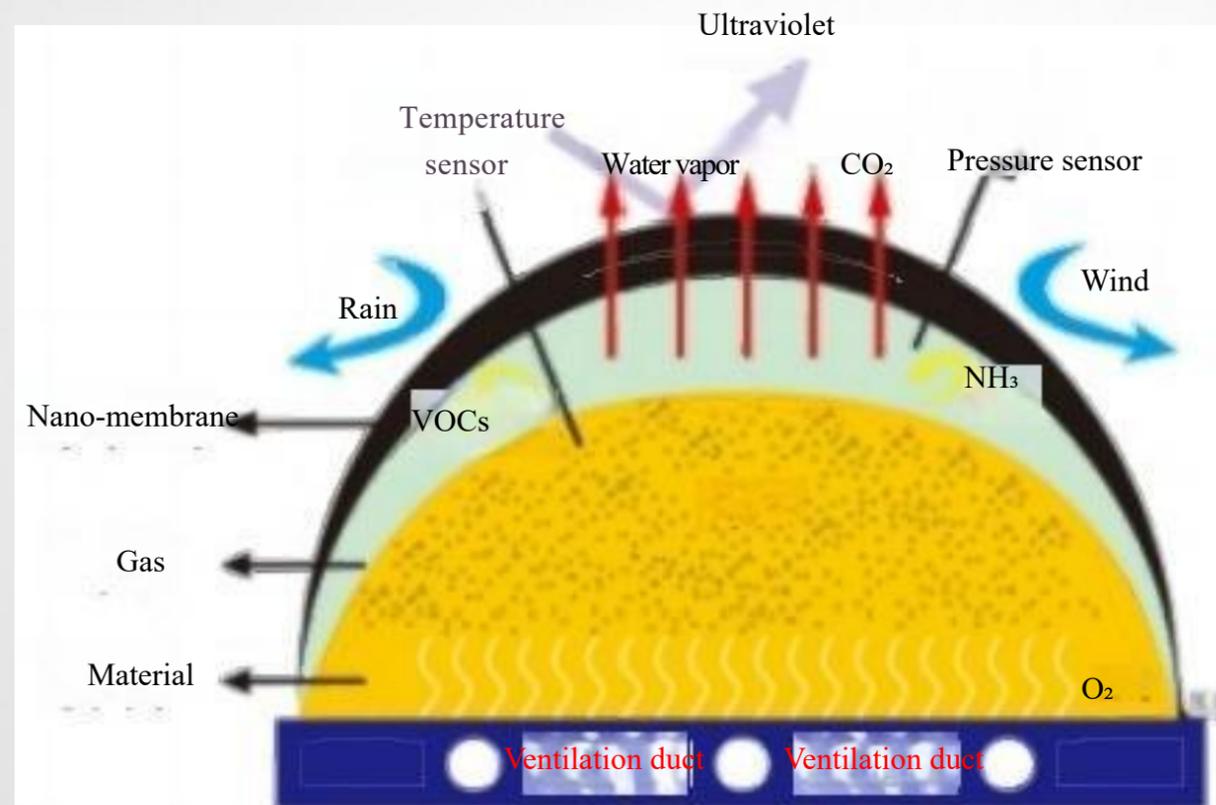
# A Integrated Agricultural & Livestock Waste Solutions

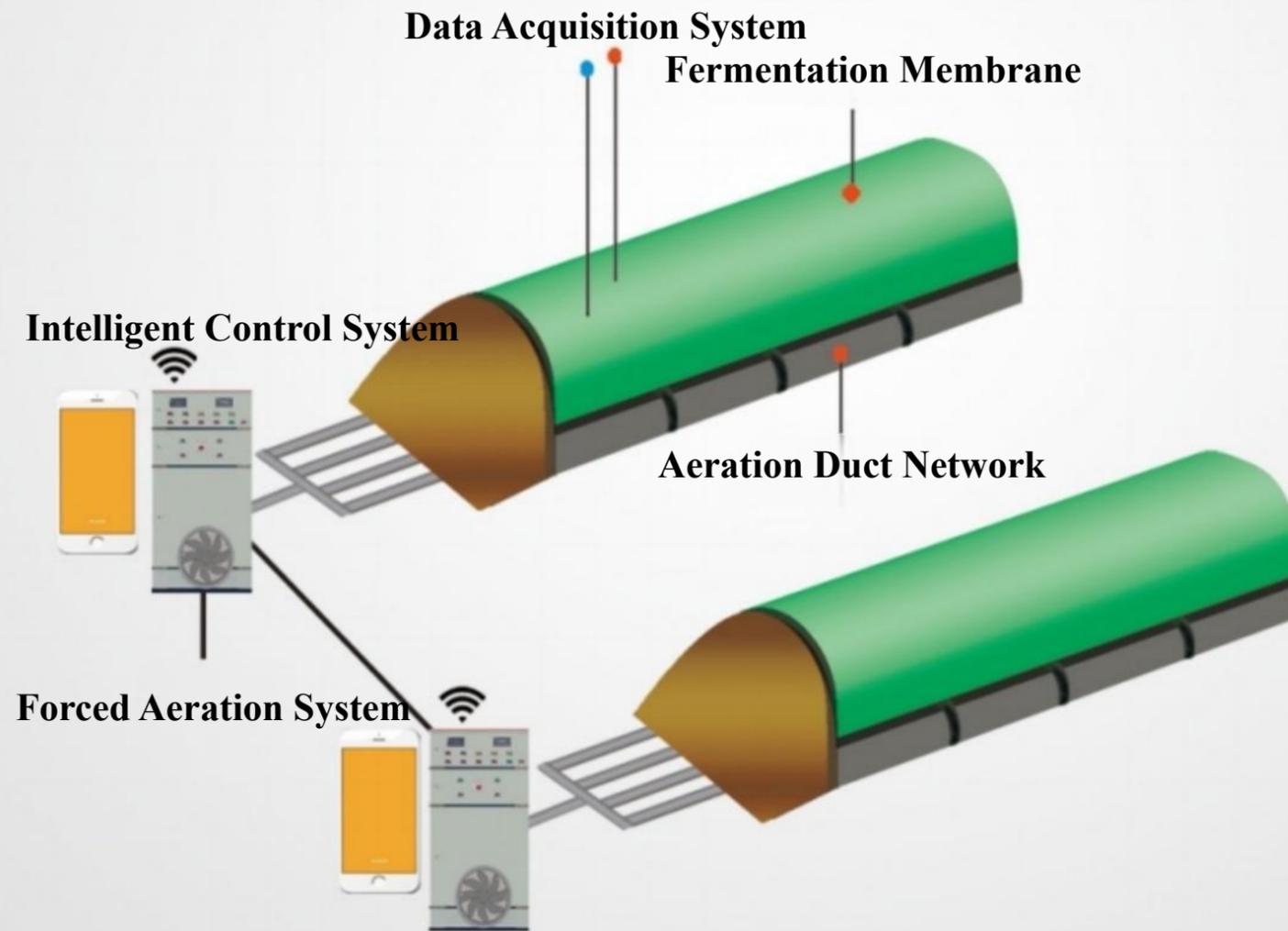
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## © Nano Membrane Composting Solution





# B Complete Liquid Manure Treatment Solutions

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## ◎ Full-Scale Treatment Production Line

### Product Introduction:

Hongfa Environmental has developed a Bio-evaporation Bed Process specifically for high-moisture liquid manure (such as duck and pig slurry) that is difficult to separate and treat. Through extensive research, testing, and accumulated experience, this process utilizes biotechnology and modern mechanical engineering to enhance moisture removal efficiency.

This process integrates the bedding fermentation bed treatment technology, targets the integrated treatment and utilization of liquid manures such as duck and pig manure, and is composed of modules including mixing & pulping, pumping & conveying, manure spraying, material turning, aeration & ventilation, and exhaust gas treatment.

### Advantages:

Integratively collects and treats liquid manures, solving the disposal challenges of liquid manures.

Realizes full-process automation, automatically completing the thorough mixing of materials and manure water to facilitate moisture evaporation and maturation during the subsequent material fermentation.

## On-Site Treatment Facility for 1 Million Meat Ducks Manure



## On-Site Manure Treatment Facility for 200,000 Meat Ducks



# B Complete Liquid Manure Treatment Solutions

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## ◎ Full-Scale Treatment Production Line

Field applications in pig and duck farms have achieved excellent results. Adopted by dozens of farms, it has gained recognition from livestock and environmental authorities and has become a primary recommended model for manure treatment. The bio-bedding process is mature, cost-effective, and resolves disposal concerns for farms.

### Features:

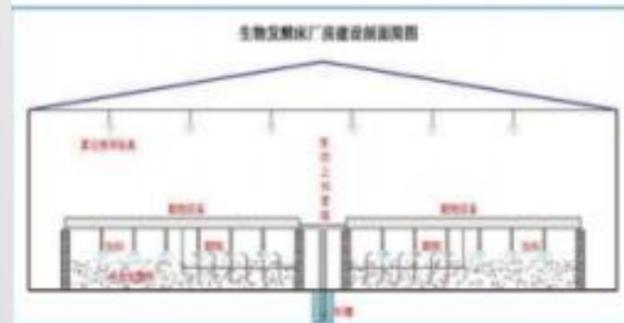
The complete system includes: Pre-mixing zone, Liquid manure storage zone, Material turning zone, Exhaust gas collection and treatment zone.

- I. Separate fermentation and breeding areas, ensuring no impact on livestock operations.
- II. Greenhouse-style treatment sheds enable quick construction, low cost, and efficient solar-thermal evaporation.
- III. Customizable design—bio-fermentation beds are sized based on daily manure output, with multi-bed configurations available.
- IV. Dedicated liquid manure turner with integrated hydraulic-electric automation reduces direct worker contact with waste.
- V. Low operating costs—end products are high-value organic fertilizers, improving economic efficiency and reducing treatment expenses.



# B Complete Liquid Manure Treatment Solutions

## ◎Liquid Manure Comprehensive Treatment Process Flowchart



# B Complete Liquid Manure Treatment Solutions

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## ◎Resource Recovery Benefit Conversion Model

Liquid manure resource recovery treatment model, this process centers on anaerobic digestion for biogas production and comprehensive utilization:

### Step 1: Biogas Production & Utilization

Biogas generated from anaerobic digestion in biogas reactors:

I. Can replace natural gas/biomass for boiler combustion.

II. Can power generators for grid electricity (Note: Southern regions operate year-round; Northern regions require heating systems for winter operation).

### Step 2: Digestate Treatment

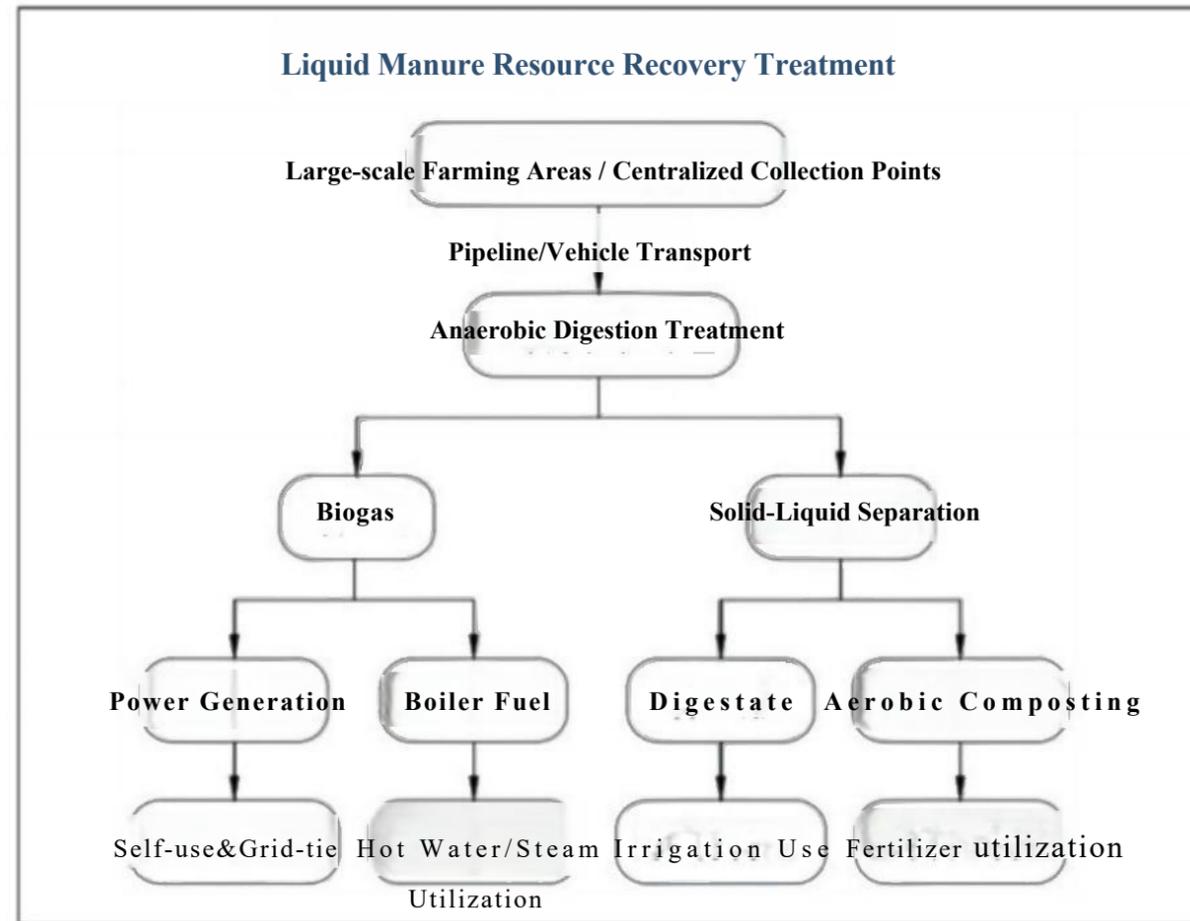
After anaerobic digestion, the liquid fraction - now free of harmful bacteria due to complete decomposition - can be directly pumped into tanker trucks, diluted with water, and used as nutrient-rich irrigation for farmland.

The solid fraction is mixed with additives to optimize the C/N ratio and enhance aeration, then transferred to enclosed fermentation chambers for 7-15 days of aerobic composting, ultimately converting into high-nutrient organic fertilizer with substantial economic value.





### © Biogas Anaerobic Digestion Treatment Process





# C Recycled Cattle Bedding Utilization Solutions

Cow manure, rich in undigested feed residues and plant fibers, holds high value when processed into cattle bedding. This approach reduces pollution while lowering farm costs - a win-win solution.

Hongfa Environmental offers two specialized systems: Static Membrane Fermentation System, Cattle Bedding Recycling System.

## Static Membrane Fermentation System

This system utilizes biological + membrane fermentation technology combined with intelligent control to process cattle manure into recycled bedding.

### Technical Advantages:

- I. Membrane-covered static fermentation requires no turning. It automatically regulates temperature, moisture, and aeration with minimal operation costs.
- II. After 10-15 days of thermophilic fermentation, the produced bedding becomes soft, fluffy, odorless, non-toxic, and hygienic.
- III. The fermentation membrane is highly adaptable—suitable for open-air setups, scalable for production needs, and requires low infrastructure investment



Process Flow: Cow Manure → Solid-Liquid Separator → Manure → Fermentation Mixing → Membrane-covered Fermentation → Bedding Production





# C Recycled Cattle Bedding Utilization Solutions

## ◎ Recycled Cattle Bedding System

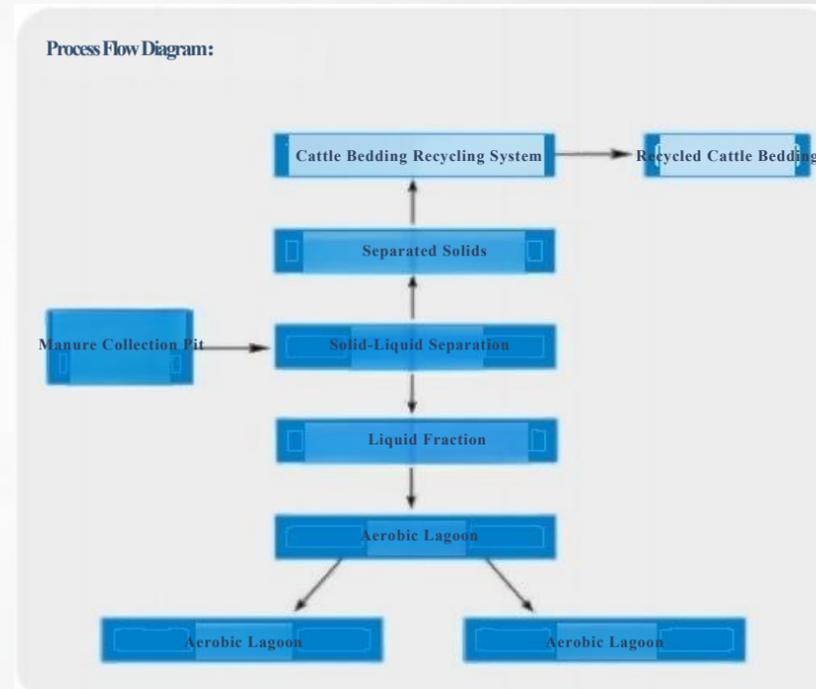
Hongfa's recycled bedding system features intelligent control, integrating drying, fermentation, deodorization, and sterilization. This energy-efficient system operates with minimal labor and low running costs, enabling continuous production for superior bedding recycling.

### Working Principle:

Step 1: Solid-liquid separation extracts crude fibers (mainly undigested feed like corn, silage, and hay) from manure using a separator. The separated solids (36-38% dry matter) are conveyed to the fermentation unit via a screw conveyor.

Step 2: The fermentation unit enables complete aerobic fermentation with automatic aeration. Maintaining 60-75°C through cyclic fermentation eliminates pathogens, significantly reducing mastitis-causing bacteria and hoof disease risks.

This fully automated system plays a vital role in creating sustainable, economical bedding through manure recycling.



# C Recycled Cattle Bedding Utilization Solutions

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## © Livestock Wastewater Treatment

Livestock wastewater is generally a mixture of feces, urine, and water. Single-treatment technologies often show unsatisfactory results and incur high costs.

Our company applies anaerobic + aerobic microbial treatment technology, combined with technical equipment such as separators, dissolved air flotation unit, aerobic fermentation devices, anaerobic towers, and black membrane. By improving traditional concrete biochemical tanks and using black membrane tanks, we significantly reduce the infrastructure investment for fecal wastewater treatment. Meanwhile, it features the advantages of rapid construction, high effluent efficiency, stable technical performance, and excellent treatment effect.

## © Dissolved Air Flotation (DAF) Unit



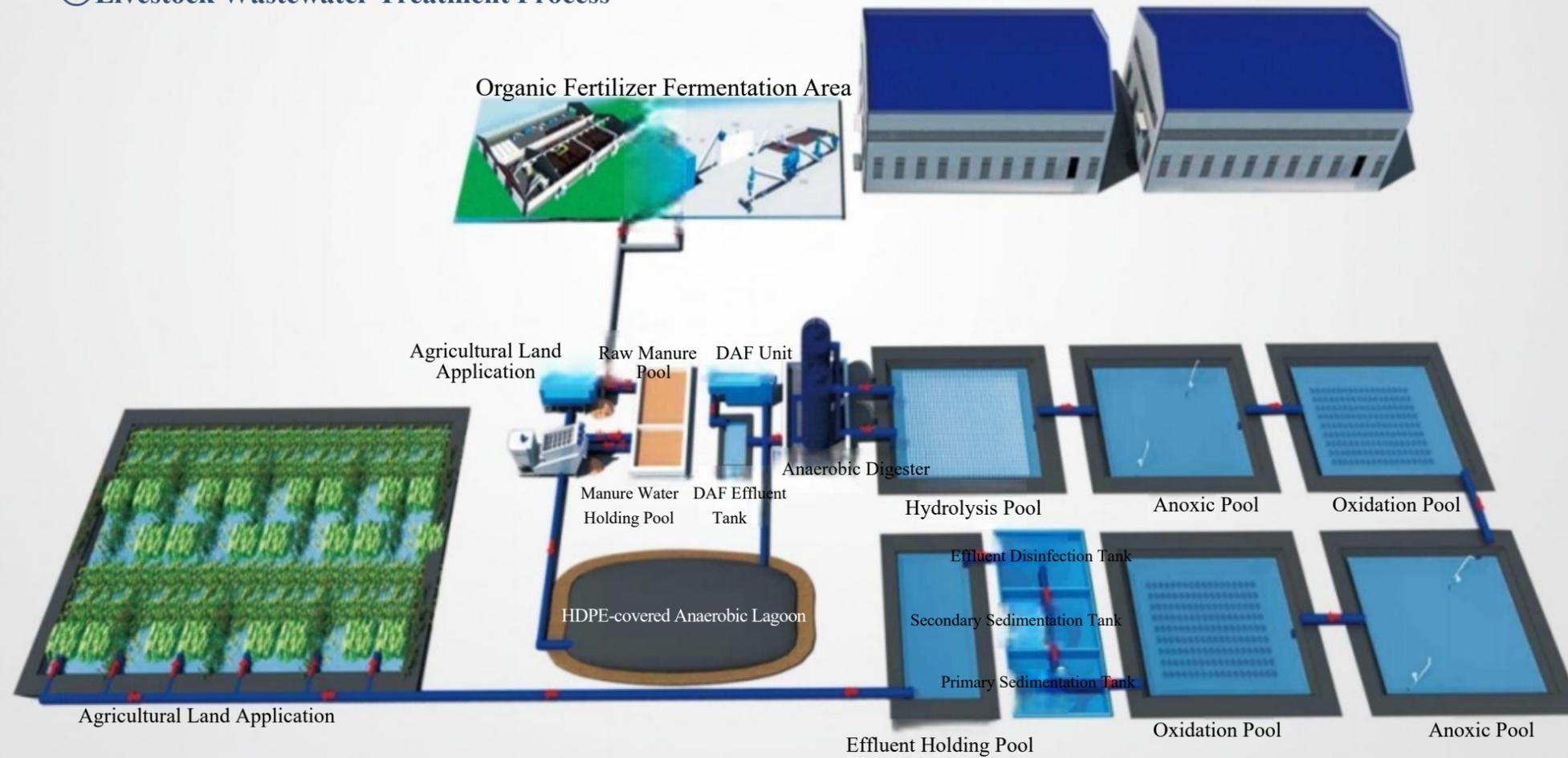
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## © Livestock Wastewater Treatment Process



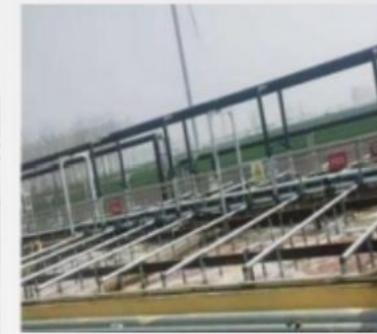
# D Wastewater Treatment Solutions

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## ©Successful Cases





## **E Urban Sludge Treatment Solutions**

With the development of urbanization, centralized wastewater treatment plants have become essential infrastructure in both urban and rural areas, particularly in developed regions. However, this has also led to the generation of massive amounts of sludge. According to statistics, by 2015, China's daily domestic sludge production (with 80% moisture content) reached approximately 108,500 to 173,600 tons. As sludge volumes continue to rise, improving sludge utilization and treatment capacity has become increasingly urgent.

Currently, widely adopted sludge treatment technologies include thermal hydrolysis, anaerobic digestion, aerobic fermentation, drying, and incineration. Disposal methods encompass land application, construction material utilization, sanitary landfill, incineration, and carbonization.

Hongfa Environmental Protection integrates agricultural and livestock waste with sludge treatment, employing microbial aerobic fermentation technology. The end product is organic fertilizer or nutrient-rich soil, suitable for agricultural planting, landscaping, and other applications.

Leveraging Hongfa's technological and equipment advantages, we offer the following solutions: Sludge Fermentation Treatment & Utilization Process, Urban Sludge Dewatering Treatment Process, Sludge Drying Treatment Process.

### **◎ Sludge Fermentation Treatment & Utilization Process**

This process involves the collection and crushing of agricultural straw, garden waste, and residual branches/leaves as carbon-rich auxiliary materials. These are mixed with sludge in specific ratios, followed by the addition of microbial composting agents for aerobic fermentation. Once fully decomposed, the material is transformed into high-quality organic fertilizer.

# E Urban Sludge Treatment Solutions

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## Process Flow:



# E Urban Sludge Treatment Solutions



## Urban Sludge Dewatering Treatment Process

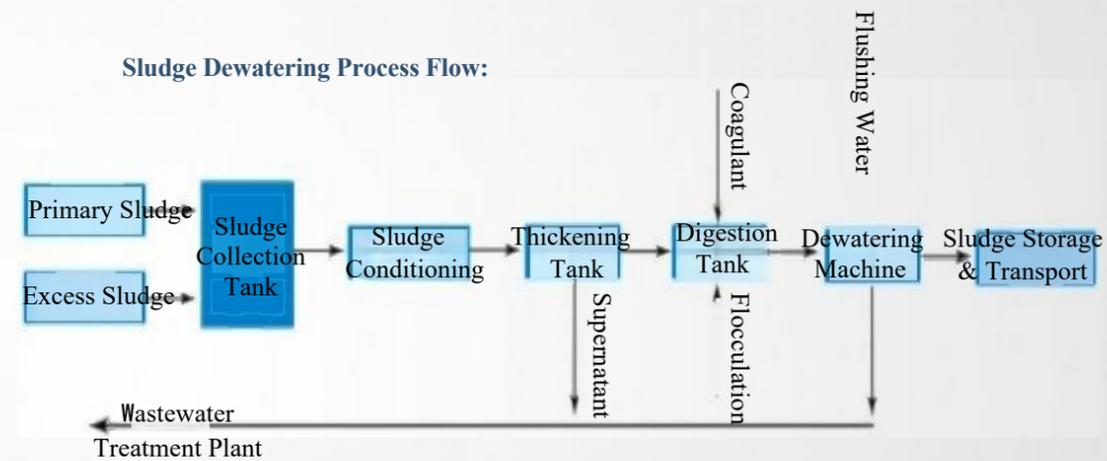
### Product Introduction:

Sludge dewatering treatment involves reducing sludge volume and modifying its properties, transforming it from a liquid state into solid-liquid phases for easier subsequent disposal.

The process begins with the collection and storage of primary sedimentation sludge, which is then pumped to a thickening tank for concentration. The concentrated sludge undergoes chemical conditioning with coagulants and flocculants to enhance dewaterability. The conditioned sludge is then fed into a diaphragm plate-and-frame filter press for mechanical dewatering, resulting in the formation of sludge cakes. These dewatered sludge cakes can be further processed through fermentation or landfilling, depending on the final disposal requirements.



Sludge Dewatering Process Flow:



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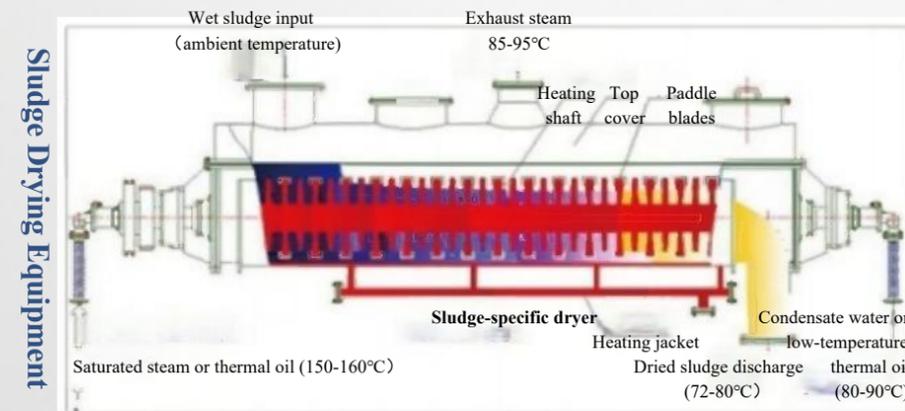
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## ◎ Sludge Drying Treatment Process

The raw sludge enters the conditioning tank after thickening, where it is treated with coagulants and flocculants before undergoing vacuum filter pressing dewatering. The resulting product requires further drying and calcination treatment.

Available drying equipment includes: Rotary drum dryers, Paddle dryers, Vacuum dryers, Heat pump dryers.

Paddle dryers can use saturated steam or thermal oil as heating media, capable of completing low-temperature drying and calcination processes. Test results show the dried sludge meets requirements for multiple disposal methods including: Incineration, Brick manufacturing, Soil improvement, Landscaping, Co-landfilling.



Sludge Drying Equipment

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## ◎ Low-Temperature Sludge Dehydration System

**Energy-saving:** Heat pump thermal recovery technology with closed-cycle drying (zero waste heat discharge). Power consumption: 118 kWh per ton (80%→60% moisture reduction).

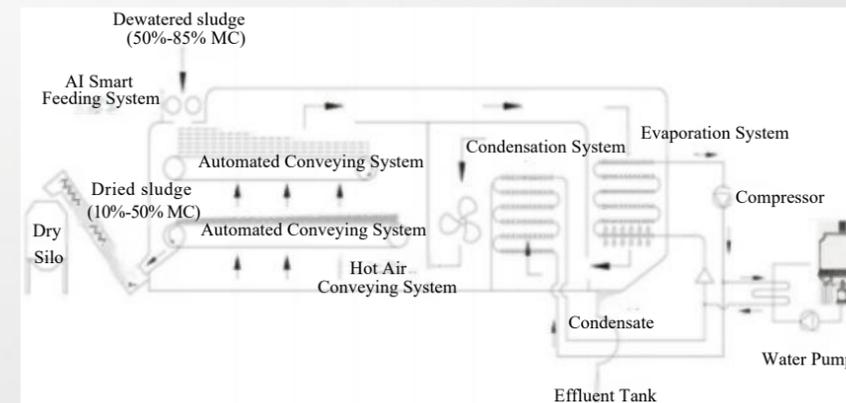
**High-efficiency:** Handles 83%-50% moisture content sludge, capable of direct drying from 83% to 10% in single stage.

**Stable:** Low-temperature pasteurization ( $70^{\circ}\text{C}+$  for 90-120min), achieving >90% pathogen elimination.

**Intelligence:** PLC + HMI intelligent control enabling centralized remote monitoring.

**Safety:** Explosion-proof operation with low discharge temperature ( $<50^{\circ}\text{C}$ ), allowing direct storage without cooling.

**Environmental Protection:** Fully enclosed low-temperature drying ( $40-75^{\circ}\text{C}$ ), eliminating odor emissions and complex deodorization requirements.



## F Equipment Section

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### Rotary Disc Turner

Suitable for turning and fermenting organic wastes such as livestock and poultry manure, straw, etc., as well as scattering and loosening operations. It adopts intermediate chains or transmission shafts to drive two large-diameter rotating discs, which rotate to turn over and scatter materials backward. The equipment features forward movement, left-right displacement, cyclic reciprocation, dead-angle-free turning and throwing, along with the advantages of low energy consumption, large span, deep turning, and uniform and loose materials.

Model	Span	Turning Depth	Power	Efficiency
Type 20	8-20m	1-1.5m	53.5kW	4m <sup>3</sup> /min
Type 22	10-30m	1.5-2m	61.5kW	5m <sup>3</sup> /min



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### ◎Liquid Manure Special Turner

This equipment combines the litter fermentation bed treatment model to achieve integrated treatment and utilization of liquid manure such as duck and pig waste.

### ◎Walking-type Compost Turner Series

I. Innovative design with front hydraulic push plate for automatic pile shaping, eliminating manual labor.

II. Joystick control enables effortless operation with on-the-spot turning, offering superior maneuverability over steering wheels.

III. Hydraulically adjustable turning drum with variable rotation speed based on material moisture content.

IV. Equipped with premium diesel engine, transmission, and rubber crawlers for powerful performance on any terrain.

V. Optional liquid/powder microbial inoculant spreaders and selectable full-blade or blade-plate configurations for material-specific treatment.



**HFY-3000 Hydraulic Crawler-type**

Model	HFY-2600 Crawler-type
Working Width	2600mm
Working Height	1000-1300mm
Row Spacing	0.8-1m
Machine Weight	Approx. 4T
Processing Capacity	1000-1100m <sup>3</sup> /h
Power	Model 4108 Turbocharged: 85KW (Approx. 116HP)
Overall Dimensions	3200×4000×3100mm
Model	HFY-3000 Crawler-type
Working Width	3000mm
Working Height	1000-1500mm
Row Spacing	0.8-1m
Machine Weight	Approx. 5T
Processing Capacity	1000-1500m <sup>3</sup> /h
Power	Model 6105 Turbocharged: 100KW (Approx. 136HP)
Overall Dimensions	3200×4500×3500mm



## F Equipment Section

### ◎Powdered Organic Fertilizer Production Line

The organic fertilizer production line is essential for processing livestock manure and other organic materials into marketable organic fertilizer. It facilitates precise operations including fermentation, screening, crushing, and blending to produce commercial-grade organic fertilizer for sale.



The complete system consists of aerobic fermentation equipment, compost turners, crushers, screening machines, granulators, and packaging scales. Based on different models and functions, it is categorized into two types: powdered organic fertilizer production lines and granular organic fertilizer production lines.

# F Equipment Section



## ◎Trommel Screen

Used for grading screening of finished products and return materials, this self-cleaning rotary mesh screen is widely applied in organic fertilizer plants and sand washing facilities. It features high screening efficiency, low noise, clog-free operation, and stable performance.



## ◎Wet Grinder

Designed for crushing organic fertilizers, straw crops, construction waste and other materials with moisture content below 50%. It features excellent crushing effect, uniform fineness, non-clogging performance and high work capacity.



Trommel Screen					
Model	Drum Dimensions (m)	Rotation Speed (r/min)	Mesh Size (mm)	Capacity (m³/h)	Power (KW)
HFGS1240	Ø1.2×4	20	4-10	6-20	6
HFGS1550	Ø1.5×5	18	4-10	15-30	10

## ◎Vertical Crusher

Specifically designed for crushing organic fertilizers and compound mixed fertilizers, adopting coaxial multi-layer chains or blades with a sieve-free bottom design. Suitable for crushing lumpy organic materials with moisture content of 15~45%, featuring advantages of non-stick wall blocking, easy cleaning, large output and high crushing efficiency.



Crusher				
Model	Drum Diameter (mm)	Power (kW)	Max. Feed Size (mm)	Capacity (m³/h)
HFLP600	Ø600	11	≤60	2-5
HFLP700	Ø700	15	≤80	2-8
HFLP800	Ø800	18.5	≤80	5-10

# F Equipment Section

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© Automatic Packaging Scale





©High-level Palletizing Machine



© Robotic Palletizer



# F Equipment Section



## ◎Solid-Liquid Separator

The solid-liquid separator equipment has been widely used in papermaking, slaughtering, leather processing, sugar production, brewing, and the treatment of chicken manure, duck manure, pig manure, and cattle manure in farms.

**Practicality:** This series of equipment features fast slag-liquid separation. The separated solids have a moisture content between 50-60%, and the slag output and moisture content can be adjusted to accommodate different feed manure compositions (such as roughage and concentrated feed). The processed material is easy to transport, and the solid matter is highly suitable as raw material for fish feed and organic fertilizer.

**Advanced Technology:** The equipment has strong decontamination capability, is clog-free, and is easy to clean. The treated wastewater achieves removal rates of 70-95% for solid content, chemical oxygen demand (COD), total oxygen demand, nitrogen, and phosphorus.

**Durability:** The equipment frame, screen frame, and screen mesh are made of stainless steel, offering corrosion resistance, high strength, and long service life.

**Cost Efficiency:** The equipment features a high degree of automation, low power consumption, affordable pricing, and simple, user-friendly operation.



# F Equipment Section



## ◎Multi-purpose Fertilizer Spreader

### Product Introduction:

This spreader is mainly suitable for spreading base fertilizer before tillage, seeding after tillage, and fertilizer spreading operations on grasslands and pastures. With a load capacity of 5-12 tons and an effective spreading width of 6-12 meters, it features compact structure, wide applicability, high operational efficiency, and uniform spreading. It can be used to spread organic fertilizer, animal manure, compost, distiller's grains, etc., and can also be extended to road departments for salt spreading and snow removal.

I. This model adopts a towed hitch connection method for convenient linking.

II. Visual design allows operators to monitor fertilizer usage and spreading status from the cab.

III. The intelligent precision hydraulic control valve regulates chain conveyor speed - higher gear equals faster chain speed and greater fertilizer flow, ensuring uniform spreading.

IV. The reducer employs step-by-step speed reduction, ensuring more stable machine operation and enabling multi-functional spreading of powdered or granular fertilizers at reduced speeds.

V. Wide tire design ensures normal machine operation in fields.

VI. Electronically controlled cooling system extends service life of hydraulic components for prolonged continuous operation.



**Self-Propelled Fertilizer Spreader**



**Towed Fertilizer Spreader**

# G Animal Carcass Harmless Treatment Solutions

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Our company has established a comprehensive, applicable and effective quality assurance system in strict compliance with quality management standards, covering the entire process from product development, raw material procurement, manufacturing to sales and service. This ensures all aspects that may affect product and work quality are under rigorous and effective control.



In recent years, we have provided complete disposal processes and equipment to hundreds of domestic enterprises. Our systems feature stable operation, low maintenance costs, and excellent processing technology, earning unanimous customer acclaim.



# H Waste Gas Purification

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A biofilter is a biological technology for treating volatile organic compounds (VOCs) and removing odors. Organic exhaust gas with certain humidity enters the biofilter and passes through a 1.0-2.0m thick layer of biologically active filler material. The organic pollutants transfer from the gas phase to the biological layer where they are oxidized and decomposed, with the treated gas then discharged from the top of the biofilter.

The biofilter's filler layer consists of adsorptive filter media (typically natural organic materials such as compost, peat, rice husks, wood chips, bark, and soil). Due to its excellent aeration, appropriate water permeability and retention, rich microbial communities, and inherent adsorption properties, biofilters can treat a wide range of odorous compounds - both water-soluble and non-water-soluble substances. They effectively remove odors from municipal wastewater treatment plants and alkanes such as propane and isobutane, with particularly good treatment results for easily biodegradable substances like esters and ethanol, leading to their widespread application.

Key characteristics of biofilters include: stationary biophase and liquid phase, extremely large mass transfer area, no need for additional nutrients or pH adjustment, no requirement for recirculating spray systems, easy operation and startup, and low operating costs. They can adapt to prolonged intermittent operation conditions, maintaining excellent treatment efficiency immediately after restarting after extended shutdowns. However, they require relatively large footprints.

Simply put, biological odor removal uses microbial cultures to "consume" the odorous gases. In practice, this biological waste gas treatment technology relies on specially cultivated microbial films on the biofilter's filler materials to remove waste odor molecules.

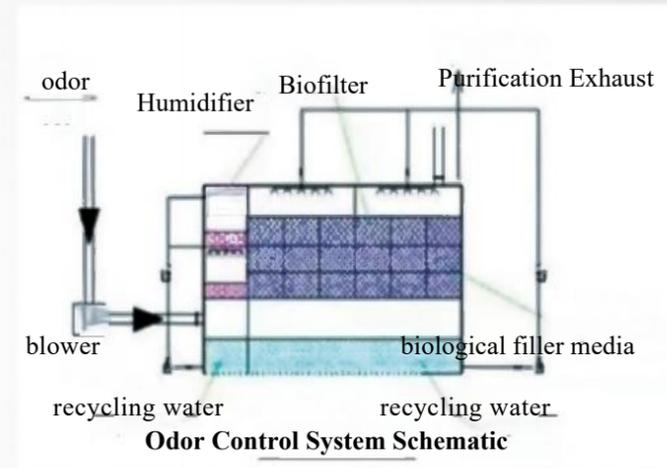
# H Waste Gas Purification



The process begins with a pre-washing stage where exhaust gas contacts water, allowing toxic and odorous pollutants to dissolve and become molecular or ionic solutions. When the mixed gas-liquid-solid waste stream containing toxic and odorous substances is directed through collection pipes into the system and then into our cultivated microbial layer, the odorous components in the solution are absorbed by microorganisms. Through enzymatic catalysis within the cells, these toxic gases are oxidized and decomposed while simultaneously synthesizing nutrients needed for their own metabolism. Some organic matter is oxidized and decomposed into simple, stable inorganic compounds like water and carbon dioxide.

Therefore, biological odor removal is an environmentally friendly and hygienic technology without secondary pollution. The microorganisms obtain nutrients needed for their metabolism while removing unwanted odorous gases. It also offers advantages such as short treatment time, high efficiency, and low cost.

## Biofilter for Wastewater VOC Treatment



# H Waste Gas Purification

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## Application Sites:

- I. Odor purification and treatment in wastewater treatment plants (pretreatment, biological treatment, sludge treatment).
- II. Odor purification and treatment during waste processing (storage, sorting, composting, incineration) and at leachate treatment stations.
- III. Odor treatment for: coatings and painting operations, coking plants, pharmaceutical manufacturing, rubber and plastics production, dyeing printing and leather processing, organic dyes and composite materials facilities, fermentation and pharmaceutical processes, petrochemical plants, footwear manufacturing factories, printing facilities, paper mills, livestock breeding operations, feed processing plants, manure treatment systems, and other odorous gas sources, etc.



# H Waste Gas Purification

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## ◎Catalytic Combustion Technology

Catalytic combustion is a typical gas-solid phase catalytic reaction that utilizes catalysts to reduce activation energy, enabling flameless combustion at low ignition temperatures (200-400° C). Organic compounds undergo oxidation on the solid catalyst surface, producing CO<sub>2</sub> and H<sub>2</sub>O while releasing significant heat.

### Gas Collection + Pretreatment + Zeolite Rotor Adsorption/Desorption + Regenerative Combustion



### Gas Collection + Dust Removal Pretreatment + Activated Carbon Adsorption/Desorption + Catalytic Combustion





*Corporate Portrait*



**Collaboration Cases**



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