

PHNIX 芬尼克兹



Sludge Drying Solutions

Transforming sludge into resources and adding energy to the world.

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Company Profile



Since its establishment in 2002, PHNIX has positioned itself globally and focused on the future, continuously growing and developing. It has now become an air - energy enterprise with a complete range of products, a variety of categories, and leading technology levels.

The products under PHNIX cover domestic, commercial, and industrial and agricultural fields. It has nine major product groups, including whole - house floor - heating air - conditioning systems, whole - house hot - water systems, whole - house intelligent control systems, whole - house fresh - air systems, whole - house soft - water systems, and air - energy heating / cooling / hot - water / swimming - pool constant - temperature / drying heat pumps. The aim is to provide global users with integrated home appliances for healthy, comfortable, and environmentally friendly environments, as well as comprehensive energy - saving solutions for various industries.

In the more than 20 years of development of PHNIX, PHNIX has worked with partners such as Huawei to jointly promote the digital and information - technology reform of the enterprise. It has won honors such as the "National Enterprise Technology Center" and the "National Model Enterprise for Single - Item Champions in the Manufacturing Industry". With a rich reserve of patent technologies, high - end product experience, and a complete service system, PHNIX has won the support and good reviews of all sectors of society and has become the trusted choice of a large number of consumers.

PHNIX was established.

2002

Obtained the EU CE certification; Successfully developed c&s high efficiency heatexchanger. Fully enter the market of high efficiency heating and heat pump.

2006

Become #1 Exporter of Heat Pump.

2009

Became a Leading Enterprise in Dryer Industry.

2012

Phnix europe Service Center Went into Operation.

2019

Obtained high - value certificates such as the leading "KEYMARK" and "MCS" in European heat pumps, and won the Champion of heat pump.

2022

2004

Launch Swimming pool heat pump and be the first to developswimming pool heat pump market.

2008

Produced more than 40,000 swimming pool heat pump, becoming the largest swimming pool heat pump supplier in the world at that time; the products obtained the North American ETL certification.

2011

Ultra-low temperature heat pump Polaris successfully applies in the high cold region of naqu, Tibet.In the same year, it launched special equipment for electroplating heat pump, drying heat pump and printing heat pump in the professional field.

2015

Nansha Dagang Factory Began Operation,the first belt dryer born.

2021

R290 Heat Pump Launched

2023

National Enterprise Technology Center was recognized.

Research And Development Productivity

PHNIX has established ten laboratories in the creative park, including a noise - testing laboratory, a low-temperature laboratory, an enthalpy difference laboratory, a printing and drying laboratory, a wastewater heat pump evaporation zero discharge and resource recovery simulation laboratory, a sludge - drying laboratory, a Rain test laboratory, a transportation vibration laboratory, and a comprehensive performance laboratory. The laboratories are well-equipped and cover a wide range of tests, ensuring the stable operation of the units.

After over 20 years of meticulous cultivation, PHNIX now has over 300 professional technicians dedicated to the research and design of environmental protection and energy-saving products for various industries. As of January 31, 2025, PHNIX and its subsidiaries have cumulatively applied for 1,623 patents, including 545 domestic invention patents; 1,248 patents have been authorized, among which 192 are invention patents; and it holds 34 copyrights, including 10 work copyrights and 24 software copyrights.



Unmanned machine vehicles for automatic transportation



Online robots



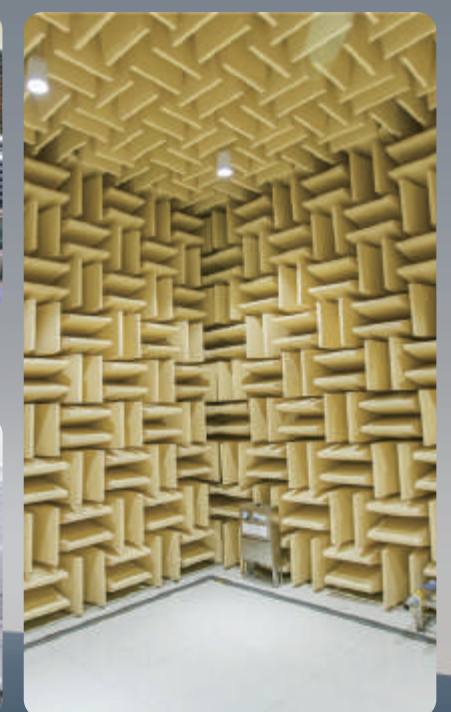
Intelligent Palletizing Robots



Water - sealed welding to enhance the reliability of welding points



Chassis and compressor online robots



Noise - testing laboratory



Comprehensive laboratory



Standard industrial control laboratory

Low-temperature Drying Process

The low - temperature sludge - drying technology innovatively developed by PHNIX can dry sludge with a moisture content of 82% to dry sludge with a moisture content of 10% - 60%, with a reduction of up to 80%. It is low - energy - consuming and pollution - free and is widely used in municipal and industrial sludge (printing and dyeing, paper - making, electroplating, chemical, leather, pharmaceutical, etc.) drying and reduction projects. Dry sludge with a moisture content of 10% - 60% can be gasified, co - incinerated, composted, or used as building - material raw materials for harmless resource - based disposal.



Municipal



Printing



Chemical



Pharmaceutical



Paper - making



Electroplating

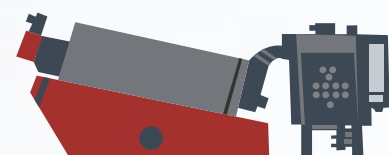


Leather



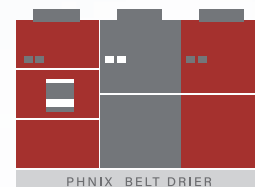
Sewage Plant Original Sludge

With a moisture content of up to 99%



Front - End Dewatering Treatment

After initial dewatering the moisture content is $\approx$ 82%



Deep - Dewatering Drying Treatment

After deep drying, the moisture content can be adjusted from 10% to 60%



Re - Utilization In Thermal Power Plants /Building Material Factories



Transportation Of Dried Sludge Outside

PHNIX Environmental Protection Drying New Advantages

80%

80% Super Strong Dehydration Performance

It changes the traditional mechanical dehydration technology and uses heat pump dehumidification technology. It can dehydrate the sludge with 82% moisture content to 10% moisture content. The reduction can be more than 80%.

4.2

4.2 Very High Energy Efficiency Ratio

PHNIX has the core technology. The comprehensive dehumidification ratio is as high as 4.2, and the running cost is lower.



Fully Closed Structure

There's little odor leakage, so there's no need for expensive odor treatment equipment.



Ultra-Low Temperature Design

The drying temperature is between 50°C and 85°C. There's no dust or explosion danger, and the system runs more safely.



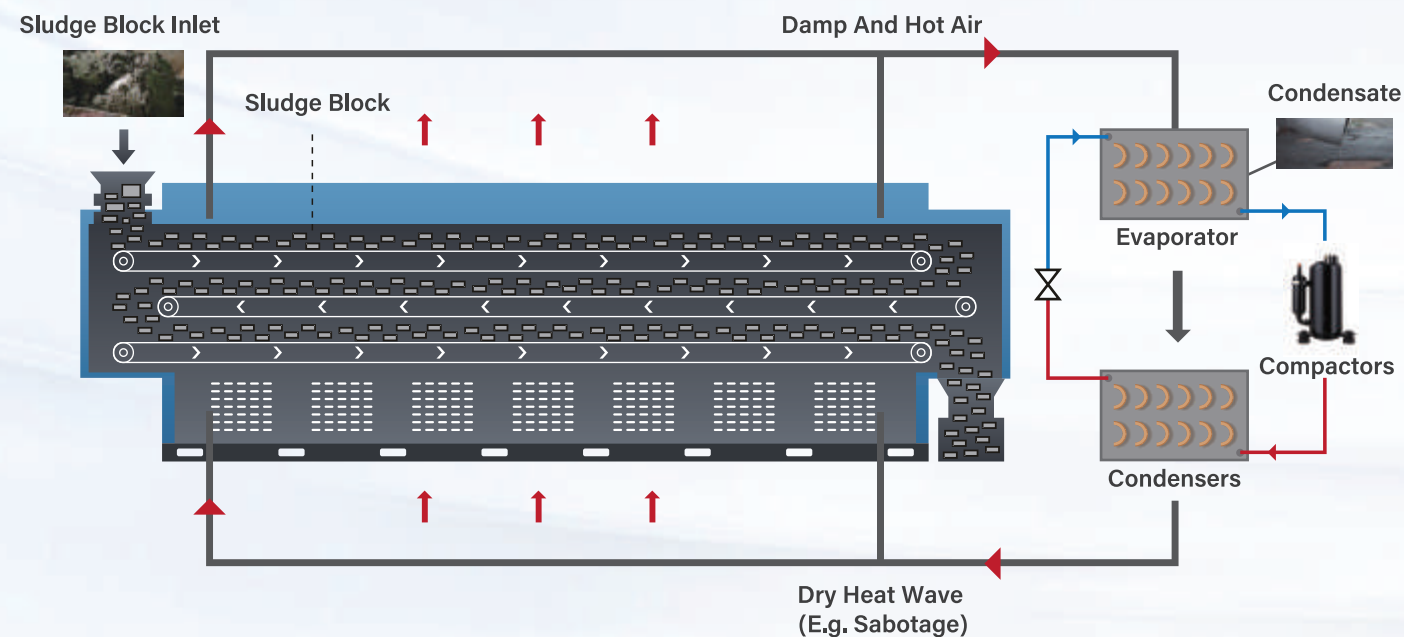
Intelligent Equipment

The equipment is highly integrated, takes up a small area. There's no need for people to be involved in the running process. It runs completely automatically.



| Product Principle

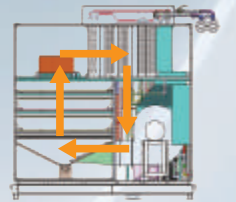
After front - end dewatering, the wet sludge is conveyed to the extruder by the conveying equipment. The extruded wet sludge enters the low - temperature drying equipment. The sludge distributor inside the equipment allows the wet sludge to be evenly distributed on the conveying belt. As the sludge moves on the belt, the flowing hot air provided by the circulating fan removes the moisture, ultimately achieving sludge drying and discharging; the moisture removed by the hot air is condensed by the evaporator, and the condensed water is discharged from the equipment. The air, after being dehumidified by condensation, is warmed by the condenser and then enters the drying chamber to work, circulating repeatedly.



| Product Advantages

Product Structure - Fully Independent Airflow

- The structure is simple, with smooth airflow and low air resistance;
- The copper pipes, fittings, compressors, fans, and motors connected to the heat pump are all outside the airflow, completely isolated from the high - temperature and high - humidity corrosive gases, making the system safer and more reliable.



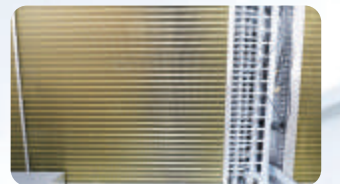
Product Structure - Pp Net Belt

- The structure is simple and can withstand corrosive materials such as acids and alkalis; Temperature - resistant: 150°C;
- It weighs only one - eighth of a stainless - steel net belt, with less load and wear;
- The plug - in design allows for individual disassembly of each connection segment, making net - belt maintenance more convenient.



Evaporators And Condensers Are Made Of Stainless Steel

- Stainless steel offers better corrosion resistance and a longer service life.
- The fins are made of epoxy - coated aluminum foil, which can adapt to a variety of corrosive working conditions.



Bottom - Mounted Automatic Ash - Cleaning Device

- An automatic ash - cleaning device is installed at the bottom of the system, eliminating the need for manual involvement.
- It connects with external dry - sludge conveying equipment to achieve online fully automatic ash -cleaning.



PHNIX's Unique Two - stage Filtration System

- The combination of a primary - efficiency filter and an M - shaped filter provides better dust - removal effects.
- The independent module design makes installation and cleaning simple and convenient.



Internet Of Things Remote Monitoring - Phnix Cloud Monitoring

- Timely warnings of equipment abnormalities to ensure long - term stable operation for users.



I Low-temperature Drying Process for Ultra-dry Materials

High - Pressure Plate - Frame Sludge (Moisture Content 55% - 65%), Dried To 30%



Raw Material Before Drying

Moisture content 55% - 65%, blocky, with more crushed material after conveying



After Forming

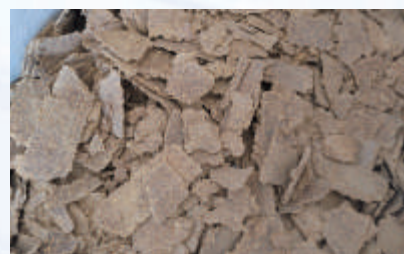
Material in strip form, compact and distinct, with less crushed material



Product After Drying

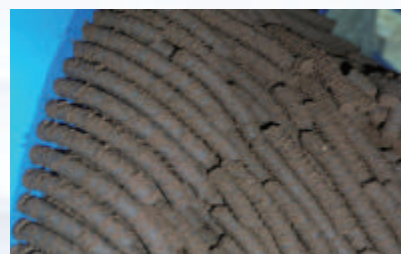
Moisture content 30%, uniform dryness of the finished product, with less crushed material

Fermentation Industry Material (Moisture Content 40%), Dried To 10%



Raw material before drying

Moisture content 40%, irregular flake - shaped, loose, with more crushed material



After Forming

Material in strip form, compact and distinct, with less crushed material



Product After Drying

Moisture content 10%, uniform dryness of the finished product, with less crushed material

Livestock Industry Material (Moisture Content 60%), Dried To 45%



Raw material before drying

Moisture content 60%, livestock bedding, irregular fibrous material



Product After Drying

Moisture content 45%, uniform dryness, loose material conducive to subsequent cow - bed utilization

I Advantages of Ultra-dry Material Low-temperature Drying

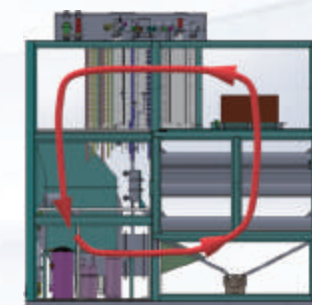
I Forming Technology

PHNIX masters the core forming technology, effectively reducing the dust content of the material and reducing the frequency of equipment maintenance.



I Low - Consumption And Environmental Protection

The temperature and air volume can be adjusted according to the characteristics of the material. The better enclosed environment reduces heat discharge, and at the same time, it can utilize on - site waste heat and residual heat.



I Safety And Sanitation

Through hot air at 75 °C ~ 85 °C, each wet particle is dried for 60 - 120 minutes. During this period, a large number of bacteria have been killed by high temperature, and the produced material is safe and sanitary.



I Technical Parameters

Waste Heat Belt Sludge Dryer

Model	PWSD-2500	PWSD-5000	PWSD-7500	PWSD-10000	PWSD-12500	PWSD-15000
Dehumidification Capacity kg/24H (80%~30%)	2500	5000	7500	10000	12500	15000
Operating Power (kW)	5.0	10.0	15.0	20.0	25.0	30.0
Heating Power (Kw)	100.0	200.0	300.0	400.0	500.0	600.0
Working Condition (△T=20)	90°C/70°C					
Hot Water Capacity (M³/H)	4.3	8.6	12.9	17.2	21.5	25.8
Standard Cooling Power(Kw)	95.0	190.0	285.0	380.0	475.0	570.0
Cooling Condition (△T=10)	32°C/42°C (Cooling Water)					
Cooling WaterCapacity (M³/H)	8.2	16.3	24.5	32.7	40.8	49.0
Size/L*W*H (mm)	3710*2185*2750	5895*2185*2810	8080*2185*2810	10265*2185*2850	12450*2185*2850	14635*2185*2850
Drying Temperature (°C)	70~85°C					
Voltage	380V/50Hz/three phase					
Control System	Touch panel+PLCprogrammable control system					
Wet Sludge Water Moisture	Moisture content 40%~82% (applicability varies with different moisture contents)					
Dried Sludge Water Moisture	Moisture content 10%~60% adjustable(The adjustment range of the dry sludge moisture content varies depending on the moisture content of the incoming sludge.)					
Structural Style	Whole Set	Whole Set	Whole Set	Whole Set	Whole Set	Whole Set
Weight (Kg)	3600	6350	9100	11850	14600	17350



I Technical Parameters

Waste Heat Belt Sludge Dryer

Model	PWSD-5000	PWSD-10000	PWSD-15000	PWSD-20000	PWSD-25000	PWSD-30000
Dehumidification Capacity kg/24H (80%~30%)	5000	10000	15000	20000	25000	30000
Operating Power (kW)	13.0	26.0	39.0	52.0	65.0	78.0
Heating Power (Kw)	200.0	400.0	600.0	800.0	1000.0	1200.0
Working Condition (△T=20)	90°C/70°C					
Hot Water Capacity (M³/H)	8.6	17.2	25.8	34.4	43.0	51.6
Standard Cooling Power(Kw)	190.0	380.0	570.0	760.0	950.0	1140.0
Cooling Condition (△T=10)	32°C/42°C (Cooling Water)					
Cooling WaterCapacity (M³/H)	16.3	32.7	49.0	65.3	81.7	98.0
Size/L*W*H (mm)	4460*2850*3100	7400*2850*3200	10735*2850*3200	13670*2850*3240	16605*2850*3240	19540*2850*3240
Drying Temperature (°C)	70~85°C					
Voltage	380V/50Hz/three phase					
Control System	Touch panel+PLCprogrammable control system					
Wet Sludge Water Moisture	Moisture content 40%~82% (applicability varies with different moisture contents)					
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Structural Style	Whole Set	Whole Set	Whole Set	Whole Set	Whole Set	Whole Set
Weight (Kg)	5750	8850	11950	15050	18150	21250



| Reference Projects

Municipal Sewage Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
Changsha City, Hunan Province	Municipal Sludge (Sewage Treatment Plant)	200 Tons/Day	80%-30%

| Reference Projects

Municipal Sewage Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
Jiaozuo City, Henan Province	Municipal Sludge (Sewage Treatment Plant)	30 Tons/Day	80%-40%

Municipal Sewage Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
Ningbo City, Zhejiang Province	Municipal Sludge (Sewage Treatment Plant)	120 Tons/Day	80%-40%

Municipal Sewage Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
GuangZhou City, Guangdong Province	Municipal Sludge (Nansha Sewage Treatment Plant)	25 Tons/Day	80%-30%

| Reference Projects

Municipal Waterworks Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
Shenzhen City, Guangdong Province	Municipal Sludge (Phoenix Waterworks)	30 Tons/Day	80%-40%

| Reference Projects

Municipal Waterworks Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
Wenzhou City, Zhejiang Province	Municipal Sludge (Jiangbei Waterworks)	30 Tons/Day	80%-30%

Municipal Waterworks Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
Shenzhen City, Guangdong Province	Municipal Sludge (Sha Hu Waterworks)	80 Tons/Day	80%-50%

Municipal Waterworks Industry



Project Location	Sludge Type	Sludge Volume	Wet/Dry Sludge Moisture Requirements
Taizhou City, Zhejiang Province	Municipal Sludge (Jiaobei Waterworks)	1 Tons/Day	80%-40%

| Reference Projects

Industrial Industry ▾



Project Location 📍	Sludge type	Wet sludge volume	Wet/Dry Sludge Moisture Requirements
Norse	Industrial Sludge	1 Tons/Day	75%-10%

| Reference Projects

Industrial Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Zunyi City, Guizhou Province	Industrial Sludge	110 Tons/Day	80%-40%

Industrial Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
France	Industrial Sludge	3 Tons/Day	75%-10%

Industrial Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Taizhou City, Jiangsu Province	Industrial Sludge	80 Tons/Day	80%-30%

| Reference Projects

Pharmaceutical Industry ▾



Project Location 📍	Sludge type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Jinan City, QILU PHARMACEUTICAL	Pharmaceutical Sludge	20 Tons/Day	85%-25%

Pharmaceutical Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Nanjing City, Kingfriend	Pharmaceutical Sludge	10 Tons/Day	85%-10%

| Reference Projects

Chemical And Petroleum Industry ▾



Project Location 📍	Sludge type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Guangdong, Guangzhou Petrochemical	Oily Sludge	60 Tons/Day	80%-30%

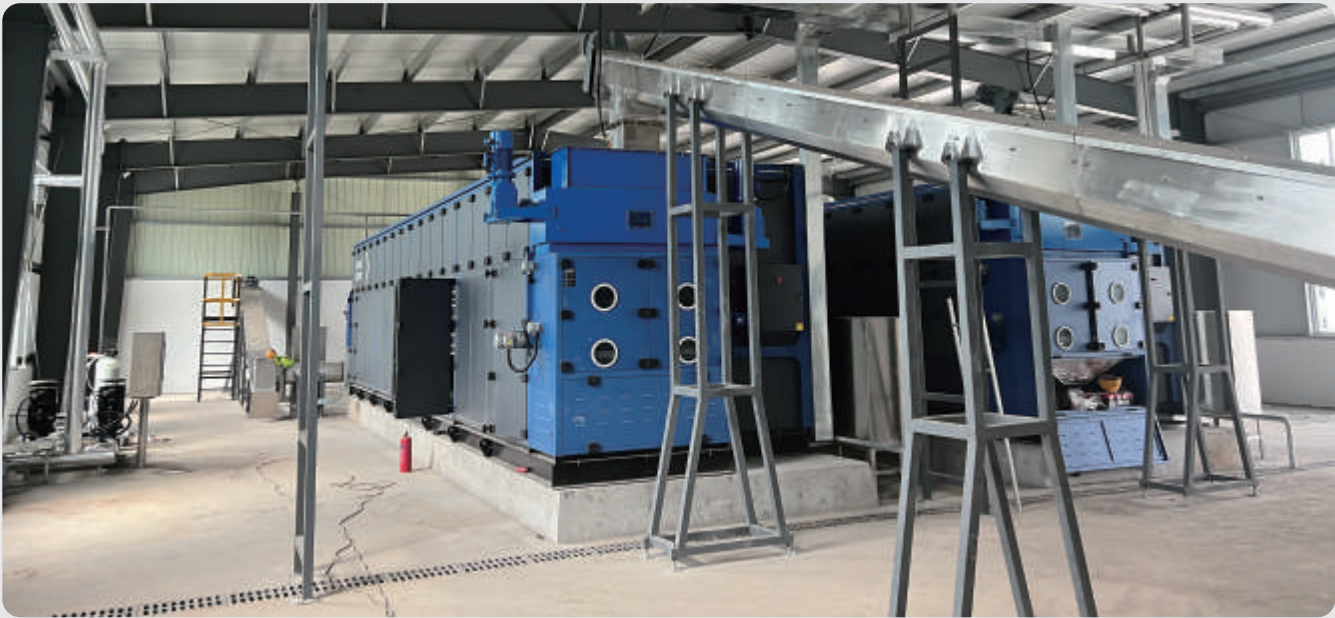
Chemical And Petroleum Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Shandong, Dongming Petrochemical	Oily Sludge	300 Tons/Day	83%-30%

| Reference Projects

Animal Husbandry Industry ▾



Project Location 📍	Sludge type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Lianyungang City, Shandong Province	Ranch Bedding	110 Tons/Day	65%-45%

Animal Husbandry Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Jinan City, Shandong Province	Ranch Bedding	110 Tons/Day	65%-45%

| Reference Projects

Automotive - Electroplating Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Guangqi Honda	Electroplating/Coating Sludge	8 Tons/Day	80%-30%

Automotive - Electroplating Industry ▾



Project Location 📍	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Beijing Hyundai	Electroplating/Coating Sludge	5 Tons/Day	80%-30%

| Reference Projects

Dyeing And Printing Industry ▾



Project Location	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Zhengzhou City, Henan Province	Paper Sludge	130 Tons/Day	60%-30%

Paint Industry ▾



Project Location	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Changsha City, Hunan Province	Printing Sludge	3 Tons/Day	80%-40%

| Reference Projects

Biological Fermentation Industry ▾



Project Location	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Laiyang City, Shandong Province	Biological Fermentation Residue	110 Tons/Day	45%-10%

Kitchen Waste Industry ▾



Project Location	Sludge Type	Sludge Quantity	Wet/Dry Sludge Moisture Requirements
Shenzhen City, Guangdong Province	Kitchen Filter Cake	5 Tons/Day	40%-15%

| Cooperative Partner

Honourary Brand Partners



Serving many of the world's top 500 companies and domestic first-tier enterprises.
Based on the principle of customer first
Provide professional sludge drying solutions for customers.
We are always committed to be the best belt dryer in the world.