

Waste Transfer Station Solutions



For eternal green mountains and clear waters,
we will keep exploring



Shandong Qunfeng Heavy Industry Technology Co., Ltd

Website: <http://www.chinaqunfeng.com>

Telephone: +86 534 5881 599

E-mail: info@dzqunfeng.com

Zip Code: 253000

Address: No.6, Dening Road, Ningjin Development Zone, Dezhou, Shandong Province, China

Huaxia Qingshan (Beijing) Ecological Environment Technology Co., Ltd

Website: <https://www.peaks-eco.com/>

Telephone: +86 10 6730 9840

E-mail: info@peaks-eco.com

Zip Code: 100122

Address: 12F, Building B, Xinhua International Plaza, Shilihe, Chaoyang District, Beijing, China



Company Introduction

PEAKS-ECO was founded in 2005. It focuses on the design, construction, operation, production and technological innovation of comprehensive waste treatment projects, providing comprehensive environmental treatment solutions. The company is committed to realizing sustainable development of people and environment. Relying on the advantages of its equipment manufacturing and process technology innovation, the company focuses on the investment, construction and operation of waste recycling industrial park. The company's business includes the comprehensive treatment of many kinds of garbage, such as construction waste, kitchen waste, fruits and vegetables waste, household waste, industrial waste, etc., environmental restoration, sludge treatment and resource utilization.

The company has an 23 hectares OEM intelligent manufacturing base, and set up Qingshan Research Institute in Beijing as the leading team of technology research and development. In 2023, the company's Dezhou intelligent manufacturing, R & D center started production. In recent years, the company has successfully introduced new products and process technology from Germany and Finland, bringing the world's cutting-edge technology and products to China, and successfully going abroad as China's environmental protection enterprise.

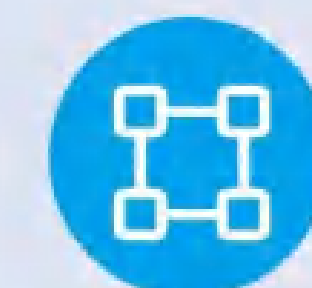
The company's motto is "For everlasting green mountains and clear waters, we will keep exploring". PEAKS-ECO will adhere to scientific and technological innovation, and continue to achieve success in environmental governance.



2005
Company is established



50+
Senior technical
personnels



33+ hectares
Production base



350+
Staff

100+
Comprehensive projects at home and abroad

50+
Large transfer stations

200+
Small and medium-sized transfer station system

Huaxia Qingshan Research Center & Production Base

PEAKS-ECO

Company Glories

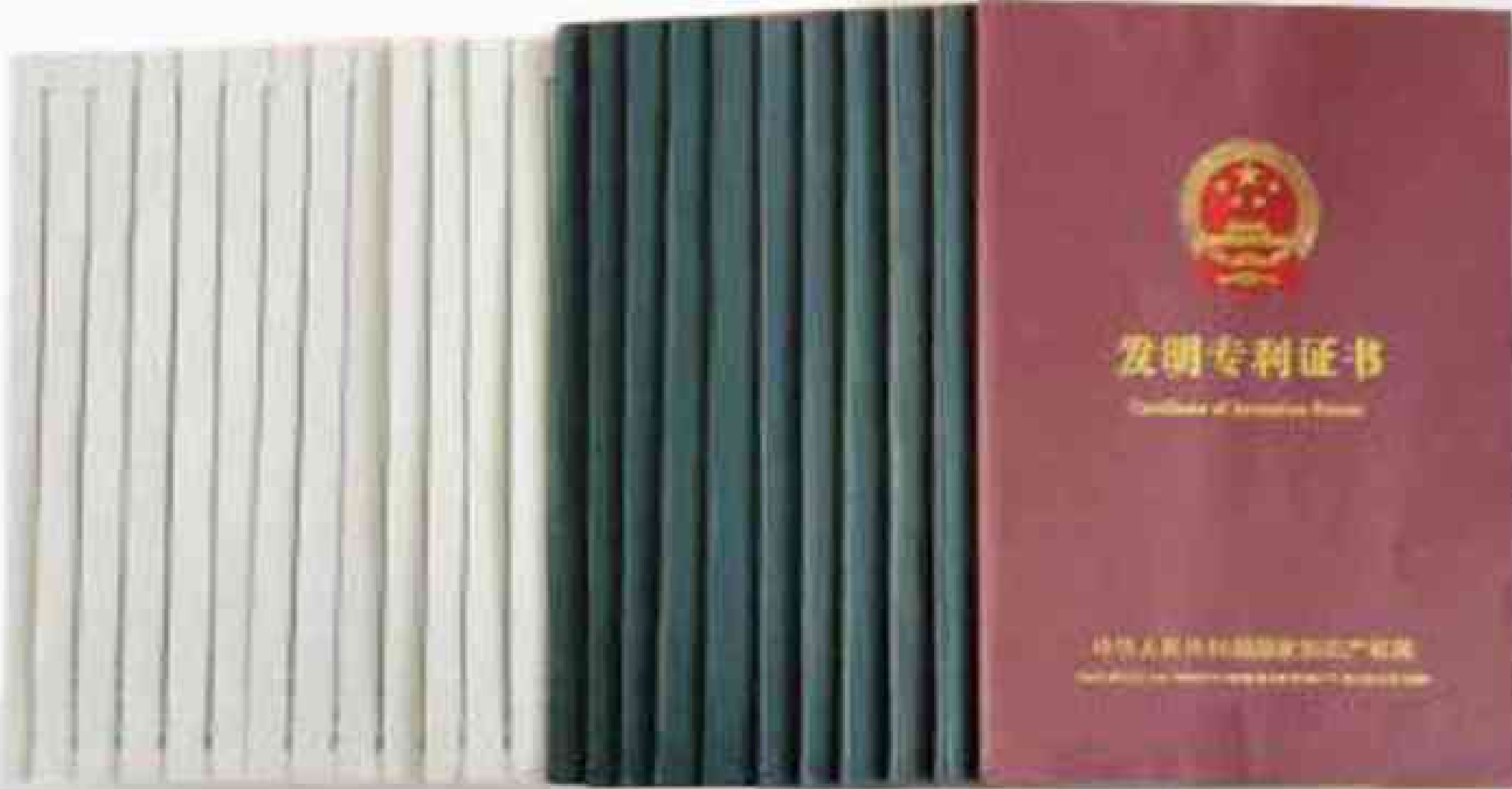
Provincial Engineering Academy Research center



- 01 Participated in the compilation of the People's Republic of China's Industry Standards "Kitchen Waste Treatment Technical Specifications" and "Recyclable Waste Treatment Technical Specifications".
- 02 In 2019, the complete set of household waste treatment system and process technology were identified by experts organized by the Shandong Provincial Science and Technology Department and selected into the catalog of "Shandong's Top Ten Clean and Low-carbon Technologies".
- 03 In 2020, the establishment of Shandong Engineering Technology Research Center was approved.
- 04 In 2020, the establishment of Solid Waste and Biological Organic Waste Treatment Shandong Engineering Research Center was approved.

Cooperative Organizations and Institutions

Patents



30+ Invention patents authorized
100+ Utility patents
10+ Patents under review

Certificates



Awards



Joining Associations



Partners

Domestic Strategic Partners

 中国节能 CHINA ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION GROUP	 中国铁建 CHINA RAILWAY CONSTRUCTION CORPORATION LIMITED	 中国电建 CHINA STATE CONSTRUCTION ENGINEERING CORPORATION	 中国通信建设 CHINA COMMUNICATIONS CONSTRUCTION CORPORATION LIMITED	 CCTC (Beijing) Environment Technology Co., Ltd.
 NCME CHINA MUNICIPAL ENGINEERING NORTH CHINA DESIGN AND RESEARCH INSTITUTE	 SMEDI SHANGHAI MUNICIPAL ENGINEERING DESIGN INSTITUTE (GROUP) CO., LTD.	 中国电建 POWERCHINA	 E EVERBRIGHT INTERNATIONAL	 CMC CHINA MUNICIPAL ENGINEERING CENTRAL SOUTH DESIGN AND RESEARCH INSTITUTE
 SINOSTEEL 中钢集团	 中国三峡 CHINA THREE GORGES CORPORATION	 G CAPITAL ECO-PRO GROUP	 H HANGZHOU ENVIRONMENT GROUP	 MCC CHINA METALLURGICAL GROUP CORPORATION

Cooperative Organizations and Institutions

<p>Introducing international advanced innovative technology,Bring higher added value to resource recovery industry.</p>		<p>Design for different industries and waste logisticsManufacture and install recycling plants.</p>	
	<p>Global sustainable mineral processing technologyA leader in end-to-end solutions and services.</p>		<p>Our services cover all areas of the construction industry.It covers the whole construction value chain.</p>
<p>Professional design and supply of separation materials using air technology And equipment for further processing.</p>		<p>Provide the best waste conversion value products, projects and services worldwide.</p>	
	<p>Founded in 1965,The company has developed into a modern and successful oneIndustrial companies.</p>		<p>Hermion focuses on various fields of plastic recycling, and provides plastic recycling technology and equipment in various fields.</p>

Solutions

Transfer Station System

It is difficult to search for site selection for a transfer station because it not only pollutes the environment with severe odour, but also breeds a large number of mosquitoes and flies.

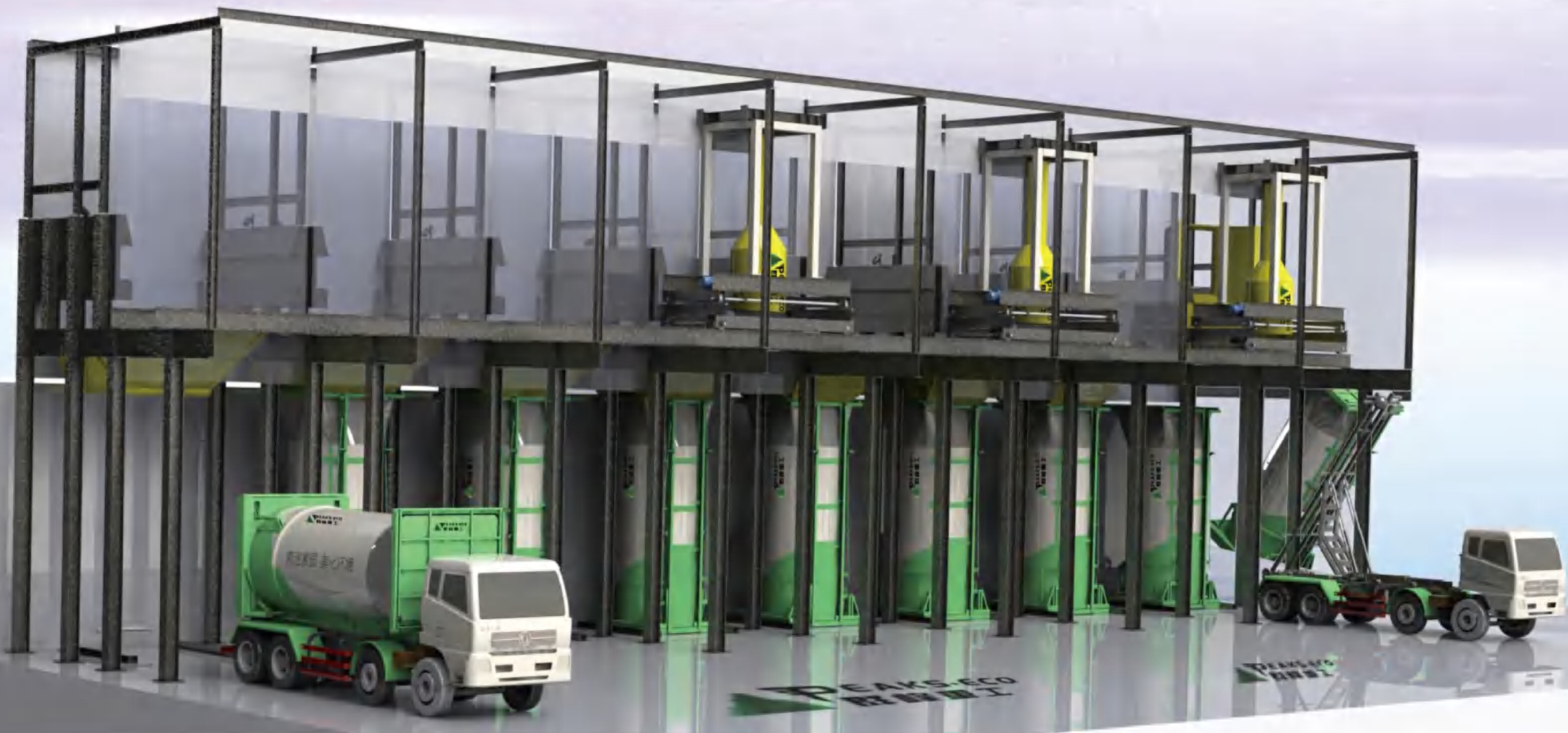
How to select a location becomes more difficult in order not to damage the city beauty, especially in the commercial intensive districts.

Our new-designed transfer station thoroughly eliminate the impact effect on the surroundings by adopting new-styled compression technology with physical deodorization and enclosed operation system, meanwhile, severe odour, mosquitoes and flies can be eliminated from the waste storage and processing.

The transfer station has a low operation cost and the more scientific and humanized working operation.



Vertical Transfer Station ① (Overground or underground, tow tractor)



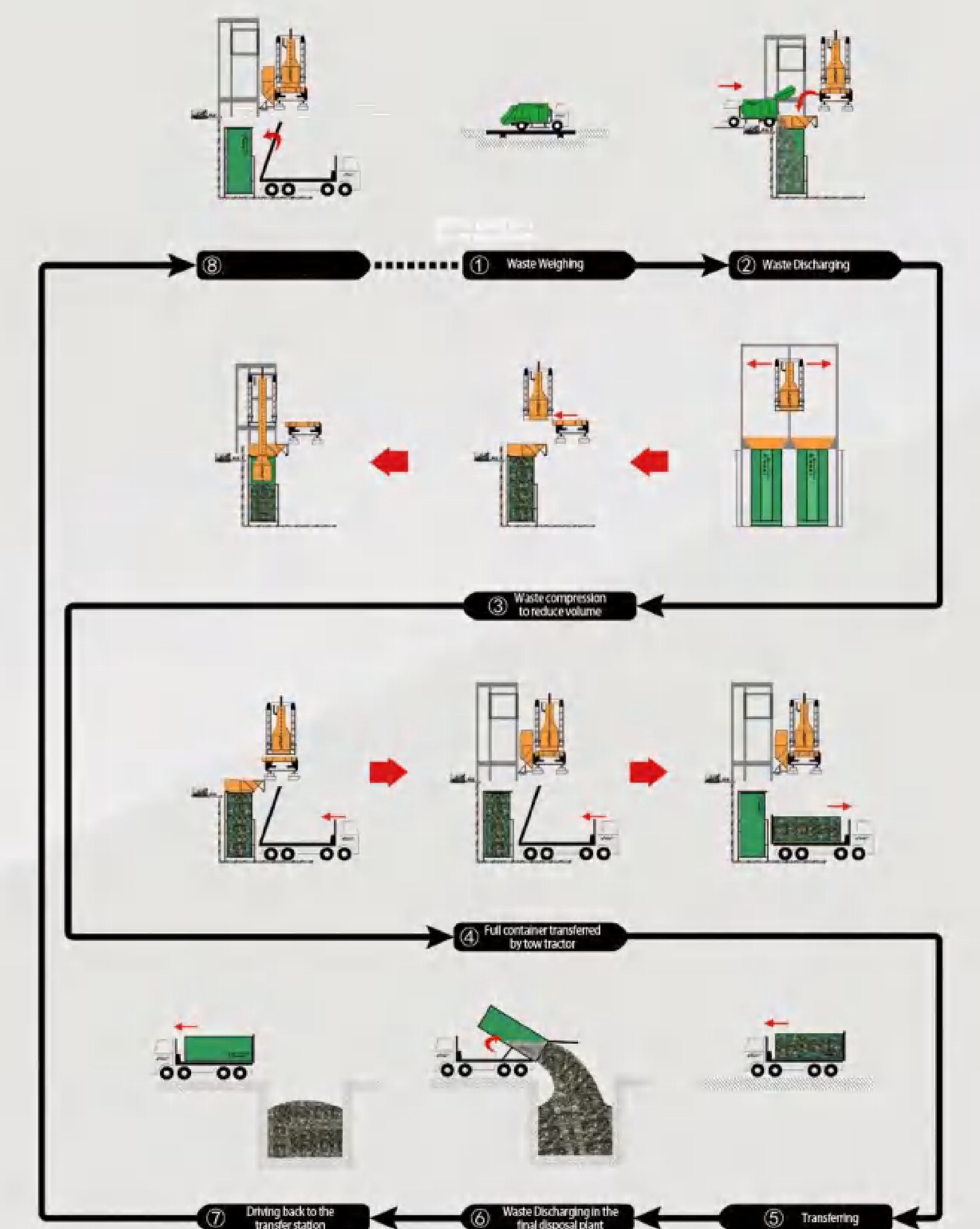
The rear-mounted vertical waste transfer station system adopts the state-of-the-art vertical compression technology to compress the waste into the container by gravity.

The system makes full use of the limited occupied space to simplify the waste transferring.

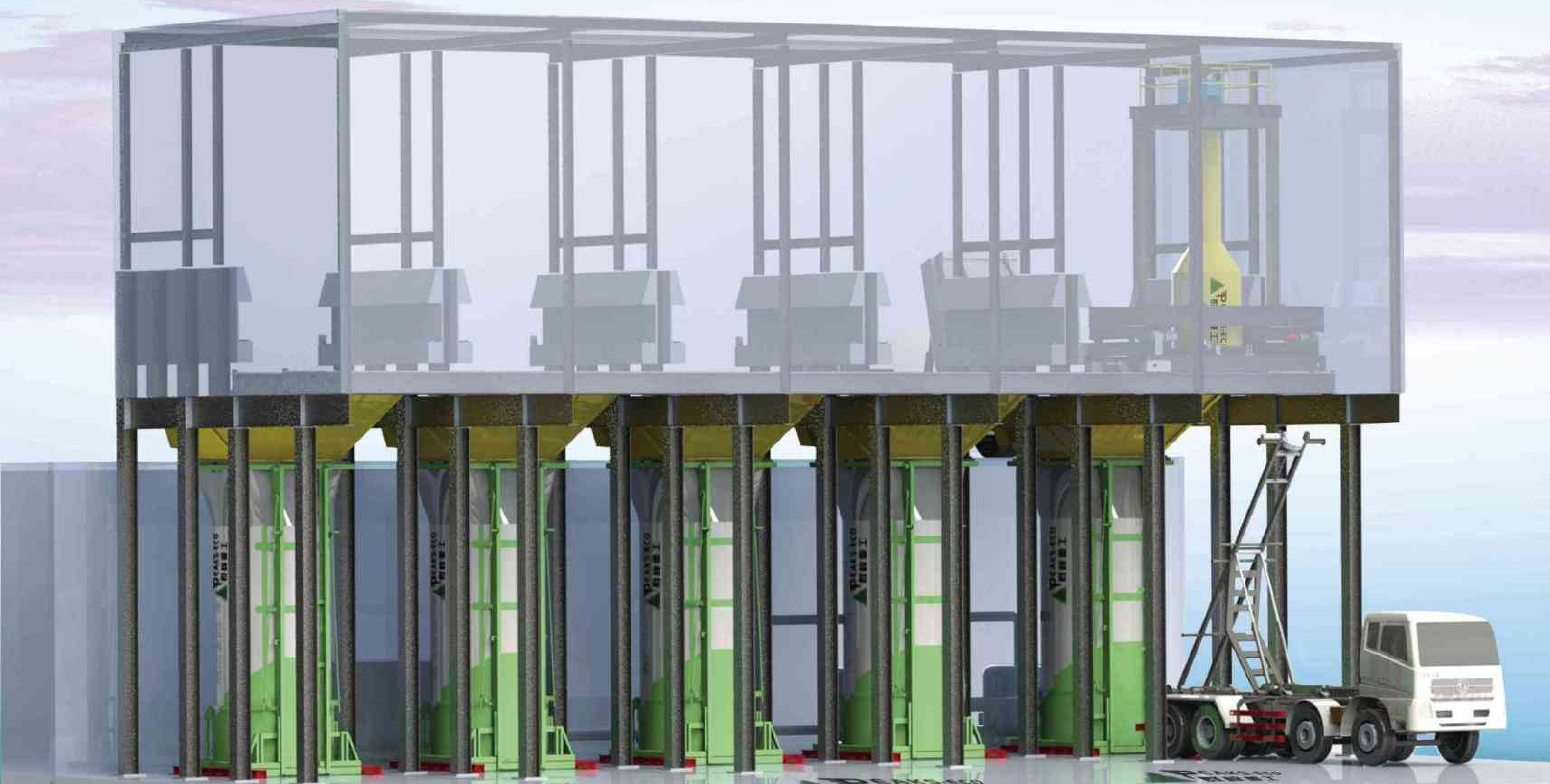
The waste collection tractors drive onto the first floor of the discharging area after they are weighted. After the tail of the tractors is aligned with the feeding inlet of the container, the waste are directly unloaded into the container by means of Self-dumping and pushing force.

The discharging chute and the feeding door close after the containers are full, finally, the full containers are transferred onto the tractors by a Special towing device to the waste treatment plant.

The containers can be set in different colors according to the waste category to facilitate the effective junction of waste classification, collection and transferring. The complete system will be realized with waste classification — waste classification transferring — waste classification classification treatment.



Technical Principle



Main Equipment



Rearward compactor

By remote control, it can be moved above any berth that needs to be compacted to realize the automation of the compressing.

Features:

- ✔ High degree of automation
- ✔ Low energy consumption and high operation efficiency
- ✔ Good compression and low mounting height
- ✔ Good berth sealing
- ✔ Good safety
- ✔ Good sealing and corrosion resistance

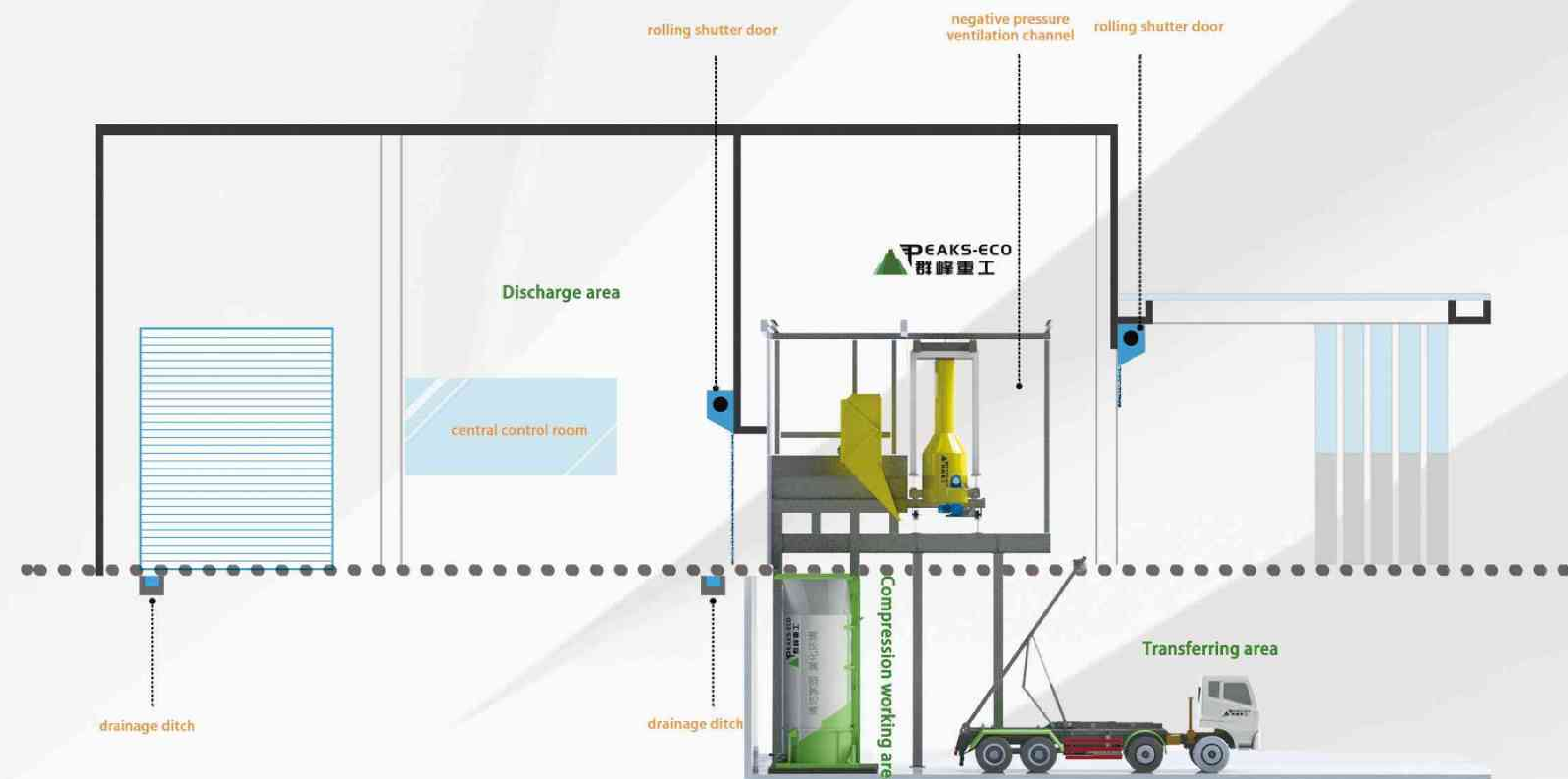


Detachable transfer vehicle and transfer container

Container is the core of the vertical transferring and compressing with the function of the waste reduction volume, storage, transport, self-unloading. There is no leachate leakage after the containers are full.

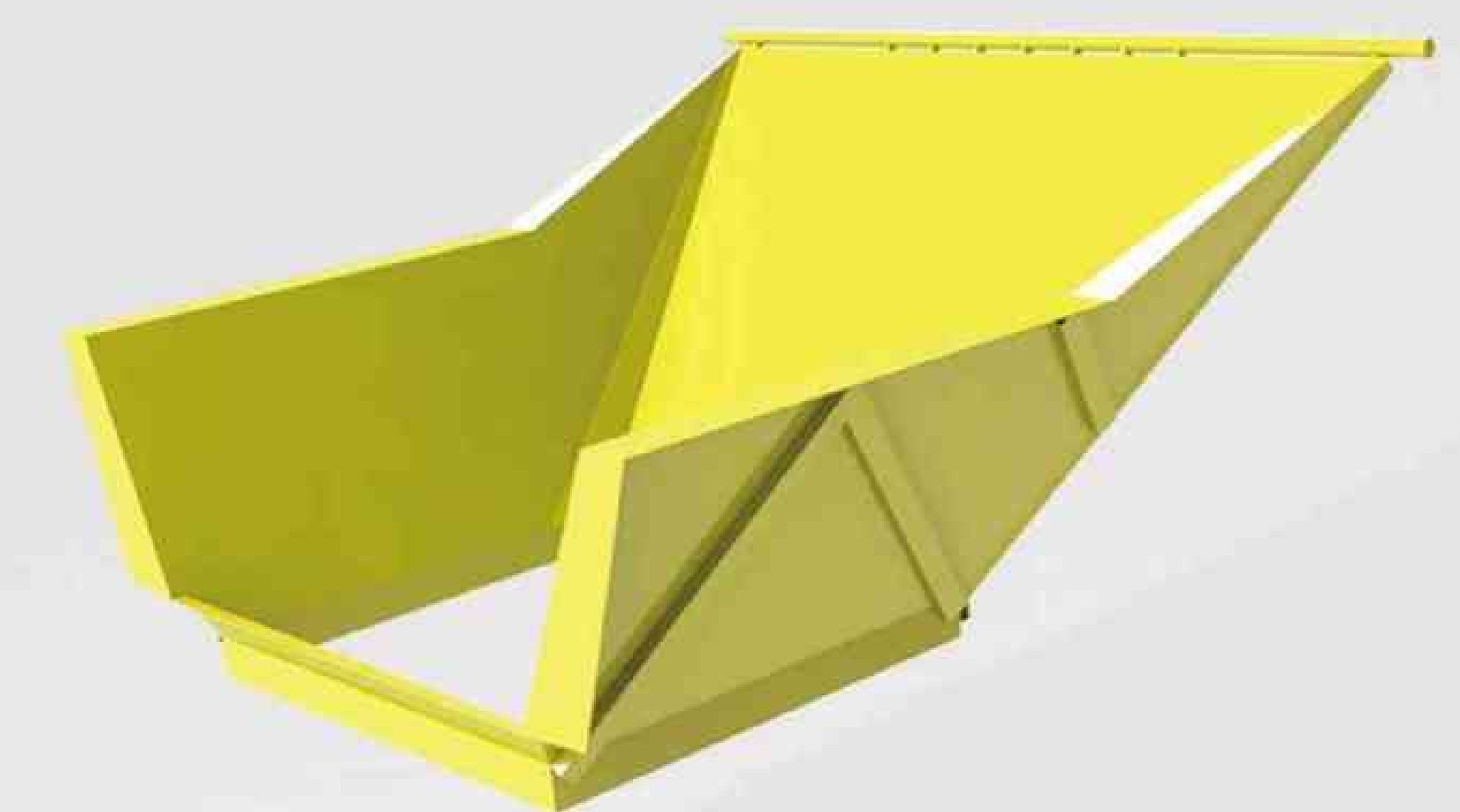
Features:

- ✔ Reasonable force
- ✔ Easy to load and unload
- ✔ Good sealing and corrosion resistance
- ✔ Easy to be cleaned
- ✔ Lightly self-weighted container



Steel structure and support platform

Designed for vertical compression technology and it is to realize a systematic working flow by using to set the compactor, unloading chute, container positioning. The support platform are composed of "main steel structure" and "auxiliary steel structure". Auxiliary steel structure includes container moving guide rail, compactor moving guide rail, side structure and grating between the compartments, unloading tractor, maintenance aisle, observation windows, up- and down escalator, each auxiliary travel base, etc.



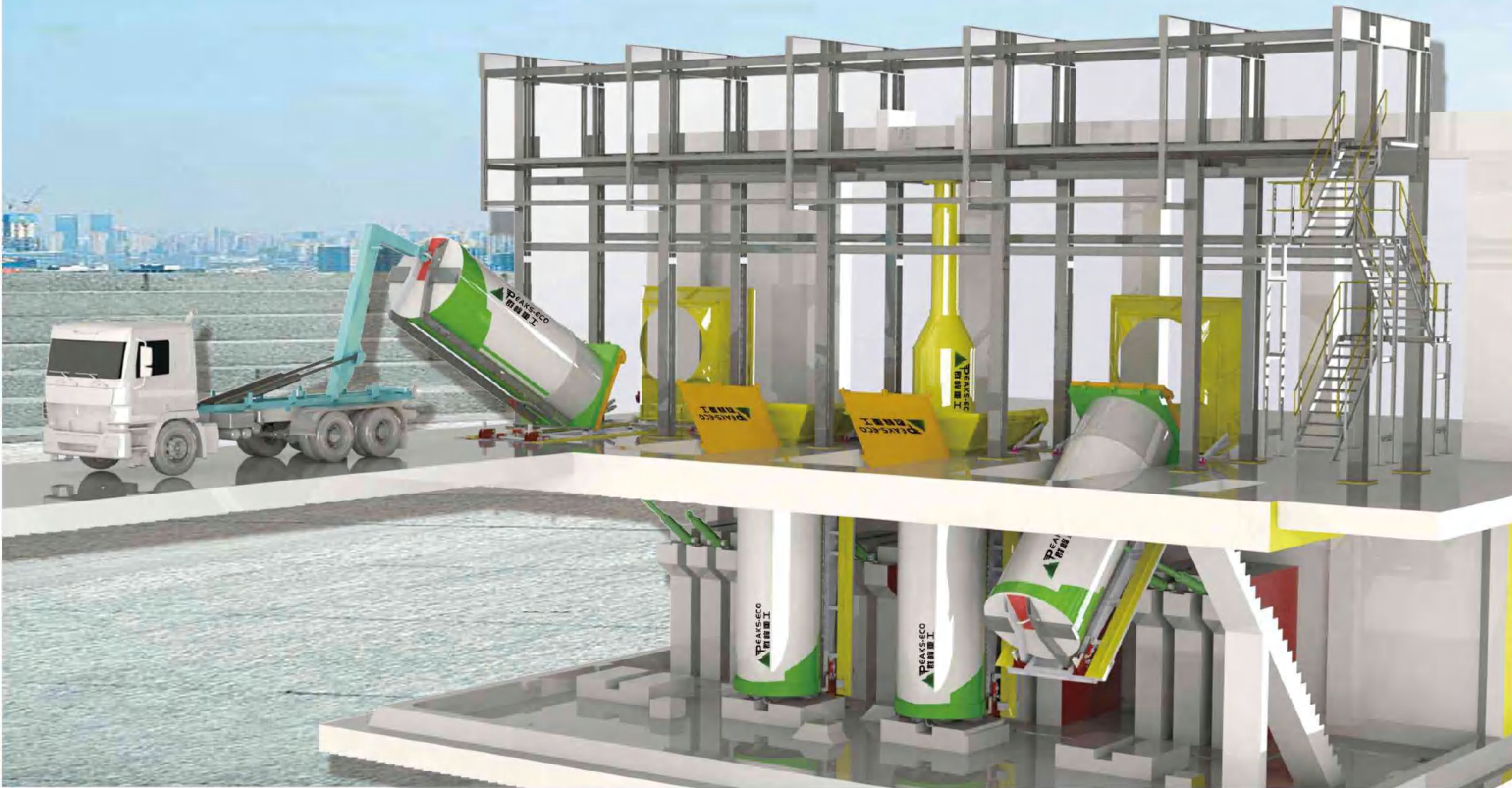
Discharge chute

It is funnel type and located above the container to prevent waste scattering and ensure smooth waste discharging. The moving mechanism is used to control the discharge chute lifting up or down.

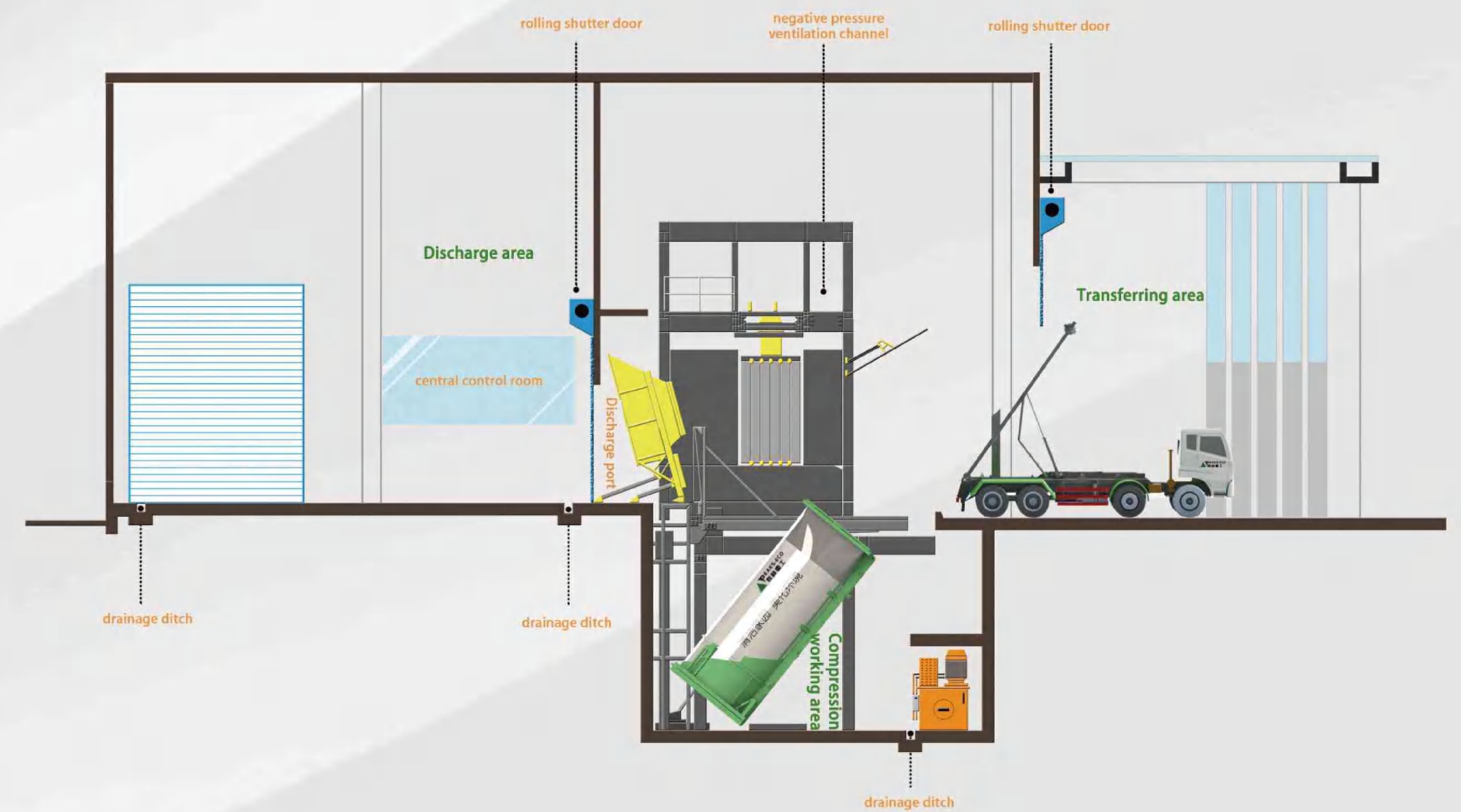
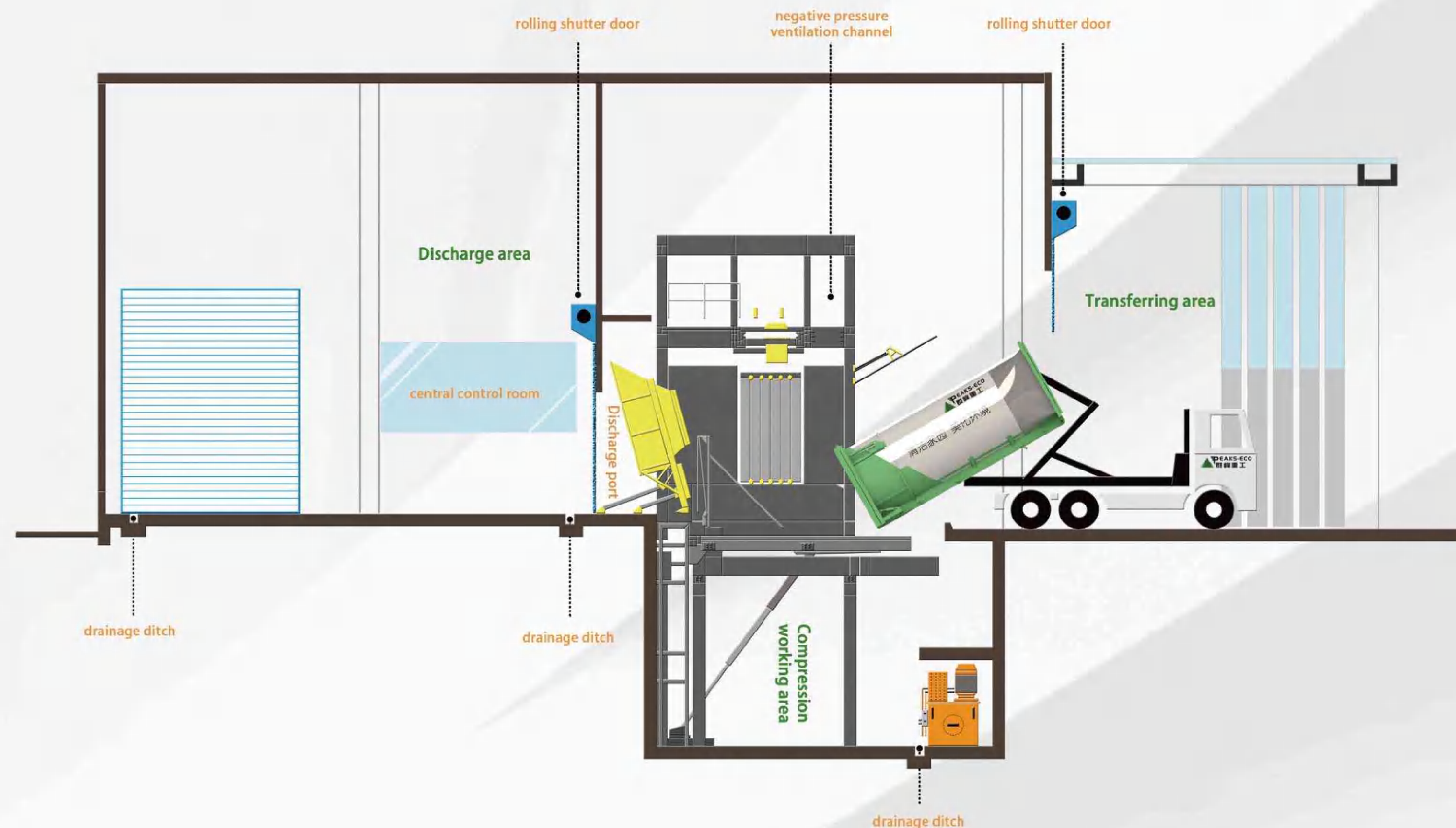
Features:

- ✔ No residue in unloading, easy to clean, free maintenance
- ✔ Steel structure unloading barrier and suitable height can adapt to a variety of types of collection vehicle and easy to clear scattered waste
- ✔ It can be combined with the steel structure support platform and the discharging platform to ensure that the waste will not fall onto the transfer area
- ✔ The driven mechanism control box should be placed in front of the berth to facilitate the operator to control the the chute

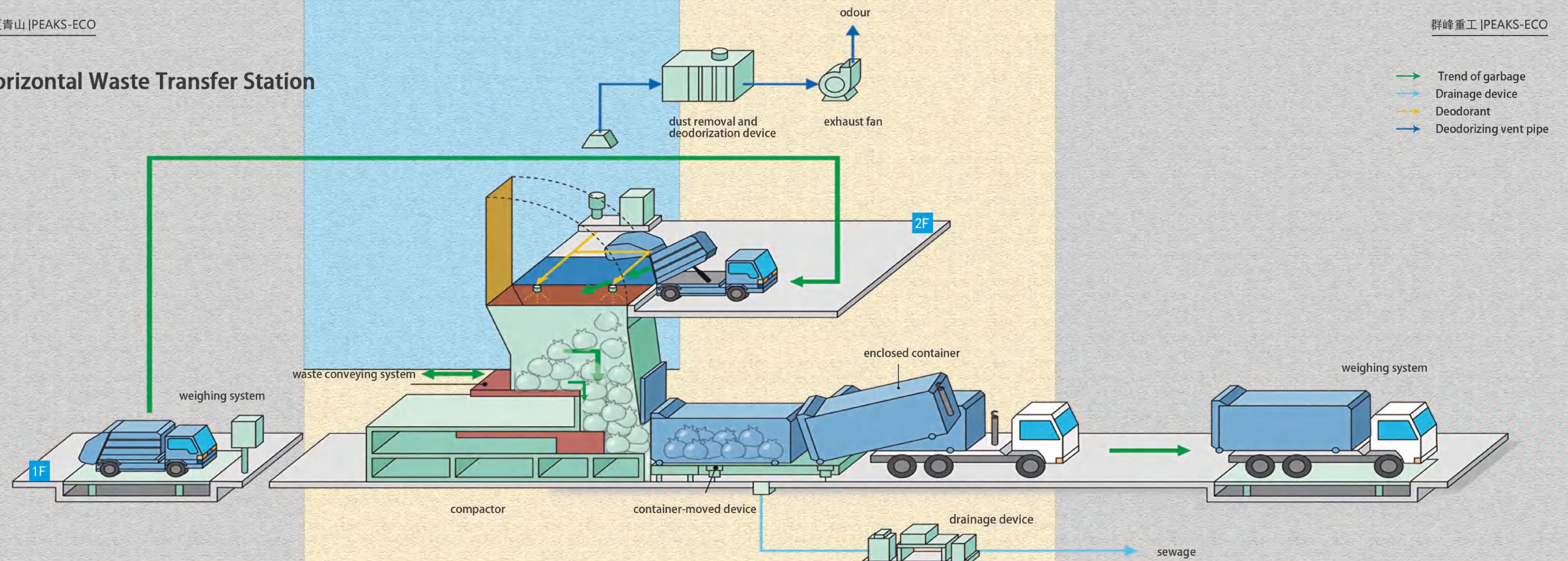
Vertical Wastetransfer Station ② (Semi-Underground, Hook Arm Truck)



Vertical Wastetransfer Station ③ (Semi-Underground, Tow Tractor)



Horizontal Waste Transfer Station

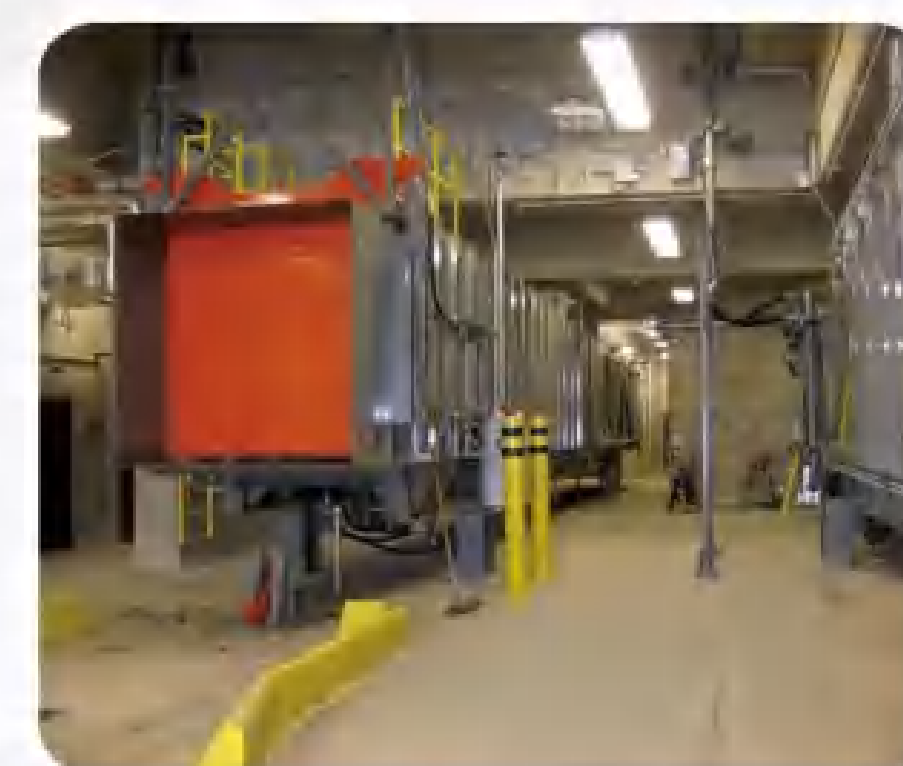


The horizontal waste transfer station is the semi-underground type and adopts horizontal compression technology and the transferring method by large hook arm tractor. It is equipped with the central control system, ventilation and deodorization system, weighing system, space odor removal system, high-pressure cleaning and other auxiliary system to purify the air and improve the working environment.

After the waste collection trucks are weighed, they drive onto the second floor of the feeding inlet for discharging.

Rolling shutter door can automatically open and close through the automatic induction of the truck to isolate the odor and dust.

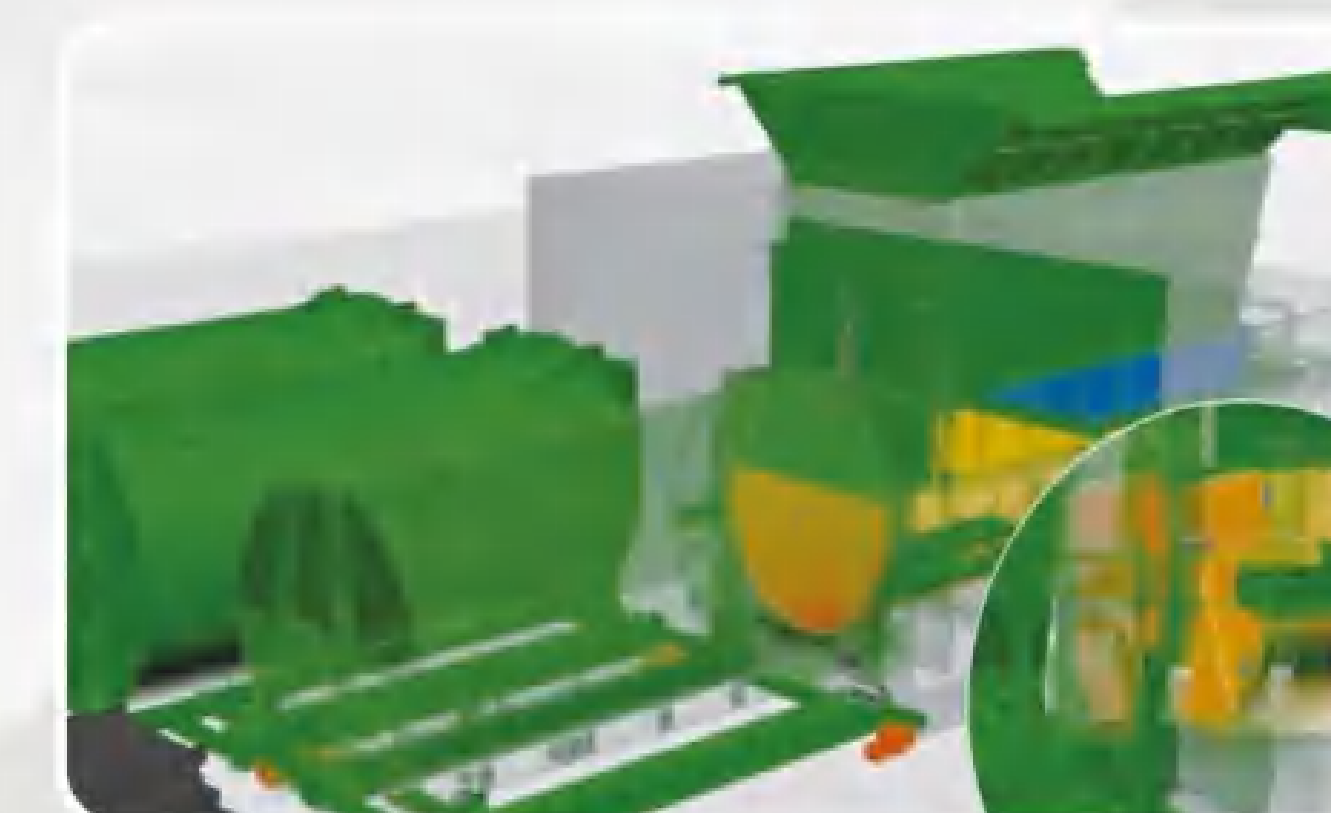
At the same time, the spraying dust removal system and deodorization system can start and close by automatically detecting the presence of the truck. The waste is first pushed into the compression chamber through the pusher, and then the loose waste is compressed by the large pressure of the compactor into the container. The container is transferred to the final treatment plant by a large hook arm truck after it is full. The above process can improve the waste compression treatment efficiency, especially in shortening the container- changed mechanism time.



circular container



rectangular container



The connection between the container and compression system



The auxiliary propulsion system moves back to open the discharging hopper; when the hopper is full, the auxiliary propulsion system compresses the waste into the container



The waste compressed can be reduce to 1.5 times smaller than the original volume to increase the transferring capacity



The container is transported off from the station



Automatic unlocking of the container cover automatically realize to discharge



Waste is directly poured into the landfill or waste treatment plant

Integrated Transfer Station

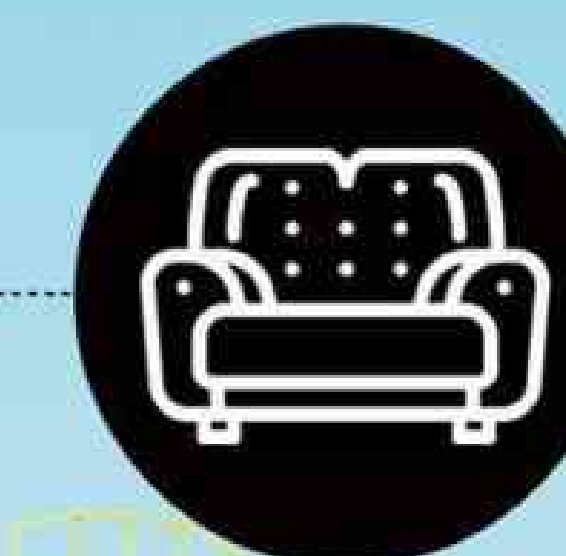
New benchmark of PEAKS-ECO treatment :
one-stop vertical integrated waste sorting transfer station



Compressing and transferring the other waste



Sorting and baling the recyclable waste



Shredding the bulky waste



Compressing and transferring the kitchen waste

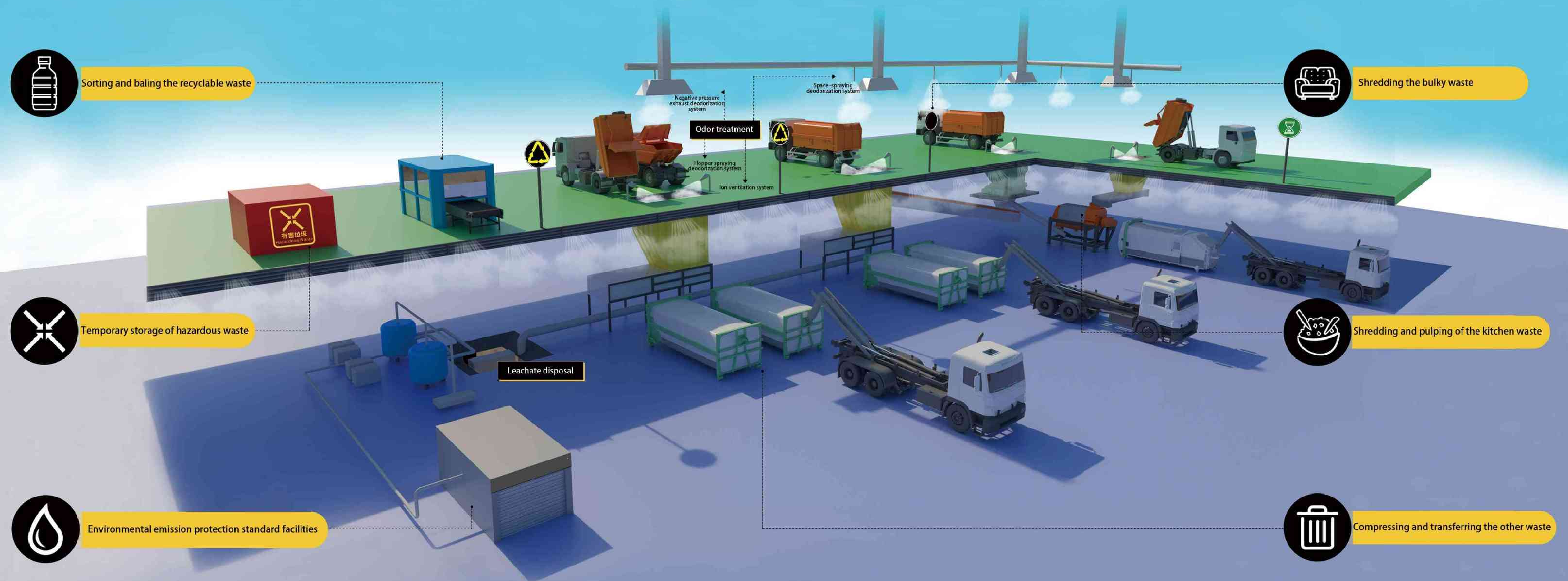
Leachate disposal

In addition to the centralized transfer of waste, the integrated transfer station also has the system for food waste pre-treatment, the classification, disassembling , storage and transferring of the recycled/bulky/hazardous waste, which can reduce the scattered disposal of waste to achieve intensification and efficiency of waste disposal and minimize the impact on the environment. Qunfeng Heavy Industry brand integrated transfer station effectively improves the disposal capacity to promote new development of ecological and environmental protection.

Configuration:

1. Kitchen waste pre-treatment facilities: after the impurities are separated out from the kitchen waste being pre-treated, the kitchen waste is made into slurry to the franchised enterprise for harmless disposal.
2. Sorting and baling line for the recycled: the recycled waste are transported to renewable resources recycling enterprises after being sorted and baled.

New benchmark of PEAKS-ECO treatment:
one-stop horizontal integrated waste sorting transfer station



3. Bulky waste crushing system: bulky waste crushed is compressed directly into the waste container before it is sent to the incineration plant for harmless disposal.
4. Hazardous waste temporary storage: Hazardous waste is classified and transported to temporary storage locations designated by the Municipal Environmental Sanitation Department on a regular basis.
5. Leachate disposal facilities: Standardize the treatment of leachate generated during waste disposal to meet the sewage discharge standards.

Application

Kitchen Waste

- Residents can put out food waste without breaking the bag when they are at the front end of the garbage sorting and putting out session;
- Kitchen waste is transported to the bag-breaking and screening pre-processing machine through the screw conveyor in the unloading chute, where the break the bag of food waste and screened, and the output organic slurry and non-organic debris are transported to the collection container by the screw conveyor in a closed container;
- The non-organic debris is compressed together with other rubbish and transferred to the incineration plant, and the organic slurry is transferred to the centralised treatment plant for resource utilisation.



Food waste collection truck unloading



Food waste is conveyed by screw conveyor



Organic waste depackaging machine (Vertical)



Organic waste depackaging machine (Horizontal)



Automatic bag breaking for easy drop-off



Intelligent screening, waste reduction



Centralised trans-shipment, improve efficiency and reduce costs

System Advantage

- The fine degree of front-end classification requirements are greatly reduced, even if the front-end separation is not clean, kitchen waste mixed with other rubbish or food waste, in large medium-sized transfer station food waste pre-treatment system can be easily sorted out, other rubbish to incineration, organic slurry to the anaerobic fermentation of resource utilisation.
- Solve the front-end "broken bag" problem, greatly saving the manual inspection and cleaning costs, convenient for residents to put in, conducive to the in-depth development of waste classification.
- Organic wastewater from kitchen waste is not discharged in the station, but is transported in a sealed container with the slurry to the terminal for disposal, which greatly reduces the environmental pollution of the transfer station, saves the cost of treating organic wastewater, and improves the utilisation rate of the organics in the back-end.
- It saves the cost of back-end pretreatment, and the separated light materials, such as plastics and other flexible items have no entrainment of organics, clean out of impurities, and small loss of organics.

Large Pieces of Waste

Qunfeng Heavy Industry's "one-stop" garbage sorting and transferring complex not only realizes the sorting and transferring of domestic rubbish, but also integrates the function of crushing and processing of large garbage.



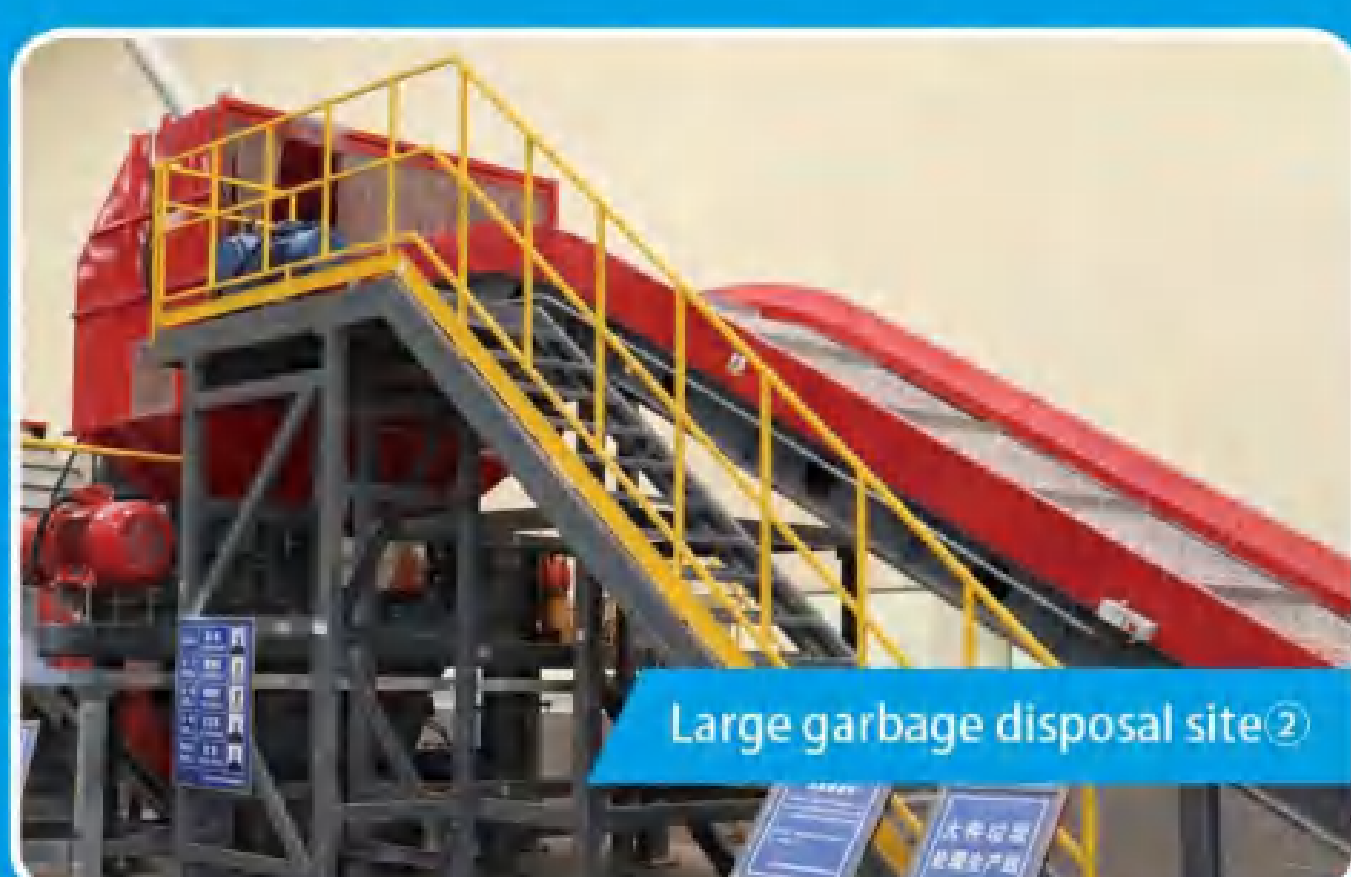
Chain conveyor for transporting bulky garbage



Shear Crusher



Large garbage disposal site 1

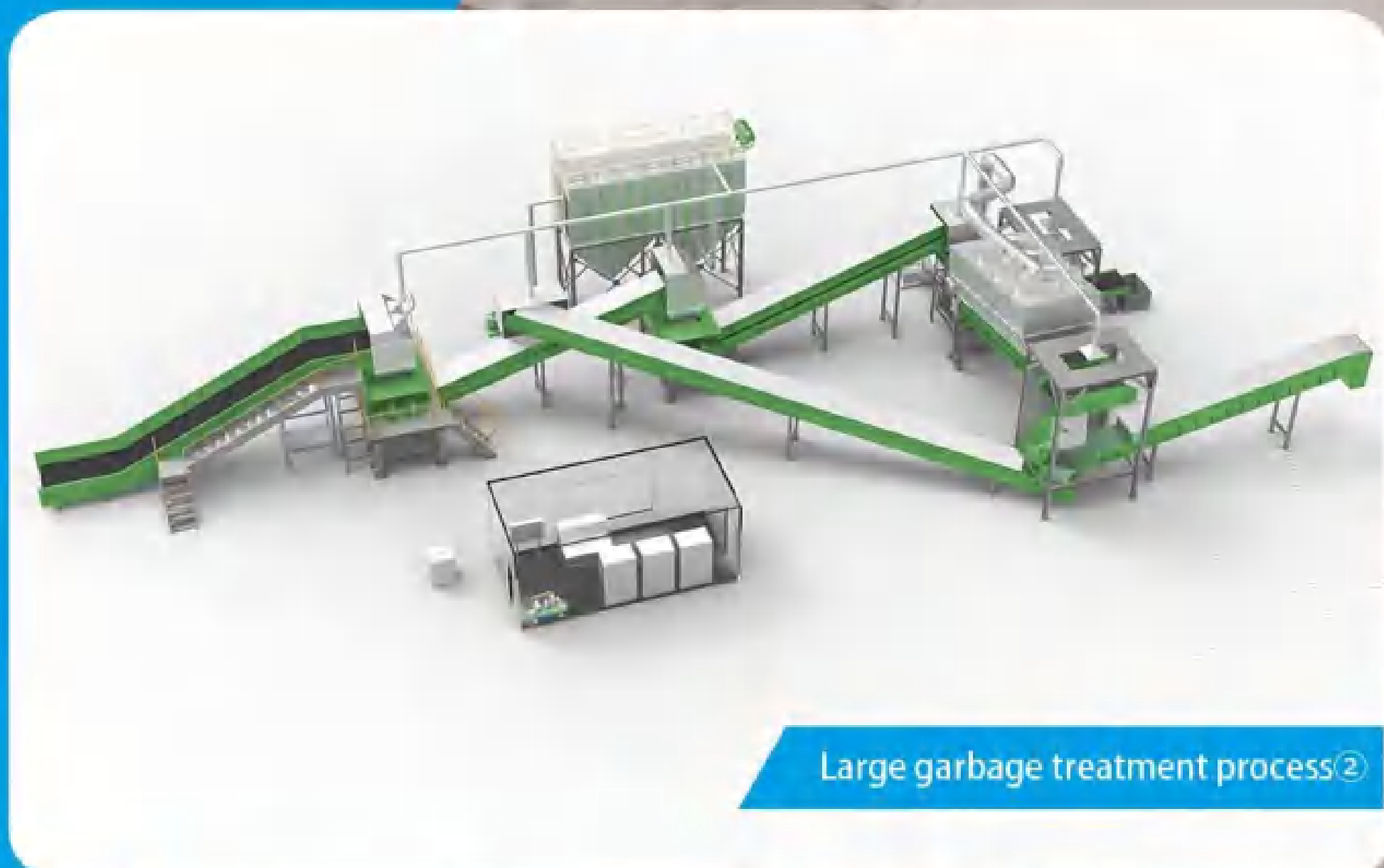


Large garbage disposal site 2

- Waste mattresses, sofas, furniture and other large garbage is crushed into small block materials through the working principle of cutting and shredding through the double-shaft crusher. The broken materials enter the discharge conveyor through the bottom hopper. The sealing connection between the discharge hopper and the discharge conveyor prevents dust leakage;
- The crushed material is transported to the hopper of other garbage compactor by the discharge conveyor, and then compressed with other garbage and transferred to the incineration plant;
- Sealing cover is installed throughout the material conveying to ensure the sealing of the conveying line.



Large garbage treatment process 1



Large garbage treatment process 2



High crushing efficiency



low noise



Prevents dust leakage



resource reuse

Recyclable Waste

- After the recyclables enter the workshop, they first enter the manual sorting process, which sorts out large pieces of metal, paper, etc. from the recyclables by manually;
- PEAKS-AI intelligent sorting equipment is equipped with visual positioning and conveyor belt tracking management system, which can identify the shape and posture of the target and accurately locate and grasp it.
- After the intelligent sorting, it enters the manual sorting platform again to sort the leaked recyclables, and finally the materials at the end of the belt are transported to the other garbage workshop through the transfer box.
- Sorted plastic, cardboard, etc., through the baler batch packaging, convenient later storage and transportation.



Harmful Waste

Batteries: Button batteries, rechargeable batteries, ordinary dry batteries meet the national low-mercury or non-mercury technical requirements , now put out as other garbage;

Mercury-containing category: waste fluorescent tubes, waste energy-saving lamps, waste mercury thermometers, mercury sphygmomanometers, fluorescent sticks, etc;

Waste medicines:Expired medicines are hazardous waste, bottles containing tablets can be put as recyclables according to the material;

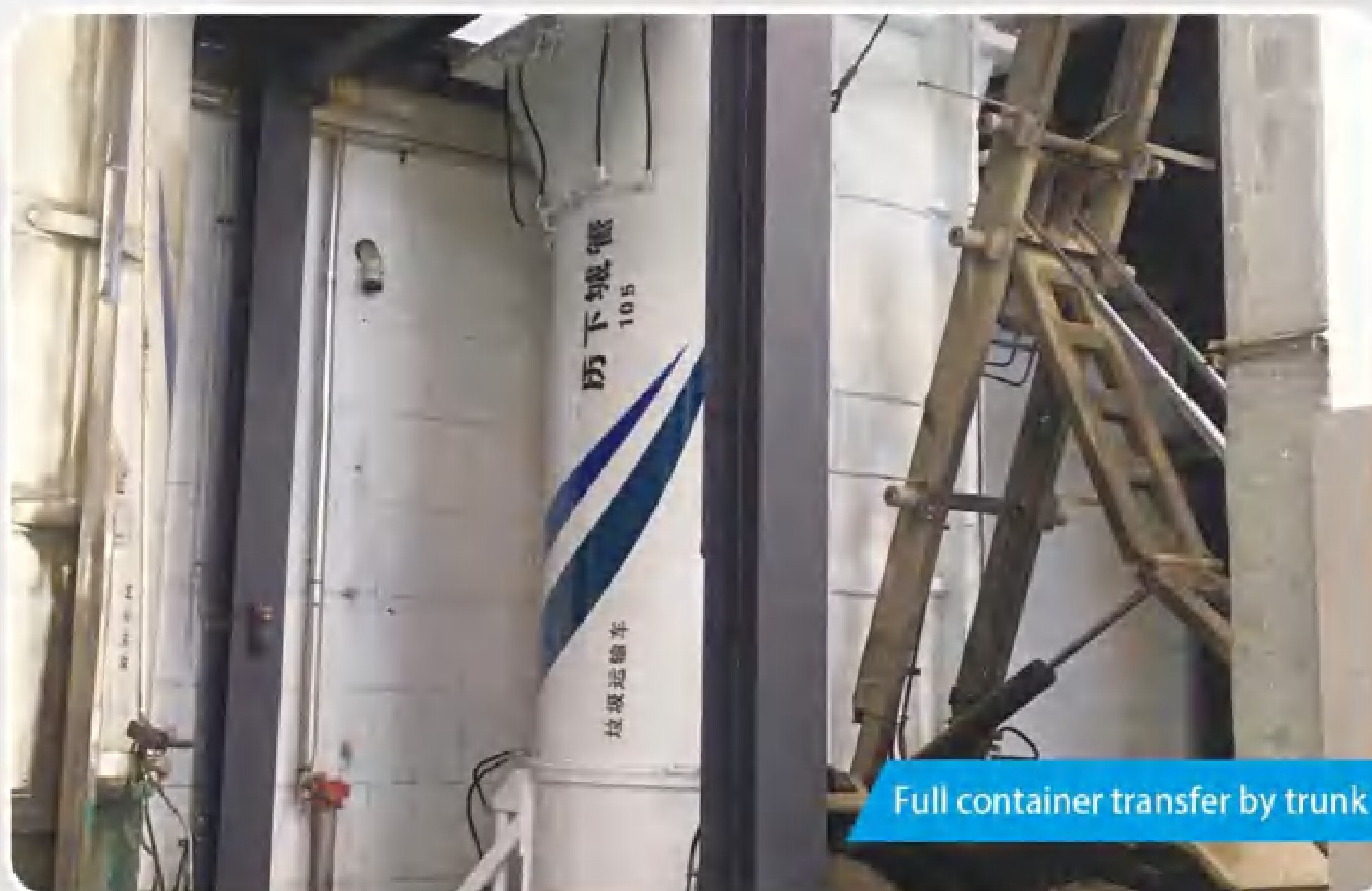
Paint: waste paint, waste pesticides, pesticides, etc., the residual liquid is placed with its container as hazardous waste.

- Hazardous waste sorted out from household waste is transported to transfer stations by special transportation vehicles, sorted and temporarily storge, and then centrally transferred to hazardous waste treatment plants after a certain stock is reached.



Other Waste

- This station adopts the "horizontal direct pressure" process, advanced system engineering design concept, high construction standards, high operational efficiency, high level of automation, high safety and reliability, high environmental indicators (noise, vibration, dust, sewage, odor and other secondary pollution).

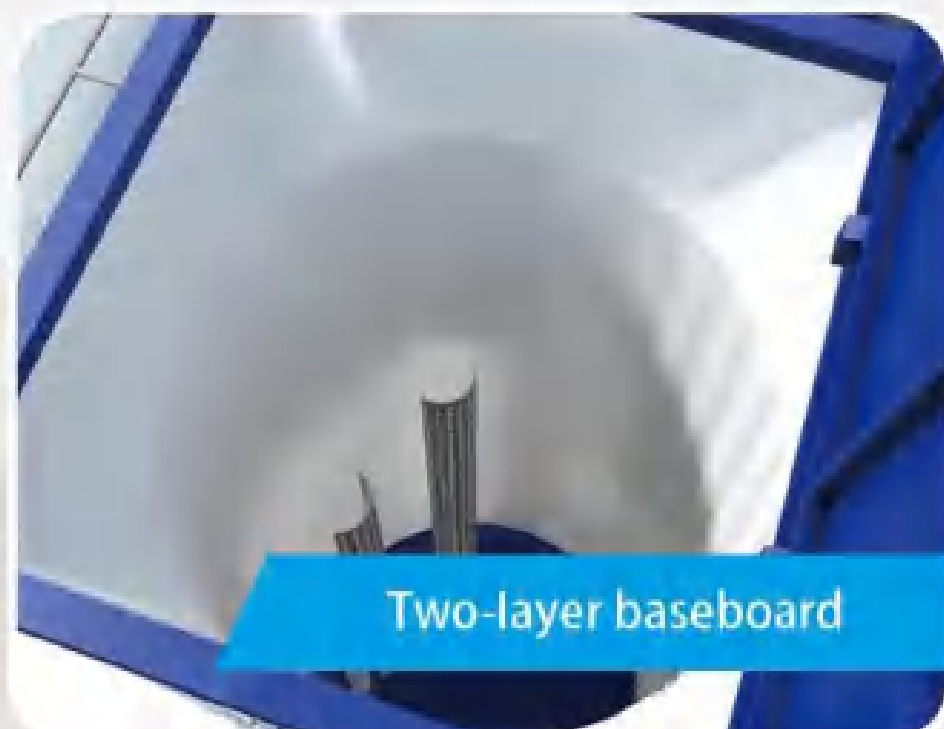


- Simple operation and management, as far as possible to avoid the operator to enter the equipment operation area.
- Forming the unity of garbage compression, garbage transfer, dust removal and deodorization, monitoring and scheduling systems that are interconnected and mutually supportive.



Wastewater Collection and Treatment Systems

Vacuum suction system mainly consists of vacuum pumping unit, tank, pipeline and valve, control system, used to solve the problem of compressed leachate accumulation, odor volatilization, etc., The system uses solenoid valves to divide the pipeline into multiple circuits and arranges lifters according to the sewage points in the station., automatic pumping of sewage points by means of a PLC automatic control system,can be transferred to the station compressed filtration wastewater in a timely manner sucked away to avoid the leachate odor volatilization, to reduce the secondary pollution.



System Advantage

- Direct treatment of leachate from landfill, compact system design, easy to install and operate.
- It is favorable to energy saving and consumption reduction, reducing the operation cost; adopting the treatment facilities with less secondary pollution, less sludge and low noise.
- Strong shock-resistant adaptability, which is conducive to ensuring the treatment effect, ensuring safe and reliable operation.
- Convenient operation and management, simple technical requirements, reduce the labor intensity of workers, easy to maintain.



Remote control
quick installation



Compact structure
design Small



PLC system adjustment operation
Real-time troubleshooting



2-stage or 3-stage filtration
Meet local water quality regulations



Different capacities
Flexible selection



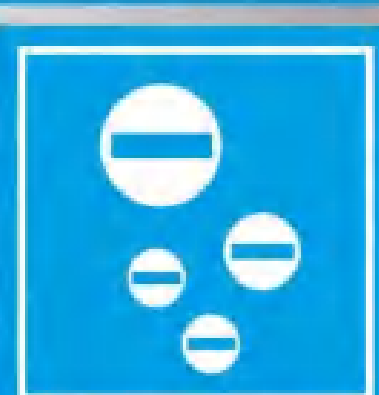
Highly efficient treatment
70-90% volume reduction
99% dirt removal

Deodorizing System

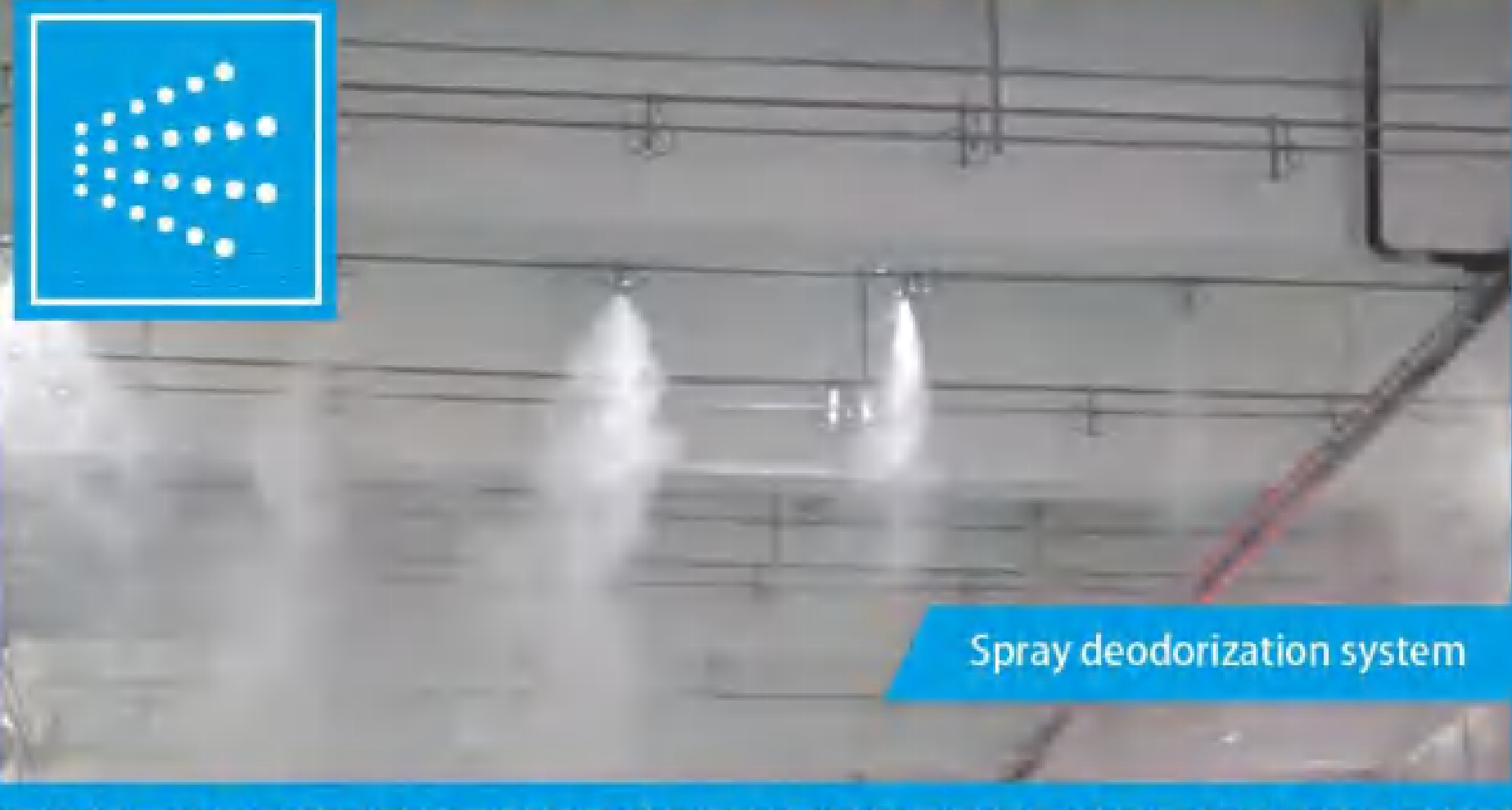
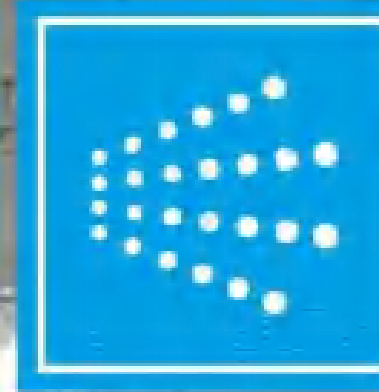
- Waste deodorization and dust removal spraying device, turn on the spraying system during the garbage dumping and compression process, mixing the plant extract into the spraying liquid, using the plant extract to adsorb the odor molecules on the surface of the liquid mist, and the effective molecules in the plant extract reacting with the odor molecules, or oxidizing the odor molecules under the action of the effective molecules with the oxygen in the air, transforming the odor molecules into non-toxic and non-odor substances.
- With the station's ionic fresh air system, negative pressure ventilation system to run in collaboration with the odor and dust will be firmly "locked" in the transfer station.



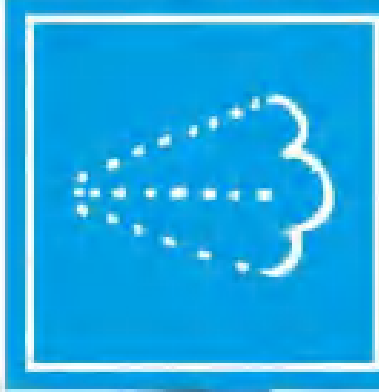
Negative pressure deodorization system



Ionic fresh air system



Spray deodorization system



Spray deodorization system



Central Control System

Remote management of Central control room

Vehicle-Weighing by tapping their cards, systematic monitoring of the all incoming and outgoing vehicles is automatic to collect related data. All equipment can be operated remotely, comprehensively monitor the operating status of the equipment, streamline the number of operators, and improve overall operational efficiency.



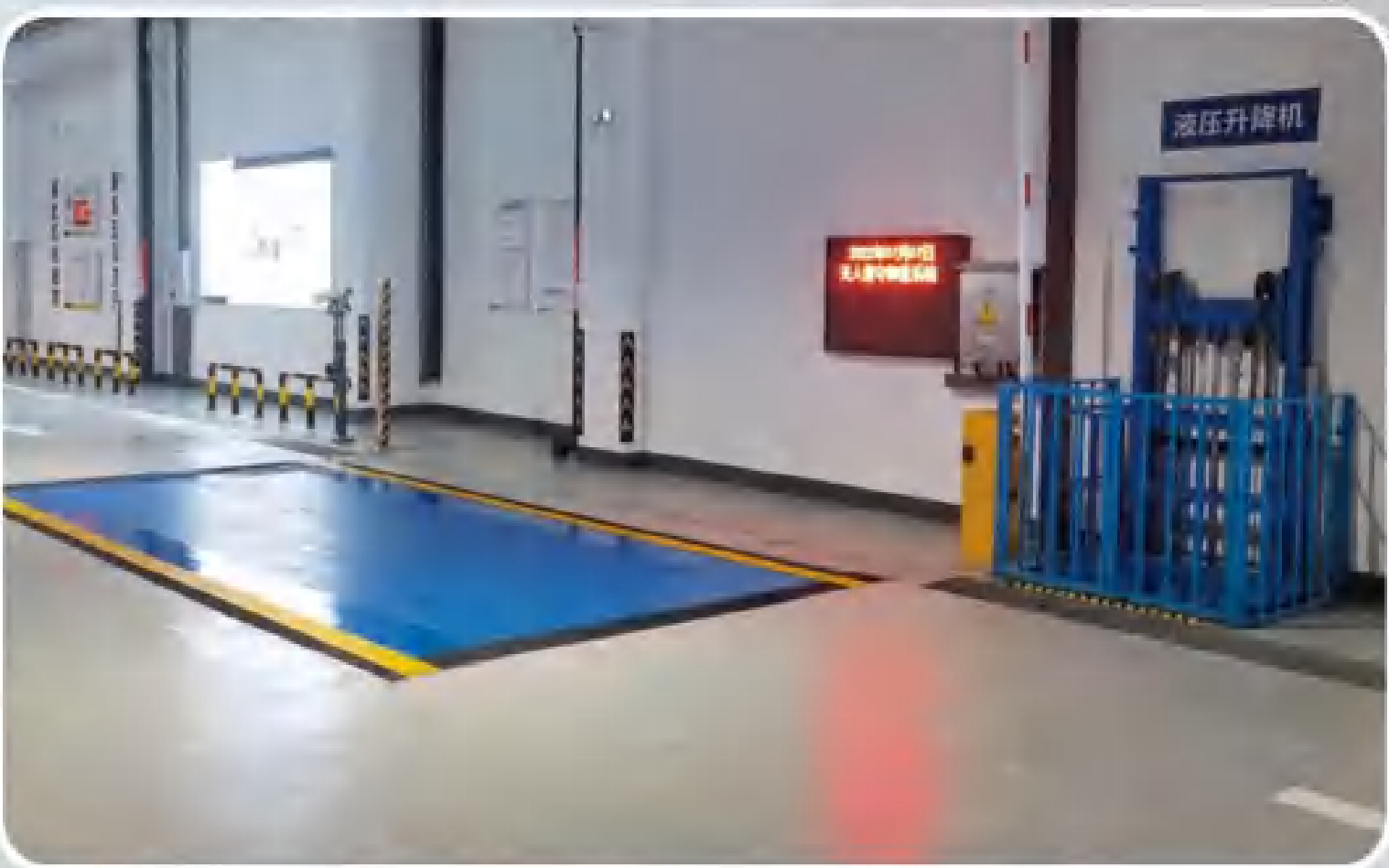
Integrated management platform of transferring station

Achieving "common management, shared personnel shared, and shared facility" to maximize management efficiency and reduce operational management costs.



Intelligent Weighing System

It is an intelligent weighing system that integrates automatic vehicle identification system, automatic voice command system, instant weighing image capture system, traffic light control system, infrared anti-cheating system, gate control system, and remote supervision system. During the entire weighing process, automatic and reliable collection of measurement data with identification, command, processing, control can minimize the disadvantages and work intensity caused by manual operations and improve the information and automation of the system.



Transfer Station Projects



Loading, transferring and unloading of the container



Running Compactor



Pull-type truck for transferring waste



Returning the empty container

Discharging chute

Equipment Introduction



Intelligent Mobile Waste Compression Device ①

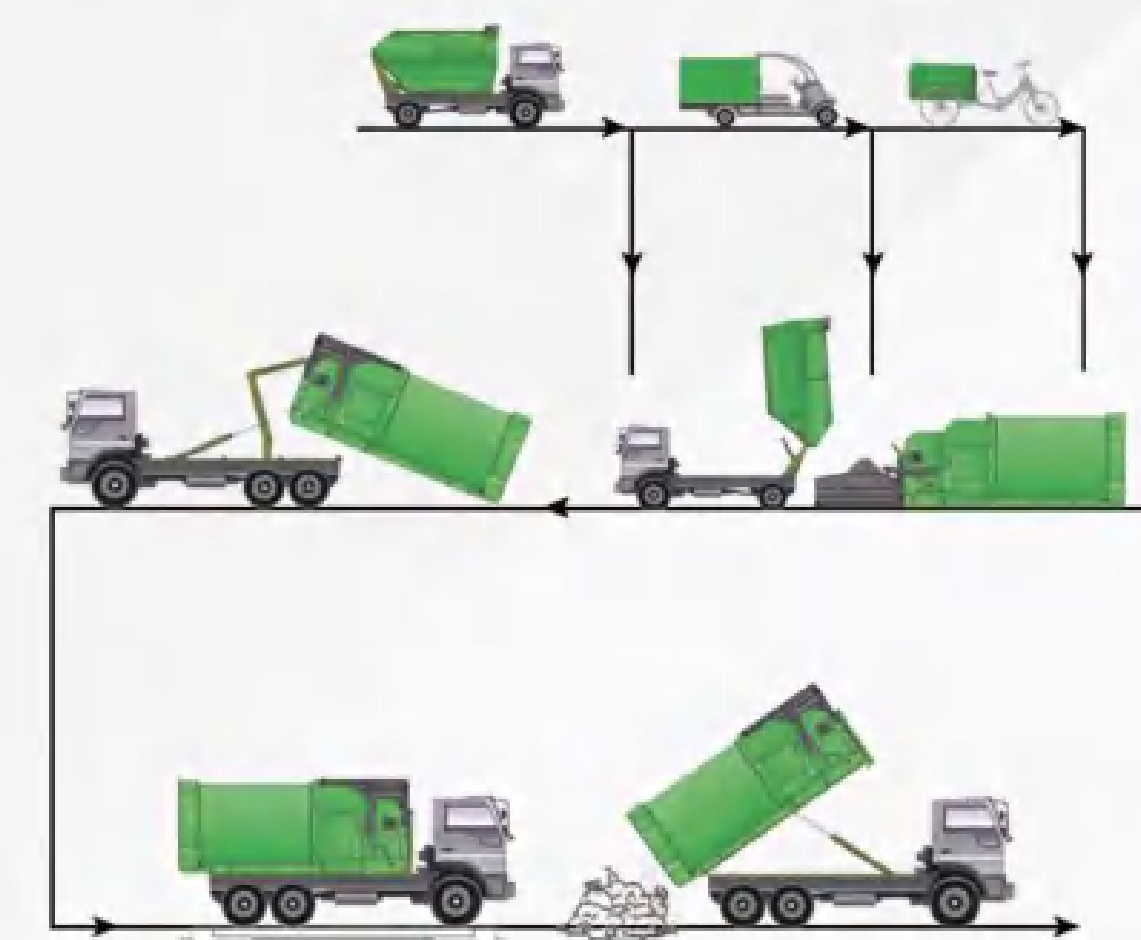


Intelligent Mobile Waste Compression Device ②

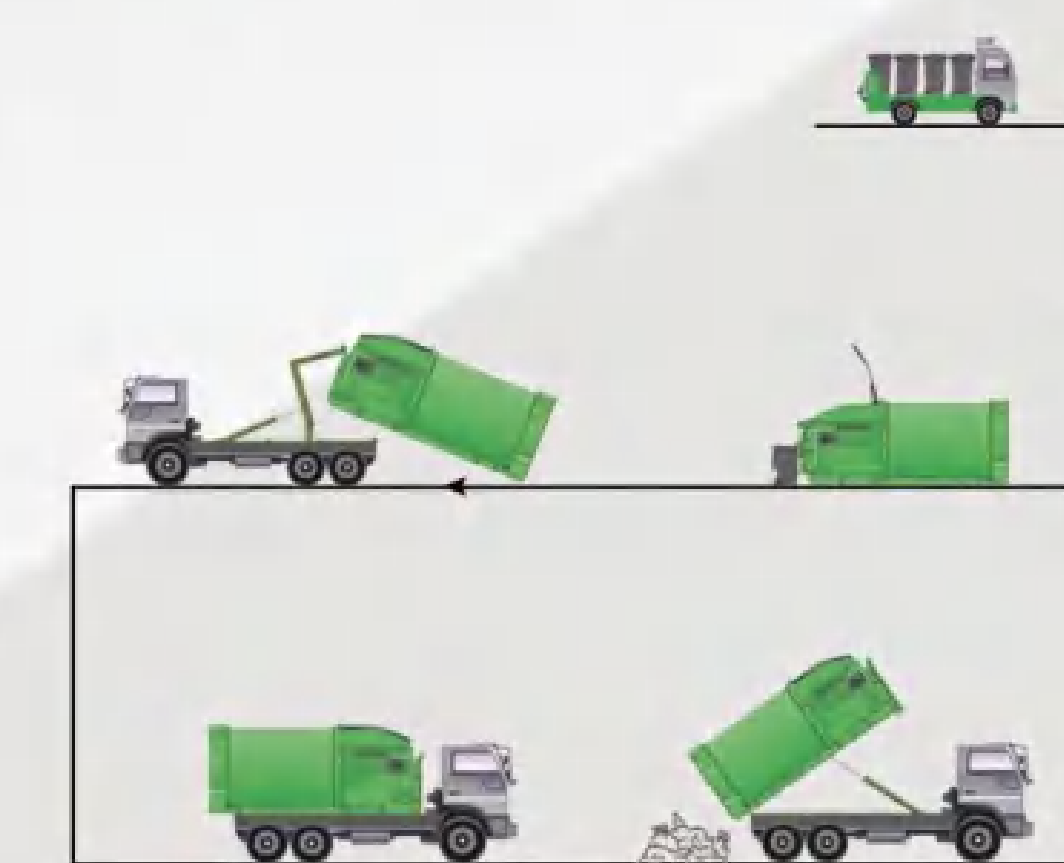
Household waste

It is a compressing device that integrates the compression container with the compressor head. Mobile mode without a specific base in the processing of transferring can not only save the construction cost and time but also to get more usable space. Its beautiful appearance beautify the surroundings, the high sealing performance in the process of collection, compression and transportation won't leak to effectively avoid the secondary pollution. The dimension are available in diversity, at present, there are 8 m³, 12 m³, 17 m³ and 20 m³ for customer's option.

The intelligent mobile waste compression equipment produced by Qunfeng Heavy Industry adopts horizontal compression mode. Compared with other domestic similar products, it's more advanced in the aspects of waste sealing treatment, structural layout, mechanism optimization, automation level and convenient operation.



Kitchen waste



Equipment Advantages



High flexibility
flexible installation,
small occupied space



Diversified functions
including crushing,
compression and
volume-reduced functions



Environmental Protection
fully enclosed storage to
avoid waste leakage



High degree of automation
easy to operate, high degree of
automation and intelligence



Long service life
good wear resistance, low
noise and long service life



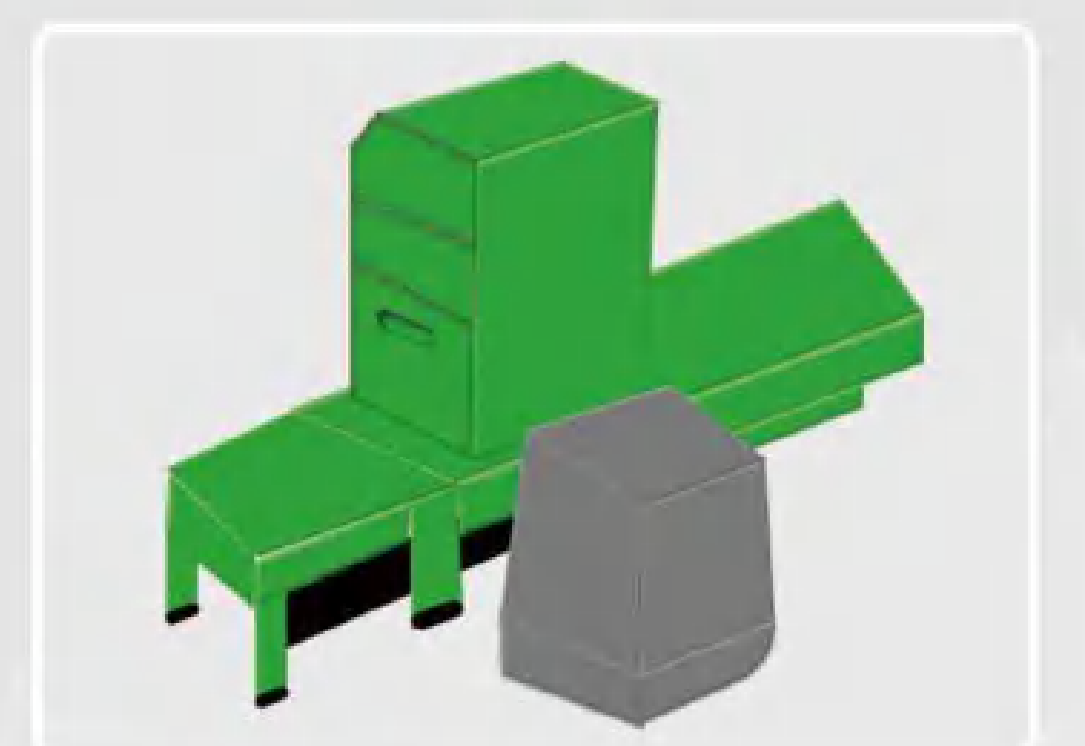
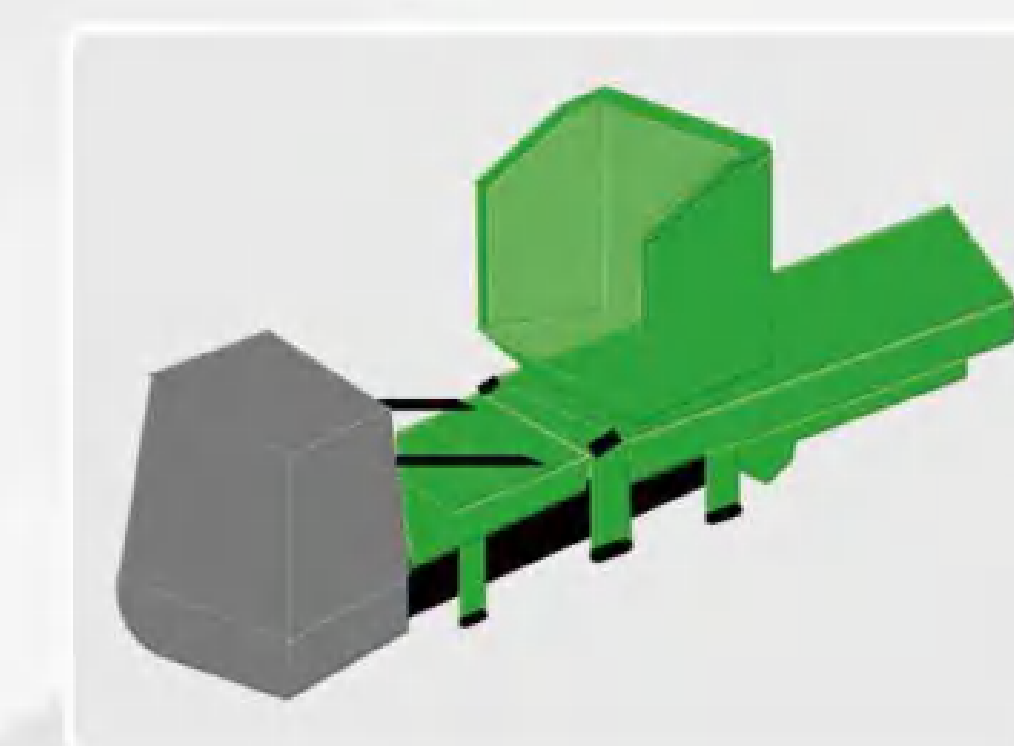
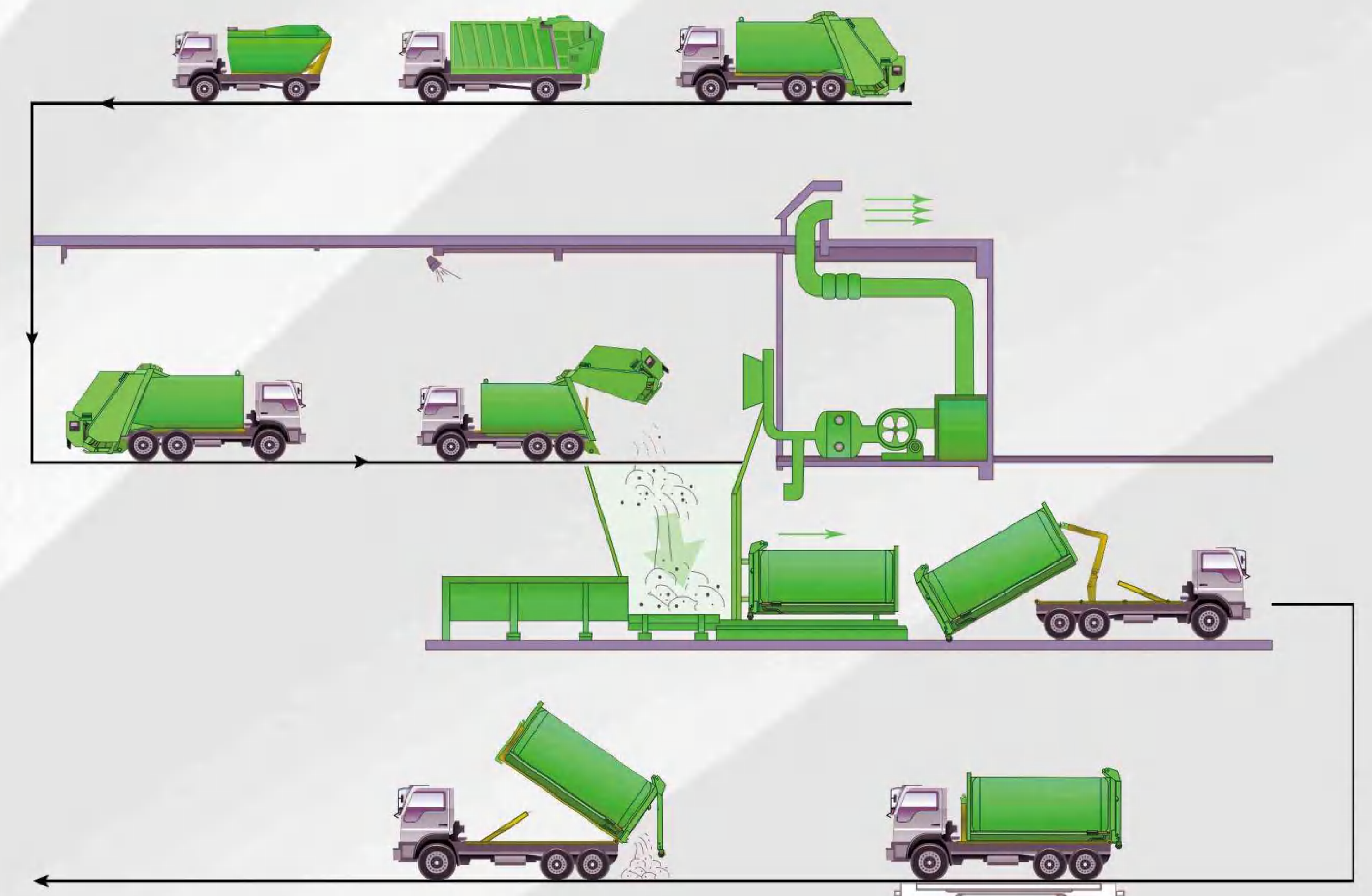
Horizontal Connected Waste Compression Equipment

A new generation of household waste treatment equipment, independently invented by Qunfeng Heavy Industry, is mainly composed of split compression host, detachable waste container and mobile mechanism.

It mainly suitable for waste collection methods like artificial flat-bed trucks, tricycles, and small dumping trucks. The equipment adopts horizontal compression technology to compress and reduce the volume of the collected loose waste into the sealed container and remove the sewage. The large-capacity container can reduce the number of transferring to avoid secondary pollution.



Working Process



Equipment Characteristics

- Compression container is welded by wear-resistant steel plate, with beautiful appearance, light self-weight, high strength structure, corrosion resistance and long service life.
- The compression head is arranged with double oil cylinder cutters with compact structure to improve the Waste crushing and compression efficiency.
- The back of the compression container is equipped with a sewage guide device to ensure the smooth discharge of sewage.
- Double-roller guided door-lifting and cutting device makes the waste separation between the compressor and the compression container more thorough with the reliable guidance.
- The hydraulic system adopts double pumps to work with high working efficiency and power saving.
- Compressor adopts program control, equipped with interlock system, warning lights, warning signs and other safety protection devices.
- The equipment can be arranged on the ground for easy cleaning with dust removal and deodorization system.
- The main components of the machine treated by shot blasting, anti-rust primer spraying, and epoxy coating to extend the equipment service life in a highly corrosive environment.



Underground Intelligent Waste Compression Equipment

It is a new, large-capacity and underground waste collection and compression machine. It is mainly used for the places with high waste production like residence, scenic spots, parks, squares and factories, schools, hospitals, shopping malls, vegetable and fruit markets, etc. The waste collection containers are the only visible part on the ground because the main body are installed under the ground. This advanced machine can minimize the air pollution and effectively improve the waste collection and transportation environment.



Structure

It consist of compactor,hydraulic lifting platform, hydraulic system, electricity-managed system and container on the ground.



Advantage:



Beautiful appearance
Compact design with small occupied space and nice appearance



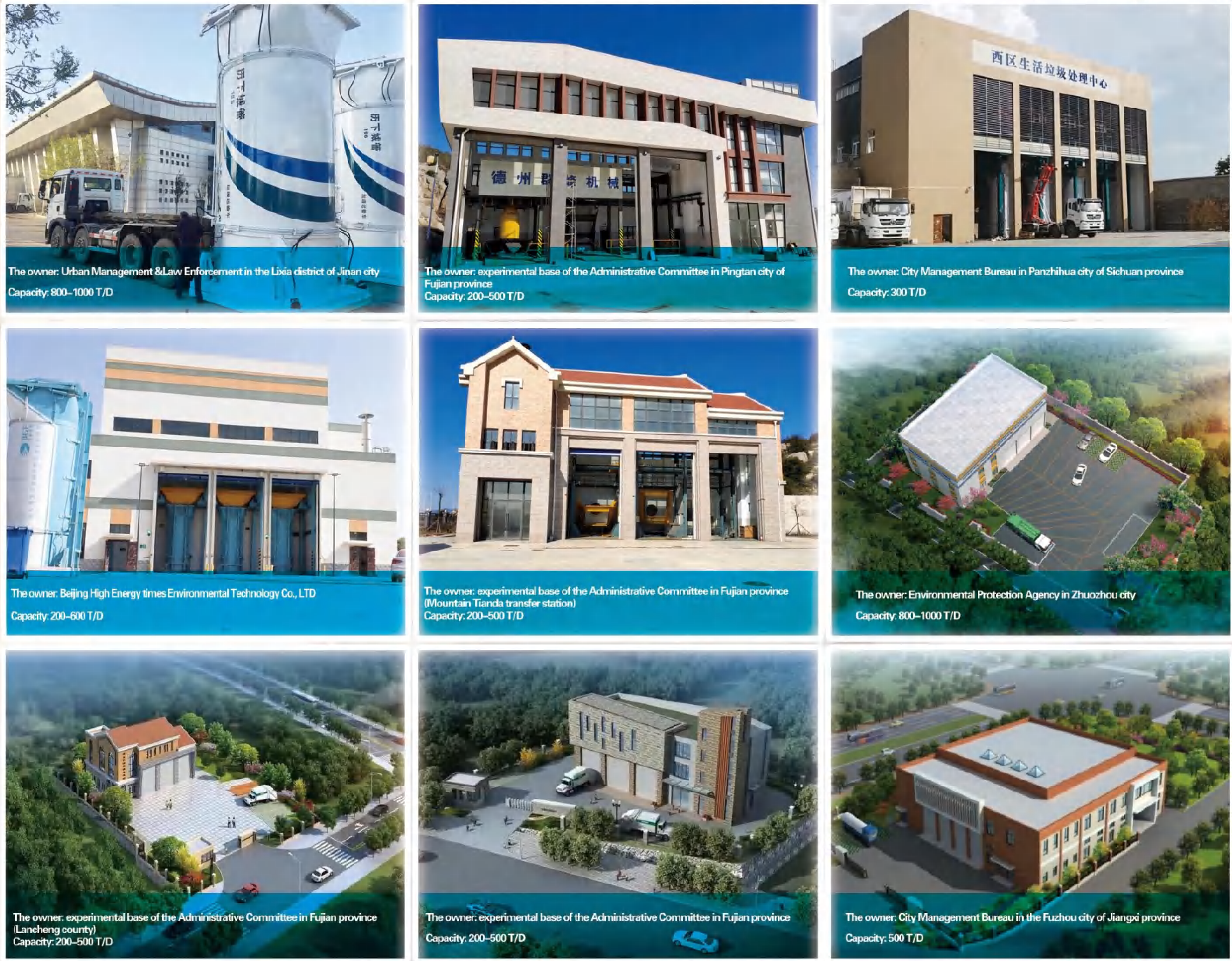
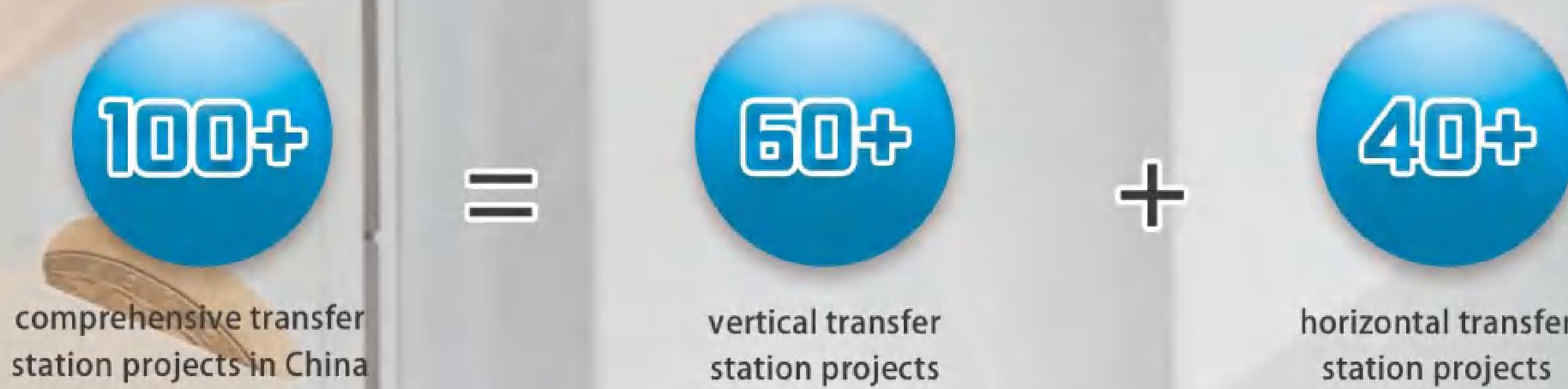
Environmental protection
Effectively reducing the secondary pollution to protect the environment



Saving cost
Large- capacity storage of waste reduce the collection times to save the transportation costs

Projects

Performance



Outstanding achievement		
NO.	Project	Capacity
1	Large-scale transfer station in Zhuozhou city of Hebei province	800-1000t/d
2	Large-scale transfer station in Lixia district of Jinan city (Shandong province)	800-1000t/d
3	Medium-scale transfer station in Shjiazhuang Xinle city of Hebei province	200-300t/d
4	Medium-scale transfer station in Shanghai city	300-500t/d
5	Medium-scale transfer station in Shanghai city	300-500t/d
6	Medium-scale transfer station in Panzhihua city of Sichuan province	300t/d
7	Medium-scale transfer station in Pingtan city of Fujian province (Mountain Tianda station)	200-500t/d
8	Medium-scale transfer station in Pingtan city of Fujian province (Aodong county)	200-500t/d
9	Medium-scale transfer station in Pingtan city of Fujian province (Lancheng county)	200-500t/d
10	Medium-scale transfer station in Neijiang city of Sichuan province(Jin' e county)	200-600t/d
11	Medium-scale transfer station in Neijiang city of Sichuan province(shengdeng county)	200-600t/d
12	Medium-scale transfer station in Neijiang city of Sichuan province(Yujia county)	200-600t/d
13	Medium-scale transfer station in Gong' ga county of Lhasa city (Xizang province)	300-500t/d
14	Medium-scale transfer station in Guangchang county of Fuzhou city (Jiangxi province)	300-500t/d
15	Medium-scale transfer station in Jizhou district of Ji' an city (Jiangxi province)	300-500t/d
16	Medium-scale transfer station in Deqing county of Zhejiang province	500t/d