



Automatic Scraper Cleaning System

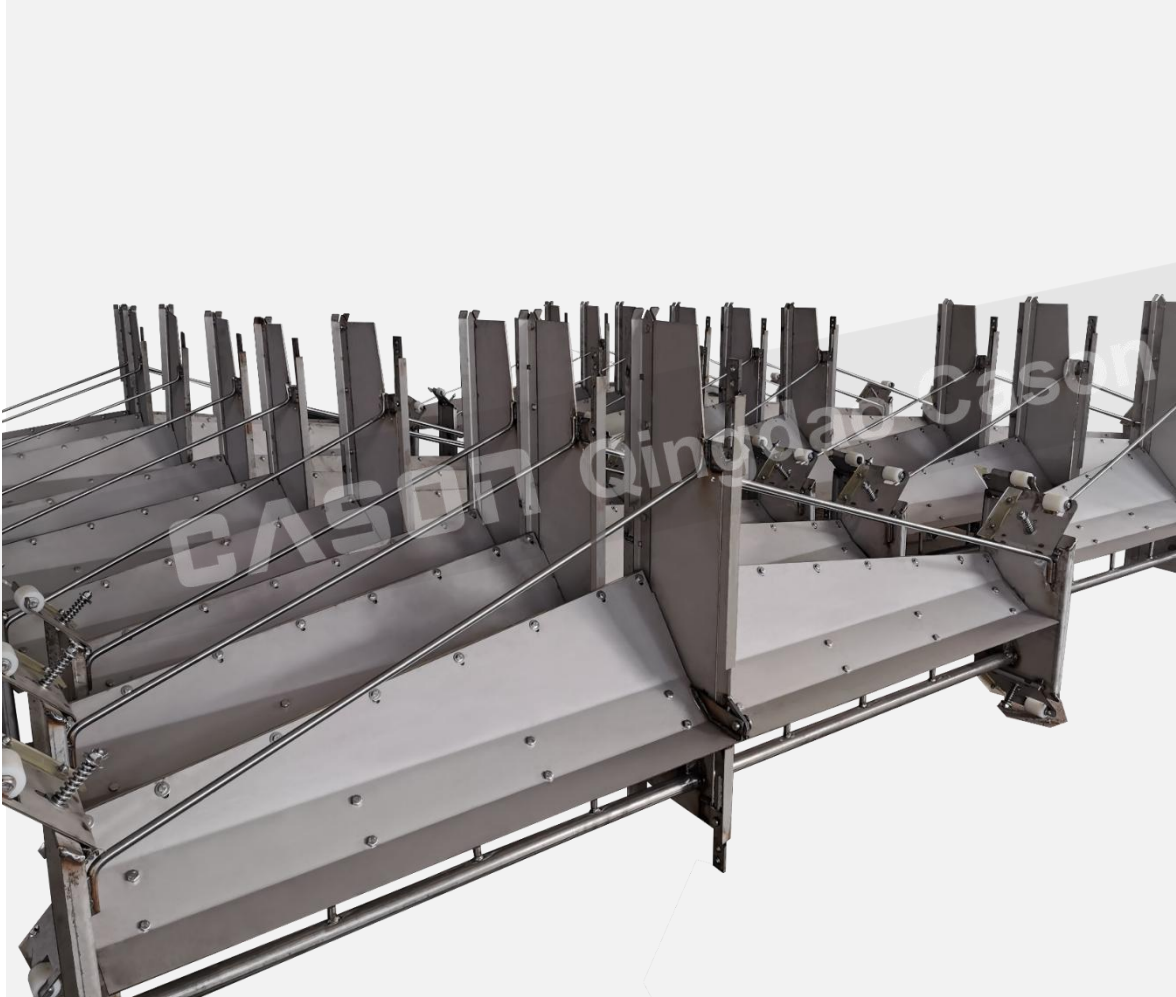
Cason Machine Manufacture Co., Ltd



# Company Introduction

Qingdao Cason Machine Manufacture Co., Ltd

## Company Introduction

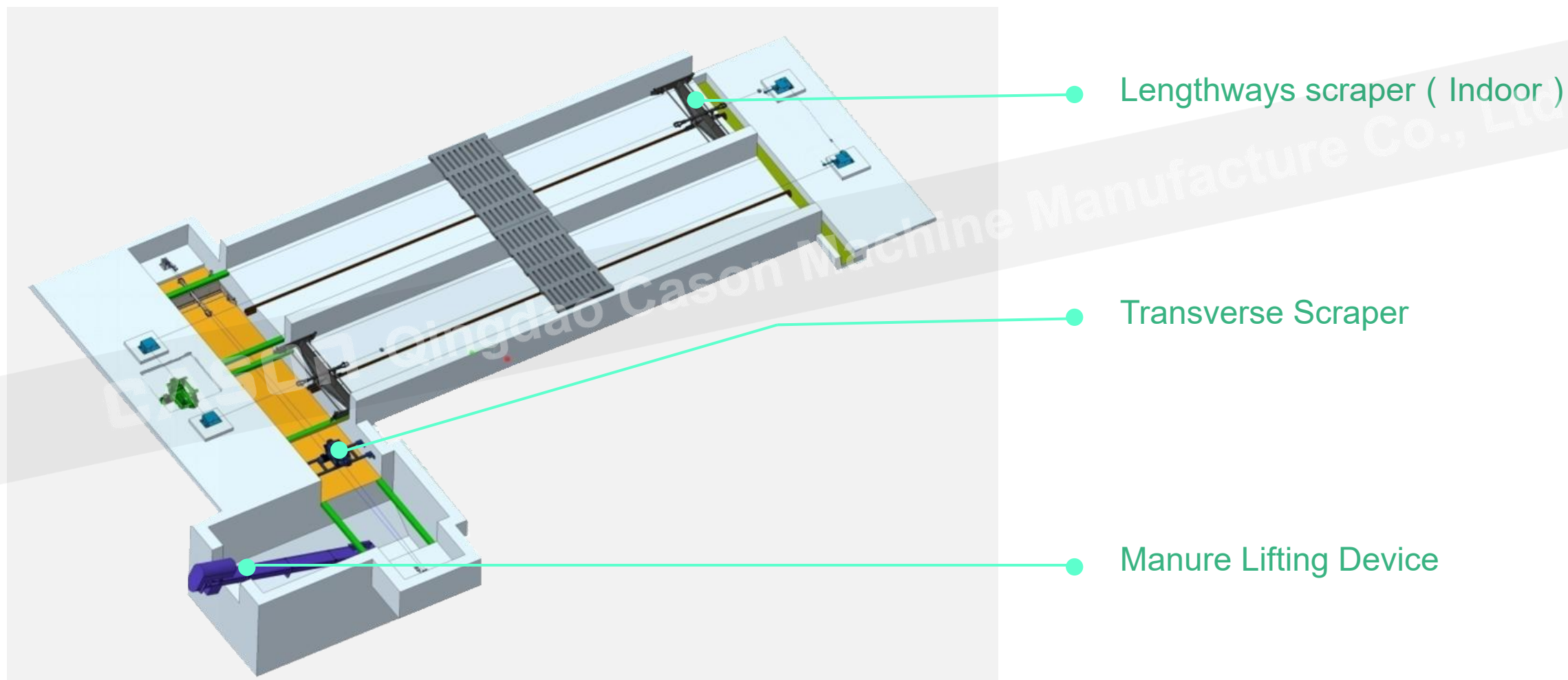


- a. Founded in 2013, the founder has been engaged in processing white goods and high-voltage electrical parts for many years.
- b. Entered the livestock equipment industry in 2014, integration production with marketing .
- c. “Deep Cultivating product ”is our Philosophy ——Refine one single product .
- d. Since 2013, we have manufactured three products : manure removal systems, fermentation tanks, and stainless steel troughs trough introduction and R&D.
- e. We will insist of doing correct production , improving production efficiency , and constantly innovating and R&D in the future .

# Advantages

- Introduction
- Advantages
- After Service

## Components of Scraper Cleaning System



## Advantages



### Achieve solid-liquid separation

The moisture content of scraped pig manure is 75% -80%, which can be directly composted or sent to fermentation tank .

The BOD, COD, and SS content of the liquid discharged from the urinary catheter is only 1 / 2-1 / 4 of the blister manures, which greatly reduces the cost of post-processing.



### Optimize the pig house environment

Mixing of feces and urine can easily lead to anaerobic fermentation, which produces a lot of strong stench hydrogen sulfide, methane, lower fatty acids .

Manure scraping system, regular collection of feces and urine every day to prevent breeding of bacteria, reduce the risk of pig epidemic, and increase the growth rate.



### Save production costs.

The manure scraping system is controlled by an embedded card machine. The system works automatically based on the set value , which greatly reduces labor costs.



## Advantages

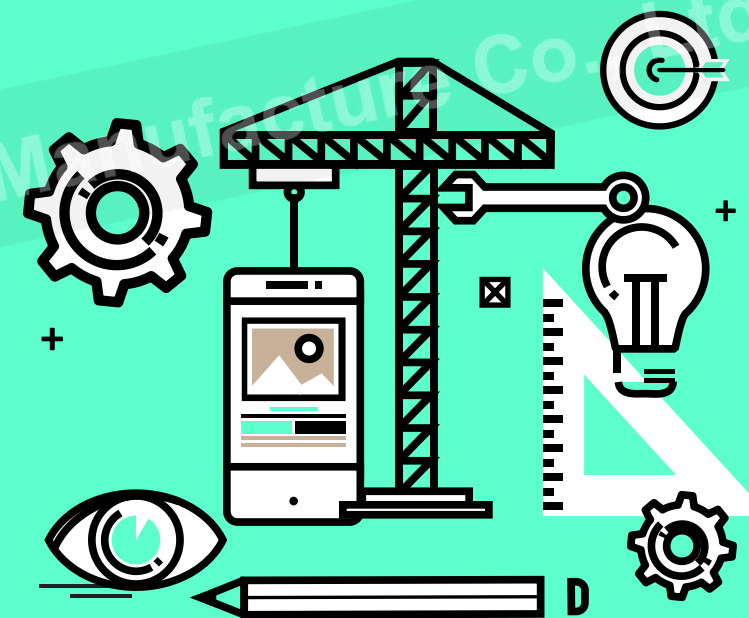
Very low cost of wastewater treatment

		Flushing manure	Blister manure	Scraped manure
Water Consumption	Daily consumption per pig (L/day)	35-40	20-25	10-15
	Ten thousand pig farms (tons / day)	210-240	120-150	60-90
Water Quality Index (ppm)	BOD	5000-60000	8000-10000	4000-6000
	COD	11000-13000	8000-24000	5000-7000
	SS	17000-20000	28000-35000	5000-7000

## After Service

Our company has been committed to providing high-quality and perfect after-sales service for a long time, putting customer satisfaction first.

- Cason engineers will conduct operation training for users after completing installation.
- Our company promises to provide one year free warranty and lifetime maintenance service for the project .
- When Cason received a fault call, firstly the engineer will ask the fault phenomenon to determine whether it is necessary to rush to the project site .
  1. If needn't go to site , We will give a solution within eight hours .
  2. If need to solve on site , Cason after-sales personnel will arrive for repair within 24 hours.
  3. Cason engineer will not leave till the machine works normally .



Regular maintenance




Regular training



Regular Updating





# Three Key Elements of Auto Scraper System

- Concrete Engineering
- Scraper
- Installation

## Three Key Elements

### Concrete Engineering



Civil construction is one of the key elements of automatic manure scraper system. We have professional design team and on-site guidance staff.

### Product Quality



The main body of the scraper is processed strictly line with drawings. The assembled driving system must be inspected before delivery .

### Installation



On-site guidance engineers have more than 3 years installation experience in this line . they will guide the concrete foundation works, install and test the scraper system . There will be return visits by after-sales personnel afterwards.

## Concrete Foundation



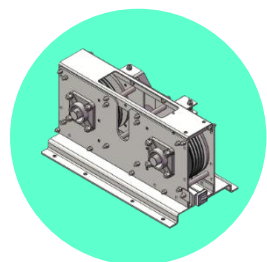
- a. The dry manure scraper system has high requirements for civil construction .
- b. It needs to be designed according to the terrain and natural environment of the site.
- c. We have a professional design team.
- d. We have experienced staff on site installation .
- e. we will arrange personnel to follow up on-site concrete foundation until the civil construction is completed and the inspection is qualified.





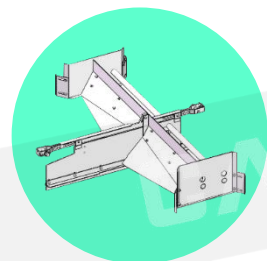
## Product Quality

The dry manure scraper system is divided into: drive module, control module, scraper module.



### Driving Module

The driving module has upgraded on some details , making it more adjustable to match with concrete foundation .



### Scraper Module

The scraper module is made of SUS304 stainless steel, and the overall structure has not been changed .The overall weight Keep same as original design .we have made some development on details , which make the device more flexible and adjustable .



### Control Module

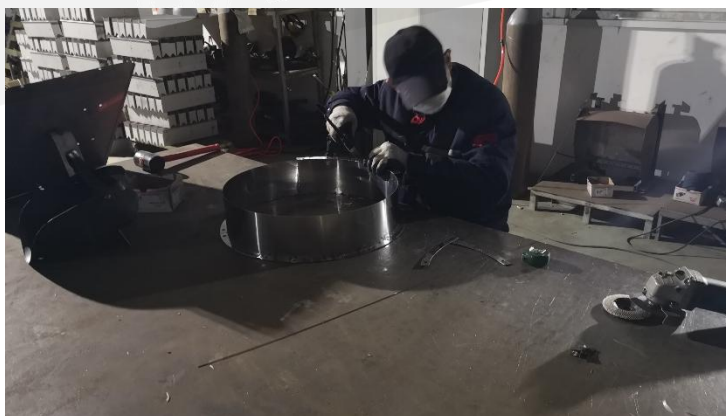
The control module is a card machine control mode , IP65 protection. This Module has a high response rate, an intuitive and clear display, well matching with the actual needs of d users.





# CASON

Production Field





## Installation



- On-site Installation is the most critical step after civil and production.
- Cason engineer will install and test the device to the best operating state based on the civil engineering on site.
- The testing job is more important than Installation , which is aiming to prevent failure after use .



# Installation Process



Installation Process



Civil survey



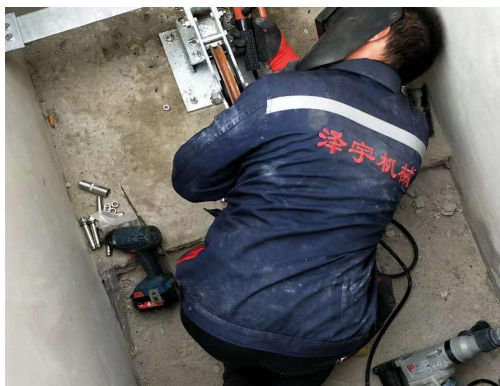
Driving system Installation



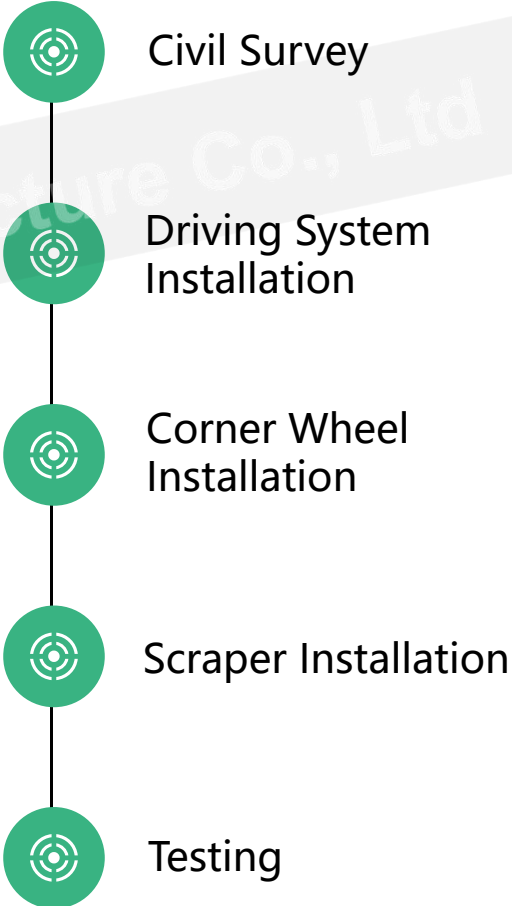
Scraper Installation



Corner Wheel Installation



Vertical wheel Installation



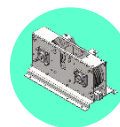




# Details of Automatic Scraper Cleaning System



Scraper



Driving



Corner Wheels



Electrical control



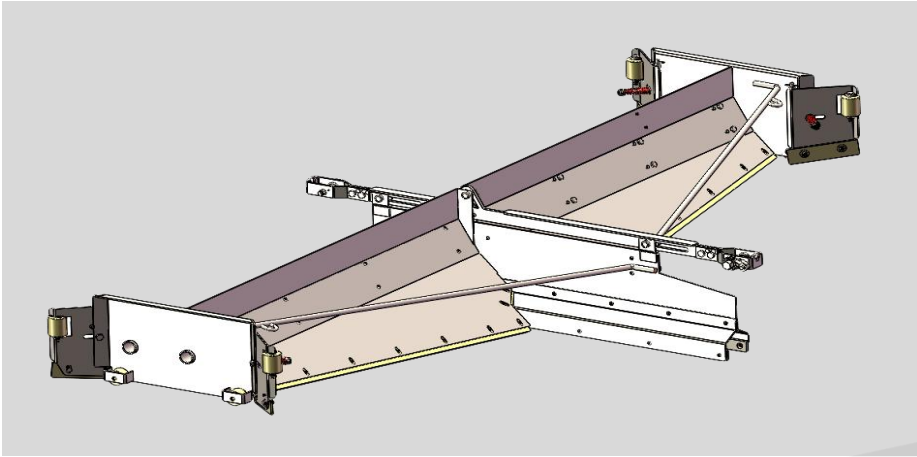
Main parts



Lifting Device

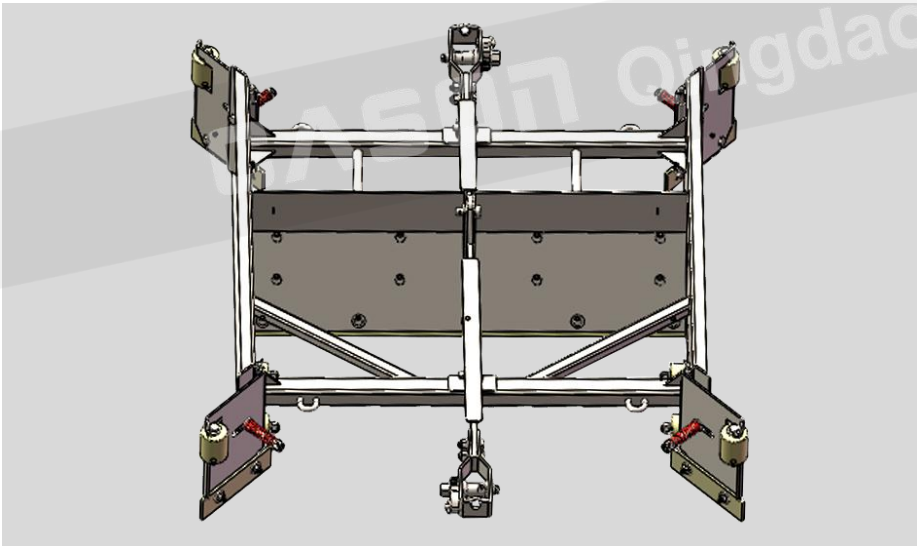


## Types of Scraper



### V type Scraper

- a. The overall structure is made of SUS304 stainless steel ; side plate thickness 4.0mm , middle plate thickness is 4.5mm, and a tie rod thickness is 10mm ;
- b. The ratchet pawl is made strictly according to the drawing.
- c. The cleaner is made of natural rubber with a higher abrasion resistance.



### Flat type Scraper

- a. The overall structure is made of SUS304 stainless steel ; side plate thickness 4.0mm , middle plate thickness is 4.5mm, and a tie rod is 10mm of flat steel ;
- b. The ratchet pawl is made strictly according to the drawing.
- c. The ratchet and pawl is made of iron cast. We strictly follow the drawings without reducing the strength.
- d. Nylon wheels is designed on two sides .

## Details

### Middle Tie Rod



The middle tie rod, which is equivalent to the keel of the scraper, plays a supporting and tensile role. 10mm flat steel is adopted through laser cut processing and strengthened by welding .

### Pin



304 stainless steel processed by machine , making working of tie bar and rolling over smoother .



## Details

### Ratchet pawl



Ratchet pawls are cast and subjected to tensile tests . The clamps of steel wire rope are cut by laser machine .

### Cleaner



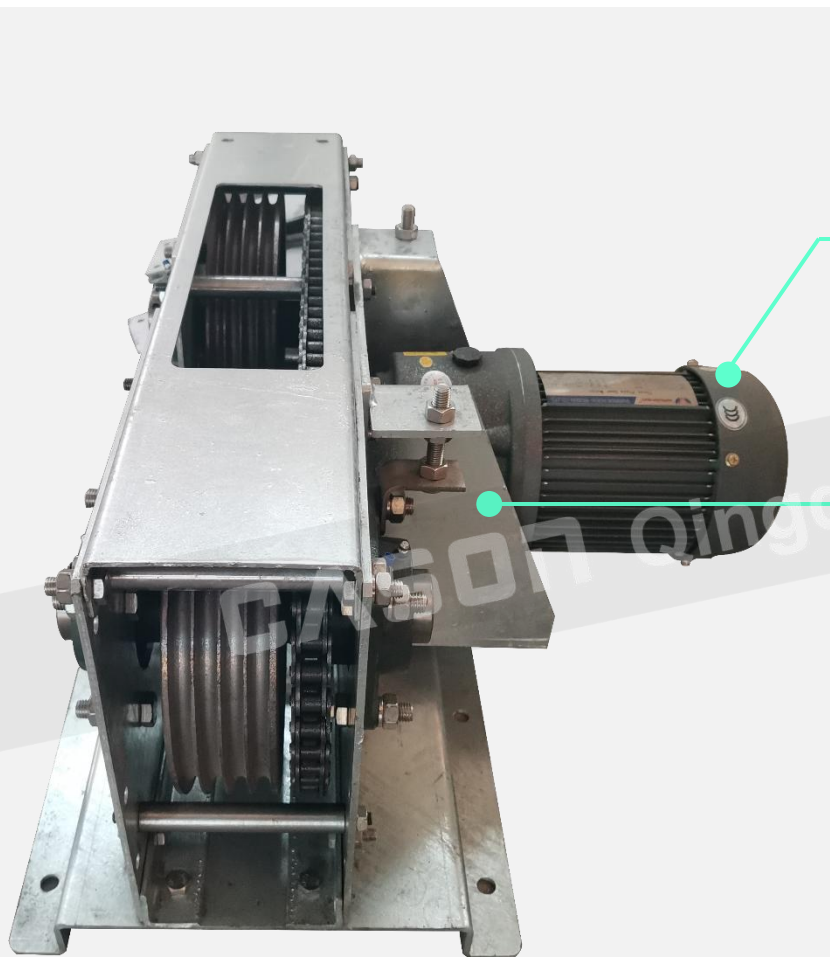
Cleaner is made of natural rubber ,one-time molding ,anti-friction.

## Advantages of Scraper



- a. The driving part is made strictly in accordance with the drawings and overseas import standards. Stable operation abroad for decades .
- b. Scraper body is made of 304 stainless steel , which is more suitable for civil construction, but the weight is not reduced.
- c. The limit switch is waterproof, and the waterproof grade is IP67. Alarm In case of failure .
- d. Professional installation and commissioning team, all team members have more than three years of experience in this line.

## Driving



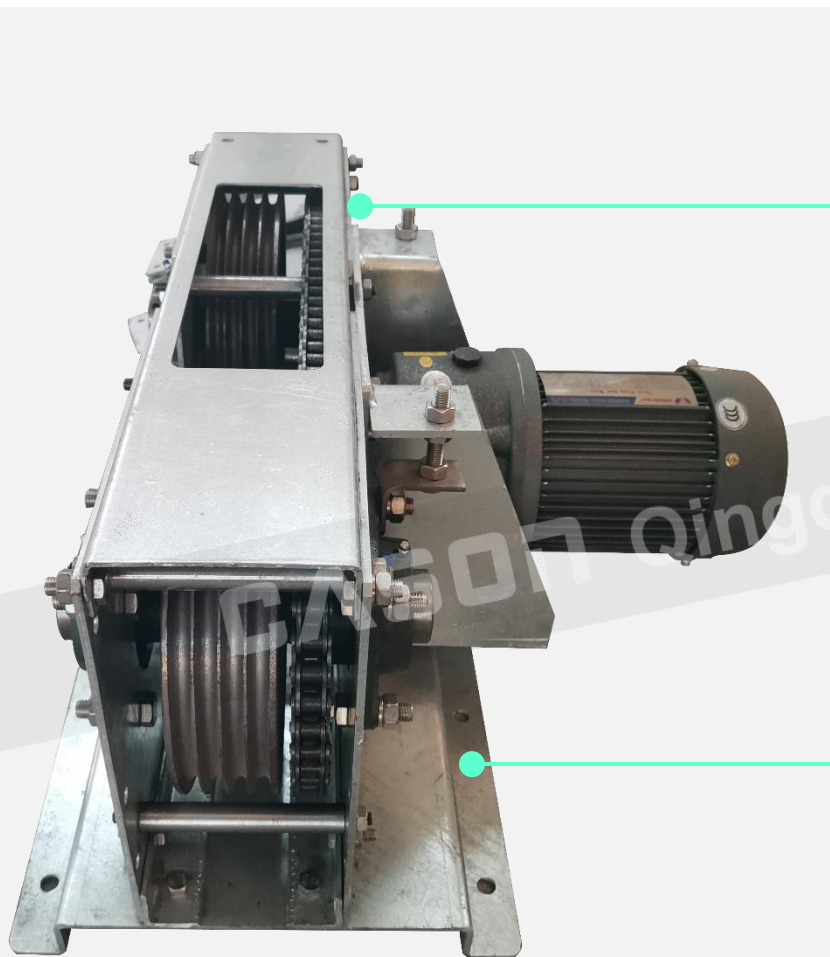
Taiwan Wanxin brand motor Adopted



The motor base is welded by 10mm steel plate, and the whole based is hot-dip galvanized , high anticorrosive.

Cason Motor based has the adjustable function on height and angle , which can Optimize the combination of motor shaft gear ,drive gear and chain.

## Driving



The front and rear plates of Driver are processed by laser cut machine , with small tolerances. And it is not easy to twist during installation.

The thickness of the front and back plate is 4.0, and the front plate is integrated, with a motor gear observation window.

The integrated front plate makes the shafts, gears, and wire rope wheels on both sides receive uniform force. More stable operation.

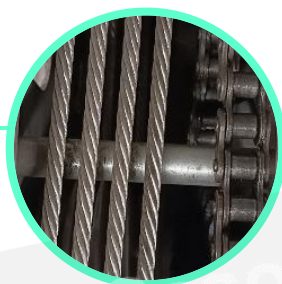
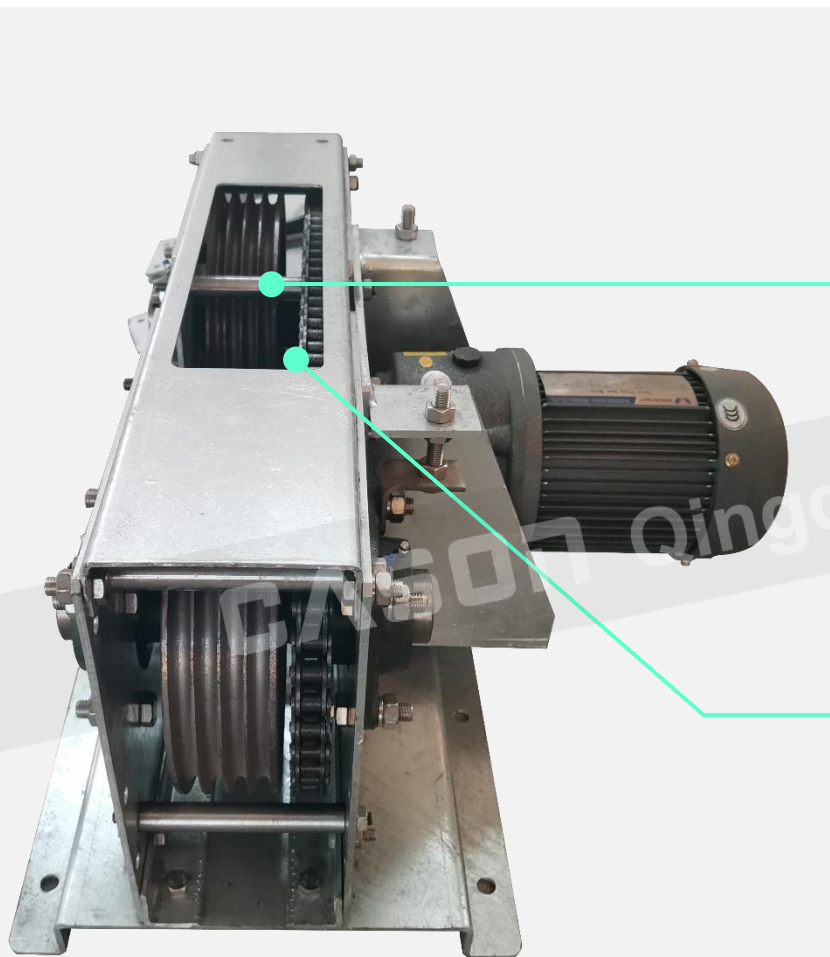


Many manufacturers omit it for cost savings. But the role of frame base is very important. The Driving system can be fixed more firmly. The base offers a margin for adjusting the angle and height, so that the driver , the wheels and the wire rope can be installed at the optimal angle and height.

The base can prevent the drive components from being wet .



## Driving

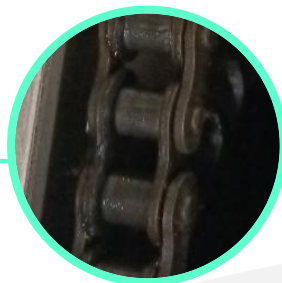
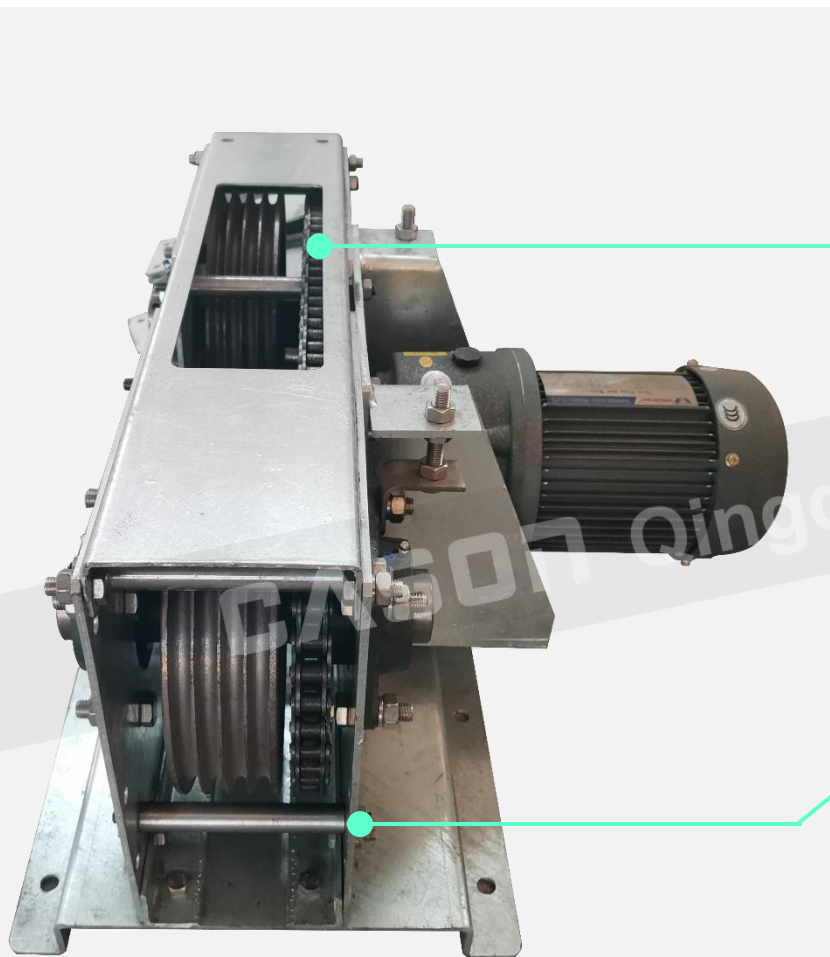


Shaft 2 is chrome-plated after being machined. The flat key matched with Shaft 2 is made of 45 # steel and processed with a grinder. All spacers have got through blackened treatment .



Cason Scraper gears adopts forged steel instead of pouring, and then quench and temper after machining. Quenching and tempering is a dual heat treatment method for the mechanical properties of gears. Instead of simple hardening.

## Driving



South Korea Dongbao 12A-1 chain has the advantages of Small intercept tolerance, low friction, smoother gear fit .



The wire rope clamp is an indispensable part of our driver. One of its functions is positioning and pulling the wire rope to a certain extent, so that the wire rope will not slide away abnormally due to excessive length. At the same time, the manure on the wire rope is treated to prevent the manure from entering the drive and corroding the driving elements.



## Corner wheel

### Bar-shape Corner Wheel



The bar –shape corner wheel is designed for perfect combination with the proximity switch to prevent the wheel from abnormal running .

### Round Corner Wheel



Round corner wheel is casted for steering at the other three corners.

## Corner wheel

### Vertical Corner Wheel



Vertical corner wheel are used for single-row steering; The other end is equipped with a non-slip abnormal proximity switch.

### Horizontal Corner Wheel



Horizontal corner wheel is used for multi-row steering ; The height can be adjusted finely. The other end is equipped with a non-slip abnormal proximity switch.

## Electronic Control



### Omron position switch

12VDC safety voltage ,mechanical life reaches 10 million times; Protection level: IP67;

Higher waterproof grade due to the extended terminal cable and Integrated waterproof connector and glue perfusion process .



### Omron proximity switch

Stainless steel body, high corrosion resistance, easy installation

12VDC safety voltage ;10mm diameter, small size; high sensitivity, sensing distance is 4mm;protection level: IP67. 2000 times / second induction rate, well matched with our scraper controller .

## Electronic Control



### PLC control box

The electric control box is a PLC control mode which has a high response rate. And the display is intuitive and clear.

Electric parts adopts Chint, Schneider and Omron Brand.

Integrated with manual and auto control.

Equipped with over-load and anti-lightning.

The stay time the scraper can be adjusted manually, without professional engineer to change the operating program on site.

## Accessory Parts

The details of the accessories determine the quality of products .



### Steel Rope

SUS304 stainless steel rope ,size 7 \* 19mm, without burrs and joints .



### Urine Transportation Pipe

PVC Pipe , 3meter /pc , easy to transport and install .



### Stop stick

PP material, special structure ensuring that the fix is firm .



### Rain cover

we will equip it with a rain cover ,if the corner wheel with travel switch and host is outdoor.



## Introduction of Chain Manure Lifting Machine



- a. Chain type manure extractor is independently developed Cason Machinery .
- b. The chain type manure lifting machine is mainly composed of a driving system , conveying chains, scrapers (plate chain conveying device), shafts and covers.
- c. The Scraper is dragged with sleeve roller chain . And the driving device can adjust the speed by frequency conversion to meet the requirements of lifting different materials in the thin state.
- d. The main material of chain type manure lifting machine is SUS304 stainless steel , only the outer frame is made of carbon steel with painting treatment .
- e. Professional installation and commissioning team, all team members have more than three years's experience on- site installation .



## Auger Manure Lifting Machine



- a. The Length of auger manure lifting machine is generally 12 ~ 13 meters. The angle with ground is 23 degrees.
- b. One part is underground and the other part is on the ground. Automatic control working every day .
- c. The driving system is variable frequency control ,with forward and reverse rotation.