Company Profile

Liaoning Mineral & Metallurgy Group Co., Ltd. primarily focuses on the R&D and application of four series of products—material handling system, coal processing equipment, wear protection system and chemicals. LMM Group has established a systematic business model by integrating design, production, installation and services. Our products are widely used in the coal, railway, port, power, iron & steel and cement industries. LMM Group has been awarded the right to conduct international business and has attained ISO9001 Quality Management System and ISO14000 Environmental Management System certifications. We are members of the China Coal Processing & Utilization Association, Coal Separation Branch of China Coal Industrial Association, Separation Machinery Branch of China General Machinery Industry Association, China Weighing Instrument Association and China Railway Society.

Our company has made and will continue to make constant efforts to promote the advancement of this industry and spare no effort to strive for perfection by focusing on every detail, so that we can provide better products and services to meet our customers' increasing demands.

LMM Provides You with Custom-tailored Solutions

- Rapid Precision & Intelligent Load-out System
- Activated Feeding System for Bulk Material
- Stacking and Conveying System for Bulk Material
- Coal Storage Dome

Service Areas

Coal  
Railway  
Port  
Power  
Iron and Steel  
Cement

Products

Bulk Material Loading Systems

- Precision Train Loading System
- Precision Truck Loading System
- Precision Train & Truck Loading System
- Precision Loading System Under Silo

Assistant Systems

- High Precision Electric Belt Scale
- Spraying & Dust-depression System
- Automatic Sampling System
- Antifreeze Spraying System
- Dust Inhibitor Spraying System
- Compaction system

Activated Feeding System

- Stockpile Activated Feeder
- Bin Activator
Precision Train Loading System

Rapid precision & intelligent train loading system is the most advanced train loading system today. It can weigh and load material continuously and automatically per the applicable weight restrictions. This large-scale system, which can be used at ports or wharfs as well, is suited for loading various bulk materials such as coal, ore, cement and grains into the wagons. It is an inevitable trend for the modernization and development of train loading.

Main Technical Specifications

- Loading capacity: 5500 TPH
- Loading accuracy: ±0.1%
- Loading time: Single wagon ≤ 50s, whole train ≤ 1h
- Traction: Electric locomotive, diesel locomotive and dispatching winch
- Train speed: 0.5-2.0km/h
- Wagon model: C60, C62, C64, C70, C76, C80, C100 and above

Precision Truck Loading System

Rapid precision & intelligent truck loading system is suitable for continuous loading of bulk materials such as high-quality raw coal, washed coal, tailings, gangues, minerals and other bulk materials. The entire process is managed by the PLC so the driver never has to leave the cabin. When the truck arrives at the loading area, the driver operates the truck through the light signals. When the loading is complete, the driver is signaled to leave. The system is capable of identifying different wagon lengths and heights, thus ensuring continuous loading process and enhancing the loading efficiency and economic benefit to the maximum extent.

Main Technical Specifications

- Loading capacity: 2500 TPH
- Loading accuracy: ±0.1%
- Loading time: Single truck ≤ 60s
- Truck model: Any type of trucks
- Loading position: Lowest: 3.0m
  Highest: 4.5m

Precision Train & Truck Loading System

This system has the ability to load materials into a train or truck, increasing efficiency and saving investment costs. Based on the original train loading system, precision train & truck loading can be realized by adding one movable belt conveyor underneath the loading platform for truck loading or adding an extra bifurcated chute and scraper underneath the weigh bin to realize train and truck loading at different time. The mechanical parts for truck loading can be designed per the demand as enclosed structure to cater for the environmental requirements.

Main Technical Specifications

- Train loading capacity: 5500 TPH
- Truck loading capacity: 2000 TPH
- Loading accuracy: ±0.1%
- Train Traction: Electric locomotive, diesel locomotive and dispatching winch
- Truck model: Any type of trucks

Precision Loading System under Silo

Compared with common loading systems, this intelligent system replaces the conventional steel-structure surge bin with a concrete silo, ensuring the amount of coal supply for loading, shortening waiting time and making the process more continuous. We can design the weigh bin and chute under the silo as per different demands from the clients. Loadings can occur on single or double track either simultaneously, or not. The intelligence and rapidity of the loading system can be brought into full play and loading efficiency can also be enhanced by making full use of the large storage capacity of the silos.

Main Technical Specifications

- Loading capacity: 3000-10000 TPH
- Loading accuracy: ±0.1%; whole train: ±0.01%
- Loading time: Single wagon ≤ 50s, whole train ≤ 1h
- Traction: Electric locomotive, diesel locomotive and dispatching winch
- Train speed: 0.5-2.0km/h
- Wagon model: C60, C62, C64, C70, C76, C80, C100 and above
System Structure

- **Surge Bin**
The surge bin is a cylinder-cone structure lined with slide promoting, wear resistant plates ensuring smooth mass flow while preventing caking and clogging. The Continuous Weighing Meter monitors the material-level in real time to ensure continuous loading.

- **Charging Gate**
The charging gate under the surge bin is a hydraulic quad-parting slide gate. Its opening and closing are controlled by a hydraulic servo cylinder with a built-in linear displacement sensor which monitors and controls the gate opening precisely. The opening and closing speed of the gate can reach 2m/s ensuring precise loading into weigh bin.

- **Weigh Bin**
The Weigh Bin is a cylinder-cone structure, lined with slide promoting, wear resistant plates ensuring smooth mass flow while preventing caking and clogging. The Weigh Bin is connected with the steel structure through 4 digital load cells. There are two vent channels on the top of the bin relieving air shocks due to the rapid flow of material into the bin.

- **Load Cells**
The Load Cells are digital components with a high anti-interference capacity and precise weighing capabilities. Our Load Cells use computer-aided SMT technology, preventing zero drift. The load cells incorporate a double-ended shear beam design avoiding the influence of material impact on weighing accuracy and ensuring precise weighing, quick response time and ease of loading.

- **Discharge Gate**
The discharge gate under the weigh bin is a fully sealed hydraulic bi-parting slide gate with misaligned upper and lower blades. The gate opening size conforms to the requirements of the given material sizes and throughput. The blades are supported by UHMW-PE slide blocks which provide a low friction coefficient, excellent self lubrication, and extended service life.

- **Horizontal Sliding Telescopic Chute**
This Horizontal Sliding Telescopic Chute has the function of flattening the coal surface. In the maintenance position, the lowest point of the loading system is no less than 6.55 m away from the rail, which complies with the loading conditions of the electrified railway locomotive. The telescopic chute is controlled by a digital hydraulic cylinder with a built-in linear displacement sensor which monitors the chute height and ensures the system’s safety.

- **Control System**
The Control System is an internationally renowned product which applies FCS digital field bus technology with complete alarming function. There are 3 control modes: automatic, semi-automatic and manual, with a flexible statistic reporting function. Digital signals are transmitted with strong anti-interference capability.

- **Hydraulic System**
All components of the Hydraulic System are internationally renowned products. The overall layout is reasonable and the entire structure boasts reliability and easy maintenance. The Hydraulic System is a closed tank structure and cannot be influenced by the external environment. The system possesses complete real-time monitoring of pressure, level, temperature and clogging while communicating with the Control System.
Project Cases

Guchengwan Station of Inner Mongolia Hutie Yidong Storage & Transport Co., Ltd.
Rapid Train Loading System for Single Track
5400tph

Wuyang Coal Mine of Shenhua Xinjiang Energy Co., Ltd.
Rapid Train Loading System for Single Track
5300tph

Lingquan Coal Mine of Zhalai Noel Coal Industry Co., Ltd.
Rapid Train Loading System under Silo
5000tph

HanTaiChuanBei Station of Ordos Lianchuang Coal Co., Ltd.
Rapid Train Loading System for Single Track
5000tph

Materials Co. Ltd. of Chongqing Energy Investment Group
Rapid Train Loading System for Single Track
3000tph

Zhundong Coal Mine of Shenhua Xinjiang Energy Co., Ltd.
Rapid Train Loading System for Single Track
PLS80/240-5300

Inner Mongolia Huomei Shuangxing Coal Gasification Co., Ltd.
Rapid Truck Loading System
2000tph

Inner Mongolia Shengbang Coal Preparation Co., Ltd.
Rapid Train Loading System for Double Track
5000tph
Weighing System

The weighing system consists of load cells, weight indicator, digital junction box, weighing control software and calibration weights.

- **Load cells**
  These types of digital load cells are composed of double-ended shear beam structure fastened by high-strength bolts. As a result, the weighing outcome will completely depend upon the vertical force and no material shock will affect the weighing accuracy. Thus these types of load cells have an increased weighing accuracy.

- **Weight Indicator**
  Used to monitor the entire weighing process and mainly for dynamic weighing, the Weight Indicator is not only for display but can send instructions to many different scales. The indicator supports field bus control and can automatically optimize the industrial weighing process to suit for dynamic loading.

- **Digital Junction Box**
  1) Multiple load cells can work independently to make the weighing more accurate and the balance adjusting easier.
  2) Diversified calibration ways break through the only weight calibration way of conventional analog junction boxes.
  3) Optical fibers are used to transmit data between digital junction boxes and weight indicators thereby increasing the effectiveness of the anti-interference function and effectively eliminating variances in weighing data attributed to external interferences.

- **Calibration Weights**
  The material of calibration weights is HT200, and it is certified by the provincial technical supervision departments. The weights are applied to periodically calibrate the weighing precision of the weigh bin, usually once every half a year.

- **Weighing Control Software**
  We have developed our own Weighing Control Software to be used for weighing process control, a seamless transition of mixed train and automatic disposal for fault wagons.

Control System

The control system (CS) uses digital fieldbus technology, and has 3 control modes: automatic, semi-automatic and manual. The control system uses PLC to complete central control; all the information including equipment status, coal flow status, bin level and alarms can be viewed on the display screen and all the control pages are displayed as simulated graphics and/or words to realize fully automatic control of the whole system from related belts, coal feeders to precision loading system.

- **Equipment in Operating Room**
  The equipment in operating room consists of an industrial computer mainframe, LCD monitor, computer platforms and seats, manual console, PLC control cabinet, report printer, weight indicator and continuous level meter.

  The operation platform can be controlled in 3 modes: automatic, semi-automatic and manual, depending on the user’s requirement and loading method. The weight indicator can display the real-time changes of material levels in the weigh bin, providing visualization for the operator.

- **Automatic Report Printing Function**
  The user can print, store, query and locate statistical data quickly and easily. The available reports include but are not limited to: wagon code, rated gross weight and tare weight per wagon, rated loading weight, actual loading weight, actual cumulative total loading weight, coal loading date and time, name of loading operator, and a field for the operators’ signature and notes. Reports can be customized to meet the needs of users.
Hydraulic System

The hydraulic system (HS) is a complete set of hydraulic transmission equipment fitted for the loading system. It uses double motor and double main pump system (one working and one standby). This system is designed using internationally renowned and respected products. The HS is technologically advanced, practical, reliable and easy to maintain. The closed tank functions without disturbances from the exterior environment.

- Hydraulic Pump Station
  The station is installed at ground level with the practicality of routine maintenance in mind. It can precisely measure and monitor the system pressure, liquid level, temperature, and potential clogging. The Hydraulic Pump Station's real time communication with the Control System provides the user with the ease of monitoring its functions.

- Accumulators
  The loading system is equipped with accumulators which, in the unlikely event of power loss or system malfunction, will allow the system to complete one duty cycle automatically, close all opened gates, and lift the telescopic chutes to a safe position.

- Hydraulic Servo Cylinder
  The hydraulic servo cylinder, fitted with a built-in linear displacement sensor, can accurately control the opening of the gate within 1 millimeter, making the control and weighing more precise.

Mechanical Components

Driven by hydraulic cylinders, the mechanical components of the loading system mainly consist of the charging gate, discharge gate, loading chute and diverter chute. The hydraulic cylinders are connected to these components using high strength bolts. All components are lined with wear-resistant steel to prolong the service life of the entire system.

- Gates
  The hydraulic sliding gate is fully sealed. When the gate is totally closed, its upper and lower blades are misaligned with an overlap of ≥25mm. The gate opening size conforms to the requirements of the given material sizes and throughput. The blades are supported by UHMW-PE slide blocks which provide a low friction coefficient and excellent self lubrication.

- Loading Chute
  The loading chute is suited for loading coal into wagons such as C62, C64, C70, C76, C80, C100 and above. It includes a reshaping section with the function of flattening the coal surface. While in the maintenance position, the lowest point of the loading system is no less than 6.55 m away from the rail, which complies with the loading conditions of the electrified railway locomotive.
Stockpile Activators

Activated Feeders

The Activated Feeder is designed for all types of outdoor and indoor storage piles. The feeder’s projection ring transmits vibrations throughout the pile, encouraging “slough-in”. Wet and frozen materials come to life and flow from outside storage reclaim piles.

This system can provide 3-4 times more live reclaim compared to common feeders making it an extremely practical and cost effective method of stockpile reclaim.

An activated feeder is mainly composed of an activated feeding body, a low head-room flow control gate, a hydraulic system and a control system.

Activated Feeders offer solutions to the following problems:

- **Maximize Active Reclaim**
  Activated Feeders can consistently increase active reclaim to within 5-10 degrees of the material’s natural angle of repose, an increase of 3-4 times live reclaim compared to static feeders of the same sizes.

- **Solutions for Bridging**
  Activated feeders control the material flow with the same diameter as the projection ring. The diameter of the initial material column is the same as that of the vibrating projection ring and it is clearly visible ensuring the safety of the stockpile equipment operator.

- **Solutions for Coring**
  The projection ring transfers vibration to the stockpile directly eliminating coring and maximizing reclaimed materials.

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Model Selection Table of Stockpile Activated Feeders

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Technical Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Application</td>
<td>Feeding (reclaiming) from stockpile</td>
</tr>
<tr>
<td>2</td>
<td>Material Particle</td>
<td>≤300mm</td>
</tr>
<tr>
<td>3</td>
<td>Connection with the foundation</td>
<td>Rubber buffer support is used between an activated feeder and its foundation</td>
</tr>
<tr>
<td>4</td>
<td>Gate</td>
<td>Low headroom flow control gate with free adjustment for openings</td>
</tr>
<tr>
<td>5</td>
<td>Vibration</td>
<td>Vibration created by eccentric blocks, intermittent vibration</td>
</tr>
<tr>
<td>6</td>
<td>Hydraulic system</td>
<td>Double motor and double pump, one working/one standby with accumulators</td>
</tr>
<tr>
<td>7</td>
<td>Electronic control system</td>
<td>Bus control</td>
</tr>
</tbody>
</table>

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Features

- Unit feeding capacity of up to 7000 TPH
- Reduced reclaim chamber head height by 4-5m and lowered construction costs
- Precise Control for Mass Volume Feeding
- Better activating effect and reduced workload of accessory equipment
- Intermittent vibration can save energy, reduce operation cost of the equipment and prolong the service life of all the driving components of the equipment.

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Technical Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Model of Activated Feeder</th>
<th>Particle Size (mm)</th>
<th>Feeding Capacity (TPH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MH8-800</td>
<td>&lt; 50</td>
<td>0-800</td>
</tr>
<tr>
<td>2</td>
<td>MDH8-1500</td>
<td>&lt; 100</td>
<td>300-1500</td>
</tr>
<tr>
<td>3</td>
<td>MDH8-3000</td>
<td>&lt; 150</td>
<td>1000-3000</td>
</tr>
<tr>
<td>4</td>
<td>MDH8-5000</td>
<td>&lt; 300</td>
<td>2000-5000</td>
</tr>
<tr>
<td>5</td>
<td>MDH8-7000</td>
<td>&lt; 300</td>
<td>3000-7000</td>
</tr>
</tbody>
</table>
## Project Case

- **Problem:**
  Baotou Guchengwan Strategic and Environmental Coal-loading Base of Hohhot Railway Bureau applies enclosed stockpiles where coal is conveyed by underground tunnels. The operation of traditional vibratory feeders requires underground tunnels of more than 9 meters below ground-level. This project is located at Guchengwan Region of Baotou City, near the Yellow River, where water is visible at 1 meter below ground-level, thus its construction and waterproofing is extremely difficult and will need great amount of earth excavating works and very high concrete construction cost.

- **Solution:**
  Under this shallow underground water level condition where water-proofing was a necessity, a "ground construction" plan was adopted. A 3-meter high concrete platform was built above ground to install one stockpile conveying system consisted of 9 activated feeders of up to 7000 TPH capacity each, and the surrounding was then backfilled. Thus, resolving the shallow underground water-level challenges and greatly reducing the project costs.

## Bin Activator

- **Suspended Bin Activator**
  Suspended bin activators are widely used to convey bulk materials out of various silos in many industries such as coal, power, chemical processing, mining and grain. Suspended bin activators are not only for use in newly constructed mines or factories but in existing silos as well, by simply changing the silo outlet into a flange connection with no need for any added foundation.

- **Features**
  - Great unit feeding capacity and precise control of flow rate
  - Light weight, low power consumption, good vibration isolation, and less wear
  - No need for foundation and appended device
  - Low headroom, cone or partial cone can be replaced.
  - The design of adding activating cone to the system can prevent any blockage at the discharge opening.
  - Special grooved rubber sealing ensures excellent vibration isolation effect.
  - Low running noise

- **Technical Specifications**

<table>
<thead>
<tr>
<th>No.</th>
<th>Model of Bin Activator</th>
<th>Particle Size (mm)</th>
<th>Feeding Capacity (TPH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MPD1050/A</td>
<td>&lt; 50</td>
<td>0–800</td>
</tr>
<tr>
<td>2</td>
<td>MPD1750/A</td>
<td>&lt; 100</td>
<td>300–2000</td>
</tr>
<tr>
<td>3</td>
<td>MPD2450/A</td>
<td>&lt; 150</td>
<td>800–3000</td>
</tr>
<tr>
<td>4</td>
<td>MPD3500/A</td>
<td>&lt; 300</td>
<td>1000–5000</td>
</tr>
</tbody>
</table>
Bin Activator

Bottom Supported Bin Activator

Bottom supported bin activators are widely used to convey bulk materials out of various silos in many industries such as coal, power, chemical processing, mining and grain. They are especially suitable for reforming the existing silos and replacing the original old feeding equipment with minimal reformation works. A flexible connection sealing is installed between the activator and the bottom outlet of silo, which will not have any influence on the silo.

Features

- Great unit feeding capacity and precise control of flow rate
- Light weight, low power consumption, good vibration isolation, and less wear
- Flexible connection sealing with the bottom outlet of silo, very stable operation
- The design of adding activating cone to the system can prevent any blockage at the discharge opening.
- The adoption of rubber buffer with high performance guarantees excellent vibration isolation effect.
- Low running noise

Technical Specifications

<table>
<thead>
<tr>
<th>No.</th>
<th>Model of Bin Activator</th>
<th>Particle Size (mm)</th>
<th>Feeding Capacity (TPH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MPD1050/B</td>
<td>&lt; 50</td>
<td>0–800</td>
</tr>
<tr>
<td>2</td>
<td>MPD1750/B</td>
<td>&lt; 100</td>
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<td>MPD3500/B</td>
<td>&lt; 300</td>
<td>1000–5000</td>
</tr>
</tbody>
</table>

Domes

The domes of aluminum structure are effective, durable, and aesthetically pleasing. Their high heat reflectivity and low heat radiation translate into reduced heating and cooling costs. Compared with conventional structures, they will not rust, corrode, crack or age. At the same time their weight is reduced greatly to lower the civil construction cost, thus the overall costs become lower and the erection speed is increased.

Features

- Very Wide Applications
  - Aluminum dome structures are ideal choices for the storage of most bulk materials like coal, minerals, cement, fertilizer and grains.
- Light Weight
  - The density of aluminum structure is only 1/3 that of steel, which translates into low load bearing requirement for the foundation. Such structure can reduce its self weight and civil loads.
- Corrosion Resistance
  - Free of maintenance for corrosion resistance because the aluminum surfaces can oxide very quickly and the oxidized surfaces are difficult to be eroded, even in wet air or marine environment.
- High Strength
  - Tensile strength σb is better than Q235 steel and almost the same as 16Mn steel.
- Great Resistance to Wind Load
  - Round design ensures its stable structure which can resist up to Force 12 wind load.
- Simple Erection and Installation
  - No field welding and large lifting equipment will be needed and only bolt fastening will be enough for installation due to low material density and light weight.
- Long Service Life and Less Maintenance
  - Aluminum is lighter, has better corrosion resistance and needs much less maintenance.
- Beautiful Appearance
  - Aluminum domes have better visual effect which can promote corporate image strength.
Accessory System

● High Precision Electronic Belt Scale
High precision electronic belt scales installed below the belt weigh materials and work together with the loading control system to control the feeding amount accurately ensuring that no material is left in the belt conveying or loading systems and the loading system operates normally. If the weighing signals from the belt scales are integrated into the control center of feeding machines, very accurate coal blending can be realized by closed-loop control from the control system of feeding machines.

● Spraying & Dust-suppression System
LMM provides complete project design, products, construction, and installation of the spraying and dust suppression system. The system is widely utilized for the spraying by large spray guns, dust protection and suppression for transport vehicles and coal yards, coal stockpiles, raw material fields and ore piles in the industries of coal mine, mining, railway goods yard, power plant, harbor or dock. Central control of the spray guns and water pumps using the automatic control system greatly reduces the labor intensity of operators, conserves water and electricity, and achieves optimal dust protection effect.

Loading Station System - Bulk Material Handling System

Accessory System

● Belt Sampling System
Belt Sampling Systems are utilized as an economic and simple way to collect a representative sample directly from the top or middle part of a moving belt. Depending on different particle sizes and flow rates, 1-stage, 2-stage or 3-stage sample processing systems will be utilized. The typical sampling system includes samplers, belt conveyors, sample crushers, chutes, gates and sample collectors. The sampling system settings can be tailored to the customer’s specifications.

● Train Sampling System
The train sampling system is comprised of the cantilever, bridge, and gantry types. This specialty system is installed next to the coal loading line of a coal mine to take samples at chosen points from the loaded wagon per applicable standards and regulations, and then breaks the coal down to required sizes for the purpose of physio-chemical analysis. It can be automatically operated under preset programs.

● Truck Sampling System
Specifically designed for sampling of raw coal from trucks, the truck sampling system is utilized in industries such as power, metallurgy, coal, chemical, and port. The system has a full automatic process including truck positioning, random sampling point selection by computer, automatic sample collecting, crushing, and separating.
Accessory System

Antifreeze Spraying System
LMM’s antifreeze spraying systems are easy and economical solutions for preventing material from freezing within a train or truck compartment. LMM can design and supply complete antifreeze spraying systems per customer specifications to be used in varying conditions. With adjustable rates and speeds, our antifreeze spraying systems will quickly and evenly spray antifreeze fluid onto 5 interior surfaces of either a moving or a parked train or truck compartment.

Automatic antifreeze spraying can be realized from the control room of train loading system. The spraying device is of swing and elevating type which is parallel to the railway when no loading is needed, while will become vertical to the railway and above the wagon during the loading. Its height can be adjusted manually or automatically and before spraying it will be adjusted to the optimal height. Its control system also includes local control cabinets.

Dust Depressor Spraying System
For compacted bulk material, such as coal, within the train wagon, loss of product is still likely to occur during transportation. To solve this problem, a dust suppressor spraying system is fitted for the train loading system to spray dust suppressor onto the material. The dust-suppresser spraying system consists of the mixing pot, liquid tank, centrifugal pump, spraying device, flow meter, power distributor, control system, and accessory devices. The controls can be connected to the control center of the train loading system for automatic configuration and dust suppressor spraying.

Loading Station System - Bulk Material Handling System

Compaction System
In the course of train loading, especially for coal, the material will fall down totally by its own gravity to become loose within the wagon, thus resulting in problems such as loss of material, waste of energy and train transportation capability, environmental pollution, and low economic benefit.

The compaction and reshaping system is utilized for compacting material in the train wagon to reduce loss of material in transit. The device is made of a steel constructed frame, heavy duty roller, roller lifting system, safety limiting system, wagon position monitoring system, operation room, and control system. Use of this device greatly increases economic benefit and reduces the risk of environmental pollution considerably.

Main Structures

Main Technical Specifications
- Roller: Preliminary compacting roller weighs 10 tons and final roller weighs 6 tons
- Lifting Device: The rollers are lifted up by electric lifting machine with self-locking device to guarantee no falling down even in the case of power loss or lifting machine failure
- Compacting effect: After two-time rolling, the compacting device can compact the coal from 400mm-450mm above the top of wagon to 0-200mm above the wagon
- Wagon Model: C60, C61, C62, C63, C64, C70, C80, and above
- Automatic Up & Down: Proximity switches are fitted to both rollers to adjust their positions by automatic up & down.
- Safety and Limit: Both rollers have been designed to have safety and limit function to avoid any accident arisen from the lower limit position of a roller lower than the wagon.