

SINOKO CRANES **新科起重机**



HENAN SINOKO CRANES CO.,LTD. HENAN SINOKO CRANES CO.,LTD. HENAN SINOKO CRANES CO.,LTD. HENAN SINOKO CRANES CO.,LTD.

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Brief introduction

Henan Sinoko Cranes Joint Stock Limited Company is a modern enterprise with import & export right, integrating research and development, design, manufacture, installation and service. The company is located in the National Crane Industrial Park, Changyuan, Henan province, which is known as "the Crane Hometown of China", with total investment of 220 million RMB, registered capital of 108.8 million RMB, and covering area of 280 acres and workshop of 60,000 square meters. At present there are 1,200 employees, including 180 intermediate and senior professional technicians, as well as more than 210 sets of various advanced modern equipments for production and testing; all of these are laying a solid foundation for high quality products.

Our main products are: all kinds of overhead cranes, gantry cranes and light lifting equipment in National standard and European standard. We have applied Germany advanced technology; our product is strictly designed and manufactured in the European industrial standard, and the performance of whole crane reaches the international advanced level.

For many years, we have been persisting in the idea of "standardized management, leading technology, well-made, and integrity"; with excellent product quality and perfect after-sales service, our cranes are very popular in the markets domestic and abroad. We also have won the titles and awards of High-tech Enterprise, Bank Credit of AAA level, European and metallurgical crane Engineering Technology Research Center, China famous trademark, China top ten famous brand cranes and others. Sinoko gets the certification of ISO9001 quality system, ISO14001 environmental management and OHSAS18001 occupational health & safety management system, which help us to improve the company's management.

The Sinoko people will be holding the philosophy of "Over the top, Keep surpassing", striving to make Sinoko Crane as a well-known international brand, insisting the idea of "first-class management generate first-class product" and sincerely cooperating with you to create a win-win situation.



P01 GXT Double Beam Hoist Trolley

P02 CXSM Open Winch Trolley

P03 Performance Description

P04 Rail-mounted container gantry crane



GXT Double Beam Hoist Trolley

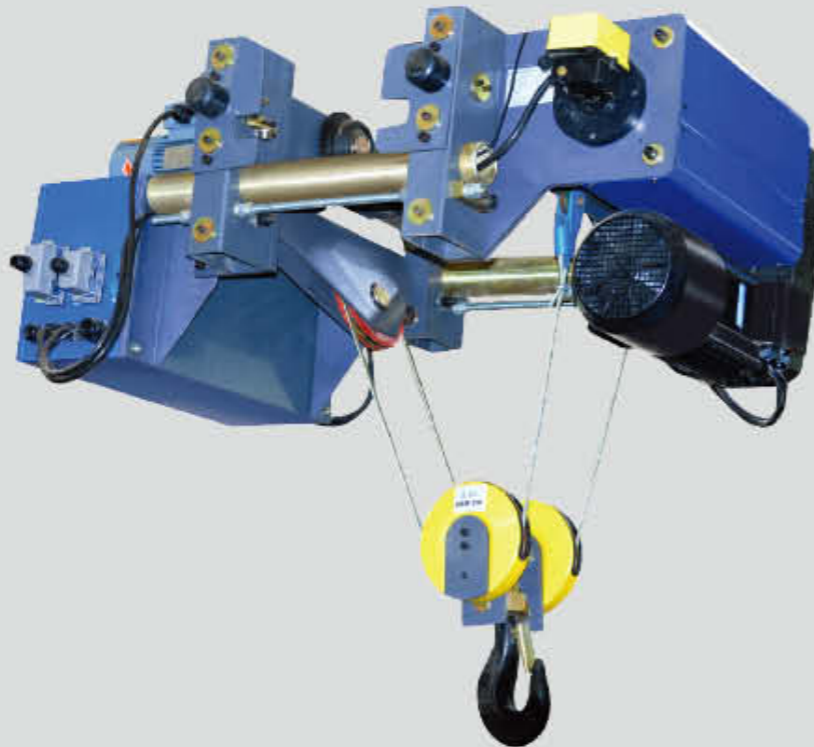
Performance Description

Lifting capacity up to 80 tons

Structure

Lifting motor, gearbox, drum and limit switch are integrated by compact design to save the user's working space. Apply the modular design to enhance its reliability and meanwhile to reduce effectively the cost and time for maintenance. Hoisting mechanism is designed strictly in the relevant FEM standards. Use below parts:

- ★ Aluminum Gearbox Housing
- ★ Smooth Running, Low Noise
- ★ Lifetime Lubrication (in the safety using cycle)
- ★ Magnetic Disc Brake



Lifting Motor

Standard Lifting motor is the German original two-speed pole changing motor (the invert motor is optional) with the cylindrical rotor. The standard motor protection class is IP55, insulation class is F.

- ★ Small starting current, big torque
- ★ Soft start, high acceleration
- ★ Long service life
- ★ Technical parameters meet the standard FEM and HMI
- ★ High speed, low noise



Price/Performance Analysis

The key parts of our GXT trolley are imported from Germany(original parts). It is our high-end product, designed in Euro-Standard, applied Euro-technology and manufactured through our own research and development. It is stable, compact, fast, safty and lower price than the similar products abroad around 20% ~ 30%. Its dimension and performance basically consistent with the imported trolley and could completely replace the similar products abroad.



High-strength Hook Block

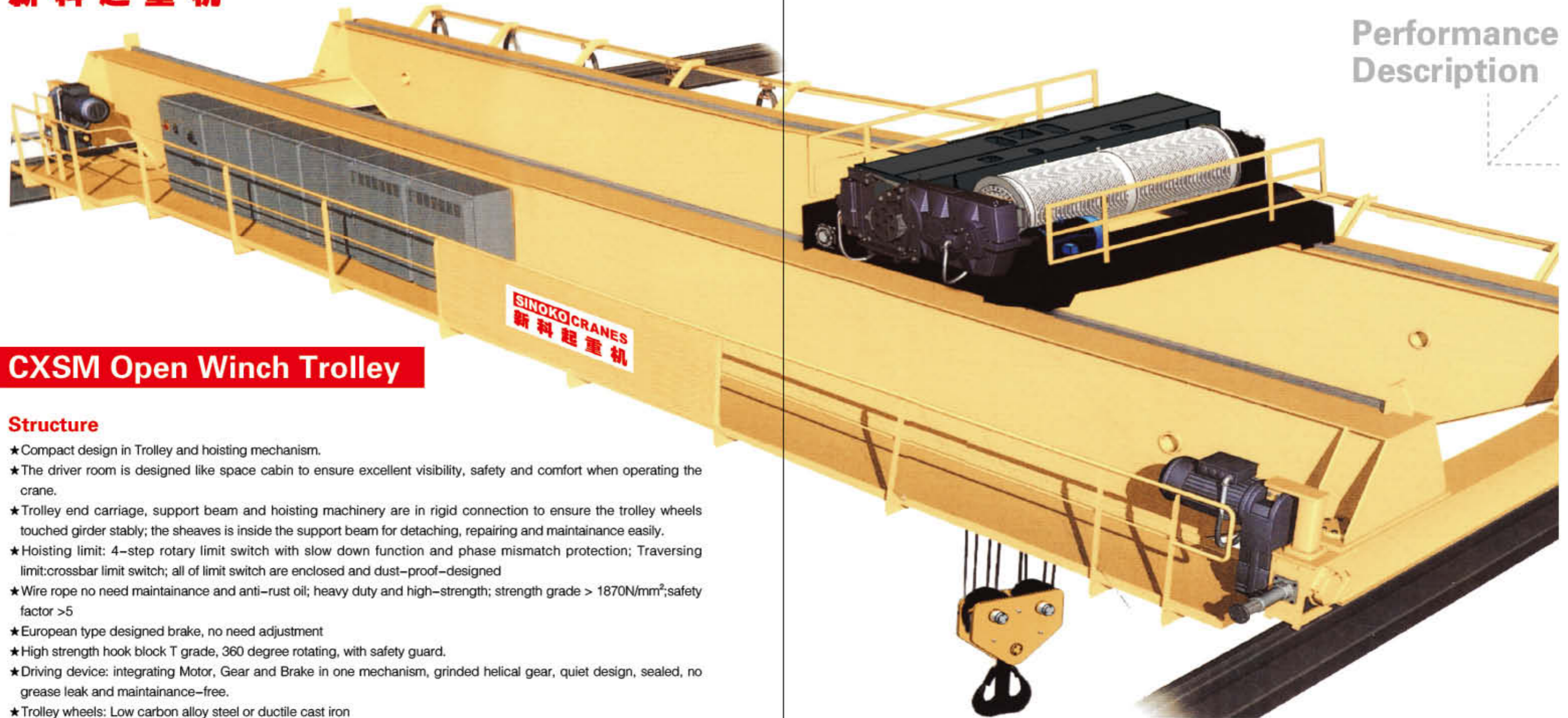


Rail Wheels



End Carriages

**Performance
Description**



CXSM Open Winch Trolley

Structure

- ★ Compact design in Trolley and hoisting mechanism.
- ★ The driver room is designed like space cabin to ensure excellent visibility, safety and comfort when operating the crane.
- ★ Trolley end carriage, support beam and hoisting machinery are in rigid connection to ensure the trolley wheels touched girder stably; the sheaves is inside the support beam for detaching, repairing and maintainance easily.
- ★ Hoisting limit: 4-step rotary limit switch with slow down function and phase mismatch protection; Traversing limit: crossbar limit switch; all of limit switch are enclosed and dust-proof-designed
- ★ Wire rope no need maintainance and anti-rust oil; heavy duty and high-strength; strength grade > 1870N/mm²; safety factor >5
- ★ European type designed brake, no need adjustment
- ★ High strength hook block T grade, 360 degree rotating, with safety guard.
- ★ Driving device: integrating Motor, Gear and Brake in one mechanism, grinded helical gear, quiet design, sealed, no grease leak and maintainance-free.
- ★ Trolley wheels: Low carbon alloy steel or ductile cast iron
- ★ Localization of component kit, reducing your cost greatly, and replacing QD crane completely.



High Cost-effective

German technology; Components Localization; Inverter Control; Running Stable Maximum lifting capacity could be up to 320 t, the heavy duty grade, can work in a wide variety of industries and conditions; As its price close to domestic double girder crane, it is becoming a ideal product for upgrading domestic cranes.



Performance Description

Lifting Gearbox

Gearbox casing is made of aluminum alloy with light weight and corrosion resistance. In the hermetically sealed cabinets, the semi-greasy lubricant makes all the gears adequately lubricated, without changing grease in the designed safety using cycle. Every gear surface-hardened and precise-lapped ensures smooth operation.

- ★ Small size, light weight
- ★ Smooth running, low noise
- ★ corrosion-resistant, maintenance-free

Lifting Brake

Our lifting motor equipped with magnetic disc brake. The brake is installed in the end of motor, the motor brake is automatically closed when the motor without power to prevent the loading slipping. The brake clearance is no need to make manual adjustment after the first set (by the brake springs the clearance adjust itself), when the brake pad thickness is less than the set value, the additional switch can alarm automatically to remind the user replacing it. The magnetic disc brake imported from Germany is safe and reliable; its braking frequency can be up to one million in the safety using cycles without maintenance.

According to safety regulations, Sinokocranes Inc. uses the brake which braking torque is not less than 1.8 times the rated motor torque.

- ★ Moving fast, high reliability
- ★ Maintenance-free, self-adjustment
- ★ Dust-proof design, long life

Drum, Wire Rope, Rope Guide

Drum is made of high-quality seamless steel pipe by CNC machining. The drum grooves and rope guide can effectively prevent the rope loosen and mixed. The rope is made of imported wire rope with high-strength tensile strength of 2160N/mm², safety and long service life.



Lifting Reducer



Disc Electromagnetic disc Brakes



高强耐磨导绳器

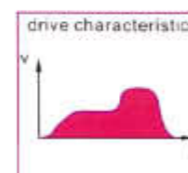
Traveling Machinery

Years of experience prove that the Sinoko's trolley can adapt to different working environment, such as voltage instability or even worse working conditions. The inverter device is Sinoko GXT wire rope hoist's standard configuration, the invert control device greatly reduces the swaying during heavy lifting operation, enhances safety, saves the operating time and improves production efficiency.

For different operating conditions, we offers two optional solutions: G-series and F-series triple driver, both of them are made by Germany ABM Company.



G-Series



F-Series

Structure

★ The Main Beam is made by bias-rail box girders or H-shaped steel beams, Q345-B; Vertical deflection L/800; By impeller blasting treatment to meet standard Sa2.5 grade; Automatic welding process or semi-automatic; All of welding line and joint should be check by X-ray (NDT: Non-destructive testing); The double girder crane will be equipped service platform beside bridges.

★ End Carriage is made by rectangular steel tube or welded in box structure; then one-time bored by CNC machine; Material is Steel Q345-B; Equipped double flange wheels group, buffers and Anti-derailed protection.

★ Main beam and End carriage connected by high-strength bolt; Easy transportation and installation.



High strength rectangular tube end carriage



Box main beam

Safety Device

Electrics



Overload Protection

One of the core components—Electronic pressure sensor is imported from German. Accurate and reliable, effectively prevent overloading and enhance security during operation. Our overload protection device and control circuit together could stop continuous overloading and make the load get down safely.

Safety Monitor

We specially develop the safety monitoring unit for our CXSM trolley. It has various functions to meet the requirements of users:

- ★ Calculate lifting mechanism remaining safe working time
- ★ Calculate times cumulative total lifting working
- ★ Calculate cumulative overload times
- ★ Calculate times of accumulated lifting motor starts
- ★ Overheating protection and alarm for lifting motor
- ★ Overload protection and alarm
- ★ Brake pad thickness alarm
- ★ Display fault information and maintenance tips

The special designed lifting inverter and travelling inverter could achieve real-time communication. By the correct setting-up, it would become the effective control centre of hoist.



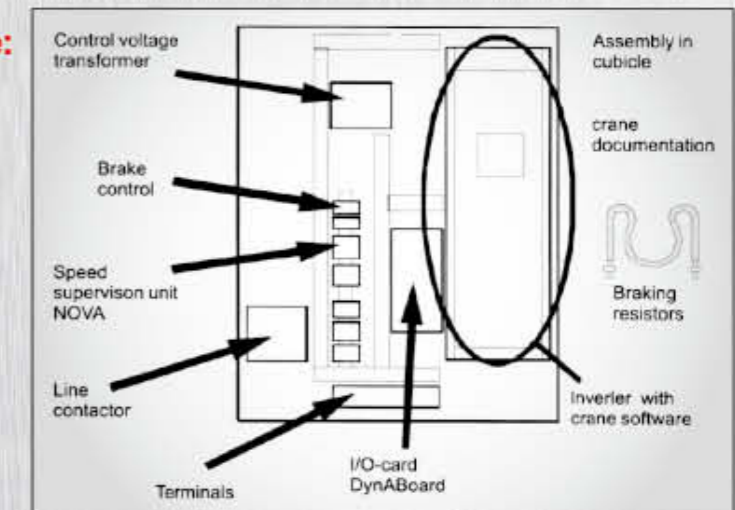
With safety standard required protecting device:



- ★ The control circuit is from the output transformer, control voltage 48V, this control voltage ensure when lifting and carts, trolley run at the same time, the power output is enough to work.
- ★ The controller box protection class IP55 with waterproof; Ambient temperature: <math><45^{\circ}</math> C, humidity <math><90\%</math>; The main power supply is three-phase four-wire 380V ($\pm 10\%$), 50Hz ($\pm 5\%$).

The inverter control can ensure:

- ★ Precise positioning
- ★ Adjustable acceleration
- ★ Smooth braking
- ★ Low swaying
- ★ Expanding speed range
- ★ Easy to operate



Festoon for Trolley:

Flat cables for hoist power supply and hoist controls; Cable trolleys; C-rails and support arms; Make sure cables and slide line no mixed together.





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Rail-mounted container gantry crane



◆RMG' s Technical Description

- Feature 1** Regenerative power feedback for lowest energy consumption and emission.
- Feature 2** Spreader with anti-sway device.
- Feature 3** Applied intelligent fault detection system to make fault analysis and early warning.
- Feature 4** Depart electrics from trolley, reduce weight of it, lower energy consumption.
- Feature 5** Equipped advance traveling automatic derail correction system to reduce wear of wheels and rails.
- Feature 6** Intelligent safety monitor and control system for easier yard working management.

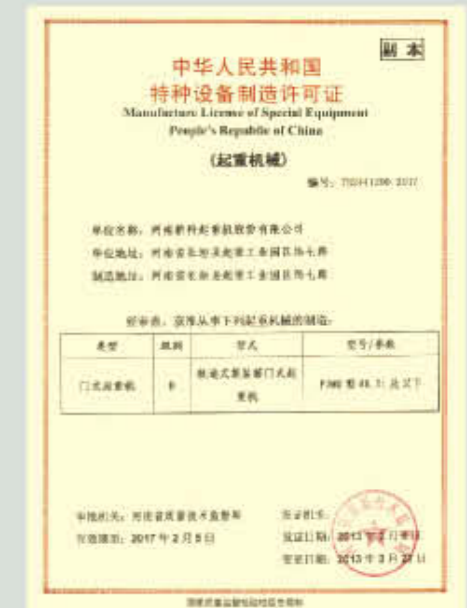
◆RMG' s structure and applications

RMG' s are yard cranes for stacking , handling and loading of containers in the railway station yard or other container storage and transport yard. RMG consists of main beams, rigid & flexible steel structure,trolleys, lifting mechanism, traveling mechanism, electrics, operating carbin and other components. RMG need a wider strutures and lower headroom to build a U-shaped supports and connect upper part to form a Tt shaped structures for setting up the service platform. RMG is capable to handle 20' ,40' and 45' standard size containers. Lifting capacity is 36t and 40.5t without spreader. According to the yard size, handling process and vehicles, the span are different, such as 22m, 30m, 35m; with overhang or without cantilever, single or double cantilever; with rotating trolley or non-rotating.

◆RMG' s operation and control

RMG' s is operated by the driver in the carbin. Generally the driver carbin is hang beneath the trolley and with the trolley moving. All of operations could be achieved on the control station. You can also operate the crane beside it. When you do this, it will be electrical interlock with the main control station.

RMG' s driving control: applied AC inverter variable speed system. The system use radio control, and use wire control inside the container, it is fast and high reliability. And you can choose to install the integrated management system, with external control room using wireless data transmission, by incorporating logic controller for crane operations to continuously monitor your system, fault diagnosis and data collection.



◆Rail-mounted container gantry crane design and manufacturing specifications and standards

- Crane design specifications: GB / T 3811-2008
- Crane safety regulations: GB 6067.1-2010
- Rail Mounted Gantry Cranes: GB / T 19683-2005
- Rail-mounted container gantry crane safety regulations: JT / T 566-2004
- Port Equipment Engineering Quality Inspection and Evaluation Standards: JTJ 244-2008
- Bridge and gantry crane manufacturing and rail mounting tolerances: GB / T 10183-1988

RMG's Structure >>



Control System

Modular design applied for quick load positioning and return



Rotating Trolley

Optimized design, smooth rotating and precise positioning



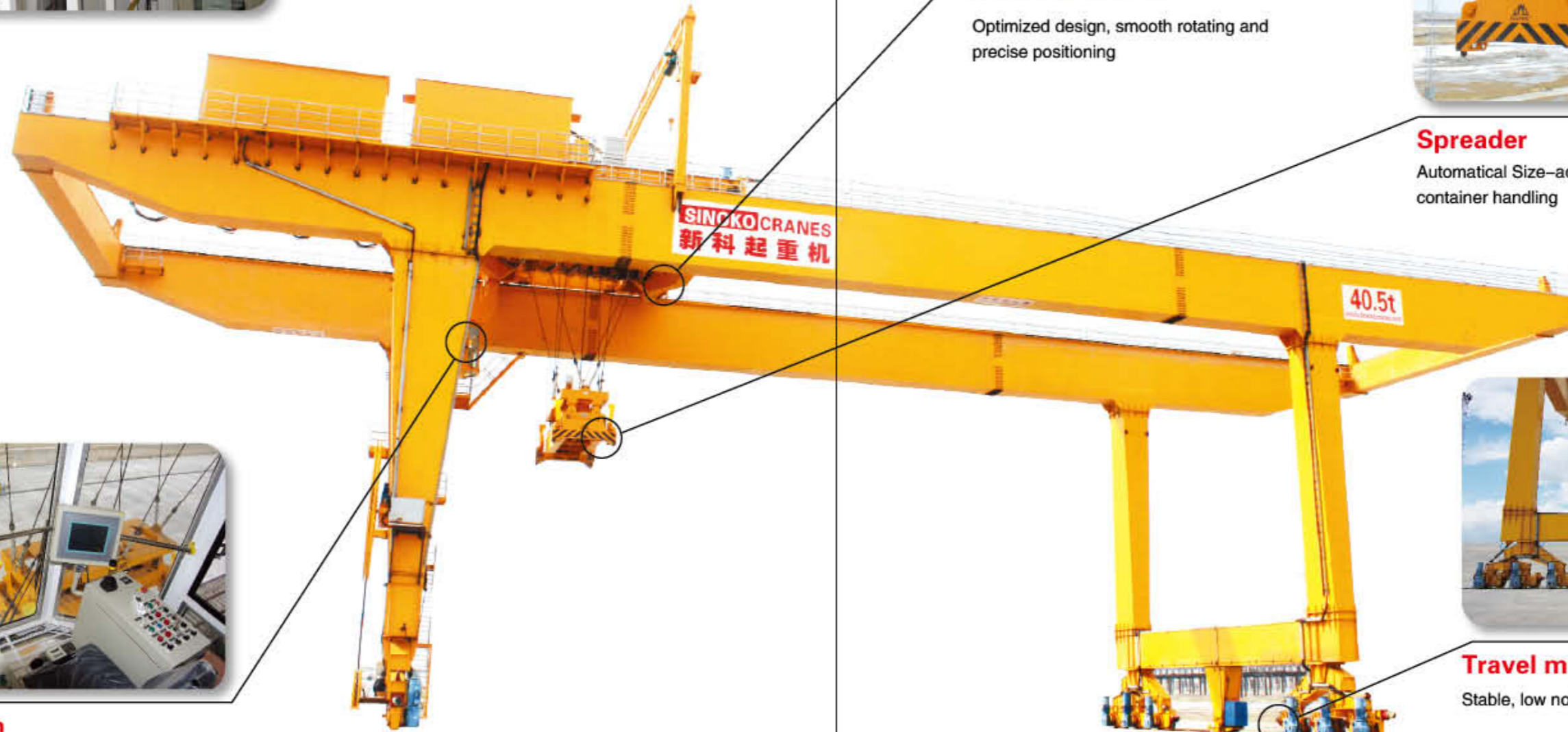
Spreader

Automatic Size-adjusted for 20' 40' 45' container handling



Driver Room

Safety, comfort and ergonomics, absolutely all-in-controlled by drivers



Travel mechanism

Stable, low noise, easy and quick to maintain

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OVER THE TOP KEEP SURPASSING

HENAN SINOKO CRANES CO.,LTD
EMAIL: INFO@SINOKOCRANE.COM
CELL: +86 150 373 08213
TELL: +86 373 3809044
WEB: WWW.SINOKOCRANE.COM
ADD: WEIQI ROAD, CRANE INDUSTRIAL PARK,
CHANGYUAN COUNTY ,HENAN PROVINCE, CHINA