LINKEDIN HOMEPAGE

HCR CORPORATE VIDEO

HANDAN CHINA RAILWAY BRIDGE MACHINERY CO.,LTD
Address : No.2 Road, Fuxing District, Handan City,
Hebei Province, P.C. 056003, China
Phone : +86 13603106215
E-mail : renbinqing@vip.163.com
Website : www.hcrbridge.com

HCR BRIDGE MACHINERY Sdn.Bhd.
Address : M1-13-05, 8Trium Tower,
Jalan Cempaka SD 12/5, Bandar Sri Damansara,
52200 Kuala Lumpur, Malaysia
Phone : +60 126371810
E-mail : alex.lee@hcrailway.com

CATALOG

HCR, SINCE 1952, YOUR BRIDGE CONSTRUCTION MACHINERY SPECIALIST

邯郸中铁桥梁机械有限公司
HANDAN CHINA RAILWAY BRIDGE MACHINERY CO.,LTD

BUILDING BRIDGE, CONNECTING THE WORLD.

HCR SINCE 1952.

Contents

About us

Handan China Railway Bridge Machinery Co. Ltd.(HCR) was establish in the year 1952. We are young and vibrant company. With 72 years of experience and continuous improvement, HCR has emerged as reliable Bridge Building Equipments supplier and Bridge Construction customization solutions provider.

HCR design and produce the machinery in our own facilities with our own people. These important attributes give us the edge to control the quality and production schedule according to the planning. Currently we have more than 40 welders with AWS D1.5Bridge Steel Structure Welding qualification and in total we have more than 600 personnel supporting various levels of work.

We have our own design team in China and Malaysia that continuously contributes to the improvement of the design and quality of the equipment.

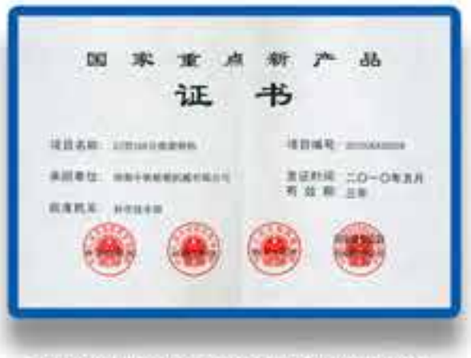
Currently with the implementation of 3D modeling we have upgraded the speed of design and improved the quality of production drawings.3D modeling also helps to streamline the communication between us and our client.

We have our own operation teams that are experienced in bridge construction work and this is one of the main factors that make our services unique; HCR is also one of the users of the machinery that we produce ourselves. Therefore we are continuously improving our machinery based on the input from our own operation teams as well as our clients.

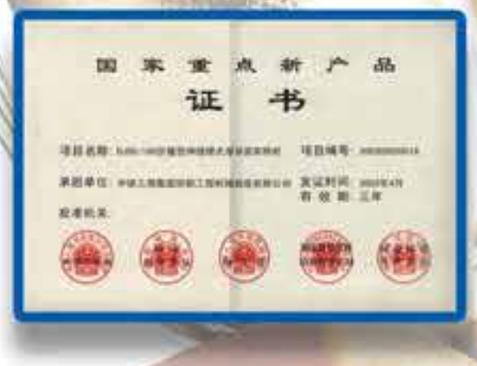
By 2024， HCR has 24 years of experience in global markets and we have supplied to 42 countries around the world in different region stretching from Asia, Middle East, Europe and Africa and all the way to North and South America. We are moving forward to contribute in new frontiers.

ENTERPRISE HONOR »

NATIONAL HONOR



CERTIFICATE OF NATIONAL KEY NEW PRODUCT



CERTIFICATE OF NATIONAL KEY NEW PRODUCT

PROVINCIAL HONOR

SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENTS

SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENTS

SCIENTIFIC AND TECHNOLOGICAL ENTERPRISE

HIGH-TECH ENTERPRISE CERTIFICATE

FAMOUS TRADEMARK ENTERPRISE

SCIENCE AND TECHNOLOGY AWARDS

MUNICIPAL HONOR

INTELLECTUAL PROPERTY DEMONSTRATION UNIT

ENGINEERING RESEARCH AND DEVELOPMENT

MARKET LAYOUT»

After 24 years of international market development, we have supplied to 42 countries around the world in different region stretching from Asia, Middle East, Europe and Africa and all the way to North and South America. Our equipment is used in different projects in United States, Mexico, Costa Rica, Venezuela, South Korea, Malaysia, Brunei, Sri Lanka, Thailand, Myanmar, Laos, Vietnam, Indonesia, Singapore, India, Israel, Turkey, Greece, Slovakia, Pakistan, Bangladesh, Iraq, Algeria, Benin, Nigeria, Tanzania, Ethiopia, Morocco, Angola, Sudan, Mali, Niger, Fiji .

DJ1100 BEAM ERECTOR »

FOR 1100T DOUBLE TRACK FULL SPAN BOX GIRDER

EQUIPMENT PROFILE

This DJ1100 Beam Erector is a brand new product of HCR, it has the advantages of fast assembly speed and fast relocation, high level of mechanical automation.

The design and manufacture of Beam Erector by HCR is specifically for the construction of 40-meter span (or smaller) and 1100-ton (or lighter) box girder to meet the requirements of high-speed railway and urban light rail construction.

HANGSHAOTAI HIGH-SPEED RAILWAY PROJECT (CRCC), CHINA

CHAOHU-MA'ANSHAN INTERCITY RAILWAY PROJECT (CREC), CHINA

HANGSHAOTAI HIGH-SPEED RAILWAY PROJECT (CREC), CHINA

SHANGHAI-CHONGQING-CHENGDU HIGH-SPEED RAILWAY PROJECT , CHINA

ADAPTABILITY

This DJ1100 Beam Erector is suitable for bridge and tunnel linked segment, long ramp and small radius curve, frequent site relocation, etc.

It is first used in the Hangqu high-speed railway and Hangshaotai high-speed railway project, and able to erect first span girder right after tunnel (for tunnel width more than 2.5m).

TUNNEL CONDITION ADAPTABILITY

HCR's bridge construction equipment is capable of overcoming challenging construction limitations, such as huge slope, small horizontal curvature, limited space, last span before tunnel and first span after tunnel construction, erection suit for both single and double track bridges and etc.

The modular design of HCR' s bridge construction equipment effectively eased the transportation issue of the oversized equipment. This allows equipment to be moved in limited tunnel space without dismantling it.

DJ1100 BEAM TROLLEY

This DJ1100 Beam Trolley is matched with DJ1100 Beam Erector to delivery girder, pack the beam erector and pass through tunnel, the minimum tunnel radius can reach 6410mm.

It has the advantages of light weight, small turning radius and low construction cost. At the same time using module design, field assembly is fast, disassembly is convenient. And independent suspension design makes the equipment has good adaptability to the road.

DELIVERY THE BEAM ERECTOR THROUGH TUNNEL

DELIVERY THE GIRDER FOR BEAM ERECTOR

DELIVERY THE GIRDER THROUGH THE TUNNEL

DELIVERY THE GIRDER ON THE BRIDGE

ASSIST BEAM ERECTOR TO TURN AROUND

DJ550-700 BEAM ERECTOR»

FOR 550T-700T SINGLE TRACK FULL SPAN BOX GIRDER

DJ700 IN SHANGHAI RAIL TRANSIT AIRPORT LINK LINE PROJECT, CHINA

DJ550 IN GANZHOU-SHENZHEN HIGH-SPEED RAILWAY PROJECT, CHINA

DJ600 IN QINGDAO-JINAN HIGH-SPEED RAILWAY PROJECT, CHINA

DJ600 IN TIANJIN CENTRAL CITY TO JINGHAI RAILWAY PROJECT, CHINA

DJ550 IN HEFEI-ANQING HIGH-SPEED RAILWAY PROJECT, CHINA

DJ600 IN SHANGQIU-HEFEI-HANGZHOU HIGH-SPEED RAILWAY PROJECT

DJ600 IN XUZHOU-YANCHENG HIGH-SPEED RAILWA PROJECT, CHINA

LAUNCHING GANTRY »
SPAN BY SPAN TYPE

Precast Segmental Construction using Launching Gantry becomes economical when the construction deck area is more than 40,000 ㎡. This figure could decrease to 20,000 ㎡ if the rental option is available.

Currently, this construction method is becoming very widely used and with abundant resources supporting it, the cost of the construction is becoming lower by the year.

HCR is producing various types of launching Gantry for Segmental Bridge Construction. From standard overhead to simplified under-slung trusses that could be combined with the support of Mobile Crane or Crawler Crane.

All Launching Gantries has to be fully tested in the factory prior to delivery. This is part of the important process for the custom made machinery as every machinery produced are unique.

LG60 IN PADMA BRIDGE PROJECT, BANGLADESH

LG55 IN JURONG REIGON LINE PROJECT, SINGAPORE

LG60 IN GUANGZHOU METRO LINE 14 PROJECT, CHINA

LG75 IN NANCHANG HONGDU ROAD PROJECT, CHINA

LG45 RAMA II ROAD PROJECT, THAILAND

LG40 IN GUANGZHOU METRO LINE 14 PROJECT, CHINA

LAUNCHING GANTRY » SPAN BY SPAN TYPE SPECIAL CASE

LG420 IN LALUAN KELANA JAYA PROJECT, MALAYSIA

ADVANTAGES OF LG WITH BRACKETS

This unique LG was designed to suite the conditions set by the bridge designer.

1. The most important condition was that the reaction from the LG must go directly to the pier without going through bridge deck. Originally the design was meant for under-slung Launching Trusses with brackets.

2. The LG has to handle 29 different types of Pier including Portal-Bent and T-Bent which made the under-slung truss not practical.

With the Brackets there are some other advantages over the standard model L G:

1. Self-advancing only take 15 minutes with Brackets already preassembled in ready position

2. With Brackets the Launching Gantry could be advancing crossing multiple spans and skip any of the spans that might have problems as one of the contingency plan. As long as the pier is constructed there are no restrictions in how many spans the LG could skip

3. In the closure span case where all the segments has to be hanged high for post tensioning, the completed span "in the air" were lowered down by the bracket easily and this only takes one hour

4. With Brackets leveling becoming very easy to operate. The Main Truss could always stay leveled and this enhances the safety during operation

5. Temporary support is not needed for first span and all special cases. This brings saving for the contactor

VARIOUS PIER TYPE

A complicated condition is shown in picture on the left side, where within 3 spans, 4 different types of support were being designed; a Portal Bent, a T-Bent, Another type of Portal Bent and a Standard Pier. All piers were being handled by the bracket without needed of any temporary prop.

CLOSURE SPAN

left photo shows a span post tensioned in the air. This is a typical solution for a closure span. The closure span has to be hanged high enough to gain work space for post-tensioning. Later completed span was lowered down with the hydraulic leg on the brackets. The lowering operation only takes an hour.

LAUNCHING GANTRY » BALANCE CANTILEVER TYPE

LG82/110 IN BAYONNE BRIDGE PROJECT, USA

INTRODUCTION

Balance Cantilever Construction with Precast Segmental Bridge using Launching Gantry is an economical solution when it comes to high pier combined with difficult terrain. Therefore bridges crossing deep valley or the approach bridge for a Main Bridge with high Navigation Clearance are the best fit for this type of construction method.

In urban development mobile crane can be used to erect the segments. But still a LG will provide better solution as the overhead construction interferes less with the traffic underneath.

LIGHTING

Night work is very common in urban construction, therefore a good lighting is essential.

CANTILEVER STABILITY

Segment can be delivered from rear, on the top of completed bridge or from below (above water or land).Delivery from the rear provides a better solution when it comes to high pier and difficult terrain. Box segment a very good access immediately upon completion of installation for the transportation.

SEGMENT DELIVERY

Main Truss can be utilized to stabilize the Balance Cantilever Bridge during construction. This prevents the usage of massive temporary support therefore enhance safety and speed. The design of the Main Truss that is used for stabilizing the Balance Cantilever Bridge has to take accident load into account and inmost of the cases this does not burden the original design.

BAYONNE BRIDGE »
RAISE THE ROADWAY PROJECT

The Bayonne Bridge is one of the longest steel arch bridge in the world, and was the longest in the world at the time of its completion. Connecting Bayonne, NJ to Staten Island, NY, construction began in late 1928 and was completed in 1931.Due to the fact that the bridge is only 151 feet above the water, the larger container ships, now available with the expansion of the Panama Cannal, could not pass through to access the three terminals or ports needed for shipment and distribution of their goods. The Port Authority announced it would "Raise the Roadway" of the Bayonne Bridge to 215 feet in order to allow safe passage for the larger ships coming into port.

Handan China Railway Bridge Machinery designed and manufactured 2 set of launching gantries for this "Raise the Roadway" project. Here are some facts about the launching gantries:

- The launching gantries haul and install the 70-ton (63.5 t), precast concrete segments that make up the new approach roadways to the new, elevated main span that is under construction at the Bayonne Bridge.
- There are a total of two launching gantries, one to build each of the two approach roadways to the new bridge span. (The roadways are on the New Jersey and New York sides of the Arthur Kill, respectively).
- During a standard eight-hour shift, each gantry can erect up to four precast concrete roadway segments (for a total of eight per shift). The project will use a total of 1,083 of these precast segments. This includes 541 for the northbound side of the roadway (243 in N.Y. and 298 in N.J.) and 542 for the southbound side (244 in N.Y. and 298 in N.J.).
- The two launching gantries are identical. Each is 477 ft. (145 m) long and weighs 500 tons (453.5 t). Each main support leg is 46 ft. (14 m) wide.
- The launching gantries are remote controlled using a wireless, radio frequency controller. They move using a rack and pinion drive system on top of each truss. Each is outfitted with a main hoist winch to erect the precast segments, and an auxiliary hoist winch for other operations such as post-tensioning.
- Each launching gantry was fully assembled at the our facility in China. They were then load tested, disassembled and shipped to the Bayonne Bridge project site. Each of the two gantries was shipped in 24, 40 ft. (12.2 m) sea containers (a total of 48 containers for the two gantries), then re-assembled on site where a static and dynamic load test was performed prior to the gantries being put into service.

In 2019, the American Segmental Bridge Institute (ASBI) awarded Bayonne Bridge a Bridge Award of Excellence due to its superior aesthetic harmony with the local environment, its rapid construction, cost competitiveness, and minimized impact on the traveling public during construction.

LG80/100 IN HANGSHAOTAI PROJECT, CHINA

The launching gantries generally operate at night when the bridge is closed to traffic. "With their crayon-bold colors lit up in the dark, they seem to have arrived from another world — a Marvel Comics universe, perhaps, or a child's oversized toy bin".

——Buccino said

LG90/100 IN ZHENGZHOU PROJECT, CHINA

LG125 FOR N112 PROJECT , SINGAPORE

LAUNCHING GANTRY » BALANCE CANTILEVER TYPE SPECIAL CASE

This bridge called Temburong Bridge,it is a dual-carriageway bridge in Brunei that spans across Brunei Bay, connecting the Bruneian mainland with its semi-exclave of Temburong. It is the longest bridge in Southeast Asia, at 30 kilometres (19 mi) long.We specially designed a folding type launching gantry for ramp bridge segment erecting, and it can easily handle the ramp small curve radius segments erection.

SEGMENT ERECTOR»

SE65 IN JURONG LINE ITTC PROJECT, SINGAPORE

SE90 IN NANCHANG HONGDU ROAD, CHINA

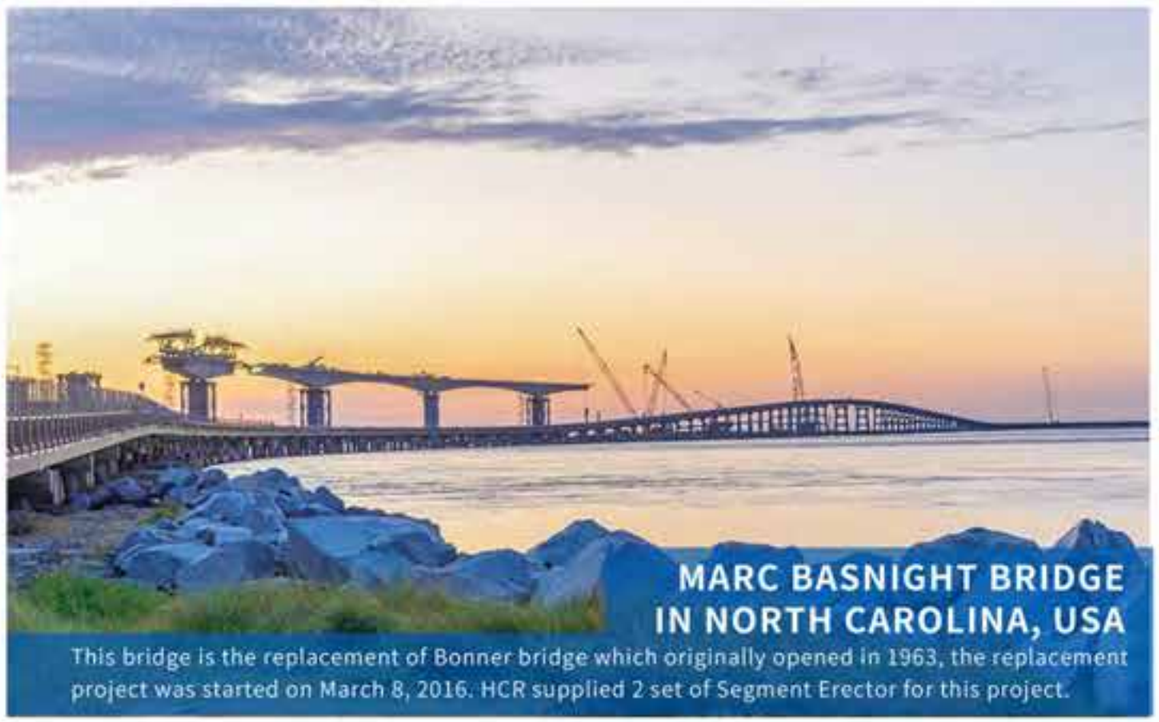
SE100 IN BARAPULLA ELEVATED HIGHWAY, INDIA

SE50 IN T315 PROJECT, SINGAPORE

SE95 IN MRT V201 PROJECT，MALAYSIA

SE120 IN BAGO BRIDGE PROJECT, MYANMAR

SE120 IN MARC BASNIGHT BRIDGE PROJECT, USA



MARC BASNIGHT BRIDGE IN NORTH CAROLINA, USA

This bridge is the replacement of Bonner bridge which originally opened in 1963, the replacement project was started on March 8, 2016. HCR supplied 2 set of Segment Erector for this project.

Segment Erector (SE) is being used to install Precast Segment for Balance cantilever bridge when the used of mobile crane is not feasible. SE provides these advantages:

1. Setting up only one time for each pier. This is a very crucial feature. In urban area the Balance Cantilever Bridge normally is a part of the larger project; and it serves as a solution for crossing the existing highways where longer spans are needed. Installation activity
above the existing highway might not be smooth. In many cases very short time frame will be given for each day. Or in some cases only certain day in a week would be granted for work. SE is always in the ready mode therefore will fully utilize the given few hours of construction time frame
2. Construction across highway is unpredictable. In many cases the construction duration will be longer than expected, SE cost is not affected by the construction duration if the contractor owns it
3. SE utilizes variety of segment delivery solutions for difficult terrain
4. SE has good re-sell value and is easy to store

BEAM ERECTOR»
DJ SERIES

DJ50130 IN SIHWA BRIDGE PROJECT, KOREA

INTRODUCTION

DJ Series Beam Erector is a Single Box type Launching Gantry for simply supported precast Beam installation. It is a very effective machine that offers high speed precast beam installation.The fastest installation speed recorded was 30 PC Beams in 8 spans within 24 hours for a railway bridge project.

Standard Model up to 60m span length is available. From confirmation of order to the completion of the fabrication up to ex-work condition is as short as 2 months. Shipment to the America continents take another 4-5 weeks which means in total only less than4 months is needed and for Asia Region it takes less than 3 months to reach the destination port.

HCR provides CIF delivery where the machinery is delivered all the way to the site upon request.

DJ40180 IN RAILWAY PROJECT, CHINA

DJ40180 IN ZHANGTANG RAILWAY, CHINA

DJ32240 IN HANOI URBAN RAILWAY, VIETNAM

DJ50160 IN SAN JOSE NORTH RING ROAD PROJECT, COSTA RICA

DJ40100 IN METSOVITIKOS BRIDGE PROJECT, GREECE

Photo above shows the DJ Series Beam Erector was used to install the precast beam above high speed train track that is already in service. Safety check has to be maximized under this type of construction.

Photo on the left shows the project in Greece was having a slope up to 6.9% and Radius on plane was around 200m. Installation with Mobile crane was not feasible due to difficult terrain. DJ Series Beam Erector provided the best solution for the contractor.

DJ40180 IN CREC PROJECT, CHINA

PRECAST BRIDGE SOLUTIONS

LONGEST RAILWAY BRIDGE IN INDIA >>

This bridge is a 4.62 Km long rail bridge at in Kochi, India, the bridge has two different types of beams.Our DJ Series Beam Erector can handle various types of precast beams without modification. This is one of the important features that enhances its reuse value.

The Kochi bridge not only created a record of longest railway bridge constructed in India but also the bridge constructed in shortest time period (less than 30 months) at that time. The speedy construction could mainly be attributed to the deployment of latest equipment into the project by Afcons. The highly sophisticated beam launcher equipment supplyied by Handan China Railway Bridge Machinery, which is used for launching the pre-cast superstructure (concrete beams) has been specially designed and imported for this project and is capable of launching 12 spans in a month which equals to 600mts length of the bridge.

DJ48180 IN KALLADY BRIDGE PROJECT, SRI LANKA

DJ50140 IN PREFAMOVIL PROJECT, MEXICO

DJ2168 IN CCECC PROJECT, NIGERIA

DJ40180 IN BINBO EXPRESSWAY PROJECT, CHINA

DJ50150 IN SEPASA PROJECT, MEXICO

DJ40180 IN CHINA-LAOS RAILWAY PROJECT, LAOS

DJ48180 IN PADMA BRIDGE PROJECT, BANGLADESH

DJ48220 IN STEEL BOX GIRDER PROJECT, CHINA

BEAN ERECTOR »
JSHB DOUBLE TRUSS SERIES

DJ50130 IN DAEHEUNG 4 BRIDGE PROJECT, KOREA

INTRODUCTION

JSHB Series Beam Erector is a Double Truss Launching Gantry for simply supported precast Beam installation.

This machine has been widely used to install precast beam and is proven to be a very successful method in terms of speed and safety.

Standard Model up to 60m span length is available. From confirmation of order to the ex-work condition can take as short as 2 months up to a maximum of 4 months depending on the model of the Double Truss being chosen.

All Beam Erectors are designed with transportation in mind. The Main Truss comes modular and can be split and packed into a 40 footer container.

JSHB40150 IN MUSI IV BRIDGE, INDONESIA

DJ40200 IN CROSS EXISTING LINES PROJECT, CHINA

DJ70400 IN JANGHEON NODULAR GIRDER, KOREA

JSHB67220 IN BRICKFIELD BRIDGE PROJECT, MALAYSIA

GOOD QUALITY

In the year of 2019, we supply a set of Double Truss Beam Erector for ASTANA SETIA in Malaysia, the capacity is 220T and the allowable span is 67m, it is designed for the construction of Setiawangsa Pantai Expressway.

In the past 5 years, the equipment has completed the construction of 3 projects. Although the color has been tanned due to long hours of work, it still has good performance.

JSHB67220 IN SETIAWANGSA-PANTAI, MALAYSIA

JSHB67220 IN MAINLINE DUKE 3 PROJECT, MALAYSIA

HJ-A SERIES FSM LAUNCHING GANTRY >>

HJ-A FSM LAUNCHING GANTRY

Full Span Construction Method (FSM) was used extensively in the construction of China High Speed Railway bridges thanks to its high efficiency construction speed. HJ-A Series FSM Launching Gantry is the machine dedicated for the Full-Span Precast Bridge Construction. The spans ranging from 30m to 60m and the spans weight ranging from 600 ton to 2000 ton. HJ-A Series LG could position and install the complete span of Precast Bridge in 3 simple steps. Upon completion of bridge installation, it will self-advance to the next span without help from additional machinery. The delivery of precast girder is to be carried out by the Multiple-Axle Trolley. The Multiple-Axle Trolleys will deliver the precast girder all the way from the precast yard to the installation front point. Multiple-Axle Trolley is part of the full package.

HJ-B FSM LAUNCHING GANTRY

HJ-B Series FSM Launching Gantry is the model suitable for the installation of bridges that has tunnel along the construction alignment. This model has additional feature to make the work easier for the installation of the last span before the tunnel and the first span after the tunnel. It could pass through the tunnel easily by utilizing Multi-Axle-Trolley unit.

HJ-B SERIES FSM LAUNCHING GANTRY >>

STRADDLE CARRIER»

The picture on the left shows our Straddle Carrier in the China High-speed Flying Train Project, this project also known as Low Vacuum Tube Maglev High-speed Train, with a speed of 1000Km/h, It has the characteristics of faster, convenient, comfortable and safe. HCR supplied the Straddle Carrier and opreating team for the girder erecting work of this project.

Ranging from few tons to few hundred tons capacity, Straddle Carrier is very useful machinery for casting yard operation.

The main advantages of Straddle Carrier lies in its maneuvering flexibility in the casting yard compared to Gantry Crane. Therefore it is relatively easy for the casting yard to extend in future as part of the contingency plan if contractor is using straddle carrier.

Alternatively a combination of Straddle Carrier with Gantry Crane can be a good solution for some of the projects.

Straddle Carrier can be used to transport the segments directly to the back of Launching Gantry for balance cantilever construction if the casting yard is near to the bridge.Straddle Carrier has a very high reuse and re sell value therefore it is a very good investment. HCR provides resell services upon inquiry from our customer.

SC120 IN RAMA 2 ROAD PROJECT, THAILAND

SC80 IN TEMBURONG BRIDGE PROJECT, BRUNEI

SC100 IN PREFAMOVIL PROJECT, MEXICO

SC1000 IN HIGH-SPEED RAILWAY PROJECT, CHINA

GANTRY CRANE»

Gantry Cranes are used to handle the activities in precast yard. Larger capacity Gantry Cranes are used to lift, relocate, load and unload the completed precast product while smaller capacity Gantry Cranes are used to handle the reinforcement production and formwork.

A complete solution involves a combination of larger and smaller capacity Gantry Cranes. Each casting yard has it unique geometrical lay out and limitations and the Gantry Cranes provided have to be custom made for each casting yard to maximized the production speed and minimize the handling cost.

Comparing to Straddle Carrier, Gantry Crane has the advantages of lower initial investment, lower maintenance cost， and gantry Crane does not have large ground preparation requirements therefore is more economical for casting yard investment especially on smaller scale jobs.

HCR is producing custom made Gantry Cranes for precast yard range from 5 tons to 1000 tons with various spans. We have Box Model all Truss model and it is up to contractor for their preferences.

QLH80 IN TEMBURONG BRIDGE PROJECT, BRUNEI

HMQ150+120 IN KJE PROJECT, SINGAPORE

HMQ60 IN PREFAMOVIL PROJECT, MEXICO

HMQ60 IN DHAKA AIRPORT PROJECT, BANGLADESH

MG80 IN METRO PROJECT, CHINA

HMQ550 IN SHANGHAI-CHONGQING-CHENGDU HIGH-SPEED RAILWAY PROJECT, CHINA

HMQ200 IN U-GIRDER PROJECT, CHINA

HMQ450 IN BOX-GIRDER PROJECT, CHINA

OVERHEAD CRANE »

HCR supplies custom made Overhead Cranes for casting yards. In most cases these cranes are used for reinforcement bar fabrication therefore the capacity required normally is not more than 20 tons. Similar to other Hoisting machinery below safety features are included.

1. Hoist secondary brake, spinning speed control, load encoder.

2. Operation data recording system.

Upon inquiry HCR can produce Overhead Cranes from 5tons up to 500 tons with various span lengths.

OVERHEAD CRANE IN TEMBURONG BRIDGE PROJECT, BRUNEI

The pictures on this page show our project in Hawaii, USA, the project name is Honolulu Rail Transit. We supplied 4 set of overhead cranes for this project.

Structural analysis and design review for three outdoor overhead cranes. The cranes share the same track and service a segment precasting facility for the Honolulu Authority for Rapid Transportation (HART) Rail Transit Project in Hawaii.

On the year of 2021, this project was featured on the cover of *ASPIRE* , a famous magazine published by the Precast/Prestressed Concrete Institute (PCI) in cooperation with the associations of the National Concrete Bridge Council in South America.

OVERHEAD CRANE IN HONOLULU RAIL TRANSIT PROJECT, USA

TIRE TYPE » BEAM TROLLEY

This hydraulic powered Multi-Axle-Trolley is used for transportation of Precast Full Span Girder. Trolley capacity is ranging from 300 ton up to 2000 Metric ton. MATs are custom made to suite the geometrical and capacity requirements of precast girder.

The trolley is self-motorized, by means of hydraulic motor reducer installed directly on the wheels therefore there will be no chain transmission involved.

Standard MATs are designed for longitudinal gradient of ±3% & Transverse gradient of ±3%. Larger gradient can be supplied upon request.

All wheel groups are steerable. The steering type is controlled by the PLC. The wheel groups are mounted on hydraulically driven slewing rings. Two endless screws connected to hydraulic motors activate the rotation of the slewing ring. One encoder registers the rotation of it and sends the data to the PLC. PLC controls the correct alignment of each wheel and there-fore the perfect steering with each wheel group on its own steering angle during the turning of the Trolley.

YLC180 IN SIHWA BRIDGE PROJECT, KOREA

YLC200 IN CHINA-LAOWS RAIWAY PROJECT, LAOS

YLC600 IN JIQING HIGH-SPEED RAILWAY PROJECT, CHINA

YLC1100 IN CHAOMA INTERCITY RAILWAY, CHINA

YLC1000 IN HANGSHAOTAI RAILWAY PROJECT, CHINA

TYLC180 IN RAILWAY PROJECT, CHINA

TYLC180 IN RAILWAY PROJECT, CHINA

TYLC300 BOGIE TYPE TROLLEY, CHINA

YLC180 IN PREFAMOVIL PROJECT, MEXICO

RAIL TYPE » BEAM TROLLEY

This electric motor powered Beam Trolley is used for transportation of Precast Beam. It is running on the metal track. With track guided operation the safety is further enhanced.

Generator is used to provide power to the Trolley and it travels together with the trolley. Simple and more economical model comes with 2 speeds whereas multiple speeds is possible which includes the inverter in the electric circuit.

Tracks are running on top of 2 installed beams and these2 beams will be braced together for stability purposes.

Similar to the pneumatic tire model this trolley can transport various types of beams. The Beam Trolley with track can accommodate up to 6% slope. Beyond 6% is not possible due to the friction limitation.

Photo on left shows a box girder with weight of 400 metric ton being transported by the Beam Trolley.

YLC200 IN SEGMENTAL PROJECT, CHINA

FORM TRAVELER»

Cast in Place Segmental Bridge Construction Method using Form Travelers is an economical solution when the construction deck area is less than 10,000 m².

Currently, this construction method is so common that further decreases the total cost of this method as designers are more experienced and relevant resources are easy and cheaper to get on the market.

HCR produces variety of custom made Form Traveler Systems designed to European Standard and welded in American Welding Code. We are producing Standard Overhead and Under-slung Form Traveler. It could come with Steel formwork or with Timber and plywood formwork the choice are up to the contractor.

HCR produces Form Travelers for Cable Stay Bridges and variety of special bridges such as bridge with External Strut or Corrugated Web. We also produce Form Traveler for Arch Bridges

Preassembly in the factory are one of our quality control procedures and we invited our client for witnessing the process.

FT630 IN TEMBURONG BRIDGE PROJECT, BRUNEI

FT190 IN DEREVENK BRIDGE PROJECT, TURKEY

FT150 IN GAMUDA COVE BRIDGE PROJECT, MALAYSIA

FT180 IN HIGHWAY PROJECT, CHINA

TRACK LAYER »

125 METERS LONG TRACK CONSTRUCTION

DJ32 TRACK LAYER

DJ32 Track Layer is a matured track laying machine developed by our company. It comes with functions that can lay heavy track panel for e.g. the 75 kg/m rail track panel,, wide sleeper track panel, railway switch & etc. The Track Layer once set a national record of 11.37 kilometers of track per day in Kashgar, Xinjiang, China.

DJ32 TRACK LAYER IN CHINA PROJECT

GANTRY CRANE FOR TRACK LIFTING

DJ32 TRACK LAYER IN NIGERIA PROJECT

TROLLEY FOR TRACK DELIVERY

DJP200 GIRDER ERECTOR & TRACK LAYER IN ETHIOPIA

METRO TRACK LAYER

Metro track layer is specially designed for the 25 meters standard track of metro or urban light rail, it can work alone for lifting, and can also work together to lay 125m long track.

METRO ENTRANCE CONSTRUCTION

TUNNEL CONSTRUCTION

FACTORY TESTING »

Complete machine assembly and factory testing will be carried out before delivery, this is an important guarantee for the smooth assembly and use of equipment in destination site. The testing includes fitting test, functional test and loading test.

Loading test are to be carry out in 2 stage, Static load test which involves lifting of 125% rated load in static condition. The load has to be hold for a dedicated duration to pass the test. For dynamic test a 110% load will be lifted and to be moved along the operation alignment.

Fitting test is to ensure all parts are can be correctly connected. This is an important test for a custom made product. Al parts will be mark accordingly to ensure the site assembly will be same as the assembly in the factory.

Functional test are important to ensure all running components will be functioning properly without crashing with any parts. All above testing to be carried out and all problems will be solved before final coating.

We also welcome customers to witness the test.


FACTORY TESTING YARD


TESTING SCHEME COMMUNICATION


DATA MEASUREMENT AND RECORD


ELECTRICAL ENGINEER COMMISSION


VIDEO AND ONLINE VIEWING


DEFLECTION MEASUREMENT

SITE COMMISSION »


COMMISSIONING ENGINEER AT THE ANGOLA SITE


COMMISSIONING ENGINEER AT THE COSTA RICA SITE


COMMISSIONING ENGINEER AT THE USA SITE

Commissioning is an important process. This process ensures the contactor will be able to operate the equipment safely by themselves. HCR offer extended services.In some cases we have technician present for the whole construction duration as part of the condition needed by the contractor. We have experienced site engineers and a rapid response team, so we can rush to the site to solve problems as soon as we are invited. Up to now, our site engineers have been to construction sites in nearly 40 countries to provide after-sales service.


COMMISSIONING ENGINEER AT THE SINGAPORE SITE


COMMISSIONING ENGINEER AT THE BRUNEI SITE


COMMISSIONING ENGINEER AT THE MALAYSIA

OPREATING TEAM »

We have our own operation teams that are experienced in bridge construction work, and this is one of the main factors that make our services unique. HCR is also one of the users of the machinery that we produce ourselves. Therefore we are continuously improving our machinery based on the input from our own operation teams as well as our clients.

OPERATING TEAM IN TUNNEL PROJECT , CHINA

OPERATING TEAM IN KALLADY BRIDGE PROJECT, SRI LANKA

OPERATING TEAM IN HIGH-SPEED RAILWAY , CHINA

OPERATING TEAM IN LINYI RAIWAY PROJECT, CHINA

OPERATING TEAM IN PADMA BRIDGE , BANGLADESH

DESIGN TEAM »

We have our own design team in China and Malaysia that continuously contributes to the improvement of the design and quality of the equipment.

Currently with the implementation of 3D modeling we have upgraded the speed of design and improved the quality of production drawings, at the same time, we also support BIM technology disclosure for customers in need, visualization technology disclosure construction simulation allows customers to intuitively understand the work steps of our equipment. 3D modeling and BIM technology disclosure help to streamline the communication between us and our clients.

In addition to providing products, design reports, full range of on-site services, third party review drawings, we also provide free consultation for all kinds of engineering problems in bridge construction.

We will use our 72 years of engineering construction experience to customize the best construction method and the most simple and affordable bridge construction equipment for you.

DESIGN TEAM IN CHINA MANUFACTURE FACTORY

DESIGN TEAM IN MALAYSIA JOINT VENTURES

DESIGN TEAM IN MALAYSIA BRANCH

REMOTE MONITORING » SAFETY MANAGEMENT SYSTEM

The system is equipped with one remote communication system, which can conduct remote debugging and trouble shorting for the equipment at the office out of the job site of machines and even in supplier' s office of China. The remote system consists of network conversion module, gateway and remote computer. The device controller is connected to the inter-network through the network conversion module and gateway, and the remote computer can access the equipment control system through network, and then monitor and modify the status of each port of the controller, in order to realize remote debugging and trouble shorting for commissioning and operating of the machine.

This system can collect various operating parameters of the equipment in real time, such as crane capacity, wind speed, launching speed, lifting speed, height difference of the beam, etc., and then transmit the data to the system. By analyzing and processing the data, it can determine whether the operation status of the equipment is OK, whether there are problems such as overload, partial load and tilt, and give corresponding early warning or alarm signals. The results are then displayed in a central control room or on the mobile terminal. The design of the interface is more intuitive and visualized, which can make it easier for operators and managers to observe the running state of the equipment.

GLOBAL PARTNERS»

HCR has been deeply engaged in the global market since the year of 2000, in hundreds of successful cases outside China, we have accumulated a lot of experience, and also established deep friendships with many companies. Here are some of the cooperated partners in China and internationally.....

CHINA

中国中铁 · 中国交建 · 中国铁建 · 中国水电 SINOHYDRO · CHINA CIVIL · 中国三峡

中铁大桥局 · 中隧集团 · BEIXIN 北新路桥 · 北京市政路桥 · 上海隧道

中国建筑 CHINA STATE CONSTRUCTION · CRH 上海铁路局 · 浙江交工

CMIE 中机国际 · 河南一建 · 河南五建 · 河北建设

SRBG 四川路桥 · 湖南路桥 · 宁夏路桥 · 云南路桥 · 冠粤路桥 · 山东高速 SDHS

山西路桥建设集团有限公司 · 新疆路桥建设集团有限公司 · 黑龙江哈铁工程建设有限公司

江苏省交通工程集团有限公司 · 郑州一建集团 · 华冶建工 · 科达集团 KEDA GROUP · 安徽水利 · 沈阳市政 SHENYANG MUNICIPAL

USA

PCL CONSTRUCTION · STG · SKANSKA

MEXICO

SEPSA · prefamovil infraestructura · SOLÍS · ICA

KOREA

DAELIM · KWANSOO · DAEBO

주장헌산업 JANGHEON ENGINEERING & CONSTRUCTION · ES · INTERCONSTECH · 이엔이건설(주)

INDIA

AFCONS · soma ENTERPRISE · VISHWA SAMUDRA CHALLENGE IT, CHANGE IT. · DSC

MALAYSIA

PERI · NRS Bridge Construction Equipment · SUNWAY CONSTRUCTION · B·B·E BBE Solutions Sdn Bhd

TRC · WCT BUILDING VALUES · MELIMA · IJM · Acre Works Sdn Bhd

SINGAPORE

UTRACON · FREYSSINET

THAILAND

UDOMSAK CHIANGMAI · BBR