



## CRRC TRACK CONSTRUCTION & MAINTENANCE MACHINES

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# CONTENTS

## CRRC'S VISION

## COMPANY

Brief	01
Manufacturing Capacity	03
Production and Test Facilities	04
Global Sales & Service Network	05

## PRODUCTS

TRACK MOTOR VEHICLES	07
GC-220	08
GC-270	09
GCY-300	10
GCY-300 ( Business Trolley )	11
GCY-300 II	12
GCY-300 II ( For Plateau )	13
GCY-350	14
GCY-450	15
GCY-540	16
GCD-600	17
GCD-600II	18
GCY-750	19
GCY-1000	20
INSTALLATION & MAINTENANCE OF CATENARY	20
DA12	21
DAS	22
DF4	23
DFH	24
JZW-4	25
DAS7	27
JW-4G	28
JJC	29
DPT	30
TRACK CRANES	30
QGC-16	31
QGC-25	32
GQS-25	33

MACHINES FOR MEASURING WORK	33
GCY-300III	34
JX300	35
JX600	36
JX300II	37
GTC-80	38
RAIL GRINDING & RENEWAL MACHINES	38
PGM-48	39
HGC-2000	40
GMC-48JS	41
CONSTRUCTION & MAINTENANCE MACHINES FOR CITY TRANSIT RAIL	41
LRG	42
DGMC-16JS	43
DGTC-80	44
DGY470/DGY470A	45
DGY300/DGY300A	46
DGS220	47
GC220	48
DXDC	49
DHDC	50
DJW	51
DA11	52
DGY220	53
DZJ-80	54
DDF	55
XDPC30	56
DPC30	57
TSV-02	57

Baoji



# Customer-oriented/Responsible Reliable/Creative

Grateful for favors received, shareholders' benefit is supreme.  
Customer first, customer need is our power to go forward for ever.  
People oriented, every staff shares the achievements with the company.

To become a technology-leading firm and preferred supplier in China railways construction machines.  
To become a well-known brand in international railway construction machines market.  
To become an international company featured with modern management concept & advanced enterprise culture, strong core competition advantage, high-performance and excellent performance for social responsibilities.



Baoji CRRC Times Engineering Machinery Co., Ltd. (BJTEM) was jointly founded in 2009. The company has carried solid experience of its predecessor Baoji Construction & Maintenance Machines Plant, MoR since 1955 in R&D, manufacturing, overhaul of railway construction & maintenance machines.

BJTEM is mainly engaged in the R&D, manufacturing, overhaul, sales, services of track motor vehicles, installation & maintenance machines of catenary, track cranes, measuring work machines, rail grinding & renewal machines and construction & maintenance machines for city transit rail etc.

The company has passed the accreditation & certification of International Railway Industry Standard (IRIS) system, ISO 9001:2008 quality management system and EN15085 international welding certification system.



## Manufacturing Capacity

Provided with various workshops for assembly/machining/framework and, overhaul, BJTEM has established a “One in Four ” production mode: Baoji HQ, Zhuzhou Subsidiary, Xi’ an Branch, Production Base in Baoji High-tech Development Zone.



ASSEMBLY WORKSHOP



MACHINING WORKSHOP



FRAMEWORK WORKSHOP



ASSEMBLY WORKSHOP



OVERHAUL WORKSHOP



R & D CENTER

## Production and Test Facilities

The company has 1330 sets of various types and specifications of equipment for railcar production and testing, 70 sets of large-scale heavy-duty machinery and equipment, 604 sets of precision measuring equipments and 780 sets of main production equipments (bogie static load test rig, 3.5km special railway line, NC automatic wheelset press-fit machine, water and clearance test rig).



BOGIE/TRUCK STATIC  
LOAD TEST RIG



3.5KM SIDING TEST LINE

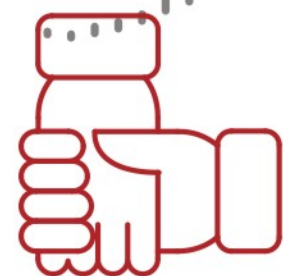


NC-AUTOMATIC WHEELSET  
PRESS-FIT MACHINE



WATER & CLEARANCE  
TEST GANGTRY

## Global Sales & Service Network



BJTEM manufactures various types of railcars for gauge 1000mm, 1067mm, 1435mm, 1520mm and 1676mm currently, which are widely used in railway bureaus, railway construction enterprises, factories, ports and urban rail transit lines and present in more than 20 countries and regions. The company has exported 134 sets of various machines in overseas market. Equipped with more than 60 technicians, of which 13 for electrical/19 for diesel/ 11 for pipelines and 5 for after-service, the after-service team is provided with a training dedicated group. Service stations are set in Beijing/ Shenyang/ Taiyuan/ Guiyang/ Lanzhou/ Hangzhou/ Changsha etc. cities for better and quick after-service for customers, the company is provided with complete marketing network and after-service system.



## Track Motor Vehicles

### GC-220 Track Motor Vehicle



#### Performance and Characteristic of the Complete Vehicle

GC-220 track motor vehicle is mainly used for transport, traction and shunting operations of the materials, tools and personnel during railway line maintenance.

GC-220 track motor vehicle is a four-axle railcar using mechanical drive; both front and rear end of the cab are equipped with a standardized console to facilitate two-way driving. The running system adopts two-axle bogie with secondary suspension, with tie-rod for journal box positioning. Its installed power is 216 kW, and the entire car has good dynamic and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

#### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi$  840mm  
 Axle arrangement: 1A-A1  
 Engine power: 216 kW  
 Minimum negotiable curve radius: 100m  
 Kerb weight: 34t  
 Maximum traveling speed: 110km/h  
 Drive mode: mechanical drive  
 Brake mode: air brake and parking brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 14060mm  $\times$  3272mm  $\times$  4720mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

### GC-270 Track Motor Vehicle



#### Performance and Characteristic of the Complete Vehicle

GC-270 track motor vehicle is mainly used for transport, traction and shunting operations of the materials, tools and personnel during railway line maintenance.

GC-270 track motor vehicle is a four-axle railcar using mechanical drive; both front and rear end of the cab are equipped with a standardized console to facilitate two-way driving. The running system adopts two-axle bogie with secondary suspension, with tie-rod for journal box positioning. Its installed power is 268 kW, and the entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

#### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi$  840mm  
 Axle arrangement: 1A-A1  
 Engine power: 268 kW  
 Minimum negotiable curve radius: 100m  
 Kerb weight: 36t  
 Maximum traveling speed: 110km/h  
 Drive mode: mechanical drive  
 Brake mode: air brake and parking brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 14060mm  $\times$  3272mm  $\times$  4720mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## GCY-300 Track Motor Vehicle



### Performance and Characteristic of the Complete Vehicle

GCY-300 track motor vehicle is mainly used for transport, traction and shunting operations of the materials, tools and personnel during railway line maintenance.

GCY-300 track motor vehicle is a four-axle railcar using hydrodynamic drive; both front and rear end of the cab are equipped with a standardized console to facilitate two-way driving. The running system adopts two-axle bogie with secondary suspension, with tie-rod for journal box positioning. Its installed power is 313 kW, and the entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi$  840mm  
 Axle arrangement: B-B  
 Engine power: 313 kW  
 Kerb weight: 42t  
 Minimum negotiable curve radius: 145m  
 Maximum traveling speed: 100km/h  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and parking brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 14420mm  $\times$  3276mm  $\times$  4740mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## GCY-300 Business Motor Trolley



### Performance and Characteristic of the Complete Vehicle

GCY-300 business motor trolley is mainly used as site office vehicle during railway personnel transport, patrol inspection, rescue and accident rescue and commanding.

GCY-300 business motor trolley is a four-axle railcar using hydrodynamic drive. Two independent power units are provided so that the car can work with single power unit and dual-power units and be operated by one driver. It is a integrated official inspection car specially designed for railway administrations. Each unit's installed power is 353kW and the maximum traveling speed is 120km/h. The car is equipped with seats and conference facilities, which can be used for site office during personnel transport, patrol inspection rescue and accident rescue.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi$  840mm  
 Axle arrangement: 2-B  
 Engine power: 353kW  
 Kerb weight: 44t  
 Minimum negotiable curve radius: 145m  
 Maximum traveling speed: 120km/h  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and hand brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 17440mm  $\times$  3120mm  $\times$  4460mm  
 Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## GCY-300 II Track Motor Vehicle



### Performance and Characteristic of the Complete Vehicle

GCY-300 II track motor vehicle is mainly used for transport and traction operations of the materials, tools and personnel during railway line maintenance.

GCY-300 II track motor vehicle is a four-axle railcar using hydrodynamic drive; both front and rear end of the cab are equipped with a standardized console to facilitate two-way driving. The running system adopts two-axle bogie with secondary suspension, with tie-rod for journal box positioning. Its installed power is 353 kW, and the entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated. It is provided with 75kW generator and hydraulic power source to provide AC380V AC power and hydraulic power for the construction site. The rear end of the car is designed with a cargo platform not less than 9 m<sup>2</sup> used for storing machinery and materials. The rear end of the car is equipped with a hydraulic straight-arm crane used for loading and unloading of materials, tools and testing equipment during railway line maintenance.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\phi$  840 mm  
Axle arrangement: B-B  
Engine power: 353kW  
Minimum negotiable curve radius: 145 m  
Kerb weight: about 44 t  
Maximum traveling speed: 120km/h

Drive mode: hydrodynamic drive (including coasting self-lubricating system)

Brake mode: air brake and hand brake

Overall dimensions (length  $\times$  width  $\times$  height): 17440 mm  $\times$  3150 mm  $\times$  4220 mm

Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways



#### Hydraulic straight-arm crane

Maximum lifting capacity: 5000 kg

Maximum working radius: 9.7 m

Maximum lifting height without height limit:

12m (distance from hook center to rail top)

Slewing angle: 360 ° full slewing, with safety limit function.

The latest products parameters prevail.

## GCY-300 II (Plateau) Track Motor Vehicle



### Performance and Characteristic of the Complete Vehicle

GCY-300 II (plateau) track motor vehicle is mainly used materials, tools and personnel transport and traction during railway line maintenance in the regions with altitude of 3500m and below.

GCY-300 II (plateau) track motor vehicle is a four-axle railcar using hydrodynamic drive; both front and rear end of the cab are equipped with a standardized console to facilitate two-way driving. The running system adopts two-axle bogie with secondary suspension, with tie-rod for journal box positioning. Its installed power is 2  $\times$  353 kW, and the entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

### Main Technical Parameters of the Car

Track gauge: 1435 mm

Wheel diameter:  $\phi$  840mm

Axle arrangement: B-B

Diesel engine power: 2  $\times$  353 kW

Minimum negotiable curve radius: 145m

Maximum outer rail superelevation: 180mm

Kerb weight: 56t

Maximum traveling speed: 120km/h

Drive mode: hydrodynamic drive

Brake mode: air brake and hand brake

Overall dimensions (length  $\times$  width  $\times$  height) 21940mm  $\times$  3150mm  $\times$  4680mm

Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways.

The latest products parameters prevail.

## GCY-350 Track Motor Vehicle



### Performance and Characteristic of the Complete Vehicle

GCY-350 track motor vehicle is mainly used for shunting and transport operations in the railway stations, depots, industrial and mining enterprises, ports and local railway lines.

GCY-350 track motor vehicle is a four-axle railcar using hydrodynamic drive; both front and rear end of the cab are equipped with a driver's console to facilitate two-way driving. The car uses two two-axle bogies, with tie-rod for journal box for positioning. Two independent power units are provided so that the car can work with single power unit and dual-power units. Its installed power is  $2 \times 179\text{kW}$ , and the entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated. reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi 840\text{mm}$   
 Axle arrangement: B-B  
 Engine power:  $2 \times 179\text{ kW}$   
 Minimum negotiable curve radius: 145m  
 Maximum traveling speed: 30 km/h  
 Kerb weight: about 45t  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and hand brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 14838mm  $\times$  3272mm  $\times$  4363mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## GCY-450 Track Motor Vehicle



### Performance and Characteristic of the Complete Vehicle

GCY-450 track motor vehicle is mainly used for materials, tools and personnel transport and traction during railway line maintenance.

GCY-450 track motor vehicle is a four-axle railcar using hydrodynamic drive; both front and rear end of the cab are equipped with a driver's desk to facilitate two-way driving. The running system adopts two-axle bogie with secondary suspension, with tie-rod for journal box positioning. Its installed power is 448 kW and the maximum traveling speed is 100km/h; the entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi 840\text{mm}$   
 Axle arrangement: B-B  
 The Engine power: 448 kW  
 Kerb weight: 50t  
 Maximum traveling speed: 100km/h  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and parking brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 13730mm  $\times$  3360mm  $\times$  4660mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## GCY-540 Track Motor Vehicle



### Performance and Characteristic of the Complete Vehicle

GCY-540 track motor vehicle is mainly used for shunting and transport operations in the railway stations, depots, industrial and mining enterprises, ports and local railway lines.

GCY-540 track motor vehicle is equipped with two sets of independent power and drive units so that the car can work with single unit and dual units. The entire car uses front and rear symmetrical layout; the front and rear consoles are provide in addition to the driver's cab which is arranged in the middle, so that the driver can operate the easily. The car has a large tractive force and is the ideal low-speed shunting locomotive. Its installed power is 2x268kW, the maximum traveling speed is 50km/h. The running system uses two-axle bogies, with tie-rod for journal box for positioning. The entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi$  840mm  
 Axle arrangement: B-B  
 Engine power: 2 × 268kW  
 Minimum negotiable curve radius: 100m  
 Kerb weight: 55t  
 Maximum traveling speed: 50km/h  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and hand brake  
 Overall Dimensions: 14838mm × 3261mm × 4235mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## GCD-600 Diesel Electric Track Trolley



### Performance and Characteristic of the Complete Vehicle

GCD-600 diesel electric track trolley is mainly used for materials, tools and personnel transport and traction during railway line maintenance of 200km/h and above.

GCD-600 diesel electric track trolley is a four-axle railcar using internal combustion AC drive. Both front and rear end of the cab are equipped with a console to facilitate two-way driving. The car uses two two-axle bogies. Its installed capacity is 2 × 382kW, and the entire car has good dynamic performance and traction performance. The car is mounted with a crane used for loading and unloading of the materials, tools and maintenance equipment during railway line maintenance. The rear of the car has a 9 m2 cargo platform with side wall and end wall for storing equipment and materials.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi$  915mm  
 Axle arrangement: Bo-Bo  
 Engine power: 2 × 382kW  
 Minimum negotiable curve radius: 145m  
 Kerb weight: about 66t  
 Maximum traveling speed: 160km/h (traction capacity on the straight and level line: 50t)  
 Drive mode: diesel AC drive  
 Brake mode: air brake + resistance brake and parking brake  
 Overall dimensions (length × width × height): 21950mm × 3278mm × 4360mm  
 Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

#### Telescopic boom hydraulic crane

Maximum lifting torque: 12.5 t · m  
 Maximum lifting capacity: 5000kg  
 Maximum working radius: 11m  
 Maximum lifting height (from rail top): 12m  
 Slewing angle: 360 ° full slewing, with safety limit function

#### Cargo platform

Platform area: 9 m<sup>2</sup>  
 Platform loading capacity: 1.5t  
 Side wall flip angle: 180 °

The latest products parameters prevail.

## GCD-600II Diesel Electric Track Trolley



### Performance and Characteristic of the Complete Vehicle

The trolley is mainly used for materials, tools and personnel transport of PDL.

The trolley is a four-axle railcar using internal combustion AC drive. Two sets of power drive systems are mounted under the car. The maximum traveling speed of the car is 160km/h and can quickly reach the operation site. The car is equipped with two driver's cabs at rear and front end and work room or conference room can be reserved. Large door and auxiliary lifting unit for loading and unloading of materials are provided on both sides of the car middle.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi 915\text{mm}$   
 Axle arrangement: B<sub>0</sub>-B<sub>0</sub>  
 Engine power: 2  $\times$  382kW  
 Minimum negotiable curve radius: 145m  
 Kerb weight: about 66t  
 Maximum traveling speed: 160km/h  
 Drive mode: diesel AC drive  
 Brake mode: air brake + resistance brake and parking brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 21950mm  $\times$  3278mm  $\times$  4360mm  
 Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways.

The latest products parameters prevail.

## GCY-750 Track Motor Trolley



### Performance and Characteristic of the Complete Vehicle

The trolley is mainly used for transport and traction of materials, tools and personnel during high speed railway line maintenance or rescue and traction of faulted trains.

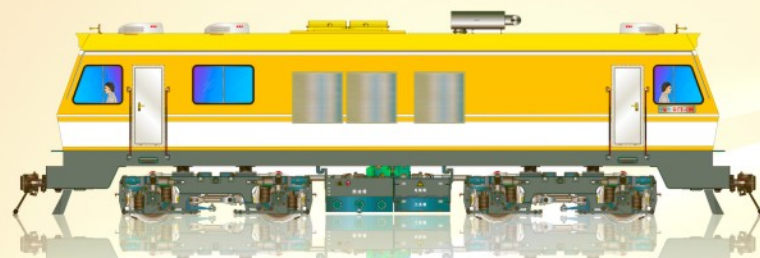
The trolley is a four-axle railcar using hydrodynamic drive; both front and rear end of the cab are equipped with a standardized console to facilitate two-way driving. The running system adopts two-axle bogie with secondary suspension. Its installed power is 2  $\times$  388 kW, and the entire car has good dynamic performance and traction performance. The drive system is well arranged, safe and reliable; the air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi 920\text{mm}$   
 Axle arrangement: B-B  
 Engine power: 2  $\times$  388kW  
 Kerb weight: 68t  
 Minimum negotiable curve radius: 145m  
 Maximum self-propeller speed: 160km/h  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and parking brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 24940mm  $\times$  3160mm  $\times$  4145mm  
 Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways.

The latest products parameters prevail.

## GCY-1000 Track Motor Trolley



### Performance and Characteristic of the Complete Vehicle

The trolley is mainly used for materials, tools and personnel transport, traction and shunting operations during railway line maintenance.

The trolley is a four-axle railcar using hydrodynamic drive, and both ends of it are equipped with a console to facilitate two-way driving. The car adopts two-axle bogie with secondary suspension, with tie-rod for journal box positioning. Its installed power is 1000 kW, and the entire car has good dynamic performance and traction performance. The entire power system is arranged on the longitudinal center of the car body. A through corridor is arranged on both sides and its performance is safe, reliable and stable. The air brake system uses JZ-7 air brake which has good adaptability and is easy to be operated. The entire car adopts the modular design and the car parts are simple in structure, safe and reliable.

### Main Technical Parameters of the Car

Axle arrangement: B-B  
 Engine power: 1000kW  
 Minimum negotiable curve radius: 145m  
 Kerb weight: approx. 82t  
 Maximum traveling speed: 100km/h  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and parking brake  
 Overall dimensions (length × width × height): 16200 mm × 3269 mm × 4702mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## Installation or Maintenance Machines of Catenary

### DA12 Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

The machine is mainly used for daily inspection and maintenance of upper facilities of the overhead catenary system. It can also be used as a traction car to carry out immediate repair operation of the CATENARY while being connected with other vehicles.

The car is a four-axle operation car using mechanical drive; its rated engine power is 216kW and the maximum traveling speed is 100km/h. The rear end of the vehicle is mounted with a hydraulic lifting and slewing operation platform able to achieve lifting and 120° slewing to left or right. It can also provide the operation space for six or seven operators at the same time on the platform. The rear end of the vehicle is mounted with a crane used for hoisting tools and equipment to the operation platform. The vehicle can be optionally equipped with hydrostatic running system, wire tightening post and CATENARY detection unit.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
 Wheel diameter:  $\phi 840$ mm  
 Axle arrangement: 1A-A1  
 Engine power: 216kW  
 Minimum negotiable curve radius: 100m  
 Kerb weight: about 38t  
 Maximum traveling speed: 110km/h  
 Drive mode: mechanical drive (hydrodynamic drive in case of 3 ~ 10km/h low speed traveling)  
 Brake mode: air brake and hand brake  
 Overall Dimensions: 14082mm × 3260mm × 4765mm  
 Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

### Hydraulic lifting and slewing operation platform

Platform overall dimension (length × width): 5500mm × 1750mm  
 Maximum lifting height (platform floor to rail top): 6800mm  
 Operation radius: 4500mm  
 Maximum loading capacity of the platform slewing center: 1000kg  
 Maximum loading capacity of the far end platform: 300kg  
 Slewing angle of the platform:  $\pm 120^\circ$   
 Wire support unit (length × diameter): 1200mm ×  $\phi 140$ mm  
 Wire positioning range:  $\pm 600$ mm  
 Railing height: 1100mm folded railings arranged around the platform

## DAS Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

The machine is mainly used for construction operation, daily maintenance, rescue and other operation of the railway CATENARY. It can also be used as a traction car to carry out immediate repair operation of the CATENARY while being connected with other vehicles.

It is a four-axle working car using hydraulic and mechanical drives; its rated engine power is 247kW and the maximum traveling speed is 100km/h. The vehicle is mounted with a hydraulic lifting and slewing operation platform able to achieve lifting and 120° slewing to left or right through double acting cylinder. It can also provide the operation space for six or seven operators at the same time on the platform. The rear end of the vehicle is mounted with a crane used for hoisting tools and equipment to the operation platform. The vehicle can be optionally equipped with wire tightening post and CATENARY detection unit.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\Phi 840$  mm  
Axle arrangement: 1A-A1  
Engine power: 247kW  
Minimum negotiable curve radius: 100 m  
Kerb weight: about 40t  
Maximum traveling speed: is 100 km/h  
Drive mode: hydraulic-mechanical drive (including coasting self-lubricating system)  
Brake mode: air brake and hand brake  
Overall dimensions (length  $\times$  width  $\times$  height): 14940mm  $\times$  3260mm  $\times$  4547mm  
Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways



#### Hydraulic lifting and slewing operation platform

Platform overall dimension (length  $\times$  width): 5500mm  $\times$  1750mm  
Maximum working height (platform floor to rail top): 6800mm  
Slewing radius of the working car platform: 4500mm  
Maximum loading capacity of the platform slewing center: 1000kg  
Maximum loading capacity of the front end platform: 300kg  
Slewing angle of the platform:  $\pm 120^\circ$   
Wire support unit (length  $\times$  diameter): 1200mm  $\times$   $\Phi 70$ mm  
Wire positioning range:  $\pm 600$ mm  
Railing height of the platform: 1100mm folded railings

## DF4 Installation & Renewal Wagon of Catenary



### Performance and Characteristic of the Complete Vehicle

The wagon is a special vehicle for catenary setting and stretching of electrified railway. It has no power. During operation, it is connected with CATENARY working car to form the working car train set and can be used for erection, routine maintenance and accident rescue operations of the catenary and carrying cable. During catenary setting and stretching, it can cause the wire and carrying cable to produce certain setting and stretching tension, and the catenary and carrying cable can be raised and supported to their respective required height by using the platform.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\Phi 840$ mm  
Dead weight: 22t  
Minimum negotiable curve radius: 100m  
Maximum traveling speed: 120km/h  
Brake mode: air brake and hand brake  
Overall dimensions: 13938mm  $\times$  3140mm  $\times$  3750mm  
Clearance: in line with GB146.1-1983 "Locomotive & Rolling Stock Gauge for Standard Gauge Railways"



#### OCS unrolling unit

Number of rack: 3  
Number and pin diameter of reel:  $\Phi 75$  mm and  $\Phi 55$  mm (3 pieces each)  
Center height of the reel pin (from the vehicle floor): 1406mm  
Maximum diameter of reel: 1600mm  
Distance between reel pin centers: 2700mm  
Maximum setting and stretching tension: 5kN

## DFH Installation & Renewal Machine of Catenary in Constant Force



### Performance and Characteristic of the Complete Vehicle

The machine is a special vehicle for winding of catenary and carrying cable as well as catenary setting and stretching of electrified railway. The vehicle is able for both separate and simultaneous erection and recovering of catenary and carrying cable. During catenary setting and stretching process, the catenary and carrying cable are always maintained at a predetermined tension and both catenary and carrying cable are supported to their respective required positions. The vehicle is equipped with two independent tension mechanisms which use double friction wheel structure. It has the tightening guide pulley to prevent strain due to dislocation of catenary or carrying cable. The hydraulic lifting and slewing operation platform uses double acting cylinder to achieve lifting and 120° slewing to left and right and provides the operation space for six or seven operators at the same time on the platform.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\Phi 840\text{mm}$   
Minimum negotiable curve radius: 145m  
Kerb weight: about 68t  
Engine power (traveling): 247kW  
Maximum coupled traveling speed: 120km/h  
Traveling speed during OCS unrolling: 0 ~ 6km/h  
Traveling speed during shunting operation: 0 ~ 15km/h  
Drive mode: hydrodynamic drive  
Brake mode: air brake and hand brake  
Overall dimensions (length  $\times$  width  $\times$  height): 25938 mm  $\times$  3140 mm  $\times$  4770mm  
Clearance: in line with GB146.1 Rolling Stock Gauge for Standard Gauge Railways

#### Parameters of catenary setting and stretching unit

Winding as well setting and stretching height: Catenary 5.15m ~ 8.2m (adjustable)  
Carrying cable 5.15m ~ 8.2m (adjustable)  
Wire positioning range: Catenary  $\pm 3000$  mm  
Carrying cable  $\pm 3000$  mm  
Setting and stretching tension: Catenary 6kN ~ 30kN (single wire)  
Carrying cable 6kN ~ 30kN (single wire)  
(12kN ~ 40kN) (two lines at the same time)  
Tension error range  $\leq 10\%$  (at starting and stopping)  
 $\leq 5\%$  (at constant speed)  
Setting and stretching speed: 0 ~ 6km/h  
Wire or cable specification: 80mm<sup>2</sup> ~ 240mm<sup>2</sup> (various wires and carrying cables)  
Winding speed: 1km/h

#### Applicable reel

Diameter of side plate of reel:  $\leq 1800\text{mm}$   
Outside width of reel:  $\leq 1400\text{mm}$   
Reel weight:  $\leq 4000\text{kg}$   
Pin hole diameter:  $\Phi 80\text{mm}$

The latest products parameters prevail.

## JZW-4 Installation & Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

The machine is mainly used for construction operation, daily maintenance, rescue and other operation of overhead catenary of the railway. It can also be used as a traction car to carry out immediate repair operation of the CATENARY while being connected with other vehicles.

The vehicle is a four-axle working car using hydrodynamic drive; its rated engine power is 353kW and the maximum traveling speed is 120km/h. The vehicle is mounted with a lifting and slewing operation platform able to achieve lifting and 120° slewing to left and right through double acting cylinder. It can also provide the operation space for six or seven operators at the same time on the platform. High altitude operation basket is mainly used to complete installation, removal and adjustment of upper equipment of the CATENARY during high altitude operation. High altitude operation basket is provided with automatic leveling system.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\Phi 840$  mm  
Axle arrangement: 2-B  
Engine power: 353kW  
Minimum negotiable curve radius: 100m  
Kerb weight: 48t  
Maximum traveling speed: 120 km/h  
Drive mode: hydrodynamic drive (including coasting self-lubricating system)  
Brake mode: air brake and hand brake  
Overall dimensions (length  $\times$  width  $\times$  height): 16150mm  $\times$  3118mm  $\times$  4740mm  
Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways.

#### Lifting and slewing operation platform:

Platform overall dimensions (length  $\times$  width): 5500mm  $\times$  1750mm  
Maximum working height (platform floor to rail top): 6800mm  
Slewing radius of the working car platform: 4500mm  
Maximum loading capacity of the platform slewing center: 1000kg  
Maximum loading capacity of the front end platform: 300kg  
Slewing angle of the platform:  $\pm 120^\circ$   
Wire support unit (length  $\times$  diameter): 1200mm  $\times$   $\Phi 70\text{mm}$   
Wire positioning range:  $\pm 600\text{mm}$   
Railing height of the platform: 1100mm folded railings

#### Aerial operation basket

Working bucket's overall dimension (length  $\times$  width  $\times$  height): 1600mm  $\times$  1200mm  $\times$  1100mm  
Maximum vertical working height (from working bucket floor to rail top): 16200mm  
Maximum working radius (from working bucket front end to slewing center): 11000mm  
Rotation angle: 225° to the left and right respectively  
Horizontal rotation angle of the working bucket itself (left and right): 90°  
Carrying capacity of working bucket: 300kg

The latest products parameters prevail.

## DAS7 Multi-Purpose Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

The machine is a professional catenary maintenance and repair equipment. It has a maximum traveling speed of 160km/h and can quickly reach the operation site. It is mainly used for maintenance, repair and fault treatment of CATENARY of the electrified railway, maintenance operation of CATENARY upper equipment in the junction and large stations/yards, maintenance operation of CATENARY of the adjacent railway lines, and integrated CATENARY detection of the electrified railway.

The vehicle is provided with CATENARY detection unit which can store the data in the computer hard drive according to THE number of the lines, stations and posts and use the supporting software for data analysis. The vehicle top is equipped with cameras to send video contact conditions between pantograph and catenary to the detection system display, thus to facilitate real-time monitoring of the pantograph catenary conditions. The vehicle top is equipped with a full-hydraulic two-arm wire positioner that supports the overhead catenary to the desired height. Lifting and slewing operation platform and high-altitude operation bucket can solve the difficulty of high-altitude operation and thus save roof opening time.

### Main Technical Parameters of the Car

Track gauge: 1435mm  
 Wheel diameter:  $\Phi 920\text{mm}$   
 Axle arrangement: B-B  
 Engine power:  $2 \times 588\text{kW}$   
 Minimum negotiable curve radius: 145m  
 Kerb weight: 84t  
 Maximum traveling speed: 160 km/h  
 Brake mode: air brake, parking brake and hydraulic brake  
 Drive mode: hydrodynamic drive (high speed traveling), hydrostatic drive (operation traveling)  
 Overall dimensions (length  $\times$  width  $\times$  height): 24940mm  $\times$  3340mm  $\times$  4720mm  
 Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways .

### OCS detection unit

Contact wire height: 5000–6800mm  $\pm 10\text{mm}$   
 Stagger:  $\pm 600\text{mm} \pm 20\text{mm}$   
 Mileage: 1 ~ 9999km  $< 1\%$   
 Speed: 0 ~ 160km/h  $< 1\%$

### Wire positioner

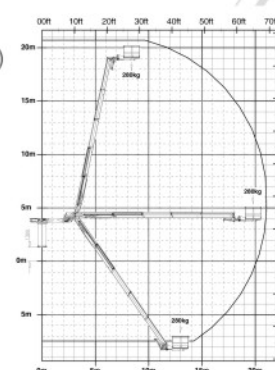
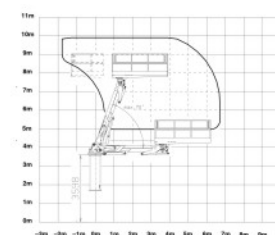
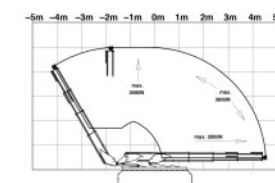
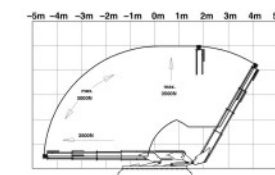
Number of positioner arm: 2  
 Horizontal movement distance:  $\geq 600\text{mm}$   
 Maximum positioning force: 3500N  
 Maximum lifting height: 8000mm  
 Maximum allowable wind speed: 12.5m/s  
 Control mode: Remote control/manual

### Lifting and slewing platform

Maximum load: 500kg (including 2 workers)  
 Platform dimensions: 3.0m  $\times$  1.5m  
 Railing height: 1100mm  
 Maximum lifting height (above rail top): 7900mm  
 Rotation interval:  $\pm 180^\circ$   
 Maximum allowable wind speed: 12.5m/s  
 Control mode: Line control/manual

### Aerial operation bucket's technical parameters:

Dead weight: 5700kg  
 Allowable load: 80kg (including mobile lights and two persons)  
 Platform dimensions: 1.5m  $\times$  1.6m (length  $\times$  width)  
 Railing height: 1100mm  
 Maximum lifting height (above rail top): 18m  
 Minimum position (to vehicle top): 7.5m  
 Slewing angle of slewing arm:  $\pm 360^\circ$   
 Slewing angle of lifting arm:  $\pm 360^\circ$   
 Maximum allowable wind speed: 12.5m/s  
 Control mode: Line control/manual



## JW-4G Installation & Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

The machine is mainly used for construction, daily maintenance, rescue and other operation of overhead catenary system of the railway. It can also be used as a traction car to carry out immediate repair operation of the CATENARY while being connected with other vehicles.

The vehicle is a four-axle working car using hydrodynamic drive; its rated engine power is 353kW and the maximum traveling speed is 120km/h. The vehicle is mounted with a hydraulic lifting and slewing operation platform able to achieve lifting and 120° slewing to left and right through double acting cylinder. It can also provide the operation space for six or seven operators at the same time on the platform. The rear end is equipped with a crane used to hoist tools and equipment to the operation platform.

The vehicle can be optionally equipped with wire tightening post, CATENARY detection unit and operation platform leveling unit according to user needs.

### Main Technical Parameters of the Car

Track gauge: 1435mm

Wheel diameter:  $\Phi 840\text{mm}$

Axle arrangement: 2-B

Engine power: 353kW

Minimum negotiable curve radius: 100m

Kerb weight: about 47t

Maximum traveling speed: 120km/h

Drive mode: hydrodynamic drive (including coasting self-lubricating system)

Brake mode: air brake and hand brake

Overall dimensions (length  $\times$  width  $\times$  height): 15930mm  $\times$  3118mm  $\times$  4740mm

Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways



#### Lifting and slewing operation platform

Platform overall dimension (length  $\times$  width): 5500mm  $\times$  1750mm

Maximum working height (platform floor to rail top): 6800mm

Slewing radius of the working car platform: 4500mm

Maximum loading capacity of the platform slewing center: 1000kg

Maximum loading capacity of the front end platform: 300kg

Slewing angle of the platform:  $\pm 120^\circ$

Wire support unit (length  $\times$  diameter): 1200mm  $\times$   $\Phi 70\text{mm}$

Wire positioning range:  $\pm 600\text{mm}$

Railing height of the platform: 1100mm folded railings

The latest products parameters prevail.

## JJC Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

The machine consists of two traction cars and ten working cars. Its maximum traveling speed is 120km/h. The top of it is mounted with a 175m-long through lifting operation platform. The vehicle integrates the functions such as through platform operation and traction, pantograph catenary power receiving, power generation, material storage and processing, storage of the spare parts and tools, accommodation, meeting and on-site office. It is mainly used for centralized maintenance and daily inspection and maintenance of CATENARY facilities of the electrified railway. It can also be used for materials, tools and personnel transport during maintenance operation.

### Main Technical Parameters of the Car

Track gauge: 1435 mm

Wheel diameter:  $\Phi 840\text{mm}$

Minimum negotiable curve radius: 145m

Brake mode: air brake and hand brake

Kerb weight: about 560t

Maximum traveling speed: 120km/h

Overall dimensions (length  $\times$  width  $\times$  height):

220000mm  $\times$  3150mm  $\times$  4600 mm

Clearance: in line with relevant requirements of the GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways.

#### Working car's technical parameters (single set)

Axle arrangement: 2-2

Wheelbase: 2100mm

Axle load:  $\leq 19\text{t}$

Overall dimensions (length  $\times$  width  $\times$  height):

17565mm  $\times$  3150mm  $\times$  4540mm



#### Operation platform's technical performance

Platform width: 1750mm

Railing height: 1100mm

Maximum lifting height: 1700mm

Height from platform floor to rail top: 4100mm  $\sim$  5800mm

Maximum lifting time:  $\leq 50\text{s}$

Maximum landing time:  $\leq 50\text{s}$

Maximum loading capacity of platform: 3t (uniform load)  
300kg/m<sup>2</sup> (maximum concentrated load)

Minimum gap between two platforms:  $\leq 350\text{mm}$

#### Traction car's technical parameters (single set)

Axle arrangement: B-B

Bogie wheelbase: 2100mm

Bogie center distance: 14500mm

Kerb weight: about 60t

Diesel engine power: 2  $\times$  353kW

Drive mode: hydrodynamic drive

Overall dimensions (length  $\times$  width  $\times$  height):

22065mm  $\times$  3150mm  $\times$  4450mm

The latest products parameters prevail.

## DPT Motor Tower Car with Three-Part Elevating Platform



### Performance and Characteristic of the Complete Vehicle

The car is mainly used for installation, maintenance and routine inspection and maintenance of CATENARY facilities of the electrified railways.

The car is a four-axle working car using hydrodynamic drive; its rated engine power is 353kW and the maximum traveling speed is 120km/h. The vehicle is equipped with a three-platform operation unit, including a main platform and two auxiliary platforms. The main platform is for lifting only. In addition to for lifting, the two auxiliary platforms can be extended to both sides, but operation can only be carried out on each respective platform. Each platform is equipped with emergency stop and bypass brake buttons as well as the communication equipment with ground personnel and other platforms. Through the leveling unit, the working car can achieve automatic leveling (also manual leveling) at curve for operation, thus to ensure that three platforms are all in the horizontal state and meet operation safety of the working car on the lines with outer track superelevation of 180mm and below. Raising and positioning unit consists of two retractable raising and positioning arms respectively used for raising and positioning of catenary and carrying cable. It is provided with two operating modes, namely wireless remote control mode and manual mode.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\Phi 840$  mm  
Axle arrangement: B-2  
Engine power: 353kW  
Minimum negotiable curve radius: 145m  
Kerb weight: about 49t  
Maximum traveling speed: 120 km/h  
Drive mode: hydrodynamic drive  
Brake mode: air brake and hand brake  
Overall dimensions: 15930mm  $\times$  3270mm  $\times$  4690 mm  
Clearance: in line with relevant requirements of the GB146.1 Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

#### Main platform

Maximum height from platform bottom to rail top: 4780mm  
Rated load: 500kg  
Platform dimension(length  $\times$  width): 2000mm  $\times$  1380mm

#### Auxiliary platform

Maximum horizontal extension: 4000mm from track center on both left and right  
Maximum height from platform bottom to rail top: 7600mm  
Rated load: 250kg  
Platform dimensions: 2000mm  $\times$  930mm (length  $\times$  width)

#### Raising and positioning unit

Maximum positioning force: 3500N  
Maximum lifting height: 8200mm  
Horizontal movement distance:  $\geq 600$ mm

#### Leveling unit

Through leveling unit, the working car can achieve automatic leveling (also manual leveling) at curve during construction, thus to ensure that three platforms are all in the horizontal state and meet operation safety of the working car on the lines with outer track superelevation of 180mm and below.

## Track Cranes

### QGC-16 Track Crane



### Performance and Characteristic of the Complete Vehicle

The crane is mainly used for lifting on the railway lines for construction, maintenance and repair and also ordinary lifting of other equipment. The crane is of synchronous telescopic boom and full hydrodynamic drive type with maximum lifting capacity of 16t. When using the longest boom (boom length of 18.81 m), the maximum lifting capacity is 8t.

### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\Phi 840$ mm  
Engine power: 216kW  
Minimum negotiable curve radius: 100m  
Kerb weight: 37t  
Maximum traveling speed: 95km/h  
Transmission (in case of self-powered traveling): mechanical drive  
(in case of traveling with load): hydrodynamic drive  
Brake mode: air brake and hand brake  
Overall dimensions (length  $\times$  width  $\times$  height): 10870 mm  $\times$  3120 mm  $\times$  4140mm  
Clearance: in line with GB146.1 Rolling Stock Gauge for Standard Gauge Railways

#### Hydraulic crane

Maximum lifting torque: 70t.m (fixed operation with outrigger)  
2t.m (fixed operation without outrigger)  
Maximum lifting capacity: 16t (fixed operation with outrigger)  
7t (fixed operation without outrigger)  
Maximum working height: 19.28m  
Maximum working radius: 18m  
Boom length: 7.97m ~ 18.81m  
Boom elevation angle:  $-3^\circ \sim 75^\circ$

The latest products parameters prevail.

### QGC-25 Track Crane



#### Performance and Characteristic of the Complete Vehicle

The crane is mainly used for lifting on the railway lines for construction, maintenance and repair and also ordinary lifting of other equipment.

This is a four-axle track crane using mechanical drive. It has the maximum traveling speed of 100km/h and is able for 0 ~ 10km/h low-speed hydrostatic traveling. The crane is a whole slewing, telescopic, boom-type hydraulic crane. The outriggers adopt "H" type structure. It is provided with two-way hydraulic lock movable outriggers controlled by the outrigger control valve and can realize synchronous or separate action of the outriggers.

#### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\phi$  840 mm  
Axle arrangement: 1A-A1  
Engine power: 247kW  
Minimum negotiable curve radius: 100m  
Kerb weight: 60t  
Maximum traveling speed: 100 km/h  
Drive mode: mechanical drive  
Brake mode: air brake and hand brake  
Overall dimensions (length  $\times$  width  $\times$  height):  
14870mm  $\times$  3275mm  $\times$  4600mm  
Clearance: in line with relevant requirements of the  
GB146.1 Locomotive & Rolling Stock  
Gauge for Standard Gauge Railways.



#### Hydraulic crane

Lifting torque: 125t.m (fixed operation with outrigger)  
30t.m (mobile operation without outrigger)  
Maximum lifting capacity: 25t (fixed operation with outrigger)  
10t (mobile operation without outrigger)  
Maximum lifting height: 20.5m  
Boom length: 9.98m~21m  
Boom elevation angle:  $-3^{\circ}$  ~  $+80^{\circ}$   
Boom control room (length  $\times$  width  $\times$  height):  
1550mm  $\times$  830mm  $\times$  1475mm  
Outrigger span (horizontal  $\times$  vertical): 5.5m  $\times$  6.7m  
Turntable tail slewing radius: 1960mm

The latest products parameters prevail.

### GQS-25 Track Crane



#### Performance and Characteristic of the Complete Vehicle

Model GQS-25 track crane is mainly used for cargo handling, pole and line erection, construction and installation, switch replacement, equipment maintenance and other operations by the standard gauge railways and industrial and mining enterprises and ports with special railway lines. The car is a newly developed hydraulic-driven railway crane targeted for rapid development of the domestic railway construction. The car is powered by air-cooled diesel engine with the installed power of 81kW. It uses hydraulic power drive, and can achieve lifting with outriggers or without outrigger.

#### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter:  $\phi$  840 mm  
Minimum negotiable curve radius: 145m  
Kerb weight: about 52t  
Maximum coupled traveling speed: 120 km/h  
Engine rated power: 81kW  
Drive mode: hydrodynamic drive  
Brake mode: air brake, basic braking and hand braking  
Overall dimensions (length  $\times$  width  $\times$  height): 12060 mm  $\times$  3200 mm  $\times$  4150mm  
Clearance: in line with GB146.1 Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## Measuring Work Machines

### GCY-300III Track Measuring Machine



#### Performance and Characteristic of the Complete Vehicle

The vehicle is a four-axle detection car using hydrodynamic drive. It uses dual power drive system with the installed power of 2 × 353kW and the maximum continuous traveling speed is 120km/h. The vehicle has the functions such as rail section and equivalent taper detection, lower clearance inspection of the line, track patrol inspection, CATENARY geometric parameters detection, positioner slope detection, environmental video monitoring, tackside electrical equipment inspection and other comprehensive inspection and accurate positioning functions. It also can be used for materials, tools and personnel transport during railway line maintenance.

#### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter: φ 840mm  
Axle arrangement: B-B  
Engine power: 2 × 353kW  
Minimum negotiable curve radius: 145 m  
Kerb weight: about 54t  
Maximum traveling speed: 120km/h  
Drive mode: hydrodynamic drive  
Brake mode: air brake and hand brake  
Overall dimensions (length × width × height): 21940 mm × 3150 mm × 4760mm  
Clearance: in line with relevant requirements of the GB146.1 Locomotive &Rolling Stock Gauge for Standard Gauge Railways.

The latest products parameters prevail.

### JX300 Smart Non-Contact Measuring Machine of Catenary



#### Performance and Characteristic of the Complete Vehicle

The vehicle is a four-axle detection car using hydrodynamic drive. Its installed power is 353kW and the maximum traveling speed is 120km/h. The detection car is equipped with the real-time intelligent detection and analysis system for CATENARY of electrified railways, which is mainly used to form high-definition images of suspension unit, support unit and positioning unit of the CATENARY, automatically analyze the captured images through intelligent image discrimination algorithm and generate suspension state fault list of the CATENARY after artificial confirmation, thus to guide the CATENARY maintenance personnel to timely repair the faults during CATENARY operation. Through real-time image detection and analysis, it can further reduce the labor intensity required for manual viewing and analysis, thus to improve the maintenance efficiency of the CATENARY. The vehicle can also be used for materials, tools and personnel transport during railway line maintenance.

#### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter: φ 840 mm  
Axle arrangement: 2-B  
Engine power: 353kW  
Minimum negotiable curve radius: 145m  
Kerb weight: 56t  
Maximum traveling speed: 120km/h  
Drive mode: hydrodynamic drive  
Brake mode: air brake and hand brake  
Overall dimensions (length × width × height): 21940mm × 3150mm × 4680mm  
Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

Item	Object	Replacement					Recognition range
		Integrity	Recognition content	Crack	loose	Foreign matter	
Support unit	Cantilever and strut	✓	✓	✓	✓	✓	Main structure related dimensions of strut and surface status of main components
	Connection parts	✓		✓	✓		Surface status of rigid connection of strut stress
	Suspension post and base	✓	✓	✓	✓		Main structure and positions of rigid cross girder dropper post and base in tunnel
	Bracing wire and equipotential wire	✓			✓		Various bracing wire and equipotential wire status of strut
	Positioning device and tube		✓	✓			Main structure and position of positioning device and tube
	Insulator	✓			✓		Strut insulator surface status
Contact line suspension	Dropper line				✓		Dropper line body status
	Center anchor knot				✓		Center anchor knot rope body status
	Line clamp			✓	✓		Positioning wire and dropper line clamp body status
Additional suspension	Connection parts	✓		✓	✓		Rigid connection surface status of additional suspension strut
	Insulator	✓		✓			Insulator surface status of additional suspension strut
	Strut	✓		✓			Strut surface status and position of additional suspension strut

### JX600 Measuring Machine of Catenary



#### Performance and Characteristic of the Complete Vehicle

The machine consists of traction car and measuring car, and is mainly used for comprehensive line detection.

The vehicle integrates CATENARY detection system and track detection system and can achieve detection of the CATENARY parameters and track parameters under the operating conditions with the highest traveling speed of 120km/h.

The front end and rear end of the vehicle are respectively equipped with a driver's cab, and the vehicle can achieve two-way traveling, two-way operating and two-way detection.

#### Main Technical Parameters of the Car

Track gauge: 1435mm  
Wheel diameter:  $\phi 915\text{mm}$   
Axle arrangement (traction car): B-B  
(detection car): 2-2  
Engine power:  $2 \times 298\text{kW}$   
Minimum negotiable curve radius: 145m  
Kerb weight: about 95t  
Maximum traveling speed: 120km/h  
Drive mode: hydrodynamic drive  
Brake: JZ-7 Air brake  
Overall dimensions (length  $\times$  width  $\times$  height): 35000mm  $\times$  3300mm  $\times$  4750mm  
Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

### JX300II Smart Non-Contact Measuring Machine of Catenary with Dual-Power



#### Performance and Characteristic of the Complete Vehicle

The machine is mainly used for 4C detection of the CATENARY suspension state in all railway lines. Its installed power is  $2 \times 353\text{kW}$  and uses hydrodynamic drive, with the maximum traveling speed of 120km/h. The vehicle is equipped with CATENARY suspension state detection and monitoring unit that can perform imaging detection of the CATENARY parts and measure the static geometric parameters of the system. Through identification and analysis of the detected data, the CATENARY state can be fully understood, thus to guide maintenance of the CATENARY and improve the maintenance efficiency. The vehicle has reasonable layout and is provided front and rear driver's cabs, detecting room, bathroom and rest room. It can also be used for materials, tools and personnel transport during railway line maintenance.

#### Main Technical Parameters of the Car

Track gauge: 1435 mm  
Wheel diameter: 840 mm  
Axle arrangement: B-B  
Engine power:  $2 \times 353\text{kW}$   
Minimum negotiable curve radius: 145 m  
Kerb weight: 58t  
Maximum traveling speed: is 120 km/h  
Drive mode: hydrodynamic drive  
Brake mode: air brake and hand brake  
Overall dimensions: 21940mm  $\times$  3150mm  $\times$  4680mm  
Clearance: in line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

#### Range and precision of static geometric parameters

Contact wire height: 5000~7000mm、1mm、 $\pm 10\text{ mm}$   
Stagger:  $\pm 625\text{mm}$ 、1mm、 $\pm 10\text{ mm}$   
Vertical distance between catenaries: 0~500 mm、1mm、20 mm  
Horizontal distance between catenaries: 0~800 mm、1mm、20 mm  
Positioner slope: 0~20°、0.1°、 $\pm 0.5^\circ$

The latest products parameters prevail.

## GTC-80 Measuring Machine of Rail Flaw



### Performance and Characteristic of the Complete Vehicle

The machine is mainly used to detect various flaws in the line rails, and can be equipped with rail state patrolling and rail profile systems, etc. It is also designed with such functions as dynamic acquisition, image browsing and analysis management of surface images of rail, fastener, track slab surface, sleeper and ballast bed. The vehicle is composed of two cars, namely a motor car and an detection car, and each car is designed with 2 two-axle bogies. The vehicle is capable of self-running and coupling with existing rolling stock coupling in China. The vehicle can be equipped with rail profile inspection system as optional.

### Main Technical Parameters of the Car

Track gauge: 1435mm  
 Wheel diameter:  $\Phi 915\text{mm}$   
 Axle arrangement: Motor car B-B  
     Detection car: 2-2  
 Engine power:  $2 \times 298 \text{ kW}$   
 Minimum negotiable curve radius: 140m  
 Minimum operating curve radius: 160m  
 Kerb weight: 95t  
 Maximum self-propelled traveling speed: 120km/h  
 Maximum continuous detection speed: 80km/h  
 Drive mode: hydrodynamic drive  
 Brake mode: air brake and parking brake  
 Overall dimensions (length  $\times$  width  $\times$  height): 34875mm  $\times$  3275mm  $\times$  4650mm  
 Clearance: In line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## Rail Grinding & Renewal Machines

## PGM-48 Rail Grinding Train



### Performance and Characteristic of the Complete Vehicle

The machine is used to correct the rail corrugation and wheel-rail burn, correct the track side tilting deformation and repair the defect on wheel-rail contact surface and other rail defects caused due to vehicle running on rail. It can also be used for preventive maintenance of rails. The grinding machine is composed of No. 1 car (control), No. 2 car (living) and No. 3 car (end).

Each car has 8 grinding heads, and the whole vehicle has 48 grinding heads in total. The minimum working curve radius of the grinding car is 180m. When the working speed is 7km/h, the metal removed every time is 0.2mm.

The machine is equipped with 6 dust collection units, and each unit composes an independent dust collection system, with total power of 90kW. The dust collection system is designed with three cleaning modes, i.e. differential pressure cleaning, start-up cleaning and shutdown cleaning. The dust removal system is able to develop the communication network with upper-level module and realize remote monitoring of dust collectors.

### Main Technical Parameters of the Car

Track gauge: 1435mm  
 Maximum traveling speed: 80km/h  
 Distance between backs of wheel flanges:  $1353 \pm 2\text{mm}$   
 Minimum negotiable curve radius: 100m  
 The vehicle is capable of two-way running, and the continuous grinding speed is 2km/h-16km/h.  
 When the speed is less than 2km/h  
 Minimum working curve radius: 180m  
 Deflection angle of grinding head:  $+50^\circ \sim -45^\circ$   
 Continuous power of motor: 22kW  
 Maximum superelevation: 150mm  
 Minimum curve radius: 100m  
 Maximum axle load under the kerb weight: not more than 23t

The latest products parameters prevail.

This rail grinding machine is applicable to 50, 60 and 75kg/m rails  
 The vehicle is able to run continuously for at least 6 hours on ordinary lines, and run continuously at least 2 hours in tunnels.  
 The metal removed every time is 0.2mm when working speed is 7km/h.

## HGCZ-2000 Renewal Machine of Continuous Welded Rails



### Performance and Characteristic of the Complete Vehicle

Model HGCZ-2000 rail replacement car is able to complete the rail replacement and major repair works efficiently and in high quality on operation railway line by using the "skylight". The car has self-propelled traveling power and fastener automatic recovery function, and is capable of self-propelled traveling at 0~10km/h, and the traveling between sections is pulled by locomotive or motor rail car.

The rail replacement mechanism is simple in structure, safe and reliable. The motion in all directions is pushed by hydraulic cylinder, and the mechanism realizes automatic displacement through spike inspection system during curved rail replacement, without need of manual operation.

The fastener recovery system absorbs the old fasteners in the middle of track by means of electromagnetic drum, and recover the old fasteners into the hopper by means of belt conveying.

### Main Technical Parameters of the Car

Track gauge: 1435mm  
 Wheel diameter:  $\phi$  840 mm  
 Engine power: 300 KW  
 Minimum working curve radius: 250m  
 Minimum negotiable curve radius: 180m  
 Kerb weight:  $\leq$ 77t  
 Self-propelled traveling speed: 0~10km/h  
 Maximum traveling speed: 100km/h  
 Drive mode: hydrostatic drive  
 Vehicle size (length  $\times$  width  $\times$  height): 31480mm  $\times$  3020mm  $\times$  4700mm  
 Clearance: In line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways

The latest products parameters prevail.

## GMC-48JS Rail Grinding Train with Hybrid Power from Catenary and Diesel



### Performance and Characteristic of the Complete Vehicle

With the maximum self-propelled traveling speed of 120km/h, GMC-48JS is able to run at a constant speed of 2~16km/h, and to grind the rail head surface by means of grinding wheel rotating at high speed, eliminate the rail corrugation, flow of rail, saddle wear, weld depression and fish scale crack, etc. Through rail grinding, it is possible to improve the effect relationship significantly between wheel and rail, improve the running quality of train and comfort feeling of passengers, and also prevent the development of rail damage, and prolong the service life of rail.

GMC-48JS is composed of two working cars and one traction car. The working cars are at the two ends of train, and the traction car is in the middle of train. The two working car are the same in structure and thus interchangeable for use. The complete vehicle is designed with internal combustion AC drive and CATENARY power receiving electric drive modes, and both of the two powers can realize seamless conversion. The vehicle is equipped with dust collection system which is able to collect the dust and debris produced during rail grinding and reduce pollution.

### Main Technical Parameters of the Car

Track gauge: 1435mm  
 Wheel diameter:  $\phi$  915mm  
 Axle load:  $\leq$ 23t  
 Total power: 2,238kw for diesel generator unit, 2400kVA for power receiving of overhead catenary system  
 Maximum traveling speed: 120km/h  
 Minimum negotiable curve radius: 145m  
 Minimum curve radius of grinding: 180m  
 Minimum negotiable radius of coupled/uncoupled operating: 250m  
 Axle arrangement: working car 2-2, traction car Bo-Bo  
 Drive mode: AC-DC-AC  
 Braking distance:  $\leq$ 800m (emergency braking on straight line, and the initial speed at brake application is 90km/h)  
 Grinding speed: 2~16km/h  
 Range of grinding angle (negative value close to the inside of track center rail):  $-70^{\circ}$  ~  $+25^{\circ}$

Control accuracy of grinding speed:  $\pm 0.5$ km/h  
 Single grinding depth: 0.02mm~0.2mm  
 Maximum starting tractive force: 172kN  
 Continuous tractive force: 142kN  
 Minimum calculated speed: 25km/h  
 Overall dimension of vehicle: about 69050mm (coupler center)  $\times$  3240mm  $\times$  4700mm (pantograph not connected)  
 Clearance: In line with GB146.1 Locomotive & Rolling Stock Gauge for Standard Gauge Railways and the Interim Provisions on Clearance of High-speed Railway Rolling Stock.

The latest products parameters prevail.

## Construction & Maintenance Machines for City Transit Rail

### LRG Rail Grinding Machine



#### Performance and Characteristic of the Complete Vehicle

LRG Rail Grinding Machine is composed of two hydraulic driven grinding cars with 8 grinding heads respectively, and composes a grinding car group with 16 grinding heads through connection by rigid drawbar. Both of the two cars have self-equipped power system and are arranged symmetrically in structure. The power source is from internal combustion diesel engine, and high-power generator unit is provided for supplying power to the grinding device, and traveling is realized by hydrostatic driving.

It is applicable to rail grinding of standard gauge metro line, and able to grind the rail head surface by means of high-speed rotating grinding wheels driven by motor during operation at low constant speed, recover the contour shape of rail cross section, improve the longitudinal smoothness of rail, eliminate the defects such as rail surface corrosion, fatigue cracks, corrugation, wear, deformation, speckles and fins, and prolong the service life of rail.

#### Main Technical Parameters of the Car

Engine power: 496kW × 2  
 Wheel diameter: Φ840mm  
 Minimum negotiable curve radius: 100m  
 Axle arrangement: B-2 (single car)  
 Maximum self-propelled traveling speed: 80km/h  
 Kerb weight: about 104t  
 Number of grinding heads: 16  
 Drive mode: closed loop hydraulic drive  
 Wheelbase: 2000mm  
 Length between bogie centers: 8800mm  
 Braking method: JZ-7 control brake and parking brake  
 Grinding speed range: (3~15) km/h  
 Range of grinding head deflection angle: 70° inside ~ 15° outside  
 Clearance: meeting the metro gauge requirement  
 The latest products parameters prevail.

### DGMC-16JS Rail Grinding Machine with Hybrid Dual-Power From Diesel and Catenary



#### Performance and Characteristic of the Complete Vehicle

DGMC-16JS is applicable to rail grinding of standard track gauge line. This machine is composed of two cars (A car + B car) which are connected by rigid drawbar, and the power source for the complete vehicle is from the metro CATENARY electric energy and self-contained internal combustion generator unit. Both of the two power sources are able to drive the complete vehicle traveling and grinding.

Based on advanced computer network control technology, and through control of the grinding mechanism and the complete vehicle, the machine is able to grind the rail head surface by means of high-speed rotating grinding wheels driven by motor during operation at low constant speed, recover the contour shape of rail cross section, improve the longitudinal smoothness of rail, eliminate the defects such as rail surface corrosion, fatigue cracks, corrugation, wear, deformation, speckles and fins, and prolong the service life of rail.

#### Main Technical Parameters of the Car

Rated power of engine: 783kW  
 Overhead catenary system voltage: DC1500V  
 Drive mode: AC drive  
 Bogie wheelbase: 2300mm  
 Length between bogie centers: 10,500mm for A car; 12,600mm for B car  
 Wheel diameter: Φ840mm  
 Minimum negotiable curve radius: 110m  
 Brake mode: JZ-7 type air brake and electric braking  
 Maximum traveling speed: 80km/h  
 Axle arrangement: Bo-Bo (A car)  
 Grinding speed range: (3~16) km/h  
 Range of grinding head deflection angle: 70° gauge~35° field  
 Drive mode of grinding head: motor drive  
 Number of grinding heads: 16  
 Kerb weight: about 108t  
 Clearance: meeting the metro gauge requirement

The latest products parameters prevail.

## DGTC-80 Rail Flaw Measuring Machine



### Performance and Characteristic of the Complete Vehicle

DGTC-80 is applicable to internal rail flaw detection for standard gauge metro line. The Cummins QSG12 engine and Voith T211re.4 torque converter power unit are used, and the maximum detection speed is up to 80km/h.

For the vehicle, SYS-1900 rail flaw inspection system is used. Ultrasonic flaw inspection system uses water as the coupling medium, and is designed with B-type flaw detection color graphic display, automatic signal processing and flaw analysis & discrimination functions.

### Main Technical Parameters of the Car

Rated power of engine: 343kW  
 Drive mode: hydrodynamic drive  
 Bogie wheelbase: 2300mm  
 Length between bogie centers: 10500mm  
 Wheel diameter:  $\Phi 840$ mm  
 Minimum operating curve radius: 110m (crawling)  
 Brake mode: JZ-7 type air brake and parking brake  
 Method of detection: wheel type ultrasonic detection  
 Maximum detection speed: 80km/h  
 Maximum traveling speed: 120km/h  
 Kerb weight: about 50t  
 Clearance: meeting the metro vehicle gauge

The latest products parameters prevail.

## DGY470/DGY470A Diesel Locomotive



### Performance and Characteristic of the Complete Vehicle

The loco is equipped with imported Caterpillar C18 power units and the car can work with single power unit and dual-power units. It is a kind of hydraulic-mechanical driven heavy-duty rail car.

It is applicable to traction, shunting and construction works of standard track gauge metro line, and can also be used for rescue of electric passenger car as a rescue traction car.

### Main Technical Parameters of the Car

Rated power of engine: 470kW (630hp)  
 Drive mode: hydraulic-mechanical drive  
 Bogie wheelbase: 2300mm  
 Length between bogie centers: 8200mm  
 Axle arrangement: B-B  
 Wheel diameter:  $\Phi 840$ mm  
 Minimum negotiable curve radius: 100m  
 Brake mode: JZ-7 type air brake and parking brake  
 Maximum traveling speed: 80km/h  
 Kerb weight: about 52t  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

### DGY300/DGY300A Diesel Locomotive



#### Performance and Characteristic of the Complete Vehicle

DGY300/DGY300A is equipped with imported Caterpillar C11 power unit and the car can work with single power unit and dual-power units. It is a kind of hydraulic-mechanical driven heavy-duty rail car.

It is applicable to traction, shunting and construction works of standard track gauge metro line, and can also be used for rescue of electric passenger car as a rescue traction car.

#### Main Technical Parameters of the Car

Rated power of engine: 336kW (451hp)  
Drive mode: hydraulic-mechanical drive  
Bogie wheelbase: 2300mm  
Length between bogie centers: 8200mm  
Axle arrangement: B-B  
Wheel diameter:  $\Phi 840$ mm  
Minimum negotiable curve radius: 100m  
Brake mode: JZ-7 type air brake and parking brake  
Maximum traveling speed: 80km/h  
Kerb weight: about 50t  
Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

### DGS220 Track Motor Trolley



#### Performance and Characteristic of the Complete Vehicle

DGS220 is a mechanical driven heavy-duty rail car, which is used for transport traction during maintenance of standard track gauge metro line, and for transporting personnel, tools and relevant materials, etc.

The car is equipped with imported Cummins QSM11 power unit, Fuller gearbox and British imported ceramic alloy friction plate clutch, and the complete vehicle is safe and reliable, with high tractive force and excellent performance.

#### Main Technical Parameters of the Car

Rated power of engine: 224kW (300hp)  
Drive mode: mechanical drive  
Bogie wheelbase: 2100mm  
Length between bogie centers: 7000mm  
Axle arrangement: 1A-A1  
Wheel diameter:  $\Phi 840$ mm  
Kerb weight: about 34t  
Maximum traveling speed: 80km/h  
Brake mode: JZ-7 type air brake and parking hand brake  
Minimum negotiable curve radius: 100m  
Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## GC220 Track Motor Trolley



### Performance and Characteristic of the Complete Vehicle

GC220 is a mechanical driven two-axle heavy-duty rail car, which is used for transport traction during maintenance of standard track gauge metro line, and for transporting personnel, tools and relevant materials, etc.

The trolley is equipped with Weichai WP12.336 power unit, Fuller gearbox and imported British ceramic alloy friction plate clutch, and the complete vehicle is safe and reliable, with high tractive force and excellent performance.

### Main Technical Parameters of the Car

Rated power of engine: 247kW (330hp)  
 Drive mode: mechanical drive  
 Wheelbase: 4500mm  
 Axle arrangement: B  
 Wheel diameter:  $\Phi 840$ mm  
 Minimum negotiable curve radius: 100m  
 Brake mode: JZ-7 type air brake and parking hand brake  
 Maximum traveling speed: 95km/h  
 Kerb weight: about 21t  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## DXDC Battery & Catenary Propulsion Locomotive



### Performance and Characteristic of the Complete Vehicle

DXDC is a new electric traction car used for traction and rescue works in metro, which can be powered by metro overhead catenary system or by traction batteries.

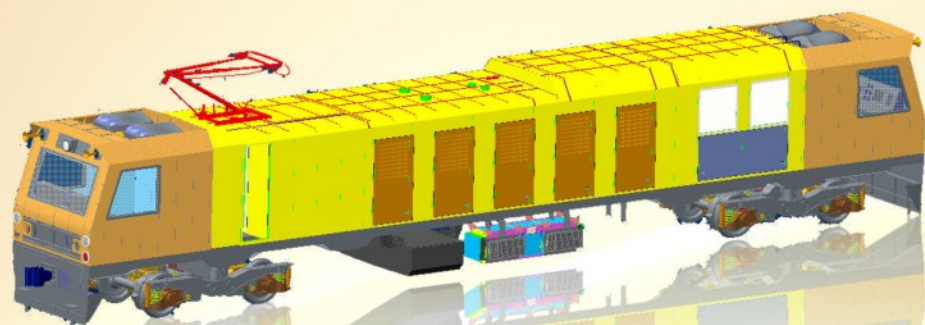
It is applicable to traction, shunting and construction works of standard track gauge metro line; after two power units are coupled, it is able to draw the electric passenger car for rescue purpose.

### Main Technical Parameters of the Car

Supply power of overhead catenary system: 400kW  
 Electric drive mode: DC-AC  
 Wheel diameter:  $\Phi 840$ mm  
 Minimum negotiable curve radius: 110m  
 Length between bogie centers: 7060mm  
 Maximum traveling speed: 80km/h  
 Minimum negotiable curve radius: 110m  
 Supply power of battery: 300kW  
 Axle arrangement: B<sub>0</sub>-B<sub>0</sub>  
 Axle load:  $\leq 14$ t  
 Kerb weight: about 55t  
 Wheelbase: 2300mm  
 Braking method: air brake + resistance braking  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## DHDC Hybrid Power Propulsion Locomotive by Diesel & Catenary



### Performance and Characteristic of the Complete Vehicle

The loco is a new electric traction car used for traction and rescue works in metro, which can be powered by metro overhead catenary system or by traction batteries.

It is applicable to traction, shunting and construction works of standard track gauge metro line; after two power units are coupled, it is able to draw the electric passenger car for rescue purpose.

### Main Technical Parameters of the Car

Drive mode: AC drive  
 Wheel diameter:  $\Phi 840\text{mm}$   
 Minimum negotiable curve radius: 110m  
 Diesel power: 495kW  
 Maximum traveling speed: 80km/h  
 Minimum negotiable curve radius: 110m  
 Axle arrangement: B<sub>0</sub>—B<sub>0</sub>  
 Braking method: air brake +resistance braking  
 Axle load:  $\leq 14\text{t}$   
 Kerb weight: about 55t  
 Wheelbase: 2300mm  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## DJW Installation & Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

DJW is hydraulic/mechanical driven. It uses imported Caterpillar C11 power unit and is designed with lifting rotary platform, satisfying different construction needs for overhead catenary system. CATENARY detection unit (including pantograph), wire tightening post and truck crane, etc. can be installed according to the user's requirements.

It is applicable to installation, maintenance, routine inspection and servicing of upper facilities of overhead catenary system for standard track gauge metro line, and can also be used as the traction car of setting and stretching car to form a CATENARY installation working car group for installation of overhead catenary system.stretching car to form a OCS installation working car group for installation of overhead catenary system.

### Main Technical Parameters of the Car

Rated power of engine: 336kW (451hp)  
 Drive mode: hydraulic-mechanical drive  
 Bogie wheelbase: 2300mm  
 Length between bogie centers: 8200mm  
 Axle arrangement: 2-B  
 Wheel diameter:  $\Phi 840\text{mm}$   
 Minimum negotiable curve radius: 100m  
 Brake mode: JZ-7 type air brake and parking brake  
 Maximum traveling speed: 80km/h  
 Kerb weight: about 40t  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## DA11 Installation & Maintenance Machine of Catenary



### Performance and Characteristic of the Complete Vehicle

DA11 installation car is a hydraulic/mechanical driven two-axle working car, which uses imported Caterpillar C9 power unit and is designed with lifting rotary platform, satisfying different construction needs for overhead catenary system. CATENARY detection unit, pantograph, wire tightening post and truck crane, etc. can be installed according to the user's requirements.

It is applicable to installation, maintenance, routine inspection and servicing of upper facilities of overhead catenary system for standard track gauge metro line, and can also be used as traction car.

### Main Technical Parameters of the Car

Rated power of engine: 261kW (350hp)  
 Drive mode: hydraulic-mechanical drive  
 Wheelbase: 5000mm  
 Axle arrangement: B  
 Wheel diameter:  $\Phi 840$ mm  
 Minimum negotiable curve radius: 100m  
 Brake mode: JZ-7 type air brake and parking brake  
 Maximum traveling speed: 80km/h  
 Kerb weight: about 28t  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## DGY220 Track Measuring Machine



### Performance and Characteristic of the Complete Vehicle

DGY220 is hydraulic-mechanical driven, equipped with imported Caterpillar C9 power unit, and applicable to track measuring incl. catenary of standard track gauge metro line.

The machine is applicable to high-speed measurement of track geometry and rail wear, and able to realize high-accuracy, real-time and dynamic inspection of rail state. For the measured data, self-contained analysis software can be used for state analysis of different levels, so as to develop the line maintenance plan; the CATENARY detection car is applicable to comprehensive inspection of rigid/flexible suspending CATENARY parameters for electrified railway of urban rail transit, and used to provide guidance basis for dynamic rechecking after maintenance of tested line, comprehensive quality assessment and fault diagnosis.

### Main Technical Parameters of the Car

Rated power of engine: 261kW (350hp)  
 Drive mode: hydraulic-mechanical drive  
 Bogie wheelbase: 2300mm  
 Length between bogie centers: 11700mm  
 Axle arrangement: B-2  
 Wheel diameter:  $\Phi 840$ mm  
 Minimum negotiable curve radius: 110m  
 Brake mode: JZ-7 type air brake and parking hand brake  
 Maximum traveling speed: 80km/h  
 Kerb weight: about 40t  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## DZJ-80 Comprehensive Track Measuring Machine



### Performance and Characteristic of the Complete Vehicle

DZJ-80 is a non-powered detection car, and the complete vehicle is integrate with the track inspection system, CATENARY detection system and clearance detection system. The car can be equipped with one or more inspection system(s) according to the user' s demand, and motor car can be controlled in inspection car remotely.

The track inspection system is applicable to high-speed measurement of track geometry and rail wear, and able to realize high-accuracy, real-time and dynamic inspection of rail state. For the measured data, self-contained analysis software can be used for state analysis of different levels, so as to develop the line maintenance plan.

The catenary detection system is applicable to comprehensive detection of rigid/flexible suspending CATENARY parameters for electrified railway of urban rail transit, and used to provide guidance basis for dynamic rechecking after maintenance of tested line, comprehensive quality assessment and fault diagnosis.

Based o laser camera technology, the clearance detection system is able to complete full view field measurement of the entire tunnel section, and realize clearance holographic dynamic measurement of tunnel based on the integrated video monitoring module of line.

### Main Technical Parameters of the Car

Bogie wheelbase: 2300mm  
Length between bogie centers: 10500mm  
Axle arrangement: 2-2  
Wheel diameter:  $\Phi 840$ mm  
Minimum negotiable curve radius: 100m  
Brake mode: JZ-7 type air brake and parking brake  
Maximum traveling speed: 80km/h  
Kerb weight: about 38t  
Clearance: meeting the metro gauge requirements  
The latest products parameters prevail.

## DDF Installation & Maintenance Machine of Catenary Without Propulsion Power



### Performance and Characteristic of the Complete Vehicle

DDF is a non-powered car, which requires coupling and marshalling with the CATENARY installation car to form an installation/setting and stretching working car during work. The setting and stretching tension is controlled by hydraulic system with accumulator, so that the setting and stretching tension can be properly maintained.

The machine is applicable to installation, routine maintenance and emergency rescue of CATENARY wire and carrying cable for standard track gauge metro line.

### Main Technical Parameters of the Car

Bogie wheelbase: 1800mm  
Length between bogie centers: 9300mm  
Wheel diameter:  $\Phi 840$ mm  
Minimum negotiable curve radius: 100m  
Braking method: air brake and parking hand brake  
Number of wire coils: 3 or 2 sets  
Setting and stretching tension: 10kN  
Applicable maximum coil diameter:  $\Phi 2400$ mm  
Construction peed: 100km/h  
Tare weight (excluding wire coil): about 20t  
Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## XDPC30 Track Wagon Crane



### Performance and Characteristic of the Complete Vehicle

XDPC30 is a non-powered car which can be coupled with powered traction cars such as rail car and working car, and used for freight transport and lifting operations of rails, switches, maintenance machinery, engineering components, mechanical and electrical equipment, etc.

Two track cranes compose a crane train set which is able to complete the track lifting operation. Electric or hydraulic on-board crane can be selected.

### Main Technical Parameters of the Car

Bogie wheelbase: 1800mm	Maximum lifting capacity: 3t (single lifting point)
Length between bogie centers: 9300mm	Maximum lifting capacity: 6t (double lifting point)
Wheel diameter: Φ840mm	Maximum working radius: 1.78m
Minimum negotiable plane curve radius: 100m	With TSQ5 type hydraulic crane (input power 20 kW)
Braking method: air brake and parking hand brake	Maximum lifting capacity on single lifting point: 4t
Maximum traveling speed: 100km/h	Maximum lifting capacity on double lifting point: 8t
Loading capacity: 30t	Minimum working radius: 3m away from turning center (horizontal)
Tare weight: about 17t	Maximum lifting capacity: 8m away from turning center
With GT3D type electric crane (input power 8 kW)	of crane (horizontal)
	Maximum elevation of crane: 60°
	Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## DPC30 Track Wagon



### Performance and Characteristic of the Complete Vehicle

DPC30 is a non-powered vehicle which is applicable to materials transport on standard track gauge metro line. It can be coupled with powered traction cars such as rail car and working car, and used for freight transport of rails, switches, maintenance machinery, engineering components, mechanical and electrical equipment, etc.

### Main Technical Parameters of the Car

Bogie wheelbase: 1800mm
Length between bogie centers: 9300mm
Wheel diameter: Φ840mm
Minimum radius of plane curvature negotiable: 100m
Braking method: air brake and parking hand brake
Maximum traveling speed: 100km/h
Loading capacity: 30t
Tare weight: about 16t
Clearance: meeting the metro gauge requirements

The latest products parameters prevail.

## TSV-02 Track Tunnel Cleaning Machine



### Performance and Characteristic of the Complete Vehicle

TSV-02 is a non-powered vehicle which is applicable to cleaning of metro tunnel with standard track gauge. High and low pressure water is used to clean the metro line track, ballast bed and tunnel wall, so as to keep the line clean and maintain a safe running environment, and reduce the labor intensity effectively.

The car is mainly composed of a rail flat car, power system, high pressure water flushing system (including automatic and manual), control cabin, electric control system and lighting system.

### Main Technical Parameters of the Car

Bogie wheelbase: 1800mm  
 Length between bogie centers: 12650mm  
 Wheel diameter:  $\Phi 840$ mm  
 Minimum negotiable curve radius: 110m  
 Water Tank volume: 25m<sup>3</sup>  
 Pressure of low pressure water pump: 80bar  
 Maximum traveling speed: 100km/h  
 Braking method: air brake and parking hand brake  
 Kerb weight: about 52t  
 Pressure in high pressure water pump: 150bar  
 Pressure in movable water gun: 220bar  
 Clearance: meeting the metro gauge requirements

The latest products parameters prevail.



The company has currently established long-term cooperation relationship with well-known foreign firms such as Sperry Rail Service Inc./Loram Maintenance of Way, Inc./Palfinger GmbH./SCT Logistics/Voith Turbo GmbH/Matisa Material Industrial S.A. etc. , also built strategic cooperation relationship with famous domestic companies, such as China Academy of Railway Science/ CRRC Zhuzhou Institute Co.,Ltd. /Zhuzhou Times Electronic Technology Co.,Ltd./ Weichai Power Co.,Ltd./ Xuzhou Construction Machinery Group Co., Ltd.(XCMG)/ CRRC Sifang Co., Ltd./CRRC Qishuyan Institute Co., Ltd. etc.. Meanwhile, the company has formed wide and deep cooperation channels with domestic famous universities such as Tsinghua University/ South West Jiaotong University/ Lanzhou Jiaotong University/ Dalian Jiaotong University/ Beijing Jiaotong University/ Tianjin University and Central South University etc.

## Company Honor and Qualification

United National &Local Engineering Research Center on Rail Transit Rolling-stock Manufacturing

Shaanxi Rail Transit Engineering Equipment Research Center

Shaanxi High-speed Railway Engineering Machinery Technology Research Center

Shaanxi Enterprise Technology Center, Expert & academician Workstation of Shaanxi Province

Shaanxi Province Technology Innovative Enterprise

Shaanxi province informatization and industrialization fusion pilot enterprise

“Locomotive” Award by general labor union of railways in China

Ranked five-star unit in Shaanxi province open plant affairs staff representatives meeting

Shaanxi province quality award nomination

A class tax payer ranked by Shaanxi national tax administration and local administration.

Ranked in Shaanxi province top 100 enterprises

The product has obtained once 2nd prize and twice 3rd prize of Science &Technology Award from China Academy of Railway Science Research; Once 1st prize and twice 3rd prize of CRRC Science &Technology Award.

The company had obtained a 2nd class LP workshop honor.