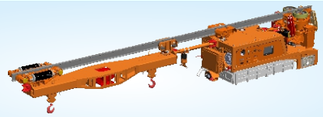
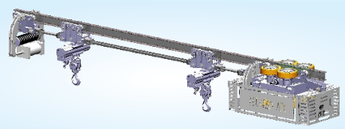
The enterprises in Shaoshan High-tech Zone, the hometown of the great man, wish you good luck and peace!

◆ Explosion-proof lithium battery monorail crane locomotive (permanent magnet frequency conversion integrated machine)

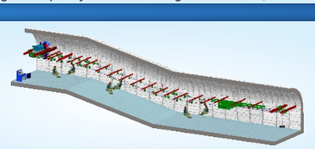


◆ Explosion-proof lithium battery single-drive dispatching monorail crane locomotive (permanent magnet frequency conversion integrated machine)

◆ Explosion-proof lithium battery dual-drive dispatching monorail crane locomotive (permanent magnet frequency conversion integrated machine)



◆ Mining pneumatic monorail crane



◆ Coal mine overhead passenger device (commonly known as "monkey car")

◆ Coal mine endless rope continuous traction vehicle (commonly known as "endless rope")

Total Phone: 0731-55672666

Marketing Hotline: 0731-55672999 19807323802 15197233916
After-sales Hotline: 0731-55672016 18973238621 18973238000
Mechanical Technology Hotline: 0731-55672310 13317325837 17752810331
Electrical Technology Hotline: 0731-55672013 18973232702 19330223228

Fax: 0731-55672012 55672100

Address: Shaoshan High-tech Development Zone

Website: www.hx12666.com
E-mail: xiao12666@163.com

Hengxin Shares

Product pictures are for reference only, the actual product shall prevail.
Fifty-third edition, printed in October 2025

恒欣®

Export Brand **Trustworthy**

Expert in intelligent equipment for mine rail transportation

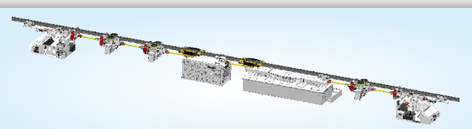
— Specialist in Smart Mining Railway Transportation Equipment —

◆ Defe Special lead-acid battery rack rail car (permanent magnet frequency conversion integrated machine)

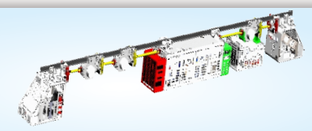
◆ Explosion-proof lithium battery rack rail car (permanent magnet frequency conversion integrated machine)

◆ Explosion-proof diesel engine steel wheel/rack locomotive for coal mines

◆ Single engine dual drive rack rail car



◆ Explosion-proof special battery monorail crane locomotive (permanent magnet frequency conversion integrated machine)



◆ Explosion-proof diesel engine rack monorail crane locomotive

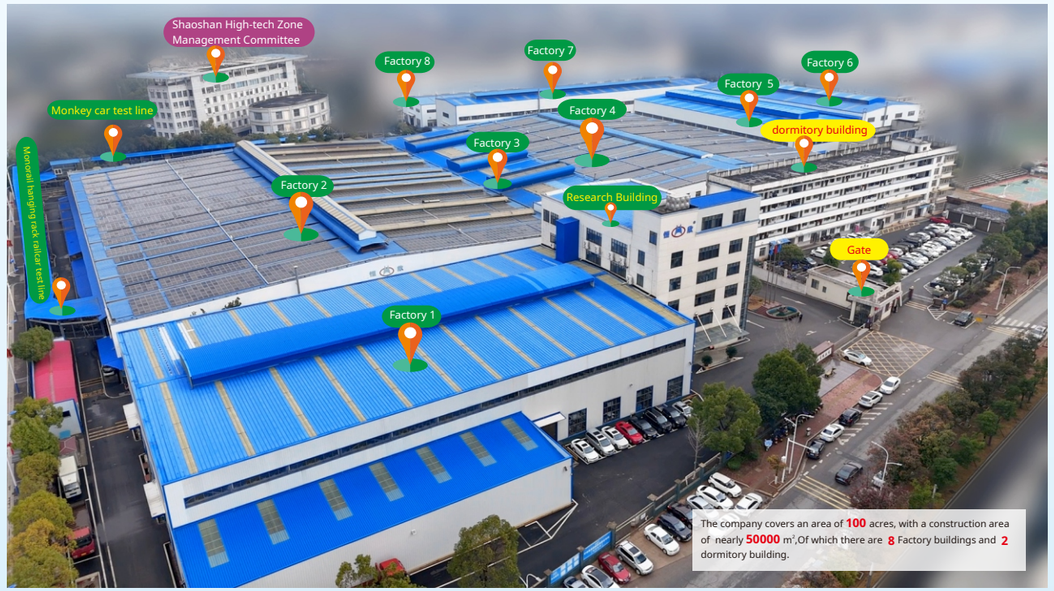
Hunan·**XiangtanHengxin Industrial Corporation Ltd**·Shaoshan

COMPANY PROFILE

Xiangtan Hengxin Industrial Co., Ltd., established in 1999 and located in the Shaoshan High-Tech Industrial Development Zone in Hunan Province, employs over 400 people. The company is a member of the national expert group for the formulation and revision of the "Coal Mine Safety Regulations," and holds the titles of Vice President of the Provincial Machinery Industry Association, Executive Vice President of the Provincial Small and Medium Enterprises Association, Vice President of the Provincial Quality Association, a founding member of the Provincial Smart Mine Alliance, and a founding member of the Provincial Brand Promotion Association. The company's leading products include mining monorail cranes, rack rail cars, "monkey cars," endless ropes, rope-hauled cars, an industrial Internet management and control platform for underground mining transportation equipment, and related explosion-proof electrical products. After more than 20 years of development, the company has evolved from a niche "monkey car" product to a leading expert in intelligent mining rail transportation equipment, with products exported to countries in Europe, Southeast Asia, and Africa.

The company has won the National Science and Technology Progress Excellence Award, the National Invention and Entrepreneurship Award, the National Invention Expo Silver Award, the China Coal Industry Science and Technology First Prize, the Provincial Science and Technology Progress Second Prize and other awards, the Green Mining Mining Equipment Quality Gold Award, and was selected as the first batch of national specialized and new "Little Giants" key support enterprises. In 2021, it was awarded the "National Market User Satisfaction Benchmark Enterprise" together with 11 companies including FAW-Volkswagen and Gree Electric Appliances. In 2021, it was awarded the "China Single Champion Product" together with 8 companies including CRRC Zhuzhou Electric Locomotive and Zoomlion in Hunan Province. It is the winner of the Sixth Hunan Provincial Governor's Quality Award, a national contract-abiding and credit-worthy unit, a national intellectual
property advantage enterprise, a national green factory, a provincial digital new infrastructure demonstration unit, and a "leader" in Hunan Province's enterprise standards.

Aerial view of Hengxin



Factory 1: Lithium battery and diesel engine assembly workshop

Factory 2: Monorail crane and rack rail car debugging workshop

Factory 3: Product delivery workshop

Factory 4: Intelligent CNC machining workshop

Factory 5: Monorail crane, rack rail car, riveting and welding workshop

Factory 6: Track and turnout processing workshop

Factory 7: Laser cutting workshop

Factory 8: Monkey car product welding workshop

Chief Expert Introduction

Xiao Gongping

Chairman Senior Engineer

scientific and technological achievements

- First Prize of China Coal Industry Science and Technology Award
- Second Prize of Provincial Science and Technology Progress Award
- Second Prize of Provincial Invention Patent
- 52 software copyrights
- 43 invention patents
- Published 23 papers
- Chief editor and publisher of "Underground Aerial Passenger Device in Coal Mines"
- National Torch Program Project
- National Major Scientific and Technological Achievement Transformation Project
- National Administration of Work Safety "Internet of Things for Supervision of Important Equipment in Coal Mines"System Pilot Project
- Chief editor of many industry standards and group standards

Major honors

- Provincial Advanced Individual in the Development of Non-public Economy and Small and Medium Enterprises
- The 7th Invention and Entrepreneurship Award of China Invention Association
- Advanced Individual of the First New Hunan Contribution Award
- Top Ten Outstanding Patent Inventors in the Province
- Top Ten Outstanding Economic Figures in the Province
- Provincial Science and Technology Entrepreneurship Leading Talent
- Provincial Entrepreneur Leading Figure
- Provincial May 1st Labor Medal
- Provincial Outstanding Communist Party Member
- Provincial Outstanding Quality Person
- Provincial Outstanding Entrepreneur
- Good People of Hunan
- Xiangtan City High-level Talents
- Xiangtan City Professional and Technical Backbone Talents
- The First Outstanding Science and Technology Worker of Xiangtan City
- Leading Talents in Xiangtan City's Emerging Industrial Advantages Industry Chain

Social Position

- Representatives of the 12th Provincial People's Congress
- Member of the expert group for the revision of the Coal Mine Safety Regulations
- Vice Chairman of the Provincial Coal Society
- Vice President of the Provincial Quality Association
- Vice President of the Provincial Machinery Industry Association
- Vice President of the Provincial Small and Medium Enterprises Association
- Vice Chairman of the Provincial Brand Promotion Association
- Provincial Intellectual Property Rights Protection Assistance Consulting Expert
- Specially appointed expert from the Provincial Small and Medium Enterprises Association
- Expert Database Vice Chairman of the Provincial Smart Mining Industry Promotion Association
  Expert of the Third Production Safety Expert Group of Hunan Coal Mine Safety Supervision Bureau
- Excellent Entrepreneur Mentor of the Provincial Small and Medium Enterprise Management Talent Training Project
- Supervisor of Practical Master's Degree Candidates for Hunan University of Science and Technology's Master of Engineering

Corporate Honors

In 2021, it won the title of "China Single Champion Product" together with 8 other companies including Zoomlion Heavy Industry Science & Technology Co., Ltd.

The Sixth Hunan Provincial Governor Quality Award

The first batch of national-level specialized and innovative "little giants" Key support enterprises

Corporate Honors

In 2021, we partnered with 11 companies nationwide, including Gree Electric Appliances Both won the title of "National Market User Satisfaction Benchmark Enterprise"

Green Mine Mining Equipment Quality Gold Award

First Prize of China Coal Industry Science and Technology Award

National Enterprise Credit AAA Enterprise

Xiangtan Hengxin Industrial Co., Ltd.

CONTENTS

The unique Hengxin Shares

Enterprise Advantages

▲ Brand glory and authoritative recognition

The company has won many national and provincial awards including the National Science and Technology Progress Excellence Award, the National Invention and Entrepreneurship Award, and the First Prize in Science and Technology of China Coal Industry; it was rated a s the first batch of national specialized and new "little giants" key support enterprises, and in 2021 it was awarded the National Market User Satisfaction Benchmark Enterprise together with 11 units including FAW-Volkswagen and Gree Electric Appliances; in 2021, it was awarded the China Single Champion Product together with 8 units including Hunan CRRC Zhuzhou Electric Locomotive and Zoomlion H eavy Industry Science and Technology Co., Ltd.; it is also a national green factory, a national intellectual property advantage enterprise, and a national contract-abiding and credit-worthy unit, demonstrating its industry-leading brand status and authoritative recognition.

▲ Manufacturing advantages of independent industrial chain

All processing steps from cutting of parts, machining, riveting, spraying, component assembly, and assembly are completed independently, so the product manufacturing quality and delivery schedule are more guaranteed; at the same time, the cost can be controlled to the lowest, so as to maximize the benefits to customers, that is, we can provide customers with more cost-effective products and achieve the goal of win-win cooperation with customers.

▲ The industry exports to Europe and Asia for the first time

After a comprehensive investigation by foreign investors in China, our company, with its strong R&D and processing capabilities and high cost -effectiveness in the industry, has represented the industry in exporting explosion-proof lithium battery monorail cranes to the Czech Republic in Europe for two consecutive years; many foreign investors from Russia, Turkey and other countries have negotiated with our company on the export of monorail crane locomotives.

▲ The drafter and reviser of the Coal Mine Safety Regulations

Representing the industry, he served as a member of the national expert group for the revision of the "Coal Mine Safety Regulations" and was invited as an expert to participate in the investigation of the Shanxi underground transportation accident in 2023, highlighting the company's position in the industry.

▲ One-stop after-salessolution

We provide a full range of products including mining monorail cranes, rack rail cars, monkey cars, rope-pulled rail cars, endless ropes, remote monitoring, etc. We promise that no matter whether it is a competitor's product or ours, we will provide one-stop after-sales service for underground equipment regardless of the brand, and completely solve the after-sales pain points of customers such as "multiple products, multiple manufacturers, and difficult coordination".

Product Advantages

★ Three-level braking

Disc-type first-level working brake, reducer built-in expansion brake second-level working brake, three-level safety brake on the rail): It is the first in China to come standard with working brake during normal operation and three-level safety brake on the track when the inclined lane operates abnormally , to prevent uphill and downhill running accidents.

★ Level 3 Autonomous Driving

L1 level vehicle following remote control unmanned driving, L2 level underground centralized control unmanned driving, L3 level ground remote control unmanned driving.

★ Cluster AI Intelligent Scheduling

Based on production needs, a large-scale intelligent scheduling model for underground locomotive groups is established, and the locomotive groups are intelligently scheduled to improve operational efficiency and safety performance.

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

★ Voice broadcast and alarm function

During operation, voice alarms are given for abnormal information occurring in all road conditions and all working conditions of the locomotive, including starting and stopping, climbing, turning, switch opening and closing, safety protection, failure, road obstacles, lifting , entering and leaving the warehouse, lack of oil and power, etc., and active sound, light and voice broadcasting of twelve major information.

★ Advanced manufacturing technology

Many competitors in the industry currently don't perform their own processing, primarily focusing on assembly. This results in a relatively passive process and limited quality assurance. Our company, however, fully integrates the entire production chain, from laser cutting to robotic welding to five-axis machining centers. This automation and intelligent manufacturing control are implemented throughout the entire production process. This allows us to weld key locomotive components first, then machine them, achieving single-step assembly and final production, resulting in high dimensional accuracy and ensuring stable locomotive operation.

★ High operational accuracy

While most domestic competitors perform pre-welding machining, which makes it difficult to guarantee product geometric tolerances, our company performs all post-welding machining, ensuring a high degree of alignment of the locomotive's four centers: the operating center, the traction center, the design center, and the assembly center. This results in low noise, low drag, minimal power loss, high precision, high traction efficiency, and a long locomotive life.

Locomotive Intelligence

★ Vehicle-mounted robot

By establishing an intelligent edge computing model and multi-sensor fusion algorithm, the locomotive's operating conditions and road conditions are intelligently managed. When a locomotive encounters an adverse operating condition, it can automatically report,diagnose, and report a solution. Under electronic fence control, when encountering road obstacles, it can automatically sound an alarm, slow down, and stop the vehicle.

First, it uses road condition perception and data collection systems such as lidar, camera recognition, slope recognition, and ultrasonic radar.

Second, it uses edge data processing centers equipped with algorithms to process big data.Third, the mobile controller builds a data control system and implements classified control of the data system; through the collaboration of big data, the locomotive can realize intelligent and autonomous data collection, calculation, processing and control of lane road conditions and locomotive operating conditions.

Alley road condition detection: It mainly detects the tunnel environment within 20 meters in front of the locomotive, including the opening and closing of the air door, personnel intrusion, locomotive climbing and turning, and other obstacles. It alarms when it is 10 meters away from the obstacle and automatically alarms and stops when it is 5 meters away.

Electronic fence:A 3m*3m*20m electronic fence is automatically generated in front of the locomotive. When an obstacle intrudes, the locomotive will automatically sound an alarm and stop. When the locomotive goes uphill or turns, the locomotive automatically slows down to ensure safe operation.

★ Four-level driving mode

Driven by personnel in the onboard cab

The driver directly controls the vehicle in the vehicle cab, which is a traditional manual driving mode.

L1 Level Remote Control Unmanned Driving with Vehicle Following

The driver controls the vehicle through the remote control device behind the vehicle and drives the vehicle autonomously through the vehicle-mounted machine.The locomotive and road conditions are monitored in real time by personnel. Once a locomotive alarm is triggered, it stops automatically or by remote control. The accompanying personnel immediately investigate and address any operating or road condition issues. Close monitoring by personnel reduces the risk of accidents.

L2 Level Underground Centralized Control Unmanned Driving

With the support of 5G private network or industrial ring network, based on L1 level, through underground centralized control.The center enables remote cluster scheduling and autonomous driving of single or multiple vehicles underground. The centralized control system plans routes to avoid collisions and congestion. Low-latency communication is required for a 5G private network or industrial ring network.

L3 level ground remote-controlled unmanned vehicle

Based on the L2 level, through the ground dispatching center, data planning and production task data coordination are carried out for a single machine or group of machines underground, a big data model is established, and A1+ intelligent dispatching is carried out for the undergrou-nd machine group.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Mining rack rail car

Product Overview

Mining rack rail cars are auxiliary transport equipment that run on standard or special-shaped tracks, using explosion-proof batteries or explosion-proof diesel engines as their power source. They use electric or hydraulic motors to drive gears that roll on racks. They enable long-distance, non-transferable transport of materials, personnel, and large equipment.

Product Classification

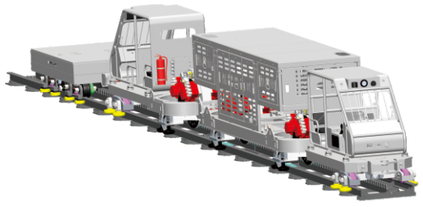
according toIt is divided into: explosion-proof diesel engine steel wheel/rack rail locomotive for coal mines, explosion-proof lithium battery rack rail car (permanent magnet variable frequency motor) and explosion-proof special type lead-acid battery rack rail car.

according toDivided into:and

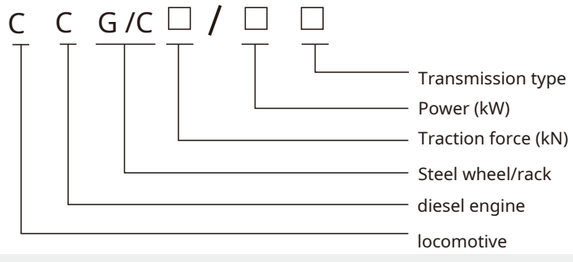
Explosion-proof diesel engine steel wheel/rack railway locomotive

Product Introduction

The explosion-proof diesel engine steel wheel/cog rail locomotive is mainly composed of a cab, a main engine drive unit, a brake car, a drawbar, etc. It can run on a special-shaped rail system or a normal rail system.



Model Definition



Example: CCG/C538/160Y: Explosion-proof diesel engine steel wheel/rack locomotive for coal mines, tractive force 538 kN, diesel engine power 160 kW, hydraulic transmission.

19807323802 15197233916 +86 731 55672999

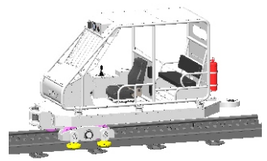
Xiangtan Hengxin Industrial Co., Ltd.

Rack rail car

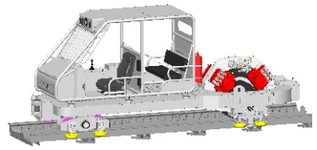
Main components

cab

The cab consists of an AI road condition detection robot, a cab, a cab frame, and a track-locking device. The cab includes road and operating status displays, a control panel, and more. In 3WD and 4WD configurations, the other two drive units are mounted on the cab frame, reducing locomotive length.

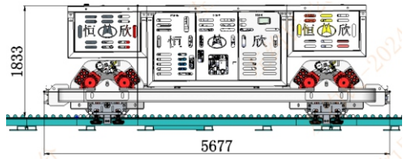


Cab A (without drive unit)



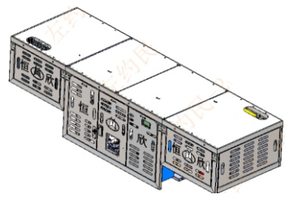
Cab B (with one drive unit)

Cab C (with two drive units)



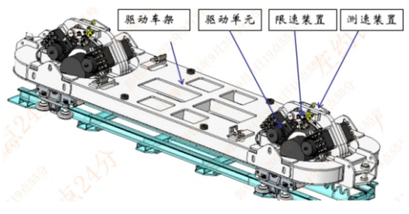
Host drive unit

The combination of the main engine and the drive unit is the power unit of the rack rail car Group.



Host

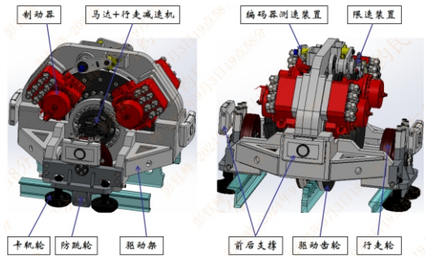
The locomotive's power unit provides hydraulic oil to each drive unit.Mainly includes explosion-proof diesel engine system , hydraulic system, electrical control system, automatic fire extinguishing system, etc.



Drive section

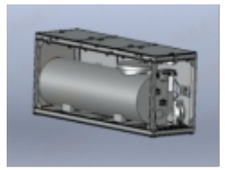
The drive unit consists of two drive units,The pulling force is 135kN. Each drive unit is equipped with two sets of disc brakes, and the braking device is fail-safe ; it also has safety braking and parking braking function.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com



Drive unit

Mainly composed of hydraulic motor, planetary reducer, working brake (equipped Reducer with built-in wet brake and disc brake acting on the drive wheel.The driving force of a single drive unit is 135kN.



Liquid transport truck

Used to store liquids, with a volume of 800L and 1200L; equipped with fire extinguisher, anti-static, anti-collision and other safety protection, built-in pneumatic Diaphragm pump to achieve liquid filling.

Technical Parameters

Slope load comparison table for explosion-proof diesel engine steel wheel/rack locomotives for coal mines (unit: t)

Number of drive units	Traction force kN	slope					
		5°	10°	15°	20°	25°	30°
2	270	90	75	48	32	22	15
3	405	95	85	75	58	43	32
4	538	130	12	100	75	63	50

Note: 1. The deadweight of a single truck is 3.6t;
2. The load in the table is the safe load of the locomotive (safe load = deadweight of the locomotive + deadweight of the cargo).

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Rack rail car

Performance parameter table of explosion-proof diesel engine steel wheel/rack rail locomotive for coal mines

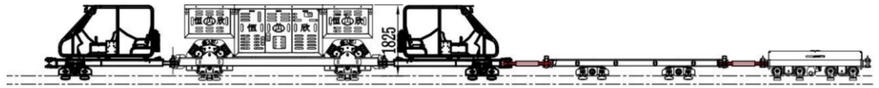
Parameter name			Parameter value		
model			CCG/C270/160Y	CCG/C405/160Y	CCG/C538/160Y
Traction force (kN)			270	405	538
Braking force (kN)			405～540	608～810	807～1076
Number of drive units			2	3	4
Number of brakes			4	6	8
Running speed (m/s)		No load	2.3	1.6	1.2
		Overload	0.45	0.3	0.25
Speed limit protector action value (m/s)			2.645	1.84	1.38
Pulling height (mm)			320		
Maximum climbing ability (°)			25		
Track gauge (mm)			600/900		
Rail Type			SMT140-SMJ160/22-24-30-38-42KG		
Horizontal turning radius (m)			⩾4.5		
Vertical turning radius (m)			⩾20		
Locomotive weight (kg)			18600	22500	25300
Dimensions	Length (mm)		12200	14300	16400
	Width (mm)		1500		
	Height(mm)		1825		
hydraulic system	explosion-proof diesel engine	Power/speed (kW/rpm)	160/2200		
	Fuel tank capacity (L)		150		
	Hydraulic pump displacement (mL/r)		280		
	Hydraulic motor displacement (mL/r)		160		
	Main system pressure (MPa)		35		
	Oil charge pressure (Mpa)		3		
	Release brake pressure (MPa)		15		
People and vehicles	Loading number of people Maximum number	Number of people per unit	15		
		Maximum number of units allowed	3		
Safety brake car	Braking force	kN	⩾400		
	Number of brakes	Number of brakes	4		

Product Advantages

- The locomotive can climb up to a maximum angle of 30°;
- The locomotive's maximum tractive effort is 538kN;
- The running speed can reach 2.3m/s, with high transportation efficiency;
- The locomotive is short in length and has its own power unit, enabling continuous transport without re-transfer and strong adaptability;
- The whole process is operated on track, which is highly safe;
- It can transport both materials and personnel;
- The locomotive can be controlled from the cab, by wireless remote control, or remotely from the dispatching room;
- The locomotive is equipped with a three-stage braking device; a safety brake car is configured to realize backup safety braking for climbing, reverse sliding and downhill speeding.

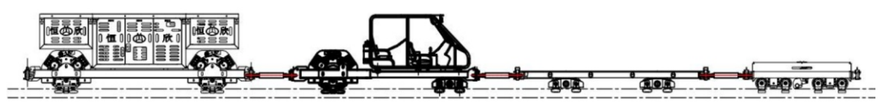
Layout

2-wheel drive locomotive layout

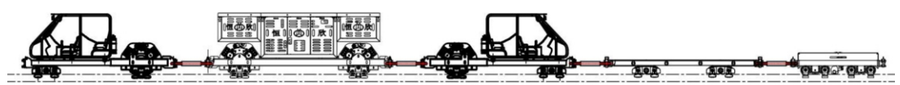


3-wheel drive locomotive layout 1

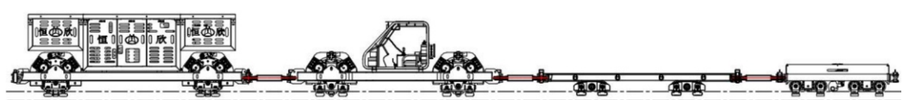
3-wheel drive locomotive layout 2



4-wheel drive motorcycle layout 1



4-wheel drive motorcycle layout 2



19807323802 15197233916 +86 731 55672999

Explosion-proof lithium battery rack-and-rail car (permanent magnet variable frequency integrated machine)

Product Introduction

The explosion-proof lithium battery rack rail car (permanent magnet frequency conversion integrated machine) mainly consists of a cab, a lithium battery drive unit, a brake car, a pull rod, etc. It can run on special-shaped rail systems or ordinary rail systems.

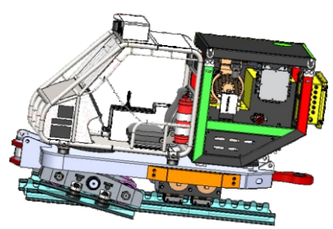
Model Definition

K L Z R/□ □ □ □

- Modify the serial number, indicated by (A) or (C)
- Transmission mode: Hydraulic transmission: Y; Mechanical transmission: Omitted
- Total driving power (kW)
- Maximum traction force (kN)
- Can be used to transport people
- Second feature: Q is rubber wheel/rack; N is steel wheel/rack; Z is rack.
- First feature: explosion-proof lithium battery
- Rack rail car

Example: The explosion-proof lithium battery rack rail car (permanent magnet frequency conversion integrated machine) KLZR240/176 can be used for transporting people, with a maximum traction of 240kN, a total drive power of 176kW, variable frequency speed regulation, and mechanical transmission.

Main components



Cab + electro-hydraulic control unit

Cab A is equipped with a control panel, operating status and road condition display screens, and a road condition detection robot. The latter monitors the locomotive's road conditions in real time and triggers an alarm, slows down, and automatically stops the vehicle when it detects an obstacle, ensuring driving safety.

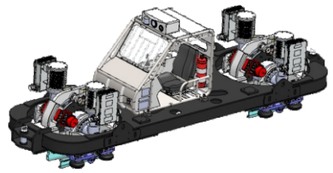
The electro-hydraulic control unit consists of a hydraulic control system and an electrical control system to achieve precise control and efficient operation of the locomotive.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Cab + drive unit

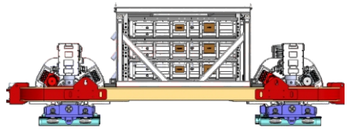
Cab B consists of the control room and drive unit, integrating a control box, operating status and road condition display screens, and a road condition detection robot. The road condition detection robot monitors the locomotive's road conditions in real time, issues an alarm when encountering obstacles, and automatically triggers deceleration or parking to ensure safe operation.

Dual drive cab



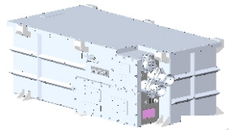
The integrated design of the cab, two drive units and electro -hydraulic control unit can effectively save space.

Dual-drive rail battery car

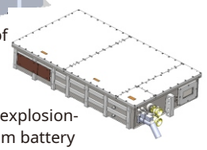


It is composed of 3 boxes of lithium-ion battery power supply + two drive units and is one of the basic components of the rack rail vehicle.

Lithium-ion battery power supply



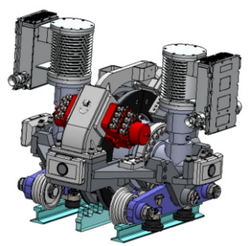
Vertical explosion-proof lithium battery



Horizontal explosion-proof lithium battery

The mining flameproof lithium-ion battery power supply device is composed of multiple explosion-proof lithium-ion battery power supplies. The single lithium battery power supply is 320V and the rated capacity is not less than 228Ah. A full charge can provide the locomotive with an empty-load range of 15 to 30km (the actual mileage is related to the lithium battery capacity, the number of drive parts, the load, the slope and the roadway conditions).

Frequency converter drive unit



It mainly consists of a variable frequency speed control integrated machine, a planetary reducer, a working brake (equipped with a built-in wet brake in the reducer and a disc brake acting on the drive wheel), a drive wheel, an encoder speed measuring device, a centrifugal speed limiting device, a drive bracket, a wheel swing frame, a rail wheel, a guide wheel, etc. The driving force of a single drive unit is: equipped with two 22kW variable frequency speed control integrated machines, the traction force is 60kN; equipped with two 75kW variable frequency speed control integrated machines, the traction force is 135kN.

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.
Xiangtan Hengxin Industrial Co., Ltd

Rack rail car

Lithium-ion battery power charger

Charger protection functions: overcurrent protection, input over/under voltage protection, overtemperature protection, short circuit protection, output over/under voltage protection, fault shutdown, emergency shutdown, lithium battery voltage detection and polarity protection.

Charger human-machine interface: intrinsically safe touch screen, parameter setting, status monitoring, data storage, fault recording, etc.

(a) Charging method: Programmable variable current intermittent rapid charging and manual control are used.

(b) The charger uses a fully digital display and has an excellent human-machine interface. The human-machine interface is simple, easy to operate, and reliable. The charger is equipped with a full digital display that can display charging parameters and status such as charging time, charging capacity, charging current, charging voltage, and internal temperature.

Technical parameters of explosion-proof and intrinsically safe lithium-ion battery charger for mining

project	92kW(Single-gun charger)
model	CJL1-92000/660（A)
Rated power (kW)	92
Rated input voltage (V)	AC660
Output voltage range	DC200V~400V
Output current range	DC10A~230A
Rated operating frequency	50Hz
Cooling method	Forced air cooling
Voltage regulation accuracy	±0.5%
Steady flow accuracy	±1%
Communication interface	CAN,supportGB/T27930~2015protocol
Overall dimensions (length*width*height)mm)	1415*1307*1173
weight(kg)	1650

Technical Parameters

Table 1: Load comparison table for 2×22kW (single drive motor power) explosion-proof lithium battery rack rail car (permanent magnet frequency conversion integrated machine) (unit: t)

Number of drive units	slope				
	5°	10°	15°	20°	25°
4	115	58	32	20	12
6	120	90	53	33	21
8	120	120	70	45	45

Note: 1. The deadweight of a single truck is 3.6t, and the deadweight of a single brake truck is 2.6t.
2. The load in the table is the safe load of the locomotive (safe load = deadweight of the locomotive + deadweight of the cargo)

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Table 2: Load comparison table for 2×75kW (single drive motor power) explosion-proof lithium battery rack rail car (permanent magnet frequency conversion integrated machine) (unit: t)

Number of drive units	slope					
	5°	10°	15°	20°	25°	30°
1	62	28	15	8	5	3
2		75	48	33	24	17
3		110	75	55	42	32
4		115	110	80	60	45

Note: 1. The deadweight of a single truck is 3.6t.
2. The load in the table is the safe load of the locomotive (safe load = deadweight of the locomotive + deadweight of the cargo)

Performance parameter table

Table 1: Performance parameters of 2×22kW (single drive motor power) explosion-proof lithium battery rack rail car (permanent magnet frequency conversion integrated machine)

project		parameter		
model		KLZR240/176	KLZR360/264	KLNR480/352
Traction force (kN)		240	360	480
Total driving power (kW)		176	264	352
Braking force (kN)		360～480	540～720	720～960
Minimum horizontal turning radius (mm)		⩾4.5		
Minimum vertical turning radius (mm)		⩾20		
Deadweight (T)		24.64	31.04	43.93
Maximum climbing ability (°)		25		
Bare car size (mm)(Excluding personnel carriers, material carriers, etc.)		14833	19117	25948
Width (mm)		1600		
Height (mm)		1850		
Number of drive units (sets)		4	6	8
Number of brakes (sets)		8	12	16
Maximum operating speed (m/s)		1.6		
Automatic speed limit value of rail vehicle (m/s)		1.8		
Brake car	Emergency braking force (kN)	⩾400		
	Automatic speed limit value (m/s)	2.5		
Hydraulic pump model		KP30.24		
Rated working pressure of hydraulic system (MPa)		⩽16MPa		
Track gauge (mm)		600/900		
Rail Type		SMT140-SMJ160/22-24-30-38-42KG		
drive motor	model	TYBVFT～22(336)D		
	Drive motor type	Permanent magnet frequency conversion integrated machine		
	Rated power (kW)	22*2		

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Rack rail car

Table 2: Performance parameters of 2X75kW (single drive motor power) explosion-proof lithium battery rack rail car (permanent magnet frequency conversion integrated machine)

project		parameter			
model		KLZR135/150	KLZR270/300	KLZR405/450	KLZR538/600
Traction force (kN)		135	270	405	538
Total driving power (kW)		150	300	450	600
Braking force (kN)		202.5～270	405～540	607.5～810	807～1076
Minimum horizontal turning radius (mm)		⩾4.5			
Minimum vertical turning radius (mm)		⩾20			
Deadweight (T)		24.9	29.3	31.3	36.3
Maximum climbing ability (°)		25			
Bare vehicle dimensions (mm) (Excluding personnel carriers, material carriers, etc.)		39399	40972	44034	45460
Width (mm)		1660			
Height (mm)		1850			
Number of drive units (sets)		1	2	3	4
Number of brakes (sets)		2	4	6	8
Maximum operating speed (m/s)		2			
Automatic speed limit value of rail vehicle (m/s)		1.84			
Brake car	Emergency braking force (kN)	⩾400			
	Automatic speed limit value (m/s)	2.5			
Hydraulic pump model		KP30.24			
Rated working pressure of hydraulic system		⩽16MPa			
Track gauge (mm)		600/900			
Rail Type		SMT140/SMJ160			
drive motor	model	SMT140-SMJ160/22-24-30-38-42KG			
	Drive motor type	Permanent magnet frequency conversion integrated machine			
	Rated power (kW)	75*2			

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

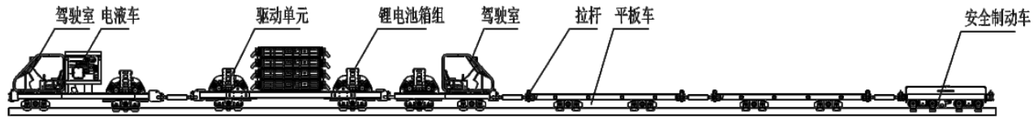
Product Advantages

- The maximum climbing angle of the locomotive can reach 25°
- The maximum traction force of a single drive unit is 135kN;
- The maximum operating speed can reach 2m/s;
- High battery utilization rate, up to 95%, and long lithium battery life;
- The drive unit can be independently controlled and intelligently driven to reduce failure rate and improve transportation efficiency;
- The charging time is short, about 2 hours each time;
- Easy to charge, can be charged in standby mode;
- The locomotive has low running noise, zero emissions, stable traction, and is environmentally friendly;
- The locomotive is short in length and has its own power unit, enabling continuous transport without re-transfer and strong adaptability;
- The whole process is operated on track, which is highly safe;
- It can transport both materials and personnel;
- The locomotive can be controlled from the cab, by wireless remote control, or remotely from the dispatching room;
- The locomotive is equipped with a three-stage braking device; a safety brake car is configured to realize backup safety braking for climbing, reverse sliding and downhill speeding.

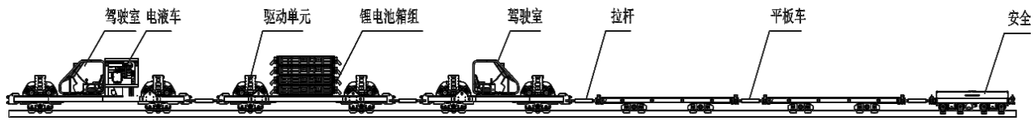
Layout

22kW

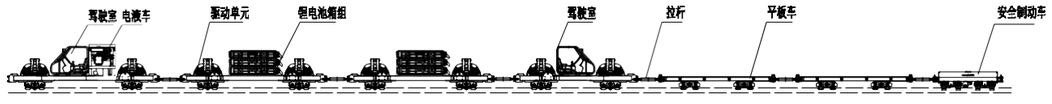
4-wheel drive motorcycle layout



6-wheel drive locomotive layout

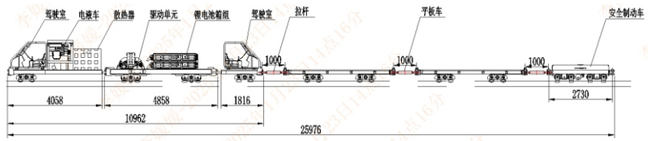


8-wheel drive locomotive layout

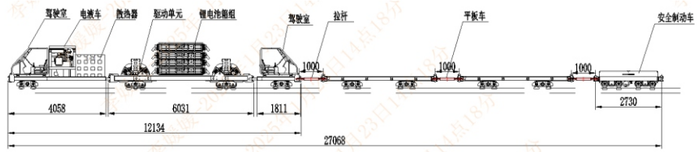


45kW

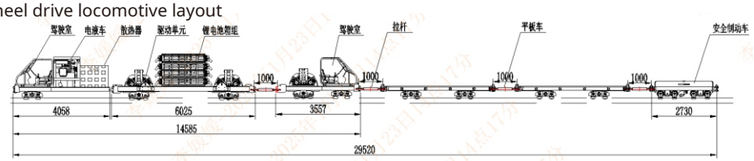
1-wheel drive locomotive layout



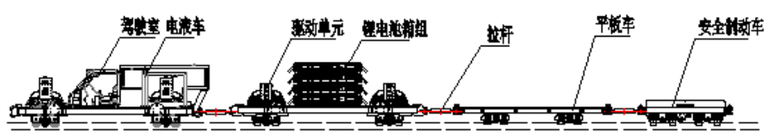
2-wheel drive locomotive layout



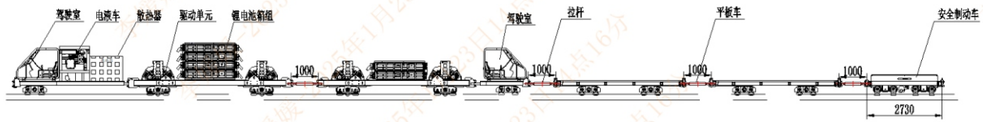
3-wheel drive locomotive layout



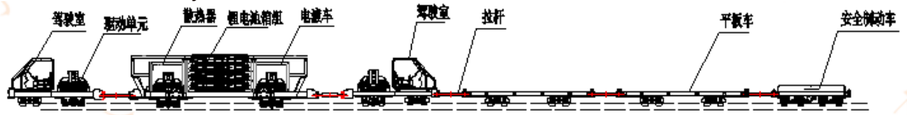
4-wheel drive locomotive layout diagram 1



4-wheel drive Locomotive Layout 2



4-wheel drive Locomotive Layout 3



19807323802 15197233916 +86 731 55672999

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Explosion-proof special type lead-acid battery rack-pinion track vehicle (permanent magnet variable frequency integrated machine)

Product Introduction

The explosion-proof special type lead-acid battery rack rail car (permanent magnet frequency conversion integrated machine) is mainly composed of a cab, a drive unit, an electro-hydraulic control car, a lead-acid battery car, a pull rod, etc. It can run on special-shaped rail systems or ordinary rail systems.

Model Definition

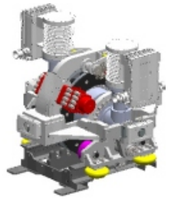
K XZ □ □/□ □

- Revision number (AB...)
- Speed regulation mode: P is variable frequency or Z is DC
- Total driving power (kW)
- Rated traction force (kN)
- rack
- Battery type: X represents explosion-proof special lead-acid battery and X represents explosion-proof lithium-ion battery
- Rail car

Example: The rated traction force is 240kN, the total drive power is 176kW, and the explosion-proof special type lead-acid battery rack rail car with variable frequency speed regulation is represented by the model KXZ240/176P.

Main components

drive unit



It is mainly composed of a variable frequency speed control integrated machine, a planetary reducer, a working brake (equipped with a built-in wet brake in the reducer and a disc brake acting on the drive wheel), a drive wheel, an encoder speed measuring device, a centrifugal speed limiting device, a drive bracket, a wheel swing frame, a rail wheel, a guide wheel, etc. The driving force of a single drive unit: the traction force of a 22kW variable frequency speed control integrated machine is 60kN, and the traction force of a 45kW variable frequency speed control integrated machine is 135kN.

Mine flameproof and intrinsically safe lead-acid battery power charger

The charger is used to charge the lead-acid battery power supply device and can charge multiple boxes of batteries at the same time.

(1) The connection method between the mining flameproof charger and the battery adopts an integrated connection pin structure.

(2) Input AC voltage: 660V/1140V, DC output current: 10A～100A, DC output voltage: 20V～400V.

(3) The charger has a self-test function. Before the charger enters the working state, it can first perform a self-test. The self-test items include whether the polarity of the charging battery is reversed, whether the various parts of the main channel are normal, etc. The charger can enter the charging state only after the self-test is normal.

(4) It has a reverse battery connection protection function. The charging mode cannot be entered when the charging cable is connected in reverse.

(5) It has protection functions such as overcurrent, overload, short circuit and overtemperature (charging current is halved when the temperature is above 60°C).

(6) The charger has two charging working modes: constant current and constant voltage. (1 to 4 are constant current working modes, and 5 is constant voltage working mode)

(7) The charger can automatically complete the entire process from the start of charging to the end of charging without manual intervention. During each working process, the system can continuously detect the charging status: voltage, current, time and other set values. When one of the three reaches the set value, it will automatically switch to the next charging program until charging is completed. At the same time, the charger must also have the function of manual intervention during the charging process.

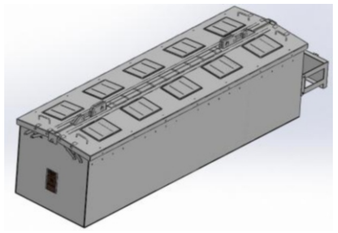
(8) The charger has an intelligent display function, and the display screen can display the charging status in real time, including: set current, real-time current, set voltage, real-time voltage, charging time, etc.

(9) It has a fault display function that can display the fault code or fault content on the display screen to facilitate fault finding and repair. The charger is used to charge the lead-acid battery power supply device and can charge multiple boxes of batteries at the same time. The length of the charging gun cable must be greater than 10m.

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Parameters of flameproof and intrinsically safe lead-acid battery power charger for mining

Charger model	ZBC200/480	ZBC100/400
Explosion-proof signs	Flameproof type	Flameproof type
Charging voltage	660V/1140V	660V/1140V
Charging current	1～200A	1～100A
Output voltage	210～300V	210～300V
Dimensions	1470×760×1205mm	1470×760×1205mm



Explosion-proof special lead-acid battery power supply device

The locomotive uses lead-acid battery power supply, and the battery capacity of a single box is 530Ah, voltage 336V, single box power supply unit capacity is 178.1kwh.

Battery Pack+"Pole and-"The flameproof plug connector is dedicated. The plug leads to the explosion-proof electrical control box, which is the main power source for the monorail crane. The explosion-proof plug connector is a quick-plug electrical connection with an internal fast-acting fuse to protect the battery from damage in the event of a short circuit in the external circuit. It is also equipped with an interlocking disconnect switch, meaning that the plug can only be inserted or removed after the disconnect switch is disconnected.

Technical Parameters

Explosion-proof special lead-acid battery rack rail car (permanent magnet frequency conversion integrated machine) load comparison table (unit: t)

Load	Slope							
	5°	8°	10°	12°	15°	18°	21°	25°
240kN	⩾112t	70t	56t	45t	32t	23t	16t	11t
360kN	⩾120t	102t	92t	73t	56t	44t	33t	25t
480kN	⩾130t	120t	105t	92t	70t	58t	45t	30t

Note: 1. The deadweight of a single truck is 3.6t, and the deadweight of a single brake truck is 2.6t.
2. The load in the table is the safe load of the locomotive (safe load = deadweight of the locomotive + deadweight of the cargo)

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Rack rail car

Performance parameter table

Explosion-proof special lead-acid battery rack rail car (permanent magnet frequency conversion integrated machine) performance parameter table

Item/Model		KXZ240/176	KXZ360/264	KXZ480/352
Total driving power (kW)		176	246	352
Maximum traction force (kN)		240	360	4 80
Minimum braking force (kN)		360～480	540～720	720～960
Minimum horizontal turning radius (m)		⩾4.5	⩾4.5	⩾4.5
Minimum vertical turning radius (m)		⩾20	⩾20	⩾20
Maximum climbing ability)		15°		
Maximum operating speed (m/s)	No load	2.3		
	Over load	0.8		
Weight of rail car (t)		24.64	31.03	43.93
Track gauge (mm)		600/900		

Product Advantages

Using batteries as the power source, low noise, no pollution, environmental protection, energy saving and safety;

- The locomotive is short in length and has its own power unit, enabling continuous transport without re-transfer and strong adaptability;
- The whole process is operated on track, which is highly safe;
- It can transport both materials and personnel;
- The locomotive can be controlled from the cab, by wireless remote control, or remotely from the dispatching room;
- The locomotive is equipped with a three-stage braking system and a safety brake car to realize backup safety braking for climbing, rolling back and downhill speeding.

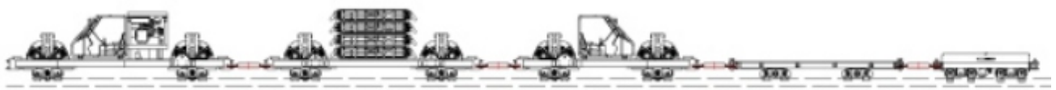
According to the specific requirements of customers, various transport components can be selected, such as flatbed trucks (capable of transporting support materials, construction materials, belts, cables, small equipment and scattered spare parts); man-carriages (capable of transporting personnel underground, including 10-person and 15-person cars, which can transport 30 people at a time);~45 people) etc.

Layout

4-wheel drive motorcycle layout

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

6-wheel drive locomotive layout



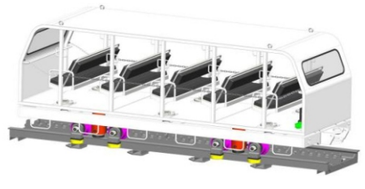
8-wheel drive locomotive layout

Safety brake car

Overspeed automatic pressure relief brake, the brake device is fail-safe and can be automatically controlled. When braking, a signal is sent to the host to automatically stop the machine.

Rail-mounted truck

Used to transport materials and supports, divided into light trucks and heavy trucks according to load capacity.



Rail passenger carriage

The backrest can be adjusted according to the direction of travel, so that passengers always face the direction of travel. The built-in braking device is a fail-safe type that can achieve overspeed pressure relief braking and can be controlled manually or automatically.

19807323802 15197233916 +86 731 55672999

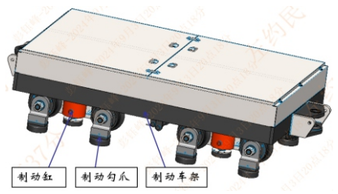
Xiangtan Hengxin Industrial Co., Ltd.

Rack rail car

Safety brake

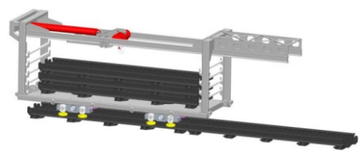
A track brake device is designed in each driving part rail clamping device for emergency braking

when the locomotive is slipping uphill or flying downhill. The braking force meets the traction force of 1.5~2.0 times the requirement, the braking force of the rail brake acts directly on the tracks on both sides, and the braking stop is safe and reliable.



Braking trolley

An independent brake trolley is provided at the tail or head of the locomotive.Emergency brake and backup safety brake for locomotives sliding uphill or flying downhill.The braking force is 400kN.



track laying vehicle

Specialized vehicles used for track laying and maintenance improve work efficiency by replacing manual work with mechanization.

Pneumatic refueling machine

The compressed air drives the pneumatic diaphragm pump to add fuel to the diesel engine Oil-free, easy to move and simple to operate.

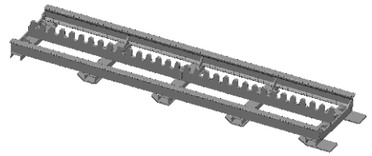
tie rod

Connecting device, used to connect the cab and the drive host, load Cars, brake cars, etc.

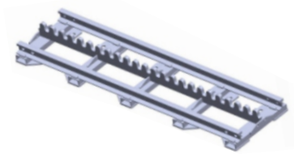
Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

straight track

Mainly laid on straight lines.
Standard rail length: 4m.



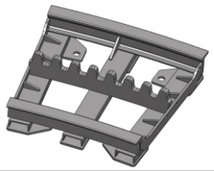
Special-shaped rail tracks



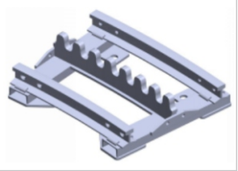
Ordinary track

Horizontal curved track

Horizontal curved tracks 5° (R8594) and 7.5° (R8594) ,which mainly used for horizontal turns, parking lots, and junctions.
Bending angle: 5°/7.5°
Bending radius: 8.6/14.3m



Horizontal special-shaped curved rail



Horizontal ordinary curved rail

Vertical curved track

Used for upper and lower slope change points at vertical slope changes; divided into convex rails/concave rails.
Bending angle: 3°/5°
Bending radius: 21.5m

Special-shaped rails and raised rails

Special-shaped rail concave rail

Ordinary rail raised rail

Ordinary rail concave rail

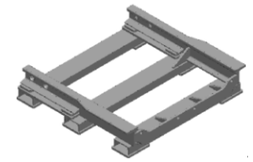
19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Rack rail car

Conversion rail

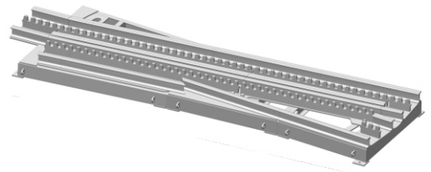
Mainly used for connecting special-shaped rails with ordinary rails.
Specifications: 24/30/38kg.



1m turnout

Symmetrical rotary turnout

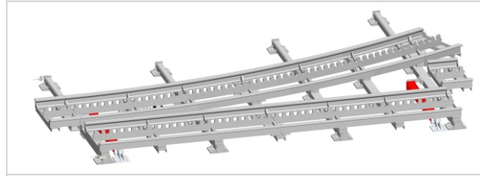
Mainly used for forks and parking lots.
Withdrawal angle: 10°
Drive mode: pneumatic/hydraulic
Control mode: manual/driver controlled/remote control
Net weight per piece: 4500kg
Dimensions: 6526×2293×460mm
Can be disassembled, maximum disassembly size: 3000×2130×459.5mm



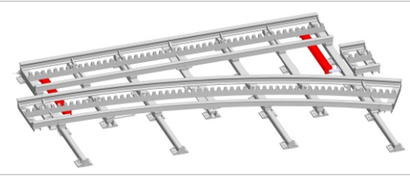
Rotating turnout

Translation of turnout

The sliding turnout is divided into left-opening sliding turnout and right-opening sliding turnout, which are mainly used for forks and parking lots.
Turnout angle: 25°
Drive mode: pneumatic/hydraulic
Control mode: manual/driver controlled/remote control
Net weight per piece: 4362kg
Dimensions: 7404×4385×398mm
Can be disassembled, maximum disassembly size: 3150×1160×195mm



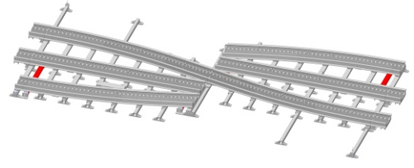
Shift turnout (left opening)



Shift turnout (right opening)

Crossover turnout

Mainly used for forks and parking lots.
Track center distance: 2021mm
Drive mode: pneumatic/hydraulic
Control mode: manual / driver control / remote control
Net weight of a single piece: 12000kg
Dimensions: 12000×7284×398mm
Can be disassembled, maximum disassembly size: 5500×1850×220mm



Crossover turnout

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Mining monorail crane locomotive

Product Overview

Mining monorail cranes are auxiliary transport equipment that travel on a single track, powered by explosion-proof batteries, diesel engines, or compressed air, and driven by electric, hydraulic, or pneumatic motors. Monorail cranes can transport materials, personnel, and large equipment, enabling direct, long-distance transport without reloading.

Product Classification

By power source

Explosion-proof diesel engine monorail crane locomotive
Explosion-proof diesel engine rack monorail crane locomotive
Explosion-proof lithium battery electro-hydraulic monorail crane locomotive
Explosion-proof lithium battery monorail crane locomotive (permanent magnet frequency conversion integrated machine)
Explosion-proof lead-acid battery permanent magnet frequency conversion rack monorail crane locomotive
Single-engine dual-drive monorail crane (rubber wheel drive + rack drive)

According to driving mode

Hydraulic motor drive
Rubber gear hybrid drive
Air motor drive
Explosion-proof asynchronous motor drive
Explosion-proof permanent magnet variable frequency integrated drive

According to power transmission mode

Rubber-tire friction drive: Drive power is transmitted through friction between the friction wheel and the track.
Rack-and-pinion drive: Drive power is transmitted through the meshing of gears and rolling on the rack track.
Rubber-and-gear hybrid drive: Flat tracks are driven by rubber wheels. When climbing slopes, the rubber wheels and gears can be driven simultaneously to increase climbing ability and prevent rolling back.

Explosion-proof lithium battery monorail crane locomotive (permanent magnet frequency conversion integrated machine)

Product Introduction

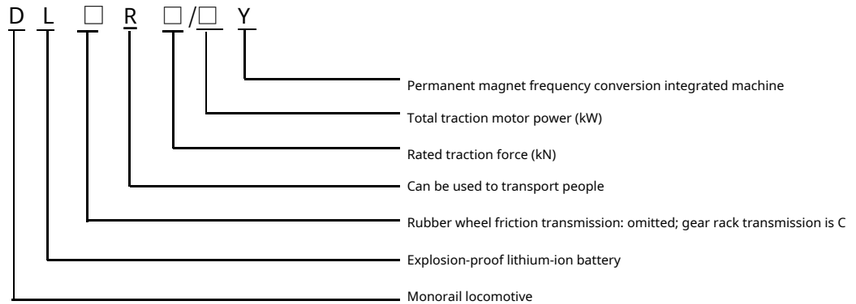
The explosion-proof lithium battery monorail crane locomotive (permanent magnet frequency conversion integrated machine) is mainly composed of a cab, a permanent magnet frequency conversion motor drive unit, an electro-hydraulic control car (including hydraulic system, electrical control system and safety protection), a power supply device (explosion-proof lithium-ion battery), a speed protection trolley, a load-bearing trolley, a pull rod, a lifting beam, etc.

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Monorail crane

Model Indication



Example 1: Monorail crane model DLR56/24Y means: The power source of the monorail crane isexplosion-proof lithium-ion battery, rubber wheel friction transmission, can be used for transporting people, traction force is 56kN, total power of drive motor is 24kW, permanent magnet variable frequency speed regulation integrated machine.

Example 2: Model DLCR60/88Y monorail crane locomotive indicates: The power source of the monorail crane locomotive isexplosion-proof lithium-ion battery, gear and rack drive, can be used for transporting people, traction force is 60kN, total power of drive motor is 88kW, permanent magnet variable frequency speed regulation integrated machine.

Technical Parameters

Table 1: Load comparison table of 6kW explosion-proof lithium battery monorail crane (permanent magnet inverter integrated machine) (unit: t)

Locomotive model\Slope (°)	5°	10°	15°	20°	25°
DLR56/24Y	23	9	4	/	/
DLR84/36Y	40	19	10	5	2
DLR112/48Y	56	28	16	9	5
DLR140/60Y	72	37	22	14	9
DLR168/72Y	80	44	27	17	11
DLR196/84Y	80	54	33	22	15
DLR224/96Y	80	63	40	27	19
DLR252/108Y	80	72	45	31	22
DLR280/120Y	80	80	51	35	25
DLR308/132Y	80	80	57	39	28
DLR336/144Y	80	80	63	44	32
DLR364/156Y	80	80	70	49	36
DLR392/168Y	80	80	76	54	40

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Table 2: Load comparison table of 8.5kW explosion-proof lithium battery monorail crane (permanent magnet inverter integrated machine) (unit: t)

Locomotive model\Slope (°)	5°	10°	15°	20°	25°
DLR120/68Y	60	31	18	11	7
DLR150/85Y	78	41	25	17	11
DLR180/102Y	80	49	30	20	13
DLR210/119Y	80	59	37	25	18
DLR240/136Y	80	69	44	31	22
DLR270/153Y	80	78	50	35	25
DLR300/170Y	80	80	57	40	29
DLR314/187Y	80	80	62	44	32
DLR360/204Y	80	80	70	49	36

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

Table 3: Load comparison table of 15kW explosion-proof lithium battery monorail crane (permanent magnet inverter integrated machine) (unit: t)

Locomotive model\Slope (°)	5°	10°	15°	20°	25°
DLR90/90Y	43	21	11	6	3
DLR120/120Y	60	31	18	11	7
DLR150/150Y	78	41	25	17	11
DLR180/180Y	80	49	30	20	13
DLR210/210Y	80	59	37	25	18
DLR240/240Y	80	69	44	31	22
DLR270/270Y	80	78	50	35	25
DLR300/300Y	80	80	57	40	29
DLR330/330Y	80	80	62	44	32
DLR360/360Y	80	80	70	49	36
DLR390/390Y	80	80	77	54	41
DLR420/420Y	80	80	80	60	45

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

Table 4: Load comparison table of 22kW explosion-proof lithium battery monorail crane (permanent magnet variable frequency integrated machine) (unit: t)

Locomotive model\Slope (°)	5°	10°	15°	20°	25°
DLR60/88Y	26	11	5	1	/
DLR90/132Y	43	21	11	6	3
DLR120/148Y	60	31	18	11	7
DLR150/148Y	78	41	25	17	11
DLR180/264Y	80	49	30	20	13
DLR210/296Y	80	59	37	25	18
DLR240/296Y	80	69	44	31	22
DLR270/296Y	80	78	50	35	25
DLR300/440Y	80	80	57	40	29
DLR330/444Y	80	80	62	44	32
DLR360/444Y	80	80	70	49	36
DLR390/444Y	80	80	77	54	41
DLR420/444Y	80	80	80	60	45

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Performance parameter table

Table 1: Performance parameters of 6kW explosion-proof lithium battery monorail crane (permanent magnet variable frequency integrated machine)

Project/Parameter		DLR56/24Y	DLR84/36Y	DLR112/48Y	DLR140/60Y	DLR168/72Y
Traction force (kN)		56	84	112	140	168
Locomotive power (kW)		24	36	48	60	72
Safety braking force (kN)		84～112	126～168	168～224	210～280	252～336
Number of drive units		2	3	4	5	6
Number of brakes		4	5	6	7	8
Maximum speed (m/s)	Overload	0.5				
	No load	2.0				
Maximum climbing ability (°)		25				
Overspeed protection limit (m/s)		2.3				
Locomotive half turn diameter(m)	level	⩽4				
	vertical	⩽8				
Track model		I140E/I140V/I140E (with rack)				
Single drive unit traction force (kN)		28				
Braking force of single drive unit (kN)		42～56				
Single motor power		6kW				
locomotive dimensions	Length (mm)	16500±100	18200±100	20000±100	21600±100	23300±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1310±20	1310±20
Deadweight (excluding lifting beam) (kg)		11200	12400	13700	14500	17500
Lithium battery power voltage		DC320V				
Hydraulic pump model		KP30.24				
Rated working pressure of hydraulic system (MPa)		16				

Project/Parameter		DLR196/84Y	DLR224/96Y	DLR252/108Y	DLR280/120Y	DLR308/132Y
Traction force (kN)		196	224	252	280	308
Locomotive power (kW)		84	96	108	120	132
Safety braking force (kN)		294～392	336～448	378～504	420～560	462～616
Number of drive units		7	8	9	10	11
Number of brakes		9	10	11	12	13
Maximum speed (m/s)	Overload	0.5				
	No load	2.0				
Maximum climbing ability (°)		25				
Overspeed protection limit (m/s)		2.3				
Locomotive turning Radius (m)	level	⩽4				
	vertical	⩽8				
Track model		I140E/I140V/I140E (with rack)				
Single drive unit traction force (kN)		28				
Braking force of single drive unit (kN)		42～56				
Single motor power		6kW				
locomotive dimensions	Length (mm)	25200±100	26800±100	28500±100	30200±100	33500±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1310±20	1600±20
Deadweight (excluding lifting beam) (kg)		18300	19100	21100	22500	24600
Lithium battery power voltage		DC320V				
Hydraulic pump model		KP30.24				
Hydraulic system rated Working pressure (MPa)		16				

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Table 2: Performance parameters of 8.5kW explosion-proof lithium battery monorail crane (permanent magnet inverter integrated machine)

Project/Parameter		DLR120/68Y	DLR150/85Y	DLR180/102Y	DLR210/119Y	DLR240/136Y
Traction force (kN)		120	150	180	210	240
Locomotive power (kW)		68	85	102	119	136
Safety braking force (kN)		180～240	225～300	270～360	315～420	360～480
Number of drive units		4	5	6	7	8
Number of brakes		6	7	8	9	10
Maximum speed (m/s)	Overload	0.5				
	No load	2.0				
Maximum climbing ability (°)		25				
Overspeed protection limit (m/s)		2.3				
Locomotive half turn Diameter(m)	level	⩽4				
	vertical	⩽8				
Track model		I140E/I140V/l140E (with rack)				
Single drive unit traction force (kN)		30				
Braking force of single drive unit (kN)		45～60				
Single motor power		8.5kW				
locomotive dimensions	Length (mm)	20000±100	21600±100	23300±100	25200±100	26800±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1310±20	1310±20
Deadweight (excluding liftingbeam)(kg)		13700	14500	17500	18300	19100
Lithium battery power voltage		DC320V				
Hydraulic pump model		KP30.24				
Rated working pressure of hydraulic system (MPa)		16				

Project/Parameter		DLR270/153Y	DLR300/170Y	DLR314/187Y	DLR360/204Y
Traction force (kN)		270	300	314	360
Locomotive power (kW)		84	96	108	120
Safety braking force (kN)		405~540	450~500	471~628	540~720
Number of drive units		9	10	11	12
Number of brakes		11	12	13	14
Maximum speed(m/s)	Overload	0.5			
	No load	2.0			
Maximum climbing ability (°)		25			
Overspeed protection limit (m/s)		2.3			
Locomotive turn bend radius(m)	level	⩽4			
	vertical	⩽8			
Track model		I140E/I140V/l140E (with rack)			
Single drive unit traction force (kN)		30			
Braking force of single drive unit (kN)		45～60			
Single motor power		8.5kW			
locomotive dimensions	Length (mm)	28500±100	30200±100	33500±100	35200±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1600±20	1600±20
Deadweight (excluding lifting beam) (kg)		21100	22500	24600	25400
Lithium battery power voltage		DC320V			
Hydraulic pump model		KP30.24			
Rated working pressure of hydraulic system (MPa)		16			

19807323802 15197233916 +86 731 55672999

Table 3: Technical parameters of 15kW explosion-proof lithium battery monorail crane (permanent magnet inverter integrated machine)

Project/Parameter		DLR90/90Y	DLR120/120Y	DLR150/150Y	DLR180/180Y	DLR210/210Y	DLR240/240Y
Traction force (kN)		90	120	150	180	210	240
Locomotive power (kW)		90	120	150	180	210	240
Safety braking force (kN)		135～180	180～240	225～300	270～360	315～420	360～480
Number of drive units		3	4	5	6	7	8
Number of brakes		5	6	7	8	9	10
Maximum speed (m/s)	Overload	0.8					
	No load	2.0					
Maximum climbing ability (°)		25					
Overspeed protection limit (m/s)		2.3					
Locomotive half turn Diameter(m)	level	⩽4					
	vertical	⩽8					
Track model		I140E/I140V/l140E (with rack)					
Single drive unit traction force (kN)		30					
Braking force of single drive unit (kN)		45～60					
Single motor power		15kW					
locomotive dimensions	Length (mm)	18200±100	20000±100	21600±100	23300±100	25200±100	26800±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1310±20	1310±20	1310±20
Deadweight (excluding lifting beam)(kg)		12400	13700	14500	17500	18300	19100
Lithium battery power voltage		DC320V					
Hydraulic pump model		KP30.24					
Rated working pressure of hydraulic system (MPa)		16					

Project/Parameter		DLR270/270Y	DLR300/300Y	DLR330/330Y	DLR360/360Y	DLR390/390Y	DLR420/420Y
Traction force (kN)		270	300	330	360	390	420
Locomotive power (kW)		270	300	330	360	390	420
Safety braking force (kN)		405～540	450～600	495～660	540～720	585～780	630～840
Number of drive units		9	10	11	12	13	14
Number of brakes		11	12	13	14	15	16
Maximum speed (m/s)	Overload	0.8					
	No load	2.0					
Maximum climbing ability (°)		25					
Overspeed protection limit (m/s)		2.3					
Locomotive half turn Diameter(m)	level	⩽4					
	vertical	⩽8					
Track model		I140E/I140/Vl140E (with rack)					
Single drive unit traction force (kN)		30					
Braking force of single drive unit (kN)		45～60					
Single motor power		15kW					
locomotive dimensions	Length (mm)	28500±100	30200±100	33500±100	35200±100	36900±100	38700±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1600±20	1600±20	1600±20	1600±20
Deadweight (excluding lifting beam) (kg)		21100	22500	24600	25400	26200	27,000
Lithium battery power voltage		DC320V					
Hydraulic pump model		KP30.24					
Rated working pressure of hydraulic system (MPa)		16					

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Table 4: Performance parameters of 22kW explosion-proof lithium battery monorail crane (permanent magnet variable frequency motor)

Project/Parameter		DLR60/88Y	DLR90/132Y	DLR120/148Y	DLR150/148Y	DLR180/264Y
Traction force (kN)		60	90	120	150	180
Locomotive power (kW)		88	132	148	148	264
Locomotive motor power (kW)		88	132	176	220	264
Safety braking force (kN)		90～120	135～180	180～240	225～300	270～360
Number of drive units		2	3	4	5	6
Number of brakes		4	5	6	7	8
Maximum speed (m/s)	Overload	1.0				
	No load	2.0				
Maximum climbing ability (°)		25				
Overspeed protection limit (m/s)		2.3				
Locomotive half turn Diameter(m)	level	⩽4				
	vertical	⩽8				
Track model		I140E/I140V/I140E (with rack)				
Single drive unit traction force (kN)		30				
Braking force of single drive unit (kN)		45～60				
Single motor power		22kW				
locomotive dimensions	Length (mm)	16500±100	18200±100	20000±100	21600±100	23300±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1310±20	1310±20
Deadweight (excluding lifting beam) (kg)		11200	12400	13700	14500	17500
Lithium battery power voltage		DC320V				
Hydraulic pump model		KP30.24				
Rated working pressure of hydraulic system(MPa)		16				

Project/Parameter		DLR210/296Y	DLR240/296Y	DLR270/296Y	DLR300/440Y	DLR330/444Y
Traction force (kN)		210	240	270	300	330
Locomotive power (kW)		296	396	296	440	444
Locomotive motor power (kW)		308	352	396	440	484
Safety braking force (kN)		315～420	360～480	405～540	450～600	495～660
Number of drive units		7	8	9	10	11
Number of brakes		9	10	11	12	13
Maximum speed (m/s)	Overload	1.0				
	No load	2.0				
Maximum climbing ability (°)		25				
Overspeed protection limit (m/s)		2.3				
Locomotive half turn diameter(m)	level	⩽4				
	vertical	⩽8				
Track model		I140E/I140V/I140E (with rack)				
Single drive unit traction force (kN)		30				
Braking force of single drive unit (kN)		45～60				
Single motor power		22kW				
locomotive dimensions	Length (mm)	25200±100	26800±100	28500±100	30200±100	33500±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1310±20	1600±20
Deadweight (excluding lifting beam) (kg)		18300	19100	21100	22500	24600
Lithium battery power voltage		DC320V				
Hydraulic pump model		KP30.24				
Rated working pressure of hydraulic system (MPa)		16				

Table 4 (Continued 1): Performance parameters of 22kW explosion-proof lithium battery monorail crane (permanent magnet variable frequency integrated machine)

Project/Parameter		DLR360/444Y	DLR390/444Y	DLR420/444Y
Traction force (kN)		360	390	420
Locomotive power (kW)		444	444	444
Locomotive motor power (kW)		528	572	616
Safety braking force (kN)		520～720	585～780	630～840
Number of drive units		12	13	14
Number of brakes		14	15	16
Maximum speed (m/s)	Overload	1.0		
	No load	2.0		
Maximum climbing ability (°)		25		
Overspeed protection limit (m/s)		2.3		
Locomotive half turn Diameter(m)	level	⩽4		
	vertical	⩽8		
Track model		I140E/I140V/I140E (with rack)		
Single drive unit traction force (kN)		30		
Braking force of single drive unit (kN)		45～60		
Single motor power		22kW		
Locomotive dimensions	Length (mm)	35200±100	36900±100	38700±100
	Width (mm)	1040±20	1040±20	1040±20
	Height(mm)	1600±20	1600±20	1600±20
Deadweight (excluding lifting beam) (kg)		25400	26200	27,000
Lithium battery power voltage		DC320V		
Hydraulic pump model		KP30.24		
Rated working pressure of hydraulic system (MPa)		16		

Monorail crane

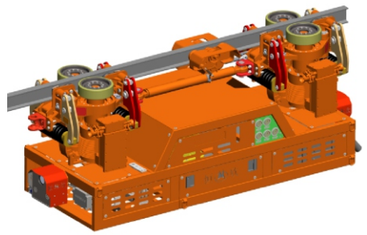
19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Explosion-proof lithium battery dispatching monorail crane locomotive (permanent magnet frequency conversion integrated machine)

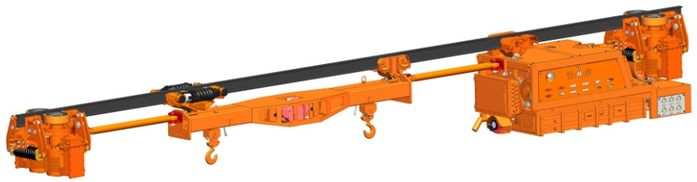
Product Introduction

The explosion-proof lithium battery dispatching monorail crane locomotive (permanent magnet frequency conversion integrated machine) is mainly composed of a drive unit, a power supply device (including an explosion-proof lithium-ion battery), a speed protection trolley, a load-bearing trolley, a pull rod, a lifting beam, an electro-hydraulic control car (including a hydraulic system, an electrical control system and safety protection), etc.

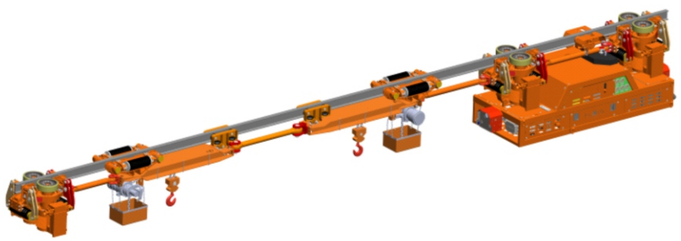
Single drive dispatching monorail crane



Dual-drive dispatching monorail crane



Single-drive dispatching monorail crane expanded to two-drive locomotive



The double-drive dispatching monorail crane is expanded to a three-drive locomotive

Technical Parameters

Performance parameter table

Table 1: Performance parameters of explosion-proof lithium battery single-drive dispatching monorail crane locomotive (permanent magnet frequency conversion integrated machine)

Project/Parameter		DLR30/13Y	DLR30/17Y	**DLR30/44Y**
Traction motor power (kW)		2×6.5	2×8.5	2×22
Maximum operating speed (m/s)		2		
Maximum climbing ability (°)		25		
Minimum curvature radius (m)		Horizontal 4/Vertical 8		
Equipment weight (t)		4.0		
locomotive Dimensions	Length (mm)	3070		
	Width (mm)	1100		
	Height(mm)	1231		
Number of drive units		1		
Number of brakes		2		
Braking force (kN)		45～60		
Applicable track model		I140E/I140V/I140E (with rack)		
Total capacity of lithium battery (kW.h)		73.6		
Comprehensive endurance of lithium battery (km)		10～18km		
Rated working pressure of hydraulic system (MPa)		16		

Table 2: Performance parameters of explosion-proof lithium battery dual-drive dispatching monorail crane locomotive (permanent magnet frequency conversion integrated machine)

Project/Parameter		DLR60/34Y	DLR60/88Y
Traction motor power (kW)		4×8.5	4×22
Maximum operating speed (m/s)		2	
Maximum climbing ability (°)		25	
Minimum curvature radius (m)		Horizontal 4/Vertical 8	
Equipment weight (t)		5.4	
locomotive Dimensions	Length (mm)	4700	
	Width (mm)	1100	
	Height(mm)	1231	
Number of drive units		2	
Number of brakes		4	
Braking force (kN)		90～120	
Applicable track model		I140E/I140V/I140E (with rack)	
Total capacity of lithium battery (kW.h)		73.6	
Lithium battery life (km)		10～18km	
Rated working pressure of hydraulic system (MPa)		16	

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Table 3: Performance parameters of explosion-proof lithium battery dispatching monorail crane (permanent magnet frequency conversion integrated machine)

Project/Parameter		DLR90/51Y	DLR120/68Y
Traction motor power (kW)		6×8.5	8×8.5
Maximum operating speed (m/s)		2	
Maximum climbing ability (°)		25	
Passing minimum curvature radius (m)		Horizontal 4/Vertical 8	
Equipment weight (t)		6.8	8.2
locomotive Dimensions	Length (mm)	6400	8100
	Width (mm)	1100	
	Height(mm)	1231	
Number of drive units		3	4
Number of brakes		6	8
Braking force (kN)		135～180	180～240
Applicable track model		I140E/I140/Vl140E (with rack)	
Total capacity of lithium battery (kW.h)		73.6	
Comprehensive endurance of lithium battery (km)		10～18km	
Rated working pressure of hydraulic system (MPa)		16	

Performance parameter table

Explosion-proof lithium battery dispatching monorail crane locomotive (permanent magnet frequency conversion integrated machine) load comparison table (unit:t)

Locomotive model\Slope (°)	0	5	10	15	20	25
DLR30/17Y	28	18	8	4.5	2.5	1.3
DLR56/24Y	55	35	17	10	6.8	4.6
DLR84/36Y	60	55	27	17	11.5	8.2
DLR120/68Y	60	60	40	25	18	13
DLR30/44Y	28	18	8	4.5	2.5	1.3
DLR60/88Y	55	35	17	10	6.8	4.6

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

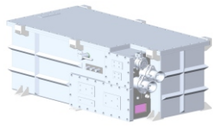
Monorail crane

Explosion-proof lithium battery rack monorail crane locomotive (permanent magnet frequency conversion integrated machine)

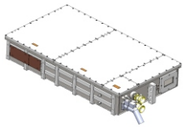
Product Introduction

The explosion-proof lithium battery rack monorail crane locomotive (permanent magnet frequency conversion integrated machine) mainly consists of a cab, rack drive unit, power supply unit (including explosion-proof lithium-ion battery), speed protection trolley, load-bearing trolley, pull rod, lifting beam, electrical system, electro-hydraulic control car (including hydraulic system, electrical control system and safety protection), etc.

Main components



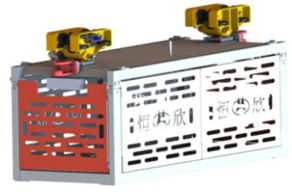
Vertical explosion-proof lithium battery



Horizontal explosion-proof lithium battery

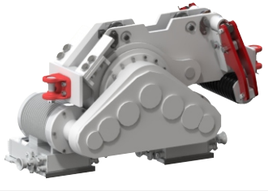
Explosion-proof lithium battery power supply device

The mining flameproof lithium-ion battery power supply device consists of multiple explosion-proof lithium.The locomotive is composed of a lithium battery power supply. The power supply of a single lithium battery is 320V, with a rated capacity of not less than 228Ah. A full charge can allow the locomotive to travel 16 to 50 kilometers (related to the lithium battery capacity, the number of drive parts, the load and the roadway working conditions).



Electro-hydraulic control vehicle

The electro-hydraulic control vehicle includes: speed protection vehicle, load-bearing vehicle, hydraulic.The electrical control system completes the detection and logical processing of operation signals, operating status signals, and pressure signals of each circuit, and issues control instructions based on the processing results to control the locomotive.



Rack drive unit

The rack drive unit drives the gear on the reducer through the permanent magnet integrated machine.The locomotive is driven by the rail rack. The reducer has a built-in working brake and the drive unit is also equipped with a set of safety braking devices.

Technical Parameters

Explosion-proof lithium battery rack monorail crane (permanent magnet frequency conversion integrated machine) load comparison table

Locomotive model\Slope (°)	5°	10°	12°	15°	18°	20°	23°	25°
DLR56/24Y	23	9	7	4	1	/	/	/
DLR84/36Y	40	19	14	10	7	5	3	2
DLR112/48Y	56	28	22	16	12	9	7	5
DLR140/60Y	72	37	30	22	17	14	11	9
DLR168/72Y	80	44	36	27	20	17	13	11
DLR196/84Y	80	54	44	33	26	22	18	15
DLR224/96Y	80	63	52	40	32	27	22	19
DLR256/108Y	80	72	59	45	36	31	25	22
DLR280/120Y	80	80	66	51	41	35	29	25
DLR308/132Y	80	80	73	57	45	39	32	28
DLR336/144Y	80	80	80	63	51	44	36	32
DLR364/156Y	80	80	80	70	56	49	41	36
DLR392/168Y	80	80	80	76	62	54	45	40

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

Performance parameter table

Table 1: Performance parameters of explosion-proof lithium battery rack monorail crane (permanent magnet frequency conversion integrated machine)

Project/Parameter		DLCR60/88Y	DLCR90/132Y	DLCR120/148Y	DLCR150/148Y	DLCR180/264Y
Traction force (kN)		60	90	120	150	180
Locomotive power (kW)		88	132	148	148	264
Locomotive motor power (kW)		88	132	176	220	264
Braking force (kN)		90～120	120～180	180～240	225～300	270～360
Number of drive units		2	3	4	5	6
Number of working brakes		2	3	4	5	6
Number of safety brakes		4	5	6	7	8
Maximum speed (m/s)	Overload	1.0				
	No load	1.9				
Maximum climbing ability (°)		25				
Overspeed protection limit (m/s)		2.18				
Locomotive turning radius (m)	level	⩽4				
	vertical	⩽8				
Track model		I140E (with rack)				
Single drive unit traction force (kN)		30				
Braking force of single drive unit (kN)		45～60				
Single motor power		22kW				
Locomotive dimensions	Length (mm)	17000±100	19000±100	21000±100	22800±100	24800±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1310±20	1310±20
Deadweight (excluding lifting beam) (kg)		10860	11890	13020	13650	16480

Table 2: Performance parameters of explosion-proof lithium battery rack monorail crane (permanent magnet variable frequency motor)

Project/Parameter		DLCR210/296Y	DLCR240/296Y	DLCR270/296Y	DLCR300/440Y
Traction force (kN)		210	240	270	300
Locomotive power (kW)		296	296	296	440
Locomotive motor power (kW)		308	352	396	440
Braking force (kN)		315～420	360～480	405～540	450～600
Number of drive units		7	8	9	10
Number of working brakes		7	8	9	10
Number of safety brakes		9	10	11	12
Maximum speed (m/s)	Overload	1.0			
	No load	1.9			
Maximum climbing ability (°)		25			
Overspeed protection limit (m/s)		2.18			
Locomotive half turn diameter(m)	level	⩽4			
	vertical	⩽8			
Track model		I140E (with rack)			
Single drive unit traction force (kN)		30			
Braking force of single drive unit (kN)		45～60			
Single motor power		22kW			
Locomotive dimensions	Length (mm)	27000±100	28000±100	30700±100	32700±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1310±20	1310±20	1310±20	1600±20
Deadweight (excluding lifting beam) (kg)		17110	17740	19570	20800

Table 3: Performance parameters of explosion-proof lithium battery rack monorail crane (permanent magnet frequency conversion integrated machine)

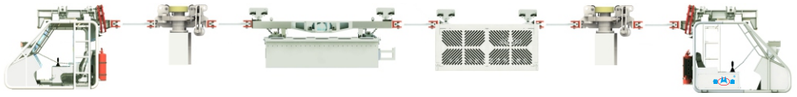
Project/Parameter		DLCR330/444Y	DLCR360/444Y	DLCR390/444Y	DLCR420/444Y
Traction force (kN)		330	360	390	420
Locomotive power (kW)		444	444	444	444
Locomotive motor power (kW)		484	528	572	616
Braking force (kN)		495～660	540～720	585～780	630～840
Number of drive units		11	12	13	14
Number of working brakes		11	12	13	14
Number of safety brakes		13	14	15	16
Maximum speed (m/s)	Overload	1.0			
	No load	1.9			
Maximum climbing ability (°)		25			
Overspeed protection limit (m/s)		2.18			
Locomotive turning radius(m)	level	⩽4			
	vertical	⩽8			
Track model		I140E (with rack)			
Single drive unit traction force (kN)		30			
Braking force of single drive unit (kN)		45～60			
Single motor power		22kW			
Locomotive dimensions	Length (mm)	36200±100	38200±100	40100±100	42200±100
	Width (mm)	1040±20	1040±20	1040±20	1040±20
	Height(mm)	1600±20	1600±20	1600±20	1600±20
Deadweight (excluding lifting beam) (kg)		22730	23360	23990	24620

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

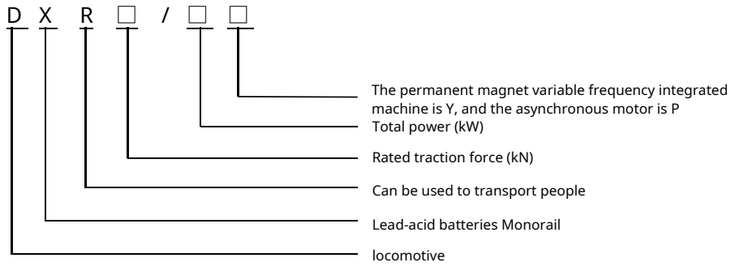
Explosion-proof special battery monorail crane locomotive (permanent magnet frequency conversion integrated machine)

Product Introduction

The explosion-proof special type battery monorail crane locomotive (permanent magnet frequency conversion integrated machine) is mainly composed of a cab, an integrated machine drive unit, an electro-hydraulic control car (including hydraulic system, electrical control system and safety protection), a power supply device (including lead-acid batteries), a speed protection trolley, a load-bearing trolley, a pull rod, a lifting beam, etc.



Model Definition



Example 1: Model DXR308/132Y indicates a locomotive with a rated traction of 308kN and a total drive motor power of 132kW. It is a special explosion-proof battery monorail crane locomotive driven by a motor that can be used for transporting people. The motor is a permanent magnet variable frequency integrated machine.

Example 2: Model DX120/72P indicates a locomotive with a rated traction of 120kN and a total drive motor power of 72kW. It is an explosion-proof special battery monorail crane locomotive driven by an asynchronous motor.

Technical Parameters

Load comparison table for explosion-proof special battery monorail crane (permanent magnet frequency conversion integrated machine)（unit:t)

Locomotive model\Slope (°)	5°	10°	15°
DXR140/60Y	73	38	23
DXR168/72Y	80	47	29
DXR196/84Y	80	56	36
DXR224/96Y	80	66	42
DXR252/108Y	80	74	48
DXR280/120Y	80	80	54
DXR308/132Y	80	80	60

Note: The load in the table is the safe load of the locomotive (safe load = weight of the lifting beam + weight of the cargo)

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Monorail crane

Performance parameter table

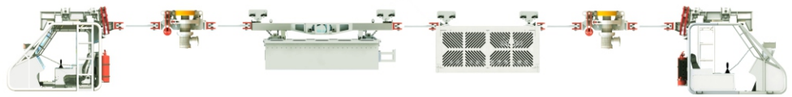
Explosion-proof special battery monorail crane locomotive (permanent magnet frequency conversion integrated machine) performance parameter table

Project/Parameter		DXR140/60Y	DXR168/72Y	DXR196/84Y	DXR224/96Y	DXR252/108Y	DXR280/120Y	DXR308/132Y
Traction force (kN)		140	168	196	224	252	280	308
Locomotive power (kW)		60	72	84	96	108	120	132
Safety braking force (kN)		210～280	252～336	294～392	336～448	378～504	420～560	462～616
Number of drive units		5	6	7	8	9	10	11
Number of brakes		7	8	9	10	11	12	13
Maximum speed (m/s)	Overload	0.5						
	No load	2.0						
Maximum climbing ability(°)		15						
Overspeed protection limit (m/s)		2.3						
Locomotive turning Radius (m)	level	⩽4						
	vertical	⩽8						
Track model		I140E/I140V/I140E (with rack)						
Single drive unit traction (kN)		28						
Single drive unit braking force (kN)		42～56						
Single motor power		6kW						
Locomotive dimensions	Length (mm)	20800±100	22500±100	24200±100	25900±100	27600±100	29300±100	31000±100
	Width (mm)	1020±20	1020±20	1020±20	1020±20	1020±20	1020±20	1020±20
	Height(mm)	1450±20	1450±20	1450±20	1450±20	1450±20	1450±20	1450±20
Deadweight (excluding lifting beam)(kg)		13500	15200	16000	16800	18800	20200	21000
batteries power supply voltage		DC336V						
Pump station motor power(kW)		12						
slow down Machine Model		PW215						
Charge Machine Model		ZBC200/480						

Explosion-proof special battery monorail crane locomotive (asynchronous motor)

Product Introduction

The explosion-proof special battery monorail crane locomotive (asynchronous motor) is mainly composed of a cab, an asynchronous motor drive unit, an electro-hydraulic control vehicle (including a hydraulic system, an electrical control system and safety protection), a power supply device (including a lead-acid battery), a speed protection trolley, a load-bearing trolley, a pull rod, a lifting beam, etc.



Technical Parameters

Load comparison table for explosion-proof special battery monorail crane (asynchronous motor)

Locomotive model\Slope (°)	5°	10°	15°
DX40/24P	15	5	/
DX60/36P	26	11	4
DX80/48P	37	17	8
DX100/60P	48	23	13
DX120/72P	60	30	17

Note: The load in the table is the safe load of the locomotive (safe load = weight of the lifting beam + weight of the cargo)

Performance parameter table

Explosion-proof special battery monorail crane locomotive (asynchronous motor) performance parameter table

Project/Parameter		DX40/24P	DX60/36P	DX80/48P	DX100/60P	DX120/72P
Traction force (kN)		40	60	80	100	120
Locomotive power (kW)		24	36	48	60	72
Working braking force (kN)		60～80	90～120	120～160	150～200	180～240
Number of drive units		2	3	4	5	6
Number of brakes		4	5	6	7	8
Maximum speed (m/s)	Overload	0.5				
	No load	1.5				
Maximum climbing ability (°)		15				
Overspeed protection limit (m/s)		1.725				
Locomotive half turn Diameter(m)	level	⩽4				
	vertical	⩽8				
Track model		I140E/I140V/I140E (with rack)				
Single drive unit traction force (kN)		20				
Braking force of single drive unit (kN)		30～40				
Single motor power		6kW				
Locomotive dimensions	Length (mm)	14300±100	15700±100	17000±100	18500±100	22500±100
	Width (mm)	1020±20	1020±20	1020±20	1020±20	1020±20
	Height(mm)	1450±20	1450±20	1450±20	1450±20	1450±20
Deadweight (excluding lifting beam) (kg)		10200	11400	12700	13500	14300
Battery power voltage		DC252V				
Pump station motor power (kW)		12				
Reducer model		BTB70A43～02～00				
Charger model		ZBC100/400				

19807323802 15197233916 +86 731 55672999

Explosion-proof lithium battery single-engine dual-drive monorail crane locomotive (permanent magnet frequency conversion integrated machine)

Product Introduction

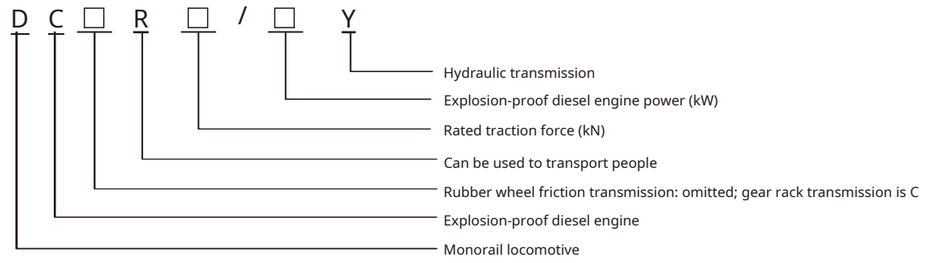
The explosion-proof lithium battery single-engine dual-drive monorail crane locomotive (permanent magnet frequency conversion integrated machine) is mainly composed of a cab, a rubber-wheel drive unit, a rack-and-rail drive unit, an electro-hydraulic control vehicle (including a hydraulic system, an electrical control system, and safety protection), a speed protection trolley, a load-bearing trolley, a pull rod, a lifting beam, etc.

Explosion-proof diesel engine monorail crane locomotive

Product Introduction

The explosion-proof diesel engine monorail crane locomotive is mainly composed of a cab, a drive unit, a diesel engine main engine, a cooling unit, a speed protection trolley, a load-bearing trolley, a pull rod, a lifting beam, etc.

Model Indication



Example 1: Model DCR390/160Y indicates a diesel monorail crane with a rated tractive force of 390kN, a diesel engine power of 160kW, and a hydraulic drive and rubber-tyre friction transmission. Example 2: Model DCCR360/160Y indicates a diesel monorail crane with a rated tractive force of 360kN, a diesel engine power of 160kW, and a hydraulic drive and gear transmission.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Main components

Swing arm semi-motor drive device

The swing-arm semi-motor drive unit consists of a hydraulic semi-motor, travel wheels, friction wheels, brakes, left and right swing arms, and a clamping cylinder. It uses a swing-arm support structureconnected to the friction wheels via an intermediate short shaft. It has a rated traction force of 30 kN and is equipped with a working brake and a safety brake, both with a braking force of 45 kN.

Full motor drive

The full motor drive unit consists of a hydraulic full motor, travel wheels, friction wheels, guide wheels, brake devices, clamping cylinders and valve groups. The hydraulic full motor is directly connected to the friction wheels. The advantages of this drive unit are simple structure and easy maintenance. It is equipped with a working brake and a safety brake, and the braking force is 45kN.

Host

The main engine consists of an explosion-proof diesel engine, a closed variable pump, a water wash tank, a hydraulic oil tank, a fuel tank, a diesel engine cooling system, and an automatic fire extinguishing device . The accompanying explosion-proof diesel engine meets China III emission standards and can be safely used in high-gas and dusty environments underground. The engine is compact, has a large torque reserve, and delivers constant torque output at low speeds.

The hydraulic parts are imported brands with high reliability. The main pump adoptsDAThe closed-loop hydraulic system ensures smooth operation and minimal pollution. Electro-hydraulic control and fully hydraulic braking enable continuous, direct transport from the surface or pit yard to the mining face over long distances. Equipped with an automatic fire extinguishing device, it detects temperature and triggers the device for automatic fire extinguishing. A manual trigger is also available for manual activation.

Diesel engine monorail crane cooling device

The cooling device consists of a cooling box frame, a hydraulic oil air-cooled heat dissipation system, and an electrical control system, and is generally suspended below the drive unit.

Translational semi-motor drive device

The translational semi-motor drive device consists of a hydraulic semi -motor, roller bracket, travel wheel, friction wheel, guide wheel, brake device, clamping cylinder, etc. The translational semi-motor adopts a translation bracket structure, connected by an intermediate long shaft with a friction rated traction of 30KN, and the braking force of the brake is greater than 45KN.

19807323802 15197233916 +86 731 55672999

Technical Parameters

Load Table

Table 1: Comparison of maximum and transport slopes for 110kW explosion-proof diesel engine monorail cranes

Locomotive model\Slope (°)	5°	10°	15°	20°	25°
DCR360/110Y	80	80	74	54	42
DCR300/110Y	80	80	60	44	34
DCR270/110Y	80	80	53	39	30
DCR240/110Y	80	70	46	33	25
DCR210/110Y	80	60	40	28	21
DCR180/110Y	80	51	33	24	18
DCR150/110Y	78	43	28	20	15
DCR120/110Y	61	33	22	15	11

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

Table 2: Load comparison table of 160kW explosion-proof diesel engine monorail crane locomotive

Locomotive model\Slope (°)	5°	10°	15°	20°	25°
DCR420/160Y	80	80	80	64	50
DCR390/160Y	80	80	80	59	46
DCR360/160Y	80	80	74	54	42
DCR330/160Y	80	80	66	49	38
DCR300/160Y	80	80	60	44	34
DCR270/160Y	80	80	53	39	30
DCR240/160Y	80	70	46	33	25
DCR210/160Y	80	60	40	28	21
DCR180/160Y	80	51	33	24	18
DCR150/160Y	78	43	28	20	15
DCR120/160Y	61	33	22	15	11

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Performance parameter table

Table 1: Performance parameters of 110kW explosion-proof diesel engine monorail crane locomotive

Project/Parameter		DCR120/110Y	DCR150/110Y	DCR180/110Y	DCR210/110Y
Traction force (kN)		120	150	180	210
Braking force (kN)		180~240	225~300	270~360	315~420
Number of drive units		4	5	6	7
Number of brakes		10	12	14	16
Maximum operating speed (m/s) (Full drive/4 drive)		2.2/2.2	1.7/2.2	1.4/2.2	1.2/2.2
Maximum climbing ability (°)		25			
Track Turn Radius (m)	level	≥4			
	vertical	≥8			
Rail type		I140E/I140V/I140E (with rack)			
Single drive unit traction force (kN)		30			
Braking force of single drive unit (kN)		45~60			
Locomotive dimensions (length × width × height) m		17.4×1×1.3	19.1×1×1.3	20.1×1×1.3	22.5×1×1.3
Deadweight (excluding lifting beam) (kg)		7.58	9.7	10.4	11.9
Explosion-proof firewood Oil engine	model	MA6107DZLYFB(A)			
	Power/speed (kW/rpm)	110/2200			
Fuel tank capacity (L)		150			
Hydraulic pump model		A4VG280			
Hydraulic motor model		MCR5H565			
Hydraulic pump displacement (mL/r)		280			
Hydraulic motor displacement (mL/r)		565			
Main system pressure (MPa)		35			

Project/Parameter		DCR240/110Y	DCR270/110Y	DCR300/110Y	DCR330/110Y	DCR360/110Y
Traction force (kN)		240	270	300	330	360
Braking force (kN)		~	~	~	~	~
Number of drive units		8	9	10	11	12
Number of brakes		18	20	22	24	26
Maximum operating speed (m/s) (Full drive/4 drive)		1/2.2	0.9/2.2	0.8/2.2	0.7/2.2	0.6/2.2
Maximum climbing ability (°)		25				
Track Turn Radius (m)	level	≥4				
	vertical	≥8				
Rail type		I140E/I140V/I140E (with rack)				
Single drive unit traction force (kN)		30				
Braking force of single drive unit (kN)		45~60				
Locomotive dimensions (length × width × height) m		24.2×1×1.3	25.9×1×1.3	27.6×1×1.3	29.3×1×1.3	31.0×1×1.3
Deadweight (excluding lifting Beam)(kg)		12.6	13	13.4	14.2	14.5
explosion-proof diesel engine	model	MA6107DZLYFB(A)				
	Power/speed (kW/rpm)	110/2200				
Fuel tank capacity (L)		150				
Hydraulic pump model		A4VG280				
Hydraulic motor model		MCR5H565				
Hydraulic pump displacement (mL/r)		280				
Hydraulic motor displacement (mL/r)		565				
Main system pressure (MPa)		35				

19807323802 15197233916 +86 731 55672999

Table 2: Performance parameters of 160kW explosion-proof diesel engine monorail crane locomotive

Project/Parameter		DCR150/160Y	DCR180/160Y	DCR210/160Y	DCR240/160Y
Traction force (kN)		150	180	210	240
Braking force (kN)		225~300	270~360	315~420	360~480
Number of drive units		5	6	7	8
Number of brakes		12	14	16	18
Maximum operating speed (m/s) (Full drive/4 drive)		1.7/2.2	1.4/2.2	1.2/2.2	1/2.2
Maximum climbing ability (°)		25			
Track turning radius(m)	level	≥4			
	vertical	≥8			
Rail type		I140E /I140V/I140E (with rack)			
Single drive unit traction force		30			
Braking force of single drive unit (kN)		45~60			
Locomotive dimensions (length × width × height) m		19.1×1×1.3	20.1×1×1.3	22.5×1×1.3	24.2×1×1.3
Deadweight (excluding lifting beam) (kg)		9.7	10.4	11.9	12.6
explosion-proof diesel engine	model	MA6107DZLYFB(A)			
	Power/speed (kW/rpm)	160/2200			
Fuel tank capacity (L)		150			
Hydraulic pump model		A4VG280			
Hydraulic motor model		MCR5H565			
Hydraulic pump displacement (mL/r)		280			
Hydraulic motor displacemen(tmL/r)		565			
Main system pressure (MPa)		35			

Project/Parameter		DCR270/160Y	DCR300/160Y	DCR330/160Y	DCR360/160Y	DCR390/160Y	DCR420 160Y
Traction force (kN)		270	300	330	360	390	420
Braking force (kN)		405~540	450~600	495~660	540~720	585~780	630~840
Number of drive units		9	10	11	12	13	14
Number of brakes		20	22	24	26	28	30
Maximum operating speed (m/s) (Full drive/4 drive)		0.9/2.2	0.8/2.2	0.7/2.2	0.6/2.2	0.5/2.2	0.5/2.2
Maximum climbing ability (°)		25					
Track Turn Radius (m)	level	≥4					
	vertical	≥8					
Rail type		I140E/I140V/I140E (with rack)					
Single drive unit traction(kN)		30					
Single drive unit braking force(kN)		45~60					
Locomotive dimensions (length × width × height) m		25.9×1×1.3	27.6×1×1.3	29.3×1×1.3	31.0×1×1.3	32.7×1×1.3	34.4×1×1.3
Weight (excluding lifting Lifting beam)(kg)		13	13.4	14.2	14.5	15.5	16.4
explosion-proof diesel engine	model	MA6107DZLYFB(A)					
	Power/speed (kW/rpm)	160/2200					
Fuel tank capacity (L)		150					
Hydraulic pump model		A4VG280					
Hydraulic motor model		MCR5H565					
Hydraulic pump displacement (mL/r)		280					
Hydraulic motor displacement		565					
Main system pressure (MPa)		35					

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Explosion-proof diesel engine dispatching monorail crane locomotive

Product Introduction

Explosion-proof diesel engine dispatching monorail crane locomotive

Mainly consists of drive unit, diesel

It consists of a main machine, a speed protection trolley, a load-bearing trolley, a pull rod, a lifting beam, etc.

Product Advantages

◆ The whole machine has a compact structure and high integration, which reduces the size of the locomotive and better adapts to the transportation of materials in narrow spaces;
◆ Powered by a diesel engine, it is easy to refuel and has no worries about battery life;
◆ Remote control operation: Based on wireless remote control system, it has remote dispatch driving function;
◆ Fast running speed, can reach 2.2m/s;
◆ The locomotive has large traction force, 30kN for single drive and 60kN for dual drive;
◆ The running slope is large, which can reach 25°;
◆ The number of drive units can be expanded to 5, and the vehicle's traction force reaches 150kN .

Technical Parameters

Explosion-proof diesel engine dispatching monorail crane locomotive load comparison table (unit: t)

	0°	5°	10	15	20	25
DCR60/45Y	58	37	17	10	6.5	4.1
DCR90/45Y	60	59	30	18	12.8	9.2
DCR120/45Y	60	60	41	26	18.5	13.8
DCR60/65Y	58	37	17	10	6.5	4.1
DCR90/65	60	59	30	18	12.8	9.2
DCR120/65Y	60	60	41	26	18.5	13.8
DCR150/65Y	60	60	52	34	24	18

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

19807323802 15197233916 +86 731 556729

Performance parameter tabl

Table 1: Performance parameters of explosion-proof diesel engine dispatching monorail crane locomotive Product Introduction

		DCR60/45Y	DCR60/65Y
Diesel engine power/speed (kW/rpm)		45/2200	65/2200
Maximum operating speed (m/s)		2.2	
Maximum climbing ability (°)		25	
Minimum curvature radius (m)		Horizontal 4/Vertical 8	
Equipment weight (t)		6.0	
Dimensions	Length (mm)	3800	
	Width (mm)	900	
	Height(mm)	1500	
Number of drive units		2	
Number of brakes		4	
Braking force (kN)		90～120	
Applicable track model		I140E/I140V/I140E (with rack)	
		A4VG125	
Main system working pressure (MPa)		35	

Table 2: Technical parameters of explosion-proof diesel engine dispatching monorail crane locomotive

(number of extended drive units)

		DCR90/45Y	DCR120/45Y	DCR90/65Y	DCR120/65Y	DCR150/65Y
Diesel engine power/speed) kW/rpm		45/2200		65/2200		
Maximum operating speed (m/s)		2.2				
Maximum climbing ability (°)		25				
Minimum curvature radius (m)		Horizontal 4/Vertical 8				
Equipment weight (t)		6.8	7.6	6.8	7.6	8.4
Dimensions	Length (mm)	5300	6800	5300	6800	8300
	Width (mm)	900				
	Height(mm)	1.5				
Number of drive units		3	4	3	4	5
Number of brakes		6	8	6	8	10
Braking force (kN)		135～180	180～240	135～180	180～240	225～300
Applicable track model		I140E/I140V/I140E (with rack)				
		A4VG125				
Main system working pressure (MPa)		35				

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Explosion-proof diesel engine rack monorail crane locomotive

Product Introduction

The explosion-proof diesel engine rack monorail crane locomotive is mainly composed of a cab, a hydraulic gear drive unit, a diesel engine main engine, a cooling unit, a speed protection trolley, a load-bearing trolley, a drawbar, a lifting beam, etc.

Main components

Cooling unit

The cooling unit consists of a cooling box frame, a hydraulic oil air-cooled heat dissipation system, and an electrical control system, and is generally suspended below the drive unit.

Diesel engine gear drive unit

The gear drive device drives the gear at the shaft end and the track rack through a hydraulic motor to realize the operation of the locomotive. The hydraulic motor has its own working brake and is equipped with a safety brake device at the rear.

Host

The main engine consists of an explosion-proof diesel engine, a closed variable pump, a water wash tank, a hydraulic oil tank, a fuel tank, a diesel engine cooling system, and an automatic fire extinguishing device. The accompanying explosion-proof diesel engine meets China III emission standards and can be safely used in high-gas and dusty environments underground. The engine is compact, has a large torque reserve, and delivers constant torque output at low speeds.

The hydraulic parts are imported brands with high reliability. The main pump adoptsDAThe closed- loop hydraulic system ensures smooth operation and minimal pollution. Electro-hydraulic control and fully hydraulic braking enable continuous, direct transport from the surface or pit yard to the mining face over long distances. Equipped with an automatic fire extinguishing device, it detects temperature and triggers the device for automatic fire extinguishing. A manual trigger is also available for manual activation.

19807323802 15197233916 +86 731 55672999

Technical Parameters

Explosion-proof diesel engine rack monorail crane locomotive load comparison table (unit: t)

Locomotive model slope	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	25°
DCCR360/160Y	80	80	80	80	80	80	80	73	65	59	52
DCCR330/160Y	80	80	80	80	80	80	75	66	59	53	46
DCCR300/160Y	80	80	80	80	80	78	68	60	53	48	41
DCCR270/160Y	80	80	80	80	80	70	60	53	47	42	37
DCCR240/160Y	80	80	80	80	72	61	53	46	41	37	32
DCCR210/160Y	80	80	80	74	62	53	45	40	35	31	27
DCCR180/160Y	80	80	78	63	52	44	38	33	29	26	22
DCCR150/160Y	80	80	63	51	42	36	31	26	23	21	17
DCCR120/160Y	80	65	49	39	32	27	23	20	17	15	12

Note: The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

Performance parameter table

Table 1: Performance parameters of explosion-proof diesel engine rack monorail crane locomotive

		DCCR360/160Y	DCCR330/160Y	DCCR300/160Y	DCCR270/160Y
Traction force (kN)		360	330	300	270
Braking force (kN)		540~720	495~660	450~600	405~540
Number of drive units		12	11	10	9
Number of brakes		14	13	12	11
Maximum speed (m/s)	Half displacement	1.3	1.4	1.54	1.72
	Full displacement	0.65	0.7	0.77	0.86
Maximum climbing ability (°)		25			
Overspeed protection limit (m/s)		2.4			
Track turns halfway Diameter(m)	level	≥4			
	vertical	≥8			
Track model		I140E (with rack)			
Single drive unit traction force (kN)		30			
Braking force of single drive unit (kN)		45~60			
Locomotive appearance size	Length (mm)	29000±100	27300±100	25300±100	24300±100
	Width (mm)	1000±20	1000±20	1000±20	1000±20
	Height(mm)	1300±20	1300±20	1300±20	1300±20
Deadweight (excluding lifting beam) (kg)		15220	14480	13740	13000
explosion-proof diesel engine	model	MA6107DZLYFB(A)			
	Power/speed (kW/rpm)	160/2200			
Axial piston pump model		A4VG280HP			
Driving hydraulic motor model		MS18			
Hydraulic pump displacement (mL/r)		280			
Driving system pressure (MPa)		35			
		18			

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Table 2: Performance parameters of explosion-proof diesel engine rack monorail crane locomotive

Project/Parameter		DCCR240/160Y	DCCR210/160Y	DCCR180/160Y	DCCR150/160Y	DCCR120/160Y
Traction force (kN)		240	210	180	150	120
Braking force (kN)		360~480	315~420	270~360	225~300	180~240
Number of drive units		8	7	6	5	4
Number of brakes		10	9	8	7	6
Maximum speed (m/s)	Half displacement	1.94	2.1	2.1	2.1	2.1
	Full displacement	0.97	1.1	1.29	1.5	1.9
Maximum climbing ability (°)		25				
Overspeed protection limit (m/s)		2.4				
Track bend Radius (m)	level	≤4				
	vertical	≤8				
Rail type		I140E (with rack)				
Single drive unit traction force		30				
Braking force of single drive unit (kN)		45~50				
Outside the motorcy Shape and size	Length (mm)	22200±100	21000±100	19700±100	18500±100	16600±100
	Width (mm)	1000±20	1000±20	1000±20	1000±20	1000±20
	Height(mm)	1300±20	1300±20	1300±20	1300±20	1300±20
Deadweight (excluding lifting beam) (kg)		12260	11520	10780	10040	9300
explosion-proof diesel machine	model	MA6107DZLYFB(A)				
	Power/speed (kW/rpm)	160/2200				
Axial piston pump model		A4VG280HP				
Driving hydraulic motor model		MS18				
Hydraulic pump displacement (mL/r)		280				
Driving system pressure (MPa)		35				
Auxiliary system pressure (MPa)		18				

Pneumatic Monorail Hoist for Mining

Product Introduction

The mining pneumatic monorail crane primarily consists of a drive unit, a carrying trolley, a brake trolley, a pneumatic hoist, a pull rod, a pneumatic system, and safety features. Compressed air is used as a power source to drive a pneumatic motor, which drives rubber wheels or gears on the track. It is suitable for short-distance dispatching or relay transportation in tunneling lanes. The equipment does not produce exhaust gas, making it ideal for working conditions with poor ventilation. Operations are controlled by a joystick. It is primarily used for transporting materials and equipment for advanced support in tunnels above and below the working face in underground coal mines, and can also be used for other underground operations requiring short-distance transportation.

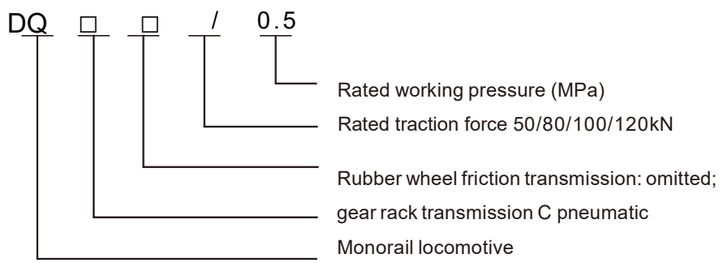
advantage:

- Energy saving, environmental protection, and pollution-free;
- Using underground compressed air as power;
- Pure pneumatic control, no risk of explosion.
- The locomotive itself is short, light in weight and maneuverable;

shortcoming:

- The noise is quite loud.
- At low temperatures, pneumatic components are prone to freezing, making the locomotive unusable;
- The driving capacity is relatively small, and the current maximum traction force is 120kN.
- The power source is taken from the air duct on the tunnel wall,
- and the air duct needs to be reinserted after running for about 50m.
- Applicable to small slope, use slope≤20°

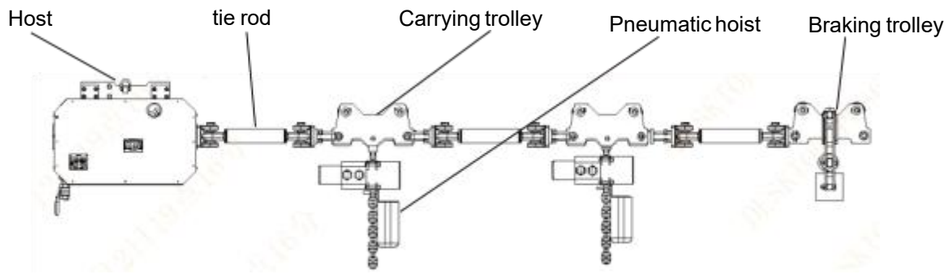
Model Indication



19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

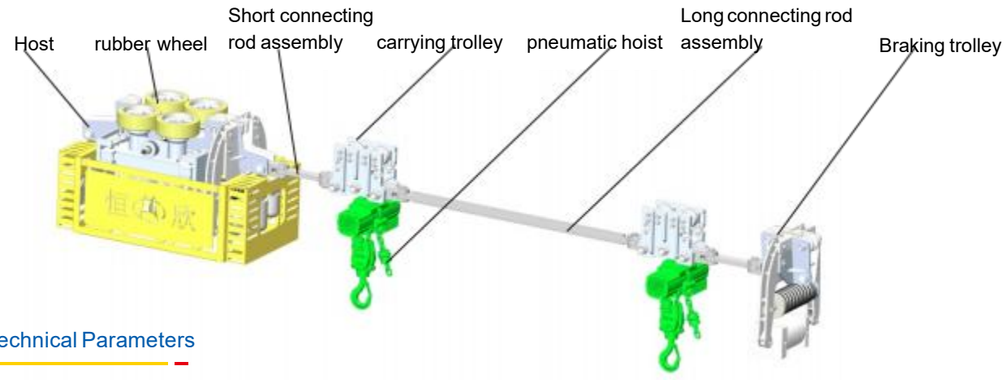
Pneumatic rack monorail crane

The equipment is driven by an air motor which is decelerated by a reduction mechanism and then drives the gear rack.



Pneumatic monorail crane

The equipment is driven by an air motor which is decelerated by a reduction mechanism and then drives the gear rack.



Technical Parameters

Pneumatic monorail crane load comparison table (unit: t)

Locomotive model\Slope	0o	5o	10o	15o	20o
DQC45 / 0.5	20	17.2	14.2	10.2	7.2
DQ50/ 0. 5	20	20	15.3	10.5	7.8
DQ80/ 0. 5	40	28	23	15.9	12
DQ100 / 0.5	40	35	28.8	19	15.1
DQ120 / 0.5	40	40	34.9	24.3	18.5

Note: 1. The load in the table is the safe load of the locomotive (safe load = deadweight of the lifting beam + weight of the cargo).

2. On-site gas consumption requirements: DQ50/0.5 requires 9 cubic meters/minute, DQ80/0.5 requires 16 cubic meters/minute, DQ100 /0.5 requires 18 cubic meters/minute, and DQ120/0.5 requires 20 cubic meters/minute.

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd

Performance parameter table

Pneumatic monorail crane performance parameter table

/		DQC45/0 5	DQ50/0 5	DQ80/0 5	DQ100/0 5	DQ120/0 5
Working air pressure	(Mpa)	0.24~0.63	0.24~0.63	0.24~0.63	0.24~0.63	0.24~0.63
Rated traction (KN)	Pressure 0.4MPa	37	42.7	70	90	100
	Pressure 0.5MPa	45	50	80	100	120
	Pressure 0.6MPa	50	56	85	104	125
Maximum operating speed Degrees (horizontal)	(m/s-1)	0.4				
Climbing angle	(°)	0~20				
Minimum horizontal rotation Bend radius	(m)	6				
Minimum vertical rotation Bend radius	(m)	8				
Maximum lifting weight quantity	(T)	20				
Maximum braking force	(KN)	67.5~90	75~100	120~160	150~200	180~240
Vehicle size (Length x width	(mm)	4472×666×769	5550×790×840	10700×860×790	12100×860×790	12100×860×790
Vehicle weight	kg	800	1300	1770	2070	2070
air motor	model	AMC16	AMC7	AMC7	AMC7	AMC7
	Power/Kw	16KW	7KWx2	7KWx4	7KWx4	7KWx4
	Gas consumption	5.88m³/min	9m³/min	16m³/min	18³/min	20³/min
Pneumatic hoist	model	HQ10~(3~16)				
	Power/Kw	3.5x2				
	Gas consumption	3m³/min x2				
Track model	/	I140E (with rack)	I140E/I140V/I140E(Rack)			
Control method	/	operating handle				

Common parts for mining monorail crane locomotives

cab

There is no control box, road condition and working condition display screen, emergency brake valve, road condition detection robot, etc. in the cab.

cab			
long×Width×high	1.9m×1m×1.5m	Horizontal turning radius	4m
Deadweight	0.9t	Vertical turning radius	8m
Applicable slope	25°	Height from bottom to rail bottom	1.37m

Horizontal safety brake

The safety brake device is installed on the key components of the monorail crane, such as the lifting beam, main machine, power supply device, passenger compartment, etc. It is used to implement secondary safety braking when the working brake device of the monorail crane fails, thereby improving the safety performance of the monorail crane.

Horizontal safety brake			
Length × width × height	0 • .84m×0.645m×0.315 m	Horizontal turning radius	4m
Deadweight	0.24t	Vertical turning radius	8m
Applicable slope	25°	Rated braking force	45kN~60kN

Vertical safety brake

The safety brake device is installed on the key components of the monorail crane, such as the lifting beam, main machine, power supply device, passenger compartment, etc. It is used to implement secondary safety braking when the working brake device of the monorail crane fails, thereby improving the safety performance of the monorail crane.

Vertical safety brake			
Length × width × height	0.55m×1m×0.75m	Horizontal turning radius	4m
Deadweight	0.24t	Vertical turning radius	8m
Applicable slope	25°	Rated braking force	45kN~60kN

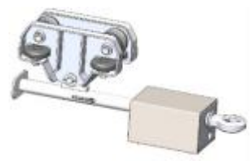
Vehicle-mounted road condition detection robot

A perception system comprised of AI cameras, lidar and inclination sensors collects data; anedge data processing center with algorithms intelligently processes the big data;and a mobile controller builds a data control system to implement classified control of the data. The data from these three systems collaborate to enable intelligent locomotive detection.

19807323802 15197233916 +86 731 5567299

Mechanical intelligent rail detection device

The mechanical intelligent track detection device is installed at both ends of the monorail crane locomotive. It is used to trigger emergency braking when the track web is uneven, the track joint is misaligned, or there is an obstacle ahead. It can also trigger emergency braking when the switch is not in place or other reasons cause the locomotive to derail.

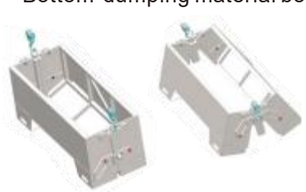


Mechanical intelligent rail detection device			
long×Width×high	1m×0.3m×0.5m	Maximum load	16t
	0.6t	Climbing angle	≤30。
Horizontal turning radius	4m	Vertical turning radius	8m

Material Box

The material box consists of a lifting structure and a box body.
The box volume can be customized according to the mining company' s needs and is used to load materials such as trolleys and gangue. The material box is available in two configurations: bottom-dumping and side-tilting.
When transported to the designated location, the bottom cover or side of the material box can be opened to drop the cargo, significantly reducing loading and unloading time.

◆ Bottom-dumping material box



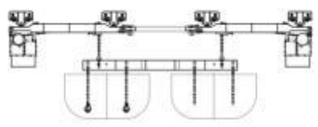
Bottom-dumping material box			
Rated load	6t	Rated capacity	2.5m3
Dimensions	3.3m×1.2m×1.2m	Deadweight	1.7t

◆ Side-tip material box

Side tip material box			
Rated load capacity	4t	Rated capacity	2.5m3
Dimensions	3.3m×1.2m×1m	Deadweight	1.1t

Multifunctional lifting frame

Coordinated lifting beam to lift the mine car or man-car.



Multifunctional lifting frame			
long×Width×high	4.2m ×1.1m ×0.2m	Maximum load	16t
Deadweight	0.6t		

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

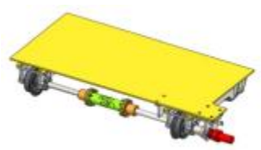
Air-driven reloading trolley

The air-driven changing trolley is used to change the battery power supply.
Its wheels are driven by an air motor or a hand crank to travel on the ground track. When replacing the battery power supply, the battery box is lowered onto the changing trolley through the lifting beam, and the changing trolley transports the battery box to the charging chamber for charging.

Air-driven reloading trolley			
Applicable rail type	30kg/m	Applicable track gauge	1906
Rated load	8t	Work pressure	0.3~0.7MPa
Dimensions	2.8m×1.4m×0.45m	Deadweight	1.25t

Liquid-driven replacement trolley

The hydraulically driven changing trolley is used to change the battery power supply.
Its wheels are driven by a hydraulic motor or a hand crank and travel on the ground track. When replacing the battery power supply, the battery box is lowered onto the changing trolley through the lifting beam, changing trolley transports the battery box to the charging chamber for charging.



Liquid-driven replacement trolley			
Applicable rail type	30kg/m	Applicable track gauge	1906
Rated load	8t	Work pressure	3MPa
Dimensions	2.8m×1.4m×0.45m	Deadweight	1.25t

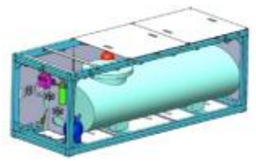
Pneumatic refueling machine

Pneumatic refueling pumps are used to refuel diesel monorail cranes with diesel engines.
Their power source is compressed air in coal mines.

Pneumatic refueling machine			
flow	70L/min	Work pressure	0.3~0.8 MPa
Deadweight	57kg		

Liquid transport truck

Liquid transport vehicles are used to store and transport liquids and have a filling function.
Their power source is compressed air underground in coal mines.



Liquid transport truck			
Volume	1200L	Work pressure	0.3~0.8 MPa
Deadweight	0.85 t	flow	70L/min
Dimensions	2.9m ×1.1m ×1.1m		

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd

Monorail crane

Carrying trolley

The trolley is used to hang the lifting beam, main machine, electro-hydraulic car and other monorail crane components

Carrying trolley			
Carrying capacity	≤4t	Loading wheel diameter	118 mm
Deadweight	53Kg	Dimensions	470 mm × 316 mm × 276 mm

Speed protection car

The monorail speed protection trolley is equipped with a centrifugal speed limiter and an encoder speed measuring device, and is installed above the main engine of the electro-hydraulic car and diesel locomotive.
When the locomotive speed exceeds 15% of the designed maximum operating speed, it controls the locomotive to apply emergency braking.

Speed protection car			
Carrying capacity	≤4t	Loading wheel diameter	118mm
Deadweight	64Kg	Dimensions	470mm×316mm×276
Trigger speed (adjustable)	2.2m/s		

Lifting beam series

Lifting beams are categorized by tonnage: 6t, 8t, 16t, 32t, and 48t.
They are classified by actuator into hydraulic cylinder and hydraulic hoist types. They are also classified by application scenario into transport-type (standard) and rotary-type lifting beams.
Lifting beams are used for material transportation,equipment lifting, and other functions, and can be operated manually or remotely.

6t double hook lifting beam

6t Double hook hoist beam performance parameter table			
Rated load	6t	Work pressure	12MPa
long×Width×Invalid	3.6m×0.65m×0.77m	Horizontal turning radius	4m
Deadweight	0.76t	Vertical turning radius	8m
Lifting height	2m	Increase speed	1.6m/min

8t Hosit beam

8t Hoist beam performance parameter table			
Rated load	8t	Work pressure	12MPa
long×Width×Invalid	5.86m×0.71m×0.56m	Horizontal turning radius	4m
Deadweight	1.1t	Vertical turning radius	8m
Increase speed	1.6m/min	Lifting height	2m

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

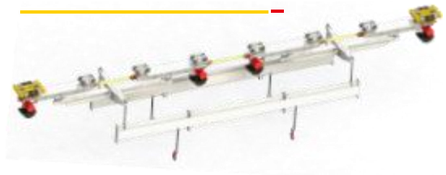
16t Hoist beam (type A)

16t Hoist beam performance parameter table (type A)			
Rated load	16t	Work pressure	12MPa
long×Width×Invalid	5.86m×0.62m×0.65m	Horizontal turning radius	4m
Deadweight	1.2t	Vertical turning radius	8m
Increase speed	1.6m/min	Lifting height	2m

16t Hoist beam (type B)

16t Hoist beam performance parameter tabl (type B)			
Rated load	16t	Work pressure	12MPa
long×Width×Invalid	5.86m×0.62m×0.5m	Horizontal turning	4m
Deadweight	1.72t	Vertical turning radius	8m
Increase speed	1.6m/min	Lifting height	2m

32t Hoist beam



32t Hoist beam performance parameter table			
Rated load	32t	Work pressure	12MPa
long×Width×Invalid	13.2m×2.05m×0.75m	Horizontal turning radius	4m
Deadweight	6.94t	Vertical turning radius	10m
Increase speed	1.6m/min	Lifting height	2m

32t Cylinder lifting beam (ultra thin type)

32t Cylinder lifting beam performance parameter table (ultra thin type)			
Rated load	32t	Work pressure	12MPa
long×Width×Invalid height	10.5m×2.02m×0.35m	Horizontal turning	6m
Deadweight	8.6t	Vertical turning radius	12m
Increase speed	1.2m/min	Lifting height	2m

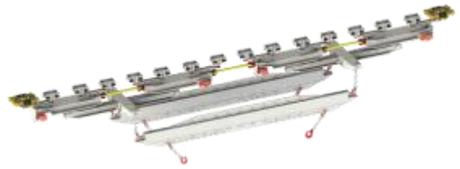
48t Cylinder lifting beam (ultra thin type)

48t Cylinder lifting beam performance parameter table (ultra thin type)			
Rated load	48t	Work pressure	12MPa
long×Width×Invalid	13.8m×2.2m×0.33m	Horizontal turning	8m
Deadweight	12.4t	Vertical turning radius	10m
Increase speed	1.0m/min	Lifting height	2m

48t Hoist beam(ultra-thin type)

48t Hoist beam performance parameter table (ultra thin type)			
Rated load	48t	Work pressure	12MPa
long×Width×Invalid height	13.8m×2.2m×0.33m	Horizontal turning radius	8m
Deadweight	10t	Vertical turning radius	10m
Increase speed	1.4m/min	Lifting height	2m

48t Hoist beam



48t Hoist beam performance parameter table (common type)			
Rated load	48t	Work pressure	12MPa
long×Width×Invalid height	13.5m×2.2m×0.87m	Horizontal turning radius	8m
Deadweight	10t	Vertical turning radius	15m
Increase speed	1.4m/min	Lifting height	2m

48t Rotating beam

48t Rotating lifting beam performance parameter table			
Rated load	48t	Work pressure	12MPa
long×Width×Invalid height	4.5m×1.85m×0.7m	Horizontal turning radius	6m
Deadweight	6.6t	Vertical turning radius	12m
Lifting height	2m	Increase speed	1.2m/min
Rotation angle	90°		

Passenger compartment

The locomotive is equipped with standard passenger cars of various sizes, ranging from 12 to 18 seats, to meet the diverse needs of underground personnel transport, with a capacity of up to 45 people at a time. The passenger car is equipped with a load-bearing trolley and lifting beam mounting lugs, allowing it to be directly loaded into the machine via the load-bearing trolley or suspended from the lifting beam. A ladder is also included to accommodate higher roadways.

There are two ways to fix the passenger car on the locomotive:

*One is a special locomotive for transporting people, in which the people and vehicles are directly loaded into the whole machine through a carrying trolley.

*The other type is a detachable passenger car. When passengers are needed, the passenger car can be hung on the lifting beam. After the passenger car is unloaded, the cargo can be lifted again.

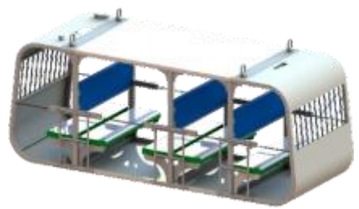
*In addition, locomotives also have two types of passenger cars: closed and open.

There is an emergency stop device on the passenger car.

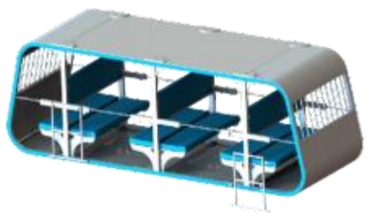
Standard passenger car specifications			
Rated capacity	12	15	18
Dimensions(m)	4.3×1.3×1.5	4.3×1.3×1.5	4.3×1.4×1.9
Deadweight(kg)	1300	1300	1500

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

12-seater open passenger car



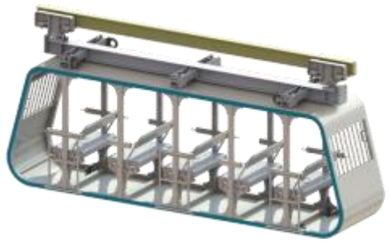
15-seater open passenger car



18-seater open passenger car

In addition to the standard passenger car, can also be customized with 8 or 10-seater passenger cars according to customer requirements and actual conditions.

8-seater enclosed passenger car



10-seater open passenger car

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd

charger

Product Overview

CJL1-92000/400（A)Mining flameproof and intrinsically safe lithium-ion battery power charger (Charger for short)Suitable for charging lithium-ion batteries used in coal mines.

Features

- It has two control modes: automatic charging and manual charging, and supports constant current and constant voltage charging modes;
- Equipped with a display screen, it displays rich data and is easy to operate;
- Equipped with standard communication interface to support big data collection;
- Adopting high-performance control chip and mature configuration scheme, the product has low failure rate and high reliability;
- Adopting iron silicon core reactor, it has high magnetic flux density, low loss and low operating noise;
- Equipped with emergency stop function, one-button shutdown in emergency.

Explosion-proof form

The explosion-proof type of the charger is: mining flameproof and intrinsically safe type; explosion-proof mark:ExdbibIMb.

Model Indication

C J L 1 – 92000/660 (A)

- (A) Modify the serial number
- 660 Rated input voltage
- 92000 V Rated power (W)
- 1 Design serial number
- L Lithium battery power supply
- J Flameproof and intrinsically safe type
- C charger

Monorail crane

Model Description

model	AC input		DC output		Scope of application
	Number of phases	VoltageV	Rated currenta	Voltage regulation rangeV	lithium-ion batteries
CJL1-92000/660(A)	3	660	230	200~400	DC250~365V

Structural characteristics

Overall dimensions: 1415mm×1307mm×1173mm
Weight: 1650kg

How it works

The charger receives power through a power switch and AC contactor,
then outputs DC through rectification and a three-phase half-controlled bridge. The control circuit uses a setpoint and current/voltage feedback to adjust the trigger's phase-shift pulses, thereby controlling the IGBT's conduction angle and varying the DC output current with the setpoint. A filter reactor, overcurrent relay, and freewheeling diode are added to the DC side of the main circuit. The main circuit is also equipped with a fuse. If any phase is short-circuited, the AC contactor opens, ensuring that operation cannot occur without a phase failure.

Technical Parameters

Rated power: 92kW
Rated input voltage: AC 660V
Rated input current: 81A
Output voltage range: DC 200V ~ 400V
Output current range: DC 10A~230A
Rated operating frequency: 50Hz
Cooling method: air cooling
Auxiliary power circuit voltage: 24V
Voltage regulation accuracy: ±0.5%
Steady flow accuracy: ±1%
Communication interface: CAN, supports GB/T27930-2015 protocol.
Protection functions: overcurrent protection, input over/under voltage protection, over temperature protection, short circuit protection, output over/under voltage protection, fault shutdown, emergency shutdown.

Human-machine interface: intrinsically safe touch screen, parameter setting, status monitoring, data storage, fault logging, etc.

19807323802 15197233916 +86 731 55672999

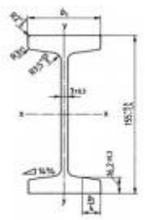
Xiangtan Hengxin Industrial Co., Ltd

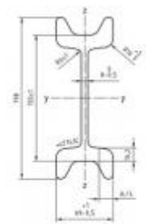
Monorail crane

Mining monorail crane locomotive track components

Monorail crane tracks are divided into two types:
I140E light rail and I140V heavy rail. The track lengths mainly include 1.
0m, 1.5m, 2.0m, 2.4m, 3.0m and other specifications.
Special lengths can be customized.

The cross-sections of the light rail I140E
(compliant with German standard:DIN20593-1-2002) and heavy rail I140V
(compliant with German standard:DIN20593-3-2004)
are shown below (b1=69mm).


轻轨截面图

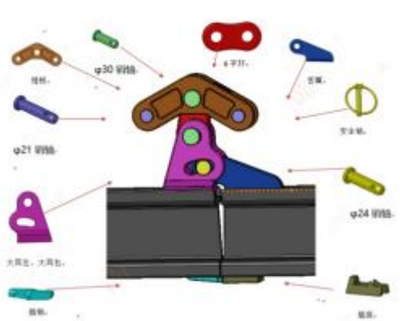

重轨截面图

Light/heavy rail parameters

Serial	name	Specification	Width × height (mm)	quality
1	Light Rail	I140E	69±0.5×155 $^{+0.6}_{-1.4}$, web 7±0.3	26.4Kg/m
2	heavy rail	I140V	69 $^{+1}_{-0.5}$ ×198±1, web 8 $^{+0.5}_{0}$	35.5Kg/m

I140V Heavy Duty Track

Standard heavy-duty straight rail assembly drawing (Type A)



Standard heavy-duty straight rail assembly drawing (Type B)

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

(1) Standard heavy-duty straight rail (Type A)

Standard track lengths are commonly found in 2m, 2.4m, and 3.0m lengths.
To facilitate on-site adjustments, a small number of 1m and 1. 5m lengths are available.
Track lengths can be customized to meet the needs of the mine.

(2) Standard heavy-duty straight rail (Type B)

Standard track lengths are commonly found in 2m, 2.4m, and 3.0m lengths.
To facilitate on-site adjustments, a small number of 1m and 1.5m lengths are available.
Track lengths can be customized to meet the needs of the mine.

(3) Standard heavy-duty horizontal straight rail (Type A)

Standard track lengths are commonly 2m, 2.4m, and 3.0m.
Track lengths can be customized to meet the needs of the mine.

(4) Standard heavy-duty horizontal straight rail (Type B)

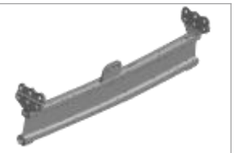
Standard track lengths are commonly 2 meters, 2.4 meters, and 3.0 meters.
Track lengths can be customized to meet the needs of the mine.

(5) Heavy-duty horizontal curved rails

Standard curved track lengths are 1m, 1.5m, and 2m, with horizontal turning radii of R4m, R6m, R8m,R9m, and R10m.
The length and turning radius of horizontal curved track can be customized accord ing to the needs of the mine.

(6) Heavy-duty vertical concave curved rails

Standard curved track lengths are 1 meter, 1.5 meters, and 2 meters, with vertical turning radii of R10m, R12m, and R15m.
The length and vertical turning radius of the vertical curved track can be customized according to the needs of the mine.

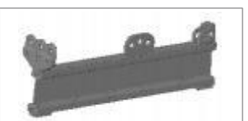


(7) Heavy-duty vertical convex curved rails

Standard curved track lengths are 1m, 1.5m, and 2m, with vertical turning radii of R10m, R12m, and R15m.
The length and vertical turning radius of the vertical curved track can be customi zed according to the needs of the mine.

(8) Heavy-duty switch rail (concave) (Type A)

Standard switch rail lengths are commonly 1m, 1.5m, 2.0m, 2.4m, and 3.0m.
Track lengths can be customized to meet the needs of the mine.



(9) Heavy-duty switch rail (concave) (Type B)

Standard track lengths are commonly 1m, 1.5m, 2.0m, 2.4m, and 3.0m.
Track lengths can be customized to meet the needs of the mine.

(10) Heavy-duty switch rail (convex) (Type A)

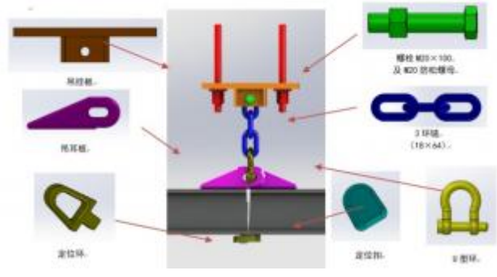
Standard switch rail lengths are commonly 1m, 1.5m, 2.0m, 2.4m, and 3.0m.
Track lengths can be customized to meet the needs of the mine.

(11) Heavy-duty switch rail (convex) (Type B)

Standard switch rail lengths are commonly 1m, 1.5m, 2.0m, 2.4m, and 3.0m.
Track lengths can be customized to meet the needs of the mine.

I140E light rail

I140E light rails are divided into buckle type rails and dumbbell type rails.



Standard light straight rail assembly drawing
(The red part is the anchor rod, matching nuts, and anchor rod tray provided by the mine)

Light rail buckle track

Light rail dumbbell track

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

(1) Standard light straight rail

Standard track lengths are commonly found in 2m, 2.4m, and 3.0m lengths. To facilitate on-site adjustments, a small number of 1m and 1.5m lengths are available. Track lengths can be customized to meet the needs of the mine.

Lightweight straight rail (dumbbell type)

Lightweight straight rail (buckle type)

(2) Lightweight straight rail with horizontal pull

Common standard track lengths include 1 meter, 1.5 meters, 2 meters, 2.4 meters, and 3.0 meters.
Track lengths can be customized according to the needs of the mine.

(3) Light horizontal curved track

Standard curved rails have arc lengths of 1m, 1.5m, and 2m, and horizontal turning radii of R4m, R6mm, and R8m. The length and turning radius of horizontal curved rails can be customized according to the needs of the mine.

(4) Lightweight vertical concave curved rail

Standard curved track lengths are 1m, 1.5m, and 2m, with vertical turning of R10m, R12m, and R15m. The length and vertical turning radius of the vertical curved track can be customized according to the needs of the mine.

(5) Light vertical convex curved rail

Standard curved track lengths are 1m, 1.5m, and 2m,with vertical turning radii of R10m, R12m, and R15m. The length and vertical turning radius of the vertical curved track can be customized according to the needs of the mine.

(6) Light rail switch track (concave)

Standard switch rail lengths are commonly 1m, 1.5m, 2.0m, 2.4m, and 3.0m. Track lengths can be customized to meet the needs of the mine.

(7) Light rail switch track (convex)

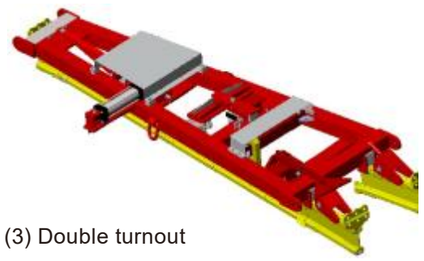
Standard switch rail lengths are commonly 1m, 1.5m, 2.0m, 2.4m, and 3.0m. Track lengths can be customized to meet the needs of the mine.

turnout

Turnouts are used for monorail suspension track division, and are divided into left-opening turnouts, right-opening turnouts, and double-opening turnouts (symmetrical turnouts).

(1) Left-openingturnout

(2) Right turnout

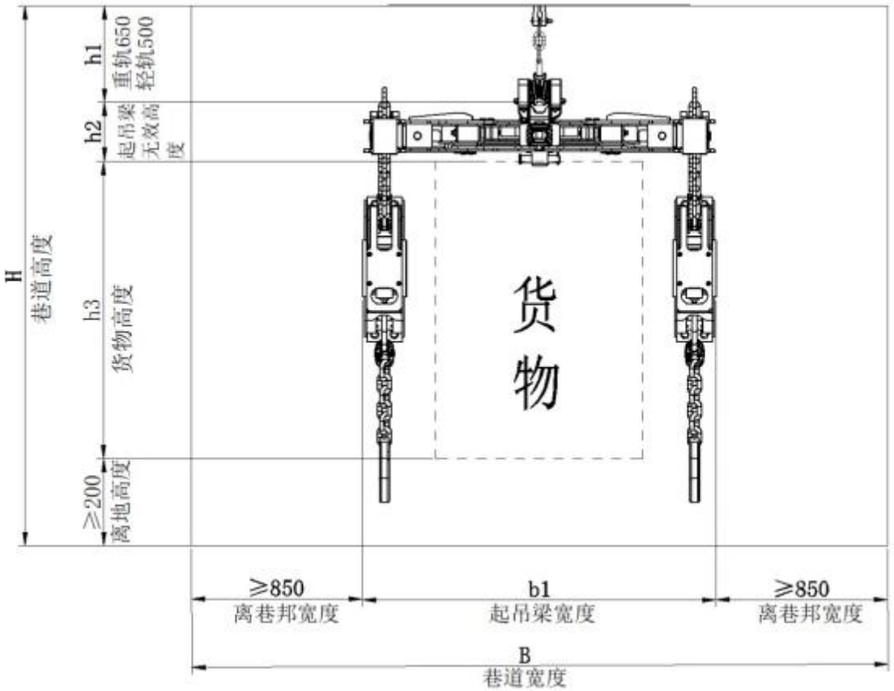


(3) Double turnout

19807323802 15197233916 +86 731 55672999

Monorail crane

Installation working condition technical indicators

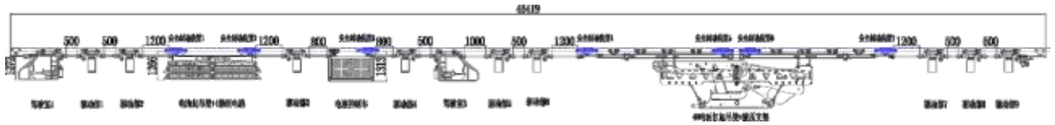


name	Invalid height of lifting beam	Lifting beam width
32 ton hoist lifting beam	750mm	2050mm
32-ton hydraulic cylinder lifting beam (ultra-thin)		
48 ton hoist lifting beam (ultra-thin)	350mm	2650mm
48-ton hydraulic cylinder lifting beam (ultra-thin)	350mm	2200mm

19807323802 15197233916 +86 731 55672999

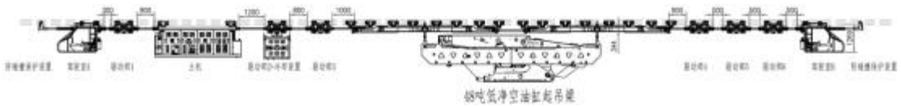
Project Cases

Locomotive layout with added safety brake device



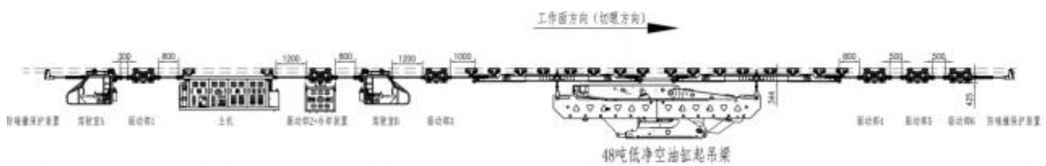
The locomotive is equipped with a fail-safe working brake and a safety brake.
The working brake is used for normal locomotive starting and stopping, while the safety brake is used for braking when the working brake fails or when the locomotive rolls down a slope. The two brakes operate at different times.
When the locomotive starts, the safety brake opens first, followed by the working brake.
When the locomotive stops, the working brake applies first, followed by the safety brake.

Two ways to transport large hydraulic supports with ultra-thin lifting beams



Method 1: The lifting beam is located in the middle, which is suitable for transportation with sufficient space in the lane and a wide field of vision for the driver.

It uses low-headroom cylinders or hoist beams, which are often used for transporting large-tonnage hydraulic supports.

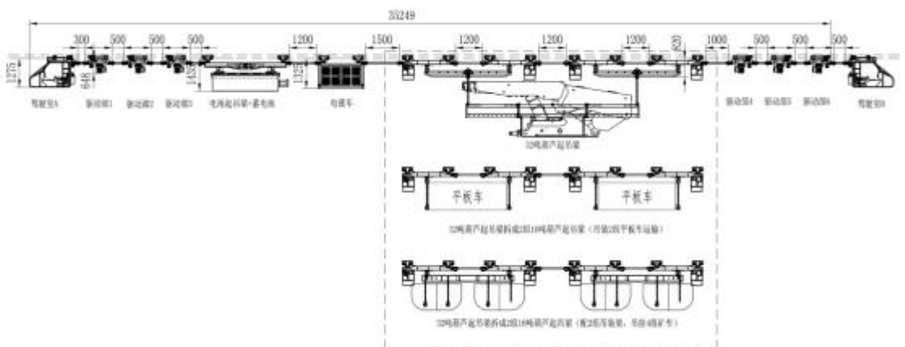


Method 2: The lifting beam is located at the front end, which is suitable for directly transporting the hydraulic support to the cutting position of the working surface.

It uses low-headroom cylinders or hoist beams, which are often used for transporting large-tonnage hydraulic supports.

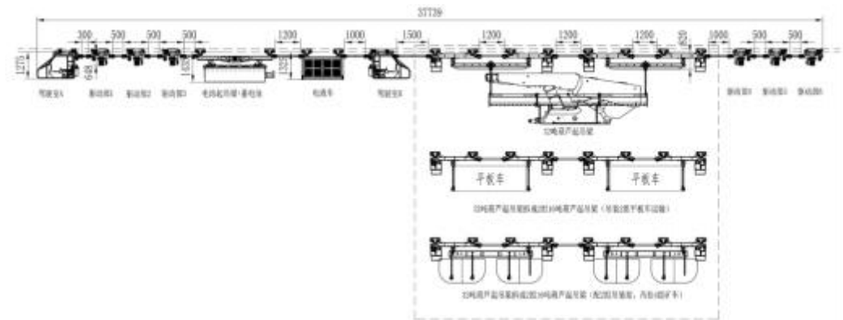
Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Two ways to transport large hydraulic supports with hoist beams



Method 1: The lifting beam is located in the middle, which is suitable for transportation with sufficient space in the lane and a wide field of vision for the driver.

It uses a hoist lifting beam and can also be disassembled into a small tonnage lifting beam for transporting small goods such as flatbed trucks and mining cars.

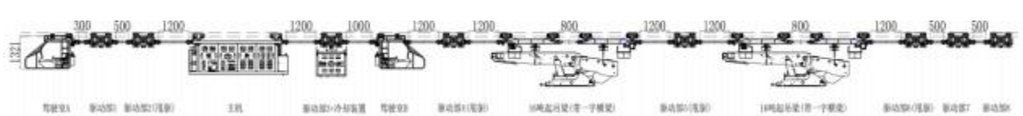


Method 2: The lifting beam is located at the front end, which is suitable for directly transporting the hydraulic support to the cutting position of the working surface.

The hoisting beam is driven by a hoist and can be disassembled into a small-tonnage lifting beam for transporting small goods such as flatbed trucks and mining cars.

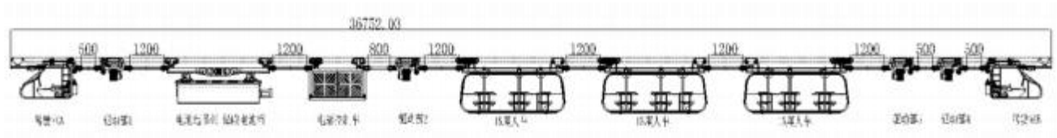
19807323802 15197233916 +86 731 55672999

Transportation method of small hydraulic support



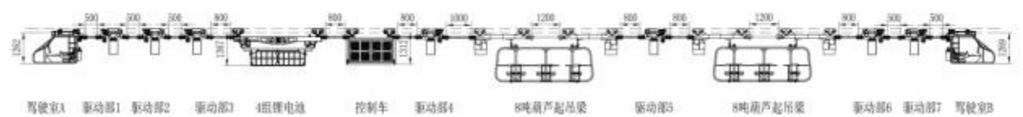
A 16-ton hoisting beam with a straight crossbeam is used to transport small hydraulic supports.

Transport mode of special train for people and vehicles



Adedicated group transport mode for transporting personnel,which can directly transport personnel to their work locations and can transport up to 45 people at a time.

People and goods are transported on the same locomotive (goods cannot be transported when people are transported)



The man-carrying vehicle adopts the lifting beam hanging method, which effectively reduces the length of the vehicle and enables rapid conversion between transporting people and goods.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Xiangtan Hengxin Industrial Co., Ltd

Aerial passenger device for mining (commonly known as "monkey car")

Product Overview

Aerial passenger transport systems for mines are primarily used for transporting personnel in inclined shafts or horizontal lanes. They primarily consist of a drive unit, a supporting roller assembly, a traction wire rope, a passenger transporter, a detour pulley assembly, a tensioning device, a safety device, and an electronic control unit.The transport mechanism involves attaching a wire rope to the drive, supporting, and detour pulleys. After the traction wire rope is tensioned by the tensioning device, the drive unit generates power to drive the traction wire rope in an infinitely circulating motion. The passenger transporter, attached to the traction wire rope, moves upward or downward along with the rope, thereby transporting personnel.

The first generation of "monkey car" - a mechanically driven overhead passenger device (commonly known as " mechanical monkey car")

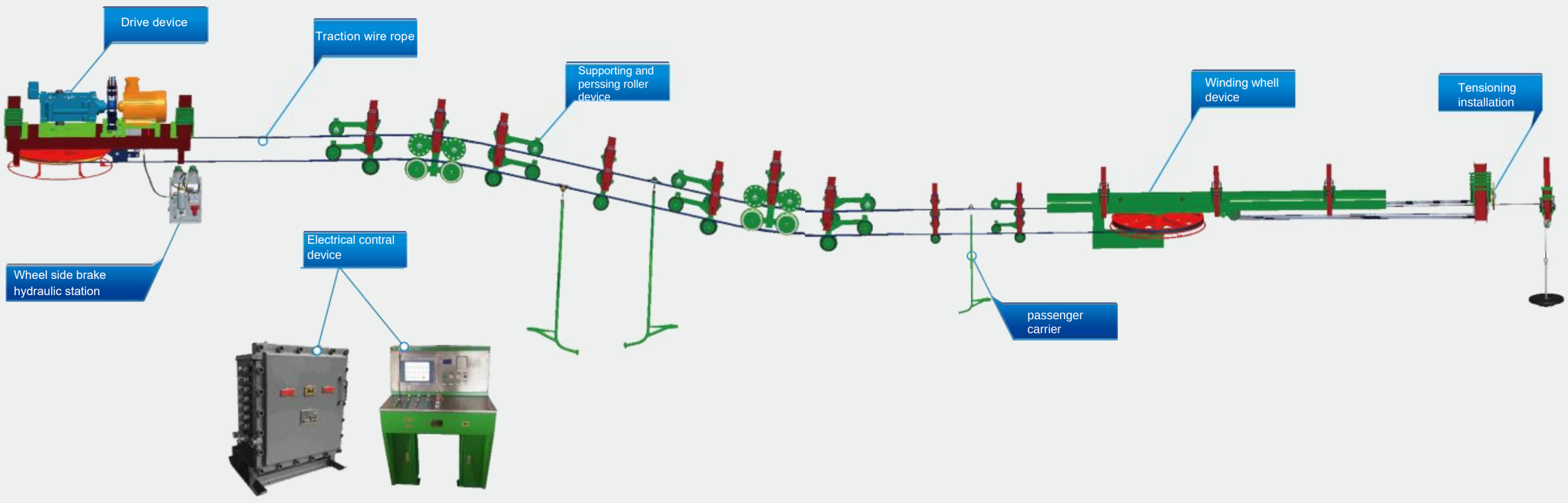
Specification model

RJ □ □ □-□ /□ □ □ □

Modify Serial Number:	(A), (B)…
Drive mode:	Frequency conversion speed regulation is P, DC speed regulation is Z, hydraulic speed regulation is U, switch reluctance is D, AC motor does not have
Tensioning method:	Hydraulic tension (Y), heavy hammer tension does not have
Supplement parameters:	Maximum applicable inclination angle, in degrees (°) / Maximum transport distance, in meters (m)
Main parameter:	Drive power, in kilowatts (kW)
Braking method:	The hydraulic station is Z, the electro-hydraulic brake is Y, and the pneumatic is Q
Passenger equipment :	Bidirectional movable rope grip (H), two way large slope detachable hanging rope device (K),two-way fixed rope grip is not noted,One-way movable rope grip (DH), one-way large slope detachable rope grip (DK), single-sided fixed grip (D)
Product Type:	Overhead passenger device

Example: AC motor drive, electro-hydraulic brake and heavy hammer tensioning, maximum applicable inclination angle 18°, maximum transport distance 600m,Aerial passenger device with movable rope grip and driving power of 22kW: RJHY22-18/600

Structural diagram



monkey car

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Xiangtan Hengxin Industrial Co., Ltd

The second generation of "monkey car" - hydraulically driven overhead passenger device (commonly known as "hydraulic monkey car")

Patent Number: ZL200910042683 6 ZL2017102 9980.8

Product Advantages

Advantages

- Parking safety self locking function

When the "monkey car" parks normally or due to fault, the hydraulic system has its braking function. Under the action external force, the driving wheels are completely locked and cannot rotate.This avoids the danger of the "monkey car" slipping or running away due to insufficient braking force of the wheel side brakes.

- Stepless speed regulation function

The"monkeycar"can be adjusted steplessly to high and low speeds,which not only ensures the safety performance of the wire rope and equipmen at low speeds(0.4m/s), but also improves the operating efficiency the "monkeycar" as needed.

Advantages

- Soft start and soft stop

It can realize the functions of slow acceleration and starting and slow deceleration and parking of the "monkey car".

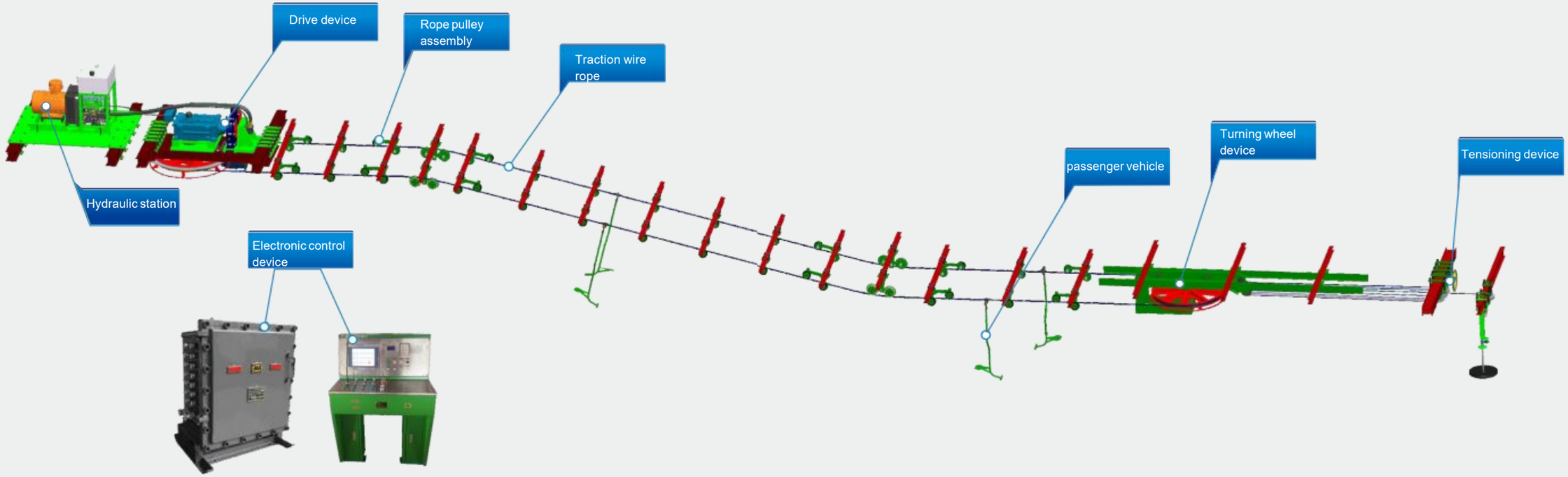
- No control signal interference

Avoid problems such as harmonic interference, grid pollution and high heat generation on the control signals of the "monkey car" or peripheral equipment when the explosion proof inverter is regulating the speed.

- Anyinstallationdirection

Since the hydraulic components are small in size and have on restrictions on tilt angles, there is no restriction on the installation orientation.

Structural diagram



19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Technical parameters

Classification table of the first and second generation "monkey cars"

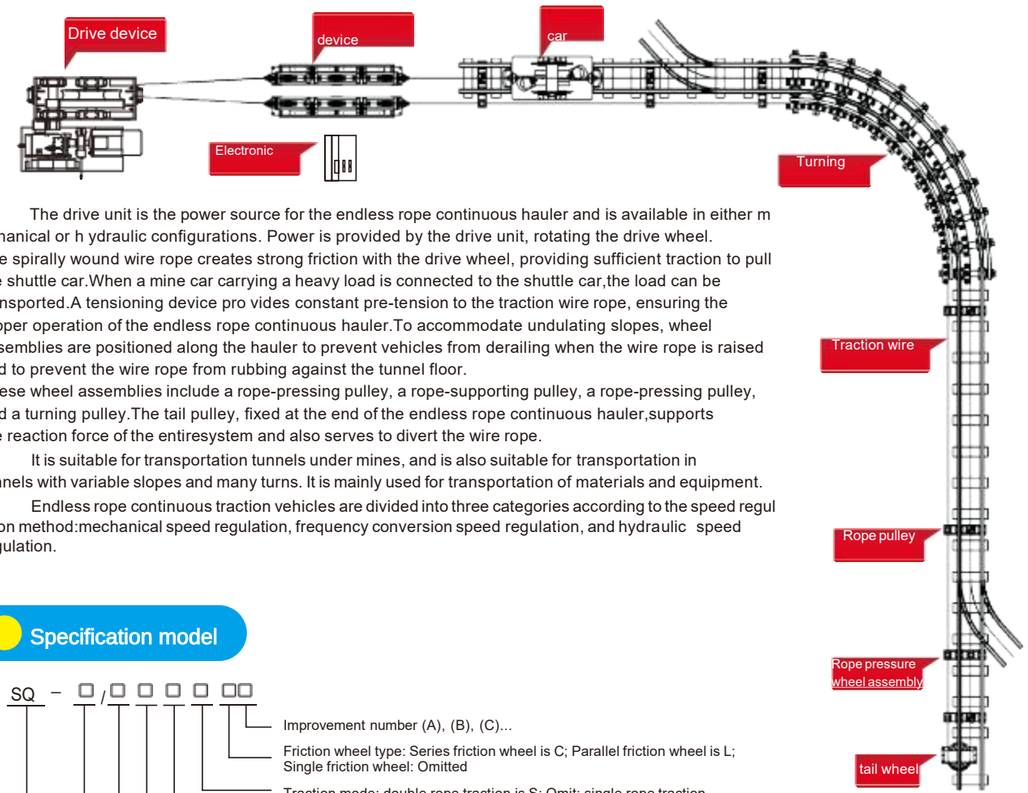
model	name	Roadway slope (Spend)	Running speed (m/s)	Transport volume (person/h)	Rope Type Mode	Static up and down car	delivery Way	Hanging chair Pick hang	change bend	Most applicable Narrow alley width
RJY RJZ	Mining fixed Rope grip Overhead ride Human Device	28≥a > 25 25≥a > 0	≤0.8 ≤1.2	600	G	cannot	Bidirectional run	Do not pick	able	2500
RJDY JZDZ		28≥a > 25 25≥a > 0	≤0.8 ≤1.2	200	G	cannot	unidirectional run	Pick	able	2000
RJHY JZ	Mining Removable Rope grip overhead Passenger device	18≥a > 14 a≤14	≤1.4 ≤1.7	1000	HM	able	Bidirectional run	Pick	able	2200
RJDHY HkDJ		18≥a > 14 a≤14	≤1.4 ≤1.7	500	HM	able	unidirectional run	Pick	able	2000
RJKY. JZQ		a≤25	≤1.2	600	HK	able	Bidirectional run	Pick	able	2200
RJDKY JZDJ		a≤25	≤1.2	300	HK	able	unidirectional run	Pick	able	2000

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd

Endless rope continuous traction vehicle for mining (commonly known as "endless rope")

Product Overview



The drive unit is the power source for the endless rope continuous hauler and is available in either m echanical or h ydraulic configurations. Power is provided by the drive unit, rotating the drive wheel.
The spirally wound wire rope creates strong friction with the drive wheel, providing sufficient traction to pull the shuttle car.When a mine car carrying a heavy load is connected to the shuttle car,the load can be transported.A tensioning device pro vides constant pre-tension to the traction wire rope, ensuring the proper operation of the endless rope continuous hauler.To accommodate undulating slopes, wheel assemblies are positioned along the hauler to prevent vehicles from derailing when the wire rope is raised and to prevent the wire rope from rubbing against the tunnel floor.
These wheel assemblies include a rope-pressing pulley, a rope-supporting pulley, a rope-pressing pulley, and a turning pulley.The tail pulley, fixed at the end of the endless rope continuous hauler,supports the reaction force of the entiresystem and also serves to divert the wire rope.

It is suitable for transportation tunnels under mines, and is also suitable for transportation in tunnels with variable slopes and many turns. It is mainly used for transportation of materials and equipment.

Endless rope continuous traction vehicles are divided into three categories according to the speed regul ation method:mechanical speed regulation, frequency conversion speed regulation, and hydraulic speed regulation.

Specification model

SQ – □/□□□□□□

- Improvement number (A), (B), (C)...
- Friction wheel type: Series friction wheel is C; Parallel friction wheel is L; Single friction wheel: Omitted
- Traction mode: double rope traction is S; Omit: single rope traction
- Tensioning method: Hydraulic tensioning is Y; Pneumatic tensioning is Q; Spring tensioning is T; Omit: Heavy hammer
- Speed change mode: gear speed change is B; motor speed change is D; hydraulic speed change is Y; frequency conversion speed regulation is P;DC speed control is Z; switch reluctance is K; mechanical planetary speed control starting is W; single speed: omitted
- Motor power (kW)
- Rated traction force (at slow speed), in kilonewtons (kN)
- Endless rope continuous traction vehicle code

▶ Example:

Product Model SQ-100/110YY
Indicates: rated traction force of 100kN, motor power of 110kW, hydraulic speed regulation and hydraulic tensioning of endless rope continuous traction vehicle.

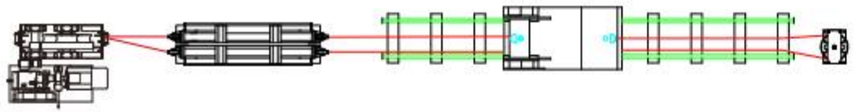
Product Model SQ-80/90B
Indicates：an endless rope continuous traction vehicle with a rated traction orce of 80kN, a motor power of 90kW,gear speed change, and heavy hamme r tensioning.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

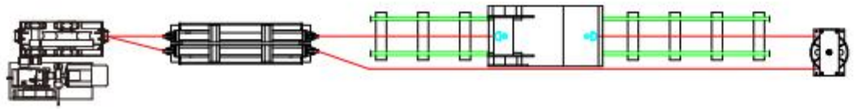
Specification model

Single-rope endless rope continuous traction vehicle

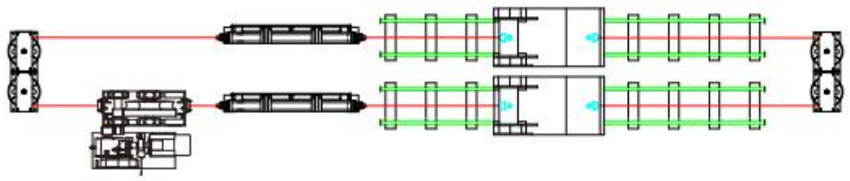
Arrange the main wire rope and auxiliary wire rope inside the rail



The main wire rope is arranged inside the rail and the auxiliary wire rope is arranged outside the rail

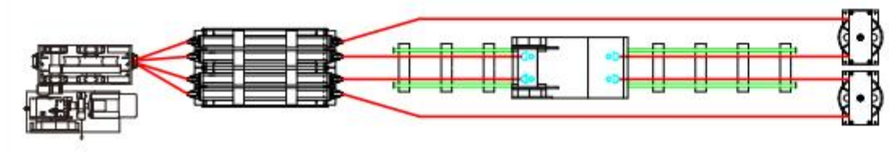


Double-track layout for two-way transportation



Double-rope endless rope continuous traction vehicle

Two main ropes are arranged on the inner side of the track, and two auxiliary ropes are arranged on the outer side of the track.



Mechanical speed regulating endless rope continuous traction vehicle - referred to as "mechanical speed regulating endless rope"

Drive device composition

The mechanical drive device mainly consists of an electric motor, a single (double) speed reducer, a manual brake, a coupling, a drive wheel, a working brake, etc.

"Mechanical speed regulating infinite rope" classification

According to their running speed,mechanically driven endless rope continuous traction vehicles are divided into two types: single-speed endless rope continuous traction vehicles and double-speed endless rope continuous traction vehicles.

"Mechanical speed regulating infinite rope" parameter table

Single speed infinite rope parameter table

Model	Maximum traction		Motor power (kW)	Traction speed (m/s)		Drum diameter (mm)	Steel wire rope			Gauge (mm)	Nose weight kg
	Slow gear	Fast gear		Slow gear	Fast gear		Nominal diameter (mm)	structure form	Minimum Breaking Force (KN)		
SQ-40/45	40		45	0.75		1200	20	6*19S+ E C1670	220	600 or 900	6200
SQ-50/55	50		55	0.75		1200	22		266		6800
SQ-60/75	60		75	0.75		1200	22		266		7500
SQ-80/90	80		90	0.75		1200	22		317		8570
SQ-100/132	100		132	0.78		1400	26		372		12540

Parameter table of dual-speed infinite rope

Model	Maximum traction		Motor power (kW)	Traction speed (m/s)		Drum diameter (mm)	Steel wire rope			Gauge (mm)	Nose weight kg
	Slow gear	Fast gear		Slow gear	Fast gear		Nominal diameter (mm)	structure form	Minimum Breaking Force(KN)		
SQ-120/160B	120	75	160	0.9	1.6	1400	28	6*19S+ E C1670	432	600 or 900	13920
SQ-120/132B	120	70	132	0.7	1.4	1400	26/28		372/432		13380
SQ-100/132B	100	61	132	0.8	1.6	1400	26		372		12760
SQ-90/132B	90	62	132	0.7	1.4	1400	26		372		12950
SQ-90/110B	90	58	110	0.8	1.4	1200	24		317		12380
SQ-80/110B	80	60	110	0.7	1.5	1200	24		317		12360
SQ-80/90B	80	48	90	0.8	1.4	1200	24		317		8420
SQ-80/75B	80	50	75	0.7	1.4	1200	22/24		266/317		8130
SQ-60/75B	60	31	75	0.9	1.8	1200	22		266		7600
SQ-60/55B	60	38	55	0.7	1.4	1200	22		266		7300

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Variable frequency speed regulation endless rope continuous traction vehicle - referred to as "variable frequency speed regulation endless rope"

Drive device composition

It is mainly composed of variable frequency motor, reducer, manual brake, coupling, drive wheel, working brake, etc.

Advantages of "Variable Frequency Speed Endless Rope"

A variable frequency speed controller changes the output speed of the drive system by varying the input frequency of the motors operating power supply. This variable frequency endless rope
continuous traction vehicle can achieve speed regulation within a certain range, as well as soft starts and stops.
Within this speed range, users can adjust the speed to their needs.

"Variable frequency speed regulation infinite rope" parameter table

model	Maximum traction forc(kN)	Motor power (kW)	Traction speed (m/s)	roller diameter (mm)	wire rope			gauge (mm)	Head weight (kg)
					Nominal diameter (mm)	structure form	Minimum breaking force(kN)		
SQ-130/132P	130	132	0~0.75	1600	28/30	6*19S+E C1670	432	600or 900	13750
SQ-120/160P	120	160	0~1~2	1400	28		432		13490
SQ-120/132P	120	132	0~0.8	1400	26/28		372/432		13310
SQ-110/132P	110	132	0~0.78	1400	28		432		12020
SQ-100/132P	100	132	0~1~2	1400	26		372		12710
SQ-110/110P	110	110	0~0.7	1400	28		432		11890
SQ-90/110P	90	110	0~0.9~1.8	1200	24		317		12920
SQ-110/90P	110	90	0~0.56	1400	28		432		11620
SQ-80/110P	80	110	0~1	1200	24		317		12320
SQ-80/90P	80	90	0~0.9~1.8	1200	24		317		8570
SQ-60/75P	60	75	0~0.9~1.8	1200	22		266		7600
SQ-50/55P	50	55	0~0.9~1.8	1200	22		266		6900
SQ-120/132PL	120	132	0~0.7	1400	28	6*19S+E C1670	432	600 or 900	14030
SQ-120/160PL	120	160	0~0.88	1400	28		432		14320
SQ-130/132PL	130	132	0~0.7	1600	30		495		14650
SQ-130/160PL	130	160	0~0.79	1600	30		495		14960
SQ-130/185PL	130	185	0~0.96	1600	30		495		15080
SQ-130/200PL	130	200	0~1.0	1600	30		495		15610
SQ-160/160PL	160	160	0~0.7	1600	32		564		15540
SQ-160/185PL	160	185	0~0.77	1600	32		564		15690
SQ-160/200PL	160	200	0~0.86	1600	32		564		15920
SQ-160/220PL	160	220	0~0.96	1600	32		564		16140
SQ-160/280PL	160	280	0~1.2	1600	32		564		16530
SQ-160/315PL	160	315	0~1.37	1600	32		564		17120
SQ-2×80/160PS	2×80	160	0~0.7	1600	26	6*19S+E C1670	372	600 or 900	16080
SQ-2×80/200PS	2×80	200	0~0.86	1600	26		372		16260
SQ-2×80/250PS	2×80	250	0~1.0	1600	26		372		16590
SQ-2×80/280PS	2×80	280	0~1.2	1600	26		372		16810
SQ-2×80/315PS	2×80	315	0~1.37	1600	26		372		17260

19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Hydraulic speed regulating endless rope continuous traction vehicle - referred to as "hydraulic speed regulating endless rope"

Hydraulic drive device composition

It is mainly composed of hydraulic station, hydraulic motor, reducer, high-speed brake, drive wheel,wheel side brake, electronic control device, etc.

Advantagesof"HydraulicSpeedAdjustableRope"

1.The hydraulic drive can realize stepless speed regulation and forward and reverse movement. It can rotate forward and reverse at a very low speed (which can be set arbitrarily) to check the broken wire of the wire rope.
2.The shuttle's parking safety self-locking mechanism locks the drive wheels in both forward and reversed directions in the event of a power failure, preventing slippage and runaway.
3.The shuttle's no-load start function prevents the shuttle from moving during motor startup, extending the life of the motor and electrical components.
4.The system's "soft start" and "soft stop" features allow for customizable acceleration and deceleration times for startup and shutdown, enhancing the stability and convenience of material transport.
5.Hydraulic tensioning has the characteristics of compact size, large tensioning force and stepless adjustment. At the same time, the tensioning force can be displayed online to ensure constant tension under load changes.
6.The hydraulic drive system has a small unit mass and no restrictions on tilt angles. It can be installed in any orientation, making it easy to install and maintain in complex tunnels.
7.The hydraulic drive speed control system has no interference with the electrical control signal, no harmonic interference with the electrical control signal of the peripheral equipment, and no pollution to the power grid.
8.It has high cost performance. Compared with the variable frequency "mechanical shuttle" with the same function, it is light in weight, easy to install, has higher safety performance, low cost and long service life.

Parameters of "Hydraulic Speed Regulating Rope"

model	maximum traction (kN)	motor power (kW)	traction speed (m/s)	roller diameter (mm)	hydraulic system maximum pressure (mPa)	wire rope				gauge (mm)	Head weight (kg)
						diameter (mm)	Nominal tensile strength (mPa)	structure form	Minimum break pull (kN)		
SQ-60/55YY	60	55	0~0.8~1.8	1200	25	22	1670	6*19S + FC 1670	266	600 or 900	4460
SQ-80/75YY	80	75	0~0.8~1.8	1200	25	24	1670		317		5620
SQ-90/90YY	90	90	0~0.8~1.8	1200	25	24	1670		317		6250
SQ-100/110YY	100	110	0~0.9~1.8	1400	25	26	1670		372		7830
SQ-120/132YY	120	132	0~0.9~1.8	1400	25	28	1670		432		8120

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Specification model

▲ Safety protection and control functions

◆ Offside protection

When a vehicle passes a parking space without stopping, the protection.
When an action occurs, the "Infinite Rope" is controlled to stop running immediately.

◆ Overspeedprotection

When the "rope" exceeds speed or slips,
When the protection is activated,
the infinite rope will stop running immediately.

◆ Tensiondropprotection

When the traction wire rope is loose,
the system loses its stability
Tension, the equipment cannot operate safely,
at this time, the system automatically
stop running.

◆ Brakeactionfailureprotection

Before the motor starts, the brake must be released.
In the non-braking state. If the brake is not released in time, the motor cannot start.

Antiroperunningprotection downhillslopechangepoint

In undulating tunnels with variable slopes and heavy loads, the wire rope may detach from the sheave, affecting the safe operation of the
equipment. The downhill slope protection device has a simple structure and reliable operation, effectively preventing the wire rope from detaching from the sheave.

▲ List of safety protection and control function items

ConservationProject	Mechanical endless rope continuou straction vehicle	Frequency conversion infinite rope continuou straction vehicle	Hydraulic endless rope continuous traction vehicle
Offside protection	*	*	*
Overspeed protection	*	*	*
Tension drop protection	*	*	*
Brake action failure protection	*	*	*
Anti-rope running protection at downhill slope change point	*	*	*
Shuttle car skidding and overspeed braking (i.e. passive braking)	* (Optional)	* (Optional)	* (Optional)

19807323802 15197233916 +86 731 55672999

Specification model

■ Mutual call function

The nose and tail of the aircraft can make contact with each other and communicate with each other.
Effectively avoid safety accidents caused by incorrect operations.

■ Leakage communication function
Patent number: ZL201721457273.4

Connect with leaky cable and handheld device to realize vehicle following .
Staff can communicate with the shuttle operator at any time.
Communication via telephone and emergency stop of the " infinite rope".

■ Railoperatingfunctiononordinarytracks
Patent number: ZL202022837746.1

The standard rail car is a kind of rail car that is traction-adaptable with steel wire rope.
Rail transport equipment that runs on ordinary tracks .
Suitable for long distances, large inclinations, and multiple bends.
Materials and equipment under different working conditions such as lane yin and yang rails.
No need for transshipment and transportation,
and it can also be used for people to go up and down the well transportation.

■ Balancingdevice
Patent number: ZL202220158132.7

Add balancing devices to the nose and tail wheels to balance.
The traction of the main and auxiliary ropes prevents the shuttle car from tipping over or derailing.

■ Wirelessvideosurveillance

Real-time monitoring of the road conditions ahead of the vehicle, real-time monitoring of video.
The video is displayed on the screen in real time and can be transmitted wirelessly.

■ Passivebrakingfunction
Patent number: ZL201510711796.6
ZL201510683267.X
ZL202011342460.4

When the shuttle car exceeds the speed limit, the passive brake on the shuttle car
The device brakes the track in time to prevent the accident.

■ Anti-rope running device downhill slope change point
Patent number: ZL201721797451.8

When the shuttle car passes the downhill slope point, the wire rope can
It may break away from the pressure wheel and pop out forcefully, causing the on-board personnel
Or equipment brings serious safety hazards, this anti-running rope
The device can prevent the wire rope from escaping from the pressure wheel, effectively
Solved the industry's technical problems.

■ Fivewheeltensioning

It has simple tensioning structure, strong tensioning ability,
Low maintenance workload,
adaptable to track fluctuations and tensioning
Features such as rapid operation.

■ Speedregulationfunction

There are three ways to realize the speed regulation function:
one is double
The speed reducer has two speeds,
the second is the variable frequency stepless adjustment Speed,
the third is hydraulic stepless speed regulation.

■ Voicealarmfunction

System failures,
operating conditions and road condition information during operation
The alarm is announced through voice broadcast,
accompanied by beeps and flashing lights.

■ Turningoperationfunction
Patent number: ZL201820025254.2

Achieved through dedicated turning and guardrail devices.
The safe operation of the "shuttle car when passing through horizontal curves,
Not only suitable for general curves, but also suitable for continuous "S" shaped curve.

■ Hydraulictensioningdevice
Patent number: ZL201720982039.7
ZL201720986241.7

With large tension, small size and space requirements Low,
light weight, easy to adjust and so on.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

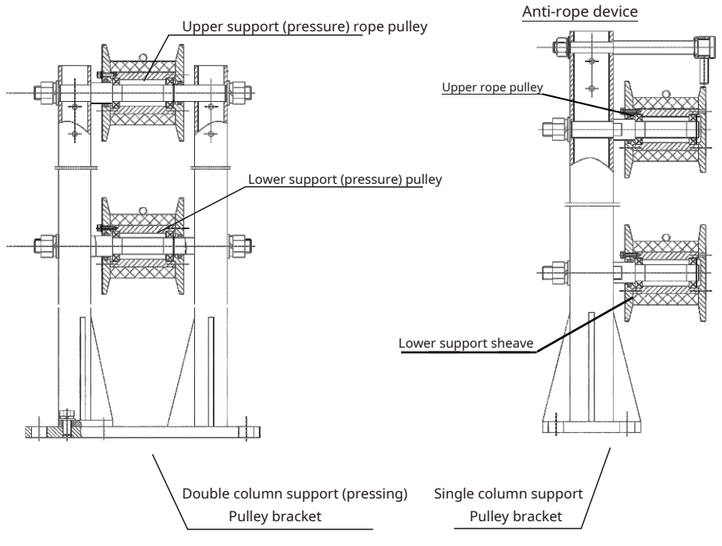
RZX mining walker

Product Overview

The endless rope winch drives the wire rope to run in an endless cycle. Pedestrians clamp the rope rod to the wire rope running uphill, and the wire rope running uphill drags the people upward to help them go uphill, thereby reducing the physical exertion of miners when going uphill in the inclined shaft . However, the use of walkers is prohibited when going downhill.

Features

- Miners can be on the move anytime, with high safety performance;
- No special requirements for the inclined tunnel where it is installed, and it occupies a small tunnel space;
- Simple structure and low one-time investment in equipment;
- Easy to install, maintain and operate.



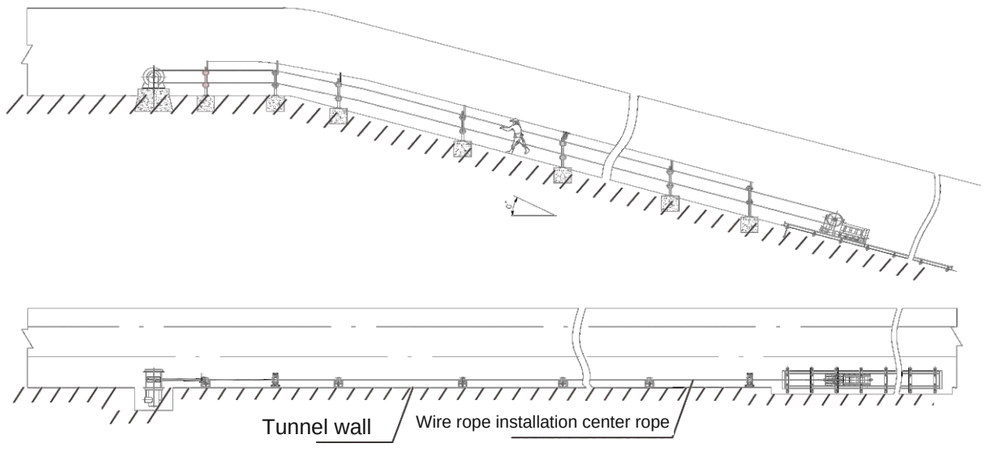
Technical Parameters

- Drive power: 5.5kW, 11.4kW, 25kW
- Walking assistance efficiency: 200-300 people/h
- Operating speed: 0.4～1.0m/s
- Applicable inclination angle: ⩽45°
- Maximum walking assisted inclined length: ⩽3000m

Security protection

- Offside protection
- Rope-off protection
- Emergency stop protection for the entire line

Schematic



19807323802 15197233916 +86 731 55672999

Xiangtan Hengxin Industrial Co., Ltd.

Introduction to Walkers

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Industrial Internet Intelligent Management and Control Platform for Mining Rail Transportation Equipment

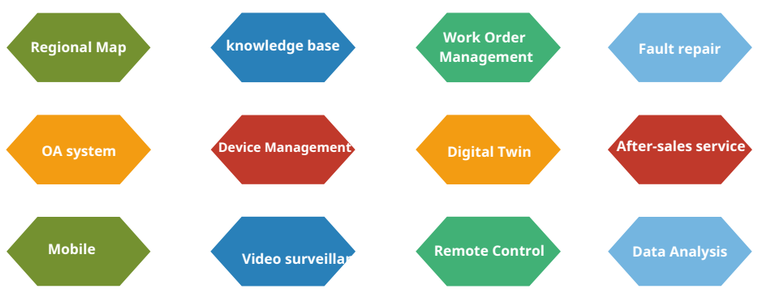
Platform Introduction

The platform collects and analyzes information on mining equipment through digital technologies such as industrial data collection, IoT data intelligent perception, data cloud computing technology, and big data analysis, and enables full life cycle monitoring and safe operation and maintenance of mining equipment in the form of microservice components and industrial apps.

The platform is used to conduct real-time monitoring, operation pre-alarm, remote intelligent fault diagnosis, and digital operation and maintenance services for intelligent equipment used in mine rail transportation. It also dispatches equipment operation and maintenance service personnel in real time through the industrial APP to promptly handle equipment failures, thereby improving the safe operation and maintenance of intelligent equipment in mine rail transportation.

The platform was included in the list of 100 landmark projects of Hunan Province's "Digital New Infrastructure". In May 2022, the platform passed the provincial acceptance and became one of the 18 "Hunan Industrial Internet Platforms" in the province. The platform's industrial APP was selected as the "Hunan Province 2021 Excellent Industrial APP".

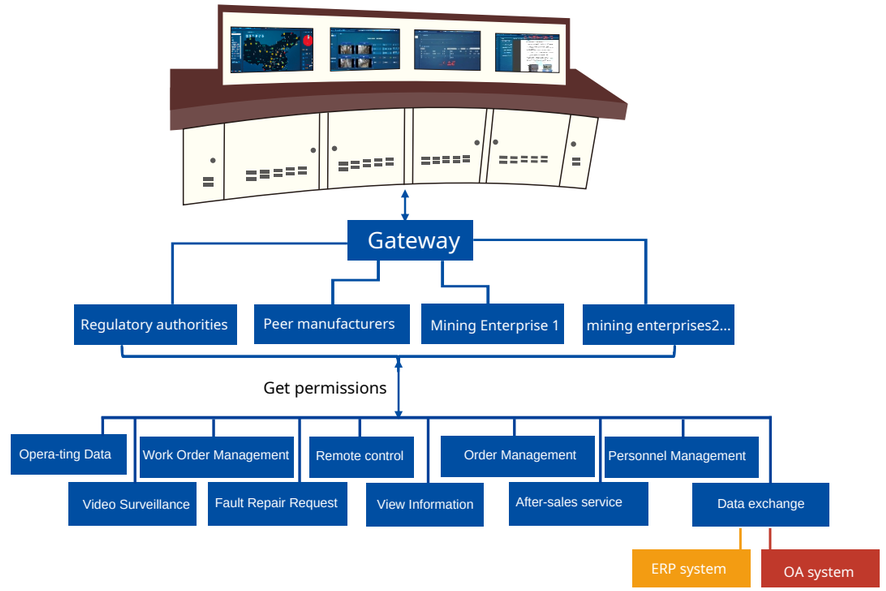
Twelve Major Databases



19807323802 15197233916 +86 731 55672999

Function Introduction

Industrial Internet Intelligent Management and Control Platform for Mining Rail Transportation Equipment



After applying to access the platform, users can obtain the following permissions on the platform:

1. Big data on the platform can be shared;
2. Historical data can be traced back;
3. Can be operated in APP via mobile terminal and PC terminal;
4. Can exchange data with OA system and ERP system;
5. Realize remote control and remote fault diagnosis of equipment;
6. You can apply for after-sales service and order management on the platform;
7. Maintenance plan management and maintenance work order management can be performed on the platform;
8. Real-time viewing of enterprise-accessed mining equipment operating parameters and monitoring videos, with alarms for abnormal data;
9. You can obtain information from the knowledge base, such as product knowledge, product technical equipment, operation records, real-time operation videos, troubleshooting, online training videos, etc.

Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com

Mining explosion-proof electrical products

Product Overview

Shaoshan Hengwang Electric Co., Ltd. is a wholly-owned subsidiary of Hengxin Co., Ltd., mainly producing explosion-proof electrical products for mining, including software, sensors, electronic control devices and other explosion-proof electrical products.

Mining explosion-proof electrical products include: various sensors of intelligent perception systems for data collection, various software of data intelligent computing systems, and various electrical control devices of Internet of Things intelligent processing systems. Mining explosion-proof electrical products are an important part of the industrial Internet management and control platform of mine rail transportation intelligent equipment.

ZR127 (B)Mine overhead passenger electric control device

Product Introduction

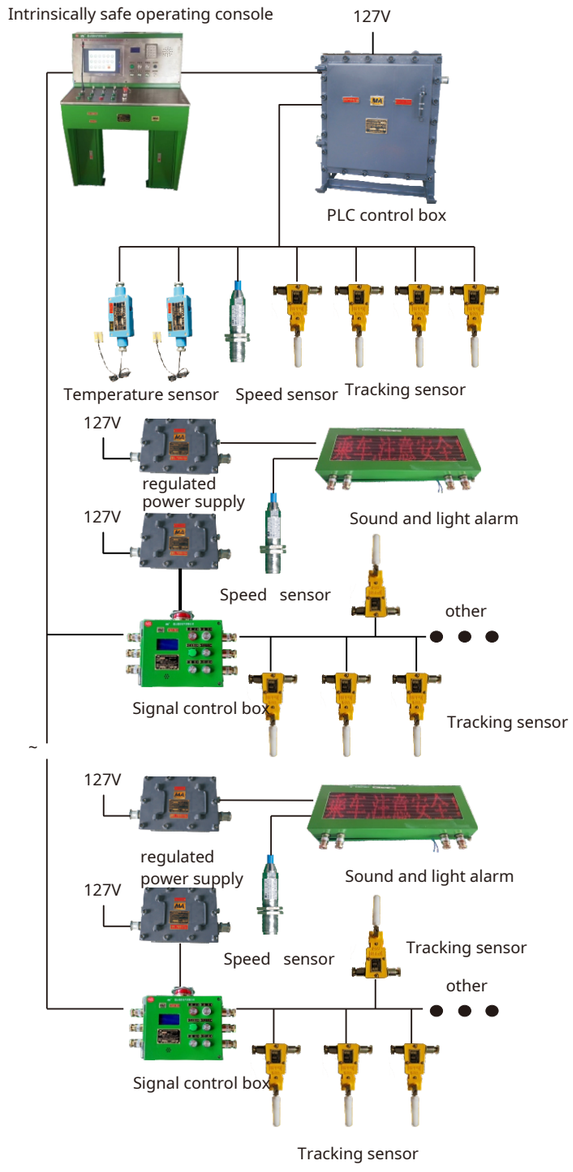
ZR127(B) mine-used overhead passenger electric control device adopts imported PLC programmable controller and has two information display functions. One is the touch screen display of four interfaces including "operation interface", "parameter display interface", "fault display interface" and "parameter setting interface", which can also display the operation "mode", "status", "fault" and "data" of the overhead passenger device; the other is the key display screen displaying interfaces such as "idle mode", "dotting mode", "broadcast mode", "music mode" and "alarm mode".

The use of PLC programmable controller and CAN bus communication not only saves cumbersome control lines, but also can control the operation and stop of the equipment more accurately, safely and quickly; through real-time detection of motor current, voltage, brake oil pressure, oil tank temperature and reducer temperature, it effectively monitors the safe operation of the motor, reducer and hydraulic station; through the audio bus, local and remote calls and safety protection alarms are realized , improving the safety performance of the overhead passenger device.

Main functions

- Data collection function
- Alarm function
- Control function
- Display function
- Communication function
- Information storage (black box) function
- Remote monitoring function

Device structure diagram



Xiangtan Hengxin Industrial Co., Ltd.

Mining electrical products

ZJK127(B)Mine endless rope winch control device

Product Introduction

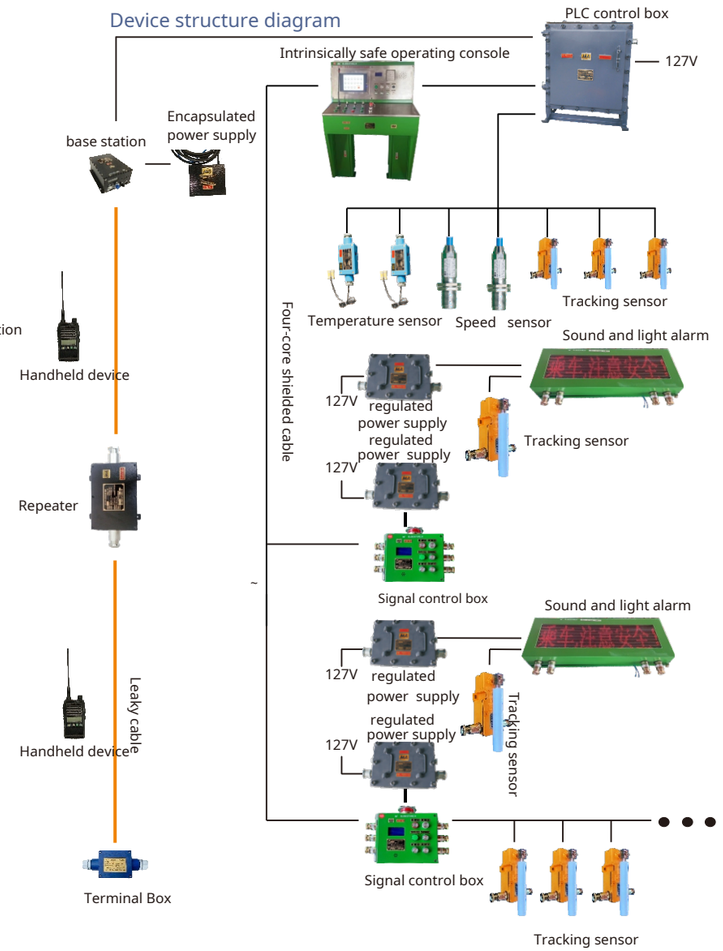
The ZJK127(B) mining endless rope winch control device is suitable for the protection and control of endless rope winch transportation in coal mines. It uses an imported PLC programmable controller and CAN bus communication, which not only saves cumbersome control circuits, but also controls the operation andstopping of the equipment more accurately , safely and quickly. The detection of brake oil pressure, oil tank temperature and reducer temperature effectively monitors the hydraulic station and reducer, which play a major role in the endless rope continuous traction vehicle, and maintains safer operation of the system.

The device can not only communicate and give alarms through the audio bus, but also monitor the running status of the endless rope continuous traction vehicle in real time throughout the entire process, thereby improving the safety performance of the entire endless rope continuous traction vehicle.

Main functions

- Data collection function
- Display function
- Alarm function
- Control function
- Leakage communication function
- Communication function
- Information storage (black box) function
- Remote monitoring function

Device structure diagram



19807323802 15197233916 +86 731 55672999

Electrical control devices for mining monorail cranes and mining rack rail cars

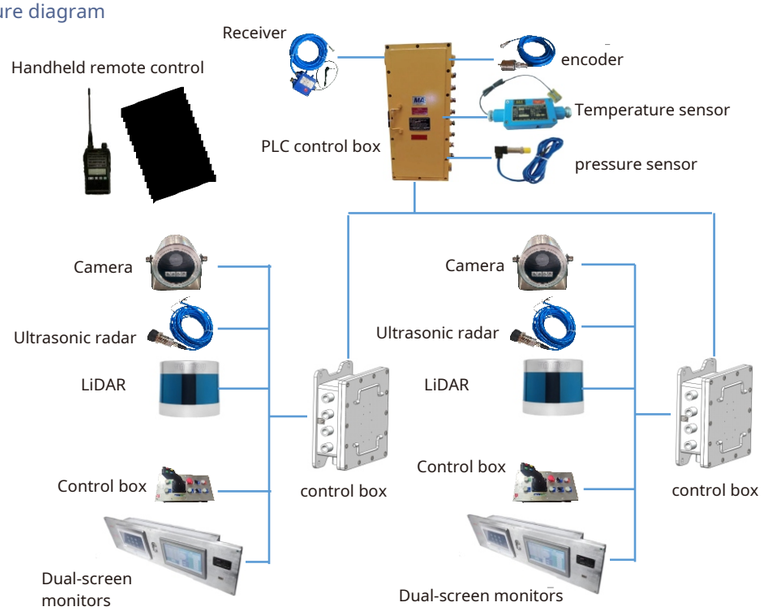
Product Introduction

This device is suitable for intelligent electrical control of various types of monorail cranes and rack rail cars used in underground coal mines. The core control system consists of a PLC control box, a control cabinet, an operating box, and a remote control, while the sensing system comprises encoders, sensors, radar, and cameras. Open interfaces also allow access to other auxiliary control devices and systems, such as gas shut-off devices, inclination detection, weighing detection, UWB positioning, and RFID identification.

Main functions

- Intelligent obstacle avoidance
- Electronic fence
- AIVideo Recognition
- Road condition monitoring
- Locomotive operating condition monitoring
- Wireless data upload
- Fault diagnosis
- Voice guide
- Multi-level brake control
- Tilt detection
- Load detection
- Point-to-point unmanned driving
- Remote control driving
- Methane power outage linkage
- Turnout、Air door linkage

Device structure diagram



Mining electrical products

sensor

GEJ30 (C)
Mine intrinsically safe deviation sensor

GEJ30(B)
Mine intrinsically safe deviation sensor

GYD130
Mine intrinsically safe strain sensor

GBC20
Mine intrinsically safe vibration sensor

GSH900(A)
Mine intrinsically safe speed sensor

GPD25
Mine intrinsically safe pressure sensor

GUC4.0
Mine intrinsically safe ultrasonic distance sensor

GUD15
Mine intrinsically safe position sensor

GUR6
Mine intrinsically safe pyroelectric sensor

GWP100
Mine intrinsically safe temperature sensor

GEJ30 (B)
Mine intrinsically safe wireless deviation sensor

Partners

(The following units are listed in no particular order. Our partners include but are not limited to the following units.)

Huadian Group	China Resources Group	Shenhua Group	China Huaneng	China Coal Group
Henan Chemical Industry	Pingmei Group	Shenhuo Group	Shenhuo Coal and Power	Yimei Group
Zhengzhou Coal Group	Zhengzhou Coal and Electricity	China Shenma Group	Zhongping Energy Chemical	Dayou Energy
Dengdian Group	Jinan Coal Energy	Jinneng Holdings	Shanxi coking coal	Poly Group
Dongtai Group	Dongjiang Coal Industry	Duanwang Group	Imperial City Prime Minister's Mansion	Huangtupo Group
HSBC Group	Jincheng Coal Industry	Kaijia Group	Kangwei Group	Liliu Group
Liulin Fushan Energy	Liulin Jinliu Energy	Loujun Group	Mei Jin Group	Pengfei Group
Pingyao Coal Chemical	Shanxi Coal Group	Shouwang Coal Industry	Tianrun Coal Chemical Group	Xiangning Coal
Yangcheng Yangtai Group	Changqin Coal and Coke	Hengfeng Mining	Huaning Mining	Economic Mining Group
Jining Energy	Wangchao Coal and Electricity	Weishan Lake Mining	Shanneng Group	Yijin Company
Zaozhuang Mining	Qinxin Group			
Zibo Mining	Huaibei Mining	Huainan Mining	Northern Anhui Coal and Electricity	Huineng Group
Wenming Mining	Pingzhuang Energy	Xinglong Energy	Yitai Group	Luxin Group
Lu'an Xinjiang	Xinjiang coking coal	Xinjiang Shenhua Group	Jinchuan Group	Jizhong Energy
Kailuan Chemical	Kailuan Group	Longmei Group	Baotailong Mining	Shuangyashan Mining Bureau
Yatai Group	Sichuan Coal Group	Furong Group	Hebang Group	Shuntong Mining
Jianghe Coal Chemical	Zhongyuan Coal Industry	Chongqing Energy	Anyuan Coal Industry	Fengcheng Mining Bureau
Jiangxi Coal Industry Group	Zhongding International	Yaojie Coal and Electricity Group	Jingyuan Coal Industry	Taixi Coal Group
Baoshan Mining	Hunan Coal Group	Xiangtan Electric	Shenyang Coal Group	Tiefa Coal Industry
Kailin Group	Wanfeng Group	Shanxi Coal Group	Shanxi Nonferrous Metals	Tongchuan Mining Bureau
Jilin Coal Group	National Energy	Qinghai Energy	Xuzhou Mining Group	Funeng Group

More than 80% of Hengxin's partners are large and medium-sized domestic mining companies.

19807323802 15197233916 +86 731 55672999 Shaoshan High-tech Zone, Hunan Province, China http://www.hx12666.com