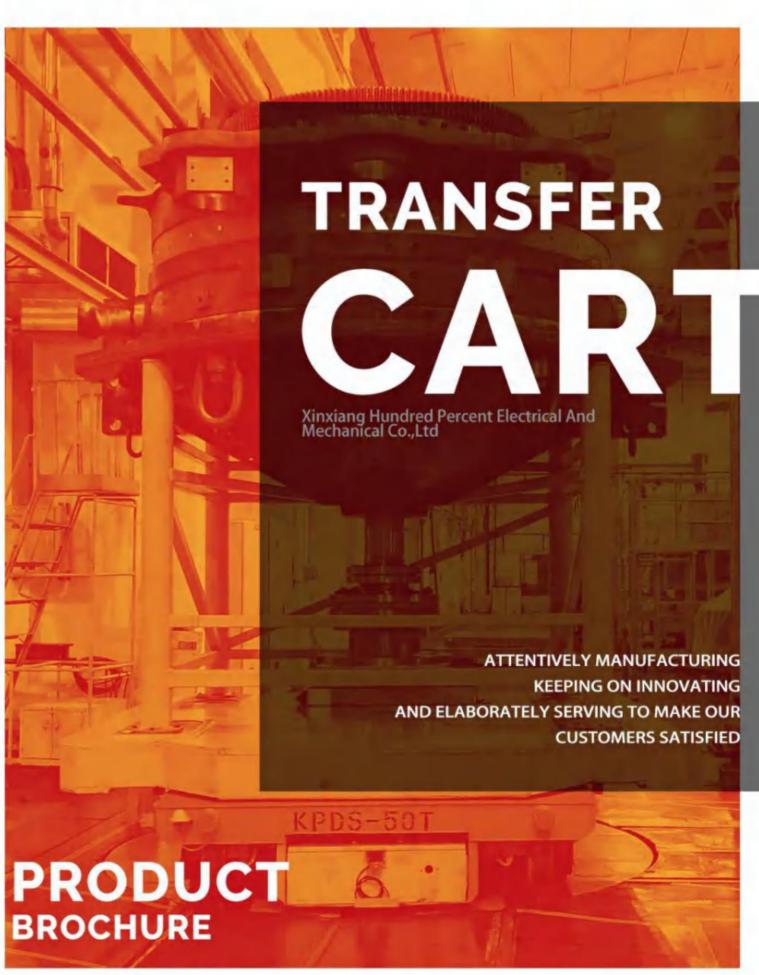


Electrical And Mechanical Co.,Ltd

Address: Yulin, Yanjin, Xinxiang, Henan Phone/Wechat/WhatsApp: 86-15560181018 Website: https://www.bfbtransfercar.com



# **BEFANBY**



#### HIGH QUALITY IS THE ONLY MEASURE

# **COMPANY INTRODUCTION**

Xinxiang Hundred Percent Electrical And Mechanical Co.,Ltd, founded in September 2003, is a professional electric transfer cart production company integrating development, design, production and sales.

Covers an area of 30000 square meters, annual output of 500 sets of electric transfer cart, it can produce range 1-1500 tons of various tonnage KPD low voltage rail power type; KPJ cable reel power type; KPC sliding wire power type, KPX battery power type; KPT dragged cable power type; KP no powered type and so on. Has more than eighty products, and can undertake a variety of non-standard, common transfer cart design, the finished product is not only suitable for transportation in various environments, but also has the advantages of beautiful appearance, simple operation, stable turning, strong climbing ability, low noise and easy maintenance.

Widely used in metallurgy, coal, electromechanical, heavy industry, shipbuilding, light industry and other enterprises.



EXPORTED TO GERMANY
THAILAND
THE NETHERLANDS
SOUTH AFRICA

SYRIA
TURKEY
NEPAL AND OTHER MORE THAN
60 COUNTRIES
RECEIVED HIGH PRAISE

Xinxiang Hundred Percent Electrical And Mechanical Co.,Ltd., after 19 years is hard working, with the advanced methods of management and service concept, with the continuous development scale of enterprise, has more than 80 employees, including more than 3 senior engineers, 8 engineers, 10 technicians, perennial cooperation with Nanjing engineering college, personally experienced senior welding technician to guide production. Take quality first, pay attention to detail, ensure product quality and use safety.

RIT EMPLOYEES

3+ SENIOR ENGINEERS

E + ENGINEERS

10+TECHNICIANS



#### **QUALITY IS THE FIRST STEP**

We passed ISO9001 Quality management system requirement and won the honor of "National famous brand", "Quality Products of Henan province", "Quality and Credit Enterprise Consumer Trusted", "The Contract Trustworthy Enterprise", "Quality and Integrity Member of Grade AAA".



#### SENIOR ENGINEER DESIGN DRAWINGS

Every design drawing is repeatedly considered and refined by the designer. According to the actual requirements of the customer's scene, the designer communicates with the customer to modify it to confirm the final customized plan, so that each customer can visually see the process from design to finished products and the parts used.



#### MULTIPLE PROCESS MONITORING SAFETY

In order to ensure the quality of the products, each product will be monitored by electrical debugging, running test, functional test, quality audit and other steps, only for customers to produce products with long service life and high cost performance.

#### **ENTERPRISE CULTURE**

#### **Enterprise Core Concept**

Using intergrity to make Friends, using real feelings to broaden business and realizing win win for harmonization.

#### **Enterprise Service Concept**

Once cooperation, forever friends.

#### **Enterprise Marketing Concept**

Attentively manufacturing.keeping on improving and elaborately serving to make our customers satisfied.

#### **Enterprise Marketing Concept**

Any item will have a relevant person to deal with and every one will try his best to treat our customers.

#### **Enterprise Management Concept**

Responsibility is limited, sense of responsibility is unlimited.







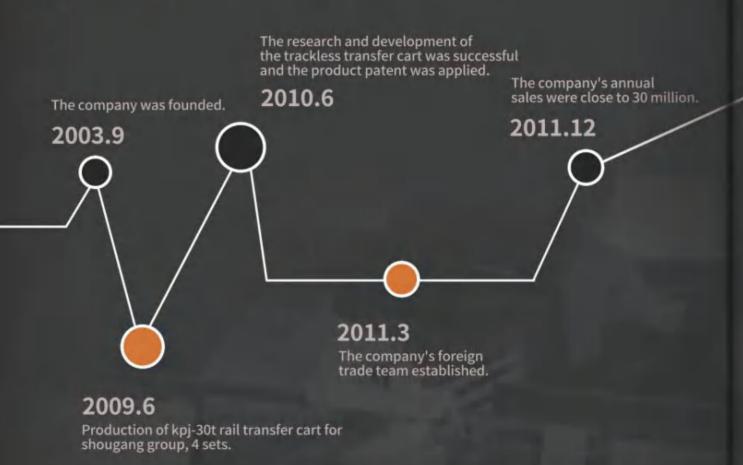
# QUALITY IS THE ONLY PURSUIT **ENTERPRISE HONOR**

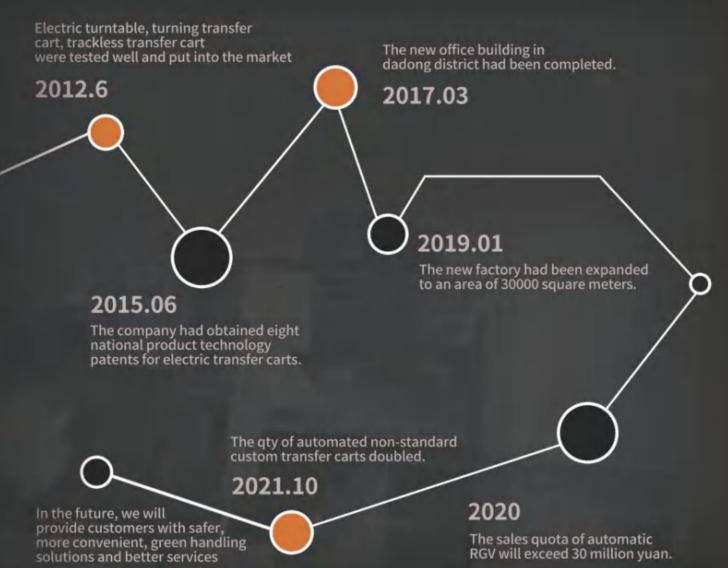
According to your needs, we will provide you with more humanized services and higher quality products, so that you can enjoy the best cost performance.





# DEVELOPMENT HISTORY





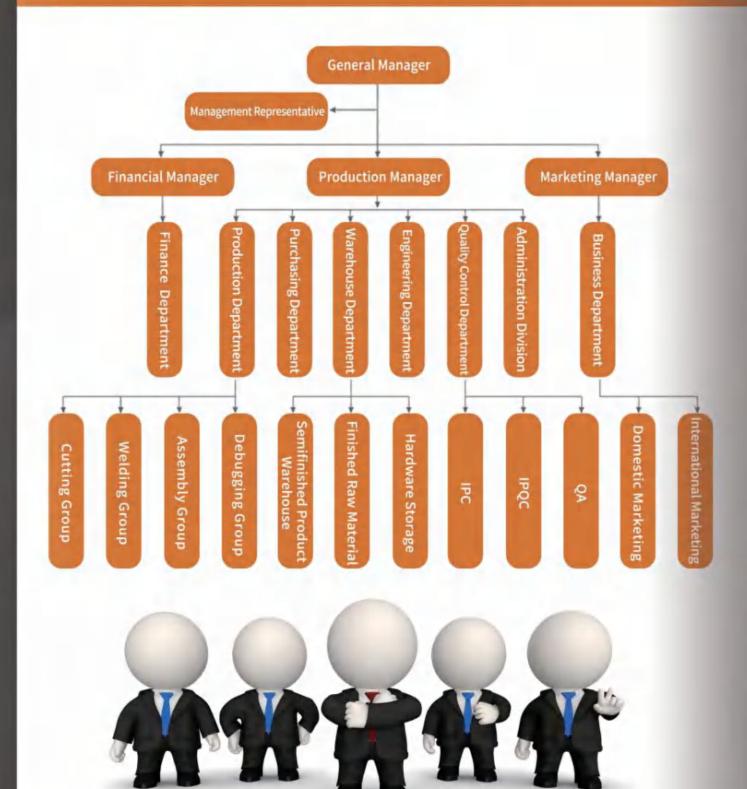
# 19 YEARS MANUFACTURING PROCESS

Xinxiang Hundred Percent Electrical and Mechanical Co., Ltd. was founded in 1953 in the early years of found the state. It was formerly a state-owned collective enterprise. The years was with the wind and rain. From the earliest iron wood cooperatives, Yanjin County, Henan Province, Yulin Agricultural Machinery Factory, Henan Yanjin County General Machinery Factory, Xinxiang City Antai Machinery Factory, Xinxiang City Rongchang Machinery Manufacturing Co., Ltd. Up to now, named Xinxiang Hundred Percent Electrical and Mechanical Co., Ltd.

From the initial production of agricultural tools hoes, boring tools, shovel, shovel, to the manufacture of carriages, steel rings, electric meters, reducers, motors, and now to varies domestic and foreign non-standard electric transfer cart for industrial handling and transportation, rail transfer carts R & D production. In the name product replacement, it has witnessed its change from scratch, from small to large, from state-owned to joint-stock system, from the establishment of the domestic market to the development of the international market. Keeping up with the reforms, conforming to the times, step by step, a solid footprint, and a gratifying development every year, after the phoenix nirvana, 100% will always be brewed into a picturesque glory!

#### PROFESSIONAL THINGS TO PROFESSIONAL PEOPLE

# CORPORATE ARCHITECTURE

















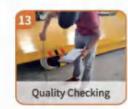














# TRANSFER CART PRODUCTION PROCESS



Multi-layer inspection filtering layers of control, more first-class professionals with many years of industry experience, to provide "one to one" quality service, whether it is what kind of products, all can "new custom", just a phone call, we help you design, production, processing, adhere to the concept of quality is given priority to, although we cannot guarantee that we are the cheapest in the industry, but we check the quality assurance premise, we must have the best cost performance.

# 11 SERIES BEST-SELLING PRODUCTS ARE INTRODUCED

# A POWERFUL MANUFACTURER

Xinxiang Hundred Percent Electrical and Mechanical Co., Ltd is the only manufacturer specializing in the manufacture of electric transfer carts in China. In order to upgrade the quality of transfer carts, the table is not deformed. Our company introduced the box girder structure for the first time and guided by our company. The company has gradually become the frame standard for the entire industry, and the company aims to improve product quality.

It also adopts the new concept that mainly in automation fields, pays attention to its product quality, focus, concentration, professionalism, and dedication to design and manufacture the electric transfer cart suitable for various working environments, the safety performance of its products. It has been unanimously recognized by the majority of customers. With the continuous development of the company, it has become the leading enterprise of the electric transfer cart in China.



# **AGV**

AGV refers to a transport vehicle equipped with automatic navigation devices such as electromagnetic or optical, capable of driving along a prescribed navigation path, with safety protection and various transfer functions.





INDUCTIVE GUIDANCE

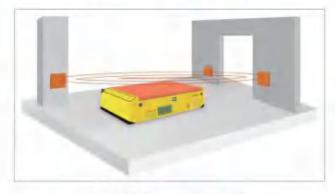






MAGNETIC GUIDANCE

OPTICAL GUIDANCE





LASER GUIDANCE

DGPS GUIDANCE

In industrial applications, the drivers are not required, and rechargeable lithium batteries are used as the power source. Generally, its path and behavior can be controlled by a computer, or an electromagnetic path-following system can be used to set up its path. The electromagnetic track is glued to the floor, and the unmanned vehicle relies on the information brought by the electromagnetic rails to move and work.

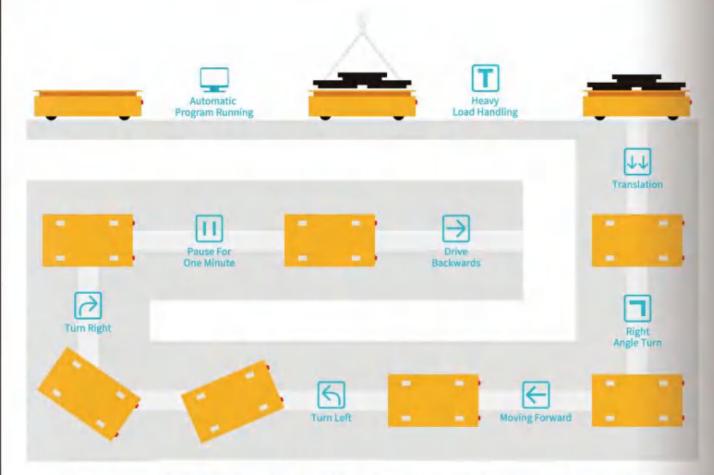


#### **CONTRACT OF THE STATE OF THE S**

	Model	AGV-2t	AGV-5t	AGV-10t
Rate	d Load (t)	2	5	5
	Length (I)	2000	3000	4000
Table Size (mm)	Width (w)	1500	1800	2000
	Heigth (h)	450	500	600
Batter C	Capacity (Ah)	180	250	400
Wheel	Base (mm)	200	200	280
Wheel Q	luantity (pcs)	6	6	6
Ground C	learance (mm)	50	50	50
Running	Speed (m/s)	0-1	0-1	0-1
Motor	Power (kW)	1.5*2	2.5*2	2.5*2
Running	Distance (m)		Unilimted	
Running Time	When Full Load (h)	2.5	2.88	2.8
Running Distance	eFor One Charge (Km)	3	3.5	3.4
Max Who	eel Load (kN)	14.4	25.8	42.6
Refenrenc	ce Weight(kg)	600	1000	1500

Notes.1.Load capacity,table size and gauge can be customized. 2.Options:a.Remote radio control(imported or made in China);b.Automatic stop when detecting obstacle or person,limit switches(to limit travel);c.Automatic cutting off power on rail;d.Motor(DC motor with brush and DC motor brushless);e.Electrical parts(imported or made in China);f.It can be designed to meet special working environment such as high temperature.

# **AGV FUNCTION DISPLAY**







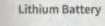








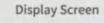
AGV Series' Accessories Show















# **BWP Series'** Transfer Cart



- The trackless transfer cart can realize turning 360 degree freely with small turning radius.
- It is easy to operate and is suitable for unfixed logistics transportation between multiple production workshops and warehouses
- In the case of excellent surface flatness and no slope, it can be transported indoors or outdoors freely.
- Can achieve in situ spin, strong wear - resistant, low maintenance costs.







## **BWP Series**' **Accessories Show**











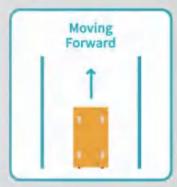
BWP trackless transfer cart(Rubber wheel electric transfer cart)is powered by battery, which is installed inside of the cart body. Electrical control system leads to the DC motor driven electric transfer cart to start, stop, go forward, back up, turn left, turn right, adjust speed and so on by operating the remote control. For this kind of transfer cart, it is no need to install the rail on the ground, its can directly work on flat hard road/ground, cement floor, which adopts solid PU rubber wheel with good mobility.

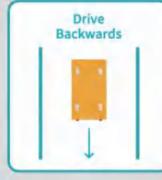


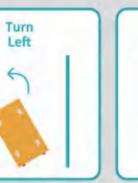
#### TECHNICAL DATA SHEET >>>

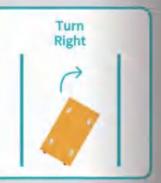
	Model	BWP-2t	BWP-5t	BWP-10t	BWP-15t	BWP-20t	BWP-25t	BWP-30t	BWP-40t	BWP-50t	BWP-60t	BWP-70t	BWP-80t	BWP-100t
Rated	i Load (t)	2	5	10	15	20	25	30	40	50	60	70	80	100
	-Length (I)	2000	2200	2300	2400	2400	3500	3500	5000	5500	5600	6000	6500	6600
Table Size	Width (w)	1500	2000	2000	2100	2200	2200	2200	2500	2600	2500	2600	2800	3000
	Heigth (h)	450	500	550	600	600	700	700	800	800	850	900	950	1200
Wheel	Base (mm)	1080	1650	1650	1600	1650	1650	1650	2000	2000	1800	1850	1950	2000
Axie B	Base (mm)	1380	1680	1700	1830	1850	2700	2700	3600	2850	2900	3500	3500	4000
Wheel Di	ameter (mm)	Ф250	Ф300	Ф350	Ф400	Ф400	Ф450	Ф450	Ф500	Ф600	Ф600	Ф600	Ф600	Ф600
Wheel Q	uantity (pcs)	4.	4	4	4	4	4	4	4	4	4	6	6	8
Ground Cl	earance (mm)	50	50	50	50	50	50	50	50	50	75	75	75	75
Running 5	ipeed (m/min)	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25
Motor	Power (kW)	2*1.2	2*1.5	2*2.2	2*3.5	2*4.5	2*5.5	2*5.5	2*6.3	2*7.5	2*10	2*12	30	40
Batter C	apacity (Ah)	250	180	250	330	400	400	450	440	500	600	600	800	1000
Sattery	Voltage (V)	24	48	48	48	48	48	48	72	72	72	72	72	72
Running Tim	e When Full Load	2.5	2.88	2.8	2.3	2.2	1.8	2	2.6	2.5	2.2	1.8	2	1.9
Huming Dellano	e For One Charge (Arri)	3	3.5	3.4	2.8	2.7	2.2	2.4	3.2	3	2.7	2.2	2.4	2.3
Max Who	eel Load (kN)	14,4	25,8	42.6	64,5	77.7	94.5	110.4	142.8	174	221.4	152	185	190
Referrer	ce Weight (t)	2.3	3.6	4.2	5.5	5.9	6.5	6.8	7.6	8	10.8	12.8	14.6	26.8

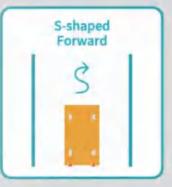
Notes.1. The load capacity and table size can be designed and manufactured as per customer requirements; 2. The remote control can be chosen; 3. It can installed safety device such as stop, anti-collision strip, etc.; 4, Trackless transfer cart can be automatic power off in in 5min; 5, It can realize vertical and horizontal movement, in-situ rotation function; 6, It can be installed navigation system (magnetic strip, magnetic nail or laser navigation) to realize automatic running.

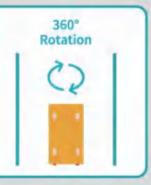










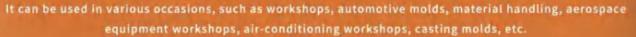




















# **KPDZ Series'** Transfer Cart

KPDZ series railway transfer carts are powered by the low voltage electricity from the railways. The power source AC 380v is transformed into AC 36v two-phase and are respectively connected to the two rails. Then the transfer cart's wheels conduct the AC 36v on rail into the electrical appliance box at the bottom of the carts . And then the AC 36v is transformed into DC 36v and then control the DC motor through the DC control system to make the transfer cart start, stop, go forward and backward and adjust the speed and so on.



# **Ground Control**

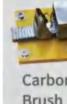
## **KPDZ Series**' **Accessories Show**











Carbon Brush





#### **Product Advantages**

KPDZ transfer cart can be used both on the 'S' and arc-shaped railways. The also can be used in the high-temperature environment.

The hydraulic lifting device can be installed on the transfer cart. The DC motor has the advantage of safety, flexibility ,stable start, big staring torque, small impact to the gear reducer, low voltage, long lifetime and so on .



This series' transfer carts are suitable to be used in such condition:higher using frequency, middle and long distance transportation. The running distance is not limited, but with a running distance of more than 70 meters, you need to increase the number of transformers to compensate for the track voltage drop.

#### **TECHNICAL DATA SHEET**

	Model	KPDZ-2t	KPDZ-5t	KPDZ-10t	KPDZ-16t	KPDZ-20t	KPDZ-25t	KPDZ-30t	KPDZ-40t	KPDZ-50t	KPDZ-63t
Rate	ed Load (t)	2	5	10	16	20	25	30	40	50	63
	Length (I)	2000	3500	3600	4000	4000	4500	4500	5000	5500	5600
Table Size	Width (w)	1500	2000	2000	2000	2200	2200	2200	2500	2500	2500
	Heigth (h)	450	450	500	500	550	600	600	650	650	750
Whee	Base (mm)	1200	2500	2600	2800	2800	3200	3200	3800	4200	4300
Rail Inne	er Gauge (mm)	1200	1435	1435	1435	1435	1435	1435	1435	1435	1435
Wheel I	Diameter (mm)	Ф270	Ф300	Ф300	Ф350	Ф350	Ф400	Ф400	Ф500	Ф500	Ф600
Wheel	Quantity (pcs)	4	4	4	4	4	4	4	4	4	4
Ground (	Clearance (mm)	50	50	50	50	50	50	50	50	50	50
Running	Speed (m/min)	0-25	0-25	0-25	0-20	0-20	0-20	0-20	0-20	0-20	0-20
Motor	Power (kW)	1	1.2	1.6	2	2.2	3	3.5	4	5	6.3
Transform	ner Power (kVA)	3	5	5	6.8	6.8	6.8	10	10	10	20
	er Quantity (pcs)	1	1	1	1	1	1	1	1	1	1
Running	g Distance (m)	80	80	80	80	80	80	80	60	50	50
Max W	reel Load (kN)	14.4	25.8	42.6	64.5	77.7	94.5	110.4	142.8	174	221.4
Refenre	nce Weight (t)	2.8	3.6	4.2	5.5	5.9	6.5	6.8	7.6	8	10.8
Recomme	ended Rail Model	P15	P18	P18	P24	P24	P38	P38	P43	P43	P50

Notes.1.Load capacity,table size and gauge can be customized. 2.Options:a.Remote radio control(imported or made in China );b.Automatic stop when detecting obstacle or person, limit switches (to limit travel);c.Automatic cutting off power on rail;d.Motor(DC motor with brush and DC motor brushless);e.Electrical parts(imported or made in China);f.It can be designed to meet special working environment such as high temperature.

#### But this series have strict requirement on the construction of the railways which need to be insulated. The rated load can not be more than 50T.









# **KPDS Series**' Transfer Cart

KPDS series' railway transfer carts are powered by the low voltage electricity from the railways. Source AC 380V is transformed to AC 36V three-phrase through transformer. Then they are connected to the three rails respectively (add a conducting rail ). The transfer cart's wheels and conducting plate lead the AC 36V electricity to the electrical appliance box which is installed on the carts. And AC 36V is transformed to AC 380V through the transformer. Then controls AC Metallurgy motor through AC control system to make the transfer cart start, stop, go forward and backward and so on.



This series' transfer cart can be used both on 'S' and arc-shaped rails, and high temperature.

But this series have strict requirement on the construction of the railways which need to be insulated. This series' transfer carts are suitable for the environment of heavy load capacity (>50t), middle and long distance transportation.

The running distance is not limited, but when the running distance exceeds 70m, you need to increase the number of transformers to compensate for the track voltage drop.

The hydraulic system and weighing system can be installed on the cart with safer and flexible.





Ground Control Cabinet

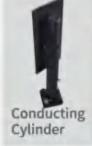
# **KPDS Series**'

**Accessories Show** 















AC Motor

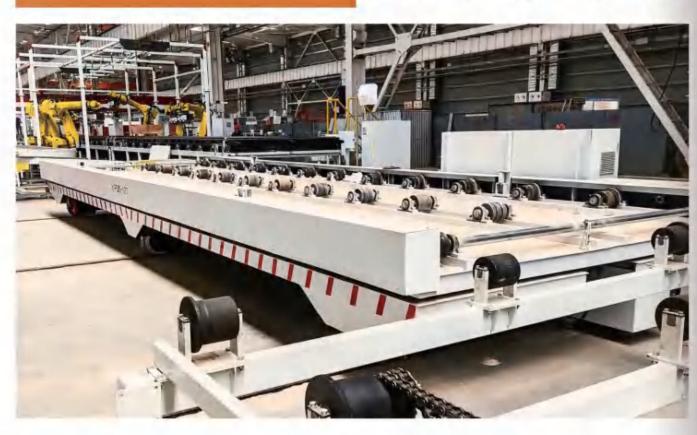
Boosting Transformer







INTENTION / HIGH QUALITY / SAFETY







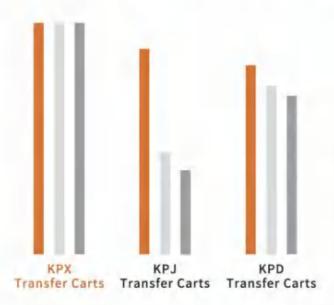
#### TECHNICAL DATA SHEET >>>

	Model	KPDS-2t	KPDS-5t	KPDS-10t	KPDS-16t	KPDS-20t	KPDS-25t	KPDS-30t	KPDS-40t	KPDS-50t	KPDS-63I	KPDS-80t	KPDS-100t	KPDS-15
Rate	d Load (t)	2	5	10	16	20	25	30	40	50	63	80	100	150
	Length (I)	2000	3500	3600	4000	4000	4500	4500	5000	5500	5600	6000	6500	10000
(mm)	Width: (w)	1500	2000	2000	2000	2200	2200	2200	2500	2500	2500	2600	2800	3000
	Heigth (h)	450	450	500	500	550	600	600	650	650	750	800	850	1200
Whee	(Base (mm)	1200	2500	2600	2800	2800	3200	3200	3800	4200	4300	4700	4900	7000
Raitinne	er Gauge (mm)	1200	1435	1435	1435	1435	1435	1435	1435	1435	1435	1800	2000	2000
Wheel D	Diameter (mm)	Ф270	Ф300	Ф300	Ф350	Ф350	Ф400	Ф400	Φ500	Ф500	Ф600	Φ600	Ф600	Ф600
Wheel C	Quantity (pcs)	4	4	4	4	4	4	4	4	4	4	4	4	8
Ground C	Gearance (mm)	50	50	50	50	50	50	50	50	50	75	75	75	75
Running	Speed (m/min)	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25
Motor	Power (kW)	0.8	1.5	1.5	2.2	2.5	3	4	5.5	5.5	7.5	7.5	11	15
Transform	ner Power (kVA)	3	5	5	6.8	6.8	6.8	10	10	10	20	20	30	30
Transform	er Quantity (peri	1	1	1	1.	1	1	1	1	1	1	1	1	1
Hunning	Distance (m)	80	80	80	80	80	80	80	60	50	50	50	50	50
Mas Wt	seel Load (kN)	14.4	25.8	42.6	64.5	77.7	94.5	110.4	142.8	174	221.4	278.4	343.8	265.2
Referre	nce Weight (t)	2.8	3.6	4.2	5.5	5.9	6.5	6.8	7.6	8	10.8	12.8	14.6	26.8
Ficemme	nded Rail Model	P15	P18	P18	P24	P24	P38	P38	P43	P43	P50	P50	QU80	QU100

Notes: 1.Load capacity,table size and rail inner gauge can be customized. 2.Optional device:a.Remote radio control(imported or made in China);b. Automatic stop when detecting obstacle or person, limit switches(to limit travel);c.Automatic cutting off power on rail;d.Variable speed device(VFD);e.Electrical parts can be optional(made in China or imported);f.It can be designed to meet special working environment such as high temperature.

# **KPX Series'** Transfer Cart

KPX series transfer carts are battery powered. The batteries are installed in the carts. The batteries supply electricity to the DC motor through the electrical control system. We use this principle to operate the carts, for example, start, stop, go forward and backward, adjust the speed and so on.



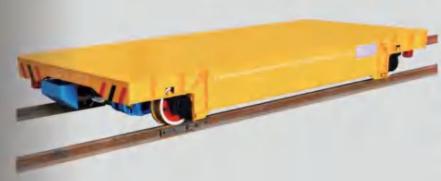
- Security
- Kinetic Activity
- Running Distance

#### Compared with other series

Compared with KPJ and KPD series transfer carts, it has safety and flexible; the running distance is not limited, and the requirements for track laying are not high. It is suitable for low-frequency and long-distance transportation. What's more, the maintenance free battery are installed to export, which makes the using more convenient with long service lifetime.



KPX transfer carts can be used both on the 'S' and arc-shaped railways. They also can be used in the ferry condition and flammable, explosive environment. The hydraulic lifting device can be installed on the transfer carts. The DC motor has the advantages of stable start, big starting power, small impact to the gear reducer, low voltage, long lifetime and so on.



#### NOTED:

Generally, the intelligent charger is equipped to export, which not only is low noise, high frequency and automated stop when charged full but also can protect the battery and prolong the battery lifetime. And the charging time is about 8 hours, The charge-discharge times are more than 1000 times.

#### **CONTRACT OF THE STATE OF THE S**

	Model	KPX-2t	KPX-5t	KPX-10t	KPX-16t	KPX-20t	KPX-25t	KPX-30t	KPX-401	KPX-50t	KPX-63t	KPX-80t	KPX-100t	KPX-150
Rate	ed Load (t)	2	5	10	16	20	25	30	40	50	63	80	100	150
	Length (I)	2000	3500	3600	4000	4000	4500	4500	5000	5500	5600	6000	6500	10000
Table Size	Width (w)	1500	2000	2000	2000	2200	2200	2200	2500	2500	2500	2600	2800	3000
	Heigth (h)	450	450	500	500	550	600	600	650	650	750	800	900	1200
Whee	l Base (mm)	1200	2500	2600	2800	2800	3200	3200	3800	4200	4300	4700	4900	7000
Rail Inne	er Gauge (mm)	1200	1435	1435	1435	1435	1435	1435	1435	1435	1435	1800	2000	2000
Wheel D	Diameter (mm)	Ф270	Ф300	Ф300	Ф350	Ф350	Ф400	Ф400	Ф500	Ф500	Ф600	Ф600	Ф600	Ф600
Wheel (	Quantity (pcs)	4	4	4	4	4	4	4	4	4	4	4	4	8
Ground C	Clearance (min)	50	50	50	50	50	50	50	50	50	75	75	75	75
Running	Speed (m/min)	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25
Motor	Power (kW)	1	1.5	1.6	2	2.2	3	3.5	4	5	6.3	-8	10	15
Batter	Capacity (Ah)	180	180	160	180	210	250	250	300	330	400	400	440	600
Battler	Voltage (V)	24	36	48	48	48	48	48	48	48	48	72	72	72
Running Time	When Full Load (h)	4.32	5.4	4.8	4,3	4.	4	3.5	3.6	3.3	3	3.6	3.2	2.9
luvuing Distanc	e For One Charge (Km)	6.5	8.1	7.2	5.1	4.8	4.8	4.2	4.3	4	3.6	4.3	3.8	3.2
Max Wh	neel Load (kN)	14.4	25.8	42.6	64.5	77.7	94.5	110.4	142.8	174	221.4	278.4	343.8	265.2
Refenser	nce Weight (t)	2.8	3.6	4.2	5.5	5.9	6.5	6.8	7.6	8	10.8	12.8	14.6	26.8
Recomme	nded Rail Model	P15	P18	P18	P24	P24	P38	P38	P43	P43	P50	P50	QU80	QU100

Notes.1.Load capacity,table size and gauge can be customized. 2.Options:a.Remote radio control(imported or made in China);b.Automatic stop when detecting obstacle or person,limit switches(to limit travel);c.Automatic cutting off power on rail;d.Motor(DC motor with brush and DC motor brushless);e.Electrical parts(imported or made in China);f.lt can be designed to meet special working environment such as high temperature.

# **KPX Series'**

**Application Show** 











# **KPT Series'** Transfer Cart



#### WORKING REQUIREMENT

Due to low cost and simple structure, it is a common transfer cart with short distance over-span in the workshop; it is usually used in the occasions with short distance transfer (≤20m), high using frequency, and low carts' height.



#### APPLIED TO VARIOUS ENVIRONMENTS

The rail transfer cart is not strict requirement for the rail installation with unlimited using time, which can be used in various environment, high temperature environment, ex-proof environment, etc.



#### **ACCESSORIES SOLUTION**

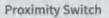
The drag chain can be choose to reduce the abrasion if the running distance is short with low speed.

# TRANSFER CART WORKING PRINCIPLE

KPT series' rail transfer carts are powered by the mobile cable. It conducts AC 380V directly into the electrical control system of the transfer cart to let it start, stop, go forward, backward and so on. The cart is powered by dragging cable which is laid on the ground. The cable line is placed between the two rails. The operation system is low voltage 36V power. The hydraulic lifting device can be installed on the transfer carts.



The transfer cart with the mechanical arm makes the working more convenient,









**KPT Series**' **Accessories Show** 





Hand Pendant+ Remote Control



















#### **TECHNICAL DATA SHEET**

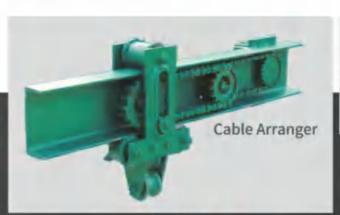
	Model	KPT-2t	KPT-5t	KPT-10t	KPT-16t	KPT-20t	KPT-25t	KPT-30t	KPT-40t	KPT-50t	KPT-63t	KPT-80t	KPT-100t	KPT-150t
Rate	d Load (t)	2	5	10	16	20	25	30	40	50	63	80	100	150
	Length (I)	2000	3500	3600	4000	4000	4500	4500	5000	5500	5600	6000	6500	10000
Table Size	Width (w)	1500	2000	2000	2000	2200	2200	2200	2500	2500	2500	2600	2800	3000
	Heigth (h)	450	450	500	500	550	600	600	650	650	750	800	850	1200
Wheel	Base (mm)	1200	2500	2600	2800	2800	3200	3200	3800	4200	4300	4700	4900	7000
Rail Inne	r Gauge (mm)	1200	1435	1435	1435	1435	1435	1435	1435	1435	1435	1800	2000	2000
Wheel D	lameter (mm)	Ф270	Ф300	Ф300	Ф350	Ф350	Ф400	Ф400	Ф500	Ф500	Ф600	Ф600	Ф600	Ф600
Wheel Q	uantity (pcs)	4	4	4	4	4	4	4.	4.	4	4	4	4	8
Ground C	learance (mm)	50	50	50	50	50	50	50	50	50	75	75	75	75
Running !	Speed (m/min)	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25
Motor	Power (kW)	0.8	1.5	1.5	2.2	2.5	3	4	5.5	5.5	7.5	7.5	11	15
Max Wh	eel Load (kN)	14.4	25.8	42,6	64.5	77.7	94.5	110.4	142.8	174	221.4	278.4	343.8	265.2
Refenrer	ice Weight (t)	2.3	3.3	3.8	5	5.5	6	6.3	7.2	7.6	10.3	12.1	13.9	26
Recomme	nded Rall Model	P15	P18	P18	P24	P24	P38	P38	P43	P43	P50	P50	QU80	QU100

Notes: 1.Load capacity,table size and rail inner gauge can be customized. 2.Optional device:a.Cable reel(cable within chain or cable hanging);b.Automatic stop when detecting obstacle or person, limit switches(to limit travel);c.Operation way(hand held control pendant,remote radio control or operation platform with the cart;d.Electrical parts(imported or made in china);e. Variable speed device(VFD);f.It can be designed to meet special working environment such as high temperature, explosion proof and so on.

# **KPJ Series'** Transfer Cart

KPJ Series transfer cart get AC 380-460v power by cable winded on cable drum. It is often chosen by many clients because heavy duty work class and low cost. When the running distance is beyond 50m, cable arrangement device need to increased. It's max running distance is 200m. Cable guided device can make the cable in order when it released.

It can be increased hydraulic lifting function, dumping function, also be chosen applying in anti explosion working environment.







# KPJ Series' Accessories Show











#### MATTERS NEED BE NOTED

The operation system is low voltage 36V. The hydraulic lifting device can be installed on the transfer carts.

With its simple structure and low price, this series are more often used to transfer materials from one workshop to another.

Compared with the KPX series, the using time is not limited. Compared with the KPD series, it has no strict requirement for the construction of the railway.

This series transfer carts are suitable to be used in the bad environment, for example, high-temperature and anti-explosion condition.

The transfer cart can be customized as per your true demand, such as PLC, weighing system and so on.

The transfer cart is suitable for occasions with large capacity and high frequency use. The cable arranger should be added if the running distances exceeding 50 meters.



The largest capacity of the transfer cart can reach to 500 ton.

## **TECHNICAL DATA SHEET**

	Model	KPJ-2t	KPJ-5t	KPJ-10t	KPJ-16t	KPJ-20t	KPJ-25t	KPJ-30t	KPJ-40t	KPJ-50t	KPJ-63t	KPJ-80t	KPJ-100t	KPJ-150
Rate	d Load (t)	2	5	10	16	20	25	30	40	50	63	80	100	150
	Length (I)	2000	3500	3600	4000	4000	4500	4500	5000	5500	5600	6000	6500	10000
(mm)	Width (w)	1500	2000	2000	2000	2200	2200	2200	2500	2500	2500	2600	2800	3000
	Heigth (h)	500	550	550	600	600	650	650	700	700	800	900	1000	1200
Whitel	Base (mm)	1200	2500	2600	2800	2800	3200	3200	3800	4200	4300	4700	4900	7000
Rall Inner	r Gauge (mm)	1200	1435	1435	1435	1435	1435	1435	1435	1435	1435	1800	2000	2000
Wheel Di	iameter (mm)	Ф270	Ф300	Ф300	Ф350	Ф350	Ф400	Ф400	Ф500	Ф500	Ф600	Ф600	Ф600	Ф600
Wheel Q	uantity (pcs)	4	4	4	4	4	4	4	4	4	4	4	4	8
Ground Cl	learance (mm)	50	50	50	50	50	50	50	50	50	75	75	75	75
Running S	ipeed (m/min)	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25
Motor	Power (kW)	0.8	1.5	1.5	2.2	2.5	3	4	5.5	5.5	7.5	7.5	11	15
Running	Distance (m)	25	25	25	25	30	30	50	50	50	50	50	50	50
Max Wh	eel Load (kN)	14.4	25.8	42.6	64.5	77.7	94.5	110.4	142.8	174	221.4	278.4	343.8	265.2
Refenren	ce Weight (t)	2.5	3.5	4	5.2	5.6	6.2	6.5	7.3	7.8	10.5	12.3	14.1	26.2
Recommen	nded Rail Model	P15	P18	P18	P24	P24	P38	P38	P43	P43	P50	P50	QU80	QU100

Notes: 1.Load capacity,table size and rail inner gauge can be customized. 2.Optional device:a.Cable reel(Spring type, magnetic coupling type,motor- driven type);b. Automatic stop when detecting obstacle or person, limit switches(to limit travel);c.Operation way(hand held control pendant,remote radio control or operation platform with the cart;d.Electrical parts(imported or made in china);e.power supply position(middle or two ends);f.Variable speed device(VFD);g.It can be designed to meet special working environment such as high temperature.







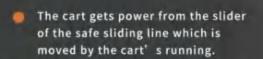


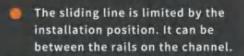


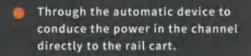
# **KPC Series**' Transfer Cart

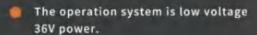
KPC series' rail transfer carts are powered by the sliding line. It conducts AC 380V sliding wire directly into the AC electrical control system of the transfer cart to let it start, stop, go forward, backward and so on.

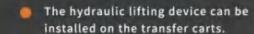




















Dead Man Stop

## **KPC Series Accessories Show**



Sliding Wire



Warning Light



Steel Wheel









Because of its simple structure, low cost and not so strict requirement on the construction of the rails, it is the first choice for the assembly lines of the workshop. This series transfer cart is suitable for the conditions of short running distance(≤50m), high using frequency, low cart's and assembly line works.











#### **CONTRACTOR OF THE CONTRACT OF**

	Model	KPC-2t	KPC-5t	KPC-10t	KPC-16t	KPC-20t	KPC-25E	KPC-30t	KPC-40t	KPC-50t	KPC-63t	KPC-B0t	KPC-100t	KPC-1501
Rate	d Load (t)	2	5	10	16	20	25	30	40	.50	63	80	100	150
	Length (I)	2000	3500	3600	4000	4000	4500	4500	5000	5500	5600	6000	6500	10000
Table Size	Width (w)	1500	2000	2000	2000	2200	2200	2200	2500	2500	2500	2600	2800	3000
	Heigth (h)	450	450	500	500	550	600	600	650	650	750	800	850	1200
Wheel	Base (mm)	1200	2500	2600	2800	2800	3200	3200	3800	4200	4300	4700	4900	7000
Rail Inne	r Gauge (mm)	1200	1435	1435	1435	1435	1435	1435	1435	1435	1435	1800	2000	2000
Wheel D	lameter (mm)	Ф270	Ф300	Ф300	Ф350	Ф350	Ф400	Ф400	Ф500	Ф500	Ф600	Ф600	Ф600	Ф600
Wheel 0	luantity (pcs)	4	4	4	4	4	4	4	4.	4	4	4	4	8
Ground C	learance (mm)	50	50	50	50	50	50	50	50	50	75	75	75	75
Running !	Speed (m/min)	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25	0-20/25
Motor	Power (kW)	0.8	1.5	1.5	2.2	2.5	3	4	5.5	5.5	7.5	7.5	11	15
Max Wh	eel Load (kN)	14.4	25,8	42.6	64.5	77.7	94.5	110.4	142.8	174	221.4	278.4	343.8	265.2
Referrer	ice Weight (t)	2.3	3.3	3.8	5	5,5	6.	6.3	7.2	7.6	10.3	12.1	13.9	26
Recomme	nded Rall Model	P15	P18	P18	P24	P24	P38	P38	P43	P43	P50	P50	QU80	QU100

Notes: 1. Load capacity, table size and rail inner gauge can be customized. 2. Options: a. slide line with seam or seamless slid line); b.Automatic stop when detecting obstacle or person, limit switches (to limit travel); c.Operation way (hand held contril pendant, remote radio control or operation platform with the cart; d. Electrical parts (imported or made in China);e.Elid line instalation(in the trench on the ground ,on the wall and on the ceiling);f.Variable speed device(VFD);g.It can be designed to meet special wording enbironment such sas heightemperature.

# **KP Series'** Transfer Cart











# ANYWHERE can be used

Can be used on any occasion, mainly the following occasions:



- Large slope: The powered transfer cart can not meet this requirement, and must be towed by winch(or other traction device).
- High temperature occasions: when the electrical components and other components of powered transfer cart can not meet the requirements of high temperature.
- Explosion-proof occasions: When the explosion-proof requirements are higher, and the power transfer cart can not meet the requirements.
- when meet other special environments, other powered transfer cart cannot meet the requirements.



KP no powered rail transfer cart can be customized as per customers' requirement with simple structure, low cost, easy operation, which runs on the rails with small resistance. Small capacity can be pushed only by manpower.

#### TECHNICAL DATA SHEET >>>

	Aodel	KP-2t	KP-5t	KP-10t	KP-16t	KP-20t	KP-25t	KP-30t	KP-40t	KP-50t	KP-63t	KP-80t	KP-100t	KP-150t
Rateo	Load (t)	2	5	10	16	20	25	30	40	50	63	80	100	150
	Length (I)	2000	3500	3600	4000	4000	4500	4500	5000	5500	5600	6000	6500	10000
Table Size	Width (w)	1500	2000	2000	2000	2200	2200	2200	2500	2500	2500	2600	2800	3000
	Heigth (h)	450	450	500	500	550	600	600	650	650	750	800	850	1200
Wheel	Base (mm)	1200	2500	2600	2800	2800	3200	3200	3800	4200	4300	4700	4900	7000
Rail Inner	Gauge (mm)	1200	1435	1435	1435	1435	1435	1435	1435	1435	1435	1800	2000	2000
Wheel Di	ameter (mm)	Ф270	Ф300	Ф300	Ф350	Ф350	Ф400	Ф400	Ф500	Ф500	Ф600	Ф600	Ф600	Ф600
Wheel Q	uantity (pcs)	4	4	4	4	4	4	4	4	4	4	4	4	8
Ground Cl	earance (mm)	50	50	50	50	50	50	50	50	50	75	75	75	75
Max Whe	el Load (kN)	14.4	25.8	42.6	64.5	77.7	94.5	110.4	142.8	174	221.4	278.4	343.8	265.2
Refenren	ce Weight(t)	0.8	1.5	1.5	5	5.5	6	6.3	7.2	7.6	10.3	12.1	13.9	26
Recomme	nded Rail Model	P15	P18	P18	P24	P24	P38	P38	P43	P43	P50	P50	QU100	QU100

Note: The abave is for reference only, all are customized according to requirements.

# **BWT Series**' Transfer Cart

#### **USE WITH TRACTOR**

- Towed by winch
- Towed by forklift
- Applied to occasions with slope

BWT no powered trackless transfer cart can be customized as per customers' requirement with simple structure, low cost, easy operation, which has been very popular product among customers.



#### TECHNICAL DATA SHEET >>>

1	Model	BWT-2t	BWT-5t	BWT-10t	BWT-15t	BWT-20t	BWT-25t	BWT-30t	BWT-40t	BWT-50t
Rate	d Load (t)	2	5	10	15	20	25	30	40	50
	Length (I)	2000	2200	2300	2400	2400	3500	3500	5000	5500
Table Size (mm)	Width (w)	1500	2000	2000	2100	2200	2200	2200	2500	2600
	Heigth (h)	450	500	550	600	600	700	700	800	800
Wheel	Base (mm)	1080	1650	1650	1600	1650	1650	1650	2000	2000
Axle E	Base (mm)	1380	1680	1700	1830	1850	2700	2700	3600	2850
Wheel Di	iameter (mm)	Ф250	Ф300	Ф350	Ф400	Ф400	Ф450	Ф450	Ф500	Ф600
Wheel Q	uantity (pcs)	4	4	4	4	4	4	4	4	4
Ground Cl	earance (mm)	50	50	50	50	50	50	50	50	50
Max Whe	eel Load (kN)	14.4	25.8	42.6	64.5	77.7	94.5	110.4	142.8	174
Refenren	ce Weight (t)	2.3	3.6	4.2	5.5	5.9	6.5	6.8	7.6	8

Note: The abave is for reference only, all are customized according to requirements.

## **BZP** Industrial Turntable

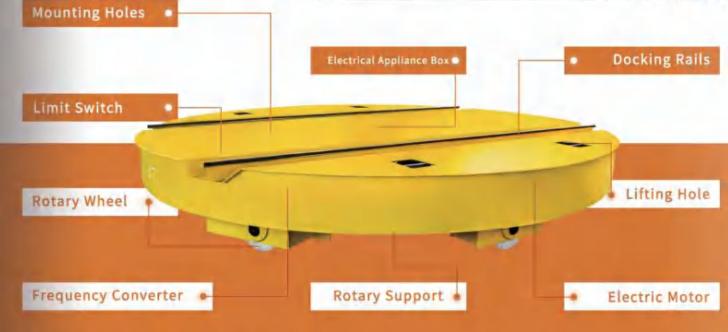
Generally the turntable can be used in turning the transfer cart, lovomotive, workpiece etc.

Working principle: when the transfer cart runs on the turntable, turn the turntable automatically or with manpower to connect the rail on the turntable with the 90° turning railway, and then the transfer cart will run on the 90°

turning railway.

- The features of stable driving
- High accuracy of rail connection
- Can be totally automatically operated





#### TECHNICAL DATA SHEET >>>>

	Model	BZP-5t	BZP-10t	BZP-25t	BZP-40t	BZP-50t
Сар	acity (t)	5	10	25	40	50
able Size	Diameter	>=1500	>=2000	>=3000	>=5000	>=5500
(mm)	Heigth (h)	550	600	700	850	870
Rotating !	Speed (r/min)	3-4	3-4	1-2	1-2	1

Note: The above is for reference only, all are customized according to requirements.

# NON STANDARD CUSTOMIZATION

CREATE EXCLUSIVE PRODUCTS

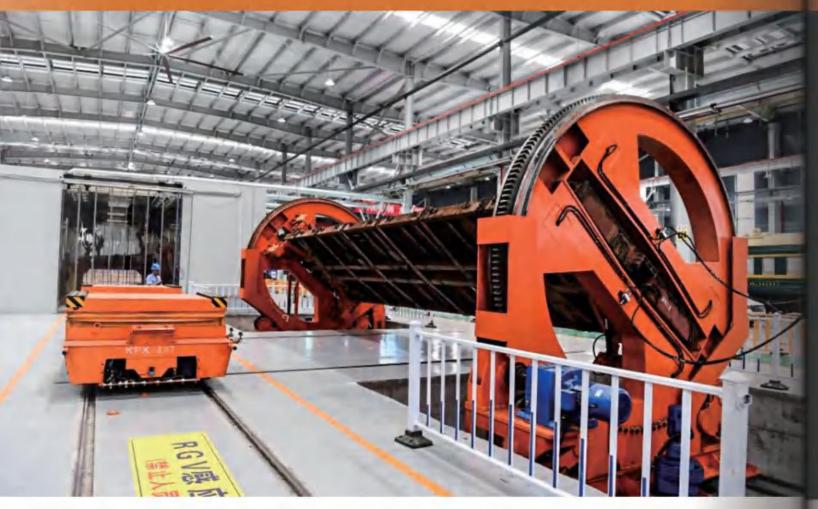
**MORE THAN** 

80

**PRODUCTS** 

Non-standard customization is a major feature of our company. It is a combination of demand innovation and technological innovation. It can be customized according to the actual usage scenarios, and can design, develop, manufactured products and equipment according to the special needs of users. It can save a lot of labor and improve labor efficiency. In the era of rising labor costs, it can help enterprises reduce testing costs and improve competitiveness.















## RGV RAIL GUIDE VEHICLE

RGV can realize completely automatic operation to achieve unmanned management of the workshop, which also can working together with ferry cart and turntable to achieve the different use of requirements.

# RAILWAY INSPECTION TROLLEY

The railway inspection equipment is always used for track maintenance and inspections.

It includes safety seats, transmission system, control cabinet, lithium battery set, and intelligent charger with USB socket. Our railway inspection trolley also named rail repair cart or full automatically rapid detection cart, likes a magical small cart running on rail.

It is a new kind modern rail detection carts with independent research and development designed by Xinxiang Hundred Percent Electrical And Mechanical Co., Ltd.

Load Capacity	500kg
Power Supply Mode	Lithium Battery
Function	Railway Track Maintenance Special Vehicle



# LADLE TRANSFER CART

# HIGH TEMPERATURE RESISTANCE

Ladle transfer cart is specially designed to transfer the high-temperature ladle. This kind of cart has strict requirements on safety and anti-high temperature, so the material, driving system and electrical parts of the cart should be specially designed.

Both the start and stop of the cart should be slowly to prevent the molten steel and slag running out of the ladle. The heat insulating material is used in the cart to resist the high temperature. Usually two motor are prepared, when one is damaged by the ladle's high temperature, the other can be used to continue the work.

# LADLE TRANSFER CART SHOWING ALL CAN BE CUSTOMIZED



PIONEER OF TRANSFER CART INDUSTRY









## VACUUM FURNACE USING FERRY TRANSFER CART

VACUUM FURNACE USING FERRY TRANSFER CART IS MADE OF THREE CARTS.



In order to make the connection safe, stable and without impact, frequency changing device is used.

#### THE FIRST LAYER CART

The cart on the surface of the trench is used to transport the above two carts for along distance.

#### THE SECOND LAYER CART

The second cart above the ground cart is equipped with rails and operated by the ball screw which is connected with the rail in the vacuum furnace.

#### THE THIRD LAYER CART

The third layer is gear and rack driven. It can automatically connect with the skip cart within the vacuum furnace, then pull the skip cart out of vacuum furnace.





## THE FERRY TRANSFER CART

The ferry transfer cart is made of two carts. The cart on the ground is used for ferry . This kind of cart is usually designed to go across a broad trench. The surface under the ground is parallel with the ground. The surface of the cart below is equipped with rails to connect the different rail on the ground so that the cart above can transport the materials to the different parallel rails.

## **OVER LONG TABLE SIZE ELECTRIC TRANSFER CART**

Model	KPC-10t	Rall Gauge	16100mm
Capacity	10t	Working Speed	0-20m/min
Table Size	3200*16500*615mm	Power Source	Sliding Line







# ULTRA-LOW TABLE TRANSFER CART

Load Capacity	4t	Running Distance	5mm
Table Size	1900*2150mm	Running Speed	0-20m/min
Table Height	109mm	Power Supply Mode	Cable Power

## THE HYDRAULIC TRANSFER CART



The hydraulic transfer cart is powered by the battery and can run freely not limited by the distance. This cart has advantages of convenient operation and easy lifting. Besides, two carts of this type can lift the heavy equipment together, so does one cart. The lifting height can be designed according to the customer's requirement.



## HORIZONTAL MOVEMENT RAIL TRANSFER CART

This kind of cart usually is applied in the wide rail gauge, we special design it with double driving system and customized control system to ensure the the synchronous operation of the motor.







## TURNTABLE RAIL TRANSFER CART

Turntable rail transfer cart is a kind of transfer cart which can run on the 90° turning railway. Working principle: when the transfer cart runs on the turntable, turn the turntable automatically or with manpower to connect the rail on the turntable with the 90° turning railway, and then the transfer cart will run on the 90° turning railway. This turntable rail transfer cart is suitable to be used on the annular railway and crossing railway for the equipment's producing line. The turntable system has the features of stable driving, high accuracy of rail connection and can be totally automatically operated.

#### RUNNING

#### 90° TURN

#### CHANGE TRACK







# Welding steel pipe an antiseptic round steel rod There are roller stucture on the table surface TRANSFER CART

# THE ABRASIVE BLASTING TRANSFER CART

The abrasive blasting transfer cart is designed into dust-proof to avoid the abrasive going into the motor and the driving system. The frame of the cart is made of the welded profile steel. The reticular holes on the platform of the cart can easily let the abrasive dropping on the ground to make the blasting work convenient.





# THE 'U' FRAME ELECTRIC TRANSFER CART



### ANNEALING FURNACE TRANSFER CART

The cart is designed and manufactured base on the consider of annealing furnace application. The cart is made up of two carts: top cart and bottom cart, and these two cart's running direction are vertical. The bottom cart is used to connect the annealing furnace. The bottom cart rails are connected with the rails in annealing furnace after they are overturned. Overturned arm mounted on top cart is used to push and pull the equipment in furnace. This design avoid that the high temperature influences the electrical. Mobile rails and mobile overturning arm can automatically connect, which greatly increase the production efficiency.



# DETACHABLE KPJ-40T



The electric transfer cart which has the 'U' frame is specially designed to transport the cylindrical workpiece which is easy to roll and drop.

The frame can be removed so that cart be used to transport other kind materials.

# SPECIAL ELECTRIC TRANSFER CART FOR BATTERY MOLTEN SALT ELECTROLYSIS

The whole cart consists of two sets, matching with molten salt electrolysis furnace, which is our company's patented product.



## TRANSFER CART WITH CONVEYER SYSTEM



There are some rollers mounted on the cart table, the transfer cart's running realizes the junction between roller on transfer cart and other rollers. The electrical is full automation. The laser distance sensor check the stopping point, the accuracy is ±1mm, which ensure roller accurately junction and realize the intelligent operation.

#### **DISPLAY OF REAL PHOTOGRAPHY**





#### **SPRAY BOOTH USING**

#### TRANSFER CART







the whole cart runs into the spray booth, it is separated into two parts. The electric towing part runs out of the workshop which avoided the high temperature's influence to the motor, gear reducer and so on.



# **BEFANBY**

Also Can Supply





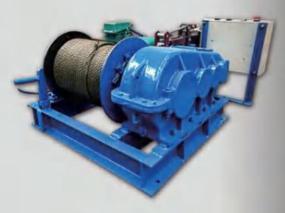
















# 19 YEARS

## **RAIL INSTALLATION EXPERIENCE**

FREE PROVIDE RAIL CONSTRUCTION AND INSTALLATION DRAWINGS

Our company's rail installation department is a professional team with many years of experience in the installation of cranes and electric transfer carts. Among them, there are 6 peoples with 15 years of experience in track installation and 18 peoples with 9 years of experience. After constantly thinking, learning and summarizing the problems encountered in the installation of the rail, we have developed a variety of high-quality, high-efficiency rail installation methods for crane rails, electric transfer cart common rails, electric transfer cart insulation rails, etc. The rail installation period is shortened and the crane rail installation standard GB50278-2010 is fully complied with, providing 100% installation and commissioning for customers.

















The company's products are mainly based on quality which has been a leader in material handing fields and has received good assessment in foreign countries. It is sold well in the world, with Russia, Singapore, the Netherlands, Thailand, Turkey, Nepal, Syria, Users in more than 60 countries such as South Africa and the Middle East have established long-term cooperative relationships and are widely involved in metallurgy, coal, electromechanical, heavy industry, shipbuilding, light industry and other enterprises.







## **COOPERATIVE CLIENT**

In terms of material selection, the quality and price of the material itself should be considered to be the most cost-effective. We should control the first important key before the customer, exempt the customer from worries, when the customer visit factory our company management, technology, production process and products quality are highly valued and appreciated.

























































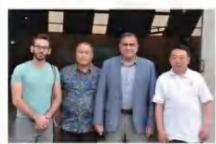














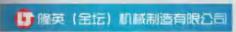


















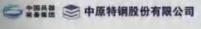










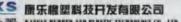














#### PACKAGE AND TRANSPORT

Our products not only have an aesthetically beautiful appearance which can further enhance the company's image and beautify the site. It is suitable for transportation in various environments, such as explosion-proof and high-temperature special occasions, not only to ensure the staff personal safety because the initial speed of each transfer cart is adjusted to be slightly slower than the walking speed of the person.

At the same time, the warning light is also provided free. As the running of the transfer cart keeps flashing and the warning sound is ruing, the accident is completely eliminated, and everything is for the user. Thought, efficiency, seriousness, good beginning and end to deal with quality issues.

1.FINISHED PRODUCT

2.PACKING INTERIOR

3.PACKING EXTERIOR

4.DELIVERY

PACKING DELIVERY

5.REACH PORT 6.SEA TRANSPORTATION

## **PACKAGE AND TRANSPORT**















## AFTER-SALES SERVICE UNDERTAKING

We are committed to the load-bearing safety factor of the cart not less than 125%.

Free provide foundation drawing and design auxiliary device, free provide technical services, drawings and other documents, free installation and commissioning until you are satisfied.

Products from our factory are guaranteed with repairs and compensations with Three-Warranty After-Sale Service.

After received the user calls, letters, orally inform about product quality will reply within 4 hours, arrived in the scene within 48 hours, if emergency problems will arrived at the scene within 24 hours.

Free of charge to provide technical consulting, technical training, and solve the issues related to product.

Within warranty period (installation, commissioning, acceptance of qualified, signed and sealed within one year), the product is damaged due to quality problems or can not work properly, we will free of charge the repair or replacement; Out of warranty period, maintenance only charge the cost.

After the installation of the tendering product, the test will be run free according to the user's time, and help users to build the product running file.

High efficiency and serious handling of quality problems all the time. More after-service, you can click < Contact Us> to know more from professional technical engineer; You also can click < Download> to get the technical parameter document.