

HENAN
MINE
CRANE



河南矿山
HENAN MINE

新型起重机

NEW TYPES OF CRANES



专业



智能



绿色



高质量



企业简介 Enterprise Brief introduction

河南省矿山起重机有限公司（以下简称“河南矿山”）成立于2002年，公司建设面积162万平方米，现有员工4700余人，拥有各类先进加工设备3500余台(套)。专业从事“矿源”牌桥式起重机、门式起重机及电动葫芦等三大系列110余种各类起重机及配套产品的研发、设计、生产、销售及服务。作为一家专业的起重机及物料搬运产品制造商和服务供应商，能够为客户提供整体解决方案和全生命周期服务，致力于起重机产业的智能、绿色、高质量发展。

公司是中国重型机械工业协会副理事长单位，中国质量检验协会会员单位。先后获得“中国工业大奖提名奖”、“中国工业企业质量标杆企业”、“国家级绿色工厂”、全国“守合同重信用企业”、“国家制造业单项冠军产品”、“高新技术企业”、“自主创新领军企业”、“河南省省长质量奖”、“河南省智能工厂”、“河南省百强企业”、河南省第一批“两化融合示范企业”等500多项殊荣。产品产销量、市场占有率、自动化智能化装备水平连续多年位居全国同行业前列。

2023年实现产销量100000余台（套）。产品畅销全国各地和一带一路国家和地区，有428家销售服务机构遍及全国各地，服务于7000余家中高端客户，在航空航天、汽车船舶、钢铁冶炼、石油化工、电子信息、电业水利、铁路军工等国内外重点产业50多个行业领域取得骄人业绩。研发制造的远程监控起重机、智能仓储起重机、精准定位起重机、自动化集装箱门式起重机、无人化起重机、核级专用起重机、洁净防爆自动起重机、多支点柔性起重机等高精尖产品服务于宝武、中铁、中冶、中核、中航等大型企业。

公司是高新技术企业，由10余名国家级行业顶尖专家、200余名中高级工程师组成的技术团队，担负着产品的创新设计与开发，目前已获得国家专利和省级科技成果400余项；建有国家级企业技术中心、省级工业设计中心、河南省节能起重工程技术研究中心以及起重机关键技术实验室、中原学者工作站等研发平台；并与北京起重运输机械设计研究院、河南省特种设备安全检测研究院、哈尔滨工业大学、西安建筑科技大学、华北水利水电大学、太原科技大学等院校建立长期合作关系，为推动起重技术创新发展提供有力支持。

树百年矿源，创一流企业是公司的愿景。公司以“孝文化”引领，以“三心”为企业核心价值观，以“六最”为发展目标，诚信为本，合作共赢，不忘初心，实业报国，为起重机产业发展做出较大贡献。

Henan Mine Crane Group (hereinafter referred to as "Henan Mine") was established in 2002, with a construction area of 1.62 million square meters, more than 4,700 employees and 3,500 sets of various advanced machine tools. It specializes in the research and design, manufacturing, sales and service of more than 110 kinds of cranes and accessory products in three series of "Kuangyuan" bridge cranes, gantry cranes and electric hoists. As a professional manufacturer and service provider of cranes and material handling products, it can provide customers with turnkey solutions and life cycle services and it is committed to the intelligent, green and

The company is the vice president unit of China Heavy Machinery Industry Association and a membership unit of China Association for Quality Inspection. It has won over 500 great honors, including "China Industrial Awards Nomination Award", "Quality Benchmarking Enterprise of Chinese Industrial Enterprises", "National Green Factory", National "Credit Contract Keeping Company", "National Single Champion Product in Manufacturing", "High-tech Enterprise", "Leading Enterprise of Independent Innovation", "Henan Governor Quality Award", "Henan Intelligent Workshop", "Henan Provincial Intelligent Factory", "Henan Top 100 Enterprises", Henan Province's first batch of "Model Enterprise of Integration of Informatization and Industrialization". It tops the national market among the same industry in China for many years in production and sales of products, market share and level of automation and intelligent equipment.

In 2023, its production and sales volume have reached more than 100,000 units (sets). Products sell well all over the country and the belt and road countries along the routes and the region. The company has 428 sales and service organizations all over the country, serving more than 7,000 medium and high customers. It has achieved remarkable results in more than 50 domestic and foreign key industries including aerospace, automobiles and ships, steel-smelting, chemical engineering, electronic information, electric utility and water conservancy, railway and military industry. High-tech products of the company, such as remote monitoring cranes, intelligent warehousing cranes, precise positioning cranes, automatic container gantry cranes, unmanned cranes, nuclear-grade special cranes, clean explosion-proof automatic cranes, multi-fulcrum flexible cranes, serve large enterprises including Baosteel, China Railway, China Metallurgical Group Corporation, AVIC. The products sell well domestically and across more than 130 countries and regions.

As a national hi-tech enterprise, the company has a technical team composed of over 10 leading experts in the industry as well as more than 200 intermediate and senior engineers. Thanks to their innovative design and development, the company owns over 400 national patents and provincial-level technical awards. The R & D institutes of the company include the National enterprise technology center and provincial industrial design center, Henan engineering research center for energy-saving cranes, Key technical lab for cranes and Scholar work station of central china. The company has provided great support to the innovative development in the crane industry thanks to its cooperation with its long-term partners, which include Beijing Research Center of Lifting and Transporting Machinery, Henan Research Center of Special Instrument Test, North China University of Water Resources and Electric Power, and Taiyuan University of Science and Technology.

The vision of the company is to build a century old mineral source and create a first-class enterprise. Guided by the "filial piety culture", the company takes "three hearts" as the core values of the enterprise, takes "six most" as the development goal, integrity-based, win-win cooperation, do not forget the original intention, serve the country with industry, and make great contributions to the development of crane industry.



资质荣誉 Quality Honors



资质荣誉 Quality Honors



新型起重机概述

Introduction to New Types of Cranes

该型号起重机是在引进和消化国外先进技术的基础上，以模块化设计理论为指导，以现代计算机技术为手段，引入优化设计及可靠性设计方法，采用进口配置、新材料、新工艺完成的具有轻量化、通用化、节能环保、免维护及高技术含量的新型起重机。

本起重机的设计、制造及检验均执行最新颁布的国家有关标准，等效采用部分FEM、DIN、IEC等国外标准，与原有通用QD型桥吊产品相比，自重减轻约15~30%，最大轮压减小约10~35%，可以降低起重机对厂房结构的要求，节约厂房制造成本。传动机构的核心部件减速器全部采用硬齿面、高精度齿轮副，加上钢制卷筒、锻造车轮以及变频调速系统的应用，使得该型号起重机成为传统通用桥式起重机的更新换代产品，适用于机械制造、装配、石油化工、仓储物流、电力建设、造纸、铁路等行业。

Based on bringing in and assimilating foreign advanced technology, this type of crane takes modular design theories as guidance, uses modern computer technology as means, introduces optimized and reliable design methods, which is new type of crane made by employing import configuration, new material and technology and has features in light-weight, generalizing, energy-conservation and environmental protection, maintenance free and high technology content.

Design, production and inspection carry out the last issued relevant national standard, equivalently adopts some foreign criteria including FEM, DIN and IEC. Compared with the general QD bridge crane, its weight is reduced by about 15~30%, the maximum wheel pressure is reduced by about 10~35%, which can the requirements of crane for factory building structure and reduce production cost. As the core component of driving mechanism, reducer gear pair with hard tooth surface and high accuracy, together with steel reel, forged wheel and variable-frequency speed regulating system, which makes this type of crane become renewal product of traditional general bridge crane and applied in industry of machinery production, assembling, petrochemicals, warehouse logistics, electric power construction, papermaking and railways.





► 主梁采用偏轨箱型结构，与端梁采用高强度螺栓连接，便于运输。专业化加工设备确保主端梁联接精度，使起重机运行平稳。

The main beam employs bias-rail box-type structure and connects with end beam by high-strength bolt ensuring easy transportation. The professional processing equipments ensure the connection accuracy of main end beam, making crane run steadily.

► 起重小车为开放式紧凑型卷扬结构，中小吨位也可采用新型葫芦小车。

Trolley of crane uses open compact winching structure, of which with medium and small tonnage also can use new hoist trolley.

► 大、小车运行机构采用欧洲技术三合一驱动形式，硬齿面减速器，结构紧凑，噪声小，不漏油，使用寿命长。

Traveling mechanisms of crane and trolley adopt Europe three-in-one drive form, the harden gear face reducer has good performances in compact structure, low noise, no oil leakage and long service life.

► 因采用新型紧凑型小车及高强度材料，整机外形尺寸小，重量轻，相对传统起重机，在相同起升高度条件下，厂房高度均可降低，有效减少厂房造价。

As using new compact trolley and high-strength material, it has small overall dimension and light weight, compared with traditional crane, which can decrease the height of factory building and reduce the cost.

► 模块化设计，设计周期短，通用化程度高，提高零部件的利用率。

Modular design has short design period and high generalization, which can improve the utilization of components.

► 结构紧凑，低净空，外形尺寸小，工作范围大，有效提高生产效率。

With compact structure, low clearance, small dimension and large application scope, it can improve production efficiency.

► 全变频控制，运行平稳，无冲击，重载慢速，轻载快速，节能降耗。

Full variable-frequency control runs steadily without any impact. Run with heavy load at low speed and light load at high speed, it can save energy and reduce consumption.



新型起重机特点 Features

自重轻

公司自己开发的设计软件，结合三维造型及有限元分析，从起升机构、钢结构到附件均采用最合理的结构，再加上高强度材料的大范围应用，提高了承载能力，降低了自身重量，较传统起重机自重轻、轮压小。

Light self-weight

Design software developed by the company combines with three-dimensional modeling and finite-element analysis, apply the reasonable structure to lifting mechanism, steel construction and accessories, together with wide use of high-strength material, it increases load capacity, decreases self-weight and has lower weight and wheel pressure than that of traditional crane.



占用空间小

吊钩至两侧的极限距离小，工作范围大，轨道面以上高度尺寸小，有效利用厂房空间。

Small space use

Limit distance from hook to both sides is short but has large working arrange. With lower height above the rail, it makes full use of space of factory building.



运行维护成本低

由于轮压小、外形尺寸小，可降低厂房等前期工程投资，同时照明、取暖等设施也能节省一部分费用。且产品性能可靠，经久耐用，使后期产品在使用过程中所需的附加费用降至最低。选配的高质量、高性能零部件使维护、维修的工作量大为减小，总装机功率有所降低，使用成本得以节约。

Low cost of running and maintaining

As with low wheel pressure and small dimension, it reduces investment of previous construction including factory building, and also reduces illumination and heating expense. The reliable performance and durability also minimizes the additional charges for the use of product at the later stage. Selected components with high quality and performance lower the maintenance and repair. The total power consumption is reduced, which achieves cost savings.

工作性能高

采用变频技术，重载慢速，轻载快速，调速范围1:10，起重机运行平稳，减小对厂房的冲击。

结合防摇摆技术，可实现吊运物品的高精度定位。

High performance

Use variable-frequency technology, run with heavy load at low and light load at high speed. The adjustable speed ranges in 1: 10, which ensures crane run steadily and reduces impact on factory building. Combination of swing-proof technology achieves a high accuracy position of lifting items.



新型起重机特点 Features

操作简便

采用多种符合人体工程学的悬挂式控制器，用于控制起重机的运行。带有液晶显示的悬挂式控制器可与安全与性能控制系统进行交互式通讯，在提升重物时，持续显示重量信息。

也可选配无线遥控系统（分按钮式和摇杆式），为在苛刻复杂的环境下使用起重机，提供了最佳的控制解决方案。

Easy to operate

It applies many ergonomic hanging controllers to run crane. The hanging controller with liquid crystal display conducts interactive communication with safety and performance control system and continuously displays weight while lifting item.

It also can use wireless remote control system (including buttons and rocker), which provides the best solution of control for running crane under a demanding and complex environment.



安全可靠

具有联锁、超载保护、零位保护、限位保护等多项保护措施，保证起重机安全可靠的运行。

起升卷筒为钢制卷筒，钢丝绳偏角小，有效避免磨损。

起升电机带有独立的风冷系统，含有热敏保护功能，防护等级IP54。

带有独立的制动系统，具有自动磨损补偿功能。如有特殊要求，可配备两个制动系统。

具有先进的PLC自动检测和友好的人机界面，对起重机的性能、安全性和作业状况进行测量、计算和监控，使物品输送更安全可靠。

Safety and reliable

It's provided with many protections including linkage, overload protection, zero protection and limit protection in order to ensure reliable running of crane.

Hoisting reel uses steel reel, steel rope has small deflection, which prevents from abrasion.

Motor of hoisting mechanism has separate air-cooling system containing thermal protection function, with protection level IP54.

It has separate brake system which has the function of automatic abrasion compensation. If any special requirements, it can be supplied with two brake systems.

It's provided with advanced PLC automatic detection and friendly man-machine interface, which can perform measurement, calculation and monitoring to the performance, safety and working condition in order to ensure more safe and reliable transportation of items.

绿色制造技术

采用绿色设计理念，高强度材料的大范围应用，主梁无缝下料、自动化焊接技术以及激光切割技术，实现了生产过程中的节能环保，减低了对环境的污染破坏。

Green production technology

It applies green design ideas, widely uses high-strength material. The main beam employs seamless blanking, automatic welding technology and laser cutting technology, by which accomplishes energy conservation and environmental protection in the process of production and reduces pollution and destruction to environment.

定位快捷

变频系统的引入，解决了以往实际操作中，速度可控性差，以及单速机构运行中，大车或小车开过或不到的情况，从而提高了物品的吊运周期，频繁作业时，效果尤为明显。防摇摆技术的采用，更是提高了吊运物品的定位精度。

Fast and easy positioning

Introduction of variable-frequency system resolves the problems including bad speed controllability and traveling crane or trolley excessively or insufficiently during traveling of single-speed mechanism occurred in the past actual operation, and then improve the circle of lifting items especially in while frequent working. Application of swing-proof technology greatly improves the accuracy of positioning lifting items.

PLC可编程控制器+人机界面（选配）

每个应用过传统起重机的用户都曾经在发生一些常见故障后，爬上爬下排查各种原因，工作繁琐效率低下。采用PLC+人机界面后，简化了复杂的电控系统，提高了系统稳定性，降低了设备故障率，对于出现的设备故障可以自我诊断，通过显示屏提示给操作或维修人员，以最快速度解决问题。

PLC + man-machine interface (Optional)

Users who ever used traditional crane always climb up and down for troubleshooting various faults after the common failure occurred, they do trivial works and has low efficiency. After using PLC+man-machine interface, it simplifies the complicated electric control system, improves the stability of system and reduces the faults. As to the happened defaults, it will perform self-diagnosis and present them to operator or maintenance personnel through the display for the purpose to solve problems.

安全监控系统（选配）

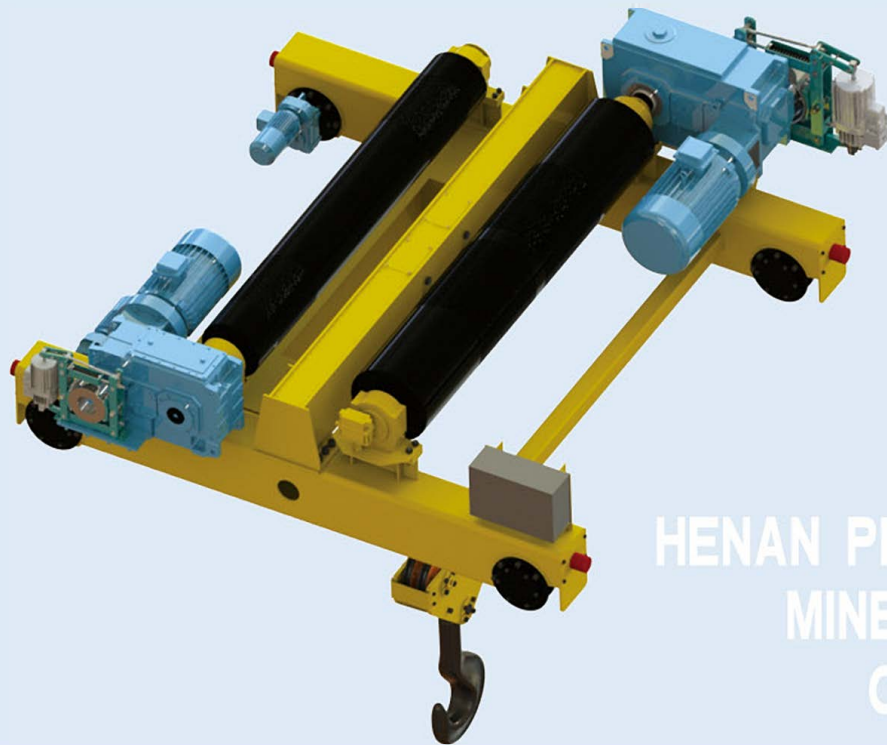
PLC与触摸屏结合使用，利用触摸屏强大的人机交互功能，可以对起重机的实时运行情况进行监控和故障显示，及时显示起重机的状态

Safety monitoring system (optional)

If combining PLC with touch screen, use powerful man-machine interaction function of touch screen to monitor the instant working of crane and present the defaults so as to provide timely condition of crane.



小车（卷扬式）Trolley (windlass)



HENAN PROVINCE
MINE CRANE
CO., LTD.

► 独立小车结构

采用轻量化设计，起升载荷直接作用在小车架两侧的运行端梁上，小车受力清晰，紧凑型布置，传动效率高，低噪音，整机高度和自重均有所降低。

Trolley mechanism

It applies lightweight design, direct acts the lifting load on traveling end beam on both sides of trolley frame. With clear force and compact layout, it has high drive efficiency and low noise. The height and self-weight are both reduced.

► 小车运行机构

电机、减速器、制动器三合一紧凑型结构，电机绝缘等级F级，防护等级IP55，负载持续率40%，带热保护，配电磁盘式制动器，减速器硬齿面，并经过磨削或者剃齿，齿轮箱在使用寿命内不须换油。

锻造车轮，轮缘和踏面硬度HB330~380。

变频调速，重载慢速，轻载快速，调速范围1:10，运行平稳无冲击。

小车限位开关采用十字行程限位开关，在小车缓冲器与小车轨道末端挡块碰撞之前将小车运行速度减为零。

Traveling mechanism of trolley

It employs compact three-in-one structure of motor, reducer and brake, with motor insulation level of F, protection level IP55, and load continuity of 40%, it's provided with thermal protection, power-distribution magnetic disk brake and reducer with hard gear surface which has been grinded or gear shaved. It's not necessary to conduct oil replacement in the service period of gearbox.

It has forged wheels, wheel rim and the hardness of tread surface of HB330~380.

It applies the speed control by frequency variation, run with heavy load at low speed and light load at high speed, the speed regulating ranges in 1:10, with stable running and no impacting.

Limit switch of trolley uses cross travel limit switch, which can reduce the traveling speed to zero before the collision of buffer with blocks placed at the end of rail.

► 起升机构

起升机构采用三支点安装形式，卷筒两端直接支撑在小车架两侧的端梁上，滑轮梁通过螺栓将两侧的端梁连接在一起形成纵梁。减速器的输出轴套装联接在伸出的卷筒轴上，起升电机与减速器采用弹性联轴器。

1. **焊接卷筒**：卷筒为短轴式钢板卷制，两端带轴承座，一侧伸出套装轴，结构简单，调整安装方便。

2. **起升电机**：标配为变频电机，优化风冷式，绝缘等级F级，防护等级IP55，通电持续率40%。

3. **起升减速器**：齿面渗碳硬化处理，硬度HRC60，并经过磨削或者剃齿，自重轻，密封良好不漏油。

4. **起升制动器**：常闭式制动器，带磨损自动补偿，可通过单独的手动操作进行应急状态时的手动开释。必要时可设置双制动器。

5. **吊钩组**：吊钩组由吊钩和滑轮等组成。吊钩材料为DG34CrMo。滑轮材料为Q235热轧，采用抗磨滚子轴承，吊钩可以360°旋转，配备弹簧压紧的安全扣可以防止滑脱。所有滑轮均采用免维护轴承，滑轮设计能有效防止钢丝绳与滑轮外壳的磨损，整体结构体积精巧，外形美观。

6. **起升限位**：凸轮旋转式，4级可调，上下均可限位，自动复位，安全可靠。上升预限位减少冲击，极限限位防止吊钩冲顶。

7. **小车电控箱**：防护等级IP55，航空插头，快速安装。

Hoisting mechanism

Hoisting mechanism employs three-pivot installation form, both ends of reel support on end beam of two sides of trolley frame, pulley beam connects end beams on both sides through bolts to form longitudinal beam. Output shaft of reducer should be coordinately connected to outstretched reel shaft. The elastic coupling can be applied to hoisting motor and reducer.

1. **Welding reel**: Reel should be made of short shaft steel plate rolling, with bearing bases on both ends, one of them outstretches set shaft, of which structure is simple and easy for adjustment and installation.

2. **Motor of hoisting mechanism**: The standard equipment employs frequency conversion motor, which is optimized air-cooling type, with insulation level F and protection level IP55, and power continuity of 40%.

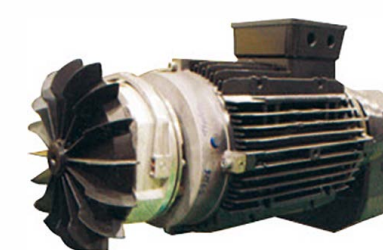
3. **Reducer of hoisting mechanism**: it gets the tooth surface carburized and hardened, with hardness of HRC60, and also has been grinded or gear shaved, with light self-weight, good sealing and no leakage.

4. **Brake of hoisting mechanism**: the regular closed brake has automatic abrasion compensation function which can manual release under emergency station through separate manual operation. If necessary, two brakes should be allowed to install.

5. **Hook group**: Hook group consists of hook and pulley. The hook material should be DG34CrMo. The pulley material should be Q235 hot-rolling. It employs anti-friction roller bearing, the hook can be 360° rotated, the supplied spring-pressed safe lock can prevent from slipping off. All pulleys use maintenance-free bearing, the design can efficiently prevent abrasion between steel rope and pulley shell. It has delicate overall structure and volume as well as nice appearance.

6. **Hoisting limit**: cam rotary type, with 4-step and up-down limit as well as self re-setting, which is reliable. The lifting pre-limit can reduce impact and maximum limit can avoid hook over-hoisting.

7. **Electric control box of trolley**: With protection level IP55 and air plug, it can be quickly installed.



钢结构设计 Steel construction design

主梁结构

- 1.主梁采用偏轨箱型结构，优化设计，自重轻。
- 2.钢板材质Q235-B。
- 3.主梁盖板及腹板在施焊前均由辊道通过式抛丸机进行表面除锈，该抛丸机可进行上料、抛丸、喷漆、烘干等程序，处理后达到Sa2½级。
- 4.主梁腹板下料预制上拱度按二次抛物线原理，利用计算机辅助设计，计算各相应高点，由等离子数控切割机切割下料。
- 5.主梁拼焊在专用工作平台上进行，为防止主梁扭曲，我公司采用具有国家专利的U型液压主梁组装成形机，保证筋板与腹板的结合边与上盖板的垂直偏斜度 $\leq H/200$ ，并可有效减小腹板的局部波浪度。
- 6.主梁上下盖板的对接焊缝采用埋弧自动焊，筋板与腹板和盖板的焊接采用CO₂气体保护焊，主梁的四条纵向角焊缝使用船形位置埋弧自动焊，即使用45°垫板将箱型主梁摆放成船形位置，然后采用埋弧自动焊进行焊接。
- 7.受拉翼缘板对接焊缝按规定实施超声波探伤。
- 8.桥架翻转采用特制工装，定位、起吊翻转，保证加工尺寸精度，控制箱体变形。
- 9.小车轨道采用方钢（16Mn），无接头，避免小车运行时对主梁的冲击。
- 10.沿主梁方向在大车传动侧布置维修走台。

Main beam structure

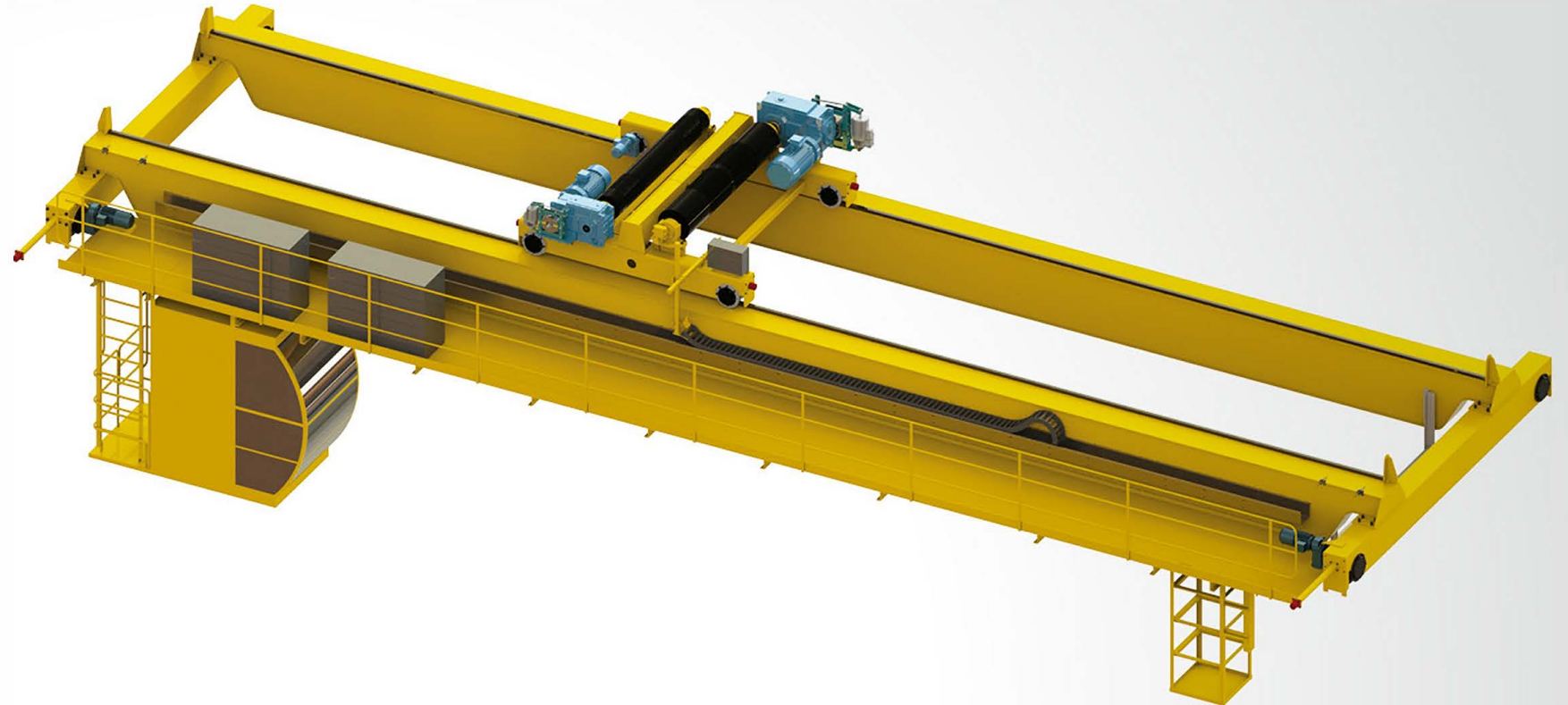
1. Main beam uses bias-rail box-type structure, with optimized design and light self-weight.
2. Steel plate material Q235-B.
3. The cover and web of main beam should get surface rust removal by roller-way conveyor blasting machine before welding, this blasting machine can perform blanking, sandblasting, painting and drying, after that they get to Sa2½ level.
4. Prepared deflection upwards for feeding of main beam web complies with principles of quadric parabolic, use CAD to compute the corresponding high point and CNC plasma cutting machine to conduct cutting and blanking.
5. The welding of main beam should be performed on working platform. In order to avoid distortion of main beam, our company adopts U-shaped main beam assembly machine with hydraulic forming which has won national patent ensuring that vertical deflection degree between joint edge of stiffened and web plate and upper cover should not more than H/200, and also efficiently reduce the partial wave of web plate.
6. Butt welds of upper and lower cover of main beam adopt submerged arc welding, the welding of stiffened and web plate with cover adopts CO₂ gas protection welding. The welding of four vertical angle of main beam employs boat-shaped submerged arc welding which refers to set box-type main beam as boat-shaped position with 45° pads and then perform submerged arc welding.
7. Butt welds of tensile flange plate should get ultrasonic inspection by rules.
8. Bridge flipping employs special tooling, by which position, lift and flip and ensures precision of process dimension as well as control box deformation.
9. Trolley rail employs square steel (16Mn) without joints in order to prevent main beam from impact while trolley traveling
10. Layout repair walkway on the drive sides of crane along the direction of main beam.

端梁部分

- 1.端梁材质Q235-B。
- 2.端梁为矩形钢管或钢板焊接成型，成型后的端梁在数控机床上一次定位加工，确保尺寸精度和配合公差。
- 3.每个端梁配有双轮缘车轮、缓冲器和防脱轨保护装置。

End beams

1. Material of end beam uses Q235-B.
2. End beam is made of rectangular steel-pipe or steel plate by welding, the finished end beam get once positioning processed on numeral control machine in order to ensure dimension accuracy and fit tolerance.
3. Each end beam is supplied with wheels with double-wheel rim, buffer and anti-derailing protection device.



大、小车导电架：导电架采用模块化设计，由U型螺栓、连接板和矩形管组成，长度和高度可自由调整，安装方便。

Conductive frame of crane and trolley: Conductive frame employs modular design and which consists of U-shaped bolt, connecting plate and rectangle pipes, the length and height can be arbitrarily regulated as well as easy installation.

主端梁的连接：主梁与端梁采用高强度螺栓连接，确保整机精度和平稳运行。

Connection of main end beam: Connect main beam with end beam through bolts with high-strength ensuring precision and smooth running of crane.

大车导电挡架：在大车滑线侧设有挡架，避免吊钩或钢丝绳与滑线的意外接触。

Conduction block frame of crane: Install the block frame on the sides of slide line of crane for the purpose of preventing the accidental contact between hook or steel rope and slide line.

小车拖缆系统：小车导电采用柔性扁电缆C型钢电缆滑车方式，也可根据需要采用拖链导电，避免电缆弯折，提高电缆寿命。

Towed cable system of trolley: Electric conduction of trolley is accomplished through C-profile steel cable trolley with flexible flat cable, and also uses towing chain conduction in order that avoid cable bending and prolong service life.

检修防滑走台：为了电气的安装和机构的检修，在大车传动侧设有检修走台，走台跨度不小于600mm,铺设防滑花纹板，走台设有防护栏杆，高度1100mm。

Repair anti-slipping walkway: For the purpose to ensure electric installation and mechanism repair, provide the repair walkway on driving sides of crane. The span of walkway should not less than 600mm. It's paved with anti-slipping floor and equipped with protection railing with height of 1,100mm.

小车（新型葫芦）Trolley (New hoist)

采用德国进口的起升电机，减速器。起升电机，减速器、卷筒和起升限位开关的一体化紧凑型设计节约了用户的使用空间。模块化设计在增强了机构的可靠性的同时有效降低了维护时间和成本。

具有更快更多的起吊速度和多种滑轮倍率可供选择。标准小车运行机构采用变频器控制，速度达到20米/分，使小车行走时吊运物品摆动小、定位精确，可安全可靠地吊运精密贵重物品。

It employs motor of hoisting mechanism and reducer imported from Germany. The integrated and compact design of hoisting motor, reducer, reel and limit switch saves space for the user. Modular design increases the reliability of mechanism meanwhile reduces the time and cost for maintaining.

It has more and faster hoist speed and various pulley ratio which can be selected. The standard traveling mechanism of trolley is controlled by converter, with speed of 20m/min, which makes a little swing and accurate position if hoisting items while trolley traveling as well as lifts precision and valuable items reliably.



小车（新型葫芦）Trolley (New hoist)

起升机构 设计严格执行FEM的相关标准。

Hoisting mechanism
The design strictly carries out the relevant standards of FEM.

铝合金减速器壳体	运行平稳，噪音低	终生润滑（安全使用周期内）	双碟电磁盘式制动器
With aluminum alloy shell of reducer	Steady running and low noise	Lifetime lubricating (within safety service circle)	Double-disk electromagnetic brake

1. 卷筒

卷筒由高品质无缝钢管通过数控机床加工而成，精加工后卷筒上的绳槽配合导绳器可有效防止松绳和乱绳现象的发生。

1. Reel

The reel is made of high-quality seamless pipes and processed by numeral control machine, after the special finishing, the rope groove on reel works coordinately with rope guide to efficiently prevent rope loose and tangling.



2. 钢丝绳

钢丝绳采用公称抗拉强度为2160kN/mm²的高强度进口钢丝绳，安全性好，使用寿命长。

2. Steel rope

Employ import steel rope with high strength which has tensile strength of 2,160 kN/mm², with good safety performance and long service life.

3. 导绳器

标准的导绳器由耐磨性强和自润滑性能好的工程塑料加工而成，大幅降低了钢丝绳这一主要受力安全部件的磨损，从而增强了起升机构的安全性。同时，针对不同的使用状况，也可提供由球墨铸铁生产制造的重级制导绳器。



3. Rope guide

Standard rope guide is made and processed by engineering plastics with strong abrasion resistance and good self-lubricating performance, which greatly reduces the wear of steel rope as main force safety components and then enhances safety of hoisting mechanism. Meanwhile, direct to different use condition, the heavy-grade rope guide made of nodular cast iron is also allowed.

4. 起升电机

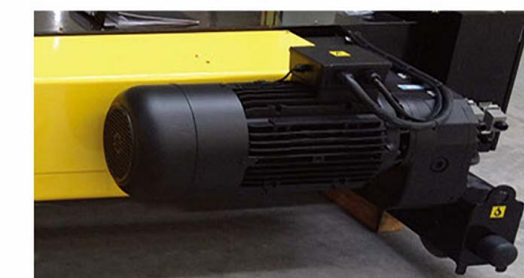
起升采用双绕组鼠笼式变极电机，实现1:6的快慢速比。电机外壳由铝合金拉制而成，散热性能好，起升电机末端安装有风扇以增强冷却效果。所有起升电机的绕组中都嵌入了热敏电阻(或热敏开关)来防止可能发生的电机过热。

电机绝缘等级为F级，防护等级为IP54。

对于变频起升电机可加装编码器，编码器通常直接安装在电机风扇轴端。

技术特性：

- 启动电流小，扭矩大
- 软启动，加速性能好
- 设计使用寿命长
- 技术参数符合FEM及HMI标准
- 高转速，低噪音



4. Motor of hoisting mechanism

The hoisting mechanism employs double-winding squirrel-cage pole-changing motor to achieve speed ratio of 1:6. Shell of motor is made of aluminum alloy by extruding, which has good dissipation. The fan is installed to the end of motor in order to enhance cooling effects. Thermal resistor (or thermal switch) is embedded into winding group of motor to prevent probable motor overheating.

The motor has F insulation level and protection level IP54.

As to the variable-frequency motor of hoisting mechanism, encoder is allowed to install, which is ordinarily installed to fan shaft end of motor.

Technical features:

- It has low current for start and large torque.
- With soft starting and good performance in speed up
- Have long service life
- The technical parameters comply with standards of FEM and HMI.
- With high rotational speed and low noise

5. 制动器

起升电机配备了双碟电磁盘式制动器。制动器集成在电机的末端，当电机断电时制动器会自动闭合，防止负载滑落。制动器的刹车间隙在首次设定好后无需人工调节（间隙可通过刹车弹簧自行调节），当刹车片厚度低于设定值时通过附加的监控开关可以自动报警，提示用户进行更换。双碟电磁盘式制动器安全可靠，制动力矩不小于电机额定扭矩的1.8倍，制动次数可达100万，在安全使用周期内无需维护。

技术特性：

- 动作快，可靠性高
- 免维护，自调节
- 防尘设计，使用寿命长

5. Brake

The motor of hoisting mechanism is provided with double-disc electromagnetic brake. Brake integration locates at the end of motor. The brake will automatically close if the motor powers off in order that avoid load slipping off. The brake clearance does not need to be manually regulated (which can be regulated automatically by brake spring) after being initially set; if the thickness of brake pad is lower than the setting, it will automatic alarm through additional monitor switch in order to remind user to replace it. Double-disc electromagnetic brake is safe and reliable, the brake torque is higher than 1.8 times of rated torque, the number of braking gets to 1,000,000 times and it does not need maintenance in the safety service circle.

Technical features:

- Have fast movement and high reliability.
- It's maintenance-free and self-regulated.
- Employ dustproof design and long service life.

6. 减速器

减速器壳体采用铝合金材料，重量轻，耐腐蚀。全密封的箱体内半油脂状的润滑剂使得所有齿轮能得到充分的润滑，在设计安全使用周期内无需更换润滑油。

每一个经过表面硬化及高精度研磨处理的齿轮确保减速器平稳的运行。

技术特性：

- 体积小，重量轻
- 运行平稳，噪音低
- 防腐蚀，免维护

6. Reducer

Shell of reducer uses aluminum alloy material, with light weight and corrosion resistance. Semi-grease lubricant in full sealed box gets all gears lubricated fully and should not be changed within the design circle for safety service.

Every gear which gets the process of surface hardening and high-precision grinding ensures stable running of reducer.

Technical features:

- It has small size and light weight.
- Run smoothly and steadily and have low noise.
- Have corrosion resistance and maintenance-free.



7. 安全保护

★钢丝绳电动葫芦上下限位采用精确的齿轮传动式限位器，当吊钩处在上（或下）极限位置时可以可靠地切断电力回路使电动机停转。

★过载保护器：钢丝绳电动葫芦采用电子式过载保护器（带安全监控器），保证起升总吊重不会超过桥架额定起重量；当钢丝绳拉力大于105%额定值时，该过载保护装置会自动切断起升回路。

★安全监控器：可根据用户的要求实现多种功能：

计算起升机构剩余的安全工作周期

累计起升工作时间

累计超载次数

累计起升电机启动次数

起升电机过热保护及报警

过载保护及报警

刹车片厚度报警

显示故障信息及检修提示



7. Safety protection

★The accurate gear drive limiter is applied to upper and lower limit of electric wire rope hoist, which can cut off power circuit reliably if hook moves to the upper(or lower) limit so as to stop motor.

★Overload protector: The electric wire rope hoist employs electronic overload protector(with safety monitor) in order that the total lifting weight will not exceed the rated lifting weight of bridge; the overload protector device would automatic cut off lifting loop if the pulling force of steel rope is more than 105% of the rated.

★Safety monitor: It can implement many functions according to the demand of users:

Compute the rest circle of safety work of hoisting mechanism

Accumulated working time for lifting

Accumulated overload times

Accumulated startup times of motor of hoisting mechanism

Over-heat protection of hoisting motor and alarm

Overload protection and alarm

Brake pad thickness alarm

Display fault information and maintenance tips



电气 Electric

安全滑触线

- 安全滑触线供电
- 防腐蚀、绝缘外壳封闭的紧凑型复合滑触线
- 导电率高、压降小
- 自重轻、安装便利、无须维护
- 使用温度范围：-30℃到+60℃
- 集电器滑行速度高，确保持续供电

Safety slide wire

- Power supply with safety slide wire
- Compact and compound slide wire with anti-corrosion and enclosed with insulated shell
- High conductivity and low pressure drop
- With light self-weight, easy installation and maintenance-free
- Used temperature range: -30℃-+60℃
- Current collector has high slipping speed ensuring continuous power supply.



电控箱与电缆

控制箱体表面经喷塑防腐处理，布局合理，便于维修，防护等级IP55，环境温度：<45℃，湿度<90%，主电源为三相四线380V(+/-10%)，50Hz(+/-5%)，所有电线都有颜色、数字或线号标记，易于识别。固定电缆布置在线槽内或有保护套管(镀锌钢管)。插头采用标准编码，减少错误连接。

所有连接采用重载航空插头插座，接插牢固，装配简单快捷；

控制箱内布局合理，便于维修；

插头连接部位采用塑料套管绝缘保护；

所有线缆都有线号，便于识别；

小车移动供电系统采用起重机专用的PVC扁电缆，耐压等级达到450/750V

小车移动供电系统由扁电缆、镀锌滑轨和电缆小滑车，滑动平稳；

线路部分，采用线框线槽保护，保障电路安全，延长使用寿命，线槽安装维修方便，对于线缆易于观察。

Electric control cabinet and cable

Surface of electric cabinet is dealt with through antiseptic plastic spraying, reasonable layout, easy maintenance, with protection level IP55, the temperature of working environment should be lower than 45℃ and the humidity should be less than 90%. The main power supply employs three-phase four-wire with 380V(+/-10%), 50Hz (+/-5%). All wires have color, number or wire size marks, by which can be easy identified. The fixed cable is arranged at groove or has protective cased pipe (galvanized steel pipe). The plug uses standard code in order to avoid incorrect connection.

All connection employs overloaded air plugs and sockets, which can be solid connected and have simple installation and assemble;

Layout in electric cabinet is reasonable in order to ensure easy reparation;

The plastic insulation protection is applied to the connection of plugs;

All cables have their own wire size in order that they can be recognized;

PVC flat cable specially used for crane is employed in power supply system of trolley traveling, of which voltage-endurance gets to 450/750V.

The power supply system of trolley traveling consists of flat cable,



galvanized sliding rail and cable trolley, which has stable sliding;

As to circuits, wire frame and wire groove are used to protect them for the purpose to ensure safety of circuits and prolong service life. Installation of wire groove is easy to repair and maintain, which contributes to observe cable.

防撞装置

同一轨道有多台起重机运行时，常规解决方案下均设置有接触式防互撞装置，避免误操作引起相互间剧烈撞击。繁忙运行或特别重要的工作环境可加装红外非接触感应式防撞装置实现双重安全保护措施，声光报警。

Anti-collision device

If several cranes travel on the same rail, the common resolutions refer to install contact anti-collision device so as to avoid sharp impact due to incorrect operation. Non-contact infrared sensor anti-collision device will be additionally installed to take double safety protection measure— sound and light alarm if running busily or under an important working environment.

超载保护装置

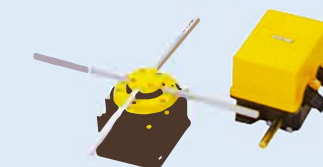
对于超载作业，有防护作用的安全装置，包括自动停止型起重重量限制器和重量显示仪，在设定点误差范围3%内（自动识别实际超载和正常作业时吊物起升、制动、运行时的动载影响）按照取力传感器的信号，自动停止向不安全方向动作，同时允许向安全方向动作，并发出声光预警信号，并可根

Overload protection device

If work with over load, it has safety devices with protection function including auto-stop lifting-capacity limiter and weight display. Within error limit of 3% of the set point (auto-recognize actual effects of moving-load while lifting, braking and movement of items at overload and ordinary working condition), it auto-stops moving to the unsafe location according to signals of power take sensor, meanwhile, allows to move to safety position and sends sound and light warning signals, and the large weight display can be installed on the bridge in accordance with demand.

电气保护

主隔离开关，紧急断电开关，短路、失压、零位、失磁、过流和超速保护等措施完备，充分落实安全第一的理念。



Electric protection

It has complete equipments including main isolation switch, emergency disconnect switch, protection for short circuit, pressure loss, zero position, excitation loss, over current and over speed, which sufficiently implements conception of safety first.

安全监控单元(选配)

- ◆计算起升机构剩余安全工作周期
- ◆累计起升工作时间、超载次数、电机启动次数
- ◆起升电机过热保护及报警
- ◆过载保护及报警

Safety monitoring power unit (optional)

- ◆Compute the rest safety working circle of hoisting mechanism
- ◆Accumulated working time for lifting, overload and motor starting times
- ◆Over-heat protection of hoisting motor and alarm
- ◆Overload protection and alarm



安全防护功能 Safety protection function

- ◆无线防撞限位：红外感应限位，灵敏、可靠

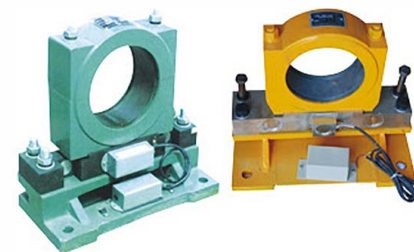
◆wireless anti-collision limiter: with infrared sensor limiter, it's sensible and reliable;

- ◆制动安全保护：电气制动+机械制动

◆Braking security protection: electric brake and mechanical brake;

- ◆大车，小车运行机构设置可以吸收运动能量减缓硬冲击的聚氨酯缓冲器，其安装和维护方便，同时重要工作场合下，液压式缓冲器也可作为选配方案达到更好的性能。

◆The traveling mechanism of crane and trolley has polyurethane buffer which relieves impact by absorbing motion energy and is easy to install and maintain, meanwhile, under important working condition, the hydraulic buffer also be selected to achieve the better performance;



起重机控制模式 Control patterns of crane

◆地操

操作简便，无需设置专业驾驶员

◆双挡按钮

跟随式或独立滑道非跟随式悬挂

防护等级为IP65

寿命50万次

◆遥控

操作简便，无需设置专业驾驶员，操作者在地面自由度大
几万组频点，互不干涉

双挡按钮或摇杆式操纵杆

防护等级为IP65

寿命50万次

◆空操

航空仓司机室，大视野，钢化玻璃，方便开启便于擦拭，
符合人体工程学的座椅，操作灵活的联动台，需设置专业
驾驶员。

◆Ground control

Easy to operate and without assigning professional driver

◆Double buttons

Following-type or separate slide non-following hanging

Protection level IP65

Service life 500,000 times

◆Remote control

It's easy to operate, without assigning professional driver. The operator has more freedom on the ground.

There is no any interaction between tens thousands of group frequency.

Double buttons or rocker lever

Protection level IP65

Service life 500,000 times

◆Aerial control

Air warehouse cab has a large view and toughened glass, which is easy to open for wiping. It has Ergonomic chair and flexible linkage control console. The professional driver should be assigned.



- ◆防撞扫轨板，端部止挡块

在大车和小车的车轮前均安装扫轨板，清除轨道上的异物，保证起重机运行安全。

在大车和小车运行的极限位置均安装有端部止挡块，作为电气限位失灵情况下的强制停止措施，防止起重机脱轨。

- ◆Anti-collision sweep-rail plate, end stop blocks;

Install sweep-rail plate before the wheels of crane and trolley in order to remove foreign bodies on the rail and ensure the safety of traveling;

Install end stop blocks at the traveling limit of crane and trolley, which is considered as force stopping methods if electric limit does not work in order that avoid derailing of crane.



应用范围 Application scope

工作级别可达A6，噪音低
Working level gets to A6 and has low noise.



单梁钢丝绳电动葫芦选型表

Selection table of single girder wire rope hoist



起重量 Capacity (t)	工作级别 FEM	工作级别 ISO	起升高度 Hoisting height (m)	起升速度 Hoisting speed (m/min)	运行速度 Travelling speed (m/min)	H尺寸 Size H (mm)	C尺寸 Size C (mm)
1	4M	M7	6/9/12/18	0.8/5.0	5~20	232	500
2	2M	M5	6/9/12/18	0.8/5.0	5~20	232	500
2	3M	M6	6/9/12/18	1.3/8.0	5~20	232	500
3.2	2M	M5	6/9/12/18	0.8/5.0	5~20	232	500
3.2	2M	M5	6/9/12/18	1.0/6.3	5~20	232	500
3.2	1AM	M4	6/9/12/18	1.6/10	5~20	254	590
5	2M	M5	6/9/12/18	0.8/5.0	5~20	254	590
5	3M	M6	6/9/12/18	1/6.3	5~20	321	740
5	2M	M5	6/9/12/18	1.6/10	5~20	321	740
6.3	1AM	M4	6/9/12/18	0.8/5.0	5~20	254	590
6.3	4M	M7	6/9/12/18	0.8/5.0	5~20	321	740
6.3	2M	M5	6/9/12/18	1.3/8.0	5~20	321	740
10	1AM	M4	6/9/12/18	1.0/6.3	5~20	321	740
10	2M	M5	6/9/12/18	0.8/5.0	5~20	321	740
10	3M	M6	6/9/12/18	0.66/4.0	5~20	321	740
12.5	1AM	M4	6/9/12/18	0.8/5.0	5~20	321	740
12.5	2M	M5	6/9/12/18	0.6/4.0	5~20	321	740
12.5	1AM	M4	6/9/12/18	1.0/6.3	5~20	321	740
12.5	3M	M3	6/9/12/18	0.6/4.0	5~20	411	850
16	2M	M5	6/9/12/18	0.6/4.0	5~20	411	850
20	1AM	M4	6/9/12/18	0.6/4.0	5~20	411	850

* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

双梁钢丝绳电动葫芦选型表

Selection table of double girder wire rope hoist



起重量 Capacity (t)	工作级别 FEM	工作级别 ISO	起升高度 Hoisting height (m)	起升速度 Hoisting speed (m/min)	运行速度 Travelling speed (m/min)	H尺寸 Size H (mm)	C尺寸 Size C (mm)
2	3M	M6	6/9/12/18	0.8/5.0	5~20	463	350
3.2	2M	M5	6/9/12/18	0.8/5.0	5~20	463	350
5	2M	M5	6/9/12/18	0.8/5.0	5~20	463	350
6.3	1AM	M4	6/9/12/18	0.8/5.0	5~20	463	350
10	1AM	M4	6/9/12/18	1.0/6.3	5~20	580	563
10	2M	M5	6/9/12/18	0.8/5.0	5~20	580	563
10	3M	M6	6/9/12/18	0.66/4.0	5~20	580	563
12.5	1AM	M4	6/9/12/18	0.8/5.0	5~20	580	563
12.5	1AM	M4	6/9/12/18	1.0/6.3	5~20	679	700
12.5	2M	M5	6/9/12/18	0.6/4.0	5~20	679	700
16	2M	M5	6/9/12/18	0.66/4.0	5~20	679	700
20	1AM	M4	6/9/12/18	0.66/4.0	5~20	679	700
20	2M	M5	6/9/12/18	0.53/3.4	5~20	679	700
20	3M	M6	6/9/12/18	1.0/4.2	5~20	864	1000
25	1AM	M4	6/9/12/18	0.53/3.4	5~20	864	1000
25	3M	M6	6/9/12/18	0.8/3.3	5~20	864	1000
25	2M	M5	6/9/12/18	1.0/4.2	5~20	864	1000
32	2M	M5	6/9/12/18	0.8/3.3	5~20	864	1000
32	2M	M5	6/9/12/18	0~4.9	5~20	1023	950
40	1AM	M4	6/9/12/18	0~4.9	5~20	1023	950
50	2M	M5	6/9/12/18	0~3.2	5~20	1023	950
50	1AM	M4	6/9/12/18	0~4.1	5~20	1023	950
63	1AM	M4	6/9/12/18	0~3.2	5~20	1023	950
63	2M	M5	6/9/12/18	0~2.4	5~20	1023	1110
80	1AM	M4	6/9/12/18	0~2.4	5~20	1023	1110

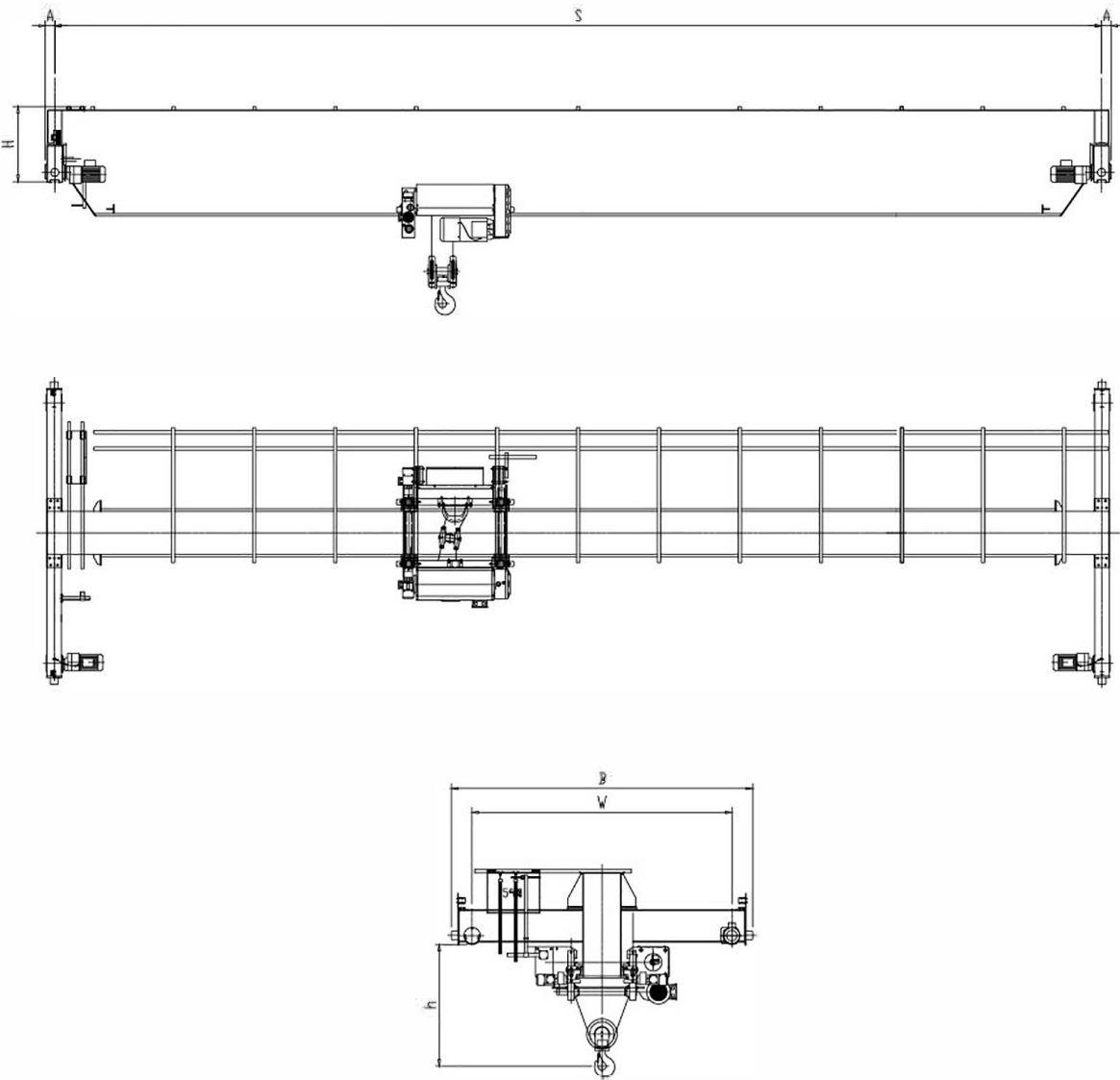
* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

新型电动单梁起重机说明

New types electric single girder crane instructions

新型电动单梁起重机

- S—起重机跨度 Crane span
- H—起重机运行轨道顶部距起重机最高点的距离 The distance from the crane travel rail top to the crane highest point.
- h—起重机吊钩升到最高点时距起重机运行轨道顶部的距离 The distance to the crane travel rail top when the hook moves to the top point.
- A—大车轨道中心到端梁外侧的距离 The distance from the crane rail center to the end girder outside.
- W—大车端梁轮距 Crane end girder wheel distance.
- B—大车端梁（含缓冲器）的长度 The length of the crane end girder including the buffer.



- Notes:
- 1、大车运行标准速度为2-20m/min（变频调速）；
The standard travelling speed of crane is 3-30m/min (frequency conversion)
小车运行标准速度为2-20m/min（变频调速）；
The standard travelling speed of trolley is 2-20m/min (frequency conversion)
 - 2、除了标准起升速度外，还有多种速度可供选择，也可选用变频控制起升。
There are many optional speed levels and frequency control lifting except the standard speed.
 - 3、控制方式有多种：地操操作、遥控器操作及两者的组合。
Control methods: ground control, remote control and the combination control of the two.
 - 4、表格中数据仅供参考，如有变更，恕不另作通知。
The data listed in the form is only for reference. Please forgive the non-informing if the date changed.
 - 5、具体事宜或特殊请求请与我公司协商。
Please contact us for more details and special requirements.

电动单梁技术参数 Technical Data of electric single girder crane

起重量 Capacity (t)	跨度 Span (m)	起升 高度 Lifting height (m)	工作 级别 Working group	起升 速度 Lifting speed (m/min)	质量 weight		大车 轨道 track (推荐)	总功率 Power rate (kW)	最大 轮压Max wheel load (kN)	H	h	A	W	B
					小车 (kg)	整机 (kg)								
1	9.5	6 9 12 18	A5 (2m)	5/0.83	351	1725	P24	4.94	10.2	620	240	150	2000	2364
	11					1900			10.6	670				
	12.5					2130			11.4	720				
	16					2580			12.7	770				
	19.5					3045			13.9	820	525	3000	2500	2864
	22.5					3590			15.1	840				
	24					3755			15.6	840				
2	9.5	6 9 12 15 18	A5 (2m)	5/0.83	351	1985	P24	4.94	15.4	720	240	150	2000	2364
	11					2200			15.7	770				
	12.5					2375			16.7	770				
	16					2940			18	640	475		2000	2364
	19.5					3385			19.4	640	525		2500	2864
	22.5					4000			21.9	690	575		3000	3364
	24					4365			22.5	740	525			
3	9.5	6 9 12 15 18	A5 (2m)	5/0.83	351	1960	P24	4.94	20.2	770	240	150	2000	2364
	11					2235			20.8	820				
	12.5					2590			21.8	640	475			
	16					3215			23.3	640	575		2500	2864
	19.5					4005			25.7	740	525			
	22.5					4775			26.4	790	575		3000	3364
	24					5005			27.3	790	575			

* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

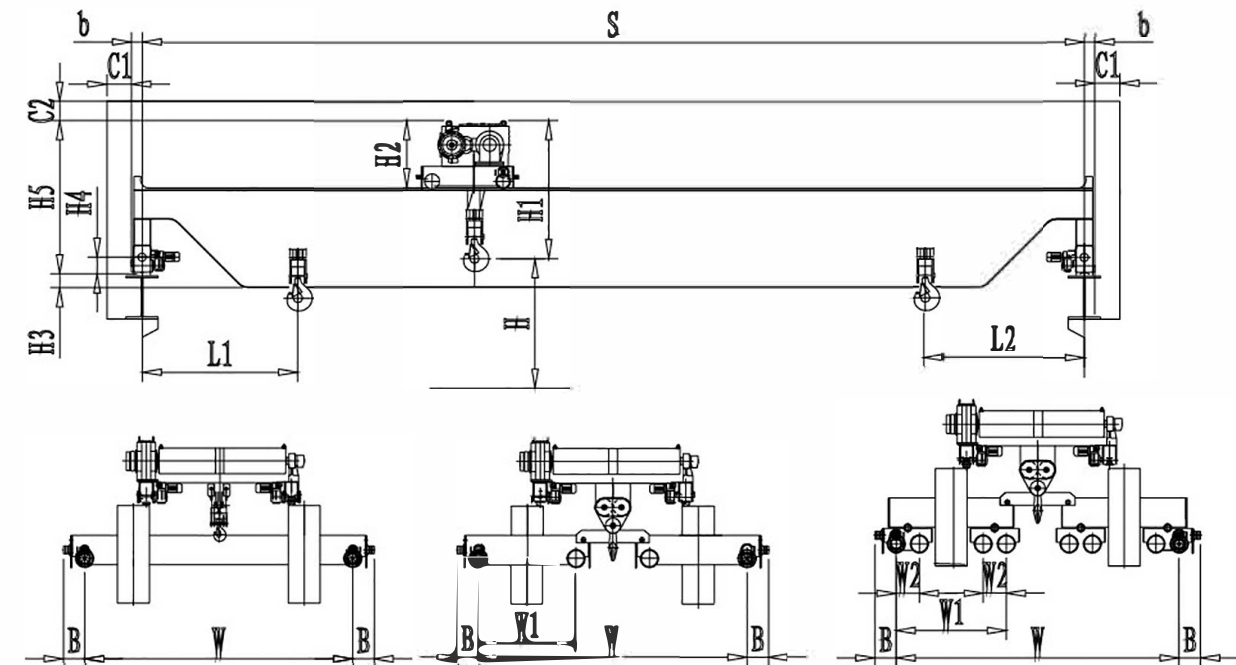
电动单梁技术参数 Technical Data of electric single girder crane

起重量 Capacity (t)	跨度 Span (m)	起升 高度 Lifting height (m)	工作 级别 Working group	起升 速度 Lifting speed (m/min)	质量 weight		大车 轨道 track (推荐)	总功率 Power rate (kW)	最大 轮压Max wheel load (kN)	H	h	A	W	B					
					小车 (kg)	整机 (kg)													
5	9.5	6 9 12 15 18	A5(2m)	5/0.83	463	2305	P24	7.74	30.5	690	515	150	2000	2364					
	11					2460			30.8		565								
	12.5					2895			32.2		615								
	16					3895		8.14	34.6	740	665		880		675	725	2500	2864	
	19.5					4465			36.5	790	665						3000	3364	
	22.5					5300			39.3	880	675						3000	3364	
	24					5740			40.5	880	725						3000	3364	
10	9.5	6 9 12 15 18	A5(2m)	5/0.83	829	3465	P38	12.66	56.5	760	800	150	2000	2452					
	11					3720			58.1		850								
	12.5					4130			860	59.5	800				900	860	950	860	2500
	16					5165				62	900		65						950
	19.5					6015			905	69.6	900		905		950	900	950	3000	3452
	22.5					7675				71.3	900								
	24					8205				71.3	905		950		3000	3452			
16	9.5	6 9 12 15 18	A5(2m)	4/0.67	1090	4170	P38	20.12	87.8	760	910	150	2000	2452					
	11					4620			89.5		1010								
	12.5					5260			830	91.3	990				860	1010	1000	915	2500
	16					6650				95.9	990		101.4						
	19.5					8500			1070	104.9	995		1070		995	200	3000	3652	
	22.5					9850				107	1070								995
	24					10720				107	1070		995		3000	3652			
20	9.5	6 9 12 15 18	A4	4/0.67	1090	4300	P38	22.92	106.8	760	960	150	2000	2452					
	11					4900			830	108.8	940								
	12.5					4920				110.3	990								
	16					6950			880	115.9	990		1070		945	200	2500	3152	
	19.5					8900				121.7	1070								945
	20					10000			124.2	1045	3000		3652						

* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

新型葫芦双梁外形尺寸及参数

New types dimensions and parameters of European gourd double beam



- H-起升高度
Hoisting height

V1-起升速度
Hoisting speed

V2-小车运行速度
Traveling speed of trolley

V3-大车运行速度
Traveling speed of crane

L1-起重机左极限
Left limit of crane

L2-起重机右极限
Right limit of crane

C1-起重机两端最小极限
Minimum limit of both ends

C2-起重机顶部最小极限
Minimum limit of top of crane

S-起重机跨度
Crane span

H1-起重机小车钩心到顶部的距离
Distance between core of hook and its top
- H2-起重机小车的高度 Height of trolley

H3-起重机底部到大车轨道面的距离
Distance between the bottom of crane and crane rail plane

H4-起重机缓冲器到大车轨道面的距离
Distance between buffer of crane and crane rail plane

H5-起重机顶部到大车轨道面的距离
Distance between the top of crane and crane rail plane

W-起重机最外两个车轮之间的距离
Distance between two outmost wheels of crane

W1-起重机一角最外两个车轮之间的距离
Distance between two outmost wheels of one corner of crane

W2-起重机车两个车轮之间的距离
Distance between two wheels of trolley

B-起重机最外车轮距离缓冲器端部之间的距离
Distance from the outmost wheel to ends of buffer

b-起重机最端部距离大车轨道之间的距离
Distance from ends to rail of crane

G-起重机整车的重量 Overall weight of crane

K-起重机最大轮压 Maximum wheel pressure of crane

P-起重机总的功率 Total power of crane

选型说明

- 1、本产品系列表仅列出了常用的基本的规格起重机，工作级别为A5(FEM 2m)时的标准跨度，没有副钩的室内用起重机。客户根据需要可以提出相应的要求。
- 2、本系列也可以增加副起重机构，也可以增加轻载时速度加倍的设置，一般主副的设置4:1，也可以根据客户的要求设定。因设置副钩则起重机的总重及轮压会有所增加。
- 3、表中的尺寸，重量，轮压供客户订货时参考，如果客户的需要条件发生变化，如工作级别，速度，起升高度有变化时，相应的参数，尺寸，重量，轮压等都会发生变化，实际的参数，质量，轮压以合同的要求为准。
- 4、表中列出的起升速度，大小车速度为标准值，可以根据客户的需求做相应的调整。
- 5、技术参数及尺寸会因为技术的改进或者升级有所变化，如有疑问的话可以和技术部联系。

Instructions for selecting type

1. This series tables of product only list the general crane with basic specifications, including the standard span at working level A5 (FEM 2m) and indoor crane without auxiliary hook. Customers can make relevant requirements according to their demands.
2. This series can add to auxiliary hoisting mechanism, and also the speed doubler if run with light load. Ordinarily, the setting of the main and auxiliary should be 4:1, which also be set in accordance with requirements of customers. It will increase the total weight and wheel pressure if adding to auxiliary hook.
3. Dimensions, weight and wheel pressure in table will be reference for ordering of customers. If requirements of customers get changed, such as some changes occurred to working level, speed and lifting height, the relevant parameters, dimensions, weight and wheel pressure will also get changed. The actual parameters, quality and wheel pressure should subject to the requirements in contract.
4. Lifting speed, speed of crane and trolley traveling listed in table are standard values, which can be correspondingly regulated according to demands of users.
5. Technical parameters and dimensions would be changed as with improvement or upgrade of technology. Please contact with technology department in our company if any questions.

葫芦双梁技术参数 Technical Data of gourd double beam

5t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel p ressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	18	1183	4200	170	100	950	850	5/0.83	20	32	5119	36.6	38kg/m	8.6
	13.5		1207									5882	39		
	16.5		1242									6819	41.6		
	19.5		1316	4300								9.3			
	22.5		1320										8274		45.4
	25.5		1324										9721		49.3
	28.5		1378										11301		53.3
	31.5		1387										13298		58.4

* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

葫芦双梁技术参数 Technical Data of gourd double beam

10t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	18	1209	4200	170	100	1000	900	5/0.83	20	32	5402	60.4	38kg/m	12.8
	13.5		1283									6635	64.5		
	16.5		1342									8058	68.7		
	19.5		1346	10001	74										
	22.5		1413	35	12753						81.2	13.6			
	25.5		1517		14970						87				
	28.5		1520		16980						92.2				
	31.5		1576		19490						98.7				

16t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	18	1470	4600	190	100	1050	850	4/0.67	20	35	7771	95.5	38kg/m	20.5
	13.5		1500									8661	100		
	16.5		1558									10455	105.5		
	19.5		1558	4800	220						45	12512	111.4		21.9
	22.5		1698									16309	121.5		
	25.5		1752									18520	127.4		
	28.5		1754									20615	133		
	31.5		1809									23362	140.1		

20t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	18	1525	4600	190	100	1050	850	4/0.67	20	35	7819	114.5	38kg/m	20.5
	13.5											9503	120.7		
	16.5		1559									11455	126.9		
	19.5			13473	132.9							21.9			
	22.5		1694	16888	142.1										
	25.5		1735	19305	148.7										
	28.5		1755	22000	155.8										
	31.5		1803	25045	163.7										

* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

葫芦双梁技术参数 Technical Data of gourd double beam

25t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	18	1623	5300	190	100	1250	950	10	20	35	8862	138.7	43kg/m	26.6
	13.5											10601	146.3		
	16.5		1668									12850	153.9		
	19.5		1716	5500	220							15071	161		28.2
	22.5		1858									18276	170		
	25.5		1878									21207	178.1		
	28.5		1924									24130	186		
	31.5		2034									27550	195.1		

	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
32t A5 FEM 2m	10.5	18	1690	5350	190	100	1250	1000	3.3/0.8	20	45	10300	86.8	43kg/m	28.2
	13.5		1750									12532	91.6		
	16.5		1850									14557	95.4		
	19.5		1882									16989	99.4		
	22.5		1930									20100	103.9		
	25.5		1960									23114	108.2		
	28.5		1996									26561	112.9		
	31.5		2053									30448	118		

40t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)		
	10.5	18	1885	5750	190	100	1250	1100	3.2	20	45	12637	108	43kg/m	49		
	13.5		2000									14574	113.5				
	16.5											17067	118.3				
	19.5		2135	5850	220							21387	124.8	43kg/m	51		
	22.5		2165													24270	129.2
	25.5		2185													28031	134
	28.5		2255													31293	139.1
	31.5		2300													36887	146.5

* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

葫芦双梁技术参数 Technical Data of gourd double beam

50t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V1 (m/min)	V2 (m/min)	V3 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	18	1885	5750	190	100	1250	1100	3.2	20	45	13237	131.2	43kg/m	49
	13.5		2000									15561	137.7		
	16.5		2135									18182	143.3		
	19.5		2165	5850	220							22645	150.5		51
	22.5		2185									25630	155.4		
	25.5		2255									29574	161.2		
	28.5		33537									167			
	31.5		38772									174			

KSQ双钩空操技术参数 Technical Data of KSQ double hook air operation

10t/ 3.2t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	12	1519	3500	170	≥100	1172	1092	8	11	22	35	8178	68.8	38kg/m	25.8
	12		1589										8510	73.1		
	13.5												9377			
	15		1643										10065	77.5		
	16.5												10782			
	18												11645	82.9		
	19.5			12674												
	21		1708	14438	89.9											
	22.5			15311												
	24		1808	15923	95.7											
	25.5			17493												
	27			18169	100.9											
	28.5			19472												
	30		1858	20623	107.3											
	31.5			21934												
	33		1860	23961	112.4											
	34.5			25601									116.6			

* 本样本数据仅供选型参考，具体数据请咨询矿山集团技术部。

KSQ双钩空操技术参数 Technical Data of KSQ double hook air operation

	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
16t/ 3.2t A5 FEM 2m	10.5	12	1823	3900	190	≥100	1066	1366	7.5	11	32	35	10714	103.5	38kg/m	34
	12		1953										11265	109.8		
	13.5												12061			
	15		1903										12979	115.8		
	16.5												13724			
	18												14932	123.5		
	19.5												16279			
	21		2043	45	17754							131	35.4			
	22.5				18878											
	24		2097		138											
	25.5											21379				
	27		2095		22769							145.4				
	28.5				24126											
	30		2149		25467							151.4				
	31.5			26353												
	33		2251	29296	159											
	34.5			30894	163.2											

	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
20t/ 5t A5 FEM 2m	10.5	12	1883	3900	190	≥100	1066	1366	6	11	30	35	10959	121.4	38kg/m	38.2
	12		2013										11674	129.1		
	13.5												12601			
	15		1913										13674	136.1		
	16.5												14527			
	18												15847	143.7		
	19.5												16931			
	21		2057	45	18760							152.8	39.6			
	22.5				20111											
	24		2107		21078							158.8				
	25.5				22153											
	27		2109		24063							167.3				
	28.5				25289											
	30		2159		26388							174.2				
	31.5				27795											
	33		2261		30909							182.2				
	34.5				33145							188				

KSQ双钩空操技术参数 Technical Data of KSQ double hook air operation

	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
25t/ 5t A5 FEM 2m	10.5	12	1885	3900	190	≥100	1066	1366	6	11	30	35	11429	144.6	38kg/m	48.4
	12		2015										12160	153.2		
	13.5												13126			
	15		1915										14164	162.5		
	16.5												15735			
	18		1967										16679	169.5		
	19.5												17781			
	21		2107	45	19805							178.8	50			
	22.5				20970									186.3		
	24				22630											
	25.5				23517											
	27				25004							194.3				
	28.5				26395											
	30				28771									203.4		
	31.5				29754											
	33				32498							210.6				
	34.5				35586							218.5				

	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
25t/ 10t A5 FEM 2m	10.5	12	1885	3900	190	≥100	1066	1366	6	8	30	35	11829	144.6	38kg/m	52.4
	12		2015										12561	153.2		
	13.5												13527	162.5		
	15		1915										14565			
	16.5												16136			
	18		1967										17080	169.5		
	19.5												18182			
	21		2107	45	20206							178.8	54			
	22.5				21370							186.3				
	24				23031											
	25.5				23917											
	27				25405							194.3				
	28.5				26796											
	30				29171							203.4				
	31.5				30154											
	33				32898							210.6				
	34.5				35987							218.5				

KSQ双钩空操技术参数 Technical Data of KSQ double hook air operation

	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 V eicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
32V 5t A5 FEM 2m	10.5	12	1940	4350	190	≥100	1156	1686	4.8	11	35	45	14719	91	43kg/m	50
	12		1990										15740	96.8		
	13.5												16711			
	15		2092										18026	101.6		
	16.5												18906			
	18		2124										20161	106.5		
	19.5												21602			
	21		2162										22906	110.9		
	22.5												24305			
	24		2204										25649	115.5		
	25.5												27295			
	27		2244										28747	120.4		
	28.5												30702			
	30		2296										32328	125.7		
	31.5												34535			
	33		2300										37732	129.9		
	34.5												39945	132.9		

	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 Vehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
32t/ 10t A5 FEM 2m	10.5	12	1940	4350	190	≥100	1156	1686	4.8	8	35	45	15119	91	43kg/m	54
	12		1990										16140	96.8		
	13.5												17111			
	15		2092										18426	101.6		
	16.5												19307			
	18		2124										20561	106.5		
	19.5												22002			
	21		2162										23307	110.9		
	22.5												24705			
	24		2204										26049	115.5		
	25.5												27696			
	27		2244										29148	120.4		
	28.5												31102			
	30		2296										32729	125.7		
	31.5												34935			
	33		2300										38133	129.9		
	34.5												40346	132.9		

KSQ双钩空操技术参数 Technical Data of KSQ double hook air operation

40t/ 10t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 V eicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	12	1990	4350	190	≥100	1186	1756	4.8	8	35	40	16015	109.9	43kg/m	62.4
	12		2090										16877	116.5		
	13.5												18065			
	15												2092			
	16.5		20536													
	18		2212	4450	220							45	22593	128.6	QU70	64.4
	19.5												24218			
	21		2254										25681	133.4		
	22.5												27020			
	24												2294			
	25.5		30291													
	27		2336											32310		
	28.5												33977			
	30												2397	36990		
	31.5		39490													
	33		2394											41668		
	34.5												44614	158.3		

50t/ 10t A5 FEM 2m	S (m)	H (m)	H5 (mm)	W (mm)	B (mm)	C1 (mm)	L1 (mm)	L2 (mm)	V主 (m/min)	V副 (m/min)	V小 (m/min)	V大 (m/min)	G整车重量 V ehicle weight(kg)	K角轮压 Wheel pressure angle(kN)	轨道型号 Track Model	P总功率 Total power (kW)
	10.5	12	1990	4350	190	≥100	1186	1756	4	8	35	45	16115	131.1	QU70	62.4
	12		2094										17316	139		
	13.5												18546			
	15		2096										19740	145.4		
	16.5												21144			
	18		2216	23247	152.4							45	64.4			
	19.5			24967												
	21		2258	26480	157.6											
	22.5			27869												
	24		2300	30164	163.7											
	25.5			31776												
	27		2342	33928	169.6											
	28.5			35696												
	30		2398	38296	176.8											
	31.5			40856												
	33			43095	179.9											
	34.5			46165	184.1											

售后服务承诺 After-sales Service Promises

凡由本公司生产销售的各种产品所出现的质量问题，本公司均按规定实行“三包”服务，并由售后服务三包队承担此项工作。

Quality problems of products sold by our company will be solved as per the "Three Guarantees" system of our company by the "Three Guarantees" service team;

在接到用户关于产品质量的信息(来电、信函或口头通知)后，立即派出有关人员赶赴现场处理解决问题。

Related personnel will be sent to the site immediately after receiving quality complaints (by call, letter or oral notice) from clients;

售后服务人员要认真、周到、彻底处理好有关质量问题，保证用户及时使用，无后顾之忧。

Personnel involved in after-sales service shall be serious and considerate in handling the problem to make clients care-free;

在及时解决好售出产品的质量问题的同时，售后服务人员有义务无偿地向用户提供技术咨询技术培训以及解答其它产品相关联的问题。

In addition to solve quality problems, personnel involved in after-sales service shall train clients, answer their technical inquiries and related questions free of charge.

凡确属本公司产品质量问题的产品，一切费用均由本公司承担。对因用户方所造成的产品质量问题(或超出质保期的产品质量问题)本公司酌情收费，但不高于总支出的费用(或成本费)。

Related cost for products with quality problem will be shouldered by our company. Our company charges for quality problems caused by clients (or problems after the warranty term), but the charge will not be higher than the expense (or cost);

牢固树立用户就是上帝，一切为用户着想的思想，及时、认真、善始善终处理好有关质量问题，讲究信誉，处处维护矿源产品的形象，做到公司放心，用户满意。

Establish the client-orient concept to offer timely, serious, considerate and complete service, and value the image of the all the time to serve the company and clients.



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