

GENMA 



GENMA
PORTAL CRANE

杰马门座式起重机

Our specialty
Your strength

专业之道 成就力量之美



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We are committed to helping customers
through professional products
to carry out material handling operations
**more accurately, more efficiently
and more safely.**

我们致力于通过专业的产品帮助客户
更精准、更高效、更安全地
进行物料搬运作业

Category 产品分类

G1 Shipyard/Container Yard/Factory Solutions 船厂/堆场/工厂解决方案

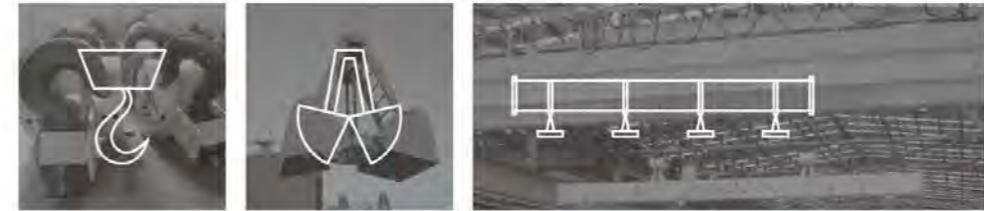
- ① Gantry Crane
门式起重机
- ② Overhead Crane
桥式起重机
- ③ Portal Crane
门座式起重机

- Single Boom Portal Crane
单臂架门座式起重机
- Four Bar Linkage Portal Crane
四连杆门座式起重机
- New Type Portal Crane
新型门座式起重机
- Fixed Portal Crane
固定式门座式起重机



GENMA Portal Crane, Can work with a variety of special Spreader.
杰马门座式起重机, 可配多种吊具进行特殊作业。

Spreader 吊具	Use 用途
Hook 吊钩	Mainly used to load and unload bulk cargo and various irregular materials. 主要用于杂货及各种不规则物料的装卸
Grab 抓斗	Mainly used to load and unload coal, minerals, grain, fertilizer and other bulk cargo. 主要用于煤、矿石、粮食、化肥等散料货物的装卸
Container spreader 集装箱吊具	Mainly used to load and unload containers. 主要用于集装箱的装卸
other spreader 其他吊具	Equipped with all kinds of special needs according to the actual needs. 根据实际需要配备各类专用



G2 Offshore Engineering Solutions 海洋工程解决方案



G3 Bulk Cargo Terminal Solutions 散料系统解决方案



Single Boom Portal Crane

单臂架门座式起重机

GENMA Single Boom Portal Crane is mainly used for loading and unloading of materials in shipyard, wharf, port, yard and so on. It is mainly used for the loading and unloading of bulk cargo and various irregular materials, maintenance and other operations with long working range, light structural weight.

After adjusting part of the structure, small and medium tonnage Single Boom Portal Crane can also be used for efficient loading and unloading of containers and bulk materials.

Single Boom Portal Crane consists of portal frame, A-frame, turntable, machine room, weight, boom frame, lifting mechanism, luffing mechanism, rotating mechanism, traveling mechanism and electrical system.

Single Boom Portal Crane used for loading and unloading operations in port and wharf consists of the portal frame, upper rotary column, table, machine room, fixed weight, live weight, balance beam, single arm frame, lifting mechanism, luffing mechanism, rotating mechanism, traveling mechanism and electrical system.

杰马单臂架门座机主要用于船厂、码头、港口、堆场等区域的物料装卸和搬运。主要用于杂货及各类不规则物件的装卸，维修等作业，具有工作幅度远，结构重量轻等特点。

中小吨位的单臂架门座式起重机在经过部分结构的调整后也可以用于集装箱及散料的高效率装卸作业。

单臂架门座式起重机主要由门架、人字架、转台、机器房、配重、单臂架、起升机构、变幅机构、旋转机构、大车运行机构和电气系统组成。

用于港口码头等装卸作业的单臂架门座机主要由门架、上转柱、转台、机器房、固定配重、活配重、平衡梁、单臂架、起升机构、变幅机构、旋转机构、大车运行机构和电气系统组成。

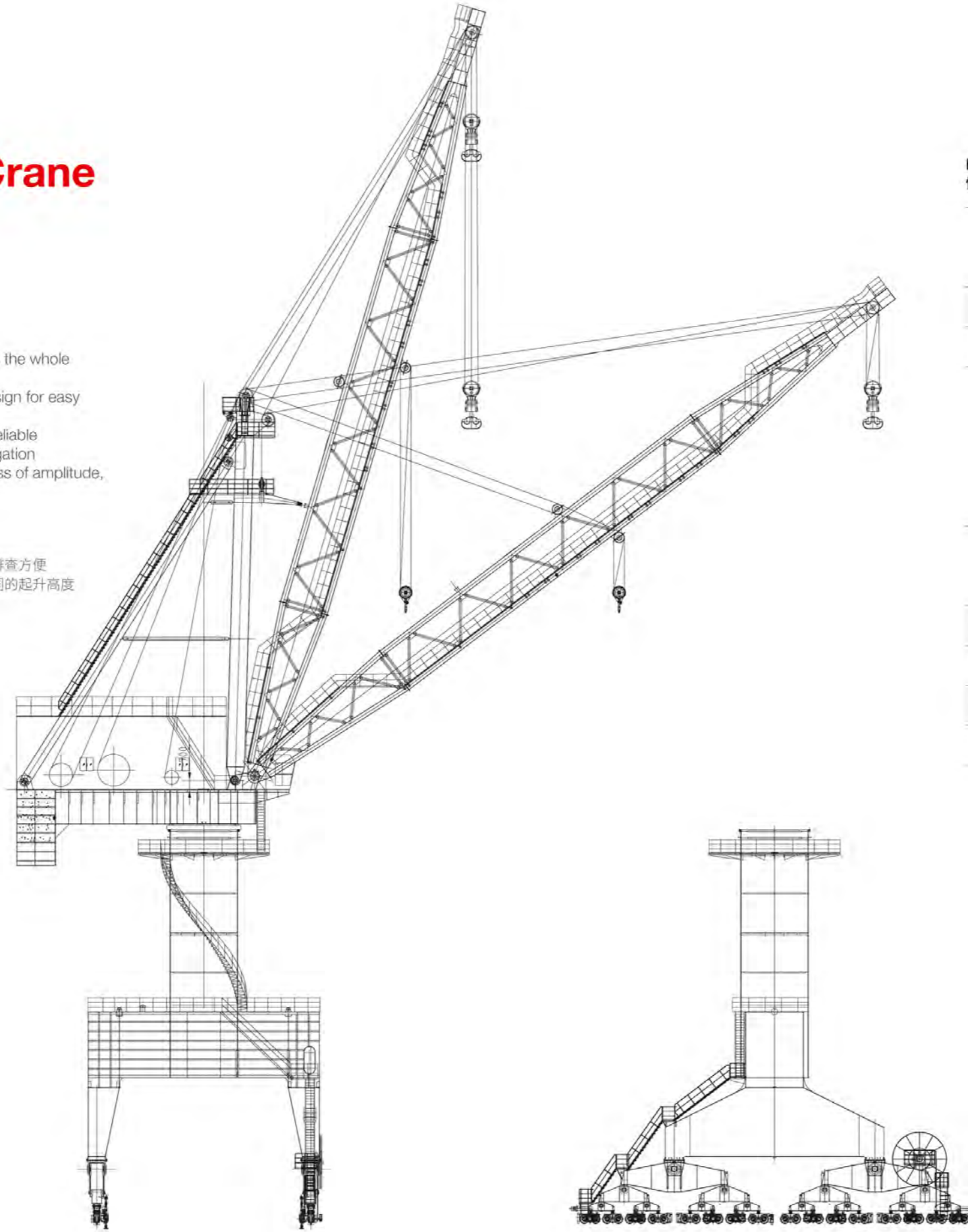


Single Boom Portal Crane

单臂架门座式起重机

Performance Characteristics 性能特点

- Using full frequency conversion system, and PLC control makes the whole machine running smoothly
- Components using modular design, light weight, structural design for easy maintenance
- A sensitive fault detection system, to ensure the smooth and reliable operation of the process, fault detection accuracy, easy investigation
- Can keep the horizontal displacement of the hook in the process of amplitude, can also set different lifting heights according to the range
- 采用全变频系统, 并采用PLC控制, 使整机运行平稳
- 部件采用模块化设计, 部件自重轻, 结构设计便于维护
- 配置灵敏的故障检测系统, 确保工作过程的平稳可靠, 故障检测准确, 排查方便
- 可保证在变幅过程中保持吊钩的水平位移, 也可以根据幅度来设置不同的起升高度



Performance parameter 性能参数

Lifting weight 起重量	Hook operation 吊钩作业 (Secondly hoist as an option 可选择增加副钩)		
	300t	200t	100t
Working range 工作幅度	25-32m	25-42m	25-70m
Lifting height 起升高度	On rail/Under rail 轨上/轨下	55m/-10m	
Mechanism working speed 机构工作速度	Lifting mechanism 起升机构	10m/min	
	Luffing mechanism 变幅机构	10m/min	
	Slewing mechanism 回转机构	0.25r/min	
	Traveling mechanism 运行机构	25m/min	
Wind speed 风速	Maximum working wind speed 工作最大风速	20m/s	
	Maximum non working wind speed 非工作最大风速	55m/s	
Maximum wheel pressure 最大轮压	530Kn		
Maximum turning radius 最大尾部回转半径	15m		
Base/Span 基距/轨距	12/16m		
Power supply 电源	Alternating current 交流 10KV 50HZ		

Customized according to your actual needs
根据您的实际需求定制



Four Bar Linkage Portal Crane

四连杆门座式起重机

GENMA Four Bar Linkage Portal Crane is mainly used for material handling and transportation in wharf and port areas. It possesses the characteristics of fast working speed, high loading and unloading efficiency, and is mainly used for bulk and container handling operations.

In some places with special requirements, it can also be used for large-range loading and unloading and maintenance operations, etc.

Four Bar Linkage Portal Crane is mainly composed of door frame, upper rotary column, turntable, machine room, fixed counterweight, mobile counterweight, equalizing beam and four-bar boom, hoisting mechanism, luffing mechanism, rotating mechanism, travelling mechanism and electrical system.

杰马四连杆门座式起重机主要用于码头和港口等区域的物料装卸和搬运，四连杆门座式起重机具有工作速度快，装卸效率高特点，主要用于散货和集装箱的装卸作业。

在一些有特殊需求的场合，四连杆门座式起重机也可用于大幅度的装卸和维修等作业。

四连杆门座式起重机主要由门架、上转柱、转台、机器房、固定配重、活配重、平衡梁、四连杆臂架、起升机构、变幅机构、旋转机构、大车运行机构和电气系统组成。



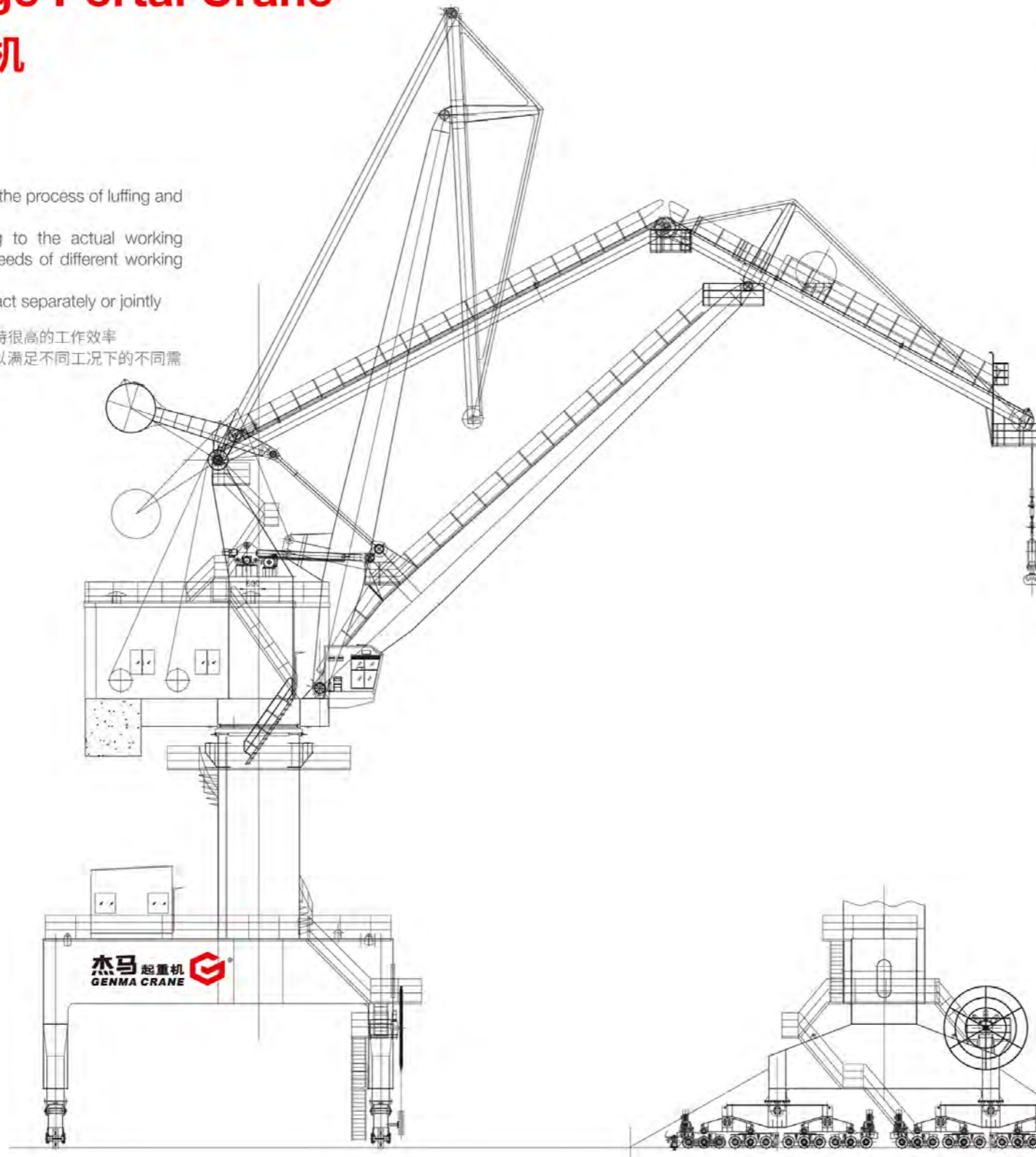
Four Bar Linkage Portal Crane

四连杆门座式起重机

Process characteristics

工艺特点

- Ensure horizontal displacement of spreaders in the process of luffing and maintain a high working efficiency
- Can set different working speeds according to the actual working requirements, in order to meet the different needs of different working conditions and improve the working efficiency
- Hoisting, luffing and slewing mechanisms can act separately or jointly
- 可保证在变幅的过程中保持吊具的水平位移, 并保持很高的工作效率
- 可以根据实际的工作需要, 设置不同的工作速度, 以满足不同工况下的不同需求并提高工作效率
- 起升、变幅、回转机构可单独动作, 也可联合动作



Performance parameter

性能参数

Lifting weight 起重量	Hook operation 吊钩作业	Spreader operation 吊具作业	Grab operation 抓斗作业
	40t/35m	30t/35m	25t/35m
Working range 工作幅度	35m/11m	35m/11m	35m/11m
Lifting height On rail/Under rail 起升高度 轨上/轨下	Hook:28m/15m 吊钩:28m/15m	Spreader:22m/15min 吊具:22m/15min	Grab:20m/15m 抓斗:20m/15m
	Lifting mechanism 起升机构	Full load:45m/min 满载:45m/min	No load:60m/min 空载:60m/min
Mechanism working speed 机构工作速度	Luffing mechanism 变幅机构	45m/min	
	Slewing mechanism 回转机构	1.2r/min	
	Traveling mechanism 运行机构	25m/min	
Wind speed 风速	Maximum working wind speed 工作最大风速	20m/s	
	Maximum non working wind speed 非工作最大风速	55m/s	
Maximum wheel pressure 最大轮压	300Kn		
Maximum turning radius 最大尾部回转半径	9m		
Base/Span 基距/轨距	10.5/15m		
Power supply 电源	Alternating current 10KV 50HZ 交流 10KV 50HZ		

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New Type Portal Crane

新型门座式起重机

GENMA New Type Portal Crane adopts independent development design system, combines with static and dynamic analysis of steel structures, and achieves the functions like mechanism calculation, mechanical analysis of steel structure, movement interference inspection of mechanical arm system and others based on Visual Basic and Ansys. It can improve the frequency conversion speed of the machine in the operation and work efficiency. Meanwhile, it also adopts the advanced "LDM Arm System Optimization Selection System" and virtual prototyping technology, so our crane can handle all kinds of vessels and goods and can adequately compete with STS and RTG.

New Type Portal Crane is suitable for the goods loading, off-loading and transferring in the shipyard, harbor and site of heavy steel structure manufacturer.

杰马新型门座式起重机采用独立研发的门座机设计系统，融合了钢结构静力学、动力学，并在Visual Basic、Ansys计算软件二次开发的基础上，实现了对门座机进行机构计算、钢结构力学分析、臂架系统运动干涉检查等多种功能，有效提高了机器在作业中的变频速度，提升工作效率。同时，还采用了行业领先的“LDM臂架系统优化选点系统”和先进的虚拟样机技术，使得我们的产品能够从容面对各种船型、各类货物的装卸需求，这一点丝毫不逊色于岸桥和轮胎吊。

新型门座式起重机适用于船厂、港口、大型结构制作单位等区域的物料装卸及转运。



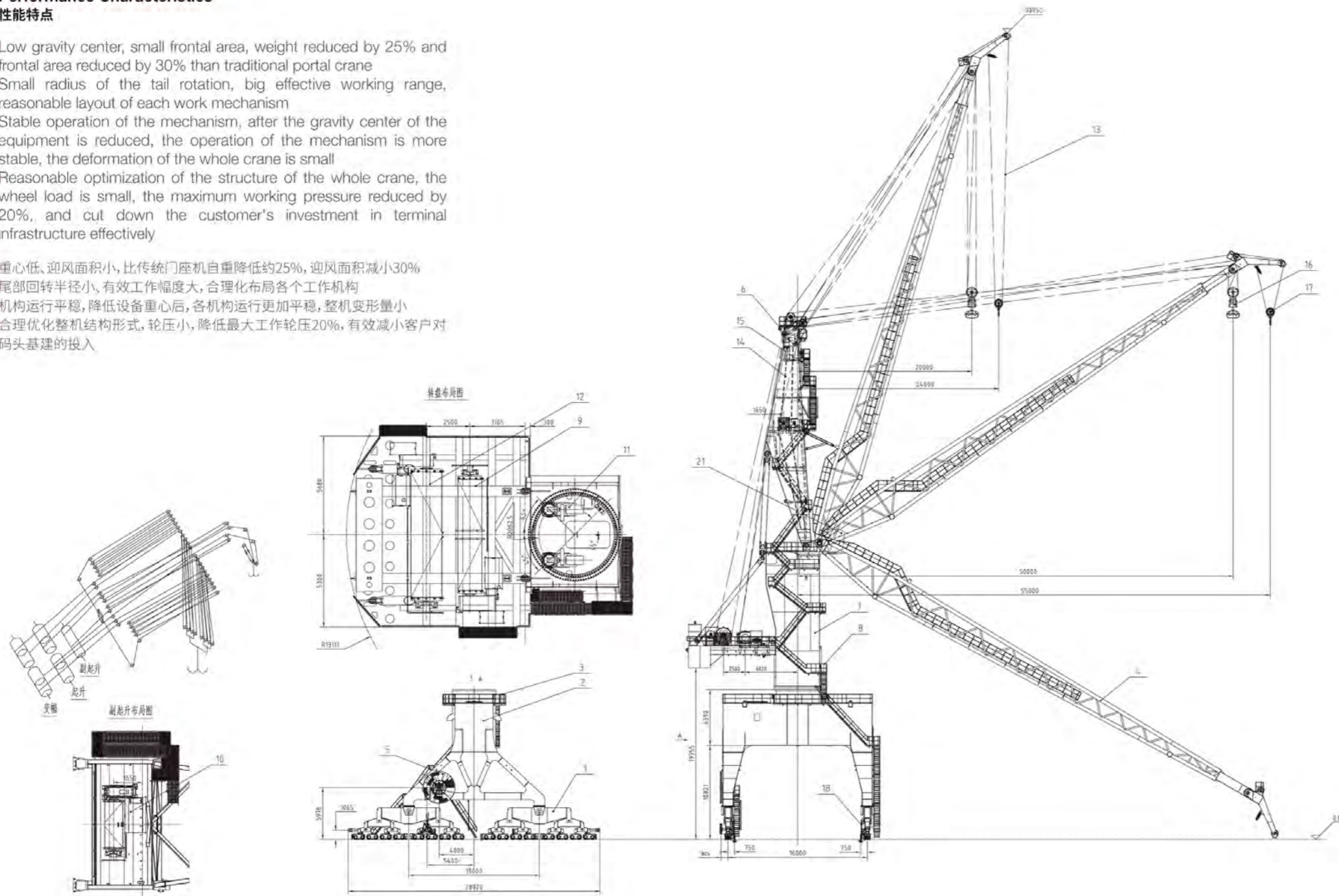
New Type Portal Crane

新型门座式起重机

Performance Characteristics

性能特点

- Low gravity center, small frontal area, weight reduced by 25% and frontal area reduced by 30% than traditional portal crane
- Small radius of the tail rotation, big effective working range, reasonable layout of each work mechanism
- Stable operation of the mechanism, after the gravity center of the equipment is reduced, the operation of the mechanism is more stable, the deformation of the whole crane is small
- Reasonable optimization of the structure of the whole crane, the wheel load is small, the maximum working pressure reduced by 20%, and cut down the customer's investment in terminal infrastructure effectively
- 重心低、迎风面积小, 比传统门座机自重降低约25%, 迎风面积减小30%
- 尾部回转半径小、有效工作幅度大, 合理化布局各个工作机构
- 机构运行平稳, 降低设备重心后, 各机构运行更加平稳, 整机变形量小
- 合理优化整机结构形式, 轮压小, 降低最大工作轮压20%, 有效减小客户对码头基建的投入



Performance parameter

性能参数

Max lifting capacity 最大起重量		t	200
Min luffing radius 最小幅度	Main lifting mechanism 主起升机构	m	20
	Aux lifting mechanism 副起升机构	m	24
Max luffing radius 最大幅度	Main lifting mechanism 主起升机构	m	50
	Aux lifting mechanism 副起升机构	m	55
Span 大车轨距		m	16
Base 大车基距		m	15
Max wheel load (under work) 轨型最大轮压 (工作状态)		KN	320
Clearance of portal frame 门架底部净空高度		m	≥6
Radius of the tail rotation 机房尾部回转半径		m	≤12

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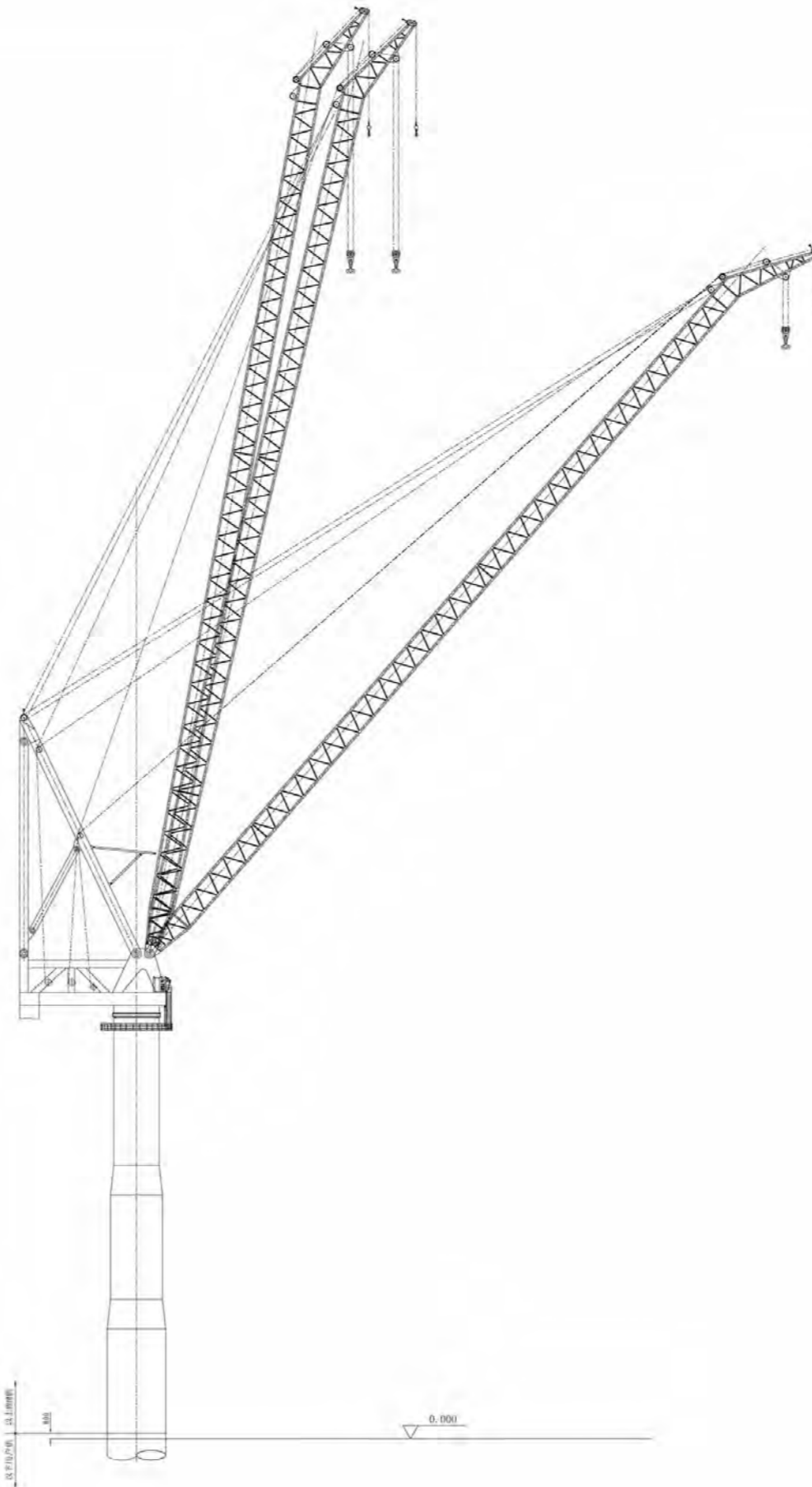
Fixed Portal Crane 固定式门座式起重机

After cancelling the travelling mechanism, the crane can be fixed directly on the pedestal.

门座式起重机在取消大车运行机构后,可以将门架直接固定在底座上面作为固定式门座机使用。

Performance characteristics 性能特点

- Lightweight of components is convenient for maintenance work; the process is stable and reliable, convenient for detection
- High working efficiency, lifting, luffing and slewing mechanism can work independently or work jointly
- 部件自重轻,后期便于维护;工作过程平稳可靠,检测排查方便
- 工作效率高,起升、变幅、回转可单独工作,也可联合动作



Performance parameter 性能参数

Lifting weight 起重量	Hook operation 吊钩作业		
		320t	40t
Working range 工作幅度	33-40m	33-100m	36-106m
Lifting height 起升高度	On rail 轨上	180m	
Mechanism working speed 机构工作速度	Lifting mechanism 起升机构	5m/min	
	Luffing mechanism 变幅机构	10m/min	
	Slewing mechanism 回转机构	0.12r/min	
Wind speed 风速	Maximum working wind speed 工作最大风速	20m/s	
	Maximum non working wind speed 非工作最大风速	55m/s	
Maximum turning radius 最大尾部回转半径	19m		
Power supply 电源	Alternating current 交流 10KV 50HZ		

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Why Will You Choose GENMA Portal Crane

为什么选择杰马门座式起重机

Challenges 挑战

GENMA's Solutions 杰马解决方案

<p>Light weight 自重轻</p>	<p>Because of out-dated design method, traditional portal crane has been comparatively heavy 传统门座机设计方法较为落后, 所以设备较为笨重。</p>	<p>GENMA applies finite element design to improve structural design and decrease crane weight, which can save infrastructure cost. 采用有限元设计, 结构设计更加合理, 自重较轻, 降低基建成本。</p>	
<p>Wind resistant 抗风性强</p>	<p>Portal cranes have been normally operated outdoor, so they have been easily influenced by surroundings. Traditional portal cranes have been vulnerable in face of strong wind. 门座机一般运行于室外, 受环境影响较大。传统门座机抗风性差。</p>	<p>GENMA applies more practical design method, which decreases windward areas and lowered height of gravity center. As a result, wind resistance performance of the cranes is more outstanding. 通过更加合理的设计手段, 降低了门座机的迎风面积和重心高度, 抗风性能更加优秀。</p>	
<p>High accuracy 精准度高</p>	<p>Splicing and erecting large components has been a quite arduous and time-consuming job. Especially for high and large portal cranes with wide range and far distance between operator's cabin and sling, positioning precision of their traditional control mode has been inadequate, micro operation performance has been rather poor, and operators have had to meet demanding requirement, so efficiency has been low. 大型结构的拼接、合拢作业极为耗时耗力。特别是大型门座机高度高、幅度大, 驾驶室离吊具距离远, 常规的控制方式定位精度低, 设备的微操性能较低, 对设备操作人员要求较高, 且效率低。</p>	<p>GENMA applies full frequency speed control + PLC (Programmable Logic Controller) system, and been equipped with automatic positioning, hoisting synchronization, electrical anti-sway functions etc. Moreover, GENMA cranes also have outstanding micro operation performance, exhibited higher security and efficiency during operation. 采用全变频调速+PLC控制系统, 配备自动定位、起升同步、电子防摇等功能, 且微操性能优秀, 在工作时具有更高的安全性和更高的效率。</p>	
<p>Low energy consumption 能耗低级</p>	<p>Electrical system has been comparatively simple, and energy could not have been controlled properly, especially for large machines. 电气系统较为简单, 对能耗的控制不够理想, 在大吨位设备中尤为明显。</p>	<p>Besides light weight, GENMA cranes have also applies internationally advanced energy-saving plan in electrical system. So GENMA cranes are more economical and saved more energy compared with other products of same capacity and lifting weight. 国际先进的电控方案, 加之整机自重轻, 使得同功率、同起重重量下的杰马产品能耗更低, 更加经济。</p>	
<p>High degree of automation 自动化程度高</p>	<p>Since control systems of traditional portal cranes have been less automatic, operators has had to keep at top concentration constantly then they would have been rather fatigue after extended operation. 传统门座机控制系统智能化程度低, 操作人员必须时刻集中注意力, 长期作业增加驾驶员疲劳度。</p>	<p>GENMA cranes have high degree of automation and been easy to operate, so your crane operators will not complain about operational difficulties any more. 自动化程度高, 操作便捷, 您的行车驾驶员再也不会抱怨产品难操作了。</p>	
<p>Convenient maintenance 产品维护便利</p>	<p>Inadequate consideration for ergonomics and maintenance could have made cranes inconvenient or even unavailable to maintain. 对设备的人机工程、后期维护等考虑欠佳, 后期的维护中存在不方便或者难以维护等问题。</p>	<p>GENMA applies modular design. Whole machines is equipped with remote failure diagnosis and alarm system, which can timely detect possible malfunctions. And maintenance is so convenient that it can be performed without impact on production. Moreover, full consideration is taken to improve maintenance space and make maintenance more convenient. 采用模块化设计, 整机自带远程故障诊断和故障报警系统, 能及时发现机器可能出现的故障; 产品维护便捷, 不影响生产。且对维护区域的空间等考虑完善, 维护方便快捷。</p>	

Operation Environment of GENMA Gantry Crane 杰马门座式起重机操作环境

- Spacious all-closed operator's cabin designed based on ergonomics, and equipped with air-conditioner, which vastly reduce the fatigue of operators
- Vision from operator's cabin is adequately broad, equipped with large-sized monitor screen, intercoms and monitoring system, which enable operators to know the working condition of crane
- Operating equipments are of high automation and easy control to increase efficiency
- Optionally equipped with button box or remote controller, and equipped with hand control cable to slide along slide line holder within the range of main girder
- 按人机工程设计的全天候封闭驾驶室, 配备空调, 宽敞舒适, 大大降低疲劳度
- 驾驶室视野开阔, 配备大尺寸监视屏、对讲机和摄像监控系统, 操作人员完全掌握起重机工作状态
- 驾驶设备智能化程度高, 操作便捷, 提升工作效率
- 选配手电门控制或遥控器控制, 手操线可沿滑线架在主梁范围内滑动



GENMA Port Crane Technological Characteristics and Safety Performance

杰马门座式起重机的工艺 特点及安全性

工艺特点 Technological Characteristics

- The beam structure of port system adopts lattice type, which makes the strength transmission easier and clearer with lighter net weight
- Each components adopts module design, modules are connected by bolts and convenient for transportation
- Machined parts as travelling mechanism balance beam and trolley etc are processed by the whole parts to reach the higher processing precision and coordination precision, to ensure the assembly accuracy of each part
- The parts of same type adopt the unified standard to ensure the interchangeability and reduce the maintenance cost on later period
- 门架系统的横梁结构采用桁架形式,力的传递更简单和明确,重量更轻
- 各部件进行模块化设计,各模块之间采用螺栓连接,便于运输及安装
- 运行机构平衡梁、台车等加工件采用整机能加工,达到很高的加工精度和配合精度,以保证各部件的装配精度
- 同类型部件采用统一的规格,保证部件的互换性,降低后期维护保养成本

安全性 Safety Performance

- To ensure stable and reliable work process
- Exact Fault detection, easy for troubleshoot
- Set with remote monitoring system, to know the crane working condition, malfunction and work quantity data
- Available for remote maintenance and lock, to reduce the site maintenance time
- Low gravity center and less wind face areas
- 能确保工作过程的平稳可靠
- 故障检测准确,排查方便
- 设有远程监控系统,能及时了解起重机工作状态、故障状态及作业量数据
- 可远程维护、锁定,减少现场维护时间
- 重心低、迎风面积小



Main Customers

主要客户



Customer 客户	Product 产品
Jiangsu New Yangzi Shipbuilding Co., Ltd 江苏新扬子造船有限公司	MQ4568 Portal Slewing Crane MQ4568门座起重机
Jiangsu Yangzi Xinfu Shipbuilding Co., Ltd 江苏扬子鑫福造船有限公司	MQ4540 Portal Slewing Crane MQ4540门座起重机
Jingjiang Sutong Port Co., Ltd 靖江苏通港务有限公司	MQS4038 Portal Slewing Crane MQS4038门座起重机
Nantong Dongxin Shipbuilding Industry Co., Ltd 南通东鑫船舶重工有限公司	MQ6046 Portal Slewing Crane MQ6046门座起重机
Zhejiang Zengzhou Shipbuilding Co., Ltd 浙江增洲造船有限公司	MQ4062 Portal Slewing Crane MQ4062门座起重机
Jiangsu New Hantong Ship Heavy Industry Co., Ltd 江苏新韩通船舶重工有限公司	MQ4573 Portal Slewing Crane MQ4573门座起重机
Nantong Port Group Co., Ltd 南通港口集团江海港务分公司	MQ18t Portal Slewing Crane MQ18t带斗门座起重机
Nantong Rainbow Offshore & Engineering Equipments Co., Ltd 南通雨邦海洋工程装备有限公司	MQ25050 Portal Slewing Crane MQ25050门座起重机 MQ6046 Portal Slewing Crane MQ6046门座起重机
Nantong CIMC Holvrieka(CHINA)Co., Ltd 南通中集大型储罐有限公司	MQS2540 Four Bar Linkage Portal Crane MQS2540四连杆门座式起重机
Xiamen Shipbuilding Industry Co., Ltd 厦门船舶重工股份有限公司	MQS3250, MQS8040 Four Bar Linkage Portal Crane MQ5060 Portal Slewing Crane MQS3250, MQS8040, MQ5060门座式起重机
Jiangsu New Hantong Ship Heavy Industry Co., Ltd 江苏新韩通船舶重工有限公司	MQ4573, MQ6070, MQ4573 Portal Slewing Crane MQ4573, MQ6070, MQ4573门座式起重机
Fujian Mawei Shipbuilding Ltd 福建省马尾船政重工有限公司	MQS2026 Portal Slewing Crane GMQ15021 Fixed Portal Slewing Crane MQS2026门座式起重机, GMQ15021固定式门座式起重机
Jiangsu Haixin Shipping Heavy Industry Co., Ltd 江苏海新船务重工有限公司	MQ3265 Portal Slewing Crane MQ3265门座式起重机
BAE System San Diego Ship Repair Inc.	MQ5449 Portal Slewing Crane MQ5449门座式起重机





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