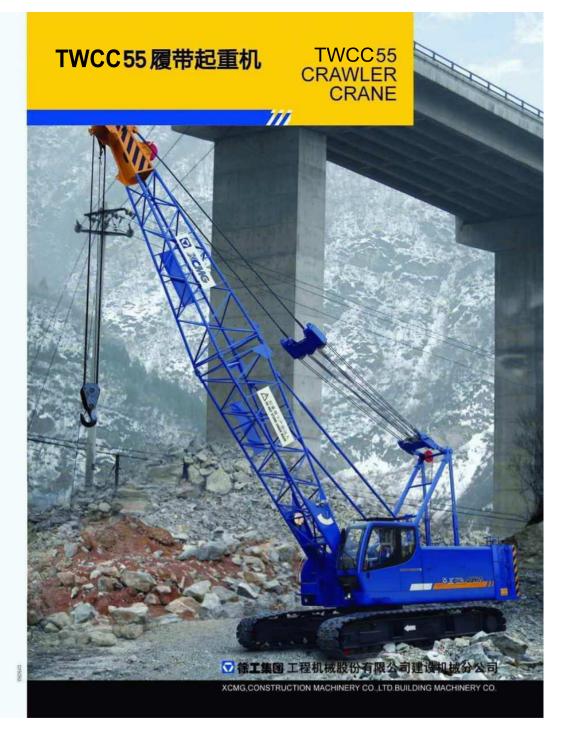
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TWCC55履带起重机 TWCC55 CRAWLER CRANE

> 本印刷品所包含的数据、金属量产品的不断开极污改变,指以实际产品力准 Pictures and data in this catalog will change with the update and modification of products, so please take the actual vehicle as reference.





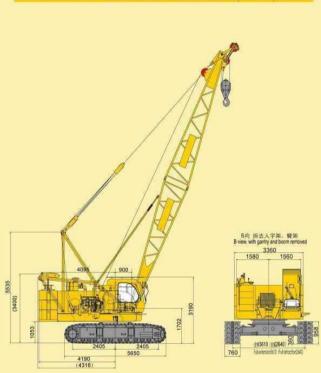
# 技术性能参数/整机基本尺寸 Overall Dimensions/ Technical Specifications

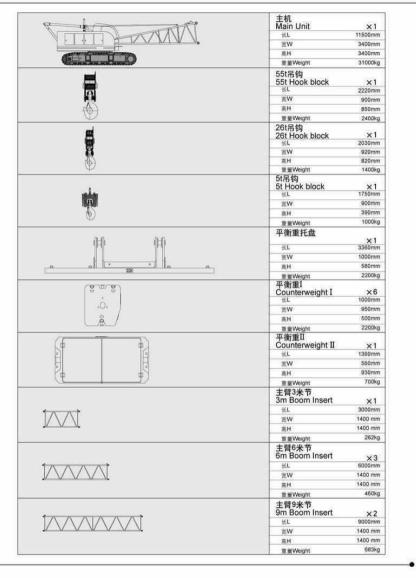
### 主要零部件 Main Parts

项目Items		单位 Unit	数值 Dat
最大额定起重量 Max. rated lifting capacity	基本型主臂 Basic boom	1	55
REAMINEMENT Max. rated inting capacity	固定副臂 Fixed jib	t.	5
酸大起重力矩 Max: load moment		t.m	203.5
主智长度 Boom length		m	13-52
主臂变幅角度 Boom elevating angle			-380
固定副臂长度 Fixed jib length		m	9.15-15.2
起升机构最大单绳速度(空载、第五层)Winch	mechanism max. single line speed (no load, at 5th layer)	m/min	121
主带变幅机构最大单绳速度(第一层)Boom ele	vating mechanism max, single line speed (at 1st layer)	m/min	63
最大回转速度 Max slewing speed		r/min	1.5
载高行驶速度 Max traveling speed		km/h	1.35
爬坡度 Grade ability		%	40
平均接触比压 Average ground pressure		MPa	0.069
发动机功率 Engine power		kW	125/158
运输状态单件最大质量 Max mass of single un	it in travel configuration	t	31
CONTRACTOR AND A CHARTER AND A	ension of single unit in travel configuration (L×W×H)	m	11 5×3 47×3



技术性能参数/整机基本尺寸	
Technical Specification/Overall Dimension	
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1

	主臂顶节臂 Boom Top x1
MMMAN	
V VIX	宽W 1400 mm
0 <sup>12</sup> 22	高H 1400 mm
	重量Weight 740kg
	固定副臂底节臂 Fixed Jib Butt ×1 火L 3165mm
	家W 605mm
	高H 540mm
	重量Weight 124kg
	固定副臂中间节 Fixed Jib Insert x3
10	KL 3120mm
	宽W 605mm
	高H 540mm
	重量Weight 83kg
	固定副臂顶节臂 Fixed Jib Top x1
A A A A A	KL 3350mm
IV VILLENO	宽W 605mm
	高H 540mm
	重量Weight 103kg

### 说 明 Notes

●以上零部件运输形状为示意器,未接此比例绘制,所标尺寸为设计值,不包括包装。

The above part figures are only sketch maps, which are not drawn on actual sizes. The dimensions shown are design values and don't include package. ●重量为设计值,由于制造误差,可能稍有不同。

The weight is design value, may have slight difference due to error in manufacture.

### 详细介绍 **Detailed Introduction**

### ₩ 上 车

### 发动机

标配采用上柴SC8D170.2G281,直列、四冲程、增压、水冷发动机;额 定功率125kW,额定转速为1800rpm,最大输出扭矩730N•m。排放符合 欧洲工程机械第二阶段推放标准。

可选配上装SC8DK215Q3, 六缸直列、四冲程、涡轮增压、中冷、电控式 发动机; 额定功率158kW, 额定转速为2200rpm, 最大输出扭矩 823N•m。排放符合欧洲工程机械第三阶段排放标准。

### 电气控制系统

### 由多个显示器、控制器、传感器等组成。

采用HIRSCHMANN公司的全自动力矩履制器,动态图形、数字显示作业 参数,可自动停止危险方向的动作,并进行声音报警。控制器与显示器通 过CAN总线技术进行数据通讯,系统可靠性高。与常规电气相结合,实现 起重机的自动控制,大大提高起重机的作业安全性、可靠性和作业效率。 显示器可显示发动机的转速、燃油量、机油压力、发动机工作时间等工作 参数。

### 液压系统

液压主系统采用总功率变量泵控制(包括主起升、副起升、变幅、行走),回 转部分由齿轮泵单独驱动。先导油路由排量10ml/的小齿轮泵提供,通过先导 压力卸荷电磁阀与安全监测系统的联合控制提高了整车的安全性,有效的防止 了深操作。起重机主要动作均采用先进的液压比例控制技术、操作者可通过操 纵溃控手柄的移动方向和位移大小来控制各执行机构的运动方向及运动速度。 可无极调速同时具有极好的微动性。各机构的制动器均为常闭式,从平衡微引 油控制制动器的开点和学问。

### 起升机构

主、副起升型号相同, 单独驱动; 片式常闭制动器, 内藏式减速机, 主副起升 卷筒为变形绳槽式,能保证在钢丝绳多层缠绕时不乱绳。最大速度可达 120m/min,具有优良的微速性能,起升机构还具有换油方便、低噪音、高效 率、长寿命等特性。

主記升机构可洗配带快放功能的钳盘式快放机构。能实现空载的快速下落,提 高作业效率。相比于外抱式快放机构,钳盘式快放机构具有安装调整维修方便 的特点。外购江西华伍制动器SBD120,更专业可靠。

### 变幅机构

主臂变幅为一个双联卷筒独立驱动。主臂变幅机构采用内藏式减速机、片 式常闭制动器。卷筒设有棘轮锁止装置。以实现机械制动,安全可靠。

### 回转机构

回转机构布置在转台内侧前面,由两个行星减速机组成,与回转支承外陆 合。液压缓冲、具有自由滑转机能。行星齿轮减速机,可控常闭、片式制 动器、工作可靠、维修方便。

### 回转支承

采用徐州罗特艾德公司的三排滚柱式回转支承、质量稳定可靠。

#### 平衡重

总重16.11 托盘: 2.21, 共1块; 1号平衡重: 2.21, 共6块; 2号平衡重: 0.7t. 共1块:

### Crane Superstructure

### Engine

It is a 4-cylinder in-line, water cooled, supercharging intercooled SC8D170.2G2B1 engine from Shanghai diesel, with rated output power of 125kw, rated revolution speed of 1800rpm and maximum output torque of 730N m. its emission complies with the Euro. III standard. you can also choose a 4-cylinder in-line, turbocharging, intercooled and eletric jet SC8DK215Q3 engine from Shanghai Diesel, with rated output power of 158kw, rated speed of 2200rpm and maximum output torque of

823N.m. its engine complies with the Euro III standard. Electric Control System

It consists of display, controller,sensor,ect. It adopts full automatic LMI (Load Moment Indicator) from HIRSCHMANN Company. Dynamic graphs and numeral displaying of working parameter can stop actions in dangerous direction and give audio warning. The controller and the displayer communicate with each other through CAN bus technique, which makes a high reliability. Its combination with the conventional electrics realizes the crane's automatic control and greatly improves safety, reliability and efficiency of crane operation. The parameters such as engine speed of revolution, fuel consumption, engine oil pressure and engine working time.ect. can be shown on the display.

#### Hydraulic System

The main hydraulic system of QUY50-1 crawler crane takes overall power variable displacement pump-control (It include main winch, auxiliary winch, elevating and travelling). The slewing system is separately driven by gear pump. The power of pilot oil circuit is provided by pinion pump with a displacement of 10ml/r. The combined control of the pilot pressure-unload solenoid valve and the safety monitoring system has greatly improved the whole vehicle's safety and effectively prevented the wrong operation. Crane main actions all adopt hydraulic proportional control technique which makes the operator control the moving direction and moving speed of each mechanism by controlling the hydraulic control handle's direction and displacement. It can realize stepless speed regulating and get better inching ability. The brake of each mechanism is constant closed and is controlled by logic control valve.

Hoisting Winch

Main/auxiliary hoist mechanism has the same model and driven independently- It takes disc type constant closed brake and built in speed reducer. Main/auxiliary hoisting winch is variable rope grooved type, can ensure the wire rope not have twisting for multilayer reeving. Its maximum speed is 120m/min, with good fine speed performance. Hoist system also features easy oil replacement, low noise, high efficiency and long service life. Main hoisting winch has built-in disk type quick-released mechanism for option, can achieve fast fall with no load to increase work efficiency. Compare with external hold type quick-released mechanism, it has features of easy installation, adjustment and maintenance. The outsourced brake SBD120 from Huawu, Jiangxi is more professional and reliable.

### Luffing Winch

Main boom luffing winch is a twin drum with independent drive. Boom luffing mechanism has built-in speed reducer and disc-type constant closed brake, hoist drum has a ratchet locking device to realize safely and reliably mechanical braking.

#### Slewing System

Slewing system is arranged inside the front of turntable, made up by a planetary reducer, and is internal meshed with slewing ring. It has the function of hydraulic buffering and free sliding. Controllable constant-closed disc brake of the planetary reducer works reliably and is easy for maintenance.

### **Slewing Bearing**

It is a single-row roller type slewing bearing , with stable and reliable quality

#### Counterweight

Overall weight: 16.1t Counterweight tray: 2.2t,1slabs Counterweight 1: 2.2t,6 slabs Counterweight 2: 0.7t,1 slab

### 操纵室

操纵室采用钢制框架结构、正面配置有整体式央层玻璃。其余玻璃均为钢 化玻璃。装有可调式座椅、按人机工程学布置的全套操纵仪表和控制装 **晝**。配置冷暖空调、音响、灭火装置等,整体宽敞舒适。

### 转台

转合采用箱型与单衡板混合的结构。该结构整体稳定性好。转合是联系上 下车的关键承载结构件。转台通过回转支承与下车进行联接。操纵室、起 升机构、变幅机构、发动机、人字架、桅杆、臂架及配重等分别与转台在 不同部位进行联接。

### 下 车

下车包括车架、履带架、行走机构。车架和履带架采用插入式连接。

### 车架

车架采用高强钢板、箱形结构,中间设置横隔板。加强其抗扭则度,结构 简单,承载能力强,则性好。

### 履带架

包括履带梁和四轮一带。履带梁采用箱形结构,和车架连接部位局部加强。 中间设置横隔板。两个履带架对称布置,装有家庭为0.76m的履带板。

### 行走机构

行走机构采用常闭多片湿式制动器,可同步操作,也可单独操纵,以实现直 行和转音。

### 行走速度

安量马达可以实现无级变速,最高速度1.35公里/小时。行走时,设备运行 原稿 可定视快速行走。

### 🖌 作业设备

起重聲包括主臂、固定副臂。结构型式均为中间等截面、两端变截面的四 弦杆空间桁架结构。主弦杆、腹杆采用国产优质管材、提高了臂架抗弯曲 的能力。

### 主臂

主臂为中间等截面。两端变截面的空间桁架式结构、钢管焊接、臂架顶部 与根部用钢板加强,以利于传递载荷。主臂配置臂端单滑轮机构,主臂长 度为13~52m。 组成:底节臂6.5m、中间节臂3m×1、中间节臂6m×3、中间节臂

9mx2。 顺节键6.5m。

### Operator's Cabin

Operator's cabin is steel frame structure combined with glass fibre reinforced plastic structure. Its front windshield is provided with overall sandwich glass other glass is all hardened glass. Equipped with adjustable seat, a set of ergonomic designed instruments and control devices, air-conditioner (selected) CD player, fire extinguisher and so on, the cabin is comfortable.

### Turntable

Turntable is a mixed structure of box type and single web plate, with good overall stability. Turntable is a key structural part linking crane superstructure with and crane carrier for load bearing. It connects with the carrier through slewing bearing. Operator's cabin, winch system, elevating system, engine, gantry, mast, boom and counterweight etc. respectively connect with the turntable at different positions

### Lower structure

Lower structure comprises car-body, track frame, and propel unit. Car-body and track frame take insert-type connection.

Car-body Car-body uses high strength steel box-shape structure. With cross pane

installed in the middle to strengthen its stiffness against torsion, it features simple structure, high loading capacity and well rigidity.

### Track frame consists of track beam, drive sprocket, idler wheel, upper

roller, lower roller and track. Crawler beam is box-shape structure. Its connection position with frame is strengthened partially, and cross panel is installed in the middle of it. Two track frames are symmetrically arranged, with track shoes of 0.76m width

### Propel Unit

Track Frame

Crane travel unit has constant closed multiple disc wet-type brake, not only synchronized operation but also independent drive to achieve straightforward travel and turning around

### **Traveling Speed**

Variable displacement motor can realize infinite variable speed whose maximum value is 1.3 km/h. When traveling, the vehicle can run stably and realize fast traveling

# Lifting Parts

Lifting boom comprises main boom and fixed jib, both of which are lattice structure of four tubular chords with intermediate equal section and two end variable section, wherein main boom chord and web rod use domestic high quality tube, which improves the ability of anti-torsion resistance.

Boom

Boom length: 13m-52m Construction, boom butt 6.5m, boom insert 3m×1, boom insert 6m×3, boom insert 9m× 2, boom top 6.5m. The boom length can range from 19m to maximum 52m through combinations of boom inserts.

# Detailed Introduction

### 固定副臂

固定副聲为中间等表面、兩課要表面的空间桁架式结构、钢管焊接、聲架 **随船与桅船田锅板加强,以利干传递载荷**。 固定副壁可在主壁长25~43米草里内进行作业,其作业长度为9.15~ 15.25m +10\* 330\* 再结点准备 固定副臂通过支架及固定副臂前、后拉索与主臂连为一体。随着主臂变幅 机构的起与落来达到固定副臂的工作幅度。 组成: 底节臂3.05m、中间节臂3.05m×3、顶节臂3.05m。

### 人字架

吊钩

人字架是重要结构件之一,前足采用箱形双肢结构,后足采用可折叠式拉

# 标准配置: 55t吊钩、26t吊钩、5t吊钩

# ₩ 安全装置

安全装置包括力矩限制器、转合回转锁锁装置、起重臂防后翻装置、起升 高度服位装置、风速仪、水平仪、液压系统的溢流栅、平衡相、双向液压 物、问转警告、行走警告等。

### 力矩限制器

检测功能:力矩限制器能自动检测出起重臂的角度、起重载荷, 显示功能:实时的显示当前实际载荷,工作半径,起重臂角度。 警示功能:如果检测到实际载荷超过额度载荷、起重臂超过极限角度、力矩限 制器发出报警并限制当前动作。

### 主、副提升过卷装置

当主、副卷扬起升到一定高度时候,仪表板上的过卷保护指示灯亮,同时 力矩限制器停止起升动作。

### 主、副提升过放装置

此保护功能由安装在卷筒内部接近开关检测到卷筒上的钢丝绳剩下三卷时 候,仪表板上的指示灯亮,同时力矩限制器自动停止下落动作。

### 棘爪锁止装置

该功能用于锁定变幅卷扬,起重臂降落的时候必须打开该装置,否则不能 膝弦,用手保护臂架在非工作时安全停放。

### 起重臂角度限制

主起重臂仰角在80°时,起重臂被停止起升,由力矩限制器和行程开关双 级控制。主起重臂在仰角小于30°时停止起重臂落,由力矩限制器控制。

Fixed iib is lattice structure of intermediate equal section and two end variable section and welded by steel tubes. Jib top and jib foot are reinforced by steel plates for load transfer

Fixed jib can be operated within the range of boom length 25-43m, and lifting operation length is 9.15-15.25m, with two offset angle of 10° and 30° Fixed jib is connected with boom by supporting strut and front and rear guy cables, and reach its working radius with raising and lowering of boom elevating system

Construction: jib butt 3.05m, jib insert 3.05m×3, jib top 3.05m.

### Gantry

Gantry is one of the important structural parts, its front part is box-type structure of twin tubular chord, and the rear part is folded pendant.

### Hook Block

Standard configuration: 55t capacity hook block, 26t capacity hook block 5t capacity hook block

### Safety Devices

Safety devices comprise: load moment limiter, turntable lock pin, boom backstop, height limiter, level gauge, hydraulic overflow valve, balance valve, two-way hydraulic lock, slewing warning and travel warning, etc.

#### Load Moment Limiter

Detection function: automatically detect boom angle and lifting load. Display function: real time display current actual load, working radius and boom angle.

Warning function: automatically send out warning signal and stop crane operation when detecting actual load exceeding rated load and boom out of limit angle.

### Main/Auxiliary Winch Over-Wind Protection Device

When main/auxiliary winch hoists up to a certain lifting height, an over-wind warning lamp on instrument panel lights on, at the same time, load moment limiter stops crane operation

#### Main/Auxiliary Winch Over-Release Protection Device

When access switch in winch drum detects only three turns of wire rope left on the drum, an over-release warning lamp on instrument panel lights on, at the same time, load moment limiter stops falling operation.

#### Winch Ratchet Locking Device

Winch drum has a ratchet locking device which must be turned on when lowering boom, otherwise boom cannot be lowered. The device is used to stow the boom for safety

#### **Boom Angle Limit**

When boom angle is more than 80°, load moment limiter and hoist limit switch stop boom rising. When boom angle is less than 30", load moment limiter stops boom lowering

### Fixed Jib

### 详细介绍 Detailed Introduction

### 工作范围图 Diagram for Working Range

### 急停开关

此开关在紧急情况下可停止整车动力输出、保证起重机安全。

### 声光报警器

在履带起重机做回转动作时灯闪烁并且发出声音报警。

### 三色力矩报警灯

由三种颜色组成,负载在90%以下时"绿灯"亮,表示起重机在安全区域运行,负载在90%-10%的时候"黄灯"亮,表示起重机在已接近额度载荷范 图,负载在10%-105%以上时"红灯"亮,表示起重机已经超载。在危险 区域,控制系统会自动切断起重机向危险的方向运行。

### 照明灯

装置在转台前方、臂架上和操纵室内,用于为夜间工作提供照明。

### 示高灯

安装在臂架顶部。作为商空警示。

### Emergency stop switch

This switch can stop the power output of the whole machine in an emergency situation to ensure crane's safety.

### Audio/Video Warning

When crawler crane is moving and slewing, there is light and sound for warning.

### LMI Tricolor Warning Lamp

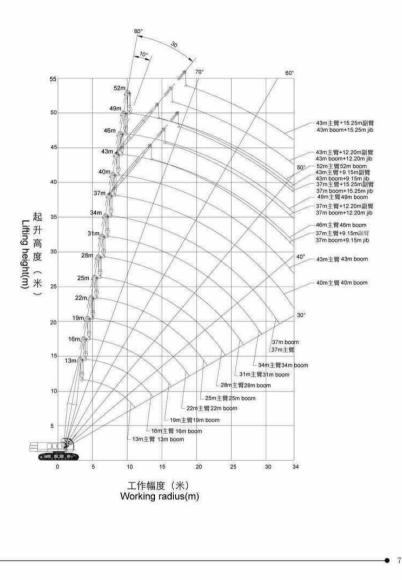
The lamp comprises 3 colors, when crane loading is below 90% of total rated lifting load, "Green Lamp" lights on to indicate that crane is running in safety: when crane loading is in 90%--100% of total rated lifting load. "Yellow Lamp" lights on to indicate that crane is close to total rated lifting load: when crane loading is above 100%-- 105% of total rated lifting load: "when crane loading is above 100%-- 105% of total rated lifting load: "when crane loading is above 100%-- 105% of total rated lifting load: "Red Lamp" and "Yellow Lamp" light on at the same time to indicate that crane is overloaded; in dangerous area, contol system can automatically cut off crane movement to dangerous direction.

### Illumination Lamp

There are illumination lamps at the front of turntable, on boom and inside operator's cabin for night operation.

### Height Mark Lamp

Boom tip has a height mark lamp for high level operation warning.



# 主臂臂节组合/主臂工况 Boom Combinations/Boom Working Condition

主臂工况载荷表	Į.		
Boom Working	Condition a	and Lifting	Load Chart

12.40 12.00

11.60 11.30

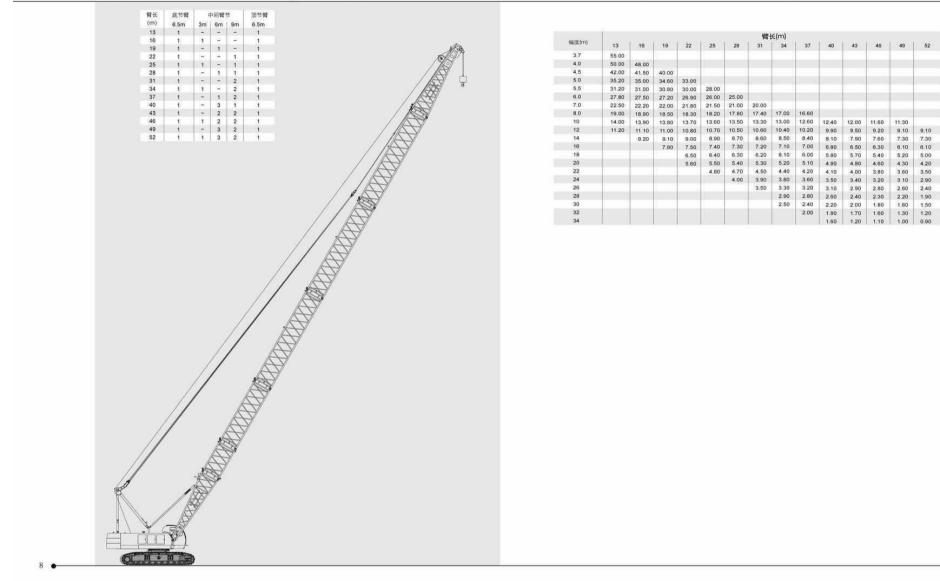
6.10 6.10

3.10 2.90

5.20 5.00

4.30 4.20

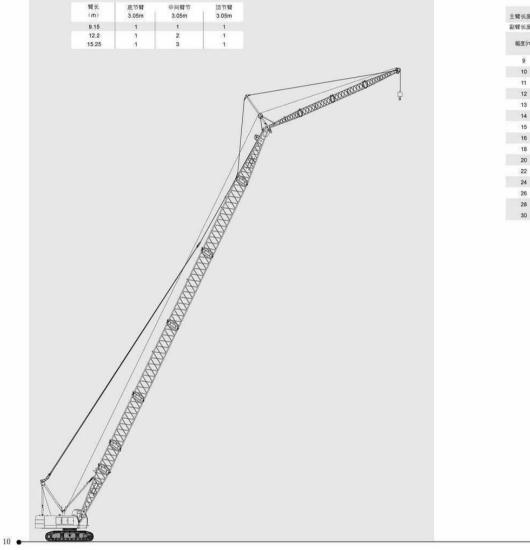
3.60 3.50



. 9

# 固定副臂臂节组合/副臂工况 Fixed Jib Combinations/Jib Working Condition

固定副臂						
Fixed Jib	Working	Condition	and L	ifting	Load	Chart



主臂长度(m)			主臀	25米				主臂31米						主臂34米					
副臂长度(m)	9.15 12.20		15	15.25 9.15 12.20 15.25				.25	9.	15	20 15.25								
all styles 1									剧聲安	装角 (*)									
幅度(m)	10	30	10	30	10	30	10	30	10	30	10	30	10	30	10	30	10	30	
9	5.00						5.00												
10	5.00		4.50				5.00		4.50				5.00		4.50				
11	5.00		4.50		4.00		5.00		4.50		4.00		5.00		4.50				
12	5.00	4.80	4.50		4.00		5.00	4.80	4.50		4.00		5.00		4.50		3,50		
13	5.00	4.80	4.50		4.00		5.00	4.80	4.50		4.00		5.00	4.80	4,50		3.50		
14	5.00	4.60	4.50	4.40	3.50		5.00	4.70	4.50	4.00	4.00		5.00	4.80	4.50		3.50		
15	5.00	4.50	4.40	4.30	3.50		5.00	4.70	4.50	4.00	4.00		5.00	4.70	4.50	4.00	3.50		
16	5.00	4.40	4.30	4.20	3.50	3.50	5.00	4.45	4.50	4.00	4.00		5,00	4.70	4.50	3.85	3.50		
18	5.00	4.20	4.10	4.00	3.50	3.20	5.00	4.30	4.30	3.80	4.00	3.20	5.00	4.60	4.30	3.70	3.50	3.20	
20	5.00	4.00	3.90	3.80	3.50	3.00	4.80	4.20	4.10	3.65	3.80	3.10	4.80	4.40	4.10	3.50	3.50	3.10	
22	4.30	3.80	3.80	3.60	3.00	2.80	4.40	4.00	3.90	3.45	3.60	2.95	4.30	4,15	3.90	3,55	3.30	3.00	
24							4.00	3.80	3.75	3.30	3.40	2.80	3.80	3.85	3.70	3.30	3.25	2.90	
26							3.80	3.40	3.50	3.15	3.20	2.70	3.40	3.40	3.40	3,10	3.15	2.80	
28													3.00	3.00	3.00	3.00	3.00	2.75	
30													2.60	2,70	2.70	2.70	2.70	2.60	

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### 固定副臂工况载荷表 Fixed Jib Working Condition and Lifting Load Chart

主臂长度(m)			主響	<b>\$40米</b>		主臂43米						
副臂长度(m)	9.	9.15 12.20 15.25				.25	9.	15	12	20	15.25	
Campoor Sold						剧臂安	装角(*)					
幅度(m)	10	30	10	30	10	30	10	30	10	30	10	30
10												
11												
12	5.00						5.00					
13	5.00		4.50				5.00		4.50			
14	5.00	4.80	4.50		3.50		5.00		4.50		3.50	
15	5.00	4.80	4.50		3.50		5.00	4.80	4.50		3.50	
16	5.00	4.50	4.50	4.00	3.50		5.00	4.80	4.50		3.40	
18	5.00	4.50	4.30	4.00	3.40	3.20	5.00	4.70	4.30	3.80	3.30	
20	4.50	4.30	4.15	3.80	3.30	3.15	4.45	4.40	4.15	3.75	3.20	3.20
22	4.00	4.10	4.00	3.65	3.20	3.05	3.95	4.15	4.00	3.65	3.10	3.10
24	3.60	3.65	3.50	3.45	3.10	2.95	3.50	3.60	3.50	3.45	3.00	3.00
26	3.15	3.20	3.10	3.30	2.95	2.85	3.10	3.10	3.05	3.15	2.80	2.90
28	2.80	2.80	2.80	2.80	2.70	2.75	2.70	2.70	2.70	2.80	2.70	2.80
30	2.45	2.50	2.40	2.50	2.40	2.50	2.40	2.30	2.30	2.45	2.35	2.50
32	2.10	2.20	2.10	2.20	2.10	2.25	2.00	2.05	2.00	2.10	2.00	2.20
34	1.85	1.90	1.80	1.90	1.90	2.00	1.70	1.80	1.70	1.85	1.70	2.00

### 载荷表说明:

- 表中额定起重量,指在给定的臂架长度、工作幅度条件下,重物自由悬挂,在坚实、 平坦地面作业所能保证的最大起重量,作业者须视各种不良条件(如地面松软或不平、 风力、侧面负荷、摆动作用、多合起重机合力起吊)限制或降低起重机的起重量;
- 表中额定起重量包括吊钩、钢丝绳、和其它所有吊具的重量;
- 表中没有列出额定值的空白区,不允许将起重机用于该区所对应的起重作业;
- 表中起重量为带全配重的起重量;
- 使用主臂可以配置臂端单滑轮机构。臂端单滑轮机构的起重量为性能表中相应的额 定起重量减去臂端单滑轮机构、5f吊钩和吊具的重量;
- 臂端单滑轮机构的最大起重量(包括吊钩、吊具和起升钢丝绳)不准超过5t,性能 表中的额定起重量小于5t时按性能表起吊。
- 🥚 使用范围: 工矿企业、建筑施工等,可用于装卸、安装,不适用于电磁波较强的地区。
- 🥑 使用条件:
- 环境温度: -20~40℃。
- 工作风速: < 9.8 m/s (5级风)。
- 工作地面: 坚实、平整不下陷, 坡度不大于1%。

### Notes on Lifting Load Chart:

- The total rated lifting loads shown in above tables are the max, lifting capacity based on the conditions that crane set up on firm and level ground with given boom length, radius and load, crane operator shall limit or reduce lifting loads according to variable working conditions (soft or uneven ground, wind, side load, slewing action, lifting with one more cranes).
- The total rated lifting loads include the weight of hook block, wire rope and other slings.
- The blank area in above tables means crane operation is not allowed in these areas.
- The total rated lifting loads are the lifting capacity for crane with superstructure counterweight and carrier counterweight.
- Boom can be equipped with a single top, whose lifting load is the total rated lifting loads in above table decrease the weight of single sheave, 5t capacity hook block and sings.
- The max. rated lifting load for single top is 5t (include the weight of hook block, slings and hoist wire rope), if rated lifting load in above tables is less than 5t, load lifting should be in accordance with the table.
- range of application: industry, mining and building operations, it is used in load, discharge and installation, it's not proper used in strong electromagnetic wave area.

### application condiztions:

enviornment and temprature:-20--40℃. wind speed for working:≤9.8 m/s (5 grade wind) ground condition for working: strong, firm and flat ground, with gradient ≤1%