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# XGC401 伸缩臂履带起重机 TELESCOPIC CRAWLER CRANE



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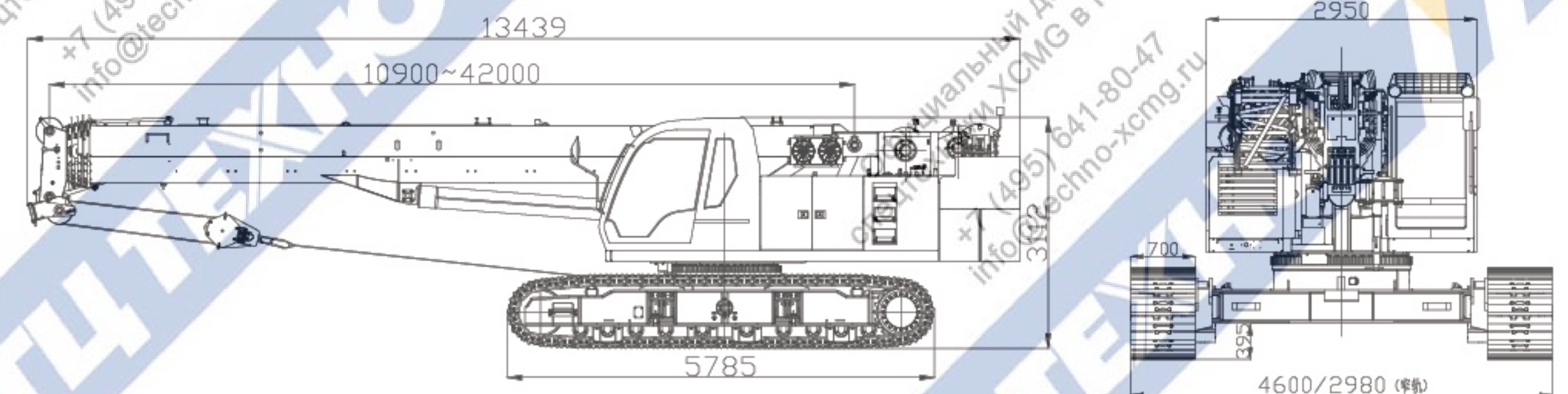
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## 主要技术参数 The Main Technical Parameters

类别 Type	项目 Items	单位 Unit	参数 Data	
尺寸参数 Dimension	整机全长 Overall length	mm	13439	
	整机全宽 (伸/缩) Overall width (extension/retraction)	mm	4600/2980	
	整机全高 Overall height	mm	3112	
	主、从动轮中心距 Central distance from drive roller to driven roller	mm	4882	
重量参数 Weight	履带板宽 Track shoe width	mm	700	
	总质量 Total weight	t	48	
	最高行走速度 Max. travel speed	km/h	3	
	最小离地间隙 Min. clearance from the ground	mm	395	
行驶参数 Travel	最大爬坡能力 Max. gradeability	%	45	
	接地比压 Ground pressure	MPa	0.069	
	耳旁噪声 Ear noise	dB(A)	80	
	发动机型号 Model	-	SC7H220.1G3	
动力参数 Power	额定功率 Rated power	Kw	162	
	额定转速 Rated revolution speed	r/min	2000	
	排放标准 Emission standard	-	非道路三阶段 Non-road III stage	
容积参数 Capacity	液压油箱容积 Hydraulic oil tank	L	950	
	燃油箱容积 Fuel tank	L	540	
主要性能参数 Main performance	最大额定起重量 Max. rated lifting weight	t	40	
	最小工作幅度 Min. rated radius	m	3	
	最大起重力矩 Max. lifting load moment	kN-m	1423	
	起升高度 Lifting height	基本臂 Base boom	m	11.8
		最长主臂 Max. length boom	m	42.6
	起重臂长度 Boom length	最长主臂 + 副臂 Max. length boom + Jib	m	58.5
副臂 Jib		m	9.2/16	
工作速度 Working speed	副臂安装角 Jib offset angle	°	0/15/30	
	主臂起臂时间 Boom raising time	s	40	
	主臂全伸时间 Boom full extension time	s	80	
	最大回转速度 Max. slewing speed	r/min	2.1	
	主/副起升速度 Hoisting speed (no load at the 4th layer)	m/min	140	

本印刷品所包含的数据,会随着产品的不断升级而改变,请以实际产品为准  
Pictures and data in this catalog will change with the update and modification of products,  
so please take the actual vehicle as reference.





## 详细介绍 Brief Introduction

### 上车 / Crane Superstructure

#### 发动机 / Engine

配置上柴SC7H220.1G3发动机, 非道路三阶段;  
额定功率/转速: 162Kw/2000rpm;  
Shanghai diesel engine SC7H220.1G3, non-road III stage;  
Rated power/revolution speed: 162Kw/2000rpm;

#### 起升机构 / Hoist Gear

空载起升速度: 0~140m/min Empty load hoisting speed: 0~140m/min  
钢丝绳直径/长度: Wire rope diameter/length:  
主卷钢丝绳: φ18mm/180m Main winch rope: φ18mm/180m  
副卷钢丝绳: φ18mm/125m Auxiliary winch rope: φ18mm/125m

#### 变幅机构 / Luffing Gear

变幅机构描述: 单缸前支变幅  
主臂起臂时间: ≤40s  
luffing mechanism description: single cylinder front luffing  
Main boom rising time: ≤40s

#### 电气控制系统 / Electric Control System

采用ECU控制器, 油门门, 手油门, 通过CAN实现对发动机转速的高效控制。  
系统采用供电方式为DC24V。采用PLC可编程控制器作为控制系统的核心, 系统由发动机控制、安全控制、先导控制、力矩限制器控制、辅助功能控制等几部分组成。通过显示器实时监测发动机水温、机油压力, 当超过安全临界值时, 蜂鸣器自动报警; 同时, 通过力矩限制器对当前工况的分析, 当吊重量、仰角或幅度任一值超出安全范围时, 三色报警灯和蜂鸣器会发出“声光报警”并通程序控制, 限制危险动作的行为。

Adopts ECU controller, foot throttle, and hand throttle to achieve efficient control of engine speed through the CAN.  
The system adopts DC24V power supply. The PLC programmable controller is used as the core of the control system. The system is composed of engine control, safety control, pilot control, torque limiter control and auxiliary function control. Monitor the engine water temperature and oil pressure in real time through the display. When the safety threshold value is exceeded, the buzzer will automatically alarm. At the same time, the load moment limiter will analyze the current working condition, and when the lift weight, elevation angle or radius exceeds the safe range, three-color warning light and buzzer will send "acoustic and visual alarm", control and limit dangerous movement through program.

#### 回转机构 / Slewing Gear

回转机构布置在转台右前端, 由马达驱动。  
行星减速机与回转支承外啮合进行回转, 液压缓冲, 具有自由滑转功能, 保证作业安全。行星齿轮减速机具备常闭、片式制动器, 工作可靠, 维修方便。  
回转支承: 采用单排四点接触球式回转支承, 承载能力强, 保证回转作业安全、平稳。  
回转速度: 0~2.1r/min.

The slewing gear is arranged at the right front end of the turntable and is driven by a motor.  
The planetary gear reducer rotates externally with the slewing ring and is hydraulic buffering; it has a free slip function to ensure operation safety. The planetary gear reducer has a normally closed, disc brake, reliable operation and easy maintenance.  
Slewing bearing: single-row four-point contact ball slewing bearing has strong bearing capacity and guarantees safe and stable slewing operation.  
Slewing speed: 0~2.1r/min

#### 液压系统 / Hydraulic System

液压比例阀控制, 控制精准, 微动性好, 调速范围广。起重作业伸缩、变幅及起升液压系统与行驶作业液压系统共用一恒功率带负载敏感的A8V107双泵, 回转系统和辅助系统分别由独立泵供油。  
采用成熟可靠的液压元件, 先进、高效的液压传动控制技术。操作简单, 维修维护方便。与电气系统相配合, 保证主机安全稳定。

Hydraulic proportional valve control, precise control, fine movement, wide speed range. Lifting operations, telescoping, luffing and hoisting hydraulic system shares a constant-power, load-sensitive A8V107 double pump with the hydraulic system of the travel operation. Slewing system and auxiliary system are supplied by independent pump.  
The use of mature and reliable hydraulic components, advanced and efficient hydraulic transmission control technology. It is simple operation and easy maintenance. Cooperate with the electrical system to ensure the safety and stability of the crane.

### 下车 / Crane Carrier

下车包括车架、履带架、行走装置。车架和履带架采用插入式连接。下车具有宽轨、窄轨两种工作状态。宽轨时起重性能高, 窄轨时适用于狭小空间作业。

Undercarriage includes car-body, crawler tracks and travel device. It is insertion connection between car-body and crawler tracks.  
There are two working states: wide track gauge and narrow track gauge. This crane is with high lifting performance in wide gauge mode and applies to the works in narrow and small spaces in narrow gauge mode.

#### 履带伸缩 / Track Frame Extension/Retraction

将下车行走切换阀, 切换到收梁状态, 通过履带收缩油缸实现履带的扩张和收缩。方便转场及狭窄环境通过。

Switch undercarriage travel switch valve to retraction state; extend/retract crawler tracks through cylinder extension/retraction. It is convenient for transition and passing through narrow space.

#### 行走装置 / Travel Gear

由行走马达、减速机、驱动轮来实现整机的直线行走及转弯。

Overall crane straight travel and turning is achieved through motor, reducer and drive rollers.

#### 吊钩 / Hook Block

名称Name	40t吊钩Hook	4.5t吊钩Hook
重量Weight (kg)	400	93
数量Quantity	1	1

#### 平衡重 / Counterweight

平衡重共12t, 一块8.5t, 2个1.75t。具有12t、8.5t、0t三种配重组合, 分别对应不同起重性能。  
为用户提供了多样化选择, 可降低运输成本, 降低接地比压, 适合在松软、泥泞场地施工。

Counterweight is totally 12t, with one 8.5t block and two 1.75t blocks. There are three counterweight combinations; they are 12t, 8.5t, 0t, corresponding to different lifting performance.  
Provide diversified options for users, reduce transport cost and ground pressure, it is applicable to the construction on soft and muddy.

### 安全装置 / Safety Devices

安全装置包括急停开关、先导控制开关、力矩限制器、起升高度限制器、回转锁止装置、三圈保护器等。

Safety devices comprise emergency stop switch, pilot control switch, load moment limiter, hoist limit switch, slewing locking device, rope-end limiter, etc.

#### 急停开关 / Emergency Switch

按下急停开关, 发动机熄火, 整车动作停止。

Press down emergency switch, engine powers off, crane movement is stopped.

#### 先导控制开关 / Pilot Control Switch

按下开关后, 起重作业电气系统才能正常操作。

Press the switch, lifting working electrical system can be operated normally.

#### 力矩限制器 / Load Moment Limiter

当吊重量大于额定起重量, 吊臂仰角超出额定范围、或幅度超出额定范围时, 力矩器会发出信号, 限制危险动作的继续进行。

When the lifted load is heavier than the rated load, boom angle exceeds the rated range or radius exceeds rated range, load moment limiter will send out a signal to restrict the dangerous movement.

#### 起升高度限位器 / Height Limiter

当吊钩中心起升至吊臂滑轮重心约710mm时, 起升动作自动停止。

When the hook center is hoisted to boom pulley gravity center about 710mm, hoisting movement stops automatically.

#### 回转锁止机构 / Slewing Lock Mechanism

保证运输时转台有效锁止, 防止其自由滑转。

Guarantee turntable locking effectively during transport, prevent from free sliding.

#### 三圈保护器 / Rope-end Limiter

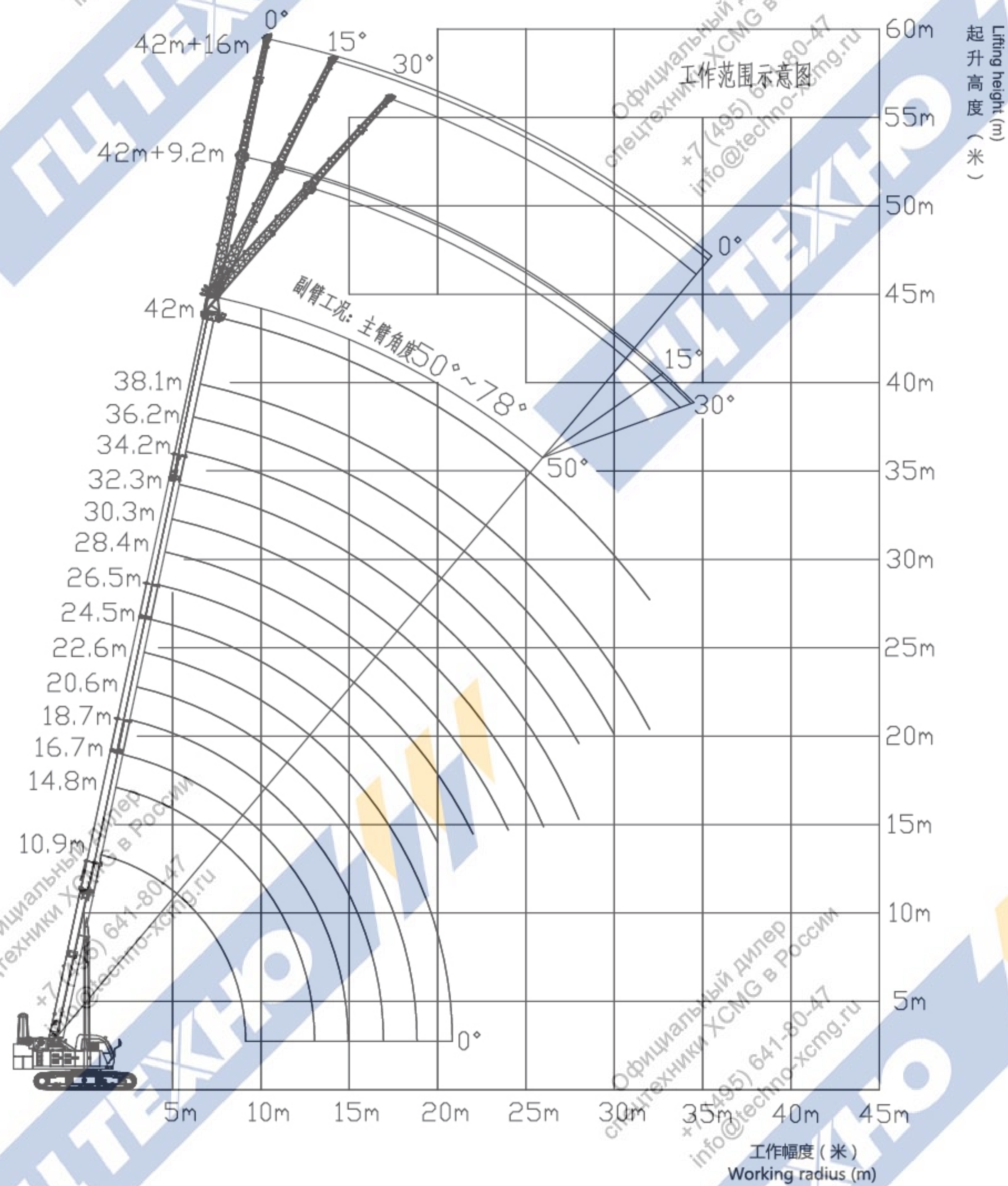
当吊钩下降至卷扬钢丝绳剩余三至五圈时, 吊钩自动停止。

When hook lower to 3-5 loops of ropes left on the drum, hook automatically stops lowering.



### 作业范围 Working Area

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注: 部分臂长具有小角度起重性能, 适合于在高度受限的工作场所施工, 如厂房、仓库、隧道等内部作业。  
Notes: some boom lengths has lifting performance in small angles, they are suitable for working in limited height space, such as workshops, storehouse and tunnels.

### 主臂起重性能表 Boom Lifting Load Chart

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XGC40T主臂性能表 (12t配重、宽轨、静止吊重)  
XGC40T boom lifting load chart (12t counterweight, wide track gauge, static lifting)

幅度/臂长 Radius/boom length m	10.9	14.8	16.7	18.7	20.6	22.6	24.5	26.5	28.4	30.3	32.3	34.2	36.2	38.1	42.0		
3	40.0																
3.5	35.0	34.0	17.0	26.5													
4	34.0	31.0	16.9	26.0	17.1	13.1											
4.5	31.0	29.0	16.8	25.0	16.7	12.9	19.0										
5	28.5	27.0	16.7	24.0	16.2	12.8	18.5	12.8									
5.5	26.4	24.5	16.4	22.8	15.8	12.7	17.5	12.6	9.5								
6	22.6	22.0	16.2	20.3	15.3	12.6	16.5	12.2	9.5	14.0							
7	17.3	17.0	14.4	16.4	14.4	11.7	15.0	11.5	9.0	12.8	8.8	6.6	9.5				
8	13.8	13.5	13.1	13.3	12.6	10.8	13.5	10.4	8.1	11.7	8.4	6.6	8.9	6.4			
9	11.2	11.0	11.1	10.8	10.8	9.9	11.5	9.9	7.7	10.9	7.9	6.2	8.4	6.2	7.0		
10		9.3	9.4	8.9	9.0	9.0	9.7	8.8	7.2	9.8	7.0	5.8	7.8	5.9	6.3		
12			6.3	6.9	6.3	6.6	7.4	7.0	5.9	7.4	6.2	5.1	6.8	5.2	5.8		
14				5.3	4.6	4.9	5.7	5.2	5.4	5.4	5.7	5.3	4.4	5.8	4.6	5.1	
16					3.0	3.8	4.5	4.0	4.2	4.5	4.4	4.4	4.0	4.6	4.0	4.6	
18						2.9	3.6	3.0	3.3	3.9	3.4	3.5	3.5	3.7	3.5	3.7	
20								2.1	2.6	3.2	2.6	2.8	3.1	2.9	3.0	3.1	
22									2.1	2.6	2.0	2.3	2.6	2.3	2.4	2.5	
24										2.1	1.4	1.8	2.2	1.9	2.0	2.0	
26											1.0	1.4	1.9	1.5	1.6	1.5	
28													1.1	1.5	1.1	1.3	1.2
30														0.7	1.0	0.9	
32															0.7	0.7	
倍率 Parts of line	8	8	5	7	5	5	5	4	3	4	3	2	3	2	2		
40t吊钩 hook	400kg																
二节臂 2-section boom	0%	50%	0%	100%	50%	0%	100%	50%	0%	100%	50%	0%	100%	50%	100%		
三节臂 3-section boom	0%	0%	25%	0%	25%	50%	25%	50%	75%	50%	75%	100%	75%	100%	100%		
四节臂 4-section boom	0%	0%	25%	0%	25%	50%	25%	50%	75%	50%	75%	100%	75%	100%	100%		
五节臂 5-section boom	0%	0%	25%	0%	25%	50%	25%	50%	75%	50%	75%	100%	75%	100%	100%		



**主臂带载行驶性能表**  
**Boom With Load**  
**Lifting Load Chart**

XGC40T主臂性能表 (12t配重、宽轨、最低稳定速度行驶)  
XGC40T boom lifting load chart (12t counterweight, wide track gauge, min. stable travel speed)

幅度\臂长 Radius/boom length m	10.9	14.8	16.7	18.7	20.6	22.6	24.5
3	28.0						
3.5	24.0	22.1	10.5	17.2			
4	23.5	20.2	10.5	16.9	10.6	7.2	
4.5	21.5	18.9	10.4	16.3	10.3	7.1	9.5
5	20.0	17.6	10.4	15.6	10.0	7.0	9.3
5.5	18.5	15.9	10.2	14.1	9.8	7.0	8.8
6	15.8	14.3	10.0	12.6	9.5	6.9	8.3
7	12.1	11.1	8.9	10.2	8.9	6.4	7.5
8	9.0	8.8	8.1	8.3	7.8	5.9	6.7
9	7.5	7.1	6.9	6.7	6.7	5.4	5.7
10		6.0	5.8	5.5	5.6	5.0	4.9
12		4.1	4.3	3.9	4.1	4.0	3.5
14			3.3	2.9	3.1	3.1	2.6
16				1.9	2.3	2.5	2.0
18					1.8	2.0	1.5
倍率 parts of line	7	7	3	5	3	2	3
40t吊钩 hook	400kg						
二节臂 2-section boom	0%	50%	0%	100%	50%	0%	100%
三节臂 3-section boom	0%	0%	25%	0%	25%	50%	25%
四节臂 4-section boom	0%	0%	25%	0%	25%	50%	25%
五节臂 5-section boom	0%	0%	25%	0%	25%	50%	25%

**臂端单滑轮起重性能表**  
**Boom Single Pulley Lifting Load Chart**

XGC40T臂端单滑轮性能表 (12t配重、宽轨、静止吊重)  
XGC40T boom single pulley lifting load chart (12t counterweight, wide track gauge, static lifting)

幅度\臂长 Radius/boom length m	10.9	14.8	16.7	18.7	20.6	22.6	24.5	26.5	28.4	30.3	32.3	34.2	36.2	38.1	42.0
3	4.0														
3.5	4.0	4.0	4.0	4.0											
4	4.0	4.0	4.0	4.0	4.0	4.0									
4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0								
5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0							
5.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0					
7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
9	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
10		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
12		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
14			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
16				3.0	3.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
18					2.9	3.6	3.0	3.3	3.9	3.4	3.5	3.5	3.7	3.5	3.7
20								2.1	2.6	3.2	2.6	2.8	3.1	2.9	3.0
22									2.1	2.6	2.0	2.3	2.6	2.3	2.4
24										2.1	1.4	1.8	2.2	1.9	2.0
26											1.0	1.4	1.9	1.5	1.5
28												1.1	1.5	1.1	1.2
30														0.7	0.9
32															0.7
倍率 Parts of line	1														
4.5t吊钩 hook	93kg														
二节臂 2-section boom	0%	50%	0%	100%	50%	0%	100%	50%	0%	100%	50%	0%	100%	50%	100%
三节臂 3 section boom	0%	0%	25%	0%	25%	50%	25%	50%	75%	50%	75%	100%	75%	100%	100%
四节臂 4-section boom	0%	0%	25%	0%	25%	50%	25%	50%	75%	50%	75%	100%	75%	100%	100%
五节臂 5-section boom	0%	0%	25%	0%	25%	50%	25%	50%	75%	50%	75%	100%	75%	100%	100%



## 副臂起重性能表 Jib lifting Load Chart

XGC40T副臂性能表 (主臂42m、12t配重、宽轨、静止吊重)  
XGC40T jib lifting load chart (main boom 42m, 12t counterweight, wide track gauge, static lifting)

副臂长度 Jib length	9.2m			16m		
	0	15	30	0	15	30
主臂仰角/副臂安装角° Boom angle/Jib offset angle°						
78	4	2.5	2.1	2.1	1.4	1.1
75	3.5	2.2	2	2	1.2	1
72	3.2	2	1.9	1.8	1.1	0.9
70	3	1.9	1.8	1.7	1	0.8
65	2.5	1.8	1.7	1.4	0.8	0.7
60	1.5	1.2	1.1	1	0.7	0.6
55	0.9	0.8	0.7	0.6	0.5	0.4
50	0.5	0.5	0.4	0.6	0.5	0.4
倍率 Parts of line	1					
4.5t吊钩 hook	93kg					

## 运输方案 Transport Planning

方案1：整机拆分运输：

Plan 1: overall crane dismantling transport

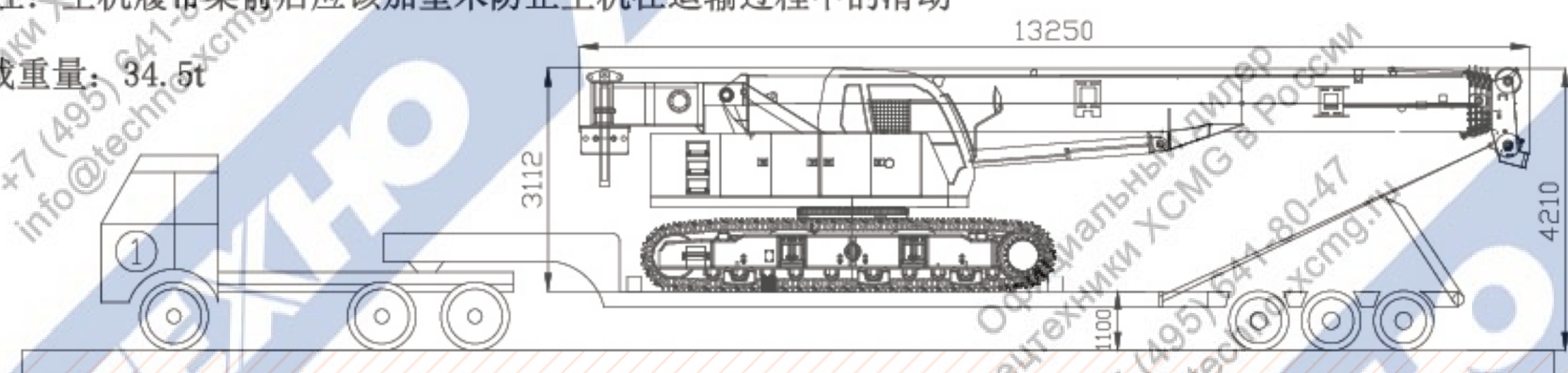
将配重、吊钩、副臂等件拆卸后分开运输，需2辆车，示意图如下：

Transport after removing away counterweights, jib, etc, 2 vehicles, see the following figure.

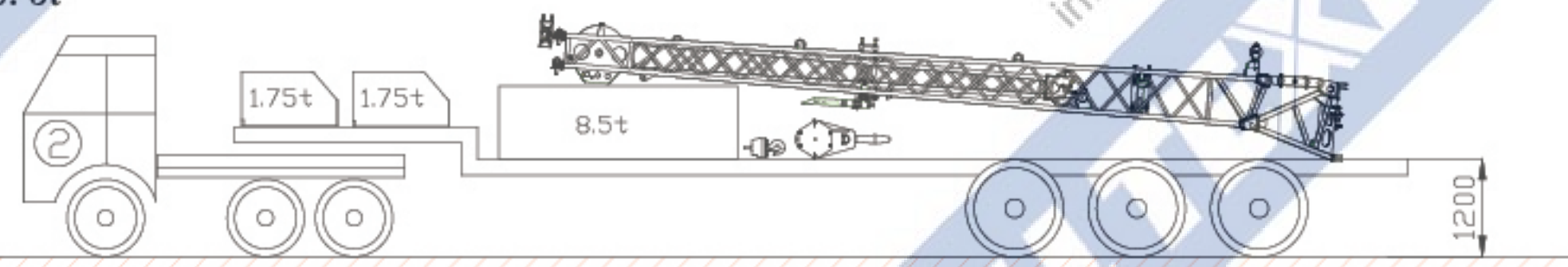
(一) 运输示意图: (2辆车)

1. 整机重48t，拆除配重（重12t）、副臂（1t）、吊钩（0.5t）运输，拆后主机重量约为34.5t；尺寸：13.25×3×3.11 m  
注：主机履带梁前后应该加垫木防止主机在运输过程中的滑动

载重量：34.5t



载重量：13.5t



## 运输方案 Transport Planning

方案2：整机一体运输：

Plane 2: overall crane integrated transport:

整机一体运输，需1辆车，示意图如下：

One vehicle is need when overall crane is integrated transported, see the following figure:

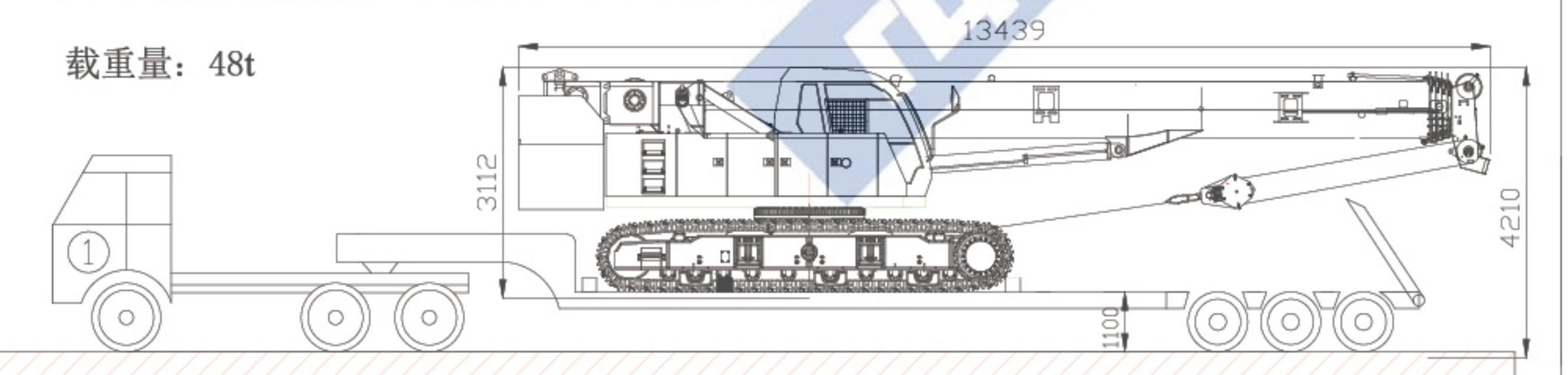
(二) 运输示意图: (1辆车)

1. 整机重48t，整机整体运输，

尺寸：13.44×3×3.11 m

注：主机履带梁前后应该加垫木防止主机在运输过程中的滑动

载重量：48t



注：1. 以上参数均为理论设计值，由于产品的制造过程中难免有细微差别，加之产品不断改进，部分零部件规格及重量上会有些许不同。以上数据仅供参考。

Notes: 1. the above parameters are theoretical design values, due to the unavoidable differences in the manufacturing process of the product, plus the continuous improvement of the product, the specification and weight of some parts will be slightly different. The above data is for reference only.

2. 运输车辆信息仅供参考。

Transport vehicle information is for reference only.

3. 运输时，主机（零部件）要固定牢靠。

The basic crane (parts) must be firmly fixed during transportation.