

XGC55T Telescopic Crawler Crane



XGC55T

RONCO GROUP



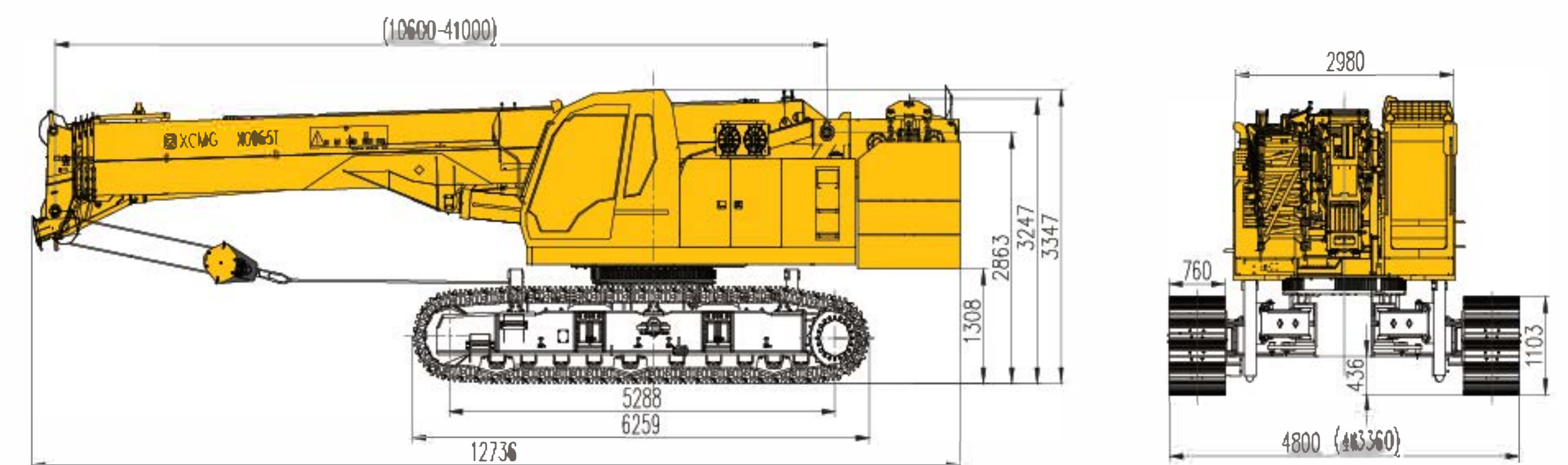
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The Main Technical Parameters

Type	Items	Unit	Data	
Dimension	Overall length	mm	12736	
	Overall width (extension/retraction)	mm	4800/3360	
	Overall height	mm	3347	
	Central distance from drive roller to driven roller	mm	5288	
	Track shoe width	mm	760	
Weight	Total mass in travel state	kg	62000	
	Max. travel speed with no load	km/h	2.3	
	Max. travel speed with full load	km/h	1.5	
Travel	Min. ground clearance	mm	436	
	Max. grade-ability	%	45	
	Ground pressure	MPa	0.08	
	Noise at ear in the cab	dB(A)	80	
Power	Engine model	-	QS86.7	
	Engine rated output power	kW	165	
	Engine rated rotation speed	r/min	1800	
Capacity	Engine emission standard	-	非道路EU Stage IIIA	
	Hydraulic oil tank	L	900	
	Fuel tank	L	550	
	Min. rated working radius	t	55	
Main performance	Max load moment	Base boom	kN·m	2116.8
		Max length boom	kN·m	1027
		Base-boom	kN·m	10.9
	Lifting height	Max. length boom	m	41.4
		Max. length boom + Jib	m	55
		Base boom	m	10.6
	Boom length	Max length boom	m	41
		Max length boom + Jib	m	57
		Base boom	m	10.6
	Working speed	Jib offset angle	°	0, 15, 30
Boom raising time		s	60	
Boom full extension time		s	110	
Max. slewing speed		r/min	2.0	
Main winch Hoisting speed(no load at the 4th layer)		m/min	140	
Auxiliary winch		m/min	140	

Pictures and data in this catalog will change with the update and modification of products, so please take the actual vehicle as reference.



Brief Introduction

Crane Superstructure

发动机 / Engine

配置东风康明斯QSB6.7发动机 (EU Stage IIIA), 额定功率/转速: 165kW/1800rpm, 空滤器采用平原空滤器, 可靠稳定的除尘效果保证主机平稳长时间运行。燃油箱: 有效容积550L。

Dongfeng Cummins QSB6.7 engine (EU Stage IIIA) rated power / speed: 165kW/1800rpm., Pingyuan air filter, reliable and stable dust-proof ensure the machine smooth and long time running. Fuel tank: effective capacity 550L.

起升机构 / Hoist Gear

起升机构描述: Hoist winch description:
空载起升速度: 0~140m/min. Hoisting speed with no load: 0~140m/min.
钢丝绳直径/长度: Wire rope diameter / length:
主卷钢丝绳: 18mm/220m. Main winch rope: 18mm/220m.
副卷钢丝绳: 18mm/125m. Auxiliary winch rope: 18mm/125m.
额定单绳拉力: 5.2t. Rated single line pull: 5.2t.

变幅机构 / Luffing Gear

变幅机构描述: 单缸前支变幅
主臂起臂时间≤60S
Luffing winch description: single cylinder front support luffing
Boom lifting time ≤60S.

电气控制系统 / Electric Control System

采用ECU控制器, 脚油门, 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DC 24V, 负极搭铁单线制。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, 通过力限制器对当前工况的分析, 当重量、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”并通过程序控制, 限制危险动作的进行。

Use of ECU controller, foot accelerator, hand accelerator, efficient control of the engine speed by CAN. The system uses DC 24V for power supply, negative ground and single cable system. PLC programmable controller is used as the core of the control system, the system consists of several parts such as engine control, safety control, pilot control, load moment limiter control, auxiliary function control. Real-time monitoring through the display of engine temperature, oil pressure, buzzer warning when the load exceeds the safety limit; at the same time, analysis of current conditions such as lifting load weight, boom elevation angle or radius through load moment limiter, if any values exceed safe limits, a three-color warning light and buzzer will give "sound and light warning", and control and restriction of hazardous actions by program control.

回转机构 / Slewing Gear

回转机构置于转台右前端, 由马达驱动。
行星减速机, 与回转支承外啮合齿轮进行回转, 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, 保证上车360°回转作业安全、平稳。
回转速度: 0~2.0r/min

Slewing unit is arranged at turntable right front, driven by the motor, with planetary gear reducer, external engaged by slewing ring for rotation, with hydraulic buffer and free-swing function, adjust the boom lifting active line with the lead line in the straight line, to ensure safe operation. Planetary gear reducer has a constant closed disc brake for reliable work and easy maintenance.
Slewing ring: it is single row 4-point-contact ball type slewing ring, with strong load bearing capacity, to ensure the superstructure 360° slewing operation, safe and stable.
Slewing speed: 0~2.0r/min.

液压系统 / Hydraulic System

液比例阀控制, 控制精准, 微动性好, 调速范围广。起重作业与行驶作业液压系统共用一恒功率负载敏感的A8V107双泵, 回转系统采用单独的齿轮泵供油。

Hydraulic proportional valve control, precision control, good fine motion, and wide speed range. the hydraulic system for lifting operations, and the travel hydraulic system share one constant power and load sensitive A8V107 twin-pump, slewing system is supplied oil by displacement gear pump.

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, 拉板限位。

Crane carrier comprises carbody, crawler track and travel gear. Carbody and crawler are using the plug-in connection.

履带伸缩 / Track Frame Extension/Retraction

将下车行走切换阀, 切换到收梁状态, 通过履带伸缩油缸实现履带梁的扩张与收缩。方便转场及狭窄环境通过。

Exchange undercarriage travel valve to track frame retraction, track frame extension/retraction is achieved by track frame telescopic cylinder, facilitate site transition and narrow environment through.

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。空载行驶速度为0~2.3 km/h, 带载行驶速度为0~1.5 km/h。

By travel motor, speed reducer, drive sprocket to achieve the machine walk in straight-line or turn around, with no-load travel speed 0~2.3km/h, with a load travel speed 0~1.5 km/h.

吊钩 / Hook Block

名称 Name	5.5t吊钩 5.5t hook block	2.5t吊钩 2.5t hook block	4.5t吊钩 4.5t hook block
重量 Weight (Kg)	520	315	93
数量Qty	1	1	1

平衡重 / Counterweight

转台平衡重由1块6t、1块5.5t平衡重和2块2.6t平衡重组成, 转台平衡重可根据具体吊重量及臂长进行选装, 详见下表:
转台平衡重装配组合:

Superstructure counterweight has 1 slab of 6t, 1 slab of 5.5t, 2 slabs of 2.6t, the superstructure counterweight is option according to the specified lifting load and boom length, as shown in the table below:
The superstructure counterweight assembly:

序号 No.	平衡重量 (t) Counterweight (t)	转台平衡重组合方式 Combination
1	0	0 (平衡重不安装) 0 (no assembly)
2	6	6
3	11.5	6+5.5
4	16.7	6+5.5+2.6+2.6

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、水平仪、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, level meter, 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 the emergency stop switch to stop the engine, and to stop all the machine movements.

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, the electric system for lifting operation starts to a normal work.

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时, 或幅度超出额定范围时, 力限制器会发出信号, 限制危险动作的继续进行。

When lifting load exceeds the total rated lifting capacity, and boom angle exceeds the rated limit, the load moment limiter will send a warning signal, and cut off crane movement to dangerous direction.

起升高度限位器 / Height Limiter

由主、副臂端部限位开关和重锤构成, 当吊钩中心起升至距吊臂滑轮中心约710mm时, 起升动作自动停止。

It consists of boom and jib end limit switch and the weight, which will automatically stop the hoisting movement when hook block center is raised 710mm to boom sheave center.

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。
The device is used to lock the turntable during transport to avoid free swing.

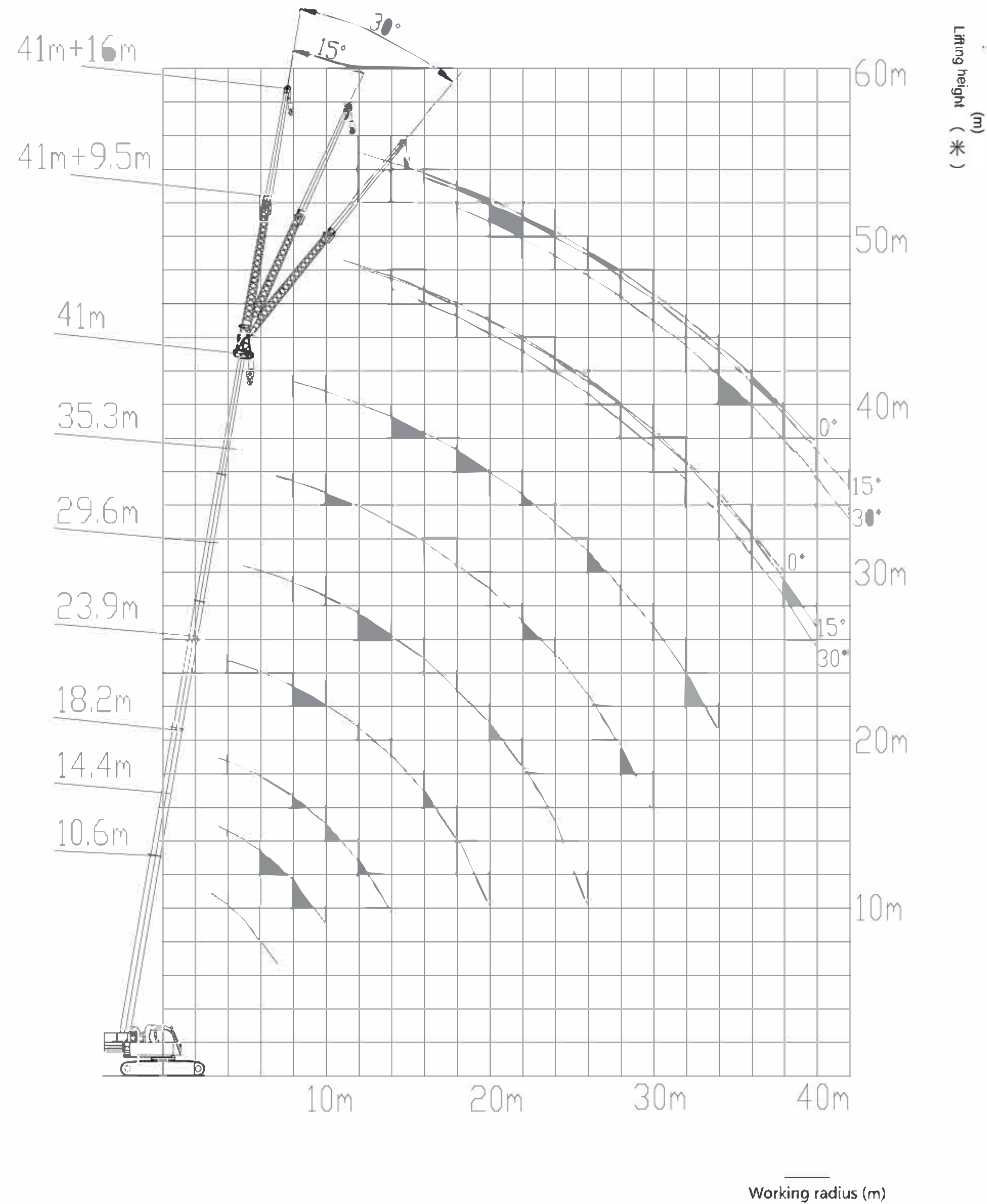
三圈保护器 / Rope-end Limiter

当吊钩下降至卷扬钢丝绳剩余三至五圈时, 落钩自动停止。
The device is used to stop hook block lowering when the hook block lowering down and only three to five turns of wire rope left on the winch drum.

水平仪 / Level Meter

机棚前方装有水平仪, 监控地面是否满足作业要求。
A level meter is set on the front of engine hood, to monitor the ground surface for operation requirements.

Working Area



Boom Lifting Load Chart

Boom condition, crawler track full extension, standstill lifting (no travel)

Boom condition, Crawler track full extension, No travel, Counterweight 16.7t, for 360° operation								
幅度Radius	10.6	14.4	18.2	23.9	29.6	35.3	41	幅度Radius
3	55							3
3.5	50	44	43					3.5
4	50	44	43	30.2				4
4.5	48	44	43	30.2				4.5
5	41.2	40.9	40.8	30.2	20			5
6	29.8	29.6	29.5	30.2	20			6
7	23	22.8	22.7	23.7	20	15		7
8		18.3	18.2	19.2	19.7	15	10	8
9		15.1	15	15.9	16.4	14	10	9
10		12.7	12.6	13.4	14	14	10	10
12			9.2	10	10.5	10.9	10	12
14			6.9	7.7	8.2	8.5	8.8	14
16				6.1	6.6	6.9	7.1	16
18				4.9	5.3	5.6	5.9	18
20				3.9	4.4	4.7	4.9	20
22					3.6	3.9	4.1	22
24					3	3.3	3.5	24
26					2.5	2.7	2.9	26
28						2.3	2.5	28
30						1.9	2.1	30
32							1.8	32
34							1.5	34

Boom Lifting Load Chart

Boom condition, crawler track full extension, travel with a load, superstructure counterweight 16.7t

Boom condition, Crawler track full extension, Travel with a load, Superstructure counterweight 16.7t, 360° operation, Travel at a lower and stable speed.					
Radius	10.6	14.4	18.2	23.9	Radius
3	55.0				3
3.5	50.0	44.0	43.0		3.5
4	50.0	44.0	43.0	30.2	4
4.5	44.6	44.0	43.0	30.2	4.5
5	36.5	36.3	36.1	30.2	5
6	26.5	26.3	26.1	27.1	6
7	20.4	20.3	20.1	21	7
8		16.3	16.1	17	8
9		13.4	13.3	14.1	9
10		11.2	11.1	11.9	10
12			8.2	8.9	12
14			6.1	6.9	14
16				5.4	16
18				4.3	18
20				3.5	20

Jib lifting Load Chart

Jib condition, crawler track full extension, standstill lifting (no travel), superstructure counterweight 16.7t.

Jib condition, Crawler track full extension, No travel, Superstructure counterweight 16.7t, 360° operation							
Radius	Boom 41m + Jib 9.5m			Boom 41m + Jib 16m			Radius
	Jib offset angle						
	0°	15°	30°	0°	15°	30°	
11	4.5						11
12	4.3	2.9		2.6			12
14	4.1	2.8	2.5	2.4			14
16	3.8	2.7	2.4	2.2	1.4		16
18	3.5	2.6	2.3	2	1.3	1.2	18
20	3.2	2.5	2.2	1.8	1.2	1.1	20
22	2.8	2.3	2	1.6	1.1	1	22
24	2.4	2.1	1.8	1.4	1	0.9	24
26	2.1	1.9	1.6	1.3	1	0.9	26
28	1.9	1.7	1.5	1.2	0.9	0.8	28
30	1.6	1.5	1.3	1.1	0.9	0.8	30
32	1.3	1.2	1.1	1	0.8	0.7	32
34	1.2	1.1	1	0.9	0.8	0.7	34
36	1.1	1	0.9	0.8	0.7	0.6	36
38	1	0.9	0.8	0.8	0.7	0.6	38
40		0.8	0.7	0.7	0.6	0.5	40
42					0.6	0.5	42

Boom Single Pulley Lifting Load Chart

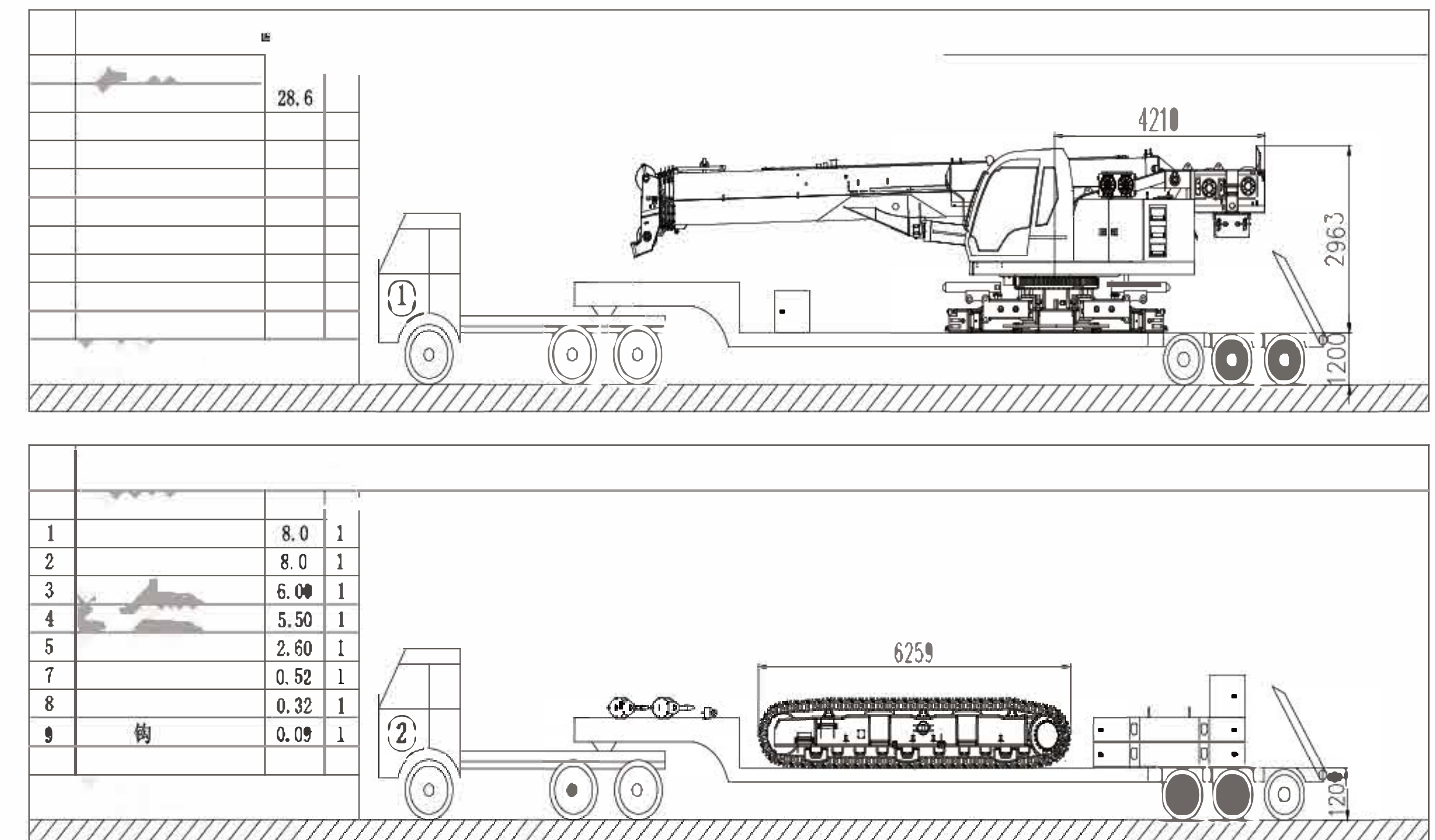
Boom single top condition, crawler track full extension, standstill lifting (no travel), superstructure counterweight 16.7t.

Boom single top condition, Crawler track full extension, Travel with a load, Superstructure counterweight 16.7t, 360° operation, Travel at a lower and stable speed.					
Radius	10.6	14.4	18.2	23.9	Radius
3	4.5				3
3.5	4.5	4.5	4.5		3.5
4	4.5	4.5	4.5	4.5	4
4.5	4.5	4.5	4.5	4.5	4.5
5	4.5	4.5	4.5	4.5	5
6	4.5	4.5	4.5	4.5	6
7	4.5	4.5	4.5	4.5	7
8		4.5	4.5	4.5	8
9		4.5	4.5	4.5	9
10		4.5	4.5	4.5	10
12			4.5	4.5	12
14			4.5	4.5	14
16				4.5	16
18				4.3	18
20				3.5	20

Boom single top condition, crawler track full extension, standstill lifting (no travel), superstructure counterweight 16.7t.

Boom single top condition, Crawler track full extension, No travel, Superstructure counterweight 16.7t, 360° operation								
Radius	10.6	14.4	18.2	23.9	29.6	35.3	41	Radius
3	4.5							3
3.5	4.5	4.5	4.5					3.5
4	4.5	4.5	4.5	4.5				4
4.5	4.5	4.5	4.5	4.5				4.5
5	4.5	4.5	4.5	4.5	4.5			5
6	4.5	4.5	4.5	4.5	4.5			6
7	4.5	4.5	4.5	4.5	4.5	4.5		7
8		4.5	4.5	4.5	4.5	4.5	4.5	8
9		4.5	4.5	4.5	4.5	4.5	4.5	9
10		4.5	4.5	4.5	4.5	4.5	4.5	10
12			4.5	4.5	4.5	4.5	4.5	12
14			4.5	4.5	4.5	4.5	4.5	14
16				4.5	4.5	4.5	4.5	16
18				4.5	4.5	4.5	4.5	18
20					4.4	4.5	4.5	20
22					3.6	3.9	4.1	22
24					3	3.3	3.5	24
26					2.5	2.7	2.9	26
30						1.9	2.1	30
32							1.8	32
34							1.5	34

Transport Planning



- The values given in the tables are the rated lifting capacity for the crane set up on the solid and level ground. The radius in the table is the actual radius of the boom with a lifting load.
- The crane can travel with a load with boom length $\leq 23.9\text{m}$, the other boom and jib conditions do not allow travel with a load and travel with no-load.
- Fully extended crawler track must be required for travel with a load.
- Total three kinds of hook block, 55t hook block (for boom), 25t hook block (for boom), 4.5t hook block (for jib), the weight of each hook block is in the following table:

				Weight of hook block			
				Hook block	55t	25t	4.5t
				Weight (kg)	520	315	83