Introduction on the Highlights of XGC65 Crawler Crane

1. Safe and reliable control system

The two operation modes (working mode and assembly mode) are convenient and reliable; emergency electrical control system, safety and monitoring devices are complete. The hydraulic main valve with high level of integration simplifies hydraulic pipeline and greatly reduces the failure points.

2. Excellent operation performance and high working efficiency

Innovative use of micro control adjustment technology can greatly improve the stability and accuracy of crane movements.

3. Strong lifting capacity

The maximum rated load moment is 227.5t.m; the maximum lifting capacity of main boom is 65t; the maximum lifting capacity of boom single top and fixed jib is 12t.

4. Rich working conditions and easy interchange between various working conditions

This crane is configured with various working conditions such as boom working condition, boom working condition with boom single top and hook block, boom working condition with fixed jib and hook block, fixed jib working condition, fixed jib working condition with boom main hook, boom single top working condition with boom main hook and etc. to meet different lifting requirements. The switch between main hook and auxiliary hook is realized through one button.

5. High working efficiency

Rich compound movements and ideal single line speed make the work much easier and faster.

6. Convenient disassembly function

This crane is equipped with gantry self-erection function, so the gantry can raise by itself without the use of auxiliary crane. The pin shafts for boom sections are designed with two sharp points and double chamfers, which makes boom disassembly more efficient.

7. Rich function selection

Optional function modules provided by this crane include: hook free fall function for main and auxiliary winches, monitoring system, data recorder, lightning protection device, electronic level gauge, virtual wall, bottom cover plate of turntable, foldable guardrail for crane shed, piling frame installation interface, engine cold start device, fuel heater and etc., so as to meet the needs of

different users.

8. Modular design of crane components

Fixed jib, boom single top, counterweight and hook block of XGC series products below 100 tons are shared with each other, which can greatly reduce the cost of purchasing XGC series products.

9. Convenient maintenance

Time needed to access the adjustment position is not more than 10min/person, time needed to access the daily maintenance position is not more than 30min/person, and the longest time needed to access the maintenance position is not more than 2h/person.

10. Unique appearance

The new cab designed according to bionics has a fashionable and novel appearance. The interior and control system have been tested by human simulation software, the operation is more convenient and comfortable, and the field of vision is much wider.

XGC65 Crawler Crane Technical Specification

Crawler crane model: XGC65

Max. rated lifting capacity: 65t/3.5m

Max. rated load moment: 227.5 t.m

I. Parts and system description

I) Crane superstructure

1. Boom combination

The boom sections of this crane use high-strength steel pipes as main chords and lacing members, supplemented by four-chord lattice structure welded by high strength steel plate, with equal section in the middle and variable section at two ends. With the help of accurate finite element analysis and calculation, the potential of boom sections are fully utilized and the lifting capacity is greatly improved.

In boom working condition, the maximum lifting capacity is 65t/3.5m, the maximum load moment is 227.5t.m, boom length 13m~52m. Boom composition: boom butt 1×6.5m, boom top 1×6.5m, boom insert 1×3m, boom insert 3×6m, boom insert 2×9m.

In fixed jib working condition, the maximum lifting capacity is 12t (parts of line 2), the maximum load moment is 11t×12m=132t.m, boom length 25m~43m, fixed jib length 7m~16m. Fixed jib composition: jib butt 1×4m, jib top 1×3m, jib insert 1×3m, jib insert 1×6m, strut 1×3m.

In boom single top working condition, the maximum lifting capacity is 12t (parts of line 2), boom single top length is 1.1m, boom length 13m~49m.

2. Boom luffing components

Luffing connection between boom sections is mainly realized through guy cables, supplemented by pendant. The guy cables adopt mature technology structure, safe and reliable; the pendants use high-strength steel plate and cut once for formation, no welding, with less manufacturing defects and has high safety factor.

3. Turntable

Turntable is the key load bearing structure to connect superstructure and undercarriage, the main bearing structure is made of high strength steel plate and welded in flat box-type structure, the space of the crane is enlarged by welding bracket on both sides for arranging the fixed load. Turntable is connected with undercarriage by slewing ring. Boom butt, gantry, hoist winch, luffing winch and counterweight are arranged on the main bearing structure; cab, engine system, main pump, hydraulic valve, electric cabinet and other structures are arranged on the brackets on both sides; turntable main

structure and brackets of both sides are designed according to the force condition of the overall crane, with reasonable structure, good overall strength and stiffness.

4. Gantry

Gantry is double-limb structure, reinforced beam is installed between the two limbs, with good stability. The main structure of gantry is high-quality seamless steel pipe, with less welding, less manufacturing defects and high safety factor. There are two states for the gantry, it is erected for working and laid down for transportation. The gantry is equipped with self-erection roller, which can achieve self-erection function in coordination with boom butt.

5. Mechanism composition

The mechanisms of the crane and their functions are shown in the table below:

No.	Name	Function	Location
1	Main hoist system	Used for the lifting operation of main boom	Middle and front part of turntable
2	Auxiliary hoist system	Used for auxiliary lifting operation in boom single top and fixed jib working conditions	Middle part of turntable
3	Main luffing system	Boom luffing	Rear part of turntable
4	Slewing system	Superstructure slewing	Front part of turntable
5	Travel unit	Crane travel	Crawler drive sprocket

6. Hoist system

Hoist system includes main hoist system and aux. hoist system.

For main and aux. hoist systems, planetary reducer is driven by fixed displacement motor to achieve the hoisting and lowering of main or auxiliary hook block through drum and pulley block. The speed of main and auxiliary hoist winches is increased through double-pump soil supply function.

The hoist mechanisms have built-in planetary reducer, with negative brake wet type multi-disc normally closed brake, to achieve “spring braking/hydraulic release” function, safe and reliable. Splash lubrication is adopted, free for maintenance. The hoist winches also have the features of easy oil replacement, low noise, high efficiency and long service life. Meanwhile it also has excellent micro speed performance.

The ductile iron double-line drum is used for the winches, with good vibration absorption, ensures that there is no messy rope when it is reeved in multiple layers, which effectively prolong the rope’s service life.

The rotation resistance wire rope used for main hoist winch is left-handed and twisting in the same direction. It has the features of independent steel core, high breaking force and high extrusion resistance. Rated single line pull is 8t, rope diameter is φ22 mm, rope length is 200m.

The wire rope used for auxiliary hoist winch is also rotation resistance, with the features of independent steel core, high breaking force and high extrusion resistance. Rated single line pull is 8t, rope diameter is φ22 mm, rope length is 130m.

Main and auxiliary hoist winches are both optionally configured with free fall function, under no-load working condition, the hook can lower quickly.

7. Luffing system

For the luffing winch system, planetary reducer is driven by fixed displacement hydraulic motor to achieve boom luffing through drum and luffing pulley block. Main luffing mechanism has built-in planetary reducer, with negative brake wet type multi-disc normally closed brake to achieve “spring braking/hydraulic release” function.

The ductile iron double-line double-drum is used for main luffing winch, with good vibration absorption, ensures that there is no messy rope when it is reeved in multiple layers, which effectively prolong the rope’s service life. The drum has a ratchet locking device, and the pawl is driven by hydraulic cylinder to achieve multiple lock for protection.

The rotation resistance wire rope used for the luffing system is left-handed and twisting in different directions. It has the features of independent steel core, high breaking force and good structure stability. Rated single line pull is 6t, rope diameter is φ20 mm, rope length is 103m.

8. Slewing unit

Slewing unit is internally meshed with slewing ring for drive. It is arranged in front of turntable. Planetary reducer is driven by fixed displacement motor to drive the slewing ring to achieve 360° slewing.

Slewing unit has a built-in planetary reducer, with negative brake wet type multi-disc normally closed brake to achieve “spring braking/hydraulic release” function, so as to ensure high brake safety. Slewing unit also has a mechanical locking device for locking protection of the slewing unit.

Eccentric mechanism can ensure a better meshing between the reducer and slewing bearing, so the slewing is more stable. The slewing mechanism has free swing function, so when heavy load is lifted, the side force of boom can be eliminated even if the hook is not on the vertical center line of the gravity center of the heavy load, so as to prevent boom from being damaged due to large side force.

9. Slewing ring

Single-row ball type slewing bearing with elliptical raceway, it has the features of large bearing capacity and small rotary resistance.

10. Cylinder assembly

It includes track frame telescopic cylinder and boom luffing ratchet lock cylinder.

Oil cylinder is used as the power to extend or retract the crawler tracks, it shares the same main valve with left crawler travel. The interchange between travel and crawler track extension/retraction is convenient, the action is soft with small impact. The track gauge of the crane is easy to change to meet the requirements of transportation and working.

Boom luffing ratchet lock cylinder is used to control the ratchet pawl. When operating boom luffing pilot handle, the pawl will open automatically, and when the pilot handle returns to the neutral position, the pawl will close automatically. When boom luffing winch is not working, the ratchet lock device is always in the locked state, no need of any manual operation, which is safe and convenient.

11. Operator's cab

The model of cab adopts the method of bionic design, with smooth lines and a sense of power. The glass area is large and the distribution of side glass is reasonable, with strong sense of technology and wide field of vision. The interior is arranged by the concept of human-centered, so the driver can touch all the buttons without leaving the seat. The cab is also set with adjustable seat, air conditioning, power socket, radio and so on to provide the operator with a comfortable operating environment.

II) Crane undercarriage

Crane undercarriage comprises car-body and crawler travel unit.

1. Car-body

Car-body is radial box structure, welded by high strength steel plate, with features of good rigidity, high strength and high precision. The upper plane is precision machined to make sure it is reliably connected with slewing bearing.

2. Crawler travel unit

Crawler travel unit is divided into left and right crawler tracks, consisting of track frame, track shoe, track roller, drive sprocket, guide roller, carrier roller, travel device and tension device.

Track frame: symmetrically arranged, one piece for each side. It is made of high-strength steel plate and welded in box-type structure. Car-body is inserted into track frame for connection. Drawer type device is used for upper and lower clearance adjustment to make sure no lateral deviation after track frame installation, so as to avoid wear between track shoe and track roller.

Track shoes: high strength wear-resistant alloy steel casting, the crawler shoe width is 760mm, total 2×63=126 pieces.

Travel unit: constant closed planetary reducer, driven by axial piston motor. It has strong travel power and can achieve movements such as straight-line travel, steering at a position, one side steering, differential steering and travel with a load, with high flexibility and mobility. Multi-disk wet constant

closed brake, spring brake and hydraulic release valve are used to ensure high braking safety.

Maximum travel speed: 1.37km/h.

III) Hydraulic system

Adopt hydraulic pilot proportional controlled LUDV load sensing system, it can achieve load independent flow distribution, with accurate speed, sensitive operation, good stability and good fine motion performance. LUDV integrated main valve can achieve the compound operation of multiple movements, compact in structure and easy for maintenance. Innovative use of micro control adjustment technology can greatly improve the stability and accuracy of crane movements.

Main hoist winch and aux. hoist winch are with double pump confluence function, easy to achieve high/low speed control of the winches. Specialized slewing buffer circuit, the start and stop of slewing is smooth and soft, meeting the requirements of fine lifting operation.

Fuel tank capacity: 400L.

IV) Electrical system

Electrical system mainly includes the following components: engine control, monitoring instruments, auxiliary equipment, hydraulic system control, load moment limiter, and safety control.

Electrical system composition: conventional electrical system and PLC control system.

Conventional electrical system adopts 24V parallel circuit, and the wiring of electrical equipment adopts single wire system. The system includes power supply, start control, cab air conditioner and radio, illumination (light), wipers and etc.

The PLC control system includes the control of main winch, aux. winch, slewing, slewing, boom luffing and other movements, as well as engine condition monitoring. All movements are controlled by hydraulic proportional control technology. Through PLC logic control, it can effectively ensure the realization of all functions of the crane, and fully reflect the people-oriented design concept.

V) Engine system

Model: Weichai WP7G270E301;

Rated output power: 199kW/2000rpm;

Maximum torque / maximum torque speed: 1200N•m/1200-1500rpm;

Type: in-line, six cylinder, water-cooled, turbocharged and inter-cooler, electric injection, four-stroke diesel engine;

Environmental protection: in compliance with China III/Euro IIIA emission standard;

Fuel tank capacity: 400L.

VI) Counterweight

Turntable counterweight is 18.2t in total, installed at the rear side of turntable. It is connected with turntable by pin shafts.

Counterweight composition: counterweight tray 1×4.3t, left and right counterweight block 4×2t, middle counterweight block 3×1.95t.

VII) Hook block

Name	65t	32t	16t	8t
Weight (t)	0.66	0.35	0.28	0.15
Number of pulley	5	3	1	-
Max. parts of line	10	7	3	1

II. Safety protection measures

This crane widely uses mechanical, electronic and hydraulic and other safety and warning devices to ensure the safe use of the machine. The safety devices include: load moment limiter, slewing lock device, boom backstop device, hoist limit switch, boom angle limiter, anemometer, slewing warning and hydraulic system relief valve, balance valve and etc.

1. Mode switch

In assembly mode, over-wind protection device, boom angle limiter and load moment limiter are all out of service to provide convenience for crane assembly; in working mode, all safety devices are working normally.

2. Emergency stop button

Press this button in emergency condition to stop all crane movements.

3. Rope over-wind protection device

Rope over-wind protection devices for main and auxiliary winches are set on boom head to prevent the rope from being over-wound. When the rope is lifted to a certain height, the over-wind indicator light on display will turn on, at the same time, the movement of hoisting up will be stopped by LMI automatically.

4. Rope over-release protection device

Rope end limiter is set on main and aux. hoist winches to prevent wire rope from over-releasing. When there are only three loops of rope left, the over-release indicator light on display will turn on, at the same time, the movement of lowering down will be stopped by LMI automatically.

5. Ratchet locking device

Ratchet locking device is used to lock the luffing winch so that boom is stopped and placed safely at non-working state.

6. Mechanical safety device

Slewing locking device is used to lock superstructure slewing when the crane is stopped; backstop devices are used to prevent boom and jib strut from tilting backward.

7. Boom angle limiter

When boom is raised to a specified angle, boom raising is stopped under the control of load moment limiter and hoist limit switch. When boom angle is less than the specified value, boom lowering is stopped under the control of load moment limiter and gives a warning sound.

8. Hook latch

All hook blocks are equipped with hook latch to prevent the hanging rope on the hook head from falling.

9. Hydraulic system safety protection device

Hydraulic system is equipped with hydraulic balance valve, hydraulic relief valve and other devices to ensure the stable and safe work for the system.

10. LMI system

Detection function: LMI can automatically detect parameters such as boom angle and lifting weight.

Display function: 7.0-inch color LCD display, show important parameters in lifting operation through text (Chinese or English) and graphics, such as load moment percentage, actual lifting weight, rated lifting weight, radius, boom length, angle, maximum lifting height, working condition code, parts of line, limit angle and information code.

Warning function: with complete pre-alarm and overload stop function. If it is detected that the actual weight exceeds the rated lifting capacity or boom angle exceeds the maximum value, LMI will send alarm and limit the current movement of the crane.

The system has self-diagnosis function.

11. Tricolor warning light

The light comprises three colors. When crane loading is below 90% of the rated capacity, the “green light” is on to indicate that the crane is operating in a safe area; when crane loading is below 90%~100% of the rated capacity, the “yellow light” is on to indicate that the crane is close to the rated load; when crane loading exceeds 100% of the rated capacity, both “red light” and “yellow light” will be on to indicate that the crane is overloaded and in the dangerous area, the control system will automatically cut off crane movement to dangerous direction.

12. Audio and video alarm

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

13. Illumination light

There are illumination lights in front of turntable, above the cab or in the cab for night operation.

14. Rearview mirror

It is located outside the operator’s cab, so that the driver can easily observe the situation behind the machine.

15. Height light

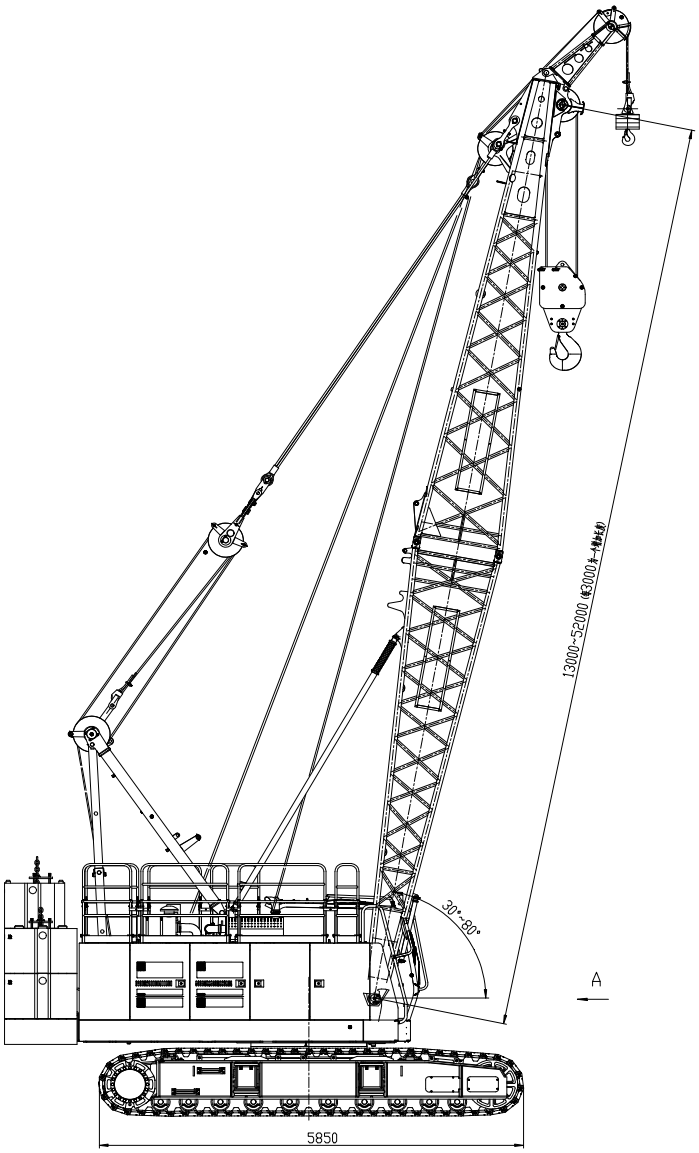
It is installed on boom tip for high level operation warning.

16. Anemometer

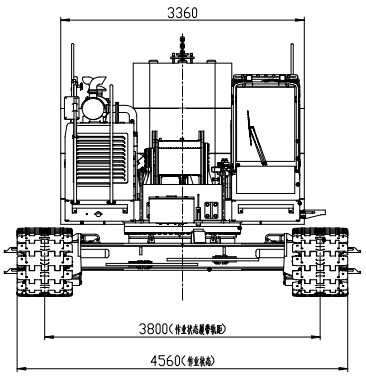
It can detect the current wind speed and send signal to the monitor in operator’s cab to remind the operator for safe operation in wind load.

III. Main technical parameters

1. XGC65 crawler crane outline dimension



Remove boom, gantry and luffing sheave block

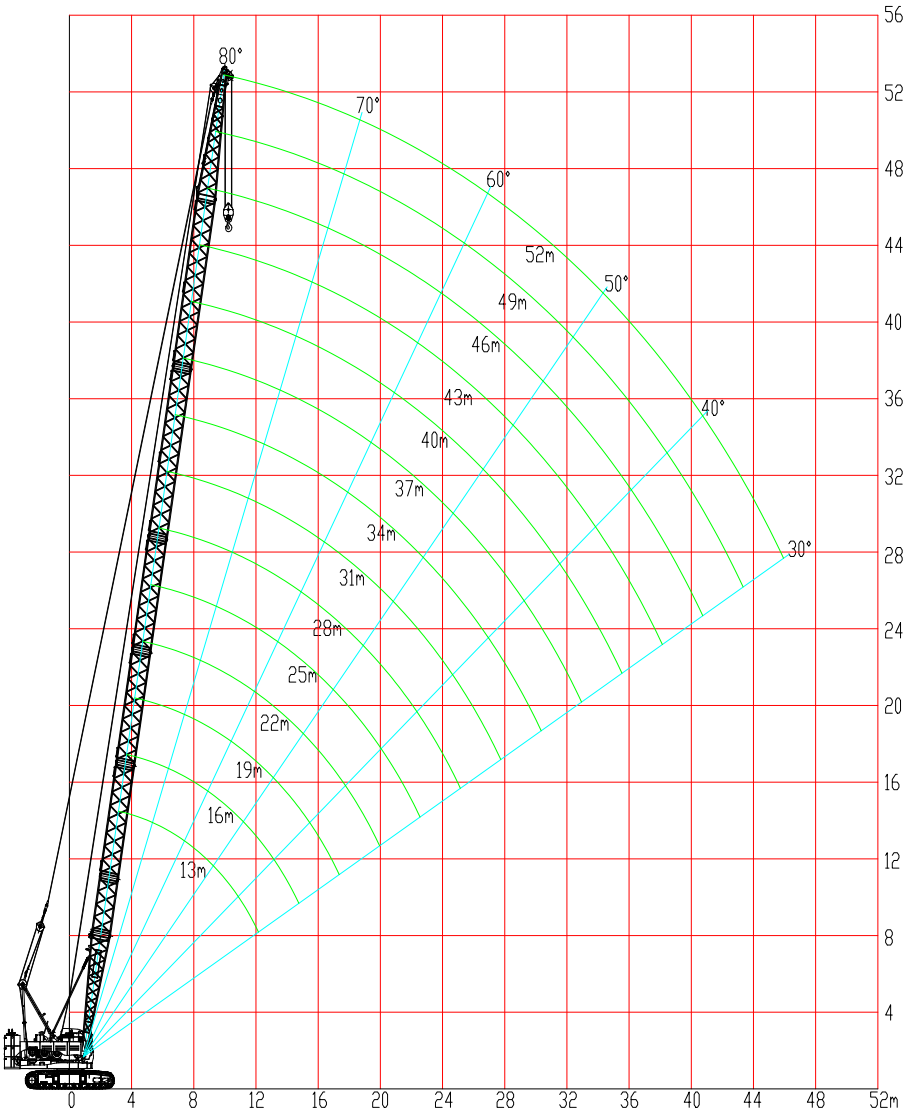


2. XGC65 crawler crane main technical parameters

Item		Unit	Parameters
Max. rated lifting capacity	Boom working condition	t	65
	Boom single top working condition	t	12
	Fixed jib working condition	t	12
Max. load moment	Boom working condition	t·m	227.5
	Fixed jib working condition	t·m	132
	Boom single top working condition	t·m	144
Dimension	Boom length	m	13～52
	Boom luffing angle	°	-3～80
	Fixed jib length	m	7～16
	Angle between boom and fixed jib	°	10, 30
	Boom single top	m	1.1
Speed	Hoist winch max. single line speed	m/min	125
	Boom luffing winch max. single line speed	m/min	87
	Max. slewing speed	rpm	2.45
	Max. travel speed	km/h	1.37
Engine	Engine model	-	WP7
	Engine rated power	kW/rpm	199
	Emission standard	-	China III/EURO IIIA
Total vehicle mass (with 13m basic boom and 65t hook block)		t	49.2
Mean ground pressure		MPa	0.06
Grade-ability		-	30%
Max. weight of single unit for transport		t	29.5
Max. dimension of single unit (turntable) for transport (L×W×H)		m	12.04×3.49×3.36

IV. Lifting Capacity Tables in Typical Working Conditions

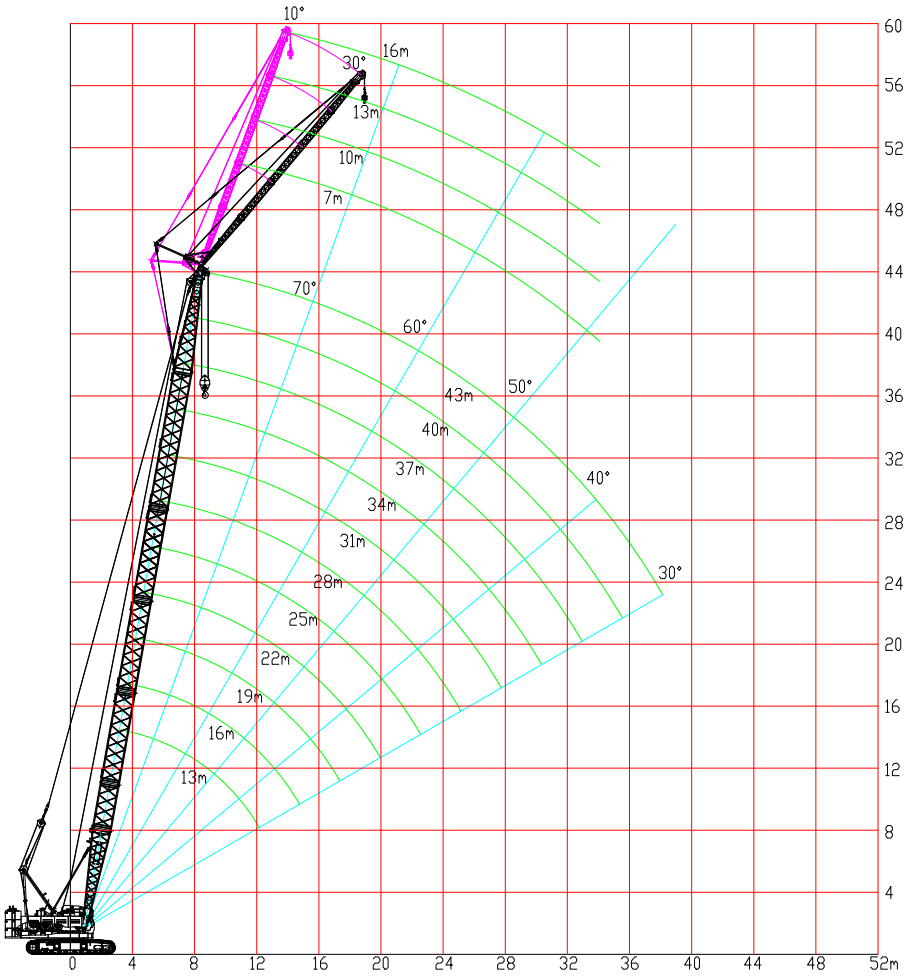
1. Working range of the crane



Lifting capacity tables in boom working condition (unit: t)

Boom length(m) / Radius(m)	13	16	19	22	25	28	31
3.5	65						
4	55.1	52.1					
5	42.1	40.8	39.4				
6	31.9	31.8	30.9	30.1	29.3		
7	25.4	25.3	25.3	24.8	24.2	23.6	23
8	21	21	20.9	20.9	20.5	20	19.5
9	17.9	17.8	17.8	17.7	17.7	17.3	17
10	15.5	15.5	15.4	15.4	15.3	15.2	14.9
12	12.2	12.2	12.1	12.1	12	11.9	11.8
14		10	9.9	9.8	9.8	9.7	9.6
16			8.3	8.3	8.2	8.1	8
18				7.1	7	6.9	6.8
20				6.1	6.1	6	5.9
22					5.3	5.2	5.1
24						4.6	4.5
26							4

Boom length(m) / Radius(m)	34	37	40	43	46	49	52
8	19.1	18.6					
9	16.6	16.2	15.9	15.5			
10	14.7	14.4	13.9	13.6	13.2	13	
12	11.7	11.5	11.2	10.9	10.6	10.6	10.6
14	9.5	9.5	9.2	9	8.7	8.7	8.7
16	7.9	7.9	7.8	7.6	7.4	7.3	7.3
18	6.7	6.7	6.6	6.5	6.3	6.2	6.2
20	5.8	5.7	5.6	5.6	5.5	5.3	5.3
22	5	5	4.9	4.8	4.7	4.6	4.5
24	4.4	4.4	4.3	4.2	4.1	4	3.9
26	3.9	3.9	3.8	3.7	3.6	3.5	3.4
28	3.5	3.4	3.3	3.3	3.2	3.1	3
30	3.1	3	3	2.9	2.8	2.7	2.6
32		2.7	2.6	2.6	2.5	2.4	2.3
34			2.4	2.3	2.2	2.1	2
36				2	1.9	1.8	1.7
38				1.8	1.7	1.6	1.5
40					1.5	1.4	1.3


10°
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70°
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43m
40m
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16
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4

Lifting capacity tables in fixed jib working condition (unit: t)

Boom length (m)	25							
Jib length (m)	7		10		13		16	
Jib angle(°) / Radius(m)	10	30	10	30	10	30	10	30
10	12	9.8	10					
12	11	9.5	9.1	6.4	7.2			
14	9.4	8.9	8.6	6.2	6.8	4.9	5.3	
16	7.9	8	7.8	6	6.5	4.7	5	
18	6.7	6.8	6.6	5.8	6.1	4.5	4.7	3.4
20	5.7	5.8	5.8	5.7	5.8	4.4	4.5	3.3
22	5	5.1	5.1	5.2	4.8	4.2	4.3	3.1
24	4.4	4.4	4.4	4.6	4.5	4.1	4	3
26	3.9	3.9	3.9	4	4	3.8	3.8	2.9
28	3.4	3.5	3.5	3.6	3.5	3.7	3.1	2.8
30			3.1	3.2	3.2	3.3	3	2.7
32			2.8	2.8	2.8	2.9	2.9	2.7
34					2.5	2.6	2.6	2.6
36							2.3	2.4
38								2.1

Lifting capacity tables in fixed jib working condition (unit: t)

Boom length (m)	28							
Jib length (m)	7		10		13		16	
Jib angle (°) / Radius (m)	10	30	10	30	10	30	10	30
10	12							
12	11	9.6	9.1		7.2			
14	9.3	9	8.6	6.2	6.8		5.3	
16	7.7	7.9	7.8	6	6.5	4.7	5	3.6
18	6.6	6.7	6.6	5.9	6.1	4.6	4.7	3.5
20	5.6	5.8	5.7	5.7	5.7	4.4	4.5	3.3
22	4.9	5	4.9	5.1	4.9	4.3	4.3	3.2
24	4.3	4.4	4.3	4.5	4.4	4.2	4	3.1
26	3.8	3.8	3.8	3.9	3.9	4	3.8	3
28	3.3	3.4	3.4	3.5	3.4	3.6	3.2	2.9
30	2.9	3	3	3.1	3.1	3.2	3.1	2.8
32	2.6	2.6	2.7	2.7	2.7	2.8	2.7	2.7
34			2.4	2.4	2.4	2.5	2.5	2.6
36					2.2	2.2	2.2	2.3
38						2	2	2
40							1.8	1.8

Lifting capacity tables in fixed jib working condition (unit: t)

Boom length (m)	31							
Jib length (m)	7		10		13		16	
Jib angle (°) / Radius (m)	10	30	10	30	10	30	10	30
10	12							
12	11	9.6	8.8		6.9			
14	9.2	9.3	8.4	6.3	6.6		5.4	
16	7.7	7.9	7.7	6.1	6.3	4.8	5.1	
18	6.5	6.6	6.5	5.9	6	4.6	4.6	3.5
20	5.5	5.7	5.6	5.8	5.7	4.5	4.4	3.4
22	4.8	4.9	4.8	5	4.9	4.4	4.2	3.2
24	4.2	4.3	4.2	4.4	4.3	4.2	4	3.1
26	3.7	3.7	3.7	3.9	3.8	4	3.8	3
28	3.2	3.3	3.3	3.4	3.3	3.5	3.3	2.9
30	2.8	2.9	2.9	3	3	3.1	3	2.9
32	2.5	2.6	2.6	2.7	2.6	2.7	2.6	2.8
34	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.5
36			2	2.1	2.1	2.2	2.1	2.2
38				1.8	1.9	1.9	1.9	2
40					1.6	1.7	1.7	1.7
42							1.5	1.5
44								1.3

Lifting capacity tables in fixed jib working condition (unit: t)

Boom length (m)	34							
Jib length (m)	7		10		13		16	
Jib angle (°) / Radius (m)	10	30	10	30	10	30	10	30
10	12							
12	11	9.6	8		7			
14	9	9.3	8	6.3	6.6		5.4	
16	7.5	7.8	7.6	6.1	6.4	4.8	5.1	
18	6.3	6.6	6.4	6	6.1	4.6	4.7	3.5
20	5.4	5.6	5.5	5.7	5.6	4.5	4.5	3.4
22	4.7	4.8	4.7	5	4.8	4.4	4.3	3.3
24	4.1	4.2	4.1	4.3	4.2	4.3	4.1	3.2
26	3.5	3.6	3.6	3.8	3.7	3.9	3.7	3.1
28	3.1	3.2	3.2	3.3	3.2	3.4	3.2	3
30	2.7	2.8	2.8	2.9	2.8	3	2.9	2.9
32	2.4	2.5	2.5	2.6	2.5	2.7	2.5	2.7
34	2.1	2.2	2.2	2.3	2.2	2.3	2.2	2.4
36	1.9	1.9	1.9	2	2	2.1	2	2.1
38			1.7	1.7	1.7	1.8	1.8	1.9
40			1.5	1.5	1.5	1.6	1.6	1.7
42					1.4	1.4	1.4	1.5
44							1.2	1.3
46								1.1

Lifting capacity tables in fixed jib working condition (unit: t)

Boom length (m)	37							
Jib length (m)	7		10		13		16	
Jib angle (°) / Radius (m)	10	30	10	30	10	30	10	30
10	8							
12	8	8	8		7			
14	8	8	8	6.3	6.7		5.4	
16	7.4	7.7	7.4	6.1	6.4	4.8	5.1	
18	6.3	6.5	6.3	6	6.1	4.7	4.7	3.6
20	5.3	5.5	5.4	5.7	5.5	4.5	4.5	3.4
22	4.6	4.7	4.6	4.9	4.7	4.4	4.4	3.3
24	4	4.1	4	4.2	4.1	4.3	4.1	3.2
26	3.4	3.6	3.5	3.7	3.6	3.8	3.6	3.1
28	3	3.1	3.1	3.2	3.1	3.3	3.1	3
30	2.6	2.7	2.7	2.8	2.8	2.9	2.8	3
32	2.3	2.4	2.4	2.5	2.4	2.6	2.4	2.7
34	2	2.1	2.1	2.2	2.1	2.3	2.2	2.3
36	1.8	1.8	1.8	1.9	1.9	2	1.9	2.1
38	1.6	1.6	1.6	1.7	1.7	1.8	1.7	1.8
40		1.4	1.4	1.4	1.4	1.5	1.5	1.6
42			1.2	1.2	1.3	1.3	1.3	1.4
44					1.1	1.1	1.1	1.2
46						1	1	1

Lifting capacity tables in fixed jib working condition (unit: t)

Boom length (m)	40							
Jib length (m)	7		10		13		16	
Jib angle (°) / Radius (m)	10	30	10	30	10	30	10	30
12	8		8					
14	8	8	8		6.7		5.3	
16	7.2	7.5	7.2	6.1	6.4		4.9	
18	6.1	6.4	6.1	6	6.2	4.7	4.7	
20	5.2	5.4	5.3	5.6	5.4	4.6	4.6	3.5
22	4.5	4.7	4.6	4.8	4.6	4.5	4.4	3.4
24	3.9	4	3.9	4.2	4	4.3	4	3.3
26	3.4	3.5	3.4	3.6	3.5	3.7	3.5	3.2
28	2.9	3	3	3.1	3	3.3	3.1	3.1
30	2.5	2.6	2.6	2.8	2.7	2.9	2.7	2.9
32	2.2	2.3	2.3	2.4	2.3	2.5	2.3	2.6
34	1.9	2	2	2.1	2	2.2	2.1	2.3
36	1.7	1.7	1.7	1.8	1.8	1.9	1.8	2
38	1.5	1.5	1.5	1.6	1.6	1.7	1.6	1.7
40	1.3	1.3	1.3	1.4	1.4	1.5	1.4	1.5
42	1.1	1.1	1.1	1.2	1.2	1.3	1.2	1.3
44			1	1	1	1.1	1	1.1
46					0.8	0.9	0.9	1

Lifting capacity tables in fixed jib working condition (unit: t)

Boom length (m)	43							
Jib length (m)	7		10		13		16	
Jib angle (°) / Radius (m)	10	30	10	30	10	30	10	30
12	8							
14	8	8	8		6.6			
16	7	7.3	7.3	6.1	6.4		4.9	
18	5.9	6.2	6.2	6	6.2	4.7	4.7	
20	5.1	5.3	5.2	5.5	5.3	4.6	4.6	3.5
22	4.4	4.6	4.5	4.7	4.5	4.5	4.4	3.4
24	3.8	3.9	3.8	4.1	3.9	4.2	3.9	3.3
26	3.3	3.4	3.3	3.5	3.4	3.7	3.4	3.2
28	2.8	2.9	2.9	3.1	2.9	3.2	3	3.1
30	2.4	2.6	2.5	2.7	2.6	2.8	2.6	2.9
32	2.1	2.2	2.2	2.3	2.2	2.4	2.2	2.5
34	1.8	1.9	1.9	2	1.9	2.1	2	2.2
36	1.6	1.7	1.6	1.7	1.7	1.8	1.7	1.9
38	1.4	1.4	1.4	1.5	1.5	1.6	1.5	1.7
40	1.2	1.2	1.2	1.3	1.3	1.4	1.3	1.4
42	1	1	1	1.1	1.1	1.2	1.1	1.2
44	0.8	0.8	0.9	0.9	0.9	1	0.9	1
46			0.7	0.7	0.7	0.8	0.8	0.9

V. Transport List and Transport Plan

1. Transport list

Transport weight and dimension

Name	Weight (t)	Length (m)	Width (m)	Height (m)	Qty.	Remark
Basic crane	29.5	12.04	3.49	3.36	1	Include left and right crawler tracks, luffing sheave block and boom butt
Counterweight tray	4.3	3.36	1	0.36	1	
Left counterweight block	2.0	1	0.95	0.68	2	
Right counterweight block	2.0	1	0.95	0.68	2	
Middle counterweight block	1.95	1.36	0.83	0.68	3	
9m boom insert	0.65	9.1	1.4	1.26	2	
6m boom insert	0.45	6.1	1.4	1.26	3	
3m boom insert	0.26	3.1	1.4	1.26	1	
Boom top	0.83	7.02	1.4	1.35	1	
Boom single top	0.13	1.4	0.625	0.562	1	
65t hook block	0.66	0.54	0.63	1.5	1	
32t hook block	0.35	0.34	0.63	1.35	1	
16t hook block	0.28	0.26	0.62	1.1	1	
8t hook block	0.15	0.32	0.32	0.72	1	
Jib top	0.216	3.33	0.655	0.633	1	
Jib butt	0.416	4.105	0.7	1.653	1	Include strut
3m jib insert	0.104	3.06	0.655	0.485	1	
6m jib insert	0.192	6.06	0.655	0.485	1	
Guy cable, pin shaft and etc.	1					

VI. Main Parts List

No.	Part name			Model	Manufacturer
1	Engine			WP7G270E301	Weichai Power
2	Hydraulic system	Main and auxiliary hoist winches	Motor	HD-A2FE107	China
			Reducer	QBL400A2/ZFT40W59-21	China
		Luffing winch	Motor	A2FM80	China
			Reducer	QBL260A6/ZFT26W51-22	China
		Slewing	Motor	A2F63	China
			Reducer	HS160	China
		Travel	Motor	A2FE107	China
			Reducer	XBL800	China
		Main pump		L8V107	China
		Main valve		HD-MWVL25-1X/Y003	China
3	Electrical system	LMI		HC4900	WIKA
4	Slewing bearing			DQNA1455	Tongli Slewing Ring
5	Hook block			65t/32t/16t/8t	Xuzhou Dachangshi/ Shangdong Lite

Note: model varies according to different manufacturers.