



# SCC850HD-Q8

## Base Construction Crawler Crane

Quality Changes the World



**Tamping energy level: 400t · m (1200t · m with support frame)**  
**Max. boom length: 25m**

The parameters, pictures and standard/optional equipment are only for reference in this brochure, the actual machine is based on the effective price list and contract.



## Base Construction Crawler Crane SCC850HD-Q8

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## **SCC850HD-Q8 BASE CONSTRUCTION CRAWLER CRANE**

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### Main Characteristics

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## Product Specification



### Engine

- Model: WP13.
- Type: Vertical in-line 6, water-cooled, electrical control, turbo-charger, intercooler.
- Displacement: 12.54L.
- Rated power: 353kW/2100rpm.
- Max. torque: 2100N·m/1200~1600rpm.
- Cooling system: Water-cooled.
- Starter: 24V-8.5kW.
- Radiator: Fin type core in aluminum.
- Air cleaner: Oil-bath, dry type with replaceable paper element.
- Throttle: Grip type hand throttle, electrically controlled.
- Fuel filter: Replaceable paper element.
- Batteries: Two 12V×180Ah capacity batteries, connected in series.
- Emission standard: Meet China Off-highway Tier III emission standard.
- Fuel tank capacity: 800L.

### Hydraulic system

- Main pump: One open piston pump and two closed piston pump.
- Control: The traveling and slewing systems use an open system (load-sensitive control), while the main hoisting system is a closed system (economical and efficient).
- Cooling: 140 kW high-power independent oil cooler to make sure hydraulic system maintains optimum temperature at heavy load.
- Max. pressure of system: 35Mpa.
- Slewing system: 22MPa.
- Control system: 4.5MPa.
- Hydraulic tank capacity: 380L.

### Electrical system

- SANY SYIC-II integrated control system is adopted with high integration, precise operation and reliable quality.
- Adopts an integrated injection molded interface, and the electrical system has a dust and waterproof rating of IP67.
- Control system consists of power system, engine, main control system, assisting system and monitoring system.
- CAN BUS is used for data communication between controller, monitor (of LMI and Remote Controller Terminal) and the engine.
- Monitor: The working parameters and status are shown on the monitor, such as the engine speed, fuel volume, engine oil pressure, servo pressure, wind speed, engine working hours, lifting conditions and boom angle.

### Main hoist mechanism

- The main hoist is equipped with a 35-ton large single line pull free-fall hook winch and utilizes a new type of free-fall hook control system.

Main hoist winch	Drum pitch diameter	770mm
	Rope speed on the 3rd layer	76m/min
	Diameter of wire rope	32mm
	Rope length	72m
	Rated single line pull	196kN (20t)

### Luffing mechanism

- It is powered by a hydraulic motor reducer.

Aux. hoist winch	Drum pitch diameter	420mm
	Rope speed on the 3rd layer	0~65m/min
	Diameter of wire rope	20mm
	Rope length	130m

## Product Specification



### Slewing mechanism

- Slewing unit is powered by hydraulic motor driving reducer to slewing 360° rotation.
- Slewing parking brake: Normally-closed, embedded, wet, spring loaded disc brake; braking with spring force and release with oil pressure.
- Slewing bearing: Single-row ball bearing.
- Slewing lock: Lock devices on four position are designed to prevent slewing backlash during traveling or transport. EPAD switch is used to control locking/unlocking of slewing pin cylinder.
- Slewing speed: 0~4rpm.
- Three slewing modes: P ( anti-slip), D (semi-drift), S (Drift).

### Superstructure

- Torsion-free precision machined high-strength welded structure. All components are located in optimum and easier for maintenance and service. Engine noise is low.
- Counterweight: 23.5 ton.

### Cab and control

- Full vision safety glass with rear-view mirror is designed.
- Armrest control panel can be adjusted with the operator's seat and provide comfortable experience, which is more ergonomically.
- Cab configuration: 7-inch touch screen, AC, radio, cigarette lighter, cross-shaped handle, traveling lever.

### Lower structure

- Crawler drive: Independent drive is built into each crawler side frame, driven by hydraulic motor in reducer to realize straight walking and turning.
- Crawler telescoping: Telescoping cylinder is used to expand and retract crawlers.
- Track tension: Jack is used to push guide wheel and shims are added to adjust the tension.
- Track rollers: Maintenance-free roller.
- Shoe: 800 mm wide each crawler.
- Max. gradeability: 30 %.

### Weight

- Include superstructure and lower structure, 23.5t rear counterweight and basic boom, hook, and other accessories.
- 19m basic boom weight / ground pressure: 72.8t / 0.075Mpa.
- 25m basic boom weight / ground pressure: 73.6t / 0.076Mpa.

### Boom

- Boom: Welded lattice structure with high-strength tubes.
- Pendant cable: Equipped with heavy-duty loop-style connected pendant cable.
- Boom length

Configuration	SDDC	With support frame	Without support frame
Boom length	19m	25m	28m

## Safety Devices



### Assembly/work mode switch

- In assembly mode, auxiliary actions are available for the convenience of crane installation.
- In work mode, auxiliary actions are not operational.

### Emergency stop

- In emergent situation, this button is pressed down to cut off the power supply of whole machine and all actions stop.

### Function lock

- If the function lock lever is not in work position, all the other handles won't work, which prevents any mis-operation caused by accidental collision.

### Slewing lock

- Slewing lock can lock the machine at two positions, front and back.

### Boom limit device

- When the boom elevation angle is over 79°, the buzzer sounds and boom action cut off. This protection is two-stage control ensured by both LMI system and travel switch.

### Back-stop device of boom

- Its major components are nesting tubes and spring, in order to buffer the boom backlash and prevent further tipping back.

### Boom angle indicator

- Pendulum angle indicator is fixed on the side of boom base close to the cab, so as to provide convenience to the operator.

### Hook latch

- The lifting hook is installed with a baffle plate to prevent wire rope from falling off.

### Monitoring system

- Remote monitoring system is a standardized offering to provide functions like GPS locating, GPRS data transfer, machine status inquiry and statistics, operating data monitoring and analysis, remote diagnosis of failures.

### Back-stop device of basic machine

- It is offered as an optional feature, which can effectively reduce the shaking of the host machine under dynamic compaction conditions and minimize structural component damage.

### Lightning protection device

- It is offered as an optional feature, which includes the grounding device that can effectively protect the electric system elements and workers from lightning.

### Slewing indicator light

- The slewing indicator light flashes during traveling or slewing.

### Illuminating Light

- The machine is equipped with, short-beam light in front of machine, front angle adjustable far-beam, lamps in operator's cab, lighting devices for night operation, so as to increase the visibility during work.

### Rearview mirror

- It is installed on the left of the operator's cab and front armrest of right machine cover for monitoring the rear part of the machine.

### Cab's protective shield

- Metal protective shields are installed on the front windshield, top, and inner sides of the cab to block splashing debris during construction, ensuring the safety of personnel and the machinery.



## **SCC850HD-Q8 BASE CONSTRUCTION CRAWLER CRANE**

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### Technical Parameters

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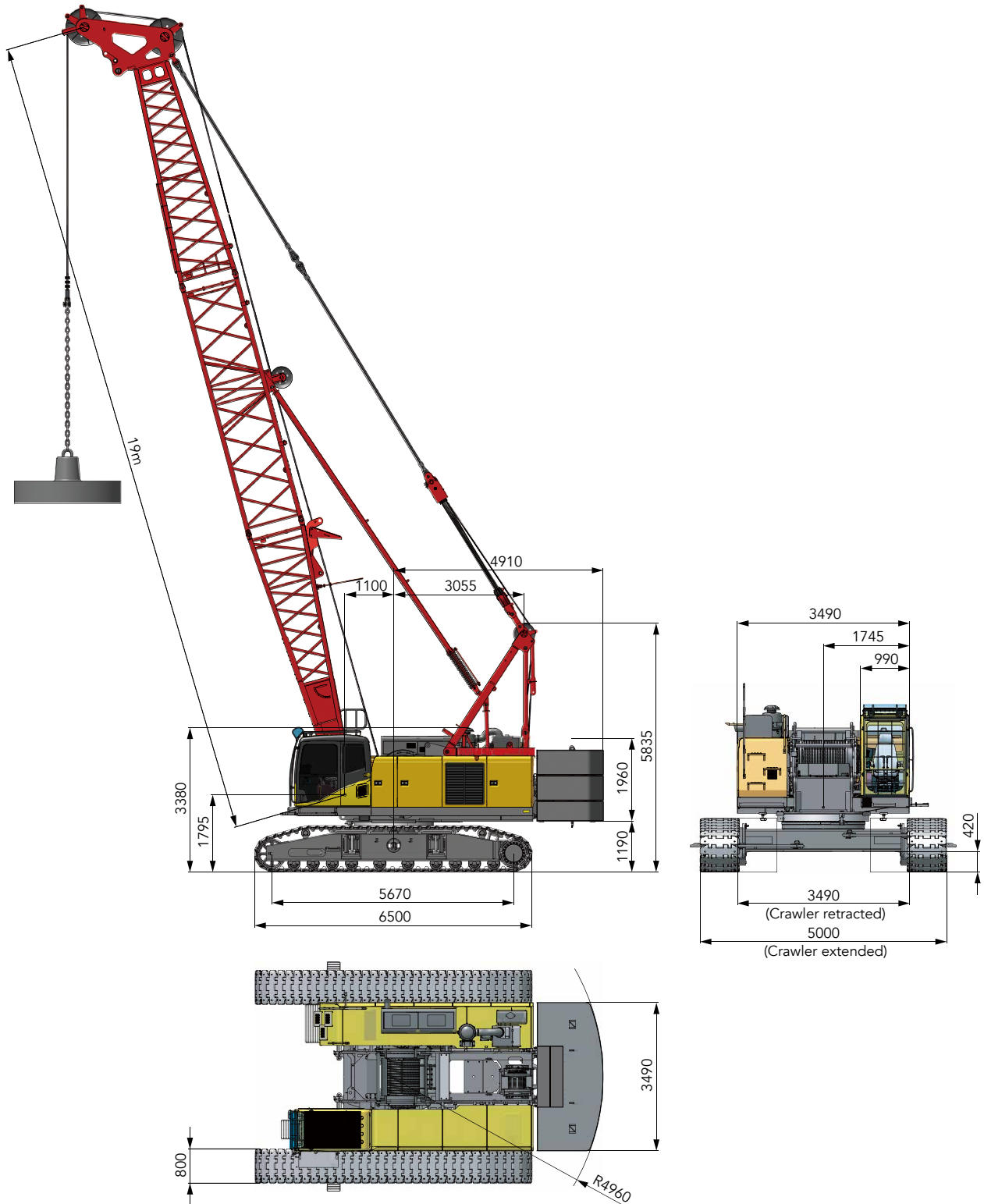
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## Main Performance Parameters

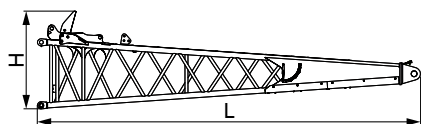
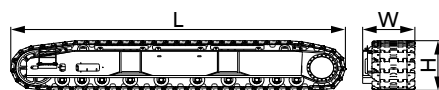
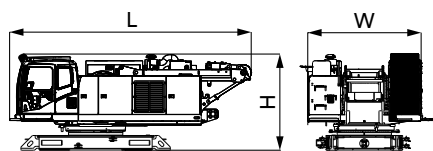
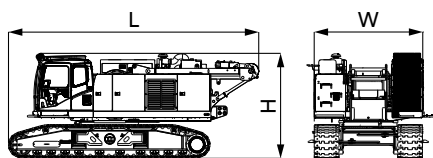
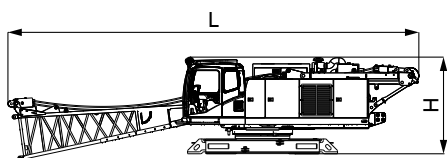
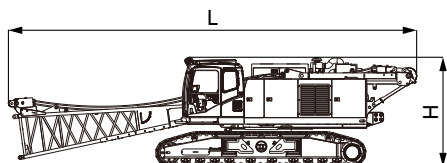
Major Performance & Specifications of SCC850HD-Q8			
Performance Indicators		Unit	Parameter
Boom Configuration	Tamping energy level	t·m	400 (without support frame)/ 1200 (with support frame)
	Ramming hammer	t	20 (without support frame)/ 60 (with support frame)
	Single rope tamping energy	t·m	400
	Boom length	m	19~25 (optional 3m boom)
	Boom luffing angle	°	60~79
Speed	Rope speed of main. load hoist winch (3rd layer)	m/min	76
	Rope speed of aux. load hoist winch (working layer)	m/min	65
	Slewing speed	rpm	2.0
	Travel speed	km/h	0~1.2
Wire rope	Main and aux. hoist wire rope: diameter × length	mm	32
	Rated single line pull of main load hoist wire rope	kN	196 (20t)
Engine	Model	-	WP13
	Rated power/revolution speed	kW/rpm	353/2100
Transport	Basic machine weight (19m boom/ 25m boom)	t	72.8/73.6
	Rear counterweight weight	t	23.5
	Transport weight of basic machine (with track frame and boom base)	t	44.7
	Transport weight of basic machine (without track frame and boom base)	t	27.9
	Machine transport dimension (with track frame and boom base) L×W×H	mm	12630×3490×3400
	Machine transport dimension (without track frame and boom base) L×W×H	mm	12630×3490×2980
Other specifications	Average ground pressure (19m boom/ 25m boom)	MPa	0.075/0.076
	Gradeability	%	30

Unit: mm

## Outline Dimension



## Transport Dimension



### Basic machine 1 (with track frame and boom base)

×1

Length (L)	12.63m
Width (W)	3.49m
Height (H)	3.40m
Weight	44.7t

### Basic machine 2 (with boom base)

×1

Length (L)	12.63m
Width (W)	3.49m
Height (H)	2.98m
Weight	27.9t

### Basic machine 3 (with track frame)

×1

Length (L)	8.07m
Width (W)	3.49m
Height (H)	3.40m
Weight	43.1t

### Basic machine 4

×1

Length (L)	7.46m
Width (W)	3.49m
Height (H)	2.98m
Weight	26.3t

### Track frame assembly

×2

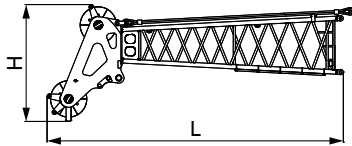
Length (L)	6.51m
Width (W)	1.09m
Height (H)	1.09m
Weight	8.4t

### Boom base

×1

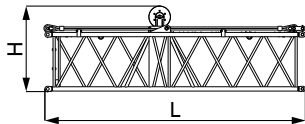
Length (L)	6.72m
Width (W)	1.80m
Height (H)	2.15m
Weight	1.6t

## Transport Dimension



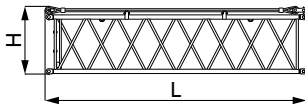
### Boom top ×1

Length (L)	7.08m
Width (W)	1.55m
Height (H)	2.79m
Weight	2.6t



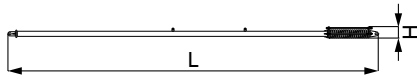
### 6m boom ( with back-stop hinge point and rope-jump prevention pulley) ×1

Length (L)	6.14m
Width (W)	1.51m
Height (H)	2.01m
Weight	1.2t



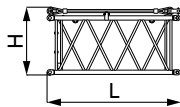
### 6m boom ×1

Length (L)	6.16m
Width (W)	1.51m
Height (H)	1.59m
Weight	0.8t



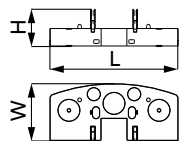
### 6m boom with back-stop function ×2

Length (L)	8.72m
Width (W)	0.34m
Height (H)	0.27m
Weight	0.4t



### 3m boom ×2

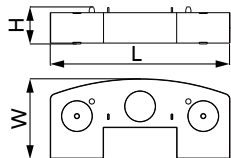
Length (L)	3.15m
Width (W)	1.51m
Height (H)	1.60m
Weight	0.5t



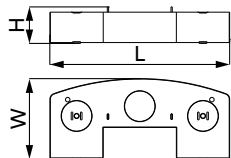
### Counterweight tray ×1

Length (L)	3.49m
Width (W)	1.56m
Height (H)	1.02m
Weight	7.5t

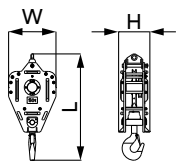
Transport Dimension



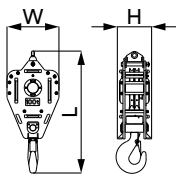
Carbody counterweight block ×1	
Length (L)	3.49m
Width (W)	1.56m
Height (H)	0.72m
Weight	8.0t



Upper counterweight block ×1	
Length (L)	3.49m
Width (W)	1.56m
Height (H)	0.71m
Weight	8.0t



50t hook ×1	
Length (L)	2.06m
Width (W)	0.92m
Height (H)	0.61m
Weight	1.1t



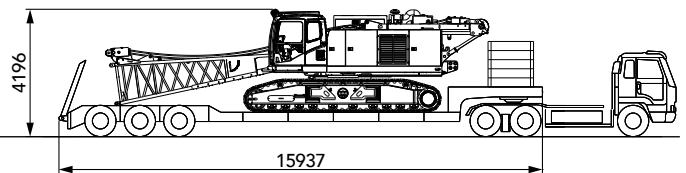
100t hook ×1	
Length (L)	2.16m
Width (W)	0.92m
Height (H)	0.61m
Weight	1.5t

Note: Parts transport dimensions are sketches not proportional to the actual parts. The dimensions and weights are designed values without package, which are subject to fabrication tolerance.

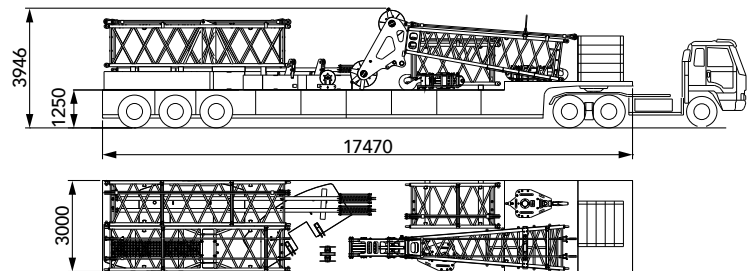
## Transport Plan

### Transport plan 1

Trailer 1 (16m)	▪ Width: 3490mm
Part (s)	▪ Basic machine (with track frame and boom base) ×1
Weight	▪ 44.7t (Full of fuel)

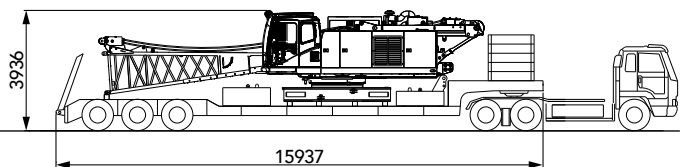


Trailer 2 (17.5m)	▪ Width: 3000mm
Part (s)	▪ 6m boom (with hinge point) ×1 ▪ 6m boom ×1 ▪ 3m boom ×1 ▪ Boom top ×1 ▪ 50t hook ×1 ▪ 100t hook ×1 ▪ Counterweight tray ×1 ▪ Middle counterweight block ×1 ▪ Upper counterweight block ×1 ▪ Pulley anti-jump rope mechanism ×1 ▪ Back-stop bar ×2
Weight	▪ 32.0t

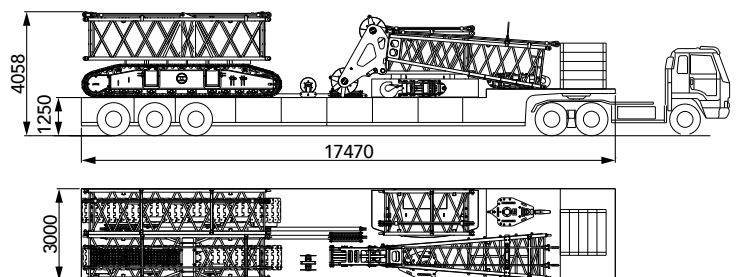


### Transport plan 2

Trailer 1 (16m)	▪ Width: 3490mm
Part (s)	▪ Basic machine (with boom base, without track frame) ×1 ▪ Middle counterweight block ×1 ▪ Counterweight tray ×1
Weight	▪ 43.4t



Trailer 2 (17.5m)	▪ Width: 3000mm
Part (s)	▪ 6m boom (with hinge point) ×1 ▪ 6m boom ×1 ▪ 3m boom ×1 ▪ Boom top ×1 ▪ Left track frame ×1 ▪ Right track frame ×1 ▪ 100t hook ×1 ▪ Counterweight tray ×1 ▪ Upper counterweight block ×1 ▪ Pulley anti-jump rope mechanism ×1 ▪ Back-stop bar ×2
Weight	▪ 33.3t



#### Note:

The basic machine and bulk components should be securely fastened to the flatbed using steel cables or ropes, and measures should be taken to reduce shock and prevent wear.

During transportation, it is prohibited to directly use hard locking devices such as steel cables to contact the boom. It is recommended to use soft locking devices to prevent wear on the boom.

The above transportation combination modes are for reference only. The actual configuration of transport vehicles should be adjusted based on the size of available transport vehicles and local transportation standards and regulations.

The components provided in this chapter are in standard configuration. If there are optional features, they can be adjusted based on the actual situation, which may result in slight variations in transportation dimensions and weight.



## **SCC850HD-Q8 BASE CONSTRUCTION CRAWLER CRANE**

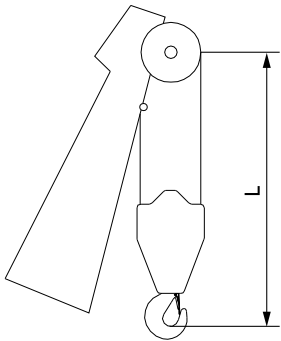
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### Configurations

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Height Limit of Hook



Hook	L
50t	4.5m
100t	4.6m

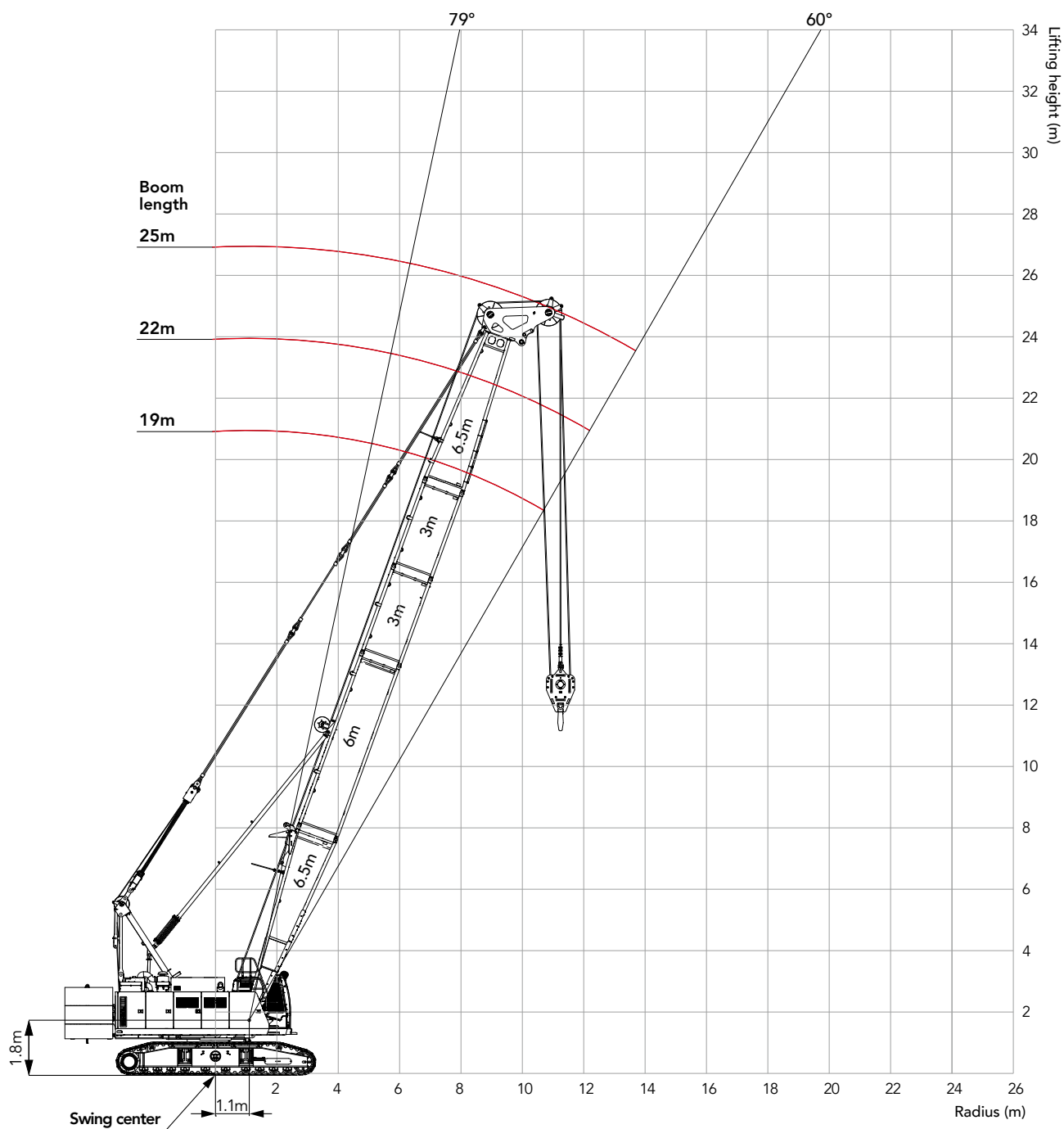
Boom/Jib Combination

Boom length	Boom/jib arrangements
19	
22	
25	<div>※</div>

Symbol	length	Remark
	6.5m	Boom base
	6m	6m boom (with hinge point)
	6.5m	Boom top
	3m	3m insert
	6m	6m insert

※ represents the most flexible combination in the plug-in boom, which can be modified to form a shorter boom combination.

## Working Range of H Configuration



## H Information

- Ratings according to GB3811.
- Working radius is the horizontal distance from centerline of rotation to a vertical line through the center of gravity load.
- The weight of hook, slings and other riggings shall be deducted from the ratings to get the actual capacity.
- The ratings are calculated when the load is freely suspended without considering the effect of wind load, ground condition, levelness, operation speed or any other negative effect on safety operation. Therefore, the operator has the responsibilities to judge the site condition, reduce the load and slow down the speed accordingly.
- All ratings are calculated when the machine is parking on firm and level ground with less than 1% gradient, and the load is lifted slowly and steadily.
- Boom inserts and pendant straps matching table are listed in the operation manual.
- Boom backstops are required for all boom lengths.
- The boom should be erected over the front of the crawlers, not from side.
- Crawler frames must be fully extended for all crane operations.
- The rated load values consider a 1.5 times safety factor but do not include wind loads, inertial loads, impact loads, and other additional loads. When performing dynamic compaction, if the safety factor exceeds 1.5, adjustments should be made according to the actual situation.
- During dynamic compaction operations without a gantry frame, the weight of the ramming hammer must not exceed 20 tons.
- Damage resulting from exceeding the rated load or incorrect operation is not covered by the warranty.

### Hook weight

Hook block	50t	100t
Weight (t)	1.1	1.5

Operation of this crane in excess of rated loads or disregard of instruction is denied of warranty.

### Counterweight assembly 23.5t counterweight

NO.3
NO.2
NO.1

Counterweight

Load Chart for Clamshell

Load Chart - Clamshell (Rear Counterweight 23.5t)										
R/BL (m)	19			22			25			R/BL (m)
	Angle (°)	Forward load (t)	Lateral load (t)	Angle (°)	Forward load (t)	Lateral load (t)	Angle (°)	Forward load (t)	Lateral load (t)	
6	78.9	46.5	44.5	79.1	6.5/40.0	6.5/39.0				6
7	75.8	36.0	35.0	77.8	36.0	35.0	79.3	36.0	33.0	7
8	72.6	29.0	28.0	75.1	29.0	28.0	76.9	29.0	27.0	8
9	69.3	24.5	24.0	72.3	24.5	24.0	74.5	24.5	22.5	9
10	66.0	21.0	20.5	69.5	21.0	20.5	72.1	21.0	19.0	10
11	62.5	18.5	18.0	66.6	18.0	17.5	69.6	18.0	17.0	11
12				63.7	16.0	15.5	67.1	16.0	15.0	12
14							61.9	12.5	12.0	14

Note:  
The rated load values consider a 1.5 times safety factor but do not include wind loads, inertial loads, impact loads, and other additional loads.  
When performing dynamic compaction, if the safety factor exceeds 1.5, adjustments should be made according to the actual situation.  
During dynamic compaction operations without a gantry frame, the weight of the ramming hammer must not exceed 20 tons.  
Please carefully read the content on the previous page (Configuration H - Introduction) for other matters.



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### Reminder:

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