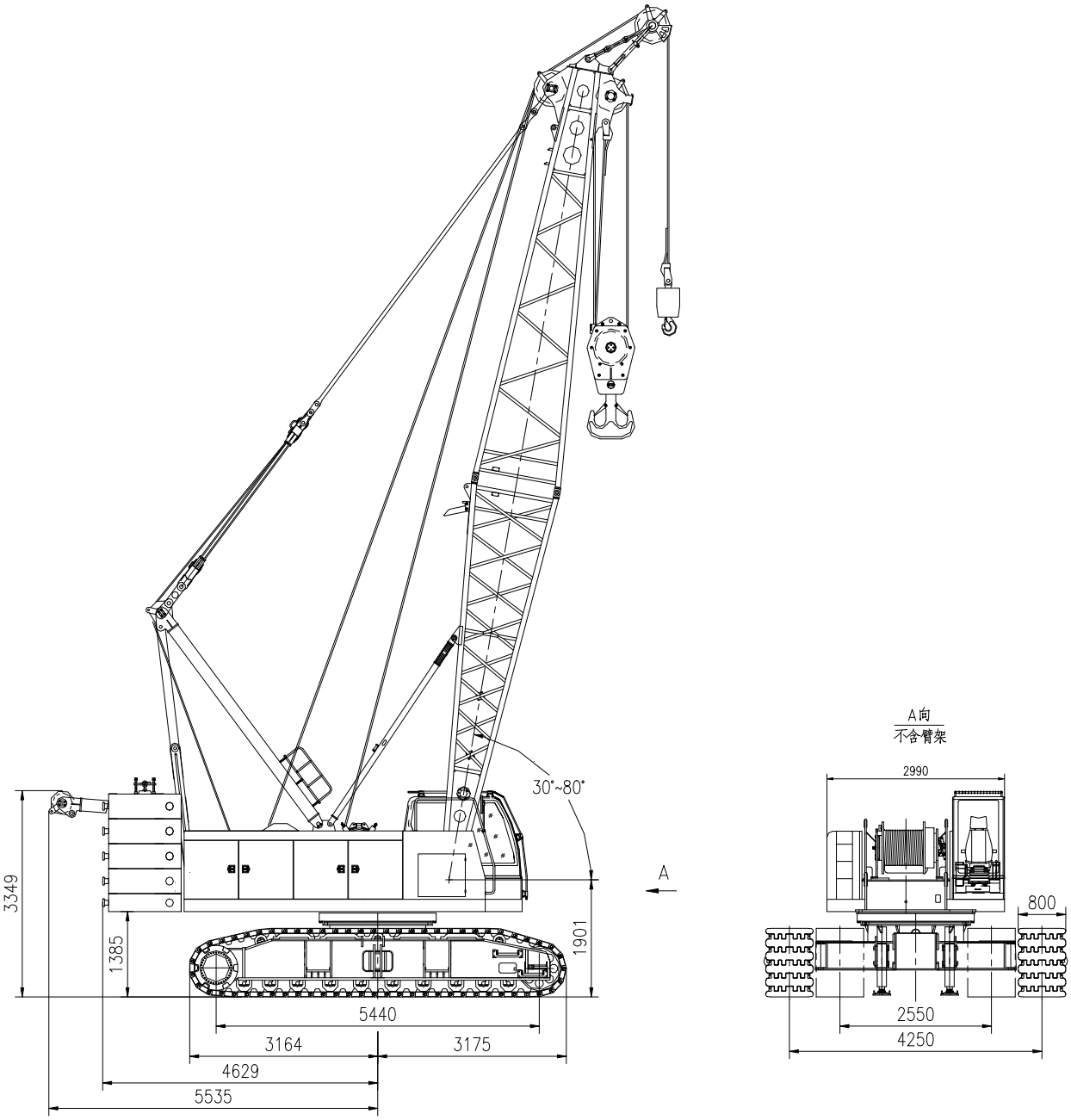
ZOOMLION ZCC100H CRAWLER CRANE

TECHNICAL SPECIFICATIONS

ZCC100H/27Y

1. Overall dimensions and main technical parameters

1.1 Overall dimensions of S boom



1.2. Main technical parameters

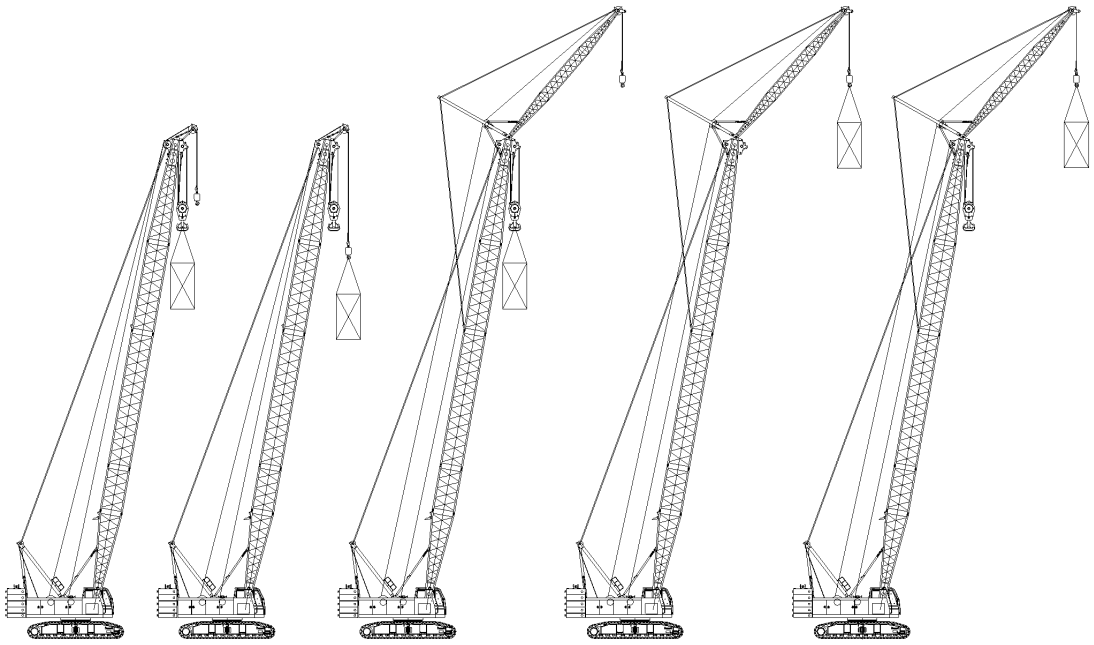
Table – Main technical parameters

Item		Unit	Value	Remarks
Max. lifting moment		t×m	390	
Max. lifting capacity		t	100	
Max. lifting capacity on fixed jib		t	12	
Main boom length		m	13～64	
Fixed jib length		m	7～19	
Max. length of main boom with fixed jib		m	52＋19	
Main boom angle		°	30～80	
Fixed jib angle		°	15，30	
Hoisting winch		m/min	141	
Derricking winch		m/min	109	
Slewing speed		rpm	0～2.4	
Traveling speed		km/h	0～1.3	
Max. gradeability		%	30	
Ground pressure		MPa	0.097	
Deadweight		t	86	Basic boom with main load hook attached
Crane counterweight		t	32.0	
Overall dimensions (L × W × H)		mm	13300×5050(3380)×3270	With A-frame and main boom pivot section
Engine	Model		WP7G270E301	
	Rated power / rotational speed	kW/rpm	199/2000	
	Max. output torque / rotational speed	Nm/rpm	1200/(1200～1500)	
	Exhaust emission	/	国三	
Distance between track center × crawler contact length × crawler width		mm	2550×5440×800	Crawler carrier retracted
		mm	4250×5440×800	Crawler carrier extended
Noise	Noise level outside the operator’s cab during operation	dB	≤107	
	Noise level in the operator’s cab during operation	dB	≤85	

Note:

1. The single rope speed of the winch, slewing speed and traveling speed vary with the load.
2. The ground pressure is the average value, and the actual maximum ground pressure should be determined according to the actual lifting conditions.

1.3. Boom configurations



S-1 S-3 S-2 SF-1 SF-2

S-1：Main boom S-2：Main boom（with fixed jib） S-3：Aux-jib

SF-1：Fixed jib SF-2：Fixed jib（with main hook）

1.4. Main technical features

✪ High work efficiency

Series-connected multiple valve-controlled hydraulic system is applied, so that all simultaneous movements can be achieved and no deceleration will occur during the switching of crane movements.
Single rope speed on the outmost layer of hoisting winch 1 is 141 m/min.
To improve lifting efficiency, hoisting winch 1 with free-fall function is available for an option.

✪ 运输及拆装优化

✪ Optimization of transportation, assembly and dismantling

A-frame can be erected by itself without the help of oil cylinder, thus achieving rapid assembly of the crane.
The weight of single counterweight plate is less than 6.75t, so that the counterweight can be assembled by use of a small-sized auxiliary crane.
The crawler carriers can be extended and retracted, and the maximum transport width of the crane is 3.38m/3.0m.

2.Technical instructions

2.1.Crane engine

Engine model: Weichai power WP7G270E301
Type: six-cylinder in-line, intercooling turbine diesel engine
Displacement: 7.47L
Rated power: 199kW/2000r/min
Max. torque: 1200N.m/(1200～1500)r/min
Exhaust emission: National Stage III
Fuel tank capacity: 400L

2.2 Hydraulic system

The crane adopts a series-connected hydraulic system with hydraulic pilot proportional control. The high-speed hydraulic motor drives the planet reducer to realize the movements of the mechanisms.
The system has the advantages of high efficiency, energy-saving, smooth and safe simultaneous movements.
Oil cooler for hydraulic system: 40 kW
Hydraulic oil tank capacity: 520L

2.3. Electrical system

24 Volt DC, negative ground, two batteries of 200AH each
The electrical system of the crane includes power, engine start, engine shutdown, indicator light, warning device, illumination device, fan, wiper, horn, hoisting limiter, hydraulic oil cooling fan, concentrated display panel, load moment limiter, safety devices etc. which not only ensure safe operation of the crane but also provide a good working environment.
The crane is also fitted with GPS/GPRS system.

2.4 Hoisting winches

The axial piston variable displacement motor drives hoisting winches 1 and 2 via a built-in planet reducer.
Brake the winch via the spring on the winch motor, which is controlled by balance valve.
The winding drum is a kind of cast drum with LEBUS groove, which can ensure that the multi-layer wire rope will not be wound disorderly.

	Hoisting winch 1	**Hoisting winch 2**
Rated single rope force	120kN	120kN
Wire rope diameter	26mm	26mm
Wire rope length	200m	150m
Max. single rope speed on the working rope layer	141m/min	130m/min

Hoisting winch 1with free-fall function is available for an option, and the single rope force on the 3rd rope layer can reach 11t.

2.5 Derricking system

The axial piston motor drives the derricking winch via a built-in planet reducer.
Brake the winch via the spring on the winch motor.
The winding drum can be locked by the ratchet wheel and ratchet pawl.

	Derricking winch
Rated single rope force	71kN
Wire rope diameter	20mm
Wire rope length	155m
Single rope speed on the working rope layer	109m/min

2.6.Slewing mechanism

The axial piston constant displacement motor drives the slewing mechanism via a planet reducer. The pinion gear on reducer output shaft rotates around the slewing ring on the undercarriage central section, thus achieving 360° continuous rotation of the slewing table.
Free-swing function can effectively reduce the lateral force of the boom.

✪ Slewing ring

Single-row ball, four-point contact, internal geared

✪ Slewing brake

The slewing mechanism is braked via the spring on the slewing motor, which is controlled by balance valve.

✪ Slewing speed

The maximum slewing speed is 2.4 rpm.

2.7.Rear counterweight

Tray-type assembly structure, the counterweight plates stacked up and down, and locked by the chain.
The counterweight is 1.32m wide, which is easy to transport.
The rear counterweight consists of a counterweight base plate and four counterweight plates, and its total weight is 32.0t.
The central counterweight consists of two counterweight plates, and its total weight is 9.0t.

2.8.Operator's cab

Spacious and full-closed cab is equipped with safety glass, adjustable seat, intermittent wiper and window water injector.

✪ Control boxes

The control boxes on both side of the cab are installed with various electrical switches, emergency stop button, etc. They can be adjusted with the operator's seat.

✪ Control levers and travel gear pedals with hand levers

Control levers: control the movements of hoisting winches 1 and 2, slewing mechanism and derricking winch, The crane movement can be performed independently and simultaneously.

✪ Air conditioning

Adopt standard heating and cooling air conditioning, and optimize air duct and air outlet.

2.9.Crane undercarriage

✪ Traveling power

Both left and right crawler carriers are fitted with an independent hydraulic driving system. Each hydraulic driving system has a hydraulic motor, which can drive the drive sprocket via planet reducer.
The operator can use hand levers or travel gear pedals to control the traveling movements, such as traveling straight ahead / backwards, turning with a crawler, differential steering and turning on spot.

✪ Traveling brake

The travel gear can be braked via the spring on the traveling motor, which is controlled by balance valve.

✪ Crawler carrier extending & retracting mechanism

Crawler carriers are extended and retracted via two hydraulic cylinders.
Crawler carrier extended:
Distance between track center:4250mm
Crawler carrier retracted:
Distance between track center: 2550 mm

✪ Track roller

Maintenance-free, sealed structure

✪ Track pad

High-strength alloy cast steel track pad, its width: 800mm.

✪ Traveling speed

The maximum traveling speed is 1.3 km/h.

2.10.Safety devices

Many safety devices, mechanical, electronic or hydraulic, are fitted on the crane to ensure safe operation of crane.

✪ Load moment limiter

The load moment limiter can automatically detect main boom angle and lifting load, and provide feedback of these data to the operator according to the actual lifting situation.
When the normal operating range of the crane is exceeded, the load moment limiter will send out an alarm and limit the current movement.
8.0-inch LCD screen can show the following data: moment ratio, main boom angle, main boom length, working radius, actual load, and permissible lifting load, etc.

✪ Hoisting limiter

Device to prevent any specified upper limitation of the load lifting attachment from being exceeded
If the load hook comes into contact with hoisting limit switch weight during its upward movement, the hoisting limit switch will be triggered and the crane movement “lift the load” will be switched off.

✪ Derricking limiter

When main boom is raised to 80° position, the limit switch on the pivot section will be triggered, the buzzer will sound, the warning light on the screen will flash, and the crane movement “raise main boom” will be switched off.

✪ Lowering limiter

When there are only three windings of wire rope left on the drum, the lowering limit switch will be triggered, the buzzer will sound, the warning light on the screen will flash and the crane movement “reel off winch” will be switched off.

✪ Boom tilting-back support

The tilting-back support consists of inner pipe, outer pipe and spring. The inner pipe is set in the outer pipe. The tilting-back support is designed to prevent the boom from tilting backward.

✪ Slewing locking device

Adopt both electrical and mechanical locking, generally used to fix the relative position between crane superstructure and undercarriage during transportation so as to avoid accidental operation.

✪ Safety catch

Device to protect the lifted load from jumping out from the hook

✪ Anemometer

An electronic wind speed sensor to indicate the actual wind speed at boom/jib head to the crane operator

✪ Aviation warning light

Installed on the boom head, and used for high altitude warning

✪ Angle indicator

It is fitted at the lower end of main boom pivot section. The operator can clearly see the boom angle from the cab.

✪ Rear-view mirror

Located in the left front of the cab, and near the handrail in the right hood

✪ Overflow valves in hydraulic system

The overflow valve fitted in hydraulic system can restrain the pressure in the oil circuit from rising irregularly, thus protecting such hydraulic elements as hydraulic oil pump and hydraulic motor against damage and preventing the hydraulic system from being overloaded.

✪ Ratchet wheel mechanism for derricking winch

Device to lock the derricking winch when the crane is not used

✪ Emergency stop button

Allow the engine to shut down and all movements to be stopped in an emergency situation.

✪ Tricolor warning light

The warning light, by showing red, yellow and green colors, can indicate loading status.

Green color – the load ratio is less than 90%

Yellow color – the load ratio is between 90% and 100%

Red color – the load ratio has exceeded 100% and the crane is overloaded.

✪ Slewing alarm (optional)

An acoustic alarm will be sent out during slewing movements.

✪ Traveling alarm (optional)

An acoustic alarm will be sent out during traveling movements.

✪ Video monitoring system (optional)

Camera and video display are available for options. They respectively monitor the working condition of crane hoisting winches and the blind spots behind the crane.

2.11. Boom system

✪ Main boom

Main boom length: 13m – 64m;

Consisting of 6.5m main boom pivot section, 6.5m main boom head, and main boom intermediate sections of 3m, 6m and 9m as well as tip boom.

Fixed jib

Fixed jib length: 7m – 19m;Consisting of 3.5m fixed jib pivot section, 3.5m fixed jib head and 4m fixed jib intermediate sections. Fixed jib mode with main boom length :31m～52m.

2.12.Load hook

Five kinds of load hook are available.

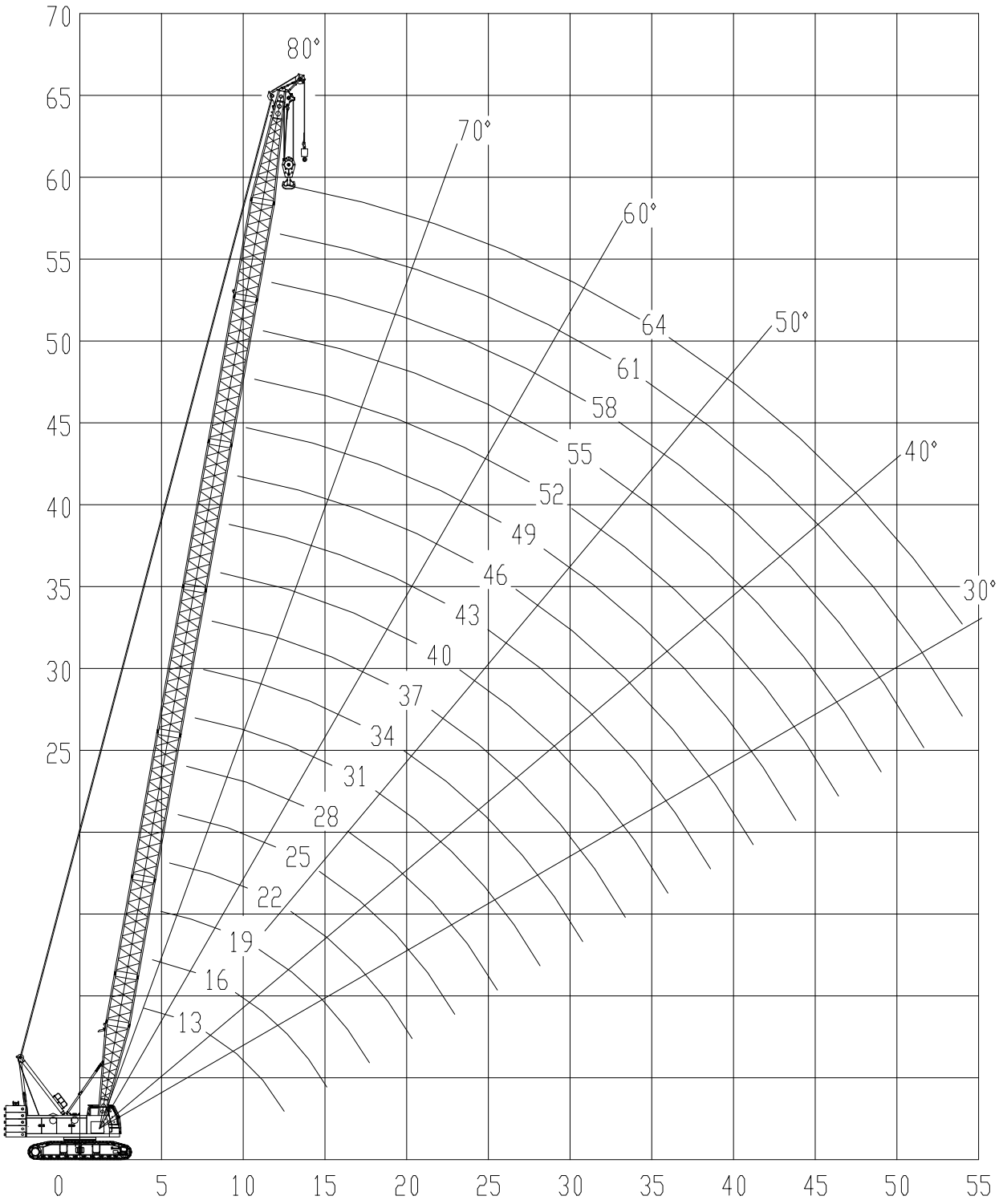
Specification of load hook	Weight (kg)	Number of rope pulleys
100 t	1630	5
80 t	1250	4
50 t	1360	2
30 t	763	1
12t	470	0

3. Lifting performance

3.1 Main boom configuration

Lifting height on S-1/S-2 boom

Unit:m



Lifting capacity on main boom(S-1,1/2)

Unit:t

Radius	13	16	19	22	25	28	31	34	37
3.9	100								
4	95								
4.5	84.5	83.2							
5	76	74.3							
5.5	69.1	68.5	68.1	67.6					
6	63.2	62.5	61.8	58.9					
6.5	56.9	56.3	55.5	54.6	53.4	52.3			
7	50.7	50.2	49.8	49.3	48.5	47	45.5		
8	41.6	41.6	41.4	41	40.3	39.5	39	38.2	
9	35.6	35.3	34.7	34.4	34.2	33.9	33.6	33.2	32.6
10	30.5	30.4	30.3	30.2	29.8	29.5	29.2	28.9	28.4
11	27	26.8	26.5	26.5	26.4	26.4	26.1	25.7	25.3
12	24.1	23.9	23.6	23.4	23.2	23.1	23	22.8	22.6
14		19.7	19.3	19.3	19.2	19.2	19.1	18.8	18.7
16			16.4	16.3	16.2	15.9	15.8	15.7	15.6
18				14.1	13.8	13.7	13.6	13.5	13.4
20				12.3	12	11.9	11.8	11.6	11.5
22					10.6	10.5	10.3	10.3	10.2
24						9.3	9.3	9.2	9
26							8.2	8.1	8
28							7.4	7.3	7.2
30								6.7	6.6
32									5.9

Lifting capacity on main boom(S-1,2/2)

Unit：t

Radius	40	43	46	49	52	55	58	61	64
9	31.9								
10	28	27.5	25.9						
11	24.9	24.4	24.1	23.6	20				
12	22.4	22.2	22	21.3	19.3	17.6	16		
14	18.6	18.4	18	17.8	17.5	16.5	15	13.5	10.8
16	15.5	15.4	15.2	15	14.6	14.3	14	12.6	10.1
18	13.3	13.2	13.1	13	12.8	12.5	12.3	11.8	9.5
20	11.4	11.3	11.2	11.1	10.9	10.6	10.4	10.1	8.9
22	10.1	10	9.8	9.8	9.7	9.5	9.2	9	8.2
24	8.9	8.8	8.7	8.6	8.5	8.4	8.2	8	7.5
26	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	6.8
28	7.1	7	6.9	6.8	6.7	6.6	6.5	6.4	6.2
30	6.4	6.3	6.2	6.1	6	5.9	5.8	5.7	5.6
32	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.1	4.9
34	5.3	5.2	5.1	4.9	4.8	4.7	4.6	4.5	4.4
36	4.8	4.7	4.6	4.4	4.3	4.2	4.1	4	3.9
38		4.3	4.1	4	3.9	3.8	3.7	3.6	3.4
40			3.8	3.7	3.6	3.4	3.3	3.2	3.1
42				3.4	3.3	3.1	3	2.9	2.8
44					2.9	2.8	2.7	2.6	2.4
46					2.6	2.5	2.4	2.3	2.2
48						2.3	2.1	2	1.9
50							1.9	1.8	1.7
52								1.6	1.5
54								1.4	1.2

Note：

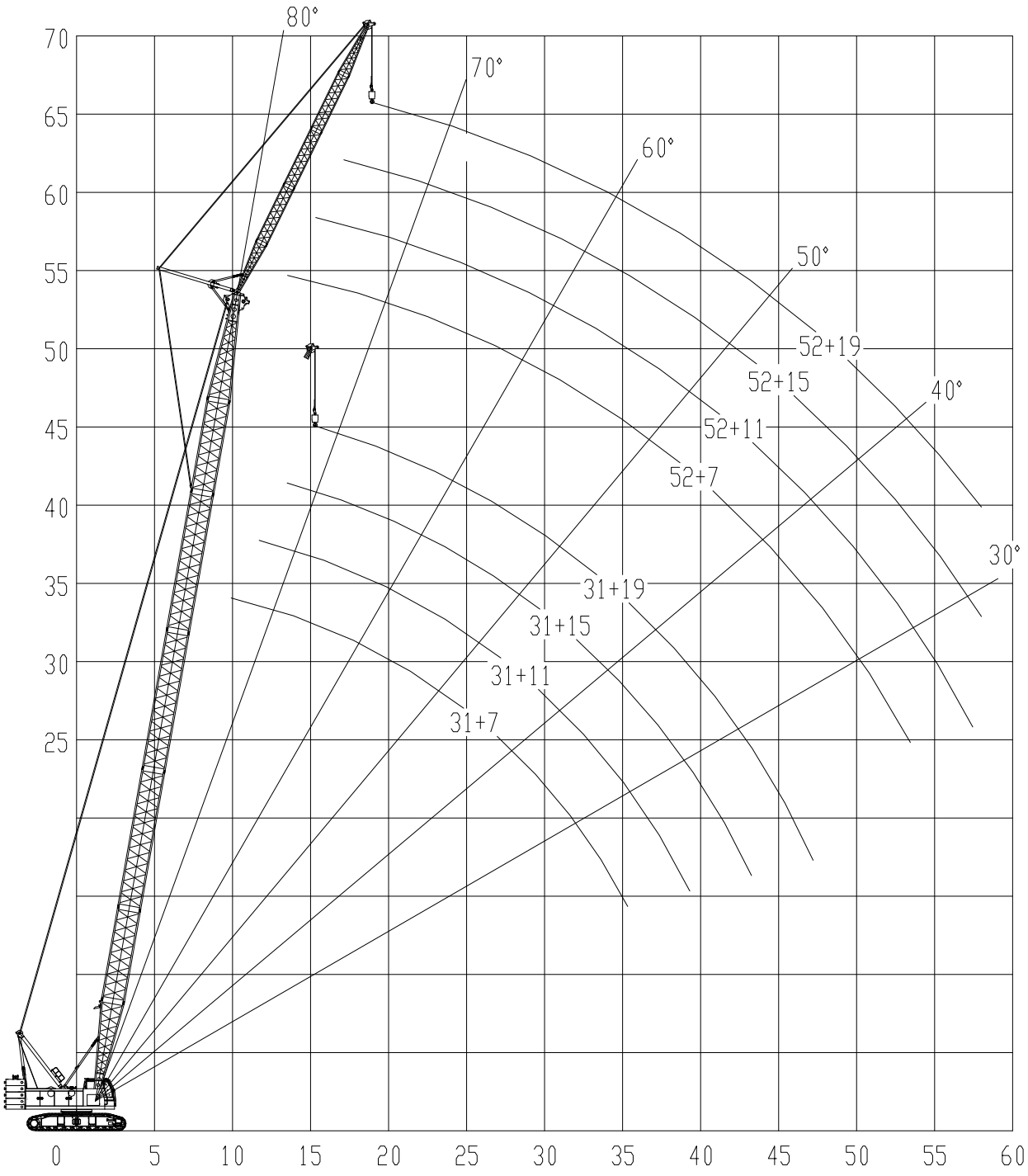
In S-1 boom configuration, main boom can be fitted with tip boom, whose rated load is the same as that on main boom. But the maximum lifting capacity on tip boom cannot exceed 11.0t；

3.2.Main boom with fixed jib configuration

Lifting height on SF-1/SF-2 boom

(Fixed jib angle =15°)

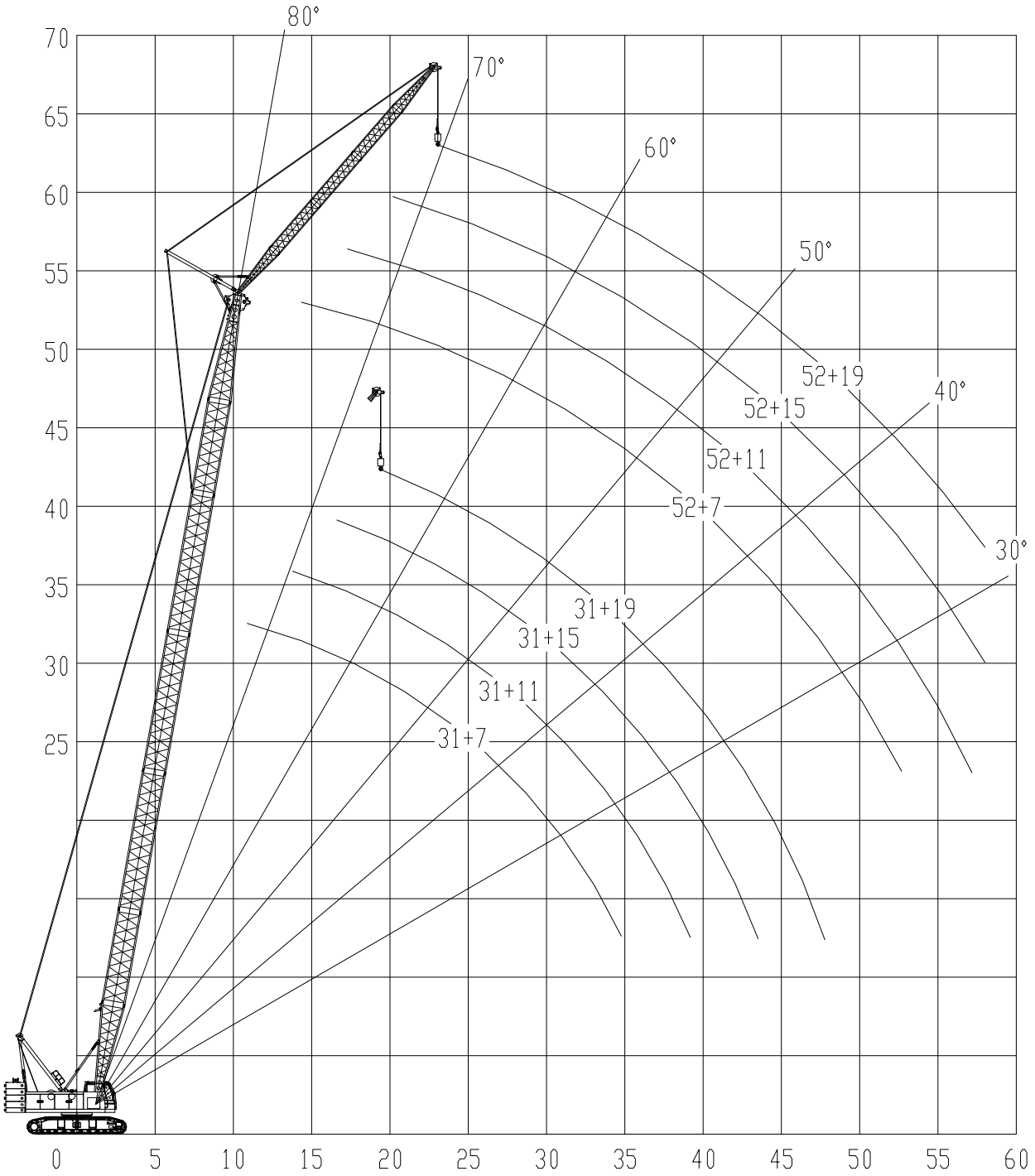
Unit：m



Lifting height on SF-1/SF-2 boom

(Fixed jib angle =30°)

Unit:m



Lifting capacity on fixed jib（SF-1,1/2）

Unit：t

Main boom	34								40							
Fixed jib	7		11		15		19		7		11		15		19	
Radius/ angle	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°
11	12															
12	12	12	12						12							
14	12	12	12		12				12	12	12					
16	12	12	12	12	12		11.8		12	12	12	12	12			
18	12	12	12	12	12	10.5	11.1		12	12	12	12	12	10.4	11.2	
20	11.6	11.7	11.7	11.9	11.9	10	10.4	8.5	11.3	11.3	11.6	11.7	11.4	10.1	10.6	
22	10.1	10.2	10.2	10.5	10.5	9.6	9.8	8.1	9.8	10	10.1	10.2	10.2	9.7	10	8.1
24	8.9	8.9	9.2	9.2	9.2	9.2	9.3	7.8	8.8	8.8	8.9	8.9	8.9	9.3	8.9	7.8
26	7.8	7.8	8.1	8.1	8.2	8.3	8.3	7.5	7.7	7.7	7.8	8.1	8.1	8.2	8.1	7.6
28	7	7	7.3	7.3	7.4	7.4	7.4	7.2	6.9	6.7	7	7	7.2	7.3	7.3	7.3
30	6.3	6.3	6.5	6.6	6.6	6.7	6.7	6.9	6.1	6.1	6.3	6.3	6.3	6.6	6.5	6.7
32	5.7	5.7	5.9	5.9	5.9	6.1	6.1	6.2	5.5	5.5	5.7	5.7	5.7	5.9	5.9	6.1
34	5.2	5	5.3	5.3	5.4	5.5	5.5	5.7	5	4.8	5.1	5.2	5.3	5.3	5.3	5.5
36	4.7	4.6	4.8	4.7	4.8	5	5	5.2	4.5	4.3	4.6	4.6	4.7	4.7	4.8	4.9
38			4.3	4.3	4.5	4.5	4.6	4.6	4.1	3.9	4.2	4.2	4.3	4.3	4.3	4.5
40			3.9	3.9	4.1	4.1	4.2	4.2	3.7	3.5	3.8	3.8	3.9	3.9	3.9	4.1
42					3.8	3.7	3.8	3.8	3.2	3.1	3.4	3.3	3.5	3.5	3.5	3.7
44					3.4	3.3	3.5	3.5			3.1	3	3.2	3.1	3.2	3.2
46							3.2	3.1				2.7	2.8	2.8	3	3
48							2.8	2.8					2.6	2.6	2.7	2.7
50														2.3	2.4	2.4
52															2.2	2.2
54																1.9

Lifting capacity on fixed jib（SF-1,2/2）

Unit：t

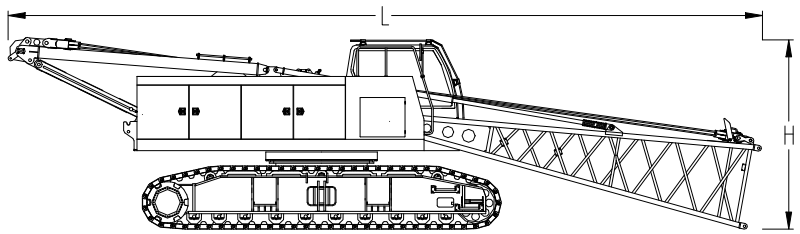
Main boom	46								52							
Fixed jib	7		11		15		19		7		11		15		19	
Radius/angle	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°	15°	30°
14	12	12	12						11.5							
16	12	12	12		12				11	11.1	10.7					
18	12	12	12	12	12		10.7		10.4	10.6	10.2	10.3	10			
20	10.9	11.2	10.9	11.3	10.9	9.7	10		9.9	10.1	9.8	10	9.6		9.2	
22	9.6	9.8	9.6	9.8	9.6	9.4	9.1	8	9.2	9.2	9.2	9.6	9.2	8.6	8.4	
24	8.5	8.5	8.5	8.9	8.8	8.9	8.5	7.8	8.1	8.1	8.1	8.3	8	8.4	7.8	7.1
26	7.4	7.4	7.7	7.8	7.8	8.1	7.6	7.5	7.3	7.3	7.3	7.4	7.3	7.7	7.2	6.9
28	6.6	6.6	6.7	6.9	7	7.2	7	7.3	6.3	6.3	6.5	6.6	6.6	6.7	6.4	6.7
30	5.9	5.9	6.1	6.1	6.1	6.3	6.3	6.6	5.7	5.7	5.8	5.9	5.9	6.1	5.9	6.2
32	5.3	5.3	5.4	5.5	5.5	5.7	5.7	5.9	5	5	5.3	5.3	5.3	5.5	5.3	5.5
34	4.7	4.6	4.8	4.8	5	5.2	5	5.3	4.5	4.5	4.6	4.7	4.7	4.8	4.8	5
36	4.2	4.2	4.3	4.3	4.5	4.6	4.6	4.7	4.1	3.9	4.2	4.2	4.3	4.3	4.3	4.6
38	3.8	3.8	3.9	3.9	4.1	4.1	4.2	4.3	3.5	3.5	3.8	3.8	3.8	3.9	3.9	4.1
40	3.4	3.2	3.5	3.5	3.7	3.7	3.8	3.9	3.2	3.1	3.2	3.2	3.4	3.5	3.5	3.7
42	3.1	3	3.2	3.1	3.2	3.2	3.3	3.4	2.8	2.7	3	2.9	3.1	3.1	3.1	3.2
44	2.8	2.6	2.8	2.8	3	3	3	3.1	2.5	2.4	2.7	2.6	2.7	2.8	2.8	2.9
46	2.4	2.3	2.6	2.4	2.7	2.7	2.7	2.8	2.3	2.1	2.3	2.3	2.4	2.4	2.5	2.6
48			2.3	2.2	2.4	2.3	2.4	2.4	2	1.8	2	2	2.2	2.2	2.2	2.3
50			2	1.9	2.2	2.1	2.2	2.2	1.8	1.6	1.8	1.8	1.9	1.9	2	2
52					1.9	1.8	1.9	1.9	1.5	1.3	1.6	1.5	1.7	1.7	1.8	1.8
54					1.7	1.6	1.8	1.8			1.3	1.2	1.5	1.4	1.5	1.5
56							1.5	1.5			1.2	1.1	1.2	1.2	1.3	1.3
58							1.3	1.2					1.1	1	1.1	1.1

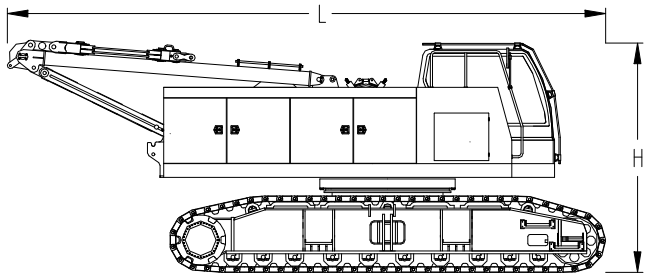
注：

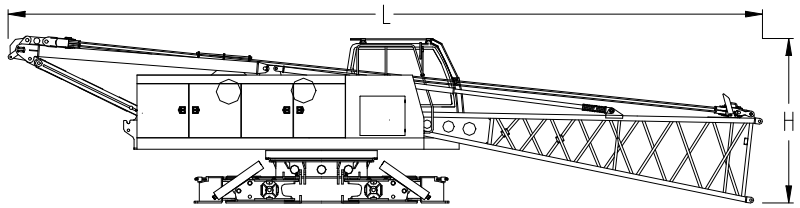
①起重性能表中的数据包含了吊具及钢丝绳的重量，实际吊重物的净重应小于该值；

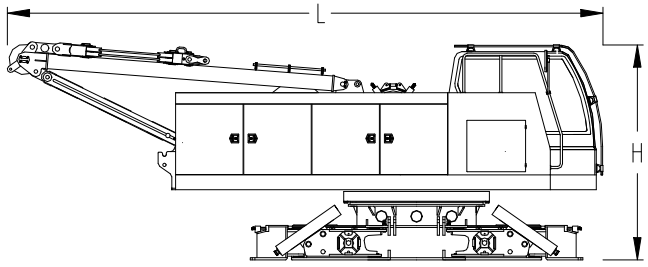
②起重性能表中的数据基于地面坚实平整等作业条件，并且视载荷自由悬挂。

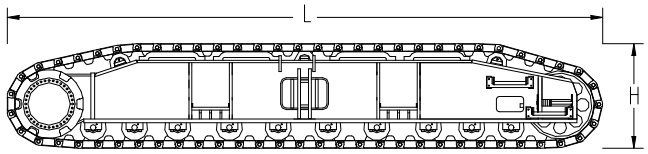
4.1.Transport dimensions and weight of main components

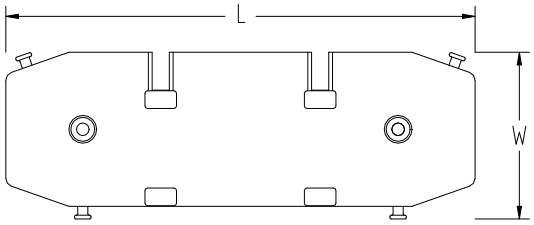
Basic machine (with main boom pivot section)	Qty	1
	Length mm	13330
	Width mm	3380
	Height mm	3340
	Weight kg	41300

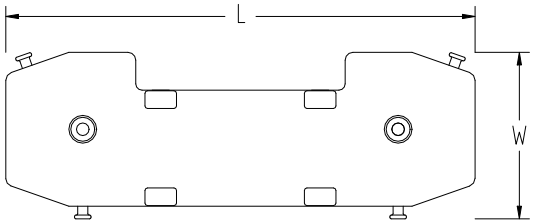
Basic machine (without main boom pivot section)	Qty	1
	Length mm	8590
	Width mm	3380
	Height mm	3340
	Weight kg	40230

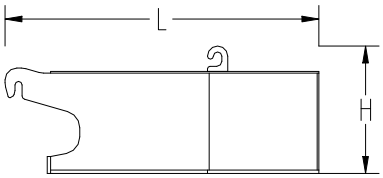
Basic machine (with main boom pivot section,without crawlers)	Qty	1
	Length mm	8710
	Width mm	3000
	Height mm	2900
	Weight kg	24200

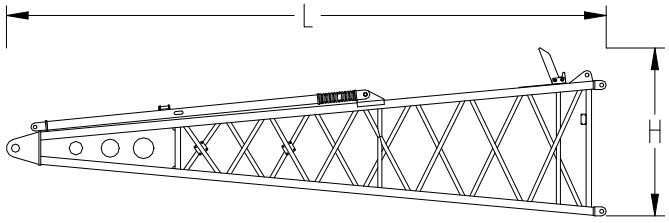
Basic machine (without main boom pivot section and crawlers)	Qty	1
	Length mm	8060
	Width mm	3000
	Height mm	2900
	Weight kg	23130

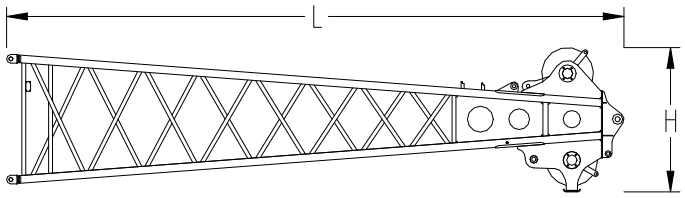
Crawler carrier assembly	Qty	2
	Length mm	6340
	Width mm	1090
	Height mm	1130
	Weight kg	8560

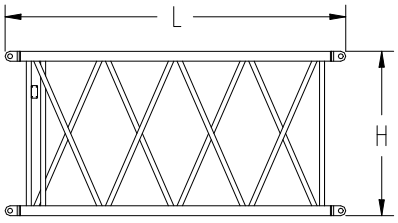
Counterweight base plate	Qty	1
	Length mm	3720
	Width mm	1320
	Height mm	550
	Weight kg	5000

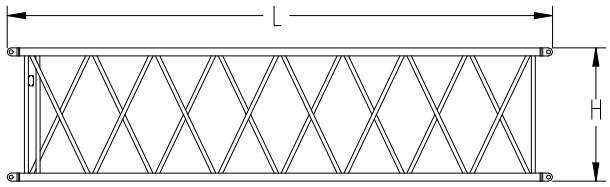
Counterweight plate	Qty	4
	Length mm	3720
	Width mm	1320
	Height mm	450
	Weight kg	6750

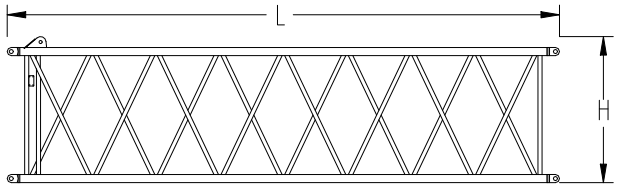
Carbody counterweight	Qty	2
	Length mm	1860
	Width mm	1330
	Height mm	755
	Weight kg	4500

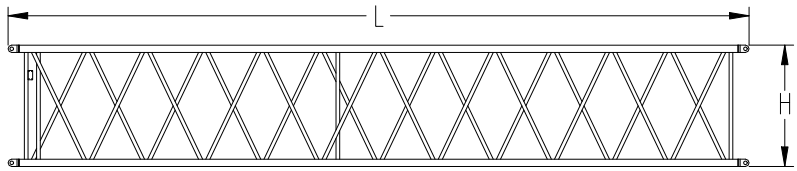
Main boom pivot section	Qty	1
	Length mm	6650
	Width mm	1690
	Height mm	1860
	Weight kg	1070

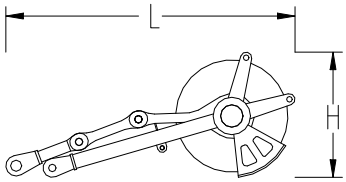
Main boom head	Qty	1
	Length mm	7130
	Width mm	1690
	Height mm	1675
	Weight kg	1250

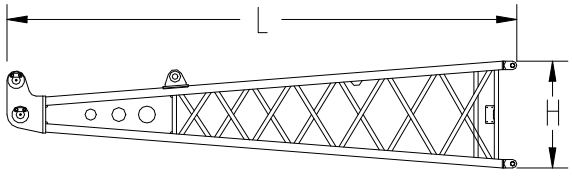
3m main boom intermediate section	Qty	2
	Length mm	3090
	Width mm	1690
	Height mm	1500
	Weight kg	265

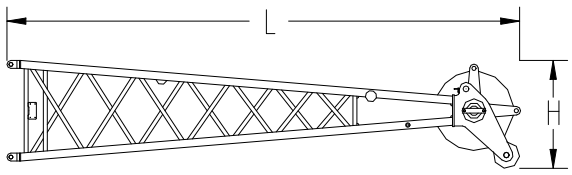
6m main boom intermediate section	Qty	1
	Length mm	6090
	Width mm	1690
	Height mm	1500
	Weight kg	455

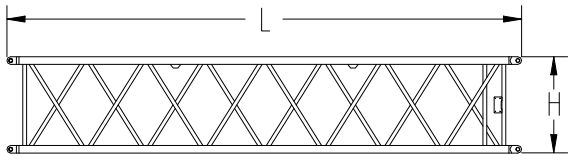
9m main boom intermediate section A	Qty	1
	Length mm	6090
	Width mm	1690
	Height mm	1610
	Weight kg	545

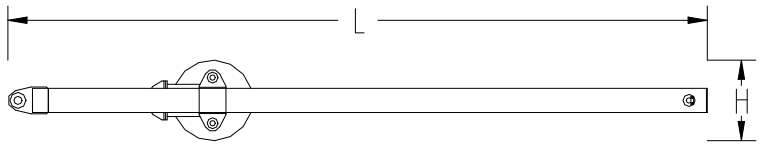
9m main boom intermediate section	Qty	4
	Length mm	9090
	Width mm	1690
	Height mm	1500
	Weight kg	645

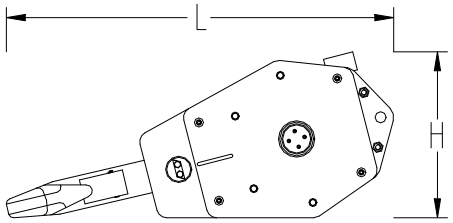
Tip boom	Qty	1
	Length mm	1550
	Width mm	590
	Height mm	670
	Weight kg	120

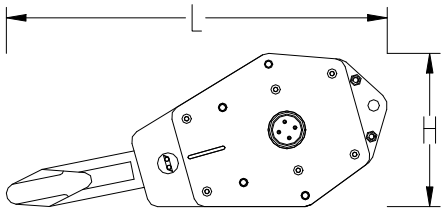
Fixed jib pivot section	Qty	1
	Length mm	3630
	Width mm	960
	Height mm	760
	Weight kg	190

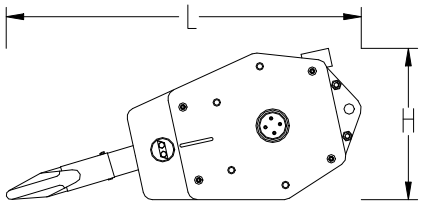
Fixed jib head	Qty	1
	Length mm	3875
	Width mm	960
	Height mm	760
	Weight kg	280

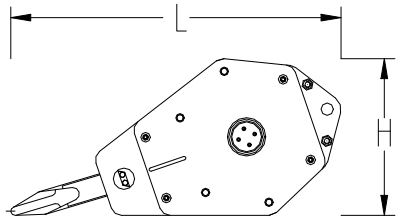
4m fixed jib intermediate section	Qty	3
	Length mm	4060
	Width mm	960
	Height mm	760
	Weight kg	165

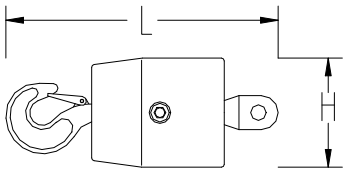
FA-frame	Qty	1
	Length mm	5210
	Width mm	640
	Height mm	600
	Weight kg	445

100t load hook	Qty	1
	Length mm	1925
	Width mm	845
	Height mm	820
	Weight kg	1630

80t load hook	Qty	1
	Length mm	1820
	Width mm	725
	Height mm	730
	Weight kg	1250

50t load hook	Qty	1
	Length mm	1910
	Width mm	675
	Height mm	810
	Weight kg	1360

30t load hook	Qty	1
	Length mm	1550
	Width mm	550
	Height mm	740
	Weight kg	763

12t load hook	Qty	1
	Length mm	965
	Width mm	385
	Height mm	385
	Weight kg	470

Note:

1. The components above are only schematic, and they are not drawn according to a fixed scale. The length dimension is overall dimension.
2. The weight listed in above table does not include the weight of package. The actual weight of component may be different from the weight listed in above table due to manufacturing error.
3. The components above may be improved, which will result in changes in dimensions and weight. Therefore, the actual weight and dimension should be subject to factory products.