

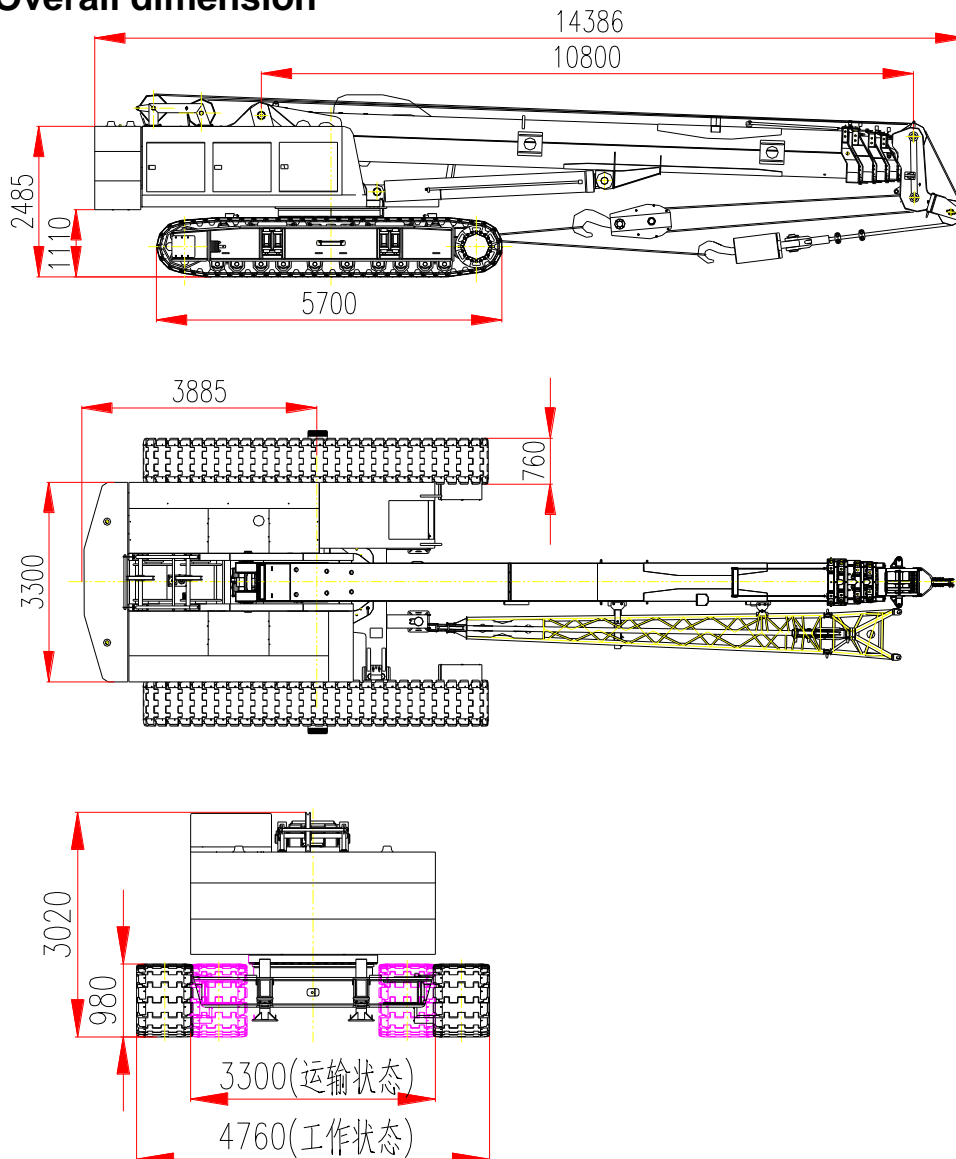


Specification of SMQ500A

STRUCTURE OF SMQ500A

SMQ500A 50T telescopic crawler crane is our own developed products, which maximum load capacity is 50T, and maximum load moment is 171 T·M. The total weight of this type crane is 57.8T and length is 14.386m. When under working condition, the width is 4.76m, while 3.3m for transportation. Crane's height is 3.02m with 10.8-38m length boom and 7.5m jib. Whole crane is composed by three parts, carriage, turntable and arm. The carriage is welded as a closed box by plates with different directions to increase construction stability. The turntable is a combination structure of closed box and single web plates. The arm frame is adopted with hexagon section, which has good stretch proof ability.

Overall dimension





Main technical data

Item		Unit	Data	
Max. rated load weight		t	50	
Boom length		m	10.8-38	
Jib length		m	7.5	
Max. length of boom+jib		m	38+7.5	
Luffing angle		°	-2~78	
Working speed	Speed of steel rope	up	m/min	130
		down	m/min	130
	Slewing speed		r/min	
	Travelling speed		Km/h	
Hoisting multiple		t	5(single rope)	
Grade ability		%	40	
Engine Model		WP6.210 Long stroke diesel engine		
Motor output power/rev.		Kw/rpm	155/2300	
Total weight		t	57.8 (Including Counterweight)	
Counterweight		t	18	
Overall size(retracted)		mm	14386X4760(3300)X3020	
Unit pressure of ground		Kg/cm2	0.7	

Safety device

Moment limiter system

The moment limiter will real time monitors the working condition of crane, such as hoist weight, boom angle, boom length and hoist height. Working data can be set through button in every working condition. When overload, or data over the stipulated limitation, the alarm will be started and the dangerous operation will be stopped accordingly.

When rated load moment $\leq 90\%$ load moment $< 100\%$ rated load moment, the alarm will make long pause buzzing.

When 100% rated load moment \leq load moment $< 105\%$ rated load moment, the alarm will make short pause buzzing.

Load moment $\geq 105\%$ rated load weight, continuous alarm will be started.

HMI

The data can be shown with graphic mode and digital mode in the true color display. Page turning, data setting and programming with button function are available. The driver can clearly read the content in the display under the circumstance of dark and illumination.

Slewing freely

The crane can slew freely through button to realize function shift.

Gradienter

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The gradienter is used for inspecting the angle between carriage body and level to insure the crane work safely.

Slewing alarm

When slewing with control of pressure switch, the buzzer and caution light will make alarm together.

Travel alarm

When traveling with control of pressure switch, the buzzer and caution light will make alarm together.

Carriage construction

Driving system

Weicha engine

- 1、 Diesel engine type: WP6.210 Long stroke diesel engine.
- 2、 Type: four-cylinder, in-line/straight line, water-cooling, four stroke, electric control.
- 3、 Cylinder diameter/stroke: 105/130mm
- 4、 Discharge capacity: 6.75L
- 5、 Air inlet: supercharge, intercool
- 6、 Rated power/Rotary speed: 155KW/2300r/min
- 7、 Max. torque/Rotary speed: 800N.m/1200-1800r/min
- 8、 Capacity of hydraulic oil tank: 700L
- 9、 Capacity of fuel tank: 530L

Hydraulic system

The hydraulic system is adopted with domestic brand accessories. The main oil supplier is composed with 2 variable capacity pumps and one bigeminal pump. The hoisting motor and travel motor have variable system, which can improve the work efficiency and realize speed from low to high with oil tank as luffing driving device

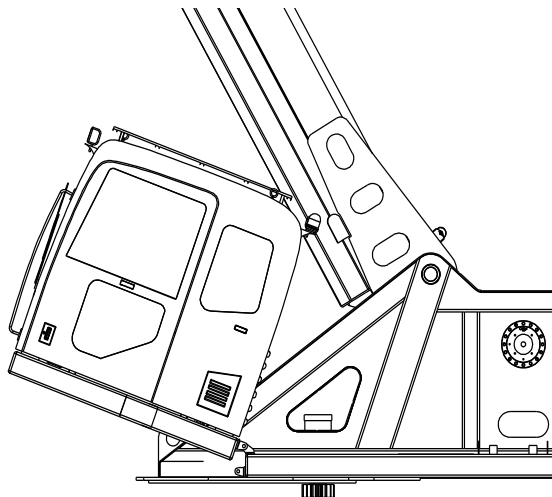
Electric monitoring and control system

The advanced and integrated electric monitoring and control system as well as the true color display can implement the real time inspection and control during operation of crane and engine, safety monitoring and action controlling period. CAN bus communication system can realize the communication among monitoring, engine and display in fluid control system. Multichannel signal IO can be received as well with good extendability.



Comfortable operation

With full sight driver cab, which up angle can adjust 20°, the shock absorption chair and air-conditioner are equipped.



Main and aux. hoist

Winch for main and aux. hoist is adopted with domestic motor and wet brake reducer

Winding drum: pitch circle diameter 440 mm

Steel rope diameter: $\phi 20$ mm

Length of steel rope(main/aux): 220/105 m

Max. speed of steel rope: 130 m/min

Luffing device

Single cylinder is used for luffing. The balance valve make the luffing of boom much more stable.

Luffing angle is from -2° to 78° .

Slewing device

360° slewing and free turning can be available. Speed is 0-1.8 r/min.

Counterweight

There are three quick disassembly counterweights with the total weight of 18t, which are made from casting and fixed to the turntable by bar.

Carriage

Body

The box construction carriage is made by steel plate. Left and right track frame can be extended for easy transportation. With four outriggers on the carriage, easy for spreading or drawing back the left and right track frame.

Support roller

10 sets of support rollers are separately equipped on both sides. All support rollers are equipped with copper bush, floating seal and injected with lubrication oil.



Track shoe

Left and right traveling devices are installed with 122 sets of 760 width track shoes, which are linked to the chain rail through pin shaft, so that the speed is improved. The quick disassembly and easy pass track shoe can be adjusted through screw tension bridle.

Driving system

Individual hydraulic driving system is built in crawler side frames. Driving system on each side consists of a hydraulic motor with function of propelling driving wheel through a planetary reduction gear. The whole driving device is built in the side frame with a compact structure.

Travel speed

0-1.2/2.4km/h

Gradeability

40%

Equipment

Boom

It is of hexagon cross sectional structure with high resistance to buckling. The length is 10.8m-38m, total 5 sections. The second section is individually telescopic, and the others are telescopic in synchronization.

Jib

The length is 7.5m with two offset angles, i.e. 0°and 20°.

Hook blocks

Main hook: 50t

Auxiliary hook: 5t



Load Chart (Boom) at extending outriggers

Work range	Rating loading weight												Unit : kg
	Boom length												
	10.8m		14.2m		17.6m		24.4m		31.2m		38m		
	Angle	Loading weight	Angle	Loading weight	Angle	Loading weight	Angle	Loading weight	Angle	Loading weight	Angle	Loading weight	
3	72.9	50000	77.1	32000									
3.5	70.0	46000	75.0	31000	78.0	28000							
4.0	67.0	41000	72.9	31000	76.3	28000							
4.5	64.0	38000	70.7	30000	74.6	25500							
5.0	60.8	33000	68.5	28600	72.9	24000	77.8	19600					
5.5	57.6	29300	66.2	26800	71.2	23500	76.6	19000					
6.0	54.2	26200	63.9	24000	69.4	22000	75.4	19000					
6.5	50.6	23500	61.6	21700	67.6	20000	74.1	18600	77.7	14200			
7.0	46.7	21100	59.2	19700	65.8	18300	72.9	17300	76.8	14000			
8.0	37.9	17000	54.1	16500	62.1	15400	70.4	14800	74.8	12600	77.6	8500	
9.0			48.6	14000	58.2	13100	67.8	12800	72.9	12000	76.1	8200	
10			42.6	11800	54.1	11200	65.2	11100	71.0	10600	74.5	8000	
11			35.6	10000	49.8	9800	62.6	9800	69.0	9500	72.9	7800	
12			26.8	8000	45.1	8500	59.8	8700	67.0	8500	71.3	7600	
13					40.0	7200	57.0	7700	64.9	7500	69.7	7100	
14					34.1	6300	54.1	6900	62.8	6800	68.1	6300	
15					27.1	5200	51.0	6200	60.7	6200	66.4	5900	
16							47.8	5200	58.6	5500	64.7	5400	
17							44.4	4800	56.3	5100	63.0	4800	
18							40.8	4400	54.0	4500	61.3	4500	
19							36.8	3900	51.7	4100	59.5	4100	
20							32.4	3200	49.2	3800	57.7	3700	
22									44.0	3000	54.0	3000	
24									38.2	2600	50.1	2500	
26									31.5	2000	46.0	2100	
28											41.5	1600	
30											36.5	1300	
32											30.9	1200	
Multiplying	12		10		8		6		4		4		
Hook weight							575kg						

Remark:

1. When the length of boom is 10.8m, the travel load is 70% of the rated load.
2. When the length of boom is 14.2m and 17.6m, the travel load is 50% of the rated load.
3. In others circumstance, load working and no-load running is prohibited.
4. When load working, the ground should be horizontal and the travel speed should under or at the

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lowest speed.

Jib load chart at extending outriggers

Rated load weight		unit: kg		
boom+jib(m)		38 + 7.5 = 45.5 m		
Boom up angle α°	Jib compensation angle			
	0°		20°	
	amplitude (m)	Load weight	amplitude (m)	Load weight
78	8.8	3200	10.9	2800
76	10.3	2800	12.4	2500
74	11.8	2500	13.9	2100
72	13.4	2300	15.3	1800
70	14.8	2100	16.8	1600
68	16.3	1900	18.2	1500
66	17.8	1700	19.6	1400
64	19.2	1400	21.0	1200
62	20.6	1200	22.4	1000
60	22.0	1000	23.7	800
Hook weight		110kg		
Steel rope multiple		1		

Load Chart at travelling

Working radius(m)	18t counterweight total length for track frame		
	360 ° operation at travelling		
	Boom length		
	10.8m	14.2m	17.6m
3.0	35.0	16.0	
3.5	32.2	15.5	14.0
4.0	28.7	15.5	14.0
4.5	26.6	15.0	12.7
5.0	23.1	14.3	12.0
5.5	20.5	13.4	11.7
6.0	18.3	12.0	11.0
6.5	16.4	10.8	10.0
7.0	14.7	9.8	9.1
8.0	11.9	8.2	7.7
9.0		7.0	6.5
10.0		5.9	5.6
11.0		5.0	4.9
12.0			4.2



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13.0			3.6
14.0			3.1
Multiplying	12	10	8
Hook	Weight fo main hook:575kg weight of aux.hook:110kg		

Remark: Travelling speed of loading is not over the lowest speed of no loading.