SANY

STB1000T5-8

SANY TELESCOPIC BOOM CRAWLER CRANE

www.sanygroup.com

QUALITY CHANGES THE WORLD

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.

V1.0

01 | Introduce

408t·m
Max. lifting moment

53.1m
Max. boom

53.1m+17.5m
Max. boom + jib length

Product Highlights

- Fast Mobility, Powerful Drive: Capable of climbing slopes up to 45%.
- Engine On-Demand Regeneration: Enhances efficiency by 10%.
- 96 Configurations: Adjustable track gauge, counterweight, and slope settings to suit diverse job conditions.
- Dual Reducers & Three Slewing Modes: Ensures smooth and safe rotation.
- Adaptive Load Chart Switching: Minimizes human error for safer operation.

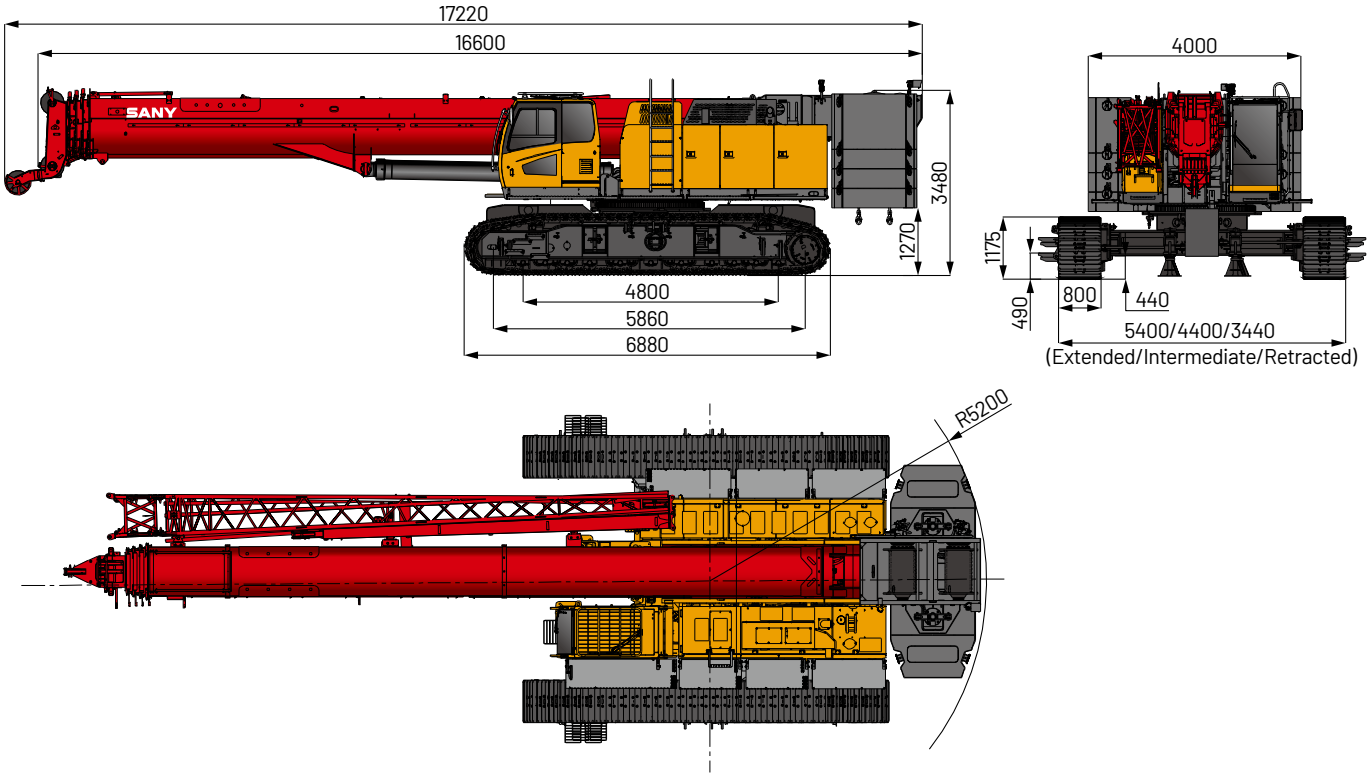
STB1000T5-8
SANY TELESCOPIC BOOM CRAWLER CRANE


SANY
SANY
STB1000T5-8

02 | Outline Dimension

STB1000T5-8

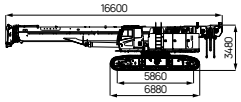
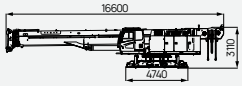
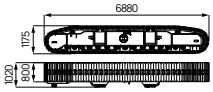
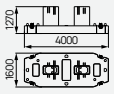
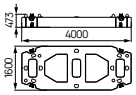
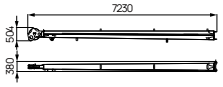
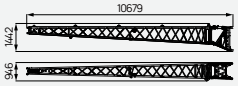
Unit: mm



03 | Main Performance Parameters

Specification	Unit	Parameter
Outline dimension		
Overall machine length	mm	17220
Overall machine width (retracted)	mm	3440
Overall machine height	mm	3480
Center distance of drive and idle wheels	mm	5860
Track shoe width	mm	800
Boom configuration		
Max. rated load capacity	t	100
Boom length	m	13.7~53.1
Boom angle	°	0~80
Max. rated lifting moment	t·m	408
Fixed jib configuration		
Longest boom + longest jib	m	53.1+17.5
Boom to jib angle	°	0, 15, 30
Operation speed		
Rope speed of main/aux. load hoist	m/min	0~130
Boom full up/down duration	s	65/110
Boom full extension/retraction duration	s	85/80
Slewing speed	rpm	0~1.8
No-load traveling speed	km/h	0~2.0
Engine		
Model	-	WP7G300E473 China IV
Rated power	kW/rpm	221/2200
Wire rope		
Diameter	mm	Φ 22
Transport parameter		
Overall machine weight	t	99.2
Max. transport weight of single piece	t	59.7(remove counterweight, main and aux hooks)
Transport dimensions (length × width × height)	mm	16220 × 3440 × 3480
Other parameters		
Average ground pressure	MPa	0.098
Min. slewing radius	mm	5200

04 | Transport Dimension

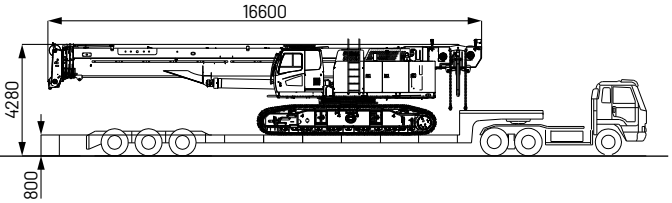
No.	Description	Shape	Length (m)	Width (m)	Height (m)	Weight(t)	Quantity
1	Basic machine (with jib)		16.60	3.45	3.46	59.7	1
2	Carbody (with jib)		16.60	3.22	3.11	40.3	1
3	Crawler frame		6.72	1.07	1.12	9.7	2
4	Rear counterweight tray		4.00	1.60	1.27	8.0	1
5	Rear counterweight block		4.00	1.60	0.47	7.0	2
6	Light counterweight		1.62	0.82	1.04	4.0	2
7	Carbody counterweight		2.02	0.90	0.71	4.0	2
8	100t hook		2.05	0.85	0.67	1.24	1
9	45t hook (optional)		1.52	0.69	0.37	0.48	1
10	12.5t hook		0.81	0.35	0.35	0.3	1
11	Folding jib (optional)		7.23	0.38	0.50	0.3	1
12	Lattice jib (optional)		10.68	0.95	1.44	0.9	1

Note:
① The transport dimensions of each part in the table are schematic, not proportional to the real parts. The dimensions are designed value without packing.
② The weight is designed value that the actual manufactured part may deviate a little. The total weight of rear counterweight is 26t, and the lowerworks counterweight is 6t.
③ The above dimensions and weight are subject to change due to product upgrading.

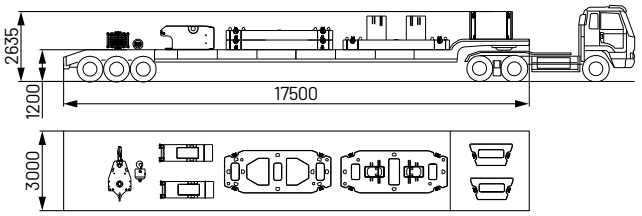
05 | Transport Plan

1 Transport Plan 1

Trailer 1	
Part (s)	▪ Basic machine
Weight	▪ 59.7t

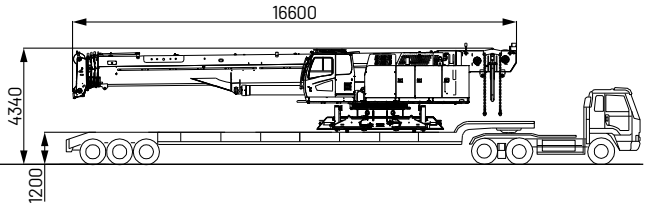


Trailer 2	
Part (s)	▪ Rear counterweight ▪ Carbody counterweight ▪ Hook
Weight	▪ 39.5t

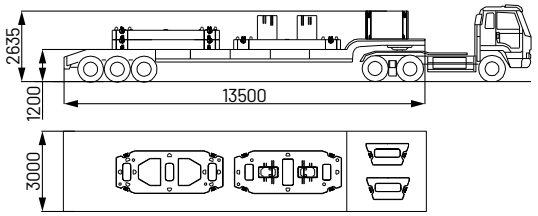


2 Transport Plan 2

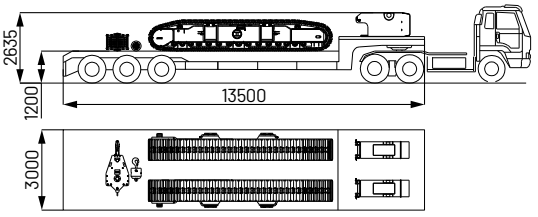
Trailer 1	
Part (s)	▪ Basic machine
Weight	▪ 40.3t



Trailer 2	
Part (s)	▪ Counterweight tray ▪ Rear counterweight block × 2 ▪ Light counterweight × 2
Weight	▪ 30t



Trailer 3	
Part (s)	▪ Right/left crawler frame ▪ Carbody counterweight ▪ Hook
Weight	▪ 28.9t



06 | Main Characteristics

1 Product Specification

Engine

- Model: Weichai WP7G300E473 diesel engine.
- Type: 4 cycle, water-cooled, vertical in-line 6, direct injection, turbo-charger, intercooler, complied with european off-way Stage V emission standard.
- Displacement: 7.47L.
- Rated power: 221kW/2200rpm.
- Max. torque: 1200N.m/(1400~1600)rpm.
- Starter: 24V-8kW.
- Radiator: Fin type core in aluminum.
- Air cleaner: Dry type main filter element, safety element core and resistance indicator.
- Throttle: Grip type hand throttle, electrically controlled.
- Fuel filter: Replaceable paper element.
- Batteries: Two 12V × 165Ah capacity batteries, connected in series.
- Fuel tank capacity: 400L.

Electrical control system

- SANY developed SYIC-III integrated control system is adopted with high integration, precise operation and reliable quality.
- Control system consists of power system, engine, main control system, LMI system, auxiliary system and safety monitoring system. CAN BUS is used for data communication between controller, monitor 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.

Hydraulic system

- Main pumps: Open variable displacement piston pumps of large displacement is adopted.
- Gear pump: Dual gear pump for slewing, radiator.
- Control: The main pump uses a variable displacement piston pump, and the winch motor utilizes an electronically controlled two-position variable axial piston motor, with a hydraulic positive flow control system.
- Way of cooling: Heat exchanger, fan core and multi-stage cooling.
- Filter: Large flow, high precision filter, with bypass valve and transmitter, which can remind the user to replace the filter element in time.
- Max. pressure of system:
  Main/aux. load hoist and travel system: 32Mpa.
  Luffing hoist cylinder: 32 Mpa.
  Slewing system: 24 MPa.
  Control system: 4.5 MPa.
- Hydraulic Tank Capacity: 1050L.

Slewing mechanism

- Slewing brake adopts wet, spring loaded, normally-closed brake, braking through spring force and released by oil pressure.
- Slewing system, equipped with integrated slewing buffer valve, has free slipping function. It is featured in steady start, control and excellent inching function.
- Unique slewing buffer design and more steady brake.
- Slewing drive: External gear slewing drive with 360° slewing range, and the max. slewing speed is 1.8r/min.
- Famous brand motor gearbox for higher reliability.
- Slewing lock: Cylinder lock device can make sure the upperworks can be locked on four directions after the work is done or during transport, which is more convenient and reliable.
- Slewing ring: Single row ball bearing.

Main/aux. load hoist mechanism

- Pump and motor: Dual variable displacement with speed adjustable, to realize higher efficiency and lower down the energy. Winch balance valve combined with anti-hook sliding technology can make sure the load lifting steady.
- Winch brake adopts wet type and spring loaded fin type normally engaged brake, spring force braking, oil pressure released.
- Main and aux. load hoist system adopts piston motor of variable displacement to drive planetary gearbox.

Main Load Hoist Winch	Rope speed (outermost layer)	0~130m/min
	Wire rope diameter	Φ22mm
	Wire rope length	245m
	Rated single line pull	10.5t
Aux. Load Hoist Winch	Rope speed (outermost layer)	0~130m/min
	Wire rope diameter	Φ22mm
	Wire rope length	160m
	Rated single line pull	10.5t

Boom hoist mechanism

- Dual-acting single piston hydraulic cylinder, with safety balance valve, and a luffing angle of 0°~80°. Luffing down through self-weight to reduce energy consumption and increase stability of luffing down operation.

Counterweight

- Counterweight are designed into blocks for self-assembly and easier transport.
- Counterweight tray and blocks are piled up for easier assembly and transport.
- Rear counterweight: Total 30t and capable of self-assembly.
- Carbody counterweight: 4t × 2 at the front and rear of carbody.

Upperworks

- High-strength steel weld framework, with no torsion or deformation. The parts are laid out in the way that is easier for maintenance and service.

Cab and control

- Novelty in cab design, artistic modeling and trim and large area glass window with a tilt angle of 20° to broaden horizon; fitted with low beam headlamp and rearview mirror to broaden horizon; installed with air conditioner, heater and radio; the arrangement of seats, control handle and various control buttons is ergonomically designed to enable more conformable operation.
- Cab layout: Integrated 10.1-inch touch screen, programmable smart switches, vibration handles are offered as optional and man-machine interaction interface are more perfect.
- Armrest box: On the left and right armrest box are control handles, electrical switches, emergent stop and ignition switch. The armrest box can be adjusted along with the seat.
- Seat: Multi-way and multi-level floating adjustable seat with unload switch.
- A/C: Cool and heat air; optimized air channels and vents.
- Multiple cameras can be presented on the monitor at the same time to realize real-time monitoring of wire rope on each winch, conditions behind the counterweight and surrounding the machine.

06 | Main Characteristics

1 Product Specification

Travel drive

- Independent travel driving units are adopted for each side of the crawler, to realize straight walking and turning driven by travel motor through gearbox and drive wheel.
- Travel speed: There are high-speed and low-speed for travel as fast as 2.0km/h.
- Gradeability: 45%.

Travel brake

- Embedded, wet, spring-loaded and normally-closed brake, which is braking with spring force and released by oil pressure.

Crawler extension and retraction

- The crawlers can extend and retract under high pressure provided by auxiliary system and electrically-controlled cylinder. During normal operation, the crawlers must be extended, and can be retracted during transport to stay on the machine.

Crawler tensioning

- The jack is used to push the guide wheel and insert the shim to adjust crawler tension.

Steering system

- The machine is capable of pivot turning and single track turning.

Track pad

- High-strength alloy cast steel track pad can prolong the service life. They are 800mm wide, and the total amount is 65pcs × 2 .

Track roller

- Maintenance-free track roller.

Outrigger

- Outrigger cylinder is offered to facilitate the track frame disassembly during jobsite transfer.

Boom

- The boom is made of high-strength steel structure with U-shape section area, with five sections, of which the basic boom is 13.7m and the max. boom length is 53.1m.
- Dual cylinder full power rope row telescoping.

Fixed jib

- Two lengths of fixed jib, 10.2m and 17.5m, each can be installed in angle 0°, 15°, 30°.

Boom point sheave block

- Weld structures, connected to the boom through pins and used for aux. hook.

Hook block

- Specific parameters are as follows:

Name	Capacity (t)	Quantity	Pulley block	Weight (t)
100t hook	100	1	5	1.24
80t hook(optional)	80	1	4	1.04
45t hook(optional)	45	1	3	0.49
12.5t hook	12.5	1	1	0.3

Note: the above-mentioned operating equipment is full-up configuration. The actual configurations are subject to contract.

06 | Main Characteristics

2 Safety Device

Integrated LMI control system

- LMI control system is standard offering and it is calibration-free. It ensures the operation safety and improves efficiency.
- An LMI calculation system based on a crane lifting mechanics model ensures precision within 0-10% under no-load calibration, providing full-spectrum protection for lifting operations. The system automatically alerts in cases of overload, ensuring operational safety.
- LMI system can automatically detect the load weight, working radius and boom angle, to compare with rated load weight and actual load, work radius and boom angle. In normal operation, it can make judgment and cut off the actions towards dangerous directions. It also acts as black box to record overload information.
- Composition: Monitor, controller, length and angle sensor, pressure sensor.

Assembly/work mode control switch

- In Assembly Mode, the over-hoist protection, lifting boom limit device, and LMI are all off work to facilitate crane assembly.
- In Work Mode, all safety devices activate to protect the operation.

Emergent stop

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

Over-hoist protection of the main/ auxiliary hooks

- Height limit device is installed at the tip of boom and jib, which prevents the hook lift up too much. When the hook lifts up to the limit height, the limit switch activates, buzzer on the left control panel sends alarm, and failure indicator light starts to flash, the hook hoisting action is cut off automatically.

Over-release protection device of the main/auxiliary winch

- Three-wrap protector is installed on main and aux. load hoist winches to prevent over-release of wire rope. When the rope is paid out close to the last three wraps, the limit switch acts, and the system sends alarm through buzzer and show the alarm on the instrument panel, automatically cutting off the winch action.

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 hitting.

Slewing lock

- Equipped with a mechanical lock and a pull-type pin lock, allowing the crane to be locked in precise forward and rear positions.

Hook Latch

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

Monitoring system

- The standardized remote monitoring system can realize GPS locating, GPRS data transfer, machine status inquiry and statistics, operating data monitoring and analysis.

Tri-color load indicator

- The load indication light has three colors, green, yellow and red, indicating the real-time load. When the actual load is smaller than 90% of rated load, the green light is on.
- When the actual load is >90% and≤100%, the yellow light is on, the alarm light flashes and sends out intermittent sirens.
- When the actual load reaches 100% of rated load, the red light on, the alarm light flashes and sends out continuous sirens.
- When the actual load is 102% of rated load, the system will automatically cut off the crane's dangerous operation.

Flash Alarm

- When the LMI is powered on, the flash alarm will turn on.

Slewing indicator light

- The slewing indicator light flashes during traveling or slewing.

Seat interlock protection

- If the operator leaves the seat, all control handles will be locked immediately to prevent any mis-operation due to accidental hitting.

Illuminating light

- The machine is equipped with, low-beam light in front of machine, lamps in operator's cab and boom lights, so as to increase the visibility during work.

Rearview mirror

- It is installed on the left of the operator's cab.

Level Indicator

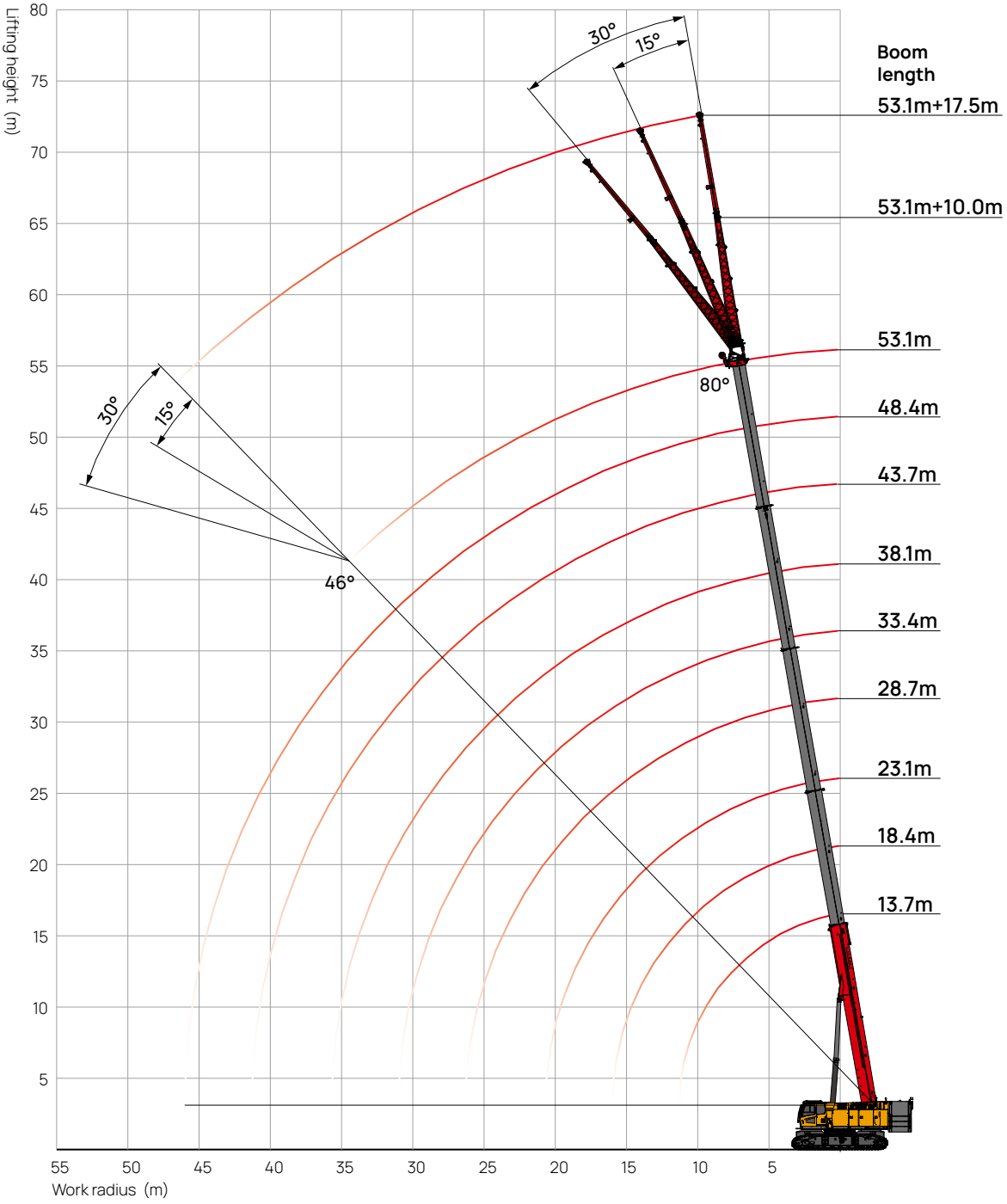
- Electrical level indicator can show the inclination angle of superstructure on the monitor.

Monitor system

- Two cameras and illumination lights are installed on the tail of rotating bed, which will show the conditions on the rear and winches on the monitor.
- A rear-view camera installed on the right side of the engine cover reduces blind spots on the right side.

07 Working Range

H configuration + FJ configuration



07 Load Chart

H configuration

Unit: t

m	Ground Level 0°, Rear Counterweight 30t, Carbody Counterweight 8t, Track Gauge 4.6m									m
	13.7	18.4	23.1	28.7	33.4	38.1	43.7	48.4	53.1	
3	100	78								3
3.5	92	78	60							3.5
4	88	78	60							4
4.5	85	75	60							4.5
5	80	68	58	38.5						5
5.5	71	65	58	39						5.5
6	68	62	58	39.5	39					6
6.5	62	55	52.5	40.2	38.5					6.5
7	55	50	48	40.5	39.5	36				7
7.5	49.7	46	44	40.8	39.5	36				7.5
8	44	41	40.8	40.9	39	36	19			8
9	37.1	35.5	35.1	37.5	34.7	32.4	18.8	18.7		9
10	31.4	30.2	29.5	33.1	30.7	28.7	18.5	18.5	16.5	10
11	27	25.9	25.3	28.8	27.4	25.6	17.5	17.8	16.5	11
12		22.5	21.9	25.4	24.5	23.1	16.5	17	16.5	12
14		17.4	16.8	20.2	19.4	18.7	15.5	15.8	15.5	14
16		13.8	13.3	16.5	15.7	15.1	14.5	14.8	14.5	16
18			10.6	13.8	13	12.4	13	13.4	13.1	18
20			8.6	11.7	10.9	10.4	12	11.6	11.1	20
22				10	9.3	8.7	10.5	9.9	9.4	22
24				8.7	7.9	7.4	9.1	8.5	8.1	24
26				7.5	6.8	6.2	8	7.4	6.9	26
28					5.9	5.3	7	6.5	6	28
30					5	4.5	6.2	5.6	5.2	30
32						3.8	5.5	4.9	4.5	32
34						3.2	4.9	4.3	3.9	34
36							4.3	3.8	3.3	36
38							3.8	3.3	2.9	38
40							3.4	2.9	2.4	40
42								2.5	2	42
44								2.1	1.7	44
46								1.8	1.4	46
48										48
Min	0	0	0	0	0	0	0	0	23	Min
2#	0	50	100	0	50	100	0	50	100	2#
3#	0	0	0	50	50	50	100	100	100	3#
4#	0	0	0	50	50	50	100	100	100	4#
5#	0	0	0	50	50	50	100	100	100	5#
n	11	9	7	5	5	5	3	3	3	n

07 Load Chart

FJ configuration

Unit: t

Min	Ground Level 0°, Lowerworks Counterweight 8t, Rear Counterweight 30t, Track Gauge 4.6m						Min
	53.1m+10.2m			53.1m+17.5m			
	0°	15°	30°	0°	15°	30°	
11	6.6						11
12	6.5	5.1		3.8			12
14	6.3	4.9	4.5	3.6			14
16	6.1	4.7	4.4	3.3	2.4		16
18	5.8	4.5	4.1	3.1	2.3		18
20	5.3	4.3	3.9	3	2.3	1.7	20
22	5.1	4.2	3.8	2.9	2.2	1.7	22
24	4.8	4.1	3.7	2.8	2.1	1.6	24
26	4.2	3.9	3.6	2.7	2	1.6	26
28	3.4	3.7	3.5	2.6	1.9	1.6	28
30	2.7	3.3	3.4	2.5	1.9	1.6	30
32	2.1	2.6	3.1	2.4	1.9	1.5	32
34	1.5	2	2.5	2.2	1.8	1.5	34
36	1	1.5	1.8	1.8	1.8	1.5	36
38		1	1.2	1.4	1.8	1.4	38
40				1	1.6	1.4	40
42					1.2	1.4	42
44					0.8	1.1	44
46						0.8	46
2#	100	100	100	100	100	100	2#
3#	100	100	100	100	100	100	3#
4#	100	100	100	100	100	100	4#
5#	100	100	100	100	100	100	5#
C_n	1	1	1	1	1	1	C_n

Note: rated capacity of crane

1. The crawlers of crane must be extended during lifting;
2. All ratings in the table are calculated when the machine is sitting on firm and level ground with less than 1% gradient, and the load lifting is slowly and steadily.
3. All ratings in the table are calculated with wind speed under 9.8m/s.
4. All ratings in the table are valid for 360° slewing.
5. The rated load is no more than 10.5t when using boom point sheave block. If the jib is extended, the boom rated load shall reduce 1.5t.
6. The rated capacity in the load charts include the weight of lifting hook, therefore, the actual rated capacity shall deduct the weight of lifting hook, riggings and wire rope from the rated load in the load charts.
7. This section provides only the load chart for full counterweight and level ground. For detailed load charts, please refer to the Operation Manual.

Zhejiang Sany Equipment Co.,LTD

SANY Crawler Crane Industrial Park, No. 2188 Daishan Road, Wuxing District, Huzhou City, Zhejiang Province, P. R. China Zip 313028
Consulting sanycrane@sanygroup.com (Crane BU) / crd@sany.com.cn (IHQ)
After-sales Service 0086-400 6098 318

© Edited in December 2024

SANY CRANE www.sanygroup.com