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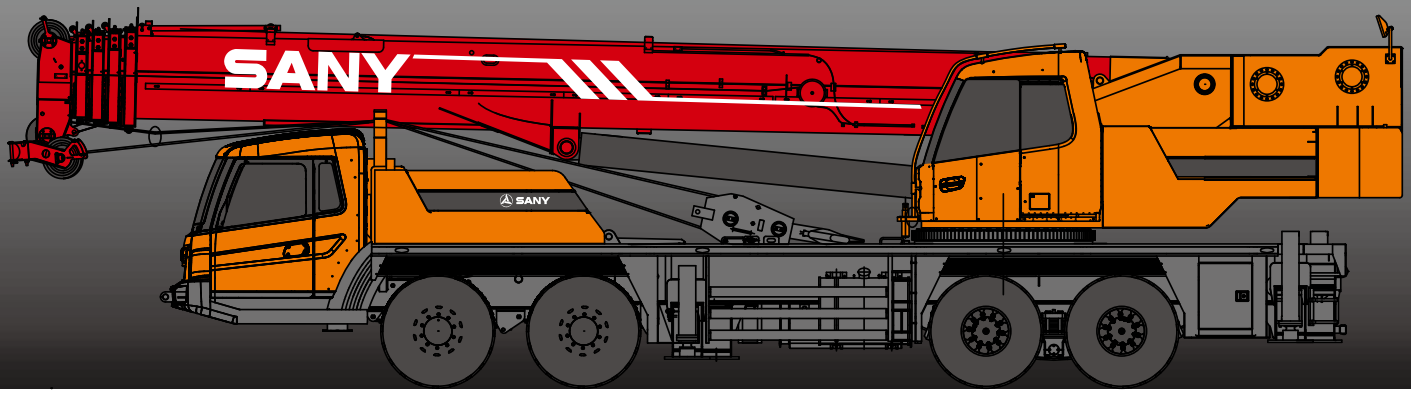
STC550

STC550 TRUCK CRANE
55 TONS LIFTING CAPACITY

Quality Changes the World



SANY

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SANY Automobile Hoisting Machinery is one of the core business unit of Sany Heavy Industry, mainly engaged in the research and development of high end, mid to large tonnage crane series, including mobile crane, crawler crane, tower crane and loader crane. It has two industrial parks in Ningxiang and Huzhou, since entering the market, the products of Sany Automobile Hoisting Machinery have received worldwide recognition with advanced technology, lean manufacturing, high reliability and excellent service.

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SANY TRUCK CRANE

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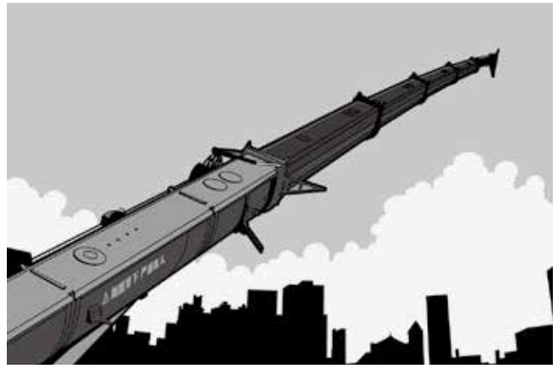
Excellent and stable chassis performance / chassis system

Double-axle drive is used, providing good trafficability and comfortableness under complex road condition with reliable traveling performance.
Engine has the multimode power output function, which reduces power consumption. The use of tipping over early-warning technology provides high stability and safety of the overall operation.



Ultra long, super strong and highly sensitive load lifting capacity

Five-section boom of high strength steel structure and optimized U-shaped cross section reduces weight significantly with higher safety rates. Jib mounting angles are 0°, 15° and 30°, which ensures fast and convenient change-over between different operating conditions so as to improving working efficiency of the machine.

Highly efficient, stable, energy-saving and adjustable hydraulic system

Hydraulic system load feedback and constant power control is applied to provide strong lifting capacity and good micro-mobility. Unique steering buffer design is adopted to ensure stable braking operation.

Safe, stable, advanced and intelligent electric control system

Self-developed controller SYMC specially for engineering machinery is configured. The adoption of CAN-bus full-digital network control technology ensures stable control signal, simple harness and high reliability. Timely feedback of data information can achieve the monitoring of the overall working status in real-time. The load moment limiter equipped with the comprehensive intelligent protection system is used with accuracy within ±5% to provide a comprehensive logic and interlock control, thus ensuring more safe and reliable operation.

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Superstructure

Cab

- It is made of safety glass and anti-corrosion steel plate with ergonomic design such as full-coverage soften interior, panoramic sunroof and adjustable seats etc., and humanized design providing more comfortable and relaxing operation experience. The display of load moment limiter integrates main console and operation display system, which clearly show the data of all operating superstructure conditions for lifting operation.

Hydraulic system

- High-quality key hydraulic components such as main oil pump, rotary pump, main valve, winch motor and balancing parts etc. are adopted to achieve stable and reliable operation of the hydraulic system. Superior operation performance is guaranteed by accurate parameter matching.
- Through the adoption of load sensitive variable displacement piston pump, pump displacement can be adjusted in real-time, achieving high-precision flow control with no energy loss during operation.
- Main valve has flow compensation and load feedback control function, enabling stable and convenient control of single action and combined action under different operation conditions .
- Winch adopts the electronically controlled variable motor to ensure high operation efficiency. Max. single line speeds of main and auxiliary winches is up to 130m/min;
- Slewing system is equipped with the integrated slewing buffer valve with free slipping function to ensure more stable starting and control of the slewing operation and excellent micro-mobility.
- Hydraulic oil tank capacity: 840L.

Control system

- CAN-bus instrument: CAN-bus instrument with a combined intelligent control electrical system is used for easy reading of the traveling parameters at any time. The engine fault warning function is applied to ensure convenient and fast troubleshooting.
- With fully security protection system, main and auxiliary winches are equipped with over-roll out limiter and height limiters to prevent over-rolling out and over-hoisting of steel rope, including tip-over and limit angle protection.
- Load moment limiter: The adoption of high intelligent load moment limiter system can comprehensively protect lifting operation, ensuring accurate, stable and comfort operation.
- The fault diagnosis system can detect superstructure electricity, chassis (for major safety failure) and engine for fault to ensure reliable operation of the crane.

Luffing system

- Dead-weight luffing provides more stable luffing operation at low energy loss.
- Luffing angle:-2°~ 80°.

Telescopic system

- Five-section boom is applied with basic boom length of 11.5m, full-extended boom length of 43m, jib length of 16m and fully extended boom lifting height of 43.2m respectively. Max. lifting height is 59.2m including jib. It is made of fine grain high-strength steel with U-shaped cross section and with telescopic operation controlled independently by dual-cylinder rope.

Slewing system

- 360° rotation can be achieved with Max. slewing speed of 2r/min., providing stable and reliable operation of the system. Unique rotary buffer design ensures more stable braking.

Superstructure

Hoisting system

- The adoption of pump and motor double variable speed control ensures high efficiency and excellent energy saving functionality. With perfect combination of winch balance valve and unique anti-slip technology, heavy load can be lifted and lowered smoothly. Closed winch brake and winch balance valve effectively prevent imbalance of the hook.
- One main hook: 610kg or 555kg, one auxiliary hook: 90Kg, and the max. lifting height are 55t and 5t.Wire rope of main winch: left-handed wire rope 18-35W×7-1960USZ 220m. Wire rope of auxiliary winch: left-handed wire rope 18-35W×7-1960USZ 130m.

Safety system

- Load moment limiter: Load moment limiter calculation system based on lifting load mechanical model is established using an analytical mechanics method with rated lifting accuracy up to ±3% through on-line non-load calibration, providing full protection to lifting operation. In case of overload operation, system will automatically issue an alarm to provide safety protection for manipulation.
- Hydraulic system is configured with the balance valve, overflow valve, and two-way hydraulic lock etc. components, thus achieving stable and reliable operation of the hydraulic system.
- Main and auxiliary winches are equipped with over roll-out limiter to prevent over rolling-out of wire rope.
- Boom and jib ends are equipped with height limiters respectively to prevent over-hoisting of wire rope.
- Equipped with length sensor, angle sensor and press sensor to indicate the working condition of whole crane in real-time, giving an alarm and cutting off the dangerous action automatically.

Counterweight

- Counterweight is 3500kg, no flexible counterweight.

Chassis

Cab

- Cab is made of new steel structure self-developed by SANY, featuring excellent shock absorption and tightness, which is configured with swing-out doors at both sides, pneumatically suspended driver's seat and passenger's seat, adjustable steering wheel, large rearview mirror, comfortable driver's chair with a headrest, anti-fog fan, air conditioner, stereo radio and complete control instruments and meters, providing more comfortable, safe and humanized operation experience.

Carrier frame

- Designed and manufactured by SANY, anti-torsion box structure is welded by fine-grain high-strength steel plate to provide strong load bearing capacity.

Axles

- Axles 3 and 4 are drive axles and axles 1 and 2 are steering axles. The use of welding process for axle housing provides stronger load bearing capacity.

Engine

- Type: Inline six-cylinder, water cooled, supercharged and inter-cooling diesel engine
- Rated power: 250kw/2100r/min
- Environment-protection: Emission complies with EuroIII standard
- Capacity of fuel tank: 300L

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Chassis

Transmission system

- Gearbox: Manual gearbox is adopted with 9-gear and large speed ratio range applied, which meets the requirements of low gradeability speed and traveling at high speed.
- Transmission shaft: With optimized arrangement of the transmission shaft, the transmission is stable and reliable. For most optimized transmission, face-tooth coupling transmission shaft is used with large transmission torque.

Brakes system

- Air servo brakes are used for all wheels with dual-circuit brake system applied, engine is equipped with an exhaust brake.
- Brakes system includes traveling brake, parking brake, emergency brake and auxiliary brake.
- Traveling brake: All wheels use the air servo brakes and dual-circuit brake system.
- Parking brake: Force driven by accumulator is applied on the third to fourth axle.
- For emergency brake, accumulator is used not only for cutting-off brake but also for emergency brake.
- Auxiliary brake is exhaust brake with brake safety ensured while travelling downhill.

Suspension system

- All axles adopt the plate spring suspension systems with plate spring passed 100,000 fatigue tests and with optimization of performance parameters of the front and rear plate springs applied to ensure strength and also to provide comfort ridding.

Steering system

- Hydraulic power mechanical steering systems are applied for axles 1 and 2 with unloading valve installed in the steering gear.

Outriggers

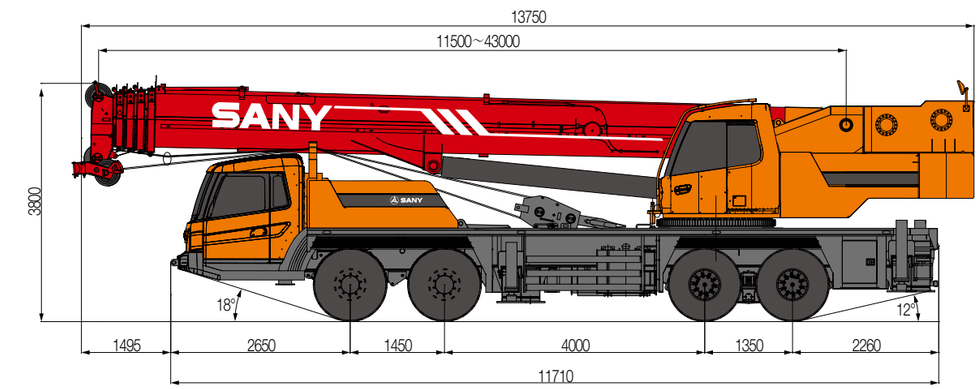
- Four-point supporting of the H-shaped outriggers ensures easy operation and strong stability with Max. span up to 6×7.2m. They are made of fine-grain high-strength steel sheet with full hydraulic transverse telescopic outriggers adopted for first and second outriggers .Vertical cylinder of outrigger adopts bi-directional hydraulic locks to improve safety.

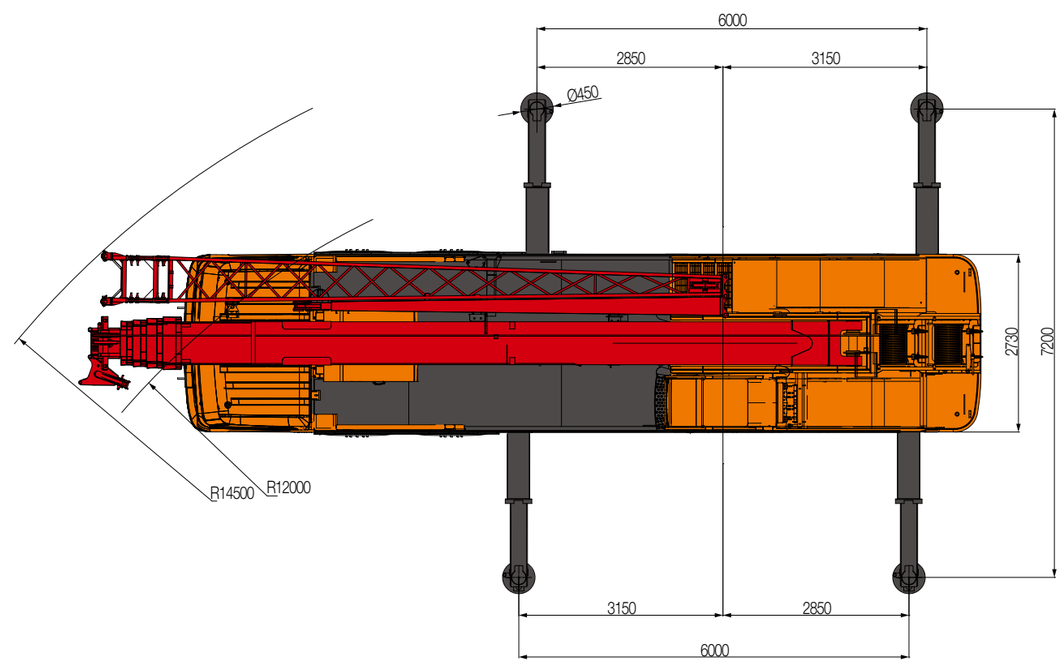
Tyres

- 12.00R20-20PR×12.

Electrical system

- With 2*12V maintenance-free batteries, the crane power can be cut off manually via a mechanical master power switch. The use of CAN-bus control system can achieve information interaction between superstructure and undercarriage.





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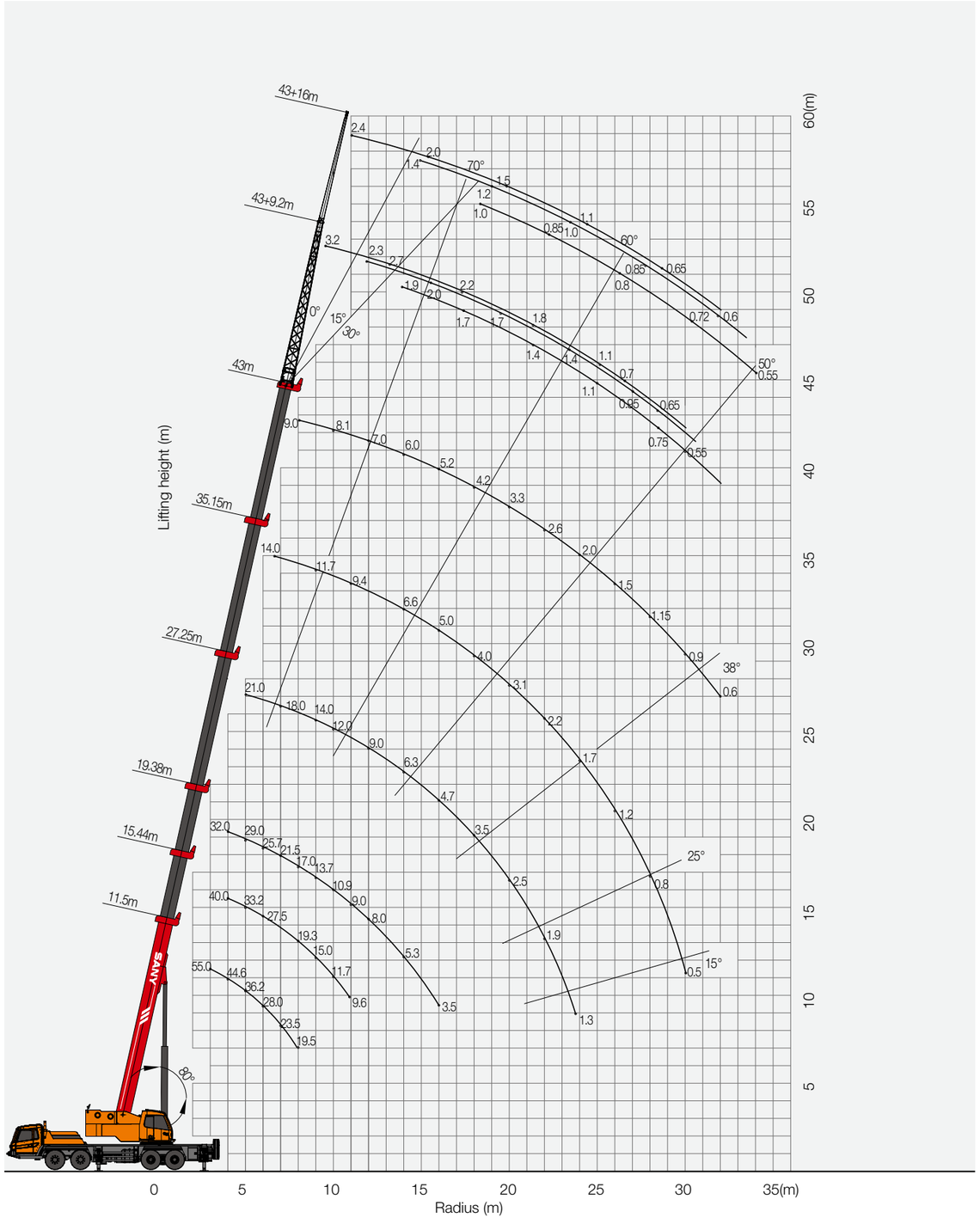
Type	Item		Parameter
Capacity	Max. lifting capacity		55 t
Dimensions	Overall length		13750 mm
	Overall width		2750 mm
	Overall height		3800 mm
	Axle distance	Axle-1,2	1450 mm
		Axle-2,3	4000 mm
		Axle-3,4	1350 mm
Weight	Overall weight		42000 kg
	Axle load	Axle load-1,2	16000 kg
		Axle load-3,4	26000 kg
	Rated power		250 kW/ 2100 rpm
	Rated torque		1425 N.m/ 1200 rpm
Traveling	Max.traveling speed		85 km/h
	Turning radius	Min.turning radius	12 m
		Min.turning radius of boom head	14.5 m
	Wheel formula		8 × 4
	Min.ground clearance		295 mm
	Approach angle		18 °
	Departure angle		12 °
	Max.gradeability		40%
	Fuel consumption per 100km		≤ 45 L
Main Performance Data	Temperature range		– 20 °C ~ +45 °C
	Min.rated range		3 m
	Tail slewing radius of swingtable		4 m
	Boom section		5
	Boom shape		U-shaped
	Max.lifting moment	Base boom	1774 kN·m
		Full-extend boom	840.8 kN·m
		Full-extend boom+jib	318 kN·m
	Boom length	Base boom	11.5 m
		Full-extend boom	43 m
		Full-extend boom+jib	59 m
	Outrigger span (Longitudinal×Transversal)		6 × 7.2 m
	Jib offset		0 °,15 °,30 °
Working speed	Max.single rope lifting speed of main winch (no load)		130 m/min
	Max.single rope lifting speed of auxiliary winch (no load)		130 m/min
	Full extension/retraction time of boom		100 / 120 s
	Full lifting/descending time of boom		80 / 80 s
	Slewing speed		0 ~ 2.0 r/min
Aircondition	Aircondition in up cab		Heating/Cooling
	Aircondition in low cab		Heating/Cooling

STC550 Working Ranges



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Unit:Kg

Prerequisites:
① Boom operating conditions(fully extended boom length),min. length is 11.5m and max.length is 43m
② The span of outriggers is 6m×7.2m
③ 360°rotation is applied
④ Counterweight is 3.5T

Working range(m)	Main boom											Working range(m)
	11.5	15.44	19.38	19.38	27.25	27.25	35.15	35.15	39	39	43	
3	55000	40000	32000	21500								3
3.5	50000	40000	32000	21500								3.5
4	44600	40000	32000	21500								4
4.5	40000	36000	31000	21500	21000	15000						4.5
5	36200	33200	29000	20000	21000	15000						5
5.5	32000	30000	27500	19000	21000	14500						5.5
6	28000	27500	25700	18100	21000	13700	14000	9000				6
6.5	25800	25500	23900	17500	19500	12800	14000	9000				6.5
7	23500	23200	21500	17000	18000	12100	14000	9000	11500	9000		7
7.5	21400	21200	18600	16200	16800	11500	13500	8500	11500	9000		7.5
8	19500	19300	17000	15600	15800	11000	12700	8500	11000	9000	9000	8
9	15300	15000	13700	13800	14000	10000	11700	7800	10500	8500	8500	9
10		11700	10900	12000	12000	9000	10700	7100	10000	8000	8100	10
11		9600	9000	10600	9900	8200	9400	6400	9000	7500	7800	11
12		8000	8000	8700	9000	7500	8500	5800	8000	7000	7000	12
14			5300	6400	6300	6100	6600	5000	6300	5900	6000	14
16			3500	4600	4700	5000	5000	4400	5000	5000	5200	16
18					3500	4100	4000	3800	4000	4000	4200	18
20					2500	3000	3100	3200	3200	3500	3300	20
22					1900	2300	2200	2700	2400	2800	2600	22
24					1300	1800	1700	2400	1800	2100	2000	24
26							1200	1900	1300	1650	1500	26
28							800	1500	900	1300	1150	28
30							500	1000	600	900	900	30
32								800		600	600	32
34										400		34
Number of lines	12	10	8	8	6	6	4	4	4	4	3	Number of lines
Telescoping condition(%)												
Modes	I,II	I	I	II	I	II	I	II	I	II	I,II	Modes
2nd boom	0	50	100	0	100	0	100	0	100	50	100	2nd boom
3rd boom	0	0	0	33	33	66	66	100	83.3	100	100	3rd boom
4th boom	0	0	0	33	33	66	66	100	83.3	100	100	4th boom
Top boom	0	0	0	33	33	66	66	100	83.3	100	100	Top boom

1. Values listed in the table refer to rated lifting capacity measured at flat and solid gound under the lever state of the crane.
2. Value above heavy line shall be determined by strength of the crane and under this line shall be determined by stability of the crane.
3. Rated load values determined by stability shall comply with ISO 4305.
4. Rated lifting capacity listed in the table includes weights of lifting hooks (610kg or 555kg of main hook and 90kg of auxiliary hook)and hangers.
5. Rated lifting capacity with pulley at boom tip shall not exceed 4000kg and then substracts(230kg)to gain rated lifting capacity if the boom is used to lift after the installation of jib.
6. If actual boom length and range are between two values specified in the table, larger value will determine the lifting capacity.

Unit:Kg

Prerequisites:
① Boom operating conditions(fully extended boom length +jib length),max.length is 43m+16m
② The span of outriggers is 6m×7.2m
③ 360°rotation is applied
④ Counterweight is 3.5T

Main boom angle	Main boom+Jib		
	0°	15°	30°
78°	2400	1450	1000
77°	2400	1400	1000
75°	2300	1300	950
73°	2000	1200	850
71°	1800	1100	850
68°	1500	1000	800
66°	1300	950	760
63°	1100	850	720
61°	950	750	650
58°	650	600	550
56°	500		
Min.elevation angle	55°		

Unit:Kg

Prerequisites:
① Boom operating conditions(fully extended boom length +jib length),max.length is 43m+9.2m
② The span of outriggers is 6m×7.2m
③ 360°rotation is applied
④ Counterweight is 3.5T

Main boom angle	Main boom+Jib		
	0°	15°	30°
78°	3500	2400	2000
77°	3200	2300	1900
75°	3000	2200	1800
73°	2700	2000	1700
71°	2500	1800	1600
68°	2200	1700	1400
66°	2000	1500	1300
63°	1800	1400	1100
61°	1500	1200	950
58°	1100	950	750
56°	700	650	550
Min.elevation angle	55°		

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STC550 TRUCK CRANE

WHEEL CRANE FAMILY MAP

TRUCK CRANE

STC200
Maximum Load Capacity: 20t
Telescopic Boom: 4 Sections, 10.6-33m

STC250
Maximum Load Capacity: 25t
Telescopic Boom: 4 Sections, 10.85-33.5m

STC250H
Maximum Load Capacity: 25t
Telescopic Boom: 5 Sections, 10.5-39.5m

STC300S
Maximum Load Capacity: 30t
Telescopic Boom: 5 Sections, 10.6-40.5m

STC300TH
Maximum Load Capacity: 30t
Telescopic Boom: 4 Sections, 10.6-33.5m

STC300H
Maximum Load Capacity: 30t
Telescopic Boom: 5 Sections, 10.5-39.5m

STC500
Maximum Load Capacity: 50t
Telescopic Boom: 5 Sections, 11.5-43m

STC550
Maximum Load Capacity: 55t
Telescopic Boom: 5 Sections, 11.5-43m

STC600S
Maximum Load Capacity: 60t
Telescopic Boom: 5 Sections, 11.3-43.5m

STC750
Maximum Load Capacity: 75t
Telescopic Boom: 5 Sections, 11.8-45m

STC800S
Maximum Load Capacity: 80t
Telescopic Boom: 5 Sections, 12.2-47m

STC1000
Maximum Load Capacity: 100t
Telescopic Boom: 5 Sections, 13.5-52m

STC1000C
Maximum Load Capacity: 100t
Telescopic Boom: 6 Sections, 13.25-60m

STC1000S
Maximum Load Capacity: 100t
Telescopic Boom: 5 Sections, 12.26-56m

STC1200S
Maximum Load Capacity: 120t
Telescopic Boom: 7 Sections, 12.6-63.5m

STC1300C
Maximum Load Capacity: 130t
Telescopic Boom: 6 Sections, 13.3-60m

STC1600
Maximum Load Capacity: 160t
Telescopic Boom: 6 Sections, 13.4-62m

STC2200
Maximum Load Capacity: 220t
Telescopic Boom: 6 Sections, 14.55-68m

ALL TERRAIN CRANE

SAC1800
Maximum Load Capacity: 180t
Telescopic Boom: 6 Sections, 13.5-62m

SAC2200
Maximum Load Capacity: 220t
Telescopic Boom: 6 Sections, 13.5-62m

SAC2600
Maximum Load Capacity: 260t
Telescopic Boom: 6 Sections, 15.65-73m

SAC3000
Maximum Load Capacity: 300t
Telescopic Boom: 7 Sections, 15.4-80m

SAC3500
Maximum Load Capacity: 350t
Telescopic Boom: 6 Sections, 15.2-70m

SAC8000
Maximum Load Capacity: 800t
Telescopic Boom: 7 Sections, 17.1-90m

ROUGH-TERRAIN CRANE

SRC250
Maximum Load Capacity: 25t
Telescopic Boom: 4 Sections, 9.9-31.5m

SRC350
Maximum Load Capacity: 35t
Telescopic Boom: 4 Sections, 10-31.5m

SRC550
Maximum Load Capacity: 55t
Telescopic Boom: 4 Sections, 11.25-34.5m

SRC550H
Maximum Load Capacity: 55t
Telescopic Boom: 5 Sections, 11.5-43m

SRC750
Maximum Load Capacity: 75t
Telescopic Boom: 5 Sections, 11.8-45m

SRC1200
Maximum Load Capacity: 120t
Telescopic Boom: 5 Sections, 13-49m

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SANY AUTOMOBILE HOISTING MACHINERY

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For our consistent improvement in techonology, specifications may change without notice.
The machines illustrated may show optional equipment which can be supplied at additional cost.

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