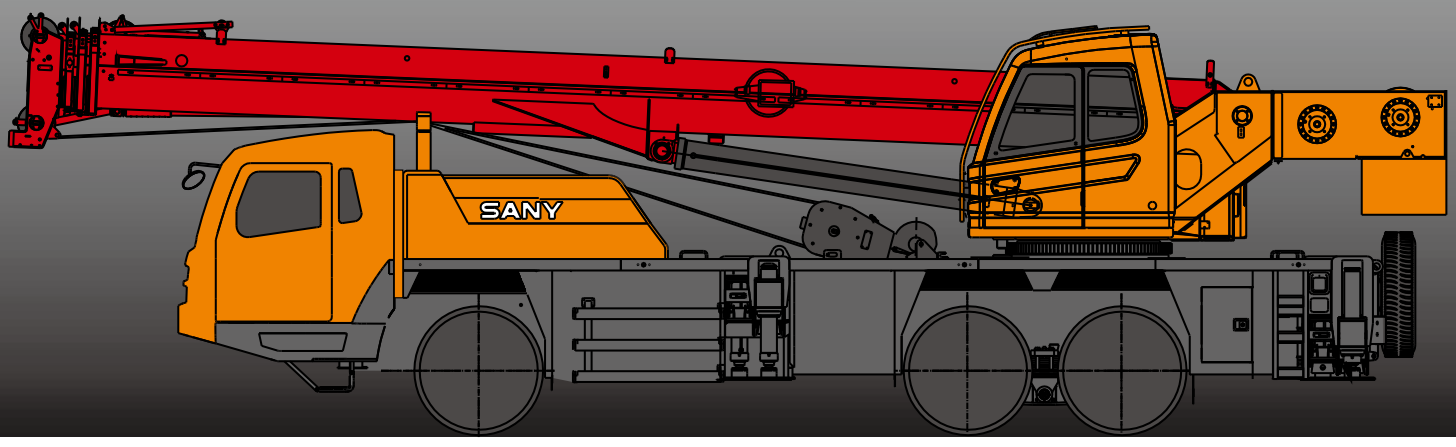
STC200S-8

STC200S-8 TRUCK CRANE
20 TONS LIFTING CAPACITY

Quality Changes the World



SANY

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.

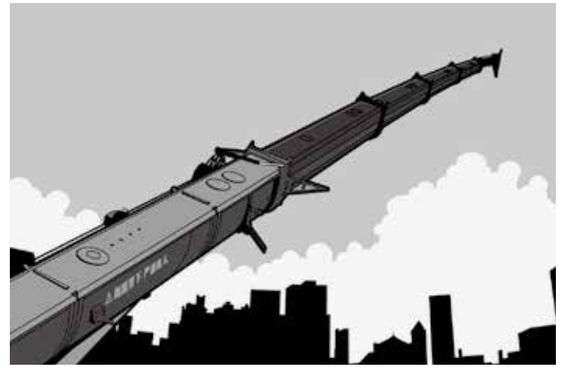
SANY TRUCK CRANE

CONTENT

- Cab
- Carrier frame
- Suspension system
- Hydraulic system
- Outriggers
- Telescopic boom
- Control system
- Engine
- Lattice jibs
- Telescopic system
- Transmission system
- Superlift devices
- Luffing system
- Drive/Steer
- Luffing lattice jib
- Slewing
- Axles
- winch mechanism:
- Counterweight
- Tyres
- Safety system
- Brakes system
- Hoist system
- Electrical system

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

Four-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 micromobility. 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 ±3% to provide a comprehensive logic and interlock control, thus ensuring more safe and reliable operation.

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.
- Main valve has flow compensation, load feedback control function, enabling stable and convenient control of single action and combined action under different operation conditions.
- Winch adopts the variable motor to ensure high operation efficiency. Max. single line speeds of main winch is up to 120r/min and auxiliary winch is up to 115r/min which ensures the lifting efficiency take the lead in industry.
- The use of new hydraulic control variable slewing system ensures more stable starting and control of the slewing operation and excellent micro-mobility.

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.
- Load moment limiter: The adoption of high intelligent load moment limiter system can comprehensively protect lifting operation, ensuring accurate, stable and comfort operation

Luffing system

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

Telescopic system

- Four-section boom is applied with basic boom length of 10.55m, fully extended boom length of 33.5m, jib length of 8 m and lifting height of fully extended boom length of 34m respectively. Max. lifting height is 42m including jib. It is made of fine-grain and high-strength steel with U-shaped cross section and with telescopic operation controlled independent by dual cylinder rope.

Superstructure

Slewing system

- 360° rotation can be achieved with Max. Slewing speed of 2.2r/min, providing stable and reliable operation of the system.

Hoisting system

- The winch adopts the high-pressure automatic variable plunger motor, enabling automatic switch-over between low load high speed mode and high load low speed mode, and ensuring highly efficient operation and stable lifting and lowering of the load.
- One main hook: 250Kg, one auxiliary hook:90Kg. Wire rope of main winch: left handed wire rope 14-35W×7-1960USS, with length of 163m. Wire rope of auxiliary winch: left handed wire rope 14-35W×7-1960USS , with length of 95m.

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 the 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.
- Boom head is equipped with anemometer 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 2500kg, no flexible counterweight.

Chassis

Driving 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 seat, foldable sleeping berth, adjustable steering wheel, large rearview mirror, comfort driver chair having 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 2 and 3 are drive axles and axles 1 is steering axle, axle and wheel differentials are installed between axles 2 and 3. 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: 213kw/2100rpm.
- Environment-protection: Emission complies with(Euro stage III)standard.
- Capacity of fuel tank: 300L.

Transmission system
- Gearbox: Manual gearbox is adopted, with 8-gear and large speed ratio range applied, which meets the requirements of low gradeability speed and high traveling 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 serve brakes are used for all wheels with dual-circuit brake system applied. Engine is equipped with an exhaust brake.

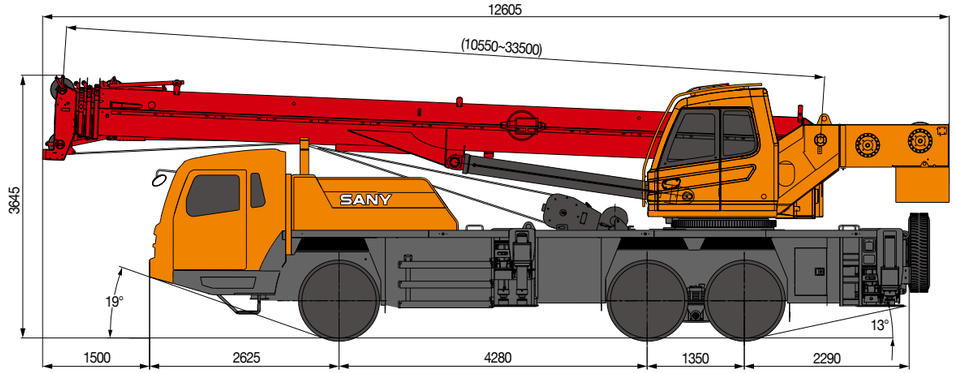
Suspension system
- All axles adopt the plate spring suspension systems with plate spring passed 100,000 fatigue tests and with optimization of performance parameters of the front and rear plate springs applied to ensure strength and also to provide comfort ridding.

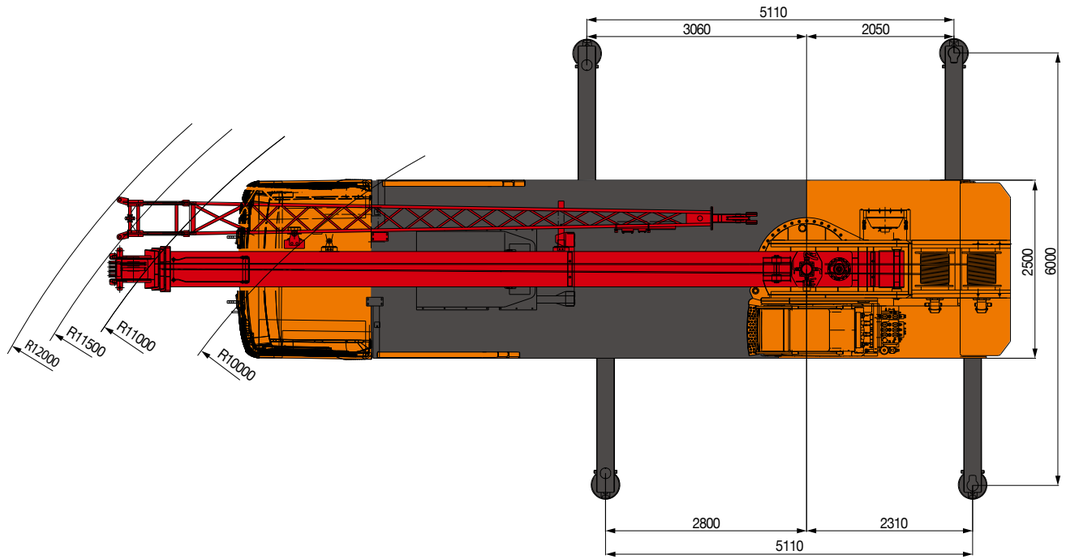
Steering system
- Hydraulic power mechanical steering systems are applied for axles 1 with unloading valve installed in the steering gear.

Outriggers
- Four-point supporting of the H-shaped outriggers ensures easy operation and strong Stability. They are made of fine-grain high-strength steel sheet. Vertical cylinder of outrigger adopts bi- directional hydraulic locks to improve safety.

Tyres
- 11*11.00-20.

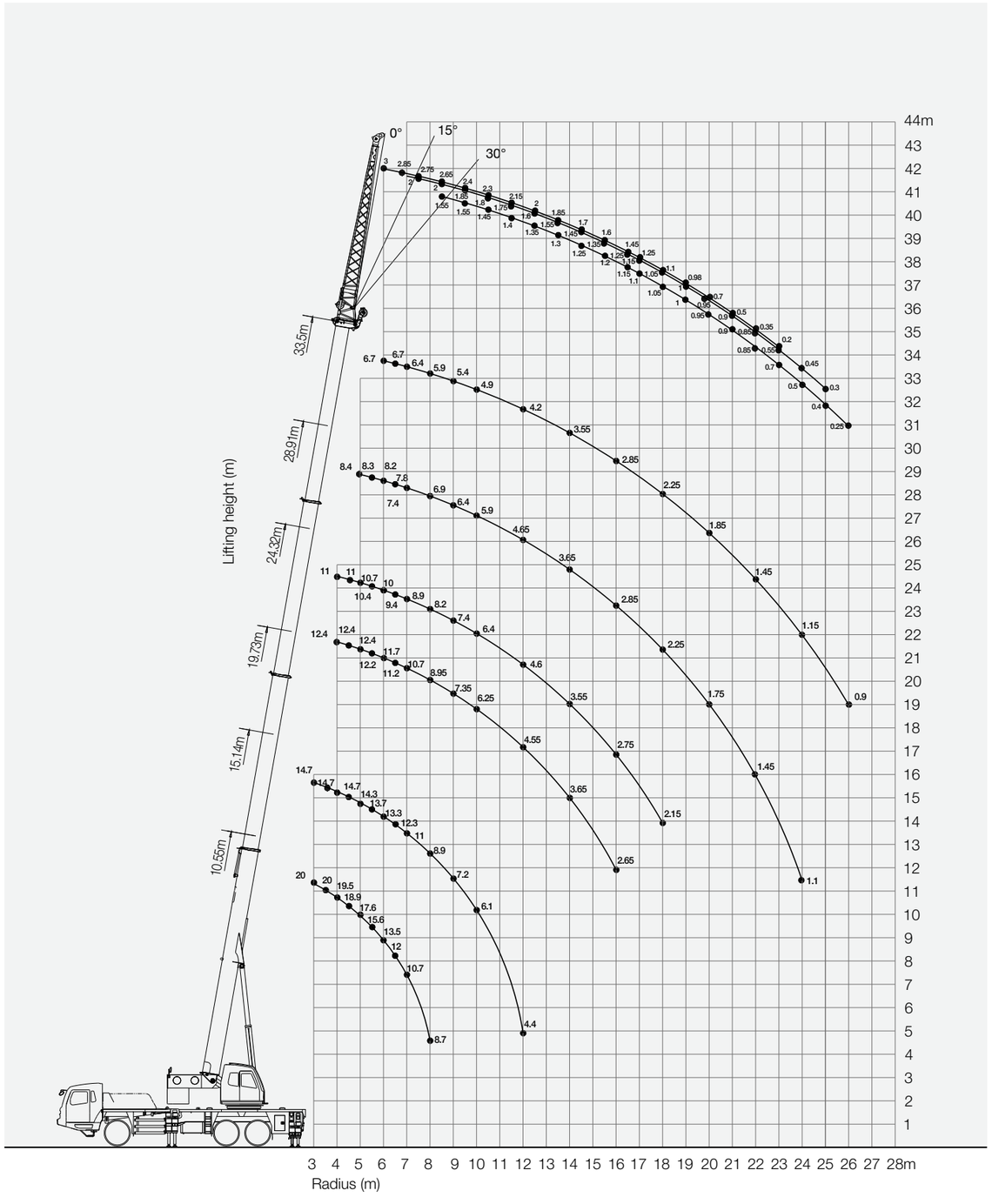
Electrical system
- With 2*12V maintenance-free batteries, the crane power can be cut off manually via a mechanical master power switch. The use of CAN-bus control system can achieve information interaction between superstructure and undercarriage.





Type	Item		Parameter	Unit
Dimensions	Overall length		12590	mm
	Overall width		2500	mm
	Overall height		3645	mm
	Axle distance	Axle 1,2	4280	mm
		Axle 2,3	1350	mm
	Wheel track	Axle 1	2048	mm
		Axle 2,3	1865	mm
Weight	Overall weight		26400	kg
	Axle load	Axle1	6800	kg
		Axle1,2	19600	kg
Power	Engine Type		ISLe 290 30	
	Rated power		213/2100	kw/rpm
	Rated torque		1050/(1200-1400)	N.m/rpm
Traveling	Max traveling speed		80	km/h
	Max gradeability		38	%
	Approach angle		10	°
	Departure angle		13	°
	Braking distance (30 km/h)		19	m
	Min ground clearance		220	mm
	The span of outrigger (horizontal × vertical)		5.11×6.0	m×m
Main performance parameters	Tail slewing radius of swing table		3	m
	Max lifting capacity		20	t
	Min rated range		3	m
	Max lifting moment	Base boom	880	kN.m
		Full extended boom	504	kN.m
		Full extended boom +jib	246	kN.m
	Boom length	Base boom	10.55	m
		Full extended boom	33.5	m
		Full extended boom +jib	33.5+8	m
	Max lifting height	Base boom	11	m
		Full extended boom	34	m
		Full extended boom+jib	42	m
	Boom section		4	
	Boom shape		U-shaped	
	Jib length		8	m
	Jib mounting angle		0, 15, 30	°
Working speed	Max lifting speed of main winch (no load, single rope, 4 line 2200rpm)	Main winch	120	m/min
		Auxiliary winch	115	m/min
	Full extension/retraction time of boom		55/45	s
	Full lifting/descending time of boom		50/50	s
	Max slewing speed		2.2	r/min
	Full extension/retraction time of outrigger	Horizontal outrigger	30/25	s
		Vertical outrigger	25/20	s
Air conditioner	Air condition in superstructure cab		Cooling	
	Air condition in undercarriage cab		Cooling and heating	

STC200S-8 Working Ranges



Unit:Kg

Prerequisites:
① Boom operating conditions(fully extended boom length),min. Length is 10.55m and max.length is 33.5m
② The span of outriggers is 5.11m×6.0m
③ 360°rotation is applied
④ Counterweight is 2.5T

Working range(m)	Main boom						Working range(m)
	10.55	15.14	19.73	24.32	28.91	33.5	
3	20000	14700	12400				3
3.5	20000	14700	12400				3.5
4	19500	14700	12400	11000			4
4.5	18900	14700	12400	11000			4.5
5	17600	14300	12400	10700	8400		5
5.5	15600	13700	12200	10400	8300		5.5
6	13500	13300	11700	10000	8200	6700	6
6.5	12000	12300	11200	9400	7800	6700	6.5
7	10700	11000	10700	8900	7400	6400	7
8	8700	8900	8950	8200	6900	5900	8
9		7200	7350	7400	6400	5400	9
10		6100	6250	6400	5900	4900	10
12		4400	4550	4600	4650	4200	12
14			3650	3550	3650	3550	14
16			2650	2750	2850	2850	16
18				2150	2250	2250	18
20					1750	1850	20
22					1450	1450	22
24					1100	1150	24
26						900	26
Parts of line	8	6	6	4	3	3	Parts of line

Unit:Kg

STC200S-8 Jib working condition

Main boom elevation angle (°)	Main boom+Jib (33.5m+8m)		
	Jib mounting angle (°)		
	0°	15°	30°
80	3000	2000	1550
78	2850	2000	1550
76	2750	1850	1450
74	2650	1800	1400
72	2550	1750	1350
70	2400	1600	1300
68	2300	1550	1250
66	2150	1450	1200
64	2000	1350	1150
62	1850	1250	1100
60	1700	1150	1050
58	1600	1050	1000
56	1450	1000	950
54	1250	950	900
52	1100	900	850
50	980	850	700
45	700	550	500
40	500	450	400
35	350	300	250
30	200		

Notes:
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. The working range in the table is the actual range for lifting.
3. The crane lifting on the rear side must be ruled by all parameters in the table which under the full extended of outrigger.
4. Rated lifting capacity listed in the table included weights of lifting hooks (250kg or 90kg of main hook and 90kg of auxiliary hook)and hangers.
5. If actual boom length and range are between two values specified in the table, larger value will determine the lifting capacity.
6. If there is a jib amounting on the side of boom, lifting capacity of main winch in the table must be reduce 450Kg for different working condition.

STC200S-8 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, 10.65-33.5m

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

SAC6000
Maximum Load Capacity: 600t
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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