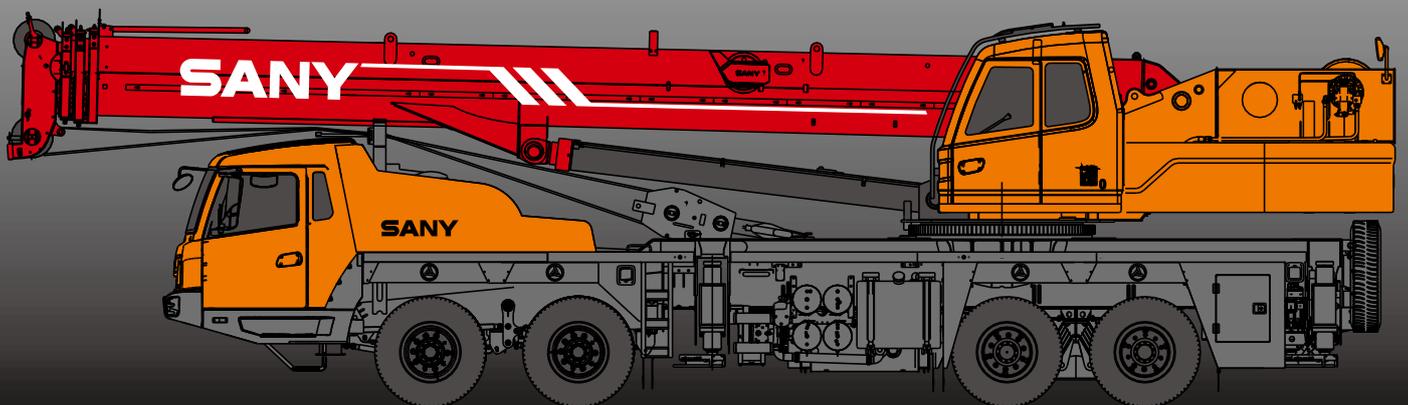


STC450C

STC450C TRUCK CRANE
45 TONS LIFTING CAPACITY

Quality Changes the World



SANY

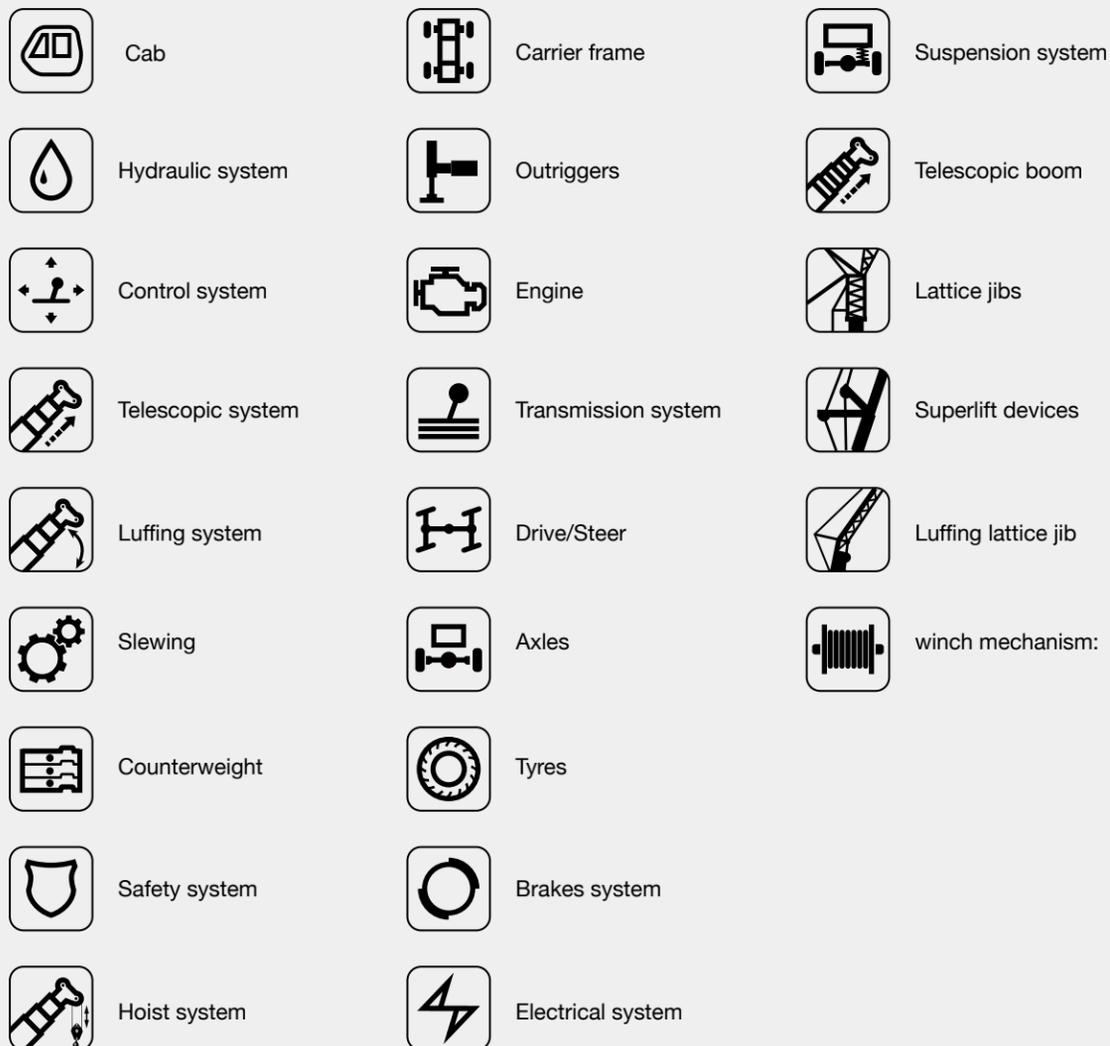
■ SANY Automobile Hoisting Machinery is one of the core business units of Sany Heavy Industry, mainly engaged in the research and development of high-end, mid-to-large tonnage crane series, including mobile crane, crawler crane, tower crane and loader crane. It has two industrial parks in Ningxiang and 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

- 04 Icon
- 05 Selling Points
- 06 Introduction
- 09 Dimension
- 10 Technical Parameter
- 11 Operation Condition
- 12 Load Chart
- 13 Wheel Crane Family Map



Excellent and stable chassis performance / chassis system

The original 45 tonnage crane of 2.5 width with compact structure, improving trafficability significantly.

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.



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.



Ultra long, super strong and highly sensitive load lifting capacity

Four-section boom of high strength steel structure and optimized U-shaped cross section reduces weight significantly with higher safety rates.



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 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 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 115m/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, hydraulic action, chassis (for major safety failure), engine and gearbox 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: $-2^{\circ} \sim 80^{\circ}$.

-  **Telescopic system**
- Four-section boom is applied with basic boom length of 11.25m, full-extended boom length of 34.5m and lifting height of fully extended boom length of 35 m. It is made of fine grain high-strength steel with U-shaped cross section and with telescopic operation controlled independent by dual- cylinder rope.

-  **Slewing system**
- 360° rotation can be achieved with Max. slewing speed of 2.0r/min. Hydraulic controlled proportional speed adjustment is applied to provide 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 lift and lower smoothly. Closed winch brake and winch balance valve effectively prevent imbalance of the hook.
 - One main hook: 550Kg, and the Max. lifting capacity is 45t. Wire rope of main winch: left-handed wire rope 18-35W×7-1960USZ 220m.

-  **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 $\pm 3\%$ 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.
 - Winches are equipped with over roll-out limiter to prevent over rolling-out of wire rope.
 - Boom ends are equipped with height limiters to prevent over-hoisting of wire rope.
 - Length and Angle sensor and pressure sensor are equipped to indicate the working condition of whole crane in real-time, giving an alarm and cutting off the dangerous action automatically.

-  **Counterweight**
- Counterweight is 4500kg, 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 right-hand driver's seat and passenger seat, 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.

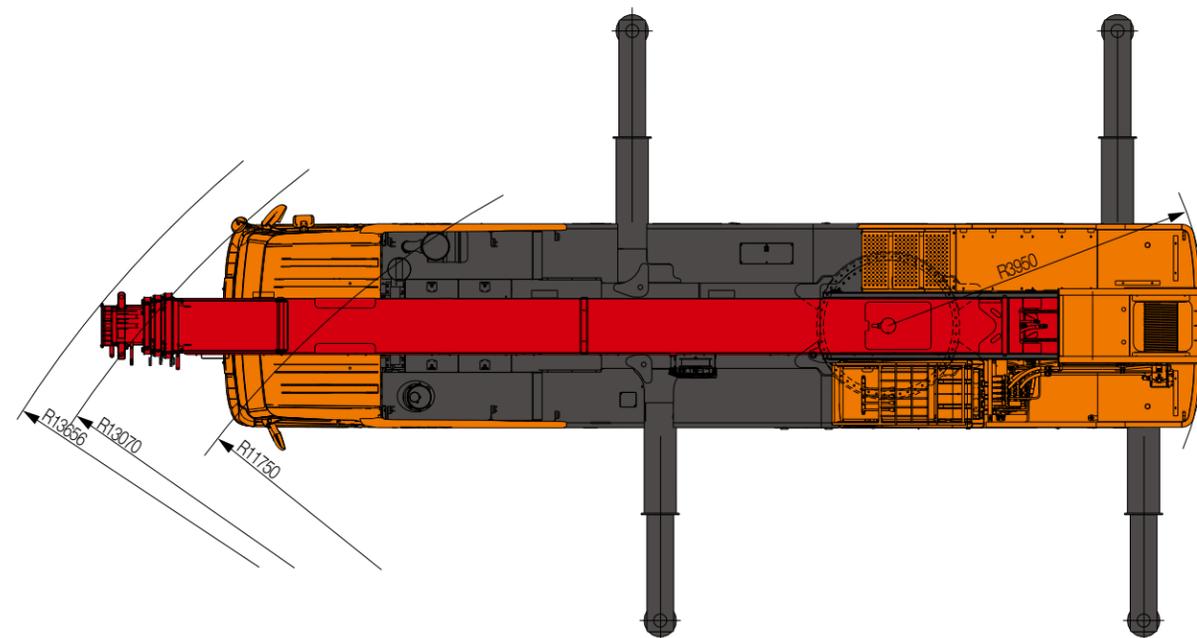
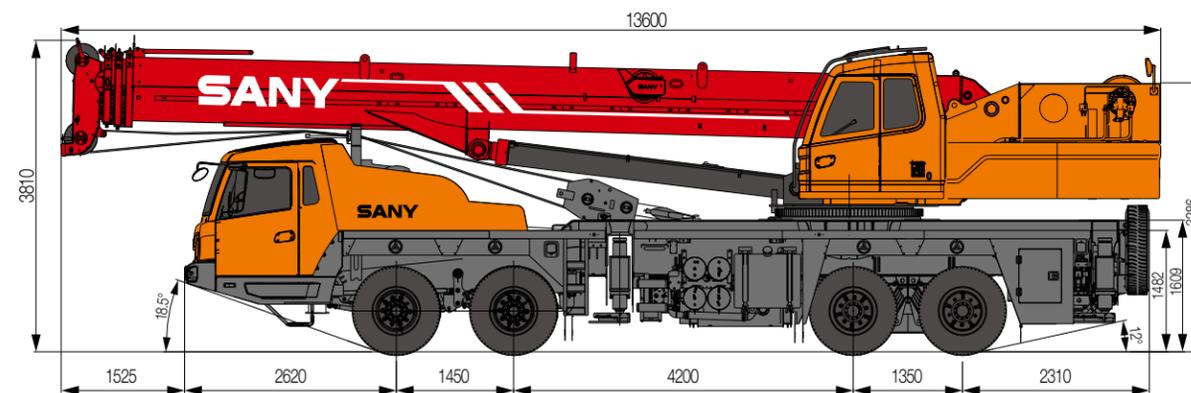
-  **Carrier frame**
- Designed and manufactured by SANY, anti-torsion box structure is welded by fine-grain high-strength steel plate, to provide strong load bearing capacity.

-  **Axles**
- Axles 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: 213kw/2100r/min
 - Environment-protection: Emission complies with EuroIII standard
 - Capacity of fuel tank: 300L

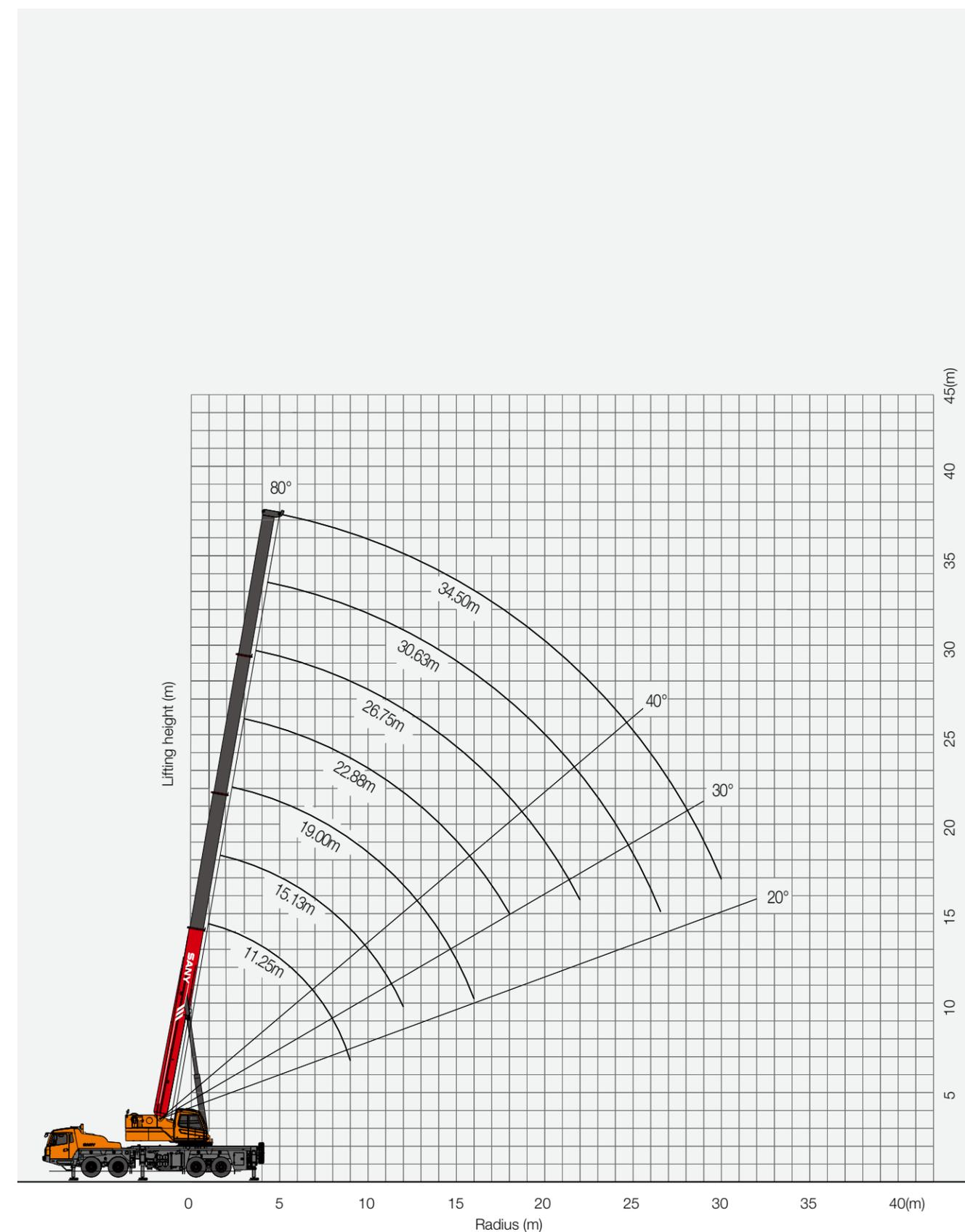
Chassis

- 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 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 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**
- The 1st and 2nd front axles adopt plate spring suspension systems and the 3rd and 4th rear axles adopt rubber suspension system. With 100,000 fatigue tests and optimization of performance parameters of the front and rear suspension, the strength and comfort are ensured.
- 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 6m×7.2m. They are made of fine-grain high-strength steel sheet with horizontal single-cylinder rope line telescoping for first and second outriggers. Vertical cylinder of outrigger adopts bi- directional hydraulic locks to improve safety.
- Tyres**
- 11.00R20
- 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	
Capacity	Max. lifting capacity	45 t	
Dimensions	Overall length	13600 mm	
	Overall width	2500 mm	
	Overall height	3810 mm	
	Axle distance	Axle-1,2	1450 mm
Axle-2,3		4200 mm	
Axle-3,4		1350 mm	
Weight	Overall weight	37000 kg	
	Axle load	Axle load-1,2	13000 kg
		Axle load-3,4	24000 kg
	Rated power	213 kW/ 2100 rpm	
Rated torque	1050 N.m/ 1200rpm		
Traveling	Max.traveling speed	70 km/h	
	Turning radius	Min.turning radius	11.75 m
		Min.turning radius of boom head	16.75 m
	Wheel formula	8 × 4	
	Min.ground clearance	220 mm	
	approach angle	18.5 °	
	Departure angle	12 °	
	Max.gradeability	38%	
Fuel consumption per 100km	-		
Main Performance Data	Temperature range	- 20 ° ~ + 40 °	
	Min.rated range	3 m	
	Tail slewing radius of swingtable	3.95 m	
	Boom section	4	
	boom shape	U-shaped	
	Max.lifting moment	Base boom	1660 kN·m
		Full-extend boom	850 kN·m
	Boom length	Base boom	11.25 m
Full-extend boom		34.5 m	
Outrigger span (Longitudinal×Transversal)	6 × 7.2 m		
Working speed	Max.single rope lifting speed of main winch (no load)	115 m/min	
	Full extension/retraction time of boom	115 / 115 s	
	Full lifting/descending time of boom	70 / 75 s	
	Slewing speed	0~2.0 r/min	
Aircondition	Aircondition in low cab	Heating/Cooling	

STC450C Working Ranges



Unit:Kg

Prerequisites

- ① Boom operating conditions(fully extended boom length),min. length is 11.25m and max.length is 34.5m
- ② The span of outriggers is 6m×7.2m
- ③ 360° rotation is applied
- ④ Counterweight is 4.5T

Working Radius(m)	Fully-extended outriggers, over side and rear											Working Radius(m)
	11.25m	15.13m	15.13m	19.00m	19.00m	22.88m	22.88m	26.75m	26.75m	30.63m	34.50m	
3.0	45000	35000	17000	28600	15500							3.0
3.5	43000	35000	16500	28600	15500							3.5
4.0	39000	32000	15000	27500	15000	17000	12350					4.0
4.5	36700	29000	14000	26000	13700	17000	12350	16300	10500			4.5
5.0	34000	26500	12800	24000	13000	17000	12350	16300	10500			5.0
5.5	30000	24000	11500	22500	12500	17000	11500	16000	10500	12350		5.5
6.0	27800	22500	11000	21300	11700	17000	11000	15300	9500	12350	10500	6.0
6.5	24500	21000	10200	18500	11000	16500	10500	14600	9000	12350	10500	6.5
7.0	21500	19000	8500	16500	10500	15500	10000	13600	8500	12350	10500	7.0
7.5	19000	17500	7700	15500	9000	14500	9700	13000	8200	12000	10000	7.5
8.0	17500	16500	7000	14200	8000	13000	9300	12500	7800	11500	9500	8.0
9.0	15500	15000	6500	12000	7300	11500	8000	11000	7200	11000	9000	9.0
10.0		12000	5800	10500	6800	10200	7700	10400	6700	10200	8500	10.0
11.0		9900	5000	9500	6400	9000	7300	9500	6300	9300	7900	11.0
12.0		8200	4000	8000	5800	8000	6800	8300	5800	7500	7200	12.0
14.0				5500	5000	6000	5800	6400	5300	6500	6000	14.0
16.0				3700	3700	4500	4500	4600	4600	4900	5000	16.0
18.0						3400	3400	3700	3700	3800	4200	18.0
20.0						2200	2200	3000	3000	3200	3200	20.0
22.0								2200	2200	2700	2500	22.0
24.0										2200	2200	24.0
26.0										1500	1800	26.0
28.0											1400	28.0
30.0											1000	30.0
Number of lines	10	8	4	7	4	4	3	4	3	3	3	Number of lines
Telescoping Condition(%)												
Elevation of boom	20.3°~68.1°	26.9°~73.9°	26.9°~73.9°	22.7°~77.3°	22.7°~77.3°	31.8°~76.9°	31.8°~76.9°	28.7°~77.8°	28.7°~77°	26.1°~77.8°	24°~78°	Elevation of boom
2nd boom	0%	50%	0%	100%	0	100%	0%	100%	0%	100%	100%	2nd boom
3rd boom	0%	0%	25%	0%	50%	25%	75%	50%	100%	75%	100%	3rd boom
4th boom	0%	0%	25%	0%	50%	25%	75%	50%	100%	75%	100%	4th boom

1. Radius shown in the table are the actual radius when working.
2. Rated lifting capacities in the stability area comply with ISO 4305.
3. The total rated lifting load in the table included the weight of hook block (main hook is 550kg) and slings.
4. When the 5th outrigger is in use, it is suitable for 360 operation.
5. When actual boom length and working radius are between two values, determine lifting capacity according to the bigger boom and radius.

TRUCK CRANE

- STC200**: Maximum Load Capacity: 20t, Telescopic Boom: 4 Sections, 10.6-33m
- STC250**: Maximum Load Capacity: 25t, Telescopic Boom: 4 Sections, 10.66-33.5m
- 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, 11.8-48m
- 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, 15.5-62m
- 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, 15.4-83m
- 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
- SRC650**: Maximum Load Capacity: 65t, Telescopic Boom: 4 Sections, 11.25-34.5m
- SRC650H**: Maximum Load Capacity: 65t, 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 technology, specifications may change without notice.
The machines illustrated may show optional equipment which can be supplied at additional cost.

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