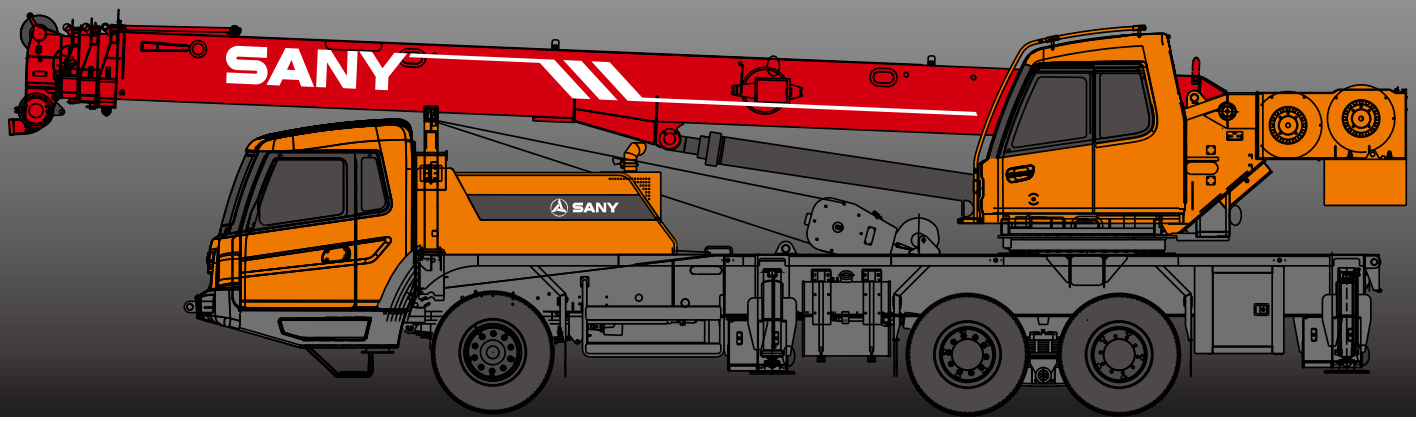
STC160C

STC160C TRUCK CRANE
16 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.

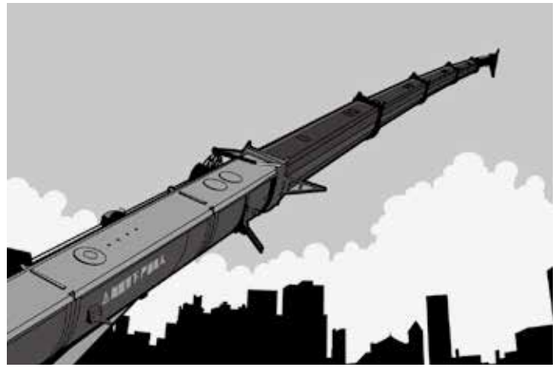
SANY TRUCK CRANE

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 performance

- 4-Section U-shaped boom adopts high strength structural steel.
- The length of fully extended boom is 30m, the maximum lifting height is 30.5m, and the maximum lifting moment is as high as 480KN.m. It has the largest outrigger span in the industry, as high as 5.54m×4.85m, and the overall crane has better stability.
- The carrier frame structure is optimized, and a heightened flat-bottom carrier frame is adopted, thus improving the torsional resistance by above 20%.
- With 162KW engine and 8-gear gearbox, its rideability is excellent.
- The bus instrument of chassis has fault diagnosis function, and the superstructure has moment limiter, and 256-color true-color display as standard configuration.



Good quality

- It takes many safety protection measures and has higher reliability
- It employs new hydraulic system, is smoother during slewing start and brake, and has excellent micro-mobility
- It's adaptable for various severe road conditions and has more excellent trafficability, and the full-width driving cab has a sleeper as standard configuration, making riding more comfortable
- It has streamline full-width driving cab and variable-position panoramic sunroof cab, with wider vision and more comfortable operation
- Advanced manufacturing technologies are widely applied to ensure excellence of each procedure and effectively ensure excellent performance of products

Safety and reliability

- It's equipped with the voice alarm system, which has voice prompt for each action, avoids misoperation, gives prompt and alarm to the people around, and ensures the safety of vehicle operation and personnel
- It employs high-precision, high-stability and high-intelligence moment limiter to comprehensively protect the lifting operation
- It's equipped with rich sensors to feed back data information timely, thus achieving real-time monitoring and learning of working conditions of the overall crane at any time

GCP remote control

- The domestic pioneer remote monitor and management system has powerful acquisition function of operation conditions and working parameters, and can perform remote fault diagnosis and management
- The client can learn the operating condition of equipment, and inquire and order the accessories without going out

Superstructure

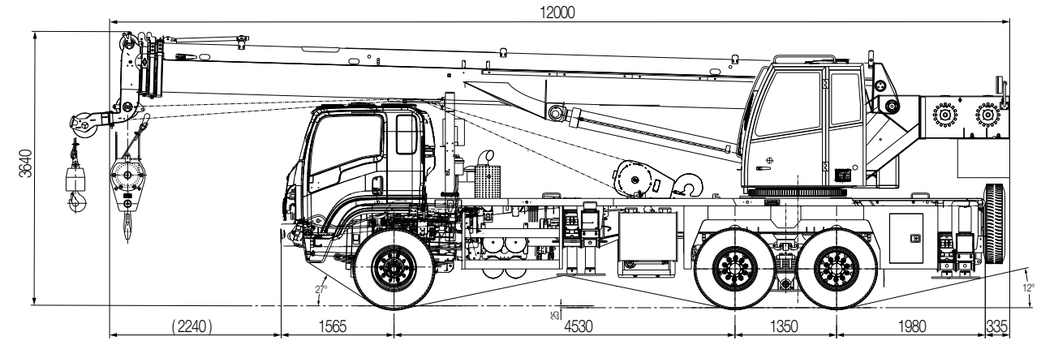
Cab	■ Arranged on the turntable side. Its whole frame is manufactured from anti-corrosion steel plates. It's provided with full-coverage soft interior trimming and adjustable seats to allow the operator to be comfortable and eased during operation.
Hydraulic system	■ It adopts the load feedback proportional multiway valve developed by SANY, and has pressure compensation control, and the composite action of luffing, extending and retracting, and winch is stable without interference.
Luffing system	■ Self-weight luffing descending control
Telescopic system	■ Four-section synchronous extending and retracting boom with a U-shaped section; the extending and retracting mechanism consists of an oil cylinder and rope arranger, with a balance valve mounted on the oil cylinder.

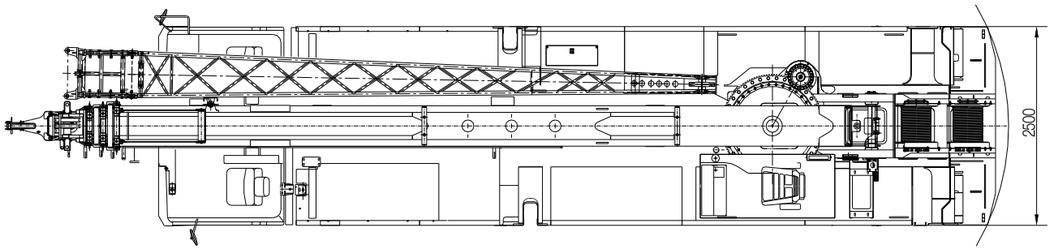
Superstructure

Slewing system	■ A slewing system consists of the constant displacement piston motor and reduction gear, with the maximum slewing speed of 2.1r/min.
Safety system	■ It has a color liquid crystal display for showing the parameters such as moment percentage, hook load, rated load, boom length, angle and lifting height; the system is provided with load meter and operation parameter setup, and has safety limiting protection function.
Counterweight	■ 2.75T, fixed on the turntable by bolts
Main winch	■ With constant displacement piston motor, hydraulic brake system and balance valve. The maximum single rope speed is 105m/min, and the wire rope is 135m in length.
Auxiliary winch	■ With constant displacement piston motor, hydraulic brake system and balance valve. The maximum single rope speed is 100m/min, and the wire rope is 85m in length.

Chassis

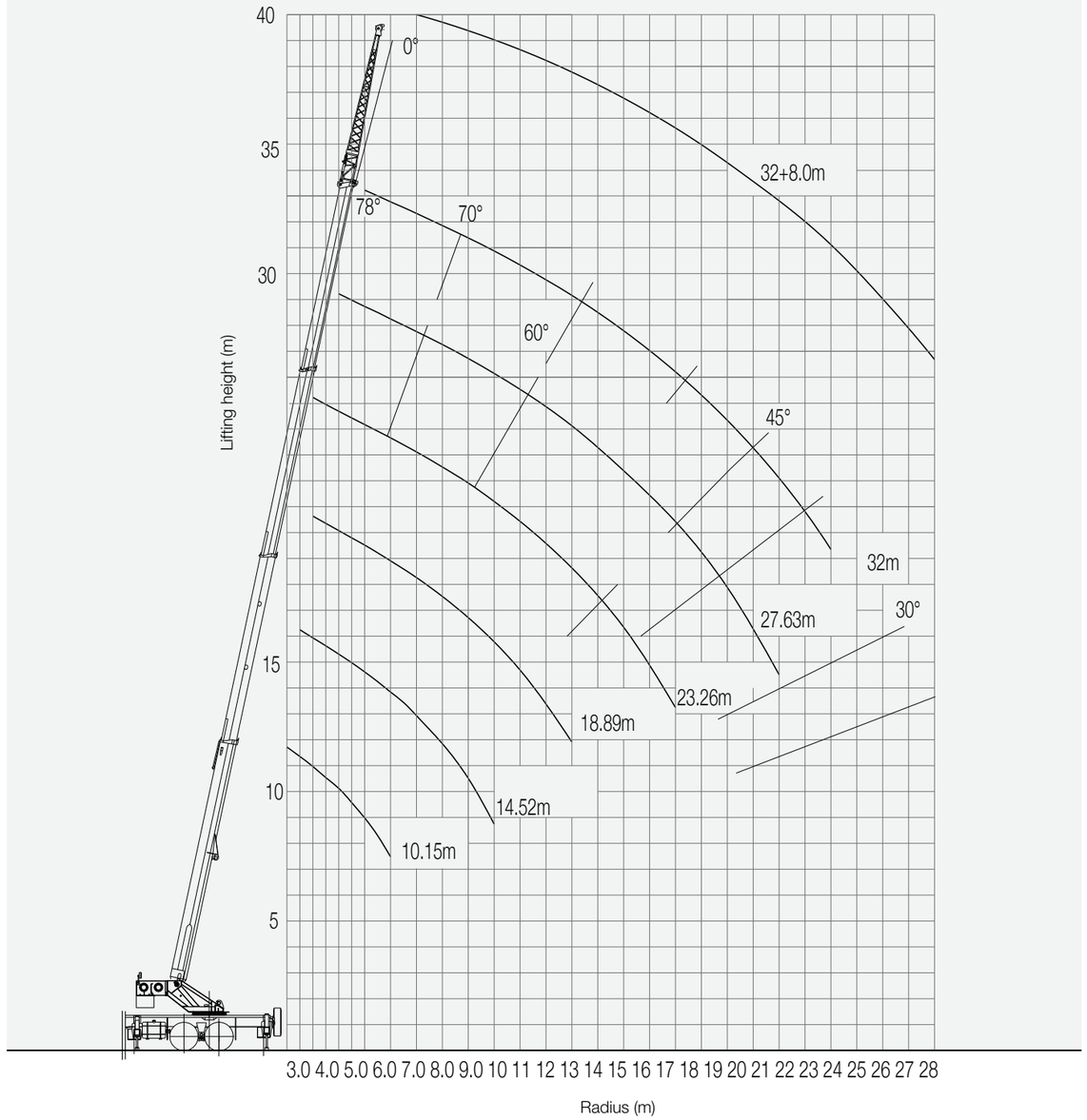
Cab	■ The driving cab with a sleeper adopts ergonomical design, with wide vision, and the steering wheel is adjustable in height
Carrier frame	■ Wholly welded frame, adopting high strength steel plates
Axles	■ Steering axle: axle 1; drive axle: axles 2 and 3
Engine	■ SDEC SC7H245Q4 engine: rated power of 180kW at 2300rpm Fuel tank ■ capacity: 300L
Transmission system	■ Adopt 8-gear gearbox.
Brakes system	■ Adopt air brake. With double circuit service brake controlled by pedal, and parking brake and emergency brake controlled by hand brake lever . Also with exhaust brake
Suspension system	■ The suspension system of axle 1 adopts a plate spring suspension, and the suspension systems of axles 2 and 3 adopt plate spring equalizing suspensions.
Steering system	■ Adopt the single-circuit hydraulic assistance steering system with mechanical steering stop
Outriggers	■ H layout, full hydraulic control, with horizontal and longitudinal stages. Each outrigger may operate independently
Tyres	■ 10 wheels, and a spare wheel; specifications of tyres: 11.0-20-16PR
Electrical system	■ 24V system voltage, CAN bus
Drive/steer	■ 6×4×2
Hydraulic system of chassis	■ Adopt fixed displacement gear oil pump to control the extending and retracting of horizontal and vertical outriggers





Type	Item		Parameter
Dimension parameter	Overall length		12,000 mm
	Overall width		2,500 mm
	Overall height		3,640 mm
	Wheelbase	First and second wheelbases	4,530 mm
		Second and third wheelbases	1,350 mm
	Track	Front wheel	2,048 mm
		Middle and rear wheels	1,865 mm
Weight parameter	Overall weight		23,600 kg
	Load	Front axle	5,600 kg
		Rear axle	18,000 kg
Dynamic parameter	Engine model		SDEC SC7H245Q4
	Maximum power of engine	SDEC SC7H245Q4	180/2,300 Kw/rpm
	Maximum output torque of engine	SDEC SC7H245Q4	960/1,400 N.m/rpm
Running parameter	Maximum running speed		80 Km/h
	Turning radius	Minimum turning radius	10.5 m
		Minimum turning radius of boom head	14 m
	Minimum ground clearance		260 mm
	Approach angle		28° / 17°
	Departure angle		12°
	Brake distance (at speed of 30km/h)		10 m
	Maximum gradability		40 %
	Fuel consumption per hundred kilometers		28 L
Main performance parameter	Maximum rated overall lifting capacity		16 t
	Minimum rated reach		3 m
	Maximum lifting moment	Base boom	730 kN.m
		Maximum boom	426 kN.m
	Outrigger span (transverse × longitudinal)		5.8×4.98 m
	Lifting height	Base boom	10.5 m
		Maximum boom	32.5 m
		Maximum boom + jib	40.5 m
	Boom length	Base boom	10.15 m
		Maximum boom	32 m
		Maximum boom + jib	40 m
	Offset angle of jib		0°, 15° and 30°
Operating speed parameter	Maximum single-rope speed of main winch (no load)		110 m/min
	Maximum single-rope speed of auxiliary winch (no load)		105 m/min
	Full extending/retracting time of boom		65s /50 s
	Full lifting/falling time of boom		50s /50 s
	Slewing speed		2.5 r/min
	Full extending/retracting time of horizontal outrigger		25s /20 s
	Full extending/retracting time of vertical outrigger		25s /20 s

STC160C Working Ranges



Unit:Kg

Table of lifting performance of boom of STC160C mobile crane (fully extended outriggers, operating on the side and at the rear)

Reach	Boom length 1	Boom length 2	Boom length 3	Boom length 4	Boom length 5	Boom length 6	Reach
	10.15	14.52	18.9	23.26	27.63	32	
3	16,000	12,200					3
3.5	16,000	12,200	11,600				3.5
4	16,000	12,200	11,600	8,600			4
4.5	15,500	12,200	11,600	8,600			4.5
5	14,600	12,200	11,600	8,400	6,600		5
5.5	13,200	12,200	11,000	8,000	6,600		5.5
6	11,300	11,500	10,200	7,600	6,600	4,600	6
6.5	9,800	10,200	9,800	7,200	6,000	4,600	6.5
7	8,800	9,000	9,000	6,900	5,600	4,500	7
8	7,100	7,100	7,200	6,100	5,100	4,300	8
9		5,900	5,900	5,600	4,800	4,100	9
10		4,900	5,000	5,000	4,300	3,850	10
11		4,200	4,100	4,300	4,100	3,700	11
12		3,600	3,500	3,600	3,700	3,550	12
14			2,700	2,800	2,800	2,800	14
16			2,000	2,100	2,250	2,250	16
18				1,650	1,650	1,800	18
20					1,300	1,300	20
22					1,100	1,100	22
24						900	24
Multiplying power	6	6	5	4	3	3	Multiplying power

Unit:Kg

Reach	Boom angle	Boom 32 + jib 8m (fully extended outriggers, operating on the side and at the rear)		
		0°	15°	30°
3.5	80	2,000	1,900	1,500
4	78	2,000	1,850	1,450
4.5	76	2,000	1,800	1,400
5	74	2,000	1,750	1,350
5.5	72	2,000	1,600	1,300
6	70	2,000	1,500	1,250
6.5	68	1,900	1,450	1,200
7	66	1,800	1,400	1,150
8	64	1,700	1,350	1,100
9	62	1,550	1,300	1,050
10	60	1,300	1,150	1,000
11	58	1,100	1,000	900
12	56	900	800	700
14	54	700	650	500
16	52	550	450	400
18	50	450	350	300
20	45	300		

Notes:

1. The lifting value in the table is the maximum lifting capacity of the crane under the conditions that the ground is solid and the whole crane is level. The values above the thick line in the table depend on the crane strength, while the values below the thick line depend on the stability of crane.
2. The above parameters must be abided by when the crane with outriggers fully extending lifts on the sides and at the rear. Lifting is not allowed when the outriggers do not fully extend.
3. The values listed in the table are maximum allowable values, and include the weight of hook and lifting device (weight of main hook: 200kg, and weight of auxiliary hook: 60kg).
4. The reach in the table refers to the actual horizontal distance from the center of hook to the slewing center after lifting.
5. When the actual boom length and reach are between two values, the lifting capacity shall be determined as per the larger ones.
6. The maximum lifting capacity of single pulley at the end of boom shall be ≤ 2t, same as the operating condition of 32m boom.
7. The lifting capacity of main hook shall be 400Kg subtracted from the values of all conditions if the jib is installed at the end of boom.

STC160C 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

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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