QUALITY CHANGES THE WORLD

PRODUCT
SPECIFICATIONS

SANY®

SPC500E

SANY TRUCK-MOUNTED CRANE
50T LIFTING CAPACITY

Max. Lifting Capacity: 50 t
Max. Boom Length: 35 m
Max. Lifting Height: 43.9 m

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V1.0

SANY TRUCK-MOUNTED CRANE
SPC500E / 50T LIFTING CAPACITY

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. 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.

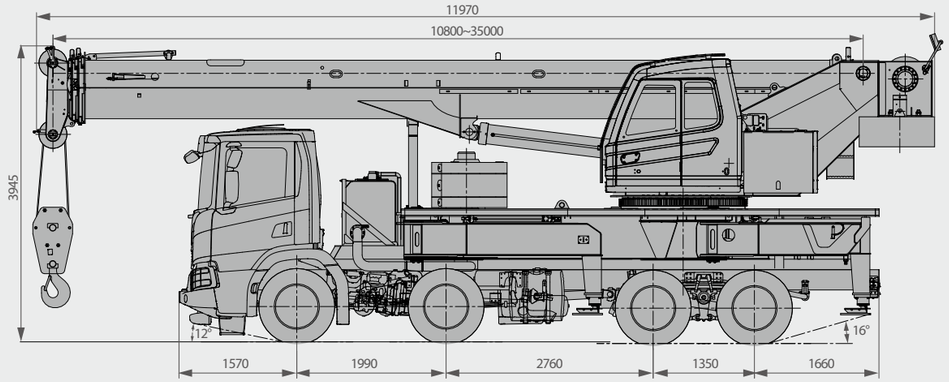
Highly efficient, stable, energy-saving, and adjustable hydraulic system

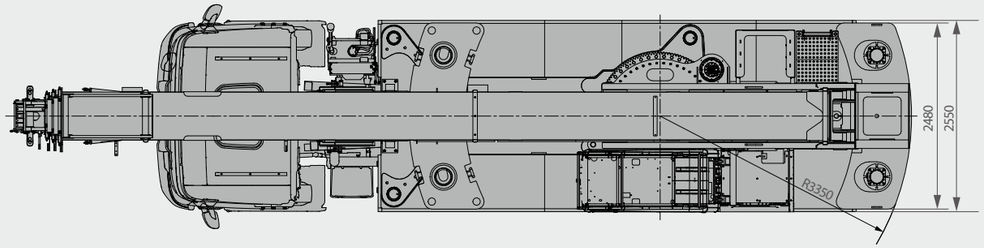
- Quadruple pump, load feedback and constant power control are applied to provide strong lifting capacity and good micro-mobility. Unique steering buffer design is applied to ensure stable braking operation.

Safe, stable, advanced, and intelligent electric control system

- IFM Self-developed controller CR0212 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.

Overall Dimensions





Technical Specification-Mounted on Scania P360 Chassis

CATEGORY	ITEM		UNIT	VALUE
WEIGHT	Gross weight of superstructure		kg	26480(7.8t full CW) 21480(2.8t fixed CW)
POWER	Engine model		-	DC09 127 360 hp (Euro 6)
	Max. engine power		kW/rpm	265/1900
	Max. engine torque		N·m/rpm	1700/1050~1350
DIMENSIONS	Overall length		mm	11970
	Overall width		mm	2550
	Overall height		mm	3965
TRAVEL	Max.travel speed		km/h	85
	Min.steering radius		m	10.75
	Min.ground clearance		mm	380
	Approach angle		°	12
	Departure angle		°	16
	Max.gradeability		%	36
MAIN PERFORMANCE	Min.rated lifting radius		m	2.5
	Tail slewing radius		m	3.35
	Boom sections (Qty.)		-	4
	Boom shape		-	U shape
	Max.lifting moment	Basic boom	kN·m	1372
		Full-extend boom	kN·m	803.6
		Max.combination of boom + jib	kN·m	383
	Boom length	Basic boom	m	10.8
		Full-extend boom	m	35
		Max.combination of boom + jib	m	43
	Max.lifting height	Full-extend boom	m	36.1
		Max.combination of boom + jib	m	43.9
	Outrigger span (Longitudinal×Transverse)		m	6.8×6.6
	Jib offset		°	0, 15, 30
AIRCONDITIONER	in operator's cab		-	heating & cooling
	in driver's cab		-	heating & cooling

Technical Parameters

Axle Load

Axle	1	2	3	4	Gross weight
Axle load/kg	8.38	7.37	10.77	10.71	37.23
Remark	Crane mounted on Scania P360 chassis				

Hook

Rated load/t	Number of sheaves	Rope rate	Hook weight /kg
50	5	10	400

Operations

Item		Max.single rope lifting speed (empty load)	Rope diameter/length	Max. single line pull
Main winch		130m/min	16/175(mm/m)	6.72t
Slewing		2.3r/min		
Full luffing up/ down time of boom		40s/60s		
Full extension/ retraction time of boom		40s/50s		
Outrigger jack	Retract	30s		
	Extend	35s		
Outrigger beam	Retract	30s		
	Extend	30s		

Crane Introduction

superstructure

Operator's 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 winches is up to 130m/min.
- Slewing system is equipped with the integrated slewing buffer valve to ensure more stable starting and control of the slewing operation and excellent micro-mobility.

Control system

- With fully security protection system, 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 vice 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.

Telescopic system

- 4-section boom is applied with basic boom length of 10.8m, full-extended boom length of 35.0m, jib (option) length of 8m and lifting height of fully extended boom length of 36.1m respectively. Max. lifting height is 43.9m including jib. It is made of fine grain high-strength steel with U-shaped cross section and with telescopic operation controlled independent by cylinder rope.

Luffing system

- Dead-weight luffing provides more stable luffing operation at low energy loss.
- Luffing angle:-1.2°~80°.

Slewing system

- 360° rotation can be achieved with Max. slewing speed of 2.3r/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.

Counterweight

- Fixed counterweight 2800kg,flexible counterweight 1000kg+3000kg+1000kg.

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: 400Kg, and the Max. lifting loads are 50t. Wire rope of winch: left-handed rotation resistant wire rope 16-1960-U-181-sS-GB8918-L175m.

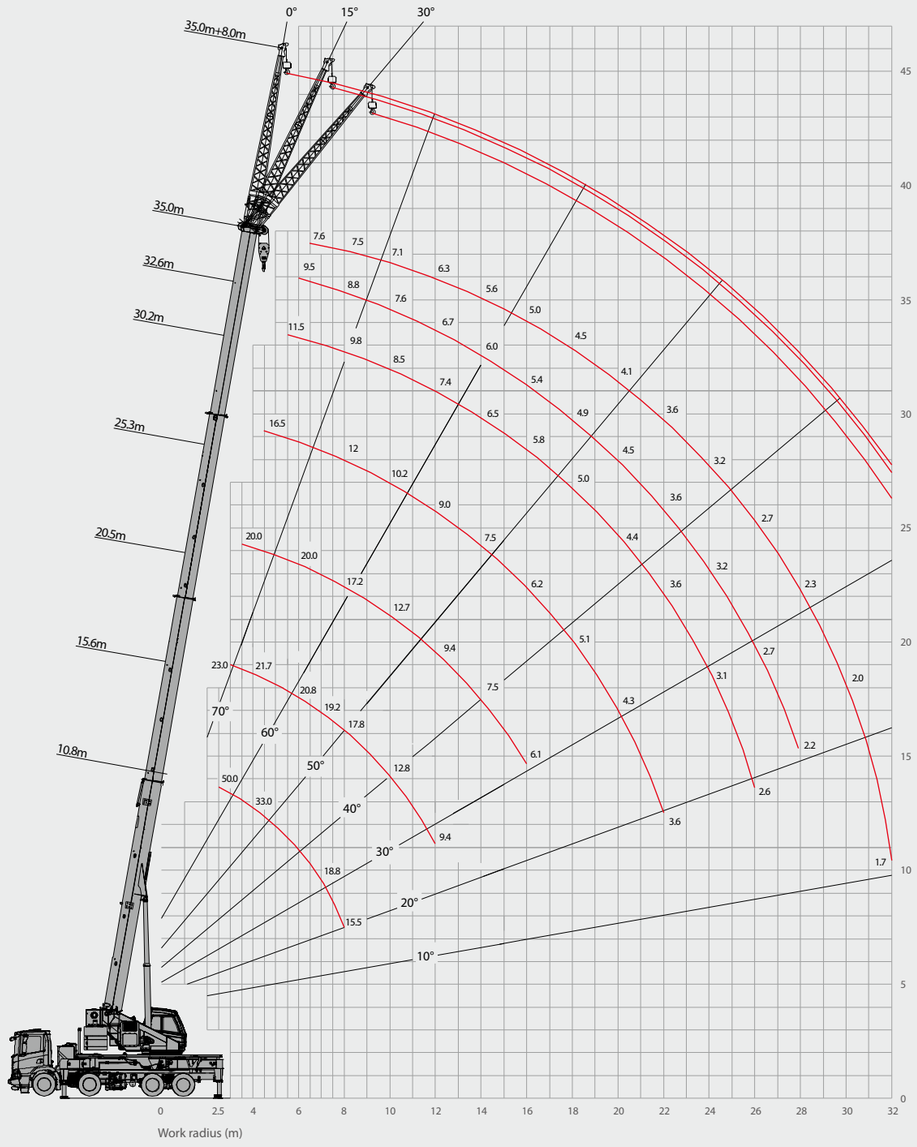
Safety system

- 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.
- Winch is equipped with over roll-out limiter to prevent over rolling-out of wire rope.
- Boom is 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.

Outriggers

- Four-point supporting of the X-shaped outriggers ensures easy operation and strong stability with max. span up to 6.8×6.6m. 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.

Operating Range



Load Chart-Telescopic Boom

Unit: kg

Radius(m)	10.8	15.6	20.5	25.3	30.2	32.6	35.0	Radius(m)
2.5	50000							3
3	40000	23000						3.5
3.5	36000	22000	20000					4
4	33000	21700	20000					4.5
4.5	31000	21400	20000	16500				5
5	28000	21200	20000	15800				6
5.5	25000	21000	20000	15000	11500			7
6	22500	20800	20000	14400	11000	9500		8
6.5	20500	20000	19500	13700	10800	9300	7600	9
7	18800	19200	18700	13000	10500	9200	7600	10
7.5	17000	18500	18000	12400	10200	9000	7600	12
8	15500	17800	17200	12000	9800	8800	7500	14
9		15200	15000	11000	9100	8200	7500	16
10		12800	12700	10200	8500	7600	7100	18
11		11000	11000	9600	7900	7100	6700	20
12		9400	9400	9000	7400	6700	6300	22
14			7500	7500	6500	6000	5600	24
16			6100	6200	5800	5400	5000	26
18				5100	5000	4900	4500	28
20				4300	4400	4500	4100	30
22				3600	3600	3600	3600	32
24					3100	3200	3200	34
26					2600	2700	2700	36
28						2200	2300	38
30							2000	40
32							1700	42
Rope rate	10	8	6	5	4	3	3	44

Load Chart-Telescopic Boom

Unit: kg

Radius(m)	10.8	15.6	20.5	25.3	30.2	32.6	35.0	Radius(m)
2.5	50000							3
3	40000	23000						3.5
3.5	36000	22000	20000					4
4	33000	21700	20000					4.5
4.5	31000	21400	20000	16500				5
5	28000	21200	20000	15800				6
5.5	25000	21000	20000	15000	11500			7
6	22500	20800	20000	14400	11000	9500		8
6.5	20500	20000	19500	13700	10800	9300	7600	9
7	18800	19000	18500	13000	10500	9200	7600	10
7.5	17000	18000	17500	12400	10200	9000	7600	12
8	15500	16500	16000	12000	9800	8800	7500	14
9		14000	13800	11000	9000	8200	7500	16
10		11800	11600	10200	8300	7600	7100	18
11		10200	10000	9500	7800	7100	6700	20
12		8700	8800	8400	7300	6700	6300	22
14			6800	6600	6400	6000	5600	24
16			5500	5400	5300	5100	5000	26
18				4500	4400	4400	4300	28
20				3800	3800	3800	3800	30
22				3200	3200	3300	3300	32
24					2800	2800	2800	34
26					2400	2400	2400	36
28						2000	2000	38
30							1700	40
32							1400	42
Rope rate	10	8	6	5	4	3	3	44

Load Chart-Telescopic Boom

Unit: kg

Radius(m)	10.8	15.6	20.5	25.3	30.2	32.6	35.0	Radius(m)
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3.5	32000	22000	20000					4
4	29000	21700	20000					4.5
4.5	27000	21400	20000	16500				5
5	24500	21200	20000	15800				6
5.5	22500	21000	20000	15000	11500			7
6	21000	20800	19500	14400	11000	9500		8
6.5	20000	19500	18500	13700	10800	9300	7600	9
7	18000	18500	17500	13000	10500	9200	7600	10
7.5	15500	16500	16000	12400	10200	9000	7600	12
8	13500	14700	14500	12000	9800	8800	7500	14
9		12100	12200	11000	9000	8200	7500	16
10		10200	10300	10200	8300	7600	7100	18
11		8700	8800	8900	7700	7100	6700	20
12		7600	7600	7700	7200	6700	6300	22
14			5900	6000	6000	6000	5600	24
16			4700	4800	4800	4800	4800	26
18				3900	3900	4000	4000	28
20				3200	3200	3300	3300	30
22				2600	2700	2700	2700	32
24					2200	2200	2300	34
26					1700	1800	1800	36
28						1400	1500	38
30							1200	40
32							1000	42
Rope rate	10	8	6	5	4	3	3	44

Load Chart-Telescopic Boom

Unit: kg

Radius(m)	10.8	15.6	20.5	25.3	30.2	32.6	35.0	Radius(m)
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4	29000	21700	20000					4.5
4.5	27000	21400	20000	16500				5
5	24500	21200	20000	15800				6
5.5	22500	21000	20000	15000	11500			7
6	21000	20800	19500	14400	11000	9500		8
6.5	19500	19500	18500	13700	10800	9300	7600	9
7	17500	17500	17000	13000	10500	9200	7600	10
7.5	15000	16000	15600	12400	10200	9000	7600	12
8	13000	14400	14300	12000	9800	8800	7500	14
9		11800	12000	10800	8900	8200	7500	16
10		10000	10000	9900	8200	7600	7100	18
11		8500	8600	8600	7600	7100	6700	20
12		7100	7400	7400	7100	6700	6300	22
14			5600	5700	5700	5600	5600	24
16			4300	4400	4500	4500	4500	26
18				3600	3600	3600	3600	28
20				2800	2900	2900	2900	30
22				2300	2300	2400	2400	32
24					2000	2000	2000	34
26					1600	1600	1600	36
28						1200	1200	38
30							900	40
32							700	42
Rope rate	10	8	6	5	4	3	3	44

Load Chart-Jib Optional

Unit: kg

Boom angle(°)	Jib offset			Boom angle (°)
	0°	15°	30°	
78	2800	2350	1700	78
75	2800	2200	1600	75
72	2750	2050	1500	72
70	2600	1900	1450	70
65	2150	1650	1350	65
60	1800	1450	1250	60
55	1250	1150	1050	55
50	850	800	700	50

Unit: kg

Boom angle(°)	Jib offset			Boom angle (°)
	0°	15°	30°	
78	2800	2350	1700	78
75	2800	2200	1600	75
72	2750	2050	1500	72
70	2600	1900	1450	70
65	2150	1650	1350	65
60	1800	1450	1250	60
55	1250	1150	1050	55
50	850	800	700	50

Load Chart-Jib

Optional

Unit: kg

Boom angle(°)	Jib offset			Boom angle (°)
	0°	15°	30°	
78	2800	2350	1700	78
75	2800	2200	1600	75
72	2750	2050	1500	72
70	2600	1900	1450	70
65	2150	1650	1350	65
60	1800	1450	1200	60
55	1200	1100	950	55
50	750	650	650	50

Unit: kg

Boom angle(°)	Jib offset			Boom angle (°)
	0°	15°	30°	
78	2800	2350	1700	78
75	2800	2200	1600	75
72	2750	2050	1500	72
70	2600	1900	1450	70
65	2150	1650	1350	65
60	1800	1450	1200	60
55	1150	1100	900	55
50	650	600	600	50

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Reminder:
For safe and reliable operation of the diesel engines, please fill Grade IV machines with Grade IV diesel and urea solution conforming to related national standards. Please refer to the operating instructions and related standards for details.