



Quality Changes the World

# HEAVY DUTY FORKLIFT TRUCKS



Quality Changes the World



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# SANY HEAVY DUTY FORKLIFT TRUCKS ACHIEVEMENT OF PROFESSIONAL QUALITY

COMPREHENSIVE  
PRODUCT SERIES  
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SAFE AND RELIABLE  
**03**

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## COMPREHENSIVE PRODUCT SERIES

SANY Heavy-Duty Forklift Truck can not only handle large-tonnage cargo, but also support maintenance, discharge and installation of important equipment. When equipped with special accessories, it can also handle steel, stone, concrete, wood, 20' container, etc. This SANY Port Machinery self-developed Heavy-duty Forklift Truck is reliable and highly efficient with different series of products with hoisting capacity from 10 to 46 tons. Various attachments and masts are provided to meet customers' different requirements.

**World class, No. 1 logistics equipment supplier in China**

The following configurations are provided for free combination.

Customized manufacturing is also available:

**Hoisting capacity:** 10t-16t, 18t-25t, 28t-35t, 40t-46t

**Mast:** Standard whole view mast, Duplex full free lift mast, Triplex full free lift mast

**Attachment:** Fork, Coil ram, Clamp, Spreader, Truck frame handler, Bucket, PC prefabrication unit attachment





# SAFE AND RELIABLE

*Joint design of China and Germany, excellent quality*

## 1 Intelligent Anti-Rollover Protection Technology

Adopt SANY intelligent control technology; detect equipment real-time working conditions to realize intelligent anti-rollover protection. It is highly intelligent, ensuring safety and worry free operation.

## 2 Cargo Fall-off Protection Technology

The technology can automatically control the position of the attachment, preventing cargo fall in emergencies such as sudden brake or making a turn.

## 3 Automatic Fire Extinguishing Technology

The pipeline network automatic fire extinguisher with strong spray can realize fire alarm, anti-flaming and fire extinction functions. The fireproof performance is steady and reliable.

## 4 Cab Automatic Lock Technology

While under maintenance, the cab will be turned on one side. With inappropriate operation, accidents would happen. Cab of SANY Heavy-Duty Forklift Truck has the double protection of mechanical and hydraulic anti-rollover protection, effectively preventing accidental rollover.

## 5 Automatic Braking Technology upon Reversing

Adopting technologies like laser scanning and graphic identification, the machine can precisely detect people or obstacles within the driving route and then brakes automatically to prevent accidents. It is highly intelligent with high safety.

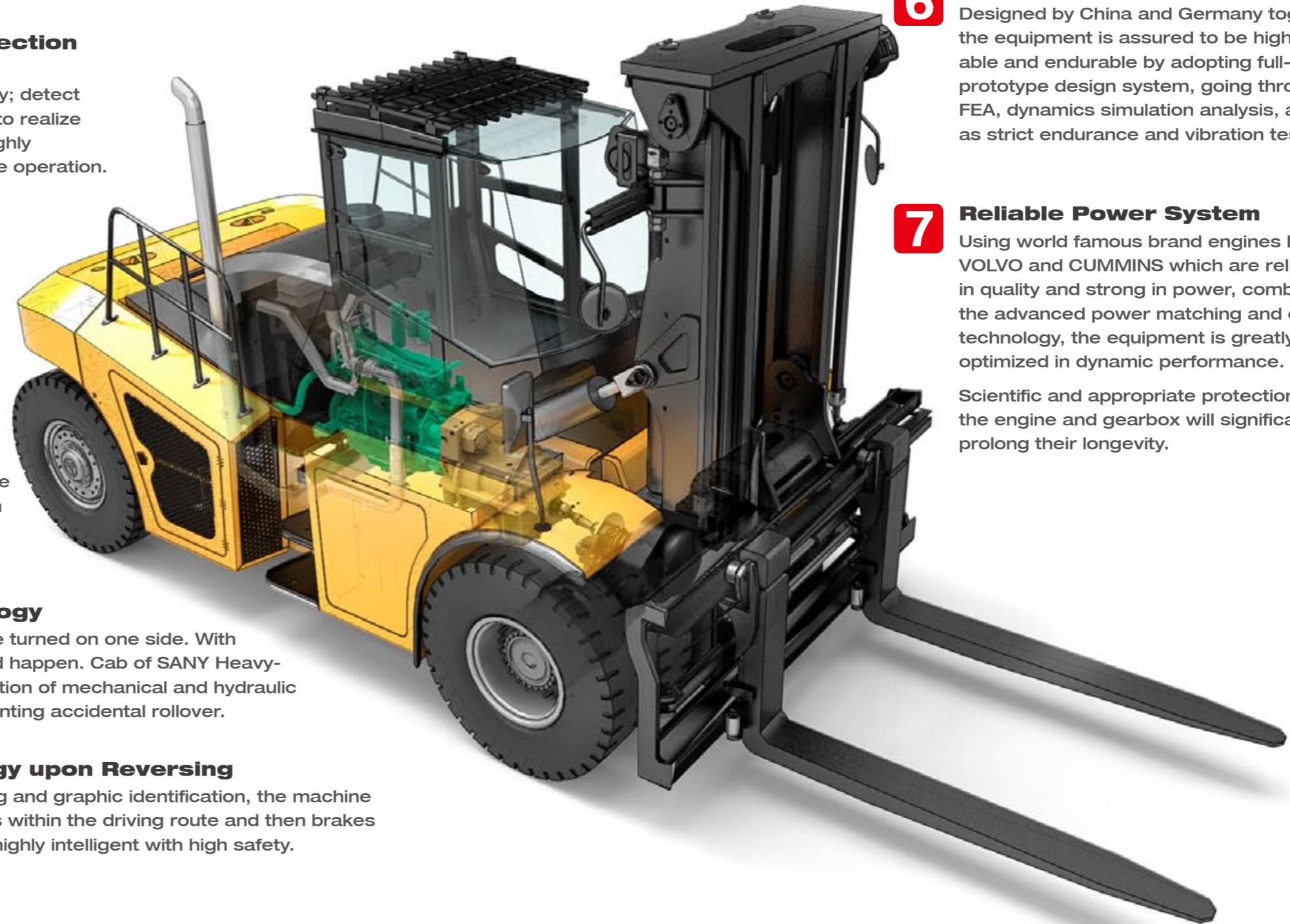
## 6 Reliable Structure Design

Designed by China and Germany together, the equipment is assured to be highly reliable and durable by adopting full-digit prototype design system, going through FEA, dynamics simulation analysis, as well as strict endurance and vibration tests.

## 7 Reliable Power System

Using world famous brand engines like VOLVO and CUMMINS which are reliable in quality and strong in power, combining the advanced power matching and control technology, the equipment is greatly optimized in dynamic performance.

Scientific and appropriate protection for the engine and gearbox will significantly prolong their longevity.





# HIGH-EFFICIENCY



**1 Attachment Quick Change Technology**  
The attachment can be switched quickly, so as to realize efficient work under different working conditions.

**2 Efficient Control Technology**  
The centralized joystick has inching control function. It can realize fine tuning to millimeter precision easily. All the attachments' motions are under proportional control, providing an experience of man-machine unification. The machine also has multi-motion linkage design so that it can operate faster and more efficiently.

**3 Comfortable Operation Environment**  
The operator-oriented design includes a broad view of working condition. The controlling devices are placed in proper position to ease fatigue of operators.







## ENERGY-SAVING

### 1 Hydraulic Load Sensing System

Automatically adjust the pump displacement according to the load, realizing high precision flow control. The effect of energy saving and consumption reduction are remarkable.

### 2 Dynamic Power Matching Control System

Automatically recognize dynamic power according to load change and adjust engine speed accordingly. The output power automatically accommodate to load and work conditions, greatly reducing energy consumption.

### 3 Design for Lighter

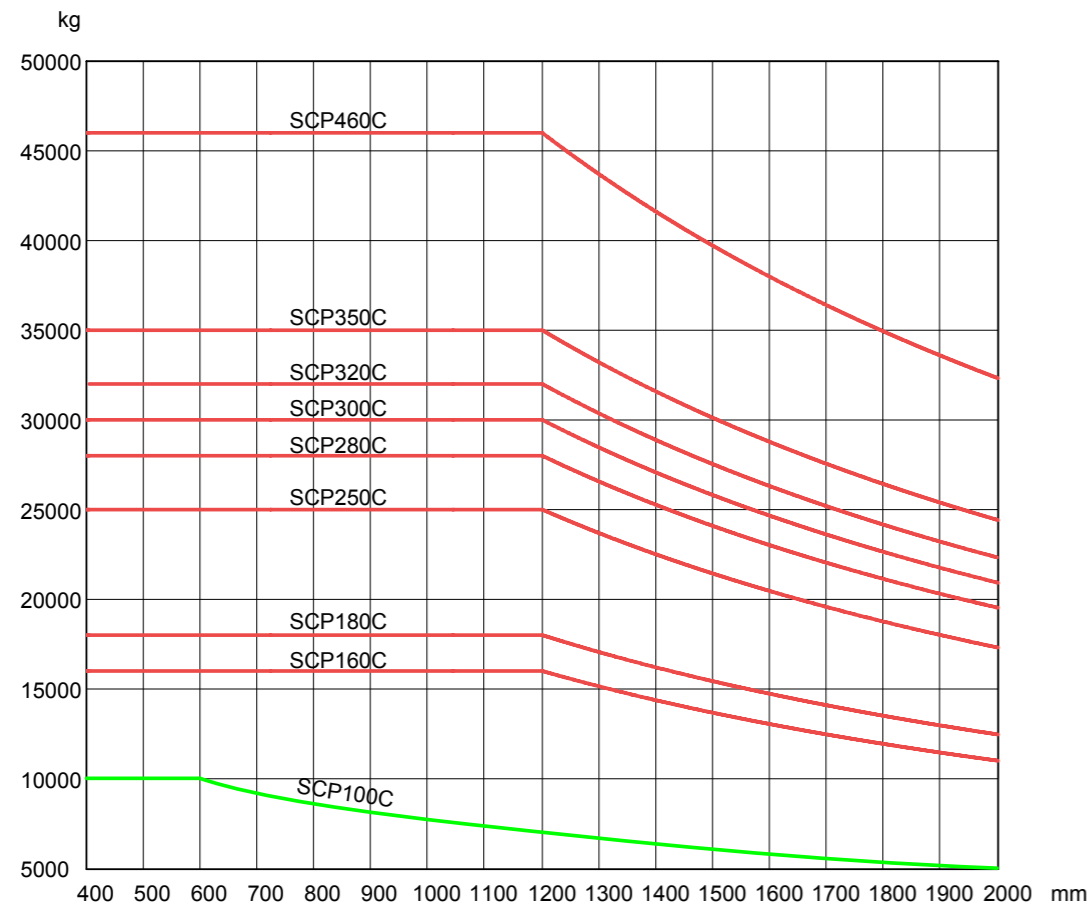
Optimize the structure to make it lighter and stronger.



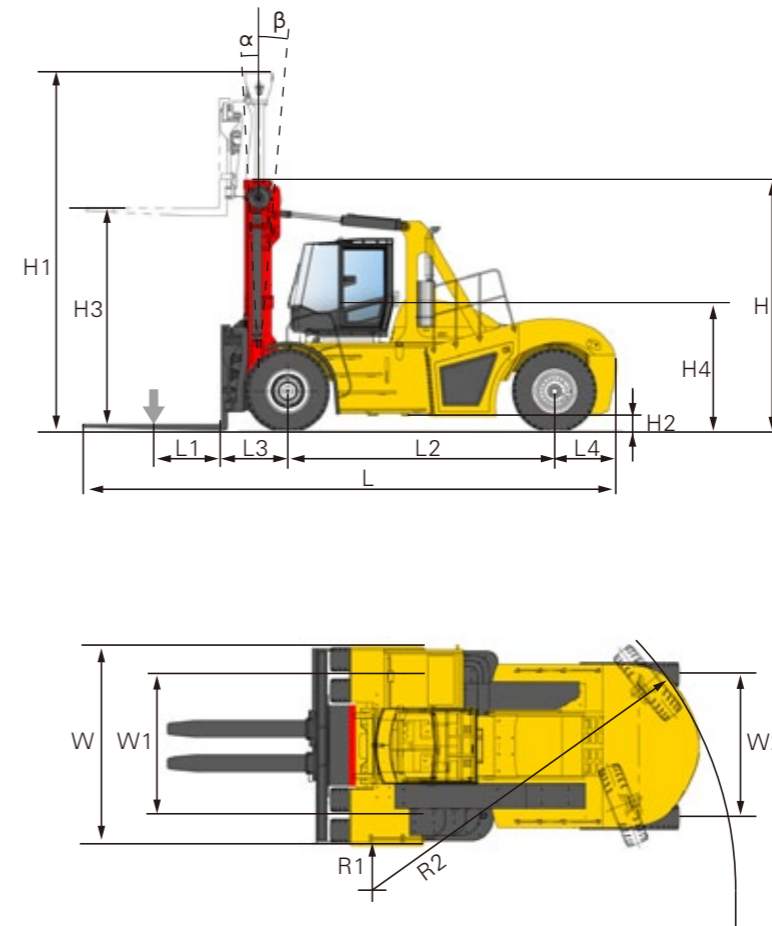
### CONFIGURATION PARAMETERS

Parameter		10t	12t~16t			18t~25t			28t~35t			38t~46t	
Engine	Model	CUMMINS	VOLVO	VOLVO	CUMMINS	VOLVO	VOLVO	CUMMINS	VOLVO	VOLVO	CUMMINS	VOLVO	CUMMINS
	Type	QSB 4.5	TAD552VE	TAD572VE	QSB6.7	TAD552VE	TAD572VE	QSB6.7	TAD851VE	TAD871VE	QSC8.3	TAD1151VE	QSM11
	Rated power (kW/rpm)	82/2200	160/2200	160/2300	164/2300	160/2200	160/2300	164/2300	185/2200	185/2200	209/2200	265/2100	250/2100
	Max. torque (Nm/rpm)	488/1500	910/1450	910/1450	949/1500	910/1450	910/1450	949/1500	1160/1350	1160/1200	1356/1500	1780/1260	1674/1400
	Exhaust standard	EU Stage III	EU Stage III	EU Stage IV	EU Stage III	EU Stage III	EU Stage IV	EU Stage III	EU Stage III	EU Stage IV	EU Stage III	EU Stage III	EU Stage III
Gearbox	Type	DANA TE08	DANA 13.7HR32000			DANA 340 TE17312			DANA 340 TE17312			DANA 15.5HR36000	
Drive Axle	Type	DANA 138	KESSLER-D81			18t~20t: KESSLER-D81 22t~25t: KESSLER-D91			KESSLER-D91			KESSLER-D102	
Tyre	Dimension	9.00-20	12.00-24			14.00-24			16.00-25			18.00-25	

### HEAVY-DUTY FORKLIFT LOAD CURVE GRAPH



### DIMENSION MEASUREMENT IDENTIFIERS



# TECHNICAL PARAMETER

Parameter		Unit	SCP100C Series	SCP160C Series	SCP160G Series	SCP180C Series	SCP250C Series
Performance parameters	Rated capacity	t	10	16	16	18	25
	Overall weight	kg	12190	25500	25500	33100	36900
	Max. lift speed (Load/No load)	mm/s	390/410	350/400	350/400	300/350	250/300
	Max. lowering speed (Load/No load)	mm/s	470/340	400/400	400/400	400/400	400/400
	Max. travel speed (Load/No load)	km/h	27/29	28/30	30/30	26/30	26/30
	Gradeability (Load)	%	28	33	34	34	29
Main parameters	Overall length L	mm	5510	8070	8070	8580	8840
	Overall width W	mm	2135	2620	2620	3100	3100
	Overall height H	mm	2850	3760	3760	3850	3960
	Load center L1	mm	600	1200	1200	1200	1200
	Wheel base L2	mm	2800	3750	3750	4050	4300
	Overhang front L3	mm	758	1010	1010	1121	1136
	Overhang rear L4	mm	750	910	910	1005	1005
	Min. ground clearance H2	mm	250	350	350	350	350
	Truck height over seat height H4	mm	1460	1910	1910	2040	2040
	Inner turning radius R1	mm	410	460	460	940	940
	outer turning radius R2	mm	4100	5100	5100	5750	6000
	Front track width W1	mm	1570	1905	1905	2225	2204
	rear track width W2	mm	1700	2120	2120	2450	2450
Mast	Mast height (retracted H / extended H1)	mm	2850/4350	3760/5710	3760/5710	3850/5800	3960/5905
	Max. lift height H3	mm	3000	4000	4000	4000	4000
	Mast tilt (backward $\alpha$ /forward $\beta$ )	deg	6/12	5/10	5/10	5/10	5/10
Fork	Fork dimensions	mm	1200×180×70	2400×200×100	2400×200×100	2400×250×105	2400×250×110
	Shift distance	mm	434~1996	700~2310	700~2310	786~2776	786~2776
	Application	-	20' ISO Containers Medium-tonnage cargo	20' ISO Containers/ Large-tonnage cargo			



# TECHNICAL PARAMETER

Qualification		Unit	SCP280C Series	SCP300C Series	SCP320C Series	SCP350C Series	SCP460C Series
Performance parameters	Rated capacity	t	28	30	32	35	46
	Overall weight	kg	41100	43100	45200	46200	57900
	Max. lift speed (Load/No load)	mm/s	250/300	250/300	250/300	250/300	250/300
	Max. lowering speed (Load/No load)	mm/s	400/400	400/400	400/400	400/400	400/400
	Max. travel speed (Load/No load)	km/h	25/28	25/28	25/28	25/28	22/25
	Gradeability (Load)	%	25	25	25	25	20
Main parameters	Overall length L	mm	9225	9225	9505	9535	10400
	Overall width W	mm	3520	3520	3520	3520	4300
	Overall height H	mm	4360	4360	4360	4360	4500
	Load center L1	mm	1200	1200	1200	1200	1200
	Wheel base L2	mm	4500	4500	4800	4800	5500
	Overhang front L3	mm	1220	1220	1220	1230	1396
	Overhang rear L4	mm	1105	1105	1105	1105	1100
	Min. ground clearance H2	mm	300	300	300	300	430
	Truck height over seat height H4	mm	2155	2155	2155	2155	2360
	Inner turning radius R1	mm	780	780	1045	1045	1110
	outer turning radius R2	mm	6300	6300	6650	6650	7600
	Front track width W1	mm	2472	2472	2472	2472	3033
	rear track width W2	mm	2450	2450	2450	2450	2740
Mast	Mast height (retracted H / extended H1)	mm	4360/6305	4360/6305	4360/6305	4360/6305	4500/6430
	Max. lift height H3	mm	4000	4000	4000	4000	4000
	Mast tilt (backward $\alpha$ /forward $\beta$ )	deg	5/10	5/10	5/10	5/10	5/10
Fork	Fork dimensions	mm	2400x300x110	2400x300x110	2400x300x125	2400x300x125	2400x300x140
	Shift distance	mm	920~2850	920~2850	920~2850	920~2850	1550~3150
	Application	-	20' ISO Containers Large-tonnage cargo		Large-tonnage cargo		

# MAST OPTIONS

Mast type	Max. hoisting height (H)	Sloping angle (Front/Rear)	Mast model	Mast height		Free lift height	Mast model	Mast height		Free lift height	Mast model	Mast height		Free lift height	Mast model	Mast height		Free lift height
				Min.height	Max.height			Min.height	Max.height			Min.height	Max.height			Min.height	Max.height	
			<b>SCP160</b>				<b>SCP180~200</b>				<b>SCP220~250</b>				<b>SCP280~300</b>			
Standard mast	3000	5°/10°	MCPMS1630	3260	4710	—	MCPMS2030	3350	4800	—	MCPMS2530	3460	4905	—	—	—	—	—
	3500		MCPMS1635	3510	5210		MCPMS2035	3600	5300		MCPMS2535	3710	5405		—	—	—	
	4000		MCPMS1640	3760	5710		MCPMS2040	3850	5800		MCPMS2540	3960	5905		MCPMS3040	4360	6305	
	4500		MCPMS1645	4010	6210		MCPMS2045	4100	6300		MCPMS2545	4210	6405		MCPMS3045	4610	6805	
	5000		MCPMS1650	4260	6710		MCPMS2050	4350	6800		MCPMS2550	4460	6905		MCPMS3050	4860	7305	
	5500		MCPMS1655	4510	7210		MCPMS2055	4600	7300		MCPMS2555	4710	7405		MCPMS3055	5110	7805	
	6000		MCPMS1660	4760	7710		MCPMS2060	4850	7800		MCPMS2560	4960	7905		MCPMS3060	5360	8305	
	6500		MCPMS1665	5010	8210		MCPMS2065	5100	8300		MCPMS2565	5210	8405		MCPMS3065	5610	8805	
7000	MCPMS1670	5260	8710	MCPMS2070	5350	8800	MCPMS2570	5460	8905	MCPMS3070	5860	9305						
Duplex full free lift mast	3000	5°/10°	MCPMD1630	3260	4710	1500	MCPMD2030	3350	4800	1500	MCPMD2530	3460	4910	1550	—	—	—	—
	3500		MCPMD1635	3510	5210	1750	MCPMD2035	3600	5300	1750	MCPMD2535	3710	5410	1800	—	—	—	—
	4000		MCPMD1640	3760	5710	2050	MCPMD2040	3850	5800	2000	MCPMD2540	3960	5910	2050	MCPMD3040	4360	6305	2000
	4500		MCPMD1645	4010	6210	2250	MCPMD2045	4100	6300	2250	MCPMD2545	4210	6410	2300	MCPMD3045	4610	6805	2250
	5000		MCPMD1650	4260	6710	2500	MCPMD2050	4350	6800	2500	MCPMD2550	4460	6910	2550	MCPMD3050	4860	7305	2500
	5500		MCPMD1655	4510	7210	2750	MCPMD2055	4600	7300	2750	MCPMD2555	4710	7410	2800	MCPMD3055	5110	7805	2750
	6000		MCPMD1660	4760	7710	3000	MCPMD2060	4850	7800	3000	MCPMD2560	4960	7910	3050	MCPMD3060	5360	8305	3000
	6500		MCPMD1665	5010	8210	3250	MCPMD2065	5100	8300	3250	MCPMD2565	5210	8410	3300	MCPMD3065	5610	8805	3250
7000	MCPMD1670	5260	8710	3500	MCPMD2070	5350	8800	3500	MCPMD2570	5460	8910	3550	MCPMD3070	5860	9305	3500		
Triplex full free lift mast	4500	5°/10°	MCPMT1645	3250	6130	1500	MCPMT2045	3300	6180	1500	MCPMT2545	3300	6180	1500	MCPMT3045	3700	6580	1500
	5000		MCPMT1650	3500	6630	1667	MCPMT2050	3467	6680	1667	MCPMT2550	3467	6680	1667	MCPMT3050	3867	7080	1667
	5500		MCPMT1655	3750	7130	1833	MCPMT2055	3633	7180	1833	MCPMT2555	3633	7180	1833	MCPMT3055	4033	7580	1833
	6000		MCPMT1660	4000	7630	2000	MCPMT2060	3800	7680	2000	MCPMT2560	4030	7930	2000	MCPMT3060	4200	8080	2000
	6500		MCPMT1665	4250	8130	2167	MCPMT2065	3967	8180	2167	MCPMT2565	3967	8180	2167	MCPMT3065	4367	8580	2167
	7000		MCPMT1670	4500	8630	2333	MCPMT2070	4133	8680	2333	MCPMT2570	4133	8680	2333	MCPMT3070	4533	9080	2333



# MAST OPTIONS

Mast type	Max. hoisting height (H)	Sloping angle (Front/Rear)	Mast model	Mast height		Free lift height	Mast model	Mast height		Free lift height	Mast model	Mast height		Free lift height
				Min.height	Max.height			Min.height	Max.height			Min.height	Max.height	
			<b>SCP320~350</b>			<b>SCP380~400</b>			<b>SCP420~460</b>					
<b>Standard mast</b>	3000	5°/10°	—	—	—	—	—	—	—	—	—	—	—	
	3500		—	—	—	—	—	—	—	—	—	—	—	
	4000		MCPMS3540	4360	6305	—	MCPMS4040	4500	6430	—	MCPMS4640	4500	6430	—
	4500		MCPMS3545	4610	6805	—	MCPMS4045	4750	6930	—	MCPMS4645	4750	6930	—
	5000		MCPMS3550	4860	7305	—	MCPMS4050	5000	7430	—	MCPMS4650	5000	7430	—
	5500		MCPMS3555	5110	7805	—	MCPMS4055	5250	7930	—	MCPMS4655	5250	7930	—
	6000		MCPMS3560	5360	8305	—	MCPMS4060	5500	8430	—	MCPMS4660	5500	8430	—
	6500		MCPMS3565	5610	8805	—	MCPMS4065	5750	8930	—	MCPMS4665	5750	8930	—
7000	MCPMS3570	5860	9305	—	MCPMS4070	6000	9430	—	MCPMS4670	6000	9430	—		
<b>Duplex full free lift mast</b>	3000	5°/10°	—	—	—	—	—	—	—	—	—	—	—	
	3500		—	—	—	—	—	—	—	—	—	—	—	
	4000		MCPMD3540	4360	6305	2000	MCPMD4040	4500	6430	2000	MCPMD4640	4500	6430	2000
	4500		MCPMD3545	4610	6805	2250	MCPMD4045	4750	6930	2250	MCPMD4645	4750	6930	2250
	5000		MCPMD3550	4860	7305	2500	MCPMD4050	5000	7430	2500	MCPMD4650	5000	7430	2500
	5500		MCPMD3555	5110	7805	2750	MCPMD4055	5250	7930	2750	MCPMD4655	5250	7930	2750
	6000		MCPMD3560	5360	8305	3000	MCPMD4060	5500	8430	3000	MCPMD4660	5500	8430	3000
	6500		MCPMD3565	5610	8805	3250	MCPMD4065	5750	8930	3250	MCPMD4665	5750	8930	3250
7000	MCPMD3570	5860	9305	3500	MCPMD4070	6000	9430	3500	MCPMD4670	6000	9430	3500		
<b>Triplex full free lift mast</b>	4500	5°/10°	MCPMT3545	3700	6580	1500	MCPMT4045	3800	6680	1500	MCPMT4645	3800	6680	1500
	5000		MCPMT3550	3867	7080	1667	MCPMT4050	3967	7180	1667	MCPMT4650	3967	7180	1667
	5500		MCPMT3555	4033	7580	1833	MCPMT4055	4133	7680	1833	MCPMT4655	4133	7680	1833
	6000		MCPMT3560	4200	8080	2000	MCPMT4060	4300	8180	2000	MCPMT4660	4300	8180	2000
	6500		MCPMT3565	4367	8580	2167	MCPMT4065	4467	8680	2167	MCPMT4665	4467	8680	2167
	7000		MCPMT3570	4533	9080	2333	MCPMT4070	4633	9180	2333	MCPMT4670	4633	9180	2333

### Standard mast

- Meet ordinary work condition requirement
- With mast lifting buffer position limitation protection technology
- Mast chain monitoring protection technology



### Duplex full free lift mast

- Suitable for narrow place like ship cabin
- Good view with free lift range exceeding 2000mm



### Triplex full free lift mast

- Separate lift for low position cargo; equipment height is lowered by 20%; mast center of gravity lowered by 10%; safer operation.



## ATTACHMENT OPTIONS



### Fork

Rated capacity: 10t/ 16t/ 18t/ 25t/ 28t/ 30t/ 32t/ 35t/ 46t

Application: Large-tonnage cargo or bulk cargo

Main frame color: Engineering black



### Clamp

Rated capacity: 10t/ 16t/ 18t/ 25t/ 28t/ 30t/ 32t/ 35t/ 46t

Application: Wood

Main frame color: Engineering black



### Coil ram

Rated capacity: 10t/ 16t/ 18t/ 25t/ 28t/ 30t/ 32t/ 35t/ 46t

Application: Curly cargo such as steel coil, steel wire coil, etc

Main frame color: Engineering black



### Container Spreader

Rated capacity: 9t

Application: ISO 20'/40' Containers

Main frame color: Engineering black



### Truck frame handler

Rated capacity: 4.5t

Application: Chassis

Main frame color: Engineering black



### PC prefabrication unit attachment

Rated capacity: 16t

Application: PC prefabrication unit

Main frame color: Engineering black

## ADD-ON OPTIONS

FUNCTION	BRAND	CODE	NOTE
Heat preservation device for extremely cold district	SANY	13815317	It is mainly used in such extremely cold district as Russia. It is recommended for district where the temperature is below -15°C like North America, Russia and Europe. It is a must for district where the temperature is below -30°C.
Heating device for normal cold district	SANY	13815319	It is mainly used in the cold district in China. It is recommended for district where the temperature is below -5°C. It is a must for district where the temperature is below -15°C.
Cab assistant seat	SANY	13027232	Cab assistant seat
Engine timer (by hour)	SANY	11446498	Timer for the engine's working hours
Amplifying alarm system	SANY	11447670	Including the amplifier and the alarm
Heavy-duty Forklift Truck LED lamp	SANY	13526507	Including: headlamp, rear lamp, mast working indicating lamp, tail lamp, steering lamp, alarm lamp and cab top working lamp; all are LED lamp.
Rear counterweight alarm lamp	SANY	11447452	One alarm lamp for the rear counterweight
Cab reading lamp	SANY	11447665	Hella fluorescent lamp, installed on the top of the cab.
12V power supply	SANY	11446544	Provide 12V power interface (on the top of the electric control cabinet in the cab)
24V power supply	SANY	11447574	Provide 24V power interface (on the top of the electric control cabinet in the cab)
3m range reversing radar system	SANY	13515506	Visible reversing radar with 3m range sensor
Mast video monitoring system	SANY	13520946	Camera system (9" screen + 2 cameras), used to improve the front view visibility
Safety belt	SANY	60230840	Emergency lock three-point safety belt
Walkie talkie device	SANY	11994939	Install walkie talkie
Sensor	SANY	11995265	Sensor installing support
RPIS installing support	SANY	12719277	Install RPIS
GPS system	SANY	A810299000751	GPS system
Rollover protection system	SANY	12889986	Install linear and angle sensor to prevent rollover
Radio	SANY	60006478	Including radio, horn and antenna.
Fork and knife mobile valve	SANY	13254790	Realize single action, translation and relative motion of the prongs.



# CONSTRUCTION CASES

2015, Mexico



2013, Port of Tianjin



2014, Philippine



2015, Taicang Port, Jiangsu



2012, Shanghai



2014, USA



2012, Port of Singapore



2014, Guatemala



2012, Dammam, Saudi Arabia





# SERVICE



Quality Changes the World Service Creates value



After-sales Service Hotline:

**4008 87 8318**

Consultation/Complaints Hotline:

**4008 87 9318**



## Service Concept

All for customers, creating value for customers.

## Service Strategy

Build unparalleled service; realize "First Brand of Global Service" of Port Machinery.

## Service Commitment

- 1** Contact the customer within 15 minutes after receiving service messages and immediately go to the site or call the customer to explain handling measures.
- 2** Time from receiving the service message to arrival at the trouble site: less than 2 hours to the main service areas.
- 3** 24 hours stand-by.
- 4** Solve general failure and provide common parts within 24 hours.

## Service Advantages

SANY has offices in over 200 countries and regions, with 30 agents in China, about 50 repair factories and 6S stores, over 3000 elite service engineers, 1000 offices and parts warehouse accommodating 100,000 kinds of parts worth more than RMB 600 million. We also have highly efficient logistics system by air, sea and land, which can transport genuine parts at any time.

Industry leading Enterprise Control Center (ECC): running for more than ten years, the ECC, as the industry initiative, is worth over RMB 30 million. It can realize real-time supervision and remote precision troubleshooting. With information promoting industrialization, it innovatively created SANY's service system of "Unity of man and heaven, synergy among 1st, 2nd and 3rd levels".

GCP, GPS and CSM system: customers can learn the working conditions & key work parameters through SANY's global portal and realize remote supervision. The system also supports parts and service search, providing convenient all-round equipment supervision.

