

 **SANY MARINE HEAVY
INDUSTRY CO., LTD.**

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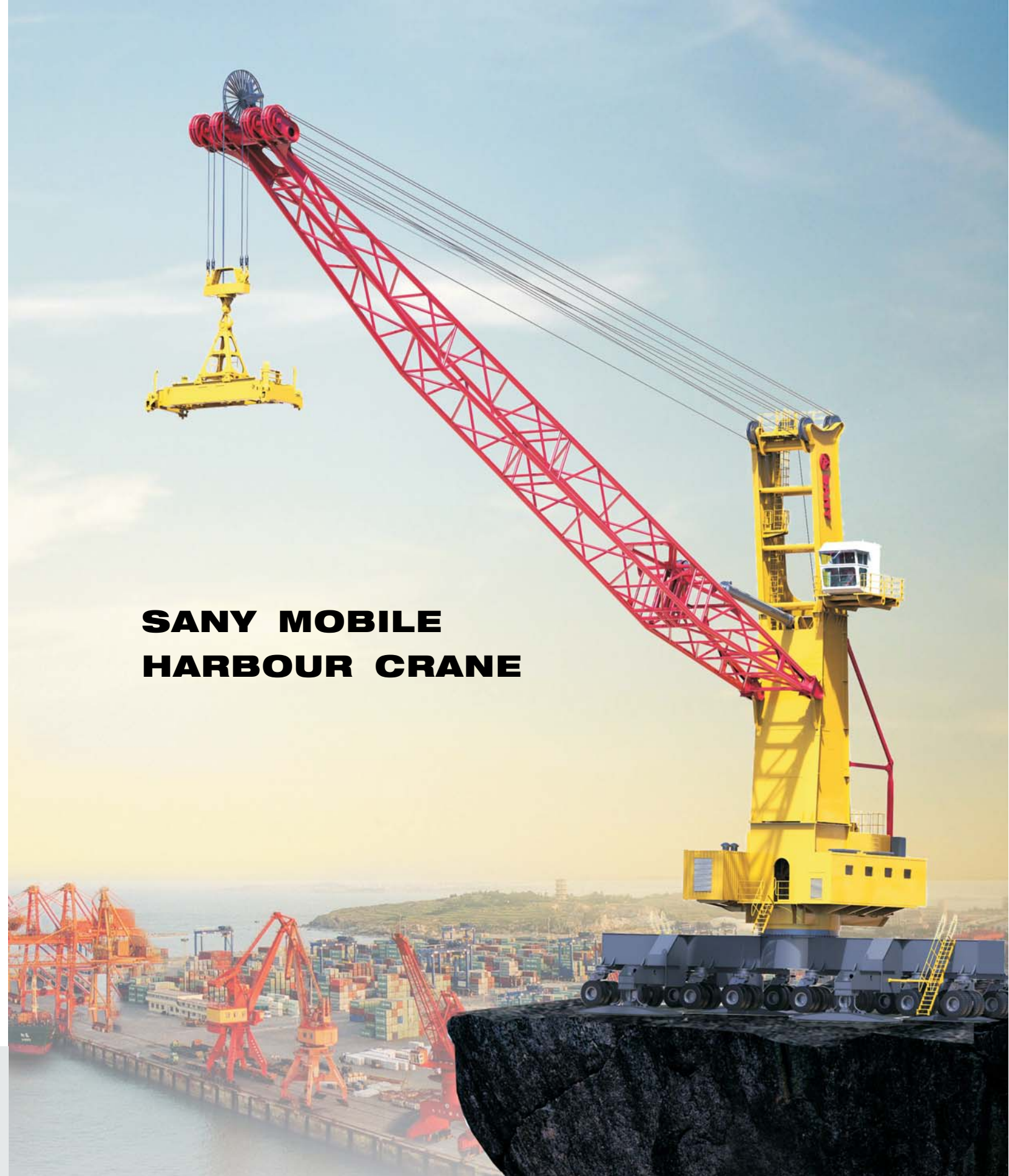


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Designed and made by R&D institute of SANY Marine Heavy Industry in May 2015

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SANY[®]



**SANY MOBILE
HARBOUR CRANE**



ENTERPRISE OVERVIEW

SANY Group was established in the year of 1989 with more than 40,000 employees worldwide. Now the Shanghai, Beijing, Shenyang, Kunshan, Changsha, Wulumuqi industrial park have been established, and we have India, America, Germany and Brazil R&D and manufacturing base with products covering over 100 countries and regions worldwide.

SANY Marine Heavy Industry is the subsidiary of SANY International, with the support of the Guangdong government, SANY Marine Heavy Industry Co., Ltd is now located on the west shore of Zhujiang River with a manufacturing base of 6000 acres and a 3.5km offshore line with many berths. Its target is to become one modern transportation and marine equipment industrial park with estimated sales turnover of 30 billion RMB. The first phase with an area of 800 mu had been finished and started to manufacture since May 2015 and the products include port machinery, Engineering ships, Ocean Equipment. Currently we have reach stacker, container handler, forklift truck, tire crane, Ship-to-shore crane, RMG, RTG, Jib Crane, MHC and so on, altogether 16 big series and 150 types of products. In the future, a list of national big strategical equipments will be manufactured here. SANY Marine Heavy Industry will insist on persistent innovation, focusing more on green energy, digitalization and intelligence. SANY Marine Heavy Industry will keep the pace, focus on energy saving and automation, and promote "automation technology in harbor and port, engineering equipment on deck and energy equipment over ocean". It is our mission to provide the best quality products and service so as to contribute greater to the beautiful home of mankind.



CATALOGUE



IMAGE TODAY

The fresh and startling designs made by the new advertising artist are undoubtedly the best ones the company has produced in the past five years.

GLOBAL_NETWORK

06/07 PRODUCT CHARACTERISTIC

08/09 MODULAR DESIGN

10/11 CORE TECHNOLOGY

12/13 TECHNICAL DATA

14/15 ADVANCED IN MANUFACTURING

16/17 WORRY-FREE SERVICE



**PRODUCT
CHARACTERISTIC**

SANY Technology, World Quality
MOBILE HARBOUR CRANE

- 1 Comprehensive Functions**
Optional Hook Grab And Spreader
- 2 extremely excellent mobility**
independent driving wheels, excellent antiskid ability, braking system ensure the safety ,in-situ steering and lateral moving, driving speed go up to 5.4km/h, easy on site transfer.
- 3 Excellent Controllability**
Moveable Driving Room, Broad View Of Work Condition, Operates Faster And More Efficiently.
- 4 Reliable**
Adopt intelligent control technology, excellent quality assured, it can achieve safe and worry-free operation.
- 5 Meeting Different Requirements**
the longest boom is 58m, the load is 210t, sufficiently meeting different requirements.

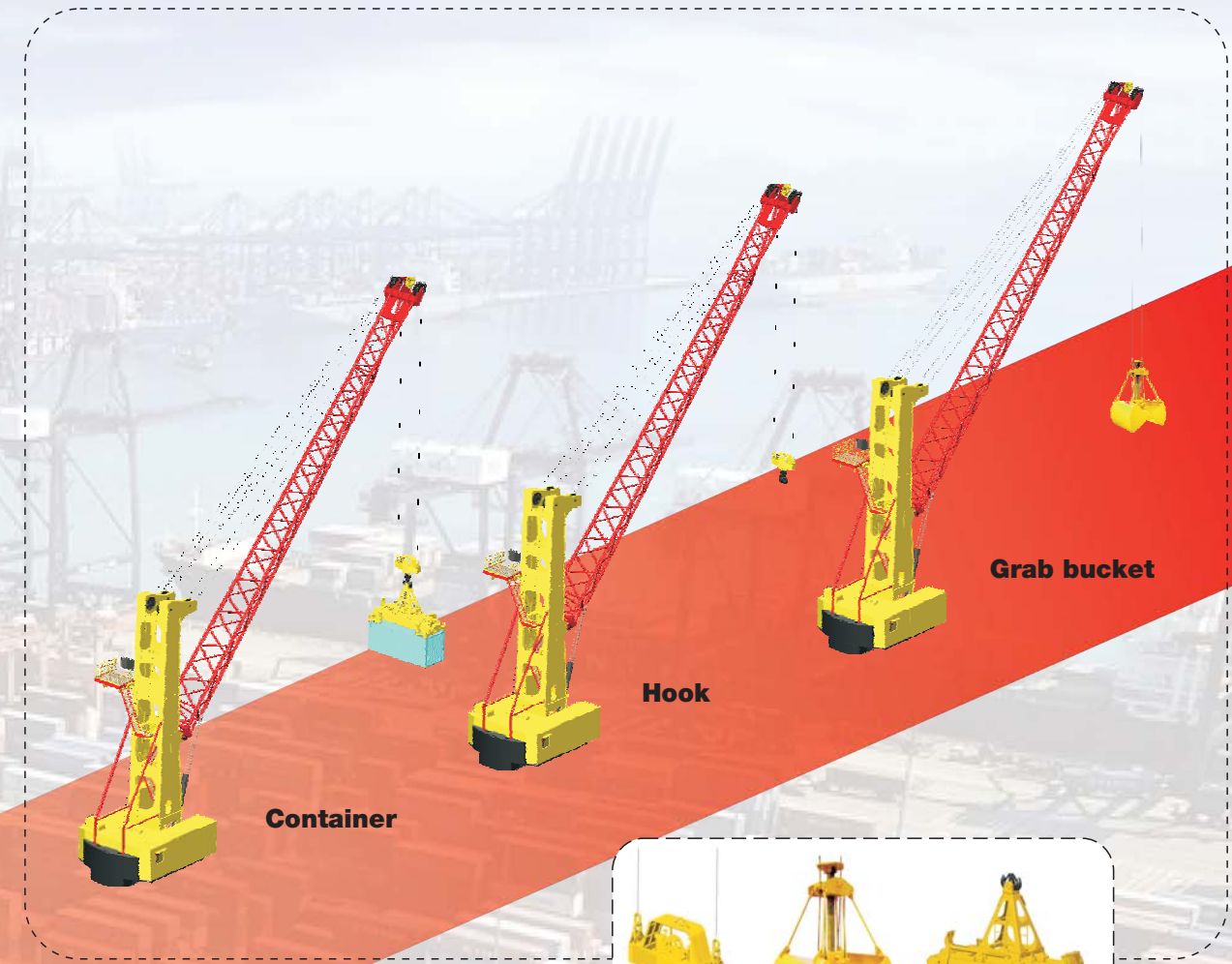
MODULAR DESIGN

Sany MHC is with modular design, it can be easily equipped with different chassis, spreader type, according to clients requirement. Sany MHC can be applied to various fields, include applied on the vessel.

1 Chassis type: Used by hydraulic driving chassis to make it move steady; the wheels steer with independent cylinder, hydraulic suspension, which can rotated and moves on the diagonal direction, it could be operated on the storage yard and quayside without limited.

3 Stationary type: Applied to working condition like working position is stable in long-term or stationary rail area working with simple structure and easily maintenance.

2 Rail-mounted type: Portal frame size can be customized according to client needs, belt conveyor, truck-way can be designed according to different working situation under the portal frame. As it worked in terms of rail way, it usually has higher working efficiency. The tyre type mobile harbour crane can be also offered.



- **Container**
- **Hook**
- **Grab bucket**

Applied for four types:
 Bulk cargo (coal, ore, grain, etc.)
 Container
 General cargo (Iron & steel, log, kit group etc.)
 Heavy & huge cargo(Fans, ships and large equipment,etc)

Market positioning:
 Supporting small and medium-sized port building
 Traditional yard crane upgrade.
 Cargo lightering

CORE TECHNOLOGY



1 Spreader slew automatically following

Real-time control the spreader through tracking the trajectory and speed of every mechanism and using intelligent compensation algorithm, to maintain a constant angle between the cargo and shoreline or cab. Greatly improved the efficiency of cargo handling.

2 Movable cab

Automatically adjust the front and back position, which is more convenient for the operator to observe working site and can reduce fatigue and improve working efficiency.

3 Hydraulic suspension unit all-wheel independent steering

All driven by hydraulic, 5 kinds of steering modes, $\pm 250\text{mm}$ automatic compensation. Set the parking brake and antiskid system, more secure, and better throughput capacity.

4 Energy recycling and saving system

Optional equipped with lithium battery, the energy released when the heavy cargo down will be recycled to lithium battery, and the energy recycled will release when lifting, save fuel and cost savings.



Spreader equipment

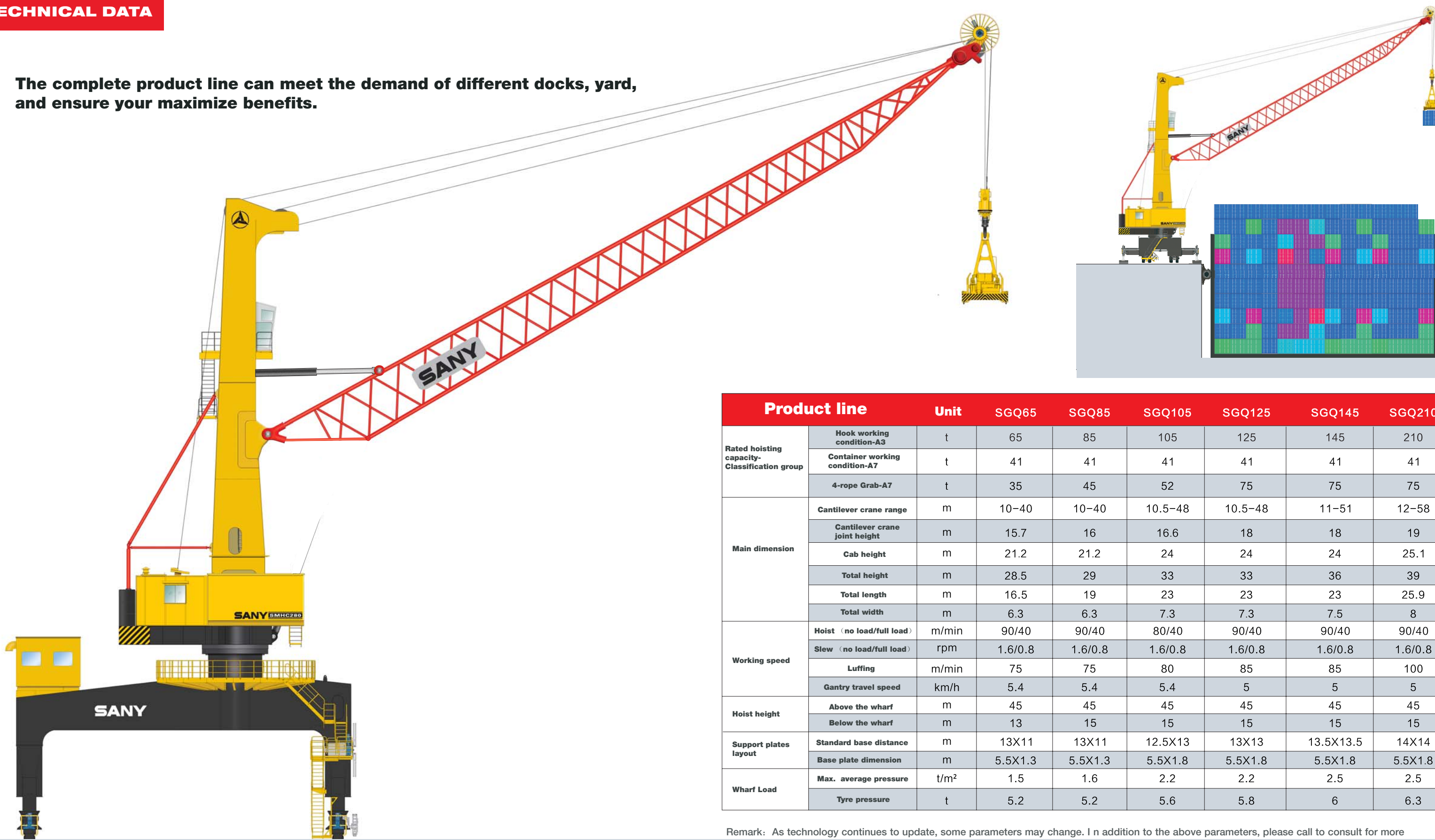


Movable cab

Hydraulic suspension unit
all-wheel independent steeringEnergy recycling and
saving system

TECHNICAL DATA

The complete product line can meet the demand of different docks, yard, and ensure your maximize benefits.



Product line		Unit	SGQ65	SGQ85	SGQ105	SGQ125	SGQ145	SGQ210
Rated hoisting capacity- Classification group	Hook working condition-A3	t	65	85	105	125	145	210
	Container working condition-A7	t	41	41	41	41	41	41
	4-rope Grab-A7	t	35	45	52	75	75	75
Main dimension	Cantilever crane range	m	10-40	10-40	10.5-48	10.5-48	11-51	12-58
	Cantilever crane joint height	m	15.7	16	16.6	18	18	19
	Cab height	m	21.2	21.2	24	24	24	25.1
	Total height	m	28.5	29	33	33	36	39
	Total length	m	16.5	19	23	23	23	25.9
	Total width	m	6.3	6.3	7.3	7.3	7.5	8
Working speed	Hoist (no load/full load)	m/min	90/40	90/40	80/40	90/40	90/40	90/40
	Slew (no load/full load)	rpm	1.6/0.8	1.6/0.8	1.6/0.8	1.6/0.8	1.6/0.8	1.6/0.8
	Luffing	m/min	75	75	80	85	85	100
	Gantry travel speed	km/h	5.4	5.4	5.4	5	5	5
Hoist height	Above the wharf	m	45	45	45	45	45	45
	Below the wharf	m	13	15	15	15	15	15
Support plates layout	Standard base distance	m	13X11	13X11	12.5X13	13X13	13.5X13.5	14X14
	Base plate dimension	m	5.5X1.3	5.5X1.3	5.5X1.8	5.5X1.8	5.5X1.8	5.5X1.8
Wharf Load	Max. average pressure	t/m ²	1.5	1.6	2.2	2.2	2.5	2.5
	Tyre pressure	t	5.2	5.2	5.6	5.8	6	6.3

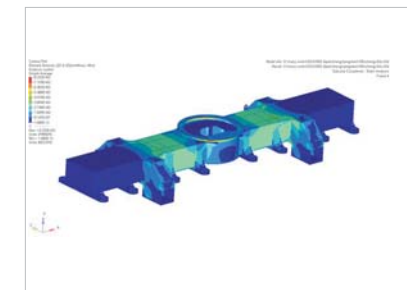
Remark: As technology continues to update, some parameters may change. In addition to the above parameters, please call to consult for more

ADVANCED IN MANUFACTURING



1 First-class design platform

Combining digital prototype design system with EB electrical system, through the parameterized design, to shorten the design cycle; using professional tools on the finite element analysis, the kinematics and dynamics simulation analysis, the simulation of experiment and assembly process, to ensure the products with excellent quality.

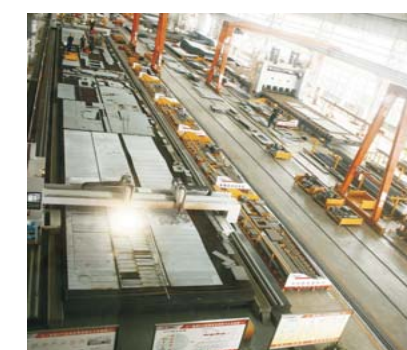


2 Advanced manufacturing technology

Structural component are designed according to American AWS welding standard. With laser automatic tracking pulse welding technology, each weld is inspected strictly to ensure the reliability of the welding process.



By using high precision CNC horizontal boring and milling machining center, precision machining of various articulated holes, to ensure the precision and service life of mechanical parts.



With Swedish industrial anti-corrosion standards SIS, advanced coating equipment and technology, to ensure the crane will not be corroded when using.

The machine can be shipped as a whole, which reduces time of field assembly, also greatly guarantee the assembly quality, shorten the delivering time, and reduced the inconvenience from field lifting.



3 Strict detection system

With high sense of responsibility, rigorous scientific spirit, through repeated harsh judgment performance and quality testing, that's how we professional test team guarantee the quality of our products. The test includes fatigue, vibration, manipulation and energy consumption. The parameter includes stress strain, stress, displacement, velocity, acceleration, torque, power, etc. Only from strict standards and accurate data, can ensure each device we sell meeting the design requirements and user's demand.

WORRY-FREE 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 2 hours 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: in the current day 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.



