



QUALITY CHANGES THE WORLD

SY215E

Rated power: 150kW/1800rpm

Operating Weight: 22000kg

Bucket capacity: 0.8-1.2m³



Sany Heavy Machinery official WeChat



Sany Heavy Machine Vibrato number

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This manual as far as possible in the existing information to achieve comprehensive and detailed, taking into account the continuous progress of Sany Heavy Machinery Co., Ltd. technology progress and update at any time to modify and adjust the product technical parameters, configuration and other information, so this product manual is only for reference, the appearance, configuration, technical parameters of the specific model to the actual model sold by the agent shall prevail.

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Intelligent Pure Electric The Value Choice



SY215E is a new 21-ton electric earth-moving excavator manufactured by Sany Heavy Machinery, Designed for earth-moving working conditions with stone, Suitable for tunnel construction, steel mills, municipal engineering and other work scenarios, Energy saving and environmental protection to improve customer return on investment as the goal.



Fully Electric Control System

Full electric control system, Good operation performance, Low energy consumption



Large Capacity Battery

Large capacity battery, Reduce charging frequency, Long battery life



High Power motor

High-power customized permanent magnet synchronous motor, Safe and Reliable, High efficiency



Integrated type controller

Custom all in one inherited controller, Small size, Complete function



Integrated Type Controller

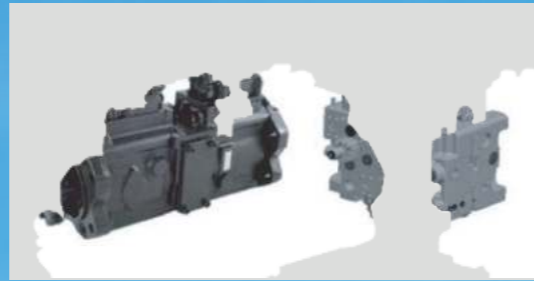
Configuration of customized multi-one inherited controller, using a high degree of circuit integration to achieve the electric drive MCU function, three-phase AC charging OBC function, low-voltage power supply DC/DC function, vehicle control VCU function, at the same time with the power precharge auxiliary function, small size, high integration



Energy-Efficient

With K7V125 main pump, using the new fourth generation hydraulic system (electronic positive flow system), displacement in the same tonnage of products in the performance, more compliant, sensitive, better coordination.

Sany main valve adopts Kawasaki developed products, new additions of the middle oil circuit cut-off, bucket rod 2 valve core electronic control and other functions, low pressure loss, low energy consumption.



High power motor

The customized permanent magnet synchronous motor has the advantages of high power density, high torque density, high efficiency, safety and reliability, and low energy consumption

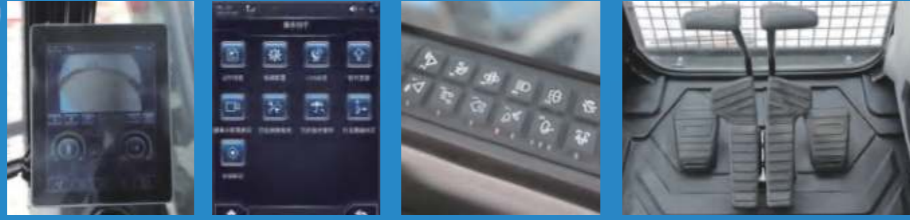


High Performance Battery

The 422KWh high-performance lithium-ion battery has the advantages of high power density, high protection level, long battery life, short charging time, safe and reliable, intelligent fault diagnosis and so on.

International first-class brand lithium ion standard battery pack, more than 10 years of designed service life, a charge can comprehensive battery life of 6-10h.





Brand new 10 hour color display

Integrated key panel, more convenient operation



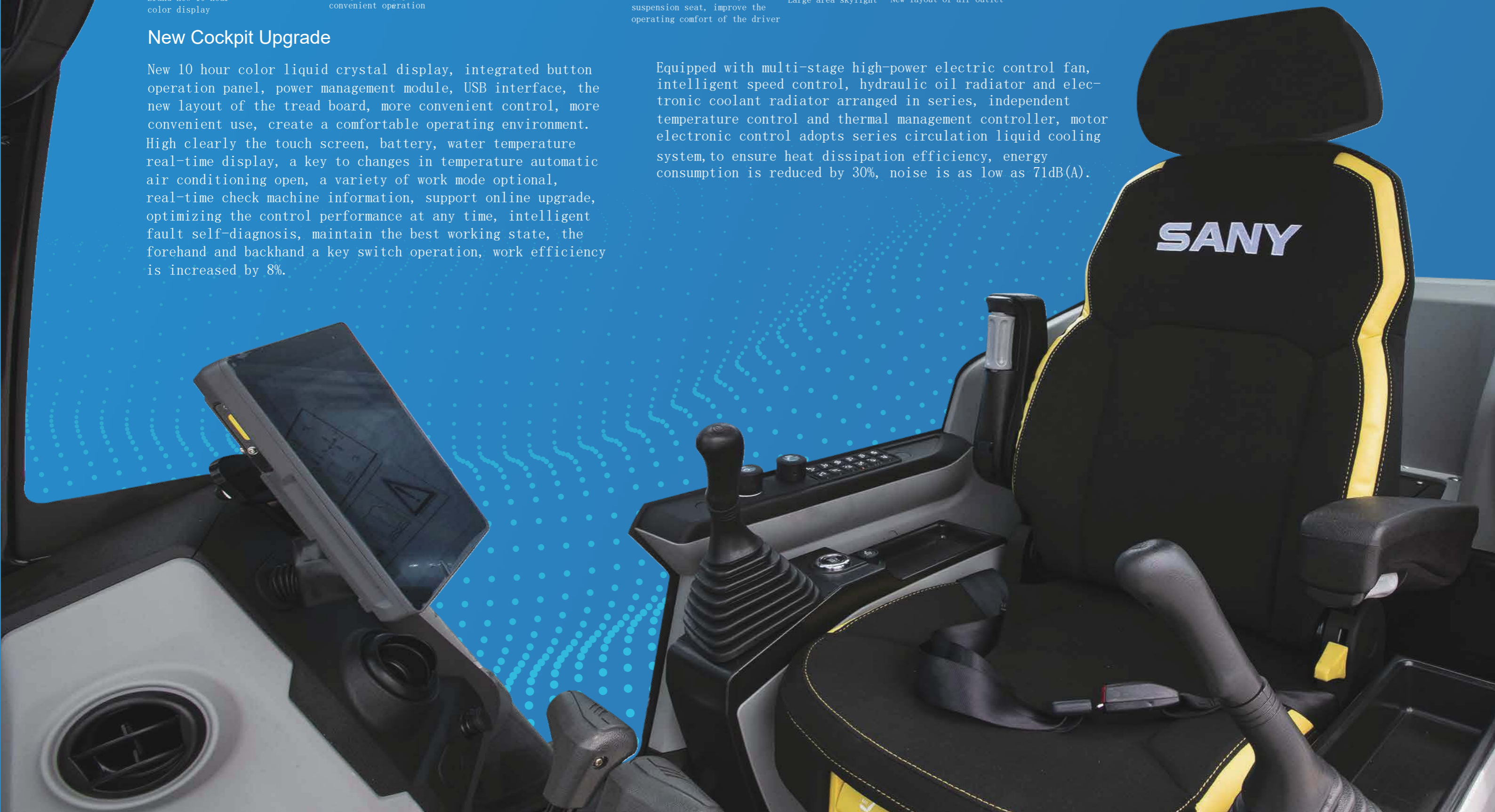
Multi-directional adjustable suspension seat, improve the operating comfort of the driver

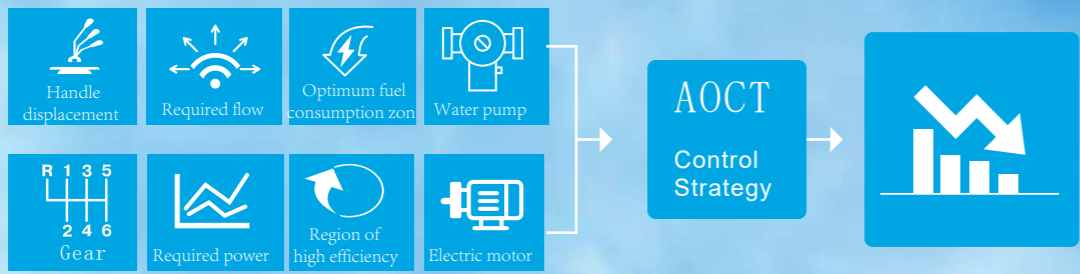
Large area skylight New layout of air outlet

New Cockpit Upgrade

New 10 hour color liquid crystal display, integrated button operation panel, power management module, USB interface, the new layout of the tread board, more convenient control, more convenient use, create a comfortable operating environment. High clearly the touch screen, battery, water temperature real-time display, a key to changes in temperature automatic air conditioning open, a variety of work mode optional, real-time check machine information, support online upgrade, optimizing the control performance at any time, intelligent fault self-diagnosis, maintain the best working state, the forehand and backhand a key switch operation, work efficiency is increased by 8%.

Equipped with multi-stage high-power electric control fan, intelligent speed control, hydraulic oil radiator and electronic coolant radiator arranged in series, independent temperature control and thermal management controller, motor electronic control adopts series circulation liquid cooling system, to ensure heat dissipation efficiency, energy consumption is reduced by 30%, noise is as low as 71dB(A).





Advanced energy saving technology

Precise confluence control :The electric control of the bucket rod realizes the separate control of each pump power during the compound action, and accurately meets the flow required by the action.

Return oil throttle control: When the bucket rod is withdrawn, the return oil of the cylinder rod cavity is returned to the tank through an independent spool to reduce the back pressure.

Bypass cutoff control: Bypass cut off the spool in advance to close the multi-way valve center oil circuit, so that the pump flow fully into the cylinder work.

AOCT self-optimization control technology

Using static optimization + dynamic optimization, the motor and the main pump are matched according to the load in real time.

The motor always works in the best energy consumption area, and the main pump works in the high efficiency area, which greatly reduces the operating cost.

Control core in the re-adjustment of the algorithm, pump power individual control, master control valve optimization control, comprehensive control of motor, pump, master valve three core technology algorithm and strategy.

5 operating modes and the corresponding gear requirements of each working condition

- H Corresponding to heavy load conditions,highlighting the work efficiency.
- S Corresponding to the general working conditions, the efficiencyand energy consumption are balanced;
- L Corresponding to light load conditions, moderate efficiency, low energy consumption;
- E Corresponding to the economic model, low energy consumption, efficiency is also low;
- B Corresponding to crushing hammer working condition;



Calculated by 3000H per year
Annual savings about 160000 yuan



Advanced electronically controlled hydraulic system

- 01 The main spool is fully electronically controlled. The main valve spool all realize electronic control, control is more flexible, human-machine interaction is more friendly.
- 02 High performance controller. Match high performance controller, optimize control algorithm.
- 03 System safety protection. Add such as abnormal alarm/ emergency stop/ start diagnosis, and redundant control safety functions when the system is abnormal to ensure man-machine safety.
- 04 Electrical proportional control technology. The electronic control parameters respond quickly, traffic is redistributed through the upgrade program.

Durable structural parts

Using load adaptive technology, large bucket capacity, bucket optimization, the amount of work increased by 14%, the energy consumption is basically unchanged. LMS multi-body dynamics software is used to analyze the measured motion parameters of the cylinder, optimize the bucket type, reduce the digging resistance and unloading resistance, and greatly improve the operation efficiency.

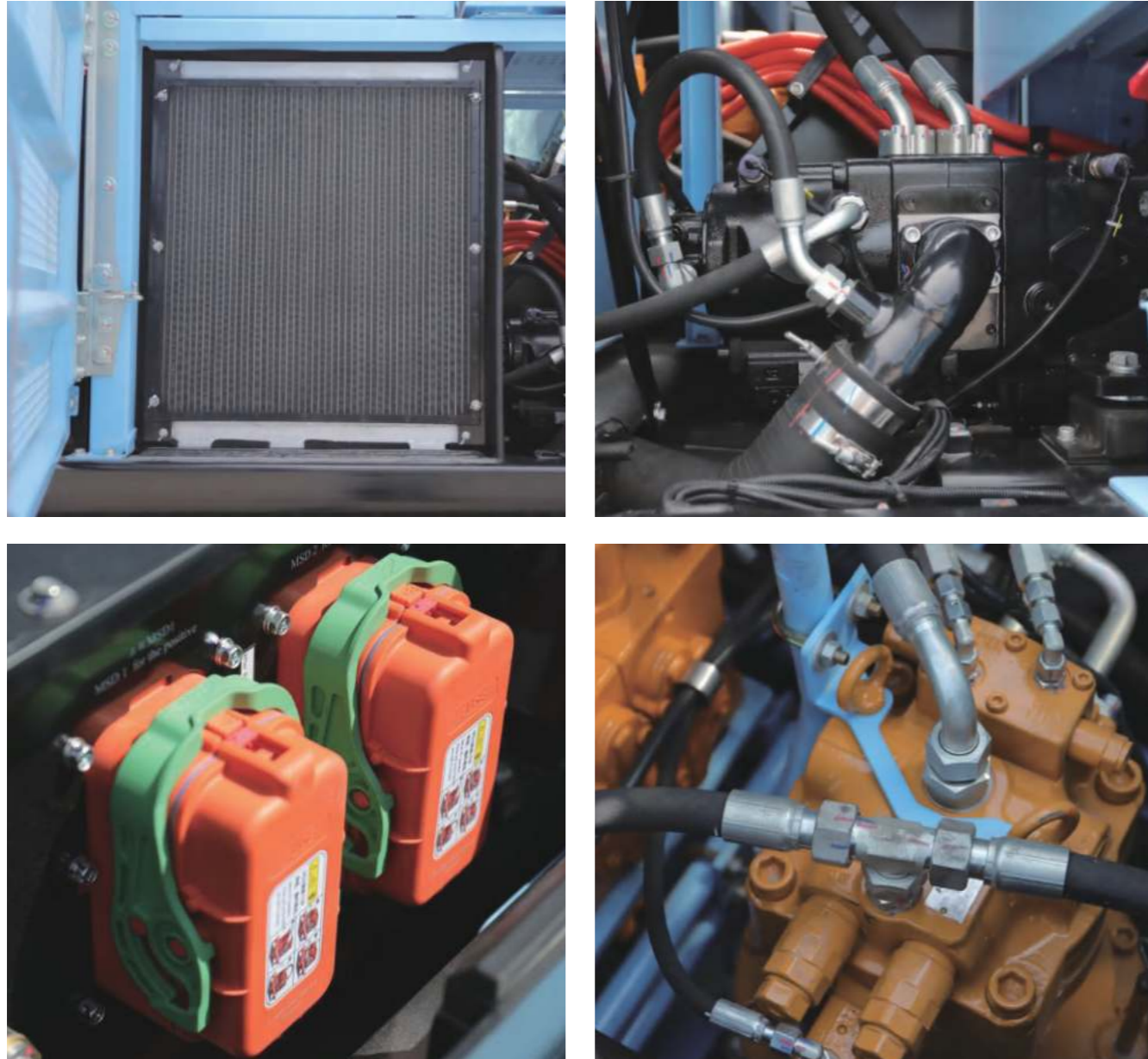


Intelligent monitoring of charging status
Optional high power split type, one type DC quick filling pile.
Charge time is less than or equal to 1.5 hours



Standard with 2 GB ports support DC fast charge

Maintenance and service
















Maintenance

For harsh working conditions, strengthen the maintenance parts replacement convenience design, large space is easy to start, a variety of maintenance parts replacement operation space increased by 20%-30%, worry-free operation.

No worries after sale

The national agents and the five regional agents in the world provide a strong guarantee for Sany's after-sales service, and the commitment of "5231", "110" and "111" continues for the global service.

 <p>Service 3.0 "5231" A lifetime of worry free</p>	 <p>Service "110" Satisfied with China trip</p>	 <p>Service "111" Comprehensive and thoughtful</p>
 <p>FIVE fold Regeneration replacement of heavy parts can save up to 50%</p>	 <p>ONE 151 process standards Customer problems are at your fingertips</p>	 <p>ONE Advance equipment: Single device service resources, higher than the industry standard</p>
 <p>TWO fill 24 hours warranty, 12 hours compensation desk</p>	 <p>ONE The service radius is less than 100 km</p>	 <p>ONE One press through: One phone call from you, and I'll do it all</p>
 <p>THREE protect 3 years warranty, large digging machine over 15 tons Extended warranty to 3 years /10000 hours</p>	 <p>ZERO Spare parts service zero distance</p>	 <p>ONE One-on-one exclusive service: One-on-one exclusive and exclusive service</p>
 <p>ONE send Service charge within 10000 hours 12 times free inspection within 20000 hours</p>		

Yi Wei Xun

Sany electric digging is equipped with self-developed "Yi Wei Xun" system, build an intelligent construction management system, lower management costs, mobile phone through Yi Wei Xun APP can be controlled with one click, check the status of the machine, online appointment of various services.



Sany subscription number QR code

Production R&D system



Sany Heavy Machinery Global R&D Center

Standard configuration

Three-electric system	Cab	Lower part walking
Lithium-ion battery pack ●	Soundproofing steel cab ●	Travel parking brakes ●
Permanent magnet synchronous motor ●	Tempered light-coloured glass windows ●	Walking motor guardboard ●
Integrated controller ●	Silicone rubber shock absorbers ●	H-type track guide mechanism ●
The battery is self-heating ●	Openable roof and front enclosure upper windows and doors ●	Crawler hydraulic tensioner ●
High voltage interlock ●	Rear window emergency safety exit ●	Bolted drive wheels ●
Insulation testing ●	Wiper with washer (muted) ●	Carrier rollers and rollers ●
Intelligent troubleshooting ●	Suspension seat with adjustable armrests, adjustable tilt ●	Reinforced sprocket with slightly circumferential seal ●
Standard charging interface ●	AM-PM radio with digital clock (giveaway) ●	600mm three-ribbed track shoes ●
DC charging pile ○	Footrests, floor mats ●	Reinforced side pedals ●
	Speakers, mirrors ●	Bottom cover ●
	Safety belts, fire extinguishers (free) ●	
	Drinking cup holder, compartment lamp ●	
	Ashtray, escape hammer ●	
	Storage boxes, grocery bags ●	
	First to control the cutting rod ●	
	Fully automatic air conditioning ●	
	Sun shield ●	
	One-click start-up ●	
	10 hours smart touch big screen ●	
	Bluetooth ●	
	Multi-function panel ●	
	Front protective net ○	

● Indicates standard
○ Indicates an option



Complete R&D test system

Complete R & D test system is a strong backing for excellent performance, complete function of the whole machine durability test center, each excavator must undergo more than 1500 hours of field excavation tests.

Off-duty components such as work devices, cabs, and hydraulic components must undergo more than 300,000 fatigue tests.



Advanced manufacturing technology

Advanced manufacturing technology is a reliable guarantee for creating excellent products. Sany has RGV assembly line and fully automatic welding robot, high precision machining equipment and precision machining center. Sany manufacturing and assembly production line won the 2013 national five-star site, 2014 national quality award and other awards.



Security certification

The SY215E cab adopts anti-rollover, anti-falling object structure design, and has obtained TOPS and FOPS safety certification.

Standard configuration

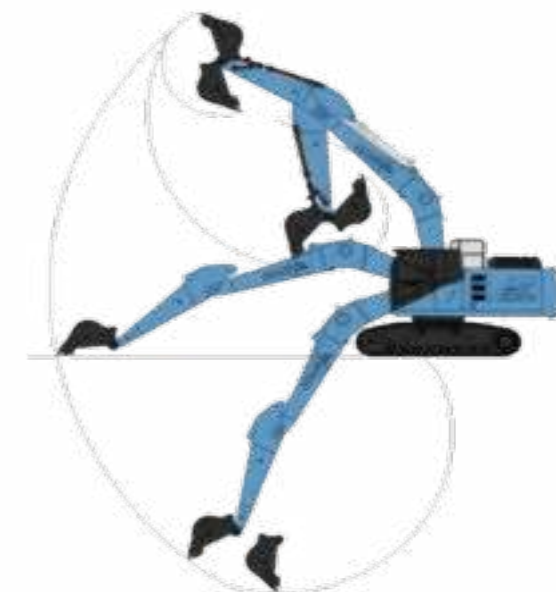
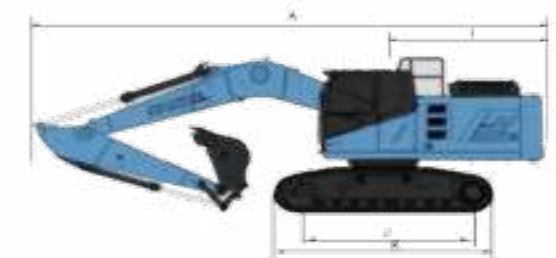
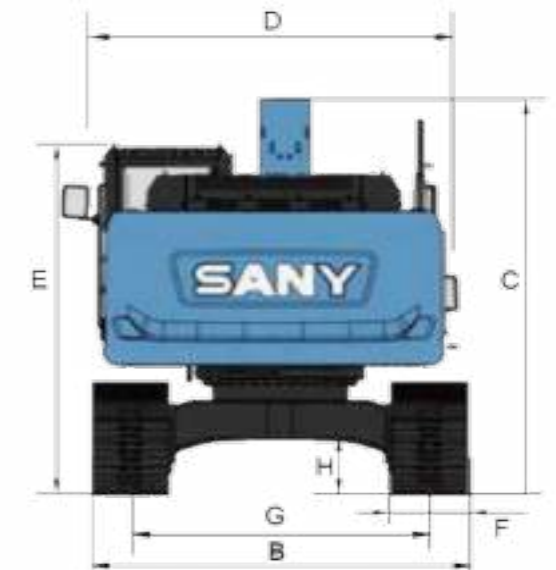
Hydraulic systems	Front-end working unit	Upper slewing platform
Operating mode selector switch	● Flange pin	● Hydraulic oil level gauge ●
Control valve with main relief valve	● Bucket clearance adjustment mechanism	● Slewing parking brakes ●
The control valve has a backup port	● Welded connecting rods	● Rearview mirror (right) ●
Suction filter	● Integrated lubrication system	●
Return oil filter	● All bucket pins are equipped with dust seals	●
Pilot filter	● Reinforced fully welded box boom	●
	Enhanced fully welded box sticks	●
Air conditioning system	Other	
Air conditioning and heating	● Standard battery	●
Integrated air conditioning control panel	● Lockable set-top cover	●
Fresh air intake system (new air change function)	● Anti-slip stickers, handrails and sidewalks	●
	A walking direction marker on the walking frame	●
	Manual butter gun	●

● Indicates standard ○ Indicates an option

Technical specifications

Overall length(mm)	SY215E
A. Overall width	9910
B. Overall width	2980
C. Total height (transport)	3440
D. Upper width	2875
E. Total height (cab top)	3075
F. Standard track shoe width	600
G. Rail gauge	2380
H. Minimum ground clearance	440
I. Tail rotation radius	3125
J. Track ground length	3445
K. Track length	4250

The scope of the job(mm)	SY215E
A. Maximum digging height	9600
B. Maximum unload height	6730
C. Maximum digging depth	6255
D. Maximum digging distance	10280
E. Minimum rotation radius	3730
F. The maximum height at the minimum swing radius	7680



Note: Due to the constant updating of technology, materials and technical specifications are subject to change without notice, and the machines shown in the photos may include additional equipment.