

Standard configuration

Engine

- Isolated mounted engine
- Dynamic hunting mode control
- Radiator (with full protective screening)
- Independent self-filtering circulating system
- 24V/7.0KW starter motor
- 60A alternator
- Oil-bath type air filter
- Dry type dual-element air filter
- Engine oil filter
- Three-stage fuel oil filter
- Engine oil cooler
- Radiator auxiliary water tank
- Fan aerofoil
- Automatic idling system
- Fuel filling pump and electronic pump

Hydraulic system

- Operating mode selector switch
- Control valve with main overflow valve
- Control valve with spare oil port
- Oil suction filter
- Return oil filter
- Pilot filter
- Oil drain filter

Slewing platform of superstructure

- Fuel oil level sensor
- Hydraulic oil level gauge
- Tool kit
- Slewing parking brake
- Rearview mirror (right)
- Rearview camera *
- Cab alarm lamp *

Cab

- Ultra-silence frame cab
- Reinforced light-color glass window
- Silicone oil rubber damper
- Openable top/front wall upper window and left side window
- Emergency exit on rear window
- Wiper (with washer)
- Multidirectional adjustable seat
- Radio (with digital clock)
- Foot rest and floor mat
- Loudspeaker and rearview mirror
- Seat belt and fire extinguisher
- Cup holder and compartment lamp
- Ashtray and escape hammer
- Storage box and sundries bag
- Pilot controlled cut-off lever
- Fully-automatic air conditioner
- Sun shade
- Emergency stop switch
- Falling object protect structure and front protective screening

Front-end working device

- Flange pin
- Bucket clearance adjuster
- Welded connecting rod
- Central lubricating system
- All bucket pins are equipped with dustproof seal ring
- Reinforced all-welded box-type boom
- Reinforced all-welded box-type bucket rod
- Anti-collision guard plate

Instruments of monitoring system

- 7" colored display screen
- Hour meter and fuel tank oil level gauge
- Engine coolant temperature gauge
- Engine oil pressure gauge

Traveling body of undercarriage

- Traveling parking brake
- Traveling motor guard plate
- H-shaped track guide mechanism
- Hydraulic tensioning device of tracks
- Bolted driving wheel
- Thrust wheel and carrier wheel
- Reinforced caterpillar track with pin shaft seal
- 600mm triple track shoes
- Reinforced side pedal
- Bottom cover plate

Alarm system

- Controller failure
- Pump pressure abnormal
- Pilot pressure of various movements abnormal
- Power supply voltage abnormal
- Starter motor relay abnormal
- Hydraulic oil temperature abnormal
- Engine oil pressure insufficient or engine coolant temperature too high
- Throttle rotary knob failure
- Fuel volume insufficient

Others

- High-capacity storage battery
- Lockable engine hood
- Lockable fuel filler cap
- Anti-slip pedal, armrest and sidewalk
- Traveling direction sign on traveling carriage
- Manual grease gun
- Motor-driven diesel pump



SY500H Hydraulic Excavator

Brand New Change

**KING OF MINING EQUIPMENT
ASSET OF GREAT VALUE**

Leading Innovation Splendid SANY

- **Rated power**
300kW/1800rpm
- **Operation weight**
49500kg
- **Bucket capacity**
2.2~3.1m³



* indicates optional configuration



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Note

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SY500H

Powerful Tool for Mine Value Leader

New-generation Super Hydraulic
Excavator for Mining



Selling points

SY500H is a new-generation 50T-level super hydraulic excavator product for mining produced by SANY Heavy Machinery. It is designed particularly for heavy-duty mining conditions and targets to improve customer's investment return. As compared with competitor brands, it has the advantages including "super excellent performance, super high adaptability, super long service life and super low maintenance cost".



Super excellent
performance



Super high
adaptability



Super long
service life

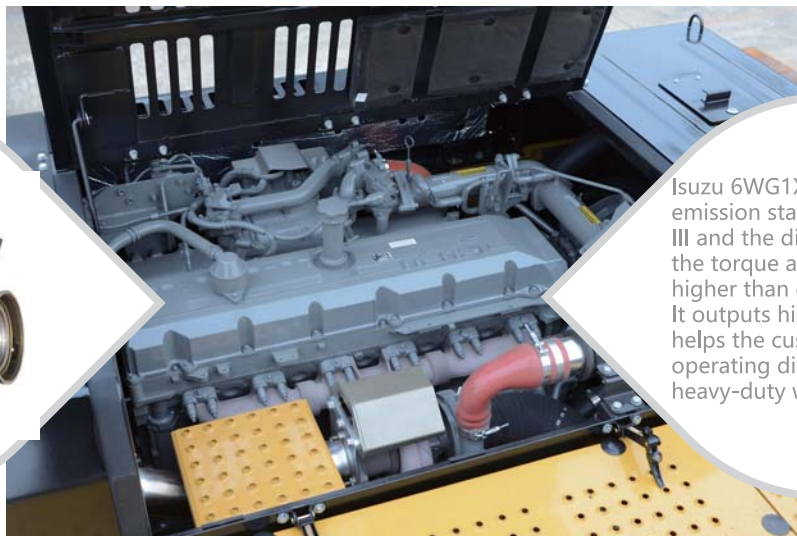
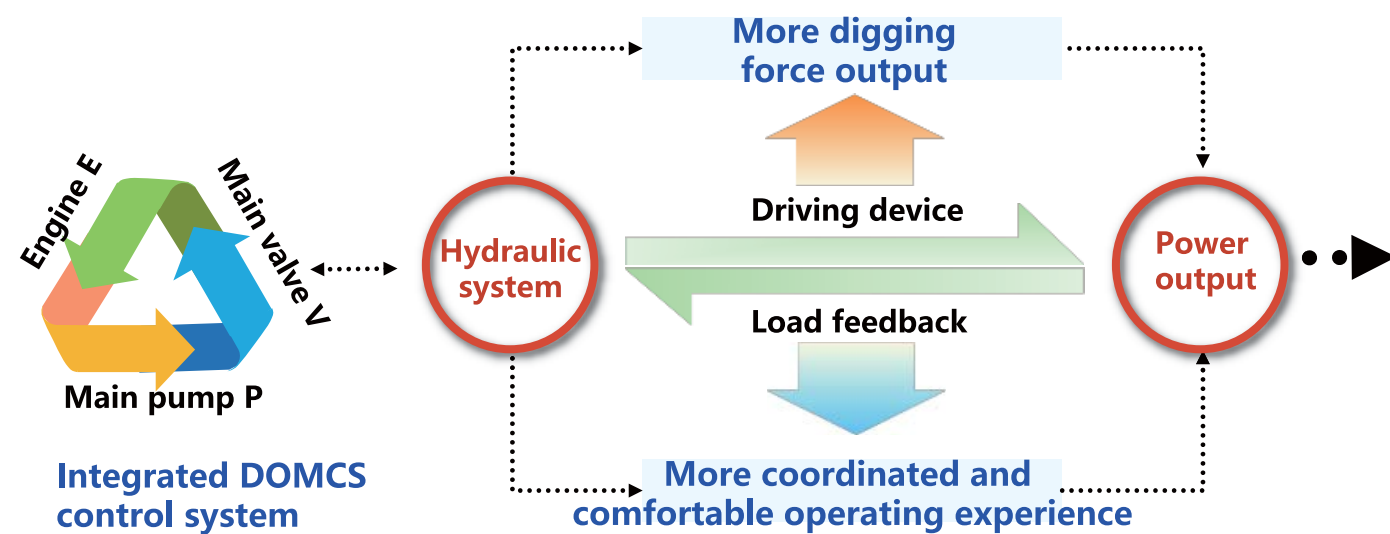


Super low
maintenance cost

Super excellent performance

o Efficient and low consumption

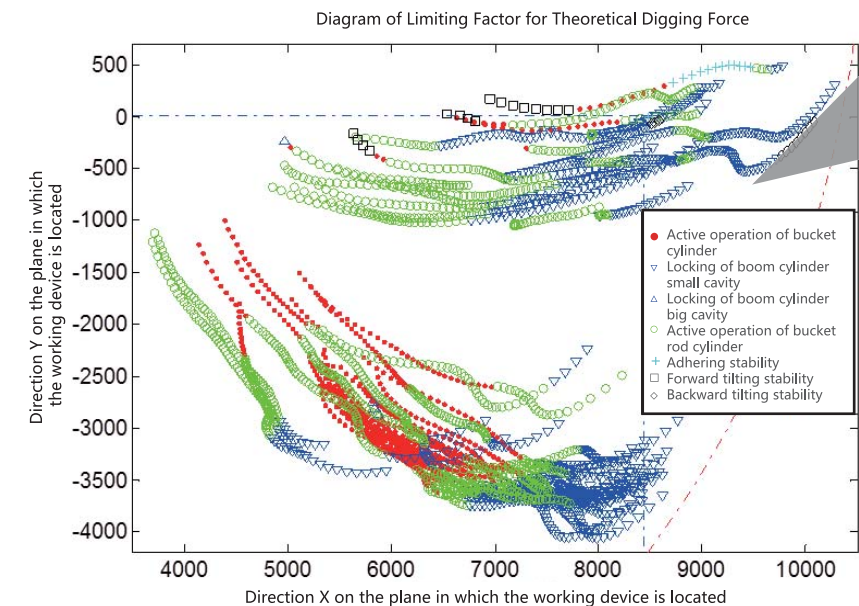
With "positive flow" system and "DOMCS" dynamic hunting intelligent matching control system developed independently by SANY, the efficiency and fuel consumption surpass competitor brands. The efficiency is 8% higher and the fuel consumption is 10% lower. The engine is exclusively for SANY, with strong power and high reliability. Thus, it can ensure the continuous operating stability in severe environment. As compared with foreign brands, it not only saves fuel but also works faster!



Isuzu 6WG1X engine meets emission standard of national III and the displacement and the torque are generally 20% higher than competitor brands. It outputs high power and helps the customer to solve the operating difficulties of heavy-duty working condition.

o Super high digging force

By way of regulating power in real time in digging process and atlas analysis of digging force under full working conditions, the digging force is given into full play, and the efficient area of digging force is improved by 40%.



Green curve in the diagram indicates that the digging efficiency is given into full play and blue curve indicates other digging efficiency. As shown in the diagram, the region in which the digging force of SY500H is given into full play reaches 90% and others only reach 50%.

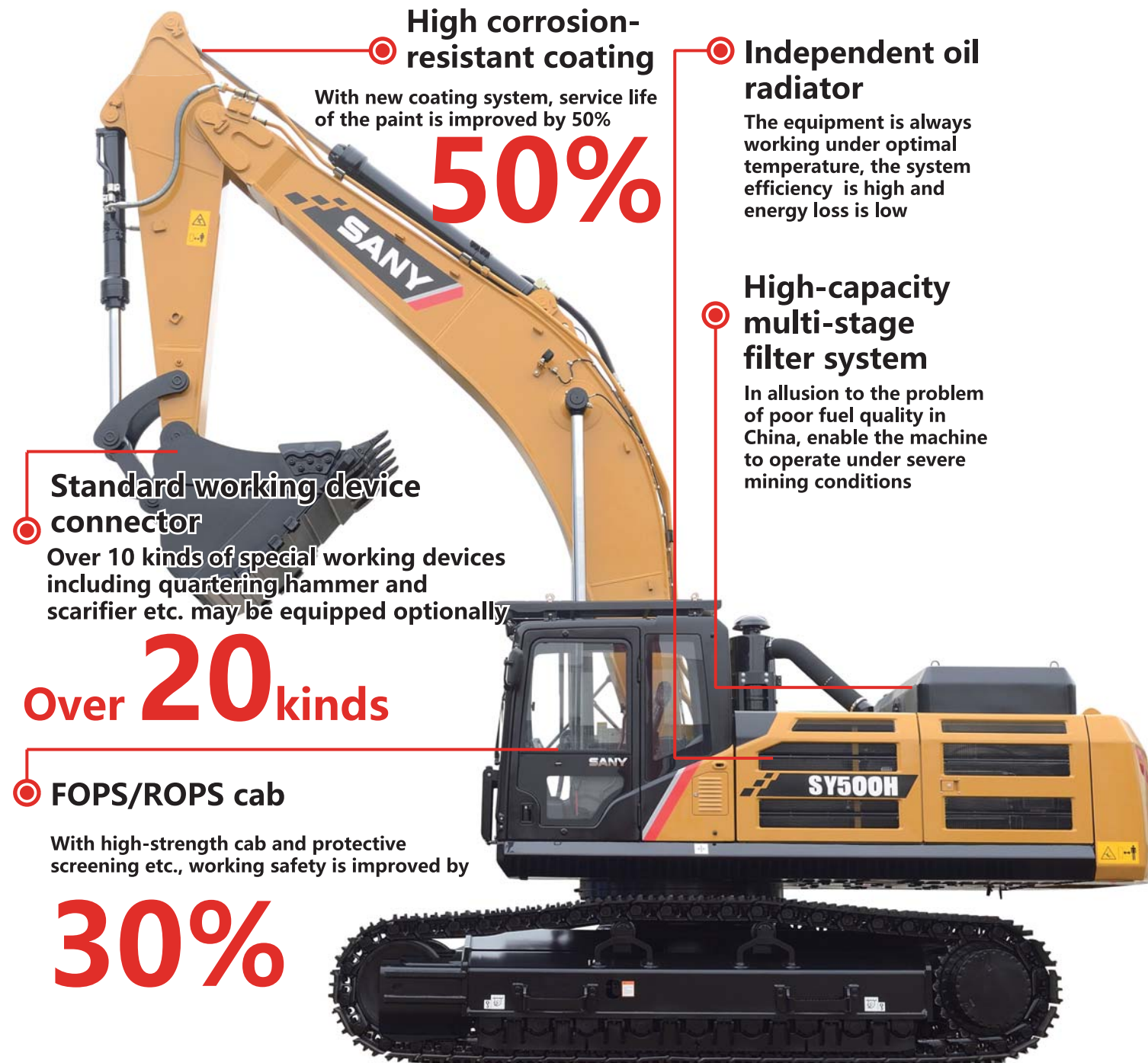
o Smooth controllability

With special handle, optimized valve core structure, regenerating channel and added intelligent interflow control etc. The pressure loss is reduced, operation coordination is improved and the equipment can be operated easily and smoothly.



Super high adaptability

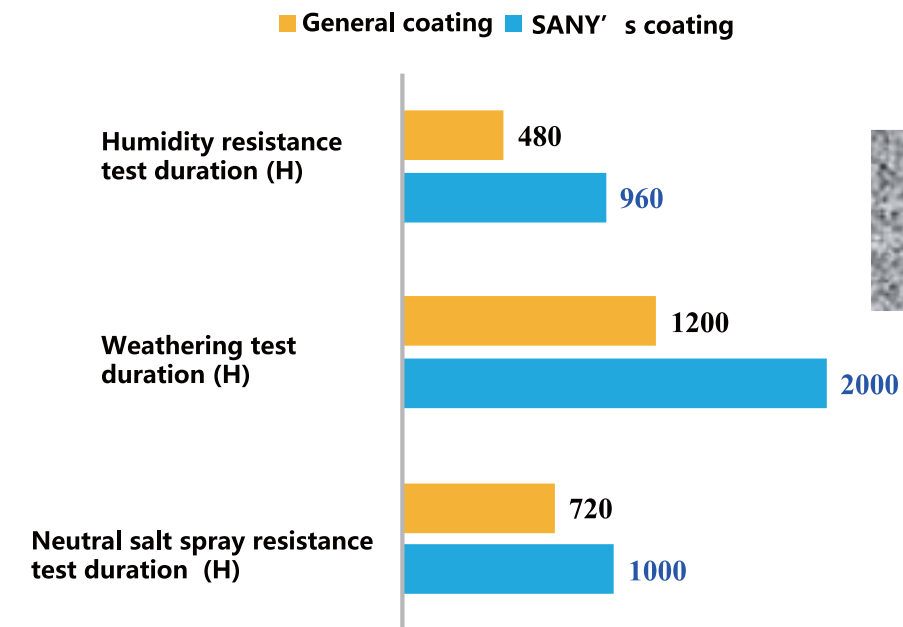
By improving safety and heat dissipation capability, and using efficient filter system and "high corrosion-resistant" coating, the adaptability of SY500H to the environment, working condition and oils is improved.



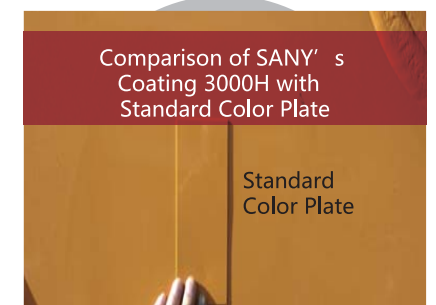
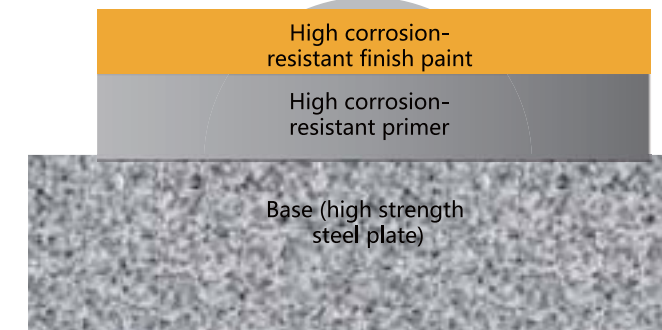
High corrosion-resistant coating

By cooperating with world known paint brands, aging life of the paint reaches the highest level in the industry. The adaptability is improved by 40%

Comparison of coating endurance test data



Coating distribution of SANY' s high corrosion-resistant paint

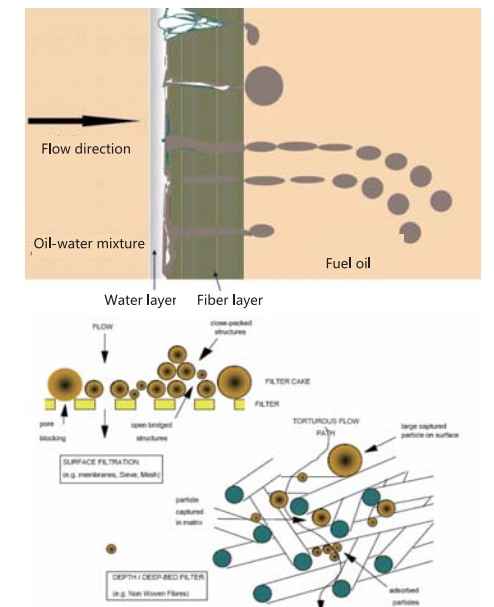


Large-capacity multi-stage filter system

Domestically initiative self-circulation "large-capacity multi-stage filter system" is launched in allusion various oils and meets emission requirements of national III standard. Provide top-level protection for the equipment!



Large-capacity multi-stage filter system



Large-capacity multi-stage filter principle

Independent oil radiator

Domestically initiative 50T independent oil radiator system is introduced. System operating temperature is 8-10°C lower than general excavator. The adaptability to high temperature environment is improved significantly. Service life of rubber parts is improved by 30%.

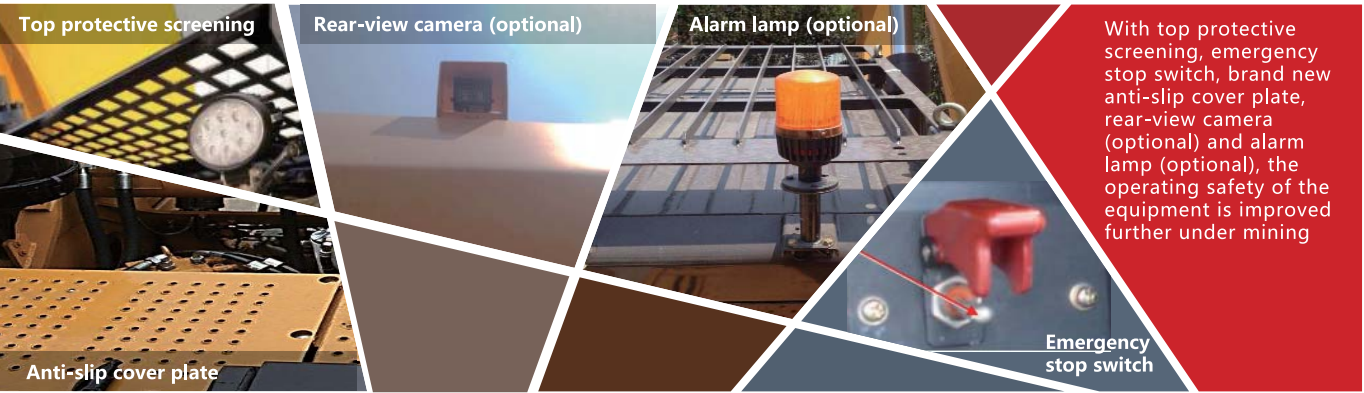


Safe & Comfortable

In allusion to mining conditions, FOPS/ROPS cab and newly developed dust control & noise reduction technology are used so that the safety is improved by 5 times as compared with general cab. The noise in the cab is reduced by 5kB and is much better than that of other brands.



FOPS/ROPS cab is used. Through finite element modal analysis, steel structure and sealing performance of the cab are optimized; its strength is 5 times of general cab, the safety performance is extremely high and meanwhile the cab noise is reduced by 3-5dB, which makes the operation more comfortable.



The machine serves several purposes

In allusion to individual demands of the customer, this product may match with over 20 kinds of working devices, and various modified products to improve earning power of the customer.

Configuration Table of Working Devices of SY500H Excavator

Model	SY500H (short boom)		SY500H				SY500LH (over-length boom)	Bucket capacity m³
Boom	6.55m		7m				10.5m	
Bucket rod	2.5m	3m	2.5m	3m	3.35m	3.9m	7.5m	
Configuration situation	●	●	●	●	■	◆	-	○2.2
	■	■	■	■	◆	▲	-	△2.5
	◆	▲	◆	▲	-	-	-	□2.9
	▲	-	▲	-	-	-	-	□3.1
	-	-	-	-	-	-	▲	□1.0
	●						-	Scarifier
Maximum material density (kg/m3): ●≤2000; ■≤1800;◆≤1500; ▲≤1200; -Unavailable Classification of bucket by use: ○: bucket for heavy-duty stonework; △: bucket for stonework; □: bucket for earthwork; The configuration marked in orange is standard configuration of SY500H								

Example of special working device of SY500



Super long service life

Through the accumulation over 15 years, service life of SY500H exceeds 20,000h under mining conditions, is 20% higher than general excavator and surpasses competitor brands with the help of initiative "three-dimensional" design test system for large-scale excavator.

Five major structural members

As compared with the product of previous generation, the service life of key structural members like boom, bucket rod, bucket, platform and undercarriage etc. is doubled

Hydraulic system

Delivery cleanliness of hydraulic system reaches NAS7 and is not only higher than competitor brands but also higher than industrial standard

Core parts

Core parts like main pump, main valve, oil cylinder and retarder etc. guarantee super long life



Key structural members

With most advanced international methods including optimization design of structural members, stress test, research of welds and plates, endurance test, 100% UT detection for key components and fatigue test for two axles, the service life of key structural members is improved comprehensively



The boom adopts box-type structure with higher strength and is made of high-strength steel plates through advanced welding and molding process. The service life under mining conditions is four times of general boom.



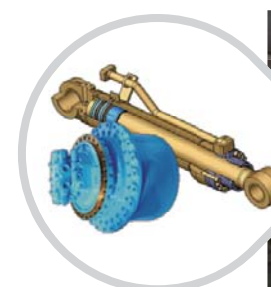
Bucket rod adopts bottom plate reinforcing bars and forging front support etc. As compared with competitor brands, the stress on main loading point is 30% lower, and the service life is 30% higher under mining conditions

In allusion to the positions with concentrated stress such as oil cylinder connections and boom root etc. special welding process and protection structure are used. The stress on loading point is 20% lower than the competitor.

Dedicated heavy-duty four-wheel & one-belt is used, and the service life is doubled. The guard plate is upgraded to multi-stage guard plate so that the service life is improved by 100%.

Core parts

Relying on the only endurance test system for excavator parts in China, and through joint research with world famous research institutions, the research on service life of the parts is carried out for improving the service life of core parts comprehensively. The service life of components including pump, valve, oil cylinder, retarder, fuel tank and cab etc. is doubled.



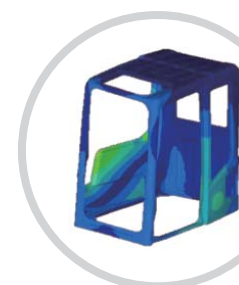
Hydraulic components like oil cylinder and retarder etc. must be subjected to impulse test according to the requirements higher than industrial standard. They can be put into operation only after reaching the requirements. Through this process, the service life of the components is 30% higher than that of general brands.

Oil cylinder impulse test bed

Pump- valve test bed



With pump-valve endurance test bed, the service life of main pump and main valve are tested and analyzed. In combination with research achievements of long-life parts of the customer, the service life of the pumps and the valves is improved by 1 time



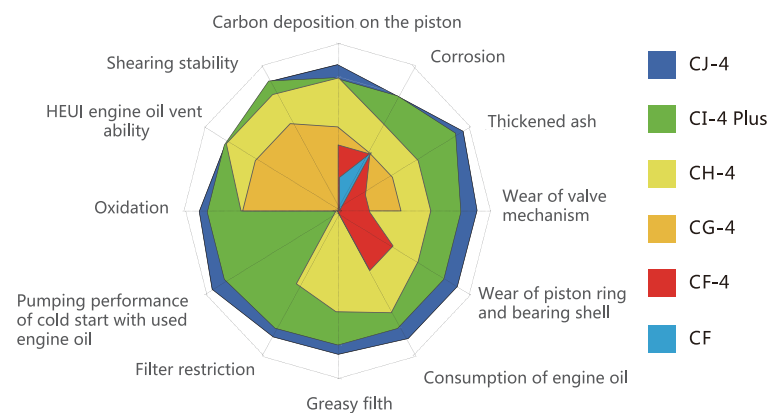
With vibration test bench and test bed, fuel tank and the cab has been tested by over hundreds of thousands of times on aspect of the vibration to improve the service life of the component by 50%.

Vibration test bench and test bed

Super low maintenance cost

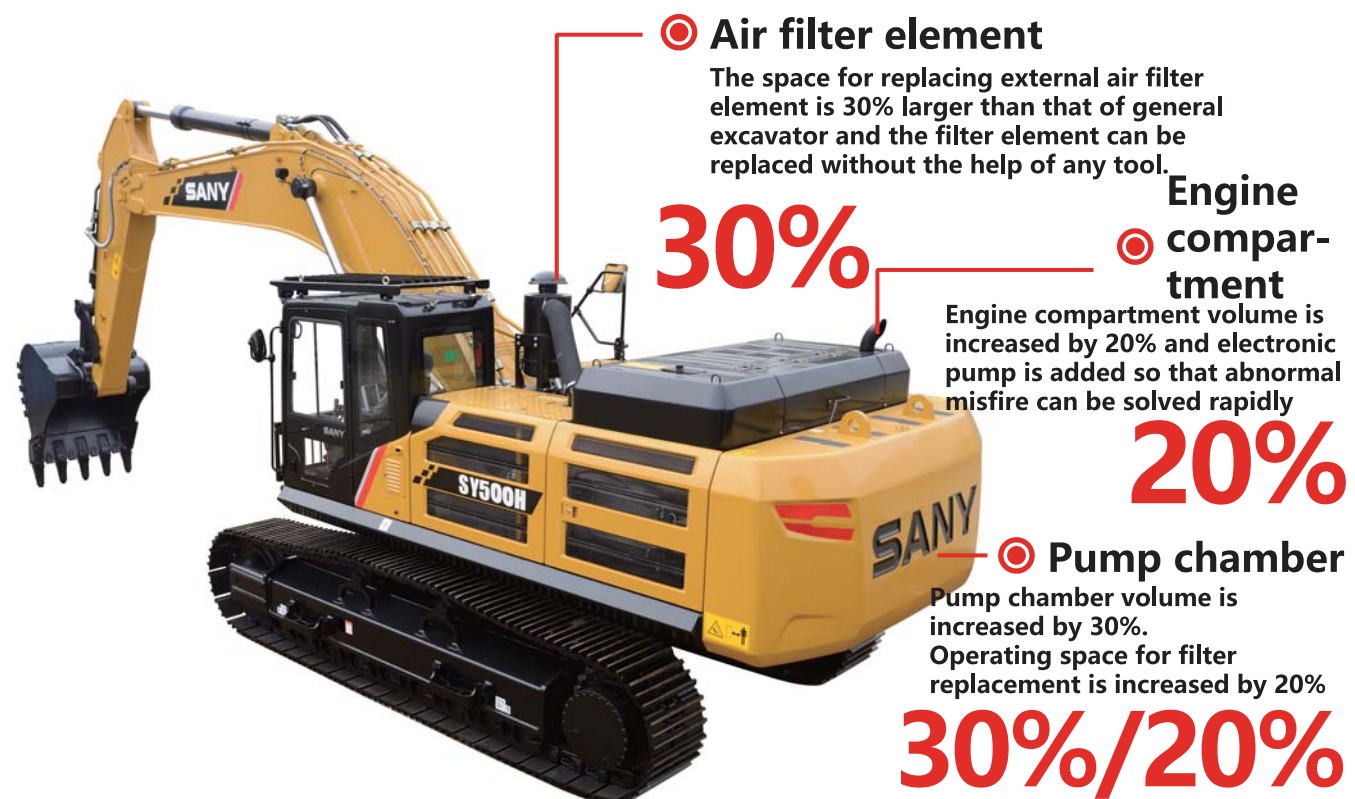
○ Super low maintenance cost

SANY is developing long-life engine oil, diesel oil filter and hydraulic oil jointly with professional manufacturers. Through two years' market verification, maintenance cost of the product is reduced by 50%, and maintenance interval is extended by 1 time;



○ Super easy management

Replacement space for maintainable parts is increased and the parts are designed in allusion to severe mining conditions for convenient maintenance. It is thus easier and simpler to manage the equipment. It is equipped with four-dimensional construction management system developed independently by SANY.



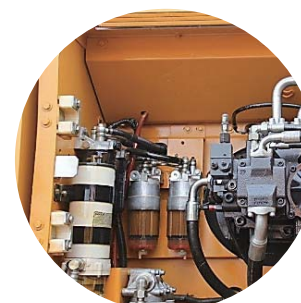
○ Maintenance convenience

In allusion severe working conditions of the mine, the design of maintenance convenience of the maintainable parts is improved. "Big space, Easy to operate". Maintenance space for various maintainable parts increases by 20%-30% and makes the operation easier!



Easy to replace air filter element

Replace air filter element



Easy to replace diesel oil filter element

Replace diesel oil filter element



Inspect the situation of engine oil



Pump oil by one push after engine goes off abnormally

Easy to inspect engine oil; pump oil by one push after engine goes off abnormally



Engine compartment



Check valve

Engine compartment volume is increased by 20%, and water drain valve and diesel oil check valve are added

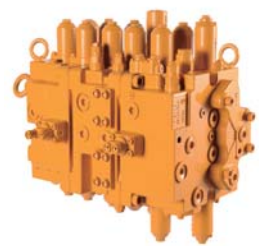
Product Introduction

○ Main configuration

Core components like pumps, valves and engine etc. are designed jointly with proprietary intellectual property rights, and are manufactured by world famous manufacturers to ensure high quality and satisfy professional demands of SANY's customers.



6WG1X engine meets emission standard and the displacement and the torque are generally 20% higher than competitor brands. It outputs high power and helps the customer to solve the operating difficulties of heavy-duty working condition.



32NA main valve is developed and designed according to customer requirements of SANY and has outstanding advantages including "high reliability, low pressure loss, high flow distribution efficiency and smooth compound control action". Its energy consumption is low and control performance is good.



212D main pump is parallel pump customized for SY500. As compared with traditional tandem pump, power output is improved by 10%, the arrangement is more compact and the maintenance is more convenient.

○ Construction case

Comments of the customer from Sichuan Province on SY500H. In this mine, we use excavators of other brands on the surface layer and the second layer, and use SY500H on the third layer. Only SY500H can excavate the stonework on this layer!



Worksite: Huzhou Tarmac Mining of Zhejiang Province
Working condition: Stonework (decomposed rock)
Operating type: Blasting- excavation- loading
Work assumed by SY500H: Stripping stonework and loading



Worksite: Sichuan Province
Working condition: Stonework
Operating type: Stripping
Work assumed by SY500H: Stripping stonework on the last layer













Worksite: Ningxia
Working condition: Silicon ore
Operating type: Excavation- loading
Work assumed by SY485: Excavation

- Technical specifications

Specifications	SY500H	Main performance	SY500H
Total weight	49500kg	Traveling speed (high/low)	5.4/3.1(km/h)
Bucket capacity	2.2~3.1m³	Slewing speed	8 rpm
		Gradeability	70% (35°)
Engine		Ground pressure	87.1kPa
Model	6WG1XKSC-01	Digging force of bucket	287kN
Type	Direct injection, 6-cylinder, 4-stroke, turbocharged, inter-cooling and water-cooled	Digging force of arm	245kN
Rated power	300kW/1800rpm		
Maximum torque	1950Nm/1400rpm		
Displacement	15.681L		

Capacity of oil and coolant	SY500H	Traveling section	SY500H
Fuel tank	680L	Number of track shoes	50
Hydraulic oil tank	480L	Carrier wheel on each side	2
Engine oil	50L	Thrust wheel on each side	9
Radiator	24L	Standard track	600mm
Final drive	2×15L		

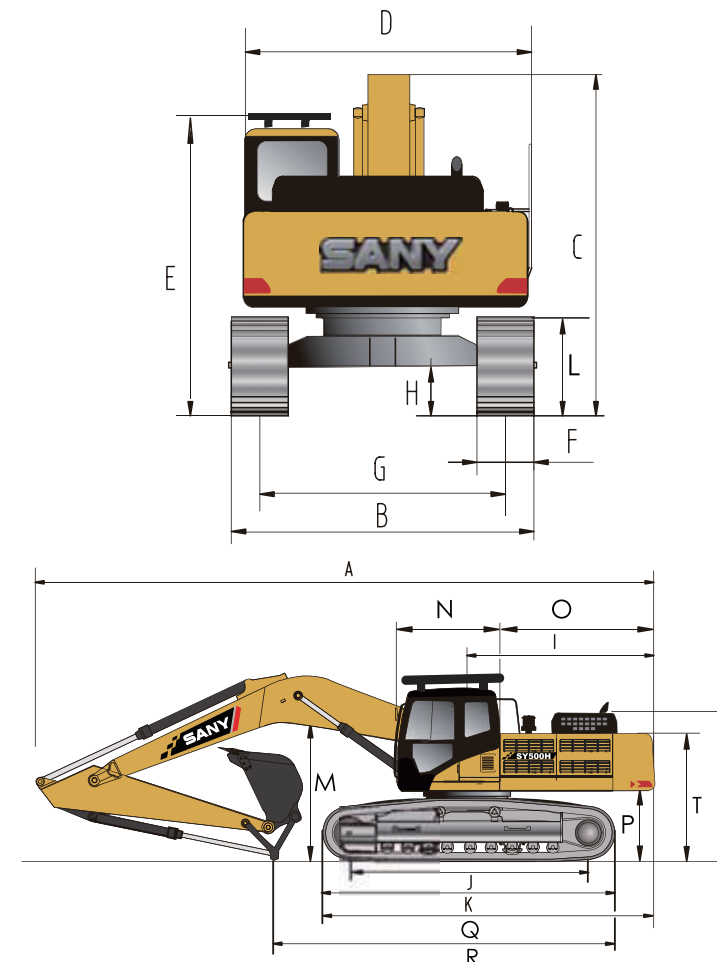
Boom--	6500mm	Bucket rod--		2500mm	Width of track--		900mm	Counter weight--		8700Kg	
		3.0m		4.5m		6.0m		7.5m		9.0m	
		Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse
											
7.5m	Kg							*8940	*8940		
6.0m	Kg							*9398	*9398	*9035	8270
4.5m	Kg			*16060	*16060	*12094	*12094	*10266	*10266	*9334	8129
3.0m	Kg					*13961	*13961	*11276	10255	*9838	7923
1.5m	Kg					*15408	13419	*12166	9902	*10323	7733
Ground	Kg			*15643	*15643	*16135	13107	*12725	9676	*10602	7610
-1.5m	Kg	*12096	*12096	*21217	*21217	*16121	13031	*12791	9599	*10406	7608
-3.0m	Kg	*22977	*22977	*19738	*19738	*15309	13147	*12113	9692		

1. The lifting capacity is calculated in accordance with ISO10560 and SAEJ1097, where limit coefficient of hydraulic system is 0.87 and tilting limit coefficient is 0.75;

2. The item with the mark * is limited by hydraulic pressure and the item without the mark "*" is limited by stability;

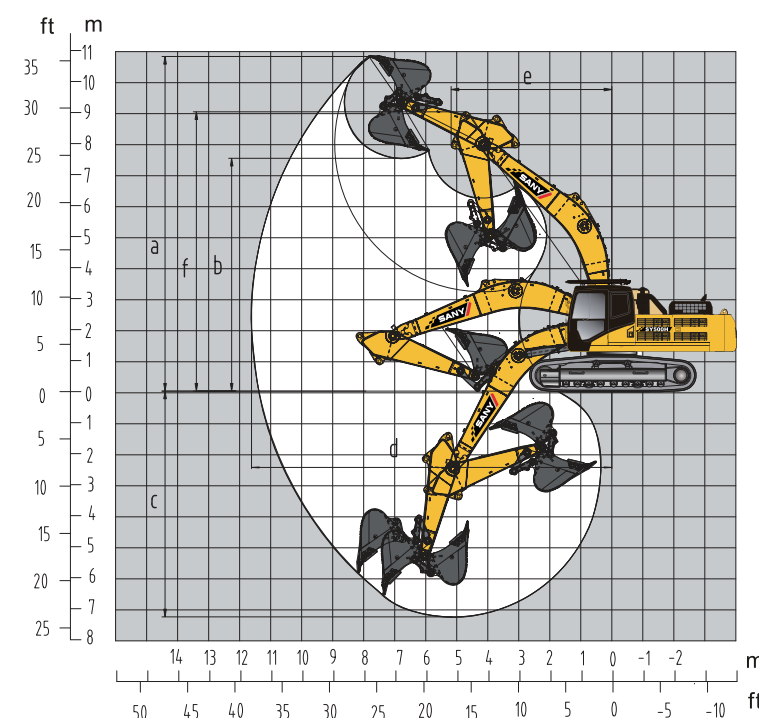
3. Lifting point is front support hole of bucket rod (excluding the weight of bucket). It is necessary to deduct from the above lifting capacity if additional accessory is installed such as bucket etc.;

- Overall dimensions (mm)



Designation (Unit: mm)	SY500H
A Overall length (in transportation state)	12095
B Overall width	3360
C Overall height (in transportation state)	3790
D Upper width	3290
E Overall height (cab top)	3470
F Width of standard track shoe	600
G Track gauge	2740
H Minimum ground clearance	560
I Slewing radius of tail	3765
J Ground contact length of track	4415
K Track shoe length	5440
L Track shoe height x	1220
M Driver's height of slighting line (height of upper edge of seat off the ground)	2915
N Length of cab top	1950
O Tail length	3465
P Ground clearance of counter weight	1355
Q Overall length (excluding working device)	6500
R Length on the ground (in transportation mode)	6570
S Overall height of engine hood	2995
T Overall height of counter weight	2615

- Operating range (mm)



Designation (Unit: mm)	SY500H
a Maximum digging height	10950
b Maximum unloading height	7450
c Maximum digging depth	7490
d Maximum digging depth with vertical boom	5660
e Maximum digging distance	11860
f Minimum slewing radius	5240
g Maximum height at minimum slewing radius	9100



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New-generation Super Hydraulic
Excavator for Mining

