

Standard configuration

Engine

- Mine heavy-duty engine
- Dynamic optimization mode control
- Radiator (with full protective net)
- 24V/5.0kW starter motor
- 90A AC motor
- Desert type air cleaner
- Dry double filter element air filter
- Oil filter
- Level 3 fuel filter
- Fuel cooler
- Radiator auxiliary water tank
- Fan deflector
- Automatic idling system
- Independent water radiator

Hydraulic System

- Control valve with main overflow valve
- Fully electronically controlled main valve
- Oil suction filter
- Oil drain filter
- Oil return filter
- Pilot filter
- Hydraulic damping blind pipe
- Independent oil radiating system

Upper rotary platform

- Fuel level sensor
- Hydraulic oil level gauge
- Tool kit
- Rotary parking brake
- Rear-view mirror (right)
- Rear-view camera
- Cab alarm lamp

Cab

- Ultra-quiet frame cab
- Reinforced light-colored glass window
- Silicone oil rubber shock absorber
- Openable top, front wall upper window and left window
- Emergency exit of rear window
- Wiper (with washer)
- Multi-directional adjustable air suspension seat
- Radio (with digital clock)
- Footrest, floor mat
- Speaker, rear-view mirror
- Seat belt, fire extinguisher
- Drinking cup holder, compartment lamp
- Ashtray, escape hammer
- Storage box, sundries bag
- Pilot control cut-off lever
- Automatic air conditioner
- Emergency stop switch
- Anti-falling object device and front protective net

Front working device

- Flange pin
- Welded connecting rod
- Integrated lubrication system
- All bucket pins are equipped with dust-proof sealing rings
- Reinforced fully welded box-type swing arm
- Reinforced fully welded box-type bucket rod
- Anti-collision guard plate

Monitoring system instrument

- Standard GPS
- Color 10-inch display screen
- eVision system
- Hour gauge, fuel tank level gauge
- Engine coolant temperature gauge
- Oil pressure gauge

Lower walking body

- Travel parking brake
- Travel motor guard plate
- H-shaped track guide mechanism
- Track tensioning mechanism
- Bolted drive wheel
- Carrier wheel and thrust wheel
- Reinforced chain rail with pin shaft seal
- 650mm two-rib track plate
- Reinforced side pedal
- Bottom cover plate

Alarm light

- Controller failure
- Abnormal pump pressure
- Abnormal pilot pressure of each action
- Abnormal power supply voltage
- Abnormal hydraulic oil temperature
- Insufficient oil pressure and overheated engine coolant
- Throttle knob failure
- Insufficient fuel

Others

- Large capacity battery
- Lockable top cover
- Lockable fuel filling cover
- Anti-skid pedal, pedal handrail and sidewalk
- Walking direction mark on walking frame
- Manual grease gun
- Electric diesel pump*
- Electric lubrication pump

* indicates optional



- Rated power
425kW/1,800rpm
- Machine weight
95,800kg
- Bucket capacity
5.5-7m³

SY980H

Hydraulic Excavator

BRAND NEW

QUALITY CHANGES THE WORLD



SANY Heavy Industry Co., Ltd.

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Note

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SY980H

Valuable Ground-Breaking Tool

New Generation Super Mine Hydraulic Excavator



SELLING POINTS

SY980H is a new generation of mining excavator built by SANY Heavy Industry Co., Ltd. in the field of large excavators. It is provided with a high-pressure and large-flow fully electronically controlled hydraulic system. Mainly aiming at the heavy-duty working conditions of stone, coal, metal and other mines, with strong heavy-duty operation capability and high reliability as the primary goal, through fine matching control technology, the operation energy consumption is optimized. Compared with competing brands, it is "more reliable and durable, more efficient and energy-saving, more intelligent and comfortable, simpler in maintenance with lower cost".



More Reliable
and Durable



More Efficient and
Energy Conservation



More Intelligent
and Comfortable



Easier Maintenance
Lower Maintenance
Cost

MORE RELIABLE AND DURABLE

Through nearly 20 years of experience, relying on the first "three-in-one" SANY large excavator test system in China and inheriting a full range of mature technologies, SY980H has a design life of more than 20,000H under mine conditions.

Five structural parts

The working device and lower frame are strengthened, the design life of the structural parts is more than 10,000 hours, and the bucket bottom plate and bucket teeth are strengthened

Hydraulic System

The high-pressure, large-flow, low-pressure wear-resistant hydraulic system guarantees cleanliness of NAS 7, higher than that of competing brands and industry standards

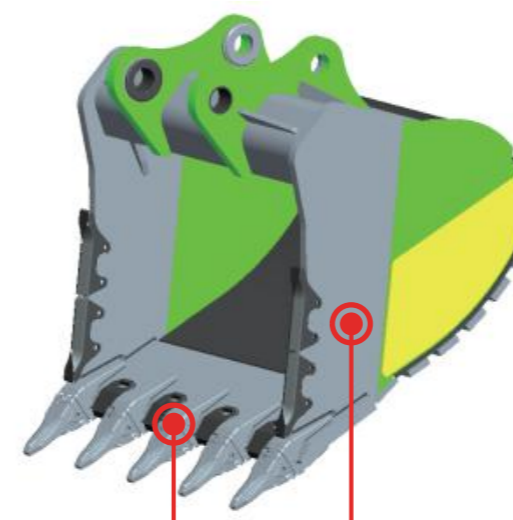
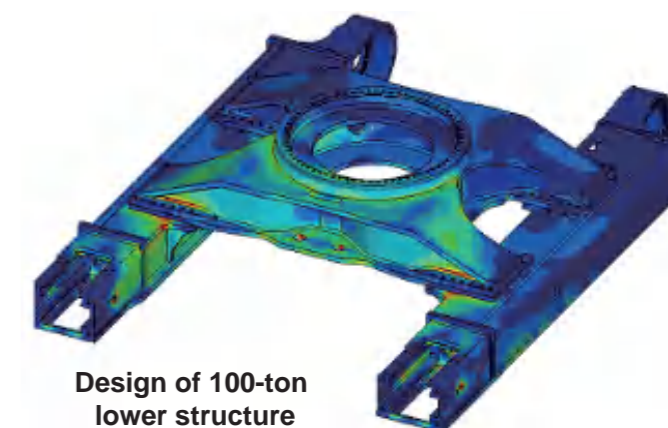
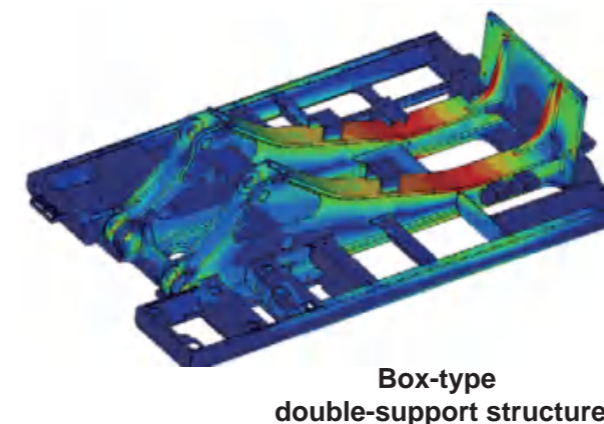
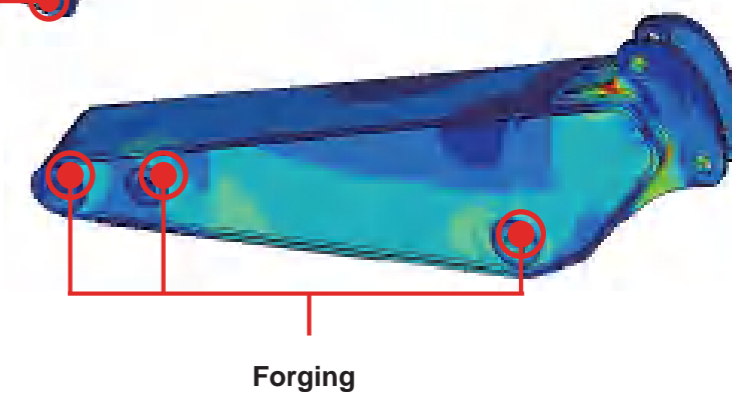
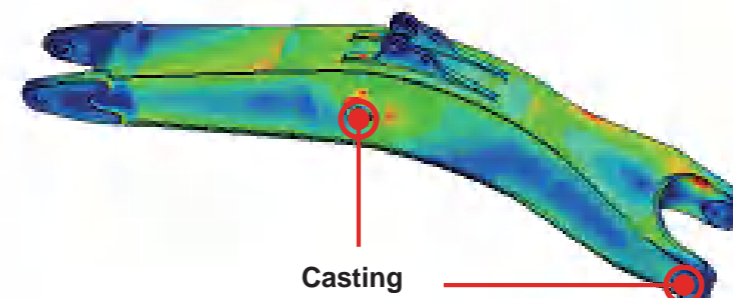
Core parts

Main pumps, main valves, oil cylinders, reducers and other core components have long service lives



The Key Structure

NM400 wear-resistant steel is used for bucket side plates and toughness plates to improve bucket wear resistance. For mining-type working devices, the key supporting parts are integral casting and forging structures, and the average stress is 10-13% lower than that of competing H swing arm and 14-30% lower than that of bucket rod. Large box-type double-support rotary platform, with an increase of bearing capacity by 30%. The 100-ton four-wheel area is adopted, the shaft diameter is increased to reduce the bearing surface pressure, and the bearing capacity is increased by 30%.

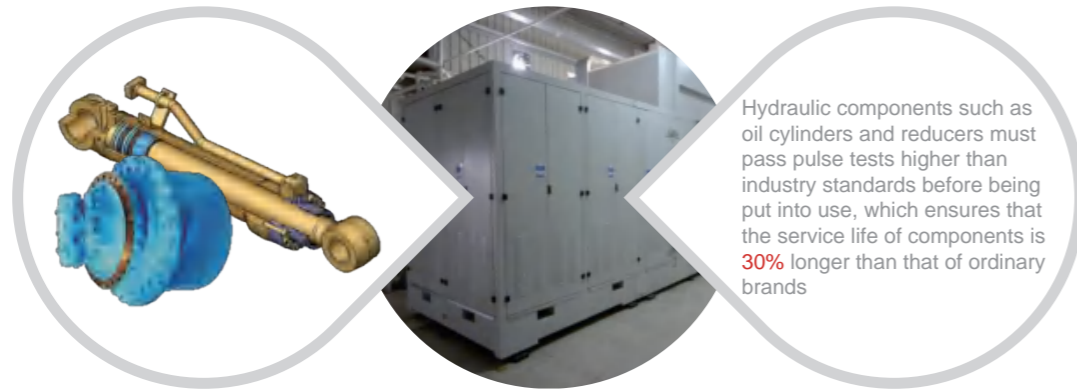


SANY's special wear-resistant steel plate is adopted

○ The Core Components

Based on SANY's only durability test system for excavator parts in China and in conjunction with internationally renowned research institutions, research on the life of parts has been carried out to comprehensively improve the life of core parts, doubling the service life of pumps, valves, oil cylinders, reducers, oil tanks, cab machines and other parts.

Cylinder pulse test bench



Hydraulic components such as oil cylinders and reducers must pass pulse tests higher than industry standards before being put into use, which ensures that the service life of components is **30%** longer than that of ordinary brands

Pump-valve test bench



Through the pump valve durability test bench, the service life of the main pump, main valve and other components is tested and analyzed, which, in combination with the research results of customers' long-life components, can double the service life of the pump valve.

Shaking table test bench



Through the shaking table test bench, hundreds of thousands of vibration tests are carried out on the fuel tank, cab, etc. to ensure that the service life of the components is increased by **50%**

○ Independent oil radiating system

The heat radiation efficiency is increased by 20%, the working temperature of the system is reduced by 8-10°C compared with that of ordinary excavators, the adaptability to high temperature environment is greatly improved, the service life of rubber parts is increased by 30%, and the energy saving rate is 30% higher than that of the integral heat radiation system.



With right-angle plate-fin fins, the air duct area is greatly increased, and the heat radiation efficiency is 20% higher than that of ordinary radiators; the pressure resistance of the radiator is improved by 10%, and the service life is longer.

○ Rigorous machine test



Overall Endurance Test

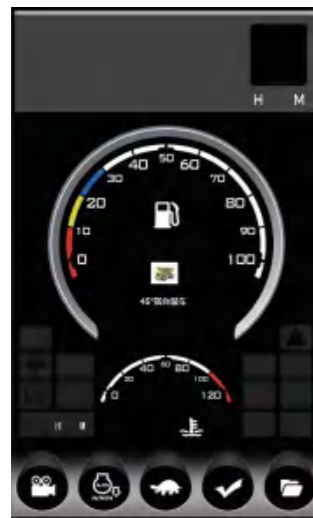


Stress Test

MORE INTELLIGENT AND COMFORTABLE

- The operation mode and working condition mode can be selected to achieve high operation efficiency and optimal fuel efficiency
- Automatic adaptation of environment and working conditions (matching of plateau automatic adjustment pump and engine)
- Automatic and intelligent adjustment of the fan speed according to the temperature of oil and water, achieving the best heat balance temperature and energy saving effect
- Idle speed control, maintenance time and maintenance content reminder, fan reversal dust removal, secondary floating of swing arm, going home mode, limp mode and other auxiliary features

○ Intelligent mode



Operation mode selection

According to the field operation mode, the customer can select the best operation method with one button. The 6 modes are switched in a loop, and the operation mode can be customized.

- 45° platform loading
- 90° platform loading
- 45° ground loading
- 90° ground loading
- 90° swing-dump
- 180° swing-dump
- Custom



Working mode selection

According to the soft and hard nature of the operation object, the customer selects the corresponding working mode and the best operating experience

- Soft mode
- Standard mode
- Quick mode
- Custom

○ Auxiliary mode



Going home mode:

After the engine is turned off at night, the work light is kept on to illuminate the way home

Reverse dust removal of fans with oil or water radiators:

When the radiator is cleaned, one-button operation can realize reverse dust removal of the fans

Secondary float of swing arm:

Reduce the machine vibration to make the operation more comfortable

Limp mode:

When the handle signal is abnormal, the machine is operable on the display screen.

○ Safe and comfortable

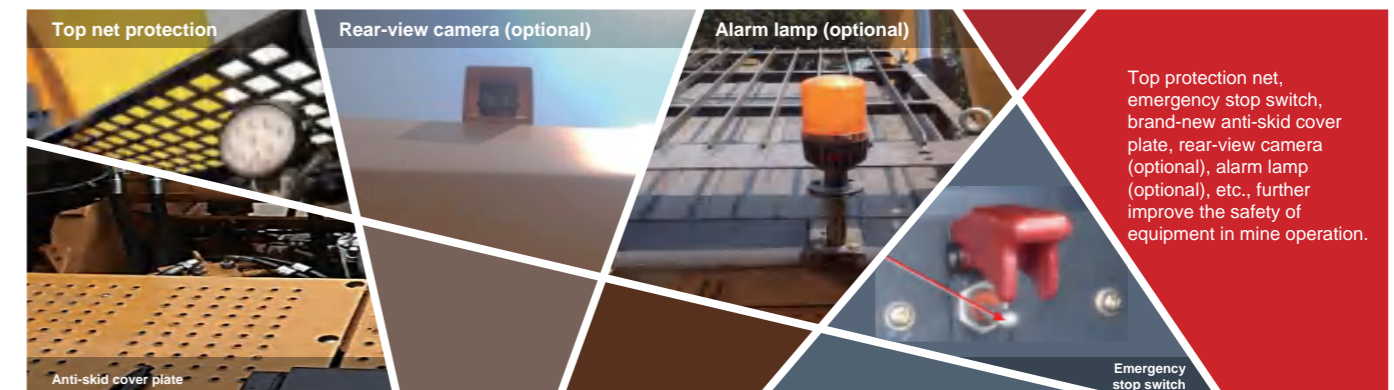


Air suspension seat, reducing driver's fatigue and providing Level A comfort



For the cab, a novel dust-proof and noise-reducing technology is adopted, a fully automatic air conditioner is equipped, and the indoor noise is as low as 76 dB

Improved safety for equipment in mine operation

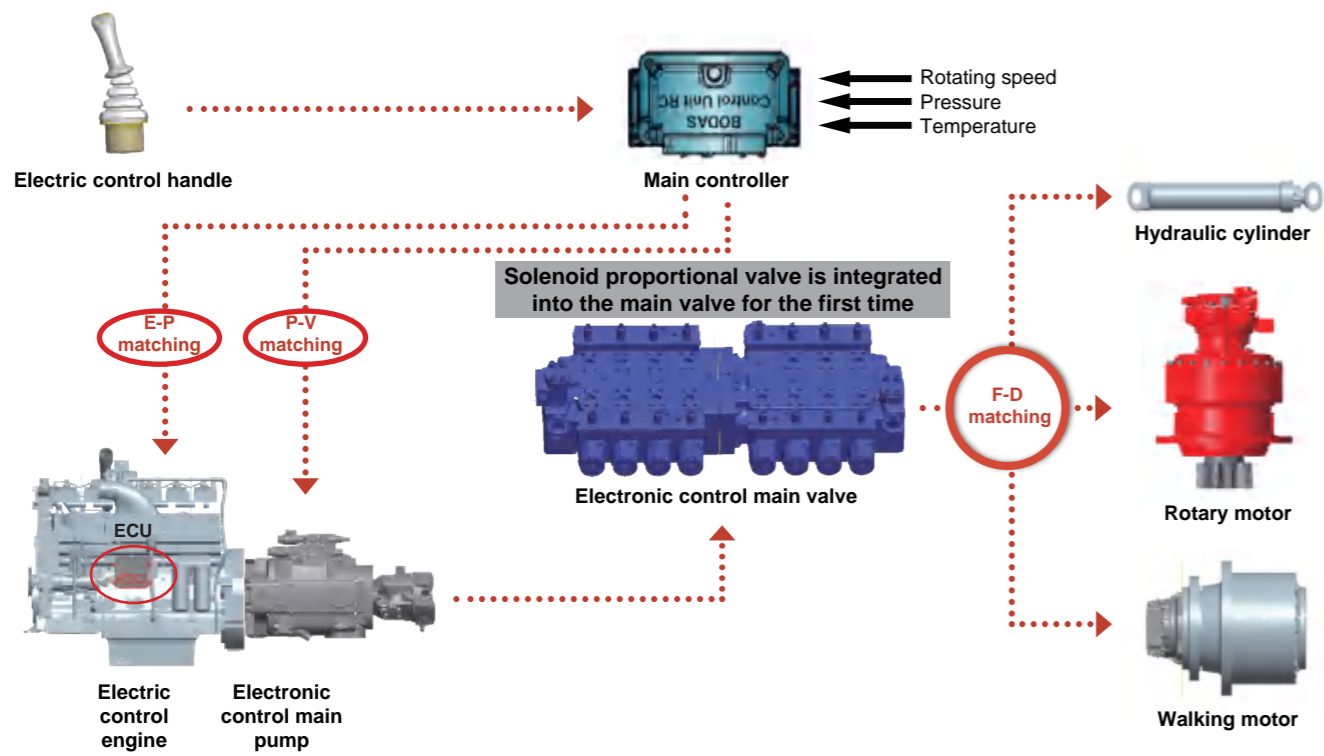


Top protection net, emergency stop switch, brand-new anti-skid cover plate, rear-view camera (optional), alarm lamp (optional), etc., further improve the safety of equipment in mine operation.

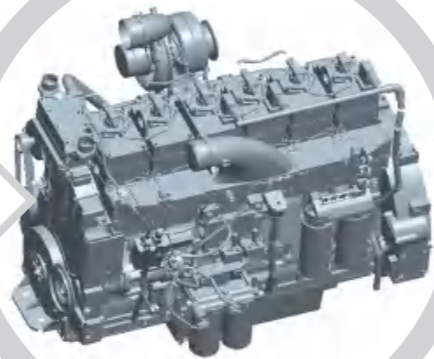
MORE EFFICIENT AND ENERGY CONSERVATION

Efficient low consumption

The ICT-integrated control technology mainly includes E-P, P-V, FD, and ECA technologies, i.e. matching technology between engine and main pump, main pump and main valve, flow distribution technology, electronic control auxiliary technology, swing arm unpowered lowering technology, and independent oil and water radiation control. The efficiency of the machine is equivalent to that of competing products, but the fuel consumption is reduced by 5-13%.

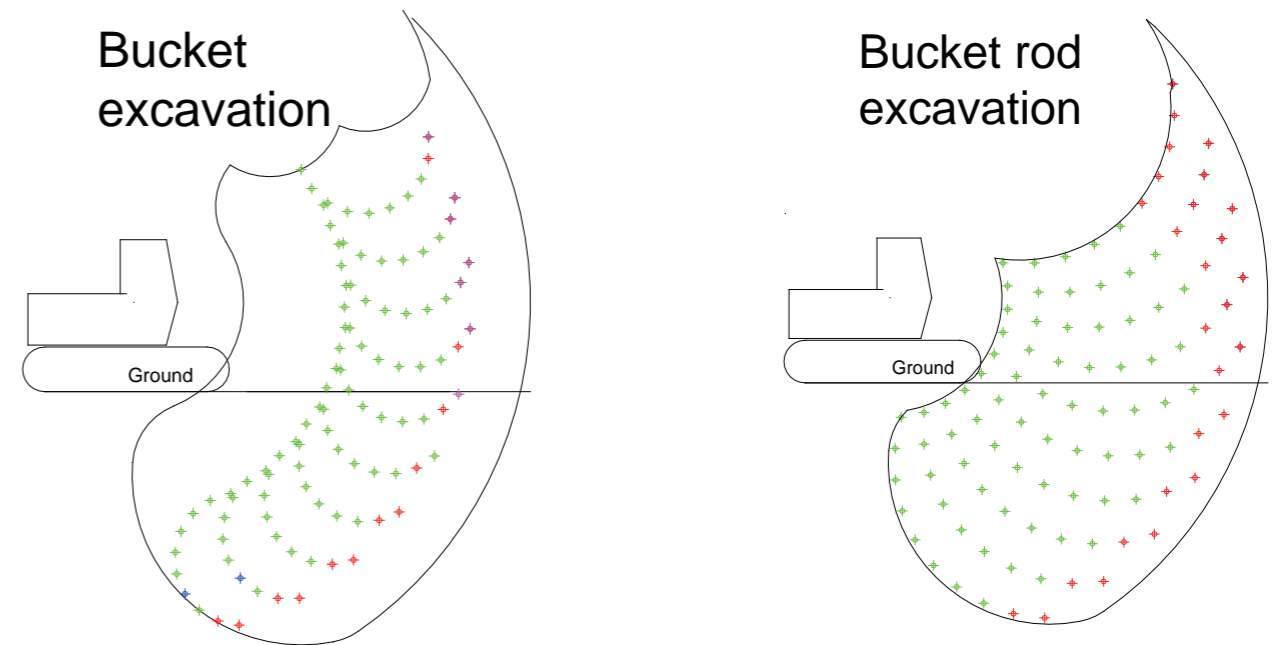


Scania DC16 engine, with low fuel consumption and fast response. The exclusive SANY debugging engine control program works in the most fuel-efficient area.



Big Mining Power

By means of real-time power adjustment in the excavation process and analysis of excavation force map under all working conditions, the excavation force can be brought into full play and the efficiency is improved by 40%. The green curve in the following figure shows the full play of excavation efficiency, while the red one shows the partial play. The excavation force play rate of SY950H in the following figure reaches 90%.



Smooth Handling

The main valve is electronically controlled, with high control precision, fast response, accurate micro-motion control and small impact, improving operation comfort.



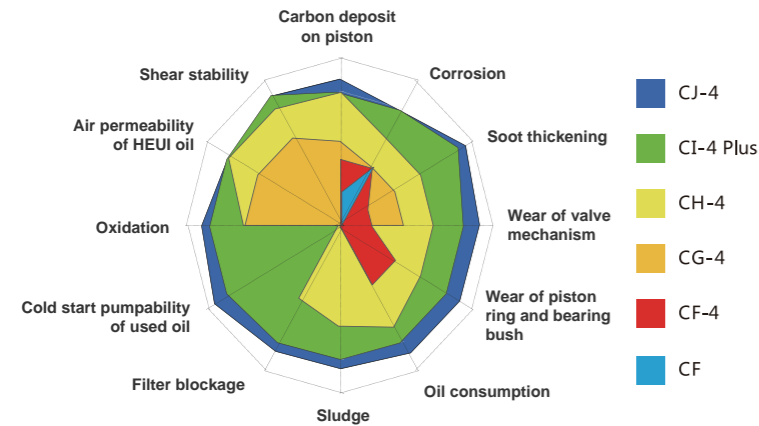
An excavator operator with more than 10 years of working experience commented on SY980H:

SY980H mining machine surpasses other brands of models of the same tonnage in terms of operating speed and excavation force, providing better man-machine synergy with smooth movements, and enabling comfortable driving experience for the drivers!

LOW MAINTENANCE COSTS

Low maintenance cost

We work with professional manufacturers to develop long-life engine oil, diesel oil and hydraulic oil. Through two years of market verification, the product maintenance cost is reduced by 50% and the customer maintenance period is doubled; Maintenance costs are 40% lower than those of competing products.



Hydraulic oil: The service life of hydraulic oil is 4,000H, which is twice that of competing products;
 Oil: The change cycle is 500H, which is twice that of competing products;
 Fuel filter element and oil filter element: The maintenance period is extended from 250H to 500H;
 Hydraulic oil absorption filter element: The maintenance period is extended from 1,000H to 2,000H.

Super easy to management

Equipped with SANY's self-developed and four-in-one construction management system, it increases the replacement operation space for maintenance parts and has convenient maintenance design for severe working conditions in mines, making equipment management easier and simpler.



Pump chamber
 The pump chamber is increased by 30%, and the operating space for filter element replacement is increased by 20%

Air filter element
 The replacement space of the external air filter element is 30% larger than that of ordinary excavators, and can be replaced without using tools

Engine compartment

The engine compartment is increased by 20%, and an electronic pump is added to quickly solve the abnormal flameout



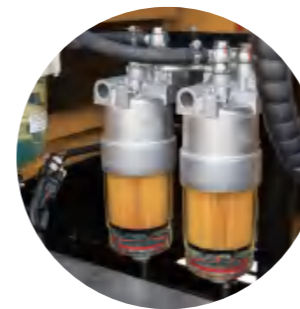
Maintenance convenience

In view of the harsh working conditions in the mine, maintenance parts can be replaced more conveniently "in a larger and more operable space", with the replacement operation space for various maintenance parts increased by 20%-30%, thus realizing worry-free operation!



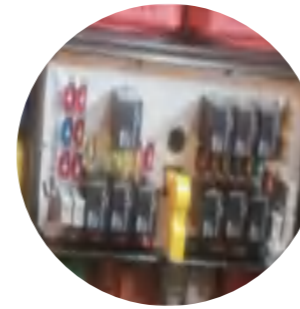
Replace air filter element

Easily replace air filter element

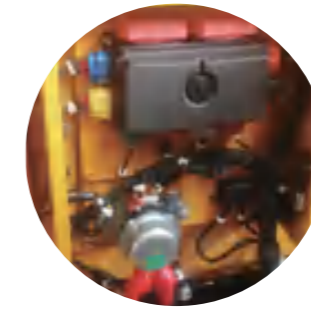


Replace diesel filter element

Easily replace diesel filter element



Independent electric control cabinet



Electric control cabinet independent of cab, easy to maintain



Engine compartment



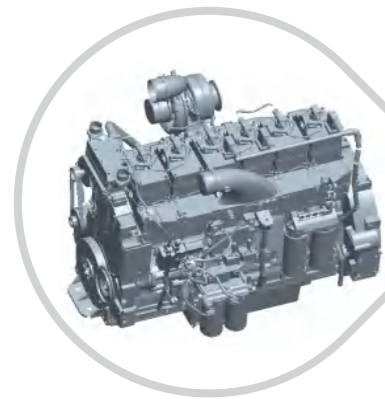
Tank drain valve Stop valve

The engine compartment volume is increased by 20%, and the drain valve and diesel stop valve are added

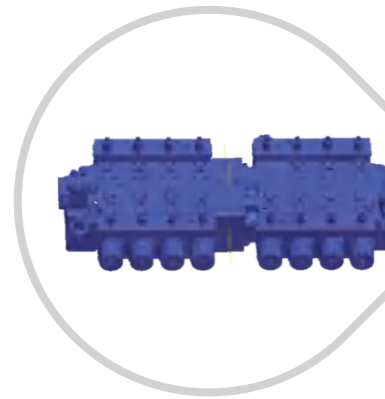
PRODUCT INTRODUCTION

○ Main configuration

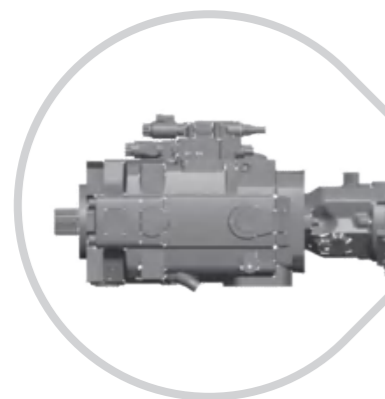
Pump valves, engines and other core components are jointly designed, have independent intellectual property rights, and are manufactured by internationally renowned manufacturers to ensure excellent quality and meet the professional needs of SANY's customers



Low oil consumption, fast response, and high reliability. The exclusive SANY debugging engine control program works in the most fuel-efficient area, with a power of 503KW, which is the largest power in the same tonnage



As a mature product in the industry, Rexroth M8 electric control main valve has a 12% increase in flow capacity and a 15% decrease in pressure loss compared with UK36 main valve



Rexroth A11VLO electronically controlled main pump has its own pressure cut-off function. Through SANY's ICT control technology, it automatically optimizes and realizes real-time proper matching with the engine

○ Working case



Working place: quarry of a mine in Huzhou, Zhejiang

Working condition: rock

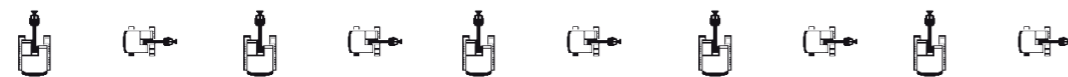
Operation type: stone chopping

○ Technical specifications

Specification		Main performance	
Machine weight	95800kg	Walking speed (high/low)	3.4/2.4 (km/h)
Bucket capacity	5.5-7m ³	Rotating speed	7.0rpm
		Gradeability	70%/35°
Engine	Scania	Ground pressure	132kPa
Model	DC16	Bucket excavation force	480kN
Type	Direct injection, 6-cylinder, 4-stroke, turbocharged, intercooled, water cooled	Bucket rod excavation force	392kN
Rated power	425KW/1,800rpm		
Maximum torque	2450N·m		
Displacement	16L		

Capacity of oil and coolant		Walking part	
Fuel tank	1180L	Number of track plates	51
Engine oil	50L	Each side of the carrier wheel	3
Cooling system	85L	Each side of the thrust wheel	9
Final drive	2x18L	Standard track	650mm

Swing arm	7250mm	Bucket rod		2920mm		Track width		650mm		Balance weight	13,400kg
		3.0m		4.5m		6.0m		7.5m			
		Longitudinal	Horizontal	Longitudinal	Horizontal	Longitudinal	Horizontal	Longitudinal	Horizontal	Longitudinal	Horizontal



9.0m	kg							*24747	*24747		
7.5m	kg							*24953	*24953		
6.0m	kg			*39899	*39899	*30964	*30964	*26237	*26237	*23416	*23416
4.5m	kg					*34394	*34394	*27910	*27910	*24062	*24062
3.0m	kg					*37027	*37027	*29342	*29342	*24658	*24658
1.5m	kg					*37824	*37824	*29969	*29969	*24767	*24767
Ground	kg			*29507	*29507	*36680	*36680	*29394	*29394	*23917	*23917
-1.5m	kg	*21665	*21665	*40899	*40899	*33723	*33723	*27247	*27247	*26739	14823
-3.0m	kg			*34029	*34029	*28576	*28576	*22616	*22616		
-4.5m	kg					*16214	*16214				

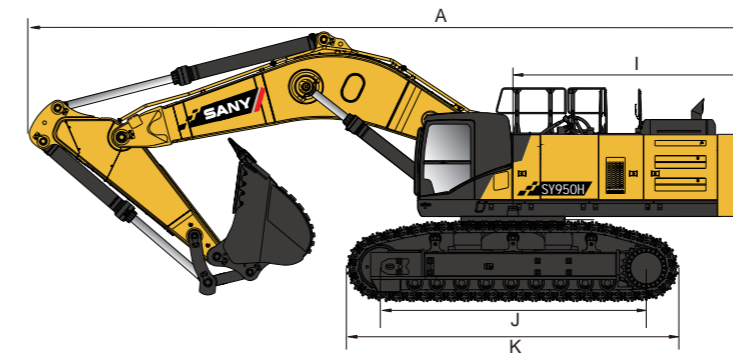
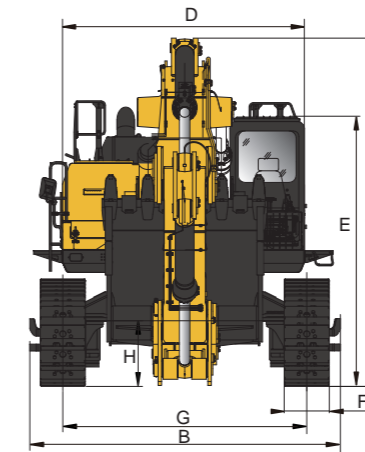
1. The lifting capacity is calculated in accordance with ISO 10560 and SAE J1097; the limit coefficient of the hydraulic system is 0.87; the tipping limit coefficient is 0.75;

2. Those marked with * are limited by hydraulic pressure, and those without * are limited by stability;

3. The lifting point is the front support hole of the bucket rod (excluding bucket weight); the weight of any additional accessories such as buckets shall be deducted from the above lifting weight;

4. The lower frame is unfolded, and the gauge is 3,510mm

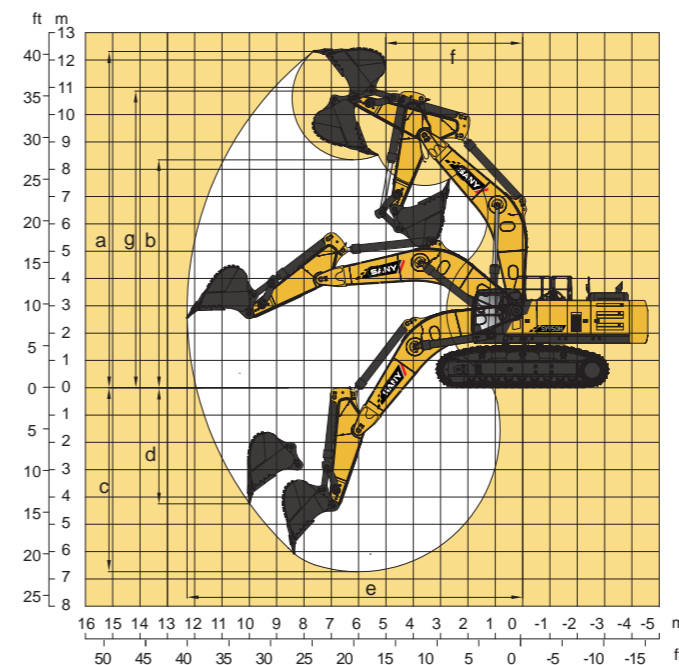
○ Machine dimensions (mm)



Machine dimensions: mm	SY980H
A Total length (in transportation)	13,840
B Total width	4,460/3,700
C Total height (in transportation)	5,300
D Upper width	3,480
E Total height (cab top)	3,880
F Standard track plate width	650
G Track gauge	2,750/3,510
H Minimum ground clearance	945
I Tail turning radius	4,700
J Track grounding length	5,070
K Track length	6,350

Performance parameter	SY980H
Working quality kg	95800
Bucket capacity m ³	5.5-6.5
Rated power kW/rpm	425/1,800
Walking speed (high/low) km/h	3.4/2.4
Rotating speed rpm	7
Gradeability	70%/35°
Ground pressure kPa	132
Bucket excavation force kN	495
Bucket rod excavation force kN	446

○ Operating range (mm)



Operating range: mm	SY980H
a Maximum excavation height	12,310
b Maximum unloading height	8,345
c Maximum excavation depth	6,740
d Maximum vertical arm excavation depth	4,250
e Maximum excavation distance	12,280
f Minimum turning radius	5,010
g Maximum height of the minimum turning radius	10,580