

○ Standard configuration

Engine

- Mining heavy-load engine
- Dynamic optimizing mode control
- Radiator (with full protective screen)
- 24V/7.5kW starter motor
- 140A alternator
- Double air filter
- Dry-type dual-element air filter
- Engine oil filter
- Large capacity fuel filter
- Fuel cooler
- Radiator auxiliary water tank
- Fan deflector
- Automatic idling system
- Independent water radiator with reverse rotation function
- Cooling water filter

Double slewing reducer

- Fully-electrically-controlled main pump
- Fully electrically-controlled main valve
- Double oil suction filter
- Oil drain filter
- Double oil return filter
- On-line detection device for hydraulic oil cleanliness
- Blanking pipe of hydraulic damper
- Independent oil radiator

Slewing platform of superstructure

- Fuel oil level sensor
- Hydraulic oil level gauge
- Toolbox
- Slewing parking brake
- Platform lighting lamp
- 360° panoramic imaging system
- Cab warning lamp

Cab

- Ultra-silence frame cab
- Reinforced light-color glass window
- Silicone oil rubber damper
- Openable left window
- Emergency exit on rear window
- Wiper (with washer)
- Multi-directional electric-heated adjustable air suspension seat
- Radio (with digital clock)
- Foot rest and floor mat
- Loudspeaker and rearview mirror
- Seat belt and fire extinguisher
- Cup holder and compartment lamp
- Ash tray and escape hammer
- Storage box and sundries bag
- Pilot controlled cut-off lever
- Fully-automatic A/C
- Emergency stop switch
- Front protective screen
- Start button

Front-end working device

- Flange pin
- Welded connecting rod
- Integrated lubricating system
- Hammer-free bucket tooth
- Reinforced all-welded box-type boom
- Reinforced all-welded box-type bucket rod
- Anti-collision guard plate

Instruments of monitoring system

- GPS (standard configuration)
- 10" touch-type colored display screen
- EVI system
- Hour meter, 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
- Tensioning device of track
- Bolted driving wheel
- Carrier roller and thrust wheel
- Reinforced chain track with pin shaft seal
- 700mm double-rib track plate
- Reinforced ladder stand
- Bottom cover plate

Alarm lamp

- Controller failure
- Abnormal pump pressure
- Abnormal hydraulic oil cleanliness
- Abnormal power supply voltage
- Abnormal hydraulic oil temperature
- Engine oil pressure insufficient and engine coolant temperature too high
- Throttle rotary knob failure
- Fuel volume insufficient
- Abnormal inclination of the whole machine

Others

- High-capacity storage battery
- Lockable engine hood
- Lockable fuel filler cap
- Anti-slip pedal, armrest and sidewalk
- Traveling direction sign on traveling frame
- Fully-automatic lubrication system
- Electrical diesel oil pump*
- Electric lubrication pump
- Automatic out of stock system

* Indicates optional configuration



SANY Heavy Machinery Co., Ltd.

SANY Industrial Park, Dongcheng Avenue, Kunshan
Economic & Technological Development Zone,
Jiangsu Province

○ Post code: 215300 ○ After-sales service hotline: 4008282318 ○ Consulting & complaint hotline: 4008879318 ○ www.sanygroup.com.cn

(Note)

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○ Rated power
567kW/1800rpm

○ Overall weight
125000kg

○ Bucket capacity
7.0-8.0m³

SY1250H

Hydraulic excavator

**BRAND NEW
QUALITY CHANGES THE WORLD**
Wonderful Sany Lead by Innovation



SY1250H

New Technology Creates Classic Model of Heavy- duty Machinery

New-generation Hydraulic
Excavator for Mining



SELLING POINTS

SY1250H is a new generation of mining excavator manufactured by Sany Heavy Machinery in the field of large excavators. It adopts a high-pressure, large-flow fully-electrically-controlled hydraulic system. It is mainly aimed at heavy-duty mining conditions such as stone, coal, and metal. With strong heavy-duty operation capability and high reliability as the first goal, the operation energy consumption can be optimized through sophisticated matching control technology. Compared with competing brands, it has the characteristics of "more reliable & durable, more efficient & energy-saving, more intelligent & comfortable, easier maintenance and lower maintenance cost".



More Reliable &
Durable



High Efficient &
Energy Saving



More intelligent •
comfortable



Easier maintenance
• Lower
maintenance cost

MORE RELIABLE AND DURABLE

Through near 20 years' accumulation, by virtue of the three-in-one large-sized excavator testing system of Sany which is the first in China and on the basis of the matured technologies adopted for the product series, the designed service life of SY1250H under operating conditions in mine exceeds 10,000 hours.

Five major structural members

The working device and underframe are reinforced, the service life of structural parts is designed as more than 10,000 hours, and the base plate and teeth of bucket are reinforced

Hydraulic system

High-pressure, large-flow, four-pump four-circuit hydraulic system, with a cleanliness of NAS Level-7, which is higher than competitive brands and higher than industrial standards

Core components

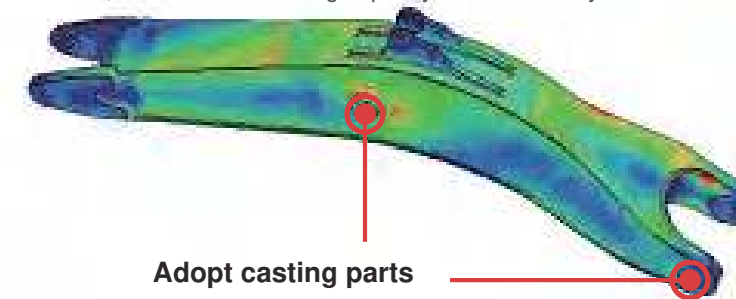
Core components like main pump, main valve, oil cylinder and retarder etc. guarantee super long life

Key structural members

The side plate and flexible plate of bucket are made of NM400 anti-wear steel, so that the anti-wear property of bucket is improved. Working device for mining purpose, the key supporting part is of integral casting and forging structure, with the average stress of over 10 lower than that of the competitive H boom, and the bucket rod of over 15% lower.

With the large box-type double-support slewing platform, its carrying capacity is increased by 35%.

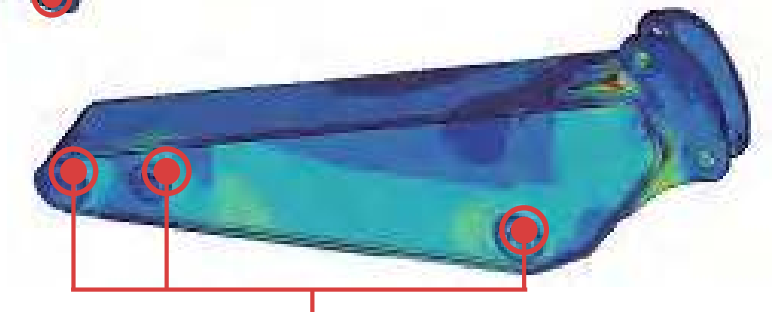
The 150-ton undercarriage is fitted with four wheels and one belt, the shaft diameter is enlarged, the bearing surface pressure is reduced, and the load-bearing capacity is increased by 30%.



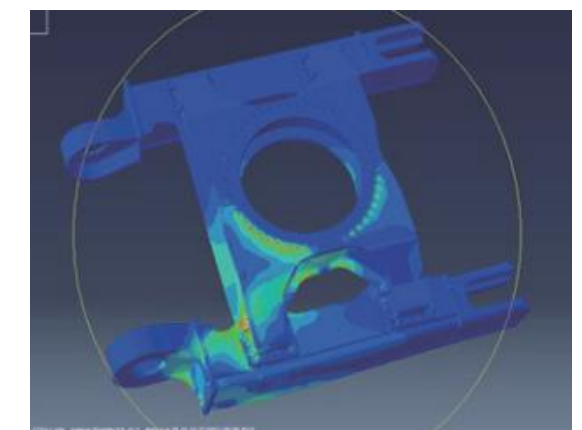
Adopt casting parts



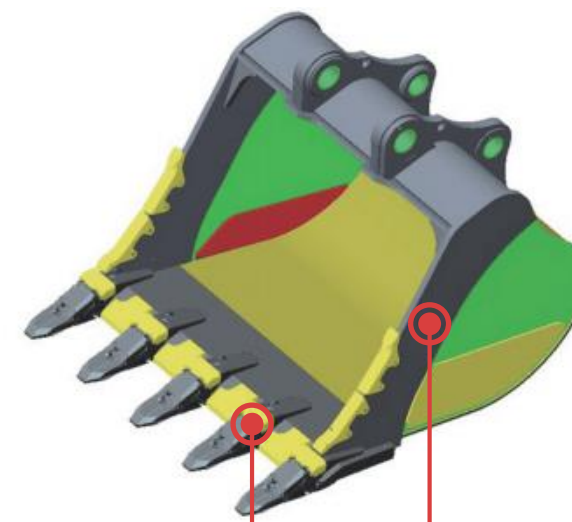
Box-type double-support structure



Adopt forged parts



Structural design of 100-ton undercarriage



Adopt anti-wear steel plates specially manufactured by Sany



Core Components

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.

Oil cylinder impulse test bench



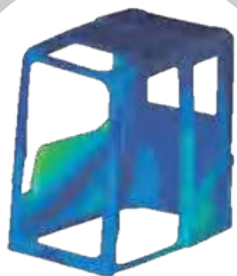
Hydraulic components like oil cylinder and retarder etc. must be subjected to impulse test according to the requirements higher than industrial standard. They can be put into operation only after reaching the requirements. Through this process, the service life of the components is **30%** higher than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

Pump- valve test bench



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.

Vibration test bench



With vibration test bench, 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%**.

Independent oil radiator

The radiating efficiency is improved by 20%, the operating temperature of system is reduced by 8-10 °C as compared with ordinary excavator, the adaptability to high-temperature environment is greatly enhanced, the service life of rubber parts is prolonged by 30%, and the energy consumption is reduced by 30% as compared with integrated radiation system.



The right-angle plate-fin type fin is adopted, the area of air duct IS greatly increased, and the radiating efficiency is increased by 20% as compared with ordinary radiator; the pressure resistance of radiator is increased by 10%, and the service life is prolonged.

Harsh machine test



Endurance test of the complete machine



Stress test

MORE INTELLIGENT AND COMFORTABLE

- Selection of operation mode and working mode to achieve high operating efficiency and best fuel efficiency
- Automatic adaptation to environment and working conditions (automatically adjust the matching of pump and engine at plateau)
- Automatic adjustment of the fan speed according to the oil and water temperature to achieve the best heat balance and energy saving effect
- Idle speed control, maintenance time & maintenance content reminder, dust removal via reverse rotation of fan, two-stage floating of boom, go-home mode, limp mode and other auxiliary functions

○ Intelligent mode



Working mode selection

According to the field operation method, the customer can choose the best operation method with one button, switch 6 methods in cycles, and customize the operation method

- 45° erection & loading
- 90° erection & loading
- 45° leveling & loading
- 90° leveling & loading
- 90° throwing
- 180° throwing
- User-defined



Selection of working condition mode

The customer selects the corresponding working mode for the best operating experience according to the hardness of the work object

- Gentle mode
- Standard mode
- Fast mode
- User-defined

○ Auxiliary function



Go-home mode:

After the engine is turned off after work at night, the work lights will go off with a time delay, illuminating the way home

Dust removal via reverse rotation of oil radiator fan:

To clean the radiator, the fan will reverse via one click to remove dust

Two-stage floating of boom:

Reduce machine vibration and make operation more comfortable

Limp mode:

When the handle signal is abnormal, operate the machine through the display screen.

○ Safe and comfortable



The air suspension seat reduces the fatigue of the driver, and the comfort level is A



The cab adopts brand-new dust-proof and noise-reduction technology, and is equipped with fully automatic air-conditioner; the inside noise is as low as 73dB

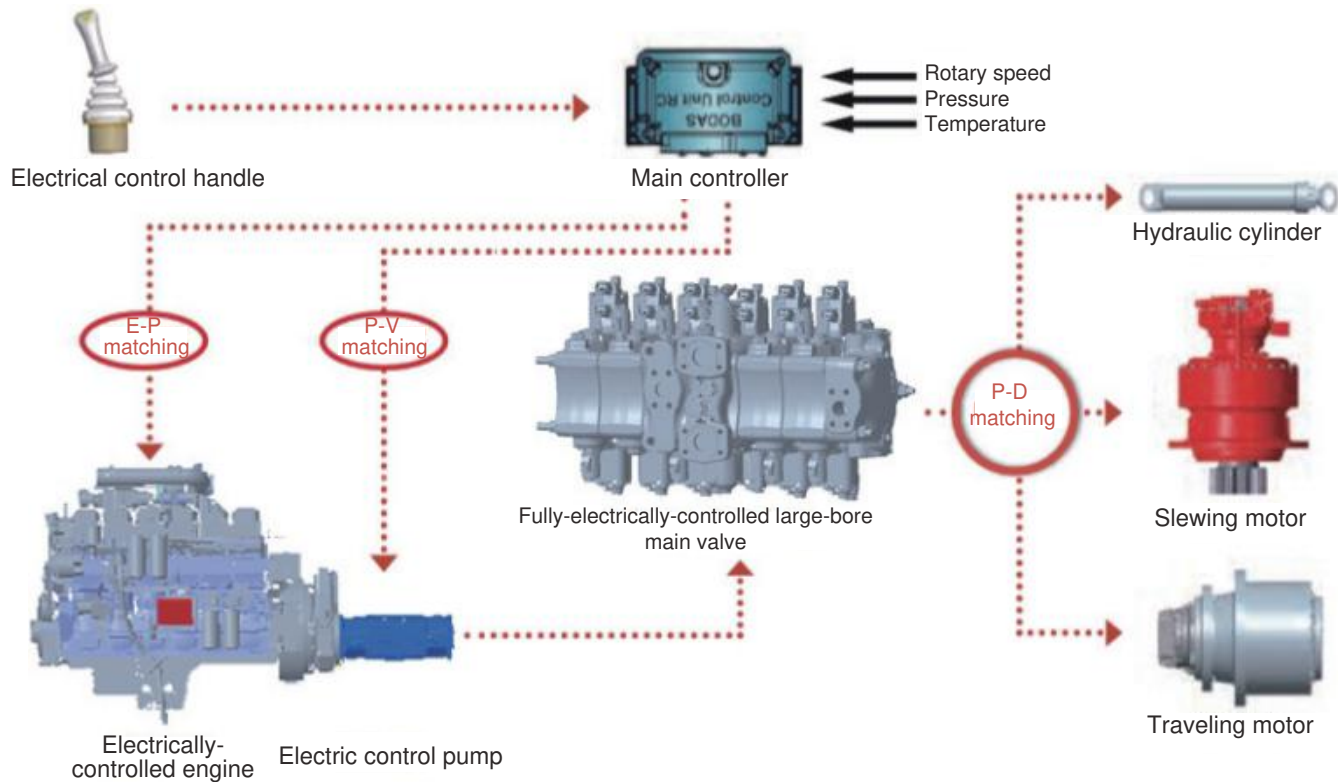
Improve the safety of equipment during mining operations



MORE EFFICIENT AND ENERGY CONSERVATION

High efficiency and low consumption

The integrated control technology (ICT) is mainly composed of EP, PV, FD and ECA technology, namely engine & main pump, main pump & main valve matching technology, flow distribution technology, electric control assistance technology, unpowered boom lowering technology, independent oil & water radiator control. The efficiency of the complete machine is equivalent to that of competing products, while the fuel consumption is reduced by 5-13%.



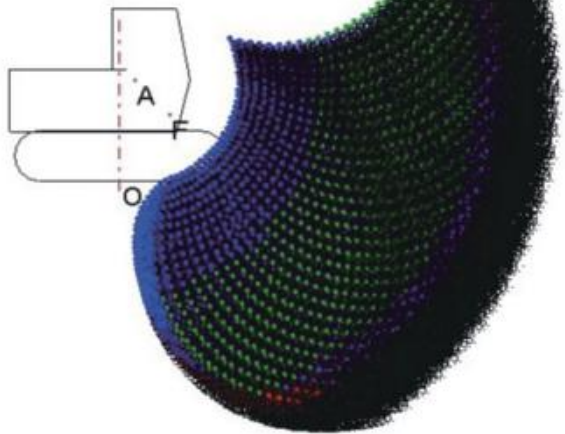
Cummins QSK19 mining heavy-duty engine with sufficient power reserve. The exclusive Sany engine control program for debugging works in the most fuel-efficient zone.



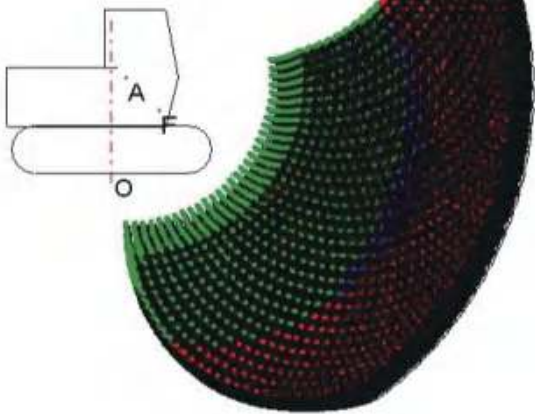
Super high excavating force

Through the real-time power adjustment in the whole process of excavation and the curve analysis for excavation force under various operating conditions, the excavation force can be brought into full play, and the efficiency can be improved by 40%. The green curve in the figure below indicates the excavation efficiency which is brought into full play, and the red curve indicates the excavation efficiency which is brought into partial play. Through the figure below, the excavation force of SY1250H can be utilized by 90%.

Bucket excavation



Bucket rod excavation



Smooth controllability

The main valve is electrically-controlled, with high control accuracy, fast response, precise micro-action control, small impact, and improved operating comfort.



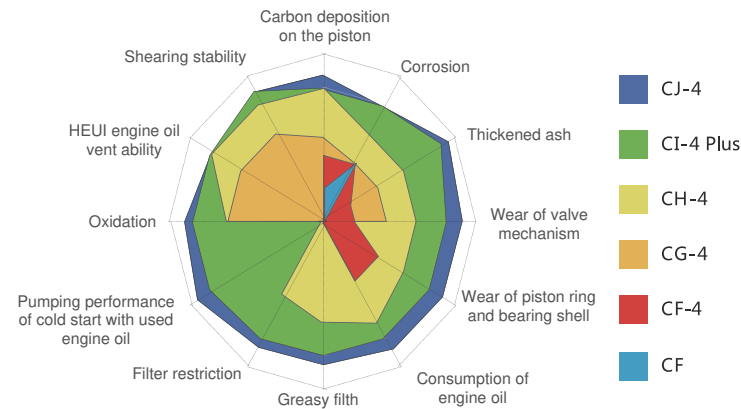
An excavator operator who has more than 10 years' experience gave the comments for SY1250H as follows:

SY1250H excavator has good working speed, excavating force and operability; with human-machine interaction function, it feels that the operator can be integrated with the machine when working.

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; as compared with competitor brands, the maintenance cost is reduced by 40%.



Hydraulic oil: Service life of hydraulic oil is 4,000h and is extended by 1 time as compared with the competitor;
Engine oil: Replacement interval is 500h and is extended by 1 time as compared with the competitor;
Fuel filter element and engine oil filter element: Maintenance interval is extended from 250h to 500h;
Hydraulic oil suction filter element: Maintenance interval is extended from 1,000h to 2,000h.

Super-easy management

Four-dimensional construction management system independently developed by SANY is equipped to improve maintenance convenience of maintainable parts, and convenient maintenance design in allusion to severe mining conditions makes equipment management easier and simpler.



Pump chamber

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

Air filter element

The space for replacing external air filter element is 30% larger than that of general excavator and the filter element can be replaced without the help of any tool.

Engine compartment

Engine compartment volume is increased by 20% and electronic pump is added so that abnormal misfire can be solved rapidly

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!



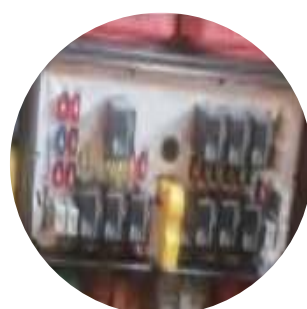
Easy to replace air filter element

Replace air filter element



Easy to replace diesel oil filter element

Replace diesel oil filter element



Electric control cabinet out of the cab makes the maintenance convenient

Independent electric control cabinet



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

Engine compartment

Water drain valve of fuel tank
Check valve

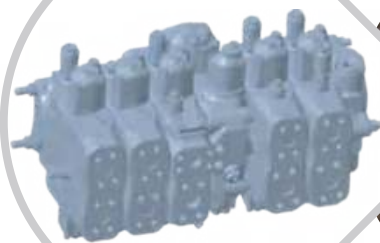
PRODUCT INTRODUCTION

○ Main configuration

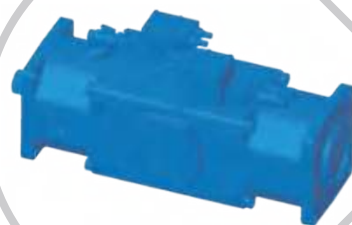
Core components like pumps, valves and engine etc. are designed jointly with proprietary intellectual property rights, and are manufactured by world famous manufacturers to ensure high quality and satisfy professional demands of SANY's customers



Cummins QSK23 mining heavy-duty engine with sufficient power reserve. The exclusive Sany engine control program for debugging of works in the most fuel-efficient area with a power of 557KW.



Rexroth RCS electrically-controlled main valve is most advanced in the industry. Its flow capacity is 20% higher than that of the hydraulically-controlled main valve of the same tonnage, and the pressure loss is 25% less.



Rexroth A2VLO260 electrically-controlled main pump with its own pressure cut-off function is automatically optimizing through SANY ICT technology to achieve real-time appropriate matching with the engine.

○ Construction case



















Worksite: A quarry in Nanjing, Jiangsu Province
Working condition: Rock
Type of work: Stone digging

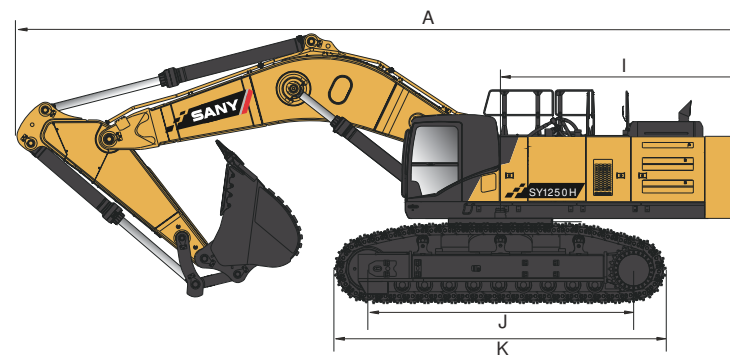
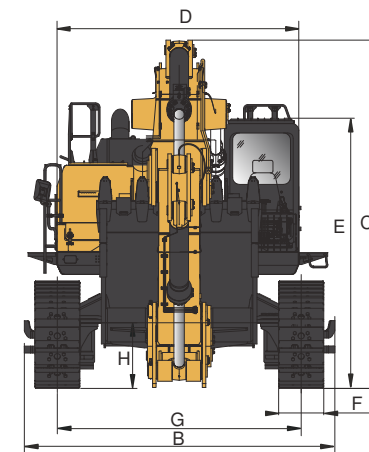
○ Technical specifications

Specification		Main performance	
Overall weight	125000kg	Traveling speed (high/low)	3.5/2.4 (km/h)
Bucket capacity	7.0-8.0m ³	Slewing speed	5.5rpm
		Gradeability	70%/35°
Engine	Cummins engine	Ground pressure	150kPa
Model	QSK23	Excavating force of bucket	585 (605) kN
Type	Direct injection, 6-cylinder, 4-stroke, turbocharged, inter-cooling and water-cooled	Excavating force of bucket rod	460 (475) kN
Rated power	567KW/1800rpm		
Maximum torque	3468N · m		
Displacement	23L		

Capacity of oil and coolant		Traveling part	
Fuel tank	1560L	Number of track plates	51
Engine oil	65L	Each carrier roller side	3
Cooling system	90L	Each thrust wheel side	8
Final drive	2× 18L	Standard track	700m m

Boom---	7600mm	Bucket rod---				3400mm	Track width---				700mm	Counterweight---				17500kg		
		4.0m		5.0m		6.0m		7.0m		8.0m		9.0m		10.0m		11.0m		
		Longitudinal	Lateral	Longitudinal	Lateral	Longitudinal	Lateral	Longitudinal	Lateral	Longitudinal	Lateral	Longitudinal	Lateral	Longitudinal	Lateral	Longitudinal	Lateral	
																		
11.0m	kg									*24961	19158	*22410	17993					
10.0m	kg							*28274	*28274	*25184	18954	*24812	17898	*13736	*13736			
9.0m	kg					*40250	*40250	*31260	26514	*28700	17941	*28145	18795	*23700	13461			
8.0m	kg							*38824	23361	*31331	16479	*28301	18619	*24786	15269			
7.0m	kg							*42938	20780	*30908	22194	*28956	18227	*27612	15143			
6.0m	kg					*41234	33734	*36001	26417	*32444	21390	*29906	17702	*28073	14842			
5.0m	kg			*53690	*53690	*45254	31604	*38562	25085	*34129	20506	*30998	17106	*28704	14458			
4.0m	kg			*21665	*21665	*48862	29605	*40970	23788	*35760	19623	*23085	16494	*29365	14043	*27266	12033	
3.0m	kg			*30673	*30673	*51422	28014	*42899	22659	*37139	18817	*33023	15917	*29932	13640	*27446	11783	
2.0m	kg					*52667	26927	*44127	21775	*38099	18142	*33682	15416	*30285	13283	*27412	11560	
1.0m	kg					*52705	26270	*44560	21151	*38520	17628	*33943	15019	*30300	12999			
Ground	kg			*44858	34641	*51737	25929	*44181	20763	*38313	17281	*33686	14745	*29813	12813			
-1.0m	kg	*38990	*38990	*58045	34711	*49865	25822	*42970	20581	*37381	17099	*32758	14606	*28542	12757			
-2.0m	kg	*54153	*54153	*54212	34955	*47044	25910	*40836	20587	*35563	17086	*30883	14627	*23700	13461			
-3.0m	kg	*55546	*55546	*49191	35392	*43077	26191	*37553	20783	*32521	17263	*27338	14876	*24378	13062			
-4.0m	kg	*47388	*47388	*42543	36068	*37541	26699	*32598	21212	*27333	17719	*27348	11513	*25010	12619			
-5.0m	kg			*33454	*33454	*29484	*29484	*24432	*24432	*32414	14400	*25149	12257	*25149	12257			
-6.0m	kg			*53690	*53690	*43615	32379	*33708	20193	*29878	15580	*24315	12063	*24315	12063			
-7.0m	kg			*21665	*21665	*41716	*41716	*34344	21737	*27737	15529	*26739	14823	*17685	*17685			
-8.0m	kg			*30673	*30673	*34814	*34814	*29176	22108	*23087	15834	*21941	15145	*15706	*15706			

○ Overall dimensions (mm)



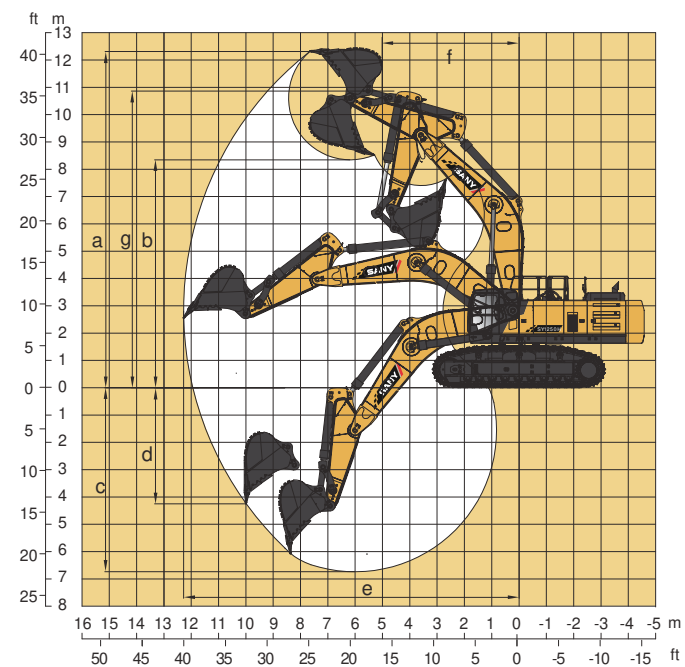
Overall dimensions: mm SY1250H

A. Overall length (in transportation state)	1470
B. Overall width	5560
C. Overall height (in transportation state)	6260
D. Upper width	3500
E. Overall height (cab top)	4375
F. Width of standard track plate	700
G. Track gauge	3900
H. Minimum ground clearance	1085
I. Slewing radius of tail	4950
J. Grounding length of track	5150
K. Track length	6630

Performance parameters SY1250H

Operating mass, kg	125000
Bucket capacity, m ³	7.0-8.0
Rated power, kW/rpm	567/1800
Traveling speed (high/low), km/h	3.5/2.4
Slewing speed rpm	5.5
Gradeability	70%/35°
Ground pressure, kPa	150
Excavating force of bucket, kN	585
Excavating force of bucket rod, kN	460

○ | Operating range (mm)



Operating range: mm SY1250H

a. Maximum excavating height	12550
b. Maximum unloading height	7945
c. Maximum excavating depth	8065
d. Maximum excavating depth with vertical boom	5085
e. Maximum excavating distance	13335
f. Minimum slewing radius	6550
g. Maximum height at minimum slewing radius	10950



Powerful Tool **SY1250H** for Mining Excavation Value Leader

New-generation Super Hydraulic
Excavator for Mining

