



SY750H

Engine power

391kW/1800rpm

Bucket capacity

5m³

Operating weight

78500kg



Special working condition Dedicated design



Super long service life



Super high adaptability



Super low maintenance cost



SANY HEAVY MACHINERY LTD

<http://www.sanyglobal.com>

This manual was printed in 2023. The product information may have been changed when you read it. Products (including specific configuration, detail, etc.) are based on the specific models and products applicable to markets outside China, which are displayed and sold by agents. For more details, please visit the local authorized agent of SANY Heavy Machinery Ltd.





Strong power



Equipped with Cummins X15 engine, rated power 391kW. Surging power output, low consumption, large carbon dioxide high current. dynamic quick response and high efficiency. Adopting DOC+DPF+SCR after-treatment technology, thenitrogen oxide conversion rate has been improved high, thecombustion is optimized. Increase engine power and torque can improve fuel economy a lot and make emission more cleaner.



Equipped with Kawasaki full electric control main valve and main pump Dual swing motor with a larger slew torque can make upper structureswing smoothly. Large displacement main pump and heavy P-Q increase Power control can balanced fuel con-



sumption on the basis of improving digging efficiency, strong digging force. Integrated electromagnetic proportional valve, high flow distribution efficiency, compound movements are smooth.



Comfortable driving

Taking inspiration from new energy vehicles, the C12 Intelligent Cabin is developed with five major functions: “Intelligent Interaction, Intelligent Driving, Intelligent Connectivity, Intelligent Construction, Intelligent Maintenance”, surpassing in terms of digital technology, ease of operation, automation and safe construction.

Air conditioning, radio, lighting, and other multifunctional controls are integrated into the display screen, reducing physical buttons for a more exceptional technological feel.

Reduced vibration levels and an equipped floating armrest box effectively alleviates driver's fatigue during long hours of work on large machinery.

HD rearview camera video display for enhanced safety during construction.

Expandable 2D/3D auxiliary construction, voice control, 360-degree surround view, electronic fencing, and other intelligent functions.

Air conditioning power increased by 10%, and equilibrium temperature reduced by more than 14% when there is light; humanized air vent layout, providing the best temperature experience.



Full Electronic Control System

Kawasaki's fully electronic control main valve with an electromagnetic proportional valve control boasts outstanding advantages such as high reliability, minimal pressure loss, rapid response, high flow distribution efficiency, and smooth compound actions, making operations effortless for our customers.

Full Electronic Control Main Valve

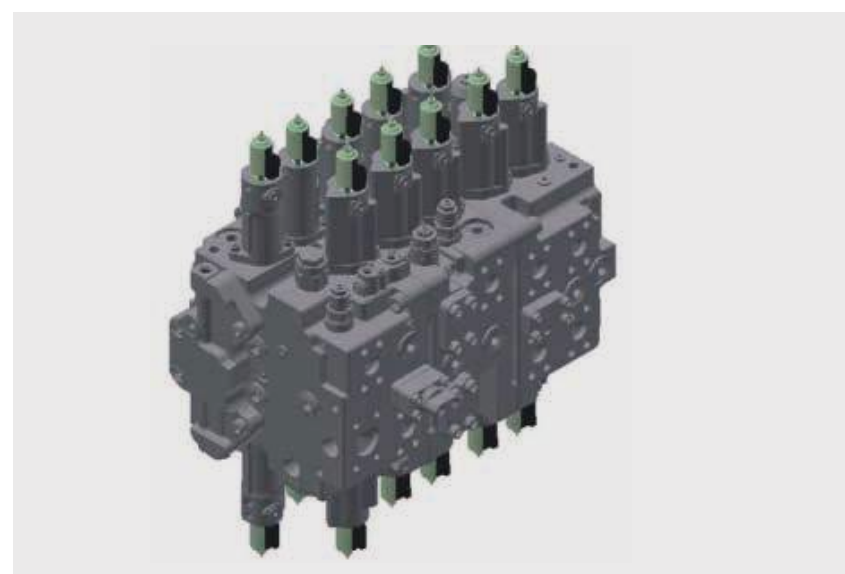
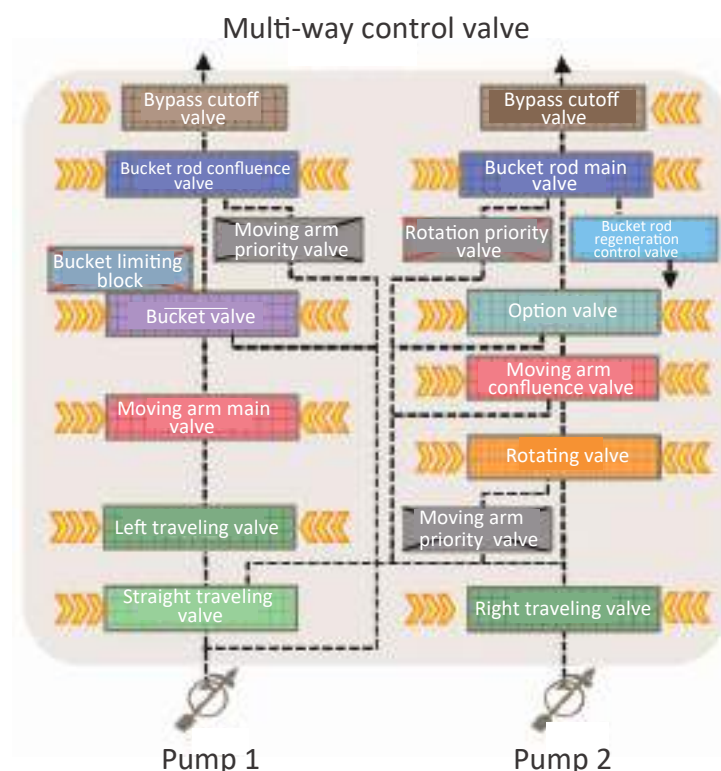
We continue to use the imported National IV Kawasaki full electronic control main valve, and integrates electromagnetic proportional valves into a single unit. The wiring harness connects and controls the main valve, pilot pipe routes are reduced, circuits are simplified, various actions are independently controlled, and achieving intelligent confluence, high efficiency and low consumption.

Large Diameter Valve Core

A large-diameter main valve core enhances flow capacity, reduces system pressure loss, and optimizes back pressure for various actions, significantly reducing power loss.

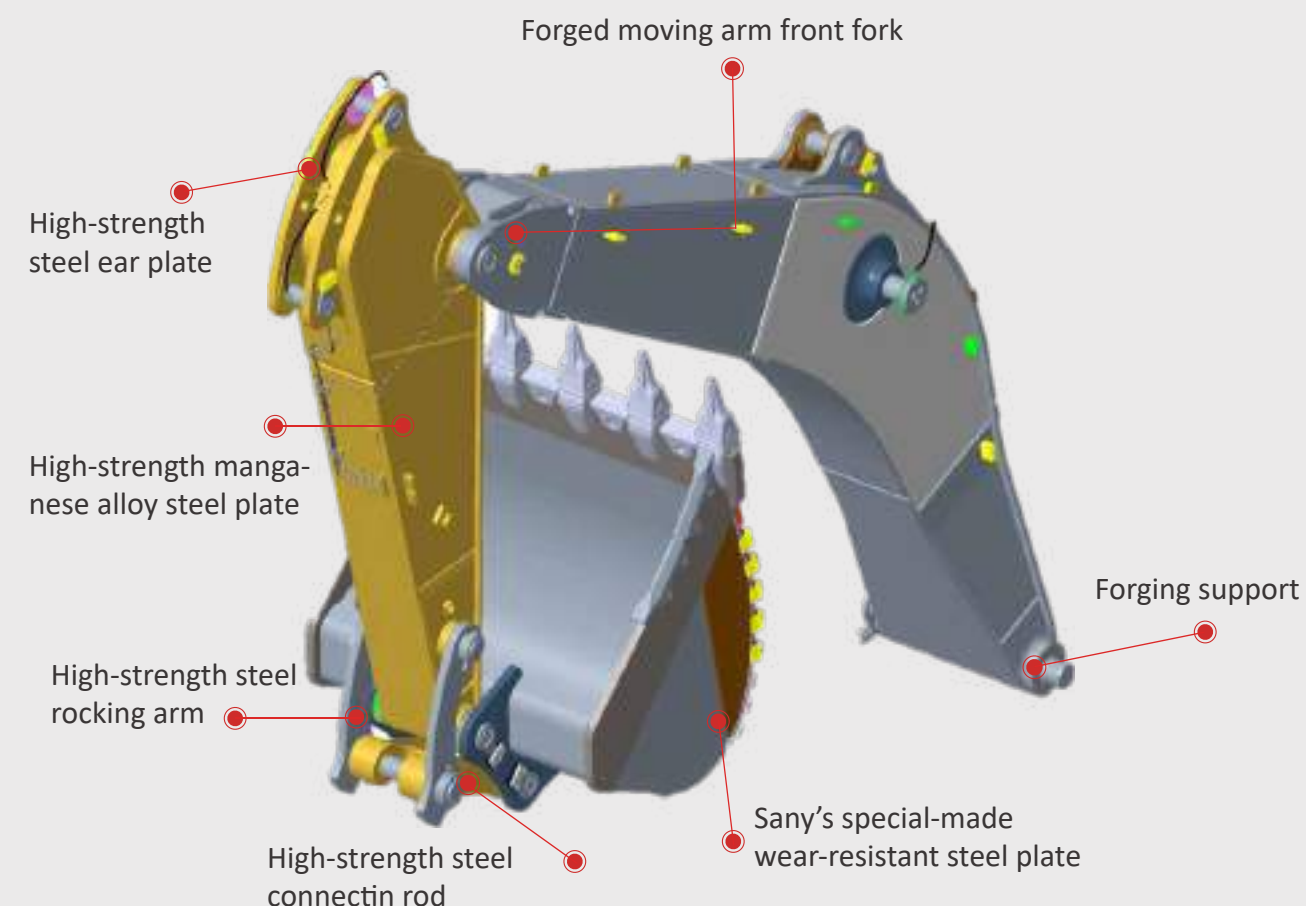
Rotation Control

A rotating speed sensor is arranged in the controller, controls pump flow optimally during acceleration, reduces overflow flow during rapid rotation, and lowers fuel consumption.



High-Strength Structure

Enhanced design of structural components in the working device increases the lifespan to 15,000 hours.



Reduced Stress

Multi-body dynamic CAE analysis of components and fatigue simulation optimization in structural components significantly reducing stress concentration and defects, with a maximum stress reduction of over 30%, thereby enhancing the lifespan of the working device.

Material Selection

Utilization of high-strength steel plates, high-strength forgings, wear-resistant steel and casting integrated connecting rod ensures has the advantages of high reliability and extended lifespan.

Structural Optimization

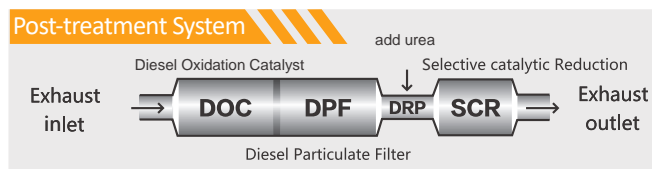
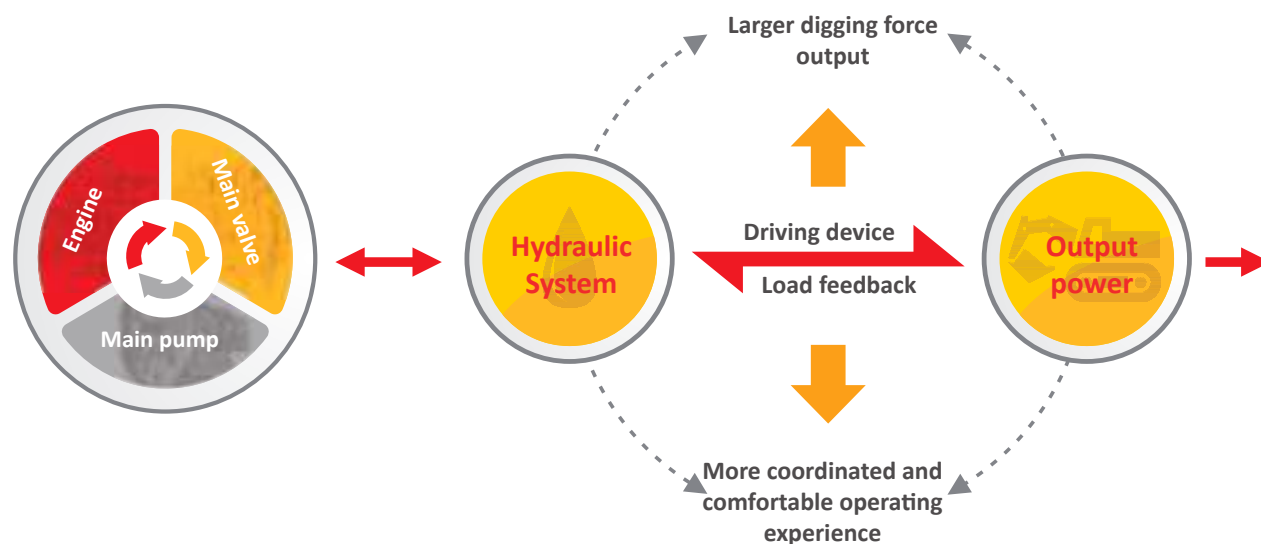
A mining-specific working device with a three-section box body structure, widened cross-section, enlarged box body cross-sectional area, increasing 20% section modulus in bending.

Process Improvement

Implementation of IIW international welding standards, selecting appropriate weld joint and requirements for different stress areas. Optimized weld toe formation and increased root weld penetration for extended longevity are added in the life-expanded welding processes.

Dynamic Optimization Intelligent Control System

Adopt "positive flow" system and "DOMCS engine-pump -valve integrated dynamic optimization intelligent control system independently developed by Sany. It can achieve high working efficiency and low fuel consumption.



Power system

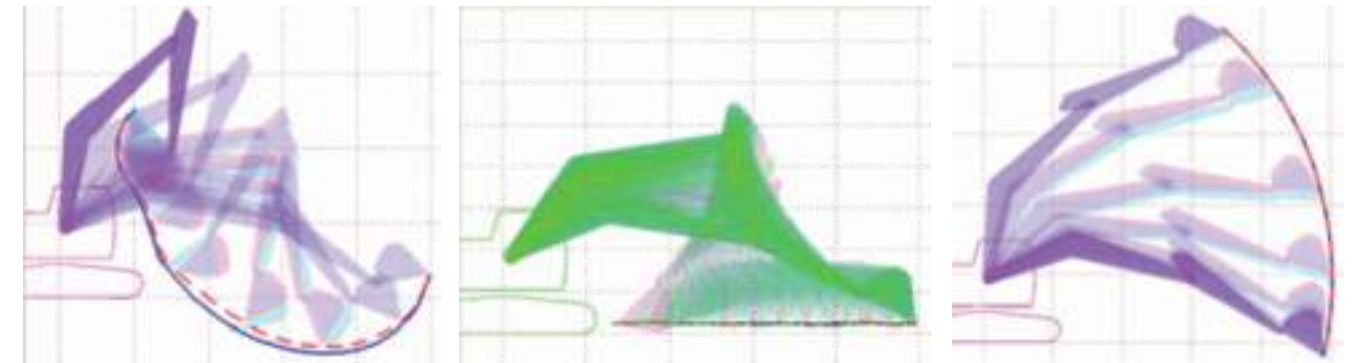
Equipped with Cummins X15 engine, rated power 391kW. Surging power output, low consumption, large carbon dioxide, high current, dynamic quick response and high efficiency. Adopting DOC+DPF+SCR after-treatment technology, the nitrogen oxide conversion rate has been improved high, the combustion is optimized. Increase engine power and torque can improve fuel economy a lot and make emission more cleaner.



Outstanding Performance

Kawasaki KC-MC-20 controller is higher in precision control, rapid response, and the controlling impact force of micro-operations is small.

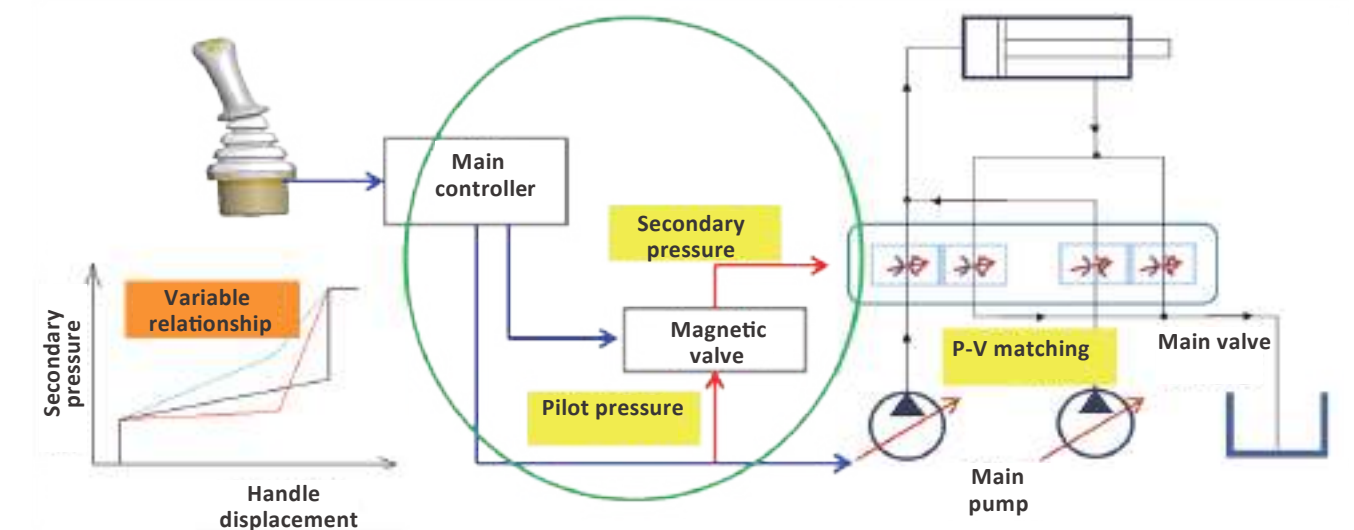
The full electronic control ACE-P technology enhances the operational adaptability and improves operational coordination, ensuring precise and gentle control, and making operations easy and smooth; The P-V matching technology ensures "what is required is what is provided", addressing issues related to oil suction limit and pressure buildup, and allowing for precise control; Electronic control handle reduces dead zones, maintains operational consistency, and resolves issues with complex action coordination, resulting in smoother operations; High computational power +PWM closed-loop control reduces lag and ensures rapid response.



Enhanced triple combination operation performance

Improved horizontal control performance

Reduced stopping impact



Powerful in performance

.01

Strengthen the structural parts of the

Comprehensively apply the 20,000 hours working device technology, adopt high-strength steel + high-strength forgings + wear-resistant steel plate, one-piece casting connect rod, three-stage box structure, widened section, enlarged box section, The modulus of bending section is increased by 20%, with high reliability and long service life.

.02

Enhanced undercarriage

KYB travel motors can provide powerful travel torque. Reinforced double grouser track shoes, heavy-duty bottom rollers and variable-gauge assembly undercarriage can realize operations in narrow spaces.

.03

Full Electric Control System

Full electric control ACE-P technology to improve operational adaptability, improve operational coordination, control Precise and soft, easy and smooth operation. Dual microcomputer controllers, high precision control, fast response, small impact of micromotion control.

.04

Variety of configurations

SY750H is positioned as a large hydraulic excavator for mines, which can complete material digging and loading in various mines such as coal mines and iron mines. It can be used as a base machine for large ripper, breaker above 210, large piledriver, boat excavator, etc.

.05

Bucket Upgrade

Capacity of standard bucket is 5.0m³, it is suitable for the extreme mine working condition. 4 buckets can be chosen to meet different applications, it helps to improve working efficiency and create value for customer.

Standard rock bucket Heavy-duty rock bucket

Earthwork bucket Light earthwork bucket

Reinforced Lower Frame

Reinforced four-wheel single-track lower frame ensures the strength of the walking device in harsh environments.



Reinforced double-strand wear-resistant tracks

Reinforced double-strand wear-resistant tracks enhance road grabbing force and track plate strength.

Heavy-duty supporting wheels

Heavy-duty supporting wheels ensure reliable walking performance, with a 30% increase in load-bearing capacity.

Imported walking motor

Imported KYB walking motor provides strong driving torque, meeting the walking power requirements for various working conditions.

Assembled lower frame

Assembly-style lower frame with variable track features robot fillet welding in the flat position, improving welding quality. All weld joints undergo 100% ultrasonic testing, increasing the service life.

Super long service life

High-performance hydraulic system configuration presents smoother operations, lower energy consumption, optimized the lay out of the oil radiator, and enhancing driving comfort.



Dual rotation

Dual rotation increases rotating torque, ensuring smoother rotation and easy debris clearance for more effortless operations.

Main Pump with Large Displacement

Large displacement pump is controlled through heavy-duty P-Q power gain, balances fuel consumption while improving excavation efficiency, ensuring strong digging continuity.



High-Power Independent Oil Radiator

High-power independent oil radiator is characterized by significantly enhancing adaptability to high-temperature environments. It intelligently adjusts fan speed according to oil temperature, ensuring the equipment operates at the optimal temperature, effectively controlling energy consumption of heat dissipation and reducing noise levels.





Complete research & development and test system

It has established complete machine endurance test center with full functions. Each model of excavator must be subjected to over 2,000h field excavating test.

Key components like working device, cab and hydraulic components etc. must be subject to fatigue test over 800,000 times.



Others (Safety and Reliability)

FOPS/ROPS-certified driver's cabin offers enhanced safety, with safety performance improved by 30% compared to a regular cabin, equipped with an emergency stop switch, anti-slip covering plates, anti-rock side doors, and further enhance equipment safety during mining operations.

Protective mat



Rear view + side camera



Double-Layer Anti-Rock Side Doors



Alarm lamp



Emergency stop switch



Anti-slip cover plate



Advanced manufacturing technology

SANY has RGV assembling line and full automatic welding robots, and possesses high precision machining equipment and precise machining center.

SANY's manufacturing and assembling lines won five-star national site in 2013 and national quality award in 2014. In 2023, SANY Mini Excavator Factory was awarded as the intelligent factory.



Convenient maintenance

To address the harsh conditions in mining environments, we enhance the design for easier replacement of maintaining components, providing “ample space and ease of access” . The operational space for replacing various maintaining components is increased by 20%-30%, ensuring worry-free operations and simplifying equipment management.



Increased engine compartment space offers “ample space and ease of access” for convenient inspections and maintenance, making everything easily accessible.



Dual air pre-filtration system reduces air intake resistance, extends maintenance intervals and adapts to high-dust conditions, offering lower maintenance costs.



Intelligent and convenient fuse box presents high integration, compact size, and convenient and secure wiring.
















Technical specifications

Specification		Performance	
Operating weight	78500 kg	Swing speed	7.2 rpm
Model	Cummins X15	Travel Speed(high/low)	4.5/2.9 km/h
Type	6 cylinders 4 cycles Turbo charger and intercooler.Water cooler,Direct injection	Gradeability	70%(35°)
Engine power	391 kW/ 1800 rpm	Ground Pressure	114 kPa
Maximum torque	2373 Nm/ 1400 rpm	Bucket digging force(ISO)	410 kN
Displacement	14.9 L	Stick digging force(ISO)	354 kN
Bucket capacity	5.0 m³	Max. Drawball Pull	547 kN

Service refill capacities		Undercarriage	
Fuel tank	940 L	Track shoes	2 x 48 pcs
Hydraulic tank	680 L	Top rollers	2 x 3 pcs
Engine oil	40 L	Bottom rollers	2 x 8 pcs
Engine coolant	75 L	Shoe width	650/750/900 mm
Travel gearbox	2×16 L		
Slew gearbox	2×10.5 L		
DEF/AdBlue tank	100 L		

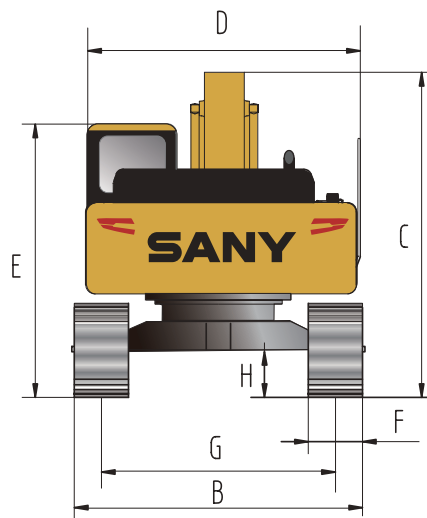
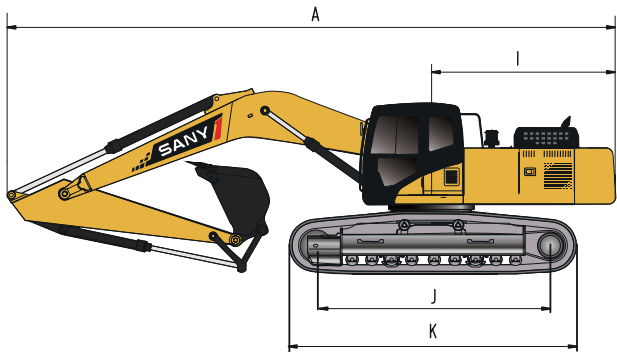
Table of lifting capacity

BOOM: 7m Shoe: 650mm ARM: 3m Counterweight: 12300kg																						
		1.5m		3.0m		4.5m		6.0m		7.5m		9.0m		Max. reach								
Height of lifting point															mm							
7.5m	kg									*16937	*16937			*16605	*16605	8481						
6.0m	kg								*31260	26514	*17778	*17778	*16459	*16459	*16397	*16397	9200					
4.5m	kg								*23021	*23021	*19131	*19131	*16948	*16948	*16394	13971	9630					
3.0m	kg								*25656	*25656	*20538	*20538	*17600	15061	*16492	13278	9811					
1.5m	kg								*27281	*27281	*21560	*21560	*17978	14725	*16694	13186	9756					
0	kg								*29459	*29459	*27550	*27550	*21853	18609	*17978	14524	*16895	13610	9460			
-1.5m	kg										*21665	*21665	*33823	*33823	*26471	*26471	*21120	*21120		*17030	17030	8903
-3.0m	kg										*36689	*36689	*29873	*29873	*13825	*23825	*18745	*18745		*16955	16955	8021
-4.5m	kg														*23394	*23394	18491	*18491		*16202	*16202	6698

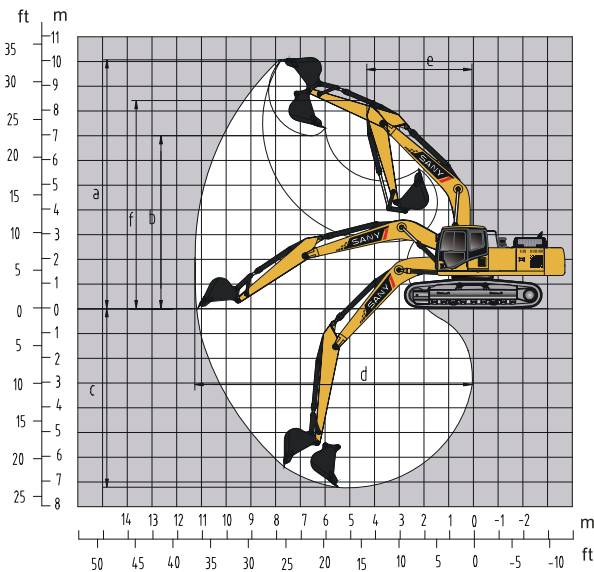
1. The above loads are in compliance with ISO 10567 and SA J1097 hydraulic excavator lifing capacity standards.
2. The above loads do not exceed 87% of hydraulic lifting capacity and 75% of tipping load.
3. *Indicates that the load is limited by hydraulic capacity rather than tipping load.
4. Weight of all lifting accessories must be deducted from the above loads.

Machine dimensions

Overall dimensions (mm)	SY750H
A. Overall length	12879
B. Overallwidth without steps (extended/retracted)	4030/3430
C. Overall height	4981
D. Overall width of upper frame (with/without walkways)	4479/3484
E. Overall height of cab	3795
F. Shoe width	650
G. Track gauge(extended/retracted)	3380/2780
H. Min. ground clearance	892
I. Tail swing radius	4175
J. Tumbler length	4770
K. Track length	5986



Operation range (mm)	SY750H
a. Max. cutting height	11020
b. Max. loading height	7170
c. Max. digging depth	7580
d. Max. digging reach on ground	12100
e. Min. front swing radius	5390
f. Max. height at min.front swing radius	9815



Note: Due to continuous improvement, materials and specifications are subject to change without notice. Machines shown in photos may include options.

Standard configuration

Engine	Cab	Undercarriage
High power engine	• Automotive Grade cab	• Reinforced travel motor protection plate •
Dynamic optimization intelligent control	• Tempered light-tinted glass windows	• Reinforced lower frame •
Water cooler	• Silicone rubber shock absorber	• Track tensioner •
24V/7.8kW starter motor	• Top, front upper window and left window (openable))	• Idler •
Desert air filter	• Rear window emergency exit	• Sprockets and upper rollers •
DC air filter	• Wiper (with washer)	• Reinforced track chain (with pin shaft seal) •
Engine oil filter	• Multifunctional Air Suspension Seat	• 650mm track shoes (double grouser) •
Triple fuel filter	• ootrests, floor mats	• Reinforced double-layer side steps •
Engine oll cooler	• Speakers, rearvlew mirrors	• Protective bottom cover •
Radlator sub tank	• Seat belt, fire extingulsher	•
Auto idle system	• Cup holder, compartment lamp	•
	• Escape hammer	•
	• Storage boxes, documentbags	•
	• Pilot control cut-off lever	•
	• Fully automatic air conditioner	•
	• Emergency stop switch	•
	• Top protection guard + frontlowerprotection guard	•
	• Shoe box	•

• stands for standard configurations ○ stands for optional configurations

Standard configuration

Hydraulic system		Digging equipment		Upper Structure	
Control vave (with main relief valve)	•	Flange pin	•	Fuel level sensor	•
Control valve backup port	•	Cast connecting rod	•	Hydraulic oil level gauge	•
Oil suction filter	•	Fully automatic centralized lubrication system	○	Toolbox	•
Drain filter	•	Dust-proof sealing ring (both bucket pins are configured)	•	Swing parking brake	•
Oil return filter	•	Reinforced fully welded box boom	•	Rearview mirror (right side)	•
Pllot filter	•	Reinforced all-welded box stick	•	Rear view camera	•
Hydraulic shock absorber blind pipe	•	Forged boom front fork	•	Cab warning light	•
Independent oil cooler	•	Chisel bucket teeth/polnt bucket teeth	•		
		Reel type lubrication system	○		

Safety

Emergency stop switch	•
Signal/Alarm Horn	•
Rearview mirror	•
Rear window emergency safety exit	•
Battery negative switch	•
Panoramic camera	○

• stands for standard configurations ○ stands for optional configurations

Alarm lights		Monitor Screen		Others	
Controller failure	•	Standard GPS	•	Large capacity battery	•
Abnormal pump pressure	•	10-inches touch screen	•	Lockable engine hood	•
Abnormal pilot pressure for each action	•	EVI system	•	Lockable fuel filler	•
Dynamic optimization intelligent control	•	Hour meter, fuel tank level gauge	•	Rear window emergency safety exit	•
Insufficient fuel	•	Engine coolant temperature gauge	•	Battery negative switch	•
Engine failure	•	Engine oil pressure gauge	•	Panoramic camera	○
Low oil pressure	•	Smart safe box	•		
Coolant temperature is high	•	Bluetooth voice call	•		
High hydraulic oil temperature	•	Fuel tank level gauge	•		
Oil return filter blockage alarm	•	Urea tank level gauge	•		
Post-processing regene-ration prompts and alarms	•	Coolant temperature gauge	•		
Abnormal pilot pressure in each action	•	Hydraulic oil temperature gauge	•		
Solenoid valve abnormality alarm	•	Switch between left and right hands	•		
Power supply voltage abnormality alarm	•	One-touch start/stop switch	•		
Relay abnormality monitoring	•	Walking correcting	•		
Fuse abnormality monitoring	•	Home mode	•		
		limp mode	•		

• stands for standard configurations ○ stands for optional configurations