

SANY HEAVY INDUSTRY INDIA PVT. LTD.

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Material & specification are subject to change without prior notice in accordance with our continuous technical innovations. Featured machines in photos may include additional equipment.

BRAND NEW
10 SERIES

Operating Weight: 78600 kg Bucket Capacity: 4.6 - 5.4m³ Engine Power: 506 HP (377 kW)/ 1800 rpm

SUPERIOR PERFORMANCE
SUPERIOR RELIABILITY
SUPERIOR OPERATOR COMFORT
SUPERIOR SERVICEABILITY



SY870C-10 HD
HYDRAULIC EXCAVATOR



POWER OF 10

The **10-Series** new **SY870C-10 HD** is the powerful & reliable 80T Superior-grade mining excavator, specially developed by SANY to meet heavy duty and high productive operating conditions in mine and offer high return on investment to the Customers.

New powerful and fuel efficient engine

GB3 Emission & CRDI Technology

10% Less Fuel Consumption



Dynamic & Intelligent Mode Control System

- P** Max. Power for high output
- H** Balanced power for high fuel efficiency with optimum productivity
- S** Optimized power for unmatched fuel efficiency
- I** Rated power for fine controlled operation

Advanced "DOMCS" System independently developed by SANY and "Power Optimized mode control system" ensures mutual Engine & hydraulic pump power at optimum level under various working conditions.

Big mining Power

To the realtime power adjustment & excellent digging forces 10 series excavator offers best in class productivity



Improved Reliability

- Forged pivot ends
- Manganese alloy high-strength steel plates
- Ultrasonic flow detection weld joints
- "NAS7" Industry best hydraulic system delivery cleanliness level
- The service life of Main Pump, MCV, Oil cylinder, Travel & Swing gearbox, fuel tank & cabin are doubled with Oil Impulse test bed, endurance test bed, vibration test bed

2 New Gen-hydraulic System



- Kawasaki New Gen-MCV KMX36NA / Pump K3V280
- Electronically controlled Positive flow Hydraulic system
- Boom lowering flow control mode

7 New Ultra Silent & Dust Proof Cabin

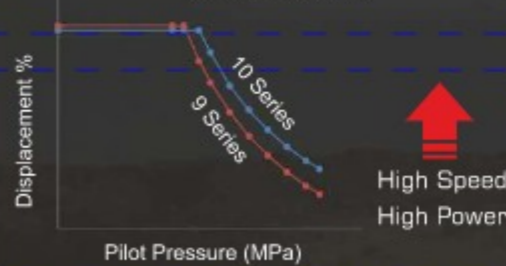


3 Pressure & Flow Loss Reduction Technology

Improved Pilot Pressure Control Curve



Improved PO Curve



- The overall pressure & flow loss is substantially reduced with New-Gen hydraulic aggregates, improved positive flow control curve, joysticks, optimized valve core structure & regenerating circuits.
- Two Intermediate adjustment points are added to the positive flow control curve for more pilot pressure adjustment while moving the joysticks
- Adopted with Power-increasing control technology, the output power increases with the increase of main pressure

11 Superior Operator Comfort

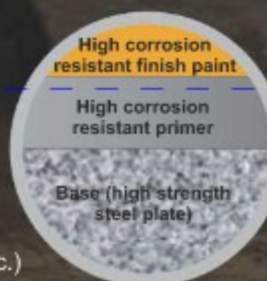
- High Stability with Longer Undercarriage
- Rear View Camera as standard

9 Super Easy Maintenance Management

- Advance Telematics System
- 30% more spacious hydraulic pump compartment
- 20% more spacious engine compartment

10 Super High Adaptability

- High corrosion-resistant coating
- Duel oil bath pre-cleaner
- Large-capacity multi-stage filtration system
- Independent ROC
- Multi tool adaptability (breaker, shear, quick coupler etc.)



SUPERIOR PERFORMANCE

SANY SY870C-10 HD excavator is specially designed for heavy duty operating conditions in Mine with combination of best in class productivity and superior fuel economy.

UNMATCHED PRODUCTIVITY

POWERFUL & FUEL EFFICIENT ENGINE

The new SY870C-10 HD is powered by well renowned Isuzu GB3-6WG1X engine with exceptional work capacity. It is specially optimized & designed for SANY with reduced fuel consumption and excellent power of 377kW, taking leading position over the performance of other products in this category.

ADVANCED HYDRAULIC SYSTEM

The new SY870C-10HD comes with Powerboost hydraulic system & enhanced digging forces to meet the requirements of toughest mining conditions. Hydraulic power ~ 34.3MPa--> 37MPa Bucket Digging Force~ 402kN-->469kN Arm Digging Force~ 345kN--> 402kN when the machine deals with heavy duty mining application requirement of moving heavy material quickly and efficiently, it needs the best hydraulic power that SY870C-10HD has. Hydraulic priority system with boom & arm regeneration system offers excellent output for bulk mining excavation. Flow & pressure loss reduction technology adopted for high output & fuel efficiency.

BIG MINING POWER

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 into full play, and the efficiency can be improved its Optimum. 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. Figure below indicates how the excavation force of SY870C-10HD can be utilized by 90%.

SUPERIOR FUEL EFFICIENCY

DYNAMIC OPTIMIZATION MATCHING CONTROL SYSTEM (DOMCS)

With "Positive Flow Hydraulic System" and "DOMCS " Dynamic hunting Intelligent Matching Control System developed independently by SANY, the Productivity and Fuel efficiency is achieved best in its class . Overall efficiency is improved by 13%.

WORK MODES AND AUTO-IDLE

SY870C-10 HD is equipped with three power modes (P, H, S) to match engine speed, pump speed and system pressure with versatile work application. Automatic idle function reduces fuel consumption significantly leading to reduced operating cost.

SUPERIOR COOLING EFFICIENCY

Independent oil cooling system adjusts fan speed according to hydraulic oil temperature to meet cooling needs of harsh mining conditions, thereby improving over all cooling efficiency.



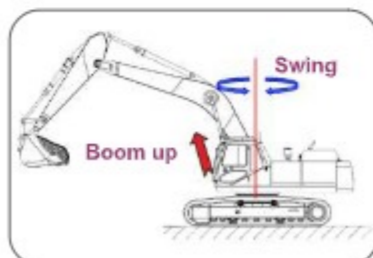
13% High Work Efficiency

17% High Bucket & Arm Digging Force

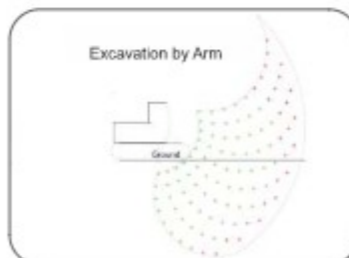
Best-in-Class Fuel Efficiency



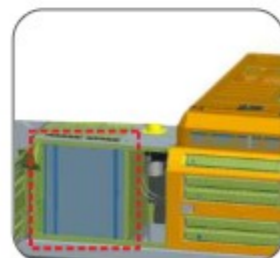
Powerful & fuel efficient CRDI Engine



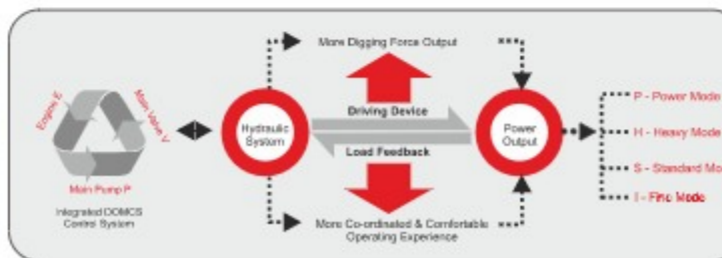
Hydraulic regeneration system hydraulic priority system bucket flow summation system



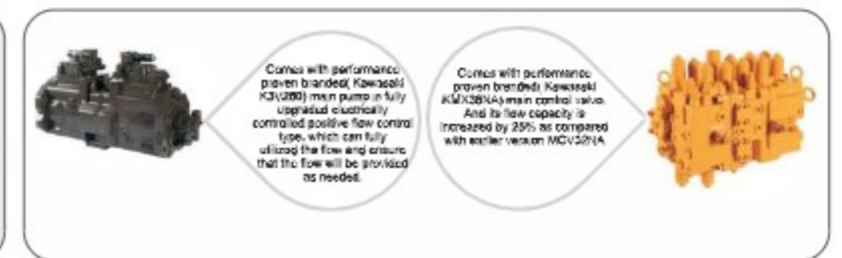
Big mining power



Independent oil cooler



Advanced integrated DOMCS control system



High efficient hydraulic system



SUPERIOR RELIABILITY

Through near 20 year's accumulation, by virtue of the three-in-one large-sized excavator testing system of Sany and on the basis of matured technologies adopted for the product series the service life of SY870C-10HD is increased to meet the toughest mining requirements of the customers.

ROBUST STRUCTURE

HEAVY DUTY BOOM & ARM

13-15% increased boom & arm plate thickness ensure enhanced structure durability while working in toughest mining conditions Manganese alloy high strength steel plates are adopted and all welding seams have 100% gone through ultrasonic flaw detection. The main load bearing pivots are made of forged parts, therefore the overall structure strength is improved and service life is prolonged.

WEAR RESISTANT BUCKET

Use of anti-wear steel plates specially manufactured by Sany provide longer bucket service life. The side plate and flexible plate of bucket are made of NM400 anti-wear steel, so that anti-wear property of bucket is improved.

HIGH STRENGTH UPPER FRAME

Heavy Duty upper frame with critical load points are reinforced to improve bending strength of the platform. D-Shaped large section stronger beam can withstand external shocks.

NEW HEAVY DUTY LONG CRAWLER UNDERCARRIAGE

The new Long Crawler Undercarriage is made up of high strength alloy steel with good wear resistance and durability. Enlarged tie-rod tensioning device & newly designed HD sprocket provide higher life in toughest underfoot conditions. Anti-collision ribs have been added to improve the strength of track frame. Heavy Duty double grouser track shoe with robust rollers and idlers for enhanced service life of track assembly. Full track guard option for better guiding of track chain & offers higher life.

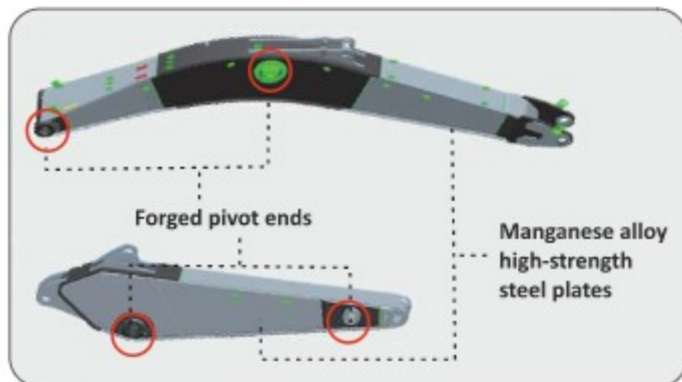
INDEPENDENT OIL COOLER & RADIATOR SYSTEM

The cooling efficiency is improved by 20%, the operating temperature of system is reduced by 8-10°C as compared with ordinary excavator, 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 cooling system.

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

WORLD CLASS PROVEN BRANDED MAJOR AGGREGATES & SANY ADVANCED TESTING SYSTEM

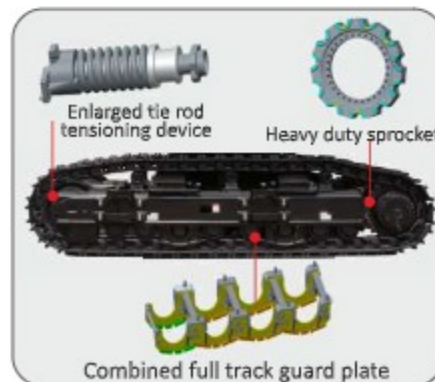
Proven branded major aggregated such as the main pump, main control valve, oil cylinders, devices have passed the endurance test and bench test verification, and the service life has been doubled.



Heavy duty boom & arm



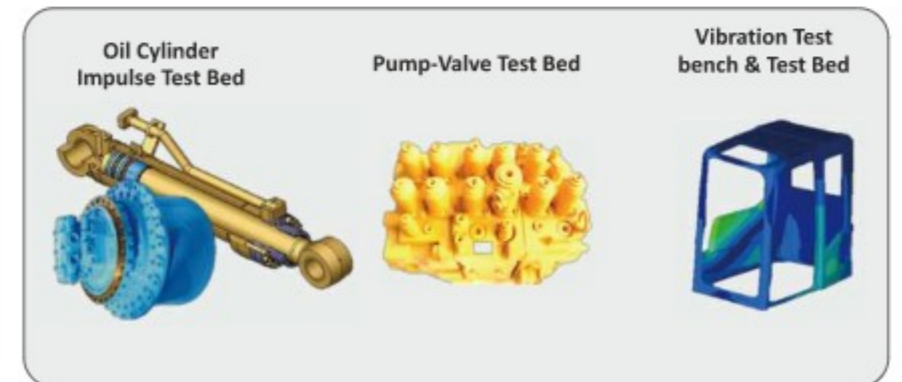
Heavy duty bucket



Heavy duty long crawler undercarriage



Independent oil cooler & radiator



Proven branded major aggregates & advanced world class testing methods



SUPERIOR OPERATOR COMFORT & SAFETY

In light of the operating conditions in mine, the safe and comfortable cab is adopted with new type dust-proof & noise-reducing technology. Safety is increased by 5times and the noise in cab is reduced by 5dB as compared with ordinary cab.

OPERATOR COMFORT

AUTOMOTIVE STYLE SPACIOUS CAB WITH PROTECTIVE GUARDS

New technology spacious cabin with 35% reduced indoor noise for more operator comfort. SY870C-10HD comes with safe cab, and through finite element model analysis the steel structure and sealing property of cab are optimized.

KEYLESS ENGINE IGNITION SYSTEM

In new series excavator the conventional method of Engine starting system is replaced with keyless ignition system for better convenience.

FULLY ADJUSTABLE DOUBLE SLIDE AIR SUSPENSION SEAT

SANY excavator comes with superior multi angle adjustable suspension seat that incorporates the side consoles mounted together with high back, multiple adjustment points allows you to select most comfortable position as per the actual site underfoot conditions.

JOG DIAL & CAN TYPE CONTROL SWITCHES

10 series excavator cabin comes with Jog dial type control switch with backlight provides smooth & fatigueless operation. First In class feather touch multifunctional CAN switches provides bright & clear view in night time operation.

10" FLAT MULTIFUNCTIONAL & INTELLIGENT TOUCHSCREEN PANEL

A revolutionary large high resolution touch screen display enables accurate & smooth work equipment monitoring & Control. The interface has been redesigned to display key machine information in a new user friendly interface.

HIGH CAPACITY, MULTI DUCT, AUTOMATIC AC SYSTEM

The large capacity multi-duct air conditioning system keeps in-cab air fresh. The cooling and heating effect cab be achieved quickly results operating the machine more comfortable for longer hours.

OPERATOR SAFETY

ENHANCED WORKING STABILITY

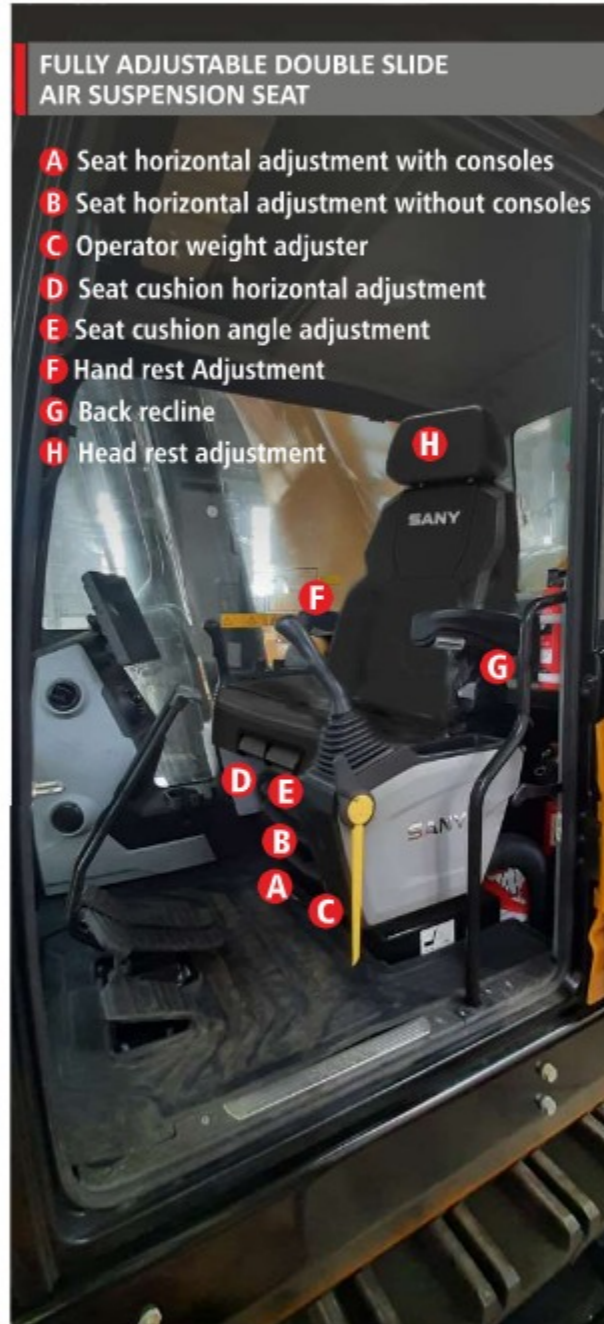
The New SY870C-10HD comes with long crawler undercarriage & higher operating weight for better working stability while working in the toughest mining underfoot conditions.

OTHER SAFETY PROVISIONS

Auto fire suppression system, Emergency stop switch, battery cut-off switch, seat belt, fire extinguisher, pilot controlled cut-off lever & various warning alerts are adopted with SY870C-10HD to work more safely in toughest working conditions.

FULLY ADJUSTABLE DOUBLE SLIDE AIR SUSPENSION SEAT

- A** Seat horizontal adjustment with consoles
- B** Seat horizontal adjustment without consoles
- C** Operator weight adjuster
- D** Seat cushion horizontal adjustment
- E** Seat cushion angle adjustment
- F** Hand rest Adjustment
- G** Back recline
- H** Head rest adjustment



10" FLAT MULTIFUNCTIONAL & INTELLIGENT TOUCH SCREEN PANEL

A revolutionary large high resolution touch screen display enables accurate & smooth work equipment monitoring & control. The interface has been redesigned to display key machine information in a new user friendly interface.

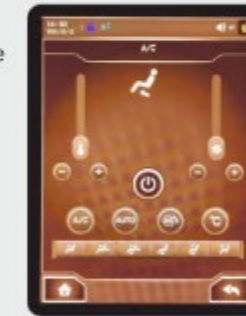
- Air-conditioner controller
- Mobile phone connectivity
- Fuel Economy Monitoring
- Bluetooth connectivity
- Music system with 2 speakers
- Cabin lights & wiper speed controller



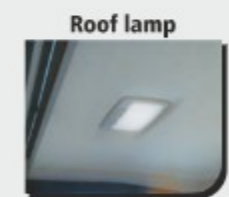
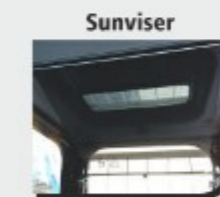
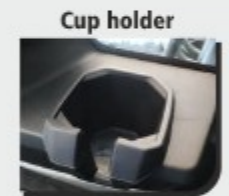
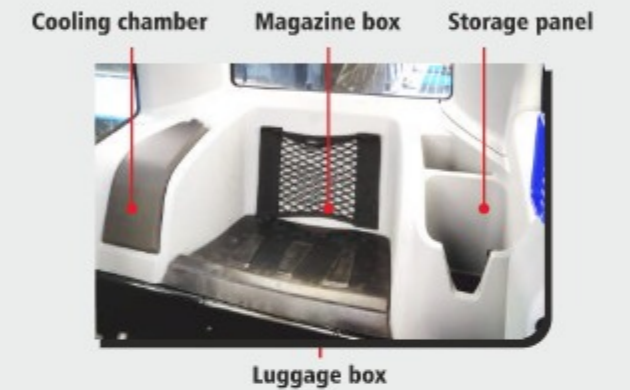
AUTO CLIMATE CONTROL AIR CONDITIONER

High capacity air conditioning system with first in industry features for more operator comfort. Innovative Air conditioning system equipped with following features

- More numbers of air vents
- Air flow direction control
- Air Intake controller
- Blower speed controller



SUPERIOR INTERIOR ADDED FOR MORE COMFORT



High Intensity Led working lamps



Newly designed thin & Effortless joysticks



Jog dial & CAN type control switches.



Cabin Top & Front Guard



Battery cutoff switch



Emergency stop Switch



Rear view camera



Fan Guard



Safety Hammer & Fire Extinguisher



SUPERIOR EASE OF SERVICEABILITY

Four-dimensional construction management system independently developed by SANY to improve maintenance convenience of SY870C-10HD.

EASY ACCESS

EASY ACCESS TO KEY MAINTENANCE COMPONENTS

SY870C-10HD Maintenance is made easy with best-in-class spacious compartments. The operation space for the replacement of various maintenance parts are increased by 20-30% which leads to easy & quick maintenance.

OIL BATH TYPE AIR PRE-CLEANER

Improved air filtration efficiency with duel oil bath air pre-cleaner. This new design will provide enhanced engine service life while working in dusty mining environment.

EASY CLEANING FOR RADIATOR

Radiator and oil cooler packing are easily washable which leads into excellent cooling capacity and ensures prolonged engine running without being overheated.

ELECTRICAL FUEL FEED PUMP (Opt)

Fuel feeding pump is provided for easy fuel refilling.

EASE OF REGULAR CHECK UP

Regular performing components (swing gear greasing, engine oil and hydraulic oil) of the machine can be easily checked up which leads to time saving and high machine uptime.

10" LCD DISPLAY (Intelligent & Informative)

Cabin is equipped with waterproof, dust proof and vibration proof anti-interference colour LCD touch screen display which provides real-time information regarding machine working status, abnormal alarm function etc. ensuring safe operation. Swing, Travel & attachment utilisation can be monitor through display for better maintenance planning

AUTO CENTRALIZED LUBRICATION SYSTEM (ACLS)

Auto Centralized Lubrication System (ACLS) comes as standard with SY870C-10HD for high machine uptime & easy maintenance management while working in tight mining shifts.

FLOATING BUSH PROVISION

Floating bush and shim arrangement are provided in bucket for easy and quick adjustment. All bucket pins are equipped with dust proof seal ring for better pin & bush life

LONG SERVICE INTERVAL

Hydraulic Oil
5000hrs*

Hydraulic Return Filter
2000hrs

Engine Oil & Filter
500hrs

Fuel Filters
500hrs

30% More Spacious
Hydraulic Pump Chamber

20% More Spacious
Engine Compartment



Wire mesh protected air filter



Oil bath type air pre-cleaner



Independent roc with wire mesh guard



Centralized 3 stage fuel filtration system



Electrical fuel feed pump (opt)



Spacious engine compartment



10" informative & intelligent display



Graphite bush



Auto Centralized Lubrication System

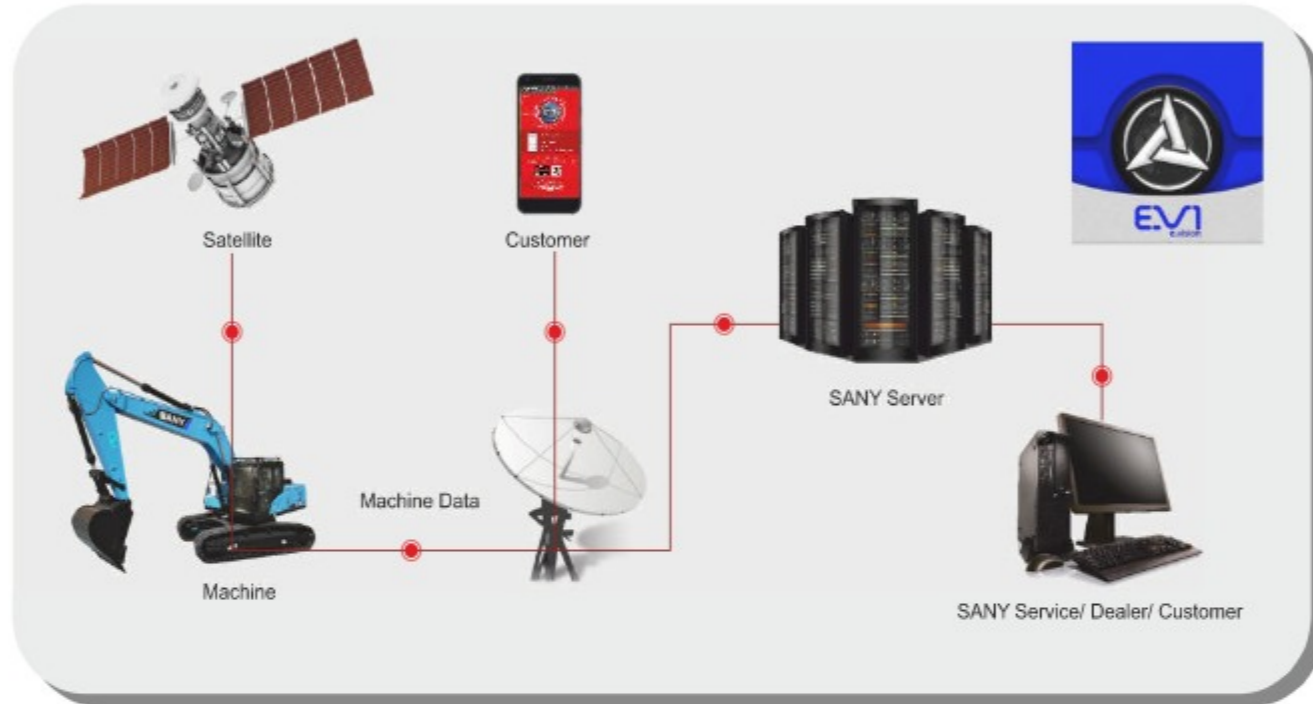


Floating bush provision dust proof sealing



EVI REMOTE MONITORING

EVI in SANY C-10series excavators is a sophisticated system that helps you to remotely monitor wide range of excavator functions and access operating information.



TECHNICAL SPECIFICATIONS

SPECIFICATIONS

ENGINE	
Model	Isuzu GH-6WG1X
Type	Direct Injection, 6 Cylinder, Water Cooled
Rated Engine Power	506 HP(377 kW)@ 1800 rpm
Max. Torque	2138 N.m @ 1500 rpm
Displacement	15.68 L

CONTROL SYSTEM	
Control System	DOMCS Intelligent Controller
Control Hydraulic System	Positive Flow
Remote Monitoring System	GPRS, GPS, GIS
Working Modes	I, S, H, P

HYDRAULIC SYSTEM	
Main Pumps	2 Variable Displacement Axial Piston Pumps
Max. Flow	2 X 450 lpm
Pilot Pump	1 Gear Pump
Travel Motor	Axial Piston Motor with Parking Brake
Swing Motor	Axial Piston Motor with Swing Holding Brake

RELIEF VALVE SETTINGS	
Implement Circuit	34.3 MPa
Swing Circuit	29.4 MPa
Travel Circuit	34.3 MPa
Pilot Circuit	3.9 MPa
Heavy Lift Circuit	37 MPa*

UNDERCARRIAGE & WORKING DEVICE	
Track Shoes (Each side)	48
Upper Rollers	3
Lower Rollers	8
Std. Track	650 mm
Std. Boom	7000 mm
Std. Arm	2600 mm
Std. Bucket	5.4m ³ GP

PERFORMANCE	
Max. Travel Speed(High/Low)	4.5/2.9 km/h
Swing Speed	7.9 rpm
Grade ability	70%/35°
Ground Pressure	114 kPa
Max. Tracking Force	480 kN
Bucket Digging Force (Power Boost)	432 (469) kN
Arm Digging Force (Power Boost)	370 (402) kN

SERVICE REFILL CAPACITIES	
Hydraulic Tank	620 L
Fuel Tank	940 L
Engine Oil	57 L
Radiator	70 L
Swing Device	2x6.0 L
Travel Device	2x20 L

CAB	
AC	Std.
Air Suspension Seat	Std.
Mechanically Extendable U/C	Std.

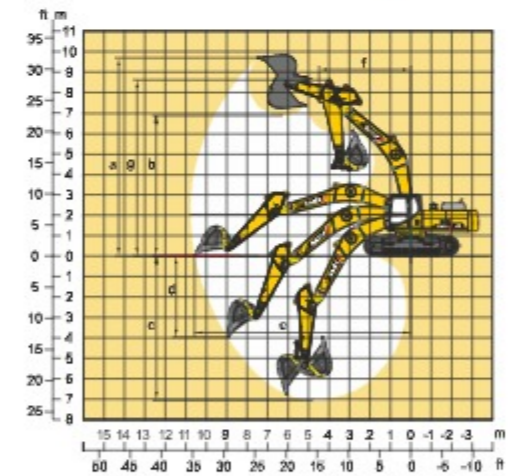
SY870C-10HD

DIMENSION (Unit: mm)



DIMENSION (Unit: mm)	Arm 2600	Arm 3000
A. Overall Length	13002	12865
B. Overall Width (Transportation)	4320	4320
C. Overall Height	4742	4855
D. Upper Width	3460	3460
E. Overall Height of Cab	3795	3795
F. Std. Track Shoe Width	650	650
G. Track Gauge (Transportation)	3380/ 2780	3380/ 2780
H. Min. Ground Clearance	880	880
I. Rear-end Swing Radius	4220	4220
J. Distance between Tumbles	4770	4770
K. Under Carriage Length	5946	5946

WORKING RANGE



WORKING RANGE (Unit: mm)	Arm 2600	Arm 3000
a. Max. Cutting Height	10910	11200
b. Max. Dumping Height	7047	7250
c. Max. Digging Depth	7247	7620
d. Max. Digging Reach	11703	12050
e. Min. Swing Radius	5586	5520
f. Max. Height at Min. Swing Radius	9802	9780

BUCKET

Capacity	Width mm	Weight Kg	7m Boom	
			2.6m Arm	3m Arm
5.4m ³ GP Std.	2270	4895	✓	-
5.0m ³ HD Opt.	2321	4731	✓	-
4.6m ³ HD Opt.	2200	4681	✓	✓

LOCATION & TRACKING

Machine's current location can be captured for easy tracking.Route to working site of the machine can be determined as well.

REAL-TIME MONITORING

The real-time monitoring system displays various operating parameters like engine rpm, fuel consumption, swing and travel utilization,coolant temperature & battery voltage etc.

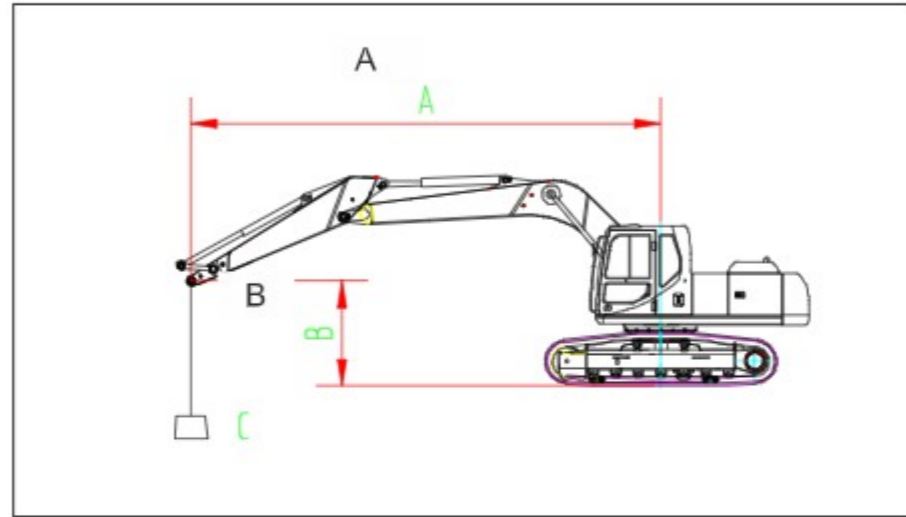
MACHINE OPERATING MANAGEMENT

Daily machine operation hours, non-working hours, engine idling time can be monitored and remaining fuel in the diesel tank can be determined.

EAST ACCESS TO SANY SUPPORT NETWORK

Customer can easily locate nearest SANY support network & access the touch point any time with the help of EVI system.

LIFTING CAPACITY



Boom	7000mm	Bucket rod		2600mm		Width of crawler		650mm		Counter weight		12338kg	
		3.0m		4.5m		6.0m		7.5m		9.0m			
		Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse	Longitudinal	Transverse
7.5m	kg							*16937	*16937				
6.0m	kg					*31260	26514	*17778	*17778	*16459	*16459		
4.5m	kg					*23021	*23021	*19131	*19131	*16948	*16948		
3.0m	kg					*25656	*25656	*20538	*20538	*17600	15061		
1.5m	kg					*27281	*27281	*21560	*21560	*18059	14725		
Ground	kg			*29459	*29459	*27550	*27550	*21853	18609	*17978	14524		
-1.5m	kg	*21665	*21665	*33823	*33823	*26471	*26471	*21120	*21120				
-3.0m	kg	*36689	*36689	*29873	*29873	*23825	*23825	*18745	*18745				
-4.5m	kg			*23394	*23394	*18491	*18491						

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.;

WEIGHTS AND GROUND PRESSURE

Shoe type	Shoe width	SY870C-10HD	
		Operating weight	Ground pressure
Double Grouser	650mm	78600kg	114kPa

STANDARD EQUIPMENT

Engine

- Isolated mounted engine
- Dynamic hunting mode control
- Radiator (with full protective screening)
- 24V/5.0kW starter motor
- 90A alternator
- Desert-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
- Duel Oil Bath Pre-Cleaner

Hydraulic system

- Control valve with main overflow valve
- Spare oil port of control valve
- Oil suction filter
- Oil drain filter
- Return oil filter
- Pilot filter
- Blanking pipe of hydraulic damper
- Independent oil radiator

Slewing platform of superstructure

- Fuel oil level sensor
- Hydraulic oil level gauge
- Tool kit
- Slewing parking brake
- Rearview mirror (right)
- Rearview camera
- Cab warning 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)
- Multi-direction adjustable air-suspended 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 air conditioner
- Emergency stop switch
- Falling object protect structure and front protective screening

Front-end working device

- Flange pin
- 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

- Global positioning system (GPS) as standard configuration
- 10" intelligent screen touch display
- EEVIA system
- 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 crawler guide mechanism
- Tensioning device of crawler
- Bolted driving wheel
- Thrust wheel and carrier wheel
- Reinforced caterpillar track with pin shaft seal
- 650mm double-rib crawler plate
- Reinforced side pedal
- Bottom cover plate

Alarm lamp

- Controller failure
- Pump pressure abnormal
- Pilot pressure of various movements abnormal
- Power supply voltage abnormal
- Hydraulic oil temperature abnormal
- Engine oil pressure insufficient and 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
- Electrical diesel oil pump*
- Auto Centralized Lubrication System(ACLS)
- Beacon Lamp
- Automatic fire detection and suppression system
- Travel alarm
- Ripper Attachment*

* Indicates optional configuration