



Quality Changes the World



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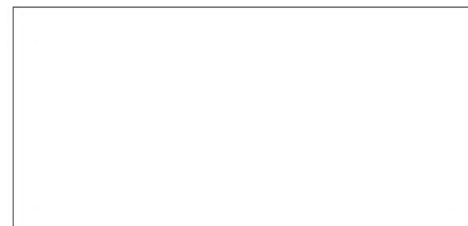
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B06S2ENAM-SY235C



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**SANY HYDRAULIC EXCAVATOR
SY235C**

ENERGY SAVING STAR LEADING THE INDUSTRY



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High Efficiency And Low
Consumption Isuzu Engine

P3

High Reliability

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Safe And Comfortable Cab
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High Efficiency and Low Consumption Isuzu Engine Customized for SANY



With a dual-pump, dual-circuit constant power control system, the Isuzu 6BG1 engine power can be used more efficiently. This perfect combination produces higher operating efficiency with lower fuel consumption by selecting heavy duty mode under high workload, or standard or light duty mode with automatic engine speed regulation.

◆ Optimized Power Control

With closed-loop control, the controller automatically regulates the power absorbed by hydraulic pump according to the changes of engine load during the operation, keeping the power of hydraulic pump matching up to the power of engine at all times. Namely, the controller sets the power of engine according to specific conditions to reduce the working intensity of engine and ensures a stable and economic engine application.

◆ Full-power Variables Main Pump

The main pump consists of two plunger-type pumps of serial variable displacement. The two pumps are controlled via full-power variables, meaning that the sum of power of two pumps is kept constant. When a single pump is running, this pump can absorb the power of the other idle hydraulic pump to ensure the full use of engine power.



◆ Faster Working Speed

Swing speed 11rpm

◆ High-power Engine

128.5kw/2100rpm

◆ Larger Workload

Bucket Capacity 1.2m³

◆ Larger Digging Force

Digging force of bucket 175kN
Digging force of arm 122kN



◆ World-leading Positive Flow Control Technique

With hydraulic elements provided by world famous companies and world advanced and mature hydraulic system of electronic positive flow control, Sany excavators are capable of maintaining high operating efficiency on the basis of high system stability and better operability.

◆ Faster Arm Speed

A quick circuit is added to the arm oil cylinder circuit. When the arm oil cylinder is extended, the oil return circuit is cut off and hydraulic oil flows from the return circuit into the cylinder via a check valve. The hydraulic oil in arm cylinder rod end does not return the tank but goes directly to the cylinder head end. The arm speed is increased as a result. The fuel consumption is low under this condition.

◆ Pressure Loss Reduced with The Use of Efficient Hydraulic Components

Improved pump efficiency: A variety of improvements, including the improvement of clearances between internal pump parts, minimizes the leakage.

The engine, main pump, main valve and other core components, tailored by the world famous suppliers for Sany, are designed in consideration of the overall performance of Sany excavator. The positive flow hydraulic system and the advanced computer dynamic control technology are used to provide real-time match between engine power and main pump power while effectively maximizing the machine performance and significantly reducing the fuel consumption.



◆ The Electric Control Module to Achieve the Best Engine Efficiency

The electric control module has the capability of making quick response to the change of operating variables in order to achieve optimum engine performance. It is fully integrated with sensors of fuel, engine oil, air intake, coolant and exhaust system to conduct the real-time monitoring and auto-adjustment on the system conditions, which can ensure the engine won't overload when the excavator works with full load.

◆ Innovative Features of Controller

1. Precise controller customized for SANY.
2. Faster computing speed, 66% higher than last generation.
3. Automatic self-diagnosis and recovery system.
4. Remote Diagnosis: according to the real-time applications, shown on the centralized diagnostic monitor, determine the location of the faults that may occur remotely.

Advanced computer dynamic control technology provides real-time match between engine power and main pump power.

High reliability

The engine customized for SANY gives high efficiency, low fuel consumption and high reliability while fully guaranteeing the excavator's stability in continuous operation under severe weather conditions and satisfying customers for requirement of engine stability.



◆ Excellent Cooling Effect

Fan Guard: The radiator fan is enclosed with a protective net cover that prevents objects from falling into the fan to damage its blades.

Serially Arranged Coolers: water radiator, oil radiator, intercooler and condenser are arranged side by side; the aluminum radiator gives better cooling effect.

◆ Six Cylinder Diesel Engine

Six-cylinder engine ensures high reliability and stability of the machine as a whole.

◆ Displacement 6.494L

With the engine power of 128.5kw, SY235C has a displacement up to 6.494L, which reduces the engine heat load and gives a longer service life.



Strong structure with higher reliability

◆ High-strength machine

Reinforced X- frame modeled with digital tools, through finite element analysis on loading capacity realizes high-strength structure.

◆ High reinforced swing platform

Reinforced plates, welded on the two main beam of swing platform, considerably improve the bending resistance performance.

◆ Track rollers, carrier rollers

Track rollers, carrier rollers and idlers use seal-in lubrication that gives a longer service life. The tri-grouser track shoe rolled with high-strength alloy provides favorable contact, stability and durability. The track links have additional reinforced ribs to increase their strength, which can absorb the shock when the machine travels on rough surface.



Boom, Arm and Bucket Meeting Customer Requirement

With strengthened boom, arm and bucket, SY235C can better meet the customers' requirement for heavy duty operation over a long period of time.

Boom

Important parts of the boom have been fully reinforced. With stronger front and rear supporting plates, the lateral stress is down by 10% during the boom swing.



Arm

The rear support of arm is specially reinforced, offering excellent torsion resistance under the complex applications.



Bucket

Standard reinforced bucket with highly rigid steel sheet, tips and side cutters can serve a longer period.



Comfortable and Safe Cab Environment



◆ Innovative Large Cab

The innovative large cab is equipped with an adjustable seat with suspension. The rigidity of seat can also be adjusted according to the operator's weight.

◆ Pressure Sealed Cab

The sealed design ensures that the air pressure inside the cab is higher than outside, thus preventing the dust invasion.

◆ Automatic Air Conditioner

The standard large-capacity air conditioner keeps in-cab air fresh by purifying fresh air and recirculation air. The quick temperature control ensures a comfortable temperature in cab all the year round.

◆ Silicone Rubber Shock Absorber

The operator station is supported with innovative silicone rubber shock absorber, which has minimized the shock brought by rough road and engine or hydraulic impact, considerably increased the stability of cab, and improved the comfort of operator.

◆ Low Noise Cab

With a high-rigid structure, the new cab uses damping materials that give a better noise-absorbing effect. The adoption of properly sealed windows, noise reduction design and low-noise engine enables the machine to produce a noise as low as a passenger car.

◆ Longer Control Levers

The control levers and joysticks designed and arranged according to ergonomic, can be operated easily.

Falling Object Protection Structure

◆ The top plate of cab is punch-formed with thick high-strength steel sheet integrated with reinforced ribs, which maximizes the safety of operator.



◆ Hydraulic Lockout Control

When the hydraulic lockout control is placed in LOCK position, all controls are inoperable, which prevents accidents caused by unintentional operation.



◆ Heat Insulation/ Fan Guard

The engine is housed in excellent heat insulation to prevent accidental burns. The radiator fan is enclosed with a protective net cover that can prevent objects from falling into the fan to damage its blades.



◆ Large Rear View Mirror and Alternate Exit

Rear view mirror is mounted on both sides of the cab, which can observe the situation behind the excavator without looking back.



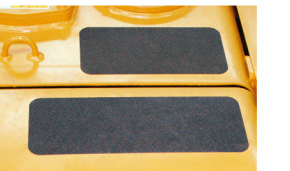
◆ Pump/Engine Screen

The pump chamber and engine chamber are separated with a screen, which can prevent leaked hydraulic oil from splashing onto the hot engine.



◆ Anti-skid Plates

Anti-skid plates are provided on the machine body to protect people from slipping during maintenance.



Environment- friendly Engine



◆ Low Emission Engine

Environment-friendly engine customized for SANY is in line with EPA Tier II and EU Tier II Emission Standards.

◆ High Economy

ISUZU engine customized for Sany is able to precisely control the engine fuel injection in order to ensure full combustion of fuel. Advanced computer dynamic control technology (CDCS) provides real-time match between engine power and main pump power, realizing the perfect combination of power and economy.

◆ Auto Deceleration System

The function of auto deceleration or acceleration reduces fuel consumption by 5-10%. When an operation has been stopped for 3 seconds, the engine speed drops automatically to idle level and maintains the idling state, thus reducing the void flows in the hydraulic system, wear of diesel engine, energy consumption and noise.

◆ Three Stage Air Filtering

Equipped with air pre-cleaner and dual air filtering elements, the three-stage air cleaner ensures supply of sufficient clean air that can reduce the wear of cylinders. It is useful for harsh working environment that is windy or dusty.

◆ Four Working Modes: H, S, L and B

Heavy duty mode: Full power output providing efficient operation.

Standard mode: 90% of the rated power reducing fuel consumption and working noise.

Light duty mode: 80% of the rated power ensuring fuel economy.

Breaker Mode (B Mode): Corresponding flow can be regulated according to breaker model in breaker mode.



H, S and L modes meet the user's requirement for maximizing efficiency with low fuel consumption under various operating conditions.

Multi-functional LCD Monitor Ensures Easier Monitoring and Maintenance

◆ Large Color LCD Monitor

Large LCD monitor can ensure safe, precise and stable operation. This LCD can be easily read from various angles under different light conditions.

◆ Indicator

- | | |
|-----------------------------|---------------------------------------|
| 1 Working mode | 5 Working hours, function ON/OFF menu |
| 2 Throttle gear | 6 Failure code |
| 3 Engine coolant temp gauge | 7 System clock |
| 4 Fuel level gauge | 8 Function menu |

◆ Indicator

- | |
|---------------------|
| 1 Function keys |
| 2 Operation buttons |

◆ Equipment Managing and Monitoring System

Monitoring Function:

In case any abnormality of oil amount, water temperature, hydraulic pressure, etc. should occur, failure information will be displayed on the monitor timely.

Maintenance Function:

You will be prompted on the monitor screen the maintenance items and replacement intervals when the maintenance schedule is due.

Failure Memory Function:

Failure history is saved in the monitor for effective troubleshooting diagnosis.



Scientific Structure and Configuration Design Ensures Easier and Faster Maintenance

◆ Serially-arranged Cooling Units

Coolant radiator, oil radiator, intercooler and condenser are placed side by side for easy cleaning and maintenance.

◆ Bottom Drain Plug

The radiator, fuel tank, hydraulic oil tank and oil pan are equipped with screw plugs at the bottom, which is convenient for discharging foreign substances and waste liquid out in the change of oil or cleaning.



◆ Easy Replacement of Filter Element

The primary and secondary fuel filters and water separator reduce the early wear of injection pump and nozzle and extend the service life of engine. Opening the access door, you can replace them quickly on the ground.

◆ Easy-to-use Reliable Engine Hood Spring and Securing Bar

The engine hood is installed with a spring that can help you open the engine hood easily for engine service. The hood can be secured with the bar during maintenance or service of the machine in order to prevent injury caused by wind.

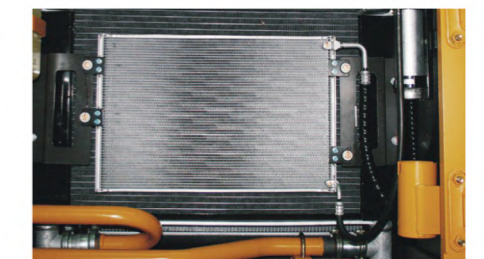


◆ Incline Track Frame

The incline track frame makes the soil to fall easily and is easy to clean.

◆ Easy Cleaning of Radiator

Opening the left rear access door allows you to access the engine radiator.



◆ Large-capacity Fuel Tank with Anti-rust Treatment

Interior of the fuel tank has been treated well against rusting. No rusting will occur even if the tank is soaked in oil containing water and phosphoric acid and other chemicals for a long period of time.



◆ Standard Engine Oil Drain Valve

The use of this valve can prevent contamination of your clothes and the floor when engine oil is changed.

EQUIPMENT SPECIFICATION

SPECIFICATION

ENGINE

Model.....Isuzu CC-6BG1-XABEC-03-C2
 Displacement.....6.494L
 Engine power
 At rated engine speed.....128.5kw/2100rpm

HYDRAULIC SYSTEM

Type Positive control system
 Number of selectable working modes..... 4

Main pump

Type.....Variable-capacity piston pumps
 Maximum flow.....2*252ltr/min

Hydraulic motors

Travel.....2* axial piston motor with parking brake
 Swing.....1* axial piston motor with swing holding brake

Relief valve setting

Implement circuits.....34.3mpa 336kg/cm2 4,974psi
 Travel circuit.....34.3mpa 336kg/cm2 4,974psi
 Swing circuit27.5mpa 270kg/cm2 3,988psi
 Heavy lift circuit34.3mpa 336kg/cm2 4,974psi
 Pilot circuit3.9mpa 38kg/cm2 565psi

Hydraulic cylinders

Boom.....2-130mm*1295mm
 Arm.....1-140mm*1675mm
 Bucket.....1-130mm*1045mm

OPERATING WEIGHT

Operating weight with standard bucket, fully serviced, +75 kg operator (ISO)
 Operating weight.....24200kg

UNDERCARRIAGE

Track width.....600mm
 Number of track shoes.....49
 Carrier roller (per side).....2
 Track roller(per side).....9

TRANSMISSION

Travel Speed (Highest/Lowest).....5.5/3.5km/h
 Swing Speed.....11rpm
 Gradeability.....70%/35°
 Ground Pressure.....47.6kpa

SERVICE CAPACITIES

Fuel tank.....340L
 Hydraulic tank.....239L
 Engine oil.....24.5L
 Radiator......8L
 Final drive.....2*5.5L
 Swing drive......4L

Digging Force

Bucket Digging Force.....175kN
 Arm Digging Force.....122kN

BUCKET OPTIONAL

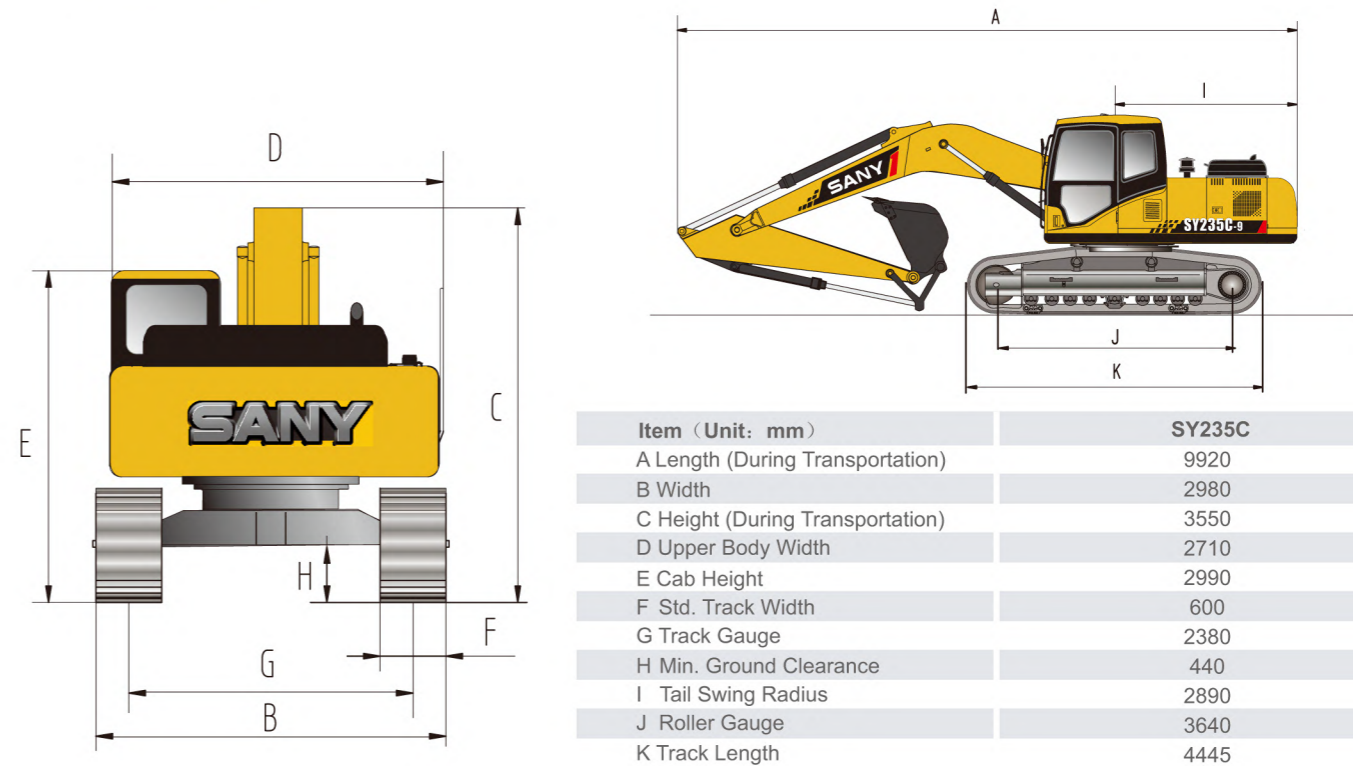
Capacity		Width		Weight	Number of Teeth	Arm length			
SAE	CECE	Without Side Cutters	With Side Cutters			2950mm	2500mm	2100mm	mm
1.12(rock)	1.465	1208	1312	928	5	■	■	■	
1.1(earth)	1.439	1350.4	1421	926	5	■	■	■	
1.2(rock)	1.570	1208	1312	1029	5	●	■	■	
1.3(water)	1.700	1410.4	1497.4	951	5	△	●	■	
1.4(earth)	1.831	1530.3	1609.7	1076	6	△	●	■	

Suitable for materials with density of 1 800 kg/m3 (3 030 lb/yd3) or less ■

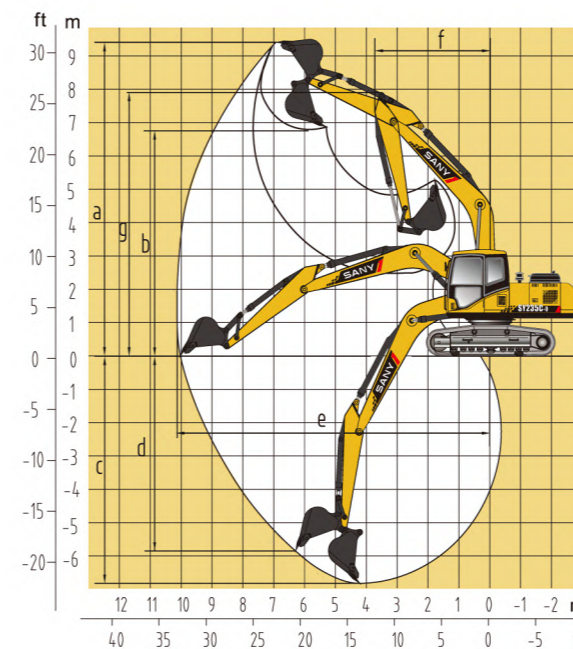
Suitable for materials with density of 1 600 kg/m3 (2 700 lb/yd3) or less ●

Suitable for materials with density of 1 100 kg/m3 (1 850 lb/yd3) or less △

DIMENSION



OPERATION RANGE



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