



SANY

Quality Changes the World



SANY HYDRAULIC EXCAVATOR SY465C

ENERGY SAVING STAR, LEADING THE INDUSTRY

P1

High Efficiency and Low Consumption

P3

Quality Parts Providing Better Reliability,
Durability and Longer Service Life

P5

Safe and Comfortable Cab Environment

P7

Ergonomic Design Maximizes
the Operating Safety

P9

Science Structure and Easy Maintenance

P11

Equipment Specification

P13

Standard & Optional



THE MITSUBISHI ENGINE CUSTOMIZED FOR SANY REALIZED THE HIGH EFFICIENCY AND LOW CONSUMPTION



High-power Engine 6D24-TLC1B
250kw/2000rpm

The Reasons for Energy Saving and High Efficiency

With a dual-pump, dual-circuit constant power control system, the engine can fully develop its power. The perfect combination of this two realizes the heavy-duty mode with large workload, the standard-mode with auto-adjusted engine speed and light-duty mode, high efficiency and low fuel consumption, while optimizing the combustion.

◆ 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.

◆ 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 systems 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.

◆ New Controller

A new controller is used to perform innovative electro-hydraulic control over the machine, the engine can have a real-time power match with hydraulic pumps, which improves operational productivity and reduces fuel consumption. An advanced computer dynamic control system (CDCS) determines engine output power as per the external load demand, achieving the optimum control of excavator external load operation system.



◆ Working Mode Selection H、S、L Working Modes:

Heavy duty mode: for soil and rock conditions, engine throttle is at the maximum allowing full-power output and the highest operating efficiency;
Standard mode: for soil conditions, input power of main pump is about 90% of maximum engine power, reducing fuel consumption and noise;
Light duty mode: for the ground and soft soil conditions, input power of main pump is about 80% of maximum engine power, with lower fuel consumption and high economy.

Three Working Modes Meet The Requirement of Efficient Large-workload Operation and Fuel Economy.

Press F1 Key to Switch The Mode Quickly and Easily

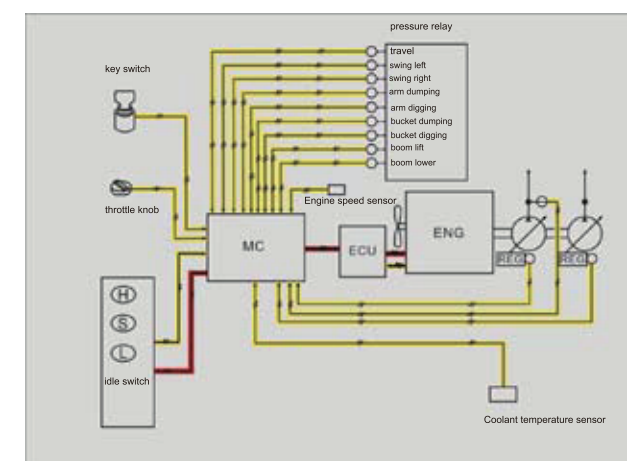
Secondary Boosting Technology and Arm Regeneration Circuit

◆ Secondary Boosting Technology

When the target load is heavy, a pressing of the boosting button on the left joystick can provide an explosive power (lasting 8 sec.) to boost bucket digging force by 10% instantaneously to complete additional work load.

◆ Arm Regeneration Circuit

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 down by 10% under this condition.



◆ Boom and Stick Holding System

The holding valve on the main control valve can prevent the boom and arm from declining under their own weight and extend holding time, improving reliability of the machine.

◆ Duo Swing Mechanism

Duo swing mechanism improves vibration absorption and ensures smoothness of swing operation and swing brake.

◆ Anti-swing Valve and Delay Valve

Swing mechanism with anti-swing valve and delay valve makes swing operation more stable and reliable; swing brake ensures safety of machine stopping.



COMFORTABLE AND SAFE CAB ENVIRONMENT



◆ Innovative Large Cab

The height of seat, the inclination of backrest, the height of armrest, the seat position and the headrest can be adjusted as desired.

◆ Silicone Rubber Shock Absorber

Innovative silicone rubber shock absorber is fixed to the swing platform in six points, 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.

◆ Cab Door and Front Window are Easy to Open, Close and Lock

Cab door can be opened by 180° and secured by locking mechanism either open or closed. The upper window of the cab can be moved to the top of the cab when the front window is unlocked. The roof hatch is openable, through which the cab can have better ventilation and more lights.

◆ Longer Control Levers

The control levers and joysticks designed and arranged according to human engineering, can be operated easily. Each operation button is within the reach of operator.

◆ Well-sealed Cab, Clean and Quiet

Equipped with excellent sealing ring, the cab is free from dust and rain. Quiet cab can effectively relieve the fatigue of operator.

◆ Multiple Air Outlets at Different Levels and Locations

There are several air outlets – the front window defrost outlet ensuring operator's visibility, and the outlets for operator face, back and feet – which can be turned on/off as desired. By changing the direction of air stream, the operator can fully enjoy the benefit of air conditioner.



◆ Hydraulic Lockout Control

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



◆ Reduce Fatigue

The seat rigidity can be adjusted according to the driver's weight, even if the big drivers can enjoy a comfortable operation.

◆ Luxurious Mechanical Damping Seat

The suspension rigidity can be adjusted according to the drivers' weight, effectively absorbing the vibration came from the cab floor to improve comfort and reduce fatigue.

◆ 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.

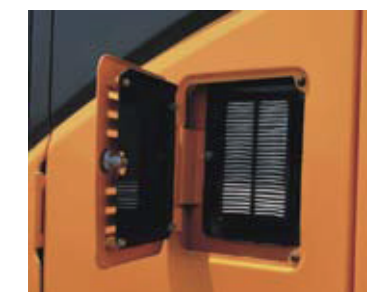


◆ Three Stage Air Filtering

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.

◆ 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.



MULTI FUNCTIONAL LCD MONITOR ALLOWING EASY MONITORING AND MAINTENANCE

◆Bi-lingual Color LCD Monitors

Waterproof, dustproof, large screened machine monitor with excellent anti-interference and anti-shock ability keeps a close and continuous watch on the condition of the machine and gives out alarms under different circumstances as programmed.

Backlight can be lit automatically to light up the monitor when lighting condition gets poor and gray scale of the LCD screen can be adjusted automatically as per ambient temperature to provide optimal vision for the operator .

The operator can also scroll up and down the screen to access the value of various operating parameters and check the status of switches.

The monitor is very easy to operate and it is programmed in both English and Chinese to facilitate the needs of worldwide users.

◆Working Mode Selection

In Addition to Heavy Duty Mode (H) and Light Duty Mode, There are Also Have Other Working Modes.

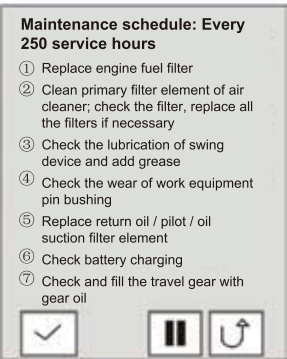
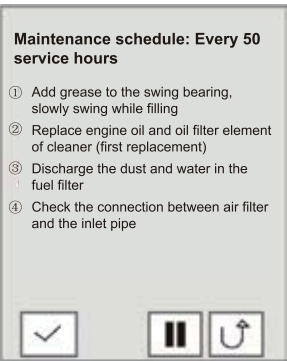
Breaker mode (B mode)
Corresponding flow can be regulated according to breaker model.



◆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.

Indicator

- 1 Working mode
- 2 Throttle gear
- 3 Engine coolant
- 4 Fuel level gauge
- 5 Working hours
- 6 Failure code
- 7 GPS signal indicator
- 8 System clock
- 9 Function menu

Indicator

- 1 Function keys
- 2 Operation buttons

◆Maintenance Schedule Displayed on The Monitor Maintenance Reminder

A maintenance icon is display on the screen 10 hours in advance. Press the ENTER button to view maintenance schedule.



Self-diagnosis function, GPS function, built-in tutorial system, auxiliary maintenance system and alarming system of the controller ensures optimal machine operating condition.

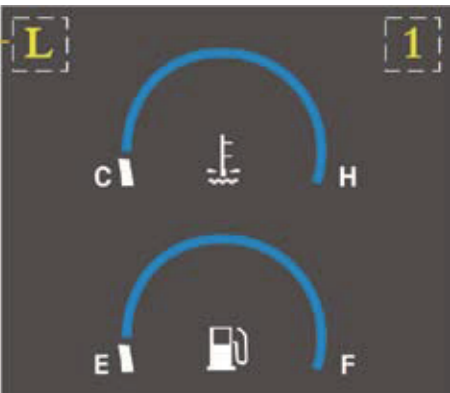
To Protect The Environment

Please Select The "Light Duty Mode."

◆ Low emission and low noise (L: light duty) mode can satisfy the customers' needs like [saving the fuel costs], [quiet operation at night and residents-near construction site area], [reducing emissions as much as possible] and other low-carbon pattern life environmental requirements.

Compared with heavy duty mode, fuel cost declines by 20% and CO2 emission is decreased by 20%. Operation capacity is basically the same as the SY465 (heavy duty mode).
Light duty mode

Light Duty Mode



ERGONOMIC DESIGN MAXIMIZES THE OPERATING SAFETY



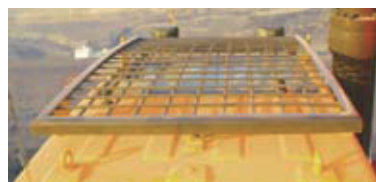
◆ Falling Object Protection Structure

The cab is punch-formed with thick high-strength steel sheet. The door and windows are made of toughened glass. In addition to the seat belt equipped, the cabin maximizes the safety of operator.



◆ Larger View

Operation safety is improved as a result of narrowed blind zone of vision by means of improved cab design featuring reduction of the size of column without decreasing the structural strength of the cab. The front and side window enable the operator to see clearly work equipment condition and the surroundings; the rear window and the engine hood of properly designed height provide a good rear view.



◆ Optional Equipment

Top guard net in line with ISO, OPG standard.

◆ High Standards Safety Design

Safety design meets European, US and Japanese safety standards, and has reached world-class security and reliability standards.

◆ 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 Handrails

Large handrail ensures operator safety during mounting and dismounting.

◆ Anti-splashing Screen

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



◆ Boom and Arm Holding System

The holding valve on the main control valve can prevent the boom and arm from declining under their own weight and extend holding time, improving reliability of the machine.

◆ Anti-swing Valve and Delay Valve

Swing mechanism with anti-swing valve and delay valve makes swing operation more stable and reliable; swing brake ensures safety of machine stopping.

◆ Track Shoe Fender and Track Tensioner

Track shoe fender ensures proper positioning of the track. Track tensioner consists of a grease filling cylinder and a shock-absorbing spring, providing adequate track tension during machine travel.



Environment-friendly Engine Customized for Sany Is in Line with Epa Tier 2 and Eu Stage 2 Emission Standards.

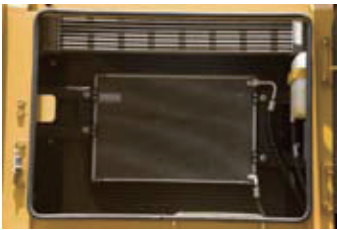
◆ Low-noise Design to Meet Noise Emission Requirement

To meet noise emission standard of GB 16710.1-1996, the engine adopts sound absorbing materials and is equipped with curved wind guide cover and muffler, reducing air resistance and noise emission. Improved damping system and various anti-noise designs of components reduce noise efficiently. Noise level around the operator is less than 80dB (A) (reference value is 80dB (A)).

SCIENTIFIC STRUCTURE AND CONFIGURATION DESIGN ENSURES EASIER AND FASTER MAINTENANCE

◆ Easy Cleaning for Radiator

One end of the air conditioner condenser is fixed with hinges for easy cleaning. Innovative radiator with easily washable internal structure, excellent cooling capacity ensures prolonged engine running without being overheated.



◆ Water Separator and Three-level Fuel Filter

Water separator can remove the water in fuel and prevent fuel system failures. The function of fuel pre-filter can be developed to make maintenance easy. Fuel pre-filter also has the same function as a water separator.



◆ Accessible Engine Oil Filter and Bottom Drain Plug

Accessible oil filter installed far away the engine, ensure easy maintenance. 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.



◆ Standard Engine Oil Drain Valve

The use of this valve can prevent contamination of your clothes and the floor when engine oil is changed. This valve also makes maintenance of the machine easy.



◆ Large-capacity Fuel Tank with Anti-rust Treatment

The large capacity of fuel tank reduces the times for refueling. 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.

◆ High-strength Swing Platform

Reinforced plates, welded on the two main beam of swing platform, considerably improve the bending resistance performance. The right and left side beams and the cross beam, made of high-class steel and formed through punching, is designed in C-shaped structure and greatly strengthen the platform.

◆ Monitoring Function

When an abnormality occurs while the engine is running, warning alarm on the monitor will sound, alarm indicator will light up and auto-diagnosis will start. The monitor displays fault name and location and relevant information. Monitoring of operating condition and troubleshooting can also be carried out through a remote control system.

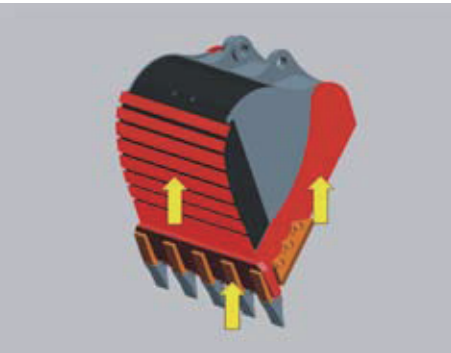
◆ Incline Track Frame

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

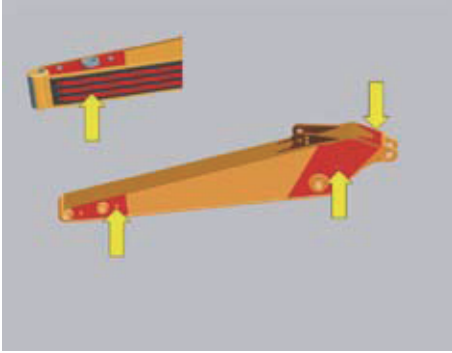
◆ High-strength Machine Body

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

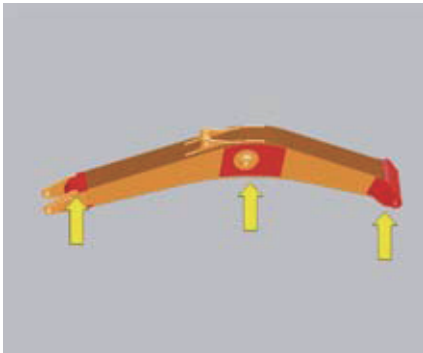
◆ Strengthened Bucket



◆ Strengthened Arm



◆ Strengthened Boom



◆ Thickened Oil Pipe



◆ Hydraulic Cylinder Buffer

A buffer provide at both ends of boom and bucket cylinders and at the rod end of bucket cylinder, can absorb the impact of the piston and the cylinder, extend cylinder service life, and reduce noise.

◆ Working Equipments Meet The Heavy Duty Requirements

Strengthened boom, arm and bucket to meet the requirements of heavy duty operations. New anti-deformation new welding process can ensure the correct, strong and durable structure. The boom and arm use large-box structure welded with high-strength steel sheet. Welded plates against torsion are provided inside the structure to form a compact, strong and durable integrity that prevents deformation under larger digging force. The boom is fully reinforced in key positions in addition to thickened bent plates as the front support and thickened side plates as the rear support, the lateral stress is down by 10% during the boom swing. The rear support of arm is specially reinforced, offering excellent torsion resistance under the complex applications. Standard reinforced bucket for Sany with highly rigid steel sheet, tips and side cutters, and the bucket side plate, cutting edge and reinforced bottom plate using the imported wearable steel sheet, all of these can serve a longer period.



EQUIPMENT SPECIFICATION

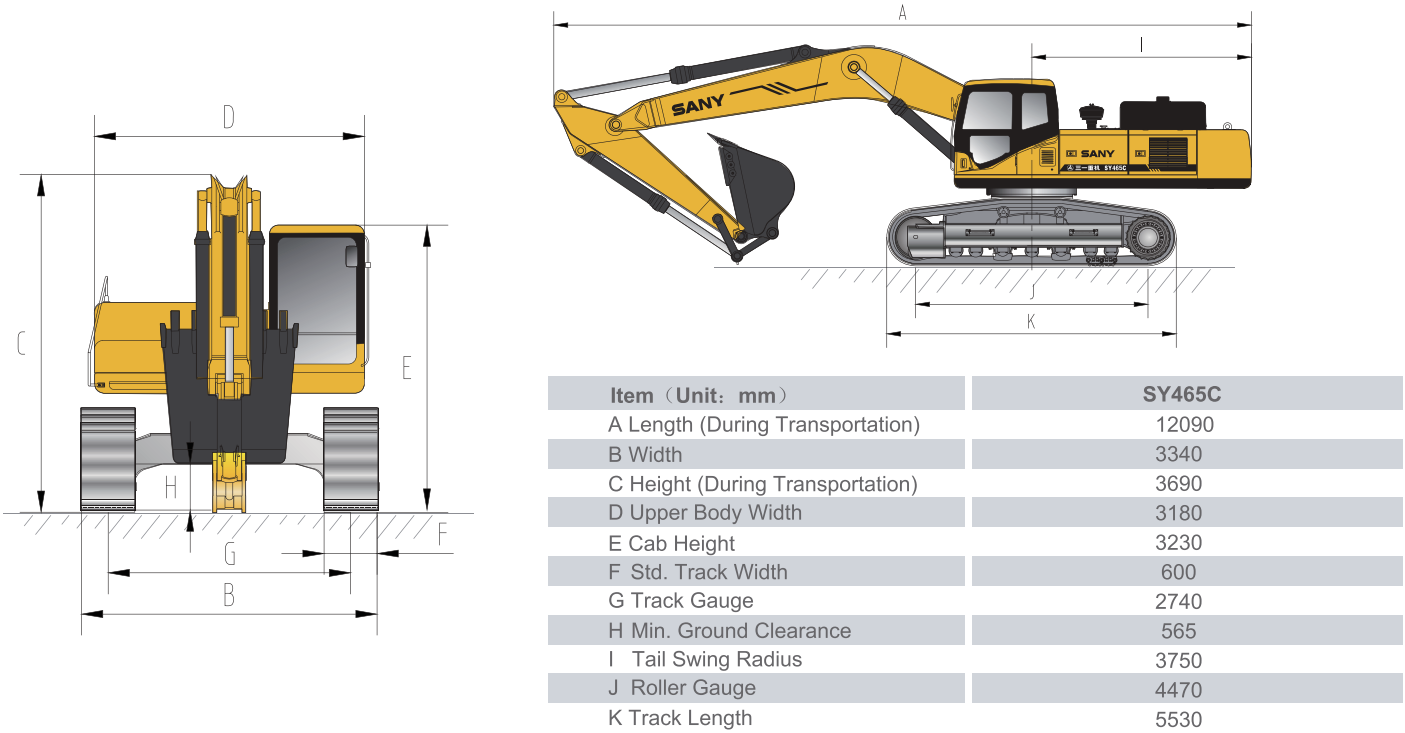
SPECIFICATION

◆ENGINE	
Model.....	Mitsubishi 6D24-TLU2G
Displacement.....	11.94L
Engine power	
At rated engine speed.....	250kw/2000rpm
◆HYDRAULIC SYSTEM	
Type	Negative control system
Number of selectable working modes.....	4
Main pump	
Type.....	Variable-capacity piston pumps
Maximum flow.....	2*360ltr/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 circuit	28.5mpa 279kg/cm2 4,133psi
Heavy lift circuit	34.3mpa 336kg/cm2 4,974psi
Pilot circuit	3.9mpa 38kg/cm2 565psi
Hydraulic cylinders	
Boom.....	2-140mm*1480mm
Arm.....	1-170mm*1685mm
Bucket.....	1-140mm*1285mm
◆OPERATING WEIGHT	
Operating weight with standard bucket, fully serviced, +75 kg operator (ISO)	
Operating weight.....	45575kg
◆UNDERCARRIAGE	
Track width.....	750mm
Number of track shoes.....	50
Carrier roller (per side).....	2
Track roller(per side).....	9
◆TRANSMISSION	
Travel Speed (Highest/Lowest).....	5.2/3.2km/h
Swing Speed.....	9.5rpm
Gradeability.....	70%/35°
Ground Pressure.....	77rpa
◆SERVICE CAPACITIES	
Fuel tank.....	680L
Hydraulic tank.....	400L
Engine oil.....	49L
Radiator.....	48L
Final drive.....	2*10L
Swing drive.....	2*4.4L
◆DIGGING FORCE	
Bucket Digging Force.....	267kN
Arm Digging Force.....	241kN

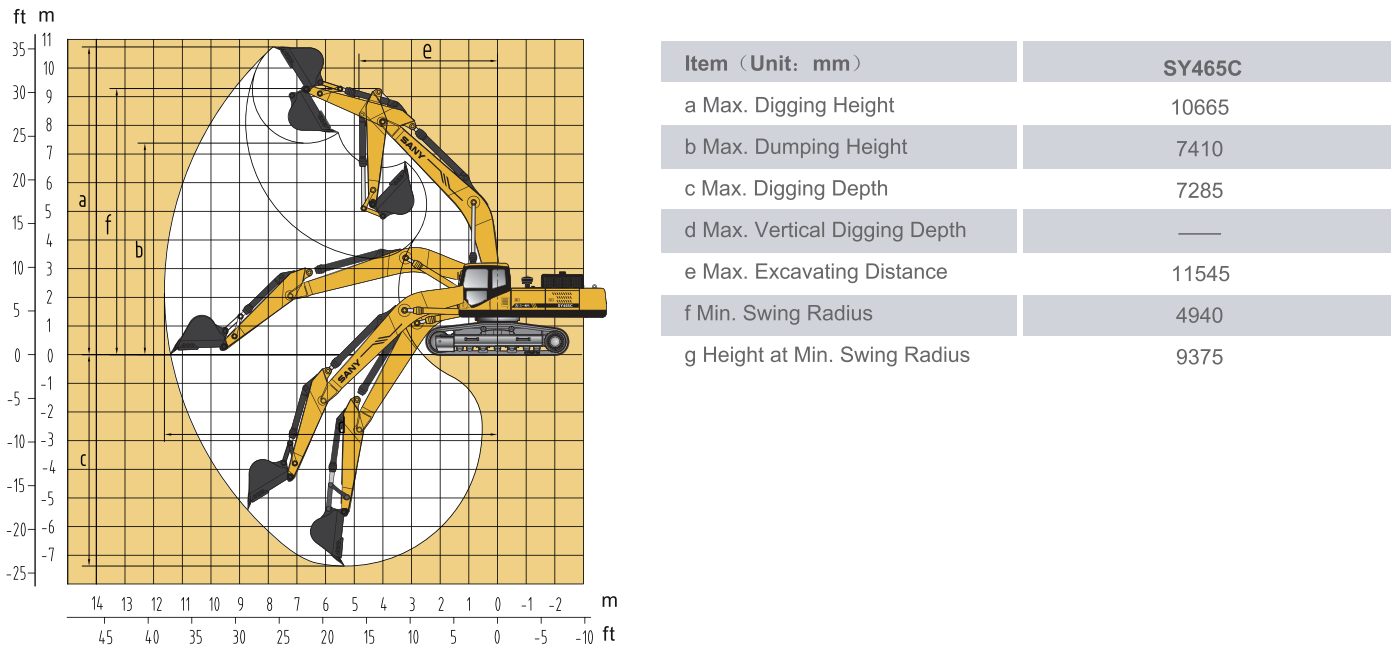
BUCKET CAPACITY OPTIONAL

Bucket Type	Capacity	Outer Diameter (mm)	Weight (Kg)	Standard Arm (2.9m)	Short Arm (2.5)	Long Arm (3.38)
Rockwork	2.2	1606	2088	◇	◇	×
◇ 1.8t/ m³ Used to load materials with a specific gravity not more than 1.8t/ m³ × Not applicable						

DIMENSION



OPERATION RANGE



Materials and specifications are subject to change without further notice in accordance with our continuous technical innovations.Photos and illustrations may not include additional equipments.

SY465C LIFTING CAPACITY

A B	MAX		9.0m		7.5m		6.0m		4.5m		3.0m	
6.0m kg	8840	8840			10730	10730						
3.0m kg	8940	8450	9430	9430	10890	10890	13480	13480				
0m kg	9170	8510	9720	9060	11750	11450	14750	14750	19240	19240		
-3.0m kg	9210	9210			10380	10380	13040	13040	16220	16220	19540	19540
-6.0m kg												

Remarks:
1.Rated figure meets the criterion of GB/T 13331-2005/ISO 10576
2.Rated rollover loading is 75% of static rollover loading, rated limiting hydraulic weight is 87% of limiting hydraulic weight.
3. Loading radius is the distance from the loading point to the swing center.
4. The figure with * stands for the rated figure of the limiting hydraulic weight.

STANDARD AND OPTIONAL

STANDARD EQUIPMENT

Engine

- Mode control (H, S, L and B)
- Start motor 24V/7.5KW
- Alternator 70A
- Air pre-cleaner
- Dry double-filtering air cleaner
- Cylindrical engine oil filter
- Cylindrical fuel filter
- Engine oil cooler
- Radiator with protective screen
- Auxiliary water tank for radiator
- Fan cowl
- Separately installed engine
- Automatic deceleration system
- Accelerating system

Hydraulic System

- Working mode selection switch
- Power enhancement device
- Control valve with main relief valve
- Spare oil port for control valve
- Oil suction filter
- Oil return filter
- Pilot filter

Operator Station

- Noiseproof steel-structured cab
- Toughened light-color window
- 6 silicone rubber damping support
- Openable roof hatch, upper front
- Window and left window
- Rear window,alternate exit
- Silent window wiper with washer

- Adjustable inclined seat with adjustable armrest
- AM-FM radio with digital clock
- Foot rest and floor mat
- Loudspeaker,rear view mirror
- Seat belt and fire extinguisher
- Cup holder and cab light
- Ashtray、alternate hammer
- Storage box, literature bag
- Hydraulic lockout control
- Fully automatic air-conditoner
- Cab visor

Undercarriage

- Travel brake
- Travel motor guard
- H-track guiding mechanism
- Hydraulic track tensioner
- Bolted sprocket
- Carrier roller and track roller
- Reinforced track link with pin and seal
- 600 mm track shoe

Swing Platform

- Fuel level float
- Hydraulic oil level gauge
- Toolbox
- Rear view mirror (R)
- Swing brake
- Reinforced side pedal

Air Conditioning system

- Air conditioner（importd）
- Air conditioner control panel
- Fresh air system

Lamp

- Five work lamps

Front Work Equipment

- Flange pin
- Bucket clearance adjustment
- Welded lever
- Central lubrication system
- Dust ring-seal of bucket pin
- 7.06 m fully-welded box boom
- 2.9 m fully-welded box arm
- Guard
- 2.2m3 standard bucket（SY465C）

Alarm Lights

- Oil pressure lack, engine coolant
- overheat
- Throttle knob fault
- Fuel oil lack
- Voltage higher than specification
- Engine over speed

Indicator Lights

- H working mode、S working mode
- L working mode
- Auto-idle、engine warm up
- Oil level, engine coolant temperature
- Travel speed

Others

- Standard battery box
- Lockup engine hood
- Lockup fuel filler cap
- Anti-skid film, handhold and passage
- Travel direction mark
- Hand grease gun
- Electric diesel pump(SY465C)

OPTIONAL EQUIPMENT

S/N	Model for Contract	Common Name in The Company	Standard Parts							Optional Spare Parts(Free)			Optional Spare Parts(Charge)			
			Engine			Track Width (mm)	Arm Length (mm)	Bucket Form/ Capacity(m ³)		Arm Length (mm)	Bucket Form /Capacity (m)		Pipeline of The Hammer	Hammer	Concentrated Grease System	Fueling Pump
			Brand	Emission Standard	Control System			Soil	Rock		Soil	Rock				
1	SY465C	SY465C1M2KS	Mitsubishi	Tier2	Negative Flow	600	2900	—	2.2	—	—	—	Optional	Optional	Optional	Optional

Selecting Marked Optional Spare Parts Will Extend The Delivery Cycle（at Least One Month）.



Quality Changes the World

SANY HEAVY INDUSTRY CO., LTD.

Address: 319 Chuanda Road, Chuansha Economic Park,
Pudong, Shanghai, China, 201200

Service Hotline: +0086-21-60303131

Email: crd@sany.com.cn

For more information, please visit: www.sanygroup.com

For our consistent improvement in technology, specifications may change without notice.
The machines illustrated may show optional equipment which can be supplied at additional cost.