

SANY®

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SANY HEAVY MACHINERY |     www.sanyglobal.com

SANY®

QUALITY CHANGES THE WORLD



Engine power
1620 kW/1800 rpm

Bucket capacity
22 m³

Operating weight
420000 kg

SY4000H

Mining Excavator

HIGHLIGHTS



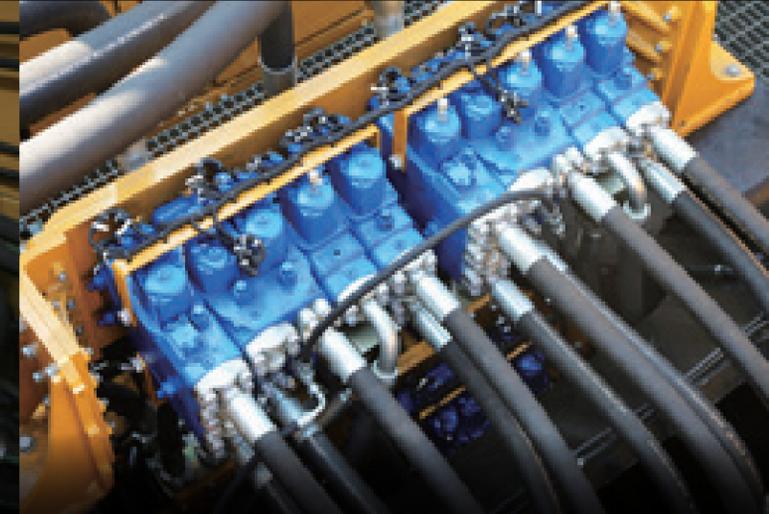
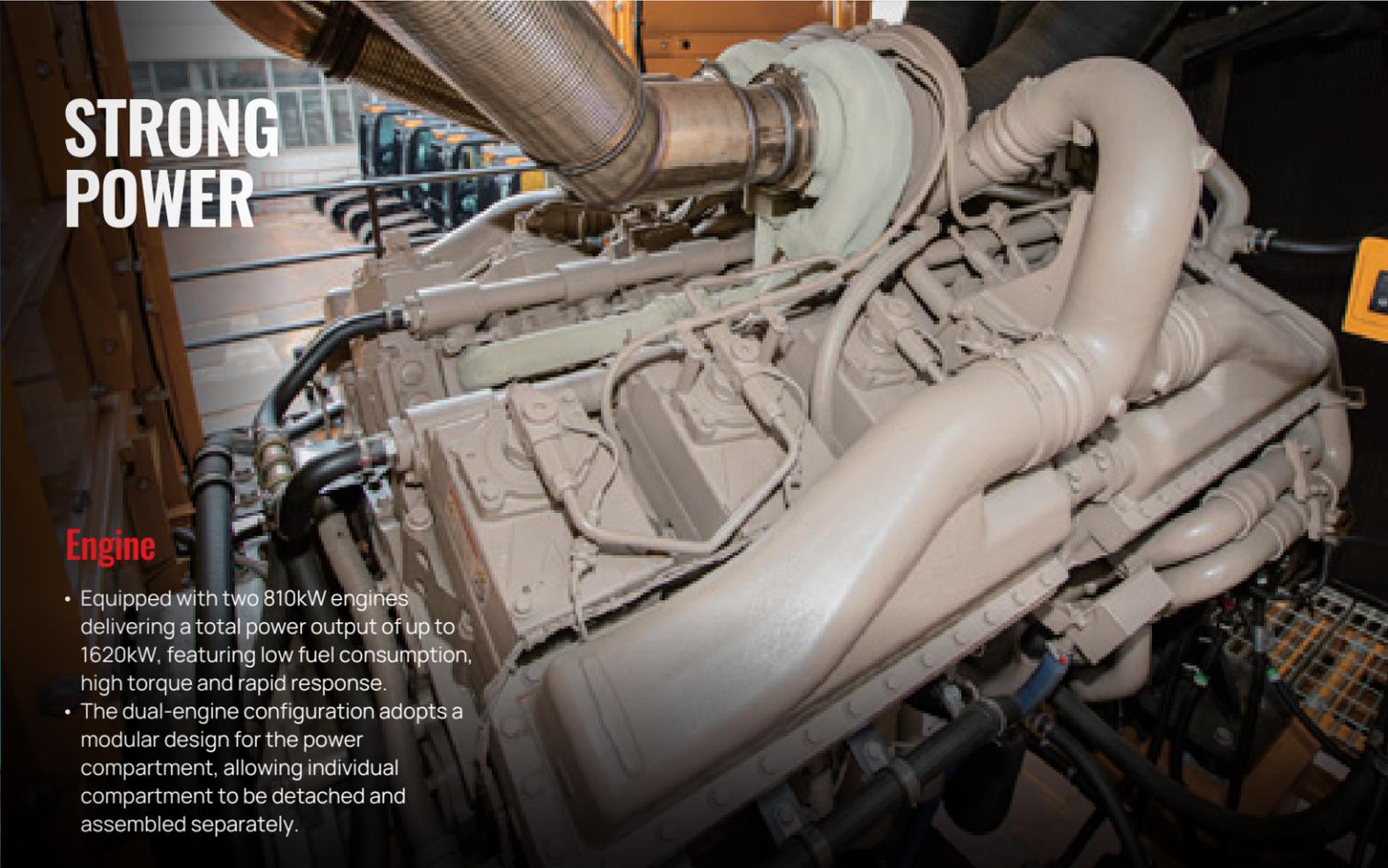
STRONG POWER

Engine

- Equipped with two 810kW engines delivering a total power output of up to 1620kW, featuring low fuel consumption, high torque and rapid response.
- The dual-engine configuration adopts a modular design for the power compartment, allowing individual compartment to be detached and assembled separately.

Dual Power Hydraulic Cross Control System

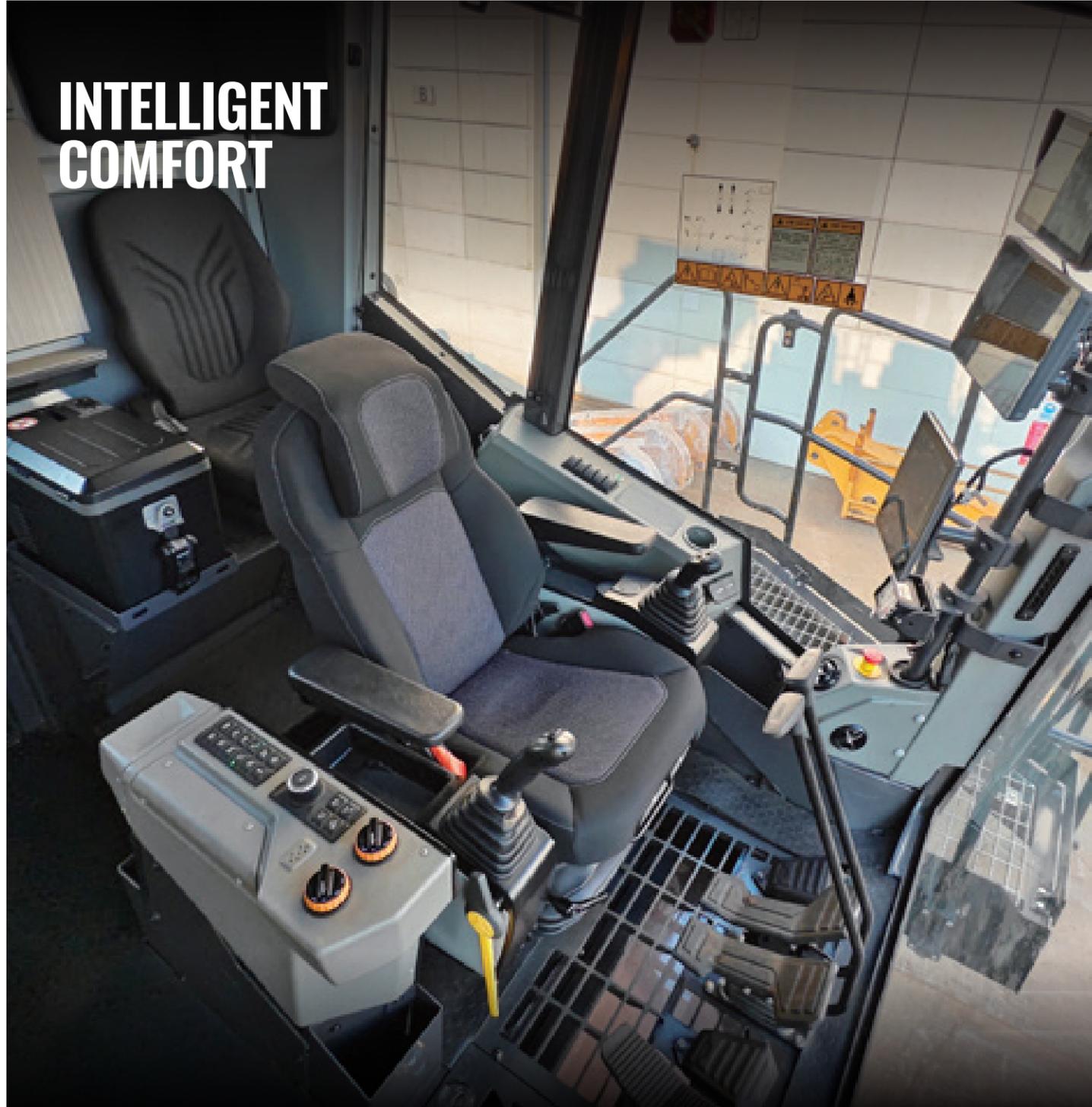
- In emergency mode, the system allows independent control with a single engine, achieving 50-70% operational efficiency for temporary excavation.
- Loading tasks as well as for machine relocation, quick repairs, and other auxiliary operations.



- The new generation of fully electronically controlled hydraulic systems from Germany improves operational efficiency and reduces throttling losses.

HIGHLIGHTS

INTELLIGENT COMFORT



The spacious FOPS-certified mining excavator cab, air-suspended electrically heated seat, instructor seat, fire extinguisher, on-board refrigerator, triple-screen display, safety hammer, floor window and high-cooling-capacity air conditioning system deliver excellent comfort and safety protection for operators and passengers.

- 360° surround view eliminates blind spots completely
- The auxiliary screen displays the operating data of the two engines
- Main screen touch control + armrest panel interactive operation
- Ultra-wide-view cab combined with floor window ensures unobstructed visibility of the surrounding working environment
- An instructor seat is arranged at the rear, and emergency stop buttons are installed at both the operator's and instructor's positions
- A vehicle-mounted refrigerator is built into the cab
- The emergency escape exit enables safe and convenient access to the FOPS-certified cab

DURABLE AND RELIABLE

01 High Reliability Of Attachment

- The boom and arm use a large cross-section box structure, and the joints are supported by high-strength integrated cast steel components. The overall structure features fatigue-resistant design, providing high reliability and long service life.
- The boom and arm undergo complete stress-relief annealing, reducing residual stress by more than 85%.

02 Intelligent Cushioning Technology For Face Shovel Mechanism

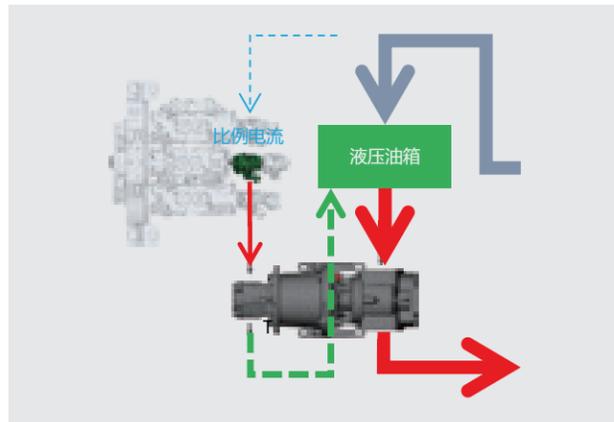
- Multiple posture sensors monitor the mechanism's posture in real-time, and the fully electronically controlled hydraulic system avoids the "stuck" posture of the face shovel mechanism, reducing impact on the working device.

Wear-resistant Bucket Tooth

- It uses ultra-wear-resistant alloy bucket teeth with a hammerless design, making the structure more durable and maintenance more convenient.

03 Independent Hydraulic Circulation Cooling System

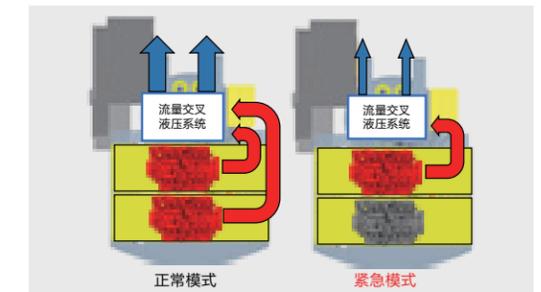
- Lower return oil pressure, reduced system losses, and more precise temperature control.



04 Dual Power Hydraulic Cross Control System

In emergency mode, the system allows independent control with a single engine, achieving 50-70% operational efficiency for temporary excavation.

Loading tasks as well as for machine relocation, quick repairs, and other auxiliary operations.



05 Quick Refueling System

The power system is equipped with a rapid refueling system, capable of completing an 8,000-liter fuel refill within 15 minutes.



06 Reinforced Undercarriage

- The cast one-piece track plate has a strong load-bearing capacity and long service life.
- The enlarged wheelbase and track width of the frame improve the overall vehicle stability.
- The frame uses "bent plate" to connect with the travel beam, enhancing reliability.
- The three-row roller slewing bearing combined with the base circle ensures more even load distribution during rotation.





SAFETY FACILITY

FOPS-Certified Cab



Intelligent Surround View Warning System



Travelling alarm



Emergency stop buttons



Double Isolating Switch



45° Escalator Access Passage



TCO

Total Cost of Ownership (TCO) The design objective is to minimize the customer's life-cycle costs as much as possible, covering all aspects such as the service life of the complete machine, operation, maintenance, transportation and repairs.

Performance & Productivity

Optimal Compatibility and Versatility with Mining Trucks

- Multiple Bucket Capacities Available

Low operating cycle time

- Adequate engine power reserve
- The fully electrically controlled hydraulic system integrates Sany's self-developed pump-controlled energy-saving technology, achieving optimal matching between the engine and the pump for faster, more precise, and more cost-effective operation.
- The powerful digging force can meet the requirements of various harsh working conditions.
- Optimized hinge point design ensures a wider working range and better compatibility with trucks.
- It delivers high productivity and low fuel consumption for customers.

Comfortable driving and riding experience No fatigue even during 12-hour shifts

- The seat provides the operator with a comfortable sitting posture.
- Ergonomically designed concept.
- Excellent visibility.
- Dual - air conditioning system.
- Low noise level.

Quality & Reliability

Matched service life of the machine and components helps maximize the return on investment (ROI).

- Advanced structural component design philosophy and manufacturing processes
- Reliable component service life is based on the adoption of high-quality parts proven in mining applications

- Enhanced power matching of the hydraulic system (reducing engine speed drop caused by torque and speed control)
- During operation standby, the engine speed can be automatically reduced to low-idle mode
- The independent hydraulic oil cooling system maintains oil temperature at an optimal level
- The fuel and hydraulic systems are equipped with high-precision filters to ensure superior oil cleanliness
- Control system (advanced diagnostics, operation trends, maintenance reminders)
- Lubrication system with self-fault detection function
- Reduced lubrication points (fixed pins)

O&M Costs

Operation and maintenance costs have been a consistent focus throughout the entire design process.

- Reduced Hydraulic System Losses for Enhanced Fuel Efficiency
- High-Efficiency Fuel Engine
- Spacious Maintenance Access Channels
- Excellent Component Maintenance Convenience
- Main Valve Mounted on Boom, Greatly Boosting Swing System Maintainability
- Ground Centralized Filling System (Oil Filling/Draining)
- Extended Maintenance Intervals (Component Maintenance, Replacement & Overhaul Intervals)
- Strong Component Versatility
- Automatic Lubrication System
- Fuel System Capable of 24-Hour Continuous Operation
- Modular Design Enables Rapid Assembly & Disassembly
- Plug-and-Play Power Module Significantly Reduces MTTR (Mean Time to Repair)
- Hammerless Bucket Tooth System for Quick & Easy Replacement

MAINTAINABILITY

- Internal access passages are incorporated into both the engine compartment and pump room, ensuring easy access to all components.
- Streamlines daily inspection, maintenance and parts replacement.
- Inspection lamps mounted above passages boost operational safety.



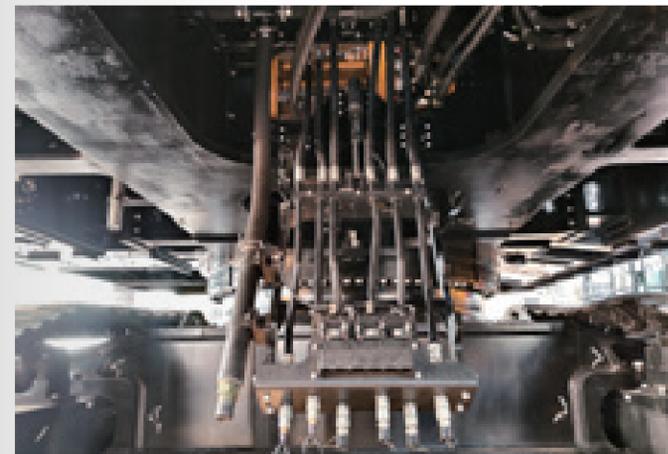
Exhaust Ejector System

- The exhaust ejector system extends the purging interval of the air filter element.



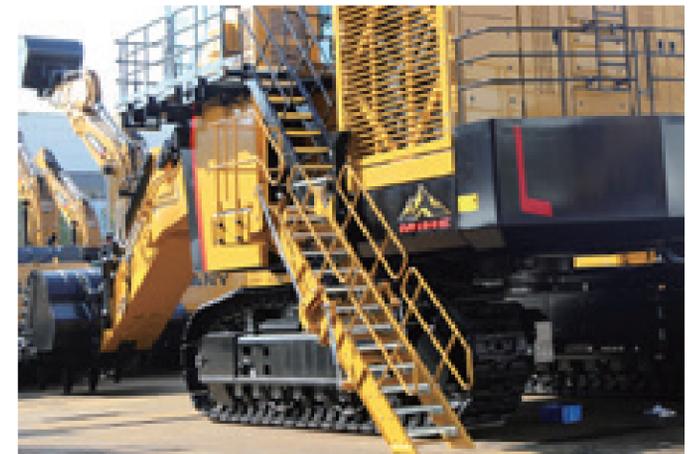
Automatic lubrication system

- Full-time automatic lubrication system with a large capacity of 400L features an extended service cycle and reduces labor costs associated with lubrication.



Centralized Filling System

- The power system is equipped with a rapid refueling system, capable of completing an 8,000-liter fuel refill within 15 minutes.



45° Hydraulically Folded Access Ladder

- Easy Cab Access & Time Efficiency.

TECHNICAL SPECIFICATION

SPECIFICATION	UNIT	VALUE
Operating weight	kg	420000
Bucket capacity	m ³	22
Emission standards	-	Tier2
Model	-	QSK38
Type	-	V-type, 12-cylinder
Rated power	kW/rpm	1620/1800
Displacement	L	37.7

HYDRAULIC SYSTEM	UNIT	VALUE
Type	-	Full electrically controlled
Main pump	-	8 piston pumps
Maximum flow rate	L/min	8 × 550
Maximum pressure	bar	310

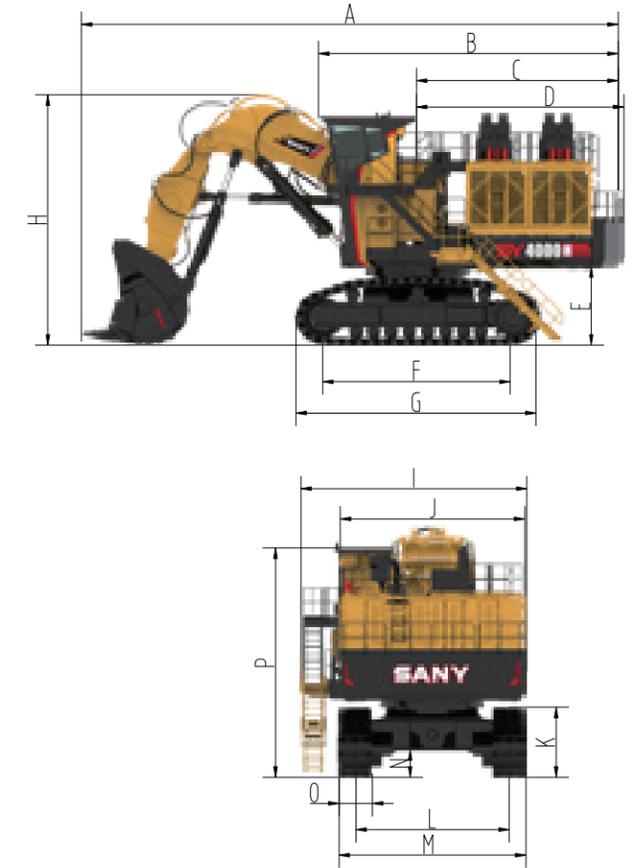
SERVICE REFILL CAPACITIES	UNIT	VALUE
Fuel tank	L	8000
Hydraulic tank	L	5776
Engine oil	L	240
Antifreeze fluid	L	800
Transfer case gear oil	L	64
Automatic lubrication	L	400

MAIN PERFORMANCE	UNIT	VALUE
Swing speed	rpm	4.1
Travel speeds	km/h	2.3/1.5
Grade ability	%	54
Ground pressure	N/cm ²	22.2
Bucket digging force	kN	1252
Horizontal thrust	kN	1268

UNDERCARRIAGE	UNIT	VALUE
Number of track shoes (per side)	mm	49
Carrier roller (per side)	-	3
Track roller (per side)	-	8
Track shoe width	mm	810

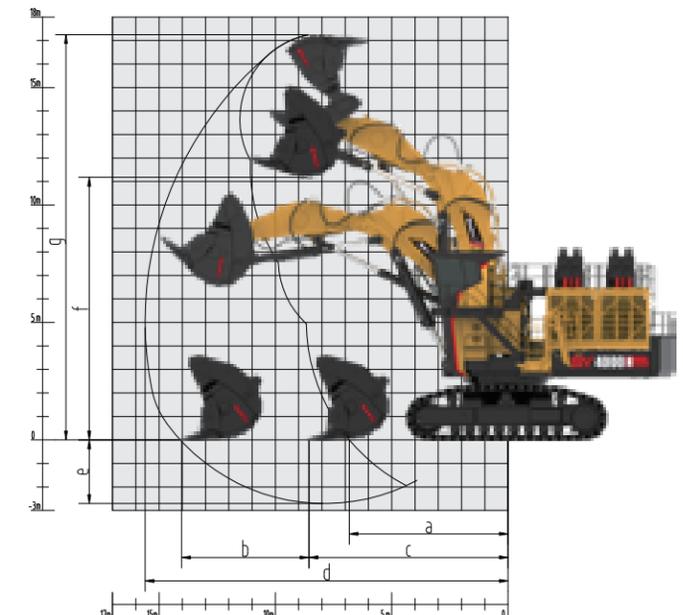
DIMENSIONS

	UNIT	VALUE
A. Overall Length (bucket on the ground)	mm	19350
B. Length of Uppercarriage	mm	10800
C. Counterweight To Center Distance	mm	7300
D. Swing Radius	mm	7400
E. Height Below Counterweight	mm	2810
F. Wheel Track	mm	6760
G. Length of Undercarriage	mm	8650
H. Overall Height (bucket on the ground)	mm	8940
I. Overall Width	mm	6650
J. Width of Uppercarriage	mm	8160
K. Track Height	mm	2500
L. Track Gauge	mm	5550
M. Width of Undercarriage	mm	6750
N. Min. Ground Clearance	mm	980
O. Track Width	mm	1200
P. Cab Roof Height	mm	8180



WORKING RANGE

	UNIT	VALUE
Boom length	mm	7100
Arm length	mm	4900
a. Min. Digging Distance	mm	6830
b. Horizontal crowding distance	mm	5470
c. Min. Crowding distance	mm	8560
d. Max. Digging Reach	mm	156000
e. Max. Digging Depth	mm	2810
f. Max. Dumping Height	mm	123500
g. Max. Cutting Height	mm	172400



STANDARD EQUIPMENT AND OPTIONS

ENGINE SYSTEM

Large-capacity fuel tank(capable of continuous operation for 30 hours)	●
Emergency mode (Single engine start)	●
PTO cooling system	●
Low-temperature start-up	○
Exhaust ejection	●
Three-stage fuel filter	●
Fuel level gauge	●
Modular power cabin	●
Large-capacity air intake filter element	●
Fuel rapid refueling system	●
Automatic idle speed	●
Thermal shutdown protection	●
PTO device alarm and protection	●

CABIN

Air suspension seat	●
Seat heating/ventilation	●
Cup holder	●
Bluetooth function	●
Stereo radio	●
12V/24V, USB charging interface	●
Coach air-suspended seat	●
On-board refrigerator	●
3-inch two-point (rewinder) orange safety belt	●
Positive pressure system	●
Cab shock absorption system	●
Multi-speed adjustment and washing function wiper	●
Adjustable heating and cooling air conditioning system	●
Auxiliary bottom window (tracks can be observed)	●
Footrest	●
Tempered laminated glass	●
Handrail operation panel	●
Cigarette lighter/power socket	●
Full cab sunshade	●

HYDRAULIC SYSTEM

Boom float lowering	●
Main pump oil contamination alarm	●
Oil-absorbing filter	●
Return oil filter	●
Pilot filter	●
Oil drain filter	●
High-pressure filter	●
High-precision bypass circulation filtration system	●
Hydraulic oil level gauge	●
Dual-power hydraulic cross system	●
Independent hydraulic oil tank circulation cooling system	●
Low-temperature hydraulic oil heating	●
Pressure cut-off for energy saving	●
Boom and arm regeneration for energy saving	●
Travel speed mode switch(high/low)	●

ATTACHMENT

Wear-resistant alloy bucket teeth	●
Hammer-free bucket teeth	●
Intelligent mechanism cushioning system	●
Large cross-section box-structure boom and arm	●
High-strength one-piece cast steel hinge support	●
Boom jacking	●
Arm Tamping	●

ELECTRICAL SYSTEM

10-inch main screen + 10-inch secondary screen	●
Remote Data Access System (EVI)	●
Multi-function joystick	●
Full electric controlled joystick and pedal	●
High-decibel air horn	●
Global Positioning System	●
LED work lighting lamp	●
T-Box data remote diagnosis	●
Walking alarm light	●
Reversing buzzer	●
Homecoming mode (Ladder light delayed off)	●
Power-off switch	●
Start switch	●

MAINTENANCE CONVENIENCE

Butterfly valve for hydraulic oil tank	●
Fully automatic lubrication system	●
45° automatic folding ladder	●
Anti-slip walkway	●
Self-diagnosis of faults	●
Service center/Centralised refilling system	●
Simple purging interface	●
Slewing bearing observation window	●
LED maintenance lighting fixtures	●

SAFETY

Automatic fire extinguishing	○
FOPS certified cab	●
360° panoramic imaging system	●
Emergency safety exit at the rear window	●
Cab escape hammer	●
Cab window breaker	●
Escape descender	●
Center protection of the handle	●
Low-pressure protection of the main pump	●
Fire extinguisher in the cab	●

TRAVELING GEAR

Two-stage hydraulic tensioning buffer system for tracks	●
Bottom cover plate	○
Travel parking	●
Integral track pad with link	●

● Standard configuration ○ Optional configuration

ENGINEERING AND MANUFACTURING

Complete research & development and test system

SANY 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.



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.



SANY OVERSEAS SERVICE

GLOBAL SUPPORT ANYTIME ANYWHERE NO MORE WAITING

900+



Overseas service centers

3500+



Professional technical service engineers

365×24



Support

Service Center

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