LiuGong

933E$_{HD}$ EXCAVATOR

Engine	Cummins QSB7
Rated Power	156 kW
Operating Weight	33,600 - 34,700 kg
Standard Bucket	1.88 m³

TOUGH WORLD. TOUGH EQUIPMENT.

“THE NEW 933E$_{HD}$. EVEN THE TOUGHEST MACHINES CAN GET STRONGER”

HERE’S THE BIG PICTURE

Research tells us that you want machines that are tough, reliable, easy to use and maintain and economic to run. We’ve taken on the challenge with our new 933E$_{HD}$. We’ve taken a tough machine and made it even stronger, more durable, more comfortable and more efficient to run and maintain.

Use our **performance dashboard** to discover the real, tough facts about our new 933E$_{HD}$:

ENERGY EFFICIENT

TOUGH & RELIABLE

EASY TO MAINTAIN

SAFE & COMFORTABLE

ENERGY EFFICIENT

- Customized QSB7 fuel-efficient engine
- 14.5% higher work efficiency than the previous models

TOUGH & RELIABLE

- Reinforced ribs welded on the idler support
- 3 crawler guards on each side
- HD chassis with 4,140mm wheelbase
- Steel Arm and middle support reduces stress by 35%
- Wear-resistant large bucket

EASY TO MAINTAIN

- Easily accessible service points
- Tool-free air fliter disassembly and replacement
- On-board monitoring

SAFE & COMFORTABLE

- Extra large cabin space
- LED working lights
- Non-slip step
- 6.7t counterweight, more stable and comfortable to ride

WORK HARDER, FOR LONGER

BUILT FOR HEAVY JOBS

1. EXTRA STABILITY

With a new 6.7t counterweight and a 3,400mm turning radius, the 933E$_{HD}$ maintains its balance and stability on the toughest terrain.

2. ADAPTABLE TO MORE CONDITIONS

1.6 m^3 general purpose, wear resistance bucket is optional for your choice.

3. ALL-ROUND TOUGHNESS

With a heavy-duty chassis, robust 4,140mm wheelbase, reinforced idler support and additional crawler guard protection (3 guards on each side), we go further to protect your machine.

4. DOUBLED SERVICE LIFE

Our new boom arm is cast steel with the central ram pivot forged to increase torsional resistance. As a result, overall stress is reduced by 35% and service life doubled.

POWER WITH ECONOMY

5. HIGH TORQUE AT LOW SPEED

With a customized Cummins QSB7 engine, benefitting from electronically controlled direct injection, we deliver consistently high torque at low speeds, maximizing low-emission performance and efficiency.

6. SMART FUEL ECONOMY

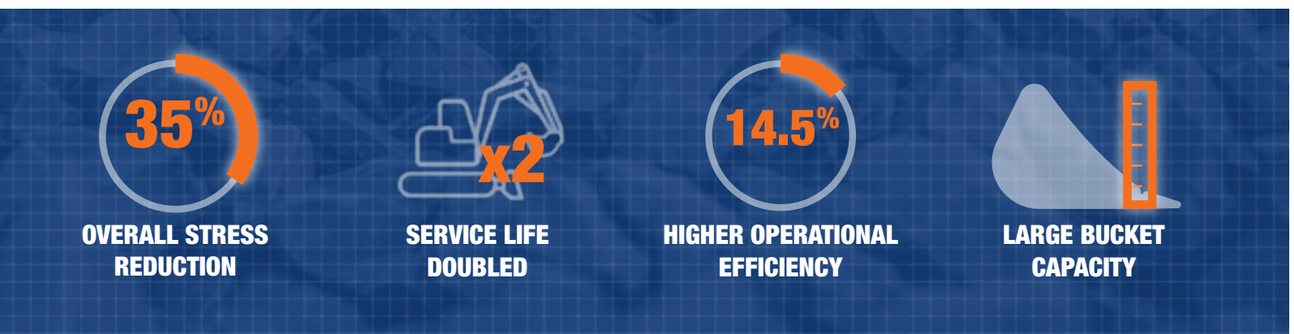
Benefitting from 6 smart operating modes: we make it easy to save fuel and get the job done right.

7. IMPROVED CYCLE TIMES

With an advanced hydraulic system, the main pump and main valve are precisely calibrated to deliver better control, improved efficiency and faster cycle times.

8. INCREASED WORK EFFICIENCY

In a recent endurance test, the 933E$_{HD}$ recorded 14.5% higher operational efficiency than previous models. With a high-capacity (1.88 m^3) bucket, we help you move more material for a lower cost.



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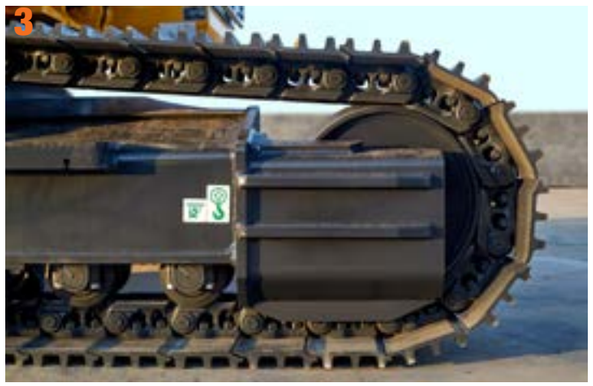

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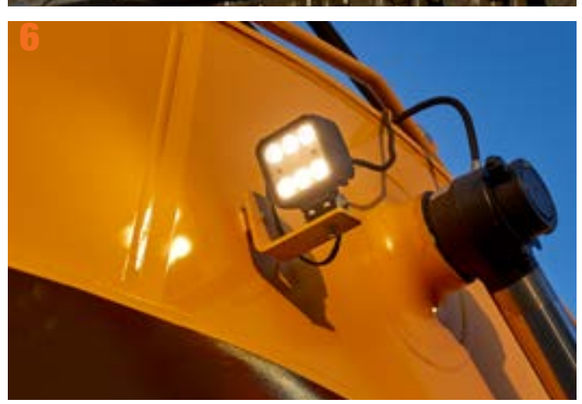


BUILT AROUND YOUR NEEDS

INCREASED UPTIME

1. INSTANT INFORMATION

On-board monitoring saves the operator time making it easy to check oil temperature, pressure levels and receive service interval alerts.

2. CLEAN AIR

With a tool-free air filter maintenance, air is filtered in 2 stages removing contaminants and preventing damage.

3. EASY ACCESS

Easily accessible service points make daily checks fast and effective.

THE BEST PLACE TO WORK

4. SUPERIOR OPERATING ENVIRONMENT

With the largest, high-visibility cab in the industry, we've packed it with operator benefits. ROPS and FOPS protection, a fully adjustable seat, automatic climate control, sunshades, ample storage and ergonomic design. It all adds up to create the luxurious experience professional operators expect.

5. IMPROVED ACCESS

To promote safer entry and exit we've added a new step to help the operator.

6. SAFER WORKING NIGHT OR DAY

To improve safety and performance we've added powerful LED working lights as standard. They keep you working longer and protect site workers from danger.

7. ADDITIONAL PROTECTION

To further enhance safety, we've included a front lower protective net as standard.

933EHD

EXCAVATOR Tier 3 / Stage IIIA

SPECIFICATIONS

Operating weight	**33,600-34,700 kg**

Operating weight includes coolant, lubricants, full fuel tank, cab, standard shoes, boom, arm, bucket and operator 75 kg.

Bucket capacity	1.88 m³

ENGINE

Description

Cummins EPA Tier 3 / EU Stage IIIA , inline 6-cylinder, turbocharged,mechnically controlled direct injection.
Air cleaner: Cummins direct flow air filter.
Cooling system:Charge air cooler.

Emission rating	EPA Tier 3 / EU Stage IIIA
Engine manufacturer	Cummins
Engine model	QSB7
Aspiration	Wastegate Turbo (WGT)
Charged air cooling	Aftercooler
Cooling fan drive	Direct
Displacement	6.7 L (6,700 cm³)
Rated speed	2,050 rpm
Engine output - net (SAE J1349 / ISO 9249)	156 kW (209 hp / 212 ps) @ 1,900 rpm
Engine output - gross (SAE J1995 / ISO 14396)	169 kW (227 hp / 230 ps) @ 1,900 rpm
Maximum torque	895 N·m @ 1,300 rpm
Bore × Stroke	107 × 124 mm

UNDERCARRIAGE

Track shoe each side	49
Link pitch	216 mm
Shoe width, triple grouser	600/700/800/900 mm
Bottom rollers each side	9
Top rollers each side	2

SWING SYSTEM

Description

Planetary gear reduction driven by high torque axial piston motor, with oil disk brake. Swing parking brake resets within five seconds after swing pilot controls return to neutral.

Swing speed	10.3 rpm
Swing torque	105,000 N·m

HYDRAULIC SYSTEM

Main pump

Type	Two variable displacement piston pumps
Maximum flow	2 x 266 L/min
Pilot pump	
Type	Gear pump
Maximum flow	19 L/min
Relief valve setting	
Implement	34.3/37.3 MPa
Travel circuit	34.3 MPa
Slew circuit	26.2 MPa
Pilot circuit	3.9 MPa
Hydraulic cylinders	
Boom Cylinder – Bore × Stroke	Φ140 × 1,342 mm
Stick Cylinder – Bore × Stroke	Φ150 × 1,755 mm
Bucket Cylinder – Bore × Stroke	Φ140 × 1,135 mm

ELECTRIC SYSTEM

System Voltage	24 V
Batteries	2 x 12 V
Alternator	24 V - 70 A
Start motor	24 V - 7.8 kW

SERVICE CAPACITIES

Fuel tank	520 L
Engine oil	26.5 L
Final drive (each)	9.5 L
Swing drive	10.5 L
Cooling system	35 L
Hydraulic reservoir	195 L
Hydraulic system total	360 L

SOUND PERFORMANCE

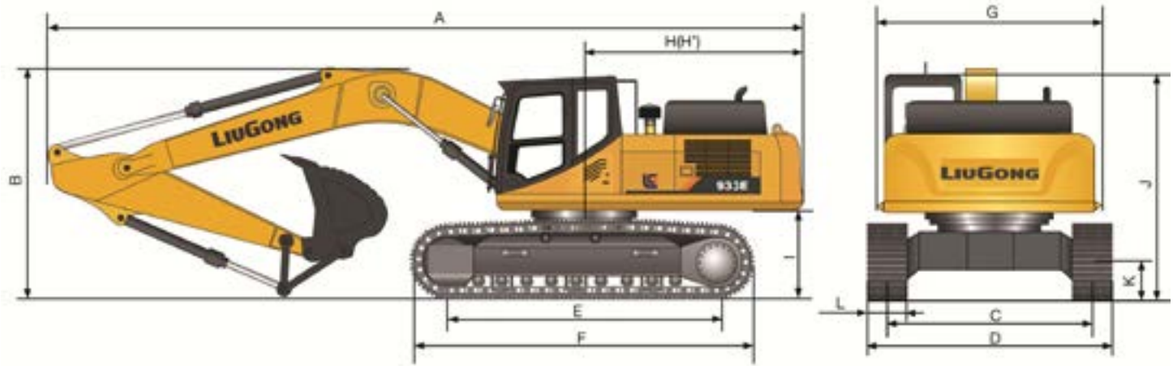
Interior Sound Power Level (ISO 6396)	74 dB(A)
Exterior Sound Power Level (ISO 6395)	106 dB(A)

DRIVE AND BRAKES

Description

2-speed axial piston motors with oil disk brakes. Steering controlled by two hand levers with pedals.

Max. travel speed	High: 5.5 km/h Low: 3.0 km/h
Gradeability	35°/70%
Max. drawbar pull	300 kN



DIMENSIONS

Boom	6,200 mm	
Arm Options	3,050 mm	2,600 mm
A Shipping Length	10,650 mm	
B Shipping Height – Top of Boom	3,525 mm	
C Track Gauge	2,590 mm	
D Undercarriage Width – with 600 mm Shoes	3,190 mm	
700 mm Shoes	3,290 mm	
800 mm Shoes	3,390 mm	
900 mm Shoes	3,490 mm	
E Length to Center of Rollers	4,140 mm	
F Track Length	5,075 mm	
G Overall Width of Upper Structure	3,163 mm (including protective side beam)	
H Tail Swing Radius	3,400 mm	
I Counterweight Ground Clearance	1,215 mm	
J Overall Height of Cab	3,325 mm (with protective equipment)	
K Min. Ground Clearance	500 mm	
L Track Shoe Width	600 mm	

BOOM DIMENSIONS

Boom	6,200 mm
Length	6,430 mm
Height	1,557 mm
Width	754 mm
Weight	2,233 kg

Cylinder, piping and pin included.
Boom cylinder pin excluded.

ARM DIMENSIONS

Arm	3,050 mm	2,600 mm
Length	4,223 mm	3,800 mm
Height	1,044 mm	1,052 mm
Width	366 mm	366 mm
Weight	1,098 kg	1,035 kg

Cylinder, linkage and pin included.

BUCKET SELECTION GUIDE

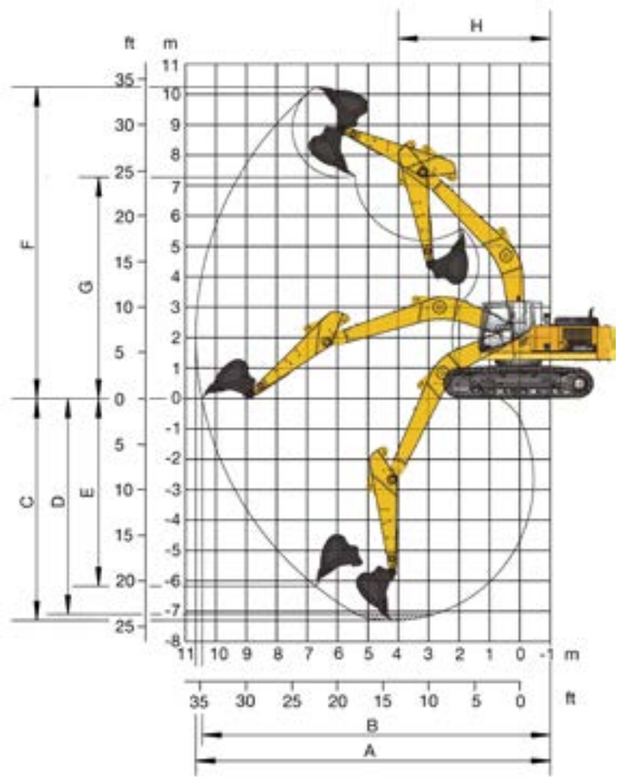
					6.2 m HD Boom	
vBucket Type	Capacity	Cutting width	Weight	Teeth pcs	3.05 m Arm	2.6 m Arm
General Purpose Bucket	1.6 m³	1,565 mm	1,488 kg	5	C	E
Heavy Duty Digging Bucket	1.8 m³	1,700 mm	1,710 kg	5	A	C
Light Duty Digging Bucket	1.88 m³	1,685 mm	1,540 kg	5	A	B

The recommendations are given as a guide only, based on typical operation conditions. Bucket capacity based on ISO 7451, heaped material with a 1:1 angle of repose.

Maximum materal density:
A 1000-1200 kg/m3: Sand and sandy loam, Humus,, Planting soil, Stony loam
B 1200-1500 kg/m3: Building soil, Cemented backfill, Ice clay, Natural small gravel
C 1600-2000 kg/m3: Building soil, Cemented backfill, Ice clay
D 2200-2200 kg/m3: Gravel, Pebbles
E 2200-2500 kg/m3: Coal seam, Shale
NA. Not applicable

LiuGong standard and optional equipment may vary from region to region. Please consult your LiuGong dealer for information specific to your area.

MACHINE WEIGHTS AND GROUND PRESSURE						
Shoe width	Operating weight	Ground pressure	Overall width	Operating weight	Ground pressure	Overall width
	6.2 m boom, 3.05 m arm, 1.6 m^3 bucket, 6,700 kg counterweight (other systems are standard configuration)			6.2 m boom, 2.6 m arm, 1.88 m^3 bucket, 6,700 kg counterweight (other systems are standard configuration)		
600 mm	33,600 kg	61.5 kPa	3,190 mm	33,600 kg	61.5 kPa	3,190 mm
700 mm	33,960 kg	53.3 kPa	3,290 mm	33,960 kg	53.3 kPa	3,290 mm
800 mm	34,330 kg	47.2 kPa	3,390 mm	34,330 kg	47.2 kPa	3,390 mm
900 mm	34,700 kg	42.5 kPa	3,490 mm	34,700 kg	42.5 kPa	3,490 mm



WORKING RANGE			
Boom Length		6,200 mm	
Arm Length		3,050 mm	2,600 mm
A. Max. Digging Reach		10,653 mm	10,250 mm
B. Max. Digging Reach on Ground		10,453 mm	10,032 mm
C. Max. Digging Depth		7,300 mm	6,825 mm
D. Max. Digging Depth, 2.44 m (8') level		7,096 mm	6,590 mm
E. Max. Vertical Wall Digging Depth		6,216 mm	5,460 mm
F. Max. Cutting Height		10,300 mm	10,007 mm
G. Max. Dumping Height		7,265 mm	7,086 mm
H. Min. Front Swing Radius		4,040 mm	4,040 mm
Bucket Digging Force (ISO)	Normal	187 kN	187 kN
	Power Boost	203 kN	203 kN
Stick Digging Force (ISO)	Normal	137 kN	152 kN
	Power Boost	149 kN	165 kN
Bucket Capacity		1.6 m^3	1.88 m^3
Bucket Tip Radius		1,606 mm	1,606 mm

LiuGong standard and optional equipment may vary from region to region. Please consult your LiuGong dealer for information specific to your area.

STANDARD EQUIPMENT

ENGINE SYSTEM
- Cummins diesel engine, turbocharged, inline 6-cylinder, 4 stroke, water cooled
- Air filter with pre-cleaner
- Pre-filter with water separator
- Auto-idle speed control
- Aspiration, Wastegate Turbo (WGT)
- IPC (Intelligent Power Control) System
- Radiator, oil cooler, and charge air cooler; direct drive cooling fan
- Engine overheat prevention system
- Engine oil filter

DRIVETRAIN
- Hydraulic motor, one-piece two-gear piston and reducer
- 2-speed travel system with automatic shift

SWING SYSTEM
- High-torque piston swing motor with integral spring set and automatic hydraulic release swing brake

HYDRAULIC SYSTEM
- Main pump: two variable displacement piston pumps
- Pilot pump: gear
- Cylinders: boom, stick, bucket
- Power boost function
- Swing with anti-reverse function
- Boom and arm regeneration circuits
- Pilot oil filter
- Pilot control shut-off lever
- 6-working mode selection system: Power, Economy, Fine, Lifting, Breaker, Attachment

DIGGING EQUIPMENT
- 6,200 mm boom
- 3,050 mm arm
- 1.88 m^3 (SAE, heaped) bucket

OPERATOR STATION
- Pressurized and sealed cab with all-around visibility, large roof window with slide sliding sun visor, front window wiper and removable lower window
- Air conditioner, heater, defroster
- Mechanical suspension seat
- AM/FM radio
- Glass-breaking hammer
- Cigarette lighter
- Cup holder
- Floor mat
- Storage box
- Fire extinguisher
- One key for all locks

INSTRUMENTATION
- Color LCD monitor with alarms, filter/fluid change, fuel rate, water temperature, work mode, fault code, working hour, etc.
- Fuel gauge
- Hydraulic oil level gauge

ELECTRICAL
- Alternator 70 A
- Dual batteries 12 V
- Working lights, 1 frame mounted, 2 boom mounted
- Starting, 24 V

UNDERCARRIAGE
- 600 mm track-shoes with triple grousers
- 2 piece track-guards (each side)
- Towing eye on base frame

GUARDS
- Belly guards
- Cover plate under travel frame
- Track shields

OTHER STANDARD EQUIPMENT
- 6,700 kg counterweight
- Maintenance tool kit
- Maintenance parts package

OPTIONAL EQUIPMENT

ENGINE SYSTEM
- Electrical fuel refilling pump

HYDRAULIC SYSTEM
- Hydraulic attachments rotation lines
- Overloading warning
- Hose burst safety valves, prevention of boom or arm supply dropped when the lines split.
- Dual way auxiliary lines
- Quick coupler lines (low and high pressure)

OPERATOR STATION
- Operation protection guard (included cab front and top guard, bar)
- Operation protection screen (on cab front, net)
- Operation protection screen (front-lower)
- Roll-Over Protective System (ROPS)
- Rain visor
- Mechanic heated suspension seat
- Air suspension seat

ELECTRICAL
- LED working lights on cab, 4 front and 2 rear
- Rear view camera
- Travel alarm
- Rotating beacon

UPPER STRUCTURE
- Upper frame protection (wire)
- Belly guard and 8 mm thickness platform bottom plate
- Bucket cylinder guard

UNDERCARRIAGE
- 700 mm, 800 mm, 900 mm track-shoes with triple grousers
- 3 piece track-guards (each side)

DIGGING EQUIPMENT
- Arm: 2.6 m
- Bucket: 1.6 m3 (SAE, heaped)

LIUGONG

TOUGH WORLD. TOUGH EQUIPMENT.

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