

SUMITOMO

SH 450HD-3B
SH 450LHD-3B

■ Engine Rated Power (Net) : 270 kW • 367 PS
■ Operating weight :
SH450HD-3B 45,700~46,400 kg
SH450LHD-3B 46,500~47,200 kg
Bucket : ISO/SAE/PCSA Heaped : 1.8~2.0 m³

LEGEST





- The new engine complies with the Emission Regulations U.S. EPA Tier II, and EU Stage IIIA.
- The advanced low noise design complies with the upcoming EU noise regulation 2000/14/EC, STAGE II.

MADE IN JAPAN

The world knows that Japanese design and manufacturing is the best especially for industrial products. The hydraulic excavator is not the exception when a total integration concept is required in design work involving key components, manufacturing engineering and product quality assurance in the factory. All SUMITOMO hydraulic excavators are engineered and assembled in SUMITOMO's its one and only factory located in Chiba City, Japan, and distributed to each country in the world. This distinctive feature is unique to SUMITOMO, giving the SUMITOMO machine users total comfort and reliance on product quality.

(Note: Some of the items manufactured and sourced in other countries may be assembled in Japan.)



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Engine and Hydraulics

Highest-in-class engine output 235 kW ► 270 kW

Increased digging force

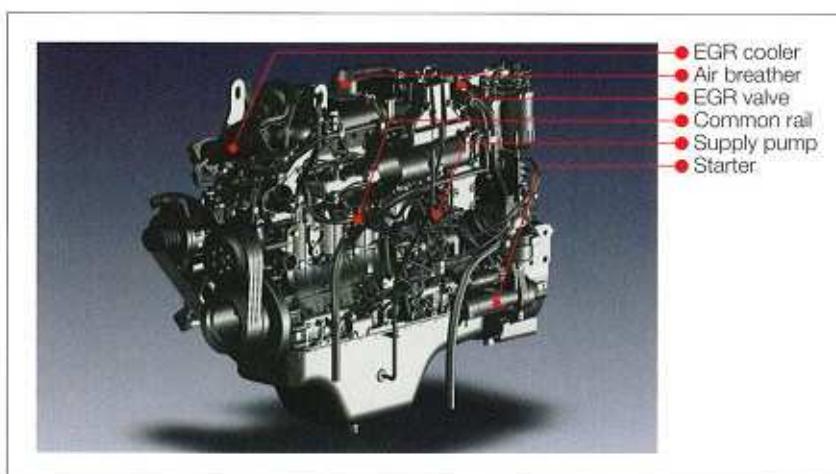
• Bucket digging force: 270 kN(27,500 kgf)

• Arm digging force: 281 kN(28,700 kgf) with 2.53m short arm/auto power up



① Powerful ② Economy ③ Clean ④ Silent ⑤ Strong

"SPACE5" is a new engine system consisting of five (5) special features.



Engine

A newly developed ISUZU engine 6UZ1X complies with Emission Regulations U.S. EPA Tier III and EU Stage II A. This produces bigger output and torque, and far better fuel consumption than the previous model.

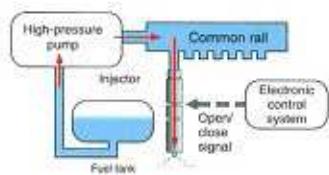
3% reduction in fuel consumption by new engine system "SPACE5"
(As compared with SH450-3)

Comparison of engines

	SH450HD(LHD)-3	SH450HD(LHD)-3B	Merit
Name of engine	ISUZU AA-6SD1XQB	ISUZU AH-6UZ1XYSS	
Type	12-valve OHC	24-valve OHC	
Displacement	cc 9,840	9,840	
Number of cylinders - Dia. x Stroke	mm 6-120 x 145	6-120 x 145	
Rated output	kW/min ⁻¹ 235/1,950	270/1,950	Higher output (+15%)
Max. torque	Nm/min ⁻¹ 1,275/1,600	1,435/1,500	Higher torque (+13%)
Size (Length-Width-Height)	mm 1379x859x1158 with Fan	1235x953x1272 without Fan	
Cylinder block	Ladder frame	Ladder frame	High rigidity/low noise
Fan belt	V-Belt	V-Belt	

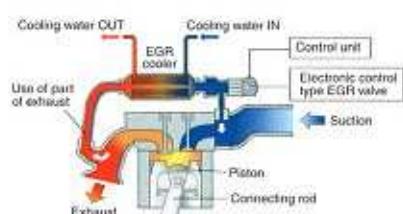
Common Rail Type High-Pressure Fuel Injection System

The system is equipped with a common rail type high-compression fuel injection system, which permits high-precision injection from multiple injection under ultra high-pressure of more than 1600 atm. Precise control of injection time and injection quality at that rate of 1/1000 second optimizes combustion, improves combustion efficiency, and reduces PM (particulate matter) substantially.



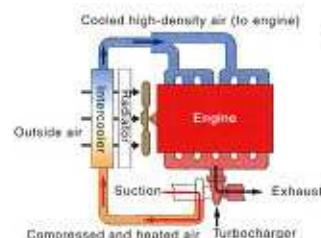
Cooled EGR System

The EGR (Exhaust Gas Recirculation) mixes the gas, which is once exhausted, with the air that is taken in so as to lower the combustion temperature, thereby reducing NOx (nitrogen oxide). Adoption of the cooled EGR system, in which a water-cooling cooler is installed in the middle of the re-circulation pipe, permits further decrease in the suction temperature, ensuring a better NOx reduction effect than the ordinary EGR.

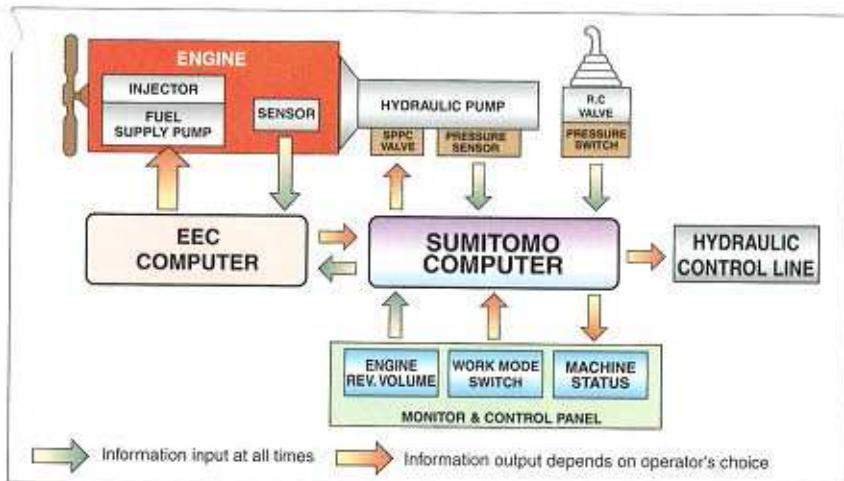


24 valve OHC Turbo Engine with Inter-Cooler

When the inter-cooler cools the intake air, which is compressed by a turbocharger and has reached a high temperature, the density of the air increases and the suction efficiency increases. Therefore, NOx and PM can be reduced substantially, permitting high output and improvement of fuel efficiency simultaneously.

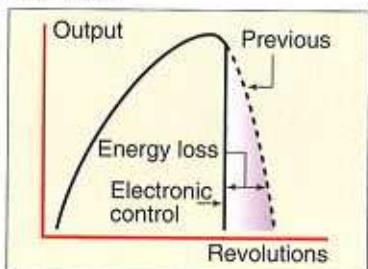


Advanced Hydraulic System



Advantages of EEC

Maintaining engine revolution at a fixed rate regardless of the load prevents the energy loss that occurs when shifting cycle times to accommodate higher or lower loads.



Automatic Power Boost

The 3B series can quickly respond to changes in operating conditions, automatically supplying a power increase, without operator interaction and regardless of the work mode. Hydraulic pressure sensors detect resistance, and pressure is increased by 9% for 8 seconds. Auto Power Boost stays on 100% of the time in the L mode.



Auto/one-touch idling

When user-preset time has elapsed after leaving the control handles in the neutral position, auto-idling automatically drops the engine to idle speed. Or, you can choose to use the one-touch idling switch, located at the top of the right controller so that you are always in control.

Auto Power-Swing

This patent-pending design incorporates a selector valve that helps maintain attachment and hydraulic flow to achieve excellent swing and digging forces in side wall-cut operations. In normal digging when side pressure is not needed, SUMITOMO Computer sends all the flow to the attachment always insuring the best performance for either operation.

Swing ABS (Anti-pendulum Braking System)

This built-in special cushion valve greatly reduces the shock and vibration at the end of each swing cycle.

Regeneration System

By re-using the returning oil from the arm and the boom, ground excavating operation speed is increased.

Operating Modes

The 3B series enables the operator to have a choice on how the machine is operated. Simply choose the work mode that matches the machine output to the job application. Four operating modes are available.

A: Auto Mode

The most revolutionary approach to maximizing power and fuel efficiency available today. Just select the Auto Mode with the switch panel. Using actual working pressure readings, SUMITOMO Computer instantly changes modes assuring the best combination of speed and power while you can stay focused on the work at hand.

H: Super Heavy Mode

For heavy excavation or whenever you need extra power.

S: Standard Mode

For standard digging and loading operations reducing fuel consumption.

L: Light Mode

For lifting and other operations that need fingertip accuracy.

Electric Engine Control (EEC)

SUMITOMO Computer maintains engine rpm when load demands change. Engines equipped with mechanical governors spike rpm up-and-down when operating loads increase and decrease. This causes engine to consume extra fuel and make more noise.

Low Fuel Consumption

EEC responds to changes in operating loads quicker than a mechanical governor. As a result, EEC regulates the amount of fuel injection accurately and quickly.

Lower, Cleaner Emissions

Low fuel consumption results in high ignition efficiency (cleaner emission) and low emissions.

Low Sound Levels

At high idle, EEC can control engine speed rpm at rated horsepower. This means the engine does not overrun, resulting in lower sound levels.

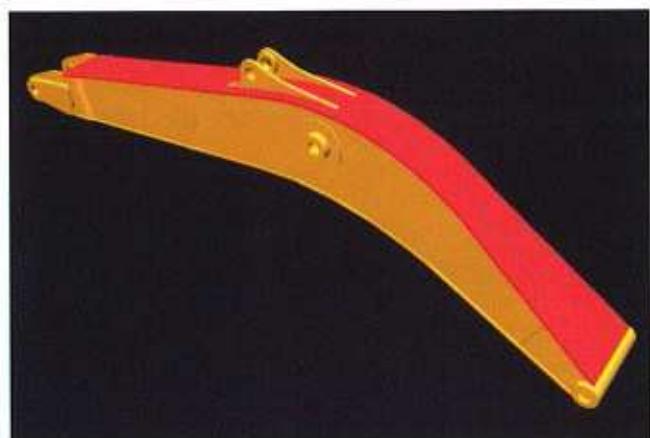
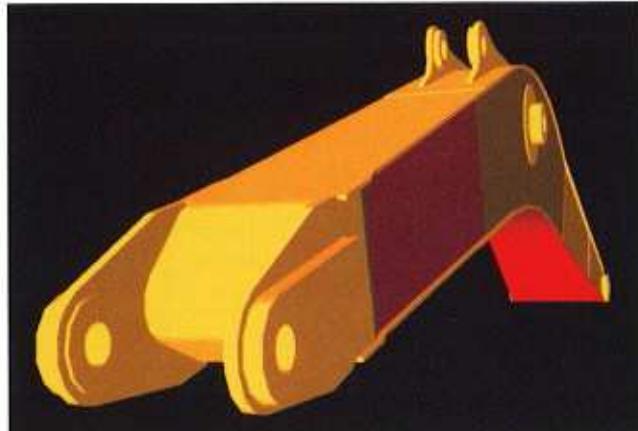
Low Vibration

EEC causes engine rpm to be stable, resulting in low vibration.

Durability

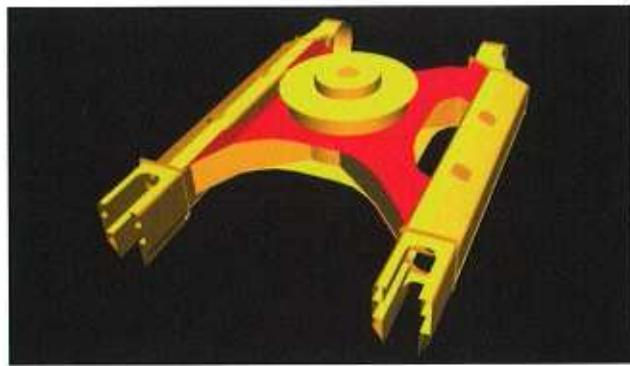
Stronger boom and arm

The strength of all joints has been increased to ensure durability, permitting operation at any site with severe working conditions and a large workload.



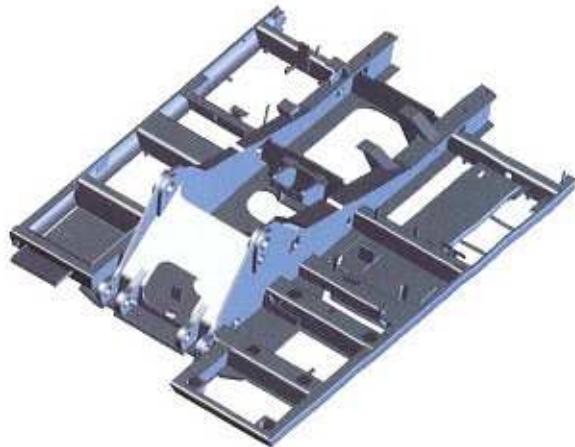
X Style Carbody

The modified X style carbody is integrally welded for maximum strength and durability. The thickness of the frame top plate and cross member plate have been increased.



Swing frame

The rigidity and durability of the frame of the upper revolving unit, which has to withstand rough handling during every operation, has been increased.



Motor case guard

The motor case has been reinforced in order to prevent wearing by catching rocks or sand.



Large turntable bearing and its tub

Built into the X style carbody is a turntable bearing tub which extends down through the top plate and is welded to the bottom of the carbody as well as to the top for increased strength and durability.



Track-link M type seal + Increased pin hardness

The M type seal that excels in sealing performance maintains grease for a long time. The increased hardness reduces abrasion of the pin, ensuring both long life of the pin and noise reduction.

Heavy duty applications

High-durability bucket

The adaptation of a high wear resistant 'super v' has been adopted for high durability.



Full track guard (option)

A track guard prevents derailment of the shoe and protects the roller.



■ Plating(Reinforcing)



■ Reinforced undercover



■ Side guard (option)



Maintenance

EMS permits fuss-free maintenance

EMS permits greasing of the front attachments at intervals of 1,000 hours and substantially reduces the greasing trouble and time, as well as the maintenance cost, eliminating rattling sound and a noise.

•Greasing interval: 1,000 hours

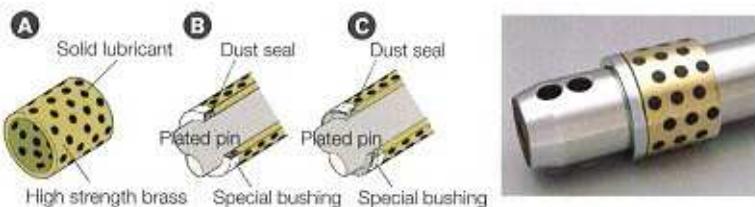
* The greasing interval differs according to the operating condition.



Clean Nephron filter
permits operation
for 5,000 hours
without fluid oil change

Clean nephron

■ EMS bushing



- Ⓐ A solid lubricant embedded in high strength brass forms a layer on the bush surface to prevent contact between metals, maintaining an excellent lubricated state to reduce abrasion of joints.
- Ⓑ The surface of the pin is plated to increase the surface hardness and improve the wear resistance accordingly.
- Ⓒ The dust seal has a double structure to prevent entry of abrasive materials and eliminating wear.



Precautionary use of EMS

- ① Grease impregnated. Greasing is still necessary at every 1,000 hours or six months, whichever comes earlier.
- ② Greasing is necessary after underwater digging operation, because the internal grease can be forced out due to being submerged.
- ③ When a breaker, crusher, or some other special attachment is installed, greasing is necessary every day, because the pins and bushes are different according to the attachment manufacturer.
- ④ Bucket pins should be cleaned thoroughly when removing or attaching new buckets.

The fluid oil change interval has been extended to 5,000 hours. The filter removes impurities and a trace quantity of water, and it makes new oil cleaner. It also reduces abrasion of the hydraulic equipment, saving downtime and repair cost due to the failure of the hydraulic system.

•Hydraulic fluid change interval: 5,000 hours

* The greasing interval differs according to the operating condition.

Engine maintenance steps

The engine room is designed to permit safe maintenance.



Large toolbox

A large toolbox is provided to completely store a large quantity of tools.



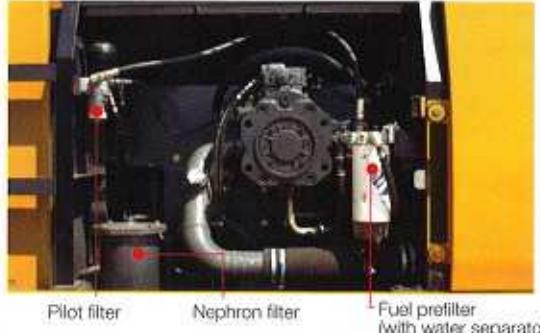
Ground level access for easy cleaning and replacement

Parts cleaning and maintenance is possible from the ground without climbing onto the upper part of the excavator body, eliminating labour for maintenance.



•Remote fuel and oil filters

A fuel prefilter is provided as standard equipment to reduce the likelihood for fuel clogging. In addition, the fuel and oil filters are installed at ground-accessible location to facilitate replacement.



•Hydraulic drive cooling fan system

Ideal cooling control and low-noise operation according to the working environment.



•Easier cleaning by reversed fan rotation

The switch in the cab permits the cooling fan to rotate in reverse to remove dust from the radiator, oil cooler, inter cooler, and fuel cooler to prevent clogging.

•The 610-liter fuel tank ensures long-time operation

The large-capacity fuel tank permits long-time operation.

•Maintenance hole for fuel cleaning.

A maintenance hole is provided to facilitate periodical cleaning.



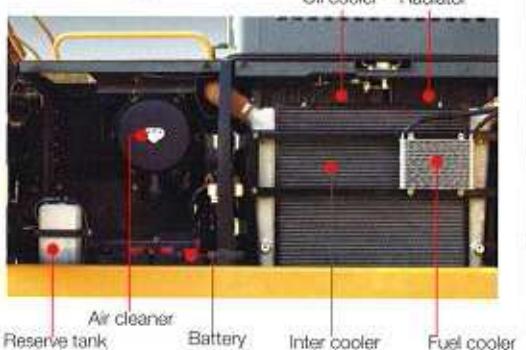
•Engine oil drain coupler prevents oil spattering

The engine oil pan is provided with a drain coupler. The provided drain hose prevents oil spattering to facilitate draining work.



•Parallel installation of radiator and oil cooler

The radiator and oil cooler are installed in parallel, and a space is provided at the front of the inter cooler to facilitate cleaning.



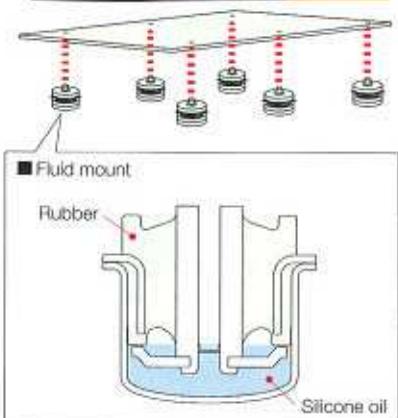
Operator Comfort

The wide view increases the safety of work

In addition to the large windshield, slim side pillars ensure a wider field of front view. Furthermore, an under window has been adopted and the field of upper view has been widened to enhance the safety of work.

The 6-point viscous mount reduces fatigue

Impact and vibration transmitted to the cab are absorbed effectively not only to improve the ride quality but also to reduce fatigue.



KAB seat suitable for work

KAB's deluxe suspension seat has been adopted. The sliding cockpit with a double-sliding mechanism permits operation in a position suitable for the operator's physique.

Adoption of large cab

The wide cab has a wider foot space to provide a comfortable ride-in space.

Adoption of short lever

The operating force has been reduced by 30% as compared with the conventional operation lever. The operator's fatigue will be reduced even during long-time work.



Operation lever tilting and console sliding mechanisms

The operation lever that permits easy tilt adjustment, integrated sliding of the console and seat, and independent seat sliding permit selection of an optimum operation position. The door-side console is equipped with a flip-up type hydraulic pressure shutoff mechanism.



Automatic air conditioner for higher comfort (Condenser with electric fan)

A large capacity automatic air conditioner has been adopted. The face-side air outlets and the defroster function ensure a comfortable operation environment.



Vision-friendly large monitor and switch panel

The full-dot monitor ensures clearer display, and the switch panel is easier to operate. The machine condition, operation history, fault diagnosis, and maintenance time, are shown on the monitor.



Warning message

1. OVER HEAT
2. ALTERNATOR
3. LOW FUEL
4. LOW OIL PRESSURE
5. LOW COOLANT
6. ELEC.PROBLEM
7. AIR FILTER

Active condition message

1. ENG.PRE HEAT
2. AUTO WARM UP
3. ENG.IDLING
4. POWER UP
5. SERVICE DUE

Language menu

Japanese	Portuguese
English	Dutch
Thai	Danish
Chinese	Norwegian
German	Swedish
French	Finnish
Italian	(Pictograph)
Spanish	



Low-noise design for protection of ambient environment

In addition to the low-noise engine and low-noise muffler, the acoustic material has been adopted to lower the noise level far below the standard noise level.



Comfortable equipment and storage



2-way speaker AM/FM radio



Large hot & cool box

Safety

Adoption of gate type lock lever

A gate type lock lever has been adopted to prevent sudden acceleration of the machine.



Emergency Engine Shutdown

In emergency situations, the engine can be shut down with the push of a switch located on the control panel in the cab. This switch must be re-engaged prior to restarting the engine.



Large ISO-compliant handrail

A large ISO-compliant handrail has been adopted to enhance safety when the operator gets on and off.



Larger cab stay

The cab mounting stay has been made larger to ensure safety during access from the cab to the back of the machine.



Emergency Escape window

Allows operator to escape from the rear window in case of emergency.



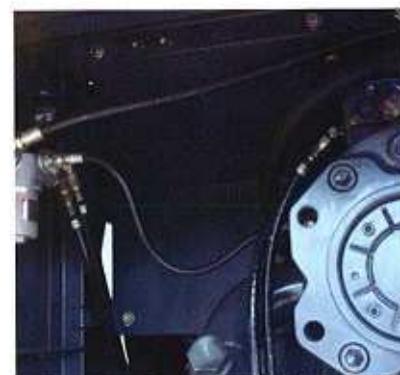
Equipment that enhances safety



Seat belt



Rearview mirror



Engine room fire wall

Anti-theft Alarm System

SUMITOMO's unique anti-theft system can be activated by your SUMITOMO distributors at the time of purchase.

Customer and Product Support

SUMITOMO's total commitment to product and customer support has enabled it grow into a world renowned manufacturer of hydraulic excavators. Supported by a global sales and service network of over four hundred distributors representing hydraulic excavators manufactured by SUMITOMO, the company supply 70% of total production from Japan to all five continents.

A spread of over one thousand outlets offering excellent parts and service support has global coverage ensuring SUMITOMO hydraulic excavator users have at their disposal Regional Spare Parts Centers, technical repair shops and service vehicles carrying all the necessary equipment to service and repair any hydraulic excavator manufactured by SUMITOMO.

SUMITOMO aims to produce the right products to meet all work applications and at the same time provide the highest level of more training and education to ensure complete product support quality throughout the service network in the world.



Specifications

SH450HD(LHD)-3B Technical Data

Engine

Two variable displacement axial piston pumps, one gear pump for pilot controls and electronic-control engine of SPACE5 includes: four working modes(H,S,L,Auto) one-touch/automatic idling system, automatic power-boost, power swing system.

	SH450HD-3B	SH450LHD-3B
Model	ISUZU AH-6UZ1XYSS	
Type	Water-cooled, 4-cycle,diesel, 6-cylinder in line, direct injection (electric control), turbocharger with air cooled intercooler.	
Rated output	270 kW (367 PS)/1,950 min ⁻¹	
Maximum torque	1,435 N·m at 1,500 min ⁻¹	
Piston displacement	9,840 cc	
Bore and stroke	120 mm x 145 mm	
Starting system	24 V electric motor starting	
Alternator	24 V, 50 A	
Fuel tank	610 liters	
Air filter	Double element	

Hydraulic pumps

Two variable displacement axial piston pumps provide power for attachment, swing and travel.

	SH450HD-3B	SH450LHD-3B
Maximum oil flow	2 x 360 liters/min	
Pilot pump max.oil flow	30 liters/min	

Hydraulic motors

For travel:Two variable displacement axial piston motors.
For swing:One fixed displacement axial piston motor.

Relief valve settings

Boom/arm/bucket 24.5 Mpa(250 kgf/cm²)<Holding pressure(Boom down)>
36.3 Mpa(370 kgf/cm²)<Holding pressure(Others)>
Boom/arm/bucket 31.4 Mpa(320 kgf/cm²)
Boom/arm/bucket 34.3 Mpa(350 kgf/cm²)with Power-up><Working pressure>
Swing circuit 29.4 Mpa(300 kgf/cm²)
Travel circuit 34.3 Mpa(350 kgf/cm²)

Control valve

One 4-spool valve and one 5-spool valve with auxiliary spool.

Oil filtration

Return filter 10 microns
Return bypass filter-... 1 microns
Pilot filter 10 microns
Suction filter 105 microns

Hydraulic cylinders

	SH450HD-3B	SH450LHD-3B
Cylinder	Q'ty	Bore x Rod Diameter x Stroke
Boom	2	170 mm x 115 mm x 1,550 mm
Arm	1	200 mm x 140 mm x 1,820 mm
Bucket	1	165 mm x 115 mm x 1,285 mm

Double-acting, bolt-up type cylinder tube-end;hardened steel bushings
Installed in cylinder tube and rods ends,

Cab & Controls

Cab mounted on 6 fluid mountings. Features include safety glass front, rear and side windows, reclining/sliding cloth - upholstered suspension seat with headrest and armrest, cigarette lighter,pop-up skylight window, and intermittent wiper with washer. Front window slides upward for storage and the lower front window is removable. Control levers are located in 3 positions tilting control consoles. Reliable soft-touch switches. Easy-to-read Full-dot LCD monitor keeps operation in touch with critical machine functions.

Swing

Planetary reduction powered by axial piston motor. Internal ring gear with grease cavity for pinion. Swing bearing is single-row shear type bearing. Dual stage relief valves for smooth swing deceleration and stops. Mechanical disc swing brake.

	SH450HD-3B	SH450LHD-3B
Swing speed	0~9.0 rpm	
Tail swing radius	3,620 mm	
Swing torque	150 kN·m(15,300 kgf·m)	

Undercarriage

X-style carbody is integrally welded for strength and durability. Grease cylinder track adjusters with shock absorbing springs. Undercarriage with lubricated rollers and idlers.

Type of shoe:sealed link shoe

Upper rollers -
Heat treated, mounted on steel bushings with fluorine resin, sealed for lifetime lubrication.

Lower rollers -
Heat treated, mounted on steel bushings with leaded tin bronze casting, sealed for lifetime lubrication.

Track adjustment -
Idler axles adjusted with grease cylinder integral with each side frame;adjustment yoke mechanism fitted with heavy duty recoil spring.

Number of rollers and shoes on each side

	SH450HD-3B	SH450LHD-3B(Retractable)
Upper rollers	2	2(3)
Lower rollers	8	9
Track shoes	47	50

Travel system

Two-speed independent hydrostatic system with compact axial motors for Increased performance. Hydraulic motor powered output shaft coupled to a planetary reduction unit and track sprocket. All hydraulic components mounted within the width of side frame.
Travel speed can be selected by switch panel.
Hydraulically released disc parking brake is built each motor.

	SH450HD-3B	SH450LHD-3B
Travel speed	High Low	5.3 km/h 3.1 km/h
Maximum traction force		341 kN(34,800 kgf)

Lubricant & Coolant capacity

	SH450HD-3B	SH450LHD-3B
Hydraulic system		460 liters
Hydraulic oil tank		230 liters
Fuel tank		611 liters
Cooling system		38 liters
Final drive caser(side)		15 liters
Swing drive case		10.5 liters
Engine crank case (with remote oil filter)		36 liters

Auxiliary hydraulic system

	SH450HD-3B	SH450LHD-3B
Auxiliary piping type (option)	For Breaker	For Double (breaker & crusher) acting
Arm type	STD	HD with Reinforcement plat
Bucket linkage type		HD
Maximum Auxiliary line flow	max.320 liters/min	max.700 liters/min

Weight & Ground Pressure

Model	SH450HD(LHD)-3B				SH450LHD-3B(Retactable)	
Shoe type	Shoe width	Operating weight	Ground pressure	Shoe width	Operating weight	Ground pressure
Triple grouser shoe	600 mm 750 mm	45 700 kg (46 500 kg) 46 400 kg (47 200 kg)	85 kPa (80 kPa) 69 kPa (65 kPa)	600 mm 750 mm	48 000 kg 48 700 kg	82 kPa 67 kPa

Digging Force

Model	SH450HD(LHD)-3B
Arm length	2.53 m
Bucket digging force <with auto power up>	247 kN <270 kN>
SAE: PCSA	220 kN <240 kN>
Arm digging force <with auto power up>	257 kN <281 kN> 248 kN <272 kN>
ISO 6015	209 kN <229 kN>
SAE: PCSA	203 kN <222 kN>

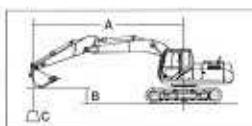
Principle Specifications

	SH450HD-3B	SH450LHD-3B
Base	STD Specifications	
Boom length	6.98 m (HD type)	
Arm length	3.38 m (HD type)	
Bucket capacity (ISO heaped)	1.8 m ³ (HD type)	
Std. operating weight	45 700 kg	46 500 kg/48 000 kg*
Engine	ISUZU AH-6UZ1XYSS	
Rated output	270 kW/1 950 min ⁻¹	
Displacement	9 839 ml(cc)	
Hydraulic System	2 variable displacement axial piston pumps with regulating system	
Main pump		
Max pressure	31.4 Mpa	
/with auto power boost	34.3 Mpa	
Travel motor	Variable displacement axial piston motor	
Parking brake type	Mechanical disc brake	
Swing motor	Fixed displacement axial piston motor	
Performance	5.3/3.1 km/h	
Travel speed		
Traction force	341 kN	
Grade ability	70% <35°>	
Ground pressure	85 kPa	80 kPa
Swing speed	9.0 min ⁻¹	
Bucket	247 kN	
/with power boost	270 kN	
Arm	209 kN	
/with power boost	229 kN	
Fuel tank	611 liters	
Others	230 liters	

* Retractable

Lifting Capacity

- Notes: 1. Ratings are based on SAE J/ISO 10567.
 2. Lifting capacity does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.
 3. The load point is a hook (not standard equipment) located on the back of the bucket.
 4. *Indicates load limited by hydraulic capacity.
 5. 0m = Ground.



A: Radius of load
 B: Bucket hook height
 C: Lifting capacity

Load Radius Over Front Load Radius Over Side

Unit : kg

SH450HD-3B

SHOE : 600 (mm)G
 BUCKET : SAE/PCSA 1.8 (m³) ARM LENGTH = 3.98 (m)
 MAXIMUM REACH = 10.28 (m)

Bucket Hook Height	Radius of Load										Min. Radius												
	Max. Radius	10 m	9 m	8 m	7 m	6 m	5 m	4 m	3 m														
7 m	6.324*	8.76	6.684	8.76		9.050*	8.040				9.194*	7.60	8.875	7.60									
6 m	6.370*	9.58	5.436	9.58		9.931*	6.219	9.380*	7.846		9.932*	7.11	9.743	7.11									
5 m	6.491*	9.31	4.950	9.91		9.203*	6.059	9.080*	7.585	10.769*	9.635		11.860*	6.12	11.860*	6.12							
4 m	6.708*	10.14	4.609	10.14	7.607	4.747	9.106	5.984	10.429*	7.285	11.635*	9.184	13.380*	11.869	16.040*	15.969	20.654*	22.668*	3.16	22.668*	3.16		
3 m	7.023*	10.26	4.383	10.26	7.369	4.618	8.881	5.655	10.861	6.975	12.516*	8.726	14.694*	11.172	18.116*	14.834	24.195*	20.917	13.678*	3.54	13.678*	3.54	
2 m	6.891	10.28	4.256	10.28	7.231	4.489	8.664	5.453	10.541	6.682	13.117	8.305	15.837*	10.556	19.764*	13.906	17.721*	17.721*	10.449*	3.60	10.449*	3.60	
1 m	6.879	10.20	4.221	10.20	7.112	4.377	8.475	5.277	10.267	6.430	12.729	7.955	16.340	10.077	20.781*	13.271	16.759*	16.759*	9.038*	3.36	9.038*	3.36	
0 m	7.006	10.02	4.284	10.02	7.027	4.298	8.328	5.141	10.055	6.236	12.441	7.696	15.967	9.748	21.105*	12.901	18.866*	18.558	12.835*	3.14	12.835*	3.14	
-1 m	7.293	9.73	4.457	9.73		8.238	5.058	9.917	6.109	12.258	7.631	15.752	9.569	20.890*	12.730	22.457*	18.507	14.840*	14.840*	15.403*	2.81	15.403*	2.81
-2 m	7.788	9.33	4.772	9.33		8.218	5.039	9.889	6.056	12.178	7.458	15.672	9.489	20.182*	12.703	24.799*	18.594	19.448*	19.448*	17.908*	2.30	17.908*	2.30
-3 m	8.086	8.79	5.288	8.79		9.891	6.086	12.200	7.478	15.713	9.525	18.979*	12.794	23.009*	18.796	24.519*	24.519*	20.303*	2.03	20.346*	1.55		
-4 m	9.757*	8.09	6.128	8.09		9.969*	6.226	12.116*	7.599	14.443*	9.668	17.202*	12.998	20.599*	19.119	24.926*	24.926*	25.206*	2.03	24.063*	1.69		
-5 m	9.550*	7.18	7.575	7.18		9.990*	7.862	12.273*	9.938*	14.680*	13.332	17.369*	17.369*	20.594*	23.372*	2.30	23.372*	2.30					
-6 m	8.791*	5.97	8.791*	5.97							10.920*	10.920*	12.915*	12.915*	13.614*	13.614*	3.64	13.614*	3.64				

SH450HD-3B

SHOE : 600 (mm)G
 BUCKET : SAE/PCSA 2.0 (m³) ARM LENGTH = 2.53 (m)
 MAXIMUM REACH = 9.48 (m)

Bucket Hook Height	Radius of Load										Min. Radius										
	Max. Radius	10 m	9 m	8 m	7 m	6 m	5 m	4 m	3 m												
7 m	10.221*	7.89	7.990	7.89		10.704*	10.035				10.923*	6.69	10.892	6.6							
6 m	9.733*	8.71	6.453	8.71		10.390*	7.633	11.193*	9.740		12.357*	6.00	12.357*	6.00							
5 m	9.015	9.08	5.918	9.08	9.158	5.918	10.776*	7.401	11.870*	9.353	13.468*	12.103	15.938*	15.938*	20.243*	20.243*	25.133*	3.39	25.133*	3.39	
4 m	8.446	9.32	5.387	9.32	8.992	5.763	11.021	7.129	12.636*	8.923	14.685*	11.415	17.970*	15.113		23.482*	4.01	20.875	4.01		
3 m	8.096	9.45	5.111	9.45	8.806	5.591	10.718	6.851	13.324	8.500	15.822*	10.765	19.746*	14.057		17.856*	4.31	17.262	4.31		
2 m	7.931	9.47	4.965	9.47	8.631	5.428	10.444	6.599	12.917	8.133	16.511	10.237	20.846*	13.327		14.896*	4.36	14.896*	4.36		
1 m	7.941	9.38	4.942	9.38	8.489	5.297	10.223	6.397	12.604	7.851	16.095	9.871	21.178*	12.933		13.547*	4.17	13.547*	4.17		
0 m	8.136	9.19	5.048	9.19	8.401	5.215	10.073	6.259	12.399	7.666	15.855	9.680	20.910*	12.773	17.165*	17.165*	18.645*	3.90	18.645*	3.90	
-1 m	8.558	8.88	5.307	8.88		10.006	6.197	12.303	7.579	15.793	9.579	20.184*	12.760	23.938*	18.727	21.935*	3.54	21.935*	3.54		
-2 m	8.290	8.43	5.773	8.43		10.032	6.222	12.314	7.589	15.797	9.609	19.026*	12.857	22.355*	18.917	23.001*	23.001*	24.856*	2.98	24.856*	2.98
-3 m	10.510	7.83	6.556	7.83		12.441	7.703	14.771*	9.745	17.386*	13.059	20.215*	19.216	22.836*	22.836*	23.791*	2.28	23.791*	2.28		
-4 m	10.402*	7.03	7.912	7.03		10.483*	7.983	12.774*	10.007	15.032*	13.383	17.332*	17.332*	19.413*	19.413*	19.985*	2.64	19.985*	2.64		
-5 m	9.602*	5.96	9.602*	5.96							11.638*	11.638*	13.380*	13.360*		13.938*	3.58	13.938*	3.58		
-6 m	8.576*	5.75	8.576*	5.75																	

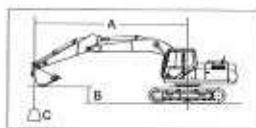
SH450LHD-3B (Retractable)

SHOE : 600 (mm)G
 BUCKET : SAE/PCSA 1.8 (m³) ARM LENGTH = 3.38 (m)
 MAXIMUM REACH = 10.28 (m)

Bucket Hook Height	Radius of Load										Min. Radius											
	Max. Radius	10 m	9 m	8 m	7 m	6 m	5 m	4 m	3 m													
7 m	7.971*	8.92	7.158	8.92		9.088*	8.871				9.266*	7.55	9.266*	7.55								
6 m	6.382*	9.64	6.011	9.64	8.665*	6.922	9.444*	8.863			10.113*	7.01	10.113*	7.01								
5 m	6.517*	9.96	5.521	9.96	9.252*	6.753	9.942*	8.392	10.895*	10.802	12.237*	12.237*		12.421*	5.89	12.421*	5.89					
4 m	6.747*	10.16	5.181	10.16	8.100*	5.354	9.613*	6.552	10.518*	8.085	11.796*	10.141	13.574*	13.061	16.366*	16.366*	21.231*	21.231*	20.445*	3.24	20.445*	3.24
3 m	7.080*	10.27	4.961	10.27	8.757	5.222	9.991*	6.342	11.105*	7.773	12.643*	9.880	14.883*	12.360	18.401*	16.413	24.637*	23.266	12.994*	3.56	12.994*	3.56
2 m	7.539*	10.27	4.847	10.27	8.618	5.004	10.283	6.141	11.632*	7.482	13.412*	9.263	15.984*	11.753	19.989*	15.508	17.240*	17.240*	10.145*	3.58	10.145*	3.58
1 m	8.159*	10.18	4.833	10.18	8.500	4.985	10.094	5.969	12.034*	7.235	13.986*	8.821	16.747*	11.289	20.853*	14.905	18.942*	16.942*	10.801*	3.29	10.801*	3.29
0 m	8.443	9.98	4.926	9.98	9.952	5.839	12.005	7.049	14.302*	8.673	17.112*	10.979	21.106*	14.583	19.331*	19.331*		13.227*	3.1	13.227*	3.1	
-1 m	8.822	9.68	5.143	9.68	9.869	5.783	11.875	6.931	14.312*	8.520	17.065*	10.805	20.814*	14.413	23.089*	21.067	15.518	15.518	15.785*	2.74	15.785*	2.74
-2 m	9.458	9.26	5.622	9.26	9.861	5.758	11.828	6.889	13.972*	8.481	16.599*	10.751	20.033*	14.405	24.582*	21.175	20.177	20.177	16.945*	2.2	16.945*	2.2
-3 m	9.757*	8.69	6.137	8.69		11.134*	6.934	13.208*	8.495	15.671*	10.804	16.751*	14.515	22.885*	21.401	25.346	25.345	21.580*	2.2	19.836*	1.9	
-4 m	9.744*	7.97	7.198	7.97					11.865*	8.636	14.173*	10.968	16.874*	14.742	20.171*	20.171*	24.348	24.348	26.740*	2.2	25.015*	1.75
-5 m	9.485*	7.02	8.891	7.02					9.540*	8.932	11.851*	11.265	14.188*	14.188*	16.789	16.789	19.828	19.828	21.845*	2.44	21.845*	2.44
-6 m	8.576*	5.75	8.576*	5.75					10.193*	10.193*								12.043*	4.03	12.043*	4.03	

Lifting Capacity

- Notes: 1. Ratings are based on SAE J/ISO 10567.
 2. Lifting capacity does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.
 3. The load point is a hook (not standard equipment) located on the back of the bucket.
 4. *Indicates load limited by hydraulic capacity.
 5. 0m = Ground.



A: Radius of load
 B: Bucket hook height
 C: Lifting capacity

Load Radius Over Front Load Radius Over Side

Unit : kg

SH450LHD-3B

SHOE : 600 (mm)G
 BUCKET : SAE/PCSA 1.8 (m³)

ARM LENGTH = 3.38 (m)
 MAXIMUM REACH = 10.28 (m)

BOOM : 6.98 (m)

Bucket Hook Height	Radius of Load										Min. Radius								
	Max. Radius	10 m	9 m	8 m	7 m	6 m	5 m	4 m	3 m										
7 m	8.324*	8.76	8.798	8.76		9.050*	8.167				9.194*	7.80	9.010	7.60					
6 m	6.370*	9.98	5.539	9.98		6.931*	6.329	9.380*	7.973			9.932*	7.11	9.891	7.11				
5 m	6.491*	9.91	5.048	9.91		9.203*	6.170	9.800*	7.712	10.769*	9.785		11.880*	6.12	11.860*	6.12			
4 m	6.706*	10.14	4.705	10.14	7.849*	4.844	9.550*	5.974	10.420*	7.412	11.635*	9.335	13.369*	12.053	16.040*	16.040*	20.654*	20.654*	
3 m	7.023*	10.26	4.478	10.26	8.480	4.715	9.935*	5.765	11.018*	7.102	12.516*	8.827	14.894*	11.355	18.116*	15.070	24.195*	21.247	
2 m	7.461*	10.28	4.350	10.28	8.320	4.586	9.949	5.564	11.559*	6.809	13.307*	8.455	15.837*	10.739	19.764*	14.141	17.721*	17.721*	
1 m	7.933	10.20	4.316	10.20	8.198	4.474	9.755	5.388	11.822*	6.658	13.910*	8.108	16.657*	10.260	20.761*	13.508	18.750*	18.750*	
0 m	8.086	10.02	4.381	10.02	8.111	4.395	9.605	5.252	11.604	6.383	14.273*	7.848	17.083*	9.932	21.105*	13.137	18.868*	18.868*	
-1 m	8.421	9.73	4.557	9.73		9.512	5.168	11.461	6.236	14.210	7.881	17.099*	9.743	20.890*	12.966	22.457*	18.837	14.840*	14.840*
-2 m	8.983	9.33	4.878	9.33		9.492	5.150	11.401	6.163	14.048*	7.809	16.697*	9.672	20.182*	12.939	24.799*	18.923	19.448*	19.448*
-3 m	9.748*	8.79	5.402	8.79			11.284*	6.213	13.355*	7.628	15.844*	9.709	18.979*	13.030	23.008*	19.125	24.519*	24.519*	
-4 m	9.757*	8.09	6.254	8.09			9.859*	6.353	12.116*	7.750	14.443*	9.881	17.202*	13.234	20.599*	19.448	24.926*	24.926*	
-5 m	9.650*	7.18	7.721	7.18				9.997*	8.012	12.273*	10.122	14.660*	13.568	17.369*	17.369*	20.594*	20.594*	23.372*	23.372*
-6 m	8.791*	5.97	8.791*	5.97						10.920*	10.920*	12.915*				13.614*	3.84	13.614*	3.84

SH450LHD-3B

SHOE : 600 (mm)G
 BUCKET : SAE/PCSA 2.0 (m³)

ARM LENGTH = 2.53 (m)
 MAXIMUM REACH = 9.48 (m)

BOOM : 6.98 (m)

Bucket Hook Height	Radius of Load										Min. Radius										
	Max. Radius	10 m	9 m	8 m	7 m	6 m	5 m	4 m	3 m												
7 m	10.221*	7.86	8.120	7.89		10.704*	10.186				10.923*	6.68	10.923*	6.68							
6 m	9.733*	8.71	6.568	8.71		10.390*	7.760	11.193*	9.891			12.357*	6.00	12.357*	6.00						
5 m	9.986*	9.08	5.927	9.08	10.030*	6.029	10.776*	7.528	11.870*	9.504	13.468*	12.286	15.938*	15.838*	20.243*	20.243*					
4 m	9.666	9.32	5.493	9.32	10.267*	5.873	11.247*	7.256	12.636*	9.073	14.665*	11.998	17.970*	15.349							
3 m	9.286	9.45	5.215	9.45	10.093	5.701	11.720*	6.978	13.378*	8.651	15.822*	10.948	19.748*	14.230							
2 m	9.113	9.47	5.069	9.47	9.913	5.533	12.002	6.726	13.996*	8.283	16.688*	10.421	20.846*	13.562							
1 m	9.137	9.39	5.047	9.39	9.768	5.407	11.774	6.524	14.371*	8.001	17.161*	10.055	21.178*	13.169							
0 m	9.371	9.19	5.165	9.19	9.677	5.325	11.620	6.387	14.354	7.816	17.218*	9.843	20.910*	13.009	17.166*	17.166*	18.645*	18.645*			
-1 m	9.862	8.88	5.419	8.88		11.550	6.324	14.240*	7.730	16.858*	9.762	20.184*	12.995	23.938*	19.057		21.935*	3.54	21.935*	3.54	
-2 m	10.666*	8.43	5.892	8.43		11.533*	6.349	13.617*	7.739	16.066*	9.792	19.026*	13.093	22.355*	19.246*	23.001*	23.001*	24.856*	2.98	24.856*	2.98
-3 m	10.647*	7.83	6.687	7.83			12.476*	7.854	14.771*	9.929	17.366*	13.295	20.215*	19.546	22.836*	22.836*	23.791*	2.28	23.791*	2.28	
-4 m	10.402*	7.03	6.061	7.03		10.483*	8.114	12.774*	10.191	15.032*	13.619	17.332*	17.332*	19.413*	19.413*	19.985*	2.64	19.985*	2.64		
-5 m	9.602*	5.96	9.602*	5.96				11.639*	11.639*	13.360*	13.360*					13.938*	3.56	13.938*	3.56		
-6 m																					

SH450LHD-3B (Retractable)

SHOE : 600 (mm)G
 BUCKET : SAE/PCSA 2.0 (m³)

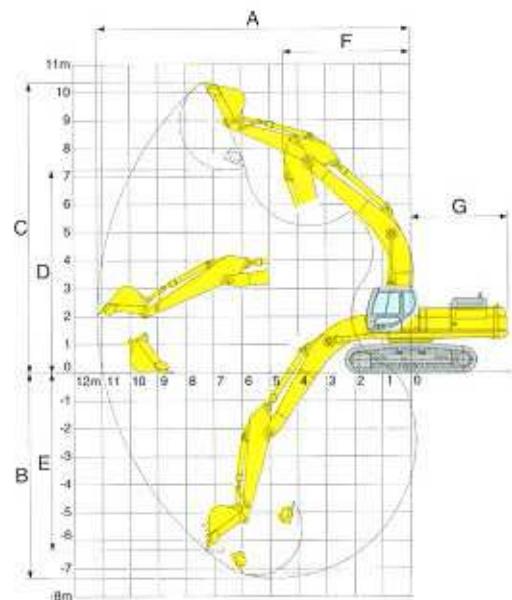
ARM LENGTH = 2.53 (m)
 MAXIMUM REACH = 9.48 (m)

BOOM : 6.98 (m)

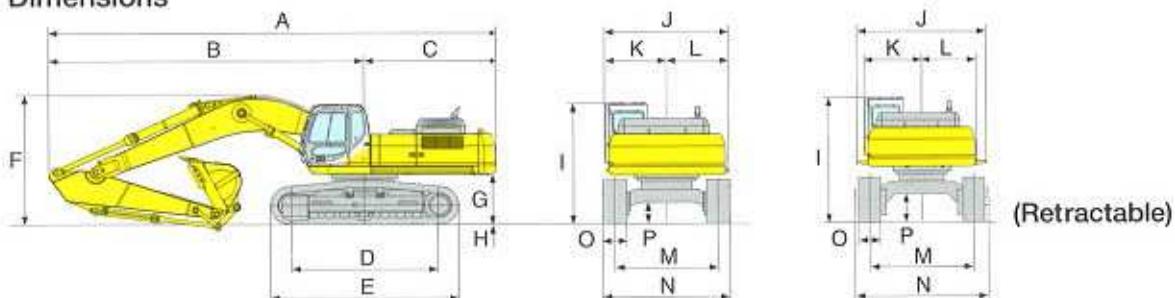
Bucket Hook Height	Radius of Load										Min. Radius										
	Max. Radius	10 m	9 m	8 m	7 m	6 m	5 m	4 m	3 m												
7 m	10.175*	8.05	8.514	8.05		10.195*	8.617	10.752*	10.762*			11.060*	6.62	11.060*	6.62						
6 m	9.762*	8.77	7.088	8.77		10.439*	8.452	11.286*	10.720	12.516*	12.516*		12.770*	5.83	12.770*	5.83					
5 m	9.989*	9.12	6.448	9.12	10.061*	6.617	10.844*	8.209	11.903*	10.318	13.849*	13.302	16.242*	16.242*	20.833*	20.833*					
4 m	9.941	9.35	6.019	9.35	10.307*	6.458	11.320*	7.931	12.752*	9.880	14.867*	12.603	18.267*	18.679		22.250*	4.07	22.250*	4.07		
3 m	9.589	9.46	5.752	9.46	10.429	5.282	11.787*	7.652	13.481*	9.457	15.974*	11.956	19.983*	15.642		17.109*	4.33	17.109*	4.33		
2 m	9.446	9.47	5.623	9.47	10.253	6.121	12.167*	7.404	14.060*	9.097	16.784*	11.444	20.942*	14.953		14.820*	4.35	14.820*	4.35		
1 m	9.505	9.36	5.627	9.36	10.115	5.995	12.174	7.208	14.405*	8.825	17.188*	11.097	21.171*	14.595		13.433*	4.11	13.433*	4.11		
0 m	9.784	9.15	5.774	9.15	10.034	5.921	12.032	7.080	14.459*	8.654	17.188*	10.905	20.828*	14.458	18.177*	18.177*	19.147*	3.88	19.147*	3.88	
-1 m	10.339	8.82	6.095	8.82		11.975	7.030	14.173*	8.581	16.765*	10.840	20.038*	14.463	23.730*	21.300		22.424*	3.47	22.424*	3.47	
-2 m	10.671*	8.35	6.655	8.35		11.391*	7.070	13.482*	8.605	15.906*	10.887	18.810*	14.578	22.071*	21.620	24.092*	24.092*	24.766*	2.87	24.766*	2.87
-3 m	10.629*	7.72	7.593	7.72			12.243*	8.739	14.522*	11.043	17.063*	14.801	19.833*	19.833*	22.403*	22.403*	23.423*	2.31	23.423*	2.31	
-4 m	10.330*	6.89	9.233	6.89				12.387*	11.332	14.602*	14.602*	16.814*	16.814*	18.777*	18.777*	19.183*	2.73	19.183*	2.73		
-5 m	9.385*	5.77	9.385*	5.77					10.985*	10.985*	12.626*	12.626*			12.838*	3.84	12.838*	3.84			
-6 m																					

Working Range

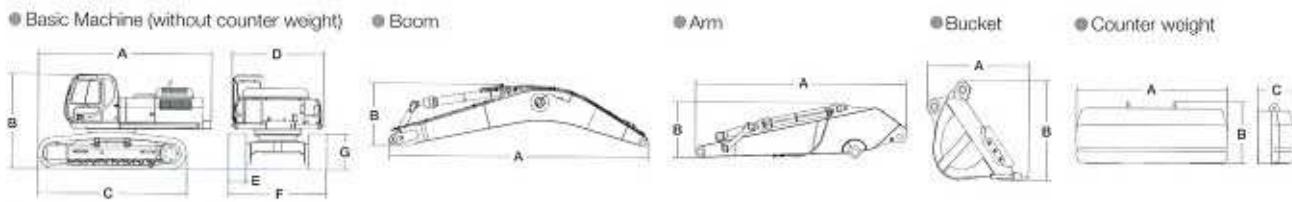
	SH450HD(LHD)-3B	SH450LHD-3B	Retractable
Arm length	2.53 m	3.38 m	2.53 m 3.38 m
Boom length			6.98 m
A Max digging radius	11 230 mm	12 000 mm	11 230 mm 12 000 mm
B Max digging depth	6 870 mm	7 720 mm	6 720 mm 7 570 mm
C Max digging height	10 820 mm	11 140 mm	10 970 mm 11 290 mm
D Max dumping height	7 420 mm	7 740 mm	7 570 mm 7 890 mm
E Max vertical wall cut depth	5 670 mm	6 570 mm	5 520 mm 6 420 mm
F Min. front swing radius	5 140 mm	4 990 mm	5 140 mm 4 990 mm
G Rear end swing radius			3 620 mm



Dimensions



Model	SH450HD-3B		SH450LHD-3B		SH450LHD-3B Retractable	
Arm length	2.53 m	3.38 m	2.53 m	3.38 m	2.53 m	3.38 m
A Overall length	11 990 mm	11 940 mm	11 990 mm	11 940 mm	11 970 mm	11 910 mm
B Length from center of machine (to arm top)	8 390 mm	8 340 mm	8 390 mm	8 340 mm	8 370 mm	8 310 mm
C Upper structure rear end radius					3 620 mm	
D Center to center of wheels	4 050 mm		4 400 mm			
E Overall track length	5 100 mm		5 450 mm			
F Overall height	3 640 mm	3 600 mm	3 640 mm	3 600 mm	3 710 mm	3 660 mm
G Clearance height under upper structure			1 330 mm			1 480 mm
H Shoe lug height				36 mm		
I Cab height			3 270 mm			3 420 mm
J Upper structure overall width			3 140 mm			3 580 mm
K Width from center of machine (left side)			1 585 mm			1 590 mm
L Width from center of machine (right side)			1 555 mm			1 490 mm
M Track gauge (Retract)		2 750 mm		2 600 mm	2 890 mm (2 390 mm)	
N Overall width (Retract)		3 350 mm			3 700 mm (3 200 mm)	
O Std. Shoe width				600 mm		
P Minimum ground clearance			540 mm			740 mm



Basic Machine (without counter weight)

Model	SH450HD-3B	SH450LHD-3B(Retractable)
Weight	26 400 kg	27 200 kg(28 700 kg)
A	5 960 mm	6 140 mm
B	3 270 mm	3 270 mm(3 420 mm)
C	5 100 mm	5 450 mm
D	3 140 mm	3 140 mm
E	600 mm	600 mm
F	3 350 mm	3 350(2 990*)
G	1 240 mm	1 240 mm(1 220 mm)

*without lower step

Boom

Model	SH450HD(LHD)-3B	Model	SH450HD(LHD)-3B
A	7.26 m	Type	2.53 m Arm
B	1 740 mm	A	3 820 mm
Width	870 mm	B	1 300 mm(2.53m Arm)
Weight	4 500 kg	Width	610 mm
		Weight	2 400 kg(2.53m Arm)
			2 600 kg(3.38m Arm)

Bucket

Model	SH450HD(LHD)-3B	Model	SH450HD(LHD)-3B
Bucket capacity (ISO/SAE/PCSA heaped) unit:mm	1.8 m ³	2.0 m ³	3.38 m Arm
Bucket capacity (CECE heaped) unit:mm	1.6 m ³	1.8 m ³	4 630 mm(3.38m Arm)
Bucket type	HD		1 220 mm(3.38m Arm)
Number of teeth	5		
A	1 870		
B	1 530		
Width unit:mm	With side cutter	1 508	1 638
	Without side cutter	1 400	1 530
Weight unit:kg		1 830	1 930
Combination	2.53 m arm	●	●
	3.38 m arm	○	○

● Standard bucket (Suitable for materials with density up to 1,800 kg/m³ or less)

○ Suitable for materials with density up to 2,000 kg/m³ or less

○ Suitable for materials with density up to 1,600 kg/m³ or less

△ Suitable for materials with density up to 1,200 kg/m³ or less

Standard equipment

[Hydraulic system]

- Selectable operation mode (H mode, S mode, and L mode)
- Automatic operation mode
- Auto/one-touch idling
- Automatic 2-speed travel
- Automatic power boost
- Arm/boom natural lowering prevention valve
- Arm/boom/bucket reactivation circuit
- Swing brake system
- Swing ABS
- Auxiliary valve
- Hydraulic drive cooling fan

[Safety equipment]

- Head guard cab(FOPS level1)
- Rearview mirror (left/right)
- Rear escape
- Seat belt
- Gate lock lever
- Traveling alarm
- Anti-theft alarm system
- Engine room fire wall
- Fan guard
- Engine emergency stop switch
- Megavolume horn

[Cab/interior equipment]

- Tilting console mechanism
- Automatic air conditioner
- Defroster
- Large hot & cool box
- KAB operator's seat
- Seat suspension
- Rise-up wiper (with intermittent operation function)
- AM/FM radio
- Accessory case
- Floor mat
- Armrest & headrest
- Ashtray & cigar lighter
- Room light
- Coat hook
- Short lever

[Others]

- EMS
- Track guard
-Double track guard
- Clean nephron
- Five lights
(on the main unit, atop the cab, and at right/left of arm)
- Two fuel filters
(with water separator)
- Fuel prefilter
(with water separator)
- Double-element air cleaner

Accessories (option)

- Front guard
- Head guard (FOPS level 2)
- Lower window guard
- 12V power (DC-DC converter)
- Full track guard
- Re fuel Pump
- Pre-cleaner
- Hose burst check valve (for arm/boom cylinder)

SH450HD-3B/SH450LHD-3B Hydraulic Excavator

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We are constantly improving our products and therefore reserve the right to change designs and specifications without notice. Illustrations may include optional equipment and accessories and may not include all standard equipment.