

Specifications

Engine

Model	Isuzu A-6RB1TQA
Type	4-cycle water-cooled, direct injection
Aspiration	Turbocharged
No. of cylinders	6
Rated flywheel horsepower (DIN 6271, net)	305 PS (224 kW) at 2 000 rpm (min ⁻¹)
Rated flywheel horsepower (SAE J1349, net)	301 hp (224 kW) at 2 000 rpm (min ⁻¹)
Maximum torque	904 lbf-ft (125 kgf-m) at 1 400 rpm (min ⁻¹)
Piston displacement	.838 in ³ (13.74 L)
Bore and stroke	5.3" x 6.3" (135 mm x 160 mm)
Batteries	2 x 12 V, 170 AH
Governor	Mechanical, speed control by stepping motor

Hydraulic System

Hitachi's new ETS (Electronic Total control System) designed for higher job efficiency with less fuel consumption/noise.

Main pumps	2-variable displacement axial piston pumps
Maximum oil flow	2 x 95.1 US gpm (360 L/min, 79.3 Imp gpm)
Pilot pump	1 gear pump
Maximum oil flow	8.9 US gpm (33.6 L/min, 7.4 Imp gpm)

Hydraulic Motors

Travel	2 axial piston motors with parking brake
Swing	2 axial piston motors

Relief Valve Settings

Implement circuit	4,270 psi (300 kgf/cm ²)
Swing circuit	3,560 psi (250 kgf/cm ²)
Travel circuit	4,980 psi (350 kgf/cm ²)
Pilot circuit	570 psi (40 kgf/cm ²)

Hydraulic Cylinders

Cylinder cushion mechanisms are provided for all cylinders to absorb shock when pistons reach their stroke ends.

Dimensions

	Qty	Bore	Rod diameter
Boom	2	6.69" (170 mm)	4.53" (115 mm)
Arm	1	7.48" (190 mm)	5.11" (130 mm)
Bucket	1	6.69" (170 mm)	4.53" (115 mm)

Hydraulic Filters

All hydraulic circuits use hydraulic filters. A suction filter is built in suction line, and 10 micron full-flow filters in return circuit and swing/travel motor drain lines.

Controls

Pilot controls for all functions. Hitachi original shockless valve and quick warm-up system built in the pilot circuit.

Implement levers	2
Travel levers with pedals	2

Upperstructure

Revolving Frame

Welded, sturdy box construction using heavy-gauge steel plates for ruggedness. D-section frame for resistance to deformation.

Swing Mechanism

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type. Swing cushion valve built in swing motor absorbs shocks when stopping swing. Swing speed.....9.0 rpm (min⁻¹)

Operator's Cab

Independent, roomy cab, 40" (1 005 mm) wide by 66" (1 665 mm) high, conforming to ISO* Standards. Reinforced glass windows on 4 sides for excellent visibility. Front windows (upper and lower) are removable and storable in the cab. Adjustable, reclining seat with armrests; movable with or without control levers and monitor panel.

* International Standard Organization

Undercarriage

Tracks

Tractor-type undercarriage. Welded track frame. Lubricated track rollers, idlers, and sprockets with floating seals. Track shoes with triple grousers made of induction-hardened rolled alloy. Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

Numbers of Rollers and Shoes on Each Side

Upper rollers	3	EX45OLC
	2	EX45O
Lower rollers	9	EX45OLC
	8	EX45O
Track shoes	53	EX45OLC
	47	EX45O
Idler track guard	1	EX45OLC/EX45O
Track center guard	1	EX45OLC/EX45O
H-track center guard (dual type)	1	EX45OLC/EX45O

Traction Device

Each track driven by axial piston motor through reduction gears for counter-rotation of the tracks. Sprockets are replaceable. Parking brake is spring-set/hydraulic-released disc type.

Travel speeds	High: 0 to 3.4 mph (5.5 km/h) Low: 0 to 2.1 mph (3.4 km/h)
Maximum traction force	71,600 lbf (32 500 kgf)
Gradeability	35° (70%) continuous

Weights and Ground Pressure

Backhoe

EX450/EX450LC

Equipped with 23' 0" (7.0 m) boom, 11' 2" (3.4 m) arm and 2.38 yd³ (1.82 m³: PCSA heaped) bucket.

Shoe type	Shoe width	Operating Weight ¹	Ground Pressure
Triple grouser	24" (600 mm)	92,400 lb (41 900 kg)	11.2 psi (0.79 kgf/cm ²)
		98,100 lb (44 500 kg)	10.9 psi (0.77 kgf/cm ²)
	30" (750 mm)	94,800 lb (43 000 kg)	9.24 psi (0.65 kgf/cm ²)
		100,500 lb (45 600 kg)	8.96 psi (0.63 kgf/cm ²)
	35" (900 mm)	95,000 lb (43 100 kg)	7.68 psi (0.54 kgf/cm ²)
		100,800 lb (45 700 kg)	7.39 psi (0.53 kgf/cm ²)

Figures in **bold** are for the EX450LC.

Note: Depending on the jobsite conditions, 30" (750 mm) grouser shoes and 35" (900 mm) grouser shoes may not be recommended for rock, hard surfaces or forestry applications.

Loading Shovel

Equipped with 3.40 yd³ (2.6 m³) bottom dump bucket.

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	24" (600 mm)	96,100 lb (43 600 kg)	11.7 psi (0.82 kgf/cm ²)

Equipped with 3.66 yd³ (2.8 m³) tilt dump bucket.

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	24" (600 mm)	95,700 lb (43 400 kg)	11.7 psi (0.82 kgf/cm ²)

Backhoe Buckets

Capacity	Width		No. of teeth	Weight	Recommendation									
					EX450-1				EX450LC-1					
					9' 6" (2.9 m) arm	11' 2" (3.4 m) arm	12' 10" (3.9 m) arm	16' 1" (4.9 m) arm	9' 6" (2.9 m) arm	11' 2" (3.4 m) arm	12' 10" (3.9 m) arm	16' 1" (4.9 m) arm		
1.78 yd ³ (1.36 m ³)	1.20 m ³	4' 2" (1 280 mm)	4' 8" (1 410 mm)	5	2,380 lb (1 170 kg)	-	-	-	○	-	-	-	-	○
2.09 yd ³ (1.60 m ³)	1.40 m ³	4' 0" (1 220 mm)	4' 6" (1 360 mm)	5	3,220 lb (1 460 kg)	○	○	○	-	○	○	○	-	-
2.38 yd ³ (1.82 m ³)	1.60 m ³	4' 6" (1 360 mm)	4' 11" (1 500 mm)	5	3,420 lb (1 550 kg)	○	○	○	-	○	○	○	-	-
2.71 yd ³ (2.07 m ³)	1.80 m ³	4' 11" (1 490 mm)	5' 4" (1 630 mm)	5	3,590 lb (1 630 kg)	○	○	-	-	○	○	○	-	-
2.98 yd ³ (2.28 m ³)	2.00 m ³	5' 0" (1 520 mm)	5' 5" (1 660 mm)	5	3,920 lb (1 780 kg)	○	-	-	-	○	○	-	-	-
2.38 yd ³ (1.82 m ³)	1.60 m ³	4' 7" (1 400 mm)	4' 8" (1 420 mm)	5	4,370 lb (1 980 kg)	●	●	-	-	●	●	-	-	-
1.78 yd ³ (1.36 m ³)	1.20 m ³	3' 10" (1 170 mm)	-	1	5,140 lb (2 330 kg)	●	●	-	-	●	●	-	-	-
One-point ripper					2,780 lb (1 260 kg)	●	●	-	-	●	●	-	-	-

● Rock bucket

○ Ripper bucket

● 2.38 yd³ (1.82 m³) rock bucket equipped with side shroud.



Service Refill Capacities

	US gal	Liters	Imp gal
Fuel tank	159.8	605.0	133.1
Engine coolant	11.9	45.0	9.9
Engine oil	13.2	50.0	11.0
Pump drive	0.4	1.6	0.4
Swing mechanism (each side)	4.3	8.2	3.6
Travel final device (each side)	5.3	10.0	4.4
Hydraulic system	137.4	520.0	114.4
Hydraulic tank	70.8	268.0	59.0



Backhoe Attachments

Booms and arms are of all-welded, box-section design.

Boom Length: 23' 0" (7.0 m)

Arms available in lengths: 9' 6" (2.9 m)

11' 2" (3.4 m)

12' 10" (3.9 m)

16' 1" (4.9 m)

Bucket is of all-welded, high-strength steel structure. Side clearance adjust mechanism provided on the bucket joint bracket.



Loading Shovel Attachments

Boom and arm are of all-welded, low-stress full-box section design. Efficient, automatic horizontal crowding achieved by one-lever control because the parallel link mechanism keeps the bucket digging angle constant, and the level cylinder circuit maintains the bucket height constant.

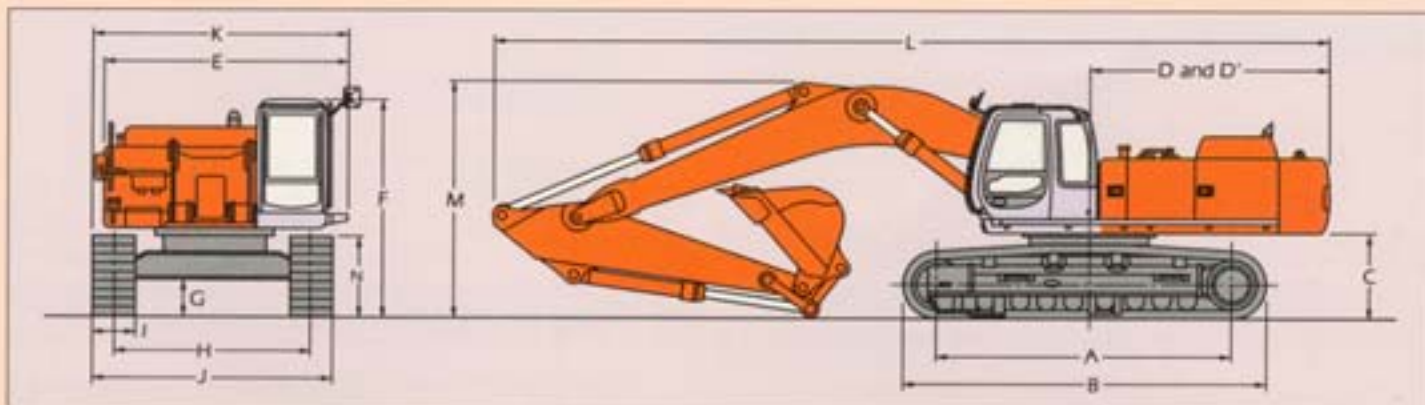
Loading Shovel Buckets

Capacity	Max. width	No. of teeth	Weight	Type
3.01 yd ³ (2.3 m ³)	6' 1" (1 860 mm)	6	7,450 lb (3 380 kg)	Bottom dump type rock bucket
3.40 yd ³ (2.6 m ³)	6' 8" (2 030 mm)	6	6,730 lb (3 050 kg)	Bottom dump type general purpose bucket
3.40 yd ³ (2.6 m ³)	6' 3" (1 900 mm)	6	6,040 lb (2 740 kg)	Tilt dump type rock bucket
3.66 yd ³ (2.8 m ³)	6' 7" (2 000 mm)	6	6,220 lb (2 820 kg)	Tilt dump type general purpose bucket

Specifications

BACKHOE EX450/EX450LC

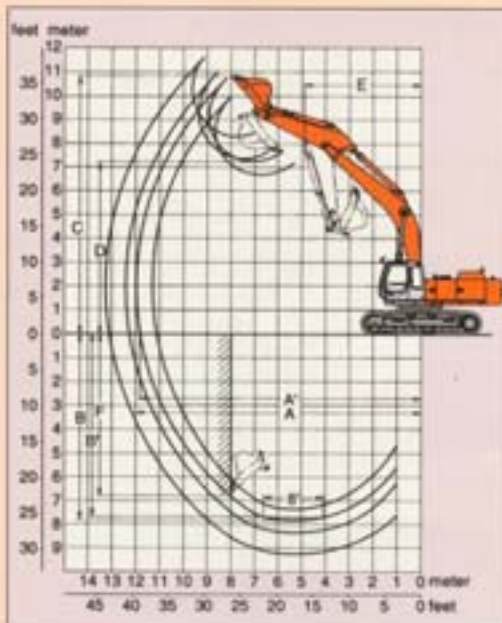
Dimensions



	EX450	EX450LC
A Distance between tumbler	13'3" (4 050 mm)	14'8" (4 470 mm)
B Undercarriage length	16'7" (5 050 mm)	17'11" (5 470 mm)
C Counterweight clearance	4'0" (1 230 mm)	4'5" (1 350 mm)
D Rear-end swing radius	11'5" (3 470 mm)	11'5" (3 470 mm)
D' Rear-end length	11'4" (3 450 mm)	11'4" (3 450 mm)
E Overall width of upperstructure	11'10" (3 610 mm)	11'10" (3 610 mm)
F Overall height of cab	10'5" (3 160 mm)	10'9" (3 280 mm)
G Min. ground clearance	19.5" (496 mm)	28.9" (735 mm)
H Track gauge	9'0" (2 740 mm)	-
I Track shoe width	G 24" (600 mm)	9'6" (2 890 mm)/7'10" (2 390 mm)
J Undercarriage width	10'11" (3 340 mm)	G 30" (750 mm)
K Overall width	12'0" (3 670 mm)	-
L Overall length	38'9" (11 820 mm)	11'11" (3 640 mm)/10'4" (3 140 mm)
M Overall height of boom	11'4" (3 450 mm)	12'4" (3 750 mm)
N Track height	3'9" (1 140 mm)	18'8" (5 790 mm)

Notes: 1. Equipped with 11'2" (3.4 m) arm.
2. *Excluding track shoe lag.

G: Triple grouser shoe



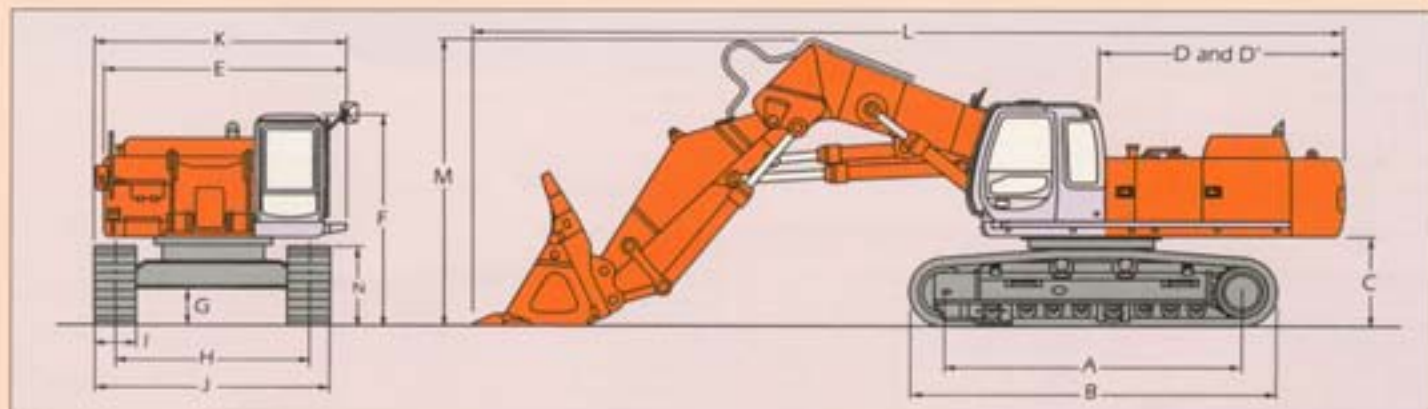
Working Ranges

Arm length	9'6" (2.9 m)		11'2" (3.4 m)		12'10" (3.9 m)		14'1" (4.3 m)	
Type of undercarriage	EX450+	EX450LC+	EX450+	EX450LC+	EX450+	EX450LC+	EX450+	EX450LC+
A Max. digging reach	37'4" (11 390 mm)	37'6" (11 420 mm)	39'6" (12 050 mm)		40'11" (12 480 mm)		47'11" (14 380 mm)	
A' Max. digging reach on ground	36'8" (11 180 mm)	36'9" (11 190 mm)	38'11" (11 860 mm)	38'9" (11 810 mm)	40'4" (12 290 mm)	40'3" (12 270 mm)	47'4" (14 200 mm)	47'3" (14 180 mm)
B Max. digging depth	24'3" (7 390 mm)	23'11" (7 300 mm)	25'11" (7 890 mm)	25'6" (7 760 mm)	27'6" (8 390 mm)	27'1" (8 260 mm)	30'4" (9 240 mm)	29'11" (9 110 mm)
B' Max. digging depth (8' level)	23'7" (7 190 mm)	23'4" (7 100 mm)	25'5" (7 750 mm)	25'0" (7 620 mm)	27'1" (8 260 mm)	26'8" (8 130 mm)	29'11" (9 120 mm)	29'6" (9 000 mm)
C Max. cutting length	33'4" (10 150 mm)	33'8" (10 270 mm)	35'11" (10 950 mm)	36'4" (11 080 mm)	36'3" (11 050 mm)	36'8" (11 180 mm)	38'6" (11 730 mm)	38'11" (11 850 mm)
D Max. dumping height	22'8" (6 910 mm)	23'1" (7 040 mm)	24'9" (7 340 mm)	25'2" (7 660 mm)	25'2" (7 660 mm)	25'6" (7 780 mm)	28'4" (8 640 mm)	28'9" (8 770 mm)
E Min. swing radius	16'2" (4 920 mm)		15'11" (4 840 mm)		15'9" (4 530 mm)		15'10" (4 520 mm)	
F Max. vertical wall	17'11" (5 460 mm)	15'8" (4 780 mm)	22'3" (6 780 mm)	21'10" (6 660 mm)	23'6" (7 170 mm)	23'1" (7 040 mm)	29'2" (8 580 mm)	27'9" (8 450 mm)
Bucket ISO	36,000 lb (16 400 kg)		36,400 lb (16 500 kg)		36,400 lb (16 500 kg)		46,700 lb (21 200 kg)	
digging force* SAE/PCSA	30,500 lb (13 900 kg)		31,600 lb (14 300 kg)		30,700 lb (13 900 kg)		41,900 lb (19 000 kg)	
Arm ISO	31,200 lb (14 200 kg)		41,700 lb (18 900 kg)		39,500 lb (17 900 kg)		33,100 lb (15 000 kg)	
digging force* SAE/PCSA	49 600 lb (22 500 kg)		42,500 lb (19 300 kg)		38,600 lb (17 500 kg)		34,000 lb (15 500 kg)	

*Excluding track shoe lag

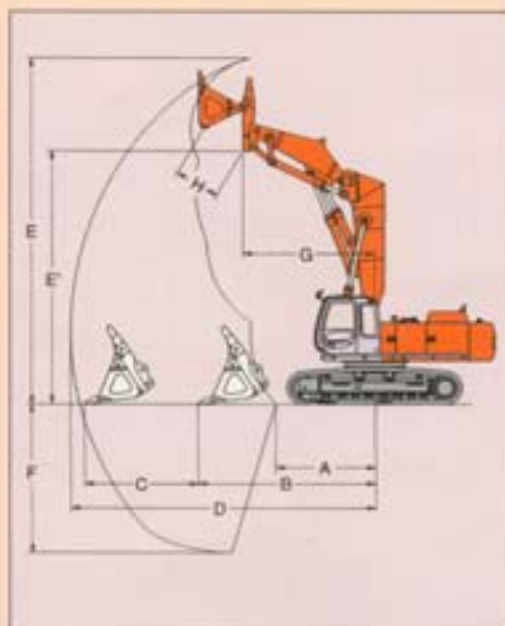
LOADING SHOVEL EX450

Dimensions



	EX450	
A	Distance between tumbler	13'3" (4 050 mm)
B	Undercarriage length	16'7" (5 050 mm)
C	Counterweight clearance	4'0" (1 230 mm)
D	Rear-end swing radius	11'5" (3 470 mm)
D'	Rear-end length	11'4" (3 450 mm)
E	Overall width of upperstructure	11'10" (3 610 mm)
F	Overall height of cab	10'5" (3 160 mm)
G	Min. ground clearance	19.5" (496 mm)
H	Track gauge	9'0" (2 740 mm)
I	Track shoe width	G 24" (600 mm)
J	Undercarriage width	10'11" (3 340 mm)
K	Overall width	12'0" (3 670 mm)
L	Overall length	39'1" (11 900 mm)
M	Overall height of boom	13'1" (4 000 mm)
N	Track height	3'9" (1 140 mm)

Notes: *Excluding track shoe lag.



Working Ranges

Type of bucket	Bottom dump type	Tilt dump type	
A	Min. digging distance	9' 5" (2 860 mm)	7' 9" (2 360 mm)
B	Min. level crowding distance	16' 8" (5 070 mm)	16' 6" (5 030 mm)
C	Level crowding distance	10' 11" (3 340 mm)	11' 1" (3 370 mm)
D	Max. digging reach	28' 9" (8 760 mm)	28' 7" (8 720 mm)
E	Max. cutting height	32' 7" (9 940 mm)	32' 6" (9 900 mm)
E'	Max. dumping height	24' 2" (7 370 mm)	14' 1" (4 290 mm)
F	Max. digging depth	14' 0" (4 260 mm)	13' 10" (4 230 mm)
G	Working radius at max. dumping height	12' 4" (3 760 mm)	14' 8" (4 460 mm)
H	Max. bucket opening width	4' 7" (1 390 mm)	-
	Crowding force	66,600 lbf (30 200 kgf)	68,600 lbf (31 100 kgf)
	Breakout force	60,900 lbf (27 600 kgf)	58,200 lbf (26 400 kgf)

Lifting Capacities



a: Load radius
b: Load point height
c: Lifting capacity

EX450LC

Rating over side or 360 degrees Rating over front Unit: 1,000 lb

Conditions	Load point height	Load radius										At max. reach					
		10 ft (3.05 m)		15 ft (4.57 m)		20 ft (6.10 m)		25 ft (7.62 m)		30 ft (9.14 m)		35 ft (10.67 m)		ft in (m)			
Boom 23' 0" (7.0 m) Arm 9' 6" (2.9 m) Bucket PCSA: 2.96 yd ³ (2.28 m) Shoes 30" (750 mm)	25 ft (7.62 m)							*17.7 (8.0)	*17.7 (8.0)					*11.8 (5.4)	*11.8 (5.4)	31' 7" (9.6)	
	20 ft (6.10 m)							*18.2 (8.3)	*18.2 (8.3)					10.5 (4.8)	*11.9 (5.4)	34' 0" (10.4)	
	15 ft (4.57 m)			*32.8 (14.9)	*32.8 (14.9)	*24.1 (10.9)	*24.1 (10.9)	18.1 (8.2)	*19.9 (9.0)	12.8 (5.8)	*17.6 (8.0)			9.4 (4.2)	*12.4 (5.6)	35' 5" (10.8)	
	10 ft (3.05 m)					24.4 (11.1)	*28.3 (12.8)	17.0 (7.7)	*21.0 (9.5)	12.3 (5.6)	*18.5 (8.4)			8.8 (4.0)	*13.2 (6.0)	36' 0" (11.0)	
	5 ft (1.52 m)					22.7 (10.3)	*31.4 (14.3)	16.1 (7.3)	*23.8 (10.8)	11.8 (5.4)	*19.4 (8.8)			8.7 (3.9)	*14.4 (6.5)	35' 8" (10.9)	
	0 ft (Ground)					21.9 (9.9)	*32.5 (14.7)	15.4 (7.0)	*24.8 (11.2)	11.4 (5.2)	*19.9 (9.0)			9.0 (4.1)	*16.2 (7.4)	34' 7" (10.5)	
	-5 ft (-1.52 m)			35.1 (15.9)	*40.1 (18.2)	21.6 (9.8)	*31.6 (14.3)	15.1 (6.9)	*24.5 (11.1)	11.3 (5.1)	*19.3 (8.8)			10.1 (4.6)	*16.3 (7.4)	32' 6" (9.9)	
	-10 ft (-3.05 m)	*41.5 (18.8)	*41.5 (18.8)	35.5 (16.1)	*35.9 (16.3)	21.8 (9.9)	*28.9 (13.1)	15.2 (6.9)	*22.6 (10.3)								
	-15 ft (-4.57 m)																
	Boom 23' 0" (7.0 m) Arm 11' 2" (3.4 m) Bucket PCSA: 2.71 yd ³ (2.07 m) Shoes 30" (750 mm)	25 ft (7.62 m)													*8.3 (3.8)	*8.4 (3.8)	33' 10" (10.3)
20 ft (6.10 m)								*17.4 (7.9)	*17.4 (7.9)	13.7 (6.2)	*16.4 (7.4)			*8.2 (3.7)	*8.2 (3.7)	36' 0" (11.0)	
15 ft (4.57 m)						*22.8 (10.4)	*22.8 (10.4)	18.7 (8.5)	*19.1 (8.7)	13.4 (6.1)	*17.1 (7.7)			*8.4 (3.8)	*8.4 (3.8)	37' 4" (11.4)	
10 ft (3.05 m)						25.4 (11.5)	*27.2 (12.3)	17.7 (8.0)	*21.5 (9.7)	12.8 (5.8)	*18.2 (8.3)			8.2 (3.7)	*8.8 (4.0)	37' 10" (11.5)	
5 ft (1.52 m)						23.6 (10.7)	*30.9 (14.0)	16.7 (7.6)	*23.6 (10.7)	12.3 (5.6)	*19.3 (8.8)			8.1 (3.7)	*9.5 (4.3)	37' 7" (11.1)	
0 ft (Ground)				*23.8 (10.8)	*23.8 (10.8)	22.5 (10.2)	*32.7 (14.8)	15.9 (7.2)	*24.9 (11.3)	11.8 (5.4)	*20.1 (9.1)			8.4 (3.8)	*10.5 (4.8)	36' 7" (11.0)	
-5 ft (-1.52 m)				35.3 (16.0)	*39.3 (17.8)	22.0 (10.0)	*32.6 (14.8)	15.5 (7.0)	*25.1 (11.4)	11.5 (5.2)	*20.0 (9.1)			9.2 (4.2)	*12.1 (5.5)	33' 10" (9.7)	
-10 ft (-3.05 m)		*35.3 (16.0)	*35.3 (16.0)	35.6 (16.2)	*39.2 (17.8)	22.0 (10.0)	*30.6 (13.9)	15.4 (7.0)	*23.8 (10.8)	11.6 (5.2)	*18.4 (8.3)			10.9 (4.9)	*14.4 (6.6)	31' 9" (9.4)	
-15 ft (-4.57 m)																	
-20 ft (-6.10 m)																	

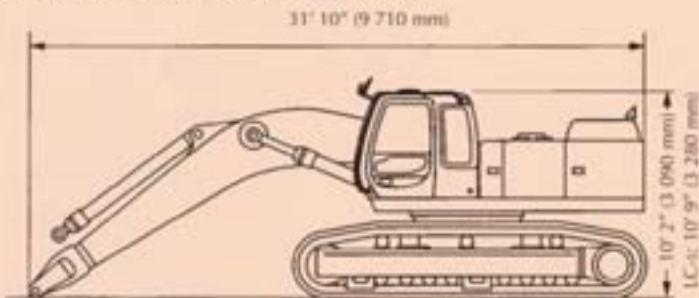
Notes: 1. Ratings are based on SAE J1007.
2. Lifting capacity of the Super EX Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The load point is a hook (not standard equipment) located on the back of the bucket.
4. * Indicates load limited by hydraulic capacity.

Basic machine without sidewalk



EX450	Shoe width	Overall width	Weight
	24" (600 mm)	10' 4" (3 160 mm)	39,500 lb (27 000 kg)
	30" (750 mm)	10' 6" (3 200 mm)	61,900 lb (28 100 kg)
	35" (900 mm)	10' 10" (3 290 mm)	82,400 lb (38 300 kg)

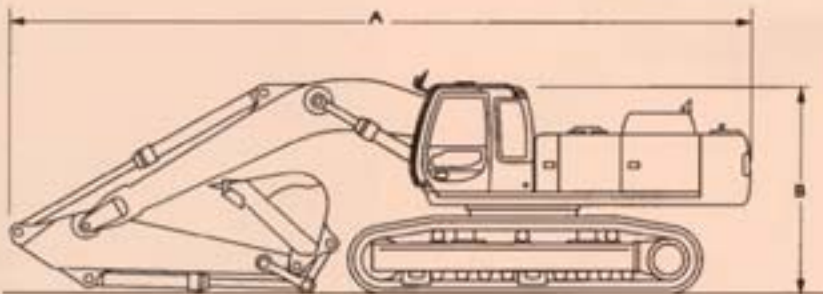
Basic machine fitted with boom and no sidewalk



EX450LC	Shoe width	Overall width	Weight
	24" (600 mm)	10' 4" (3 160 mm)	68,600 lb (31 100 kg)
	30" (750 mm)	10' 6" (3 200 mm)	71,000 lb (32 200 kg)
	35" (900 mm)	10' 10" (3 290 mm)	71,400 lb (32 400 kg)

Basic machine with front and sidewalk

EX450-5: 92,400 lb (41 900 kg)
 EX450LC-5: 100,500 lb (45 600 kg)*
 *30" (750 mm) shoes



Overall length and overall height

Arm	9' 6" (2.9 m)	11' 2" (3.4 m)	11' 2" (*3.4 m)	12' 10" (3.9 m)	16' 10" (4.9 m)
EX450LC	A	38' 11" (11 860 mm)	38' 8" (11 790 mm)	38' 8" (11 790 mm)	38' 5" (11 700 mm)
	B	11' 10" (3 600 mm)	11' 5" (3 480 mm)	11' 5" (3 480 mm)	15' 4" (4 660 mm)