

## ENGINE

Model	Isuzu CC-4BG1 TC
Type	4-cycle water-cooled, direct injection
Aspiration	Turbocharged, intercooled
No. of cylinders	4
Rated power	
DIN G271, net	H/P mode: 66 kW (90 PS) at 2 150 min <sup>-1</sup> (rpm) P mode: 63 kW (85 PS) at 1 950 min <sup>-1</sup> (rpm)
SAE J1349, net	H/P mode: 65 kW (88 hp) at 2 150 min <sup>-1</sup> (rpm) P mode: 62 kW (84 hp) at 1 950 min <sup>-1</sup> (rpm)
Maximum torque	340 N·m (35 kgf·m, 253 lbf·ft) at 1 600 min <sup>-1</sup> (rpm)
Piston Displacement	4.329 L (264 in <sup>3</sup> )
Bore and stroke	105 mm x 125 mm (4.13" x 4.92")
Batteries	2 x 12 V / 55 AH
Governor	Mechanical speed control with stepping motor

## HYDRAULIC SYSTEM

- Work mode selector  
Digging mode / Attachment mode
- Engine speed sensing system

Main pumps	2 variable displacement axial piston pumps
Maximum oil flow	2 x 105 L/min (27.7 US gpm, 23.1 Imp gpm)
Pilot pump	1 gear pump
Max. oil flow	33 L/min (8.7 US gpm, 7.3 Imp gpm)

Hydraulic Motors	
Travel	2 variable displacement axial piston motors
Swing	1 axial piston motor

Relief Valve Settings	
Implement circuit	34.3 MPa (350 kgf/cm <sup>2</sup> , 4 980 psi)
Swing circuit	32.3 MPa (330 kgf/cm <sup>2</sup> , 4 690 psi)
Travel circuit	34.3 MPa (350 kgf/cm <sup>2</sup> , 4 980 psi)
Pilot circuit	3.9 MPa (40 kgf/cm <sup>2</sup> , 570 psi)

**Hydraulic Cylinders**  
High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

### Dimensions

	Qty.	Bore	Rod diameter
Boom	2	105 mm (4.13")	70 mm (2.76")
Arm	1	115 mm (4.53")	80 mm (3.15")
Bucket	1	100 mm (3.94")	70 mm (2.76")

### Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines. Demolition version ZAXIS130USK uses other type of high-performance full flow filters with clog indicator.

## WEIGHTS AND GROUND PRESSURE

Equipped with 4.60 m (15'1") boom, 2.52 m (8'3") arm and 0.50 m<sup>3</sup> (0.65 yd<sup>3</sup>; SAE, PCSA heaped) bucket.

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	500 mm (20")	13 200 kg (29 100 lb)	41 kPa (0.42 kgf/cm <sup>2</sup> , 5.97 psi)
	600 mm (24")	13 500 kg (29 800 lb)	35 kPa (0.36 kgf/cm <sup>2</sup> , 5.12 psi)
	700 mm (28")	13 700 kg (30 200 lb)	30 kPa (0.31 kgf/cm <sup>2</sup> , 4.41 psi)
Flat	510 mm (20")	13 700 kg (30 200 lb)	42 kPa (0.43 kgf/cm <sup>2</sup> , 6.11 psi)
	700 mm (28")	13 500 kg (29 800 lb)	30 kPa (0.31 kgf/cm <sup>2</sup> , 4.41 psi)

Weights of the basic machines (including 3 650 kg (8 050 lb), 4 450 kg (9 810 lb) K-type counterweight and triple grouser shoes, excluding front-end attachment, fuel, hydraulic oil, engine oil and coolant etc. are:

ZAXIS135US	10 600 kg (23 400 lb) with 500 mm (20") shoes
ZAXIS135USK	11 600 kg (25 600 lb) with 500 mm (20") shoes

### ZAXIS135USK (Demolition version):

Equipped with 4.60 m (15'1") K-boom, 2.52 m (8'3") K-arm, and 0.50 m<sup>3</sup> (0.65 yd<sup>3</sup>; SAE, PCSA heaped) K-bucket.

Shoe width	Arm	Operating weight	Ground pressure
ZAXIS135USK 500 mm (20")	2.52 m (8'3") K-arm	14 400 kg (31 700 lb)	45 kPa (0.46 kgf/cm <sup>2</sup> , 6.50 psi)

## 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 speed: 13.7 min<sup>-1</sup> (rpm)

**Operator's Cab**  
US-exclusive cab, independent and roomy 1 005 mm (40") wide by 1 675 mm (66") high, conforming to ISO\* Standards. Reinforced glass windows on 4 sides for visibility. Openable front windows (upper and lower). Adjustable, reclining seat with armrests; movable with or without control levers.  
\* International Standardization Organization

## UNDERCARRIAGE

**Tracks**  
Tractor-type undercarriage. Welded track frame using selected materials. Side frame welded to track frame. Lubricated track rollers, idlers, and sprockets with floating seals.  
Track shoes with triple grousers made of induction-hardened rolled alloy. Flat and triangular shoes are also available. 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: 1; ZAXIS135US/135USK  
Lower rollers: 7; ZAXIS135US/135USK  
Track shoes: 44; ZAXIS135US/135USK

**Travel Device**  
Each track driven by 2-speed axial piston motor through planetary reduction gear for counterrotation of the tracks. Sprockets are replaceable. Parking brake is spring-set/hydraulic-released disc type. Travel shockless relief valve built in travel motor absorbs shocks when stopping travel. Automatic transmission system: High-Low.  
Travel speed: High: 0 to 5.0 km/h (3.1 mph)  
Low: 0 to 3.0 km/h (1.9 mph)  
Maximum traction force: 117 kN (11 900 kgf, 26 300 lbf)  
Gradeability: 35° (70%) continuous

## SERVICE REFILL CAPACITIES

	liters	US gal	Imp gal
Fuel tank	200.0	52.9	44.0
Engine coolant	19.0	5.0	4.2
Engine oil	15.8	4.2	3.5
Swing device	3.2	0.8	0.7
Travel final device (each side)	4.2	1.1	0.9
Hydraulic system	120.0	31.7	26.4
Hydraulic oil tank	62.0	16.4	13.6

## BACKHOE ATTACHMENTS

Boom and arms are of welded, box-section design. 4.60 m (15'1") boom, and 2.10 m (6'11"), 2.52 m (8'3") and 3.01 m (9'11")\* arms are available. Bucket is of welded steel structure. Side clearance adjust mechanism provided on the bucket joint bracket.



A: Load radius  
B: Load point height  
C: Lifting capacity

## METRIC MEASURE

### ZX135US

Rating over side or 360 degrees

Rating over front

Unit: 1 000 kg

Conditions	Load point height	Load radius										At max. reach				
		2 m		3 m		4 m		5 m		6 m		7 m		meter		
Boom 4.60 m Arm 2.10 m	4 m			*3.58	*3.58	3.84	*3.61	2.61	*3.35	1.87	2.86			1.30	*1.60	7.27
	3 m			*5.71	*5.71	3.64	*4.37	2.51	*3.73	1.83	2.81			1.19	*1.62	7.53
Bucket SAE,PCSA:0.69 m <sup>3</sup> CECE:0.50 m <sup>3</sup>	2 m					3.40	*5.30	2.39	3.72	1.76	2.75	1.33	2.10	1.14	*1.67	7.62
	1 m					3.19	5.15	2.28	3.59	1.70	2.68	1.30	2.07	1.13	*1.77	7.56
Shoe 500 mm	0 (Ground)					3.08	5.02	2.19	3.50	1.65	2.62	1.27	2.05	1.18	1.90	7.35
	-1 m			4.88	*5.91	3.04	4.97	2.15	3.45	1.62	2.59			1.29	2.08	6.96
	-2 m	*5.75	*5.75	4.92	*7.19	3.04	4.98	2.14	3.44	1.62	2.59			1.52	2.42	6.35
	-3 m	*7.12	*7.12	5.00	*6.11	3.09	*4.98	2.18	3.48					2.00	*2.53	5.44

Conditions	Load point height	Load radius										At max. reach				
		2 m		3 m		4 m		5 m		6 m		7 m		meter		
Boom 4.60 m Arm 2.52 m	4 m					*3.16	*3.16	2.64	*3.02	1.89	2.89			1.17	*1.37	7.65
	3 m			*4.32	*4.32	3.71	*3.91	2.54	*3.42	1.84	2.83	1.36	2.14	1.07	*1.38	7.89
Bucket SAE,PCSA:0.50 m <sup>3</sup> CECE:0.45 m <sup>3</sup>	2 m					3.46	*4.86	2.41	3.74	1.77	2.75	1.32	2.10	1.02	*1.43	7.98
	1 m					3.23	5.20	2.28	3.60	1.69	2.67	1.28	2.06	1.02	*1.52	7.93
Shoe 500 mm	0 (Ground)					3.08	5.02	2.18	3.49	1.63	2.61	1.25	2.03	1.05	*1.65	7.72
	-1 m			4.80	*6.23	3.00	4.94	2.12	3.42	1.59	2.56	1.23	2.00	1.14	*1.86	7.36
	-2 m	*5.55	*5.55	4.83	*7.71	2.99	4.92	2.10	3.40	1.57	2.55			1.32	2.13	6.79
	-3 m	*7.82	*7.82	4.89	*6.75	3.02	4.96	2.12	3.42					1.67	*2.61	5.97

Conditions	Load point height	Load radius										At max. reach				
		2 m		3 m		4 m		5 m		6 m		7 m		meter		
Boom 4.60 m Arm 3.01 m	4 m					*2.47	*2.47	*2.64	*2.64	1.92	*2.62	1.40	*2.15	1.03	*1.20	8.14
	3 m			*2.57	*2.57	*2.98	*2.98	2.59	*3.05	1.86	*2.85	1.37	2.16	0.94	*1.21	8.37
Bucket SAE,PCSA:0.40 m <sup>3</sup> CECE:0.33 m <sup>3</sup>	2 m					3.56	*4.32	2.45	*3.58	1.78	2.78	1.33	2.11	0.90	*1.26	8.45
	1 m					3.29	5.28	2.31	3.63	1.70	2.68	1.28	2.06	0.89	*1.33	8.40
Shoe 500 mm	0 (Ground)			4.86	*5.10	3.10	5.05	2.19	3.50	1.62	2.60	1.24	2.01	0.92	*1.44	8.21
	-1 m			4.75	*6.14	2.98	4.92	2.10	3.41	1.57	2.54	1.20	1.98	0.99	*1.60	7.87
	-2 m	*4.84	*4.84	4.74	*8.14	2.94	4.87	2.06	3.36	1.54	2.51	1.19	1.97	1.12	1.84	7.35
	-3 m	*7.34	*7.34	4.78	*7.37	2.95	4.88	2.06	3.36	1.54	2.51			1.37	2.21	6.61

### ZX135USK

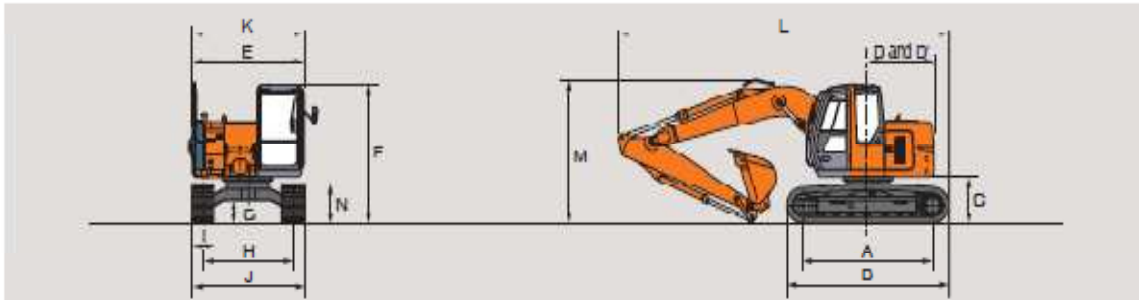
Rating over side or 360 degrees

Rating over front

Unit: 1 000 kg

Conditions	Load point height	Load radius										At max. reach				
		2 m		3 m		4 m		5 m		6 m		7 m		meter		
K-boom 4.60 m K-arm 2.52 m	4 m					*3.07	*3.07	*2.92	*2.92	2.10	*2.83			*1.28	*1.28	7.65
	3 m			*4.25	*4.25	*3.81	*3.81	2.83	*3.32	2.05	*3.02	1.52	*2.29	1.20	*1.30	7.89
K-bucket SAE,PCSA:0.50 m <sup>3</sup> CECE:0.45 m <sup>3</sup>	2 m					3.88	*4.75	2.70	*3.81	1.97	3.05	1.48	2.33	1.15	*1.35	7.98
	1 m					3.64	*5.59	2.57	4.00	1.90	2.96	1.44	2.28	1.14	*1.44	7.93
Shoe 500 mm	0 (Ground)					3.48	5.60	2.46	3.88	1.83	2.89	1.40	2.24	1.18	*1.57	7.72
	-1 m			5.45	*6.10	3.40	5.52	2.40	3.81	1.80	2.85	1.38	2.22	1.29	*1.77	7.36
	-2 m	*5.45	*5.45	5.48	*7.57	3.39	5.50	2.37	3.79	1.78	2.83			1.48	*2.09	6.79
	-3 m	*7.93	*7.93	5.55	*6.62	3.42	*5.21	2.39	3.81	1.80	2.86			1.88	*2.49	5.97

## DIMENSIONS



Unit: mm (ft in)

	ZAXIS135US / ZAXIS130USK			
A Distance between lumbars	2 880 (9'5")			
B Undercarriage length	3 500 (11'5")			
*C Counterweight clearance	890 (2'11")			
D Rear-end swingradius	1 465 (4'10") / 1 510 (4'11")			
D' Rear-end length	1 465 (4'10") / 1 510 (4'11")			
E Overall width of upperstructure	2 478 (8'1")			
F Overall height of cab	2 740 (9'0") / 2 870 (9'5")			
*G Min. ground clearance	440 (1'5")			
H Track gauge	1 990 (6'6")			
I Track shoe width	G 500 (2'0")	G 600 (2'4")	G 700 (2'8")	F 510 (2'0")
I' Undercarriage width	2 440 (8'0")	2 520 (8'3")	2 590 (8'10")	2 500 (8'2")
K Overall width	2 500 (8'2")	2 530 (8'6")	2 390 (8'10")	2 500 (8'2")
L Overall length				
With 2.10 m (6'11") arm	7 290 (23'11") / -			
With 2.52 m (8'3") arm	7 290 (23'11") / **7 290 (23'11")			
With 3.01 m (9'11") arm	7 310 (24'0") / -			
M Overall height of boom				
With 2.10 m (6'11") arm	2 810 (9'4") / -			
With 2.52 m (8'3") arm	2 810 (9'4") / **2 840 (9'4")			
With 3.01 m (9'11") arm	2 840 (9'4") / -			
N Track height				
With triple grouser shoes	190 (2'7")			

\* Excluding track shoe lug.

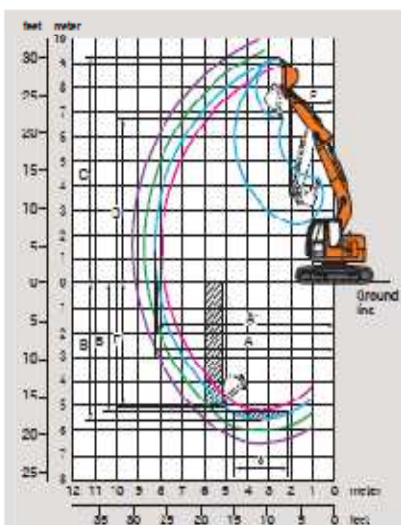
\*\* Equipped with K-front.

C: Triple grouser shoe.

F: Flat shoe.

## WORKING RANGES

Unit: mm (ft in)



		ZAXIS135US					ZAXIS135USK <sup>2</sup>
Arm length		2.10 m (6'11")	2.52 m (8'3")	3.01 m (9'11")	3.52 m <sup>1</sup> (11'7") FX-arm	2.52 m (8'3")	
A	Max. digging reach	7 930 (26'0")	8 300 (27'3")	8 160 (26'9")	9 220 (30'3")	8 300 (27'3")	
A	Max. digging reach (on ground)	7 790 (25'7")	8 160 (26'9")	8 440 (28'4")	9 110 (29'11")	8 160 (26'9")	
B	Max. digging depth	5 120 (16'10")	5 530 (18'2")	6 030 (19'7")	6 530 (21'5")	5 530 (18'2")	
B	Max. digging depth (B' level)	4 880 (16'0")	5 320 (17'5")	5 840 (19'2")	6 370 (20'11")	5 320 (17'5")	
C	Max. cutting height	8 950 (29'4")	9 220 (30'3")	9 410 (31'3")	9 940 (32'7")	9 220 (30'3")	
D	Max. dumping height	6 400 (21'4")	6 760 (22'2")	7 150 (23'5")	7 490 (24'7")	6 760 (22'2")	
E	Min. swing radius	1 940 (6'4")	2 060 (6'9")	2 400 (7'10")	2 350 (7'9")	2 060 (6'9")	
F	Max. vertical wall	4 620 (15'2")	4 970 (16'4")	5 460 (17'11")	6 060 (19'11")	4 970 (16'4")	
Bucket digging force	ISO	59 kN (13 100 kgf, 22 300 lbf)					
	SAE : PCSA	87 kN (19 800 kgf, 44 400 lbf)					
Arm crowd force	ISO	73 kN (16 500 kgf, 36 900 lbf)	65 kN (14 400 kgf, 32 700 lbf)	58 kN (12 900 kgf, 29 000 lbf)	49 kN (10 900 kgf, 22 600 lbf)	65 kN (14 400 kgf, 32 700 lbf)	
	SAE : PCSA	71 kN (15 900 kgf, 35 600 lbf)	63 kN (14 000 kgf, 32 700 lbf)	57 kN (12 600 kgf, 28 300 lbf)	47 kN (10 400 kgf, 22 000 lbf)	63 kN (14 000 kgf, 32 700 lbf)	

Excluding track shoe lug <sup>1</sup> 2.52 m (8'3") arm + 1.0 m (3'3") extension arm <sup>2</sup> equipped with K-front.