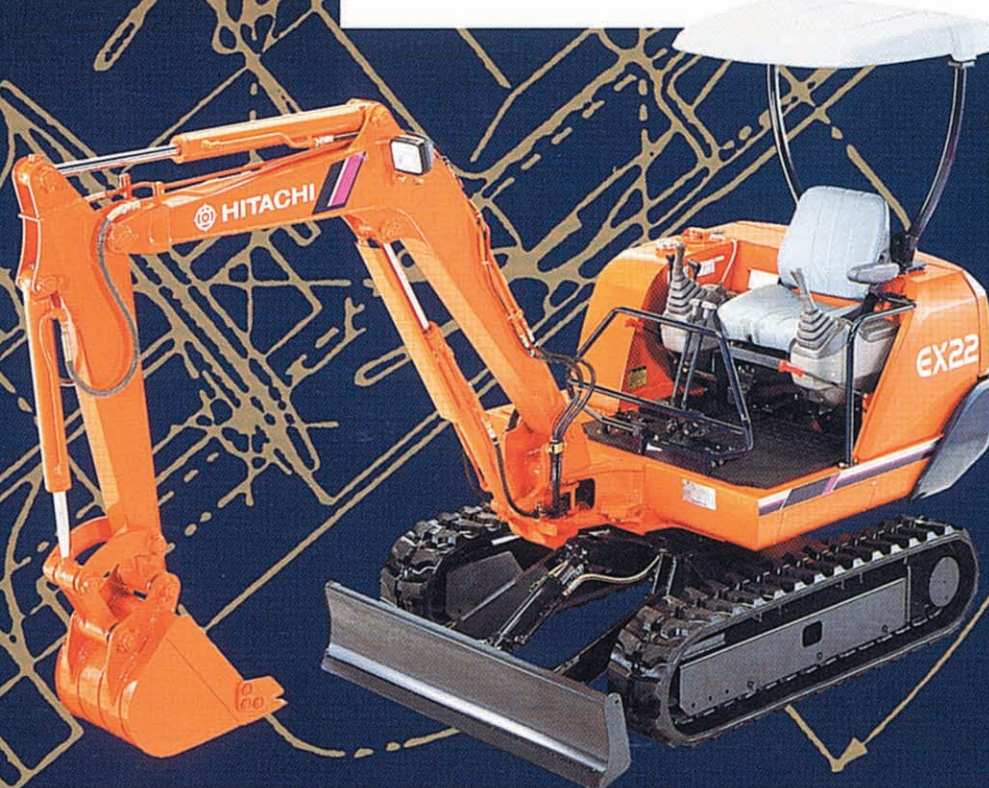


EX22

- Rated engine HP 16.9 kW (23.0 PS)
- Operating weight Canopy: 2 200 kg (4 850 lb)
Cabin: 2 330 kg (5 140 lb)
- Backhoe bucket PCSA heaped: 0.04 — 0.087 m³
(0.05 — 0.11 cu yd)
CECE heaped: 0.035 — 0.075 m³



TWO-SPEED TRAVEL ENSURING HIGHER JOB EFFICIENCY

- OHS for smooth combined operations.
- The maximum speed in this class realized by two-speed travel.
- Light and easily controllable hydraulic pilot-type control lever.
- Low noise design best-suited for work in urban areas.
- Small turning radius suited for narrow space.
- Bucket clearance adjustment device.
- Gate lock lever to be never left unlocked.

ENGINE

Model	Isuzu 3KR1
Type	Water-cooled, 4 cycle, 3 cylinder swirl combustion chamber type diesel engine
Rated flywheel horsepower (DIN 6271, net)	16.9 kW (23.0 PS) at 2 400 rpm
Rated flywheel horsepower (SAE J1349, net)	16.9 kW (22.7 HP) at 2 400 rpm
Maximum torque	73.5 N·m (7.5 kgf·m, 54.2 lbf·ft) at 2 000 rpm
Piston displacement	1.422 l (86.7 cu in)
Bore and stroke	81 mm x 92 mm (3.2" x 3.6")
Batteries	1 x 12 V, 52 AH

HYDRAULIC SYSTEM

OHS (Optimum Hydraulic System)

This system with two main pumps gives high independence to each actuator for easy and smooth combined operation. Such as travel/blade, travel/swing, travel/arm and swing/arm. Especially, combined operation of swing and arm is very useful when vertically digging the sides of trenches.

Main pumps	2-Gear pumps
Maximum oil flow	2 x 23.0 l/min (2 x 6.0 US gpm, 2 x 5.0 Imp gpm)
Pilot pump	1-Gear pump
Maximum oil flow	9.2 l/min (2.4 US gpm, 2.0 Imp gpm)

Relief Valve Settings

Implement circuit	17.2 MPa (175 kgf/cm ² , 2 489 psi)
Swing circuit	10.3 MPa (105 kgf/cm ² , 1 493 psi)
Travel circuit	17.2 MPa (175 kgf/cm ² , 2 489 psi)
Pilot circuit	3.9 MPa (40 kgf/cm ² , 569 psi)

Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and boom swing cylinders to absorb shocks at stroke ends.

Dimensions

	Quan.	Bore	Stroke
Boom	1	70 mm (2.8")	575 mm (1'11")
Arm	1	70 mm (2.8")	505 mm (1'8")
Bucket	1	60 mm (2.4")	430 mm (1'5")
Boom swing	1	75 mm (3.0")	435 mm (1'5")
Blade	1	75 mm (3.0")	140 mm (5.5")

CONTROLS

Pilot controls (for front and swing operations), light touch and excellent controllability

SUPERSTRUCTURE

Swing Mechanism

High-torque, 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 shockless valve built in swing motor absorbs shocks when stopping swing, ensuring smooth stops. Also counter balanceless system is employed for smooth operation when starting and stopping swing. Swing lock (pin lock type) is provided for transporting.

Swing speed	8.4 min ⁻¹ (8.4 rpm)
Boom swing angle	Canopy Left: 90°, Right: 50° Cabin Left: 80°, Right: 50°

Operator's Cab (Factory Option)

Independent roomy cab, conforming to ISO* Standards. Reinforced glass windows on all 4 sides for all-round visibility. Front window (upper side), fully openable, are spring-assisted for easy storing in the cab and for absorbing shocks during lowering.

*International Standard Organization

UNDERCARRIAGE

Tracks

Tractor-type undercarriage. Heavy-duty track frame of all welded structure. Top-grade materials employed for heavy-duty operation. Side frames are rigidly welded to the track frame. Rugged track frame and sloped side frames for easy mud removal.

Numbers of Rollers and Shoes on Each Side

Upper rollers	2
Lower rollers	3
Track shoes	37

Traction Device

Each track driven by a high-torque, axial piston 2 speed travel motor through planetary reduction gear, allowing counterrotation of the tracks. Travel shockless relief valve built in travel motor absorbs shocks when stopping travel, ensuring smooth stops.

Travel speeds	High: 0 to 3.0 km/h (1.86 mph) Low: 0 to 2.0 km/h (1.24 mph)
---------------------	---

Maximum traction force	18.1 kN (1 850 kgf, 4 070 lbf)
Gradeability	30° (58%) continuous

WEIGHTS AND GROUND PRESSURE

Equipped with 2.1 m (6'11") boom, 1.09 m (3'7") arm and 0.068 m³ (0.09 cu yd: PCSA heaped) bucket.

Shoe type	Shoe width	Standard undercarriage	
		Operating weight	Ground pressure
Rubber (canopy)	250 mm (9.8")	2 110 kg (4 642 lb)	27.5 kPa (0.28 kgf/cm ² , 3.98 psi)
	(cabin)	2 240 kg (4 928 lb)	28.4 kPa (0.29 kgf/cm ² , 4.12 psi)
*Double grouser (canopy)	250 mm (9.8")	2 200 kg (4 840 lb)	28.4 kPa (0.29 kgf/cm ² , 4.12 psi)
	(cabin)	2 330 kg (5 126 lb)	29.4 kPa (0.30 kgf/cm ² , 4.27 psi)
Double grouser (canopy)	300 mm (11.8")	2 230 kg (4 906 lb)	28.4 kPa (0.29 kgf/cm ² , 4.12 psi)
	(cabin)	300 mm (11.8")	30.4 kPa (0.31 kgf/cm ² , 4.41 psi)
Triangular (canopy)	400 mm (15.7")	2 340 kg (5 148 lb)	30.4 kPa (0.31 kgf/cm ² , 4.41 psi)
	(cabin)	400 mm (15.7")	31.4 kPa (0.32 kgf/cm ² , 4.55 psi)

*Mark is standard specification.

SERVICE REFILL CAPACITIES

	liters	US gal	Imp gal
Fuel tank	50	13.2	11.0
Engine coolant	5.0	1.3	1.1
Engine oil	5.5	1.5	1.2
Travel final device (each side)	0.5	0.13	0.11
Hydraulic tank	40	10.5	8.8

Buckets

Capacity m ³ (cu yd)		Width mm (ft in)		No. of teeth	Weight kg (lb)	Recommendation	
PCSA heaped	CECE heaped	Without side cutters	With side cutters			2.1 m (6'11") boom	
0.04 (0.05)	0.035	260(10.2")	300(11.8")	2	41(90.2)	1.09 m (3'7") arm	1.39 m (4'7") arm
0.047(0.06)	0.042	310(12.2")	350(13.8")	3	44(96.8)	○	○
*0.068(0.09)	0.06	420(16.5")	460(18.1")	3	49(107.8)	○	□
0.087(0.11)	0.075	510(20.0")	550 (21.7")	4	56(123.2)	□	△
		A: Arm crowd force		kN (kgf, lbf)		12.0 (1 220, 2 684)	10.6 (1 080, 2 376)
		B: Bucket digging force		kN (kgf, lbf)		16.7(1 700, 3 740)	

*Marks are standard specifications

- Suitable for materials with density of 2 000 kg/m³ (3 370 lb/cu yd) or less
- Suitable for materials with density of 1 600 kg/m³ (2 700 lb/cu yd) or less
- △ Suitable for materials with density of 1 100 kg/m³ (1 850 lb/cu yd) or less

CANOPY TYPE

LIFTING CAPACITIES

Side: Rating over-side or 360 degrees

Front: Rating over-front

With dozer blade above ground

Unit: ton (lb)

Condition	Load point height m (ft in)	Load radius						At max. reach		
		2 m (6'7")		3 m (9'10")		4 m (13'2")				
		Side	Front	Side	Front	Side	Front	Side	Front	@m (ft in)
Boom: 2.1 m (6'11")	3 (9'10")			0.39 (858)	*0.39 (858)			0.30 (660)	0.30 (660)	3.54 (11'7")
Arm: 1.09 m (3'7")	2 (6'7")	*0.44 (968)	*0.44 (968)	0.38 (836)	0.39 (858)			0.23 (506)	0.23 (506)	4.05 (13'3")
Bucket	1 (3'3")			0.36 (792)	0.37 (814)	0.22 (484)	0.23 (506)	0.21 (462)	0.21 (462)	4.17 (13'8")
PCSA: 0.068 m ³ (0.09 cu yd)	0	0.62 (1364)	0.65 (1430)	0.34 (748)	0.35 (770)			0.22 (484)	0.23 (506)	3.95 (13'0")
CECE: 0.06 m ³	Ground									
Grouser shoe 250 mm (9.8")	-1 (-3'3")	0.63 (1386)	0.65 (1430)	0.34 (748)	0.34 (748)			0.30 (660)	0.30 (660)	3.29 (10'10")

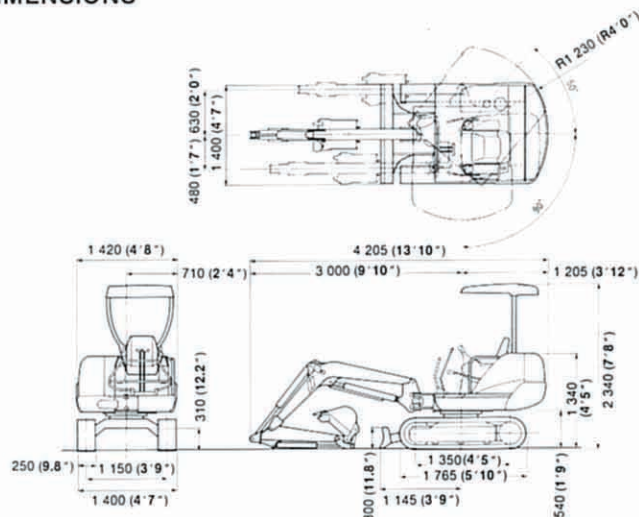
With dozer blade on ground

Unit: ton (lb)

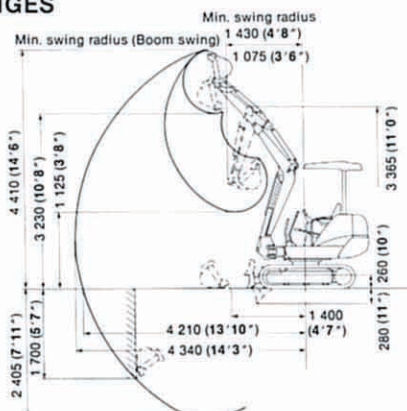
Condition	Load point height m(ft in)	Load radius						At max. reach		
		2 m (6'7")		3 m (9'10")		4 m (13'2")				
		Side	Front	Side	Front	Side	Front	Side	Front	@m(ft in)
Boom: 2.1 m (6'11")	3 (9'10")			0.39 (858)	*0.39 (858)			0.30 (660)	*0.37 (814)	3.54 (11'7")
Arm: 1.09 m (3'7")	2 (6'7")	0.44 (968)	*0.44 (968)	0.38 (836)	*0.40 (880)			0.23 (506)	*0.38 (836)	4.05 (13'3")
Bucket	1 (3'3")			0.36 (792)	*0.54 (1188)	0.22 (484)	0.41 (902)	0.21 (462)	*0.39 (858)	4.17 (13'8")
PCSA: 0.068 m ³ (0.09 cu yd)	0	0.62 (1364)	*0.82 (1804)	0.34 (748)	*0.63 (1386)			0.22 (484)	*0.41 (902)	3.95 (13'0")
CECE: 0.06 m ³	(Ground)									
Grouser shoe 250 mm (9.8")	-1 (-3'3")	0.63 (1386)	*0.92 (2024)	0.34 (748)	*0.57 (1254)			0.30 (660)	*0.40 (880)	3.29 (10'10")

- Notes: 1. Rating are based on SAE J1097.
2. Lifting capacity 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.

DIMENSIONS



WORKING RANGES



CABIN TYPE

LIFTING CAPACITIES

Side: Rating over-side or 360 degrees

Front: Rating over-front

With dozer blade above ground

Unit: ton (lb)

Condition	Load point height m(ft in)	Load radius m (ft in)						At max. reach		
		2 m (6'7")		3 m (9'10")		4 m (13'2")		Side	Front	@m(ft in)
		Side	Front	Side	Front	Side	Front			
Boom: 2.1 m (6'11")	3 (9'10")			*0.39 (858)	*0.39 (858)			0.33 (726)	0.33 (726)	3.54 (11'7")
Arm: 1.09 m (3'7")	2 (6'7")			*0.40 (880)	*0.40 (880)			0.25 (550)	0.26 (572)	4.05 (13'3")
Bucket	1 (3'3")			0.40 (792)	0.41 (902)	0.25 (550)	0.26 (572)	0.23 (506)	0.24 (529)	4.17 (13'8")
PCSA: 0.068 m ³ (0.09 cu yd)	0	0.69 (1518)	0.71 (1562)	0.38 (836)	0.39 (858)			0.25 (550)	0.25 (550)	3.95 (13'0")
CECE: 0.06 m ³	Ground									
Grouser shoe 250 mm (9.8")	-1 (3'3")	0.70 (1540)	0.72 (1584)	0.37 (814)	0.38 (836)			0.33 (726)	0.34 (748)	3.29 (10'10")

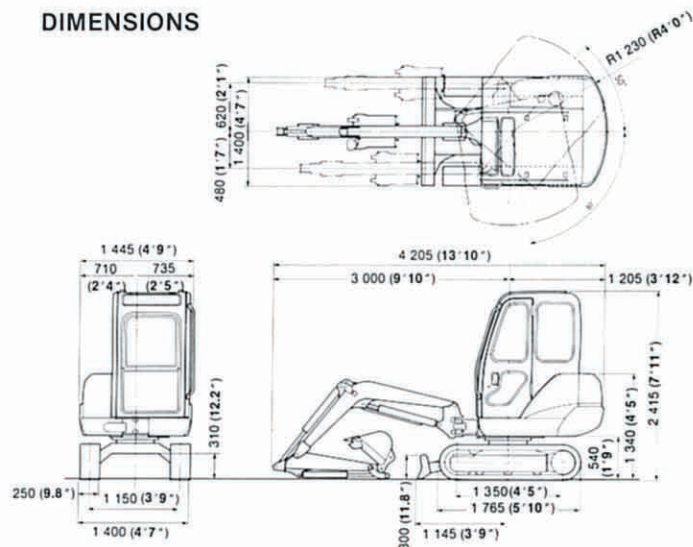
With dozer blade on ground, with cabin

Unit: ton (lb)

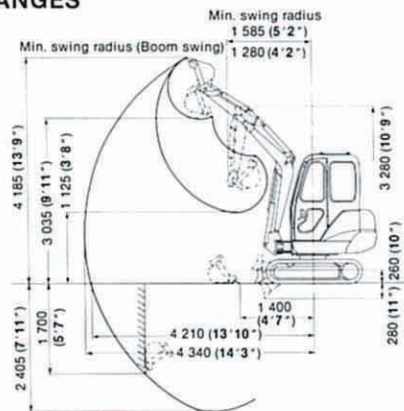
Condition	Load point height m(ft in)	Load radius m (ft in)						At max. reach		
		2 m (6'7")		3 m (9'10")		4 m (13'2")				
		Side	Front	Side	Front	Side	Front	Side	Front	@m(ft in)
Boom: 2.1 m (6'11")	3 (9'10")			*0.39 (858)	*0.39 (858)			0.33 (726)	*0.37 (814)	3.54 (11'7")
Arm: 1.09 m (3'7")	2 (6'7")			0.40 (880)	*0.40 (880)			0.25 (550)	*0.38 (836)	4.05 (13'3")
Bucket PCSA: 0.068 m ³ (0.09 cu yd)	1 (3'3")			0.40 (880)	*0.54 (1188)	0.25 (550)	0.41 (902)	0.23 (506)	*0.39 (858)	4.17 (13'8")
CECE: 0.06 m ³	0	0.69 (1518)	*0.82 (1804)	0.38 (836)	*0.63 (1386)			0.25 (550)	*0.41 (902)	3.95 (13'0")
Grouser shoe 250 mm (9.8")	Ground									
	-1 (-3'3")	0.70 (1540)	*0.92 (2024)	0.37 (814)	*0.57 (1254)			0.33 (726)	*0.40 (880)	3.29 (10'10")

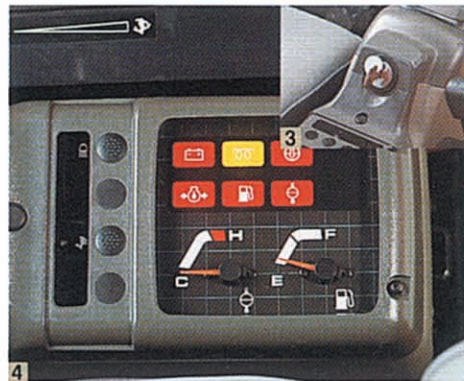
- Notes: 1. Rating are based on SAE J1097.
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3. The load point is a hook (not standard equipment) located on the back of the bucket.
4. *Indicates load limited by hydraulic capacity.

DIMENSIONS



WORKING RANGES





1 Fail-safe gate lock lever

With the fail-safe gate lock levers, the control levers can be locked without fail, allowing access to the operator's seat.

1 Hydraulic pilot control levers

Front and swing control levers are hydraulically pilot-controlled for light and comfortable operation. What more, ergonomically designed lever grip enhances operating ease and comfort.

2 Body cover protection weight

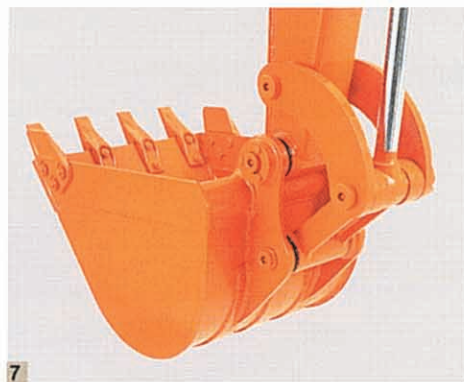
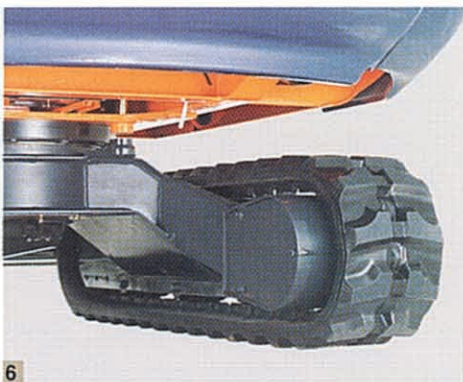
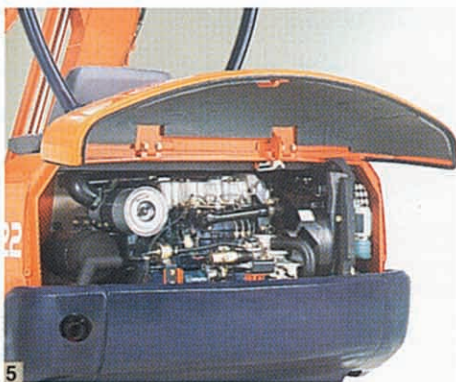
A body may be protected from damage by any external shock during operation.

3 Engine key stop of car feeling

With the adoption of stop motor, an engine may be stopped only by turning the key off. Moreover the engine food or fuel cap can be locked and unlocked with the engine key.

4 Easy-to-read monitor panel

With the monitor panel, the operator can check machine conditions of a glance from his seat.



5 Easy engine access

The engine cover opens completely to allow easy access during engine maintenance.

6 Compact traction mechanism

Compact yet sturdy travel mechanism, with travel piping provided within track frame.

7 Bucket clearance adjust mechanism

It can easily eliminate loose movement of the bucket by merely replacing the shim. O-ring seal is provided at the pin, located at the arm top, to seal out dirt, extending lubricating intervals.

These specifications are subject to change without notice.

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