Kubota

KUBOTA MINI EXCAVATOR

KX91-3α2/KX101-3α2

With smooth simultaneous operation, powerful digging force, and outstanding attachment versatility, these excavators bring high performance to a whole new level.

Strong digging force

A well-balanced arm and bucket guarantee superior digging force whenever you need it. Kubota's unique, powerful hydraulic system, combined with large-capacity variable displacement pumps, delivers precise control of arm and bucket movements. This maximum operating pressure generates faster job speed, even in tough digging situations.

Four simultaneous operations

Variable displacement hydraulic pumps, which specifications are set to utilise the engine power at the optimum level, ensure high performance digging and dozing at all times. The combination of a two-element variable pump and a gear pump enable bucket, boom, arm and swing simultaneous operation. The efficiency can be seen in operations like dumping onto lorries and levelling ground.

Third line hydraulic return

The Third Line Hydraulic Return enables greater oil flow efficiency by reducing back pressure when working with hydraulically actuated attachments, such as a hydraulic hammer.

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Adjustable maximum oil flow on auxiliary circuit

The maximum oil flow rate of the auxiliary circuit can be changed/adjusted by simply pushing a switch—there's no need for additional tools. This simplifies the utilisation of front attachments like tilt buckets, brush cutters and hydraulic hammers—you can reduce or increase the flow to get just the right amount of control.

**The maximum oil flow can vary according to the load of front attachments.*

ROPS/FOPS (level 1) cabin and canopy

The cabin and canopy offer maximum safety to the operator with their Roll-over Protection Structure (ROPS) and Falling Object Protection Structure (FOPS).

Reliable machine stability

Kubota's excavators are designed and engineered to deliver a level of machine stability that's second to none. The outstanding balance of the KX91-3α2 and KX101-3α2 allows them to carry heavy loads easily and smoothly.

More driving force

A stronger driving force of the travel motor and improved turnability enable smooth dozer backfilling and levelling operation.

Kubota delivers security and operating ease, thanks to a host of advanced features.

ANTI-THEFT SYSTEM

The ultimate in security that's as easy as turning a key. It's the industry's first standard-equipped anti-theft system, and another original only from Kubota.

Protected by KUBOTA ANTI THEFT SYSTEM

THE SYSTEM

Introducing Kubota's new simple and secure anti-theft system. Our one-key-system has an IC chip, which only starts the engine when the system recognises the appropriate key. Standard equipment includes one Red programming key, plus two Black operational keys. And up to four Black keys can be programmed. What's more, you get peace of mind knowing your construction equipment couldn't be in safer hands.

SAFETY/SECURITY

Only "programmed keys" will enable the engine to start. Even identically shaped keys can't start the engine unless they are programmed. In fact, attempting to start the engine with an un-programmed key will activate the system's alarm. This alarm will continue even after the un-programmed key is removed. It will only stop once a programmed key is inserted into the ignition and switched on to start the engine.

EASY OPERATION

No special procedures needed. No PIN numbers needed. Just turn the key. Plus, our simple "one-key-security system" allows access to the cabin door and engine bonnet as well as the fuel tank.

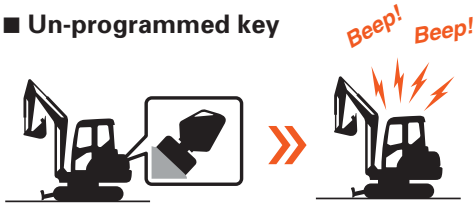
EASY PROGRAMMING

One Red programming key and two pre-programmed Black operational keys come standard. If a Black key is misplaced, or if additional Black keys are needed (a maximum of two can be added), key programming is easy. Simply insert the Red key, followed by the Black keys.

■ Programmed key

Insert key — The excavator moves

■ Un-programmed key



Insert key — The alarm sounds

1 Insert the Red programming key, then press the monitor button.

2 Insert new individual Black operational key.

DIGITAL PANEL

Informative, interactive and functional. Kubota's Intelligent Control System keeps you in tune of the KX91-3α2 and KX101-3α2's vital signs. It accurately displays easy-to-understand diagnostics of current working conditions and warning indicators for engine rpm and hour meter, as well as for fuel, temperature and oil levels. When filling up with fuel, our panel also informs the operator that the tank is nearly full, and alerts the operator to when routine maintenance is due. Overall, the panel reduces excavator downtime and repair fees for a decrease in total operating costs.

Language selection display

Information when service is required

Low fuel display

EASY OPERATION

1 Proportional flow auxiliary switch

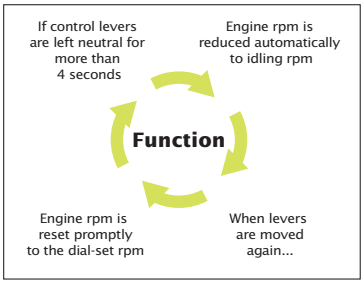
A convenient thumb-operated switch enables easy operation of auxiliary equipment.

2 2-speed switch

The advanced 2-speed travel switch allows user-friendly travel speed changes, improved operation, comfort and control.

3 Auto Idling system (AI)

Whenever high engine rpm isn't needed, this system automatically reduces the engine to idling rpm, and revs it back to its original setting when work resumes. This helps to reduce noise and exhaust emissions, and saves on fuel, energy and running costs.



4 Convenient breaker switch

A simple forefinger operation is all that's needed to activate the hydraulic breaker.

With Kubota excavators, maintenance is simple and quick, so you can work more efficiently.

Engine inspection

Primary points, like the engine and air cleaner, can be inspected and maintained easily via the rear engine cover. The fuel filter and water separator are independently installed and both are located inside the strong and durable steel-plated bonnet, which opens widely for quick inspection and routine maintenance. An engine inspection window is also located behind the seat for easier access to the engine's injection nozzles.

Kubota engine

Kubota's unique new E-TVCS (Three Vortex Combustion System) enables high-energy output, low vibration and low fuel consumption, while minimising exhaust emissions.

Control valve inspection

A quick and easy inspection of the control valve is possible simply by opening the latch on the bonnet, located to the right of the cabin. When more detailed maintenance or repairs are required, the remaining panels on the swing frame can be easily removed using standard tools.

Swivel negative brake

With swivel negative brake, the swivel function is locked automatically whenever the engine is stopped or the pilot control safety lever is raised. This feature eliminates the need for a swivel transport lock pin.

Two-piece hose design

The two-piece hose design on the dozer and boom cylinders reduces hose replacement time by 60% compared to non-joint types. What's more, this design virtually eliminates the need to enter the machine for maintenance.

Front bush pins

To maximise durability, we've introduced bushings on all of the pivot points on the front attachment and connecting points on the swing bracket. Kubota even uses bushings on the swing bracket's fixed joints—between the pin and the boss—to prevent potential damage caused by shock and vibration over many years of use. This minimises attachment play and helps maintain operating precision for a long time.

Standard Equipment

Engine/Fuel system

- Double element air cleaner
- Electric fuel pump
- Auto idling system

Cabin

- ROPS (Roll-over Protective Structure, ISO3471)
- FOPS (Falling Object Protective Structure) Level 1
- Weight-adjustable full suspension seat
- Seatbelt
- Hydraulic pilot control levers with wrist rests
- Travel levers with foot pedals
- Cabin heater for defrosting & demisting
- Emergency exit hammer
- Front window power-assisted with 2 gas dampers
- 12 V power source for radio-stereo
- Location for 2 speakers and radio aerial
- Cup holder

Undercarriage

- 300 mm rubber track
- 1 x upper track roller
- 4 x (KX101-3α2) / 3 x (KX91-3α2) outer flange-type lower track roller
- 2 speed travel switch on dozer lever
- Bracket for anti-theft locking device

Canopy

- ROPS (Roll-over Protective Structure, ISO3471)
- FOPS (Falling Object Protective Structure) Level 1
- Weight-adjustable full suspension seat
- Seatbelt
- Hydraulic pilot control levers with wrist rests
- Travel levers with foot pedals

Hydraulic system

- Adjustable maximum oil flow on auxiliary circuit (SP1)
- Pressure accumulator
- Hydraulic pressure checking ports
- Straight travel circuit
- Third line hydraulic return
- Auxiliary switch on right control lever

Safety system

- Anti-theft system
- Engine start safety system on the left console
- Travel lock system on the left console
- Swivel lock system
- Boom anti-fall circuit in the control valve

Working equipment

- 1350 mm arm (KX101-3α2) / 1275 mm arm (KX91-3α2)
- Auxiliary hydraulic circuit piping to the arm end
- 2 working lights on cabin and 1 light on the boom

Optional Equipment

Working equipment

- 1550 mm arm
- Telescopic arm

Undercarriage

- 300 mm steel track (+ 95 kg)

Cabin

- Radio/stereo installation kit

Safety system

- Anti-fall valve unit (boom, arm, dozer)
- Warning buzzer

Others

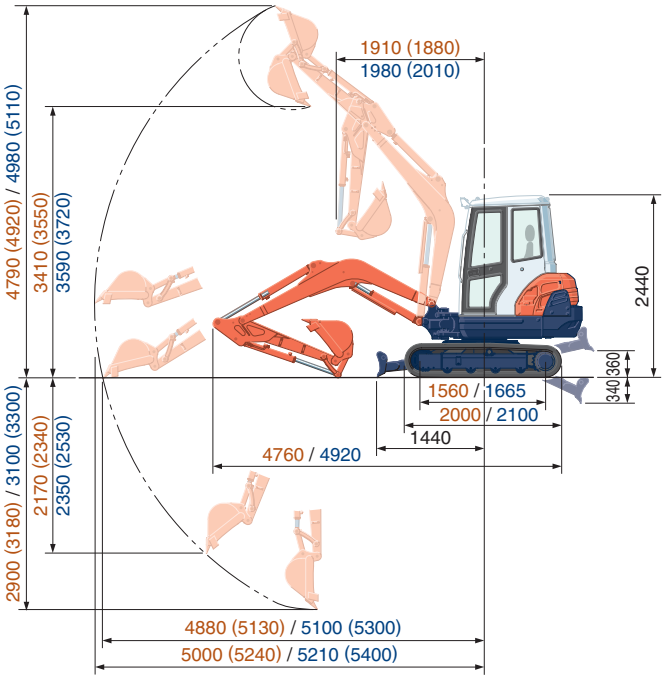
- Special paint upon request

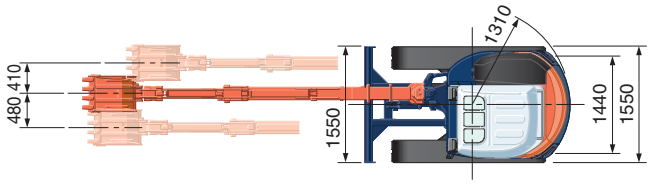
SPECIFICATIONS

*With rubber shoe type

Model				KX91-3α2	KX101-3α2
Machine weight	Cabin		kg	3240	3520
	Canopy		kg	3130	3410
Bucket capacity, std. SAE/CECE			m^3	0,089/0,078	0,107/0,093
Bucket width	With side teeth		mm	495	575
	Without side teeth		mm	470	550
Engine	Model			D1503-M-EBH-3-EC-N	D1503-M-EBH-4-EC-N
	Type			Water-cooled, diesel engine E-TVCS (Economical, ecological type)	
	Output ISO9249		PS/rpm	26,6/2200	27,5/2300
			kW/rpm	19,6/2200	20,3/2300
	Number of cylinders			3	
	Bore × Stroke		mm	83 × 92,4	
	Displacement		cc	1499	
Overall length			mm	4760	4920
Overall height	Cabin		mm	2440	
	Canopy		mm	2440	
Swivelling speed			rpm	9,0	8,9
Rubber shoe width			mm	300	
Tumbler distance			mm	1560	1665
Dozer size (width × height)			mm	1550 × 335	
Hydraulic pumps	P1, P2			Variable displacement pump	
	Flow rate		ℓ/min	40 + 40	
	Hydraulic pressure		MPa (kgf/cm²)	23,5 (240,0)	24,5 (250,0)
	P3			Gear Type	
	Flow rate		ℓ/min	21	
	Hydraulic pressure		MPa (kgf/cm²)	19,6 (200,0)	
Max. digging force	Arm		daN (kgf)	1830 (1867)	1830 (1870)
	Bucket		daN (kgf)	2990 (3050)	3110 (3180)
Boom swing angle (left/right)			deg	80/50	
Auxiliary circuit	Flow rate		ℓ/min	40	
	Hydraulic pressure		MPa (kgf/cm²)	23,5 (240,0)	24,5 (250,0)
Hydraulic reservoir			ℓ	36	
Fuel tank capacity			ℓ	48	
Max. travelling speed	Low		km/h	3,0	
	High		km/h	4,6	
Ground contact pressure	Cabin		kPa (kgf/cm²)	32,3 (0,33)	
	Canopy		kPa (kgf/cm²)	31,2 (0,32)	31,4 (0,32)
Ground clearance			mm	295	290

WORKING RANGE





( ): Long Arm
KX91-3α2 / KX101-3α2
KX91-3α2
KX101-3α2
Unit: mm

LIFTING CAPACITY

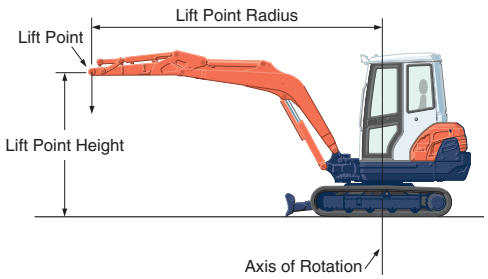
*With cabin, rubber shoe and standard arm

KX91-3α2 — daN (ton)

Lift Point Height	Lifting point radius (1m)			Lifting point radius (3m)			Lifting point radius (4m)		
	Over-front		Over-side	Over-front		Over-side	Over-front		Over-side
	Blade Down	Blade UP		Blade Down	Blade UP		Blade Down	Blade UP	
3m	-	-	-	620 (0,63)	620 (0,63)	620 (0,63)	-	-	-
2m	-	-	-	750 (0,77)	750 (0,77)	750 (0,77)	670 (0,68)	590 (0,60)	540 (0,55)
1m	-	-	-	970 (0,99)	860 (0,88)	780 (0,80)	720 (0,74)	570 (0,58)	520 (0,53)
0m	-	-	-	1090 (1,12)	830 (0,85)	750 (0,76)	750 (0,77)	560 (0,57)	510 (0,52)
-1m	2170 (2,21)	2170 (2,21)	2170 (2,21)	1030 (1,05)	820 (0,84)	740 (0,76)	-	-	-
-2m	-	-	-	890 (0,90)	830 (0,85)	750 (0,76)	-	-	-

KX101-3α2 — daN (ton)

Lift Point Height	Lifting point radius (1m)			Lifting point radius (3m)			Lifting point radius (4m)		
	Over-front		Over-side	Over-front		Over-side	Over-front		Over-side
	Blade Down	Blade UP		Blade Down	Blade UP		Blade Down	Blade UP	
3m	-	-	-	680 (0,69)	680 (0,69)	680 (0,69)	-	-	-
2m	-	-	-	860 (0,88)	860 (0,88)	860 (0,88)	750 (0,76)	740 (0,75)	620 (0,64)
1m	-	-	-	1130 (1,15)	1080 (1,10)	900 (0,91)	840 (0,85)	720 (0,73)	600 (0,62)
0m	-	-	-	1290 (1,32)	1040 (1,06)	860 (0,88)	900 (0,91)	700 (0,71)	590 (0,60)
-1m	1930 (1,97)	1930 (1,97)	1930 (1,97)	1260 (1,28)	1030 (1,05)	850 (0,87)	-	-	-
-2m	2560 (2,61)	2560 (2,61)	2560 (2,61)	1140 (1,16)	1030 (1,06)	850 (0,87)	-	-	-



Please note:
* The lifting capacities are based on ISO 10567 and do not exceed 75% of the static tilt load of the machine or 87% of the hydraulic lifting capacity of the machine.
* The excavator bucket, hook, sling and other lifting accessories are not included on this table.

* Working ranges are with Kubota standard bucket, without quick coupler.
* Specifications are subject to change without notice for purpose of improvement.

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