

KUBOTA MINI EXCAVATOR

# KX91-3*α*



**Kubota**

# For the excavator with increased operability, power and the groundbreaking digging depth to perform a wider array of jobs, look no further than the KX91-3 $\alpha$ .

## Straight travel

The New Hydraulic Matching System (New-HMS) ensures straight travel even with simultaneous operation of any other circuit for safer loading/off loading and easier de-bogging.

## 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, deliver precise control of arm and bucket movements. This maximum operating pressure generates greater job speed, even in tough digging situations.

## Four simultaneous operations

When simultaneous operation of the boom, arm, bucket and swing are required, the pump distributes the adequate oil flow to each actuator according to the amount lever stroke. Now, high-performance lifting, loading, digging and dozing are assured without a loss of speed or power.



# KX91-3A

## ROPS/FOPS (Level1) 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).

## 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.

## Control levers

Adequate lever stroke and ergonomically-designed wrist rests provide greater control ability, smoother operation and reduces operator fatigue.

## More driving force

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



# Unmatched features & comfort for a one of a kind excavator experience.

## Proportional flow auxiliary switch

Repositioned from the floor, a convenient thumb-operated switch enables easy operation of auxiliary equipment, such as the auger and tilt bucket.

## 2-speed switch

Conveniently mounted on the dozer lever, the repositioned 2-Speed Travel Switch allows advanced user-friendly travel speed changes, increased floor space, improved operation, as well as greater control and comfort.

## Convenient breaker switch

Thanks to the breaker switch's new location, simple forefinger operation is all that is required to activate the hydraulic breaker.

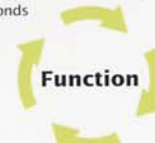


## Auto Idling System (AI)

When high engine rpm is not needed, or when control levers are left in neutral for longer than 4 seconds, the idling system automatically reduces the engine to idling rpm. When the levers are moved again, engine rpm is promptly reset to the dial-set rpm. This innovative feature not only reduces noise and exhaust emissions, but saves on fuel, energy and running costs as well.

If control levers are left neutral for more than 4 seconds

Engine rpm is reduced automatically to idling rpm



Engine rpm is reset promptly to the dial-set rpm

When levers are moved again...

## DIGITAL PANEL



Informative, interactive and functional. Kubota's Intelligent Control System keeps you in tune of the KX91-3A'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, plus 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 time comes



Low fuel display

# Enhanced maneuverability by Kubota's hydraulic tuning technology will provide easier and more precise operation.

## Engine inspection

Primary points like the engine and air cleaner can be inspected quickly and easily via the rear engine cover. Fuel filter and water separator are independently installed and both are located inside engine bonnet for the easier inspection. 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 consumption. In addition, it minimises exhaust emissions. Among a variety of Kubota engine models which are highly-renowned in the compact equipment market, the KX91-3 $\alpha$  opted for the most suitable engine for its machine size in both performance and economy. By making the D1503 reach its full potential, the KX91-3 $\alpha$  realizes reduction in fuel consumption by more than 5% compared to our conventional model, as well as realizing higher productivity at the same time. The ideal choice in both machine running costs and the environment.



## 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.



### Protected bucket cylinder hoses

The bucket cylinder hoses are routed within the arm to protect from damage. This ensures a longer service life and lower repair costs. Operator visibility is also improved.

### Boom cylinder protector

The new, thicker steel plated V-shaped boom cylinder protector safeguards against damage from attachments, rocks or loading.

### Travelling lock system

Whenever the pilot control safety lever is not engaged, the travel levers are locked mechanically to prevent unexpected machine movement especially when the operator enters or exits the cabin.



### 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 innovative two piece hose design on the dozer and boom cylinders of the KX91-3α 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.

### Boom anti-fall unit

The boom anti-fall unit located in the control valve minimizes gravity fall on the boom.

## Standard Equipment

### Engine/Fuel system

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

### Cabin

- ROPS (Roll-Over Protective Structure, ISO3471)
- FOPS (Falling Objects 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 antenna

### Undercarriage

- 300 mm rubber track
- 1 x upper track roller
- 3 x 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 Objects Protective Structure) Level 1
- Weight-adjustable full suspension seat
- Seatbelt
- Hydraulic pilot control levers with wrist rests
- Travel levers with foot pedals

### Hydraulic system

- Pressure accumulator
- Hydraulic pressure checking ports
- Straight travel circuit
- Third line hydraulic return
- Auxiliary switch on right control lever

### Safety 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

- 1275 mm arm
- 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
- Anti-theft device

### Others

- Special paint upon request

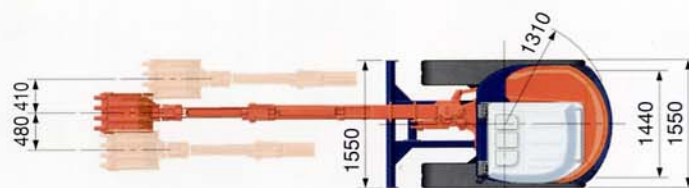
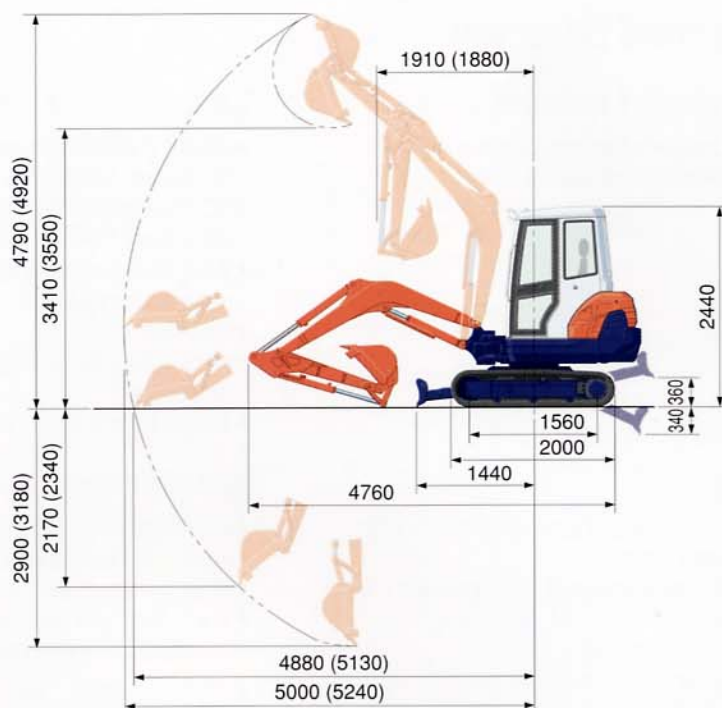


# SPECIFICATIONS

\*Rubber shoe type

Machine weight	Cabin	kg	3240	
	Canopy	kg	3130	
Bucket capacity, std. SAE/CECE		m <sup>3</sup>	0.089/0.078	
Bucket width	With side teeth	mm	495	
	Without side teeth	mm	470	
Engine	Model	DI 503-M-EBH-1-EC-N		
	Type	Water-cooled, diesel engine E-TVCS (Economical, ecological type)		
	Output ISO9249	PS/rpm	25.6/2200	
		kW/rpm	18.8/2200	
	Number of cylinders	3		
	Bore x Stroke	mm	83 x 92.4	
Displacement	cc	1499		
Overall length	mm	4760		
Overall height	Cabin	mm	2440	
	Canopy	mm	2440	
Swivelling speed	rpm	9.0		
Rubber shoe width	mm	300		
Tumbler distance	mm	1560		
Dozer size (width x height)	mm	1550 x 335		
Hydraulic pumps	P1, P2	Variable displacement pump		
	Flow rate	ℓ/min	40+40	
	Hydraulic pressure	MPa (kgf/cm <sup>2</sup> )	23.5 (240.0)	
	P3	Gear Type		
	Flow rate	ℓ/min	21	
	Hydraulic pressure	MPa (kgf/cm <sup>2</sup> )	19.6 (200.0)	
Max. digging force	Arm	kN (kgf)	18.3 (1867)	
	Bucket	kN (kgf)	29.9 (3050)	
Boom swing angle (left/right)	deg	80/50		
Auxiliary circuit	Flow rate	ℓ/min	40	
	Hydraulic pressure	MPa (kgf/cm <sup>2</sup> )	23.5 (240.0)	
Hydraulic reservoir	ℓ	36		
Fuel tank capacity	ℓ	48		
Max. travelling speed	Low	km/h	3	
	High	km/h	4.6	
Ground contact pressure	Cabin	kPa (kgf/cm <sup>2</sup> )	32.3 (0.33)	
	Canopy	kPa (kgf/cm <sup>2</sup> )	31.2 (0.32)	
Ground clearance	mm	295		

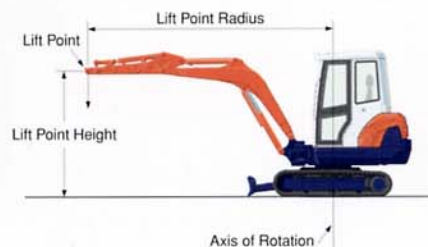
# WORKING RANGE



( ): Long Arm  
Unit: mm

# LIFTING CAPACITY

Lift Point Height	kN (ton)					
	Lifting point radius (3m)			Lifting point radius (4m)		
	Over-front		Over-side	Over-front		Over-side
	Blade Down	Blade UP		Blade Down	Blade UP	
3m	6.2 (0.63)	6.2 (0.63)	6.2 (0.63)	-	-	-
2m	7.5 (0.77)	7.5 (0.77)	7.5 (0.77)	6.7 (0.68)	5.9 (0.60)	5.4 (0.55)
1m	9.7 (0.99)	8.6 (0.88)	7.8 (0.80)	7.2 (0.74)	5.7 (0.58)	5.2 (0.53)
0m	10.9 (1.12)	8.3 (0.85)	7.5 (0.76)	7.5 (0.77)	5.6 (0.57)	5.1 (0.52)



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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