KUBOTA MINI EXCAVATOR

KX121-3α

Kubota

Introducing the KX121-3α from the recognized leader in mini excavators. Performance designed to handle all your professional needs.

Enhanced digging force

A well-balanced arm and bucket provides an operator efficient digging force. In addition, by setting the maximum operating pressure at 24.5 MPa, each digging force has been enhanced by 15 % in order to increase speed of even tough digging jobs.

New load sensing hydraulic system

Kubota introduces an advanced hydraulic system that gives a better effect on operation feeling and less fuel consumption. With this new load sensing system, the hydraulic oil flow is supplied from only one variable displacement pump. The load information on each actuator is fed back to the pump at all times and the pump distributes the appropriate oil flow to each actuator according to the amount of lever stroke. As a result, regardless of different load situations, equal movement to the hydraulic cylinder is achieved relative to the lever stroke. This makes work such as lifting and levelling much smoother. In addition, when the operation control lever is in the neutral position, the pump stops supplying unnecessary oil flow. This means the pump only supplies required oil flow. Thus, unnecessary energy waste is minimised due to eliminating excessive oil return flow to the hydraulic tank with this load sensing hydraulic system. Compared to conventional models, about 20 % of fuel can be saved carrying out similar jobs.

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.*

KX121-3α

Boom cylinder protector

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

Four simultaneous operations

When simultaneous operation of the boom, arm, bucket, and swing is required such as when loading on to trucks or lifting, the pump distributes adequate oil flow to each actuator according to the amount of lever stroke without loss of speed or power, ensuring high performance digging and dozing at all times.

ROPS/FOPS cabin (Level1)

The cabin offers maximum operator safety with its 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.

Air conditioning (Optional)

The cab's new optional deluxe air conditioning/heater can increase cooling, heating and air ventilation for greater climate control. Plus, outside air can be introduced with one touch of the external air vent.

Control levers

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

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.

The KX121-3α. Built to take excavator comfort, convenience and performance to new heights.

Proportional flow auxiliary switch

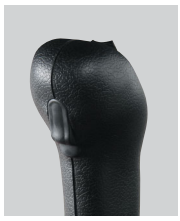
Repositioned from the floor, a convenient thumb-operated switch enables easy operation of auxiliary equipment, such as the auger and tilt bucket.

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.

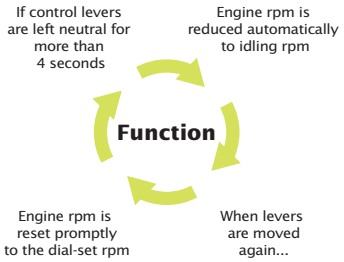
Constant oil flow switch

Any attachment that requires a constant oil flow, this ON/OFF press switch enables a simple operation.



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.



DIGITAL PANEL

Informative, interactive and functional. Kubota's Intelligent Control System keeps you in tune of the KX121-3α'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

Easier maintenance and the durable structure are the result of our considerations to enable you to work comfortably every day.

Engine inspection

Primary points like the engine and air cleaner can be inspected and maintained 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 fuel consumption. In addition, it minimises exhaust emissions. Among a variety of Kubota engine models which are highly-renowned in the compact equipment market, the KX121-3α opted for the most suitable engine for its machine size in both performance and economy. The ideal choice in both machine running costs and the environment.

Rubber crawler

On the KX121-3α, the rubber crawler design has better durability and stability when travelling. The lug pattern, with more ground contact surface and steel core positioning, are designed for better stability and less vibration when travelling. In addition, the double flange type track rollers contribute to better machine stability.

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.

Swivel negative brake

With the 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 KX121-3α 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.

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.

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
- 2 speakers and radio antenna
- Location for radio

Undercarriage

- 350 mm rubber track
- 1 x upper track roller
- 4 x outer flange type lower track roller
- 2 speed travel switch on dozer lever
- Bracket for anti-theft locking device

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

- 1300 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

- 1600 mm arm
- Telescopic arm

Undercarriage

- 350 mm steel track (+ 220 kg)

Safety system

- Overload warning buzzer
- Anti-theft device

Cabin

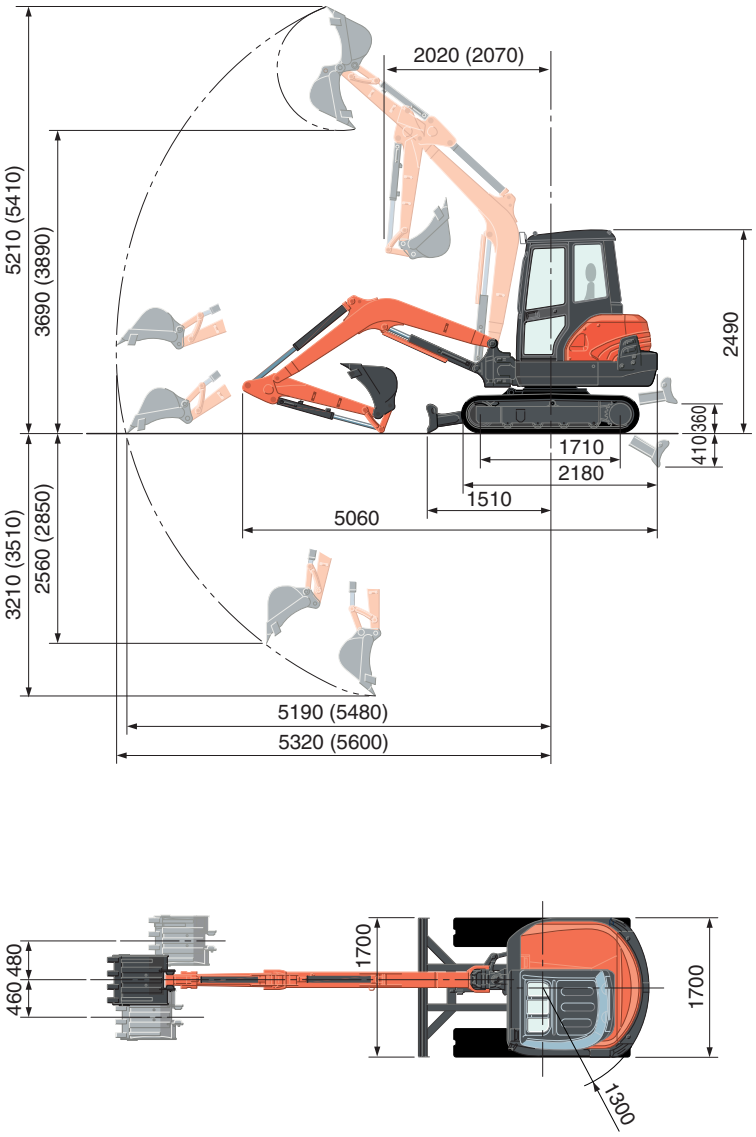
- Air conditioning

SPECIFICATIONS

*Rubber shoe type

Machine weight	Cabin	kg	3980
Bucket capacity, std. SAE/CECE		m^3	0.12/0.11
Bucket width	With side teeth	mm	624
	Without side teeth	mm	600
Engine	Model		V2203-M-EBH-2-N
	Type		Water-cooled, diesel engine E-TVCS (Economical, ecological type)
	Output ISO9249	PS/rpm	40/2250
		kW/rpm	29.4/2250
	Number of cylinders		4
	Bore × Stroke	mm	83 × 92.4
	Displacement	cc	2197
Overall length		mm	5060
Overall height	Cabin	mm	2490
Swivelling speed		rpm	9.4
Rubber shoe width		mm	350
Tumbler distance		mm	1710
Dozer size (width × height)		mm	1700 × 350
Hydraulic pumps	P1		Variable displacement pump
	Flow rate	ℓ/min	94.5
	Hydraulic pressure	MPa (kgf/cm^2)	24.5 (250)
Max. digging force	Arm	kN (kgf)	20.5 (2095)
	Bucket	kN (kgf)	32.5 (3315)
Boom swing angle (left/right)		deg	80/50
Auxiliary circuit	Flow rate	ℓ/min	60
	Hydraulic pressure	MPa (kgf/cm^2)	24.5 (250)
Hydraulic reservoir		ℓ	44
Fuel tank capacity		ℓ	64
Max. travelling speed	Low	km/h	3.0
	High	km/h	5.0
Ground contact pressure	Cabin	kPa (kgf/cm^2)	29.8 (0.304)
Ground clearance		mm	330

WORKING RANGE



LIFTING CAPACITY

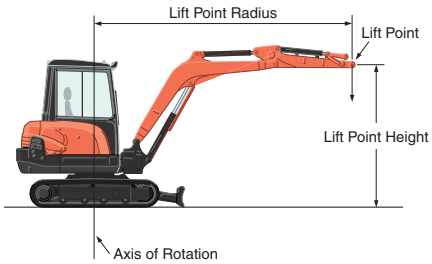
( ): Long Arm
Unit: mm

With Cabin, Rubber shore, Standard Arm — Unit:kN (ton)

Lift Point Height	Lifting point radius (3m)			Lifting point radius (max.)		
	Over-front		Over-side	Over-front		Over-side
	Blade Down	Blade UP		Blade Down	Blade Up	
3m	7.8 (0.79)	7.8 (0.79)	7.8 (0.79)	-	-	-
2m	10.0 (1.02)	10.0 (1.02)	9.4 (0.96)	-	-	-
1m	12.7 (1.29)	9.9 (1.01)	8.8 (0.90)	5.8 (0.59)	5.5 (0.56)	5.0 (0.51)
0m	13.8 (1.41)	9.6 (0.98)	8.5 (0.87)	-	-	-

With Cabin, Rubber shore, Long Arm — Unit:kN (ton)

Lift Point Height	Lifting point radius (3m)			Lifting point radius (max.)		
	Over-front		Over-side	Over-front		Over-side
	Blade Down	Blade UP		Blade Down	Blade UP	
3m	-	-	-	-	-	-
2m	8.9 (0.90)	8.9 (0.90)	8.9 (0.90)	-	-	-
1m	11.8 (1.21)	9.9 (1.01)	8.8 (0.90)	7.4 (0.76)	5.2 (0.53)	4.7 (0.48)
0m	13.5 (1.38)	9.5 (0.97)	8.4 (0.86)	-	-	-



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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