Shows its Strengths in Urban Projects Crawler Crane Equipped with iNDr

A further evolved 4.9 ton capacity crawler crane with the priority on utility on the jobsite.

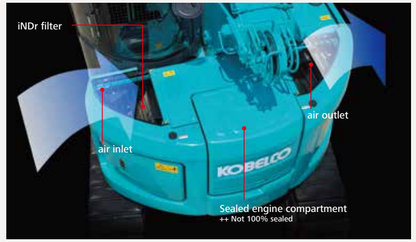
The KOBELCO 4.9 ton capacity CK series were developed to offer mini telescopic boom crawler cranes equipped with practical capacities and features, not just higher specifications.
For city sites where working space is greatly restricted, such as road and rail infrastructure under ground, trenches for utilities, foundation work for new buildings, or work on elevated bridges or rail tracks, this high-performance crawler crane series can be relied upon to get the job done.
The modified environmentally-friendly engine complies with the latest emission standards and has been improved in basic performance. As urban projects grow in number, great things can be expected of these mini CK90UR and CK120UR.

iNDr Integrated Noise & Dust Reduction Cooling System

A real difference in quietness, in reliability and in easy maintenance!

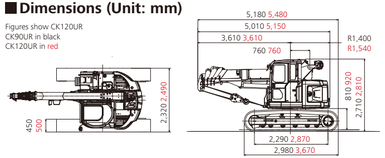
Installed with KOBELCO's unique engine cooling system "iNDr"

Already widely used in our mini and mid-sized short tail swing excavators and ultra-short swing excavators, KOBELCO's iNDr system has won fans across the whole spectrum. In this unique design, air-flow to the engine, from inlet to outlet, is kept to a single duct within which the engine and cooling equipment are sited. It represents a major advance not only in cooling performance but also in reducing noise and simplifying maintenance.

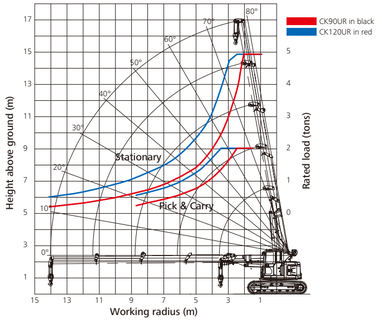


■Dimensions (Unit: mm)

Figures show CK120UR
CK90UR in black
CK120UR in red



■Working ranges & rated load curves



■Main Specification

Model		CK90UR	CK120UR
Type		CK90UR-3	CK120UR-3
Max. lifting capacity	txm	4.9×2.1 (Pick & Carry:2.0×2.5)	4.9×2.5 (Pick & Carry:2.0×3.5)
Max. working radius	kg×m	200×14.01	500×14.01
Max. lifting height (4-line)	m	15.3	15.4
Max. lowering depth from ground (4-line)	m	24.7	24.6
Boom type		Box construction, base/4 telescoping sections (2nd section extends independently; 3rd to 5th sections extend simultaneously)	
Boom length	m	4.25 ~ 14.77	
Line speed (unloaded)	m/min	104/150 (4th layer)	
Wire rope length (standard)	Φ mm×m	Φ 10×113	
Boom raising speed	sec/°	20.5 / −1°~ 80°	
Boom extending speed (full stroke)	sec/m	25.4 / 10.52	
Swing speed	min^{-1} {rpm}	2.1 {2.1}	
Travel speeds (low/high)	km/h	2.6 / 5.3	1.8 / 3.0
Engine	Model	Isuzu 4LE2XDPC	
	Type	Direct injection diesel, with turbocharger	
	Rated output kW/min^{-1} {PS/rpm}	41 / 2,000 {56 / 2,000}	
Fuel tank	ℓ	95	
Hydraulic oil	ℓ	Total 83 (Tank 50)	
Operating weight	kg	9,700	12,470
Shoe width	mm	450	500
Ground pressure	kPa {kgf/cm^2}	46.2 {0.47}	42.6 {0.43}

Units are SI units. { } indicates conventional units.
Data with MT crawler pads.

■Rated Load (Unit: kg)

Boom length	4.25 m		6.88 m		9.51 m		12.14 m	14.77 m
Working radius (m)	Stationary	Pick & Carry	Stationary	Pick & Carry	Stationary	Pick & Carry	Stationary	Pick & Carry
1.0	4,900	2,000						
	4,900	2,000						
1.5	4,900	2,000	4,900	2,000	2,600	1,400		
	4,900	2,000	4,900	2,000	2,600	1,400		
2.0	4,900	2,000	4,900	2,000	2,600	1,400	2,000	
	4,900	2,000	4,900	2,000	2,600	1,400	2,000	
2.1	4,900	2,000	4,900	2,000	2,600	1,400	2,000	
	4,900	2,000	4,900	2,000	2,600	1,400	2,000	
2.5	3,820	2,000	3,780	2,000	2,600	1,400	2,000	1,400
	4,900	2,000	4,900	2,000	2,600	1,400	2,000	1,400
3.0	2,920	1,600	2,990	1,640	2,330	1,250	2,000	1,400
	4,650	2,000	4,690	2,000	2,600	1,400	2,000	1,400
3.5	2,310/ 3.49 m	1,270/ 3.49 m	2,430	1,340	2,030	1,090	1,910	1,400
	3,740/ 3.49 m	2,000/ 3.49 m	3,850	2,000	2,600	1,400	2,000	1,400
4.0			2,000	1,100	1,770	950	1,670	1,400
			3,130	1,720	2,600	1,400	2,000	1,400
4.5			1,670	910	1,550	830	1,470	1,330
			2,650	1,450	2,580	1,400	2,000	1,400
5.0			1,400	770	1,360	730	1,300	1,230
			2,250	1,230	2,340	1,260	2,000	1,400
6.0			1,000	550	1,040	560	1,030	1,020
			1,700	930	1,800	960	1,720	1,400
7.0			950/ 6.12 m	520/ 6.12 m	800	430	820	860
			1,650/ 6.12 m	910/ 6.12 m	1,440	770	1,470	1,270
8.0					600	320	650	720
					1,180	640	1,230	1,130
9.0					430/ 8.75 m	230/ 8.75 m	520	590
					1,030/ 8.75 m	550/ 8.75 m	1,040	990
10.0							410	470
							890	860
12.0							270/ 11.38 m	300
							730/ 11.38 m	650
14.0								200
								500
14.01								200
								500

Upper figs for CK90UR; lower figs for CK120UR
Loads: 4 parts of line (hook)

Notes

1. Working radius is horizontal distance from the crane's swing center to the center of gravity of suspended load.
2. Ratings according to Japanese construction codes for mobile cranes.
3. Rated loads include the weight of the hook block, sling wire rope, and other tackle.
4. Even with rated loads, the operator is responsible for making appropriate judgments to reduce load or working speed in accordance with wind strength, state of ground, working speed or other condition that may be thought detrimental to safe operations.
5. Empty spaces on the chart mean that crane operation is not possible.
6. For actual loads that can be lifted, weight of the hook, slings etc. must be subtracted from the rated load. **Hook weight 60 kg (for both 4.9 t lifting/4 parts of line, and 2.45 t lifting/2 parts of line); 25 kg (1.4 t lifting/1 part of line)**
7. Lifted loads during travel are loads lifted while crane is stationary, before travel on firm and level ground. In this case, the load must be kept close to the ground to prevent swaying, and sudden starts and stops, sharp turns etc. should be avoided.
8. Before travelling with suspended load, switch moment limiter to travel with load.
9. While traveling with suspended load, stop other crane operations such as load lifting or lowering, boom raising, extension/contraction, swing etc.
10. Speed when travelling with suspended load must not exceed 1.4 km/h (low speed)

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KOBELCO

Mini Telescopic Boom Crawler Crane
CK90UR/CK120UR

CK90UR CK120UR

This catalog is based on Japanese specification and standard.
Some of the specifications described in this catalog may not be available in all countries.
The specifications in this catalog are subject to change without any notice.

We Save You Fuel
Achieving a Low-Carbon Society

4.9 ton lifting capacity, mini crawler crane CK90UR CK120UR

Noticeable difference in performance on the job

High strength combined with light weight

5-part telescopic boom

Thick steel plate and a large cross section provide the strength needed by the automatic extending boom. Boom length is kept to the minimum necessary to minimize weight, which delivers high lifting capacity within the stability zone. The shape of the boom tip allows the boom to be raised higher, for maximum benefit from its excellent lifting capacity even where there are height restrictions.

Capacity settings focusing on task frequency

Practical lifting capacities

Ideal capacities for most frequent lifting tasks within 5-10 m radius

■ **Lifting capacities in 5 m working radius**

CK90UR: 1,400 kg
CK120UR: 2,340 kg

■ **Lifting capacities in 10 m working radius**

CK90UR: 470 kg
CK120UR: 890 kg

Large-diameter, wide drum

Large capacity winch

Our unique layout locating large capacity winch within the upper frame and positioning the sliding sheave behind the winch keeps the appropriate fleet angle.

Loads can be lowered deep under ground

Deep lowering under ground

The 113 m wire rope supplied as standard makes it possible to lower to a depth of more than 24 m with 4 parts of line. 160 m wire rope can be supplied as an option.

■ **Max. lowering under ground**

CK90UR: 24.7 m (4 parts of line)
CK120UR: 24.6 m (4 parts of line)

Wire rope resists twisting

Smooth lifting and lowering work

Large diameter (φ200 mm) hook sheave installed to stop wire rope twisting during lifting and lowering.

Dedicated hydraulic system

Excellent inching control

Soft start-up and smooth simultaneous operations make for easy control without causing the load to swing. And a lighter force required for both lever control and foot accelerator reduces operator fatigue over lengthy working periods.

Unhindered operation in confined spaces

Compact design

The short tail swing radius of the upper body and the short boom overhang make maneuvering easy in tight spaces. Facing the front, the upper body does not protrude beyond crawler length to the rear.

Use of lights over long periods

Large capacity alternator

50A alternator installed as standard. Long periods of working with lights are hard to drain the battery, for unimpeded working at night or in tunnels.

New-dimension maintenance control shows the KOBELCO difference

Unique patented design

Front positioned winch layout

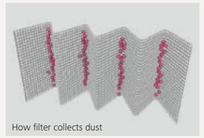
By positioning the winch directly below the boom, winding can be checked visually from the cab and problems such as irregular winding can be dealt with swiftly. The wire rope can be replaced from the ground, without climbing on the machine.

Reliability of iNDr

Ideal heat balance

Even on enclosed and dusty sites, the 60 mesh of the iNDr filter is effective in blocking dust and preventing loss of performance due to clogging of the cooling equipment. Overheating is also avoided.

60 mesh: a 60-aperture grid per inch of mesh



How filter collects dust

iNDr Integrated Noise & Dust Reduction Cooling System

Reducing the work of cleaning the cooling equipment

Simplified daily cleaning

For daily maintenance all that is needed is a visual check of the iNDr filter fitted over the air inlet. When dirty it can be removed and cleaned with an air blower. The radiator and oil cooler suffer minimal clogging.

Easy access for equipment maintenance

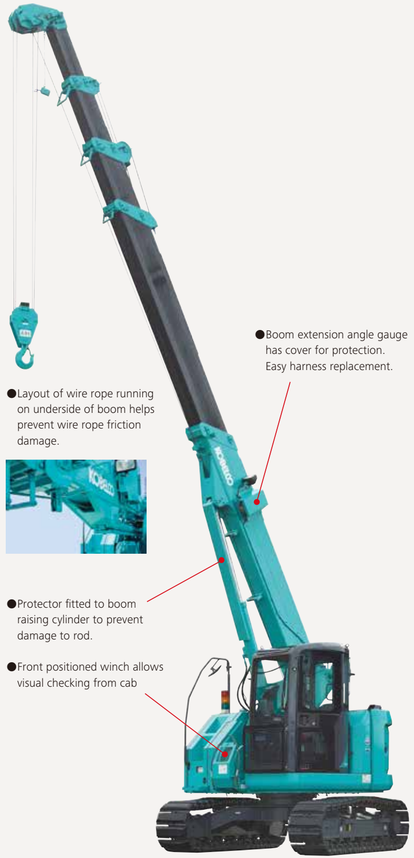
Wide-opening bonnet

The bonnet is designed to open wide from a low position. Equipment such as the air cleaner, engine oil filter and radiator reserve tank are positioned to be easy to see and reach so that maintenance can be completed swiftly from the ground.

Easily accomplished, at lower frequencies

Lighter maintenance burden

- Long life hydraulic oil needs changing only at 5,000-hour intervals, saving on costs and manpower.
- Long life (1,000-hour), high performance "super fine filter" for hydraulic oil fitted



- Boom extension angle gauge has cover for protection. Easy harness replacement.
- Layout of wire rope running on underside of boom helps prevent wire rope friction damage.

- Protector fitted to boom raising cylinder to prevent damage to rod.
- Front positioned winch allows visual checking from cab

New-generation environmental performance, and wide range of safety features

New environmental engine

PM emissions cut: Limits creation of particulate matter (which results from incomplete combustion of fuel)

- **Common rail system**

High-pressure injection atomizes the fuel, and more precise injection improves combustion efficiency. This also contributes to better fuel economy.

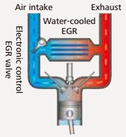
- **DOC (Diesel Oxidation Catalyst)**

The DOC contains a flow-through filter (FTF) that traps the soot component of the emissions, and through a continuous redox reaction process turns it into less harmful carbon dioxide and water. The FTF does not clog up and is maintenance-free.

NOx emissions cut:
Reduces nitrous oxides

- **EGR cooler**

While ensuring sufficient oxygen for combustion, cooled emission gases are mixed with the air intake and recirculated into the engine. This reduces oxygen content and lowers combustion temperature.



New-dimension quietness noticeable in enclosed spaces

Ultra low noise

Operating noise is extremely low due to the iNDr system, and machine has Japanese government ultra low noise designation. Unprecedented quietness for working in tunnels, below ground, at night, etc.

93dB(A)

Spacious cab and wide visibility

Wide cab

Cab interior offers a comfortable operating space with plenty of legroom, to minimize fatigue. Wide visibility to the front and above makes it easy to check safety. A guard is fitted to the lower half of the front window.

- Front half guard

- Level gauge

- FM/AM radio and air conditioner

For uninterrupted work progress

Trouble avoidance features

- Winch with device to prevent irregular winding

- Winch guard prevents dragging

- Prevention device to keep the hook stationary during traveling

- Handrail

Allowing for human error

Various safety features

- Boom height limiting device
- Overload/over-hoist prevention device with automatic stop function
- Automatic winch brake
- Sling wire detachment prevention
- Hydraulic cylinder automatic locking mechanism

Ensuring safety for all on site

Concerns for site environment

- Swing flashers

- Overload external warning light

- Rear view camera and color monitor (option)

- Travel/swing alarm (option)
- Rear working light (option)

Easy transportation

Height allows truck transportation

■ **Machine body overall height**

CK90UR: 2,710 mm
CK120UR: 2,810 mm