

CKE1100

KOBELCO

HYDRAULIC CRAWLER CRANE

CKE1100

CRANE BOOM

Max. Lifting Capacity: 110 tons × 3.6 m*

Max. Boom Length: 70.1 m

FIXED JIB

Max. Lifting Capacity: 10.9 tons × 22.0 m

Max. Fixed Jib Combination: 61.0 + 21.3 m



*Auxiliary sheave is necessary.

The CKE1100 crawler crane from KOBELCO takes advantage of new technologies to raise performance to new heights. New winches with extremely powerful line-pull handle the toughest jobs, while the innovative "wet-type" multi-disc braking system provides safe and sure control with minimal maintenance. Large winch capacities promote ultra-smooth operation and enhanced component service life. An optional large size third winch enables the use of an impressive selection of attachments. Add these new features to the renowned power and reliability of KOBELCO cranes, and you have the ideal combination of lifting performance, economical operation and tough durability.

CKE1100 Five Major Features

1

Excellent Performance for Diverse Applications

2

High-Performance Winch Accommodates a Wide Range of Jobs

3

Excellent Cab with Enhanced Functions

4

Excellent Transportability and Assembly

5

Safe, Environmentally-Conscious Design

KOBELCO's Awesome New Expression of Power, Speed and Efficiency!

TECHNOLGY AND POWER

For precise and varied operation

Excellent Performance for Diverse Applications

Versatile Operation

The CKE1100 has the power, structural strength, safety specs, and nimble operability needed to accommodate all kinds of jobs, from standard crane work to high-rise lifting and material handling work.

Crane Boom

Max. Lifting Capacity:

110 tons × 3.6 m*

Max. Boom Length:

70.1 m

Fixed Jib

Max. Lifting Capacity:

10.9 tons × 22.0 m

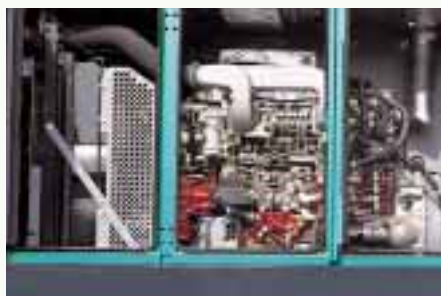
Max. Fixed Jib Combination:

61.0 m + 21.3 m

*Auxiliary sheave is necessary.

High-Output Engine

The engine has an impressive rated output of 247kW and complies with NRMM (Europe) Stage IIIA and US EPA Tier III exhaust emissions regulations. All of this power works with KOBELCO's unique Engine Speed Sensing (ESS) control system and new hydraulic systems to ensure stable and smooth simultaneous operations.



Engine Output:

247 kW

Meets NRMM (Europe) Stage IIIA

High-Speed Lifting Increases Work Efficiency

The main and auxiliary winches deliver a fast maximum hoisting and lowering speed of 120 m/min that improves operational efficiency on high-rise jobs.

Max. Line Speed (First layer):

120 m/min

On-Site Maneuverability

Independently driven hydraulic travel motors with planetary reduction units provide three steering modes (differential steering, skid steering and counter rotation) for optimal on-site maneuverability.

Max. Travel Speed:

1.4 km/h

Selectable Swing Modes to Match the Job at Hand

■ Free Swing Mode (High/Low):

This mode is designed for material handling and other cycle-duty operations that require consecutive swing cycles. The swing is completely free and can be operated at High or Low speed to suit job requirements.

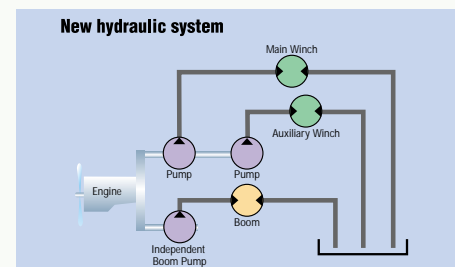
■ Neutral Brake Swing Mode:

When the crane is working on a slope in Free Swing Mode, it may swing in an unintended direction as soon as the swing parking brake is released. To prevent this, the Neutral Brake Swing Mode reduces operating speeds by lowering the flow of oil in the hydraulic circuit, thus making swing starts and stops easy to control when working on a slope or in windy conditions. Swing speed is also reduced in this mode to prevent the load from moving sideways.



New Hydraulic System Improves Simultaneous Operations

In a conventional series hydraulic circuit (a conflux hydraulic circuit), the boom winch is driven by the same hydraulic pump that drives the main or auxiliary winches. This can result in hydraulic pressure interference that reduces line speed when the hook and boom are hoisted or lowered simultaneously. The CKE1100 features independent hydraulic circuits for the main, auxiliary, and boom hoist winches, thereby eliminating interference. The circuits can be operated simultaneously with lower shocks and virtually no speed reductions, regardless of winch speed or load condition.



Control Levers Connected Directly to Pilot Valves for Smooth Operation

The control levers regulate the pilot valves directly to reduce the amount of play and ensure smooth, precise hoisting start-ups and inching. Control is light and sure, with almost no clatter even over long operating periods.



■ The speeds of the main winch, auxiliary winch and boom hoist can be set independently with trimmer controls.



■ Hydraulic pilot system detects swing reaction force.



■ Electric throttle with a twist grip ensures sensitive engine control.

■ Red switch on the boom lever grip allows easy inching control for hoist, boom hoist, and travel. The operator can activate it without taking his hands off the boom hoist lever.



Durable operation for the toughest jobs

High-Performance Winch Accommodates a Wide Range of Jobs

Wide, Large-Capacity Winches for Smooth High-Rise Work

The wide hoist winches provide an impressive spooling capacity of 42.4 m on the first layer with a 26 mm hoist rope. Their large capacity and large diameter help to prevent uneven spooling and wear while ensuring smooth operation for high-rise work.

Spooling Capacity (First-Layer):

42.4 m



Large Third Winch (Optional)

Because of KOBELCO's innovative internal disc brake system and side engine layout, the optional third winch is almost identical in size to the main and auxiliary winches, allowing for more attachment options and better operation coordination.



Winches with a Powerful Line Pull Handle Hard Work with Ease

Through the efficient match-up of a high-output engine and high-performance hydraulic motors, the winches deliver plenty of line pull for single-line work. There's also ample capacity for heavy loads when they first clear the ground, and other tough jobs.

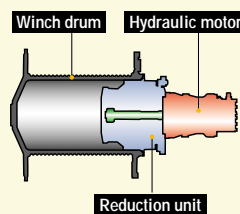
Rated Line Pull (Single Line):

108kN {11.0 tf}

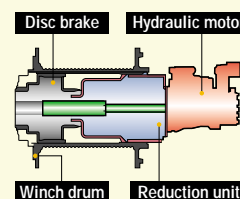
Power Lowering and Optional Free-Fall

A choice of either power lowering mode or free-fall mode can be selected for the winch drum according to requirements.

Non Free-Fall Winch



Wet-Type Disc Brake System



KOBELCO's new oil cooled wet-type multi-disc brake system is first in its class and provides quiet, dependable braking power. The multiple discs are self-adjusting and self-equalizing. Forced-oil circulation keeps brake temperatures cooler during long, continuous operations and ensures smooth braking. The completely enclosed system eliminates the possibility of outside contamination, providing years of problem-free service life. In optional free-fall mode, the brake pedal is easily depressed to reduce operator fatigue.

Maintenance-Free Winches

Both types of winches are maintenance-free. The built-in wet-type disc brake for the free-fall winch has a forced-oil cooling system to prevent overheating, and requires no band adjustment or lining replacement.

Environmentally Friendly Design

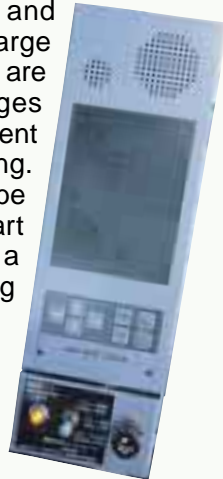
Because there's no brake band, the brake operates quietly and doesn't generate lining dust.



Excellent Cab with Enhanced Functions

Multi-Function LMI Display

The newly designed load moment indicator (LMI) system features a large, easy-to-read LCD display. The rated load, actual load, load ratio, and other information are displayed in large characters. Warnings and other items are displayed in color, and text messages and alarms alert the operator to prevent dangerous conditions from developing. Other information can also be displayed, including a rated load chart and rated load curve, in addition to a function that regulates the working range.



Multi Display

The easy-to-read LCD multi display provides information on the current status of such functions as engine rpm, maintenance, and on-board troubleshooting, so that the operator has an ongoing, real-time assessment of the machine's conditions at a glance.

Normal Displays

- Engine speed (Lifting height^{*)})
- Engine oil change interval
- Reeving number for the main/aux winch wire rope
- Low-speed switch status

^{*} With the optional lifting height gauge installed

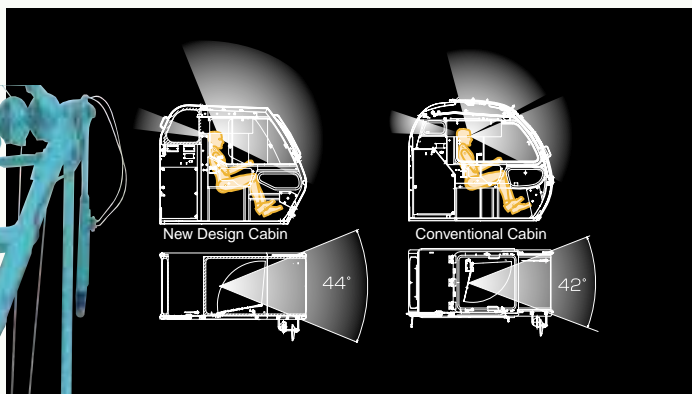
Warning Displays

- Warning (malfunction, maintenance information, etc.)
- Self-diagnostic function (detects malfunctions in solenoid valves, sensors, etc.)



Clear, Panoramic View

The CKE1100 has a new cabin design with sash-less front and top glass that provides a panoramic frontward and skylight view. The glass also has less curvature to minimize distortion. The front upper window has been broadened on both sides for a view that is 31 % wider than a conventional cab, while the top-window view is widened toward the rear.



Comfortable 940mm-Wide Cab

- Air conditioner
- Fully adjustable, high backed seat with a headrest and armrests
- Intermittent wipers and window washers ■ Sun visor ■ Roof blind



■ Luggage tray



■ Cup holder

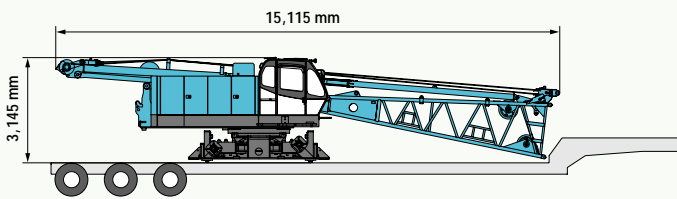
To ensure safe assembly and increase actual working hours

Excellent Transportability and Assembly

Base Machine Width of 3.2 m Designed for Easier Transport

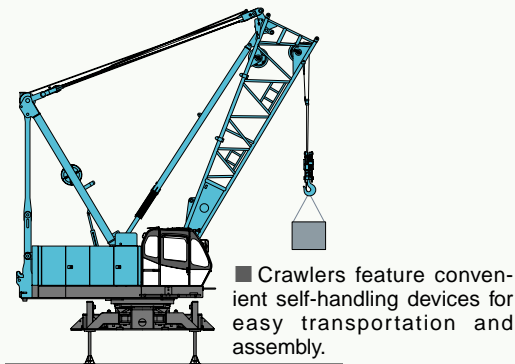
With a base machine width of just 3.2 m, the CKE1100 is designed for easy transport. Total transportation weight (including boom base, gantry and carbody) is 40.7 tons, complying with transport regulations in Europe and helping to reduce the number of trailers required.

Transport width: 3.2 m Transport weight: 40.7 tons



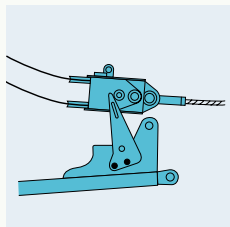
Self-Removal Device

KOBELCO has designed the CKE1100 to be assembled and disassembled without the need of an assist crane by employing a counterweight self-handling system.



Upper Spreader Storage Guide

Upper spreader storage guides make it easy to connect guy cables.



Boom Assembly/Disassembly Mode

The boom assembly/disassembly mode, which is used to release the over-hoist prevention function to facilitate boom assembly and disassembly, is activated with a switch located under the multi-function LCD display of the load moment indicator (LMI). (This switch is different from the switch that releases the auto-stop functions for over-load and hook over-hoist.) When the boom is lifted to a certain angle, it is automatically deactivated and the LMI function is automatically re-engaged to ensure that the boom assembly/disassembly function is used only when needed.



No compromise in KOBELCO's safety policy

Safe, Environmentally-Conscious Design

Automatic Soft-Stop Function Reduces Shocks

This function is activated automatically when boom lowering or boom hoisting is stopped by the over-load prevention system and the over-hoist prevention system. It makes for a smooth stop and reduces dangerous swinging of the load.

Automatic Stop Release Switch with Safety Function

The automatic stop system prevents over-load, hook over-hoist and boom over-hoist. To deactivate the system, a two-stage release procedure is employed that uses a master key and separate switches. This makes it easy to supervise the use of the single key and prevent unauthorized release of the automatic stop system.



Safety Functions of the Optional Free-fall Winch


■ Free-fall with Monitoring and Lock Functions

Free-fall operations can only be initiated by releasing the lock using a key switch. Unless the lock is released, free-fall cannot occur even if the switch is put in the "neutral-free" position. Also, to prevent the free-fall mode from being activated accidentally because of system malfunction, a monitoring function monitors the free-fall clutch cylinder pressure in the winch.

■ Free-fall Switch with Interlock

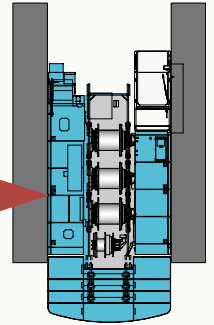
The free-fall switches are strategically located on the hoist levers, allowing the operator to engage free-fall without removing his hands from the control levers. To prevent the load from accidentally dropping, the interlock function makes it impossible to initiate free-fall unless the foot brake is fully depressed.



 To prevent the load from accidentally dropping because of operator error, do not use free-fall when lifting.

Side-Engine Layout for Easy Maintenance

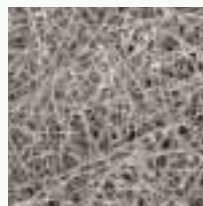
A new engine layout on the side of the machine provides easy access for routine inspections and servicing. Maintenance crews can access the entire power plant just by opening the side door.



Super-Fine Filter, a Long-Life Filter for Hydraulic Oil

The large-capacity, super-fine filter is made of a high-performance filter medium consisting of glass fiber reinforced with steel wires. The replacement cycle is extended to four times longer than that of conventional filters to reduce lifelong operating costs.

Photomicrograph ($\times 250$)



Super fine filter
(glass fiber)



Conventional filter
(paper fiber)



Conforms with European Exhaust-Gas and Noise Regulations

The CKE1100 meets NRMM Stage IIIA exhaust emissions regulations in Europe, and is designed with advanced KOBELCO low-noise construction technologies to comply with European Noise Regulations.

Other Safety Features



■ Function lock lever helps prevent accidental operation when the operator enters or leaves the cab.



■ Directional markings on the crawlers make it easy to see which direction the crawlers will move.



■ External lamp for over-load alarm notifies surrounding workers of the load condition.



■ One-way call supports the safety of onsite personnel (optional).

■ Swing flashers and warning buzzer warn surrounding workers when the machine is swinging.

■ Cameras and color monitor provide views of the rear of the machine, and the main and auxiliary winches (optional).

■ Main Specifications (Model: CKE1100)

Crane Boom	
Max. Lifting Capacity	110 t/3.6 m***
Max. Length	70.1 m
Fixed Jib	
Max. Lifting Capacity	10.9 t/22.0 m
Max. Combination	61.0 m + 21.3 m
Main & Aux. Winch	
Max. Line Speed	120 m/min (1st layer)
Rated Line Pull (Single Line)	108 kN {11.0 tf}
Wire Rope Diameter	26 mm
Wire Rope Length	265 m (Main) 235 m (Aux.)
Brake Type	Spring set hydraulically released multiple disc brake (Negative)
Free-Fall Brake Type	Wet-type multiple disc brake (Optional)
Working Speed	
Swing Speed	3.2 min ⁻¹ {rpm}
Travel Speed	1.4/1.0 km/h

Power Plant	
Model	Hino P11C-UN
Engine Output	247 kW/2,000 min ⁻¹ {rpm}
Fuel Tank Capacity	400 liters
Hydraulic System	
Main Pumps	4 variable displacement
Max. Pressure	31.9 MPa {325 kgf/cm ² }
Hydraulic Tank Capacity	535 liters
Self-Removal Device	
	Standard counterweight removal
Weight	
Operating Weight*	Approx. 99 t
Ground Pressure*	92.9 kPa {0.95 kgf/cm ² }
Counterweight	34.0 t
Transport Weight**	Approx. 40.7 t

Units are SI units. { } indicates conventional units.

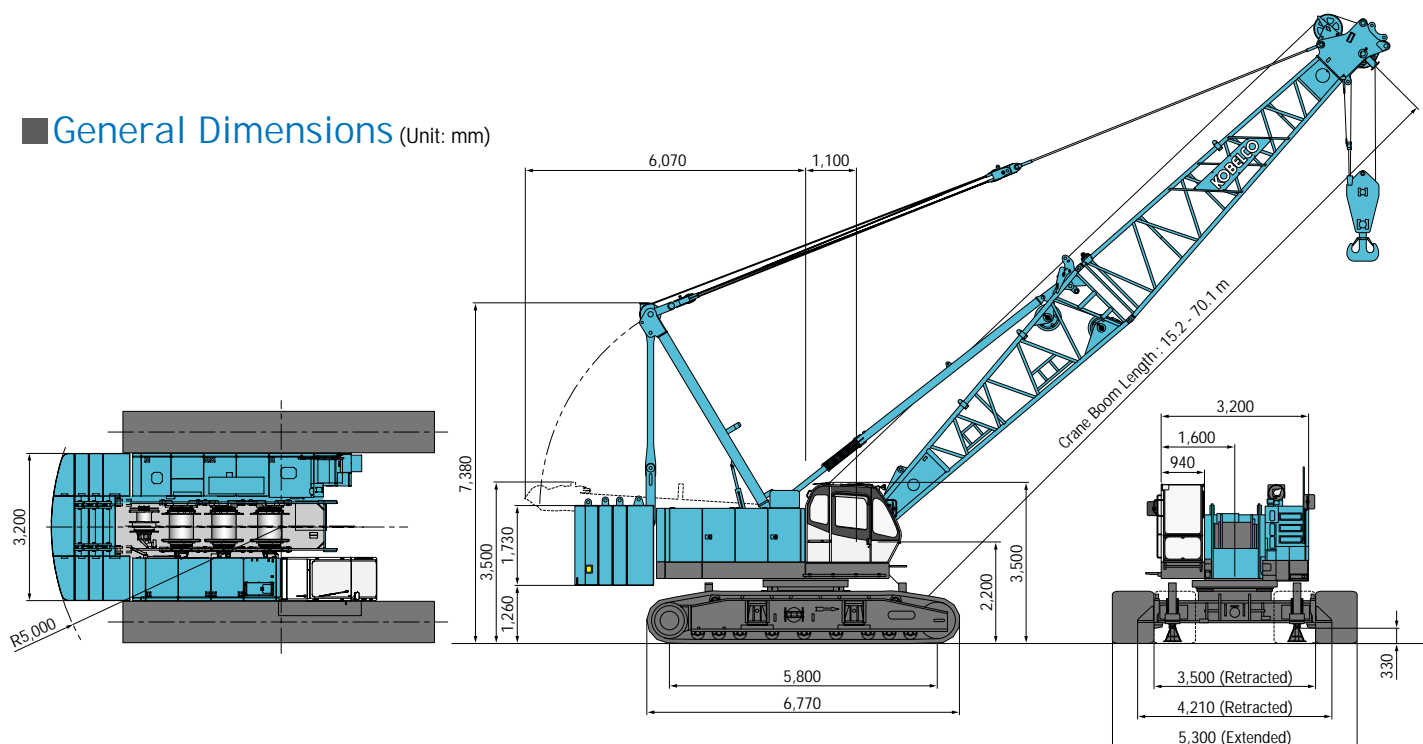
Line speeds in table are for light loads. Line speed varies with load.

* Including upper and lower machine, 34.0 ton counterweight, basic boom, hook, and other accessories.

** Base machine with gantry, boom base, carbody, trans-lifter, wire ropes, lower spreader and upper spreader.

***Auxiliary sheave is necessary.

■ General Dimensions (Unit: mm)



Note: This catalog may contain photographs of machines with specifications, attachments and optional equipment not certified for operation in your country. Please consult KOBELCO for those items you may require. Due to our policy of continual product improvements all designs and specifications are subject to change without advance notice.

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