7055-3F/7070-1F

KOBELCO

HYDRAULIC CRAWLER CRANES

7055

Crane Boom

Max. Lifting Capacity:

55t×3.7m

Tower Jib

Max. Lifting Capacity:

12t×10.0m

7070

Crane Boom

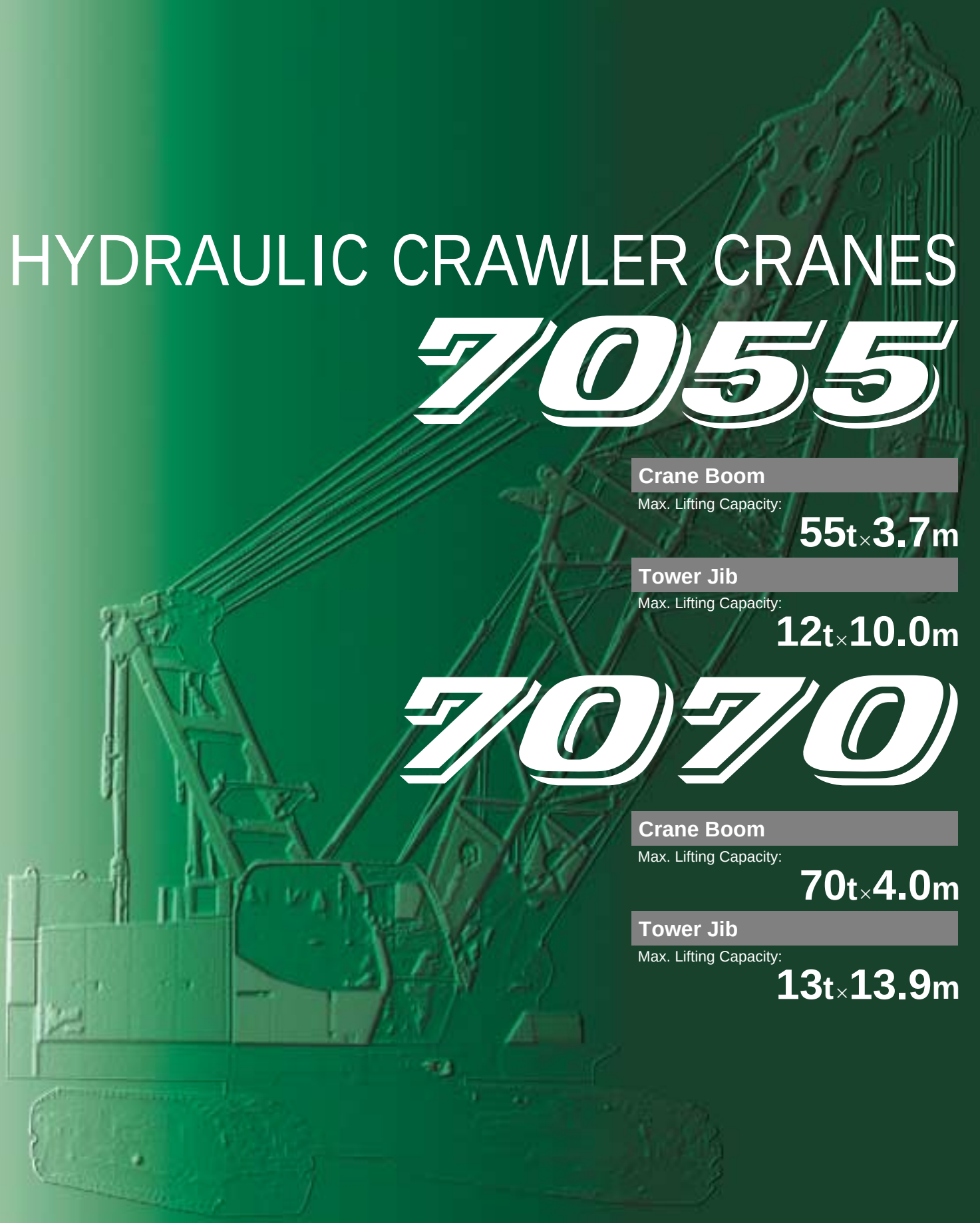
Max. Lifting Capacity:

70t×4.0m

Tower Jib

Max. Lifting Capacity:

13t×13.9m



Technology and Power
The Pride of KOBELCO

7055/7070 Hydraulic Crawler Crane
The Difference Is in Its Basic Performance

KOBELCO's 7055/7070 hydraulic crawler crane features new technologies that raise performance to a new height.

Precise, high-elevation crane jobs depend on accuracy and speed, while lifting for general construction jobs demands reliable safety and a sufficient working area.

The versatile 7055/7070 fully meets all of these requirements in one, tough unit. Its powerful hoist winches can easily handle precise, continuous jobs, while the new hydraulic system, working in combination with a large drum capacity, delivers ultra-smooth operation.

Of course, KOBELCO is renowned for its productivity-boosting technical advances, backed by extensive worldwide experience in the construction machinery field. The 7055/7070 exemplifies this engineering excellence, offering reliable durability, excellent lifting performance, economical transportation, smooth control functions and a wide range of safety features. In short, this powerhouse can handle all types of crane jobs, ensuring utmost customer satisfaction.

Photos in this catalogue may include optional itemes.

Hydraulic Crawler Crane 7055/7070

5 Major Features

1. Global Design Super-Structure
2. High-Performance Winch Accommodates a Wide Range of Jobs
3. Smooth Operation and Control
4. Reliable Safety Features
5. Multi-Function LMI Display

For customer satisfaction

Global Design Super-Structure

Complies with Worldwide Exhaust Gas Regulations

With its low pollution engine, the 7055/7070 meets NRMM (Europe) Stage IIIA and US EPA Tier III exhaust emissions regulations.

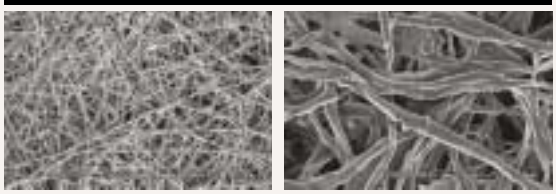
Complies with Japanese Noise Regulations

The 7055/7070 is designed with advanced KOBELCO low-noise construction technologies, as specified by the Japanese Ministry of Land, Infrastructure and Transport.

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 (×250)



●Super fine filter (glass fiber)　●Conventional filter (paper fiber)

High-Output Engine

The engine has an impressive rated output of 159 kW 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:
159kW
Meets NRMM (Europe) Stage IIIA

Versatile Operation

The 7055/7070 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.

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:
2.4km/h
(7055)

Max. travel speed:
1.9km/h
(7070)

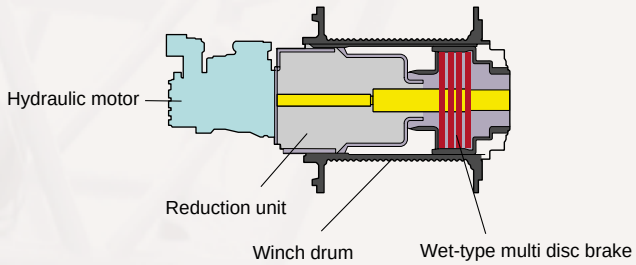
Durable operation for the toughest jobs

High-Performance Winch Accommodates a Wide Range of Jobs

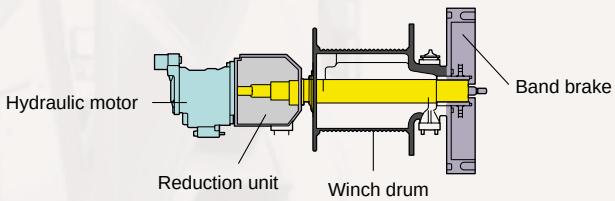
Winches with Built-In Wet-Type Disc Brakes

KOBELCO's proprietary winch mechanism features a built-in wet-type multi disc brake and reduction unit. This innovative design delivers greater braking power, more drum capacity and easier maintenance than ever before.

Wet-Type Multi Disc Brake system



Conventional Brake System



Wet-Type Disc Brake System

KOBELCO's new oil cooled wet-type multi disc brake system 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 free-fall mode, the brake pedal is easily depressed to reduce operator fatigue.

Built-in brake disc

Maintenance-Free Winch

Winches are maintenance-free. The built-in wet-type disc brake 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.

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

The wide hoist winches provide an impressive spooling capacity of 40 m on the first layer with a 22 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):

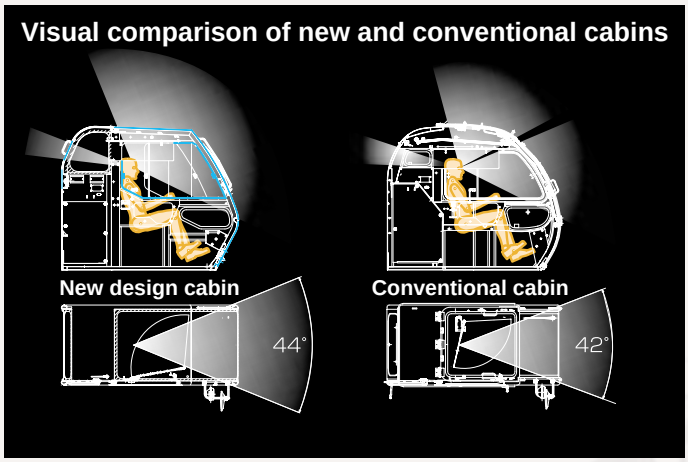
40m

Large Third Winch (Optional)

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

For greater work efficiency

Smooth Operation and Control



Clear, Panoramic View

The 7055/7070 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
- Cup holder
- Roof blind
- Luggage tray

High-Speed Lifting Increases Work Efficiency

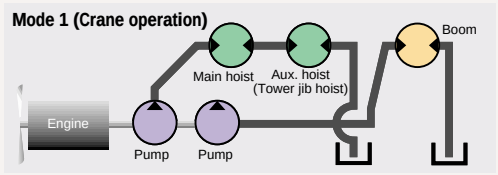
The main, auxiliary and optional third winches deliver a fast maximum hoisting and lowering speed of 120 m/min that improves operational efficiency on high-rise jobs.

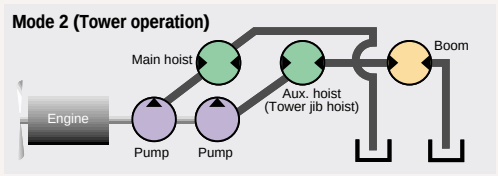
Max. line speed (First layer):

120m/min

New Hydraulic System

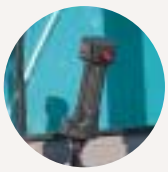
A choice of two hydraulic modes optimizes hydraulic performance in all working configurations by preventing interference during simultaneous operations. In Mode 1, designed for crane operations, one pump drives the main hoist and auxiliary hoist winches and the other pump hoists the boom winch. In Mode 2, designed for tower specifications, one pump drives the main hoist winch and the second pump drives the auxiliary hoist winch (for hoisting the tower jib) and hoists the boom.





Winch Speed Controller

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.
■Drum rotation sensor allows the operator to detect the start of hoisting and lowering (main and aux. winches only) by touching the top of the hoisting lever grip (optional).

■Luggage tray

■Cup holder

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.

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.

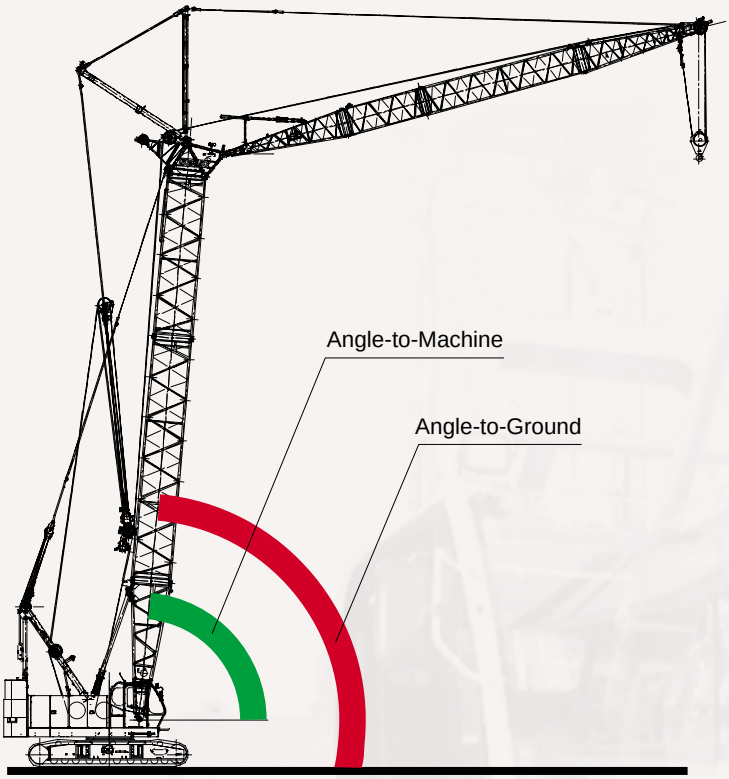
■Neutral Brake Swing Mode:
When the crane is working on a slope in Free Swing Mode, it may swing in an unintended direction as soon as the swing parking brake is released. To prevent this, the Neutral Brake Swing Mode reduces operating speeds by lowering the flow of oil in the hydraulic circuit, thus 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.

No compromise in KOBELCO's safety policy

Reliable Safety Features

Two-Stage System to Prevent Boom and Jib Over-Hoists

With primary and secondary over-hoist prevention devices, this new safety system can prevent boom over-hoist at two stages. The primary stop function is activated when the boom or tower approaches the critical angle-to-ground during hoisting. This new system monitors the angle-to-ground of the boom, tower or jib with a sensor, and swiftly alerts the operator of danger. For the tower, the angle-to-machine is also monitored at this stage. The secondary stop function uses a device that monitors the angle-to-machine of the boom, tower or jib through a limit switch fitted to the boom and jib backstops. It stops the machine automatically to prevent it from working outside of the safety range, and once activated it cannot be cancelled.



Automatic Soft-Stop Function Reduces Shocks

This function is activated automatically when boom or tower jib 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.

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 during lifting work.

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.
- Swing flashers and warning buzzer warn surrounding workers when the machine is swinging.
- One-way call supports the safety of onsite personnel (optional).
- External lamp for over-load alarm notifies surrounding workers of the load condition (optional).


●Function lock lever

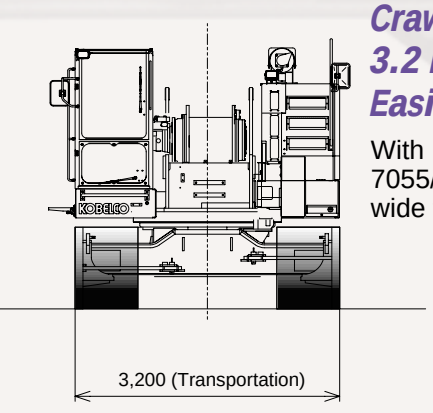

●Directional markings


●Swing flashers


●One-way call (optional)

Efficient Transportability and Assembly

- The base machine, with boom base attached, has a transport weight of less than 50 tons.
- Horizontally stacked counterweights are easy to assemble/disassemble and transport.
- Boom can be easily assembled with cantilever style up to a length of 36.6m.
- Intermediate support cables are not reguired for boom self-erection.
- Double-tapered pins for boom base enable the boom to be safely assembled/disassembled from the outside.
- The upper spreader storage guides make it easy to connect guy cables.
- Gantry raising/lowering cylinder, as standard equipment, makes gantry-raising easy.
- Powerful crawler extender smoothly extends and retracts crawlers even on pavement.



Crawler Retraction to 3.2 m Designed for Easier Transport

With its crawlers retracted, the 7055/7070 measures just 3.2m wide for easy transport.

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.

For better man-machine communication

Multi-Function LMI Display

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.

●LMI display

●Over-load alarm display

●Boom over-hoist alarm display

●Rated load display

●Rated load curve display

●Working area limit display

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 trouble-shooting, so that the operator has an ongoing, real-time assessment of the machine's conditions at a glance.

●Normal Displays

Engine speed (Lifting height*1)
Engine oil change interval
Reeving number for main/aux winch wire rope
Low-speed switch status
Wind speed*2

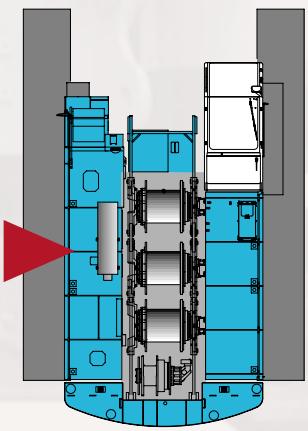
*1 With the optional lifting height gauge installed
*2 With optional anemometer installed

●Warning Displays

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

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.



7055

Main Specifications (Model: 7055-3F)

Crane Boom		
Max. Lifting Capacity	55 t/3.7 m	
Max. Length	51.8 m	
Fixed Jib		
Max. Lifting Capacity	7 t/16.0 m	
Max. Combination	42.7 m + 12.2 m, 39.6 m + 18.3 m	
Tower Jib		
Max. Lifting Capacity	12 t/10.0 m	
Max. Combination	42.4 m + 29.0 m	
Tower Angle	60°~ 90°	
Main & Aux. Winch		
Max. Line Speed	120 m/min (1st layer)	
Rated Line Pull (Single Line)	68.6 kN {7.0 tf}	
Wire Rope Diameter	ϕ 22 mm	
Wire Rope Length	Crane	175 m (Main) 125 m (Aux.)
	Tower	220 m (Main) 120 m (Aux.)
Brake Type	Spring set hydraulically released multiple disc brake	
Working Speed		
Swing Speed	4.0 min^{-1} {rpm}	
Travel Speed	2.4/1.5 km/h	

Power Plant	
Model	Hino J08E-TM
Engine Output	159 kW/2,000 min^{-1} {rpm}
Fuel Tank Capacity	400 liters
Hydraulic System	
Main Pumps	3 variable displacement
Max. Pressure	31.9 MPa {325 kgf/cm^2}
Hydraulic Tank Capacity	440 liters
Weight	
Operating Weight*	Approx. 56.7 t
Ground Pressure*	72.3 kPa {0.74 kgf/cm^2}
Counterweight	15.2 t
Transport Weight**	40.2 t

Units are SI units. { } indicates conventional units.
* Including upper and lower machine, 15.2 ton counterweight, basic boom, hook, and other accessories.
** Base machine with boom base, crawlers, gantry, lower spreader, upper spreader, wire ropes for main and boom hoist winches.

7070

Main Specifications (Model: 7070-1F)

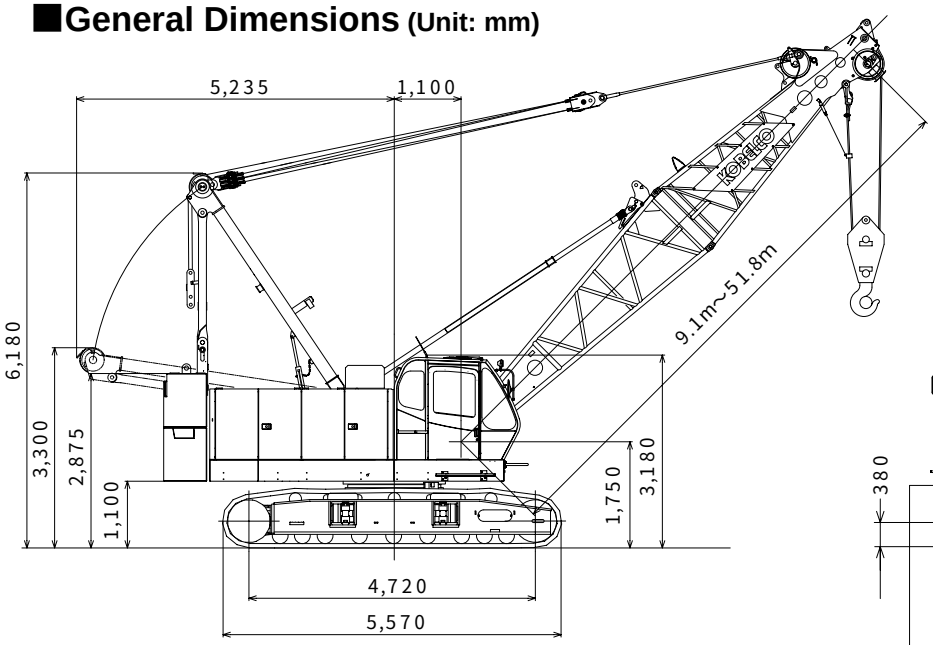
Crane Boom		
Max. Lifting Capacity	70 t/4.0 m	
Max. Length	54.9 m	
Fixed Jib		
Max. Lifting Capacity	7 t/22.0 m	
Max. Combination	45.7 m + 12.2 m, 42.7 m + 18.3 m	
Tower Jib		
Max. Lifting Capacity	13 t/13.9 m	
Max. Combination	42.7 m + 30.5 m	
Tower Angle	60°~ 90°	
Main & Aux. Winch		
Max. Line Speed	120 m/min (1st layer)	
Rated Line Pull (Single Line)	68.6 kN {7.0 tf}	
Wire Rope Diameter	ϕ 22 mm	
Wire Rope Length	Crane	215 m (Main) 125 m (Aux.)
	Tower	225 m (Main) 120 m (Aux.)
Brake Type	Spring set hydraulically released multiple disc brake	
Working Speed		
Swing Speed	4.0 min^{-1} {rpm}	
Travel Speed	1.9/1.2 km/h	

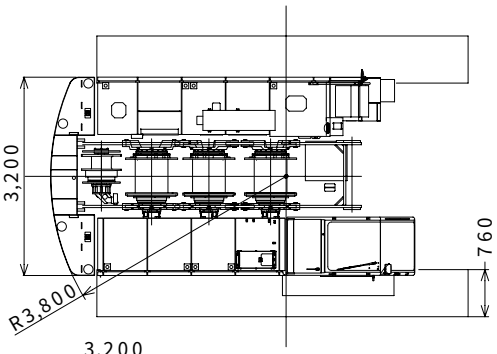
Power Plant	
Model	Hino J08E-TM
Engine Output	159 kW/2,000 min^{-1} {rpm}
Fuel Tank Capacity	400 liters
Hydraulic System	
Main Pumps	3 variable displacement
Max. Pressure	31.9 MPa {325 kgf/cm^2}
Hydraulic Tank Capacity	440 liters
Weight	
Operating Weight*	Approx. 72.3 t
Ground Pressure*	81.0 kPa {0.82 kgf/cm^2}
Counterweight	24.6 t
Transport Weight**	45.9 t

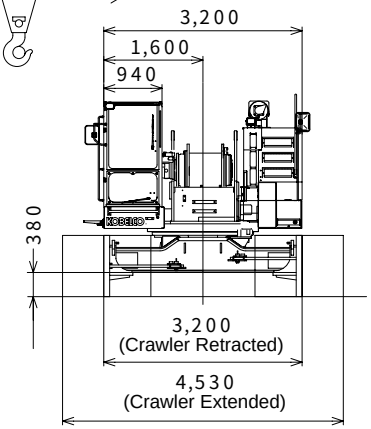
Units are SI units. { } indicates conventional units.
* Including upper and lower machine, 24.6 ton counterweight, basic boom, hook, and other accessories.
** Base machine with boom base, crawlers, gantry, lower spreader, upper spreader, wire ropes for main and boom hoist winches.

7055

■General Dimensions (Unit: mm)

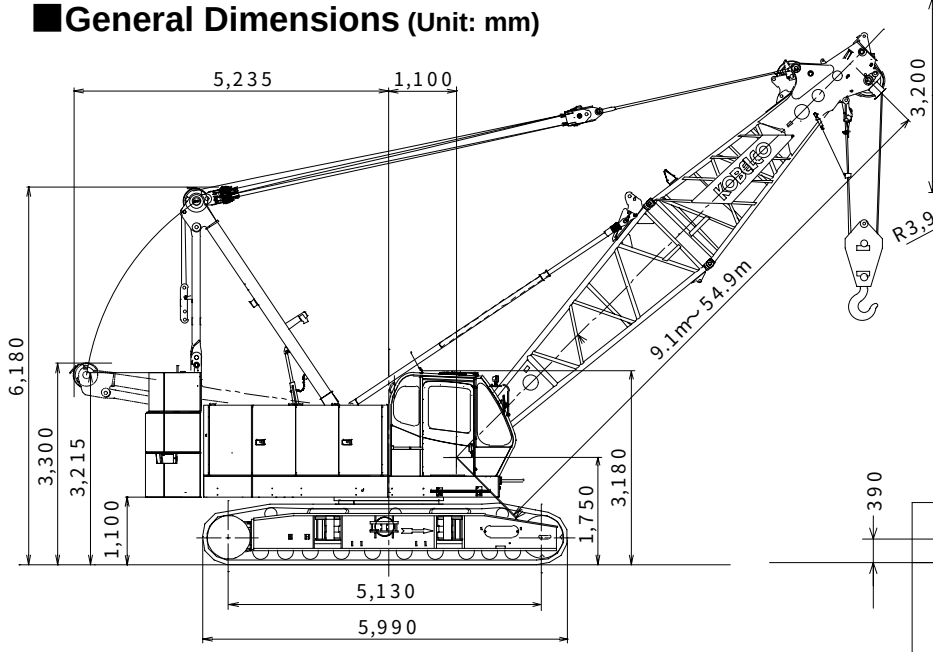


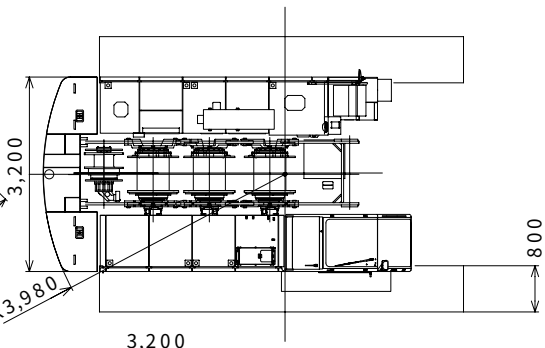


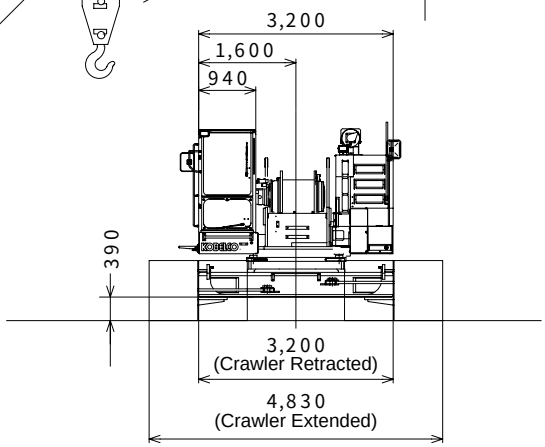


7070

■General Dimensions (Unit: mm)







Note: This catalogue 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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