KOBELCO

HEAVY DUTY BASE MACHINE FOR FOUNDATION WORK

BM900HD

Max. Lifting Capacity: 90t at 4.3m

BM1000HD

Max. Lifting Capacity: 100t at 3.8m

A New Generation of Base Machines for Heavy-Duty Foundation Work

Heavy-duty reliability from wet-type disc brakes. Powerful and large capacity drums to handle any job with power to spare. Drawing on long experience in crane manufacture, KOBELCO researched the bottom line in boosting operating efficiency in civil engineering and foundations work, and has unveiled a new generation of base machines. The BM900HD/BM1000HD features power and precision in operations, simple controls and comprehensive safety features. Economic to run, easy to transport, kind to operator and environment alike. In every respect the BM900HD/BM1000HD delivers a performance that sets new standards for heavy-duty foundation work.

A machine born for real
Toward the next generation

Photos in this catalogue may include optional items.

1. Innovative Wet-Type Disc Brake System
2. High-Output Engine
3. Wide, Large-Capacity Winches
4. High Line-pull Winches
5. Compact Body for Easy Transport

foundation work.
with power, speed, and strength.

High and Tough Performance

	Max. lifting capacity	Max. boom length
BM900HD	90t at 4.3m	62.6m
BM1000HD	100t at 3.8m	62.6m

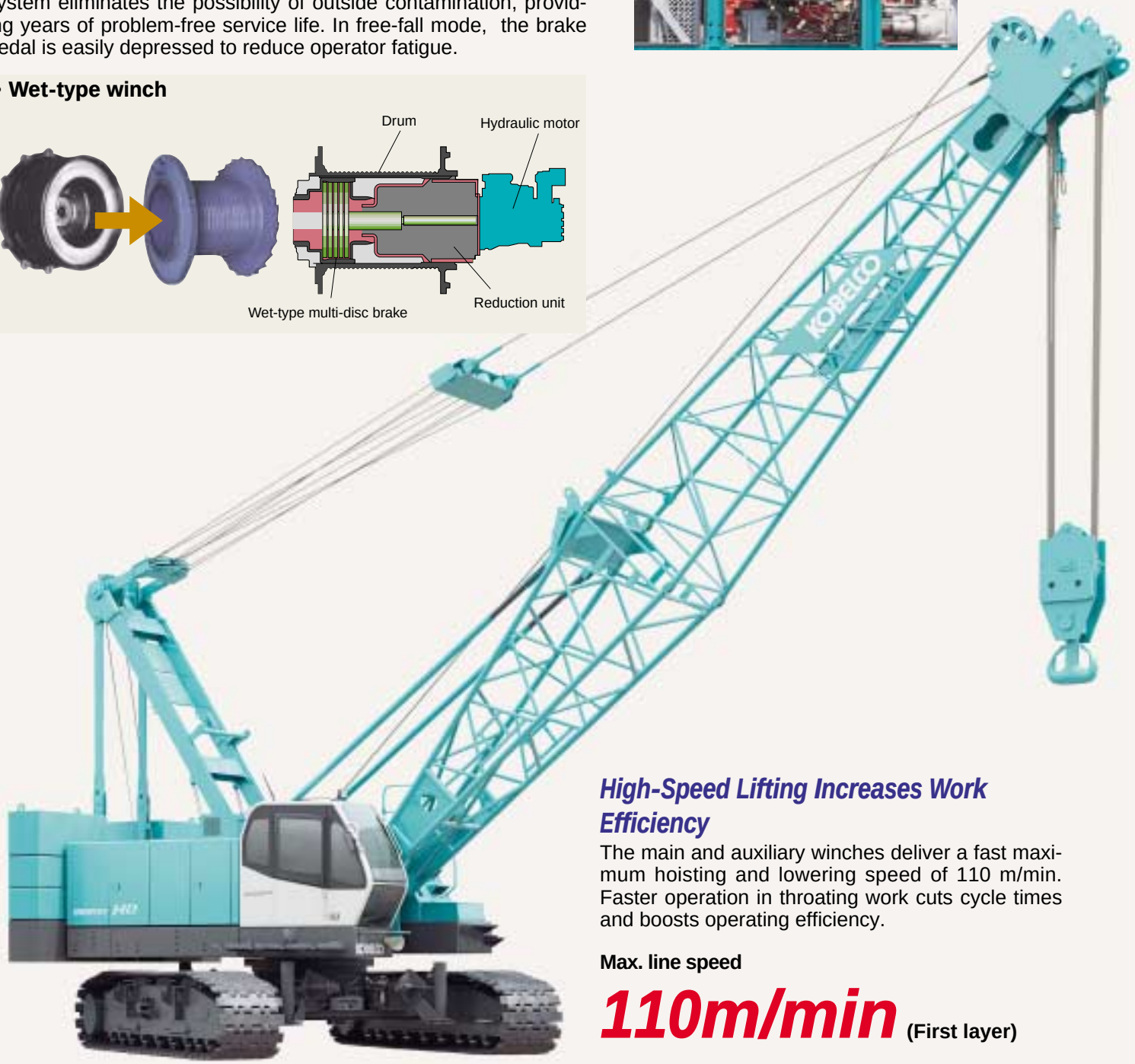
Innovative Wet-Type Disc Brake System

KOBELCO's new oil cooled wet-type multi-disc brake system provides quiet, dependable braking power.
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.

- **Wet-type winch**

High-Output Engine

The engine has an impressive rated output of 247 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.



High-Speed Lifting Increases Work Efficiency

The main and auxiliary winches deliver a fast maximum hoisting and lowering speed of 110 m/min. Faster operation in throating work cuts cycle times and boosts operating efficiency.

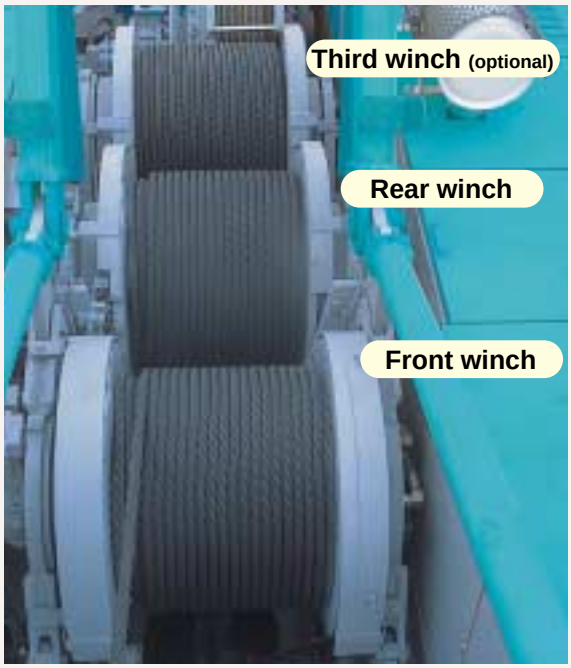
Max. line speed

110m/min **(First layer)**

Wide, Large Capacity Winches

The wide hoist winches with 620mm width provide an impressive spooling capacity of 39m (20rows) on the first layer with ϕ28mm hoist rope. Their large capacity and large diameter help to prevent uneven spooling and wear while enabling the hammer grabbing operation at depths of 30 to 50m within the 2nd layers.

Wire rope(main/aux.) ***ø28mm***



High Line-pull Winches

Through the efficient match-up of a high-output engine and high-performance hydraulic motors, the winches deliver plenty of line pull. It delivers highly reliable performance for continuous, hard work such as bucket lifting or material handling for large foundation work.

Rated line-pull(main/aux.)

132kN {13.5tf} **(First layer)**

Max. line-pull(main/aux.)※

252.9kN{25.8tf} **(First layer)**

※Max.Line Pull is theoretical values under certain test condition.

Optional Large-Size Third Winch

Adoption of a compact winch design and side engine layout allows an optional large-size third winch to be equipped. The large-size third winch increases the versatility of your foundation work combined with other attachments and work equipment.

Third rope ***ø26mm***

Smooth Operation and Control

Winch Speed Controller

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

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.

- Hydraulic pilot system detects swing reaction force.
- Electric throttle with a twist grip ensures sensitive engine control.

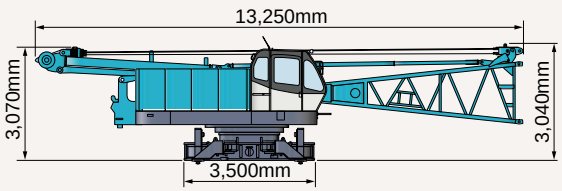
- Red switch on the boom lever grip allows easy inching control for hoist, boom hoist, and travel. The operator can activate it without taking his hands off the boom hoist lever.

Excellent Transportability and Assembly

Compact Body for Easy Transport

The base machine can be transported with boom base. This eliminates installation of boom base and boom hoist rope in jobsite, swiftly ready for job.

Transport weight ***35.7t***
Transport width ***3,200mm***



Thin Counterweights with Excellent Transport Efficiency

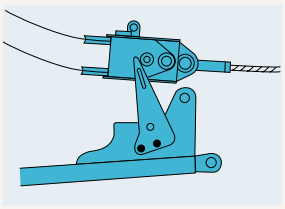
The counterweights with a 5-pieces pilling up system and weight of 3.8 tons to 10.0 tons each are easy to handle for transportation. Furthermore they also can be transportated together with the insert boom contributing to the saving of transportation vehicles.

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.

Upper Spreader Storage Guide

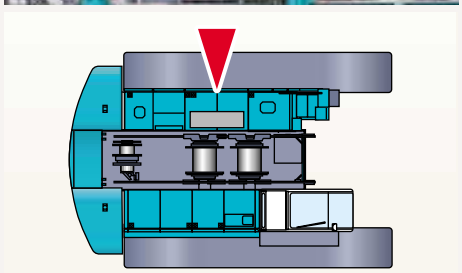
Upper spreader storage guides make it easy to connect guy cables.



Easy Maintenance

Side Engine Layout for Easy Maintenance

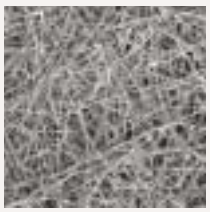
A new engine layout on the side of the machine provides easy access for routine inspections and servicing.



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)

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.

■ The lifting height gauge can also be used as a depth gauge when digging underground (optional).

Reliable Safety Features and Comfortable Cab

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 when lifting.

- The boom lowering slow stop function allows smooth automatic stop at the overload and reduces dangerous swinging of the load.

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.

Other Safety Features

- Function lock lever helps prevent accidental operation when the operator enters or leaves the cab.
- Swing flashers and warning buzzer warn surrounding workers when the machine is swinging.

Complying with Worldwide Exhaust Gas Regulations

Adopting the low pollution engine, the BM900HD/BM1000HD meets NR MM(Europe) Stage IIIA and U.S. EPA Tier III exhaust emissions regulations.

Complying with Japanese Noise Regulations

The BM900HD/BM1000HD is designed with advanced KOBELCO low noise construction technologies, as specified by the Japanese Ministry of Land, Infrastructure and Transport.

Clear, Panoramic View

The BM900HD/BM1000HD 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.

- Reinforced Green Glass

Comfortable 940mm-Wide Cab

- Fully adjustable, high bucked seat with a head-rest and arm rests
- Air conditioner
- Intermittent wiper and window washer
- Cup holder
- Luggage tray
- Sun visor
- Roof blind

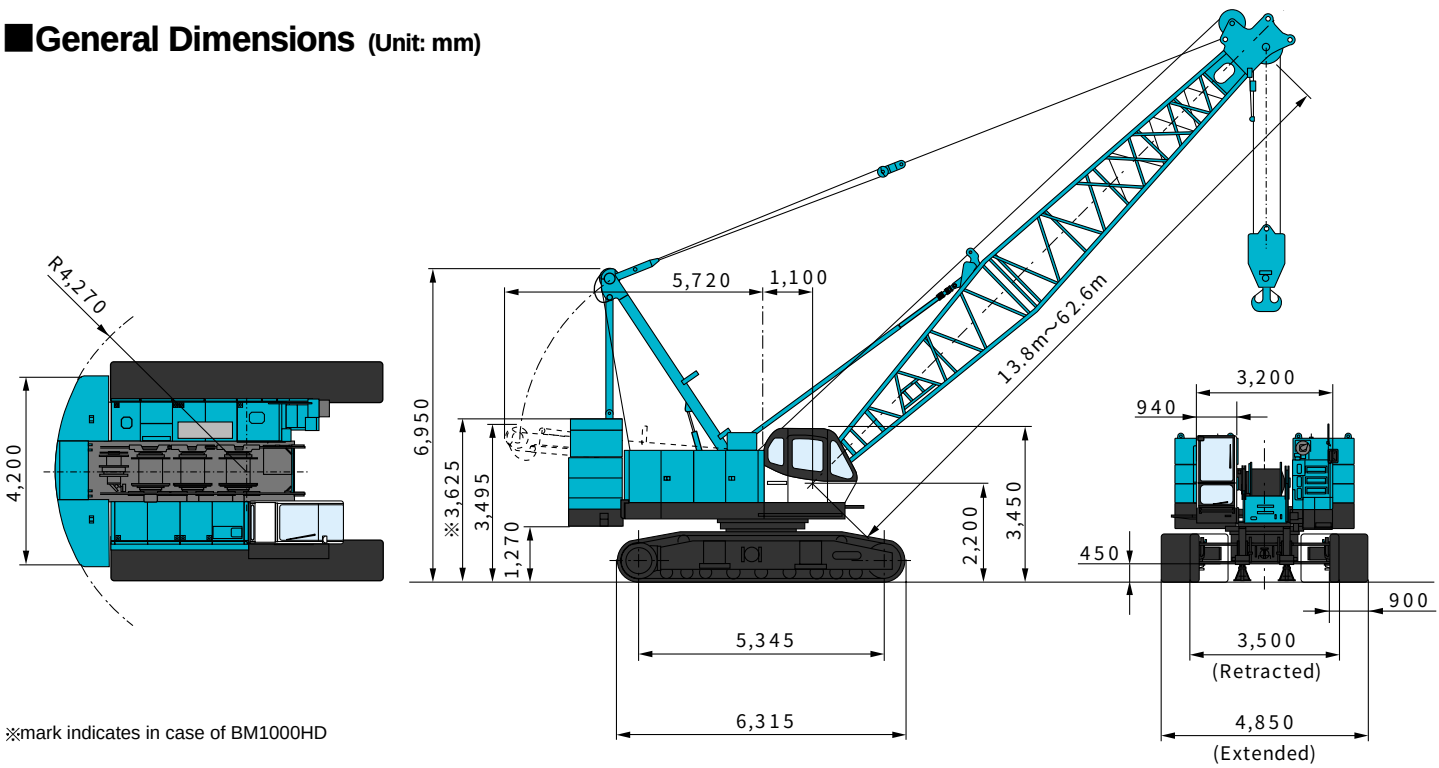
■Main Specification (Model: BM900HD-2F/BM1000HD)

Crane Boom		
Max. Lifting Capacity	BM900HD	90 t/4.3 m
	BM1000HD	100 t/3.8 m
Max. Length	62.6 m	
Main & Aux. Winch		
Max. Line Speed	110 m/min (1st layer)	
Rated Line Pull (Single-line)	132 kN {13.5 tf}	
Max. Line Pull (Single-line)*4	252.9 kN {25.8 tf} (1st layer)	
Wire Rope Diameter	ϕ28 mm	
Wire Rope Length	200 m (Main) 130 m (Aux.)	
Brake Type	Forced-circulation oil-cooled wet-type multi-disc brake (Positive & Negative)	
Working Speed		
Swing Speed	3.2 min^{-1} {rpm}	
Travel Speed	1.5/1.0 km/h	

Power Plant		
Model	Hino P11C-UN	
Engine Output	247 kW/2,000 min^{-1}	
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	BM900HD	Approx. 92 t*1
	BM1000HD	Approx. 107.4 t*2
Ground Pressure	BM900HD	94 kPa {0.96 kgf/cm^2}*1
	BM1000HD	109.7 kPa {1.12 kgf/cm^2}*2
Counterweight	BM900HD	32.8 t (upper)
	BM1000HD	37.8 t (upper), 6.8 t (lower), 3.2 t (crawler)
Transport Weight*3	Approx. 35.7 t	

Units are SI units. { } indicates conventional units.
*1Including upper and lower machine, 32.8ton counterweight, basic boom, hook and other accessories.
*2Including upper and lower machine, 37.8ton counterweight, 6.8ton carbody weight, 3.2ton crawler weight, basic boom, hook and other accessories.
*3Base machine with gantry, boom base, carbody, main and aux. winches with wire ropes, lower spreader and upper spreader.
*4Max. Line-Pull is theoretical values under certain test condition.

■General Dimensions (Unit: mm)



※mark indicates in case of BM1000HD

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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