



**KOBELCO**

**Heavy Duty Base Machine  
for Civil Engineering and  
Foundation Work**

***BM500 HD***

**Max. Lifting Capacity 50 Metric ton × 3.8 m**

**Max. Boom length 51.8 m**

***BM700 HD***

**Max. Lifting Capacity 70 Metric ton × 3.7 m**

**Max. Boom length 54.9 m**



# A NEW GENERATION OF BASE MACHINES FOR HEAVY- DUTY FOUNDATION WORK

Heavy-duty reliability from wet-type disc brakes. Large capacity drums to handle any job with power to spare. The powerful line-pull of a machine one class higher. And a compact, manoeuvrable machine body.

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 BM500HD/BM700HD feature 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 BM500HD/BM700HD deliver a performance that sets new standards.

KOBELCO is proud to present these specialist cranes<sup>1</sup> for foundations and heavy duty work.





**1**

Giving rugged, reliable braking

**Wet-type disc brake**

**2**

For lifting heavier casing bucket

**Powerful line-pull winch**

**3**

Taking 42m of 26mm dia. wire rope on first layer

**Large capacity drums**

**4**

With specifications same as main and auxiliary drum

**Large capacity third drum**

(optional)

**5**

Holding down running costs

**Simplified maintenance**





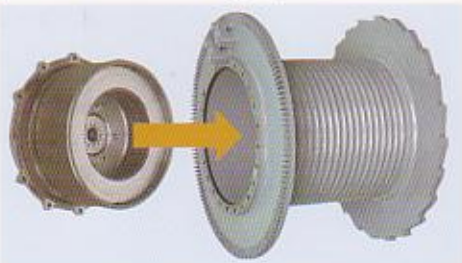
# UPPER MACHINERY



First in its class! Giving rugged, reliable braking..

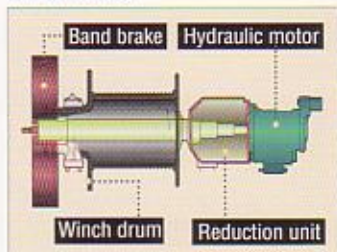
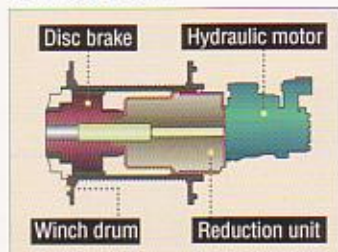
## WET-TYPE DISC BRAKE

We've developed a new wet-type multi-disc brake, cooled by circulated oil, which fits inside the winch drum. It's a first to installed in this class (in Japan). With no more loss of braking efficiency due to increasing temperature, this brake gives more reliable braking power over long, repetitive operations. The pedal control is light, there are no brake linings to change and adjust, and irritating brake noise has been eliminated.



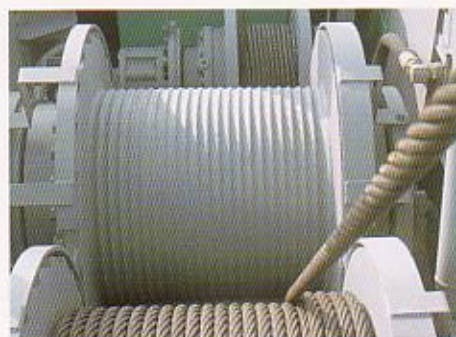
Wet-type disc brake installed in winch drum

Conventional, externally-fitted drum brake:



With specifications same as main and auxiliary drums..

## LARGE CAPACITY THIRD DRUM (OPTIONAL)



By built-in brake and reduction inside the winch drums, and re-designing the engine layout, we've made it possible to fit in a third drum

identical to the other two drums. This gives greater versatility in accommodating different attachments: for example, the third drum can handle a casing jack while the main and auxiliary winches are used for the bucket.

# FIVE ADVANCED DESIGN



Lifts heavier casing bucket..

## POWERFUL LINE-PULL WINCH



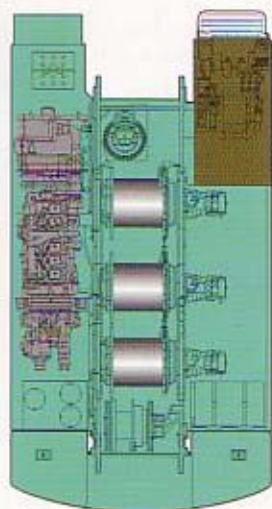
By introducing a heavy-duty engine and a high-output hydraulic motor, the winch achieves more powerful line-pull. Dynamic lift-off and continuous digging are accomplished with ease, lifting capacity is boosted and hoisting is firmer and faster.

	High speed hoisting	The highest lifting capacity in each class
BM500HD	10 ton × approx. 60 m/min	50 ton × 3.8 m (with 12.2 m boom)
BM700HD	10 ton × approx. 60 m/min	70 ton × 3.7 m (with 12.2 m boom)

Taking 42m of 26mm dia. wire rope on first layer..

## LARGE CAPACITY DRUMS

Utilizing the space saved by installing disc brakes, the drums are now wider. At 617mm, they take 22 parts of line of 26mmØ wire rope. With so much more winding capacity on each layer, hammer-grab digging 30-50m below ground level is possible on the first and second layer. And with less chance of uneven winding, due to its larger PCD, the life-span of the wire rope is extended, too.



Holding down running costs..

## SIMPLIFIED MAINTENANCE

The bandless disc brakes translate into a great saving on the time and cost of changing and adjusting brake linings. And the new engine layout means that just opening the power plant cover gives ready access for checks and servicing.

## High Output Engine

A high output engine that delivers ample power for the toughest jobs. Its computer-controlled mechatronic Engine Speed Sensing system (ESS) reduces speed changes in simultaneous operations to give a smoother, more efficient performance.



## Double Auxiliary Sheave (opt.)

By using a double auxiliary sheave, the hammer-grab bucket can be suspended on the auxiliary winch with the crown on the main winch. And the third (opt.) wire rope on a point sheave can accommodate a large capacity hook for greater operating versatility.

## 100m/min Line Speed

The line speed is the fastest in this class. Faster operation in throating work cuts cycle times and boosts operating efficiency. (third drum : 90 m/min)

## Simplified Design

Engine guard and counterweight are designed for easy installation of power unit, etc.

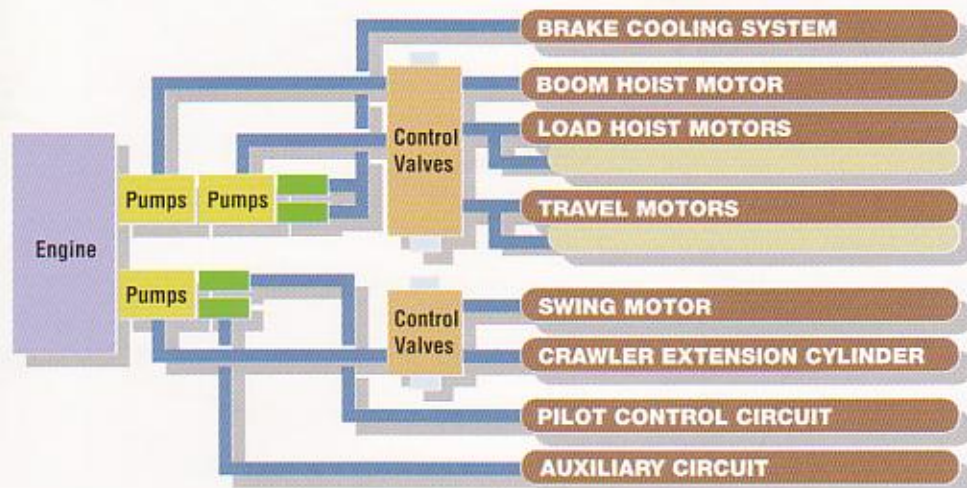


**CAUTION:** To avoid the risk of dropping suspended loads due to a control error, free-fall should not be used during crane operations.

# FOR HEAVY-DUTY WORKS



# HYDRAULIC SYSTEM



## Full Hydraulic Operating System

The BM500HD/BM700HD employ an advanced, full-hydraulic system for performing all crane operations including main hoist, boom hoist, swing and propel operations as well as counterweight and crawlers assembly and disassembly for transport.

## Hydraulic Pilot Control System

Smooth, precise operation is ensured by a sophisticated hydraulic pilot control system that opens and closes the valve spools in direct proportion to control lever movement. If pilot pressure drops when the control lever is in neutral, negative disc braking is applied by spring pressure to the boom hoist and propel circuits. A flick of a switch on the swing lever applies a spring-set, hydraulically-released disc brake to the swing.

## Independent Swing System

Smooth swing is assured by an independent-driven swing motor with planetary reducer. Maximum swing speed is 3.5 rpm. The single-row, induction-hardened ball bearing circle is bolted to the upper frame and carbody. The swing disc brake is spring set and hydraulically released.

## Sensitive Control

Swing control has hydraulic pilot with rebound sensing control.



# COMFORTABLE CAB AND CONTROL



## Roomy, Comfortable Cab



Roomy, Comfortable Cab Operator comfort is ensured by vibration-reducing rubber cab mounts a fully adjustable, upholstered seat, and an air conditioner with fresh-air vents.

Reinforced tinted glass windows reduce glare, and the semi-short levers mounted on the side consoles are ergonomically designed for easy control.

## Dial-type Drum Speed Control



Speeds for main winch, auxiliary winch and boom hoisting can be set independently with free-turning dial controls. A diaphragm wall or clamshell bucket can be hoisted or lowered at a consistent speed, simplifying simultaneous operations.

- Inching control for hoisting, boom hoisting and travel
- Electric throttle for light, precise engine control



# SAFETY CONTROL

## Free-Fall Switches



Free-fall control switches repositioned on hoisting levers allow the operator to

engage free-fall whenever necessary without taking his hand off the lever.

## New Brake Mechanism

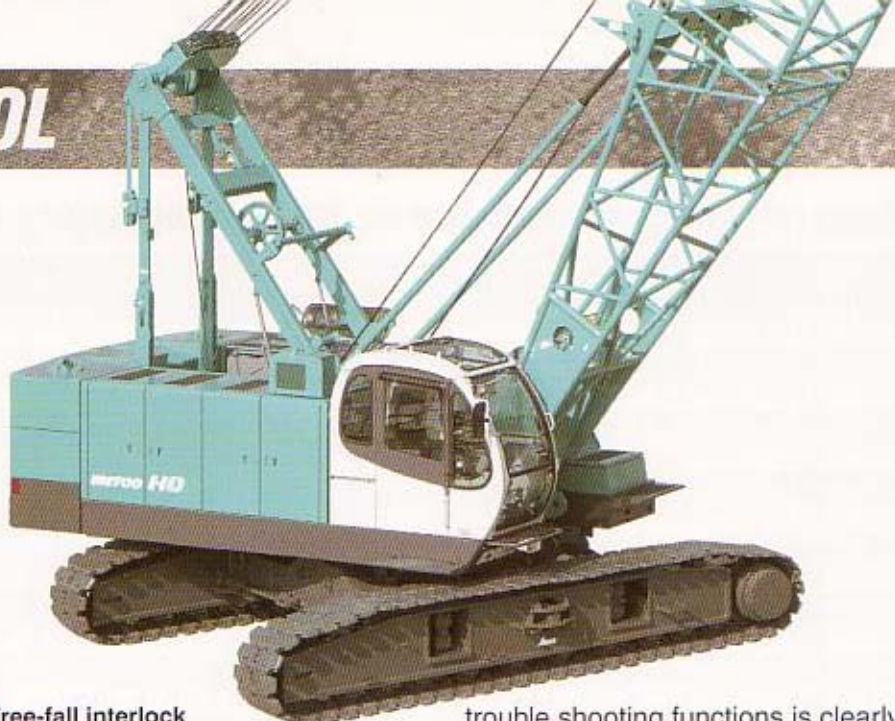
The new brake mechanism has improved 'feel' and reduces fatigue over long periods of repeated braking. The bite of the brake pedal



has been significantly improved over earlier models.

## Key-Controlled Release Switches

Safety mechanisms can be individually cancelled for specific operations using the keys provided.



- Free-fall interlock prevents accidental dropping of load due to a control error.
- Boom overhoist prevention device



• Auto-stop release keys



• Free-fall lock

## LCD Multi-display Monitor



Information such as engine rpm, height/(depth) display (opt.), and on maintenance and

trouble shooting functions is clearly displayed, to give operator an accurate assessment of machine condition at a glance.

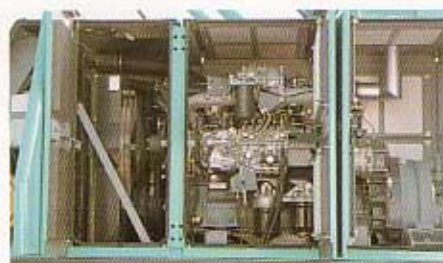
## Overload Prevention Device



An easy-to-read LCD display is installed with the overload prevention mechanism, indicating rated and actual loads and other useful data. The smooth-stop device for boom lowering prevents dangerous swaying of the load due to sudden automatic stops.

# ASSEMBLY/DISASSEMBLY, TRANSPORTATION AND MAINTENANCE

- An overall width of 3.2 m that fits a trailer bed, and an overall transporting height of 3.2 m (base machine), help reduce transportation cost.
- Boom and guy cables are connected easily, and upper spreader features automatic stowing for disassembly.
- Gantry hoist cylinder is supplied as standard to simplify gantry raising.
- Counterweight divides horizontally into 3 sections for easy assembly, disassembly and transport.
- Increased diameter of upper/lower spreader sheave reduces wear on wire rope.
- New machinery layout simplifies engine checks and other maintenance.



- Double-tapered connecting pins for bottom of lower boom

## Features that only come with KOBELCO

- High-powered hydraulic outlet on base machine can power

attachments for foundation work (opt.)

- Optional height level gauge can be used to indicate depth when deep digging.

- Swing flashers/warning buzzer
- Rear working lights
- Lever lock obstructs exit from cab until engaged



- Convenient-to-use tool box

