KOBELCO

HEAVY DUTY BASE MACHINES FOR FOUNDATION WORK

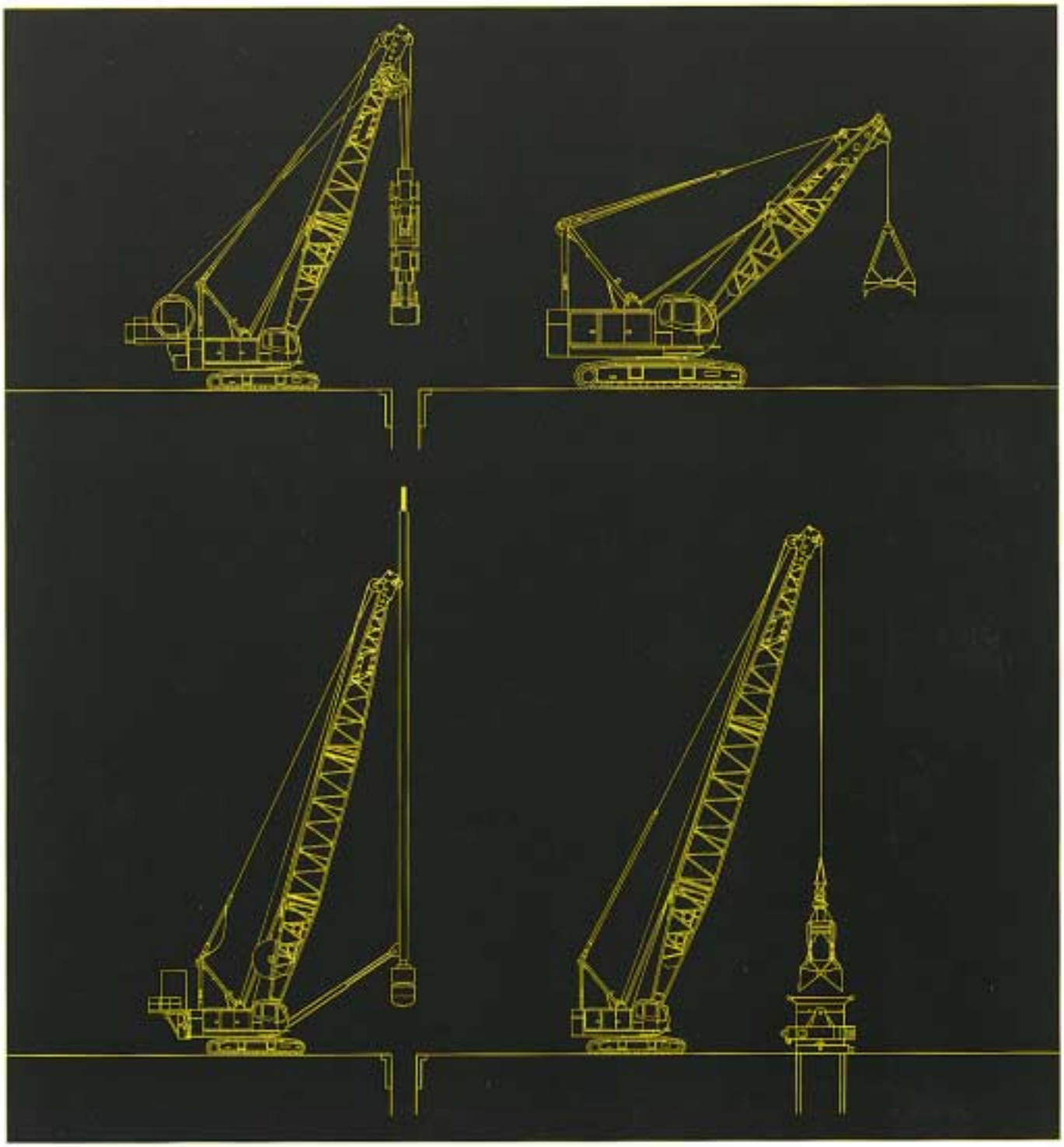
BM600
BM700

KOBE STEEL, LTD.

BASE MACHINES FOR FOUNDATION WORK

Crawler cranes are being used more and more as base machines for foundation work in urban redevelopment and other large scale projects. Foundation work requires good winch capability, rather than the lifting capability important in crawler cranes used for building construction. These base machines must also exhibit a performance that matches the special characteristics of foundation work processes, such as diaphragm wall digging or cast-in-place pile insertion.

KOBELCO's newly developed BM Series of base machines for foundation work are equipped with all these features, and in addition have the same work capability, easy controls and safety features of our 7000 Series crawler cranes, popular for building construction and foundation mixing work.



The Perfect Base Machine for Tough Civil Engineering Jobs

PLENTY OF POWER FOR GRABBING AND CHISELING

With a first-layer maximum line pull of 17 tons, the BM600/BM700 is ideal for grabbing and chiseling operations. Vibro-rod, vibro-hammer, clamshell, and other tough jobs can be handled with ease.

HIGH-SPEED POWERED LOWERING

Taking casing oscillator as an example, the BM600/BM700 can lower a hammer grab weighing 4.5 tons at a fast speed of 80 m/min to 90 m/min. Bucket free-fall is avoided, saving wear and tear on the brake line.

FAST HOIST SPEED

Taking casing oscilator operations as an example, the BM600/BM700 can hoist a hammer grab weighing 4.5 tons at a speed of 70 m/min to 80 m/min. This fast hoisting speed shortens cycle times and improves productivity.

LARGE BRAKE DRUM WITH FINS AND COOLING BLOWER

The large-capacity brake drum features highly efficient heat-dissipating fins and a cooling blower. The line brake stays cool and reliable even with high-frequency use during tough, continuous operations.

WIDE HOIST DRUMS

Assuming a 22 mm-diameter rope, the wide hoist drums can handle 32 m on the first layer. This dramatically increases the first-layer range for foundation work, ensuring a stable line pull that facilitates clamshell and other operations.

EXCELLENT STABILITY AND TRACTIVE FORCE

Taking casing oscillator operations as an example, BM600/BM700's powerful, stable travel capacity permits the operator to safety reputation the machine with the casing oscillator hoisted aloft.

Strongest Line-pull. Largest Drums. Greatest Line-speed.

BIG ENGINE ENSURES SUPER POWER

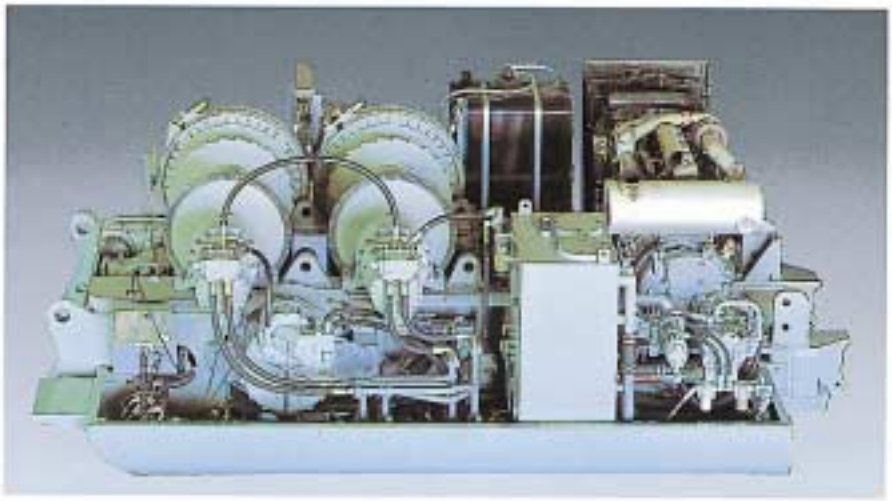
KOBELCO Heavy Duty Base Machines are powered by a powerful and fuel-efficient direct-injected diesel engine. Ample power reduced stress to both the engine itself and the hydraulic system and also ensures long and dependable service.

LARGE-CAPACITY DRUMS ACCOMMODATE FOUNDATION WORK

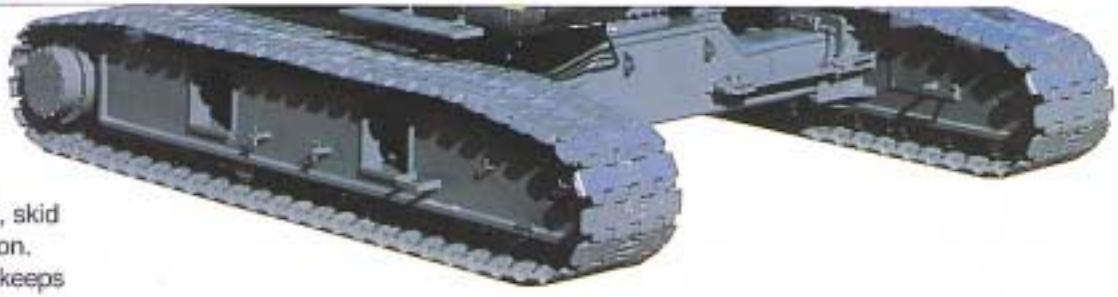
Heavy Duty Base Machines are equipped with large-capacity front and rear drums, each powered by a pair of two-speed hydraulic motors that can provide either high line speed or high torque as the job demands.

POWERFUL DRIVE

Big engine, big winch and big drums combine to provide a strong line-pull usually associated with cranes one class higher.



ONSITE MANEUVERABILITY



- Strong traction force
- Independent travel system permits differential steering, skid steering, and counter rotation.
- Straight-propel travel system keeps the machine on track during simultaneous attachment or swing operation.

Ready to Take on Any Bucket or Crane Operation

PRECISE FULL HYDRAULIC CONTROL

The full hydraulic system provides positive, precise control over each function. Accurate, dependable control in direct proportion to lever movement gurantees steady positioning when handling extremely heavy loads.
The large-capacity variable displacement pumps make possible a wide range of line speeds.

FOUNDATION WORK

Continuous bucket work places special demands on the winch drums, brakes, and swing. To ensure efficient operation without downtimes, Heavy Duty Base Machines feature large capacity brake drums with heat-radiating fins and a powerful swing mechanism. Control is light and smooth to prevent operator fatigue. Sensitive engine control is also assured by an electric throttle with a twist grip that rotates just 120° to maintain comfortable wrist movement.

TOUGH, MAINTENANCE-FREE DURABILITY

Careful attention has been paid to every detail of design. The permanently lubricated boom point, boom idler, gantry sheaves, and equalizer sheaves keep maintenance requirements to minimum. Routine checks can be conducted easily with the help of seven fully-opening compartment doors that provide ready access to the engine and hydraulic compartments. The cast iron rollers and idler sprockets are also lubricated and sealed for long, trouble-free service.

SAFETY DEVICES:

Function lock lever , hook over-hoist alarm and shut-off switch, boom over-hoist limit switch, boom angle indicator, signal horn, boom hoist and front and rear drum locks, swing lock, boom back stop, hook safety latch and optional load moment limiter (overload protection device)

APPLICATIONS

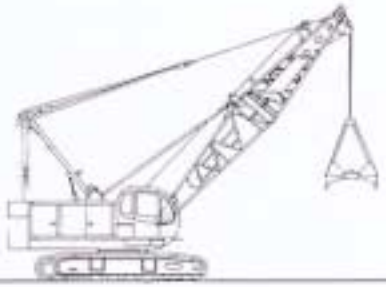
HYDRAULIC DIAPHRAGM WALL BUCKET

MODEL	Gross Weight (Bucket + Content)	Wall Width (max.)
BM600	13 ton	700 mm
BM700	13 ton	700 mm

- Power Lowering
- 4 parts of line

CLAMSHELL

MODEL	Bucket Capacity	Rated Load	Boom Length
BM600	0.8 m³ - 1.6 m³	5.5 ton	9.1 - 18.3 m
BM700	0.8 m³ - 1.6 m³	5.5 ton	9.1 - 18.3 m



KELLY TYPE

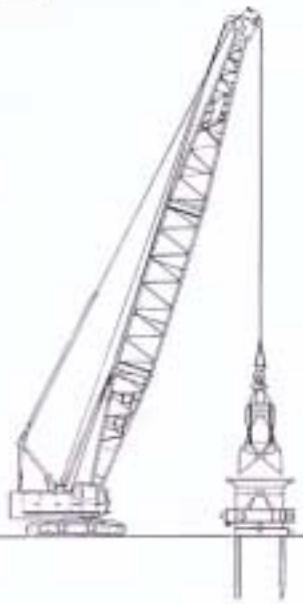
MODEL	Gross Weight (Bucket + Content)	Wall Width (max.)
BM600	10 ton	800 mm
BM700	10 ton	800 mm

- Power Lowering
- 2 parts of line

CASING OSCILLATOR CASING ROTATOR

MODEL	Rated Line Pull	Hole Dia. (max.)
BM600	6.6 ton	1,500 mm
BM700	6.6 ton	1,500 mm

- Power Lowering
- Single line



MATERIAL HANDLING IN FOUNDATION FIELDS

Vibro-Rod Vibro-Hammer Lifting Magnet Hanging Leader

SPECIFICATIONS

MODEL		BM600	BM700
LINE PULL			
Line pull at 1st layer (main)	(ton)	17	17
Line pull at 1st layer (aux.)	(ton)	17	17
Rated line pull (main)	(ton)	6.6	6.6
Rated line pull (aux.)	(ton)	6.6	6.6
WINCH			
Type		Hydraulic	Hydraulic
Clutches		Internally expanding band	Internally expanding band
Brakes		Externally contracting band	Externally contracting band
Drums (P.C.D. x wide)	mm	462 x 522	462 x 522
Rope capacity (1st layer)	m	32	32
Rope capacity (max.)	m	278	278
WIRE ROPES			
Main & aux. hoist	mm(dia.)	22	22
Boom hoist	mm(dia.)	16	16
Guy-line	mm(dia.)	30	30
LINE SPEED			
Main hook hoist	(m/min)	100/70/50/35	100/70/50/35
Main hook lowering	(m/min)	100/70/50/35	100/70/50/35
Aux.hook hoist	(m/min)	100/70/50/35	100/70/50/35
Aux.hook lowering	(m/min)	100/70/50/35	100/70/50/35
Boom hoist	(m/min)	65	65
Boom lowering	(m/min)	65	65
POWER PLANT			
Engine		MITSUBISHI 6D22-T	MITSUBISHI 6D22-T
Power output	(PS/rpm)	230/1,800	230/1,800
LIFTING CAPACITY			
Max.lifting capacity	(ton x m)	55 x 3.7	65 x 4.1
Basic boom length	(m)	9.1	9.1
Max.boom length	(m)	51.8	54.9
SWING & TRAVEL			
Swing speed	(rpm)	3.7	3.5
Travel speed	(km/h)	2.2/1.4	1.75/1.1
WEIGHT			
Operating weight (approx.)	(ton)	55.0	65.0
Ground pressure	(kg/cm^2)	0.71	0.76
Gradeability	(%)	30	40

Note: Due to our policy of continual product improvements all designs and specifications are subject to change without advance notice.

KOBE STEEL, LTD.
ENGINEERING & MACHINERY DIVISION
Construction Machinery Division
KOBELCO Bldg., 3-2, Toyo 2-chome, Koto-ku, TOKYO, 135-8381 JAPAN
Tel:(03)5634-5311/Fax:(03)5634-5538

Bulletin No. BM600/BM700-101

980302 Printed in Japan