COMPACT
HEAVY DUTY BASE MACHINE FOR LIFTING AND FOUNDATION WORK

KOBELCO

BM 700 C

SPECIFICATIONS

- **Boom length 9.1 m ~ 61.0 m (30' ~ 200').**
- **Lifting capacity up to 80 tons.**
- **Powerfull winch first layer maximum line pull 17 tons, and wide, large-diameter drum with maximum rope capacity of 32 m at first layer.**
- **Precise, full hydraulic control gives crane excellent performance, ideal for construction tasks demanding high precision.**
- **Maximum line speed of 100 m/min for main and auxiliary winches.**
- **Extra hydraulic outlets provided to power additional foundation construction machinery. (opt.)**

Specifications

Upper machinery

Power plant
Model . . . . . Mitsubishi 6D22-T
Type . . . . Water-cooled, direct fuel injection, with turbocharger
No. of cylinder 6
Bore and stroke . . . . . 130 mm x 140 mm
Displacement . . . . . 11.15 liters
Rated power . . . . Net 230 PS (170 kW) at 1,800 min^{-1} (ISO 9249/JIS D1006)
Net 226 HP (170 kW) at 1,800 min^{-1} (SAE J 1349)
Max. torque . . . 1,000 N-m at 1,200 min^{-1} (JIS D1006)
Cooling system . . . . . Liquid, recirculating bypass
Starter . . . . . 24 V, 5.5 kW
Generator . . . . . 24 V, 2 kW
Cycles 4
Radiator . . . . . Plate fin type core, thermostatically controlled
Air cleaner . . Dry type with replaceable paper element
Fuel tank capacity . . . . . 360 liters
Batteries . . . . . Two 12 V, 170 A-hr capacity batteries, series connected
Fuel consumption . . . . . 209 g/kW-h(at 1,300 min^{-1})

Hydraulic pumps
Pumps: All three variable displacement pumps are driven by heavy-duty pump drive. One of these pumps is used in the right propel circuit and hook hoist circuit, and can acommodate an optional third circuit. Another is used in the left propel circuit, boom hoist circuit and hook hoist circuit. The third variable displacement pump is used in the swing circuit. In addition, one gear pump is used in the control system and auxiliary equipment. One of these serves the clutches and brakes.
Control: Full-flow hydraulic control system for infinitely variable pressure to front and rear drums, boom hoist brakes and clutches. Controls respond instantly to the touch, delivering smooth function operation.
Max. relief valve pressure:
Load hoist, boom hoist and propel system . . . . . 315 kg/cm^2
Swing control . . . . . 280 kg/cm^2
Control system . . . . . 80 kg/cm^2
Reservoir capacity: 300 liters
Cooling: Oil-to-air heat exchanger
Filtration: Full-flow and bypass type
Electrical system: All wiring coded for easy servicing, individual fused branch circuits.

Boom hoisting system
Powered by a hydraulic axial piston motor through a planetary reducer.
Brake: A spring-set, hydraulically released multiple-disc brake is mounted on the boom hoist motor and operated through a counter-balance valve. Safety pawls (external ratchet) are fitted for locking the drums.
Drum: Single drum, grooved for 16 mm dia. wire rope.
Line speed: Single line on first drum layer
Hoisting (max.) . . . . . 65 m/min
Lowering (max.) . . . . . 65 m/min

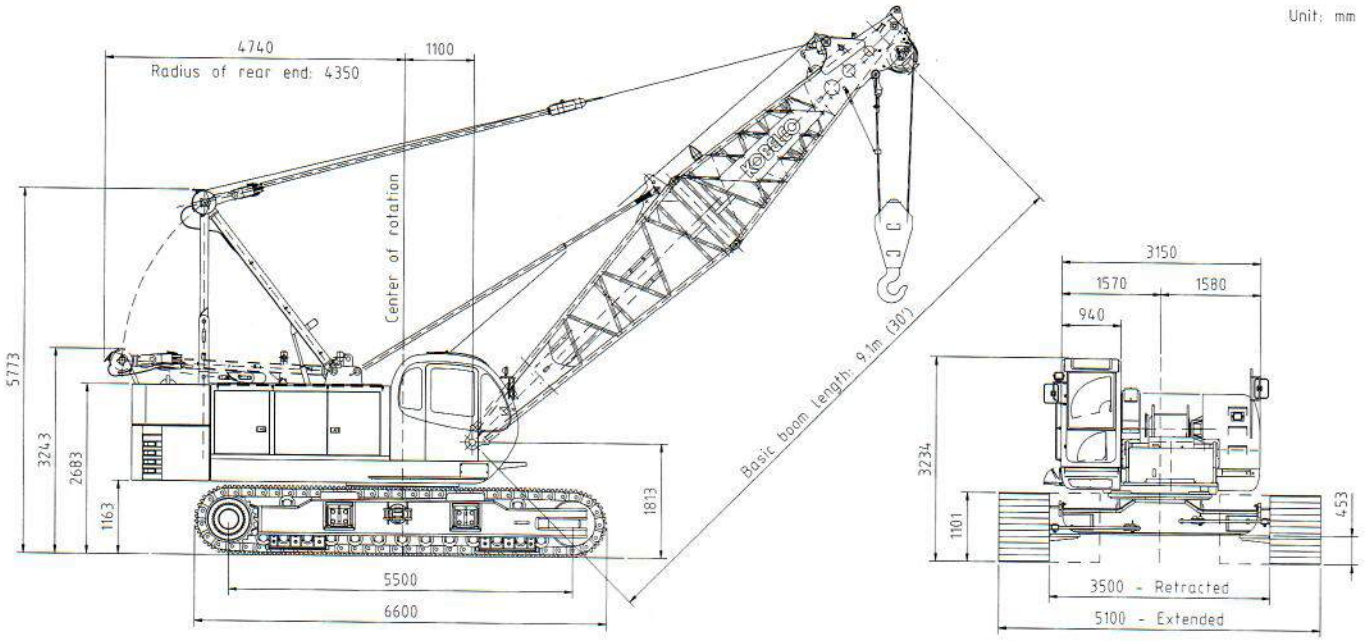
Load hoist system
Powered by a hydraulic axial piston motor, driven through a planetary reducer.
Clutches: Internally expanding band clutches of 711 mm dia. x 102 mm width.
Brakes: Externally contracting band brakes, each using positive (opt. for foundation work) and negative actuation, 900 mm dia. x 120 mm wide with additional spring set hydraulically released brake.
Safety pawls (external rachet) are fitted for locking the drums. Both positive and negative brake systems are availiable. Air cooling fins mounted on brake drum.
Drums: (front and rear): 462 mm P.C.D. X 522 mm wide drums, each grooved for 22 mm wire rope.
Rope capacity of 175 m working length and 278 m storage length.
Line speed: Single line on the first drum layer
Hoisting . . . . . 100/70, 50/35 m/min
Lowering . . . . . 100/70, 50/35 m/min

Swing system
Swing unit: Powered by hydraulic axial piston motor driving spur gears through planetary reducers, the swing system provides 360° rotation.
Swing speed . . . . . 3.5 min^{-1}
Swing brakes: A spring-set, hydraulically released multiple-disc brake is mounted on swing motor.
Swing circle: Single-row ball bearing with an integral internally cut swing gear.
Swing lock: Two position pin-hole lock (manually engaged)

Operator's cab
Totally enclosed, full-vision cab fitted with safety glass and a sliding front window. A fully adjustable, high-backed seat permits operators to set their ideal working position. Standard features include airconditioning, signal horn, cigarette lighter and windshield wiper.

Controls
In front of the operator are foot pedals for front and rear drum brakes. At the operator's right are console-mounted adjustable short levers for front and rear drum control and boom hoist control lever. Beside the operator's seat on the right are two short levers for propel control. At the operator's left are: a console-mounted swing lever, an optional third drum control lever, and front and rear drum pawl control switches; switches for ignition, engine stop, drum speed adjusting knobs for front drum, rear drum and boom, and propel; Creep speed control switch on the hoist lever for hoist and propel. A swing brake switch and a signal horn button are on the swing lever.
Lights: Two flood lights and inside cablight
Gauges: Fuel, engine water temperature, hour meter, optional tachometer.
Warning lamps: Engine oil pressure, hydraulic oil pressure, battery charge, air cleaner and engine oil filter.

General Dimensions



Features

- **Superb reliability.**
- **Worldwide service.**
- **Low maintenance cost.**
- **High residual value.**
- **Multi-purpose crane.**
- **Excellent warranty conditions.**
- **Heavy duty bulldozer undercarriage especially designed for Europe with low replacement cost for crawler components.**

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) are provided.

Gantry
Folding type, fitted with sheave frame for boom hoist reeving, lowers toward rear onto cab roof. Hydraulic lift is standard. Full up, full down positions with linkage.

Counterweight
Two-piece stack, mounted behind the machinery compartment.
Total weight . . . . . 20,550/23,550* kg
* eXtra Heavy Duty base machine for foundation work

Tools
Tool set and accessories for routine machine maintenance are provided.

Lower machinery

Carbody: Steel-welded carbody with axles.
Crawler: Heavy duty bulldozer crawlers especially designed to meet the specific needs and applications of the European market. Crawler assemblies designed with an easy disconnect feature that allows complete indiviual removal from the axles. Crawler belt tension is maintained by grease jack force on the track-adjusting bearing block.
Crawler drive: Independant hydraulic propel drive is built into each side frame, each with a hydraulic motor propelling a sprocket through a planetary gear box.
Crawler brakes: Spring-set, hydraulically released multiple-disc parking brakes are built into each propel drive.
Steering mechanism: A hydraulic propel system provides both skid steering (driving one track only) and counter-rotating steering (driving tracks in opposite directions).
Track rollers: 13 lower rollers and 2 upper rollers are fitted to each side frame, sealed and maintenance-free.
Shoes:
Number . . . . . 63 each side
Standard shoe width . . . . . 800 mm
Max. travel speed:
High range . . . . . 1.75 km/h
Low range . . . . . 1.16 km/h
Max. gradeability: 40%

Crane attachment

Boom:
Welded lattice construction using tubular, high tensile steel chords with pin connections between sections.
Max. lifting capacity . . . . . 80,000 kg
Basic boom length . . . . . 9.1 m (30')
Max. boom length . . . . . 61.0 m (200')
Aux. sheave (opt.), max. capacity . . . . . 8,000 kg

Fixed jib (optional):
Welded lattice construction using tubular, hightensile steel chords with pin connections between sections.

Luffing jib (optional):
Welded lattice construction using tubular, hightensile steel cords with pin connections between sections. Max. combination boom 45.7 m (140') and jib 36.6 m (120').

Wire rope diameter
Standard:
Hook hoist . . . . . 22 mm
Boom hoist (12-part line) . . . . . 16 mm
Boom pendants (2-part line) . . . . . 30 mm
Optional:
Jib hook hoist . . . . . 22 mm
Jib back stay pendants (2-part line) . . . . . 20 mm

Wire rope line pull:

	Max. permissible*)	Max. available
Front:	10,500 kg	17,000 kg
Rear:	10,500 kg	17,000 kg

*) For crane use only. For clamshell, diaphram and wall bucket deduction required.

Weight
Operating weight: Approx.72,000~75,000 kg
Ground pressure: 0.82 kg/cm² ~ 0.86 kg/cm²

Clamshell and dragline available on request.

Boom Lifting Capacities 360°

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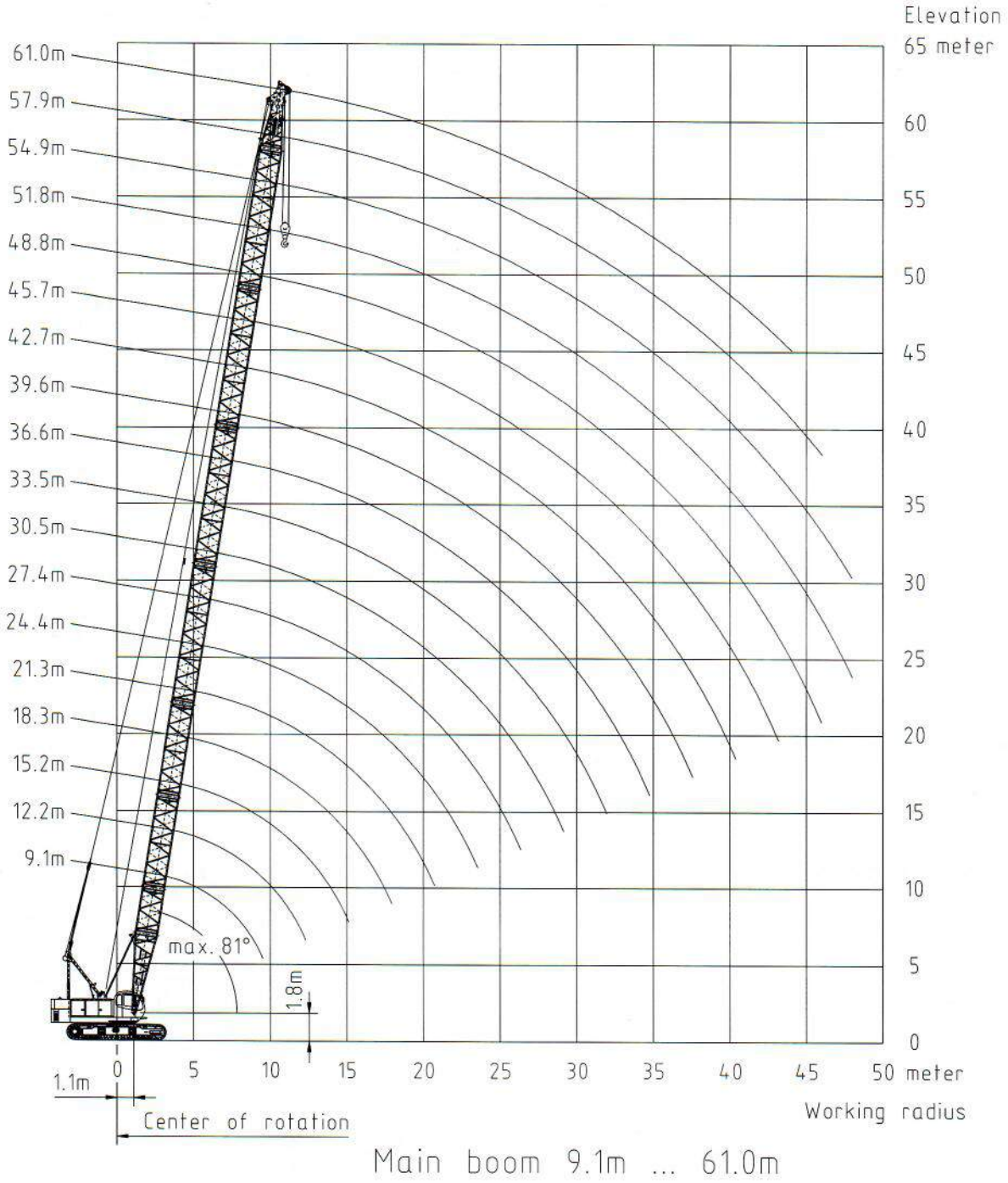
Boom length	9.1	12.2	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6	42.7	45.7	48.8	51.8	54.9	57.9	61.0
parts reeving	10	10	10	8	8	7	6	5	5	4	4	4	3	3	3	3	3	3
radius \ wind	20	17	17	17	14	14	14	14	11	11	11	11	11	11	11	11	11	11
3.0	80.0	-																
3.5	80.0	80.0	-															
4.0	78.1	77.9	77.6	-														
4.5	69.9	69.7	66.1	61.9	-													
5.0	63.2	61.1	57.5	54.2	51.3	-												
5.5	57.2	53.7	50.8	48.2	45.8	43.7	-											
6.0	49.4	47.9	45.5	43.3	41.4	39.6	37.9	-										
6.5	43.4	43.3	41.2	39.4	37.7	36.1	34.7	33.4	-									
7.0	38.7	38.6	37.6	36.0	34.5	33.2	32.0	30.8	29.7	-								
7.5	34.9	34.7	34.6	33.2	31.9	30.7	29.6	28.6	27.6	26.7	-							
8.0	31.7	31.6	31.5	30.7	29.6	28.5	27.6	26.7	25.7	24.9	24.1	-	-					
9.0	26.1	26.6	26.6	26.4	25.8	25.0	24.2	23.4	22.6	22.0	21.3	20.7	20.0	-	-			
10.0	-	23.0	22.9	22.8	22.7	22.1	21.4	20.8	20.2	19.6	19.0	18.5	17.9	17.4	16.8	-	-	-
11.0		20.2	20.1	20.0	19.8	19.8	19.2	18.7	18.1	17.6	17.1	16.7	16.2	15.7	15.2	14.8	14.4	13.9
12.0		18.0	17.9	17.7	17.6	17.5	17.4	16.9	16.4	16.0	15.5	15.1	14.7	14.2	13.8	13.5	13.1	12.6
13.0		-	16.1	15.9	15.8	15.7	15.6	15.4	15.0	14.6	14.1	13.8	13.4	13.0	12.6	12.3	11.9	11.5
14.0			14.6	14.4	14.3	14.2	14.0	14.0	13.7	13.4	13.0	12.7	12.3	11.9	11.5	11.3	10.9	10.6
15.0			13.3	13.1	13.0	12.9	12.8	12.7	12.6	12.3	11.9	11.7	11.3	11.0	10.6	10.4	10.0	9.7
16.0			-	12.1	11.9	11.8	11.7	11.6	11.5	11.4	11.0	10.8	10.4	10.1	9.8	9.6	9.3	8.9
18.0				10.4	10.2	10.0	9.9	9.8	9.7	9.6	9.5	9.3	9.0	8.7	8.4	8.2	7.9	7.6
20.0				-	8.8	8.7	8.5	8.4	8.3	8.2	8.1	8.0	7.8	7.6	7.3	7.1	6.8	6.6
22.0					-	7.6	7.5	7.4	7.2	7.1	7.0	6.9	6.8	6.6	6.4	6.2	5.9	5.7
24.0						6.8	6.6	6.5	6.3	6.2	6.1	6.0	5.9	5.7	5.6	5.4	5.2	4.9
26.0						-	5.9	5.8	5.6	5.5	5.3	5.3	5.1	5.0	4.8	4.8	4.5	4.3
28.0							-	5.2	5.0	4.9	4.7	4.6	4.5	4.3	4.2	4.2	4.0	3.7
30.0								-	4.5	4.3	4.2	4.1	4.0	3.8	3.7	3.6	3.5	3.3
32.0									4.0	3.9	3.7	3.6	3.5	3.3	3.2	3.2	3.0	2.8
34.0									-	3.5	3.3	3.2	3.1	2.9	2.8	2.7	2.6	2.4
36.0										-	3.0	2.9	2.7	2.6	2.4	2.4	2.2	2.1
38.0											2.7	2.6	2.4	2.3	2.1	2.1	1.9	1.8
40.0											-	2.3	2.1	2.0	1.9	1.8	1.6	1.5
42.0												-	1.9	1.8	1.6	1.5	1.4	1.2
44.0													1.7	1.5	1.4	1.3	1.1	1.0
46.0													-	1.3	1.2	1.1	0.9	-
48.0														-	1.0	0.9	-	

98.03.16

1. Crane ratings according to DIN 15018/3 (ut. class B2, hoist. class H1) and prEN13000 (1997).
2. Crane ratings for 360 deg. slewing range, crawlers fully extended.
3. Rating in ton (t) of 1000 kg (2205 lbs). Ratings shown above the double underline are determined by the strength of structural components.
4. Crane must be operated on a firm and level surface, up to 1% gradient. Take care of proper loadspreading mats.
5. Counterweight 21 t, in two parts.
6. Load by the weight of hookblock, shackles, spreaders etc. to be considered as part of the listed load. Reeved loadlines are calculated within the capacities.
7. A mid-suspension is required for boom length above 54,9 m.

Working Ranges Main Boom



Note: This catalog may contain attachments and optional equipment that are not available in your area. Please consult your nearest KOBELCO distributor for those items you may require. Due to our policy of continual product improvement all designs and specifications are subject to change without prior notice.

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