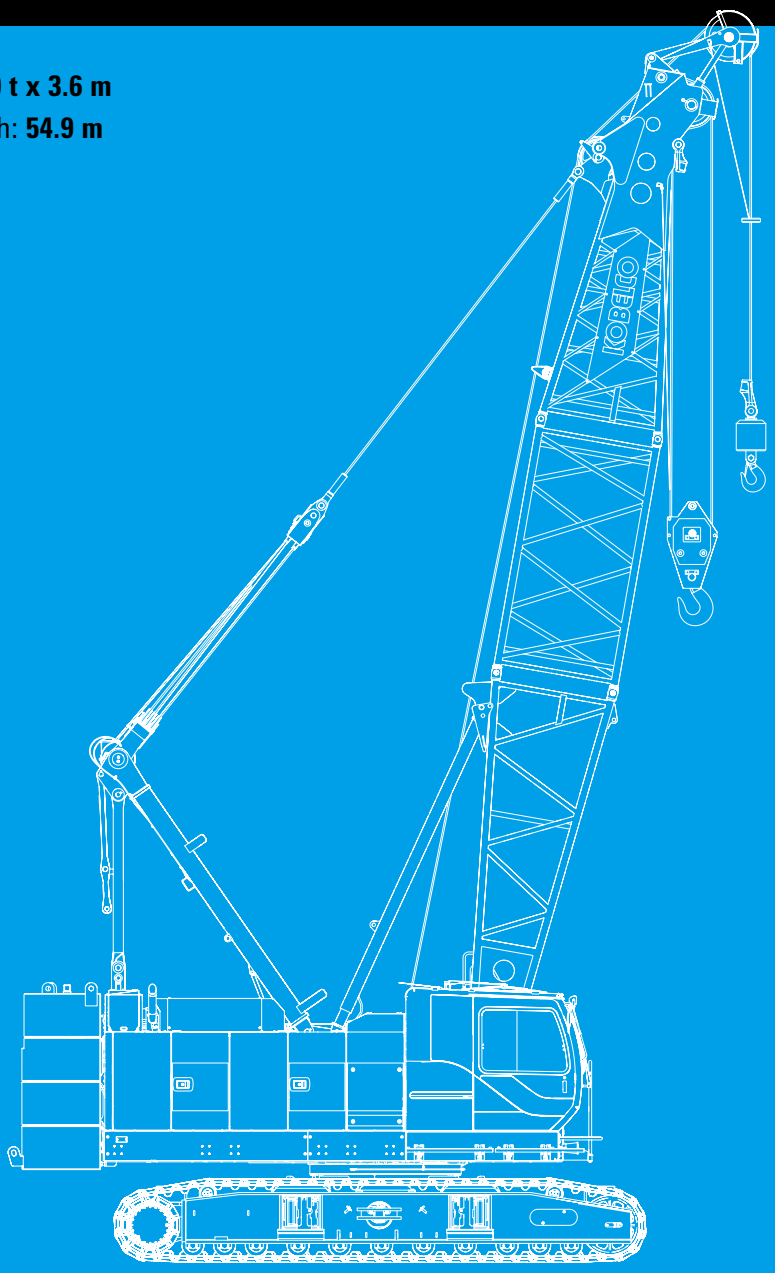
Hydraulic Crawler Crane

BMS

800

Model : BMS800

Max. Lifting Capacity: **80 t x 3.6 m**
Max. Crane Boom Length: **54.9 m**



KOBELCO

BMS800
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SPECIFICATIONS

Power Plant

Model: HINO P11C-VH
Type: 4 cycle, water-cooled, vertical in-line 6, direct injection, turbo-charger, intercooler
Displacement: 10.520 liters
Rated power: 271 kW / 1,850 min^{-1}
Max. Torque: 1,469 N·m / 1,400 min^{-1}
Cooling System: Water-cooled
Starter: 24 V- 6 kw
Radiator: Corrugated type core, thermostatically controlled
Air cleaner: Dry type with replaceable paper element
Throttle: Twist grip type hand throttle, electrically actuated
Fuel filter: Replaceable paper element
Batteries: Two 12 V x 136 Ah/5HR capacity batteries, series connected
Fuel tank capacity: 400 liters

Hydraulic System

Main pumps: 3 variable displacement piston pumps
Control: Full-flow hydraulic control system for infinitely variable pressure to all winches, propel and swing. Controls respond instantly to the touch, delivering smooth function operation.
Cooling: Oil-to-air heat exchanger (plate-fin type)
Filtration: Full-flow and bypass type with replaceable element
Max. relief valve pressure:
- **Load hoist, boom hoist and propel system:** 31.9 Mpa
- **Swing system:** 27.5 MPa
- **Control system:** 5.4 MPa

Hydraulic Tank Capacity: 440 liters

Boom Hoisting System

Powered by a hydraulic 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.
Drum Lock: External ratchet for locking drum
Drum: Single drum, grooved for 18mm dia. wire rope
Line Speed: Single line on first drum layer
- **Hoisting/Lowering:** 70 to 3 m/min
- **Boom hoisting/lowering:** 18 mm x 143 m
- **Boom guy line:** 30 mm
- **Boom backstops:** Required for all boom length

Load Hoisting System

Front and rear drums for load hoist powered by a hydraulic variable plunger motors, driven through planetary reducers.
Negative Brake: A spring-set, hydraulically released multiple-disc brake is mounted on the hoist motor and operated through a counter-balance valve. (Positive free fall brake is optional)
Drum Lock: External ratchet for locking drum
Drums:
- **Front Drums:** 614 mm P.C.D x 617 mm wide drum, grooved for 26 mm wire rope. Rope capacity is 175 m working length and 361 m storage length.
- **Rear Drum:** 614 mm P.C.D x 617 mm grooved for 26 mm wire rope. Rope capacity is 130 m working length and 361 m storage length.

Diameter of wire rope
- **Main winch:** 26 mm x 175 m
- **Aux. winch:** 26 mm x 130 m
- **Third winch:** 26 mm x 145 m

Line Speed*:
- **Hoisting/lowering:** 120 to 3 m/min

Line Pull:
- **Max. Line Pull* :** 208 kN {21.2 tf} (Referential Performance)
- **Rated Line Pull:** 108 kN {11.0 tf}

*Single line on first drum layer

Swing System

Swing unit is powered by hydraulic motor driving spur gears through planetary reducers (2 set), the swing system provides 360° rotation.
Swing parking 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: Manually, four position lock for transportation
Swing Speed: 4.0 min^{-1}

Upper Structure

Torsion-free precision machined upper frame. All components are located clearly and service friendly. Engine will with low noise level.
Counterweight: 25.4 ton

Cab & Control

Totally enclosed, full vision cab with safety glass, fully adjustable, high backed seat with a headrest and armrests, and intermittent wiper and window washer (skylight and front window).
Cab fittings:
Air conditioner, convenient compartment (for tool), cup holder, ashtray, cigarette lighter, sun visor, roof blind, tinted glass, floor mat, footrest, and shoe tray

Lower Structure

Steel-welded carbody with axles. Crawler assemblies can be hydraulically extended for wide-track operation or retracted for transportation. Crawler belt tension is maintained by hydraulic jack force on the track-adjusting bearing block.

Carbodyweight: 6.5 ton

Crawler drive: Independent hydraulic propel drive is built into each crawler side frame. Each drive consists of a hydraulic motor propelling a driving tumbler through a planetary gear box. Hydraulic motor and gear box are built into the crawler side frame within the shoe width.

Crawler brakes: Spring-set, hydraulically released 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 each track in opposite directions).

Track rollers: Sealed track rollers for maintenance-free operation.

Shoe (flat): 800 mm wide each crawler

Max. gradeability: 30 %

Weight

Including upper and lower machine, 25.4 ton counterweight and 6.5 ton carbody weight, basic boom hook, and other accessories.

Weight: 77.0 ton

Ground pressure: 86.9 kPa

Attachment

Boom & Jib:

Welded lattice construction using tubular, high-tensile steel chords with pin connection between sections.

Boom length

	Min. Length	Max. Length
Crane Boom	12.2 m	54.9 m

Main Specifications (Model: BMS800)

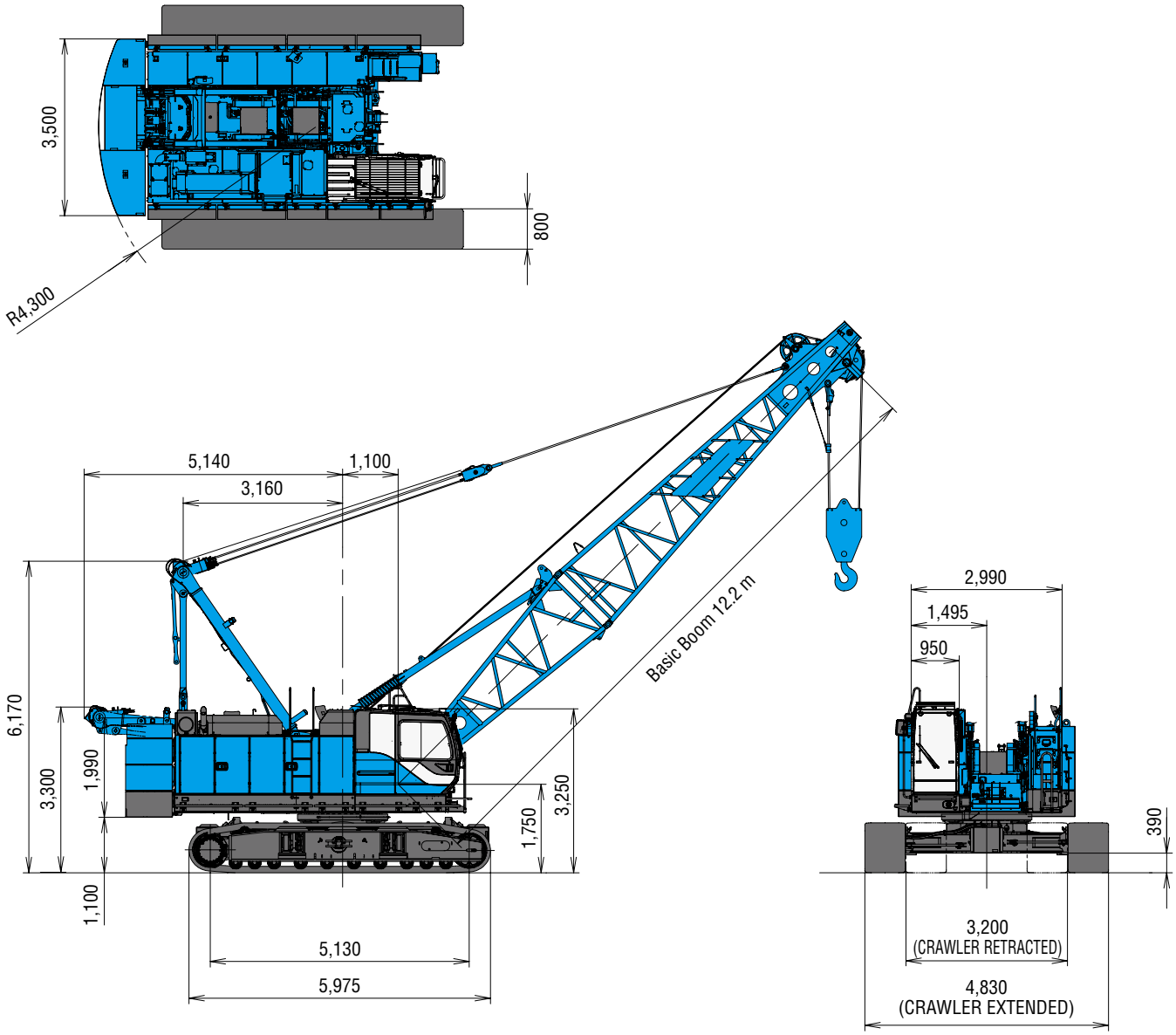
Crane Boom	
Max. Lifting Capacity	80 t x 3.6 m
Max. Length	54.9 m
Main & Aux. Winch	
Max. Line Speed (1st layer)	120 m/min
Rated Line Pull (Single line)	108 kN {11.0 tf}
Wire Rope Diameter	26 mm x 175 m
Wire Rope Length	175 m (Main), 130 m (Aux.)
Brake Type	Wet-type multiple disc brake (Optional)
Working Speed	
Swing Speed	4.0 min^{-1}{rpm}
Travel Speed	1.7/1.2 km/h
Power Plant	
Model	HINO P11C-VH
Engine Output	271 kW / 1,850 min^{-1}
Fuel Tank	400 liters

Hydraulic System	
Main Pumps	3 variable displacement
Max. Pressure	31.9 MPa {325 kgf/cm^2}
Hydraulic Tank Capacity	440 liters
Self-Removal Device	
	Counterweight/crawler self-removal device (Option)
Weight	
Operating Weight	77.0 t *1
Ground Pressure	86.9 kPa
Counterweight	25,400 kg
Transport Weight	43,210 kg *2

Units are SI units. { } indicates conventional units.
Line speeds in table are for light loads. Line speed varies with load.
*1 Including upper and lower machine, 25.4 ton counterweight, 6.5 ton carbody weight, basic boom, hook, and other accessories.
*2 Base machine with boom base, gantry, crawlers, and wire ropes (front/rear/boom hoist)

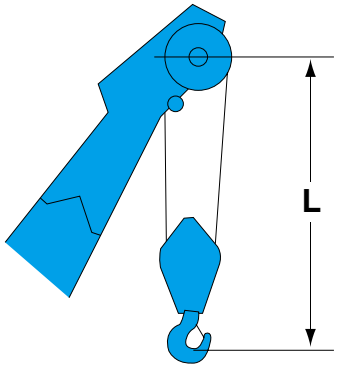
GENERAL DIMENSIONS

(Unit: mm)

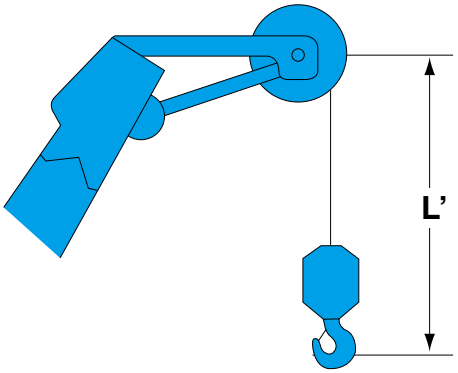


This catalog may contain photographs of machines with specifications, attachments and optional equipment.

Limit of Hook Lifting



Hook	L
80 t hook	4.3 m
50 t hook	4.1 m
32 t hook	4.1 m



Hook	L'
11 t ball hook	4.2 m

Crane Boom Arrangements

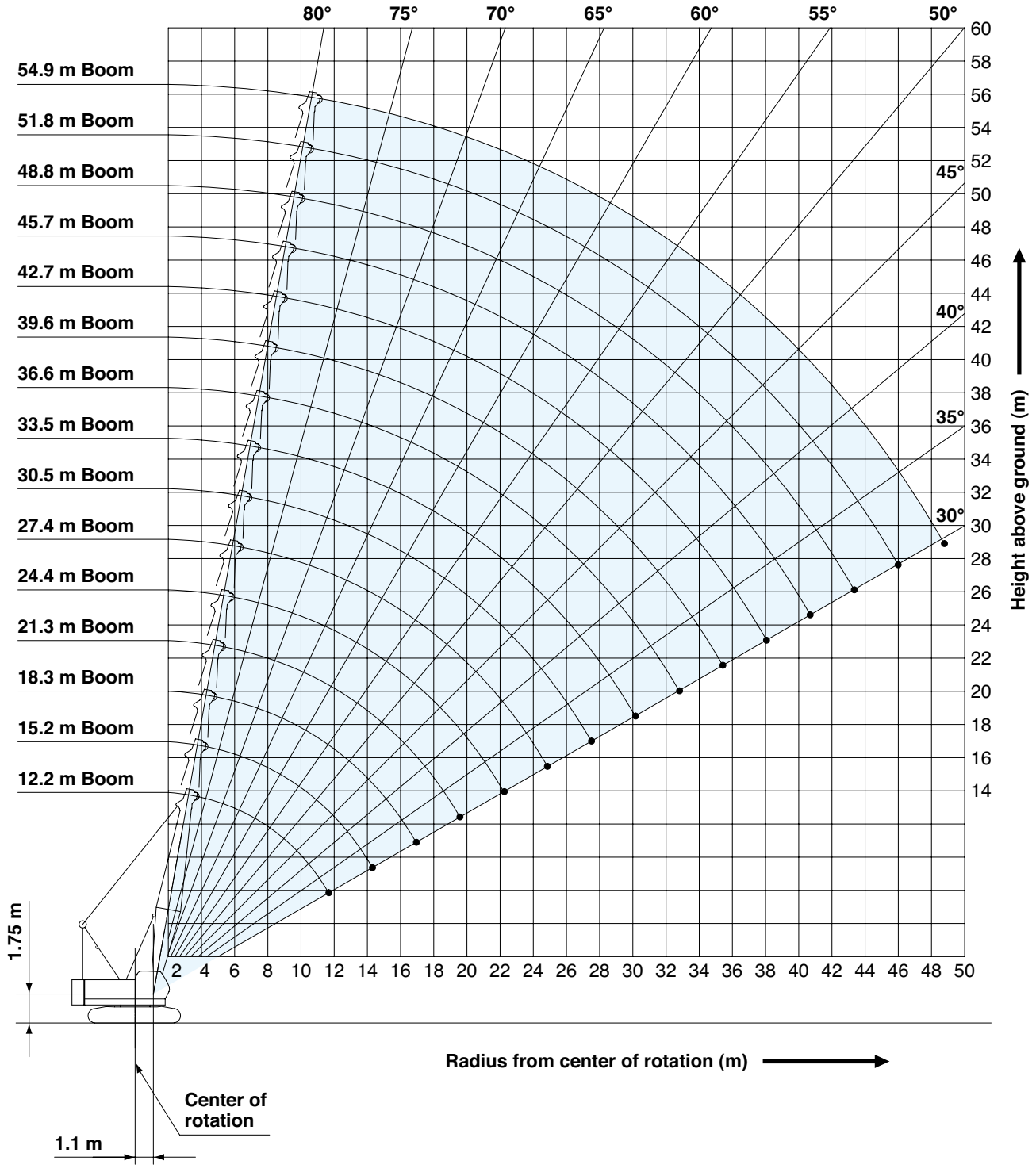
Boom length m (ft)	Boom arrangement
12.2 (40)	※ B T
15.2 (50)	※ B 10 T
18.3 (60)	B 20 T ※ B 10 10 T
21.3 (70)	※ B 10 20 T B 30 T
24.4 (80)	B 20 20 T B 10 30 T ※ B 10 10 20 T
27.4 (90)	※ B 10 20 20 T B 20 30 T B 10 10 30 T
30.5 (100)	※ B 10 20 30 T B 30 30 T
33.5 (110)	B 20 20 30 T B 10 30 30 T ※ B 10 10 20 30 T
36.6 (120)	B 20 30 30 T B 10 10 30 30 T ※ B 10 20 20 30 T
39.6 (130)	※ B 10 20 30 30 T B 30 30 30 T
42.7 (140)	B 20 20 30 30 T ※ B 10 10 20 30 30 T B 10 30 30 30 T
45.7 (150)	B 20 30 30 30 T B 10 10 30 30 30 T ※ B 10 20 20 30 30 T
48.8 (160)	※ B 10 20 30 30 30 T
51.8 (170)	B 20 20 30 30 30 T ※ B 10 10 20 30 30 30 T
54.9 (180)	※ B 10 20 20 30 30 30 T

Symbol	Boom Length	Remarks
B	5.2 m	Boom Base
T	7.0 m	Boom Top
10	3.0 m	Insert Boom
20	6.1 m	Insert Boom
30	9.1 m	Insert Boom

※ indicates the most flexible combination of insert luffing booms, which can be modified to form all shorter luffing boom arrangements.

Crane Boom

Unit : m



SUPPLEMENTAL DATA

- Ratings according to EN13000.
- Operating radius is the horizontal distance from centerline of rotation to a vertical line through the center of gravity of the load.
- Deduct weight of hook block (s), slings and all other load handling accessories from main boom ratings shown.
- Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted load, ground conditions, out-of-level, operating speeds or any other condition that could be detrimental to the safe operation of this equipment.
  The operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly.
- Ratings are for operation on a firm and level surface, up to 1 % gradient.
- At radii and boom lengths where no ratings are shown on chart, operation is not intended nor approved.
- Boom inserts and guy lines must be arranged as shown in the "operator's manual".
- Boom hoist reeving is 12 part line.
- Gantry must be in raised position for all conditions.
- Boom backstops are required for all boom lengths.
- The boom should be erected over the front of the crawlers, not laterally.
- Ratings inside of boxes ☐ are limited by strength of materials.
- The minimum rated load is 1.1 (ton).
- Crawler frames must be fully extended for all crane operations.

(Crane boom lifting)

- The total load that can be lifted is the value for weight of main hook block, slings, and all other load handling accessories deducted from crane boom ratings shown.

<Reference information>

Main hoist loads

No. of Parts of Line	1	2	3	4	5
Maximum Loads (kN)	108	216	324	431	539
Maximum Loads (t)	11.0	22.0	33.0	44.0	55.0

No. of Parts of Line	6	7	8
Maximum Loads (kN)	647	755	785
Maximum Loads (t)	66.0	77.0	80.0

Auxiliary hoist loads

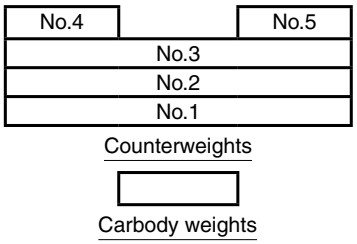
No. of Parts of Line	1
Maximum Loads (kN)	108
Maximum Loads (t)	11.0

Weight of hook block				
Hook Block	80 t	50 t	32 t	11 t Ball Hook
Weight (t)	0.95	0.7	0.55	0.3

Operation of this equipment in excess of rated loads or disregard of instruction voids the warranty.

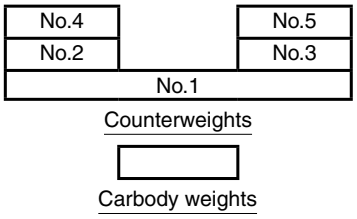
Assembling the counterweight

25.4 ton counterweight
6.5 ton carbody weight
(standard type)



Assembling the counterweight

(Equipped with self removal device)
26.1 ton counterweight
6.5 ton carbody weight
(optional type)



- The lifting capacity does not change due to the type of counterweights (standard or optional).

LIFTING CAPACITIES

Crane Boom Lifting Capacities

Counterweight: 25.4 t
Carbody Weight: 6.5 t

Unit: metric ton

Working radius (m) \ Boom length (m)	12.2	15.2	18.3	21.3	24.4	27.4	30.5	33.5	Boom length (m) \ Working radius (m)
3.0	3.6m/80.0								**3.0**
4.0	69.5	4.3m/63.2	4.8m/56.0						**4.0**
5.0	56.2	56.4	53.4	5.3m/47.3	5.9m/40.2				**5.0**
6.0	44.7	45.4	43.2	41.4	39.6	6.4m/35.4	6.9m/31.5		**6.0**
7.0	36.0	37.8	36.2	34.8	33.5	32.3	31.1	7.5m/27.9	**7.0**
8.0	29.8	31.8	31.1	30.0	28.9	28.0	27.0	26.2	**8.0**
9.0	25.3	27.0	26.8	26.3	25.4	24.6	23.9	23.2	**9.0**
10.0	22.0	23.4	23.2	23.2	22.6	22.0	21.3	20.7	**10.0**
12.0	11.8m/17.4	18.4	18.2	18.1	18.0	17.9	17.4	17.0	**12.0**
14.0		15.1	14.9	14.8	14.7	14.6	14.5	14.3	**14.0**
16.0		14.5m/14.4	12.5	12.4	12.3	12.2	12.1	12.0	**16.0**
18.0			17.1m/11.5	10.6	10.5	10.4	10.3	10.2	**18.0**
20.0				19.8m/9.4	9.1	9.0	8.9	8.8	**20.0**
22.0					8.0	7.9	7.8	7.7	**22.0**
24.0					22.4m/7.8	7.0	6.9	6.8	**24.0**
26.0						25.0m/6.6	6.1	6.0	**26.0**
28.0							27.7m/5.6	5.4	**28.0**
30.0								4.8	**30.0**
32.0								30.3m/4.8	**32.0**
Reeves	8	6	6	5	4	4	3	3	**Reeves**

Working radius (m) \ Boom length (m)	36.6	39.6	42.7	45.7	48.8	51.8	54.9	Boom length (m) \ Working radius (m)
8.0	8.0m/25.3	8.5m/23.1						**8.0**
9.0	22.4	21.8	9.0m/21.2	9.6m/19.2				**9.0**
10.0	20.1	19.5	19.0	18.4	10.1m/17.7	10.6m/16.3	11.2m/15.0	**10.0**
12.0	16.5	16.0	15.6	15.2	14.8	14.3	13.9	**12.0**
14.0	13.9	13.5	13.2	12.8	12.5	12.1	11.7	**14.0**
16.0	11.9	11.6	11.3	11.0	10.7	10.3	10.0	**16.0**
18.0	10.1	9.9	9.8	9.5	9.2	8.9	8.6	**18.0**
20.0	8.7	8.5	8.5	8.3	8.1	7.8	7.5	**20.0**
22.0	7.5	7.4	7.4	7.2	7.1	6.8	6.6	**22.0**
24.0	6.6	6.5	6.4	6.3	6.2	6.1	5.8	**24.0**
26.0	5.9	5.8	5.7	5.6	5.4	5.3	5.2	**26.0**
28.0	5.2	5.1	5.0	4.9	4.8	4.6	4.5	**28.0**
30.0	4.7	4.6	4.5	4.4	4.2	4.1	4.0	**30.0**
32.0	4.2	4.1	4.0	3.9	3.8	3.6	3.5	**32.0**
34.0	33.0m/4.0	3.7	3.6	3.5	3.3	3.2	3.1	**34.0**
36.0		35.6m/3.4	3.2	3.1	3.0	2.8	2.7	**36.0**
38.0			2.9	2.8	2.7	2.5	2.4	**38.0**
40.0			38.2m/2.9	2.5	2.4	2.2	2.1	**40.0**
42.0				40.9m/2.4	2.1	2.0	1.8	**42.0**
44.0					43.5m/1.9	1.7	1.6	**44.0**
46.0						1.5	1.4	**46.0**
48.0						46.2m/1.5	1.2	**48.0**
50.0							48.8/1.1	**50.0**
Reeves	3	3	2	2	2	2	2	**Reeves**

Note:Ratings according to EN13000.
Ratings shown in [ ] are determined by the strength of the boom or other structural components.
Lifting capacities may vary depending on hook used or with/without auxiliary sheave.
Please refer rated chart in operator's cabin.

- Operating radius is the horizontal distance from centerline of rotation to a vertical line through the center of gravity of the load.
- Deduct weight of bucket, slings and all other load handling accessories from main boom ratings shown.
- Ratings shown are based on freely suspended loads and make no allowance for such factors as wind effect on lifted load, ground conditions, out-of-level, operating speeds or any other condition that could be detrimental to the safe operation of this equipment.
  The operator, therefore, has the responsibility to judge the existing conditions and reduce lifted loads and operating speeds accordingly.
- Rated loads do not exceed 66 % of minimum tipping loads.
- Ratings are for operation on a firm and level surface, up to 1 % gradient.
- At radii and boom lengths where no ratings are shown on chart, operation is not intended nor approved.
- Boom inserts and guy lines must be arranged as shown in the "operator's manual".
- Boom hoist reeving is 12 part line.
- Gantry must be in raised position for all conditions.
- Boom backstops are required for all boom lengths.
- The boom should be erected over the front of the crawlers, not laterally.
- Crawler frames must be fully extended for all crane operations.

(Clamshell bucket lifting)

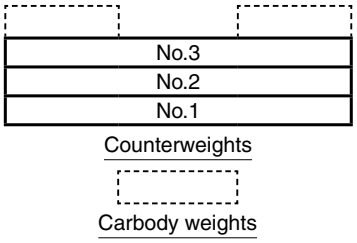
- The total load that can be lifted is the value for weight of bucket, slings, and all other load handling accessories deducted from main boom ratings shown.
- The weight of bucket and materials must not exceed rated load.
- Optimum bucket should be required according to material.
- Bucket capacity (m^3) x specified gravity of material (ton/m^3) + bucket weight (ton) = rated load.
- Bucket weight must also be decreased according to operating cycle and bucket lowering height.
- Rated loads are determined by stability and boom strength. During simultaneous operations of boom and swing, rapid acceleration or deceleration must be avoided.
- Do not attempt to cast the bucket while swinging or diagonal draw-cutting.

Main hoist loads

No. of Parts of Line	1
Maximum Loads (kN)	74
Maximum Loads (t)	7.5

Assembling the counterweight

22.8 ton counterweight
without carbody weight



Operation of this equipment in excess of rated loads or disregard of instruction voids the warranty.

Crane Boom Lifting Capacities For Clamshell

Counterweight: 22.8 t
Without Carbody Weight

Unit: metric ton

Working radius (m) \ Boom length (m)	12.2	15.2	18.3	21.3	24.4				Boom length (m) \ Working radius (m)
5.0	7.5								**5.0**
5.5	7.5	7.5							**5.5**
6.0	7.5	7.5							**6.0**
7.0	7.5	7.5	7.5						**7.0**
8.0	7.5	7.5	7.5	7.5	7.2				**8.0**
9.0	7.5	7.5	7.5	7.5	7.2				**9.0**
10.0	7.5	7.5	7.5	7.5	7.2				**10.0**
11.0		7.5	7.5	7.5	7.2				**11.0**
12.0		7.5	7.5	7.5	7.2				**12.0**
13.0		7.5	7.5	7.5	7.2				**13.0**
14.0			7.5	7.5	7.2				**14.0**
15.0			7.5	7.5	7.1				**15.0**
16.0			7.5	7.5	6.9				**16.0**
17.0				7.1	6.7				**17.0**
18.0				6.6	6.5				**18.0**
19.0					6.0				**19.0**
20.0					5.6				**20.0**
21.0					5.2				**21.0**
Reeves	1	1	1	1	1				**Reeves**

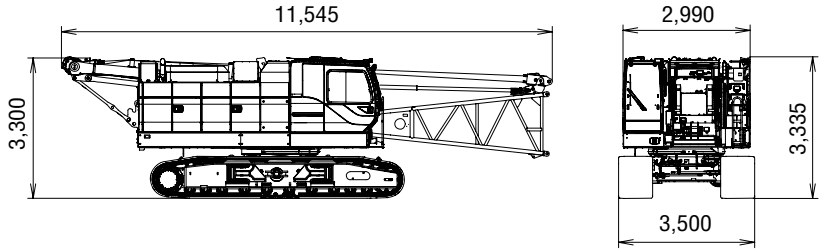
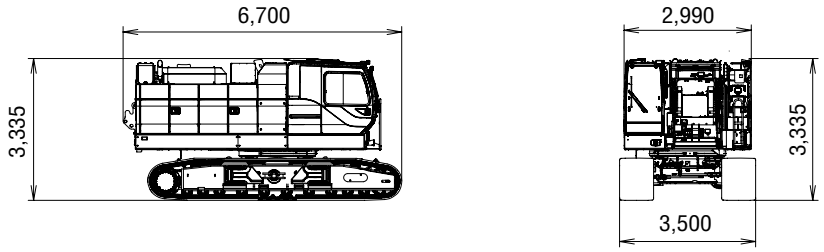
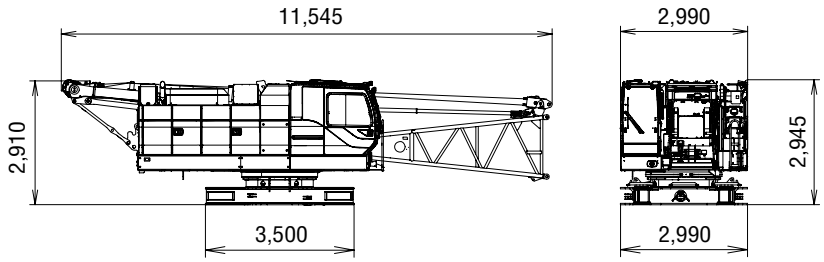
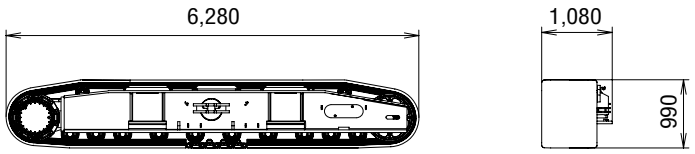
Note:Ratings according to EN13000.

Ratings shown in [ ] are determined by the strength of the boom or other structural components.

Lifting capacities may vary depending on hook used or with/without auxiliary sheave.

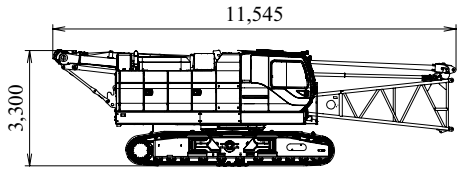
Please refer rated chart in operator's cabin.

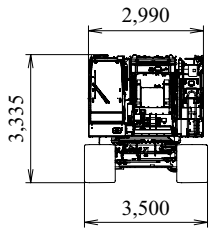
TRANSPORTATION PLAN

Name	Dimension	Weight (kg)
Base Machine • Boom base • Gantry • Crawler • Crane backstop • Wire rope (Front / rear / boom hoist)		43,200
Base Machine • Crawler • Wire rope (Front / rear drum)		39,700
Base Machine • Boom base • Gantry • Wire rope (Front / rear / boom hoist) • Crane backstop • Without crawler		28,800
Crawler		7,200

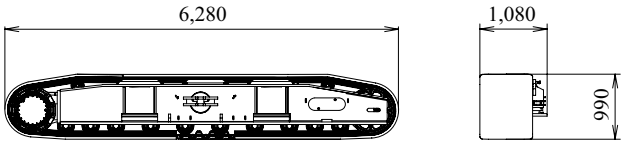
PARTS AND ATTACHMENTS

Base Machine
Boom base, Gantry, Crawler, Crane backstop
Wire rope (Front/rear/boom hoist),
Weight: 43,200 kg Width: 3,500 mm

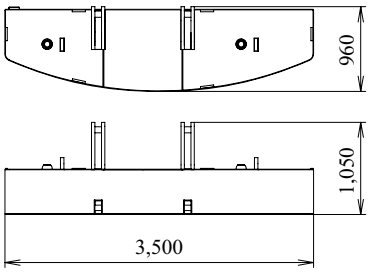




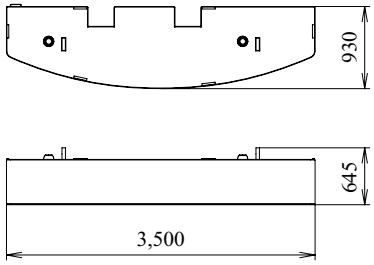
Crawler
Weight: 7,200 kg



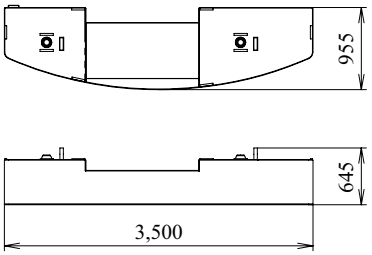
Counterweight No.1
Weight: 8,530 kg



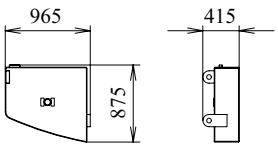
Counterweight No.2
Weight: 7,860 kg



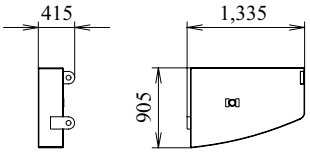
Counterweight No.3
Weight: 6,410 kg



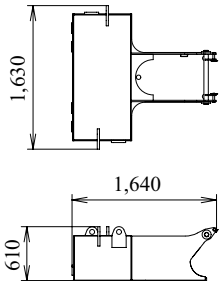
Counterweight No.4 (L)
Weight: 1,000 kg



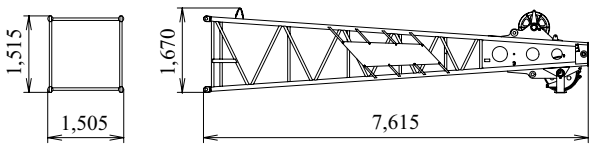
Counterweight No.5 (R)
Weight: 1,580 kg



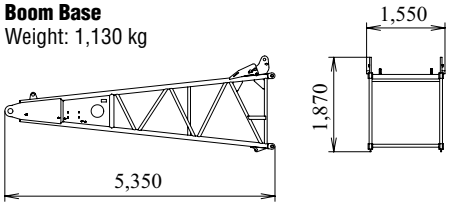
Carbody Weight
Weight: 3,270 kg



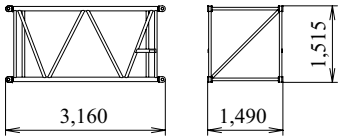
Boom Tip
Weight: 1,390 kg



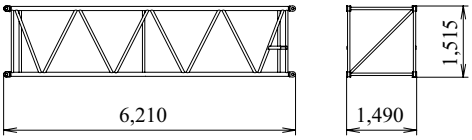
Boom Base
Weight: 1,130 kg



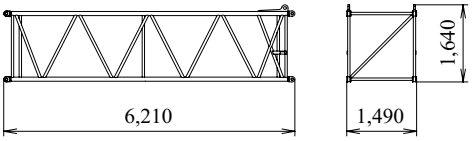
3.0 m (10 ft)
Boom Insert
Weight: 310 kg



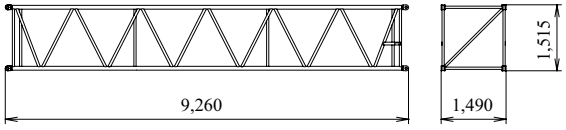
6.1 m (20 ft)
Boom Insert
Weight: 522 kg



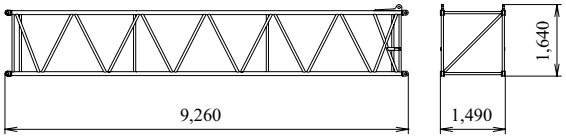
6.1 m (20 ft)
Boom Insert with Lug
Weight: 545 kg



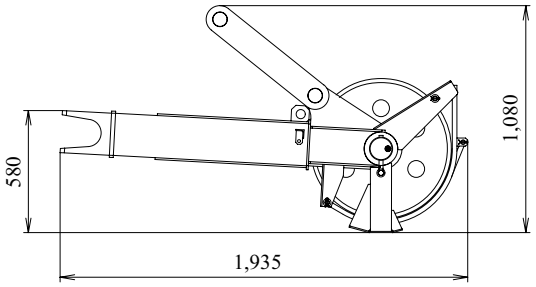
9.1 m (30 ft)
Boom Insert
Weight: 745 kg



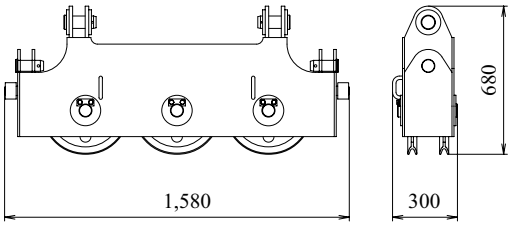
9.1 m (30 ft)
Boom Insert with Lug
Weight: 765 kg



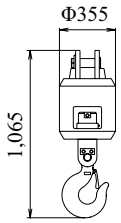
Auxiliary Sheave
Weight: 330 kg



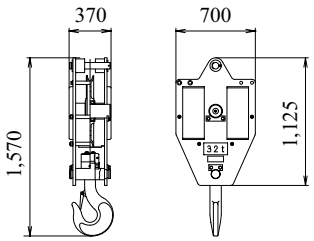
Upper Spreader
Weight: 280 kg



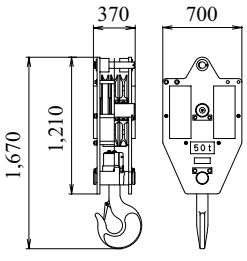
11 t Ball Hook
Weight: 300 kg



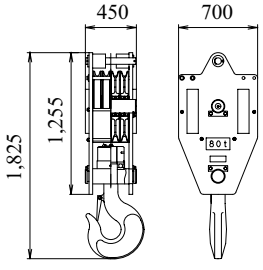
19 t Hook
Weight: 400 kg



32 t Hook
Weight: 500 kg



65 t Hook
Weight: 650 kg



Note: This catalog 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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Bulletin No. BMS800-SPEC-EU2-Ver1