



SCX400

HYDRAULIC CRAWLER CRANE

Specifications

EN Rating

HITACHI SUMITOMO

SCX400

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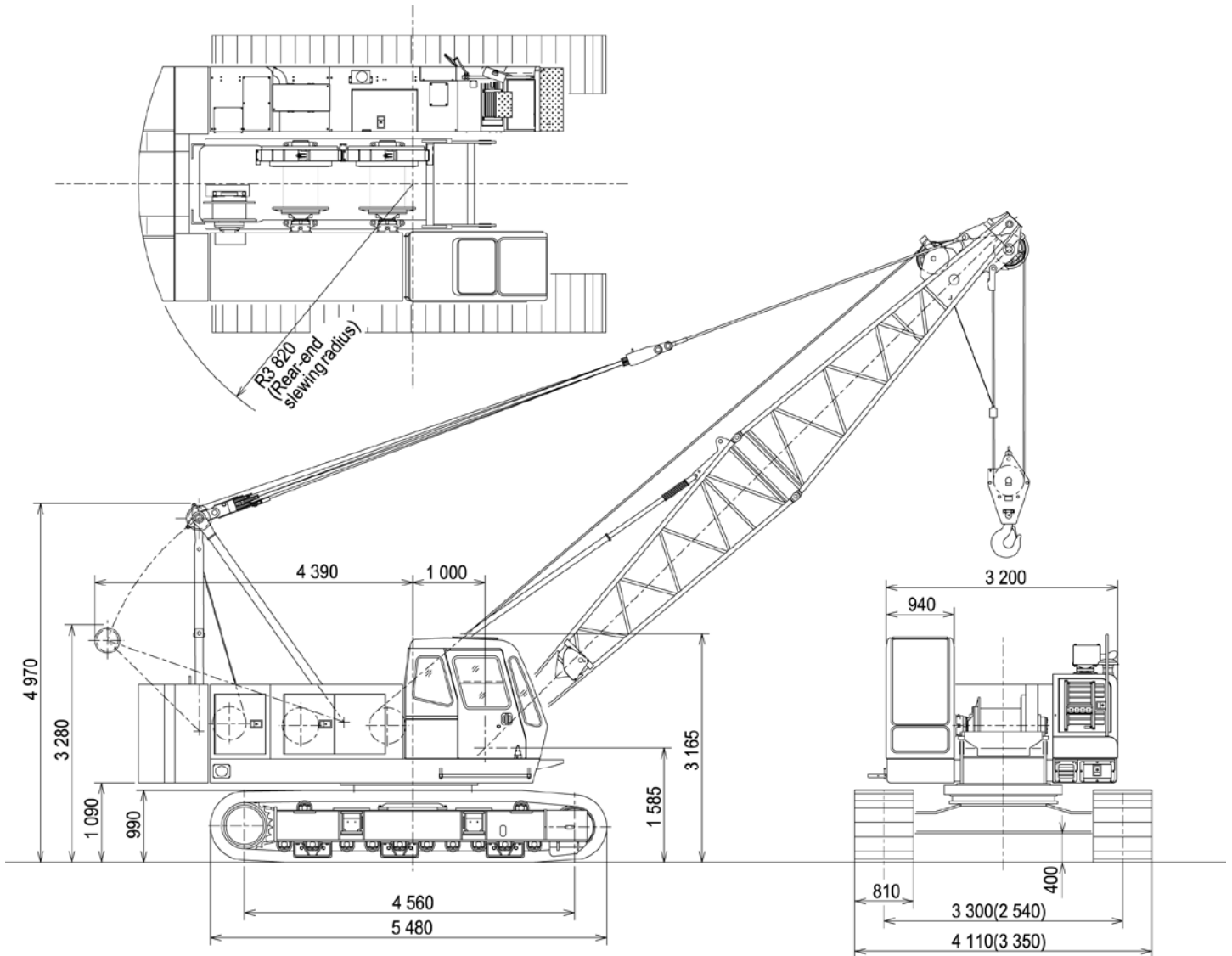


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Note: All "ton" described in this catalog represent metric tons.

■Dimensions

Unit: mm



Notes : Dimensions shown in () are with crawlers fully retracted.

■Specifications

Model	SCX400-C3		
Maximum lifting load × load radius	ton × m	40×3.7	
Basic boom length	m	10	
Maximum boom length	m	46	
Main/aux. hoisting wire rope speed	m/min	* 74	Wire Rope Diameter 22 mm
Main/aux. lowering wire rope speed	m/min	* 74	
Boom hoisting wire rope speed	m/min	* 60	Wire Rope Diameter 16 mm
Boom lowering wire rope speed	m/min	60	
Slewing speed	min ⁻¹ (rpm)	3.7 (3.7)	
Travel speed	km/h	* 1.9	
Gradeability	deg.(%) °	22 (40)	
Ground contact pressure	kPa(kgf/cm ²)	52.8 (0.54)	
Engine model	ISUZU 4HK1X		
Engine rated power	kW/min ⁻¹	147/2 100	
Operating weight	ton	42.8 (with 10 m Boom + 40 t Hook)	

Notes: 1. Data expressed above are in SI units (International System of Unit), followed by data in conventional units in ().

2. * Data will vary with the load.

■ Technical Description



Superstructure

Engine

Model.....	ISUZU 4HK1X
Type	Water-cooled, 4-cycle, 4-cylinder, direct fuel injection type diesel engine
Rated power	147 kW (200 PS) at 2 100 min ⁻¹ (DIN 6 271, net) (2 100 rpm)
Maximum torque.....	688 N·m(70 kgf·m) at 1 500 min ⁻¹ (1 500 rpm)
Piston displacement	5.19 L
Fuel tank capacity.....	300 L
Electric system	DC 24 V

Main and Auxiliary Hoist Mechanism

- The Hitachi Sumitomo SCX400 is equipped with dual hoist mechanisms, each consisting of independent main and auxiliary hoist drums driven by a hydraulic motor.
- Hoisting and lowering the load is achieved by forward/reverse rotation of the hydraulic motor.
- Power lowering is carried out with a hydraulic brake.
- Hoisting and lowering can be carried out at two speeds, fast and slow, to suit job requirements.
- Each drum is fitted with a friction band-type brake. This allows free fall (rapid lowering) of the bucket.
- Main and auxiliary hoist drums are each fitted with a pawl-type drum lock to positively hold the load in the air.
- The drum brake is an external contracting friction band-type using durable non-asbestos lining.
- The brake is controlled by the hydraulic servo system to reduce control force. With the hoist lever in neutral, auto braking or foot braking can be selected.

	<u>Main Drum</u>	<u>Aux. Drum</u>
Max. line pull	15 600 kgf	15 600 kgf
Drum diameter (P.C.D)	500 mm	500 mm
Rope diameter	22 mm	22 mm
Max. line speed	74 m/min	74 m/min
Rope length at first layer	38 m	38 m

Boom Hoist Mechanism

- Boom hoisting/lowering is done by forward/reverse rotation of a hydraulic motor. Boom lowering is made by power lowering through a hydraulic brake.
- Both hydraulic brake and spring-set/hydraulic-released multiplate disc type brake offer positive stopping of the boom. When the boom is hoisted or lowered, brakes are automatically released.
- Boom hoist drum is fitted with a pawl-type drum lock.

	<u>Boom Drum</u>
Max. line pull	8000 kgf
Rope diameter	16 mm
Max. line speed	60 m/min

Slewing Mechanism

- Independent operation separated from other functions.
- Driven by a hydraulic motor through reduction gear. Slewing speeds are freely controllable from zero to maximum speed with a single lever.

Slewing Brake

The disc-type swing brake can be hydraulically applied by the brake switch on the swing lever.

Slew Lock

Manual mechanical-lock with a rod tip engaged in the holder of the track frame for transportation.

Slewing Circle

Single-row shear-type ball bearing with heat-treated internal gear.

Revolving Frame

All welded steel construction, stress-relieved, precision-machined for rigidity and strength.

A-frame

Lowerable for transportation.

Counterweight

Total weight: 12 500 kg

Consisting of 2 sections: One 5 200 kg
One 7 250 kg



Boom

Tubular Chord Crane Boom

1 150 mm wide by 1 150 mm deep at connection, lattice construction using high-tensile steel tubular chords.

- Basic boom.....Total length 10.0 m, 2-piece construction; top section 4.5 m and base section 5.5 m.
- Boom pointOffset boom point, 3 sheaves (462 mm PCD) mounted on anti-friction bearings on boom top.
- Boom extensions3.0 m and 6.0 m long available.
- Connection type.....Pin-connected.
- Boom backstop.....Dual-rail, telescopic tubular construction with spring damper.
- Boom hoist bridle.....Serves as connection between pendants and boom hoist wire rope reeving, equipped with 6 sheaves (340 mm PCD) for 12-part boom hoist wire rope reeving.

Fly Jib

550 mm wide by 480 mm deep at connection, lattice construction using high-tensile steel tubular chords.

- Basic jibTotal length 6.0 m, 2-piece construction; top section 3.0 m and base section 3.0 m.
- Jib point1 sheave (462 mm PCD) mounted on anti-friction bearings on jib top.
- Jib extension3.0 m long available.
- Connection type.....Pin-connected.
- Short jibOptional. Attachable to the main boom top to hoist the light load quickly with a single rope.

Note : Boom extension, fly jib, or short jib can be attached to the basic boom when needed. However, both fly jib and short jib cannot be attached simultaneously to the boom.



Operator's Cab

All-weather, well-ventilated, roomy operator's cab with good visibility. The independent cab is insulated against noise and vibration.



Hydraulic System

- 2 variable displacement piston pumps allow both independent and combined operations of all functions.
- Variable displacement piston pumps control working speeds, and make effective use of engine horsepower.

	Pump-1	Pump-2
Type of pump	Variable displacement	
Pressure setting	29.4 MPa (300 kgf/cm ²)	29.4 MPa (300 kgf/cm ²)
Max. Oil flow *	216 L/min	216 L/min

	Pump-3	Pump-4
Type of pump	Variable displacement	Gear
Pressure setting	23.0 MPa (235 kgf/cm ²)	4.9 MPa (50 kgf/cm ²)
Max. Oil flow *	126 L/min	32 L/min

* with non-loaded condition

Main and Auxiliary Hoist Motors

Axial piston motors with counterbalance valves.

Boom Hoist Motor

Axial piston motor with counterbalance valve.

Slewing Motor

Axial piston motor.

Travel Motors

Axial piston motors with brake valve and spring-set/hydraulic-released multiplate disc brake.

Relief and Brake Valves

- Each hydraulic circuit incorporates large-capacity relief valves to protect circuit from overload and shock load.
- Counterbalance valves, provided for hoist motor, compensate load lowering and prevent accidental load drop if hydraulic power is suddenly reduced.
- Brake valves (consisting of relief valve and counterbalance valve) are provided for travel circuit.

Pressure Settings

Main Circuit

- Main relief valves
 - Hoist (main and aux.) 29.4 Mpa (300 kgf/cm²)
 - Slewing 23.0 MPa (235 kgf/cm²)
 - Overload relief valves
 - Hoist (main and aux.) circuits 31.4 MPa (320 kgf/cm²)
 - Boom hoist circuit 30.4 MPa (310 kgf/cm²)
 - Travel circuit 29.4 MPa (300 kgf/cm²)
- Pilot Circuit
- Main relief valve 4.9 MPa (50 kgf/cm²)

Line Filters

High-filtration 10 μm full-flow filter element is incorporated in the return line. Pilot filter and suction filter are provided in each circuit.

 **Undercarriage****Traction mechanism**

- Each track is driven by an axial piston motor through reduction gear. This mechanism allows counter-rotation of tracks for maneuverability in close quarters.
- When the lever is in neutral position, both hydraulic brake and spring-set / hydraulic-released multiplate disc brake are automatically applied for stopping.

Track Frame

All-welded, stress-relieved, box-section construction.

Side Frames

Side frames of all-welded construction can be retracted for transportation.

Side Frame Retract Unit

- Side frames are extended and retracted with a hydraulic cylinder located inside the track frame. Hydraulic power source for a hydraulic cylinder is separated from other systems to allow combined operation of travel and side frame.
- The side frames are extended and retracted quickly without need for piping.

Track Shoes

Track shoes with triple grouser mode of induction-hardened rolled alloy. Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

No. of upper rollers (each side)	2
No. of lower rollers (each side).....	10
No. of track shoes (each side).....	56
Shoe width.....	810 mm

 **Controls****Boom, Main and Auxiliary Hoist, Slewing and Travel**

Remote controlled hydraulic servo. Working speed can be precisely controlled according to lever stroke.

● Engine Accelerator

Engine power can be controlled by two ways; the accelerator lever and foot throttle.

● Monitor Telling Machine Conditions

With the monitor, the operator can check, at a glance, engine oil pressure, water temperature and fuel level, as well as levels of hydraulic oil, engine oil and coolant. The red light turns on and/or the buzzer sounds in the event of an abnormality.

 **Safety Device****Boom Angle Indicator**

Mechanical-type boom angle indicator is provided at boom foot.

Counterbalance Valves (Brake Valves)

Counterbalance valves are each incorporated in travel motors, boom hoist motor, and main and auxiliary hoist motors. If the hydraulic line is broken, this valve is automatically actuated to prevent motor rotation.

Spring-Set/Hydraulic-Released Multiplate Disc Type Travel Brakes**Drum Locks**

The pawl-type drum locks are provided at main drum, auxiliary drum and boom drum.

Slew Lock

Mechanically operated drop pin; available to firmly lock superstructure in four positions of facing front or rear or left or right to undercarriage.

Slewing Brake

Spring-applied, power hydraulically released multiple wet-disc type; provided on each of hydraulic motor.

Lock Lever (Fool Proof Shut-off Lever)

The fool proof shut-off lever shuts out the hydraulic pilot pressure to pilot control valves. With the lock lever in the LOCK position, the machine will not operate even if the lever is accidentally shifted.

Fail-Safe Mechanism

The related movements stop automatically if an electric wire is broken.

Speed Slowdown Device

This is for speed slowdown of hoisting and lowering motions of boom (and tower jib in case of luffing towercrane att.) which are both upper and lower side limits of boom/tower jib angle even though control lever(s) is still at hoisting/lowering position to prevent a shock.

Engine Start Interlock System

Available not to start engine whenever drum brake mode is in "free-fall".

Emergency Engine Stop Switch

Located at cab instrument panel, and available to stop engine whenever it is necessary.

Free-fall Interlocking

Available on both front and rear main drum brake lines for fail-safe operation. Functions that free-fall brake mode is only available when drum brake pedal is pressed even though brake mode is switched on free-fall mode.

Devices for Crane Operation**● Load Moment Indicator**

On the load moment indicator, analog displays and pictorial load indications are functionally arranged for easy reading.

● Main Hook Over-Hoisting Limiter

When the hook reaches its hoist limit, the bell sounds and the auto-stop automatically actuates at the same time.



Service Refill Capacities

● Boom Over-Hoisting Limiter

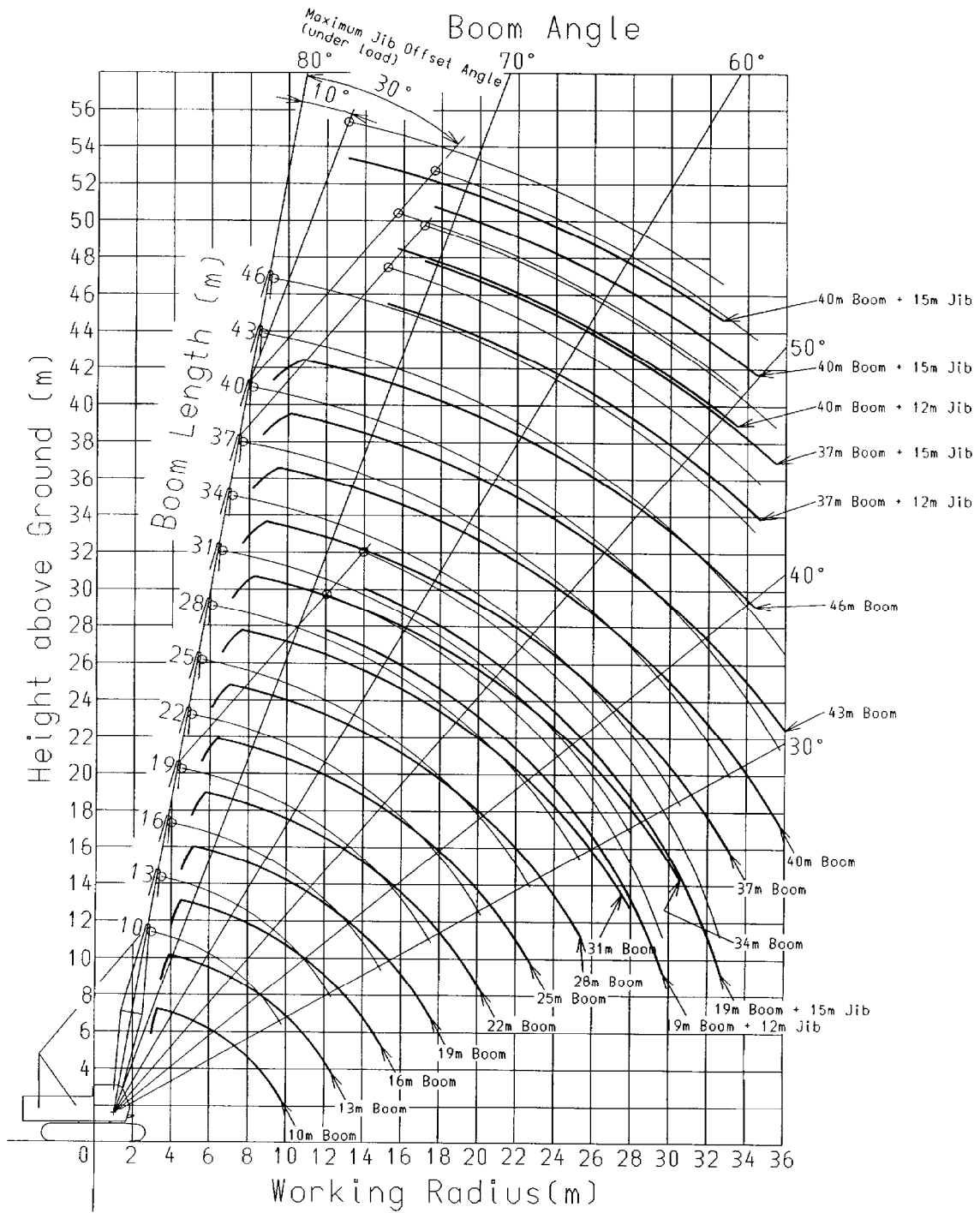
When the boom reaches its angle limit, the buzzer alarm sounds and boom hoisting automatically stops at the same time. The telescopic-type boom backstop is also provided.

● Secondary Boom Over-Hoisting Limiter

In addition to the main hook over-hoisting limiter and boom over-hoisting limiter, the secondary boom over-hoisting limiter is provided.

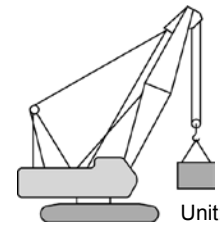
	Liter
Fuel tank	300
Engine coolant	27
Engine oil	23
Boom hoist reduction device	9.5
Winch hoist reduction device	12.5×2
Slewing reduction device	8
Travel reduction device	11.5×2
Hydraulic system, including tank capacity	305
Hydraulic tank	225

■ Working Ranges



■ Correlation between the number of rope falls, maximum rated loads, hook weight are shown in the table below.

Hook Capacity (ton)	Hook Weight (ton)	Maximum rated loads (ton)					
		6	5	4	3	2	1
40.0	0.41	40.0	32.5	26.0	19.5	13.0	—
15.0	0.32	—	—	—	15.0	13.0	—
6.5	0.18	—	—	—	—	—	6.5



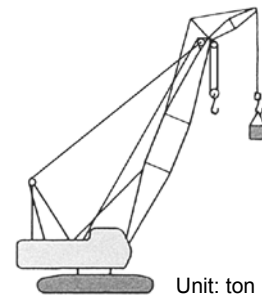
Unit: ton

■Rated Loads for Main Boom (EN rating)

Working Radius (m)	Boom length (m)						
	10	13	16	19	22	25	28
3.5	40.00						
3.7	40.00	40.00					
4.0	35.45	35.40	4.2m×32.65t				
4.5	29.45	29.35	29.30	4.7m×27.35t			
5.0	25.15	25.05	25.00	24.95	5.3m×22.85t		
5.5	21.90	21.80	21.75	21.70	21.65	5.8m×20.00t	
6.0	19.40	19.30	19.20	19.15	19.10	19.05	6.4m×17.35t
7.0	15.70	15.65	15.55	15.50	15.45	15.35	15.30
8.0	13.20	13.10	13.00	12.95	12.90	12.80	12.75
9.0	11.35	11.25	11.10	11.05	11.00	10.95	10.85
10.0	9.7m×10.30t	9.80	9.70	9.65	9.55	9.50	9.45
12.0		7.80	7.65	7.60	7.55	7.45	7.40
14.0		12.3m×7.55t	6.30	6.20	6.15	6.05	6.00
16.0			14.9m×5.80t	5.25	5.15	5.05	5.00
18.0				17.5m×4.65t	4.40	4.30	4.20
20.0					3.80	3.70	3.60
22.0					20.1m×3.75t	3.20	3.10
24.0						22.7m×3.05t	2.70
26.0							25.3m×2.50t

Working Radius (m)	Boom length (m)					
	31	34	37	40	43	46
6.9	15.55					
7.0	15.25	7.5m×13.75t				
8.0	12.65	12.60	11.95	8.6m×10.40t		
9.0	10.80	10.70	10.70	10.25	9.1m×9.05t	9.7m×7.80t
10.0	9.35	9.25	9.25	9.15	8.80	7.75
12.0	7.30	7.20	7.20	7.10	7.00	6.90
14.0	5.90	5.80	5.80	5.65	5.60	5.50
16.0	4.90	4.80	4.75	4.65	4.55	4.45
18.0	4.10	4.00	3.95	3.85	3.75	3.65
20.0	3.50	3.40	3.35	3.25	3.15	3.05
22.0	3.00	2.90	2.85	2.75	2.65	2.55
24.0	2.60	2.50	2.45	2.35	2.25	2.15
26.0	2.30	2.15	2.10	2.00	1.90	1.80
28.0	27.9m×2.00t	1.90	1.80	1.70	1.60	1.50
30.0		1.65	1.55	1.45	1.35	1.25
32.0		30.5m×1.60t	1.35	1.25	1.15	1.05
34.0			33.1m×1.25t	1.05	0.95	0.85
36.0				35.7m×0.90t	0.80	34.4m×0.80t

- Notes:
1. The rated loads are determined according to EN13000 rating on the condition that the machine is stationed on firm, level ground.
 2. To calculate the maximum load that can actually be lifted, deduct weight of all lifting accessories, such as main and aux. hooks, from figures shown above.
 3. Working radius is the horizontal distance from the slewing center to the center of gravity of a lifted load.
 4. The counterweight is 12.5 ton.
 5. Be sure to fully extend the side frames before operating the machine.
 6. Rated line pull is 6 500 kgf when 22 mm dia. wire rope is used.
 7. Figures described as ○○m×○○t in the tables indicate working radius (m) × rated load (ton).



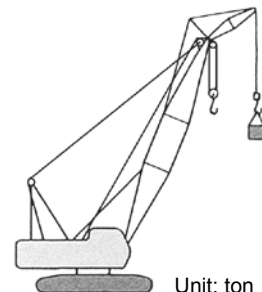
Unit: ton

■Rated Loads for Jib Boom (EN rating) (1)

Main Boom Length (m)	19							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
6.9	6.50							
7.0	6.50		7.9m×6.50t					
8.0	6.50	8.7m×6.50t	6.50					
9.0	6.50	6.50	6.50		6.50			
10.0	6.50	6.50	6.50	10.6m×6.25t	6.50		5.90	
12.0	6.50	6.50	6.50	5.95	6.50	12.6m×4.80t	5.70	
14.0	6.20	6.30	6.30	5.50	6.35	4.50	5.45	14.5m×3.65t
16.0	5.15	5.25	5.25	5.15	5.30	4.15	5.10	3.45
18.0	4.40	4.40	4.40	4.60	4.50	3.85	4.50	3.15
20.0	3.80	3.85	3.85	3.95	3.90	3.60	3.95	2.95
22.0	3.30	3.30	3.35	3.40	3.40	3.40	3.45	2.75
24.0	23.5m×2.95t	23.9m×2.90t	2.95	3.00	3.00	3.05	3.00	2.60
26.0			2.60	2.60	2.65	2.70	2.65	2.45
28.0			26.3m×2.55t	26.9m×2.50t	2.30	2.40	2.30	2.35
30.0					29.1m×2.20t	29.9m×2.15t	2.15	2.20
32.0							31.9m×1.90t	1.95
34.0								32.9m×1.85t

Main Boom Length (m)	22							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
7.4	6.50							
8.0	6.50		8.5m×6.50t					
9.0	6.50	9.2m×6.50t	6.50		9.5m×6.50t			
10.0	6.50	6.50	6.50	11.2m×6.25t	6.50		10.6m×5.90t	
12.0	6.50	6.50	6.50	6.05	6.50	13.1m×4.80t	5.75	
14.0	6.10	6.25	6.20	5.70	6.25	4.65	5.55	15.1m×3.65t
16.0	5.05	5.20	5.15	5.35	5.20	4.30	5.25	3.55
18.0	4.30	4.40	4.35	4.50	4.40	4.00	4.45	3.25
20.0	3.65	3.75	3.75	3.85	3.80	3.75	3.85	3.05
22.0	3.15	3.20	3.25	3.35	3.30	3.45	3.35	2.85
24.0	2.75	2.80	2.80	2.90	2.85	3.00	2.90	2.70
26.0	2.40	2.45	2.45	2.55	2.50	2.60	2.55	2.55
28.0	26.1m×2.40t	26.5m×2.35t	2.20	2.20	2.20	2.30	2.25	2.30
30.0			28.9m×2.05t	29.5m×2.00t	1.95	2.00	2.00	2.15
32.0					31.7m×1.80t	1.80	1.80	1.85
34.0						32.5m×1.75t	1.60	1.65
35.5							34.5m×1.55t	1.50

- Notes:
1. The rated loads are determined according to EN13000 rating on the condition that the machine is stationed on firm, level ground.
 2. To calculate the maximum load that can actually be lifted, deduct weight of all lifting accessories, such as main and aux. hooks.
 3. Working radius is the horizontal distance from the slewing center to the center of gravity of a lifted load.
 4. The offset angles shown are of jib boom offset angle against the main boom, under load.
 5. The counterweight is 12.5 ton.
 6. Be sure to fully extend the side frames before operating the machine.
 7. Figures described as ○Om×○Ot in the tables indicate working radius (m) × rated load (ton).



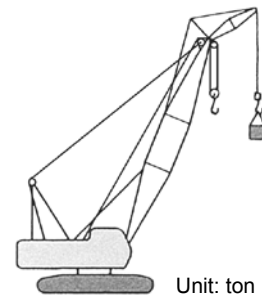
Unit: ton

■Rated Loads for Jib Boom (EN rating) (2)

Main Boom Length (m)	25							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
8.0	6.50							
9.0	6.50	9.8m×6.50t	6.50					
10.0	6.50	6.50	6.50	11.7m×6.25t	10.1m×6.50t		11.1m×5.90t	
12.0	6.50	6.50	6.50	6.20	6.50	13.7m×4.80t	5.80	
14.0	6.00	6.15	6.10	5.80	6.15	4.75	5.60	15.6m×3.65t
16.0	5.00	5.10	5.05	5.25	5.10	4.40	5.20	3.60
18.0	4.20	4.30	4.25	4.40	4.35	4.10	4.40	3.35
20.0	3.55	3.65	3.65	3.80	3.70	3.85	3.75	3.15
22.0	3.05	3.10	3.10	3.25	3.20	3.35	3.20	2.95
24.0	2.65	2.70	2.70	2.80	2.75	2.90	2.80	2.80
26.0	2.30	2.30	2.30	2.45	2.40	2.55	2.45	2.60
28.0	2.00	2.05	2.05	2.15	2.15	2.20	2.15	2.30
30.0	28.7m×1.95t	29.0m×1.90t	1.80	1.85	1.85	1.95	1.90	2.00
32.0			31.5m×1.65t	1.65	1.65	1.70	1.65	1.75
34.0					1.45	1.50	1.50	1.55
36.0					34.3m×1.45t	35.0m×1.40t	1.30	1.35
38.0							37.1m×1.25t	1.20

Main Boom Length (m)	28							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
8.5	6.50							
9.0	6.50		9.6m×6.50t					
10.0	6.50	10.3m×6.50t	6.50		10.6m×6.50t		11.7m×5.90t	
12.0	6.50	6.50	6.50	12.3m×6.25t	6.50		5.85	
14.0	5.95	6.10	6.00	5.95	6.10	14.2m×4.80t	5.65	
16.0	4.90	5.05	5.00	5.20	5.05	4.50	5.10	16.2m×3.65t
18.0	4.10	4.25	4.15	4.35	4.25	4.25	4.30	3.45
20.0	3.45	3.55	3.55	3.70	3.60	3.85	3.65	3.20
22.0	2.95	3.05	3.00	3.15	3.10	3.30	3.15	3.05
24.0	2.55	2.60	2.60	2.75	2.65	2.85	2.70	2.85
26.0	2.20	2.25	2.25	2.30	2.30	2.45	2.30	2.55
28.0	1.90	1.95	1.95	2.05	2.00	2.15	2.05	2.20
30.0	1.65	1.70	1.70	1.75	1.75	1.85	1.80	1.95
32.0	31.3m×1.50t	31.6m×1.50t	1.50	1.55	1.55	1.60	1.55	1.70
34.0			1.30	1.35	1.35	1.40	1.35	1.45
36.0			34.1m×1.30t	34.6m×1.30t	1.20	1.20	1.20	1.30
38.0					36.9m×1.10t	37.6m×1.10t	37.0m×1.10t	1.10

- Notes: 1. The rated loads are determined according to EN13000 rating on the condition that the machine is stationed on firm, level ground.
 2. To calculate the maximum load that can actually be lifted, deduct weight of all lifting accessories, such as main and aux. hooks.
 3. Working radius is the horizontal distance from the slewing center to the center of gravity of a lifted load.
 4. The offset angles shown are of jib boom offset angle against the main boom, under load.
 5. The counterweight is 12.5 ton.
 6. Be sure to fully extend the side frames before operating the machine.
 7. Figures described as ○○m×○○t in the tables indicate working radius (m) × rated load (ton).



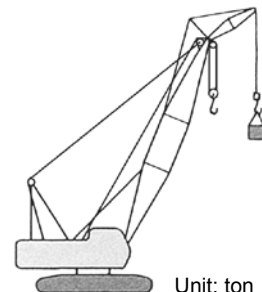
Unit: ton

■Rated Loads for Jib Boom (EN rating) (3)

Main Boom Length (m)	31							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
9.1	6.50							
10.0	6.50	10.9m×6.50t	10.1m×6.50t		11.2m×6.50t			
12.0	6.50	6.50	6.50	12.8m×6.25t	6.50		12.2m×5.90t	
14.0	5.85	6.05	5.95	6.05	6.00	14.8m×4.80t	5.70	
16.0	4.80	4.90	4.90	5.15	4.90	4.60	5.00	16.7m×3.65t
18.0	4.00	4.15	4.05	4.30	4.15	4.35	4.20	3.50
20.0	3.35	3.45	3.45	3.60	3.50	3.75	3.55	3.30
22.0	2.85	2.95	2.90	3.10	3.00	3.20	3.05	3.10
24.0	2.45	2.50	2.50	2.65	2.55	2.75	2.60	2.85
26.0	2.15	2.15	2.15	2.25	2.20	2.30	2.25	2.45
28.0	1.80	1.85	1.85	1.95	1.90	2.05	1.95	2.15
30.0	1.55	1.60	1.60	1.70	1.65	1.75	1.70	1.85
32.0	1.35	1.35	1.40	1.45	1.45	1.55	1.45	1.60
34.0	33.9m×1.15t	1.15	1.20	1.25	1.25	1.30	1.25	1.40
36.0		34.2m×1.15t	35.0m×1.10t	35.1m×1.10t	35.1m×1.10t	1.15	1.10	1.20
37.0						36.4m×1.10t		1.10

Main Boom Length (m)	34							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
9.6	6.50							
10.0	6.50	11.4m×6.50t	10.7m×6.50t		11.7m×6.50t			
12.0	6.50	6.50	6.50	13.4m×6.20t	6.50		12.8m×5.85t	
14.0	5.75	5.95	5.85	6.10	5.90	15.3m×4.80t	5.75	
16.0	4.65	4.85	4.75	5.05	4.85	4.70	4.90	17.3m×3.65t
18.0	3.85	4.05	3.95	4.20	4.05	4.35	4.10	3.55
20.0	3.25	3.35	3.30	3.55	3.40	3.65	3.45	3.35
22.0	2.70	2.85	2.80	3.00	2.85	3.10	2.90	3.20
24.0	2.30	2.40	2.40	2.55	2.45	2.65	2.50	2.75
26.0	1.95	2.05	2.05	2.15	2.15	2.30	2.15	2.40
28.0	1.65	1.75	1.75	1.85	1.80	1.95	1.85	2.05
30.0	1.40	1.45	1.50	1.60	1.55	1.65	1.55	1.75
32.0	1.20	1.25	1.25	1.35	1.30	1.45	1.35	1.50
34.0	33.0m×1.10t	33.1m×1.10t	33.1m×1.10t	1.15	1.10	1.20	1.15	1.30
36.0				34.4m×1.10t		35.0m×1.10t	34.5m×1.10t	1.10

- Notes:
1. The rated loads are determined according to EN13000 rating on the condition that the machine is stationed on firm, level ground.
 2. To calculate the maximum load that can actually be lifted, deduct weight of all lifting accessories, such as main and aux. hooks.
 3. Working radius is the horizontal distance from the slewing center to the center of gravity of a lifted load.
 4. The offset angles shown are of jib boom offset angle against the main boom, under load.
 5. The counterweight is 12.5 ton.
 6. Be sure to fully extend the side frames before operating the machine.
 7. Figures described as ○○m×○○t in the tables indicate working radius (m) × rated load (ton).



Unit: ton

■Rated Loads for Jib Boom (EN rating) (4)

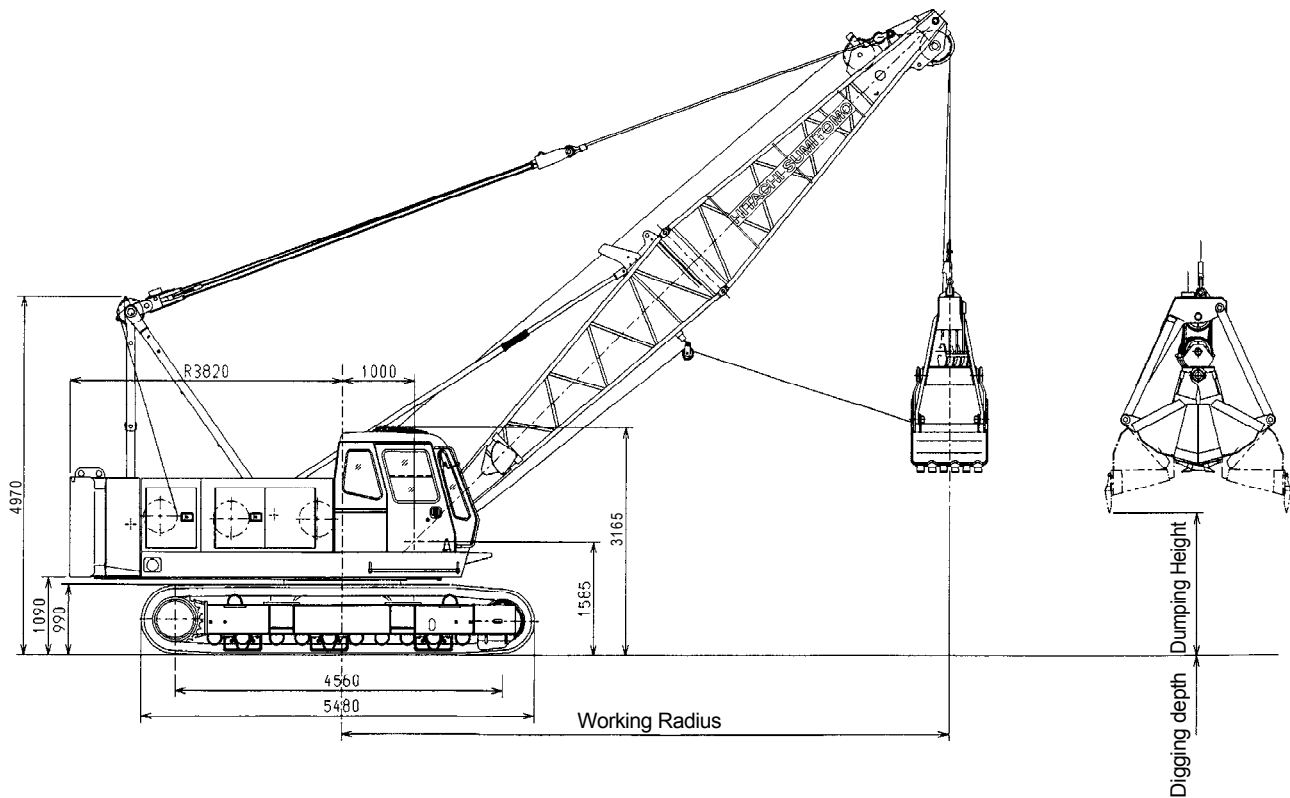
Main Boom Length (m)	37							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
10.2	6.50		11.2m×6.50t					
12.0	6.50	6.50	6.50	13.9m×5.45t	12.3m×6.50t		13.3m×5.75t	
14.0	5.70	5.90	5.70	5.40	5.70	15.9m×4.30t	5.60	
16.0	4.60	4.80	4.75	5.00	4.80	4.30	4.80	17.8m×3.55t
18.0	3.80	4.00	3.90	4.15	3.95	4.05	4.05	3.55
20.0	3.15	3.30	3.25	3.50	3.30	3.65	3.40	3.35
22.0	2.65	2.80	2.75	2.95	2.80	3.05	2.85	3.15
24.0	2.25	2.30	2.30	2.50	2.40	2.60	2.45	2.70
26.0	1.90	2.00	1.95	2.15	2.00	2.20	2.05	2.30
28.0	1.60	1.70	1.65	1.80	1.70	1.90	1.75	2.00
30.0	1.35	1.40	1.40	1.50	1.45	1.60	1.50	1.70
32.0	1.15	1.20	1.20	1.30	1.25	1.35	1.25	1.45
34.0	32.4m×1.10t	33.0m×1.10t	33.0m×1.10t	33.3m×1.10t	33.1m×1.10t	1.15	1.10	1.25
35.1						34.4m×1.10t		1.10

Main Boom Length (m)	40							
Jib Boom Length (m)	6		9		12		15	
Offset Angle (°)	10	30	10	30	10	30	10	30
Working Radius (m)	10	30	10	30	10	30	10	30
10.2	10.7m×6.50t		11.8m×6.50t					
12.0	6.50	12.5m×5.90t	6.50		12.8m×5.70t		13.9m×4.95t	
14.0	5.50	5.60	5.50	14.5m×4.45t	5.45		4.90	
16.0	4.50	4.75	4.60	4.30	4.60	16.4m×3.55t	4.55	
18.0	3.70	3.90	3.80	4.05	3.85	3.40	3.95	18.4m×2.90t
20.0	3.05	3.20	3.15	3.40	3.20	3.20	3.30	2.75
22.0	2.55	2.70	2.65	2.85	2.70	3.00	2.75	2.60
24.0	2.15	2.25	2.20	2.40	2.25	2.50	2.30	2.45
26.0	1.80	1.90	1.85	2.00	1.90	2.15	1.95	2.25
28.0	1.50	1.55	1.55	1.70	1.60	1.80	1.65	1.90
30.0	1.25	1.30	1.30	1.40	1.35	1.50	1.40	1.60
32.0		1.10	31.3m×1.10t	1.20	1.10	1.30	1.15	1.35
34.0				32.7m×1.10t		33.3m×1.10t	32.4m×1.10t	1.15
35.1								34.4m×1.10t

- Notes:
1. The rated loads are determined according to EN13000 rating on the condition that the machine is stationed on firm, level ground.
 2. To calculate the maximum load that can actually be lifted, deduct weight of all lifting accessories, such as main and aux. hooks.
 3. Working radius is the horizontal distance from the slewing center to the center of gravity of a lifted load.
 4. The offset angles shown are of jib boom offset angle against the main boom, under load.
 5. The counterweight is 12.5 ton.
 6. Be sure to fully extend the side frames before operating the machine.
 7. Figures described as ○○m×○○t in the tables indicate working radius (m) × rated load (ton).

■Dimensions

Unit: mm



■Specifications

Model	SCX400-C3		
Bucket capacity	m ³	0.8/1.0/1.2	
Allowable clamshell gross weight	ton	6.0	
Max. bare line pull (1st drum layer)	ton	15.6	
Boom length	m	10 - 19	
Max. digging depth	m	36	
Suspend line speeds	m/min	* 74	Rope 22 m dia.
Open/close line speeds	m/min	* 74	Rope 22 m dia.
Boom hoist/lower line speeds	m/min	*.60	Rope 16 m dia.
Travel speeds	km/h	* 1.9	
Slewing speeds	min ⁻¹ (rpm)	3.7(3.7)	
Ground contact pressure	kPa (kgf/cm ²)	55.8 (0.57)	
Operating weight	ton	45.1 (10 m boom + 1.0 m ³ bucket)	

■Clamshell Bucket

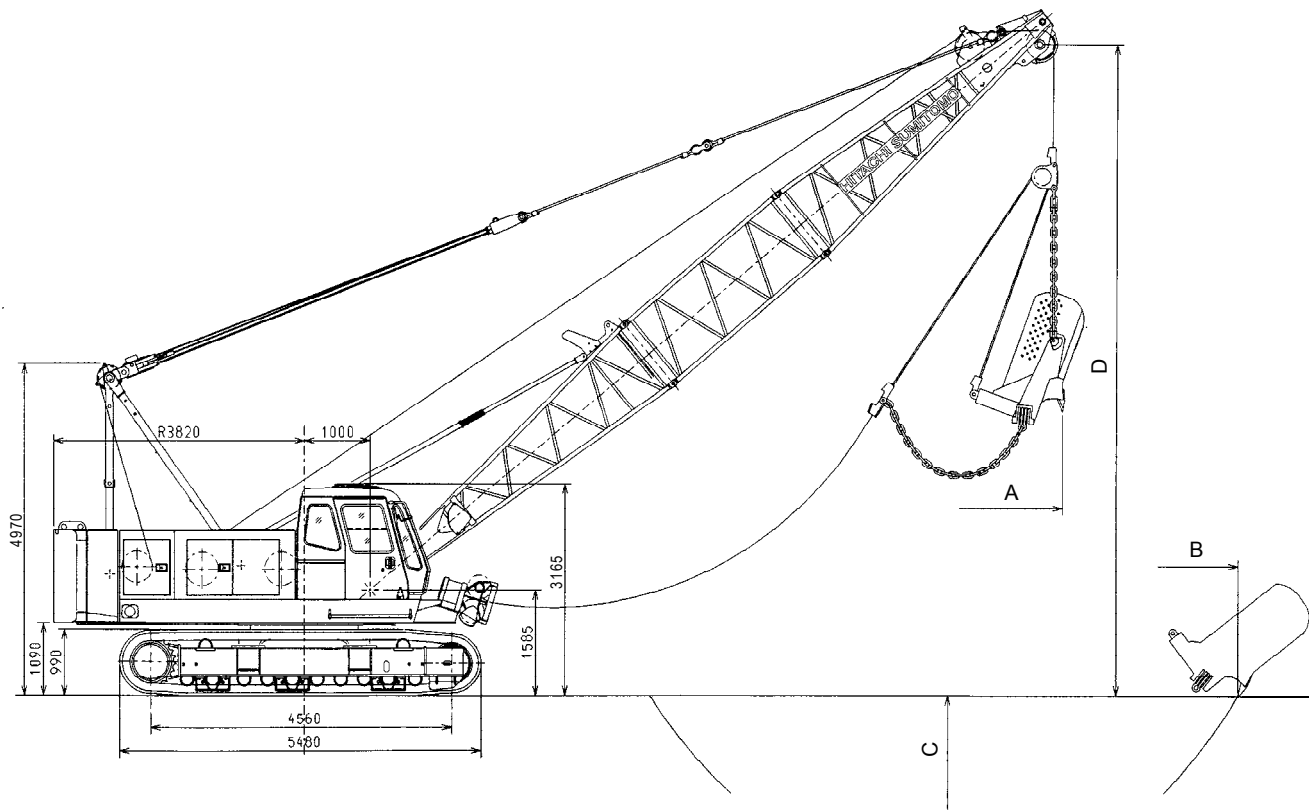
Capacity (m ³)	Weight (ton)	Use
0.8	2.00	Excavation
1.0	2.45	Excavation
1.2	2.40	Excavation (Light service)

- Notes: 1.Data is expressed in SI units, along with conventional units in ().
 2.Other specifications, not shown, are similar to those for the crawler crane.
 3.Data marked with an asterisk (*) will vary with the load.

■Working Ranges

Boom length	m	10				13				16				19			
		35	45	55	65	35	45	55	65	35	45	55	65	35	45	55	65
Working radius	m	9.5	8.5	7.1	5.7	12.0	10.6	8.9	6.9	14.5	12.7	10.6	8.2	16.9	14.8	12.3	9.5
Rated load	ton	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	5.42	6.00	6.00	6.00	4.40	5.23	6.00	6.00
Bucket dumping height	m	0.8 m ³ bucket															
0.8 m ³ bucket		2.0	3.3	4.5	5.4	3.7	5.5	7.0	8.1	5.4	7.6	9.4	10.8	7.1	9.7	11.9	13.6
1.0 m ³ bucket		1.8	3.1	4.3	5.2	3.5	5.3	6.8	7.9	5.2	7.4	9.2	10.6	6.9	9.5	11.7	13.4
1.2 m ³ bucket		1.6	2.9	4.1	5.0	3.3	5.1	6.6	7.7	5.0	7.2	9.0	10.4	6.7	9.3	11.5	13.2

- Notes: 1.Rated loads for clamshell do not exceed 90% those for crane.
 2.The rated loads shown are upper limits determined by the following equation. Please select a bucket in such a manner that its rated load does not exceed the rated load shown above, according to kinds of the loads handled.
 Rated load = Bucket capacity (m³) × Specific gravity of load (ton/m³) + Bucket weight (ton)
 Be careful that brake will be overheated if the bucket is too heavy even within the rated loads.
 3.Working radius is the horizontal distance from the slewing center to the center of gravity of lifted load.
 4.The bucket weight is 2.45 ton max.
 5.The counterweight is 12.5 ton.
 6.Be sure to fully extend the side frames before operating the machine.
 7.Free fall using brake will vary with operating conditions such as bucket weight and work cycle, but its height should be within 10 m.



■Specifications

Bucket capacity	m ³	0.97/1.35/1.54	
Max. bare line pull (1st drum layer)	ton	15.6	
Boom length	m	13 - 19	
Suspend line speeds	m/min	* 74	Rope 22 m dia. (Opt. 24 mm)
Drag line speeds	m/min	* 74	Rope 22 m dia. (Opt. 24 mm)
Boom hoist/lower line speed	m/min	60	Rope 16 m dia.
Travel speeds	km/h	* 1.9	
Slewing speeds	min ⁻¹ (rpm)	* 3.7 (3.7)	
Ground contact pressure	kPa(kgf/cm ²)	54.7 (0.56)	
Operating weight	ton	44.2 (10 m boom + 1.35 m ³ bucket)	

■Dragline Bucket

Capacity (m ³)	Weight (ton)	Use
0.97	1.18	Heavy duty
1.35	1.54	Medium service
1.54	1.45	Light service

Notes: 1.Data is expressed in SI units, along with conventional units in ().
 2.Other specifications, not shown, are similar to those for the crawler crane.
 3.Data marked with an asterisk (*) will vary with the load.

■Working Ranges

Boom length	m	13			16			19		
		30	40	50	30	40	50	30	40	50
A. Working radius	m	12.5	11.3	9.8	15.1	13.6	11.7	17.7	15.9	13.6
Rated load	ton	5.00	5.81	6.95	3.85	4.45	5.46	3.05	3.53	4.40
B. Max. digging reach	m	16.0	15.7	14.9	19.3	18.9	17.8	22.6	22.0	20.8
C. Max. digging depth	m	8.7	8.4	7.8	11.1	10.8	10.0	13.6	13.2	12.2
D. Boom point height	m	7.9	9.8	11.4	9.4	11.7	13.7	10.9	13.6	16.0

Notes: 1.The size of the bucket has to be determined according to local conditions.
 2.The rated loads shown are upper limits determined by the following equation. Please select a bucket in such a manner that its rated load does not exceed the rated load shown above, according to kinds of the loads handled.

$$\text{Rated load} = \text{Bucket capacity (m}^3\text{)} \times \text{Specific gravity of load (ton/m}^3\text{)} + \text{Bucket weight (ton)}$$
 Be careful that brake will be overheated if the bucket is too heavy even within the rated loads.
 3.Working radius is the horizontal distance from the slewing center to the center of gravity of lifted load.
 4.Maximum digging reach/depth may vary considerable depending on digging condition and the skill of the operator.
 5.The counterweight is 12.5 ton.
 6.Be sure to fully extend the crawlers before operating the machine.

STANDARD AND OPTIONAL EQUIPMENT

BASIC MACHINE

	STANDARD	OPTION
Undercarriage	<ul style="list-style-type: none"> • Tractor type track with 810mm wide 3-bar grouser shoes • Side frame retract unit • Crawler side step 	
Superstructure	<ul style="list-style-type: none"> • Working lights (2pc) • Rearview mirrors (left and right) • Drum mirror • Centralized lubrication system (for A-frame and slewing circle) • Superstructure under-cover • Cab side step • Re-fuel pump • Speed controller • A-frame(w/o steps) • 12.5ton counterweight 	<ul style="list-style-type: none"> • Third hoisting mechanism • Drum rollers (front and rear drum) • Catwalk • Machinery cab railing • Working light • Speed controller (for boom hoisting mechanism) • Drum light • Removable company nameplate • Hydraulic tagline • Add. fuel filter • Add. air cleaner element
Cab	<ul style="list-style-type: none"> • Dual, intermittent window shield wipers with washer ; available on both front and roof windows • Sunvisor • Sunshade • Cab floor mat • Room light • Cigar lighter • Ashtray • AM/FM radio with clock • Built-in type full air conditioner • Engine foot throttle • Electric tilt-type lever stand 	<ul style="list-style-type: none"> • Microphone and loud-speaker • Fire extinguisher • Electric cab fan • Level gauge • Front/rear drum control lever and brake pedal arrangement
Safety Devices	<ul style="list-style-type: none"> • Load moment indicator • Lock lever (Fool proof shut-off lever) • Emergency engine stop switch • Engine start interlock system • Non drum brake preventing device • Slewing brake • Free fall interlocking • Speed slowdown device • Before-work check monitor • Main hook over-hosting limiter • Boom over-hoisting limiter • Secondary boom over-hoisting limiter • Slewing alarm • Slew lock • Drum lock (main and aux. hoist, and boom hoist) • Fail-safe mechanism • Brake mode selector switch (interlocked) • Boom angle indicator 	<ul style="list-style-type: none"> • Three color percentage indicator • LMI mode select switch • Anemometer • Drum & rear view camera • Cabin roof window guard • Travel alarm • Drum rope over-payout limiter • Aux. hook over-hoisting limiter • Open/close and suspend cable disengagement limiter (for tubular chord boom) • Hook over hoisting limiter for bucket • Emergency escape hammer

■STANDARD AND OPTIONAL EQUIPMENT

FRONT ATTACHMENTS

	STANDARD	OPTION
Crane	<ul style="list-style-type: none"> • 10m basic boom (base section 5.5m, top section 4.5m) • Boom backstop • Main hoist cable (22mm dia. X 145m) • Boom hoist cable (16mm dia. X 135m) 	<ul style="list-style-type: none"> • 3m boom extension • 6m boom extension • Fly jib : basic jib length 6.0m • 3m jib extension • Short jib • Hook (40t, 15t, 6.5t) • Skywalk • Buffer
Clamshell	<ul style="list-style-type: none"> • 10m basic boom (base section 5.5m, top section 4.5m) • Boom backstop • Open/close cable (22mm dia. X 67m) • Suspend cable (22mm dia. X 60m)* • Hydraulic tagline (10mm dia. X 45m cable included) • Boom hoist cable (16mm dia. X 135m) • Open/close and suspend cable disengagement limiter <p>* Open/close and suspend cables are determined based on 19m boom length and 12m digging depth.</p>	<ul style="list-style-type: none"> • 3m boom extension • 6m boom extension • Buffer
Dragline	<ul style="list-style-type: none"> • 13m boom (base 5.5m, extension 3m, top 4.5m and wide-angle sheaves) • Boom backstop • Hoist cable (22mm dia. X 50m) • Drag cable(22mm dia. X 60m) • Boom hoist cable (16mm dia. X 135m) • Fair-lead • Over hoisting limiter (for boom hoist and secondary hoist) 	<ul style="list-style-type: none"> • 3m boom extension • 6m boom extension

■Crane Boom Construction

Elements \ Boom Length (m)	10	13	16	19	22	25	28	31	34	37	40	43	46
Boom Base Section 5.5 m	1	1	1	1	1	1	1	1	1	1	1	1	1
Boom Top Section 4.5 m	1	1	1	1	1	1	1	1	1	1	1	1	1
3 m Boom Extension		1	2	1	2	1	2	1	2	1	2	1	2
6 m Boom Extension				1	1	2	2	3	3	4	4	5	5
Available Jib	—	—	←	←	←	←	←	←	←	←	←	←	←

Boom extension combination:

6 m boom extension can be replaced with two 3 m boom extension.

■Fly Jib Construction

Elements \ Jib Length (m)	6	9	12	15
Jib Base Section 3 m	1	1	1	1
Jib Top Section 3 m	1	1	1	1
3 m Jib Extension		1	2	3

■Component Weights and Dimensions for Transport

Components		Weight (ton)	Length × Width × Height (m)	Remarks
Basic Machine	Basic Machine	27.9	7.10 × 3.35 × 3.28	Excluding boom base, ropes and counterweight
	Counterweight	7.25	3.24 × 1.49 × 0.47	Inner
	Counterweight	5.20	3.24 × 1.51 × 0.50	Outer
Crane Front	Boom Base Section	0.68	5.56 × 1.23 × 1.41	
	Boom Top Section	0.82	4.90 × 1.23 × 1.30	
	Bridle	0.25	1.46 × 0.61 × 0.28	
	3 m Boom Extension	0.24	3.10 × 1.23 × 1.30	
	6 m Boom Extension	0.42	6.10 × 1.23 × 1.30	
	Jib Base Section	0.14	3.20 × 0.60 × 0.54	
	Jib Top Section	0.16	3.30 × 0.60 × 0.59	
	3 m Jib Extension	0.08	3.06 × 0.60 × 0.59	
	Jib Mast	0.18	3.10 × 0.72 × 0.62	
	40 ton Hook	0.41	1.59 × 0.62 × 0.29	
	15 ton Hook	0.32	1.36 × 0.62 × 0.29	
6.5 ton Hook	0.27	0.84 × 0.42 × 0.42		

Hitachi Sumitomo Heavy Industries Construction Crane Co., Ltd.

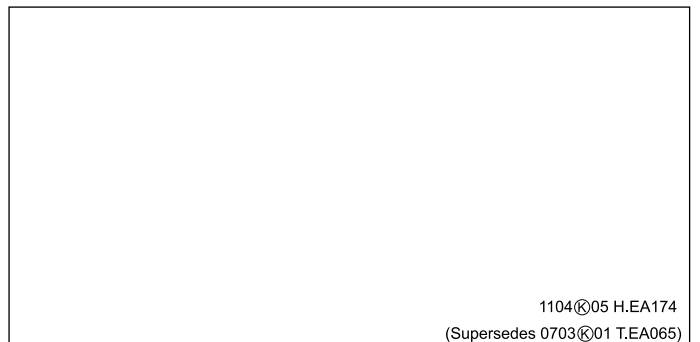
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