

CX900

HYDRAULIC CRAWLER CRANE

Specifications

HITACHI

CX900

HYDRAULIC CRAWLER CRANE

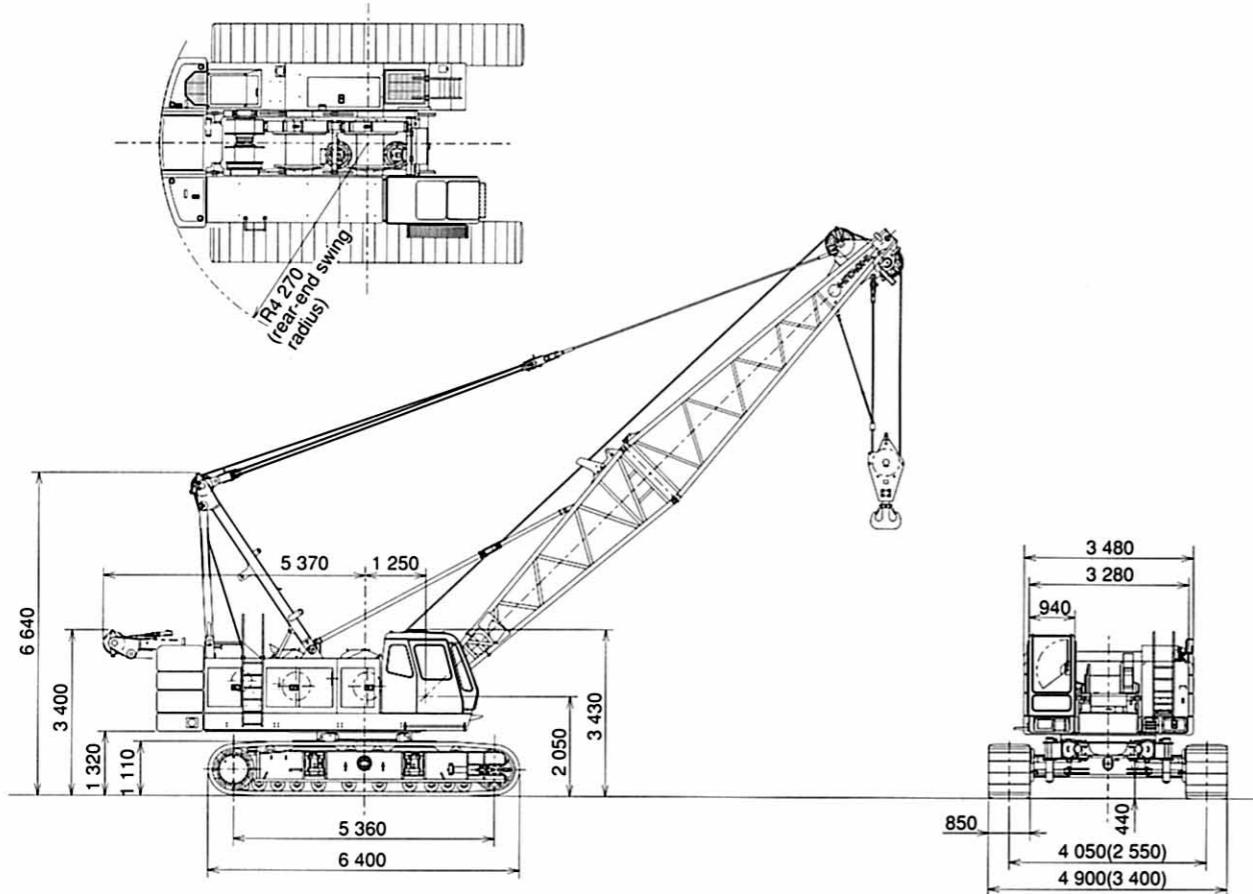
INDEX

CRAWLER CRANE	■Dimensions ■Specifications.....	4
	■Working Ranges	9
	■Crane Ratings(Main Boom in 360° Working Area)	10
	■Crane Ratings(Auxiliary Jib in 360° Working Area)	12
	■Crane Ratings(Main Boom with Auxiliary Jib in 360° Working Area)	14
	■Crane Ratings(Jib in 360° Working Area)	16
	■Crane Ratings(Main Boom with Jib in 360° Working Area).....	24
	■Crane Boom Construction ■Crane Jib Construction	
	■Component Weights and Dimensions for Transport	32
FULL-LUFFING TOWER CRANE	■Dimensions ■Tower Jib Construction	
	■Specifications	33
	■Rated loads for 27m Tower Crane	■Working Ranges
	■Rated loads for 30m Tower Crane	■Working Ranges
	■Rated loads for 33m Tower Crane	■Working Ranges
	■Rated loads for 36m Tower Crane	■Working Ranges
	■Rated loads for 39m Tower Crane	■Working Ranges
	■Rated loads for 42m Tower Crane	■Working Ranges
	■Rated loads for 45m Tower Crane	■Working Ranges
	■Tower Boom Construction ■Tower Jib Construction	
	■Component Weights and Dimensions for Transport	44
CLAMSHELL	■Dimensions ■Specifcations	
	■Working Ranges ■Clamshell Bucket	45
TECHNICAL DATA	■Standard and Optional Equipment	46-47

Note : "Ton" or "t" implies metric tons in this catalog.

Dimensions

Unit : mm



Dimensions shown in () are with side frames fully retracted.

Specifications

Maximum rated load	tonxm	90x4
Basic boom length	m	13
Max. boom length	m	61
Jib length	m	10~28
Max. boom with jib length	m	49+28
Line speeds*		
Main hoist drum	m/min	105/60/30
Aux. hoist drum	m/min	105/60/30
Boom hoist drum	m/min	55
Swing speed	min ⁻¹ (rpm)	2.7 (2.7)
Travel speed	km/h	1.6/1.1
Gradeability	% (°)	30 (16)
Engine model		Mitsubishi 6D24-T
Rated horsepower	kW/min ⁻¹ (PSrpm)	184/2 000 (250/2 000)
Ground pressure	kPa (kgf/cm ²)	89 (0.91)
Operating weight	ton	87.5 (Equipped with 13m boom and 90ton capacity hook)

Notes:1. Data is expressed in SI units, along with conventional units in ().

2. Line speeds marked with an asterisk (*) will vary with the load.

**SUPERSTRUCTURE****Engine**

Model Mitsubishi 6D24-T
 Type Water-cooled, 4-cycle, 6-cylinder,
 direct fuel injection type diesel engine
 Rated horsepower 184 kW (250 PS) at 2 000 min⁻¹
 (DIN 6 271, net) (2 000 rpm)
 Maximum torque 981 N·m (100 kgf·m) at 1400 min⁻¹
 (1 400 rpm)
 Piston displacement 11.945 L
 Fuel tank capacity 415 L
 Electric system DC 24 V

**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.
- Drum pawl lock is manually controlled from operator's seat.

**Swing Mechanism**

- Independent operation
- Driven by two hydraulic motors through reduction gear. Swing speeds are freely controllable from zero to maximum speed with a single lever.

Swing Brake

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

Swing Lock

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

Swing 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

Gantry

Lowerable for transportation

Counterweight

Welded structure, total weight 31 300 kg
 Consisting of 4 sections : One 8 580 kg
 One 7 350 kg
 One 7 170 kg
 One 8 170 kg

SAFETY DEVICES

■ SERVICE REFILL CAPACITIES

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

Swing Lock and Swing Parking Brake

Drum Locks (Electric Type)

A pawl-type drum locks, provided at main drum, auxiliary drum and boom drum, are automatically applied when the engine key is set to OFF or ACC position.

Devices for Crane Operation

● Moment Limiter

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

● Hook Overhoist Prevention Device

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

● Boom Overhoist Prevention Device

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 Overhoist Prevention Device

In addition to the hook overhoist prevention device and boom overhoist prevention device, the secondary boom overhoist prevention device is provided. It actuates at a boom angle of 82° to avoid overhoisting of the boom and/or hook.

● Pilot Control Shut-off Lever

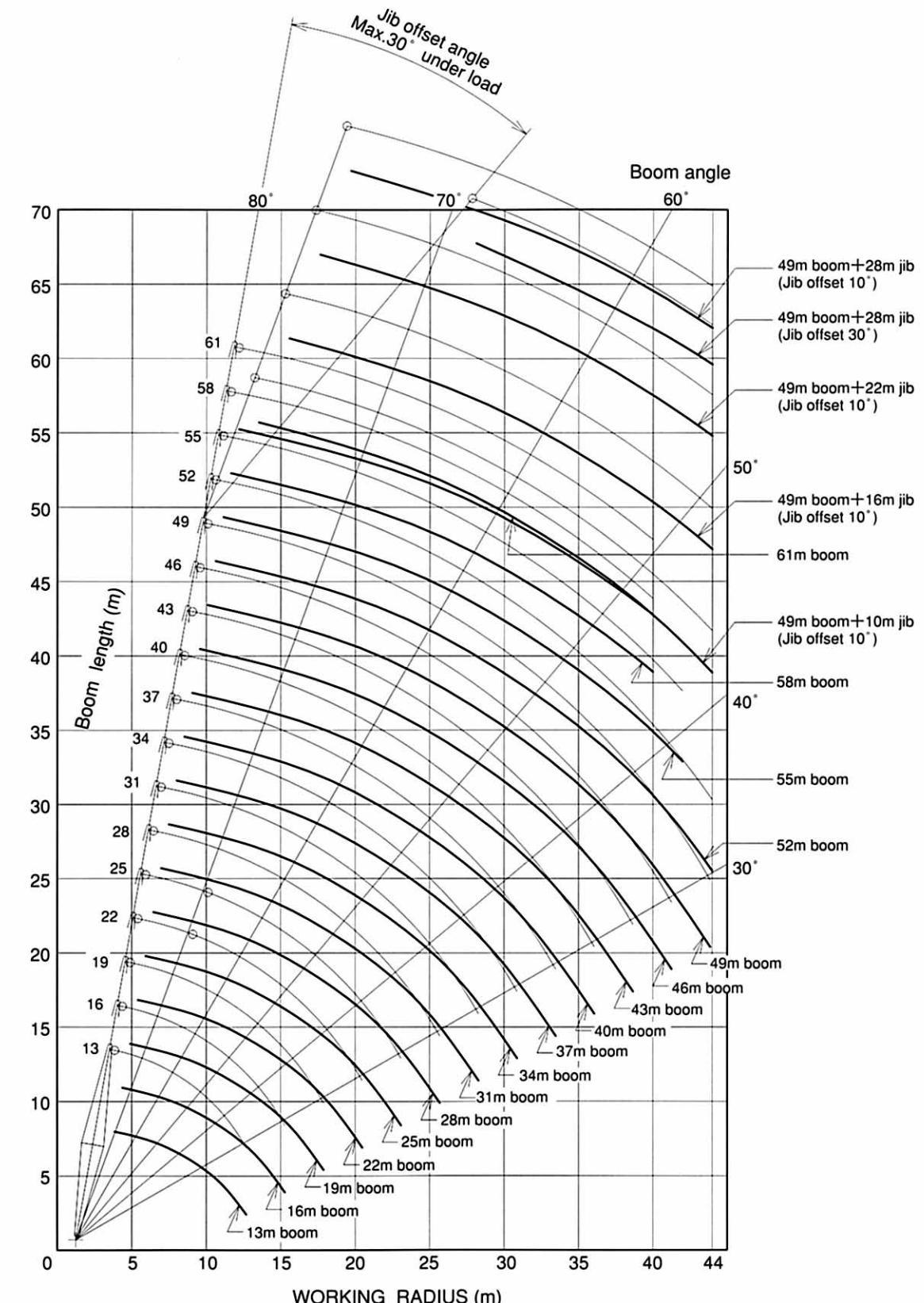
The pilot control shut-off lever shuts out the hydraulic pilot pressure to pilot control valves. With the pilot control shut-off lever in the LOCK position, the machine will not operate even if the lever is accidentally shifted.

● Fail-safe mechanism

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

	Liter
Fuel tank	415
Engine coolant	47
Engine oil	45
Pump transmission	2
Boom hoist reduction device	10
Winch hoist reduction device	19.5 x 2
Swing reduction device	17 x 2
Travel final device	25 x 2
Hydraulic system, including tank capacity	335
Hydraulic tank	255

■ Working Ranges



Note: Working ranges shown are under unloaded condition.

■ STANDARD EQUIPMENT**BASIC MACHINE****Undercarriage**

- Crawler-type undercarriage (with 850mm shoes)
- Side frame extend cylinder (tandem)

Upperstructure

- Front lights (2 lights)
- Rearview mirrors (left and right)
- Centralized lubrication system (for gantry and swing circle)
- Electric refuel device
- Under-cover (at upperstructure bottom)
- Cab climbing steps
- Ultra slow speed controller
- Drum rotation sensing system
- 31.3 ton counterweight
- Standard tool kit

Cab

- Intermittent-wipers (front and roof windows)
- Washers (front and roof windows)
- Rolled sunshade (roof window)
- Sunvisor
- Floor mat
- Room light
- Auto-tuning clock radio (AM/FM)
- Cigarette lighter
- Ashtray
- Brake mode selector switch
- Electric tilt-type stand

Safety Devices

- Swing lock
- Drum pawl lock (main and auxiliary hoist, and boom hoist)
- Fail safe brake system
- Pilot control shut-off lever
- Before-work check monitor
- Swing alarm

STANDARD EQUIPMENT FOR RESPECTIVE FRONT ATTACHMENTS**Crane**

- 13m basic boom (lower 6.5m, upper 6.5m)
- Boom stop
- Boom angle indicator
- 90ton hook
- Main hoist rope (26mm dia.×200m)
- Boom hoist rope (20mm dia.×170m)
- Moment limiter
- Overhoist prevention device (Including secondary safety device for main hook and boom hoist)

Full-Luffing Tower Crane

- 45m tower boom (lower:6.5m, 3m×2, 6m×2, 9m×2, upper:2.5m)
- 37m tower jib (lower:6.5m, 3m×1, 6m×2, 9m×1, upper:6.5m)
- Tower stop
- Tower boom angle indicator
- 22ton hook
- Main hoist rope (26mm dia.×260m)
- Tower jib hoist rope (26mm dia.×150m)
- Tower hoist rope (20mm dia.×180m)
- Moment limiter
- Overhoist prevention device (including secondary safety device for hook, tower and jib)
- Anemometer
- Foam type level
- Tower assembling pillow

Clamshell

- 13m basic boom (lower 6.5m, upper 6.5m)
 - Boom stop
 - Boom angle indicator
 - Open/close and suspend rope disengagement prevention device (for tubular chord boom)
 - Open/close rope (26mm dia.×82m) *
 - Suspend rope (26mm dia.×70m) *
 - Hydraulic tagline (10mm dia.×55m rope included) and Boom hoist rope (20mm dia.×170m)
- * Two lengths of open/close and suspend ropes are determined based on 22m boom length and 12m digging depth.

■ Standard and Optional Equipment

○ : Standard equipment ● : Optional equipment

Front Attachment for Crane	CRALWER CRANE	FULL-LUFFING TOWER CRANE	CLAMSHELL
90ton hook	○	● * 1	—
45ton hook	●	● * 2	—
22ton hook	●	○	—
11ton hook	●	●	—
3m boom insert	●	○	●
6m boom insert	●	○	●
9m boom insert	●	●	●
10m jib assembly [10m basic jib, aux. jib hook overhoist prevention device, jib mast, aux. jib rope (26mm dia.×170m), 11ton hook]	●	● * 2	—
6m jib insert	●	● * 2	—
Aux. jib assembly [aux. jib, aux. jib hook overhoist prevention device, aux. jib rope (26mm dia.×170m), 11ton hook]	●	● * 2	—
Aux. jib [aux. jib, aux. jib hook overhoist prevention device]	●	● * 2, * 3	—
Crane kit (6.5m upper boom, 90 ton hook, boom stop, main hoist hook overhoist prevention device)	—	●	—
Front Attachment for Clamshell			
2.5m ³ clamshell bucket	—	—	●
Open/close and suspend ropes	—	—	●
Hydraulic tagline	—	—	●
Upperstructure			
Drum cooler (for aux. drum)	—	—	●
Side walk (folded type)	●	●	●
Side walk (fixed type with handrails)	●	●	●
Fuel double element	●	●	●
Engine air cleaner double element	●	●	●
Cab			
AM/FM radio	○	○	○
Fan	●	●	●
Loudspeaker	●	●	●
Air conditioner	●	●	●
Heater	●	●	●
Safety Device			
Boom lower limiter	—	—	●
Foam type level (in cab)	●	○	●
Bucket overhoist prevention device	—	—	●
Undercarriage			
Basic machine jack-up device (including side frame extend cylinders)	●	●	●

Notes: * 1. Included in crane kit

* 2. Designed for use with crane kit

* 3. When purchased together with jib assembly, these component, excluding common parts such as hook and wire rope, are added



Hitachi Construction Machinery Co., Ltd.

Head Office: Nippon Bldg., 6-2 2-chome, Otemachi,
Chiyoda-ku, Tokyo 100-0004, Japan

Telephone: Tokyo (03) 3245-6390
Facsimile : Tokyo (03) 3246-2609

*These specifications are subject to change without notice.
These specifications are not applicable to European and North America areas.*