

SCX400 HYDRAULIC CRAWLER CRANE

Specifications

SCX400 HYDRAULIC CRAWLER CRANE



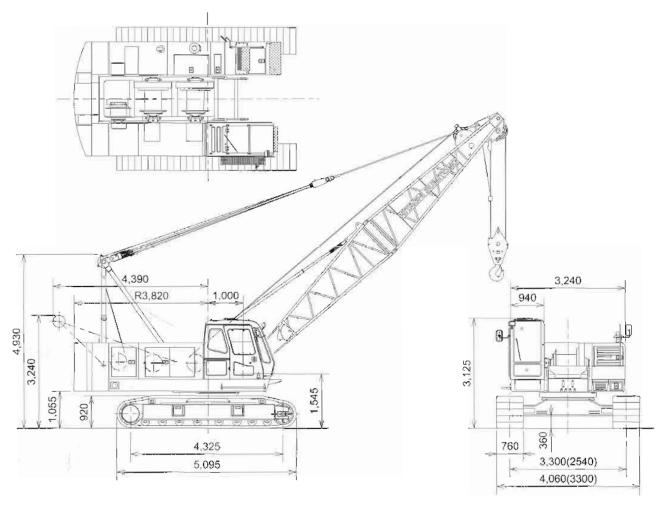
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Note: • All "ton" described in this catalog represent metric tons.

 Specifications conform to the Safety Regulations for Cranes and Mobile Cranes in Japan.

■Dimensions

Unit: mm



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

■Specifications

| opcomeanor | 10 | | | | |
|---|--------------------|----------------------|---------------------------------------|---------------|--|
| Maximum Lifting load x Load radius ton | | ton × m | 40 × 3 7 | | |
| Basic boom length | 1 | m | m 10 | | |
| Maximum boom le | ength | m | 46 | 2 0 | |
| Wire rope speed | Main/Aux. hoisting | m/min | *74/37 | Wire Rope | |
| | Main/Aux. lowering | m/min | 74/37 | Diameter 22 m | |
| | Boom hoisting | m/min | *60 | Wire Rope | |
| | Boom lowering | m/min | 60 | Diameter 16 m | |
| Swing speed | | min-1(rpm) | 3 8 (3.8) | | |
| Travel speed | | km/h | *1.9 | | |
| Gradeability | | deg. (%) " | 21.8 (40) | | |
| | | kPa (kgf/cm²) | 59.8 (0.61) | | |
| Engine model | | | ISUZU BB-6HK1T | | |
| Engine rated power kw/min ⁻¹ | | kw/min ⁻¹ | 136/2 000 | | |
| Operating weight | | ton | ton 42.8 (with 10 m Boom + 40 t Hook) | | |
| | | | | | |

Notes: 1. Data is expressed in SI units, followed by conventional units in ().

2 *Line speeds will vary with the load.



Boom

Tubular Chord Crane Boom

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

| . Total length 10.0 m, 2-piece construction; upper section 4.5 m and lower section 5.5 m |
|---|
| Offset boom point, 3 sheaves (462 mm PCD) mounted on anti-friction bearings on boom top. |
| . 3.0 m and 6.0 m long available |
| Pin-connected. |
| Dual-rail, telescopic tubular construction with spring damper. |
| Serves as connection between pendants and boom hoist wire rope reeving, equipped with 6 sheaves (340 mm PCD) fo 12-part boom hoist wire rope reeving. |
| |

Crane Jib

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

| Basic jib |
|--|
| Jib point1 sheave (462 mm PCD) mounted on |
| antifriction bearings on jib top. |
| Jib insert |
| Connection typePin-connected. |
| Auxiliary jibOptional. Attachable to the main boom top |
| to hoist the light load quickly with a single |
| rope. |

Note: Boom insert, crane jib, or auxiliary jib can be attached to the basic boom when needed. However, both crane jib and auxiliary 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 di | splacement |
| 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* | 135 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.

Swing 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 relier valves |
|-----------------------------------|
| Hoist (main and aux.) |
| Swing |
| Overload relief valves |
| Hoist (main and aux.) circuits |
| Boom hoist circuit |
| Travel circuit |
| Pilot Circuit |
| Main relief valve |
| 4.9 MPa (50 kgf/cm ²) |

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



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 Extending/ Retracting Device

- 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

Heat-treated alloy steel castings with induction-hardened roller path and driving lugs.

| No of upper rollers (each side)2 |
|-----------------------------------|
| No of lower rollers (each side) 8 |
| No. of track shoes (each side) 59 |
| Shoe width 760 mm |



Controls

Boom, Main and Auxiliary Hoist, Swing and Travel Remote controlled hydraulic servo. Working speed can be precisely controlled according to lever stroke.

Electric Accelerator Grip

Engine power can be controlled according to job needs by electric finger-touch grip atop the swing lever, accelerator lever and accelerator pedal.

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, become 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.

Lever Locks

Main and auxiliary hoist levers, boom hoist lever, and travel levers are each fitted with lock mechanisms to prevent mishandling.

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.

● 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.

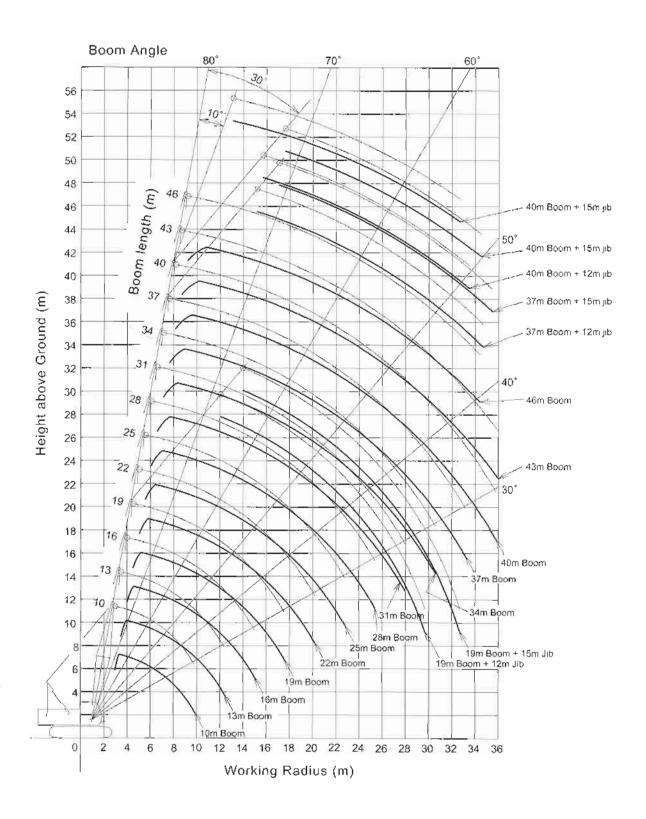
Reliable mechanism

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



Service Refill Capacities

| | Liter |
|---|--------|
| Fuel tank | 300 |
| Engine coolant | 25.1 |
| Engine oil | 28 |
| Pump transmission | 2 |
| Boom hoist reduction device | 9,5 |
| Winch hoist reduction device | 12.5×2 |
| Swing reduction device | 8 |
| Travel final device | 8.5×2 |
| Hydraulic system, including tank capacity | 305 |
| Hydraulic tank | 230 |



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

| Hook capacity | Hook weight | Maximum rated loads (i) | | | | | |
|---------------|-----------------|-------------------------|-----------------|-----------------|-----------------|----------------|------------|
| (ton) (ton) | 6 Rope reevings | 5 Rope reevings | 4 Rope reevings | 3 Rope reevings | 2 Rope reevings | 1 Rope reeving | |
| 40.0 | 0.41 | 40.0 | 32.5 | 26.0 | 19.5 | 13 0 | |
| 15.0 | 0.32 | | - | | 15.0 | 13 0 | <u>—</u> . |
| 6.5 | 0.18 | _ | | | _ | | 6.5 |



■Rated Loads for Main Boom

| | n | | |
|--|---|--|--|
| | | | |

| Working radius (m) | Boom length (m) | | | | | | |
|--------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 10 | 13 | 16 | 19 | 22 | 25 | 28 |
| 3.5 | 40.00 | | | | | | 4 |
| 3 7 | 40 00 | 40.00 | | | | | I |
| 4 0 | 35.45 | 35.40 | 4.2×32.65 | | | | |
| 4 5 | 29.45 | 29.35 | 29 30 | 4 7×27 35 | | | |
| 5.0 | 25 15 | 25.05 | 25.00 | 24 95 | 5 3×22.85 | | |
| 5.5 | 21 90 | 21.80 | 21.75 | 21.70 | 21 65 | 5.8×20.00 | |
| 60 | 19 40 | 19.30 | 19.20 | 19 15 | 19.10 | 19.05 | 6.4×17.35 |
| 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 |
| 90 | 11.35 | 11.25 | 11.10 | 11 05 | 11.00 | 10.95 | 10.85 |
| 10.0 | 9.7×10.30 | 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 | | 12.3×7.55 | 6 30 | 6.20 | 6.15 | 6 05 | 6 00 |
| 16.0 | | | 14 9×5 80 | 5.25 | 5.15 | 5 05 | 5 00 |
| 180 | | | | 17.5×4.65 | 4.40 | 4.30 | 4 20 |
| 20.0 | | | | | 3.80 | 3.70 | 3.65 |
| 22.0 | | | | | 20 1×3 80 | 3.25 | 3 15 |
| 24.0 | | | | | | 22 7×3.10 | 2.75 |
| 25.3 | | | | | | | 2.55 |

| Working radius | Boom length (m) | | | | | | | | | | | |
|----------------|-----------------|-----------|-----------|-----------|----------|-----------|--|--|--|--|--|--|
| (m) | 31 | 34 | 37 | 40 | 43 | 46 | | | | | | |
| 69 | 15.55 | | | | | | | | | | | |
| 70 | 15.25 | 7 5×13.75 | | | | | | | | | | |
| 8.0 | 12.65 | 12.60 | 11 95 | 8.6×10.40 | | | | | | | | |
| 9.0 | 10 80 | 10.70 | 10.70 | 10.25 | 9.1×9.05 | 9.7×7.80 | | | | | | |
| 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 70 | 5 60 | 5.50 | | | | | | |
| 16.0 | 4 90 | 4.80 | 4.75 | 4 70 | 4 60 | 4.50 | | | | | | |
| 18.0 | 4.15 | 4.05 | 4.00 | 3.90 | 3 85 | 3 75 | | | | | | |
| 20.0 | 3.55 | 3.45 | 3.40 | 3.30 | 3.20 | 3.15 | | | | | | |
| 22 0 | 3.05 | 2.95 | 2 90 | 2 85 | 2 75 | 2.65 | | | | | | |
| 24 0 | 2.70 | 2 55 | 2 55 | 2.45 | 2.35 | 2.20 | | | | | | |
| 26 0 | 2 35 | 2.25 | 2 20 | 2.10 | 1 95 | 1.85 | | | | | | |
| 28.0 | 27.9×2.10 | 1.95 | 1.90 | 1.75 | 1,65 | 1.55 | | | | | | |
| 30.0 | | 1.70 | 1 65 | 1.50 | 1.40 | 1.25 | | | | | | |
| 32 0 | | 30 5×1.65 | 1.40 | 1 25 | 1 15 | 1.05 | | | | | | |
| 34.0 | | | 33.1×1.30 | 1 05 | 0.95 | 0,85 | | | | | | |
| 36 0 | | | | 35.7×0.90 | 0.80 | 34.5×0.80 | | | | | | |

Notes 1. The rated loads shown do not exceed 78% of tipping load with the machine on firm level ground, and are not less than 1.15 times over-front stability stipulated by the mobile crane construction standards.

- 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
- 3. Working radius is the horizontal distance from the swing center to the center of gravity of a lifted load
- The counterweight is 12.5 ion.
 Be sure to fully extend the side frames before operating the machine.
 Rated line pull is 6 500 kgf when 22 mm dia wire rope is used
- 7 Figures described as QQxQQ in the tables indicate working radius (m) x rated load (ton).

■Crane Boom Construction

| Boom | length (m) | 10 | 13 | 16 | 19 | 22 | 25 | 28 | 31 | 34 | 37 | 40 | 43 | 46 |
|--------------------|------------|----------|----|----|----|----|----|----|----|----|----|----------|----|----|
| Lower boom | 5.5 m | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Upper boom | 4.5 m | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 m boom insert | | _ | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| 6 m boom insert | | | _ | _ | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 |
| Available jıb | | | | | - | | | | | _ | | — | | |
| Available aux. jib | | ← | | | | | | | | | | | - | |

Boom inserts combination:

6 m boom insert can be replaced with two 3 m boom inserts.

■Crane Jib Construction

| Elements | Jib length (m) | 6 | 9 | 12 | 15 |
|----------------|----------------|---|---|----|----|
| Lower jib | 3 m | 1 | 1 | 1 | 1 |
| Upper jib | 3 m | 1 | 1 | 1 | 1 |
| 3 m jib insert | | _ | 1 | 2 | 3 |

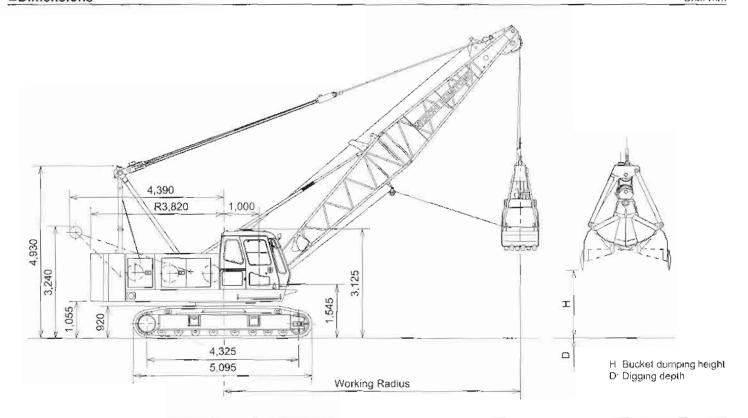
■Component Weights and Dimensions for Transport

| | Components | Weight (ton) | Length × 1 | Width × I | Height (m) | Remarks |
|---------|-----------------|--------------|------------|-----------|------------|---|
| | Basic machine | 27.70 | 6.90 | 3.30 | 3.24 | Excluding lower boom, ropes and counterweight |
| Basic | Basic machine | 29.10 | 11 0 | 3.30 | 3.24 | Including lower boom, ropes |
| nachine | Counterweight | 7 30 | 3.24 | 1.49 | 0 47 | Inner |
| | Counterweight | 5.20 | 3.24 | 1 51 | 0.50 | Outer |
| | Lower boom | 0.68 | 5 56 | 1.23 | 1.41 | |
| | Upper boom | 0.82 | 4 90 | 1.23 | 1.30 | |
| | Bridle | 0 25 | 1.46 | 0.61 | 0.28 | |
| | 3 m boom insert | 0 24 | 3.10 | 1.23 | 1.30 | |
| | 6 m boom insert | 0.42 | 6.10 | 1.23 | 1.30 | |
| | Lower jib | 0.15 | 3.20 | 0.60 | 0.54 | |
| Crane | Upper jib | 0.17 | 3.30 | 0 60 | 0 59 | |
| front | 3 m jib insert | 0.08 | 3 06 | 0.60 | 0.59 | |
| | Jib mast | 0.19 | 3.10 | 0.72 | 0.62 | |
| | 40 t hook | 0 41 | 1.59 | 0.62 | 0.29 | |
| | 15 t hook | 0 32 | 1.36 | 0.62 | 0.29 | |
| | 6.5 t hook | 0.18 | 0.99 | 0.25 | 0 25 | |

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■Dimensions

Unit: mm



■Specifications

| Bucket capacity | m³ | 0.8/1.0/1 | .2 | | | |
|-------------------------|-------------------|--|-----------------|--|--|--|
| Allowable clamshell gr | oss weight ton | 6.0 | | | | |
| Max. bare line pull (1s | t drum layer) ton | 15.6 | | | | |
| Boom length | m | 10 to 19 | | | | |
| Max. digging depth | m | 36 | | | | |
| Suspend line speeds | m/min | *74/37 | Rope 22 mm dia | | | |
| Open/close line speed | s m/min | *74/37 | Rope 22 mm dia. | | | |
| Boom hoist/ lower line | speed m/min | *60 | Rope 16 mm dia | | | |
| Travel speeds | km/h | 1.9 | | | | |
| Ground pressure | kPa (kgf/cm²) | 62.8 (0 64) | | | | |
| Operating weight | ton | 45 1 (10 m boom + 1 0 m ³ bucket) | | | | |
| Engine | kW/min-1(PS/rpm) | BB-6HK1T/ Isuzu 136/2 000 (185/2 000) | | | | |

■Clamshell Bucket

| Capacity (m3) | Weight (ton) | Use |
|---------------|--------------|----------------------------|
| 8.0 | 2.00 | Excavation |
| 1.0 | 2.45 | Excavation |
| 1.2 | 2.40 | Excavation (Light service) |

Notes: 1. Data is expressed in SI units, followed by conventional units in ()

- 2 Other specifications, not shown, are similar to those for the crawler crane.
- *Line speeds will vary with the load

Madina Danasa

| Boom length | m | - | 1 | 0 | | | 1 | 3 | | | 1 | 6 | | | 1 | 9 | |
|--|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Boom angle | degree | 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 | 69 | 14.5 | 12.7 | 10.6 | 8.2 | 169 | 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 0.8 m ³ bucket | m | 20 | 3.3 | 4.5 | 5.4 | 3.7 | 5.5 | 7.0 | 8 1 | 5.4 | 7.6 | 94 | 108 | 7.1 | 9.7 | 119 | 13 6 |
| 1.0 m³ bucket | m | 1.8 | 3.1 | 4.3 | 5.2 | 3.5 | 53 | 6.8 | 7 9 | 52 | 7 4 | 92 | 10.6 | 66 | 95 | 11.7 | 13.4 |
| 1.2 m ³ bucket | m | 1.6 | 29 | 41 | 5.0 | 3.3 | 5.1 | 6.6 | 7.7 | 50 | 7.2 | 90 | 10 4 | 6.7 | 93 | 11.5 | 13 2 |

Notes: 1. Rated loads for clamshell do not exceed 90% those for crane.

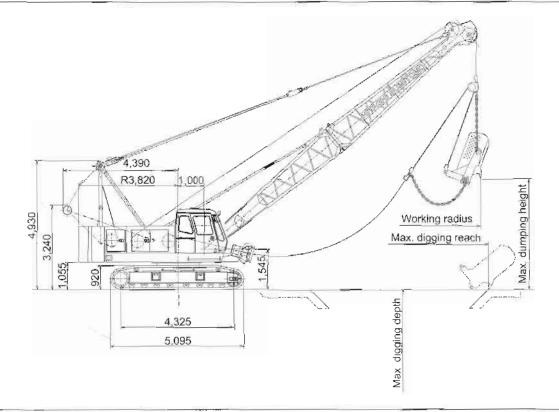
2. The rated loads shown are upper limits determined by the following equation. Please select a bucket in such a manner that its rated load does not exceed the rated load shown above, according to kinds of the loads handled.

Rated load = Bucket capacity (m3) x 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 swing center to the center of gravity of lifted load.
- 4 The bucket weight is 2 45 Ion 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

■Dimensions

Unit mm



■Specifications

| - opcomodions | | | | | |
|-------------------------|-------------------------|-----------------------|-----------------|--|--|
| Bucket capacity | m ³ | 1.15 | | | |
| Boom length | m | 13 to 22 | 2 | | |
| Suspend line speeds | m/min | *74/37 | Rope 22 mm dia | | |
| Drag line speeds | m/min | *74/37 | Rope 22 mm dia | | |
| Boom hoist/lower line s | peed m/min | *60 | Rope 16 mm dia | | |
| Travel speeds | km/h | 1 9 | | | |
| Swing seeds | min ⁻¹ (rpm) | 3.8 (3.8) | | | |
| Ground pressure | kPa (kgf/cm²) | 61 8 (0.63) | | | |
| Operating weight | ton | 44.9 (13 m boom + 1, | .15 m³ bucket) | | |
| Engine | kW/min-1(PS/rpm) | BB-6HK1T/ Isuzu 136/2 | 000 (185/2 000) | | |

■Dragline Bucket (Reference data)

| | Capacity (m³) | Weight (ton) | Use |
|---|---------------|--------------|----------------|
| T | 1.15 | 1.28 | Medium service |

Notes 1 Data is expressed in SI units, followed by conventional units in ().

- Other specifications, not shown, are similar to those for the crane.
- 3. "Line speeds will vary with the load.

■Working Ranges

| Boom length | m | | 13 | | | 16 | | 1 | 9 | 22 |
|-------------------------------------|--------|------|------|------|------|------|------|------|------|------|
| Boom angle | degree | 30 | 40 | 50 | 30 | 40 | 50 | 40 | 50 | 50 |
| Working radius | m | 126 | 11.3 | 9.8 | 15.2 | 13.6 | 11,7 | 15.9 | 13.6 | 15.5 |
| Rated load | ton | 4 65 | 5.40 | 6.00 | 3.40 | 4.00 | 5 00 | 3.00 | 3 90 | 3.05 |
| Max. digging reach | m | 16 1 | 15 7 | 14.9 | 19 4 | 18.8 | 17 8 | 22.0 | 20.8 | 23.6 |
| Max digging depth | m | 8 4 | 8.1 | 7.5 | 10.9 | 10 5 | 9.7 | 12.8 | 119 | 14.0 |
| Boom dumping height (1.2 m³ bucket) | m | 2.1 | 4.0 | 5.6 | 3.6 | 59 | 7 9 | 7.8 | 10 2 | 12.5 |

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. 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

Working radius is the horizontal distance from the swing center to the center of gravity of lifted load.
 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



Superstructure

Electric system DC 24 V



Engine

| Model | Jsuzu BB-6HK1T |
|---------------------|--|
| | .Water-cooled, 4-cycle, 6-cylinder, |
| | direct fuel injection type diesel engine .136 kW (185 PS) at 2 000 min ¹ |
| Rated power | .136 kW (185 PS) at 2 000 min ¹ |
| | (2 000 rpm) |
| Maximum torque | .735 N·m (75 kgf·m) at 1 600 min ⁻¹ |
| | (1 600 rpm) |
| Piston displacement | .7.79 L |
| Fuel tank capacity | .300 L |



Main and Auxiliary Hoist Mechanism

- The 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.



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



Swing Mechanism

- Independent operation separated from other functions.
- Driven by a hydraulic motor 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

Total weight: 12 500 kg
Consisting of 2 sections: One 5 200 kg

■STANDARD EQUIPMENT

| Undercarriage | | |
|--|--|--|
| Crawler-type undercarriage (with 760 mm shoes) | Side frame extend cylinder (1 pc) | |
| Superstructure | | |
| • Front lights (2 pcs) | Under-cover (at superstructure bottom) | |
| Rearview mirrors (left and right) | Cab entrance steps | |
| Hoist drum check mirror | Fine speed controller | |
| Centralized lubrication system (for gantry and swing circle) | 12.5 ton counterweight | |
| Electric refuel device | Standard tool kit | |
| Cab | | |
| Intermittent-wipers (front and roof window) | Ashtray | |
| Washers (front and roof window) | Auto-tuning clock radio (AM/FM) | |
| Rolled sunshade (roof window) | Brake mode selector switch (interlocked) | |
| Sunvisor | Electric tilf-type right side stand | |
| Floor mat | | |
| Room light | | |
| Cigarette lighter | | |
| Safety Devices | | |
| Swing lock | Fail safe brake system | |
| Drum pawl lock (main and auxiliary hoist, and boom hoist) | Pilot control shut-off lever | |
| | | |
| Swing alarm | Before-work check monitor | |
| | Before-work check monitor | |
| Swing alarm | Before-work check monitor | |
| | Before-work check monitor | |
| Swing alarm FRONT ATTACHMENTS | Before-work check monitor Boom hoist rope (\$\psi\$16 mm × 135 m) | |
| Swing alarm FRONT ATTACHMENTS Crane | | |
| Swing alarm FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) | • Boom hoist rope (φ16 mm × 135 m) | |
| Swing alarm FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop | ■ Boom hoist rope (ψ16 mm × 135 m) ■ Moment limiter | |
| Swing alarm FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator | Boom hoist rope (\phi16 mm × 135 m) Moment limiter Overhoist prevention devices | |
| Swing alarm FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator 40 ton hook | Boom hoist rope (\phi16 mm × 135 m) Moment limiter Overhoist prevention devices | |
| FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator 40 ton hook Main hoist rope (\$22 mm × 145 m) | Boom hoist rope (\phi16 mm × 135 m) Moment limiter Overhoist prevention devices | |
| • Swing alarm FRONT ATTACHMENTS Crane • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • 40 ton hook • Main hoist rope (\$\phi\$22 mm × 145 m) Clamshell | Boom hoist rope (φ16 mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (φ22 mm × 60 m)* Hydraulic tagline with φ10 mm × 45 m rope | |
| FRONT ATTACHMENTS Crane • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • 40 ton hook • Main hoist rope (∮22 mm × 145 m) Clamshell • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator | Boom hoist rope (∮16 mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (∮22 mm × 60 m)* | |
| FRONT ATTACHMENTS Crane • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • 40 ton hook • Main hoist rope (♦22 mm × 145 m) Clamshell • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • Open/close and suspend rope disengagement prevention | Boom hoist rope (φ16 mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (φ22 mm × 60 m)[*] Hydraulic tagline with φ10 mm × 45 m rope Boom hoist rope (φ16 mm × 135 m) | |
| FRONT ATTACHMENTS Crane • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • 40 ton hook • Main hoist rope (∮22 mm × 145 m) Clamshell • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • Open/close and suspend rope disengagement prevention device (for tubular chord boom) | Boom hoist rope (\$\phi16\$ mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (\$\phi22\$ mm × 60 m)* Hydraulic tagline with \$\phi10\$ mm × 45 m rope Boom hoist rope (\$\phi16\$ mm × 135 m) Open/close and suspend ropes are determined based on 19 m boom | |
| FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator 40 ton hook Main hoist rope (∮22 mm × 145 m) Clamshell 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator Open/close and suspend rope disengagement prevention device (for tubular chord boom) Open/close rope (∮22 mm × 67 m)* | Boom hoist rope (\$\phi16\$ mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (\$\phi22\$ mm × 60 m)^r Hydraulic tagline with \$\phi10\$ mm × 45 m rope Boom hoist rope (\$\phi16\$ mm × 135 m) | |
| FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator 40 ton hook Main hoist rope (∳22 mm × 145 m) Clamshell 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator Open/close and suspend rope disengagement prevention device (for tubular chord boom) Open/close rope (∳22 mm × 67 m)* Dragline | Boom hoist rope (\$\phi16\ mm \times 135\ m)\$ Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (\$\phi22\ mm \times 60\ m)^*\$ Hydraulic tagline with \$\phi10\ mm \times 45\ m\ rope\$ Boom hoist rope (\$\phi16\ mm \times 135\ m)\$ Open/close and suspend ropes are determined based on 19\ m\ boom length and 12\ m\ digging\ depth | |
| FRONT ATTACHMENTS Crane 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator 40 ton hook Main hoist rope (∳22 mm × 145 m) Clamshell 10 m basic boom (lower 5.5 m, upper 4.5 m) Boom back stop Boom angle indicator Open/close and suspend rope disengagement prevention device (for tubular chord boom) Open/close rope (∳22 mm × 67 m)* Dragline 13 m angle chord boom [Lower 6.5 m, upper 6.5 m and | Boom hoist rope (\$\phi16\text{ mm} \times 135\text{ m}\$) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (\$\phi22\text{ mm} \times 60\text{ m}\$)* Hydraulic tagline with \$\phi10\text{ mm} \times 45\text{ m rope}\$ Boom hoist rope (\$\phi16\text{ mm} \times 135\text{ m}\$) Open/close and suspend ropes are determined based on 19\text{ m boom length and 12\text{ m digging depth}} Drag rope (\$\phi22\text{ mm} \times 60\text{ m}\$) | |
| FRONT ATTACHMENTS Crane • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • 40 ton hook • Main hoist rope (∳22 mm × 145 m) Clamshell • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • Open/close and suspend rope disengagement prevention device (for tubular chord boom) • Open/close rope (∳22 mm × 67 m)* Dragline • 13 m angle chord boom [Lower 6.5 m, upper 6.5 m and wide-angle sheaves (with 1 boom-point sheave)] | Boom hoist rope (\$\phi16\$ mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (\$\phi22\$ mm × 60 m)* Hydraulic tagline with \$\phi10\$ mm × 45 m rope Boom hoist rope (\$\phi16\$ mm × 135 m) Open/close and suspend ropes are determined based on 19 m boom length and 12 m digging depth Drag rope (\$\phi22\$ mm × 60 m) Boom hoist rope (\$\phi16\$ mm × 150 m) | |
| FRONT ATTACHMENTS Crane • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • 40 ton hook • Main hoist rope (∳22 mm × 145 m) Clamshell • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • Open/close and suspend rope disengagement prevention device (for tubular chord boom) • Open/close rope (∳22 mm × 67 m)* Dragline • 13 m angle chord boom [Lower 6.5 m, upper 6.5 m and wide-angle sheaves (with 1 boom-point sheave)] • Boom back stop | Boom hoist rope (\$\phi16\$ mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (\$\phi22\$ mm × 60 m)* Hydraulic tagline with \$\phi10\$ mm × 45 m rope Boom hoist rope (\$\phi16\$ mm × 135 m) Open/close and suspend ropes are determined based on 19 m boom length and 12 m digging depth Drag rope (\$\phi22\$ mm × 60 m) Boom hoist rope (\$\phi16\$ mm × 150 m) Fair-lead | |
| FRONT ATTACHMENTS Crane • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • 40 ton hook • Main hoist rope (∳22 mm × 145 m) Clamshell • 10 m basic boom (lower 5.5 m, upper 4.5 m) • Boom back stop • Boom angle indicator • Open/close and suspend rope disengagement prevention device (for tubular chord boom) • Open/close rope (∳22 mm × 67 m)* Dragline • 13 m angle chord boom [Lower 6.5 m, upper 6.5 m and wide-angle sheaves (with 1 boom-point sheave)] | Boom hoist rope (\$\phi16\$ mm × 135 m) Moment limiter Overhoist prevention devices (main hook, boom hoist, secondary) Suspend rope (\$\phi22\$ mm × 60 m)* Hydraulic tagline with \$\phi10\$ mm × 45 m rope Boom hoist rope (\$\phi16\$ mm × 135 m) Open/close and suspend ropes are determined based on 19 m boom length and 12 m digging depth Drag rope (\$\phi22\$ mm × 60 m) Boom hoist rope (\$\phi16\$ mm × 150 m) | |

| Standard and Optional Equipment | ○: Standard •: Option — : Not recomment | | |
|---|---|------------|----------|
| The Hold | CRAWLWER CRANE | CLAMSHELL | DRAGLINE |
| Superstructure | | | |
| Drum cooler (for aux. drum) | 2000 | • | _ |
| Side walk (folded type) | • | • | • |
| Side walk (fixed type with handrails) | • | • | • |
| Fuel double element | • | • | • |
| Engine air cleaner double element | • | • | • |
| Cab | | | |
| AM/FM radio | 0 | 0 | 0 |
| Fan | • | • | • |
| Loudspeaker | • | • | • |
| Heater | • | • | • |
| Air conditioner | • | • | • |
| Safety devices | | | |
| Foam type level (in cab) | • | • <u> </u> | • |
| Bucket overhoist prevention device | | • 3 | - |
| Front attachments for crane and tower crane | | 100 | |
| 40 ton hook (6-rope reevings) | 0 | | |
| 15 ton hook (3-rope reevings) | • | | |
| 6.5 ton hook | • | | _ |
| 3 m boom insert | • | • | |
| 6 m boom insert | • | • | _ |
| 3 m angle chord boom insert | | - | • |
| 6 m angle chord boom insert | | _ | |
| 6 m jib assembly [6 m basic jib, aux Jib hook overhoist prevention device, jib mast aux Jib rope (\$\phi 22 \text{ mm} \times 115 \text{ m}), 6 5 ton hook] | • | _ | |
| 3 m jib insert | • | | |
| Aux. Jib assembly [aux. Jib, aux. Jib hook overhoist prevention device, aux. Jib rope (\$\phi 22 \text{ mm} \times 115 \text{ m}), 6.5 ton hook] | 100 | _ | _ |
| Aux. Jib (aux. jib, aux. jib hook over hoist prevention device) | • | | _ |
| Front attachment for other | - Pantar - | | |
| 0.8 m ³ clamshell bucket | _ | • | Kips |
| 1.0 m³ clamshell bucket | _ | • | A 700 |
| 1.2 m³ clamshell bucket (light-service) | | • | |
| Hydraulic tagline | • | 0 | - |
| Open/close and suspend rope | | 0 | |
| 1 15 m ³ Dragline bucket | | 20 | • |
| Fair-lead | | | 0 |



BT Equipment Pty Ltd ABN 89 094 476 141 BRISBANE SYDNEY MELBOURNE ADELAIDE PERTH Specifications subject to change without notice

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