

CLAMSHELL TELESCOPIC ARM

ZAXIS210LC/350LC

APPLICATION & ATTACHMENT



Model Code	ZX210LC-5B
Engine Rated Power	122 kW (164 HP)
Operating Weight	27 500 kg
Model Code	ZX350LC-5B
Engine Rated Power	202 kW (271 HP)
Operating Weight	42 750 kg



PRODUCTIVITY

The Hitachi Zaxis-5 excavators equipped with clamshell telescopic arms have been designed to boost productivity on complex and challenging excavation projects. They can be used to remove soil from depths of 25 metres below ground and load trucks to transport the material swiftly off site. With enhanced hydraulics and cleaner exhaust emissions to meet the latest EU regulations, the new Zaxis-5 range can be relied upon to operate smoothly and safely to meet tight deadlines.



Smooth and rapid operation guarantees high levels of efficiency



Sliding cabin



Detachable counterweight

Clamshell Telescopic Arm

Using a technologically advanced combination of rope and hydraulic cylinders, the clamshell telescopic arm extends and retracts smoothly with a full load in a matter of seconds. The hydraulic circuit has been enhanced for the new Zaxis-5 excavator range, offering even higher levels of productivity. They have proved to be quicker than the traditional skips and crane method of below-ground excavation, for example. The new models can also be fitted with an optional standard arm, which provides greater versatility on busy job sites.

Sliding cab

The cab of the Zaxis-5 excavator equipped with a clamshell telescopic arm is positioned 960mm further forward than on a conventional Hitachi model. It also has the capacity to slide 1,300mm further forward, so an additional 2,260mm can be gained over a conventional machine. This provides enhanced visibility of the site below ground for the operator, who can remain seated in a comfortable position while working.

For additional safety, a sliding cab operation switch prevents any unintended movements of the cab. Furthermore, easy access to the cab is provided by the lengthy walkway and handrail.

Detachable counterweight

Another beneficial feature of the Zaxis-5 range of clamshell telescopic excavators is the availability of an additional counterweight. This can be removed when the machine is required for use with the optional standard arm. Therefore, it allows the machine to be used for a variety of operations on the job site, enhancing its versatility and overall levels of productivity.

Twin rope system

One of several safety features incorporated into the design of the Zaxis-5 range of clamshell telescopic excavators is the twin-rope system. This means that, in the unlikely event that one rope should break, the other will hold the telescopic arm firmly in place, until it can be repaired. This is one of the many ways in which the Hitachi excavator contributes to the safe and successful operation of any job site.

Key features

- Clamshell telescopic arm
- Sliding cab
- Detachable counterweight
- Twin rope system



PERFORMANCE

The reliable and efficient operation of your Zaxis-5 excavator can have a strong impact on the success of your business. Taking this into account, Hitachi engineers have designed the latest clamshell telescopic models with several performance-enhancing features. Our ultimate aim is to produce machines that will enable you to complete underground construction projects safely and on schedule. We believe the performance of the new Zaxis-5 range of clamshell telescopic excavators will extend beyond your expectations, providing you with a quick return on your investment.

Floor window

The floor of the sliding cab has been designed with a large polycarbonate window, which provides the operator with excellent visibility of the site below. This helps him to carry out the excavation work safely and accurately, ensuring a high level of performance.

Top cover of telescopic arm

The easy maintenance features of the Zaxis-5 excavators contribute to maximum uptime, allowing operators to carry out routine checks quickly, then focus on the main task at hand. One example is the top cover of the telescopic arm, which can be opened easily for inspection.

Warning lights and safety alarms

The safe performance of the Zaxis-5 excavator with clamshell telescopic arm is aided by the use of warning lights and safety alarms. For instance, if either of the two ropes were to break suddenly or extend too far, an indication light would alert the operator immediately.

In addition, a warning buzzer will alert the operator if too much pressure is applied once the clamshell bucket has reached the ground and is excavating the material.

Hose rupture valve

The clamshell telescopic arm is also equipped with a hose rupture valve, which, in the unlikely event of a damaged cylinder, will prevent any other impact on the machine or the environment.

Floor window



Safety alarm



Key features

- Sliding cab with floor window
- Easy to open top cover
- Rope alert and bucket alarm

SPECIFICATIONS

ZX210LC

ENGINE

Model	Isuzu AM-4HK1X
Type	4-cycle water-cooled, common rail direct injection
Aspiration	Variable geometry turbocharged, intercooled, cooled EGR
Aftertreatment	Muffler filter
No. of cylinders	4
Rated power	
ISO 9249, net	122 kW (164 HP) at 2 000 min ⁻¹ (rpm)
EEC 80/1269, net	122 kW (164 HP) at 2 000 min ⁻¹ (rpm)
SAE J1349, net	122 kW (164 HP) at 2 000 min ⁻¹ (rpm)
Maximum torque	652 Nm (66.5 kgfm) at 1 500 min ⁻¹ (rpm)
Piston displacement	5.190 L
Bore and stroke	115 mm x 125 mm
Batteries	2 x 12 V / 126 Ah

HYDRAULIC SYSTEM

Hydraulic pumps

Main pumps	3 variable displacement axial piston pumps
Maximum oil flow	2 x 212 L/min 1 x 189 L/min
Pilot pump	1 gear pump
Maximum oil flow	33.6 L/min

Hydraulic Motors

Travel	2 variable displacement axial piston motors
Swing	1 axial piston motor

Relief Valve Settings

Implement circuit	34.3 MPa (350 kgf/cm ²)
Swing circuit	32.4 MPa (330 kgf/cm ²)
Travel circuit	35.5 MPa (362 kgf/cm ²)
Pilot circuit	3.9 MPa (40 kgf/cm ²)
Power boost	38.0 MPa (388 kgf/cm ²)

Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing / travel motor drain lines.

CONTROLS

Pilot controls. Hitachi's original shockless valve.	
Implement levers	2
Travel levers	2
Telescopic arm control pedal	1

UPPERSTRUCTURE

Revolving Frame

D-section frame for resistance to deformation.

Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed	11.8 min ⁻¹ (rpm)
Swing torque	68 kNm (6 940 kgfm)

Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO* Standards.

* International Organization for Standardization

UNDERCARRIAGE

Tracks

Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

Numbers of Rollers and Shoes on Each Side

Upper rollers	2
Lower rollers	8
Track shoes	49
Track guard	1

Travel Device

Each track driven by 2-speed axial piston motor. Parking brake is spring-set/hydraulic-released disc type. Automatic transmission system: High-Low.

Travel speeds	High : 0 to 5.5 km/h Low : 0 to 3.4 km/h
Maximum traction force	203 kN (20 700 kgf)
Gradeability	26 % (15 degree) continuous

WEIGHTS AND GROUND PRESSURE

Equipped with type S-TC200R-8 and 0.80 m³ clamshell bucket (SAE, PCSA heaped)

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	600 mm	27 500 kg	59 kPa (0.60 kgf/cm ²)

SOUND LEVEL

Sound level in cab according to ISO 6396 LpA 69 dB(A)
External sound level according to ISO 6395 and
EU Directive 2000/14/EC LwA 101 dB(A); ZAXIS210 / ZAXIS210LC
LwA 102 dB(A); ZAXIS210LCN

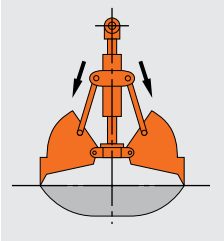
SERVICE REFILL CAPACITIES

Fuel tank	400.0 L
Engine coolant	25.0 L
Engine oil	23.0 L
Swing device	6.2 L
Travel device (each side)	6.8 L
Hydraulic system	240.0 L
Hydraulic oil tank	135.0 L

CLAMSHELL BUCKET

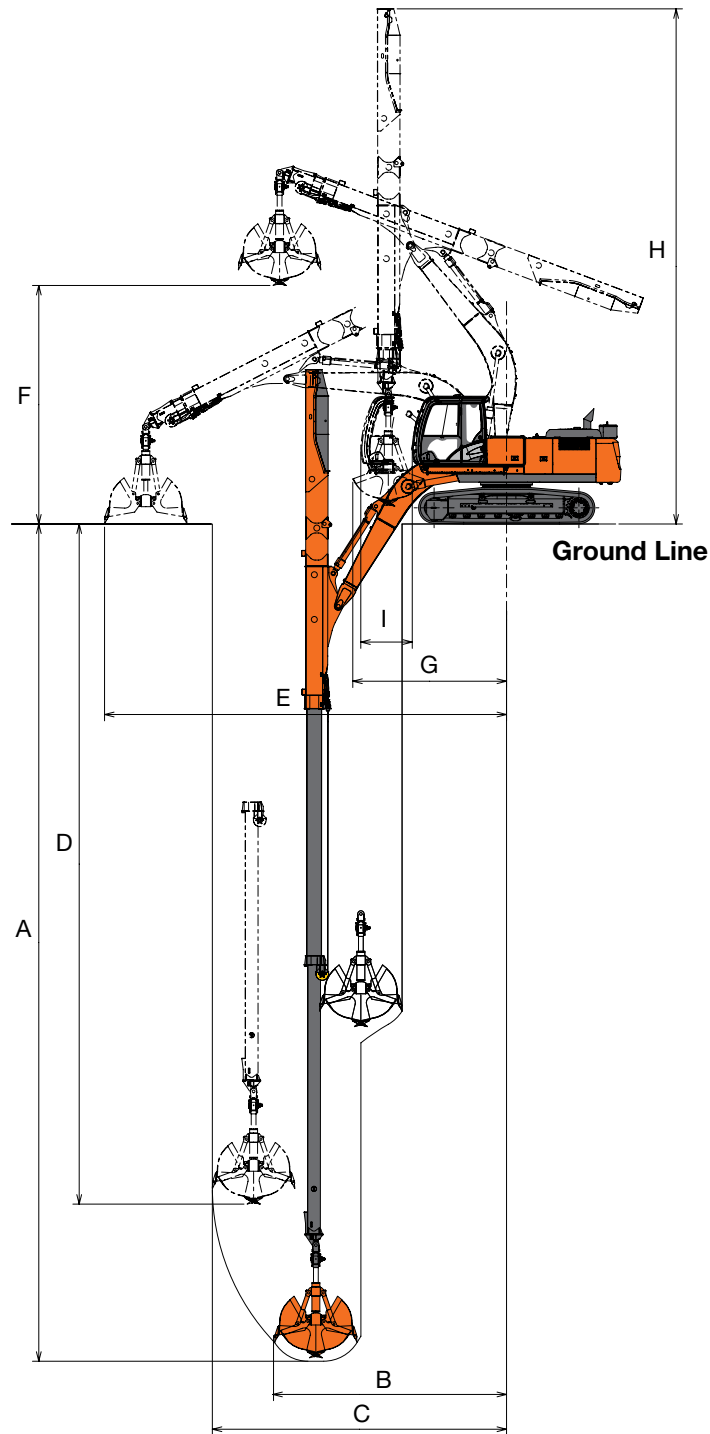
Bucket type		S-SP80
Bucket capacity	m ³	0.8
Max. digging force	kN (kgf)	59.0 (6 020)
Max. height	mm	2 500
Opened max. height	mm	2 110
Closed width	mm	1 800
Opened width	mm	2 080
Bucket width	mm	910
Teeth number		7
Weight	kg	1 240

Shell push type



SPECIFICATIONS

WORKING RANGES

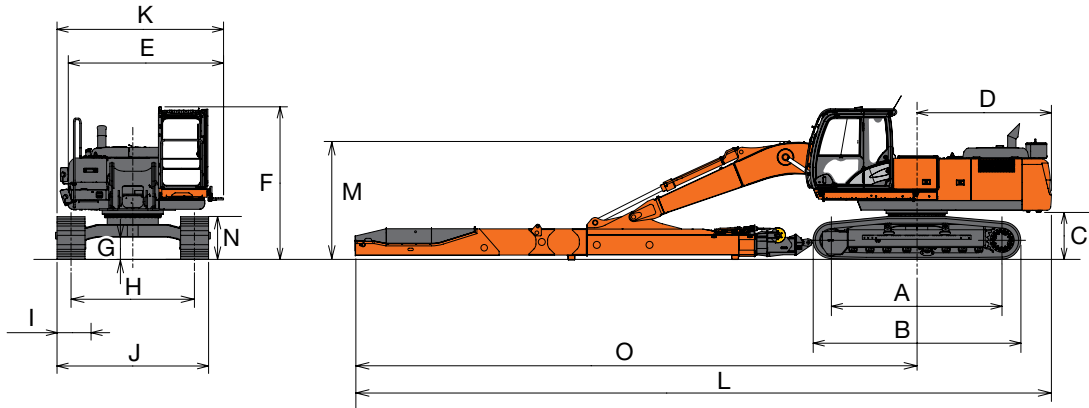


Unit: mm

Telescopic arm type	S-TC200R-8
Telescopic arm system	Hydraulic cylinder + wire rope
A Max. vertical digging depth	21 150
B Radius at max. vertical digging depth	5 860
C Max. vertical digging radius	7 450
D Depth at max. vertical digging radius	17 140
E Max. working radius	10 170
F Max. dumping height	6 050
G Min. front swing radius	3 880
H Height at min. front swing radius	13 040
I Cab sliding distance	1 300

SPECIFICATIONS

DIMENSIONS

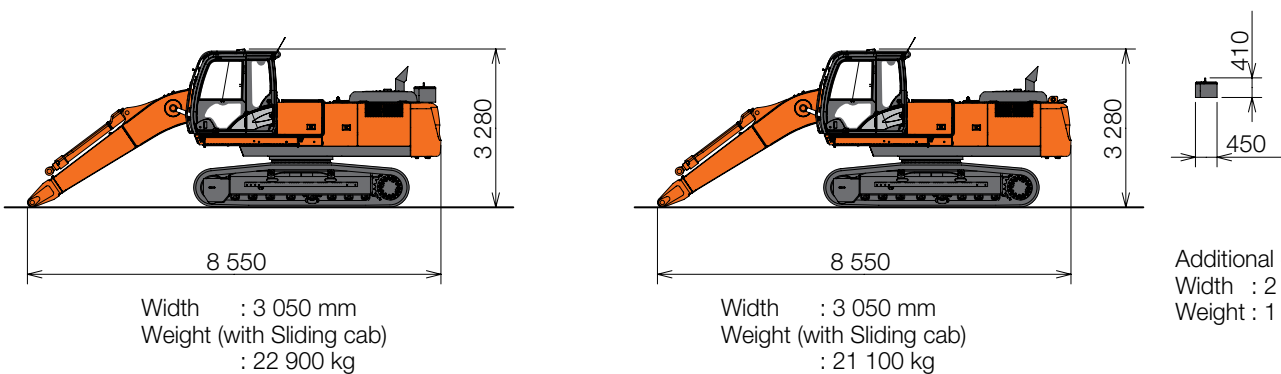


Unit: mm

A	Distance between tumblers	3 660
B	Undercarriage length	4 460
*C	Counterweight clearance	980
D	Rear-end swing radius	2 890
E	Overall width of upperstructure	3 000
F	Overall height of cab	3 280
*G	Min. ground clearance	450
H	Track gauge	2 390
I	Track shoe width	G 600
J	Undercarriage width (inc. side step)	2 990 (3 050)
K	Overall width	3 250
L	Overall length	14 650
M	Overall height of boom	2 770
N	Track height with triple grouser shoes	920
O	Swing centre to front distance	11 760

* Excluding track shoe lug G: Triple grouser shoe

TRANSPORTATION



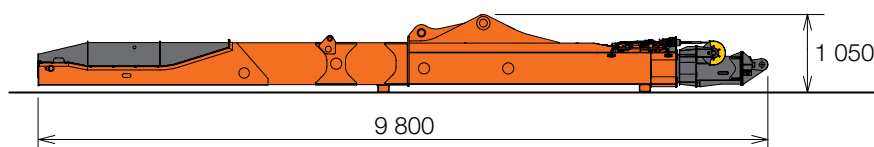
Unit: mm

Width : 3 050 mm
Weight (with Sliding cab)
: 22 900 kg

Width : 3 050 mm
Weight (with Sliding cab)
: 21 100 kg

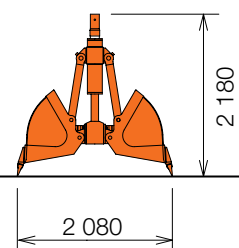
Additional counterweight
Width : 2 270 mm
Weight : 1 750 kg

Telescopic Arm



Width: 680 mm Weight: 3 330 kg

Clamshell Bucket



Width: 940 mm Weight: 1 240 kg

Unit: mm

SPECIFICATIONS

ZX350LC

ENGINE

Model	Isuzu AL-6HK1X
Type	4-cycle water-cooled, common rail direct injection
Aspiration	Variable geometry turbocharged, intercooled, cooled EGR
Aftertreatment	Muffler filter
No. of cylinders	6
Rated power	
ISO 9249, net	202 kW (271 HP) at 1 900 min ⁻¹ (rpm)
EEC 80/1269, net	202 kW (271 HP) at 1 900 min ⁻¹ (rpm)
SAE J1349, net	202 kW (271 HP) at 1 900 min ⁻¹ (rpm)
Maximum torque	1 080 Nm (110 kgfm) at 1 500 min ⁻¹ (rpm)
Piston displacement	7.790 L
Bore and stroke	115 mm x 125 mm
Batteries	2 x 12 V / 135 Ah

HYDRAULIC SYSTEM

Hydraulic Pumps

Main pumps	3 variable displacement axial piston pumps
Maximum oil flow	2 x 288 L/min 1 x 260 L/min
Pilot pump	1 gear pump
Maximum oil flow	36.4 L/min

Hydraulic Motors

Travel	2 variable displacement axial piston motors
Swing	1 swash plate piston motor

Relief Valve Settings

Implement circuit	34.3 MPa (350 kgf/cm ²)
Swing circuit	32.4 MPa (330 kgf/cm ²)
Travel circuit	34.3 MPa (350 kgf/cm ²)
Pilot circuit	3.9 MPa (40 kgf/cm ²)
Power boost	38.0 MPa (388 kgf/cm ²)

Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines.

CONTROLS

Pilot controls. Hitachi's original shockless valve.	
Implement levers	2
Travel levers.....	2
Telescopic arm control pedal.....	1

UPPERSTRUCTURE

Revolving Frame

D-section frame for resistance to deformation.

Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed	9.7 min ⁻¹ (rpm)
Swing torque	120 kNm (12 240 kgfm)

Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO* Standards.

* International Organization for Standardization

UNDERCARRIAGE

Tracks

Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

Numbers of Rollers and Shoes on Each Side

Upper rollers	2
Lower rollers	8
Track shoes	48
Track guards	3

Travel Device

Each track driven by 2-speed axial piston motor. Parking brake is spring-set/hydraulic-released disc type. Automatic transmission system: High-Low.

Travel speeds	High : 0 to 5.0 km/h Low : 0 to 3.2 km/h
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Maximum traction force	298 kN (30 400 kgf)
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Gradeability	26% (15 degree) continuous
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WEIGHTS AND GROUND PRESSURE

Equipped with type S-TC300R-7 and 1.30 m³ clamshell bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Triple grouser	600 mm	42 750 kg	80 kPa (0.82 kgf/cm ²)

SOUND LEVEL

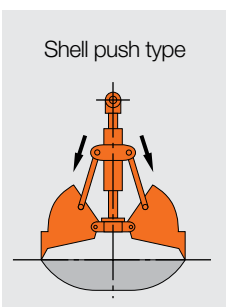
Sound level in cab according to ISO 6396	LpA 70 dB(A)
External sound level according to ISO 6395 and EU Directive 2000/14/EC	LwA 104 dB(A)

SERVICE REFILL CAPACITIES

Fuel tank	630.0 L
Engine coolant	40.0 L
Engine oil	48.0 L
Swing device	15.7 L
Travel device (each side)	9.2 L
Hydraulic system	340.0 L
Hydraulic oil tank	180.0 L

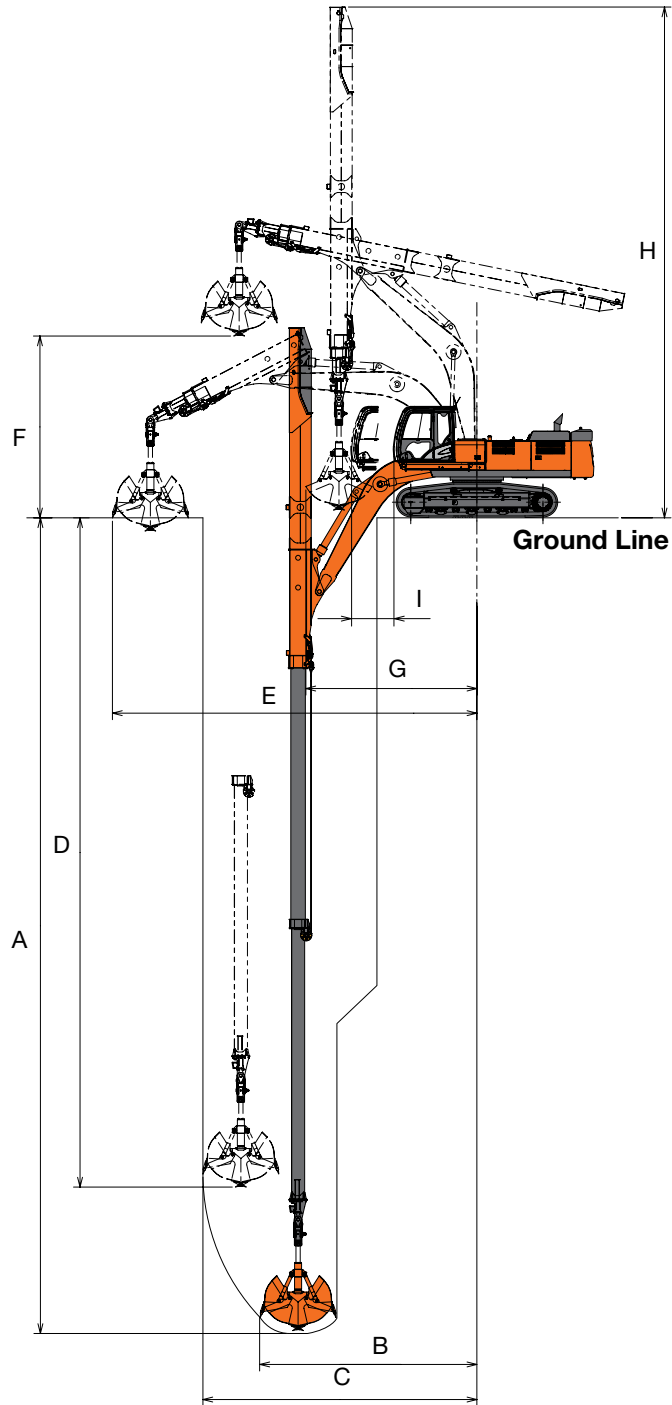
CLAMSHELL BUCKET

Bucket type	S-SP130
Bucket capacity	m ³ 1.30
Max. digging force	kN (kgf) 79.4 (8 100)
Max. height	mm 2 960
Open max. height	mm 2 650
Closed width	mm 2 030
Open width	mm 2 320
Bucket width	mm 1 230
Number of teeth	9
Weight	kg 1 960



SPECIFICATIONS

WORKING RANGES

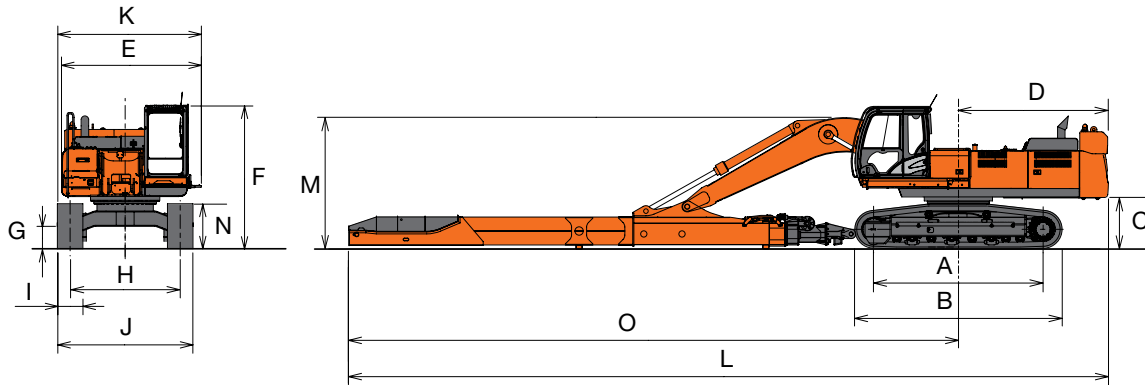


Unit: mm

Telescopic arm type	S-TC300R-7
Telescopic arm system	Hydraulic cylinder + wire rope
A Max. vertical digging depth	25 000
B Radius at max. vertical digging depth	6 640
C Max. vertical digging radius	8 400
D Depth at max. vertical digging radius	20 510
E Max. working radius	11 170
F Max. dumping height	5 570
G Min. front swing radius	5 300
H Height at min. front swing radius	15 660
I Cab sliding distance	1 300

SPECIFICATIONS

DIMENSIONS



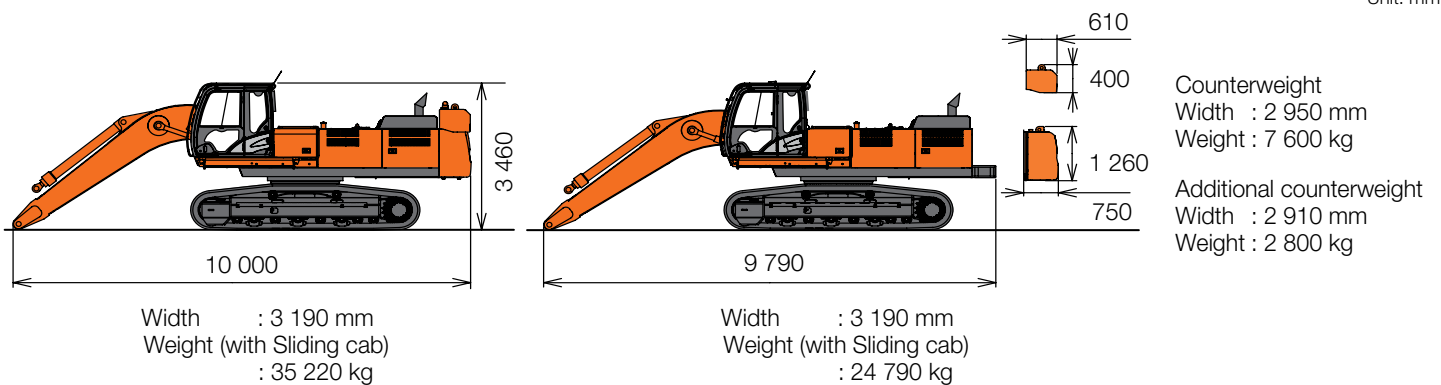
Unit: mm

A	Distance between tumblers	4 050
B	Undercarriage length	4 940
*C	Counterweight clearance	1 160
D	Rear-end swing radius	3 590
E	Overall width of upperstructure	3 290
F	Overall height of cab	3 460
*G	Min. ground clearance	500
H	Track gauge	2 590
I	Track shoe width	G 600
J	Undercarriage width	3 190
K	Overall width	3 390
L	Overall length	18 150
M	Overall height of boom	3 250
N	Track height with triple grouser shoes	1 070
O	Swing centre to front distance	14 570

* Excluding track shoe lug G: Triple grouser shoe

TRANSPORTATION

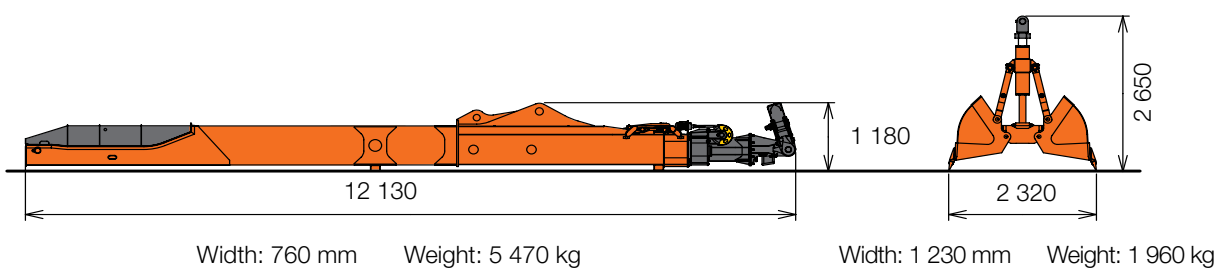
Unit: mm



Telescopic Arm

Clamshell Bucket

Unit: mm





Built on the foundation of superb technological capabilities, Hitachi Construction Machinery is committed to providing leading-edge solutions and services to contribute as a reliable partner to the business of customers worldwide.



Hitachi Environmental Vision 2025

The Hitachi Group released the Environmental Vision 2025 to curb annual carbon dioxide emissions. The Group is committed to global production while reducing environmental impact in life cycles of all products, and realizing a sustainable society by tackling three goals — prevention of global warming, recycling of resources, and enhancement of ecosystem.

Reducing Environmental Impact by New ZAXIS

Hitachi makes a green way to cut carbon emissions for global warming prevention according to LCA*. New ZAXIS utilizes lots of technological advances, including the new ECO mode, and Isochronous Control. Hitachi has long been committed to recycling of components, such as aluminum parts in radiators and oil cooler. Resin parts are marked for recycling.

*Life Cycle Assessment – ISO 14040

Prior to operating this machine, including satellite communication system, in a country other than a country of its intended use, it may be necessary to make modifications to it so that it complies with the local regulatory standards (including safety standards) and legal requirements of that particular country. Please do not export or operate this machine outside the country of its intended use until such compliance has been confirmed. Please contact your Hitachi dealer in case of questions about compliance. These specifications are subject to change without notice.

Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, customer modified and installed parts, optional parts and all standard equipment with some differences in color and features. Before use, read and understand the Operator's Manual for proper operation.