CASE

CX SERIES HYDRAULIC EXCAVATORS

CX230

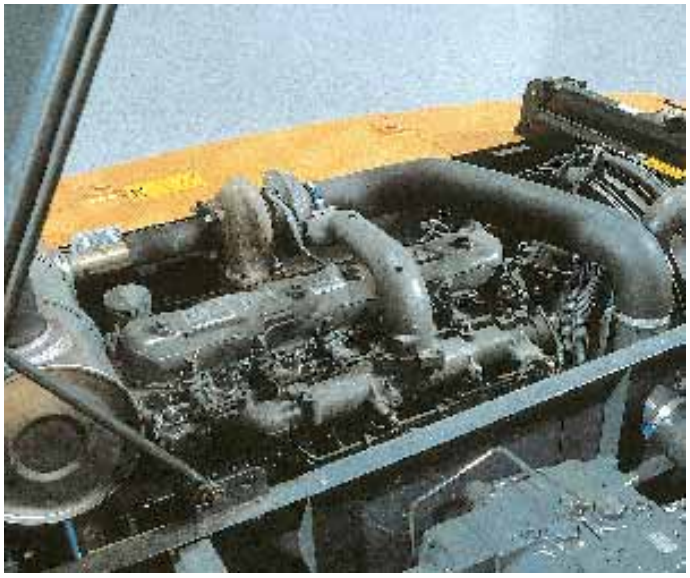
PROFESSIONAL PARTNER

ENGINE

Engine, meeting European requirements for “low exhaust emission” Tier 2, in accordance with directive 97/68/EC.

Make	ISUZU
Type	BB-6BGIT
Turbo	Yes
Injection	electronically controlled
No. of cylinders	6
Bore - Stroke	105 x 125 mm
Cubic capacity	6494 cm^3
EEC 80/1269 horsepower	105 kW - 141 hp
Engine speed	1950 rpm

Automatic engine pre-heating provides for optimum and immediate operation as soon as the working temperature is reached, a guarantee of longer life for the engine and the hydraulic components. The injection pump is directly, electronically controlled by a special calculator which takes the hydraulic system load parameters into account. Regulation is quicker and more efficient than on conventional systems, reducing smoke and noise emissions and also significantly reducing fuel consumption.



HYDRAULIC SYSTEM

Linked to the electronic engine power management system, a second electronic system manages all the hydraulic parameters so as to obtain the highest possible available hydraulic power, under optimum conditions of efficiency and economy. The system consists of two axial piston, variable flow pumps.

Max output	2 x 201 l/min
Max safety valve pressure	
Attachment/**Power Boost**	343/373 bar
Upperstructure swing	280 bar
Travel	343 bar

CONTROL VALVES
4 sections for: LH travel, boom, bucket, and dipper acceleration
5 sections for: RH travel, swing, dipper, auxiliary circuit and boom acceleration.

SWING
Axial piston, fixed flow motor

Max upperstructure swing speed	11.9 rpm
Swing torque	6500 daN

Hydraulic system gives priority to the swing when operated simultaneously with the dipper. Hydrostatic swing brake backed up by a mechanical brake during swing stopping and when machine is being transported. Hydrostatic upperstructure braking during working phases, with an “anti-bounce” valve stopping neatly and accurately over a truck body or trench.

Backhoe clamshell circuit operated by means of a manual control on the dipper.
Auxiliary circuit
Using the auxiliary section available as standard, a maximum number of different tools and assemblies can be used, to suit customer requirements (See options).

FILTRATION
Exceptionally fine protection of all hydraulic system components by means of the "**ULTRA CLEAN**" system (a special filter which removes all particles over 1 micron in size, as well as all traces of water condensation).
The use of this system means the hydraulic fluid retains all its qualities for **5000 hours**, thus reducing servicing intervals and maintenance costs. The hydraulic system is also equipped with an inlet filter, a return filter and a filter on the pilot circuit.

COOLING
Servicing of the cooling systems (engine and hydraulics) is considerably simplified due to total accessibility (hydraulic oil cooler radiator pivots).

TRAVEL
The travel circuit is equipped with two axial piston, variable flow motors.
Planetary reduction gear, automatic multi-disc brake.

Max travel speed	5.3 kph
Low travel speed	3.2 kph

Speed change is controlled from the instrument panel.

Gradeability	70% (35°)
Tractive force	19500 daN

ELECTRICAL SYSTEM

Circuit	24 volts
Batteries	2 x 12 v - 112 A/h
Alternator	24 v - 50 A/h

Circuit equipped with water-proof connectors

CAB

Combining comfort, safety and ergonomics, the CX230 cab has been designed to provide the best possible working conditions in a pleasant environment, thus enabling the operator to get the very best out of his machine.
Access to the operator's compartment is facilitated by a wide door and the fact that the LH control arm can be raised completely out of the way.
Exceptional cab width (1.00 metre) providing a spacious, airy working space.
Air suspension, ergonomic seat, with multiple adjustments as standard equipment.
The windscreen can be raised and locked in the upper or lower position.
The lower portion of the windscreen can be removed and placed in a storage compartment at the rear LH side of the cab.
The windscreen wiper is mounted on the RH cab pillar.
The cab floor is flush with the door sill for easy cleaning.
Self-regulating air conditioning, ventilation and defrosting of the cab by adjustable outlets (windscreen, operator, rear of cab).
Radio pre-equipment with loud-speaker housings.
Double sliding window on door.
Wide foot-rest on either side of the travel pedals and levers.
Optional pedal location (hammer, etc.)

UNDERCARRIAGE

"X" type design, strongly built undercarriage provides for quick travel over all types of work-site and better stability when working or travelling under load.
Perfectly protected motors and piping, a guard underneath the hydraulic swivel, high ground clearance - for easy access to the most difficult work-sites.
Spring-type track tensioning, adjustable by an easily accessible grease cylinder.

Specifications (per track set):

Upper rollers	2
Lower rollers	8
Number of track pads	47
Type of shoes	Triple grouser
Standard track pad width	550 mm

Chain guide
A chain guide which acts over the entire length of the chassis ensures correct positioning of the chain and reduced wear, whatever the type of terrain on which the machine has to operate.

COMFORT, OPERATION, SAFETY

The safety console and the control panel are located to the right of the operator.
They include:
A large, back-lit LCD screen, clearly displaying messages and indicators covering the vital functions of the machine - in a choice of 14 languages.
Touch controls for work mode, travel speed, automatic mode and emergency stop are provided.
There is also a touch control to select the attachment shock absorbing function: a soft or firm mode can be selected by the operator depending on the work being done.
"Clear language text and symbol" messages, plus an audible warning, enable the operator to check that his machine is operating correctly.

ENGINE RETURN TO IDLE
The engine return to idle can be automatic or manual as required by the operator (control on RH control lever).

ANTI-THEFT PROTECTION
An anti-theft system incorporated into the machine's electronic system is standard equipment.

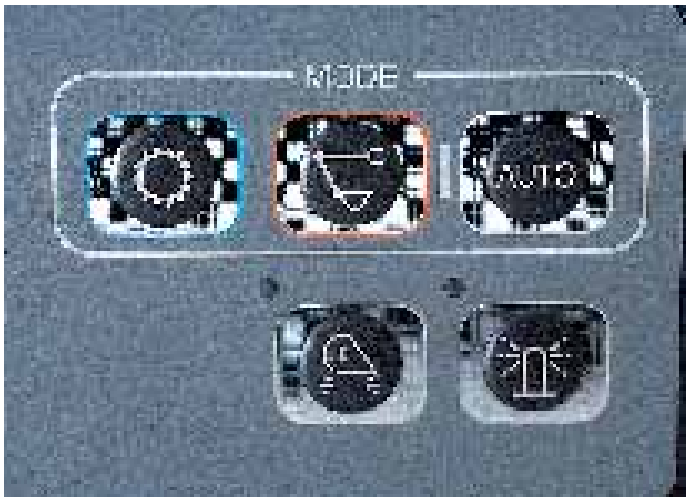
WORK MODES
Hydraulic power is controlled by the electronic system, which provides a continuous link between the hydraulics and the engine. The operator has a choice of 3 "**traditional**" modes, plus one "**automatic**" mode:

- **H mode** (Heavy) for tough jobs, providing optimum efficiency, high working speed and maximum force.

- **S mode** (Standard) is the "traditional" working mode. It grants high level performances while reducing fuel consumption.

- **L mode** (Light) is the mode to be used for finishing work (sloping banks, profiles, etc), where precision is required. It's also the mode used when handling loads and travelling with loads, due to the reduced flow and the continuous availability of **Power Boost** (maximum pressure applied continuously).

For greater efficiency and maximum use of the machine's resources, certain functions have been simplified for the operator. This is the case for the Automatic Mode.



The **AUTO mode** on the new CX230 considerably simplifies machine operation, since it enables the working mode to be changed automatically and continuously (without any action on the part of the operator), depending on the type of work being done. Over all the cycles performed, a real reduction in fuel consumption is found compared with continuous use in one single working mode.

AUTO POWER BOOST
To simplify the operator's work even further, enabling him to get the maximum performance from his machine, CASE uses a totally automatic powerboost. Regardless of the working mode, AUTO POWER BOOST on the CX230 cuts in whenever the machine encounters a difficult obstacle.
For a period of 8 seconds the force at the dipper and bucket is increased by 8 to 10 %, totally automatically.

ATTACHMENT

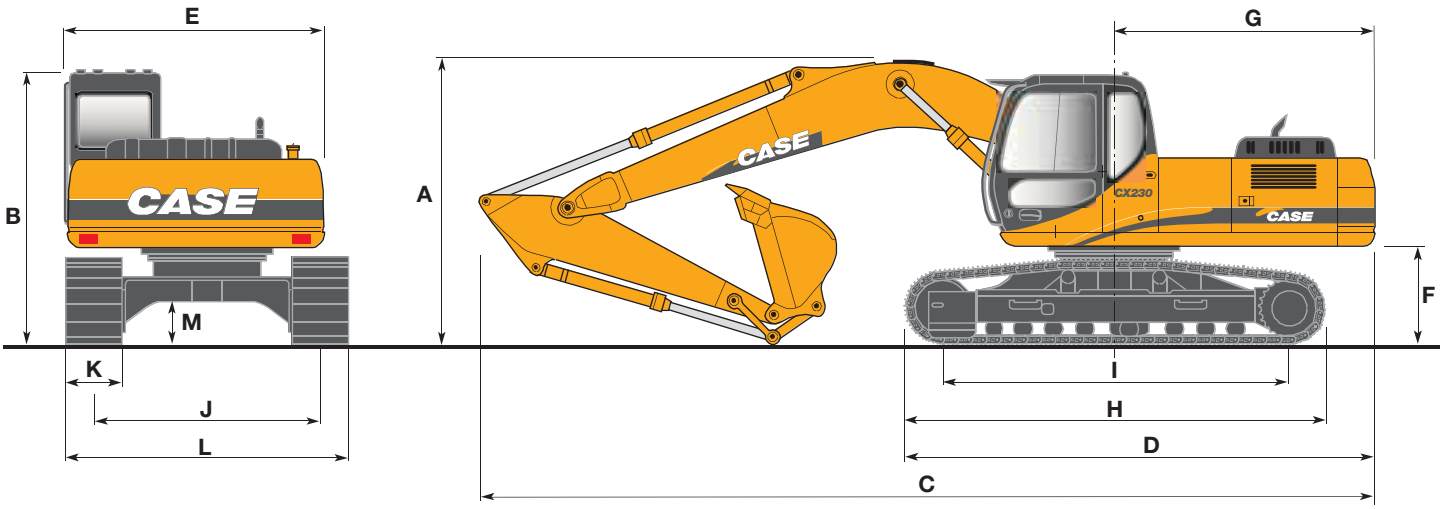
For quick attachment changing, a hydraulic quick coupler is recommended. MULTI-FIT is the CASE hydraulic quick coupler which has a self-locking mechanical safety system (so the operator doesn't have to climb down from his cab).
This coupler can take buckets made by competing manufacturers, without modification, since it can accept varying centre distances (the clearance is automatically taken up).

CIRCUIT AND COMPONENT CAPACITIES

Hydraulic reservoir	120 l
Hydraulic system	206 l
Travel reduction gear (per side)	4.7 l
Swing reduction gear	4.5 l
Engine (including filter change)	24 l
Fuel tank	265 l

RESPECT OF ENVIRONMENT
The excavator respects the **European "reduced noise level"** as per directive 200/14/EC Phase 2.

GENERAL DIMENSIONS-MONOBLOC BOOM



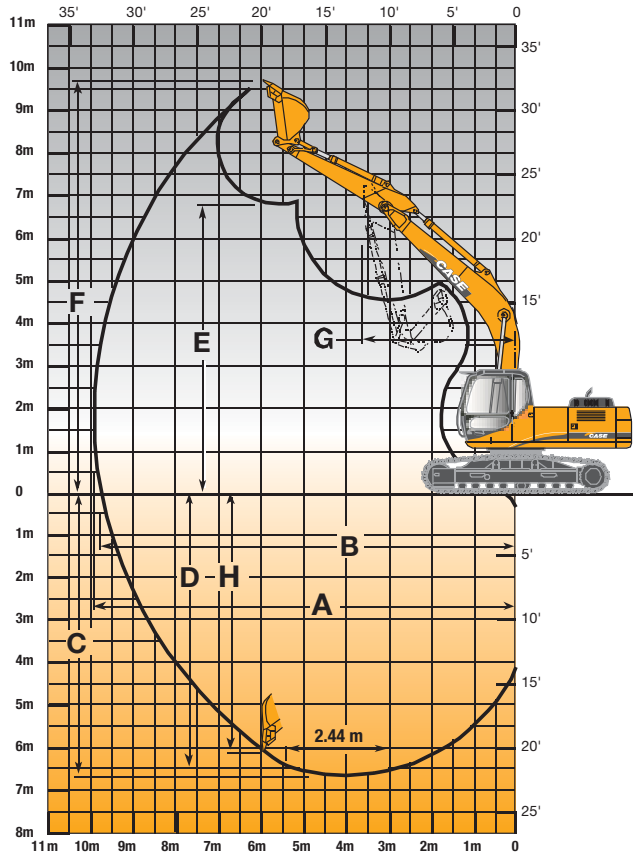
A	Overall height	(5.70 boom, 1.90 m dipper)	3.04 m
		(5.70 boom, 2.40 m dipper)	3.09 m
		(5.70 boom, 3.00 m dipper)	2.92 m
B	Cab height		2.95 m
C	Overall length	(5.70 boom, 1.90 m dipper)	9.59 m
		(5.70 boom, 2.40 m dipper)	9.58 m
		(5.70 boom, 3.00 m dipper)	9.50 m
D	Overall length (wo/attachment)		4.95 m
E	Width of upperstructure		2.50 m

F	Upperstructure ground clearance	1.09 m
G	Swing (rear end) radius	2.83 m
H	Track overall length	4.24 m
I	Centre/centre (idler to sprocket)	3.46 m
J	Track gauge	1.99 m
K	Track shoes width (std)	0.55 m
L	Track overall width Shoes 0,55 m	2.54 m
M	Ground clearance	0.48 m

PERFORMANCE DATA

With 5.70 monobloc boom

DIPPER	m	1.90	2.40	3.00
A	m	8.97	9.41	9.96
B	m	8.78	9.23	9.78
C	m	5.57	6.05	6.65
D	m	5.33	5.84	6.47
E	m	6.39	6.63	6.90
F	m	9.19	9.44	9.71
G	m	3.71	3.67	3.62
H	m	4.84	5.42	6.02
Digging force	daN	16200	13560	11050
Breakout force	daN	15110	15110	15110



WEIGHT AND GROUND PRESSURE

With 5.70 m monobloc boom
2.40 m dipper
bucket - operator and full fuel tank

	Weight	Ground pressure
Steel shoes 550 mm	22370 kg	0.53 bar

BUCKETS

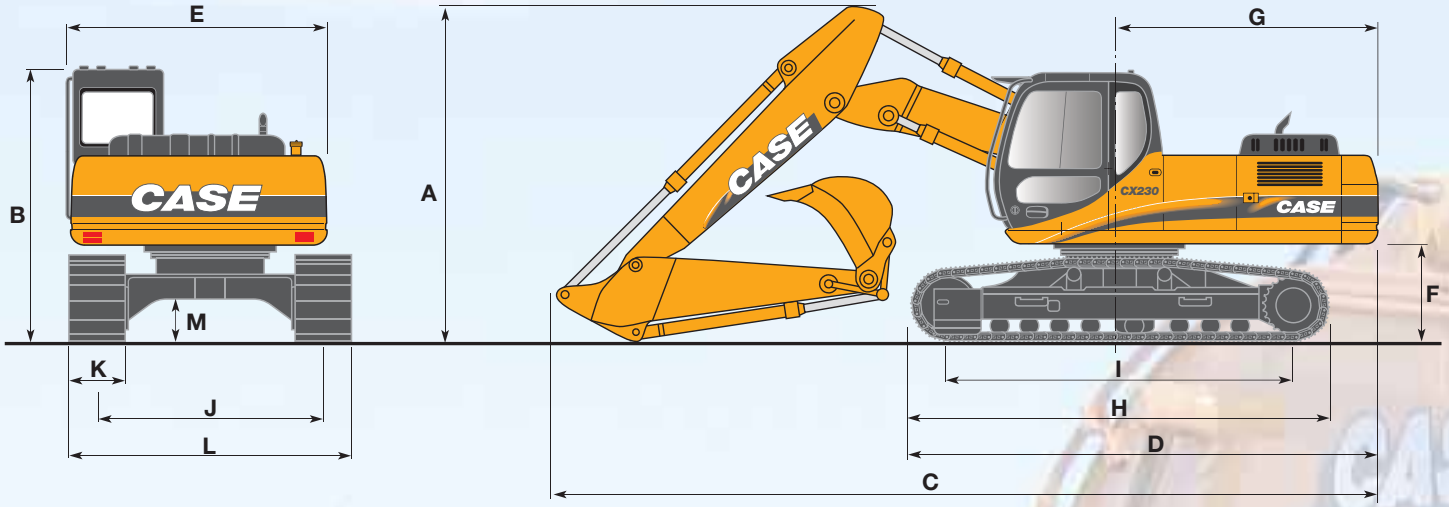
General purpose

SAE capacity	l	410	560	700	800	900	1050	1150	1250
Width	mm	600	750	900	1000	1100	1250	1350	1450
Weight	kg	554	600	640	670	700	760	790	820

Heavy duty

SAE capacity	l	900	1050	1150
Width	mm	1100	1250	1350
Weight	kg	740	810	840

GENERAL DIMENSIONS-ARTICULATED BOOM



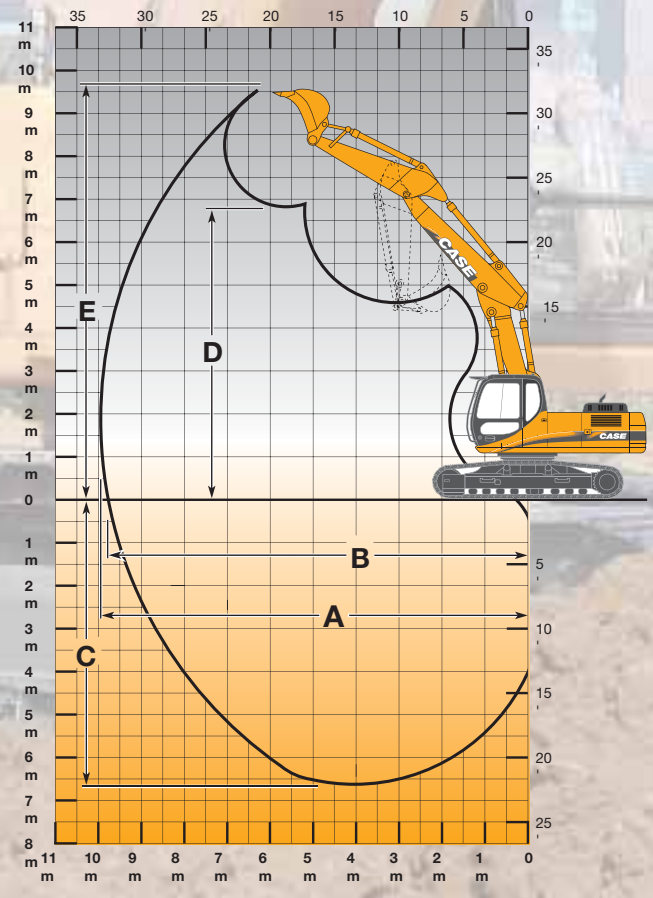
A	Overall height	(5.70 boom, 1.90 m dipper)	3.15 m
B	Cab height		2.95 m
C	Overall length	(5.70 boom, 1.90 m dipper)	9.56 m
D	Overall length (wo/attachment)		4.95 m
E	Width of upperstructure		2.50 m
F	Upperstructure ground clearance		1.09 m
G	Swing (rear end) radius		2.83 m

H	Track overall length	4.24 m
I	Centre/centre (idler to sprocket)	3.46 m
J	Track gauge	1.99 m
K	Track shoes width (std)	550 m
L	Track overall width Shoes 0,55 m	2.54 m
M	Ground clearance	0.48 m

PERFORMANCE DATA

With 2.40 dipper

A	Maximum digging reach	9.39 m
B	Maximum digging reach at ground level	9.19 m
C	Maximum digging depth	5.71 m
D	Max dump height	8.04 m
E	Overall reach height	10.66 m
	Digging force	13560 daN
	Breakout force	15110 daN



WEIGHT AND GROUND PRESSURE

With articulated boom
2.40 m dipper
bucket, operator and full fuel tank

	Weight	Ground pressure
Steel shoes 550 mm	23035 kg	0.55 bar

BUCKETS

General purpose

SAE capacity	l	410	560	700	800	900	1050	1150	1250
Width	mm	600	750	900	1000	1100	1250	1350	1450
Weight	kg	554	600	640	670	700	760	790	820

Heavy duty

SAE capacity	l	900	1050	1150
Width	mm	1100	1250	1350
Weight	kg	740	810	840

LIFTING CAPACITY

CX230 Monobloc boom with 1.90 m dipper, 550 mm shoes and bucket

Height	Reach										
	3.0 m		4.5 m		6.0 m		7.5 m		At max reach		
	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	m
6.0 m					5256 *	4419			5246 *	3990	6.36
4.5 m	9593 *	9593 *	6769 *	6666	5709 *	4254			5378 *	3196	7.12
3.0 m			8555 *	6074	6485 *	4005	5071	2823	5061	2817	7.51
1.5 m			10024 *	5621	6960	3777	4959	2723	4876	2676	7.58
0 m			10604 *	5436	6800	3638			5033	2737	7.35
-1.5 m	14024 *	10354	10391 *	5433	6770	3612			5651	3057	6.79
-3.0 m	12894 *	10589	9343 *	5568					7107 *	3909	5.79
-4.5 m									7379 *	6947	4.03

CX230 Monobloc boom with 2.40 m dipper, 550 mm shoes and bucket

Height	Reach										
	3.0 m		4.5 m		6.0 m		7.5 m		At max reach		
	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	m
6.0 m					4774 *	4503			4153 *	3496	6.92
4.5 m			6130 *	6130 *	5305 *	4328	4848 *	2966	4216 *	2875	7.63
3.0 m			7973 *	6258	6150 *	4078	5110	2860	4483 *	2564	7.99
1.5 m			9653 *	5771	7011 *	3837	4980	2742	4451	2444	8.06
0 m	7574 *	7574 *	10535 *	5519	6838	3673	4886	2658	4569	2487	7.85
-1.5 m	12408 *	10338	10593 *	5459	6766	3611			5041	2733	7.32
-3.0 m	14031 *	10535	9844 *	5536	6828	3664			6200	3354	6.41
-4.5 m	10996 *	10926	7778 *	5782					7061 *	5148	4.88

CX230 Monobloc boom with 3.00 m dipper, 550 mm shoes and bucket

Height	Reach										
	3.0 m		4.5 m		6.0 m		7.5 m		At max reach		
	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	m
6.0 m							2971 *	2971 *	2698 *	2698 *	7.58
4.5 m					4759 *	4425	4518 *	3029	2718 *	2549	8.23
3.0 m	11064 *	11064 *	7127 *	6448	5658 *	4157	4951 *	2900	2859 *	2294	8.57
1.5 m	7800 *	7800 *	9004 *	5894	6618 *	3886	5003	2760	3138 *	2187	8.63
0 m	8279 *	8279 *	10218 *	5552	6855	3683	4879	2649	3621 *	2211	8.43
-1.5 m	11239 *	10196	10612 *	5420	6735	3580	4820	2596	4433	2390	7.95
-3.0 m	15034 *	10336	10222 *	5441	6739	3583			5242	2829	7.11
-4.5 m	12626 *	10651	8803 *	5608					6546 *	3923	5.78

CX230 Articulated boom with 2.40 m dipper, 550 mm shoes and bucket

Height	Reach										
	3.0 m		4.5 m		6.0 m		7.5 m		At max reach		
	Front	360°	Front	360°	Front	360°	Front	360°	Front	360°	m
6.0 m					4770 *	4421			3980	3696	6.83
4.5 m				6130 *	5120 *	4138	4000 *	2756	3890 *	2715	7.54
3.0 m			9360 *	6258	5780 *	3969	4170 *	2720	4321	2444	7.92
1.5 m			9950 *	5771	7011 *	3780	4820	2650	4500	2364	8.00
0 m			9590 *	5519	6770	3683	4786	2610	4370 *	2447	7.78
-1.5 m			9590 *	5459	6270 *	3661			4330 *	2743	7.26
-3.0 m			8360 *	5536						3364	5.91
-4.5 m			6090 *	5782							

- Machine in «LIGHT» mode
- Lift capacities are taken in accordance with SAE J 1097 / ISO 10567 / DIN 15019-2.
- Lift capacities shown in kg do not exceed 75% of the tipping load or 87% of the hydraulic lift capacity.
- Capacities that are marked with an asterisk are hydraulic limited

CX230

STANDARD EQUIPMENT

Hydraulic control
- 4 working modes (3 manual + 1 auto)
- 2 travel speeds
- Swing brake control
- Load-holding valves on boom and dipper
- Power control - automatic powerboost
- Hydraulic control lever locking,
- Auxiliary circuit control valve section
- High performance "Ultra Clean" filtration system (1 µ)
- Automatic speed change

Engine control
- Tier 2 Engine
- Calculator on injection pump
- Automatic / manual engine return to idle
- Fuel level check
- Emergency stop
- Automatic engine pre-heating

System Monitor, with 14 language display
- Messages (Function, safety, etc.)
- Working modes (H-S-L and auto)
- Operating modes (travel mode, swing locking, etc.)
- Audible warning device
- Digital clock
- Water temperature
- Hydraulic oil temperature
- Diagnostic system

Electrical system
- Leak-proof connectors
- Double horn

Lighting
- 1 working light on the fuel tank
- 1 working light on the boom
- 1 working light on the cab

Operator environment
- Modern cab, 1 metre wide
- Safety glass
- Suspended cab (6 mounting points mountings)
- Windscreen with lockable opening
- "LCD" display
- Water and dust-proof membrane
- Windscreen washer and wiper
- Adjustable heater
- Floor mat
- Sun-visor
- Rear-view mirror and safety mirrors
- Self-adjusting air conditioning
- Anti-theft device

Operator seat
- Air suspension
- Height and tilt adjustment
- Adjustable head-rest
- Adjustable seat-back angle
- Adjustable arm-rests
- Reel-type safety belt

POSSIBLE ADDITIONAL OPTIONS

- Auxiliary hydraulic circuit

Possible options and combinations:
- Hammer circuit with pedal control
- 2nd auxiliary circuit for clamshell rotation, etc.
- Dual-acting circuit (shears type)
- Multi-purpose circuit (hammer or shears)
- Multi-purpose circuit + 2nd circuit

- MULTI-FIT quick coupler

Standard and optional equipment may vary by country.

NOTE: Standard and optional fittings can vary according to the demands and specific regulations of each country. The illustrations may include optional rather than standard fittings - consult your Case dealer. Furthermore, CNH reserves the right to modify machine specifications without incurring any obligation relating to such changes.

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Conforms to directive 98/37/CE CE

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