

CX

SERIES HYDRAULIC EXCAVATORS
CX160

CASE



P R O F E S S I O N A L P A R T N E R



ENGINE

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

Make ISUZU
 Type..... DD-4BG1TRA
 Turbo Yes
 Injection..... electronically controlled
 No. of cylinders.....4
 Bore - Stroke 105 x 125 mm
 Cubic capacity 4329 cm³
 EEC 80/1269 horsepower..... 79.3 kW - 106 hp
 Rotation speed..... 2200 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 electronically directly 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 engine power management electronic 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 136,7 l/min
 Max safety valve pressure
 Attachment / **Power Boost**..... 343/**363** 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 speed11.4 rpm

Hydraulic system gives priority to the swing when operated simultaneously with the dipper.

Hydrostatic swing brake backed up by 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.

TRAVEL:

The travel circuit is equipped with two axial piston, variable flow motors.

Planetary reduction gear, automatic multi-disc brake.

Max travel speed 5.5 kph

Low travel speed 3.2 kph

Speed change is controlled from the instrument panel.

Gradeability 70 % (35°)

Tractive force 11300 daN



ELECTRICAL SYSTEM

Circuit.....	24 volts
Batteries :.....	2 x 12 v - 96 A/h
Circuit equipped with water-proof connectors	
Alternator	24 v - 50 A/h

UNDERCARRIAGE

The LC type “X” 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	7
Number of track pads	43
Type of shoes	Triple grouser
Standard track pad width	600 mm
Chain guides	Front and central



CAB

Combining comfort, safety and ergonomics, the CX160 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. Suspended cab (6 mounting points with rubber/fluid shock absorbing mountings). 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. Ergonomic seat with multiple adjustments as standard.

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. 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, offset, etc.)



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:

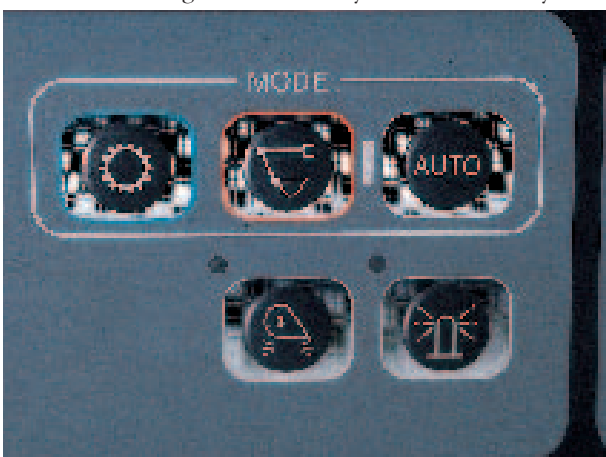
H mode (Heavy) for tough jobs, providing optimum efficiency, high working speed and maximum force.

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 what 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 higher 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 CX160 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 POWERBOOST

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 POWERBOOST on the CX160 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.



ATTACHMENTS

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

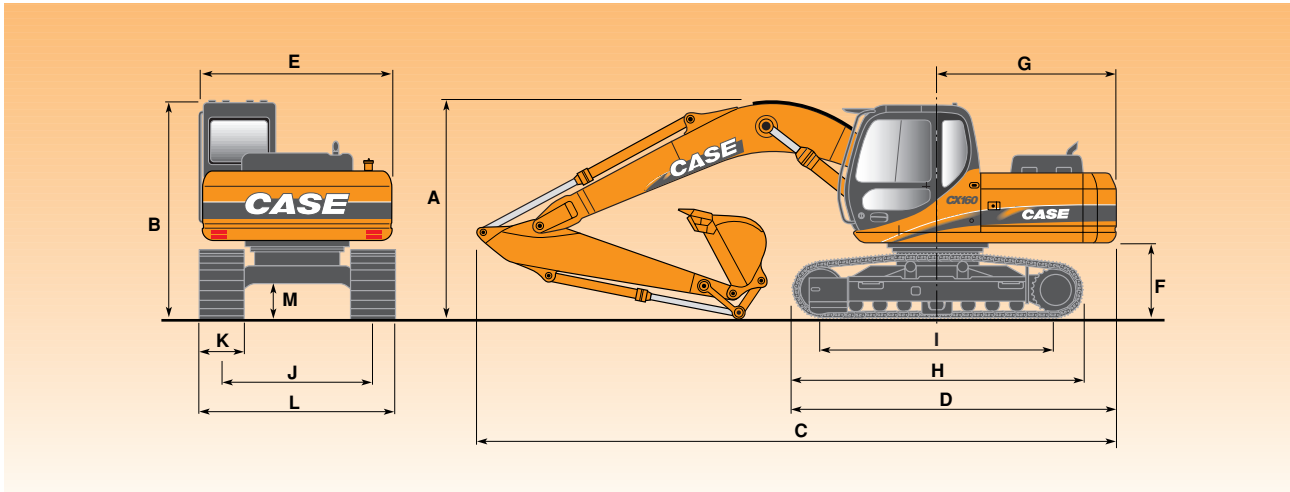
Hydraulic reservoir	73 l
Hydraulic system	148 l
Travel reduction gear (per side).....	3 l
Swing reduction gear	5 l
Engine (including filter change)	15 l
Fuel tank	250 l

RESPECT OF ENVIRONMENT

The CX160 respects the **European “reduced noise level”** as per directive 2000/14/EC Phase 2.



GENERAL DIMENSIONS



A Overall height	(2.70 m dipper)	2.92 m
	(3.10 dipper)	3.09 m
	(Offset backhoe - 2.70 m dipper)	2,78 m
B Cab height		2.88 m
C Overall length	(2.70 m dipper)	8.40 m
	(3.10 m dipper)	8.44 m
	(Offset backhoe - 2.70 m dipper)	8,43 m
D Overall length (wo/attachment)		4.32 m
E Width of upperstructure		2.54 m
F Upperstructure ground clearance		1.02 m

G Swing (rear end) radius		2.37 m
H Track overall length		3.90 m
I Centre/centre (idler to sprocket)		3.09 m
J Track gauge		1.99 m
K Track shoes width (std)		600 mm
L Track overall width	Shoes 500 mm	2.49 m
	Shoes 600 mm	2.59 m
	Shoes 700 mm	2.69 m
M Ground clearance		0.44 m



WEIGHT AND GROUND PRESSURE

With 5.15 m monobloc boom - 2.70 m dipper - bucket - operator and full fuel tank	Weight (kg)	Ground pressure (bar)
Shoes 500 mm steel	-	0.48
Shoes 600 mm steel	17100	0.41
Shoes 700 mm steel	-	0.34



BUCKETS

General purpose

SAE capacity	Litres	270	390	570	660	750	850	950
Width	mm	500	600	800	900	1000	1100	1200
Weight	kg	350	385	455	495	525	550	590

Heavy duty

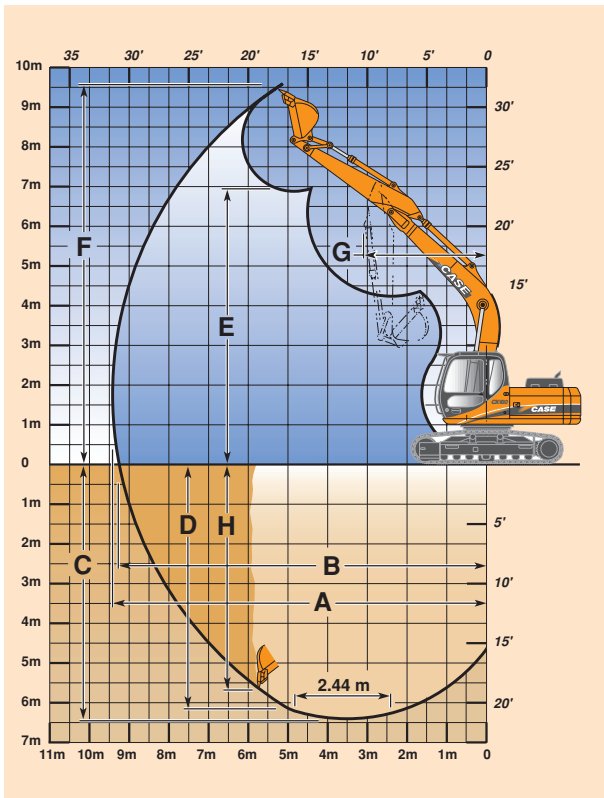
SAE capacity	Litres				660	750	850	950
Width	mm				900	1000	1100	1200
Weight	kg				555	590	625	665

Other types of bucket on application.



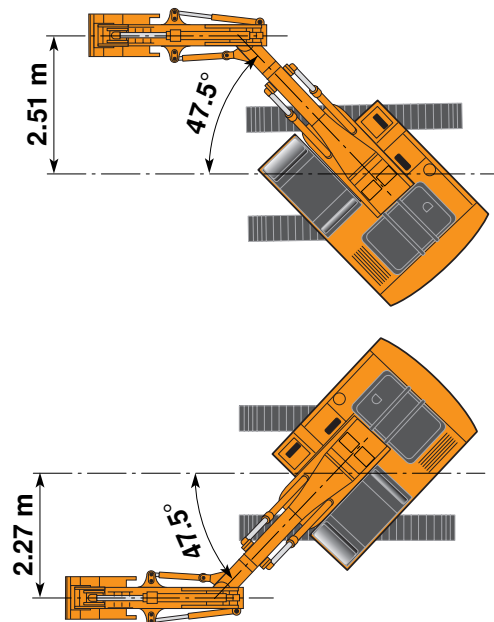
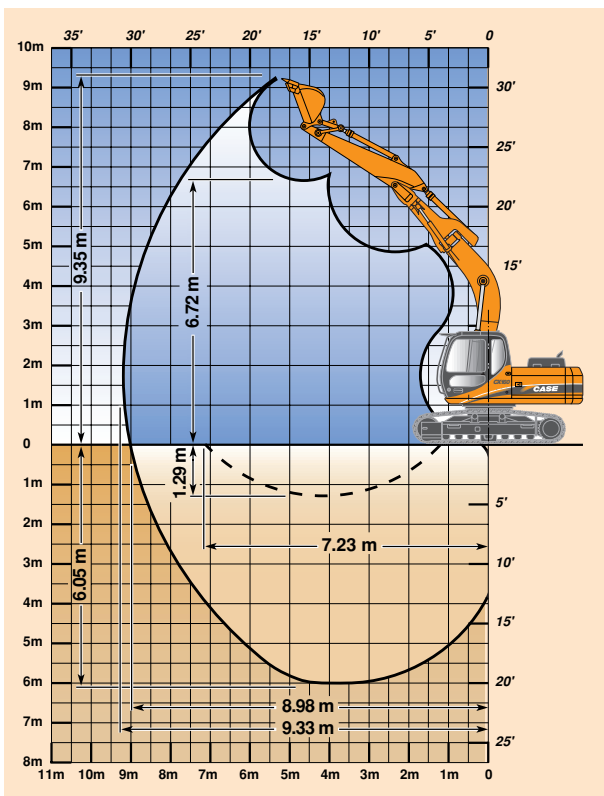
PERFORMANCE DATA

With 5.15 m monobloc boom



	Dipper :	2.20 m	2.70 m	3.10 m
A		8.68 m	9.13 m	9.48 m
B		-	8.97 m	9.32 m
C		5.60 m	6.12 m	6.45 m
D		-	5.93 m	6.27 m
E		6.43 m	6.67 m	6.95 m
F		9.07 m	9.30 m	9.59 m
G		-	2.99 m	3.00 m
H		4.77 m	5.20 m	5.68 m
Digging force		9050 daN	8010 daN	7400 daN
Breakout force		11800 daN	11800 daN	11800 daN

With offset backhoe equipment and 2.70 m dipper



— Zero offset
 - - - Maximum offset



LIFTING CAPACITY

With 5.15 m boom, 2.20 m dipper, 600 mm shoes and bucket

Reach Height	3 m		4.5 m		6 m		7.5 m		Max reach		
	front	360°	front	360°	front	360°	front	360°	front	360°	m
6 m					2640*				2600*		6.01
4.5 m			5100*	4520	4340	2780			2560*	2170	6.85
3 m	10170*	7700	6520*	4130	4160	2620			2670*	1870	7.28
1.5 m	5300*		6260	3750	3970	2440			2850	1740	7.39
0	7240*	6590	6000	3530	3830	2320			2920	1770	7.18
-1.5 m	11390*	6630	5940	3470	3790	2280			3280	1980	6.63
-3 m	11540*	6800	6020	3550					4250	2570	5.63
-4.5 m	8040*	7190							6350*	4830	3.85

With 5.15 m boom, 2.70 m dipper, 600 mm shoes and bucket

Reach Height	3 m		4.5 m		6 m		7.5 m		Max reach		
	front	360°	front	360°	front	360°	front	360°	front	360°	m
6 m					3070*	2930			1930*		6.58
4.5 m					4180*	2840			1900*		7.35
3 m	8560*	8140	5890*	4250	4220	2670	2850*	1800	1970*	1680	7.76
1.5 m	8500*	7020	6360	3840	4000	2470	2790	1710	2160*	1570	7.86
0	7780*	6620	6040	3560	3840	2330	2720	1640	2510*	1590	7.66
-1.5 m	10420*	6570	5920	3450	3760	2250			2900	1740	7.15
-3 m	12390*	6680	5950	3480	3790	2280			3590	2160	6.24
-4.5 m	9670*	6980	6160	3670					5760	3450	4.69

With 5.15 m boom, 3.10 m dipper, 600 mm shoes and bucket

Reach Height	3 m		4.5 m		6 m		7.5 m		Max reach		
	front	360°	front	360°	front	360°	front	360°	front	360°	m
6 m					3090*	3000			1670*		7.05
4.5 m					3780*	2900	2310*	1910	1620*		7.77
3 m	7520*		5460*	4350	4280	2720	2930	1830	1660*	1550	8.16
1.5 m	10610*	7250	6460	3920	4050	2520	2820	1740	1790*	1460	8.25
0	7760*	6690	6100	3610	3870	2350	2730	1650	2040*	1470	8.07
-1.5 m	9660*	6570	5930	3470	3770	2260	2700	1620	2490*	1590	7.58
-3 m	12650	6640	5930	3460	3770	2260			3190	1920	6.73
-4.5 m	10570*	6880	6090	3600					4660	2820	5.34

- Machine in «LIGHT» mode

- Lift capacities are 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

- If the machine is equipped with a quick coupler, subtract the weight of the quick coupler from the load shown in the tables to calculate the real lifting capacity.



STANDARD EQUIPMENT

Hydraulic control

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

Engine control

- Engines to Tier II standard
- 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 with rubber/fluid shock absorbing mountings)
- Windscreen with lockable opening
- "LCD" display
- Water and dust-proof membrane type touch controls
- Windscreen washer and wiper
- Adjustable heater
- Floor mat
- Sun-visor
- Rear-view mirror and safety mirrors
- Anti-theft device

Operator seat

- Multi-adjustment, low frequency suspension with springs and dual-acting shock absorber
- Reel-type safety belt

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
- Self-adjusting air conditioning

Standard and optional equipment can vary from country to 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.

CNH UK Ltd.
Armstrong House
The Finningley Estate
Hayfield Lane
Doncaster
DN9 3XA
Fax +44 (0)1302 802126

Conforms to directive 98/37/CE



www.casece.com

WORLDWIDE CASE CONSTRUCTION EQUIPMENT CONTACT INFORMATION

EUROPE/AFRICA/MIDDLE EAST:
CENTRE D'AFFAIRES EGB
5, AVENUE GEORGES BATAILLE - BP 40401
60671 LE PLESSIS-BELLEVILLE - FRANCE

NORTH AMERICA/MEXICO:
700 STATE STREET
RACINE, WI 53404 U.S.A.

LATIN AMERICA:
AV. GENERAL DAVID SARNOFF 2237
32210 - 900 CONTAGEM - MG
BELO HORIZONTE BRAZIL

ASIA PACIFIC:
UNIT 1 - 1 FOUNDATION PLACE - PROSPECT
NEW SOUTH WALES - 2148 AUSTRALIA

CHINA:
No. 29, INDUSTRIAL PREMISES, No. 376,
DE BAO ROAD, WAIGAOQIAO FTZ, PUDONG,
SHANGHAI, 200131, P.R.C.

CASE
PROFESSIONAL PARTNER