CASE

CX SERIES HYDRAULIC EXCAVATORS

CX460

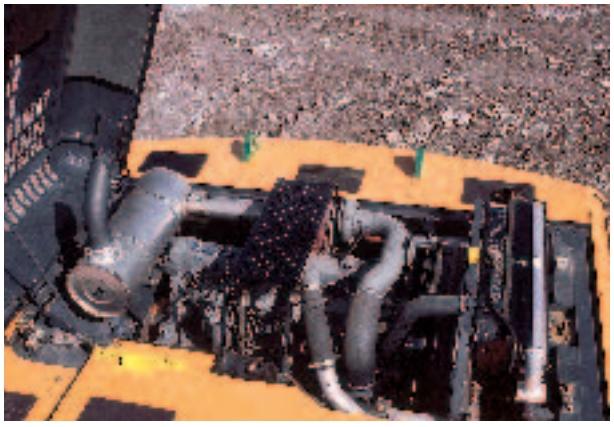
PROFESSIONAL PARTNER

ENGINE

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

Make ..... ISUZU
Type ..... AA-6 SD1 XQB
Turbo ..... Yes
Injection ..... electronically controlled
No. of cylinders 6
Bore - Stroke ..... 120 x 145 mm
Cubic capacity ..... 9839 cm^3
EEC 80/1269 horsepower ..... 250 kW - 335 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 360 l/min
Max safety valve pressure
Attachment / **Power Boost** ..... 314/**343** bar
Upperstructure swing ..... 294 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 ..... 9 rpm
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 ..... 5.1 kph

Speed change is controlled from the instrument panel.

Gradeability ..... 70 % (35°)

ELECTRICAL SYSTEM

Circuit ..... 24 volts

Batteries ..... 2 x 12 v - 140 A/h

Circuit equipped with water-proof connectors

Alternator ..... 24 v - 50 A/h

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.

The **variable track** width facilitates transportation by reducing the width to 2.99 m (with 600 mm pads).

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	fixed track	2
	variable track	3
Lower rollers		9
Number of track pads		50
Type of shoes		Triple grouser
Standard track pad width		600 mm
Chain guides		Front and central (2)

CAB

Combining comfort, safety and ergonomics, the CX460 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.

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, 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 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 CX460 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 CX460 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).

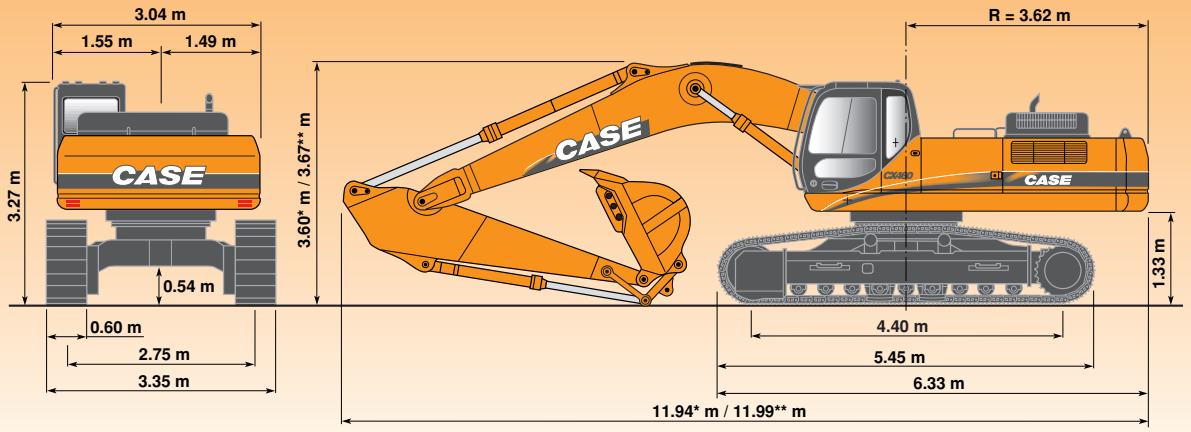
CIRCUIT AND COMPONENT CAPACITIES

Hydraulic reservoir	220 l
Hydraulic system	450 l
Travel reduction gear (per side)	15 l
Swing reduction gear	10.5 l
Engine (including filter change)	33 l
Fuel tank	611 l
Engine cooling system	45.5 l

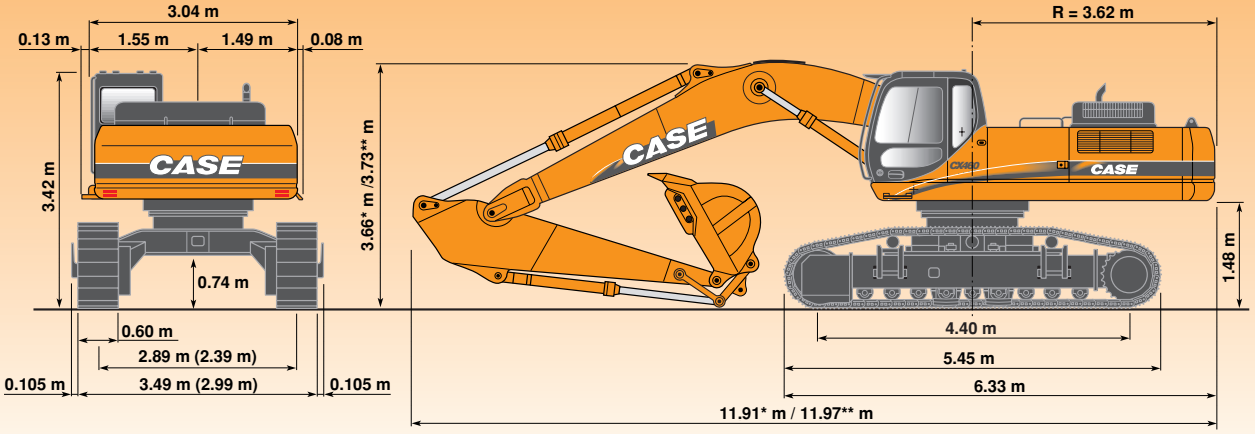
RESPECT OF ENVIRONMENT
The CX460 respects the **European "reduced noise level"** as per directive 2000/14/EC Phase 2.

GENERAL DIMENSIONS

CX460 fixed track



CX460 variable track



* *With 7,00 m monobloc boom - 3.40 m dipper*
** *With 7,00 m monobloc boom - 2.55 m dipper*
( ) Undercarriage in transport position

WEIGHT AND GROUND PRESSURE

With 7,00 m monobloc boom - 3.40 m dipper - bucket variable track - operator and full fuel tank	Weight (kg)	Ground pressure (bar)
Shoes 600 mm steel - variable track	47200	0.81
Shoes 600 mm steel - fixed track	45700	0.78

BUCKETS

General purpose

SAE capacity	Litres	1120	1390	1630	1880	2150	2410	2580
Width	mm	900	1050	1200	1350	1500	1650	1750

Extra heavy duty

1880		
1350		

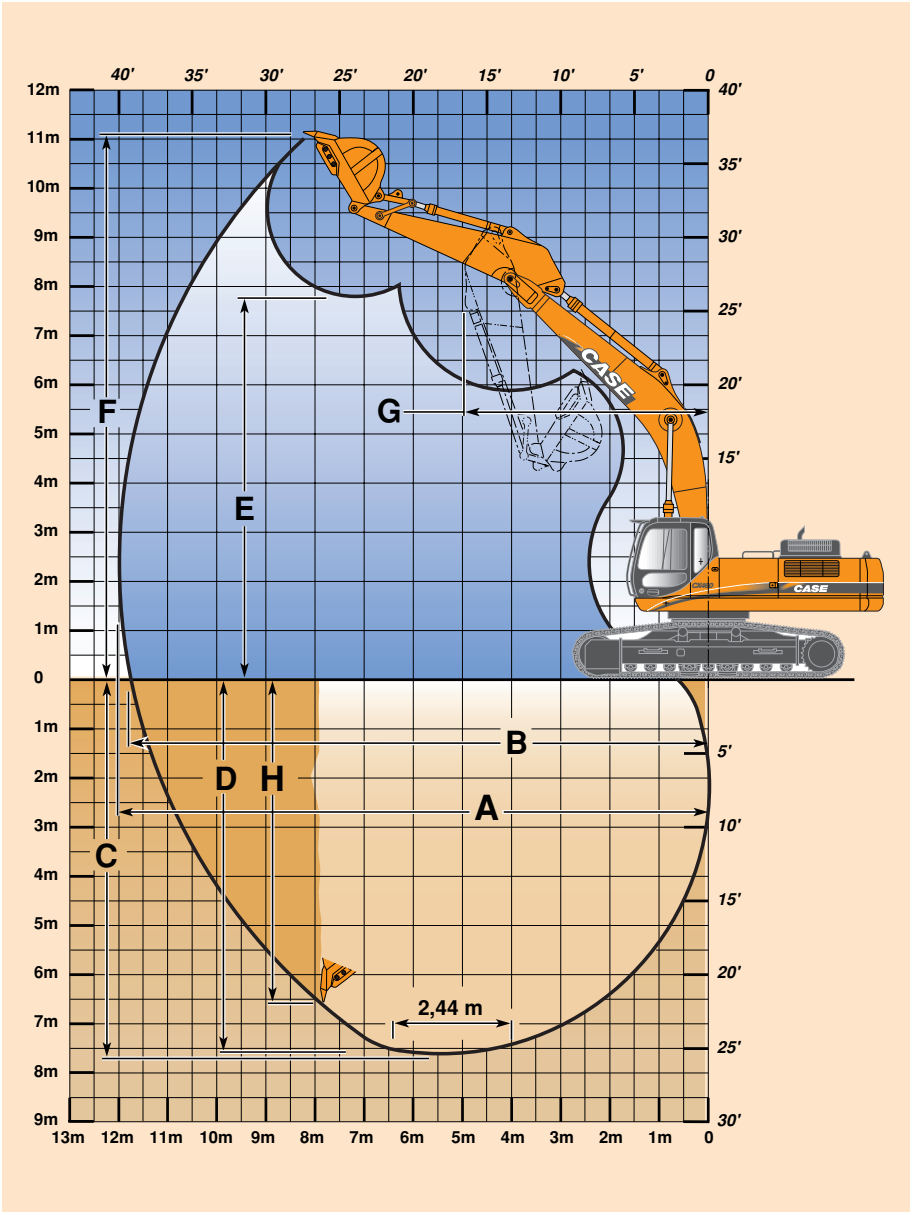
Heavy duty

SAE capacity	Litres	1120	1380	1630	1880	2150	2410	
Width	mm	900	1050	1200	1350	1500	1650	

Quarry

2580		
1750		

Other types of bucket on application.



With 7.00 m monobloc boom		With fixed track		With variable track	
	Dipper :	2.55 m	3.40 m	2.55 m	3.40 m
A Maximum digging reach	m	11.25	12.00	11.25	12.00
B Maximum digging reach at ground level	m	11.00	11.75	10.95	11.75
C Maximum digging depth	m	66.85	7.70	6.70	7.55
D Digging depth - 2.44 m (8') level bottom	m	6.70	7.60	6.55	7.45
E Maxi dump height	m	7.40	7.75	7.55	7.90
F Overall reach height	m	10.80	11.15	10.95	11.30
G Minimum swing radius	m	5.15	5.00	5.15	5.00
H Vertical straight wall dig depth	m	5.65	6.55	5.50	6.40
Digging force	daN	28100	22900	28100	22900
Breakout force	daN	27000	27000	27000	27000

LIFTING CAPACITY

CX460 fixed track

With 7.00 m boom, 600 mm shoes, 2.55 m dipper and bucket

Reach	3 m		4.5 m		6 m		7.5 m		9 m		Max reach		
Height	*front*	*360°*	*front*	*360°*	*front*	*front*	*front*	*360°*	*front*	*360°*	*front*	*360°*	*m*
7.5 m													
6 m											**10850***	**9750**	**7.0**
4.5 m			18400*		13700*	11800	11350*	8100			10350*	6500	8.5
3 m			**22200***	**16500**	**15550***	**10800**	**12300***	**7550**	**9800**	**5500**	**9250**	**5200**	**9.3**
1.5 m			18300*	15250	16850*	10000	12850	7100	9550	5250	8400	4600	9.7
0			**22050***	**14900**	**17300***	**9550**	**12500**	**6800**	**9350**	**5100**	**8350**	**4550**	**9.6**
-1.5 m	16200*		22100*	14950	16800*	9400	12350	6700	9300	5050	9050	4950	9.2
-3 m	**24850***		**19650***	**15250**	**15250***	**9550**	**11800***	**6750**			**9990***	**5800**	**8.4**
-4.5 m	19300*		15700*		12250*	990					9450*	7600	7.2
-6 m													

With 7.00 m boom, 600 mm shoes, 3.40 m dipper and bucket

Reach	3 m		4.5 m		6 m		7.5 m		9 m		Max reach		
Height	*front*	*360°*	*front*	*360°*	*front*	*front*	*front*	*360°*	*front*	*360°*	*front*	*360°*	*m*
7.5 m											8850*	7550	8.2
6 m							**9600***	**8600**	**8850***	**6000**	**6300***	**5250**	**9.6**
4.5 m					12600*	11900	10550*	8100	9300*	5750	6550*	4550	10.0
3 m			**20500***	**16950**	**14550***	**10850**	**11600***	**7550**	**9750**	**5450**	**6950***	**4200**	**10.3**
1.5 m			23050*	15400	16150*	9950	12500*	7000	9400	5150	7550	4050	10.2
0			**23600***	**14750**	**16950***	**9400**	**12300**	**6650**	**9150**	**4900**	**7700**	**4100**	**10.0**
-1.5 m	17050*		22700*	14600	16800*	9150	12100	6450	9050	4800	8250	4400	9.5
-3 m	**24500***		**20700***	**14750**	**15700***	**9150**	**12100**	**6450**			**9450**	**5050**	**8.8**
-4.5 m	22700*		17350*	15200	13350*	9450	9950*	6700			9600*	6500	7.7
-6 m			**11800***								**8650***		**6.0**

CX460 variable track

With 7.00 m boom, 600 mm shoes, 2.55 m dipper and bucket

Reach	3 m		4.5 m		6 m		7.5 m		9 m		Max reach		
Height	*front*	*360°*	*front*	*360°*	*front*	*front*	*front*	*360°*	*front*	*360°*	*front*	*360°*	*m*
7.5 m													
6 m											**10800***	**10050**	**7.2**
4.5 m			18850*		13900*	12800	11400*	8800			10300*	6950	8.6
3 m			**22500***	**18050**	**15750***	**11750**	**12400***	**8300**	**10150**	**6100**	**9500***	**5650**	**9.4**
1.5 m			18350*	16900	16950*	11000	13150*	7850	9900	5850	8700	5100	9.7
0			**22750***	**16600**	**17300***	**10600**	**12950**	**7550**	**9700**	**5700**	**8750**	**5100**	**9.6**
-1.5 m	17150*		21900*	16700	16700*	10500	12850	7450	9700	5650	9550	5600	9.1
-3 m	**24400***		**19300***	**17050**	**15050***	**10600**	**11600***	**7550**			**9900***	**6600**	**8.3**
-4.5 m	18600*		15200*		11850*	11050					9350*	8750	7.0
-6 m													

With 7.00 m boom, 600 mm shoes, 3.40 m dipper and bucket

Reach	3 m		4.5 m		6 m		7.5 m		9 m		Max reach		
Height	*front*	*360°*	*front*	*360°*	*front*	*front*	*front*	*360°*	*front*	*360°*	*front*	*360°*	*m*
7.5 m											8800*	7850	8.4
6 m							**9650***	**9350**	**8900***	**6600**	**6350***	**5700**	**9.6**
4.5 m	27550*		16900*		12800*		10650*	8850	9350*	6350	6550*	5050	10.1
3 m			**20850***	**18550**	**14750***	**11850**	**11700***	**8250**	**9900***	**6000**	**7050***	**4650**	**10.3**
1.5 m			23200*	17050	16300*	10950	12600*	7750	9750	5700	7750*	4550	10.2
0			**23550***	**16450**	**16950***	**10400**	**12750**	**7350**	**9500**	**5500**	**8050**	**4600**	**10.0**
-1.5 m	17750*		22550*	16350	16750*	10200	12550	7200	9400	5400	8700	5000	9.5
-3 m	**25300***		**20400***	**16550**	**15550***	**10250**	**12000***	**7200**			**9650***	**5800**	**8.7**
-4.5 m	22050*		16900*		13000*	10550	9600*	7500			9550*	7450	7.5
-6 m			**11000***								**8450***		**5.8**

- 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. - 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

- Engine to Tier 2 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
- 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

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 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.

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Conforms to directive 98/37/CE CE

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CASE
PROFESSIONAL PARTNER

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