

# CASE

## Mini-excavators

DIN Horsepower from 14.55 to 39.56 hp (10.7 a 29.1 kW)

Operating weight from 1500 to 4700 kg



**CX15**

**CX16**

**CX23**

**CX28**

**CX31**

**CX35**

**CX50**

C O M M I T T E D T O Y O U R N E E D S

# Case CX Mini-excavator range

## Powerful

Equipped with induction diesel engines, Case mini-excavators are appreciated as powerful machines. From the CX23, Case mini-excavators are fitted with a variable flow hydraulic system. This technique allows the operator to exploit all the available power, and to get the same performance with a smaller engine (fuel economy, lower noise levels).

## Compact and steady

All their operators appreciate the compact size of Case CX mini-excavators and their short-radius upper-structure. These special features give the operator exceptional visibility over the work area, to the front, right side and to the rear, for safe operation in every situation. Despite their short-radius upper-structure, CX excavators offer outstanding stability both in line and through 360°.

The offset angles at the boom foot are excellent, reaching or exceeding 85°, right and left, from the CX16 model up.

CX16 is equipped with a variable track gauge undercarriage, hydraulically operated. In the drive position, its width is equal to that of the CX, that's to say less than 1 metre, allowing this unit to enter any narrow or congested area. In the work position, the CX16's track gauge extends to 1.31 m width, for improved stability.

## Swift

Single or two-speed swing, with an independent circuit; single or two-speed travel - CX mini-excavators do their job and move around swiftly and effectively. From CX23 model (included), upper-structure swing



and drive functions may be operated simultaneously, ensuring synchronised movements and work speed.

## Smooth and precise

The fixed-flow hydraulic system fitted to the CX15 and 16 models, as well as the variable-flow system fitted to the other models, have been designed as a function of machine size, to obtain the best performance. Driven by hydraulic power-assisted controls (all models), the entire power is available to the operator, assuring comfortable, smooth and precise operation - the same as experienced on larger machines.

The end-of-stroke cushioning on the swing function and the attachment cylinders (swing and boom on CX 15 & 16 models; swing, boom and dipper on models CX23, 28, 31, 35 & 50) provides precise and comfortable operation, preventing any shock to the machine structure and components, and enhancing operator comfort.

## Standard auxiliary hydraulics

All the machines in the CX range are equipped, as standard, with auxiliary hydraulics (simple or double acting). Standard and long dippers are all strengthened in order that they may be equipped with hydraulic hammers. For this function, Case offers a specific range for each model.



## Attachments

As standard, all CX mini-excavator undercarriages are equipped with a hydraulically operated dozer blade, while the customer may choose to fit the machine with:

- interchangeable steel or rubber tracks (for each model)
- standard or long dippers
- direct fit or quick coupler
- cab with 2 worklights, with or without mirrors
- 4-post canopy + worklight on boom-end (CX15 & CX16)
- canopy with 2 worklights and fit-on windows (CX23, 28, 31 & 35)
- hammers, augers, crushers, and the complete range of tools offered by Case.

All models may be equipped with a rotary beacon.

## Protection

The rods of all boom cylinders are protected. "Tellene" - an extremely dense and solid material - counterweights on CX15 & CX16 models, and cast-steel type on the others, provide first class protection during rotation in narrow spaces. Attachment pins are fitted with special joints that retain the grease and protect the articulations from pollution.

## Accessibility

All gauges and filters are easily accessible, for daily maintenance. The undercarriage and attachment lubrication points are all accessible from the ground.

## Comfort

Ergonomy and comfort for the operator, thanks to the quality and choice of in-cab features:

Adjustable "Comfort" seat, the same joystick controls as fitted to larger hydraulic excavators, easy-to-read instruments, visual & acoustic warnings, hand or foot



controls, tilting window; everything is aimed to make the operator's workday easier and more comfortable. Lunch-racks on CX23, 28, 31, 35 & 50. Very low noise level, inside and outside the machine.

## Safety

Equipped as standard with a cab / 2 worklights, or with a ROPS-FOPS certified canopy, seat belts and a control shut-off lever - actuated when the operator leaves the machine,

- CX15 & 16 feature upper-structure locking for road transport;
- CX23, 28, 31, 35 & 50 models are equipped with a hydraulic rotation brake that automatically locks the upper-structure movement when no manipulator is being operated.





## Engine

	<b>CX15</b>	<b>CX16</b> <i>Var. Gauge</i>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Manufacturer	PERKINS	PERKINS	YANMAR	PERKINS	PERKINS	PERKINS	mitsubishi
Type	103.10	103.10	3TNA72L	103.13	103.15	103.15	4N-EID
Capacity	1000 cm <sup>3</sup>	1000 cm <sup>3</sup>	880 cm <sup>3</sup>	1300 cm <sup>3</sup>	1500 cm <sup>3</sup>	1500 cm <sup>3</sup>	2290 cm <sup>3</sup>
Speed	2300 rpm	2300 rpm	2550 rpm	2160 rpm	2500 rpm	2600 rpm	2000 rpm
<b>Power:</b>							
SAE J1349 <i>(gross)</i>	18.35 hp/13.50 kW	18.35 hp/13.50 kW	16.04 hp/11.80 kW	24.06 hp/17.71 kW	31.37 hp/23.09 kW	32.63 hp/24.02 kW	41.60 hp/30.62 kW
EEC 80/1269 <i>(net)</i>	17.95 hp/13.21 kW	17.95 hp/13.21 kW	14.55 hp/10.71 kW	22.71 hp/16.72 kW	29.41 hp/21.64 kW	30.59 hp/22.51 kW	39.56 hp/29.12 kW
Fuel tank capacity	24 l	24 l	40 l	40 l	40 l	40 l	55 l
Cab interior noise level	80 Lpa	80 Lpa	80 Lpa	77 Lpa	80 Lpa	82 Lpa	80 Lpa
External noise level	96 Lwa	96 Lwa	95 Lwa	96 Lwa	98 Lwa	98 Lwa	98 Lwa



## Hydraulics

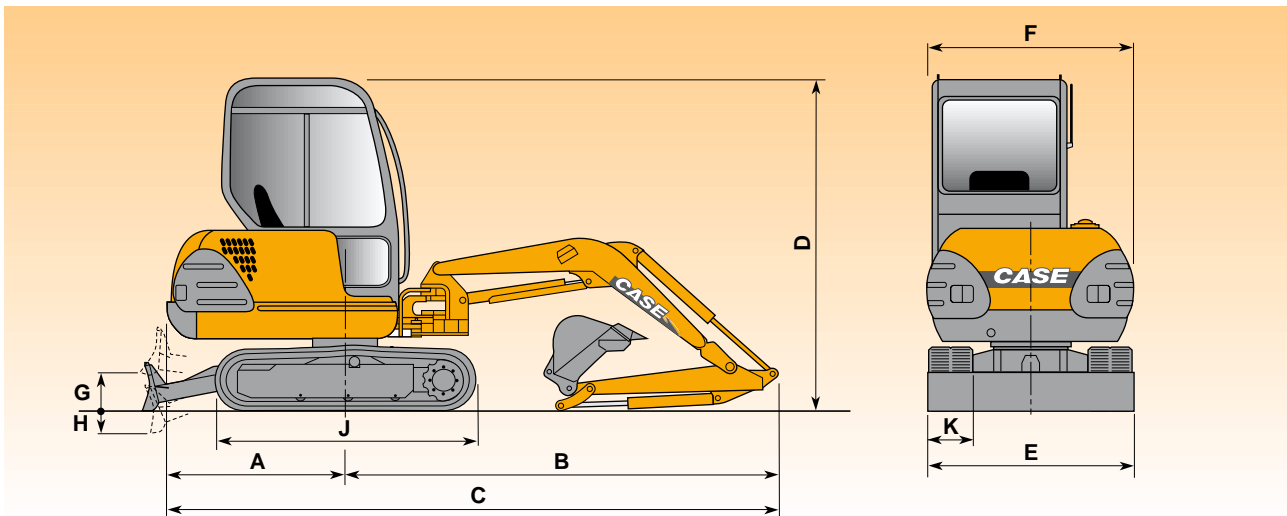
	<b>CX15</b>	<b>CX16</b> <i>Var. Gauge</i>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Circuit type	Fixed flow	Fixed flow	Var flow	Var flow	Var flow	Var flow	Var flow
Pumps	3+1	3+1	2+1+1	2+1+1	2+1+1	2+1+1	2+1+1
Main flow	30+11 l/mn	30+11 l/mn	42+15,3 l/mn	58+19 l/mn	74+23 l/mn	74+23 l/mn	110+32 l/mn
Pressure	190 bar	190 bar	210 bar	210 bar	210 bar	210 bar	210 bar
Hydraulic circuit	31 l	31 l	60 l	60 l	62 l	64 l	100 l
Hydraulic reservoir	22 l	22 l	48 l	48 l	48 l	48 l	65 l
Upperstructure swing speed	8.8 rpm	8.8 rpm	4.5 - 9 rpm	4.5 - 9 rpm	4.5 - 9 rpm	4.5 - 9 rpm	4.6 - 9.1 rpm

### Standard auxiliary hydraulics

	<b>CX15</b>	<b>CX16</b> <i>Var. Gauge</i>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Aux. Circuit flow	30 l/mn	30 l/mn	37.5 l/mn	47 l/mn	57 l/mn	58 l/mn	51 l/mn
Aux. Circuit pressure	190 bar	190 bar	210 bar	210 bar	210 bar	210 bar	210 bar



## Dimensions



	<b>CX15</b>	<b>CX16</b> <i>Variable</i>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Ground clearance m	0.18	0.18	0.29	0.29	0.29	0.29	0.33
A m	1.07	1.07	1.31	1.28	1.37	1.39	1.42
B* m	2.63	2.63	2.92	3.23	3.33	3.58	4.08
C* m	3.70	3.70	4.23	4.51	4.69	4.97	5.51
D (canopy) m	2.20	2.20	2.43	2.46	2.47	2.47	-
D (cab) m	2.28	2.28	2.43	2.46	2.47	2.47	2.59
E m	0.97	0.97/1.31**	1.40	1.45	1.51	1.62	1.83
F m	0.98	0.98	1.40	1.46	1.47	1.49	1.68
G m	0.18	0.18	0.32	0.37	0.38	0.40	0.42
H m	0.24	0.24	0.31	0.39	0.40	0.43	0.43
J m	1.40	1.40	1.70	1.85	1.99	2.08	2.42
K mm	230	230	250	300	300	300	400

\* With standard dipper \*\* Var gauge undercarriage (hydr.)



## Weights and ground pressure

(Base machine: cab, rubber tracks, standard dipper)

	<b>CX15</b>	<b>CX16</b> <i>Var. gauge</i>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Weight	1500 kg	1605 kg	2360 kg	2890 kg	3170 kg	3400 kg	4670 kg
Steel tracks	+ 58 kg	+58 kg	+56 kg	+54 kg	+43 kg	+38 kg	-20 kg
Canopy	- 110 kg	-110 kg	-78 kg	-83 kg	-83 kg	-83 kg	-
Long dipper	+ 5 kg	+5 kg	+10 kg	+10 kg	+10 kg	+10 kg	+40 kg
Ground pressure	0.31/0.32* bar	0.33/0.34* bar	0.34/0.35* bar	0.32/0.33* bar	0.30/0.31* bar	0.31/0.32* bar	0.25/0.26* bar

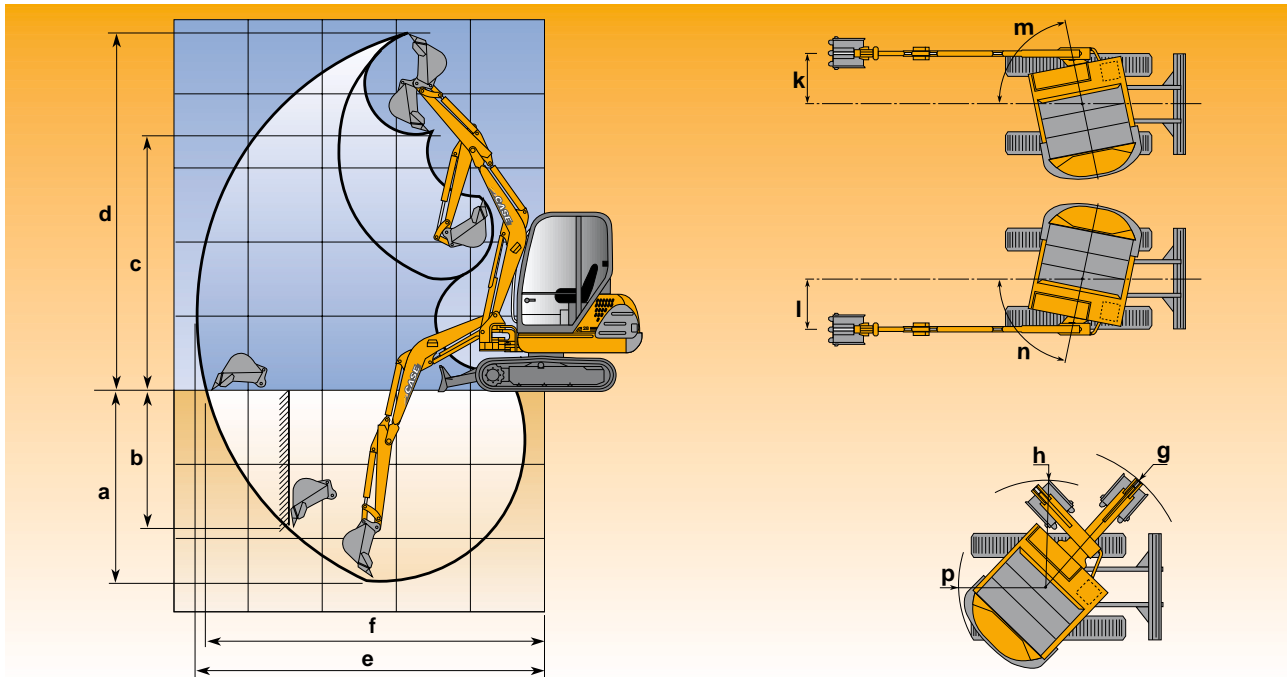
\* With steel tracks



## Performance

	<b>CX15</b>	<b>CX16</b> <i>Var. gauge</i>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Travel speed	2.2 km/h	2.2 km/h	2.7-4.8 km/h	3-5 km/h	3-5 km/h	2.8-4.8 km/h	3.1-5.1 km/h
Max. Gradient	60 %	60 %	60 %	60 %	60 %	60 %	60 %

## Backhoe equipment



		<b>CX15</b>	<b>CX16</b> Variable	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>							
Boom	m	1.80	1.80	2.00	2.30	2.40	2.50	2.90							
Dipper	m	0.93	1.13*	0.93	1.13*	1.07	1.35*	1.20	1.46*	1.25	1.52*	1.36	1.62*	1.44	1.75*
<b>a</b>	m	2.16	2.36	2.16	2.36	2.25	2.52	2.60	2.82	2.85	3.10	3.10	3.35	3.50	3.80
<b>b</b>	m	1.75	1.95	1.75	1.95	1.88	2.12	1.88	2.13	2.07	2.33	2.28	2.55	2.80	3.14
<b>c</b>	m	2.44	2.55	2.44	2.55	3.00	3.16	3.21	3.40	3.46	3.68	3.66	3.88	4.39	4.66
<b>d</b>	m	3.43	3.55	3.43	3.55	4.05	4.15	4.48	4.67	4.80	5.02	5.07	5.30	6.05	6.32
<b>e</b>	m	3.78	3.96	3.78	3.96	4.28	4.53	4.66	4.94	4.88	5.17	5.22	5.51	5.92	6.22
<b>f</b>	m	3.70	3.87	3.70	3.87	4.14	4.41	4.54	4.82	4.75	5.04	5.10	5.40	5.76	6.07
<b>g</b> (straight)	m	1.33	1.33	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.82	1.82	1.92	1.92
<b>h</b> (turn)	m	0.95	0.95	1.35	1.35	1.35	1.35	1.41	1.41	1.37	1.37	1.43	1.43	1.47	1.47
<b>k</b>	m	0.52	0.52	0.57	0.57	0.57	0.57	0.57	0.58	0.61	0.61	0.62	0.62	0.70	0.70
<b>l</b>	m	0.60	0.60	0.67	0.67	0.67	0.67	0.70	0.70	0.71	0.71	0.75	0.75	0.88	0.88
<b>m</b> (left)	°	45	85	85	85	85	85	85	85	85	85	85	85	85	85
<b>n</b> (right)	°	85	85	90	90	90	90	90	90	90	90	90	90	90	90
<b>p</b> Upperstructure swing radius	m	1.09	1.09	1.31	1.31	1.31	1.31	1.30	1.30	1.37	1.37	1.39	1.39	1.42	1.42
Digging force		1090 daN	1090 daN	1600 daN	1600 daN	2160 daN	2160 daN	2510 daN	2510 daN	2510 daN	2510 daN	2800 daN	2800 daN	3220 daN	3220 daN
Penetration force		870 daN	870 daN	1150 daN	1150 daN	1470 daN	1470 daN	1650 daN	1650 daN	1650 daN	1650 daN	1830 daN	1830 daN	2650 daN	2650 daN

\* Hydraulic hammer not accepted

## Lifting capacity

	Ground range (m)	Straight lifting (kg)		Lifting through 360° (kg)
		With blade	W/o blade	
<b>CX15</b>	2/3	540*/292*	200/156	285/161
<b>CX16</b>	2/3	540*/292*	200/156	285/161
<b>CX16</b>	2/3	540*/292*	200/156	446**/246**
<b>CX23</b>	2.5/3.5	705*/430*	505/315	585/365
<b>CX28</b>	2.5/3.5	810*/540*	735/445	565/365
<b>CX31</b>	3/4	865*/560*	625/460	630/420
<b>CX35</b>	3/4	1000*/660*	840/560	845/565
<b>CX50</b>	3.5/4.5	1600*/1100*	1040/700	700/500

\*\* Undercarriage min. & max. width \*Hydraulic limit

## Attachments

	<b>CX15</b>	<b>CX16</b> <i>Var. Gauge</i>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
BUCKETS - STANDARD	10 l - 150 mm	10 l - 150 mm	22 l - 230 mm	26 l - 250 mm	29 l - 250 mm	39 l - 250 mm	61 l - 300 mm
	16 l - 230 mm	16 l - 230 mm	26 l - 250 mm	34 l - 300 mm	38 l - 300 mm	49 l - 300 mm	104 l - 450 mm
	19 l - 250 mm	19 l - 250 mm	34 l - 300 mm	50 l - 400 mm	53 l - 400 mm	71 l - 400 mm	152 l - 600 mm
	24 l - 300 mm	24 l - 300 mm	50 l - 400 mm	58 l - 450 mm	62 l - 450 mm	82 l - 450 mm	201 l - 750 mm
	35 l - 400 mm	35 l - 400 mm	58 l - 450 mm	67 l - 500 mm	88 l - 600 mm	118 l - 600 mm	218 l - 800 mm
	40 l - 450 mm	40 l - 450 mm	84 l - 600 mm	84 l - 600 mm	113 l - 750 mm	153 l - 750 mm	196 l - 900 mm
	46 l - 500 mm	46 l - 500 mm	109 l - 750 mm	109 l - 750 mm		196 l - 900 mm	
	58 l - 600 mm	58 l - 600mm					
BUCKETS - DITCH CLEANING	71 l - 850 mm	71 l - 850 mm	71 l - 850 mm	71 l - 850 mm	71 l - 850 mm	105 l - 850 mm	239 l - 1400 mm
	85 l - 1000 mm	85 l - 1000 mm	126 l - 1000 mm	126 l - 1000 mm	126 l - 1000 mm	126 l - 1000 mm	285 l - 1600 mm
			146 l - 1200 mm	146 l - 1200 mm	146 l - 1200 mm	146 l - 1200 mm	
			166 l - 1300 mm	166 l - 1300 mm	166 l - 1300 mm	166 l - 1300 mm	
BUCKETS - V-TYPE							
Direct fit	600 - 225 mm	600 - 225 mm	750 - 225 mm	750 - 225 mm	750 - 225 mm	900 - 300 mm	1050 - 300 mm
Quick coupler	500 - 225 mm	500 - 225 mm	600 - 225 mm	600 - 225 mm	600 - 225 mm	600 - 225 mm	900 - 300 mm
HAMMERS	Case CB 140	Case CB 140	Case CB 200	Case CB 200	Case CB 200	Case CB 200	Case CB 370
	Case CB 140 S	Case CB 140 S	Case CB 200 S	Case CB 200 S	Case CB 200 S	Case CB 200 S	Case CB 370 S
						Case CB 370	
						Case CB 370 S	
CRUSHERS	-	-	-	Case CC 205	Case CC 205	Case CC 205	Case CC 205
							Case CC 320 FB
							Case 320 HR
AUGERS 1220 mm (standard or heavy-duty)							
Diameters available (mm)	100 to 300	100 to 300	100 to 750	100 to 750	100 to 750	100 to 750	100 to 950
Extensions (mm)	300 to 1830	300 to 1830	300 to 1830	300 to 1830	300 to 1830	300 to 1830	300 to 1830



## Standard equipment

	<b>CX15</b>	<b>CX16</b>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Track gauge	Fixed	Variable	Fixed	Fixed	Fixed	Fixed	Fixed
Cab of ROPS - FOPS canopy	x	x	x	x	x	x	Cab
Interchangeable Steel or Rubber Tracks	x	x	x	x	x	x	x
Auxiliary Hydraulic Circuit	x	x	x	x	x	x	x
Hydraulic power-controls	x	x	x	x	x	x	x
Pump flow	Fixed	Fixed	Variable	Variable	Variable	Variable	Variable
Upperstructure rotation with independent circuit	x	x	x	x	x	x	x
Boom cylinder protection	x	x	x	x	x	x	x
Cab with 2 worklights	x	x	x	x	x	x	x
Cylinder cushioning - swing	x	x	x	x	x	x	x
Cylinder cushioning - boom	x	x	x	x	x	x	x
Cylinder cushioning - dipper		x	x	x	x	x	
Two-speed swing			x	x	x	x	x
Two-speed travel			x	x	x	x	x
Simultaneous travel & swing			x	x	x	x	x

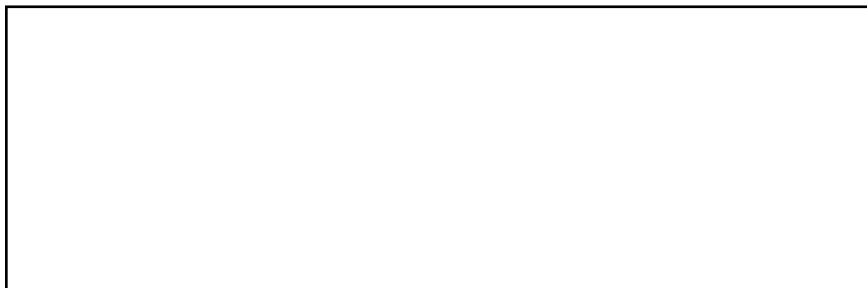
## Optional equipment

	<b>CX15</b>	<b>CX16</b>	<b>CX23</b>	<b>CX28</b>	<b>CX31</b>	<b>CX35</b>	<b>CX50</b>
Long dipper	x	x	x	x	x	x	x
Mechanical quick coupler	x	x	x	x	x	x	x
Cab mirror	x	x	x	x	x	x	x
Rotary beacon	x	x	x	x	x	x	x
Buckets - Standard	x	x	x	x	x	x	x
Buckets - Ditch cleaning	x	x	x	x	x	x	x
Buckets - V-type	x	x	x	x	x	x	x
Case Hammers	x	x	x	x	x	x	x
Case Augers	x	x	x	x	x	x	x
Case crushers				x	x	x	x

Conforms to directive 98/37/CE



**NOTE:** Standard and optional attachments and equipment may vary according to requirements and regulations from country to country. The photos given may show non standard or unmentioned items. Furthermore CNH France S.A. reserves its right to modify specifications of its machines without prior warning, without incurring any obligation whatsoever that might result from such modifications.



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