

CS44 CP44

Vibratory Soil Compactors

CATERPILLAR®



Cat® C4.4 Diesel Engine with ACERT™ Technology

Gross Power	75 kW	100 hp
US EPA Tier 3 and European Stage IIIa compliant		

Operating Weight with ROPS/FOPS

CS44	6900 kg	15,212 lb
CP44	7295 kg	16,083 lb

Centrifugal Force

High	134 kN	30,000 lb
Low	67 kN	15,000 lb

CS/CP44 Vibratory Soil Compactor Specifications

Drum and Vibratory System Specifications

Dimensions

Drum Width	1676 mm	66"
Drum shell thickness	25 mm	1"
Drum diameter, CS44	1221 mm	48"
Drum diameter, CP44 (over pads)	1225 mm	48"
Pads (CP44)		
Number of pads	108	
Pad height	90 mm	3.5"
Pad face area	63.8 cm ²	9.9 in ²
Number of chevrons	12	
Eccentric weight drive	Hydrostatic	

Weights at the Drum

With ROPS/FOPS canopy		
CS44	3410 kg	7,518 lb
CP44	3760 kg	8,289 lb
With Cab, AC		
CS44	3510 kg	7,738 lb
CP44	3860 kg	8,510 lb

Static Linear Load

CS44	20.3 kg/cm	114 lb/in
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Frequency

Standard	31.9 Hz	1914 vpm
Optional	23.3 - 31.9 Hz	1400 - 1914 vpm

Nominal Amplitude

CS44		
High	1.67 mm	0.066"
Low	0.84 mm	0.033"
CP44		
High	1.59 mm	0.063"
Low	0.80 mm	0.032"

Centrifugal Force @ 31.9 Hz (1914 vpm)

Maximum	134 kN	30,000 lb
Minimum	67 kN	15,000 lb

Brakes

Service brake features

- Closed-loop hydrostatic drive system provides dynamic braking during operation.

Secondary brake features*

- Spring-applied/hydraulically released multiple disc-type brake mounted on the drum drive gear reducer. Secondary brakes are activated by: a button on the operator's console; loss of hydraulic pressure in the brake circuit; or when the engine is shut down. A brake interlock system helps prevent driving through the secondary brake.

**Machines sold within the European Union are also equipped with rear axle brakes. Braking system meets SAE J1472 and EN 500-4.*

Steering

A priority-demand hydraulic power-assist steering system provides smooth low-effort steering. The steering system has priority over other hydraulic functions.

Minimum turning radius:

Inside	3.08 m (10' 1")
Outside	4.75 m (15' 7")

Steering angle:

(each direction) ± 37°

Oscillation angle:

(each direction) ± 15°

Hydraulic system:

Two 64 mm (2.5") bore, double-acting cylinders powered by a gear-type pump.

CS/CP44 Vibratory Soil Compactor Specifications

Engine

Four-stroke, four cylinder turbo Cat C4.4 diesel engine with ACERT. Meets U.S. EPA Tier 3 and European EU Stage IIIa emissions control standards worldwide.

Gross Power	RPM	kW	hp
ISO14396	2200	75	100

Ratings of Cat machine engines are based on standard air conditions of 25°C (77°F) and 100 kPa (29.61" Hg) dry barometer. Power is based on using API gravity of 35 at 15°C (60°F), fuel having a LHV of 42 780 kJ/kg (18,390 Btu/lb) used at 30°C (86°F) [ref. a fuel density of 838.9 g/L (7.001 lb/U.S. gal)]. Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.

No derating required up to 3000 m (9843') altitude.

The following ratings apply at 2200 RPM when tested under the specified standard conditions:

Net Power	kW	hp
ISO 9249	70.3	94.3
SAE J1349	72	96

Dimensions

Bore	105 mm	4.13"
Stroke	127 mm	5"
Displacement	4.4 liters	269 cu. in.

Dual-element, dry-type air cleaner with visual restriction indicator, glow plug starting aid and fuel/water separator are standard.

Transmission

Two variable-displacement piston pumps supply pressurized flow to two dual-displacement piston motors. One pump and motor drives the drum propel system while the other pump and motor drives the rear wheels. The dual-pump system ensures equal flow to the drive motors regardless of the operating conditions. In case the drum or wheels lose traction, the other motor can still build additional pressure to provide added torque.

The drive motors have two swashplate positions allowing operation at either maximum torque for compaction and gradeability or greater speed for moving around the job site. A rocker switch at the operator's console triggers an electric over hydraulic control to change speed ranges.

Instrumentation

Electronic Control Module (ECM) constantly monitors condition of the engine, and alerts the operator of problems with three levels of warning. Warning system includes: Action Alarm and Lamp, Low Engine Oil Pressure, High Engine Coolant Temperature, High Hydraulic Oil Temperature, Low Charge Pressure, Starting Aid and High Combustion Air Temperature. Instrumentation also includes an Alternator Malfunction Light, Check Engine/Electrical Fault, Service Hour Meter and Fuel Gauge.

Frame

Fabricated from heavy gauge steel plate and rolled sections and joined to the drum yoke at the articulation pivot. Articulation area is structurally reinforced and joined by hardened steel pins. One vertical pin provides a steering angle of $\pm 37^\circ$ and a horizontal pin allows frame oscillation of $\pm 15^\circ$. The articulation lock prevents machine articulation when placed in the locked position. Sealed-for-life hitch bearings require no maintenance. Frame also includes tie-down points for transport.

Final Drives and Axle

Final drive is hydrostatic with planetary gear reducer to the drum and hydrostatic with differential and planetary gear reduction to each wheel.

Axle:

Heavy-duty fixed rear axle with a limited slip differential for smooth and quiet torque transfer.

Axle Width: 1.27 m (50")

Tires:

CS44: 14.9" x 24" 6-ply flotation
CP44: 14.9" x 24" 8-ply traction

Service Refill Capacities

	Liters	Gallons
Fuel tank (useable)	168	44.4
Total capacity	180	47.5
Cooling system	20.5	5.4
Engine oil w/filter	8.5	2.2
Eccentric weight housings	6	1.6
Axle & final drives	10.5	2.8
Hydraulic tank	80	21.1

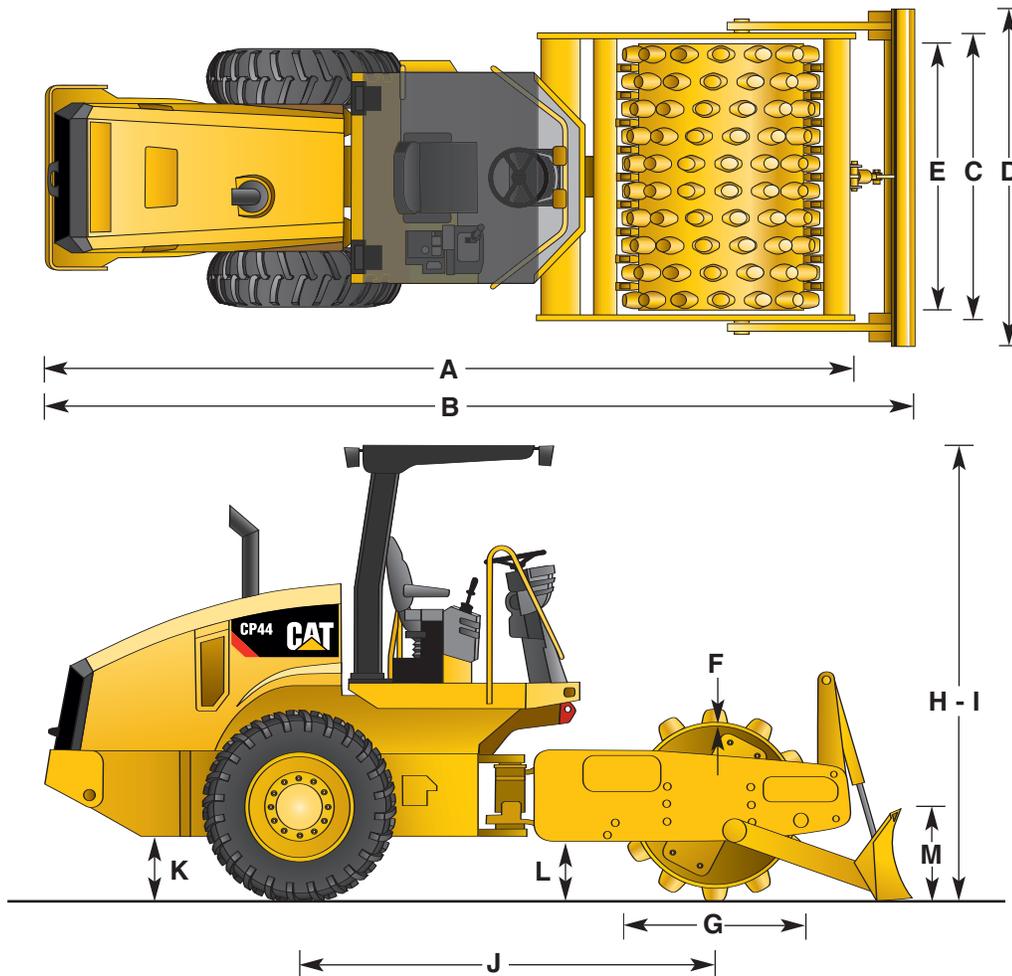
Electrical System

The 24-volt electrical system consists of two maintenance-free Cat batteries, electrical wiring is color-coded, numbered, wrapped in vinyl-coated nylon braid and labeled with component identifiers. The starting system provides 750 cold cranking amps (cca). The system includes a 75-amp alternator. A new breaker block provides easy access to breakers.

Maximum Speeds

Forward and Reverse		
Low	0-5.5 km/hr	0-3.4 mph
High	0-12.3 km/hr	0-7.6 mph

CS/CP44 Vibratory Soil Compactor Specifications



Dimensions

	CS44		CP44	
A Overall length	5.08 m	16' 8"	5.08 m	16' 8"
B Overall length w/optional leveling blade	5.44 m	17' 10"	5.44 m	17' 10"
C Overall width	1.8 m	5' 11"	1.8 m	5' 11"
D Overall width w/optional leveling blade	2.12 m	6' 11"	2.12 m	6' 11"
E Drum width	1.68 m	5' 6"	1.68 m	5' 6"
F Drum shell thickness	25 mm	1"	25 mm	1"
G Drum diameter	1221 mm	48"	1225 mm	48"
H Height at ROPS/FOPS canopy	2.93 m	9' 7"	2.93 m	9' 7"
I Height at ROPS/FOPS cab	2.97 m	9' 9"	2.97 m	9' 9"
J Wheelbase	2.60 m	8' 6"	2.60 m	8' 6"
K Ground clearance	411 mm	16.2"	411 mm	16.2"
L Curb clearance	380 mm	14.9"	380 mm	14.9"
M Optional leveling blade height	574 mm	22.6"	574 mm	22.6"
Inside turning radius	3.08 m	10' 1"	3.08 m	10' 1"
Outside turning radius	4.75 m	15' 7"	4.75 m	15' 7"

CS/CP44 Vibratory Soil Compactor Specifications

CS44 and CP44 Specifications

Operating Weights	CS44		CP44	
	kg	lb	kg	lb
with ROPS/FOPS canopy	6900	15,212	7295	16,083
equipped with padfoot shell kit	7890	17,394	–	–
equipped w/padfoot shell kit and blade	8370	18,453	–	–
equipped with blade	–	–	7705	16,987
with ROPS/FOPS cab, AC	7240	15,961	7635	16,832
equipped with padfoot shell kit	8230	18,144	–	–
equipped w/padfoot shell kit and blade	8710	19,202	–	–
equipped with blade	–	–	8045	17,736

Weight at Drum

with ROPS/FOPS canopy	3410	7,517	3760	8,289
equipped with padfoot shell kit	4400	9,700	–	–
equipped w/padfoot shell kit and blade	5060	11,155	–	–
equipped with blade	–	–	4310	9,502
with ROPS/FOPS cab, AC	3510	7,738	3860	8,510
equipped with padfoot shell kit	4500	9,921	–	–
equipped w/padfoot shell kit and blade	5160	11,376	–	–
equipped with blade	–	–	4410	9,722

Static Linear Load (at drum)

with ROPS/FOPS canopy	20.3	114	–	–
with ROPS/FOPS cab, AC	20.9	117.2	–	–

Power Train

Engine	C4.4 with ACERT Technology		C4.4 with ACERT Technology	
Gross power	75	100	75	100
Maximum speeds				
High range	12.3	7.6	12.3	7.6
Low range	5.5	3.4	5.5	3.4
Axle (differential)	Limited Slip		Limited Slip	
Tire size	14.9" x 24" 6-ply		14.9" x 24" 8-ply	

Miscellaneous

Electrical system	24 VDC		24 VDC	
Articulation angle	± 37°		± 37°	
Oscillation angle	± 15°		± 15°	
Fuel capacity	180	47.5	180	47.5