



# CS56/CP56 CS64/CP64 CS74/CP74

Vibratory Soil  
Compactors



## Cat® C6.6 Electronic Diesel Engine with ACERT™ Technology

Gross Power	116 kW/158 hp
Drum Width	2134 mm

Stage IIIA Compliant

## Operating Weight (with ROPS/FOPS cab and AC)

CS56	12 500 kg
CP56	12 450 kg
CS64	14 470 kg
CP64	14 545 kg
CS74	15 685 kg
CP74	15 565 kg

## Engine

Four-stroke cycle, six cylinder Cat C6.6 electronic diesel engine with ACERT Technology. Certified to meet the current model year emissions regulations under the provisions of 97/68/EC Stage IIIA.

Ratings at 2200 rpm	kW	hp
Gross power	116	158
Net Power		
EEC 80/1269	108	147
ISO 9249	108	147

All engine horsepowers are metric including front cover.

Ratings of Caterpillar machine engines are based on standard air conditions of 25°C and 100 kPa dry barometer. Power is based on using 35° API gravity fuel having an LHV of 42 780 kJ/kg when used at 30°C (ref. a fuel density of 838.9 g/L). 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 altitude.

### Dimensions

Bore	105 mm
Stroke	127 mm
Displacement	6.6 liters

Dual-element, dry-type air cleaner with visual restriction indicator, thermal starting aid electric priming pump 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 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.

### Speeds (forward and reverse)

Smooth Drum	
Low Range	5.7 km/h
High Range	11.4 km/h
Padfoot Drum	
Low Range	5.7 km/h
High Range	11.4 km/h

## Final Drives and Axle

Final drive is hydrostatic with 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.

### Tires

Smooth and Padfoot Drum
587 mm x 660 mm (23.1" x 26")

## Operator and Machine Protective Equipment

**Forward Roll Over Protective Structure/Falling Object Protective Structure (ROPS/FOPS)** canopy is a two-post (CS/CP56) or four-post (CS/CP64, 74) structure that bolts directly onto flanges welded to the operator platform. The structure meets SAE J1040 May94, SAE J231 Jan81, ISO 3449-1992 and ISO 3471-1994. This structure may be an option in some areas and standard in others. Consult your dealer for specifics.

**Backup Alarm** – 107 dB(A) alarm sounds whenever the machine is in reverse.

**Forward Warning Horn** – located on the front of machine to alert ground personnel.

**Seat Belt** – 76 mm wide seat belt is standard.

## Steering

A priority-demand hydraulic power-assist steering system provides smooth low-effort steering. The system always receives the power it needs regardless of other hydraulic functions.

### Minimum turning radius:

Inside	3680 mm
Outside	5810 mm

### Steering angle

(each direction)	± 34°
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### Oscillation angle

(each direction)	± 15°
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### Hydraulic system

Two 76 mm bore, double-acting cylinders powered by a gear-type pump.

## Instrumentation

Electronic Control Module (ECM) constantly monitors condition of the engine, and alerts the operator if a problem does occur 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.

## Electrical

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 circuit identifiers. The starting system provides 750 cold cranking amps (cca). The system includes an 80-amp alternator.

## 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  $\pm 34^\circ$  and a horizontal pin allows frame oscillation of  $\pm 15^\circ$ . Safety lock prevents machine articulation when placed in the locked position. Sealed-for-life hitch bearings never need maintenance. Frame also includes tie-down points for transport.

## Service Refill Capacities

	Liters
Fuel tank	300
Full fuel capacity	345
Cooling system	22.8
Engine oil with filter	17.4
Eccentric weight housings	26
Axle and final drives	18
Hydraulic tank	90

## 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.

\* All machines sold within European Union are equipped with a brake release pump which allows the manual release of the secondary brake system for towing the machine.

Braking system meets EN 500.

## Vibratory System

	Smooth Drums	Padfoot Drums
Frequency		
Standard, 56 and 64	31.9 Hz	31.9 Hz
Optional, 56 and 64	23.3 - 31.9 Hz	23.3 - 31.9 Hz
Standard, 74 only	30 Hz	30 Hz
Optional, 74 only	23.3 - 30 Hz	23.3 - 30 Hz
Nominal Amplitude		
High	1.8 mm	1.8 mm
Low	0.9 mm	0.9 mm
Centrifugal Force at 31.9 Hz		
Maximum, 56 and 64	282 kN	282 kN
Minimum, 56 and 64	141 kN	141 kN
Centrifugal Force at 30 Hz		
Maximum, 74 only	332 kN	332 kN
Minimum, 74 only	166 kN	166 kN

## Operating Weights

Weights shown are approximate and include lubricants, coolant, full fuel and hydraulic tanks and a 80 kg operator.

	kg	kg	kg
<b>Machine Weights</b>	<b>CS56</b>	<b>CS64</b>	<b>CS74</b>
with open platform	11 965	13 930	15 145
equipped with leveling blade	12 268	13 964	15 110
equipped with padfoot shell kit	13 292	14 700	15 918
equipped with blade and shell kit	13 928	15 364	16 581
with ROPS/FOPS cab & AC	12 500	14 470	15 685
equipped with leveling blade	12 810	14 504	15 651
equipped with padfoot shell kit	13 834	15 241	16 458
equipped with blade and shell kit	14 493	15 904	17 121

### Weight at Drum

with open platform	6561	8841	10 010
equipped with leveling blade	6934	8945	10 025
equipped with padfoot shell kit	7802	9350	10 519
equipped with blade and shell kit	8680	10 285	11 454
with ROPS/FOPS cab & AC	6702	8981	10 150
equipped with leveling blade	7163	9086	10 166
equipped with padfoot shell kit	7944	9491	10 660
equipped with blade and shell kit	8872	10 426	11 595

### Machine Weights

	<b>CP56</b>	<b>CP64</b>	<b>CP74</b>
with open platform	11 910	14 000	15 025
equipped with leveling blade	12 584	14 107	15 110
with ROPS/FOPS cab & AC	12 450	14 545	15 565
equipped with leveling blade	13 125	14 647	15 669

### Weight at Drum

with open platform	6561	8662	9757
equipped with leveling blade	7510	8859	9865
with ROPS/FOPS cab & AC	6702	8802	9898
equipped with leveling blade	7651	9000	10 095

### Static Linear Load- kg per linear cm

	kg/cm	kg/cm	kg/cm
with open platform	30.7	41.4	46.9
with ROPS/FOPS cab & AC	31.4 <sup>(1)</sup>	42.2 <sup>(2)</sup>	47.7 <sup>(2)</sup>

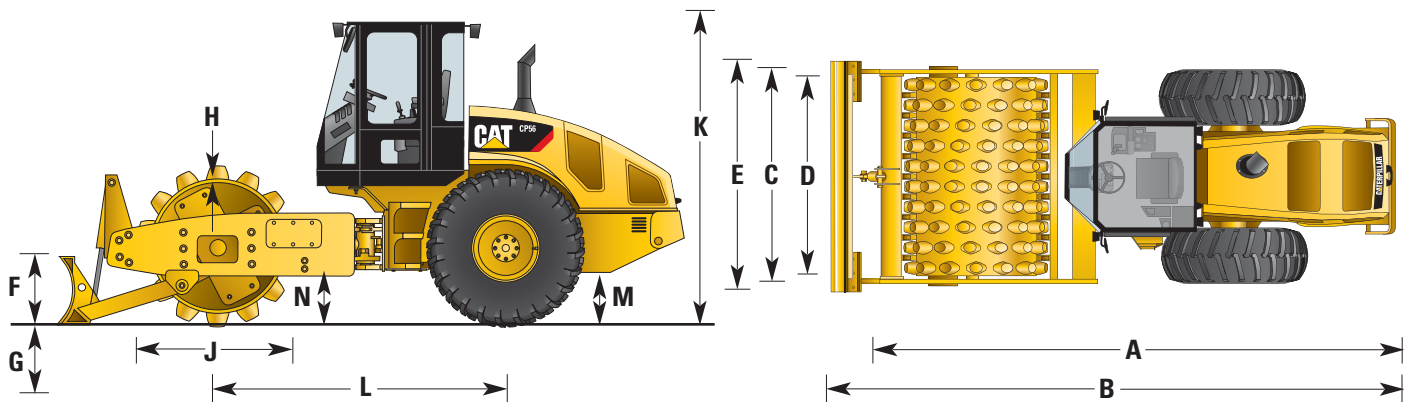
<sup>(1)</sup> Meets NFP 98736 class: VM3

<sup>(2)</sup> Meets NFP 98736 class: VM4



## Dimensions

All dimensions are approximate.



	CS/CP56 mm	CS/CP64 mm	CS/CP74 mm
<b>A</b> Overall length	5860	5970	5970
<b>B</b> Length with blade	6390	6520	6520
<b>C</b> Overall width	2300	2300	2300
<b>D</b> Drum width	2130	2130	2130
<b>E</b> Width with blade	2500	2500	2500
<b>F</b> Blade height	680	680	680
<b>G</b> Blade cutting depth	127/120	127/120	127/120
<b>H</b> Drum shell thickness	30/25	30/25	40
<b>J</b> Drum diameter	1524/1295	1524/1295	1524/1295
Drum diameter over pads (shell kit)	1746/1549	1746/1549	1746/1549
<b>K</b> Height at ROPS/FOPS canopy	3070	3070	3070
Height at ROPS/FOPS cab	3070	3070	3070
<b>L</b> Wheelbase	2900	2900	2900
<b>M</b> Ground clearance	537/555	537/555	537/555
<b>N</b> Curb clearance	490/510	490/510	490/510
Inside turning radius	3680	3680	3680
Outside turning radius	5810	5810	5810

## Total Customer Support System

**Service capability.** Most dedicated dealer support system to ensure fast service whether at the dealer's shop or in the field by trained technicians using the latest tools and technology.

**Parts availability.** Most parts on dealer's shelf when you need them. Computer-controlled, emergency search system backup.

**Parts stock lists.** Dealer helps you plan on-site parts stock to minimize your parts investment while maximizing machine availability.

**Literature support.** Easy-to-use parts books, operation and maintenance manuals and service manuals to help you get maximum value from your Cat equipment.

**Remanufactured parts.** Pumps and motors, pod-style weight housings, engines, fuel system and charging system components available from dealer at a fraction of new part cost.

**Machine management services.** Effective preventive maintenance programs, cost-effective repair options, customer meetings, operator and mechanic training.

**Flexible financing.** Your dealer can arrange attractive financing on the entire line of Cat equipment. Terms structured to meet cash flow requirements. See how easy it is to own, lease or rent Cat equipment.

## Optional Equipment

Optional equipment may vary. Consult your Cat dealer for specifics.

### **Roll Over Protective Structure/ Falling Object Protective Structure (ROPS/FOPS) Canopy.**

A two-post (CS/CP56) or four-post (CS/CP64,74) structure that bolts directly onto flanges welded to the operator platform. The structure meets SAE J1040 May94, SAE J231 Jan81, ISO 3449-1992 and ISO 3471-1994.

**ROPS/FOPS Cab.** Includes a cloth suspension seat, one access door, tinted safety glass windows, electric wipers front and rear, heater/defroster, two vertically sliding side windows for ventilation, rear view mirrors, two front-facing and two rear-facing working lights, interior dome light, and coat hook. New foot rests have been added to the floor of the cab for sure footing and greater operator comfort. More rear glass has been added to provide even greater rear visibility to the operator. The cab is now pre-wired for the addition of a radio set (radio not included). A 12 volt outlet is standard in some markets, available as an option in others. Other options include cab lift cylinder, air conditioning, sun visor, roll-down sun screen and internal rear view mirrors. Cab is fully EROPS rated and meets ISO 3449-1992 and ISO 3471-1994.

**Leveling Blade.** Designed to bolt onto the drum yoke of the CS/CP56, CS/CP64, and CS/CP74. Complete unit includes heavy-duty blade, reversible/replaceable cutting edges, replaceable wear plates, a heavy-duty hydraulic lift cylinder and foot operated control valve. Moldboard is constructed of heavy-duty steel.

### **Two-Piece Padfoot Shell Kit.**

Bolts onto the smooth drum CS56, CS64, and CS74. Features 90 mm high pads. Includes heavy-duty scraper teeth and a special bumper that provides a secure area to store smooth drum scraper plates when not in use. Each shell half weighs 810 kg.

**Transmission Guard.** Consists of a heavy plate which covers the rear axle, axle drive motor and input gearbox.

### **Smooth Drum Rear Steel Scraper.**

Mounted at the rear of the drum.

### **AccuGrade™ Compaction GPS Mapping and Measurement**

Assists the operator in determining the compaction level of a soil material and maps the results using AccuGrade GPS mapping systems. Includes graphic display, GPS receiver and mast, radio, accelerometer, and cables. AccuGrade Office software available separately.

**Flexible Drum Scrapers.** Designed for use with smooth drum models. Mounted at the front and rear of drum. They are made of polyurethane and are designed to contact the drum, cleaning debris from the drum surface.

**Vibration Auto On/Off.** Vibration system switches on/off automatically.

**Variable Frequency.** Allows the operator to vary drum frequency.

**VPM Gauge.** Mounted on the console, this gauge displays the actual vibratory system frequency.

### **Speedometer**

**Recording Module.** Provides a visual gauge for reading worktime, machine speed, distance covered and amplitude selection.

### **Compaction Indicator A30 RMV.**

Includes compaction meter value gauge and RMV indicator.

### **Compaction Indicator with Analog**

**Display.** Includes Volkel Analog Compaction Display (ACD) compaction meter.

**Operator Platform Lift Cylinder.** Features a hydraulic cylinder to raise and lower the operator's platform for easier access to the hydraulic pumps.

**Rotating Beacon.** Includes an amber beacon and mount that can be attached to machines with ROPS/FOPS canopy or ROPS/FOPS cab.

**Rotating Seat.** Provides 20 degrees of pivot adjustment for greater operator comfort.

**Radio Ready.** Includes speakers and mounting bracket. Does not include radio.

**Fast Fuel Fill System.** With fast fill connector for rapid refill operations.

**Fuel Door.** With lockable rear access door for easy access to fuel fill port.

**Bio Hydraulic Oil Ready.** Hydraulic system is designed and tested for use with Cat BIO HYDO™ HEES hydraulic fluid and is available as a factory fill.

**12-Volt Outlet.** Allows operator to plug in portable communication devices.

## Estimated Production (CS/CP56)

	Depth mm	Density %	150/300 mm Layers
Surface	0-500	>98	190/380 m³/h
Shallow	500-3000	95-98	345/610 m³/h
Deep	>3000	90-95	610/1150 m³/h

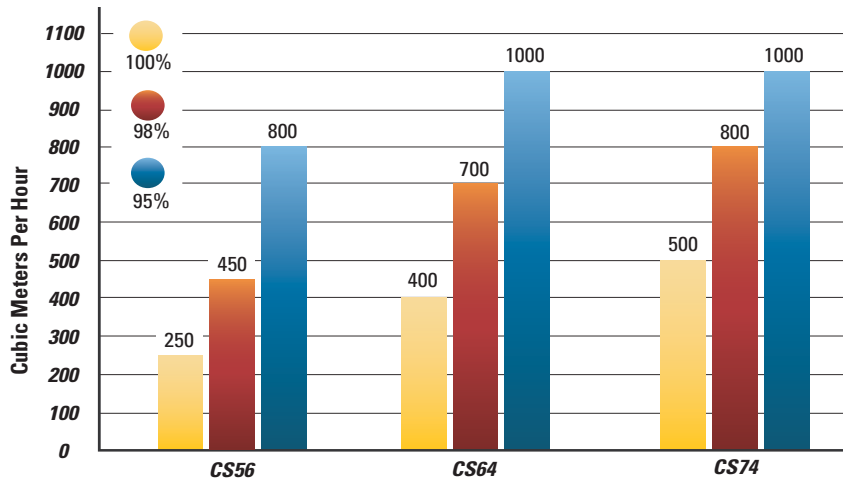
Based on depth of fill below final grade (surface)

Based on final compacted thickness of layer

Density spec. is based on Standard Proctor Test

Productivity increases with machine weight - (see chart at right)

## Productivity Comparisons



% Compaction of Standard Proctor  
150 mm Crushed Limestone Base

Results are similar for padfoot drums.  
Results may vary for different applications.

## Machine Selection

Application	Layer Thickness mm	Smooth Drum			Padfoot Drum		
		CS56	CS64	CS74	CP56	CP64	CP74
Sand, Clayey or Silty Sand, Mine Tailing	150-300	●	▲	□	□	□	□
	300-450	▲	●	▲	□	□	▲
	450-600	□	▲	●	□	▲	▲
Clay, Sandy or Silty Clay, Stabilized Clay	150-300	▲	▲	▲	●	▲	□
	300-450	□	▲	▲	▲	●	▲
	450-600	□	□	▲	□	▲	●
Silt, Sandy or Clayey Silt, Coal, Ash, Solid Waste	150-300	▲	▲	□	●	▲	▲
	300-450	▲	□	□	▲	▲	□
	450-600	□	□	–	▲	□	□
Base Aggregate, Gravel, Crushed Rock, Stabilized Base	150-300	▲	▲	●	□	□	□
	300-450	□	▲	▲	□	□	▲
	450-600	–	□	□	□	▲	▲

□ Good

▲ Better

● Best

## Shell Kit Performance

	Padfoot Drum	Shell Kit	Shell Kit Performance	Performance Ranking	
Number of Pads	140	120	Less Kneading better for silt	Padfoot Drum	Shell Kit
Pad Height	127 mm	90 mm	Less Penetration better for silt and sandy clay	Heavy Clay	● □
Weight at Drum 56 64 74	6616 kg	7858 kg	Higher Ground Pressure better for sandy clay	Sandy Clay	□ ●
	8920 kg	9430 kg		Silt with Clay	□ ●
	10 089 kg	10 599 kg		Slopes/Trenches	● □
Max. Amplitude	1.8 mm	1.2 mm	Smaller Drum Movement better for silt and clay	Thick Layers	● □