



# CB-214E

# CB-224E

Asphalt Compactors

# CB-225E

Combi Asphalt Compactor



	CB-214E		CB-224E		CB-225E Combi	
Operating weight w/ROPS	2450 kg	5400 lb	2630 kg	5800 lb	2300 kg	5070 lb
Compaction width	1000 mm	39"	1200 mm	47"	1200 mm	47"
Gross power	24.4 kW (32.7 hp)					

## Production-Sized Results in Small Packages

*Maneuverability, transportability and versatility are combined in easy-to-operate machines that will help you meet and exceed your tons-per-day production needs.*

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The CB-214E, CB-224E and CB-225E are versatile machines that can be used as the only compactor on small sized jobs or on larger jobs as a support roller for high-production compactors. As a support roller, they work well for turning lanes, cross-overs, shoulders and other similar sized jobs.

With its 1000 mm (39") wide drums, the CB-214E is well suited for rental customers and contractors or agencies that maintain streets, roads, alleys or are adding paths to parks and recreation areas. In these applications, the tight turning radius and easy maneuverability make it a perfect match.

The CB-224E provides greater production capabilities with its 1200 mm

(47") wide drums. Its high amplitude and drum width give it the capacity to achieve a tons-per-day production rate that make it an excellent match for shoulders, small parking lots, lane additions or other similar sized jobs.

Meanwhile, the CB-225E is versatility driven. Its steel front drum and rubber tired rear wheels allow it to function as both a vibratory and a pneumatic compactor. The CB-225E produces a tight mat with a smooth finish.

All three machines provide a comfortable and convenient operating environment that contribute to the versatility of the machines. The roomy operator's station provides excellent visibility to drum edge or tire contact

points. Their low-profile design provides great visibility to the front or rear.

In addition, the machines are quiet for the operator and spectators, especially beneficial on commercial jobs when compaction must coincide with day-to-day business operations.

Caterpillar compactors are supported by an extensive dealer network and parts distribution system as well as by Caterpillar dealer representatives that are highly trained and motivated. Caterpillar offers a comprehensive line of asphalt pavers, cold planers, compactors, reclaimers and stabilizers.



## Caterpillar® 3013C Engine

*Compact and efficient diesel engines for years of low maintenance operation.*



**Precise balance and optimum running speed** for quiet and efficient operation.

**Liquid-cooled engine operates** at low temperature helping reduce component wear.

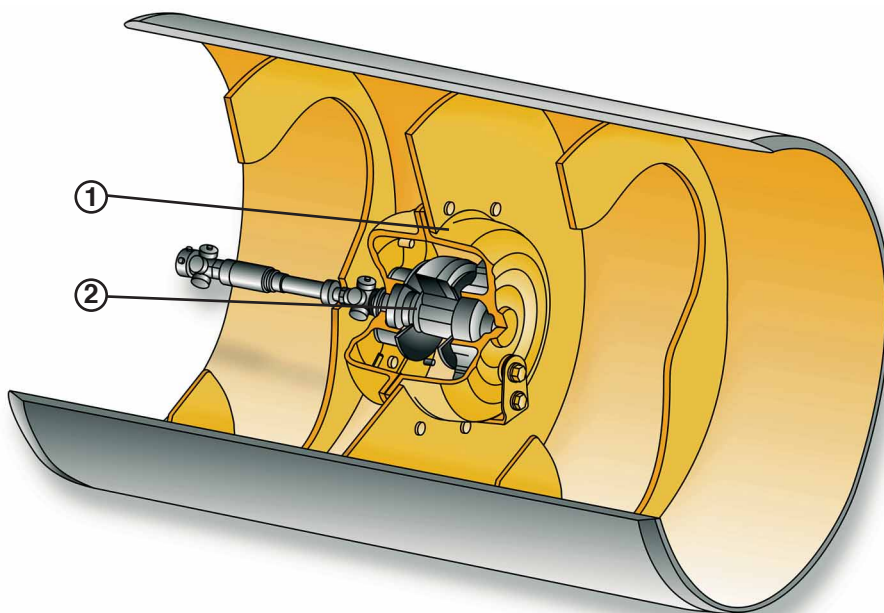
**Variable injection timing** provides highly efficient combustion eliminating visible smoke.

**Standard 500 hour** oil service interval reduces operating costs.

**Engine meets EU Stage II and U.S. Tier 2** off highway emissions standards.

## Vibratory System

*Precise system delivers optimum compactive force.*



**Pod-style weight housings** are assembled and sealed at the factory to ensure cleanliness, extended bearing life and easy field exchange/service.

**Change interval** for bearing lubrication is every three years or 3,000 hours.

**Balance between frequency and amplitude** provides a good mat finish for commercial work.

**Vibratory delay option** allows front drum to vibrate before the rear drum.

- 1 Pod-style weight housing    2 Fixed eccentric weight

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## Operator Comfort

*Operating ease and comfort promote all-day productivity.*

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**Single propel lever control** provides simplified operation, making the machines a perfect fit for new operators.

**Easy-to-understand instrument panel** integrates warning lights for main functions, fuel gauge, water spray and switches, allowing the operator to quickly verify the status of machine systems.

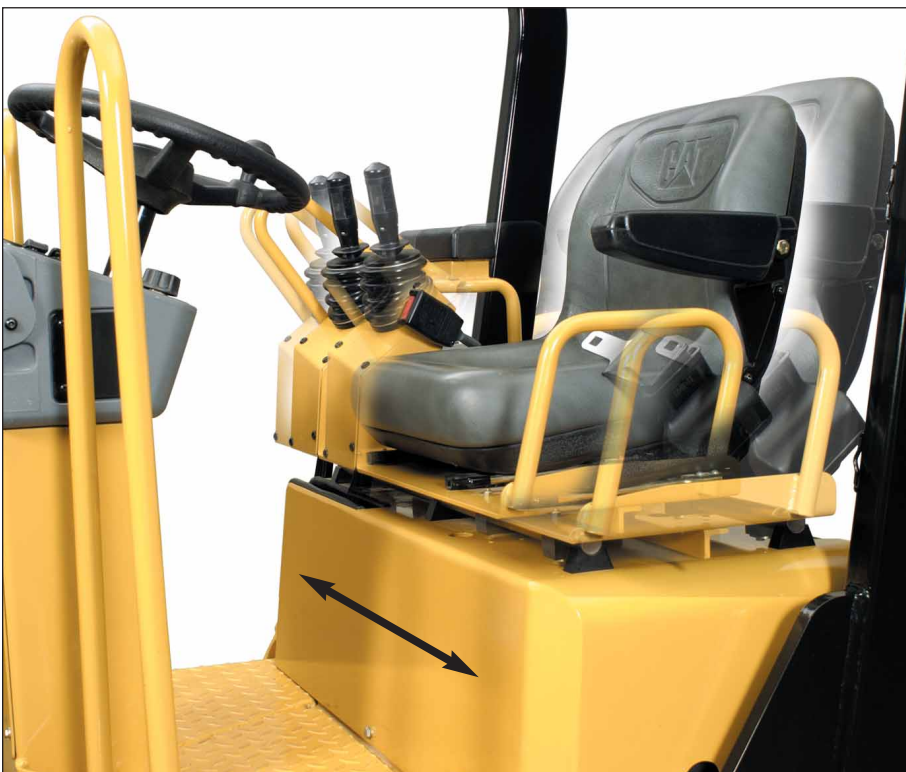
**Low sound levels** make the machines comfortable for both operators and spectators.

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## Operator's Station

*Provides maximum visibility to drum and ground contact points.*

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**Durable suspension or non-suspension seat** arrangements offer day long comfort.

**Ignition key switch automatically enables** engine pre-heat system.

**Operator's station is isolated** with four rubber mounts that help reduce vibration before it reaches the operator, controls and instrumentation.

**Lockable cover** protects instrumentation and gauges.

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## Excellent Forward and Rearward Visibility

*Low-profile design provides convenient control of machines.*

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**Excellent forward visibility** allows the operator to see objects 0.58 m (1.9') high and 1 m (3.3') in front of the machine.

**Rearward visibility is even better.** Operator can see objects that are 0.35 m (1.1') behind the machine and flush to the surface.

**Low-profile engine enclosure** provides unobstructed sight lines to ground personnel working near the machine.

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## Water Spray System

*Corrosion-proof system and extended-life components provide reliable operation.*

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**Constant or intermittent spray capabilities** provide extended operation between refills.

**Triple water filtration** reduces machine downtime caused by system clogs.

**Extended-life water pump** provides optimum spray and flow.

**Water pump and filters are conveniently** located for easy access.

**Large water tank drain** allows system to be drained in less than five minutes.

**Optional front and rear spray bar shields** prevent wind displacement of water.

**Optional 70 liter (18.5 gal) water tank** increases production between refills.



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## Drum Design Keeps Production High

*Machined drum surfaces help ensure a smooth mat.*



**Specially designed drum edges** help eliminate marks on deep lifts or when turning. *Note: The CB-214E and CB-224E can be equipped with optional Non-Machined Drum Edges that have a square profile instead of the standard design.*

**Drums are constructed of rolled steel plate** and are finished to reduce surface irregularities.

**Replaceable rubber mounts** isolate vibration and enhance vibratory capabilities.

**Each drum** is fitted with two retractable, spring-loaded, self-adjusting scrapers, positioned at the front and rear of each drum.

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## Tires Enhance Versatility – CB-225E

*Tires manipulate the mat under and between its wheels.*



**Steel front drum and rubber tires at the rear** allow a single machine to function as both a double drum and pneumatic compactor.

**Four rubber tires** generate high ground contact pressure that penetrates deep into the lift.

**Because the tires are flexible,** horizontal pressures develop, assisting with compaction.

**Each tire** is fitted with a replaceable, adjustable scraper. The scrapers can be retracted when they are not needed.

## Serviceability

*Time-saving features reduce maintenance requirements and increase production.*



**Fiberglass engine enclosure** pivots upward and locks open with a prop rod.

**External engine components, hydraulics and routine service points** are clustered in easy-to-access locations.

**Daily visual maintenance** system simplifies verification of fluid levels and filter conditions.

**Extended-life oils** increase maintenance intervals for the vibratory system, hydraulic system and engine oil.

**Remote-mounted drains for hydraulic and engine oils** provide simplified collection of fluids.

**Quick-connect hydraulic test ports** simplify system diagnosis.

**Electrical wiring** is color-coded and numbered for simple troubleshooting.

**Nylon-braided wrap and all-weather connectors** ensure electrical system integrity.

## Engine

Caterpillar 3013C naturally aspirated, water-cooled, 4-stroke, 3-cylinder diesel engine meets U.S. Tier 2 and 97/68/EC Stage II emission standards.

Ratings at 2,800 rpm	kW	hp
Gross power	24.4	32.7

Ratings of Caterpillar machine engines are based on standard air conditions of 25°C (77°F) and 99 kPa (29.32") Hg dry barometer. Power is based on using 35° API gravity fuel having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when 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.

The following ratings apply at 2,800 rpm when tested under the specified standard conditions for the specified standard:

Net Power	kW	hp
ISO 9249	22.6	30.3
EEC 80/1269	22.6	30.3

### Dimensions

Bore	84 mm	3.3"
Stroke	90 mm	3.5"
Displacement	1496 cm <sup>3</sup>	91 in <sup>3</sup>

Dual-element, dry-type air cleaner with visual restriction indicator.

## Electrical System

The 12-volt electrical system includes one maintenance-free Cat battery and color-coded and numbered wiring wrapped in nylon braid. The system includes a 55-amp alternator. The starting system provides 750 cold cranking amps.

## Sound Levels

Sound level measured at the operator ear (sound pressure) is 80 dB(A), and average at spectator (hemispherical) is 109 Lwa.

## Transmission

### (CB-214E and CB-224E)

Variable-displacement piston pump supplies pressure flow to fixed-displacement hydraulic motors that drive the front and rear drums.

### (CB-225E)

Variable-displacement piston pump supplies pressure flow to a fixed-displacement hydraulic motor that drives the front drum, and the pump supplies pressure flow to two fixed-displacement motors that drive the rear wheels.

A propel lever located at the operator's station provides smooth hydrostatic control of the infinitely variable speeds in both forward and reverse.

### Speed ranges

0-10 km/h	0-6 mph
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## Final Drives

### (CB-214E and CB-224E)

High-torque, low-speed hydraulic motors directly drive each drum.

### (CB-225E)

High-torque, low-speed hydraulic motor directly drives the front drum, and two high-torque, low-speed hydraulic motors directly drive the rear wheels.

## Wheels and Tires

### (CB-225E)

8.5/90-15K 6-ply tires are standard. Each tire is equipped with a replaceable scraper. The scrapers help clean asphalt or soil off the tires. The scrapers can be retracted when they are not needed. The wheels are mounted on a fixed axle.

## Frame

Frame is fabricated from heavy gauge steel plate and joined at the center articulation pivot. Two self-aligning bearings on the pivot housing provide a ±32 degrees steering angle, and a horizontal pin provides a ±10 degrees oscillation angle. The articulation pivot is structurally reinforced for extended service life. For transport purposes, the articulation pivot can be secured at the zero steering angle.



## Water Spray System

Spray bars are constructed of stainless steel for corrosion resistance. The water tank is reinforced polyethylene. An electric water pump provides either continuous or intermittent spray. Intermittent spray setting increases spray time by 50 percent over continuous setting. Triple filtration includes a filter on the tank fill spout, an in-line filter at the water pump and filters on each spray nozzle. Spray nozzles are easily removed without tools.

**Tank Capacity** 150 L 39 gals.

## Tire Wetting System

Tire Wetting System allows an emulsion to be sprayed on the tire surfaces, helping prevent asphalt from adhering to the tires. One spray nozzle is positioned above each tire. The system is controlled with a momentary switch on the control console.

**Tank Capacity** 70 L 18.5 gals.

## Instrumentation

The control console includes: steering wheel, water spray system switch, vibratory drum selector switch, horn; hazard flasher control, engine start switch with preheat and parking brake. The instrument panel cluster integrates the fuel level indicator, service hour meter and also light indicators for: roading lights, parking brake, hydraulic oil temperature, engine coolant temperature, alternator, engine oil pressure, vibration on, engine preheat, and turn signals. The vibratory system is actuated with a switch on the top of the propel lever. When the vibratory system is activated, a vibration indicator light illuminates. The engine throttle control is located on the right side of the control console pedestal. If equipped with optional light packages, switches are located on the control console.

The machine is protected from vandalism with several covers. The control console, hood and literature compartment are equipped with lockable covers.

## Brakes

Brake systems meet EN 500-1, EN 500-4, SAE J1472 and ISO 3450.

### Service brake features

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

### Secondary brake features

- A spring-applied, pressure-released brake inside each propel motor immobilizes the roller. Activation is by a switch on the operator's console or when the engine is shut off.

## Service Refill Capacities

	Liters	Gallons
Fuel tank	46.5	12.3
Crankcase	6	1.6
Hydraulic fluid tank	26	6.9
Hydraulic circuit	30	7.9
Water spray system	150	39
Tire wetting system	70	18.5

## Steering

An engine-driven gear-type pump supplies hydraulic fluid for the steering circuit.

	CB-214E		CB-224E		CB-225E	
Minimum turning radius						
Inside drum edge	2510 mm	99"	2410 mm	95"	2410 mm	95"
Outside drum edge	3510 mm	138"	3610 mm	142"	3610 mm	142"
Steering angle	32°		32°		32°	

Hydraulic system: One 70 mm (2.75") bore, double-acting cylinder powered by a gear-type pump. Output @ 2,800 rpm is 23 liter/min (6.1 gpm) with relief valve at 1,700 psi.

## Weights (approximate)

Weights include lubricants, 80 kg (175 lb) operator, full fuel tank, full hydraulic system and half-full water tank.

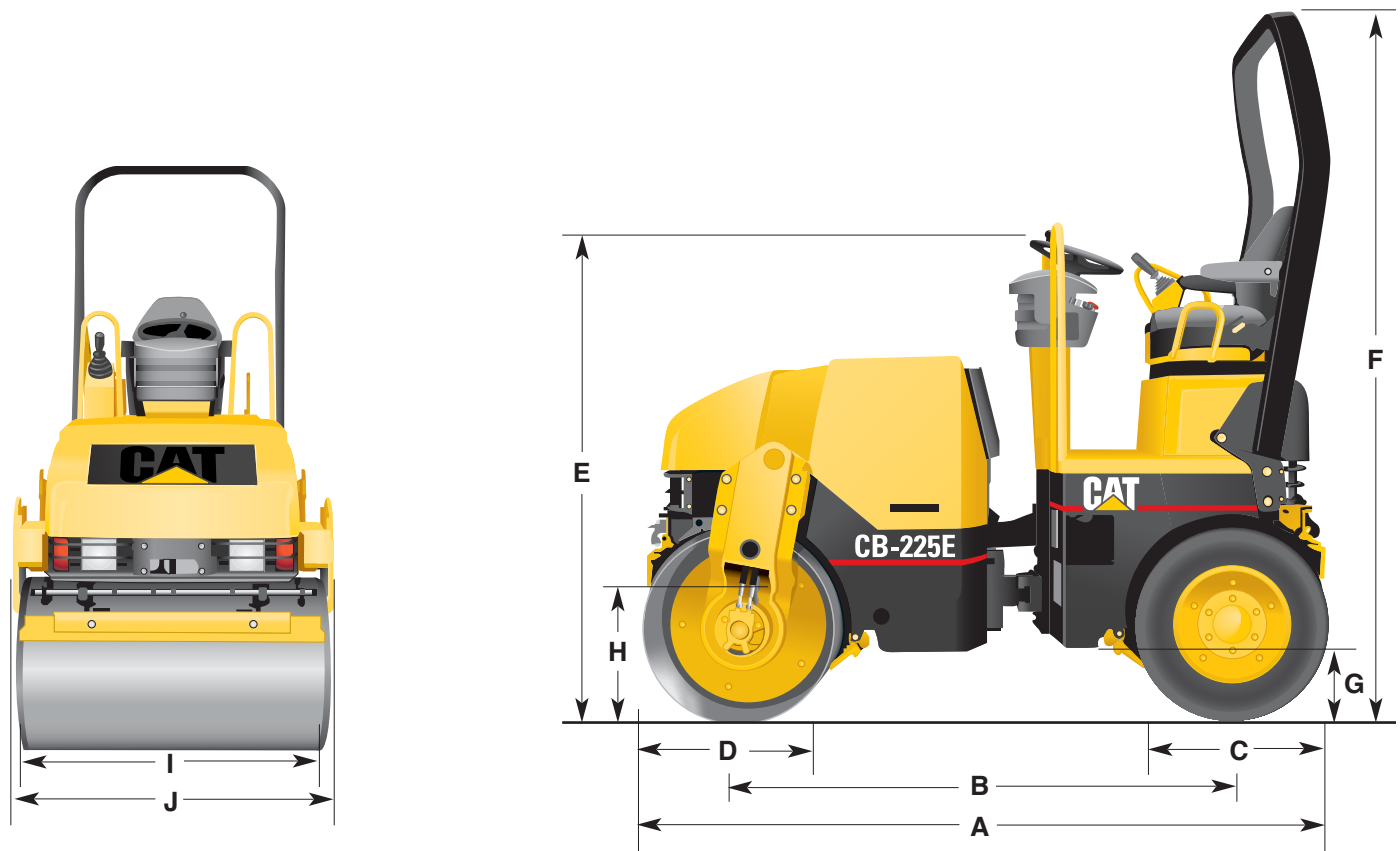
	CB-214E		CB-224E		CB-225E	
Operating without ROPS	2390 kg	5270 lb	2570 kg	5670 lb	2240 kg	4940 lb
at front drum	1150 kg	2540 lb	1250 kg	2760 lb	1280 kg	2820 lb
at rear drum	1240 kg	2730 lb	1320 kg	2910 lb	—	—
at rear wheels	—	—	—	—	960 kg	2120 lb
weight per rear wheel	—	—	—	—	240 kg	530 lb
Operating with ROPS	2450 kg	5400 lb	2630 kg	5800 lb	2300 kg	5070 lb
at front drum	1150 kg	2540 lb	1250 kg	2760 lb	1280 kg	2820 lb
at rear drum	1300 kg	2870 lb	1380 kg	3050 lb	—	—
at rear wheels	—	—	—	—	1020 kg	2250 lb
weight per rear wheel	—	—	—	—	255 kg	560 lb

## Compaction Characteristics

	CB-214E		CB-224E		CB-225E	
Vibration selections (drum)	Front or both		Front or both		Front	
Eccentric weight drive	Hydraulic		Hydraulic		Hydraulic	
Frequency	63 Hz	3780 vpm	63 Hz	3780 vpm	63 Hz	3780 vpm
Nominal amplitude	0.5 mm	.02"	0.5 mm	.02"	0.5 mm	.02"
Centrifugal force per drum	27.6 kN	6075 lb	31.4 kN	6975 lb	31.4 kN	6975 lb
Load per cm of drum contact/Pounds per linear inch:						
Static	12.3 kg/cm	70 lb/in	11.0 kg/cm	62 lb/in	11.0 kg/cm	62 lb/in

## Dimensions

	CB-214E		CB-224E		CB-225E	
A Length	2430 mm	96"	2430 mm	96"	2430 mm	96"
B Wheelbase	1730 mm	68"	1730 mm	68"	1730 mm	68"
C Drum diameter	700 mm	27.6"	700 mm	27.6"	700 mm	27.6"
Drum shell thickness	13.5 mm	.53"	13.5 mm	.53"	13.5 mm	.53"
D Tire diameter	—	—	—	—	8.5/90-15K 6-ply	—
E Height at steering wheel	1760 mm	69"	1760 mm	69"	1760 mm	69"
F Height at ROPS	2585 mm	102"	2585 mm	102"	2585 mm	102"
G Ground clearance	250 mm	10"	250 mm	10"	250 mm	10"
H Curb clearance	530 mm	21"	530 mm	21"	530 mm	21"
I Compaction width	1000 mm	39"	1200 mm	47"	1200 mm	47"
J Machine width	1100 mm	43"	1300 mm	51"	1300 mm	51"



## Optional Equipment

**Roll Over Protective Structure (ROPS)** is a two-post structure that bolts directly onto flanges welded to the machine frame. The ROPS meets SAE J1040 May 94, ISO 3471: 1994.

**Foldable ROPS** includes pivots that allows the ROPS to fold, lowering shipping height. The ROPS meets SAE J1040 May 94, ISO 347: 1994.

**Sun Canopy** is a thermo-formed plastic structure that blocks the operator's station from the sun. Structure is bolted to the ROPS.

**Working Light Package** consists of two front headlights and one independent rear work light.

**Roading and Working Light Package** consists of two front headlights, two rear taillights, two front-position lights, turn signals, hazard lights and one independent rear work light.

**Rotating Beacon** includes an amber beacon and mount that can be attached to machines with or without ROPS.

**Spark Arrestor Muffler** helps eliminate burning carbon particles that can exit the muffler.

**Back-up Alarm** emits a high-pitched sound when the machine is in reverse.

**Suspension Seat** provides armrests, fore/aft and height adjustments.

**Cocoa Mats** retain water as it is distributed by the water spray system. The mats allow water to seep out of them, providing continuous water distribution to drum surfaces.

**Heat Retention Device** helps trap heat and warms the tires on the CB-225E. The heat retention devices help eliminate asphalt from adhering to the tires.

**Spray Bar Shields** prevent uneven water distribution across the width of the drum due to wind. This option is only available for the CB-214E and CB-224E.

**Light Protector Grids** prevent damage to the light assemblies.

**Water Tank (additional)** allows an extra 70 liters (18.5 gals) of water storage for a total capacity of 220 (58 gals).

**Traction Control** transfers torque between the front and rear drum (CB-214E, CB-224E) for increased power on slopes.

**Exhaust Deflector** modifies air flow under the front frame decreasing air-borne particles.

**Rear Drum Vibratory Control** allows the operator to control the rear drum separately.

**Delay "ON" Vibratory System** controls the start of the rear drum to assist power management on slopes.

**Non-Machined Drum Edges** have a square profile instead of the standard dual radius design. When working on straight runs, a square profile may reduce marks in the mat. *This option is only available for the CB-214E and CB-224E.*



## Value Analysis

### Versatile Operation

- High frequency vibratory system
- CB-225E rubber tires make it effective on both asphalt and soil.

### Productivity

- Responsive diesel power
- High travel speeds
- Near equal front to rear weight distribution

### Easy Control

- Single lever control of forward/reverse speeds
- Low effort steering
- Excellent steering

### Simplified Maintenance

- Simple durable design
- Rugged construction for extended service life
- Easy access to all major components

## Total Customer Support System

**Parts Availability** - most parts on the dealers 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.

**Service Capability** - dealer's shop or fast field service by trained technicians using latest tools and technology.

**Machine Management Services** - effective preventive maintenance programs, cost-effective repair options, customer meetings, operator and mechanic training.

**Literature Support** - easy to use parts books, operation and maintenance manuals, and service manuals help you get maximum value equipment.

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

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