

# CB54 CB54 XW CB64

Vibratory Asphalt  
Compactors

**CATERPILLAR®**



#### Cat® C4.4 Diesel Engine with ACERT® Technology

Gross Power	102 kW	137 hp
Net Power (ISO 9249)	97 kW	130 hp
Net Power (SAEJ1349)	96 kW	129 hp

#### Compaction Widths

CB54	1.7 m	67 in
CB54 XW	2.0 m	79 in
CB64	2.1 m	84 in

#### Operating Weights w/ROPS

CB54	10 804 kg	23,818 lb
CB54 XW	11 898 kg	26,230 lb
CB64	12 980 kg	28,616 lb

## Features

*Having the right features and providing information on how to use them helps you succeed in today's tough paving business.*

### Reliable Water Spray System

*Dual or single spray bar operation provides flexibility to conserve water, yet perform well in the most unfavorable operating conditions.*

### Versatile Vibratory Systems

*The Cat vibratory systems provide quality results in all types of conditions. The very popular Versa Vibe™ system offers high frequency or high amplitude in a single machine, while the five amplitude system excels on thick lifts and demanding mix designs.*

### Smooth Working Powertrain

*The Cat® C4.4 offers more power, while responsive controls and smooth operation build operator confidence.*

### Comfortable Operation

*Low sound levels, cool operating environment and good visibility provide a high level of comfort.*

### Simplified Service

*The Electronic Control Modules (ECMs) provide easy diagnostics with Cat Electronic Technician, while the grouped service points make routine maintenance a snap.*

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**The CB54, CB54 XW and CB64 offer versatile vibratory systems that produce results on all types of asphalt mix. From tender marshall mix to harsh super paves, these Cat asphalt compactors deliver the density and smoothness targets that will get you in the bonus and make you more money. The increased power and high flow water spray system deliver unmatched performance in adverse conditions, while the operating station provides all the comforts and visibility features that you've come to expect from Caterpillar. The improved visibility to the drum surfaces and spray bars ensures that the water spray system is providing optimal performance.**

# Performance

## Producing quality mats — that's what counts!

Meeting density and smoothness specifications can often be challenging. Caterpillar understands this, and designs asphalt compactors that simplify operation, yet provide versatility to perform in all types of applications. Having the right equipment and understanding its capability will help you meet those performance goals for every situation that you encounter.

### Vibratory Selection

Amplitude and frequency selection are often misunderstood, yet are one of the most important features of any asphalt compactor. Cat® asphalt compactors offer vibratory systems with the full range of amplitudes and frequencies. We also provide the necessary tools and information that helps you determine which setting is right for your particular application. Vibratory versatility and the knowledge to use it are fundamental to successful compaction.

### Keeping the Drum Surface Wet

Preventing material from sticking to the drum is critical to asphalt compaction. The Cat water spray system with dual spray bars offers reliable filtration, good visibility, high flow, and large capacity for excellent performance. The redundant system offers backup capability to keep you on the mat when optimum rolling conditions exist.

### Power and Efficiency

Having enough power to perform on inclines and maintaining the desired impact spacing when changing directions is essential to asphalt compaction. The Cat® C4.4 engine with ACERT® Technology combines the power to excel in tough conditions with the fuel efficiency to continue operating throughout the day.

### Matching Paving Speed

Keeping pace with the paver ensures that compaction takes place in the desired temperature zone. Choosing the right drum width that effectively covers the mat, while matching the vibratory frequency with the speed of the paver, leads to consistent mat quality that helps you achieve those bonus incentives.



## Earn Bonus Pay Increase Profits

Earning bonus pay has become a crucial element in today's paving environment, many contractors depend on it when submitting bids. To assist the contractor in achieving the maximum payout, Cat® Dealers offer "Solutions and Services" from Cat Paving that make it easier to reach these incentives and add to your bottom line.

### Dealer Support

Cat Dealer support is unmatched in the paving industry. We offer around the clock parts and service support that quickly helps you get back to work when unplanned downtime occurs.

### Project Support

Our paving experts work with you to assist with pre-planning and technique. They also provide a better understanding of the machines capability, in order to maximize efficiency.

### Certified Training

Cat offers machine service training, paver operations training (POT), crew training, and regional seminars that are certified by the International Association for Continuing Education and Training (IACET).



# Vibratory Systems

## Flexible Systems Maximize Fleet Utilization

Designing machines that are capable of performing effectively on a variety of mix types, while keeping pace with the paver, helps customers maximize resources and lower their capital investment.

### Five Amplitude Vibratory System

Mixes that consist of large aggregates and less filler normally have less binder, which makes them tough to compact. They are commonly referred to as “Harsh Mixes” and require greater amounts of energy to meet density requirements. The five amplitude vibratory system offers high amplitude settings that apply extensive amounts of force to eliminate air voids for a more impermeable road surface that lasts longer. The system features five different amplitude settings and a single frequency, providing high or low impacts for working on thick or thin lifts.

### Versa Vibe™ Vibratory System

Versa Vibe is a multi-purpose vibratory system that can handle a variety of mix designs. This system is able to provide high amplitude/low frequency for tough superpave mix designs or high frequency/low amplitude to match higher paving speeds. It also performs well on thinner lifts without over-compacting. The system offers four amplitudes and two frequencies. The amplitudes are adjustable with a hand wheel at the drum, while frequency can be selected from the operating console.

### Dual Amplitude/Dual Frequency

The dual amplitude/dual frequency vibratory system is similar to Versa Vibe, however, the dual amplitude/dual frequency system only utilizes a single amplitude with each frequency. A switch on the steering console automatically matches amplitude and frequency for complete control from the operating station.

### Automated Vibratory Control

An adjustable auto-vibe function allows the operator to determine when the vibratory system should engage upon starting out or when changing direction. Because each job site requires its own rolling pattern, the adjustable dial on the console can easily be tailored to match compaction requirements, allowing the operator to stay focused on mat conditions.



## Project Planning Which Setting?

Selecting the right amplitude and frequency setting can be a difficult task. We offer many tools that can help make this decision easier.

### Production Calculator

The “Interactive Production Calculator” is a computer-based pre-planning tool that establishes the effective paving speed and compaction speed, based on plant output and available trucking. It utilizes inputs such as drum width, paving depth and frequency to help determine which machine is right for the job.

### Asphalt Compaction Application Guide

The application guide eliminates guess work and helps determine which model, drum width, and vibratory frequency are a match to the mat width and paving speed for your specific project.



# Water Spray System

## Reliable Systems Require Durable Components

The water spray system takes an abundance of abuse due to the demanding conditions in which they work. Heat, vibration and the use of unfiltered water can have a detrimental effect on the system. The Cat spray system features a single tank, dual pumps, dual spray bars and triple filtration that provide redundancy in the system, ensuring reliable performance that keeps the machine on the mat.

### Hours of Operation

The single, large capacity water tank provides hours of operation between refills. The low tank position offers excellent machine stability, while the single fill point can be accessed from ground level for easy refills.

### High Flow Spray

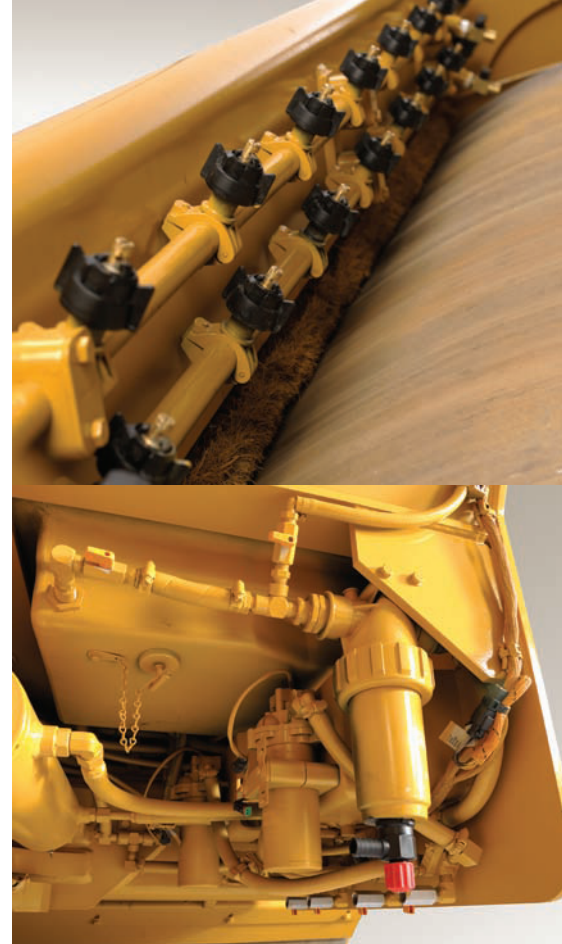
The dual spray bars with 18 nozzles per drum (14 on CB54) offer high flow operation that maximizes drum coverage, even in the most extreme conditions. Customers will appreciate the dual spray bar performance on polymer-modified mix designs, rubberized asphalt and other mix types that have a tendency to stick to the drums. Thumb switches located on the propel lever allow the operator to choose between single or dual spray bar operation. If a spray nozzle does plug, simply switching to the other spray bar can keep you on the mat.

### Excellent Filtration

Keeping the spray nozzles free of foreign particles is essential to asphalt compaction. The Cat system uses filters located in the tank, before the water pumps, and in the spray nozzles, offering triple protection that minimizes clogs. The filters are highly accessible and can be quickly removed for cleaning without the use of tools, limiting machine downtime. The standard brass spray nozzles offer long life and are able to withstand the rigors of cleaning.

### Long-Life Pumps

Dual water pumps provide the necessary flow to the spray nozzles. When using the single spray bar mode in automatic, the pump usage alternates with the direction of travel so that only one pump operates at a time. Alternating pump usage extends the operational life, while lowering replacement costs. When supplying both spray bars, both pumps operate at the same time, providing twice the flow.



## Sound Designs Improve Performance

Hours of upfront testing contribute to sound designs that improve performance for long hours of continuous operation.

### Keeping the Drum Clean

Two, self-adjusting spring-loaded scrapers located on the front and rear of each drum prevent material build-up and keep the drum clean. The four, heavy-duty springs maintain consistent pressure across the entire drum width in order to optimize scraper performance.

### Drum Supports

The thick steel fabrication used in production provides a strong, solid frame that resists flexing and holds up to the tough operating conditions of asphalt compaction. The heavy-duty construction optimizes vibratory efficiency by directing vibration into the mat, not through the machine frame as wasted energy.



# Powertrain

Smooth control and quiet operation leads to higher productivity.

The Cat powertrain offers responsive controls and the power you need to succeed, even in the toughest conditions.

## Power You Can Count On

More power, lower emissions. The C4.4 engine with ACERT Technology provides a gross power of 102 kW (137 hp) and meets U.S. EPA Tier 3 engine emission requirements. The increased power improves performance on applications when rolling resistance is amplified, such as inclines and thick lifts.

## Stability Through Turns

Gradual turns at the end of the each pass are common practice for asphalt compactors. This technique can often lead to weight transfer toward the outside edge of the leading drum, resulting in deep cut marks left in the mat. To combat this, Cat asphalt compactors utilize a non-oscillating hitch design that limits weight transfer and provides even force across the entire width of the drum, limiting mat marks and improving quality.

## Smooth Operation

Responsive controls generate operator confidence and improve productivity. When in control, operators are able to stay focused on mat conditions, allowing them to make the necessary adjustments throughout the day. To accomplish this, these machines use an electronic control module (ECM) that monitors the propel system in order to optimize performance. The controller is compatible with Cat Electronic Technician, which helps with machine diagnostics.

## True Drum Tracking

The centered articulation hitch allows the drums to track in the same path while turning. This feature allows the operator to stay focused on the front drum, while knowing the rear drum will follow, providing confidence and enabling the compactors to work close to obstacles when turning. An optional offset hitch provides up to 170 mm (6.65") of drum offset to either side in order to cover more area.



## Clean Power Lower Emissions

The U.S. EPA Tier 3 engine emission requirements dramatically restrict the emission of nitrogen oxide (NO<sub>x</sub>) and other pollutants. The Cat C4.4 utilizes ACERT Technology to reduce these emissions.

### ACERT Technology

ACERT Technology is a series of Caterpillar engineered innovations that provides advanced electronic control, precise fuel delivery and refined air management, resulting in outstanding performance and lower emissions.

### High Capacity Cooling System

The large capacity cooling system keeps the operating temperatures low, even in extreme conditions. The rear mounted coolers direct exhaust air away from the operator for a more comfortable operating environment.



# Operating Environment

## Comfort and Visibility Increase Performance

Long hours of operation can take a toll on the crew — that's why Cat engineers design operating stations that provide good control, visibility and comfort.

### Visibility

Keeping operators alert of their surroundings and aware of the machine and mat conditions is a focus of the operating station. The centralized station facilitates good visibility to drum edges, drum surfaces, and both sides of the machine. The improved visibility to the drum surfaces enable the operator to optimize water spray performance. Optional LED lighting mounted on the vertical drum supports provide good drum edge visibility in low light conditions. The relocation of the exhaust stack to the underside of the frame provides a clear view of the rear drum and surrounding areas.

### Convenient Controls

At Caterpillar, we strive to build machines that accommodate operators with all types of skill level. We understand that providing machines that perform well regardless of operator experience leads to greater productivity. Convenient layout and easy-to-understand controls build operator confidence. Being able to locate controls and understand their function allows operators to work more effectively, leading to better performance and higher productivity.

### Comfortable Seating

Keeping the job site in clear view is important when working close to the paver. The multi-position seating provides a variety of adjustments that help the operator stay focused and in control. Each station has numerous rotating and sliding positions for the operator to choose from. Multiple seat adjustments allow the operator to customize weight, height, armrests, and the backrest to suit their individual needs. The engine is located on the rear half of the machine, minimizing heat, vibration and sound levels.

### Precise Control

The propel system utilizes a controller that monitors the speed commands in order to provide precise control. The controller also interacts with the engine controller for optimized performance.



## Improve Efficiency Make Operation Easier

Technology is ever-changing, understanding the components of a compactor can greatly improve efficiency.

### Speed Control/Impact Spacing

A speed control dial used in conjunction with the propel lever provides a cruise control type function that allows the operator to meet the required impact spacing to keep pace with the paver. Moving the propel lever to full forward or to full reverse allows the machine to travel at the speed determined by the adjustable dial.

### Adjustable Mirrors

Adjustable mirrors (optional on CB54) mounted on the vertical drum supports greatly enhance visibility to the drum edges and job site in general. They are especially effective on the CB54 XW and CB64 models, due to their wider drums.



# Service Features

## Quality Machines Utilize Durable Components

Reducing service costs is the goal of every contractor. Cat machines are designed with durable components that last longer.

### Quick Resolution

Pinpointing the problem can often take more time than the actual fix. The electronic control modules (ECM) on the new asphalt compactors are compatible with Cat Electronic Technician, making diagnostic efforts quick and easy. The machine is equipped with ECMs for the engine, propel, and vibratory systems, providing quick resolution to any issues that may arise.

### Accessibility is Fundamental

Due to the harsh environment that these machines work in, components eventually need to be replaced. Having quick access to components and routine service points is fundamental to Cat equipment. The hydraulic system contains grouped pressure test ports and oil sampling ports that make diagnostic efforts easy — no need to break into the circuit and risk contamination. The filters for engine oil, hydraulic oil, fuel, and air are all easily accessible, while the drain ports utilize remote lines that simplify collection.

### Longer Service Intervals Save Money

The standard 500 hour engine oil change and the 3 year or 3000 hour vibratory bearing oil change intervals keep service costs low. Extended service intervals have a positive impact on the bottom line by maximizing uptime and minimizing oil and filter replacement costs.

### Minimal Service Required

Features such as the self-adjusting serpentine belt and the electrically actuated PrimeTime™ fuel pump limit service requirements, while saving time and money. The maintenance-free hitch design continues to provide unmatched reliability and the optional bio-oil capability offers an environmentally friendly alternative to standard hydraulic oil.



## Extend Operation Plan Ahead

Reduce service costs by planning ahead. Knowing which components need to be serviced and when the machine will need them allows service personnel to make the necessary arrangements.

### Rebuild Programs

Rebuild programs consisting of in-depth inspections of high wear items can be scheduled with your Cat dealer in the off-season. These programs can prevent unscheduled downtime during the busy paving season.

### Machine Tracking Made Easy

The optional Product Link System ensures maximum uptime and minimal repair costs by simplifying the tracking of equipment fleets. The system provides automatic machine location, hour updates, and diagnostic codes that can be used to schedule service requirements at more opportune times.





# Customer Support

## Proven to Increase Profits

Cat Dealers offer the highest level of support available. Whether it's parts support, application support, or machine support, we offer it. Customer satisfaction continues to be our number one goal!

### 24 Hour Parts Support

When you need parts, you can rely on the strategically located Cat Dealerships to quickly get you back to work. These Cat Dealers utilize a world-wide computer network to find in-stock parts. So when unplanned downtimes occur, help is just an easy phone call away.

### Project Consulting

Today's paving contracts require strict adherence to smoothness and density specifications and many pay bonuses when meeting or exceeding them. Caterpillar Project Consulting helps contractors achieve quality paving results on every job, every time. Our consultants offer an inclusive environment that is designed to help crews better understand the paving process and help them maximize payout of those challenging performance-based contracts.

### Service Training

Service training offers in-depth instruction for technicians, either at Caterpillar training centers or at customer locations. These sessions provide hands-on training in order to provide a better understanding of their machines and the complexities of asphalt compaction.

### Interactive Training Materials

Interactive, self-paced training materials incorporate a combination of multimedia graphics, narration, animation and video, making paving operations more profitable and crews more knowledgeable, without the additional travel expenses. Some of the products offered include:

- Fundamentals of Asphalt Compaction
- Fundamentals of Asphalt Paving
- Principles of Paving Operation
- Understanding Mat Defects
- Grade and Slope Operation
- Interactive Production Calculator



## Crew Training We Bring It To You

We help each crew member understand what their role is and how it effects the paving operation. Providing this type of understanding not only improves efficiency and quality, it also increases your profit.

### Paving Operations Training (POT)

Paving operations training is a structured course that emphasizes the fundamentals of asphalt paving. The training offers a mix of classroom and hands-on training, with hands-on training making up most of the time spent.

### Paving Operations Seminars (POS)

Regional Paving Operations Seminars offer localized training sessions at a reasonable cost. Participants choose from seminar offerings that match their training needs. Actual job site studies are used in order to focus the student's attention on real life situations.



# Vibratory System Specifications

## Five Amplitude Vibratory System

### Frequency: 42 Hz (2,520 vpm)

Nominal Amplitude	CB54		CB54 XW		CB64	
High	1.06 mm	0.042 in	0.96 mm	0.034 in	1.03 mm	0.040 in
Medium - high	0.91 mm	0.036 in	0.82 mm	0.032 in	0.95 mm	0.037 in
Medium	0.73 mm	0.029 in	0.66 mm	0.026 in	0.83 mm	0.032 in
Medium - low	0.54 mm	0.021 in	0.49 mm	0.019 in	0.65 mm	0.026 in
Low	0.33 mm	0.013 in	0.30 mm	0.012 in	0.41 mm	0.016 in
<b>Centrifugal Force Per Drum</b>						
High	110 kN	24,729 lb	110 kN	24,729 lb	138.2 kN	31,100 lb
Medium - high	94.7 kN	21,289 lb	94.7 kN	21,289 lb	127.5 kN	28,700 lb
Medium	75.5 kN	16,973 lb	75.5 kN	16,973 lb	111.7 kN	25,100 lb
Medium - low	56.2 kN	12,634 lb	56.2 kN	12,634 lb	87.7 kN	19,700 lb
Low	34.7 kN	7,801 lb	34.7 kN	7,801 lb	55.2 kN	12,400 lb

## Versa Vibe™ Vibratory System

### Frequency: 42 Hz (2,520 vpm)

Nominal Amplitude	CB54		CB54 XW		CB64	
High	0.86 mm	0.034 in	0.78 mm	0.031 in	0.67 mm	0.026 in
Low	0.73 mm	0.029 in	0.66 mm	0.026 in	0.57 mm	0.022 in
<b>Centrifugal Force Per Drum</b>						
High	88.8 kN	19,980 lb	88.8 kN	19,980 lb	88.8 kN	19,980 lb
Low	75.4 kN	16,965 lb	75.4 kN	16,965 lb	75.4 kN	16,965 lb

### Frequency: 63.3 Hz (3,800 vpm)

Nominal Amplitude	CB54		CB54 XW		CB64	
High	0.44 mm	0.017 in	0.40 mm	0.016 in	0.34 mm	0.013 in
Low	0.33 mm	0.013 in	0.30 mm	0.012 in	0.26 mm	0.010 in
<b>Centrifugal Force Per Drum</b>						
High	103.3 kN	23,243 lb	103.3 kN	23,243 lb	103.3 kN	23,243 lb
Low	77.5 kN	17,438 lb	77.5 kN	17,438 lb	77.5 kN	17,438 lb

## Dual Amplitude and Dual Frequency Vibratory System

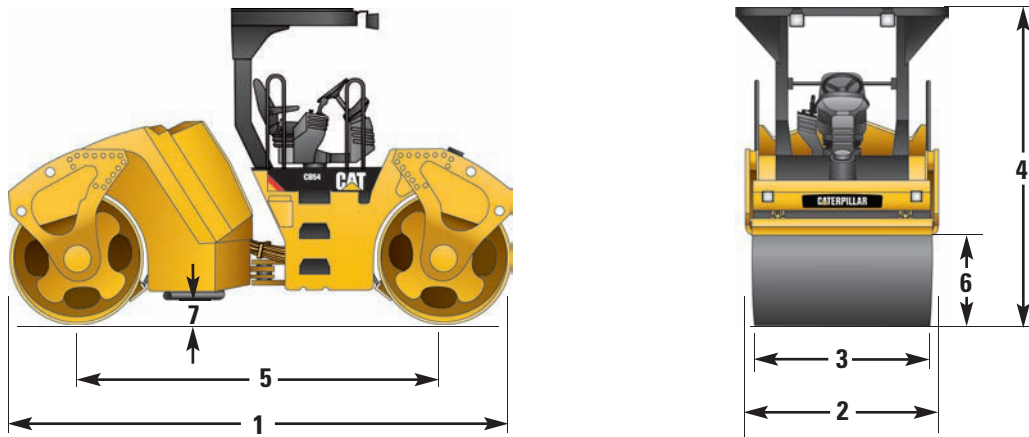
### Frequency: 42 Hz (2,520 vpm)

	CB54		CB54 XW	
Nominal Amplitude	0.85 mm	0.033 in	0.77 mm	0.030 in
Centrifugal Force	87.2 kN	19,620 lb	87.2 kN	19,620 lb

### Frequency: 63.3 Hz (3,800 vpm)

	CB54		CB54 XW	
Nominal Amplitude	0.34 mm	0.013 in	0.27 mm	0.010 in
Centrifugal Force	76.3 kN	17,167 lb	76.3 kN	17,167 lb

# Dimensions and Weights



Dimensions	CB54		CB54 XW		CB64	
1 Overall length	—		4934 mm	194 in	—	
2 Overall width	1905 mm	75 in	2205 mm	87 in	2335 mm	92 in
3 Drum width	1700 mm	67 in	2000 mm	79 in	2130 mm	84 in
Drum shell thickness	17 mm	0.67 in	17 mm	0.67 in	20 mm	0.79 in
Drum diameter	—		1300 mm	51 in	—	
4 Overall height at ROPS/FOPS	—		3071 mm	121 in	—	
5 Wheelbase	—		3640 mm	143 in	—	
6 Curb clearance	—		868 mm	34 in	—	
7 Ground clearance	—		217 mm	8.5 in	—	

## Operating Weights

Standard machine w/ROPS	10 804 kg	23,818 lb	11 898 kg	26,230 lb	12 980 kg	28,616 lb
Maximum machine	11 757 kg	25,920 lb	12 842 kg	28,312 lb	13 740 kg	30,291 lb
Static linear load (at drum)	31.8 kg/cm	178 lb/in	29.7 kg/cm	166 lb/in	30.5 kg/cm	170 lb/in

\* Maximum machine weight includes all attachments, full fluids and an 80 kg (175 lb) operator.

\* Standard operating weights include lubricants, coolant, 80 kg (175 lb) operator, full fuel tank, full hydraulic system and 1/2 full water tank.

## Miscellaneous

Steering (inside drum edge)	4.15 m	13 ft 8 in	4.0 m	13 ft 1 in	3.94 m	12 ft 11 in
Speed: (low)	—		0 - 7.3 km/hr	0 - 4.5 mph	—	
(high)	—		0 - 13 km/hr	0 - 8 mph	—	

## Refill Capacities

Fuel Tank	191 L	50 gal
Cooling System	22 L	5.8 gal
Engine Oil w/filter	9 L	2.4 gal
Hydraulic Tank	58.7 L	15.5 gal
Vibratory Bearing	20 L	5.3 gal
Water Spray Tank	1100 L	291 gal

## Optional Equipment

- Bio-Degradable Oil
- Drum Covers
- Freeze Protection Kit (Water Spray)
- Lighting Group (HID)
- Lighting Group (Drum Edge)
- Mirrors (CB54)
- Offset Hitch
- Product Link
- Vibratory System (Dual Amplitude, Dual Frequency - CB54, CB54 XW)
- Vibratory System (Versa Vibe™)
- Warning Beacon
- Water Distribution Mats (Cocoa)
- Water Distribution Mats (Rubber)

# CB54, CB54 XW and CB64 Vibratory Asphalt Compactors

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com)

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