Cat® 3056E Turbocharged Diesel Engine
Gross Power 129 kW/173 hp
Compaction Width 2134 mm
Operating Weight (with ROPS/FOPS cab) 18 800 kg

CS-683E
Vibratory Soil Compactor

Stage II Compliant

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat® 3056E Turbocharged Diesel Engine</td>
<td></td>
</tr>
<tr>
<td>Gross Power</td>
<td>129 kW/173 hp</td>
</tr>
<tr>
<td>Compaction Width</td>
<td>2134 mm</td>
</tr>
<tr>
<td>Operating Weight (with ROPS/FOPS cab)</td>
<td>18 800 kg</td>
</tr>
</tbody>
</table>
Reliability, Serviceability and Comfort in a Durable Package

The CS-683E Soil Compactor has been designed to offer enhanced production capabilities, simplified service and exceptional operator comfort.

Engine

✅ Cat 3056E Turbocharged Diesel Engine delivers 129 kW (173 hp) and is built for performance and reliability without sacrificing fuel economy. pg. 4

Dual Propel Pumps

The exclusive dual pump propel system provides a separate balanced hydraulic flow to both the rear drive axle and the front drum drive motor. This system enables the operator to achieve superior gradeability and maintain machine control while compacting on a grade. Dual pumps also minimize drum and wheel spin-out in loose underfoot conditions. pg. 4

Setting industry standards... again.

Based upon the industry-proven reputation of the Caterpillar D-Series Soil Compactors, the new E-Series establishes new standards for productivity, comfort and serviceability in the soil compaction industry.

✔ New feature
Vibratory System
Pod-style weight housings ensure peak vibratory performance and minimal service. Pods are replaceable and feature bearing lubrication change intervals of 3 years/3000 hours. pg. 5

Visibility
✓ The one-piece sloped hood design provides exceptional operator visibility to the outside edge of the rear tires and to the rear of the machine. pg. 6

Operator’s Station
Based on the successful Cat® G-Series Wheel Loader operator’s station, the E-Series Soil Compactors feature excellent operator comfort and visibility. A tilting steering column, propel lever wrist rest, grouped control gauges and conveniently located control switches enhance operator productivity and reduce fatigue. Four heavy-duty isolation mounts provide a smooth ride. pg. 6

Cab
The cab on the E-Series Soil Compactors is engineered to provide the operator unparalleled viewing area and comfort. Integrated, factory installed air conditioning is an option. The cab may be an option in some areas and standard in others. Consult your dealer. pg. 6

Serviceability
✓ The newly designed one-piece fiberglass hood tilts forward to allow access to the engine and daily maintenance points.
✓ A ground level lockable service door provides convenient access to the fuel fill port. Steps to the operator platform swing-out for easier access and replacement of the hydraulic oil filters. The operator’s station tilts forward to provide access to the hydraulic pumps. pg. 7
Caterpillar 3056E Turbocharged Electronic Diesel Engine

Industry-proven Caterpillar technology designed to provide unmatched performance, reliability and fuel economy with ample power for the most demanding jobs.

Turbocharged air-to-air aftercooling. It provides improved fuel economy by packing cooler, denser air into cylinders for more complete combustion of fuel and lower emissions.

Electronic Control Module. The Electronic Control Module (ECM) provides improved emissions and optimal performance through electronic timing and fuel delivery along with advanced troubleshooting and diagnostic capabilities using Electronic Technician (ET).

Highly-efficient combustion chamber. It increases power while lowering fuel consumption, engine emissions and noise.

High displacement-to-power ratio. It ensures long life and provides outstanding reliability and durability.

Oil cooler. The large oil cooler reduces oil deterioration and varnishing of internal components. Allows for 500 hour engine oil change intervals.

Emission requirements. This engine meets EU directive 97/68/EC Stage II emission requirements.

Dual Pump Propel System

Superior tractive effort and gradeability for outstanding productivity in demanding environments.

Dual propel pumps provide separate, balanced flow to the rear wheel axle and the drum drive motors to help prevent spin-out in soft material; improves gradeability.

Limited slip differential provides balanced tractive effort to both rear wheels.

Two speed ranges for versatile operation. Low speed range for vibratory operation and maximum torque when grade climbing. High speed range moves machine quickly over longer distances.

Flushing valves in each propel circuit helps keep hydraulic oil cool and clean.

High travel speed up to 11.3 km/h.

1 Dual Propell Pumps
2 Caterpillar 3056ATAAC Engine
3 Limited Slip Differential
4 Rear Wheel Drive Motor
5 Drum Drive Motor
Vibratory System

The pod-style weight system, proven reliable on D-Series Soil Compactors, delivers superior compactive force while offering serviceability advantages.

Pod-style weight housings are assembled and sealed at the factory to ensure cleanliness, longer bearing life and easier field exchange or service.

Dual amplitude works efficiently in a wider range of applications. Changeable from the operator’s station.

Vibratory Frequency of 30 Hz for maximum compaction results.

Large heavy-duty bearings for the eccentric weight shaft allow higher frequency for greater force.

3 year/3000 hour vibratory bearing lube service interval for reduced maintenance.

Improved isolation mounts allow more force to be transmitted to the ground and less vibration to the operator.

1 Pod-style Weight Housings
2 Patented Eccentric Weights
3 Heavy-duty Bearings
4 Isolation Mounts

Patented Eccentric Weights

Reliable dual amplitude selection and innovative design ensure precise performance.

Simplified control from the operator’s station with a selection switch on the operator’s console.

Positive amplitude selection is accomplished when the spherical steel shot is repositioned inside the hollow eccentric weight. Direction of weight shaft rotation determines amplitude.

Improved reliability no chance of shot wedging together. System reliability is superior to swinging mechanical weights.

Longer service life no heavy weights to slam together, no metal fragments to contaminate the bearing system.
Operator’s Station
Ergonomically designed for maximum operator productivity. Optional cab offers excellent visibility and unmatched comfort.

Single lever control for propel and vibratory On/Off provides simple and low effort operation. Padded adjustable wrist rest helps reduce operator fatigue.

Steering console and operational gauges are infinitely adjustable within the tilt range to the desired position of the operator. Entire console tilts for simple entrance and exit.

Full-length glass windshield provides exceptional visibility to the drum and articulation area.

Comfortable and durable seat is fully adjustable to include fore/aft position, bottom cushion height, suspension stiffness and flip-up arm rests.

Isolated operator’s station with four heavy-duty rubber mounts reduce machine vibration transmitted to the operator.

One-Piece Hood Design
The new one-piece fiberglass hood design provides excellent service access and exceptional operator visibility.

The sloped hood allows the operator to see obstacles measuring 1 meter high located 1 meter to the rear of the machine. Visibility in front of the machine is equally as good. Excellent for working near obstructions or when maneuvering around the job site.

One-piece fiberglass hood opens quickly and easily with the use of gas struts to provide unrestricted access to the engine, cooling system and all service points.

Low sound levels for the operator and the ground crew due to the one-piece hood design and the rear-mounted remote cooling package.
Serviceability
Simplified service access, extended service intervals and convenient daily inspection area minimizes maintenance time and increases work time.

Swing-out steps allows access to hydraulic oil filters for easier access and replacement.

Visual indicators allows easy check of radiator coolant, hydraulic oil tank and filters, and air restriction indicator.

One piece fiberglass hood tilts forward for access to the engine and cooling system. Service points are accessible from ground level and are grouped on one side of the engine.

Operator’s station tilts forward to allow convenient access to the hydraulic pumps.

Sealed-for-life bearings in the articulation hitch never need to be greased.

3 year/3000 hour vibratory bearing lube service interval for reduced maintenance.

Quick connect hydraulic test ports simplify system diagnostics.

Electrical wiring is color-coded and numbered to simplify troubleshooting.

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

Maintenance-free Caterpillar batteries are protected by bolt-on covers in the rear of the machine on both sides. Caterpillar batteries are specifically designed for maximum cranking power and protection against vibration.

Scheduled Oil Sampling (S•O•S) ports allow for simple fluid collection.

Factory Reman parts are a cost-effective and reliable solution to keep your machines productive. Caterpillar offers a large choice of Reman components.

Ground level service door provides convenient access to the lockable fuel fill port.

The one piece fiberglass hood tilts for exceptional access to the engine and cooling system. Service points are accessible from ground level and are grouped on one side of the engine.
Engine

Four-stroke cycle, six cylinder Caterpillar® 3056E turbocharged low emissions diesel engine.

Ratings at 2200 rpm kW hp
Gross power 129 173
Net Power
EEC80/1269 123 165
ISO 9249 123 165

It meets EU Stage II emission requirements.

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. Above ratings apply at 2200 rpm when tested under the specified standard conditions.

Dimensions

Bore 100 mm
Stroke 127 mm
Displacement 6.0 Liters

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

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 two-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 toggle switch at the operators console triggers an electric over hydraulic control to change speed ranges.

Speeds (forward and reverse):
Low Range 5.7 km/h
High Range 11.3 km/h

Sound

Operator Sound. The operator sound level measured according to the procedures specified in ISO6394:1998 is 76 dB(A), for cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed.

Exterior Sound. The labeled spectator sound power level measured according to the test procedures and conditions specified in 2000/14/EC is 112 dB(A).

Vibratory System

Drum diameter (over drum) 1524 mm
Drum width 2134 mm
Drum shell thickness 40 mm
Eccentric weight drive Hydrostatic drive
Frequency 30 Hz
Nominal Amplitude
High 1.8 mm
Low 0.9 mm

Centrifugal Force at 30 Hz
Maximum 332 kN
Minimum 166 kN

Weight at Drum (with ROPS/FOPS cab)
13 300 kg

Linear Force*
Static 62.3 kg/cm
Centrifugal 1.56 kN/cm

* Meets NFP 98736 class: VM5

Operator and Machine Protective Equipment

Roll Over Protective Structure/Falling Object Protective Structure (ROPS/FOPS) canopy is a four-post structure that bolts directly onto flanges welded to the operator platform. The structure meets ISO 3449-1998. This structure may be an option in some areas and standard in others. Consult your dealer.

Backup Alarm – 112 dB(A) alarm sounds whenever the machine is in reverse. The backup alarm has three sound levels that can be changed with a switch located on the alarm.

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    | 3.68 m |
| Outside  | 5.81 m |

Steering angle (each direction) ± 34°

Oscillation angle (each direction) ± 15°

Hydraulic system

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

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. Axle width: 1.67 m

Tires

587x 660 mm 12-ply flotation

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 and within the rear axle. 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.

* Braking system meets EN500-1995.

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. Two vertical pins provide a steering angle of ± 34° and a horizontal pin allows frame oscillation of ± 15°. Sealed-for-life hitch bearings never need greasing or shimming.

Electrical

The 24-volt electrical system consists of two maintenance-free Cat batteries, color-coded and numbered wiring wrapped in nylon braid. The starting system provides 750 cold cranking amps (cca). The system includes a 55-amp alternator.

Instrumentation

Alternator Light, Hour Meter, Fuel Gauge, Horn, Audible Warning Horn for the: Engine Oil Pressure Light, Engine Coolant Temperature Light, Hydraulic Oil Temperature Light, Low Charge Pressure Light.

Operating Weights

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

<table>
<thead>
<tr>
<th>Weight</th>
<th>kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>with open platform</td>
<td>18 200</td>
</tr>
<tr>
<td>with ROPS/FOPS canopy</td>
<td>18 500</td>
</tr>
<tr>
<td>with ROPS/FOPS cab</td>
<td>18 800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight at drum</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>with open platform</td>
<td>13 100</td>
</tr>
<tr>
<td>with ROPS/FOPS canopy</td>
<td>13 200</td>
</tr>
<tr>
<td>with ROPS/FOPS cab</td>
<td>13 300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service Refill Capacities</th>
<th>Liters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel tank</td>
<td>300</td>
</tr>
<tr>
<td>Cooling system</td>
<td>35</td>
</tr>
<tr>
<td>Crankcase</td>
<td>14</td>
</tr>
<tr>
<td>Vibratory bearing lube</td>
<td>24</td>
</tr>
<tr>
<td>Differential and final drives</td>
<td>24</td>
</tr>
<tr>
<td>Hydraulic system</td>
<td>80</td>
</tr>
<tr>
<td>Filtration system (pressure type)</td>
<td></td>
</tr>
<tr>
<td>Propel</td>
<td>15 micron absolute</td>
</tr>
<tr>
<td>Vibratory</td>
<td>15 micron absolute</td>
</tr>
</tbody>
</table>
### Dimensions

![Diagram of compactor dimensions](image)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Operating length</td>
<td>6.00 m</td>
</tr>
<tr>
<td>B Max. machine width</td>
<td>2.46 m</td>
</tr>
<tr>
<td>Outside turning radius</td>
<td>5.81 m</td>
</tr>
<tr>
<td>Inside turning radius</td>
<td>3.68 m</td>
</tr>
<tr>
<td>C Compaction width</td>
<td>2.13 m</td>
</tr>
<tr>
<td>D Drum diameter</td>
<td>1524 mm</td>
</tr>
<tr>
<td>E Height at ROPS/ROPS canopy</td>
<td>3.02 m</td>
</tr>
<tr>
<td>F Height at ROPS/ROPS cab</td>
<td>3.02 m</td>
</tr>
<tr>
<td>G Ground clearance</td>
<td>525 mm</td>
</tr>
<tr>
<td>H Wheelbase</td>
<td>2.90 m</td>
</tr>
</tbody>
</table>

### Total Customer Support System

**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.

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

**Remanufactured parts** – pumps and motors, engines, fuel system and charging system components available from dealer at 20 - 50% of new part cost.

**Service capability** – dealer’s shop or fast field service by trained technicians using latest tools and technology.

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

**Flexible financing** – your dealer can arrange attractive financing on the entire line of Caterpillar equipment. Terms structured to meet cash flow requirements. See how easy it is to own, lease or rent Cat equipment.
Optional Equipment
Some options listed may be an option in some areas and standard in others. Consult your dealer.

Roll Over Protective Structure/Falling Object Protective Structure (ROPS/FOPS) canopy is a four-post structure that bolts directly onto flanges welded to the operator platform. The structure meets ISO 3471-1994.

**ROPS/FOPS Cab** includes a cloth seat, one access door, tinted safety glass windows, electric wipers front and rear, heater/defroster, two vertically sliding side windows for ventilation, two exterior rear view mirrors, two front and two rear working lights, interior dome light and coat hook. Cab is fully EROPS rated and meets ISO 3449-1992 and ISO 3471-1994.

**Air Conditioning** integral system provides operator comfort for cab configurations working in higher ambient temperatures.

**Sun Visor** for the front windshield can be installed on machines equipped with a ROPS/FOPS cab.

**Roll-Down Sun Screen** for the rear window can be installed on machines equipped with a ROPS/FOPS cab.

**Rear View Mirrors** are available for internal use on machines equipped with a ROPS/FOPS cab or external use on machines equipped with a ROPS/FOPS canopy.

**Operator Platform/Cab Lift Cylinder** is available and provides a hydraulic cylinder to raise and lower either the operator platform or cab.

**Vibratory Tachometer** is mounted on the console in front of the operator and displays the actual vibratory system frequency. Most useful when ordering the variable frequency option.

**Engine Tachometer** displays engine speed (rpm) on an analog dial. Available as a Custom Shop Order (CSO).

**Variable Frequency** is an electronic displacement control on the vibratory pump that is controlled by a frequency dial on the operator’s station. Engine rpm remains unchanged for maximum hydraulic pump flow and torque to drive the vibratory motor. Frequency range from 23.3-30 Hz makes it easier to match frequency, amplitude and working speed to job conditions.

**Recording Module** provides a visual gauge for reading work time, machine speed, distance covered and amplitude selection.

**Compaction Indicator** provides a single display indicating material density on a LED panel. Integral LCD display shows travel speed and compaction meter value. Available as a Custom Shop Order (CSO), ROPS/FOPS cab recommended.

**Compaction Meter Group** assists the operator in determining compaction of material. Consists of a frequency gauge, a compaction value gauge and resonance value gauge. Available as a Custom Shop Order (CSO).

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

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

**Steel Drum Scraper** mounted at the rear of the drum.

**Urethane Drum Scrapers** for CS-683E provides a front and rear scraper for continuous contact with the drum surface and replaces the standard steel scraper.

**Tires** with wheel loader design tread 20.5 R25, radial (L-2), 12-ply tubeless for smooth drum machines and offers enhanced durability in harsh applications.

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

**Speedometer**