



**CS-563**  
**CP-563**

## **SINGLE DRUM VIBRATORY SOIL COMPACTORS**

- Tandem Propel Pumps...for constant, equalized flow to rear wheel and drum drive motors
- Patented Eccentric Weight System...simplifies changing amplitude and improves vibratory system reliability
- Dual Amplitude...broadens application range
- Variable Frequency...independent of engine rpm so engine works at full power at all times
- Total Customer Support System...Caterpillar reliability and world-wide dealer network.

■ Cat 3116T Turbo-charged Diesel Engine	
Flywheel power.....	115,5 kW/145 hp
■ Operating weight	
CS-563 .....	11 130 kg/24,500 lb
CP-563 .....	11 580 kg/25,500 lb

Machine shown may have optional equipment.





# SPECIFICATIONS



## Caterpillar Engine

Gross power @ 2200 rpm  
115,5kW/145 fwhp

Caterpillar 3116T Diesel

*Gross horsepower based on SAE J1349 standard conditions 25 C/77F and 100 kPa/29.61" hg using 35 API gravity fuel and engine equipped with fuel, lube oil and jacket water pumps. No derating required up to 2134 m/7000 ft. altitude.*

4-stroke/cycle diesel engine with 6 cylinders, 105 mm/4.12" bore, 127 mm/5.0" stroke and 6,6 l/403 cu in displacement.

Air cleaner, dry type with restriction indicator.

24-volt electrical starting system with 55-amp alternator. Two 12-volt batteries



## Transmission

Two variable displacement piston pumps supply pressure flow to two variable displacement piston motors. One motor drives the drum and the other drives the rear wheels.

The two pump system directs flow to the two drive motors. In case the drum or rear wheels lose traction, the other motor can still build pressures up to relief to provide additional torque.

The drive motors have two swashplate positions allowing operation at maximum torque for compaction and at low torque for greater working speed. A toggle switch at the operator's console triggers an electric over hydraulic control to change speed ranges. Speed changes to high range can be made anytime the machine speed is less than 5 km/hr/3 mph.

**Speeds** (forward and reverse)

First .....0-6,4 km/hr/4.0 mph

Second .....0-12,8 km/hr/8.0 mph

Gross gradeability\* .....47%

*\*Gross gradeability is a calculated rating of a unit's forward tractive effort under ideal conditions. Actual gradeability will vary depending on actual job conditions.*



## Axle

Heavy-duty fixed rear axle with a NoSPIN differential.

Axle width .....1675 mm/5'6"



## Final Drives

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

**Tires:**

CS-563 587 mm/23.1" x 660 mm/26" 8-ply flotation

CP-563 587 mm/23.1" x 660 mm/26" 8-ply traction



## 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 jointed by hardened steel pins. Two vertical pins provide a steering angle of +/-30 degrees and a horizontal pin allows frame oscillation of +/-15 degrees.



## Steering

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

**Minimum turning radius:**

Inside drum edge .....3800 mm/12'6"

Outside drum edge .....6170 mm/20'3"

Steering angle (each direction) .....30 degrees

Hydraulic system — two 76 mm/3" bore, double-acting cylinders powered by a vane type pump.



## Brakes

**Service** — Closed loop hydrostatic drive system provides dynamic braking during machine operation.

**Secondary** — Spring-applied, hydraulically released, multiple disc type brake mounted on the drum drive motor. Secondary brakes are activated by: 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 prevents driving through the secondary brake.

*Braking systems meet SAE recommended practice J1472.*



## Service Refill Capacities

Fuel tank .....254 l/67 gal

Cooling system .....38 l/10 gal

Crankcase .....15,1 l/4 gal

Vibratory bearing lube .....54,7 l/14.5 gal

Differential & final drives .....16,0/4.25 gal

Hydraulic system .....132 l/35 gal

Filtration systems (pressure type)

Propel & Vibratory .....6 micron absolute



### Weights (approximate)

Operating weights include lubrications, coolant, 79 kg/175 lb operator, ROPS structure, full fuel tank and hydraulic system.

	CS-563	CP-563
Operating (Std) .....	11 130 kg	11 580 kg
	<b>24,500 lb</b>	<b>25,500 lb</b>
Operating (Opt Blade) .....		12 130 kg
		<b>26,700 lb</b>
Shipping (Std) .....	10 900 kg	11 360 kg
	<b>24,000 lb</b>	<b>25,000 lb</b>
Shipping (Opt Blade) .....		11 900 kg
		<b>26,200 lb</b>



### Vibratory System

Drum diameter (over drum):

CS-563 .....1524 mm/60"

CP-563 .....1295 mm/51"

Drum diameter (over pads): CP-563 .....1549 mm/61"

Drum width .....2134 mm/84"

Drum shell thickness .....25 mm/1"

#### Pads (CP-563 only):

Number of pads .....140

Pad height .....127 mm/5"

Pad face area .....8942 mm sq/13.86 in sq

Number of chevrons .....10

Pads per chevron .....14

Eccentric weight drive .....Hydrostatic drive

Frequency ...23.3 HZ/1400 vpm to 30 HZ/1800 vpm

*(Independent of engine rpm)*

#### Nominal Amplitude

High (CS-563) .....1,70 mm/.067"

(CP-563) .....1,55 mm/.061"

Low (CS-563) .....1,19 mm/.047"

(CP-563) .....1,09 mm/.043"

#### Centrifugal force @ 1800 vpm:

Maximum .....22 680 kg/50,000 lb

Minimum .....15 900 kg/35,000 lb

#### Weight at drum

CS-563 .....5950 kg/13,073 lb

CP-563 .....6320 kg/13,890 lb

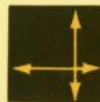
PLI (CS-563):           **Static**                   **Centrifugal**

28 kg/cm                   106 kg/cm

**155 lb/in**                   **595 lb/in**

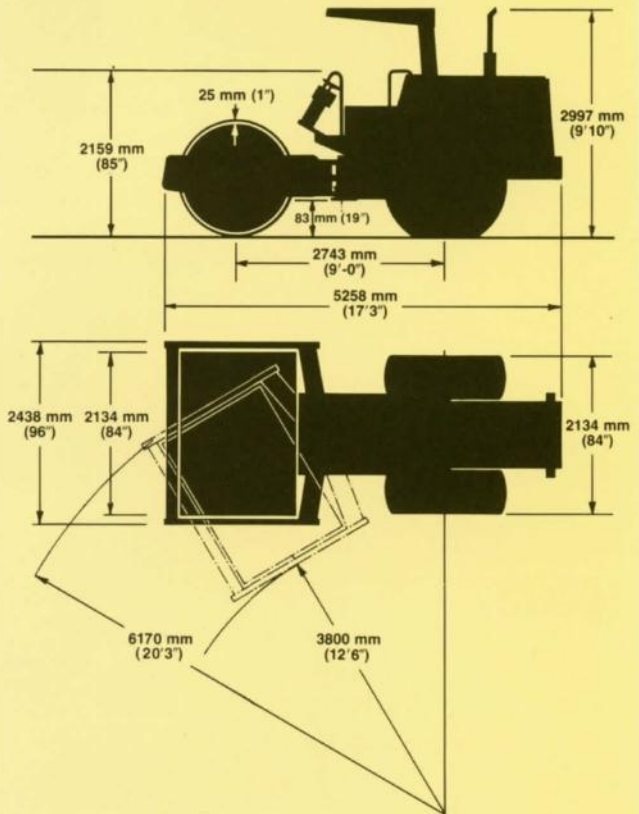
PSI (CP-563):           28 kg/cm<sup>2</sup>                   101 kg/cm<sup>2</sup>

**401 lb/in**                   **1444 lb/in**<sup>2</sup>



### Dimensions

Length .....	5258 mm/17'3"
Width .....	2438 mm/8'0"
Height .....	2997 mm/9'10"
Drum width .....	2134 mm/7'0"
Axle width .....	2134 mm/7'0"
Tires .....	23.1" x 26" 8-ply ANS



### Instrumentation

- Hour Meter
- Engine water temperature gauge
- Fuel gauge
- Hydraulic oil temperature gauge
- Engine oil pressure gauge
- Vibratory tachometer
- Horn





## Operator and Machine Protective Equipment

**Roll Over Protection Structure (ROPS)** — A two post type ROPS is standard equipment. It bolts onto flanges integral with the machine frame and has an overhead canopy with Falling Objects Protection Structure (FOPS) rating.

*The structure meets SAE recommended practice J1040c for roll over protection structure.*

**Backup Alarm** — 117 dB alarm is standard and sounds whenever the machine is in reverse.

*Meets SAE recommended practice J994 for backup alarm.*

**Seat Belt** — 76,2 mm/3" wide seat belt is standard.



## Optional Equipment

**Leveling Blade** — Heavy-duty leveling and backfilling blade is designed to bolt onto the drum yoke of the CP-563. Complete unit includes blade, push arms, field removable bolt-on connectors, reversible/replaceable cutting edges, replaceable wear plates, a heavy-duty hydraulic lift cylinder and control valve. Mold-board is constructed of



multiple box sections. Blade measures 2740 mm/9' wide and 660 mm/26" high. Maximum depth of cut is 76.2 mm/3".

**ROPS Cab** — Cab includes:

- One access door
- Tinted safety glass windows
- Electric wipers, front and rear
- Heater/defroster
- Two swing open side windows for ventilation
- Two exterior rear view mirrors
- Interior dome light
- Coat hook

*Cab is fully EROPS rated and meets SAE recommended practice J1040.*

**Smooth Drum Conversion Kit for CP-563** — Interchangeable with the padded drum, includes all internal components plus external drum cleaner bars. It does not include hydraulic motors. Conversion time is approximately six hours. Drum dimensions and performance are the same as on the CS-563.

**Working Light Package\*** — For illumination of immediate work area under dim or dark conditions. Four flood lights are positioned two forward and two back.

*\*This system is intended for use under working conditions and not for highway transport purposes.*

## Value Analysis

### Productive Operation

- Sized to handle high-production jobs.
- Unobstructed visibility and ease of operation.
- High dynamic force.
- Dual amplitude for better matching to application.

### Rugged Construction

- Reliable, heavy-duty Cat diesel engine.
- Large, efficient hydraulic motors and pumps.
- Heavy-duty drive train.

### Simplified Maintenance

- Easy, open access to engine and hydraulic components.
- Hydraulic test ports allow easy systems monitoring.
- Grouped service points.

### Operator Benefits

- Easy-to-understand low-effort controls.
- Priority demand steering.
- Operator's station is fully isolated from drum vibration.

### High Traction

- Two-speed hydrostatic drive.
- Heavy-duty axle with NO-SPIN differential.
- Dual pump arrangement.
- Excellent vertical gradeability in forward and reverse.

**CATERPILLAR**<sup>®</sup>