

PS300C PF300C

Pneumatic Tire
Compactors



Stage II Compliant

Cat® 3054C Turbocharged Diesel Engine

Gross power	75 kW/ 100 hp
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Maximum operating weight with Cab and ROPS

PS300C and PF300C	21 300 kg
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PS300C AW and PF300C AW	23 400 kg
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Maximum weight per wheel

PS300C and PF300C	3000 kg
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PS300C AW and PF300C AW	3300 kg
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Reliability and Versatility You Can Depend On

These machines are ideal for applications such as asphalt wearing courses and binder courses as well as compaction of natural soils and materials stabilized with lime or cement.

Engine

- ✓ Powered by the 75 kW (100 hp) Caterpillar 3054C turbocharged diesel engine the PS/PF300C meets EU directive 97/68/EC Stage II emission requirements. No derating required up to 2130 m altitude. **pg. 4**

Operator's Station

The PS/PF300C provide a spacious and comfortable working environment with all controls, levers, switches and gauges positioned to maximize productivity. **pg. 6**

Visibility

The sloped hood design and low rear profile provide unrestricted visibility to the front and rear of machine. **pg. 5**

Power Train

- ✓ The PS/PF300C powershift transmission is fitted with the new softshift function that allows smooth direction and speed changes while providing lasting reliability **pg. 4**

Cab with ROPS Structure

The optional clean quiet spacious cab can increase machine utilization by reducing strain on the operator and providing greater year-round comfort. **pg. 5**

Performance and Ease of use you deserve.

Based upon the industry-proven reputation of the Caterpillar® PF/PS300B Pneumatic Tire Compactors, the new PF/PS300C establishes new standards for productivity and reliability in the compaction industry.

Durable Cat engine, soft-shift transmission and the world's largest and most dedicated dealer support system ensure the PF/PS300C Pneumatic Tire Compactors will provide maximum utilization.

✓ *New feature*



Suspension

Proven suspension design with hydraulic cylinders helps to eliminate bridging of soft spots, regardless of ground surface. When compacting material with low or high spots, wheels don't lose contact with the surface providing even compaction, no matter the surface. **pg. 8**

Rear Wheel Configurations

The PS300C rear wheels are mounted on hydraulic cylinders that interconnect with the front wheels in order to provide equal weight per wheel, regardless of ground conditions. The PS300C is well-suited for compaction jobs that vary from base to wearing course material. The PF300C offers fixed rear wheels making it well-suited for surface course jobs. **pg. 9**

Serviceability

- ✓ The wide-opening engine hood and tilting cab or operator's platform offer easy access to power train components. Routine maintenance points are accessible from engine compartment. Visual indicators allow easy check of radiator coolant, hydraulic oil tank level and air restriction indicator. The engine hood opens quickly with the use of two gas charged struts to provide unrestricted access to the engine and cooling system. Standard 500 hour oil service interval reduces operating costs. **pg. 7**

Reliability and Compaction quality you can trust.

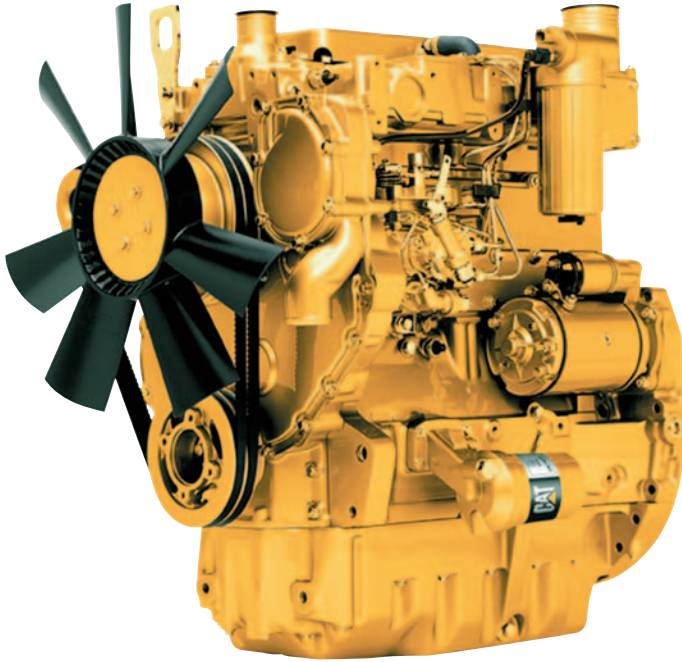
Durable field-proven power train and hydraulic systems and the world's largest and most dedicated dealer support system ensure the PS/PF300C Pneumatic Tire Compactors will provide maximum utilization.

The PS300C and PF300C will achieve outstanding compaction results regardless the application with its proven suspension design and flexible weight adjustment.



Caterpillar® 3054C Diesel Engine

High-tech four cylinder engine provides outstanding durability, performance and operating economy.



Turbocharger. The PS300C and PF300C are turbocharged for top performance and efficiency even at high altitudes with no derating required up to 2134 m.

Direct injection fuel system. Adjustment-free direct injection fuel system provides individually metered high-pressure, direct injection of fuel for maximum efficiency.

High displacement-to-power ratio. It ensures long life and exceptional reliability.

Oil cooler. Engine oil cooler keeps the engine running cool and maintains the oil integrity.

Oil pump. Low-mounted oil pump for quicker startup lubrication.

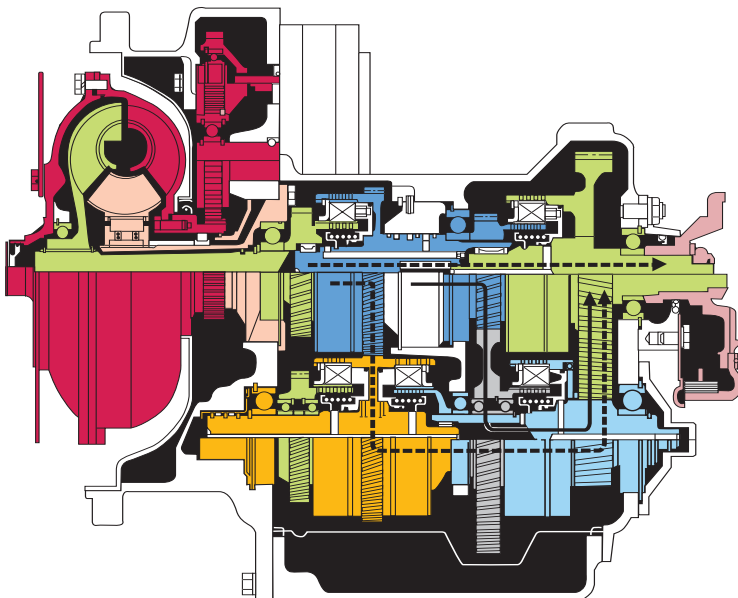
Fuel filters and water separator. Dual fuel filters and water separator offer superior protection for the unit injection system.

Air inlet heater. It helps cold weather starting.

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

Power Train

Allows smooth operation while providing lasting reliability.



Powershift transmission. The PS/PF300C powershift transmission is fitted with the new softshift function that allows smooth direction and speed changes.

Three speeds forward. The transmission provides three speeds forward and reverse that allows travel speeds up to 19 km/h.

Traction control. The Traction Control system provides better tractive effort in slippery conditions.

Excellent Forward and Rearward Visibility

The sloped hood design and low rear profile provide unrestricted visibility to the front and rear of machine.



Visibility. Excellent forward and rearward visibility allows the operator to see objects 1 meter high and 1 meter in front and rear of the machine.

Visibility in all directions.

Excellent visibility in all directions increases productivity for working near obstructions or maneuvering around the job site.

Enclosure and low-profile rear end.

The sloped engine enclosure and low-profile rear end provide excellent sight lines to ground personnel working near machine.

Visibility from inside the cab.

Operator console slides into four different positions, and seat pivots to 30° to provide maximum visibility from inside the cab.

Optional Cab with ROPS structure

Optional cab can increase machine utilization and provides greater year-round comfort.



Spacious environment. Clean quiet spacious environment reduces strain on the operator and provides ample room for comfortable operation.

Mirrors. Two exterior rear view mirrors are included with cab.

Wipers. 2 Windshield wipers on front and 1 rear windows allow clear vision in adverse conditions.

Windows. Slide-open side windows for cross ventilation.

Climate control. The cab is fitted with a standard heater and defroster for maximum operator comfort.

Operator's station

Ergonomically designed for maximum operator productivity while offering unmatched comfort and excellent visibility.



Spacious working environment.

Spacious and comfortable working environment with all controls, levers, switches and gauges positioned to maximize productivity.

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

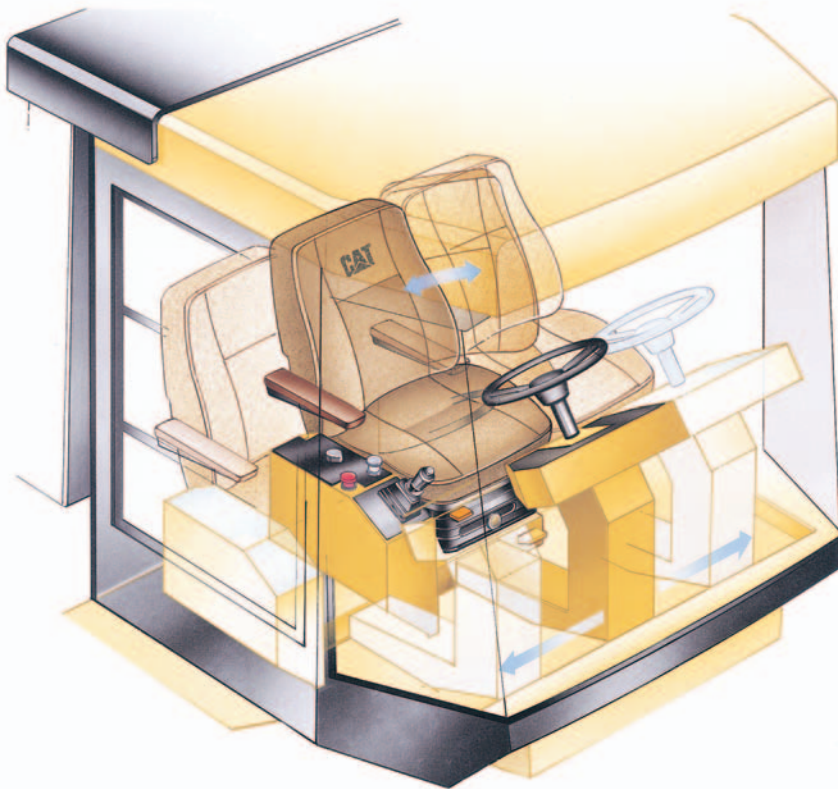
Gauges and controls. They move with the console and the seat for easy operation.

Instrument panel. For easy reference during machine operation, the instrument panel integrates the following gauges: speedometer, hourmeter, transmission oil temperature, engine coolant temperature, engine oil pressure and fuel level. The following gauges are visible from any seated position: clutch pressure, tire pressure (option), and wheel load (option).

The instrument panel also contains the start switch and five warning indicators: low oil pressure in brake circuits, hydraulic filter restriction, turn signals, traction control activated and alternator malfunction. A glow plug starting aid switch is used to assist engine starting in cold weather.

Control panel. The control panel with grouped switches puts all controls within easy operator reach.

Lockable cover. The lockable cover, only available with the open platform, protects instrumentation and gauges.



Reliability and Serviceability

The PS300C and PF300C Pneumatic Tire Compactors provide exceptional reliability and serviceability that you've come to expect from Caterpillar.



Routine maintenance points. They are accessible from engine compartment. Visual indicators allows easy check of radiator coolant, hydraulic oil tank level and air restriction indicator. The engine hood opens quickly with the the use of two gas charged struts to provide unrestricted access to the engine and cooling system.

Operator's station. The wide-opening engine hood and tilting cab or operator's platform offer easy access to power train components.

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

Electrical wiring and connectors.

The electrical wiring is color-coded and numbered to simplify troubleshooting.

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

Caterpillar batteries. Maintenance-free Caterpillar batteries are mounted in the front of the machine and are protected by the left ballast compartment. Caterpillar batteries are specifically designed for maximum cranking power and protection against vibration.

Simple fluid collection. S•O•SSM

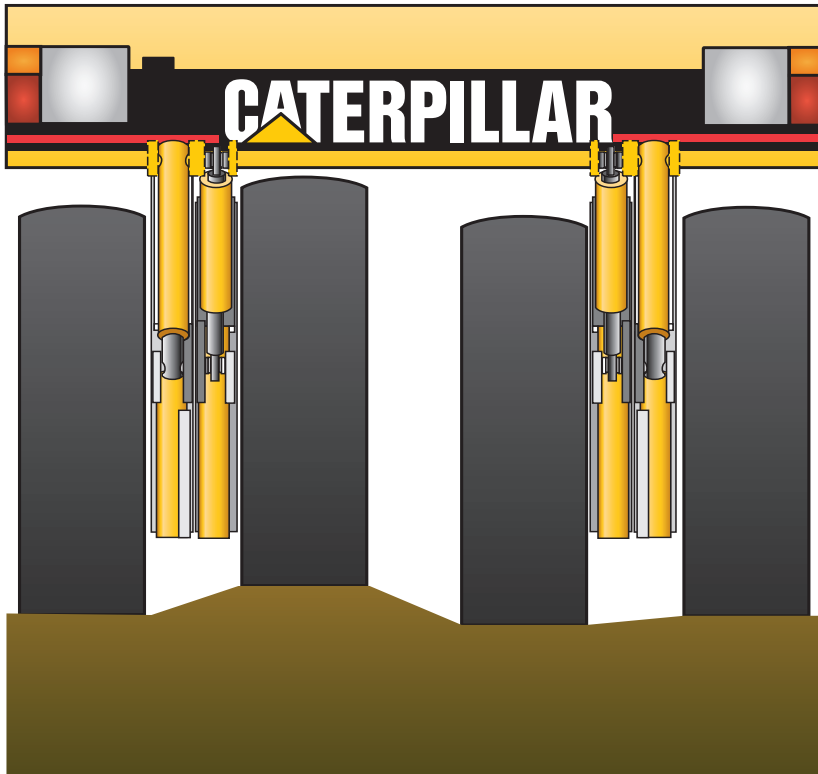
(Scheduled Oil Sampling) ports allow for simple fluid collection of engine oil, engine coolant and hydraulic oil.

Hydraulic test. Quick connect hydraulic test ports simplify system diagnostics.

Suspension

Proven design helps to eliminate bridging of soft spots, regardless of ground surface.

Cat PS300C (rear suspension)

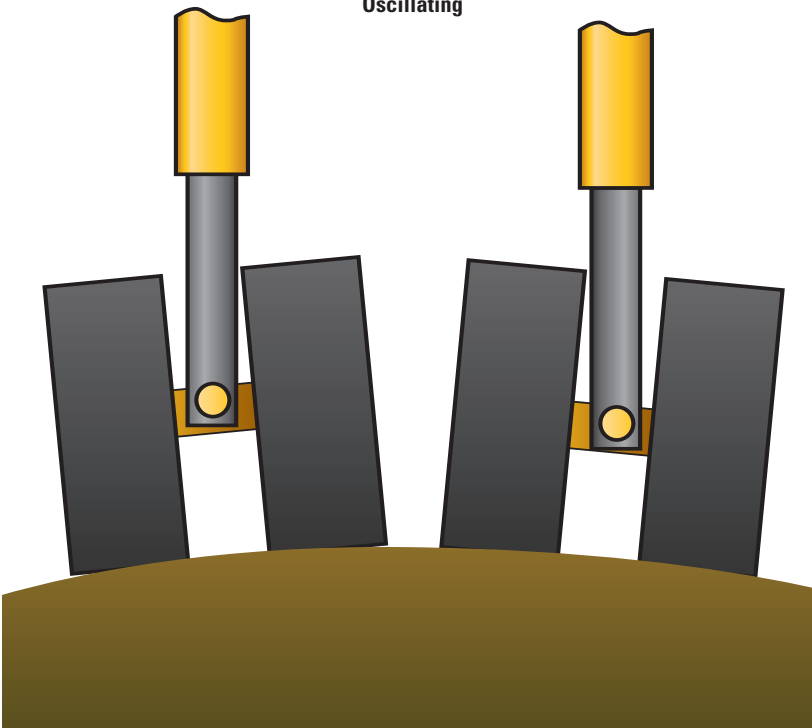


Front wheels. Front wheels for PS and PF version are mounted on hydraulic cylinders. (PS version has rear wheels on cylinders as well.) The vertical movement of the cylinders provide compaction on soft surfaces.

Large vertical displacement. For stability when compacting grades. When compacting material on uneven grades, the wheels stay in contact with the surface providing even compaction.

Vertical movement of the wheels. The true vertical movement of the wheels eliminate horizontal forces that can be introduced with a typical oscillating suspension.

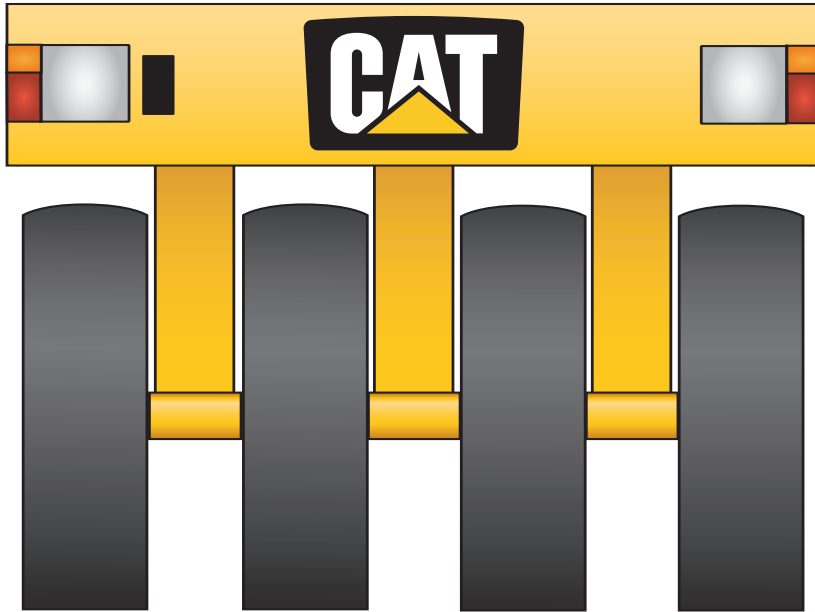
Oscillating



PS and PF Rear Wheel Configurations

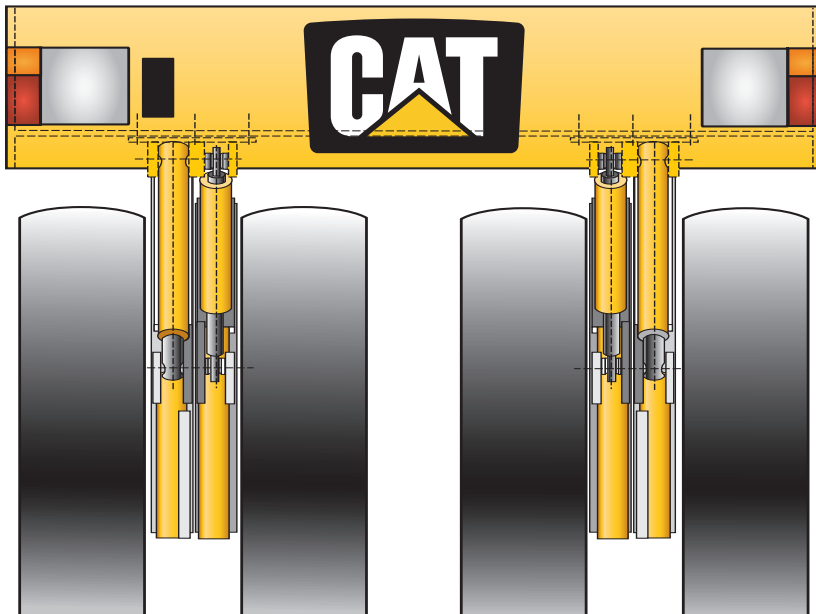
The PS and PF configurations are complementary to provide in all job applications uniform compaction and smooth surface finish.

PF version



Fixed rear wheels. PF300C has fixed rear wheels making it well-suited for surface course jobs.

PS version



Inner rear wheels. PS300C inner rear wheels are mounted on hydraulic cylinders that interconnect with the front wheel. Provides equal weight per wheel, regardless of ground conditions. The PS300C is well-suited for compaction jobs that vary from base to wearing course material.

Ground Pressure Chart

The table below indicates, for the standard version, the ground contact pressure for different wheel loads and tire inflation pressures.

Wheel load with E20 Pilote x Michelin smooth tread compactor tires

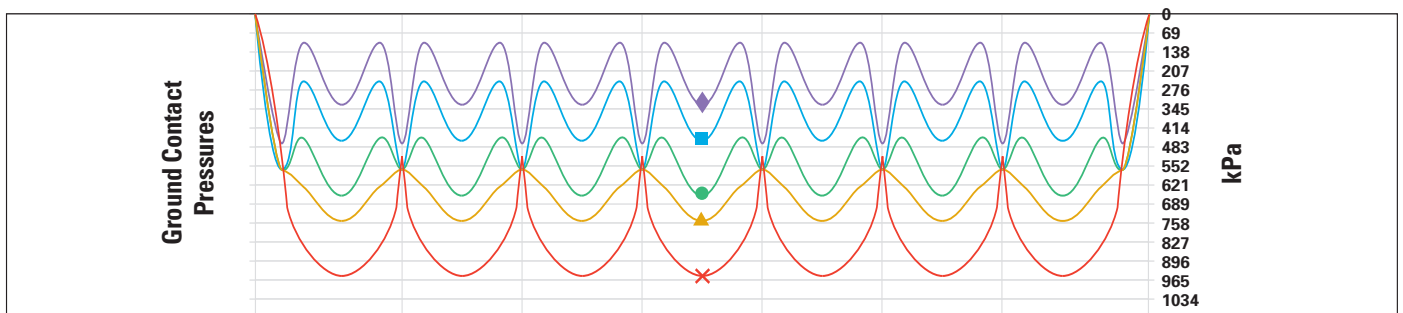
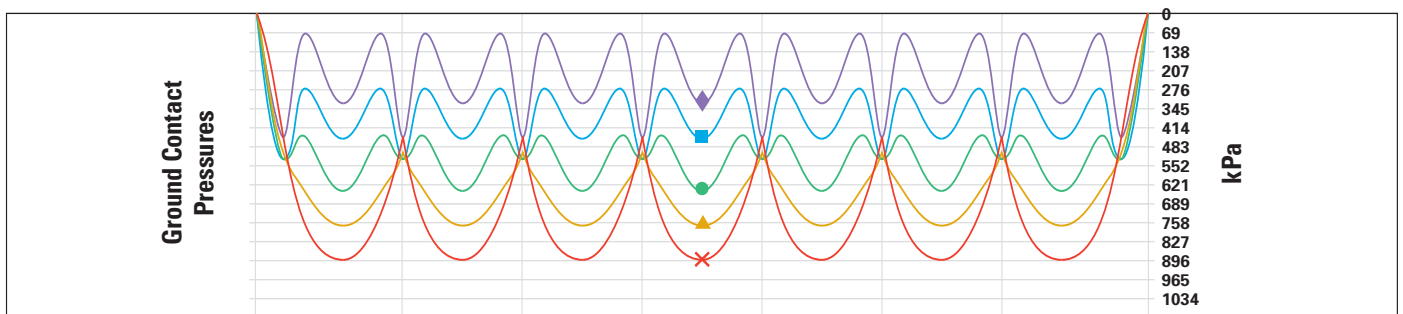
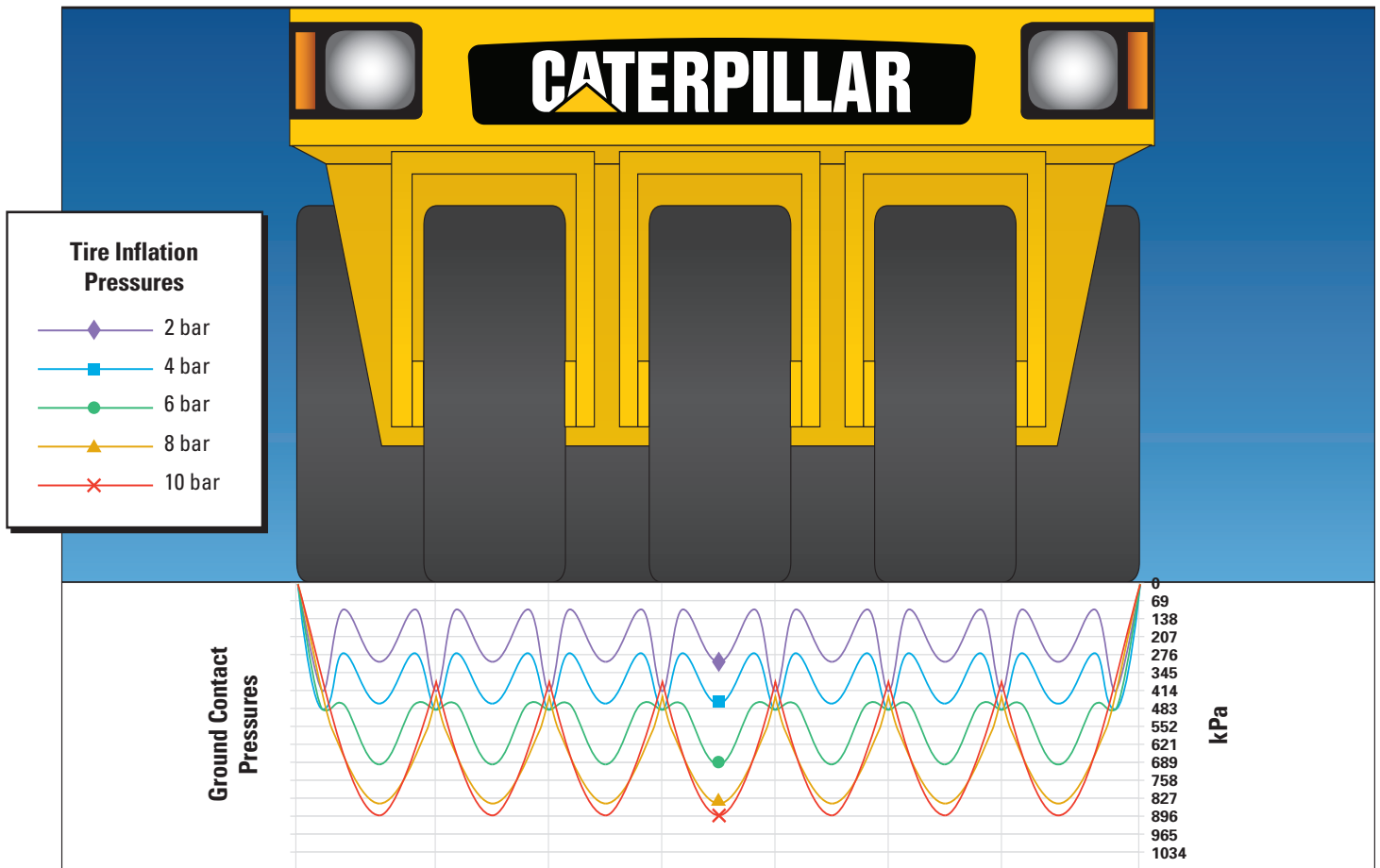
	2000 kg	2500 kg	3000 kg	3300 kg
Tire pressure (kPa)				
300	310	—	—	—
350	350	—	—	—
400	380	395	—	—
450	410	425	—	—
500	445	455	465	475
550	475	490	500	505
600	505	525	530	545
650	530	540	555	560
700	550	560	580	580
750	570	585	605	610
800	590	610	630	640
850	610	630	650	670
900	630	650	665	685
950	645	670	685	695
1000	660	690	705	720

Wheel load with F20 Pilote x 22 ZZ Michelin sculptured tread compactor tires

	2000 kg	2500 kg	3000 kg	3300 kg
Tire Pressure (kPa)				
300	315	—	—	—
350	350	—	—	—
400	380	395	400	415
450	420	453	450	450
500	460	470	480	480
550	490	500	510	520
600	515	525	535	560
650	550	560	570	585
700	590	595	605	610
750	610	620	630	635
800	630	640	650	660
850	650	660	675	680
900	670	680	700	700
950	710	715	720	730
1000	745	745	745	760

Actual Ground Contact Pressures

Actual Ground Contact Pressures are measured across the width of the tire. The charts include wheel path overlap.



Engine

Four-stroke, four cylinder Caterpillar 3054C turbocharged diesel engine. Meets EU directive 97/68/EC Stage II emission requirements. No derating required up to 2134 m altitude.

Ratings at 2200 rpm	kW	hp
Gross power	75	100

The following ratings apply at 2200 rpm when tested under the conditions for the specified standard:

Net Power		
ISO 9249	63	85
EEC 80/1269	63	85

Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator and air cleaner, muffler, alternator and air compressor.

Dimensions

Bore	105 mm
Stroke	127 mm
Displacement	4,4 liters

Service Refill Capacities

	Liters
Fuel Tank	215
Engine Crankcase	9
Hydraulic Tank	10
Cooling System	28
Differential	15
Transmission	24
Chain Casings	40
Tire Watering System	460

Instrumentation

Transmission Oil Temperature Gauge, Speedometer, Horn, Brake Pressure Warning Light, Secondary Brake Warning Light, Hydraulic oil filter restriction light, Differential lock light, Suspension Pressure Gauge (PS), Engine Oil Pressure Gauge, Fuel Gauge, Engine Coolant Temperature, Hour Meter, Alternator Light, Tire Pressure Gauge (option), Turn Signal Indicator (option), Clutch Pressure Gauge.

Sound

Operator Sound. The operator sound level measured according to the procedures specified in ISO6394 is 74 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 105 dB(A).

Steering

Automotive type design helps to eliminate tire scuffing of the mat when turning. Priority-demand hydraulic power-assist steering provides smooth, low-effort handling.

Minimum turning radius:

Outside edge	7700 mm
Inside edge	4800 mm

Transmission

Hydraulic torque convertor and powershift transmission are mounted directly to the engine. The shift control valve is electrically actuated. Mechanical differential controlled from the operator's station. Final drive to rear wheels by low-maintenance, heavy-duty chains in oil-tight casings. Corresponds to ISO/R606 minimum charge for rupture of 17 000 PB kp (32B-1) ISO 167 kN/wheel.

Speeds (forward and reverse)

1st	0 to 6 km/h
2nd	0 to 13 km/h
3rd	0 to 19 km/h

Brakes

Primary brake features

Two independent, dynamic, hydraulically applied caliper disk brakes, located on rear differential shaft to wheels. Primary brakes are actuated by a foot pedal located below the control console.

Secondary brake features

Two spring-applied/hydraulically-released caliper disc brakes located on opposite side of primary brakes on the rear differential shaft to wheels. Separate circuit than the primary brakes. Secondary brakes are actuated by a push-button switch on the control console or automatically when the engine is shut off or if pressure is lost in the brake circuit.

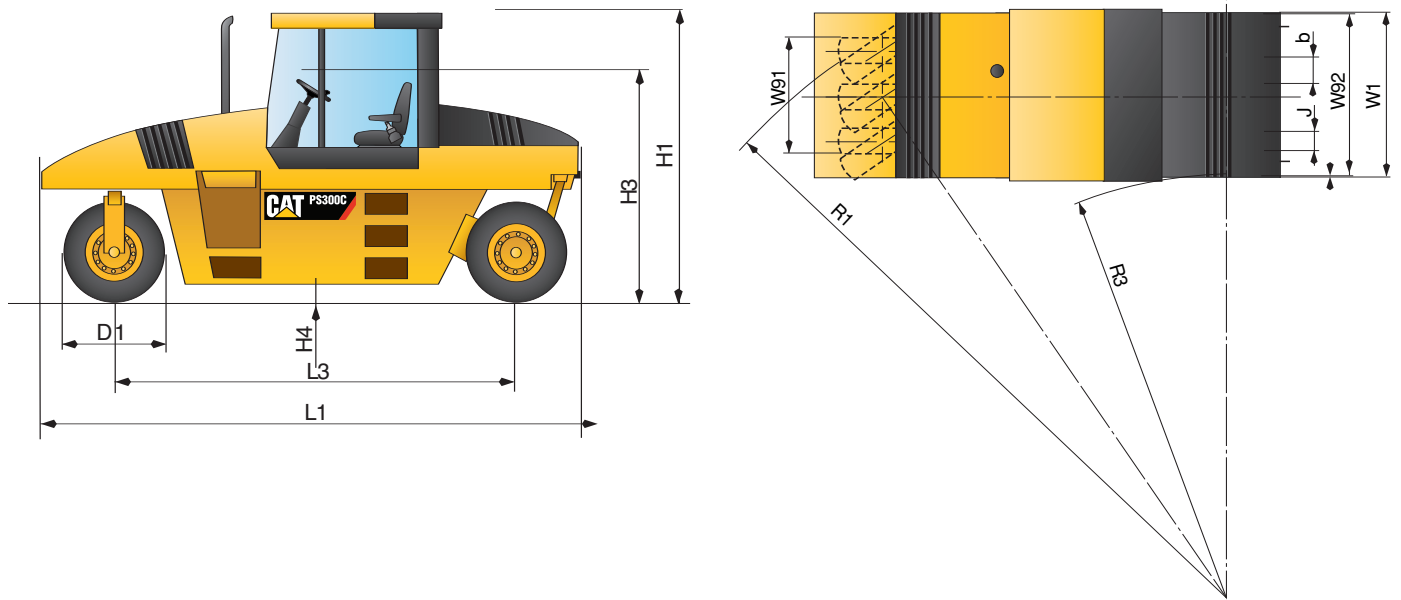
Brake systems meet SAE1472 practice and EN500 requirement.

Frame

The chassis is a rigid welded frame that supports the engine, transmission and sheet metal. Frame design provides a calculated balance on the front and rear axles to evenly distribute ballast weight.

Dimensions

All dimensions are in mm



	mm
L1 Operating length	5300
L3 Wheel base	4030
D1 Wheel diameter	1090
H1 Operating height with cab	3000
H3 Shipping height	2300
H4 Ground clearance	250
Vertical oscillation of front wheels	120
Vertical oscillation of rear wheels	120
Tire overlap	48

	mm
W1 Maximum width	2000
W91 Rolling width, front	1360
W92 Rolling width, rear	1900
W95 Side clearance (lateral overhang)	50
R1 Turning radius outside	7700
R3 Turning radius inside	4800
b Tire width	315
J Width between two rear wheels	220

Electrical system

The 24-volt electrical system includes 2 maintenance-free Cat batteries, color-coded and numbered wiring wrapped in nylon braid. The system includes a 55-amp alternator. The starting system provides 750 cold cranking amps

Wheels and Tires

Wheels are fitted with either smooth or treaded radial-ply tires. Complete trackless overlapping of front and rear wheels. The tires are Michelin 13/80-20 Pilote X Smooth (E20)

Weights

Maximum operating weight includes lubricants, coolant, 80 kg operator, full fuel tank, full hydraulic system, half-full water tank and four steel ballast blocks.

	PF300C PS300C kg	PF300C AW PS300C AW kg
Shipping weight	14 000	16 100
with two steel ballast blocks	17 500	19 600
Maximum operating weight	21 000	23 100
with Cab and ROPS	21 300	23 400
Shipping weight per wheel	2 000	2 300
with steel ballast blocks	2 500	2 800
Maximum weight per wheel	3 000	3 300
with Cab and ROPS	3 050	3 350

Optional Equipment

Some options listed may be an option in some areas and standard in others. Consult your dealer for specifics.

ROPS Canopy is a two-post type that bolts onto flanges integral with the frame. The structure meets ISO 3449-1992 and ISO 3471-1994. This structure blocks the operator's station from the sun.

Cab with ROPS integrates a pivoting and sliding operator's console with a suspension seat that includes an adjustable fore/aft position and suspension stiffness setting, flip-up arm rests, a headrest and a 76.5 mm wide retractable seatbelt. The cab also contains 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, interior dome light, coat hook. Cab with ROPS meets ISO 3449-1992 and ISO 3471-1994.

Steel Ballast Blocks includes four removable blocks that increase vehicle weight. Each block provides an additional 1750 kg for increased versatility.

Added weight. Specific frame design increases the machine weight by approximately 2100 kg.

Air-on-the-Run consists of a tire pressure system controlled from the operator's station. This system regulates the tire pressure with a water-cooled compressor that provides long service life.

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

Working Light Package illuminates the work area under dim or dark conditions. It consists of four variable adjustment floodlights, with two positioned forward and two rearward.

Roading and Working Light Package includes directional turn indicators, high and low beam lights, and parking lights, in addition to the four working lights described above.

Rotating beacon includes an amber beacon that can be attached to machines with ROPS canopy or Cab with ROPS.

Tire Watering System consists of low-profile, large capacity water tank constructed of reinforced polyethylene. A water level gauge is located on top of tank, within easy sight of the operator. A triple chamber diaphragm pump drives an electric motor that provides either continuous or intermittent water spray to each nozzle. Easy-to-clean spray nozzles, two per tire, are easily removed for replacement or cleaning without tools. Cocoa mats are also included.

Tire Wind Shields help prevent the tires from cooling, which helps to eliminate asphalt from adhering to the tires.

Treaded Tires Michelin 14/80-20 (F20).

Spare Wheel is available for both smooth or treaded radial-ply tires.

Side Cutter consists of a hydraulic cylinder controlled by a switch on the dashboard, 3 tools for a great versatility and a water spray system with an easy to clean nozzle oriented on the tool.

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

Value Analysis

Application Flexibility

- For compaction of sub-base, base course and surface course materials.
- For compaction of any hot or cold bituminous mix.
- Variable tire pressure.
- Choice of three weight per wheel configurations to meet job applications.

High Productivity

- Large tire overlap helps to eliminate tire marks.
- Variable load per wheel helps to meet job specifications.
- Hydraulic wheel suspension for uniform compaction.
- Large rolling width for full-width compaction.

Easy Operation

- Sliding operator's station.
- Hydraulic power assist steering.
- Single lever control for forward and reverse.
- Torque converter and powershift transmission that includes new softshift function provide smooth direction and speed changes.
- On-the-run tire inflation system (optional).

Operator and machine safety

- Independent dual caliper service brakes.
- Automatic dual secondary brakes.
- Engine cannot be started if lever is in gear.
- Parking brake disengagement only possible with hydraulic pressure in the system.

Easy Service

- Engine hood tilts, providing access to diesel engine.
- Grouped test ports.
- Spray system nozzles and filters are easily removed and cleaned without the need for tools.

Total Customer Support System

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

Parts stock list – 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 the 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 to help you get maximum value from 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.

PS300C and PF300C Pneumatic Tire Compactors

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Caterpillar dealer for available options.

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