

PS-300C PF-300C

Pneumatic Tire Compactors



Stage II Compliant

Cat® 3054C Turbocharged Diesel Engine

| | |
|-------------|---------------|
| Gross power | 75 kW/ 100 hp |
|-------------|---------------|

Maximum operating weight with Cab and ROPS

| | |
|---------------------|-----------|
| PS-300C and PF-300C | 21 300 kg |
|---------------------|-----------|

| | |
|---------------------------|-----------|
| PS-300C AW and PF-300C AW | 23 400 kg |
|---------------------------|-----------|

Maximum weight per wheel

| | |
|---------------------|---------|
| PS-300C and PF-300C | 3000 kg |
|---------------------|---------|

| | |
|---------------------------|---------|
| PS-300C AW and PF-300C AW | 3300 kg |
|---------------------------|---------|

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/PF-300C 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/PF-300C 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/PF-300C 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/PS-300B Pneumatic Tire Compactors, the new PF/PS-300C 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/PS-300C 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 PS-300C 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 PS-300C is well-suited for compaction jobs that vary from base to wearing course material. The PF-300C 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.

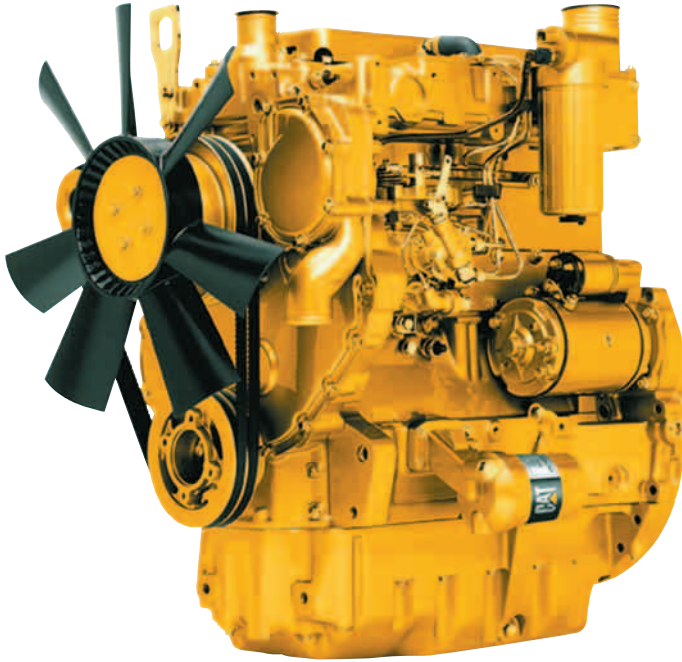
Durable field-proven power train and hydraulic systems and the world's largest and most dedicated dealer support system ensure the PS/PF-300C Pneumatic Tire Compactors will provide maximum utilization.

The PS-300C and PF-300C 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 PS-300C and PF-300C 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.

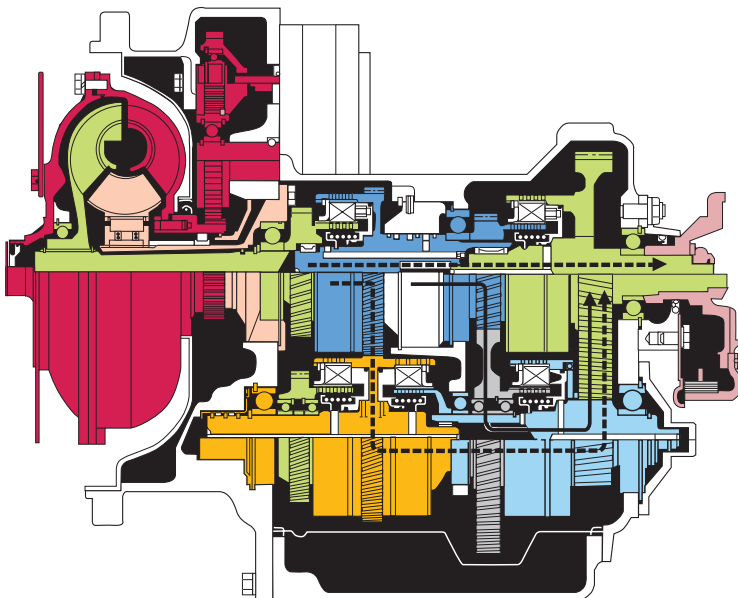
Fuel filters and water separator. Dual fuel filters and water separator offer superior protection for the unit injection system.

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/PF-300C 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.

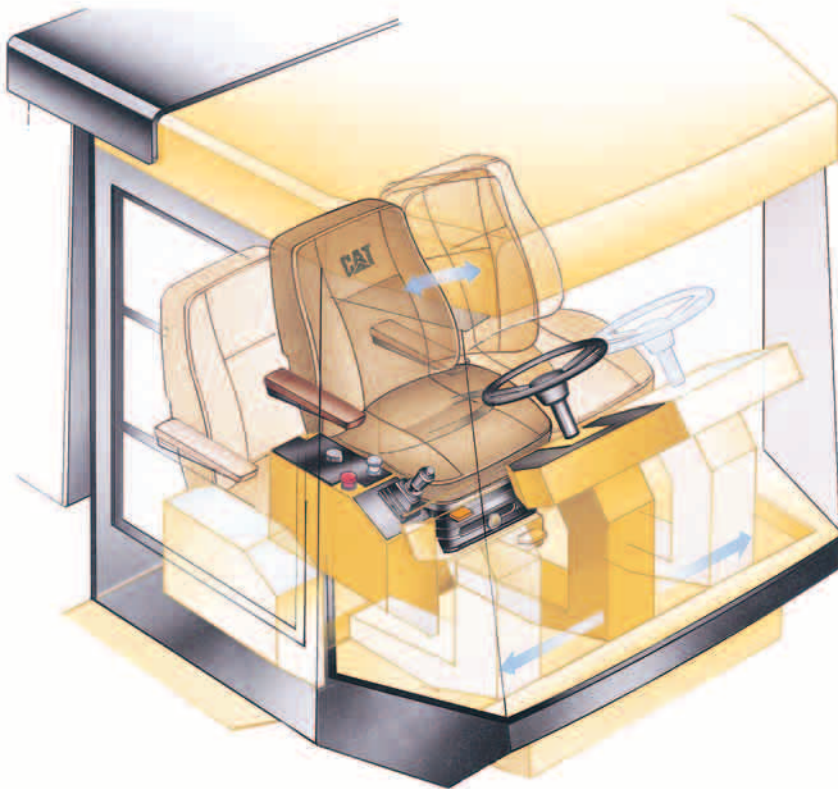
Seat. Durable suspension or non-suspension seat arrangements offer day long comfort.

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 PS-300C and PF-300C 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

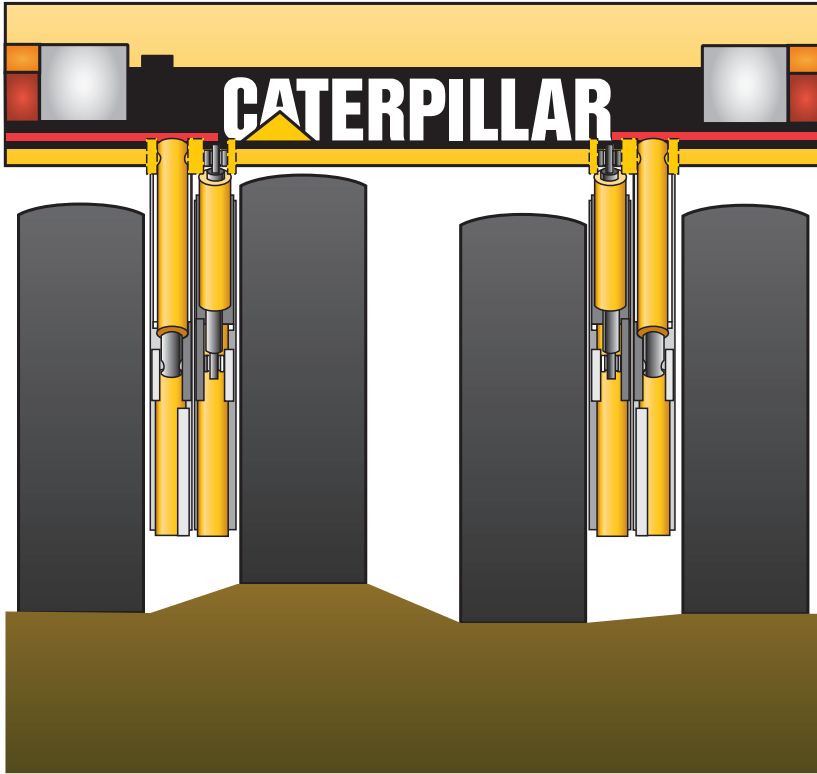
(Scheduled Oil Sampling) ports allow for simple fluid collection of engine oil, engine coolant and hydraulic oil.

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 PS-300C (rear suspension)

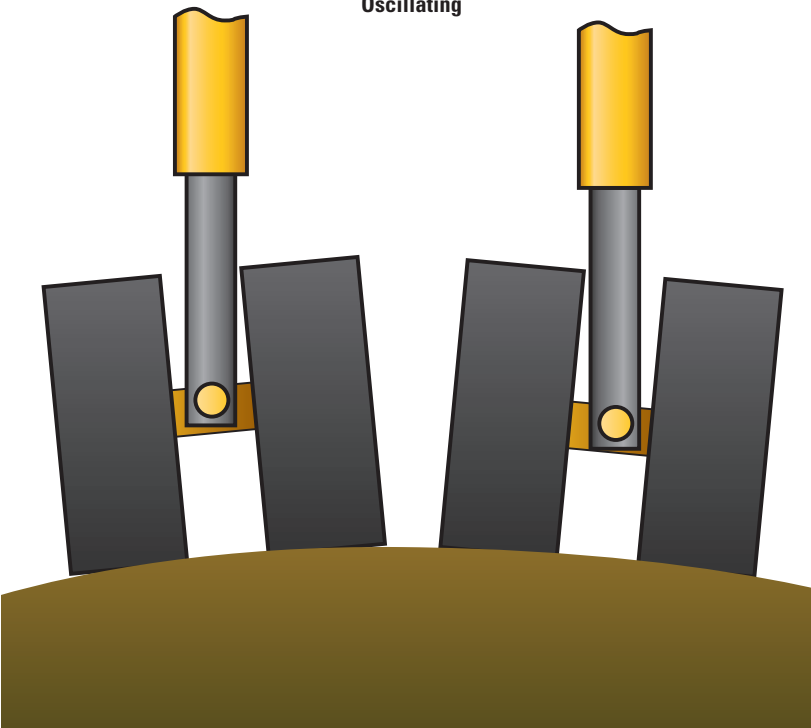


Front wheels. Front wheels for PS and PF version are mounted on hydraulic cylinders. (PS version has rear wheels on cylinders as well.) The vertical movement of the cylinders provide compaction on soft surfaces.

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.

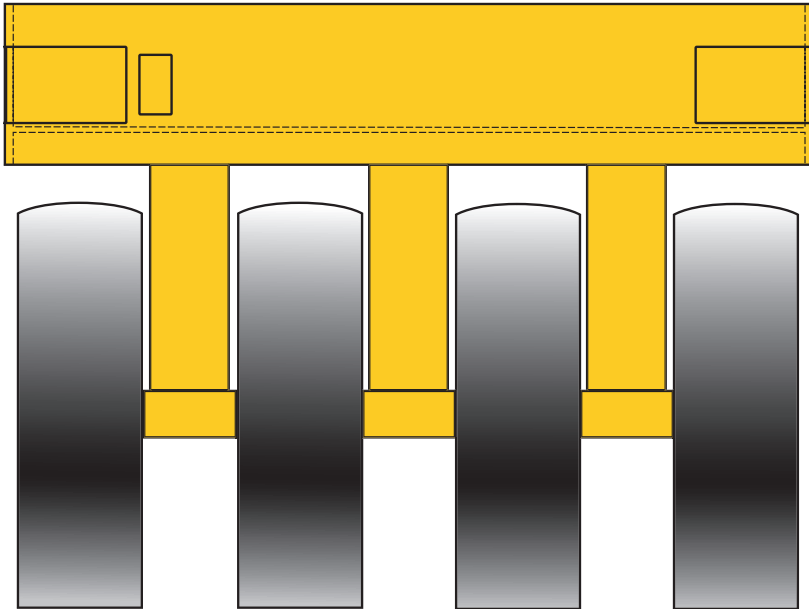
Oscillating



PS and PF Rear Wheel Configurations

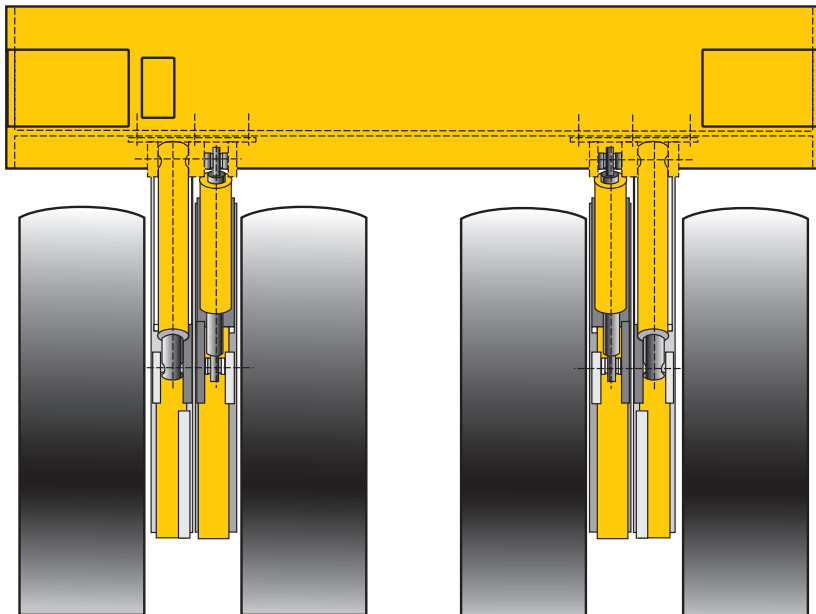
The PS and PF configurations are complementary to provide in all job applications uniform compaction and smooth surface finish.

PF version



Fixed rear wheels. PF-300C has fixed rear wheels making it well-suited for surface course jobs.

PS version



Inner rear wheels. PS-300C inner rear wheels are mounted on hydraulic cylinders that interconnect with the front wheel. Provides equal weight per wheel, regardless of ground conditions. The PS-300C 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

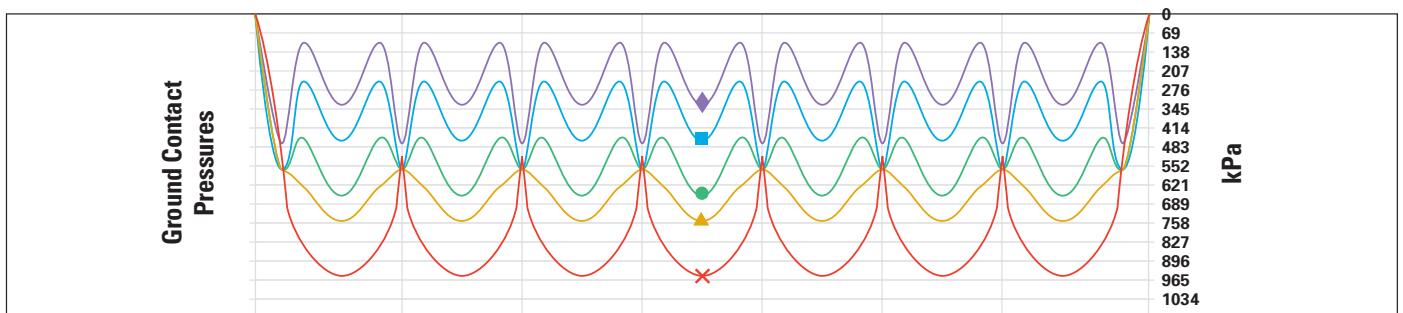
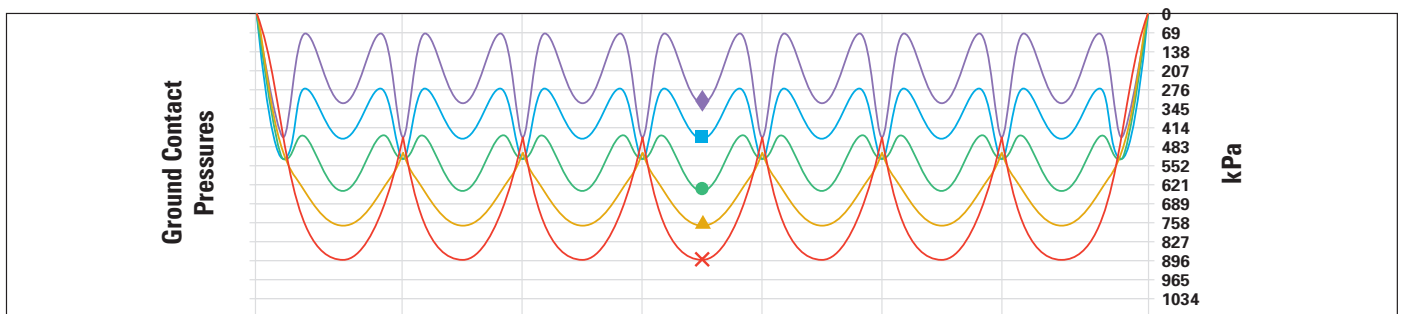
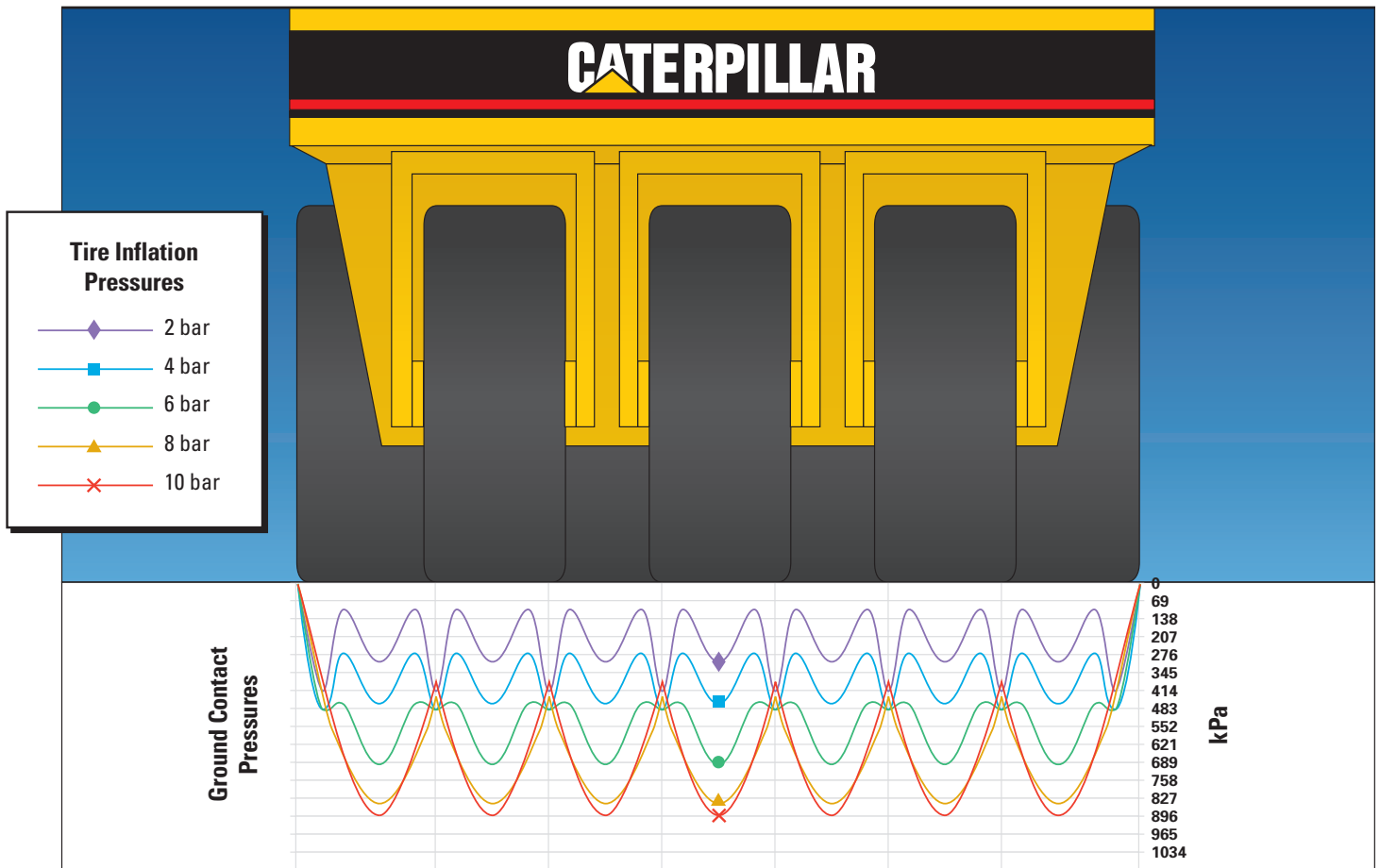
| | 2000 kg | 2500 kg | 3000 kg | 3300 kg |
|---------------------|---------|---------|---------|---------|
| Tire pressure (bar) | | | | |
| 3 | 310 | — | — | — |
| 3,5 | 350 | — | — | — |
| 4 | 380 | 395 | — | — |
| 4,5 | 410 | 425 | — | — |
| 5 | 445 | 455 | 465 | 475 |
| 5,5 | 475 | 490 | 500 | 505 |
| 6 | 505 | 525 | 530 | 545 |
| 6,5 | 530 | 540 | 555 | 560 |
| 7 | 550 | 560 | 580 | 580 |
| 7,5 | 570 | 585 | 605 | 610 |
| 8 | 590 | 610 | 630 | 640 |
| 8,5 | 610 | 630 | 650 | 670 |
| 9 | 630 | 650 | 665 | 685 |
| 9,5 | 645 | 670 | 685 | 695 |
| 10 | 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 (bar) | | | | |
| 3 | 315 | — | — | — |
| 3,5 | 350 | — | — | — |
| 4 | 380 | 395 | 400 | 415 |
| 4,5 | 420 | 453 | 450 | 450 |
| 5 | 460 | 470 | 480 | 480 |
| 5,5 | 490 | 500 | 510 | 520 |
| 6 | 515 | 525 | 535 | 560 |
| 6,5 | 550 | 560 | 570 | 585 |
| 7 | 590 | 595 | 605 | 610 |
| 7,5 | 610 | 620 | 630 | 635 |
| 8 | 630 | 640 | 650 | 660 |
| 8,5 | 650 | 660 | 675 | 680 |
| 9 | 670 | 680 | 700 | 700 |
| 9,5 | 710 | 715 | 720 | 730 |
| 10 | 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.

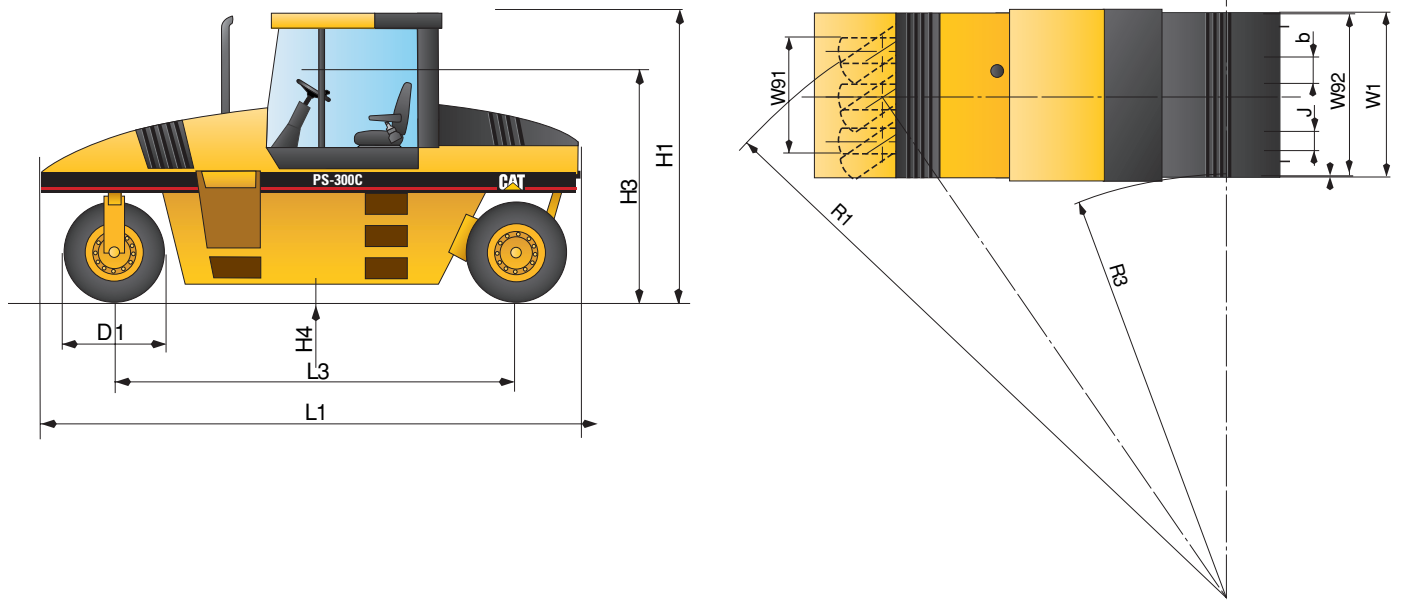
Brake systems meet SAE1472 practice and EN500 requirement.

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.

| | PF-300C PS-300C kg | PF-300C AW PS-300C 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.

PS-300C and PF-300C Pneumatic Tire Compactors

HEHG3119 (06/2004) hr

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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