

# AP300

## Asphalt Paver



### Cat® 3054C DINA

|                                     |                 |
|-------------------------------------|-----------------|
| Gross Power (SAE J1995) at 2200 rpm | 52 kW/71 hp     |
| Net Power (ISO 9249) at 2200 rpm    | 47.4 kW/64.5 hp |

### Operating Weight with

|               |         |
|---------------|---------|
| AS3173 Screed | 7300 kg |
|---------------|---------|

### Hopper Capacity

3.8 m<sup>3</sup>

### Standard Paving Range

|               |              |
|---------------|--------------|
| AS3173 Screed | 1700-3200 mm |
|---------------|--------------|

### Maximum Paving Width

|               |         |
|---------------|---------|
| AS3173 Screed | 4000 mm |
|---------------|---------|

### Minimum Paving Width

|               |        |
|---------------|--------|
| AS3173 Screed | 650 mm |
|---------------|--------|

# AP300 Asphalt Paver: Productivity and Reliability in a Durable Package

*The AP300 offers superior performance, high transfer speed, optimum maneuverability, easy transportability and job versatility to maximize productivity.*

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## Cat® 3054C DINA Engine

The four cylinder, liquid-cooled diesel engine incorporates the proven technology from medium and large bore engines providing quiet performance, high reliability and easy servicing. The engine also meets European EU Stage II emission regulations. The high capacity cooling system provides cool intake air in order to maximize fuel efficiency and minimize emissions. **pg. 4**

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## Hydrostatic Drive System

A closed-loop hydrostatic propel system provides accurate control of propulsion. The propel pump provides optimum displacement enhancing servicing. The optional front wheel assist increases rimpull power providing enhanced traction. **pg. 4**

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## Suspension System

The AP300 is equipped with two large tread drive tyres and four front solid-rubber steering bogie wheels providing optimum ground contact and smooth operation. **pg. 6**

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## Operator's Station

The AP300 includes dual operator's station with sliding control console. The operator's stations can be positioned beyond the machine frame for greater visibility when precise paving control is required. **pg. 5**

## Cat® Asphalt Pavers continue to lead the industry and meet your demanding job requirements.

*Many easy-to-use features and technologies have been developed in order to guide your crew in producing high quality mats time and time again. Contact your Caterpillar® Dealer today for more information.*



## Versatility Defines the AP300

*The AP300 excels in a wide range of applications where maximum flexibility is required ranging from new construction, resurfacing and maintenance works.*

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### Material Handling System

The AP300 provides precise mix delivery with minimal operator monitoring. The independent operation of the augers and conveyors reduces component wear and minimizes the potential for mix segregation. Reversible augers and conveyors assist the crew by reducing handwork and clean-up. **pg. 7**

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### Generator System

The optional generator provides continuous and simple control in paving operations for ground crew usage. This integrated generator supplies simultaneous power to the electric screed heating elements, electric utility power supply and night lighting system providing high reliability. **pg. 6**

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### Screed

The AP300 is available with the AS3173 hydraulic power extendible asphalt screed, available with variable frequency vibrating system and with LPG or electric heating system. The AS3173 screed lays material to the desired width and depth while providing a smooth finish with initial compaction. **pg. 9**



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### Serviceability

The AP300 ensures excellent access to all machine parts requiring scheduled maintenance. Large service doors ensure quick and easy inspection of the main parts. The low transversely mounted engine provides optimum access to the hydraulic pumps. Wiring for the electrical system is numbered and labeled with component identifiers to simplify troubleshooting. **pg. 8**

## Caterpillar® Diesel Engine

*Model 3054C DINA is a four cylinder liquid-cooled diesel engine designed to provide quiet performance, high reliability, easy servicing and fuel economy.*



**Cat 3054C DINA Engine.** The 3054C engine provides a full-rated gross power (SAE J1995) of 52 kW (71 hp) at 2200 rpm. Meets European EU Stage II engine emission regulations.

**Low Transverse Engine Mounting.** The low transversely mounted engine provides superior cooling performance and easy accessibility for service. Large service doors ensure easy servicing operations and access to the hydraulic pumps and external engine components.

**Cooling System.** The high capacity cooling system provides cool intake air in order to maximize fuel efficiency and minimize emissions. The system promotes operator comfort by drawing ambient air through the engine compartment and exhausting it on the right side of the machine, away from the operator.

## Hydrostatic Drive System

*Efficient hydraulic drive system eliminates chains and other mechanical linkages between diesel engine and final drive components.*



**Closed-loop Hydrostatic Propel System.** Provides accurate control of propulsion and low-maintenance operation.

**Hydrostatic Pump.** The propel system of AP300 drives the rear wheels with a variable displacement pump and dual displacement axial piston motor directly splined to a servo-assisted two-speed gearbox. On demand 100% lockable differential system prevents slippage in any grade condition.

**Optional Front Wheel Assist.** The system adds hydrostatic propel power to two of the front bogie wheels. The front wheel assist increases rimpull power, providing enhanced traction.

**Speed Control.** Infinite speed selection within four propel ranges: two in paving mode and two in travel mode, to select the best speed range according to operating modes.

**Propulsion Control.** An electro-proportional servo-control provides machine starting and stopping (for asphalt supply, etc.) with no pre-set working speed variation.

## Operator's Station

*The dual operator's station with sliding control console promotes optimum comfort, visibility and ease of use.*



**Dual Operator's Station.** The ergonomic dual operator's station incorporates a sliding control console and two adjustable suspension seats fitted on mechanically sliding semi-platforms.

**Operator Visibility.** The operator seats can be slid side-to-side and front-to-back on the pedestal frame, enhancing visibility and ergonomics. The stations can extend beyond the machine frame for good visibility when paving applications require precise control. With the engine mounted forward and low in frame, the operator has excellent visibility into the hopper. The operator is also positioned away from engine heat and exhaust.

**Sliding Control Console.** Full instrumentation package of the sliding control console allows operator to control all major systems easily. A lockable vandal cover protects console controls.

**Canopy option.** Two optional canopies are available: manually folding canopy or hydraulically folding canopy. Both canopies provide full width with two side extending wings for optimum comfort and protection. Canopies can be lowered for easy transportation.

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## Suspension System

*The wheel-type asphalt paver provides optimum weight distribution, tractive effort assuring great performance.*



**Wheel-type Tractor.** The AP300 incorporates two large tread drive tyres for propelling the machine and four bogied front steering wheels. The four front solid-rubber steering bogie wheels are mounted to the front oscillating axle rocker arms for maximum ground contact and smooth operation over high and low spots.

**Wheel base.** The long wheel base provides enhanced tractive effort and stability on soft base materials.

**Two-speed Planetary Drive.** A dual displacement motor drives two-speed planetary drive gearbox in order to provide infinitely variable speed selection.

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## Optional Generator System

*Continuous-duty integrated design ensures peak performance and high reliability.*



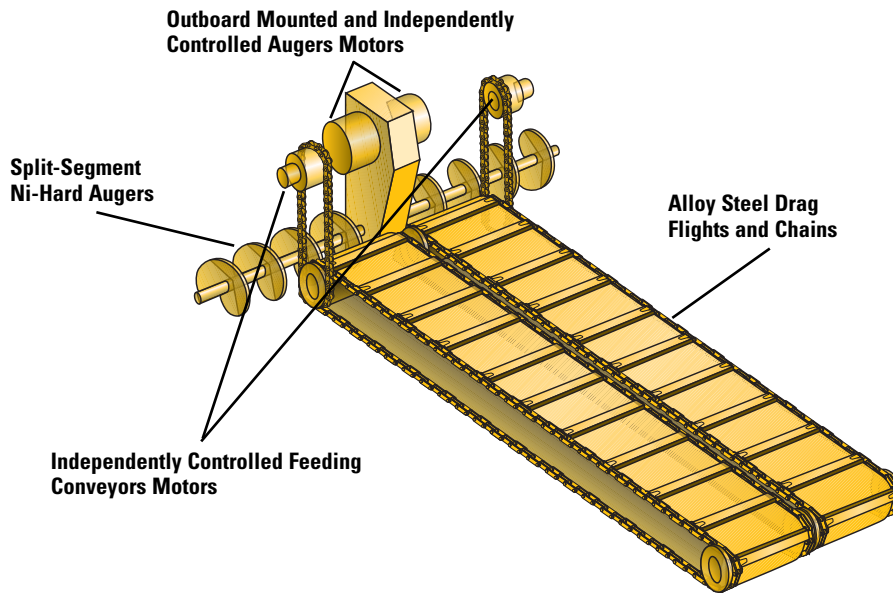
**Industrial, Single-Phase A.C. Generator.** The optional onboard generator provides simultaneous power to the electric screed heating elements, auxiliary lights and job site tools. The generator provides 12 kW output to power screed heating, 220 V for night lighting system and 1.5 kW electric utility power supply.

**Single Control Switch.** A single control switch located on the tractor's control console activates the generator.

**Circuit Breaker Protection.** Extend service life and internal electronic voltage regulation system provide reliability.

# Material Handling System

*Precise mix delivery and productivity through an advanced material handling system promote hands-free operation.*



**Optimum Productivity.** The material handling system allows the operator to maintain an uninterrupted flow of material from the hoppers to the screed. The system is responsible for maintaining the proper head of material - the volume of asphalt in front of and across the length of the screed.

**Hoppers.** The independent movement of the two hoppers is provided by means of two hydraulic cylinders assuring efficient material flow. Wear-resisting steel provides conveyors and hopper bottom plate for long wear life.

**Feeding Conveyors.** Two feeding conveyors are independently controlled and driven by two paddle sensors. Conveyor rotation can also be inverted from either control console panel or from rear screed control boxes. Conveyors have drive chains to maximize the live conveyor area and reduce center line segregation. This design also provides greater ease of servicing the conveyor drive system. In order to control mix delivery, the operator sets a speed rate for each conveyor that will maintain the desired mix level in the left and right auger chambers.

**Auger Assembly.** Two independently controlled augers spread the material conveyed to both sides. Auger rotation speed can be varied automatically to ensure a homogeneous distribution of material before the screed. Two paddle wave detectors control augers movement and can be adjusted from the screed control boxes. Conveyors and augers design eliminate voids under chain case to minimize segregation. Augers have outboard mounted motors for easy serviceability.

**Adjustable Push Rollers.** The two adjustable push rollers provide a contact point between the paver and the truck to center the load and assist steering while unloading.



**Adjustable Height Auger Assembly.** Augers are reversible and hydraulically adjustable in height providing benefits to mat quality and better distribution of material in front of the screed. The ability to raise the auger assembly simplifies loading and unloading from a transport vehicle. Also, when working with larger stone mixes, segregation can often be eliminated or minimized by raising the augers to allow mix to flow unrestricted under auger assembly.

## Reliability and Serviceability

*Simplified service means more time spent paving and less time spent on maintenance.*



*The AP300 asphalt paver has been designed for easy service and maintenance with special attention given to component access.*

### **Large Access Doors and Panels.**

Ensure quick and easy inspection of the main parts. The service doors and panels also provide optimum ground level serviceability and easy access to the hydraulic pumps and external engine components.

### **Low Transversely Mounted Engine.**

Provides optimum access to the hydraulic pumps mounted to the right side of the engine. The front service panel features a single wide hinged door that provides easy filter and traction valves serviceability.

**Propel Pump Servicing.** The optimum displacement of the propel pump provide enhanced servicing.

**Ergonomic Operator's Station.** The dual swing-out operator's station with sliding control console and adjustable suspension seats provide optimum comfort, all-around visibility and easy control during machine operations.

**Hydraulic Motors Servicing.** Hydraulic motors for augers are fitted outboard for improved accessibility and serviceability. The auxiliary and front power-assist drive solenoid valves blocks have been conveniently fitted centrally simplifying checking and adjustments.

**Hydraulic Hoses and Electrical Wiring Harnesses.** Cleanly routed and clamped to reduce wear and provide easy service.

**Exposed Hoses.** Provided with nylon sleeve protection to reduce abrasion.

**Vibrator System Hydraulic Lines.** Cat XT™ hoses provide optimum durability and resistance to damage.

**Integrity of the Electrical System.** Is ensured with the use of high-quality components.

**The Caterpillar Electrical Standards.** Enhance reliability and durability, feature numbered and color-coded wires. Nylon-braided wrap efficiently protects the electrical wires.



## AS3173 Screed

*Single width, power extending screed with LPG or electric heating system increases productivity and lowers operating costs.*



*The AS3173 screed paves from 1700 mm to 3200 mm. With mechanical extensions added to both sides, maximum paving width is 4000 mm.*

**AS3173 Screed.** The hydraulic power extendible asphalt screed is available with variable frequency vibrating system and with LPG or electric heating system. The screed control panels include material feeding controls for easy ground crew usage.

**Vibrating System.** Automatically operated when the AP300 advances following a preset ramp. The AS3173 screed is equipped with electronic ignition, automatic and independent adjustment of the smoothing plate temperature for central and each mobil plate.

**LPG Heating System.** The system provides high efficiency burners and optimum thermostatic temperature control.

**Electric Heating System.** The system provides a tractor-mounted generator, replaceable heating elements and operator friendly controls providing a cleaner environment. Feature & benefits include simple operation, fast heat-up time, multi-zone heating elements and thermostatic control of all screed plates. Heavy-duty, user-friendly screed heating control unit with self-diagnostic control is positioned at the rear of the machine for easy ground crew usage.

**Screed Assist.** The AS3173 is equipped with the screed assist, an electro-hydraulic device maintaining a constant screed pressure on the bituminous mix, independently from the mix bearing capacity and the paving width.

## Optional Equipment

*Caterpillar offers many options that allow the paver and screed to be configured to your specific application. Contact your dealer for more details.*

### Tractor Options

- Augers Sonic Sensors Proportional
- CE Certificate
- Ecological Washdown System
- Front Wheel Assist
- Generator System
- Hydraulically Folding Operator's Station Canopy
- Italian Road Homologation
- LPG System
- Manually Folding Operator's Station Canopy
- Warning Beacon

### Controls and Grade References

- Automatic Grade and Slope Control
- Non-Contacting Grade Sensor
- Contacting Grade Sensor
- Rigid Ski, 6 m
- Autoleveling Ski, 6 m

### Screed Options

- Paving Width Reduction to 0.65 m
- Extensions for: 3.60 m – 4.00 m

## Engine

Four cylinder Caterpillar® 3054C DINA liquid-cooled diesel engine. Meets European EU Stage II engine emission regulations.

|              |                 |
|--------------|-----------------|
| Gross Power  | 2200 rpm        |
| SAE J1995    | 52 kW/71 hp     |
| Net Power    | 2200 rpm        |
| ISO 9249     | 47.4 kW/64.5 hp |
| EEC 80/1269  | 47.4 kW/64.5 hp |
| Bore         | 105 mm          |
| Stroke       | 127 mm          |
| Displacement | 4.4 liters      |

- All engine horsepowers are metric including front cover.
- Net power ratings are tested at the reference conditions for the specified standard.
- Net power advertised is the power available at the flywheel when the engine is equipped with alternator, air cleaner, muffler and fan.

## Suspension

Four front steering bogie wheels, two per side, are mounted in tandem on bogie axles, equalizing ground pressure.

|  |                    |
|--|--------------------|
| Drive Tyres<br>(sand rib, hydroflated) | 2x 365/80 R20      |
| Steering Wheels<br>(solid rubber)      | 4x 455 mm x 260 mm |
| Wheel base                             | 1615 mm            |

## Transmission

The drive system utilizes a closed-loop hydrostatic propel system. The system drives the rear wheels through a variable displacement pump and dual axial piston motor directly splined to a servo-assisted two-speed gearbox.

### Features

- The propel pump is infinitely variable and electronically controlled with adjustable starting and stopping ramps.
- The optional front wheel assist increases rimpull power by two of the front steering bogie wheels.
- Self-locking differential (on demand 100% lockable differential system) and wet final reduction gears provide efficient, low-maintenance operation.

### Four Speed Ranges (forward and reverse)

|                               |           |
|-------------------------------|-----------|
| Paving (1 <sup>st</sup> gear) | 0-40 mpm  |
| Paving (2 <sup>nd</sup> gear) | 0-85 mpm  |
| Travel (3 <sup>rd</sup> gear) | 0-10 km/h |
| Travel (4 <sup>th</sup> gear) | 0-16 km/h |

## Brakes

### Primary Brake Features

- A closed-loop hydrostatic system provides dynamic braking during normal operation.

### Parking Brake Features

- The hydrostatic drive acts as the service brake and is hydraulically and proportionally applied via a brake pedal besides the operator's station control console.
- Safety and parking brakes are mechanical multi-disk spring-applied brakes.
- Parking brake is automatically applied with the machine in "stand-by" mode.
- When required the brakes can be released manually.

## Steering

Hydraulic power-assist steering system provides smooth, low effort steering by means of a steering wheel on the control console panel.

### Features

- An automotive-type steering wheel is used to control direction. The steering wheel controls the four front wheels by a modulated hydraulic cylinder.
- The four front steering wheels are mounted in pairs of oscillating bogies, providing maximum ground contact and smooth operation even on irregular terrain.
- The wide tread section of the rear tyres assures optimum maneuverability and high tractive performance on all types of terrains and slopes.

### Turning Radius

|         |         |
|---------|---------|
| Minimum | 3000 mm |
|---------|---------|

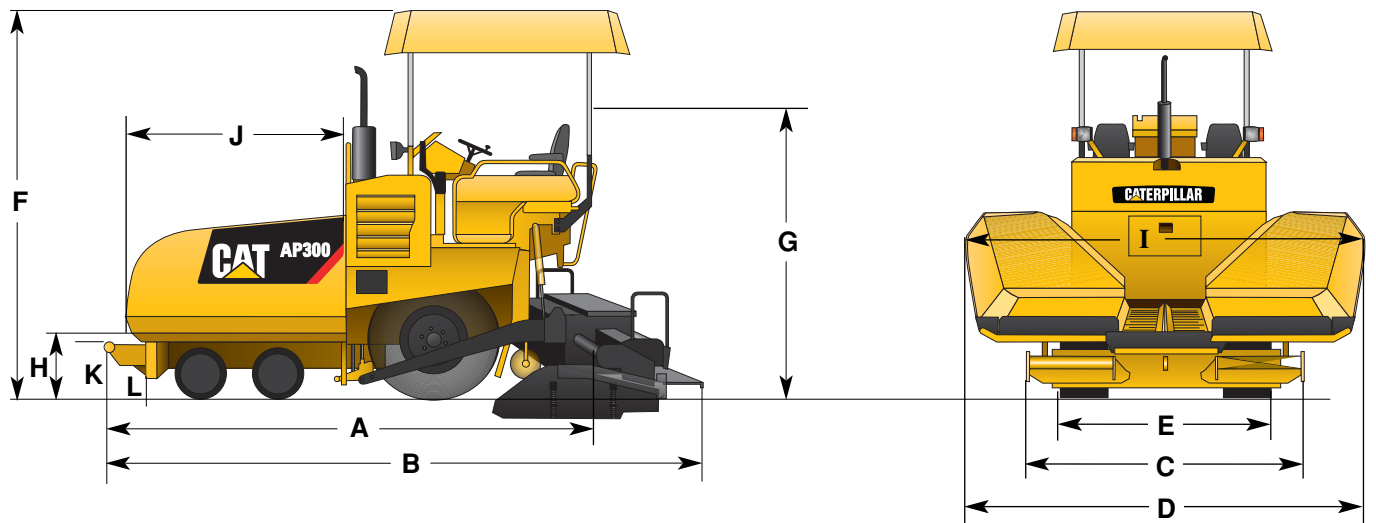
## Electrical System

The 12-volt DC electrical system is designed for improved durability, reliability and ease of service. A 12-volt battery and a 14-volt, 75-amp alternator are used in the system.

### Features

- Wires are loomed with vinyl-coated nylon braid to improve the overall integrity of the electrical system and to protect against abrasion.
- An optional onboard generator is fitted when the AP300 is equipped with the AS3173 electric screed. The generator provides 12 kW output to power screed heating, 220 V for night lighting system and 1.5 kW electric utility power supply.

## Dimensions



|  | mm   |
|--|------|
| <b>A</b> Tractor length with push roller                       | 4200 |
| <b>B</b> Length with push roller and screed                    | 4820 |
| <b>C</b> Transport width with screed end gates (hopper raised) | 1730 |
| Transport width without screed end gates (hopper raised)       | 1670 |
| <b>D</b> Tractor operating width (hopper lowered)              | 3180 |
| <b>E</b> Track gauge width                                     | 1620 |
| <b>F</b> Operating height with canopy                          | 3340 |
| <b>G</b> Transport height with canopy and fumes stack lowered  | 2960 |

|  | mm   |
|--|------|
| <b>H</b> Truck dump height (at hoppers)                  | 570  |
| <b>I</b> Truck entry width (at hoppers)                  | 3200 |
| <b>J</b> Hopper length                                   | 1700 |
| <b>K</b> Push roller height                              | 500  |
| <b>L</b> Clearance                                       | 200  |
| Hopper capacity (with conveyor tunnels) – m <sup>3</sup> | 3.8  |
| Discharge height at center                               | 480  |
| Augers diameter  | 260  |

## Service Refill Capacities

|                        | Liters |
|------------------------|--------|
| Fuel tank              | 79.5   |
| Cooling system (total) | 15     |
| Engine oil w/filter    | 8.5    |
| Hydraulic oil tank     | 85     |
| Washdown spray system  | 32     |

## Weights

|                           | kg   |
|---------------------------|------|
| <b>Operating Weights*</b> |      |
| AP300 with AS3173         | 7300 |
| <b>Shipping Weights**</b> |      |
| Tractor only              | 5800 |
| Tractor with screed       | 7100 |

Weights shown are approximate and include:

\* 75 kg operator, with canopy, fuel tank 50%, leveling system, standard width screed (1.70-3.20 m).

\*\* base machine, canopy lowered, fuel tank 10%, standard screed end gates.

# AP300 Asphalt Paver

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)

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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