Cat® 824K

Wheel Dozer

Cat® wheel dozers combine the power of a track dozer with the mobility of a wheeled machine to deliver high production at low operating costs in a variety of applications — from surface mining cleanup to coal stock piling, road maintenance to reclamation.

Unmatched Durability

- Solid through-width push beams transfer and absorb stresses through a larger portion of the frame for longer machine life and greater reliability.
- The full box-section rear frame resists torsional shock and twisting forces.
- Heavy-duty steering cylinder mounts efficiently transmit steering loads into the frame.
- Optimized axle mounting results in increased structural integrity.
- With Delayed Engine Shutdown, your machine will automatically shut off when idle state cooldown is needed to prevent damage to engine and aftertreatment components.
- Resilient, durable blades are designed with excellent dozing and rolling characteristics.

Optimum Efficiency

- The Cat C15 engine is designed for maximum fuel efficiency in the most demanding conditions. Two engine emission configurations are available. One meets U.S. EPA Tier 4 Final and EU Stage V emission standards. The other meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
- Enable autoshift mode to automatically upshift or downshift based on machine speed, optimizing performance and conserving fuel.
- Load sensing hydraulic steering system enables precise machine control for easier loading.
- Experience increased efficiency with variable displacement piston pumps.
- Electronically controlled hydraulic cylinder stops and easy-to-use soft detent controls enhance operator productivity.
- Best-in-class Cat planetary powershift transmission features Single Clutch Speed Shifting (SCSS) for smooth, consistent shifting and efficiency.
- Cat torque converter with lock-up clutch improves travel speeds, optimizes fuel efficiency, and eliminates torque converter losses, while lowering system heat.

Increased Safety

- Standard rear vision camera provides excellent workspace visibility.
- Battery disconnect, emergency engine shutdown, and stairway light switch are accessed through the ground level power service center.
- Cab-mounted LED strobes provide warning for others near the machine.

Innovative Technology

- Integrated technologies allow you to monitor, manage, and enhance your jobsite operations.
- Product Link™ remote monitoring provides valuable insight into machine or fleet performance through the VisionLink® interface, so you can make decisions that boost jobsite efficiency and lower operating costs.
- Vital Information Management System (VIMS™) 3G touchscreen monitor gives access to a wide range of sensor information and enhanced machine data to resolve problems before machine failure.
- Optional Cat Detect technologies enhance awareness of the environment around the machine for increased safety.

Enhanced Operator Comfort

- Steering and Transmission Integrated Control System (STIC™) combines directional selection, gear selection, and steering into a single lever, maximizing responsiveness and control, while reducing operator fatigue.
- Operators can easily enter and exit the cab with fold-up STIC steer/armrest, reduced access stairway angles, and standard stairway lighting.
- Experience reduced vibrations with isolated cab mounts and seat-mounted implement and steering controls.
- Large backlit membrane switches feature LED activation indicators and ISO symbols for quick function identification.
- Reduced interior sound levels keep operators comfortable throughout their entire shift.

CAT®

Improved Sustainability

- Automatic engine and electrical system shutdown conserves fuel and reduces component wear when machine is not in use.
- Generate less waste with maintenance-free batteries.
- Maximize machine life and lower operating costs with Caterpillar Reman and Certified Rebuild programs, which utilize reused or remanufactured components for 40 to 70 percent cost savings.
- Retrofit packages from Caterpillar deliver new features to older machines to get the most from your investment.

Simplified Maintenance

- Swing-out fuel, hydraulic oil coolers, and condenser allow for easy access cleanout.
- Machine features ground level or platform access to easily reach daily service points.
- Swing-out doors on either side of the engine compartment provide easy access to critical daily service checks.
- Optional tire pressure monitoring system provides real-time information to the operator in the cab for optimized tire life.
- Electronics bay is conveniently located inside the cab.
- Sight gauges offer quick visual inspection to minimize fluid contamination.
- Lighting inside the engine compartment improves visibility to service points.
- Ecology drains prevent spills and allow for easier service.

Purpose Built Specialty Arrangements

- Available in two scoop arrangements – wood chip and coal.
- Cat wood chip and coal scoops have the unique capability of maximizing your production by both dozing and carrying a load with each pass.
- A purpose built hydraulic system, optimized for use with this work tool, maximizes machine productivity and efficiency.
- Dual lift cylinders provide hydraulic lift capacity matched to the demands of the application.
- Equipped with ground level swing-out reversing fan for quick inspection and easy cleanout.
- Equipped with underhood ventilation system which creates a neutral pressure environment to prevent wood chip ingestion from hood openings while providing fresh air to the alternator, electronics, and turbo.
- Extended top guard for increased capacity for wood chip scoops.
- Higher ground pressure decreases risk of fires and maximizes use of storage space.
- Less damage to coal or wood chips due to rubber tires.
- High ground speed provides ability to manage multiple piles.
- Scoop design allows load and carry function for mixing.
- Lift and tip-out design makes stockpiling operations easy.
- Scoop tilt control is standard to maximize worksite efficiency.

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
ELECTRICAL		
Lighting system, halogen (front and rear)	✓	
Lighting system, LED		✓
Lights, directional (rear)	✓	
Starter, electric (heavy duty)	✓	
OPERATOR ENVIRONMENT		
Electro-hydraulic tilt and tip controls	✓	
Radio, AM/FM/AUX/USB/Bluetooth		✓
Radio, CB ready		✓
Radio ready for entertainment: antenna, speakers, converter (12V, 10-15 amp)	✓	
Seat, Premium plus containing forced air heating and cooling, two-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness adjustment, dynamic end dampening, and leather finish	✓	
Rubber mounted, laminated, tinted glass	✓	
POWER TRAIN		
Brakes, full hydraulic, enclosed, wet multiple disc service brakes	✓	
No-spin rear axle		✓
EFFICIENCY		
Demand fan – hydraulically driven	✓	
Torque converter with Lock-Up Clutch (LUC)	✓	
Engine idle management features: auto idle kickdown, delayed engine shutdown, engine idle shutdown	✓	
Steering, load sensing	✓	
COLD WEATHER		
Antifreeze, -50° C (-58° F)		✓
Antifreeze, premixed 50% concentration extended life (-34° C/-29° F)	✓	
Arctic hydraulic oil		✓
Heater, engine coolant (120V)		✓
Heater, engine coolant (240V)		✓
Mirrors, heated ready	✓	
Starting aid (ether), automatic	✓	
SAFETY		
Alarm, back-up	✓	
Lighting, access stairway	✓	
Cab Integrated Object Detection System (CIODS) ready	✓	
Camera, rear vision	✓	
Emergency platform egress	✓	

	Standard	Optional
SAFETY (CONTINUED)		
Internal four-post rollover protective structure (ROPS/FOPS)	✓	
Light, warning switched (LED strobe)	✓	
Lighting, access stairway	✓	
Mirror, internal (panoramic)	✓	
Mirrors, rearview (externally mounted)	✓	
Seat belt with minder, retractable, 76 mm (3 in) wide	✓	
Stairway, left and right rear access	✓	
Steering, secondary	✓	
STIC control system with lockout	✓	
Toe kicks	✓	
SERVICE		
Doors, service access (locking)	✓	
Engine, crankcase 500 hour interval with CJ-4 oil	✓	
Engine precleaner		✓
Dual engine precleaner		✓
Ecology drains for engine, radiator, transmission, hydraulic tank	✓	
Fast fill fuel		✓
Fire suppression ready	✓	
Ground level engine shutoff	✓	
Ground level lockable master disconnect switch	✓	
Oil change system, high speed	✓	
Oil sampling valves	✓	
Product Link	✓	
Starting receptacle for emergency start	✓	
Tire pressure monitoring system		✓
Total hydraulic filtration systems	✓	
SOUND		
Sound suppression		✓
OTHER		
Counterweight, front		✓
OTHER OPTIONAL ARRANGEMENTS		
Scoop arrangement		✓

Cat® 824K Wheel Dozer

Technical Specifications

Engine

Engine Model	Cat C15	
Net Power (SAE J1349:2011)	302 kW	405 hp
Net Power (ISO 9249:2007)	302 kW	405 hp
Gross Power (SAE J1995:2014)		
Direct Drive	307 kW	412 hp
Converter Drive	324 kW	434 hp
Maximum Net Torque (1,300 rpm)	2005 N·m	1479 lbf-ft
Maximum Altitude without Derating (Tier 4 Final/Stage V)	2834 m	9,298 ft
Maximum Altitude without Derating (Tier 3/Stage IIIA equivalent)	2773 m	9,098 ft
Bore	137.2 mm	5.4 in
Stroke	171.4 mm	6.7 in
Displacement	15.2 L	927.6 in³
High Idle Speed	2,300 rpm	
Low Idle Speed	800 rpm	

- Net power advertised is the power available at the engine flywheel when the engine is equipped with a fan, air cleaner, Clean Emissions Module, and alternator.
- Two engine emission configurations are available. One meets U.S. EPA Tier 4 Final and EU Stage V emission standards. The other meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA emissions.

Operating Specifications

Operating Weight – Straight Blade (Tier 4 Final/Stage V)	34 004 kg	74,966 lb
Operating Weight – Chip Scoop	38 020 kg	83,820 lb
Operating Weight – Coal Scoop	36 631 kg	80,758 lb
Blade Capacity Range	5.1-41.3 m³	6.6-54.0 yd³

Transmission

Transmission Type: Cat planetary powershift – ECPC

Speed	km/h	mph	Speed	km/h	mph
Forward 1	6.2	3.9	Reverse 1	7.1	4.4
Forward 2	11.1	6.9	Reverse 2	12.6	7.8
Forward 3	19.6	12.2	Reverse 3	22.4	13.9
Forward 4	34.8	21.6	Reverse 4	39.7	24.7

Hydraulic System – Lift/Tilt

Pump Flow at 1,800 rpm	117 L/min	30.9 gal/min
Main Relief Pressure	24 100 kPa	3,495 psi
Maximum Supply Pressure	24 100 kPa	3,495 psi
Cylinder, Double-acting: Lift, Bore and Stroke	120 mm × 1070 mm	4.7 in × 42.1 in
Cylinder, Double-acting: Tilt and Tip, Bore and Stroke	140 mm × 230 mm	5.5 in × 9.1 in

Hydraulic System – Steering

Steering System – Circuit	Double Acting – end mounted	
Bore	114.3 mm	4.5 in
Stroke	576 mm	22.7 in
Steering System – Pump	Variable displacement piston	
Maximum System Flow at 1,800 rpm	170 L/min	44.9 gal/min
Steering Pressure Limited	24 000 kPa	3,481 psi
Vehicle Articulation Angle	86°	

Service Refill Capacities

Cooling System	116 L	30.6 gal
Engine Crankcase	34 L	9.0 gal
Transmission	66 L	17.4 gal
Fuel Tank	782 L	206.6 gal
Diesel Exhaust Fluid Tank (Tier 4 Final/Stage V)	32 L	8.5 gal
Differentials and Final Drives – Front	100 L	26.4 gal
Differentials and Final Drives – Rear	110 L	29.1 gal
Hydraulic Tank Only	134 L	35.4 gal

- All non-road U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 (Tier 4 Final) diesel engines are required to use:
  - Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less.
  - Cat engines are compatible with the following renewable, alternative, and biodiesel* fuels that reduce greenhouse gases:
    - Up to B20 biodiesel (FAME)**
    - Up to 100% HVO and GTL renewable fuels
  - Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specifications are required.
  - Diesel Exhaust Fluid (DEF) that meets all requirements defined in ISO 22241-1.

* Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

** Engines with aftertreatment devices can use up to B20. Engines with no aftertreatment devices can use higher blends, up to B100.

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.8 kg of refrigerant which has a CO_2 equivalent of 2.574 metric tonnes.

Sound Performance

	Standard	Suppression
Operator Sound Level (ISO 6396:2008)	73 dB(A)	72 dB(A)
Machine Sound Level (ISO 6395:2008)	113 dB(A)	110 dB(A)

- The operator sound pressure level was measured according to the test procedures and conditions specified in ISO 6396:2008. The measurement was conducted at 70% of maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.
- The machine sound power level was measured according to the test procedures and conditions specified in ISO 6395:2008. The measurement was conducted at 70% of maximum engine cooling fan speed.

IBAMA PROCONVE HOMOLOGADO

AEXQ2620-01 (01-2022)
Global

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 Cat dealer for available options.
© 2022 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, VIMS, STIC, DEO-ULS, Product Link, "Caterpillar Corporate Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.
VisionLink is a trademark of VirtualSite Solutions LLC, registered in the United States and in other countries.