

CAT® 777 (05)
WATER TRUCK

THE CHALLENGE: DUST. THE ANSWER: CAT® WATER SOLUTIONS.

Cat® Water Solutions helps you efficiently reduce haul road dust to enhance safety and increase productivity at your quarry, or mine site.

An integrated truck, tank, and water delivery system – paired with scalable levels of connectivity – helps you control dust with a focus on sustainable operations. The exclusive Auto Mode enables operators to deliver a more efficient watering technique with enhanced precision and control – helping solve watering issues common with traditional manual watering operation. This solution is sold and supported by the local Cat dealer you know and trust.

INTEGRATED DESIGN —DELIVERING PROVEN PERFORMANCE

- Built on a proven Cat 777 truck platform.
- Integrated design: truck, tank, and Cat Water Delivery System (WDS) connected with Cat MineStar™ technology.
- Ergonomically designed in-cab controls.

GAIN EFFICIENCY WITH THE CAT® WATER DELIVERY SYSTEM (WDS)

- Auto Mode provides variable water flow based on truck speed to determine appropriate flow to maintain deposition rate and conserve water.
- Automatic start and stop helps eliminate overwatering at road intersections.
- Maintenance-free and self-cleaning water spray heads reduce truck downtime.

SCALABLE CONNECTIVITY WITH CAT MINESTAR™

- Take control with near-real-time information hosted in the cloud.
- Monitor water source and distribution, report status to remote management.
- Service-based offering with scalable levels of connectivity to fit your needs: select between Basic or upgrade to Premium for a higher level of data-driven insights.

REDUCE COSTS, SUSTAINABLY

- Auto Mode conserves water and reduces fuel costs.
- Advanced technology connected to our water delivery system increases efficiency to help optimize your water truck fleet size.

ENHANCE SAFETY & PRODUCTIVITY AT YOUR QUARRY OR MINE SITE

- Lower dust levels, increase visibility, maintain haul road safety.
- Know where and when to water using advanced technology.
- With automated water delivery, the operator can remain focused on traffic and driving.

CUSTOMIZATION WITH OPTIONS TO FIT YOUR OPERATIONS

- We can help you choose a cannon nozzle, water tank, and spray head configuration based on your region and specific watering requirements.
- Choose number of spray heads mounted on rear spray bar, add optional side spray heads on the water tank for additional coverage, select cannon nozzle, and more.
- Hoist cylinder mounting enhances serviceability by raising the water tank for easier maintenance.
- Optional WDS Camera System: includes a camera to view spray bar on back of water tank and two cameras on top of tank for water fill positioning.

CAT DEALER SUPPORT

- Full support of Cat dealer and parts network
- Cat dealer installation & retrofit kits available
- Eligible for Equipment Protection Plans (EPP) & Customer Value Agreements (CVAs)

777 (05) WATER SOLUTIONS SPECIFICATIONS

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

Engine

Engine Model	Cat® C32B	
Rated Engine Speed	1,800 rpm	
Gross Power – SAE J1995	765 kW	1,026 hp
Net Power – SAE J1349/ISO 9249	711 kW	953 hp
Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in^3

- Advertised power is tested per the specified standard in effect at the time of manufacture.
- Net Power advertised is the power available at the flywheel when the engine is equipped with air intake system, exhaust system, and alternator.
- Power rating applies at 1,800 rpm when tested under the specified condition for the specified standard in effect at the time of manufacture.
- Ratings based on SAE J1349:2011 standard air conditions of 25°C (77°F) and 100 kPa (29.61 Hg) barometer. Power based on fuel having API gravity of 35 at 16°C (60°F) and an LHV of 42 780 kJ/kg (18,390 BTU/lb) when engine used at 30°C (86°F).
- No engine derating required up to 3048 m (10,000 ft) altitude.
- Meets China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 2.

Weights – Approximate

Target Gross Machine Weight	163 360 kg	360,147 lb
Chassis Weight	51 321 kg	113,143 lb

- Consult your tire manufacturer for maximum tire load.

Water Tank Capacity

Capacity	75 700 L	20,000 gal

- Water tanks are offered by local 3rd party providers.

Tires

27.00R49 (E4)

- Productive capabilities of the 777 truck are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.
- Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

Weight Distributions – Approximate

Front Axle – Empty*	46%
Front Axle – Loaded	30%
Rear Axle – Empty*	54%
Rear Axle – Loaded	70%

*Depends on configuration.

Final Drives

Differential Ratio	2.74:1
Planetary Ratio	7.00:1
Total Reduction Ratio	19.16:1

Transmission

Forward 1	10.9 km/h	6.8 mph
Forward 2	14.8 km/h	9.2 mph
Forward 3	20.1 km/h	12.5 mph
Forward 4	27.1 km/h	16.9 mph
Forward 5	36.8 km/h	22.9 mph
Forward 6	49.4 km/h	30.7 mph
Forward 7	67.1 km/h	41.7 mph
Reverse	12.1 km/h	7.5 mph

- Maximum travel speeds with standard 27.00R49 (E4) tires.

Braking System

Brake Surface – Front Dry	2787 cm^2	432 in^2
Brake Surface – Rear	102 116 cm^2	15,828 in^2
Brake Surface – Front Wet (optional)	40 225 cm^2	6,235 in^2
Brake Standard	ISO 3450:2011	

Body Hoists

Body Raise Time – High Idle	15 seconds
Body Lower Time – Float	13 seconds
Body Power Down – High Idle	13 seconds

Suspension

Effective Cylinder Stroke – Front	318 mm	12.5 in
Effective Cylinder Stroke – Rear	165 mm	6.5 in
Rear Axle Oscillation	±5.4°	

777 (05) WATER SOLUTIONS SPECIFICATIONS

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

Service Refill Capacities

Fuel Tank	1140 L	300 gal
Cooling System	212 L	56 gal
Crankcase	115 L	30 gal
Differentials	222 L	59 gal
Final Drives (each)	42 L	11 gal
Steering System (includes tank)	60 L	16 gal
Brake/Hoist System	420 L	110 gal
Torque Converter/ Transmission System	125 L	33 gal
Front wheel (each)	7.5 L	2 gal

Steering

Steer Angle	30.5°	
Turning Diameter – Front	25.3 m	83 ft
Turning Circle Clearance Diameter	28.4 m	93.2 ft
Steering Standards	ISO 5010:2019	

Cab

Sound Standards		ISO 6396:2008
ROPS Certification Rating		Tractor ROPS Rating
777 WTR (Tractor)	55 000 kg	121,254 lb

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.0 kg (4.4 lbs) of refrigerant, which has a CO_2 equivalent of 2.86 metric tonnes (3.152 tons).
- The dynamic operator sound pressure level is 80 dB(A) as per ISO 6396:2008 for cab offered by Caterpillar. The cab was properly installed and maintained. The test was conducted with the cab doors and the cab windows closed.
- Rollover protective structure (ROPS) cab offered by Caterpillar meets ISO 3471:2008 for operator and ISO 13459:2012 for trainer.
- Falling objects protective structure (FOPS) meets ISO 3449:2005 Level II for operator and ISO 13459:2012 Level II FOPS for trainer.
- Note: Welding on ROPS or making modifications to the ROPS may void the ROPS certification. Please contact Caterpillar OEM Solutions if the application requires welding on the machine frame.

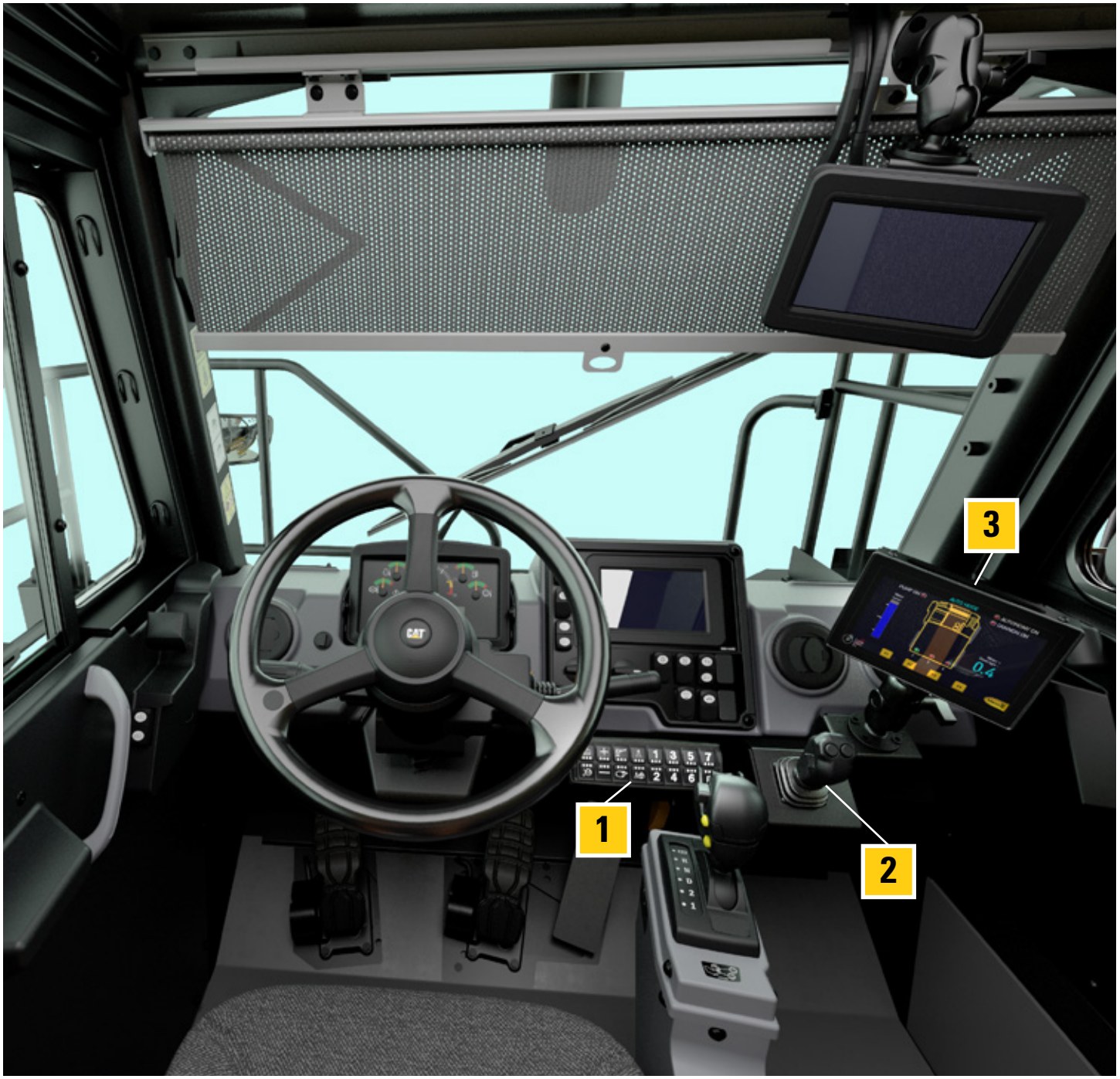
Cat® Water Delivery System (WDS)

Operator selectable coverage	0.2-0.8 L/m² (4 kph - 40 kph)	0.05-0.2 gal/ft² (3 mph - 25 mph)
Maximum water flow	6814 L/min	1,800 gal/min
Water per spray head (minimum)	132.5 L/min	35 gal/min
Water per spray head (maximum)	2271 L/min	600 gal/min
Spray head opening range (minimum)	1 mm	0.04 in
Spray head opening range (maximum)	19 mm	0.75 in
Maximum size debris flushed through spray head	19 mm	0.75 in
Spray width per head (dependent on flow)	4.5-9.1 m	15-30 ft
Spray system hydraulic tank capacity	27.5 L	7.25 gal
Maximum number of rear spray heads	5	
Minimum number of rear spray heads (3 recommended)	2	
Maximum number of front/side spray heads	2	
Minimum number of front/side spray heads	0	
Maximum water from cannon (idle)*	2271 L/min	600 gal/min
Maximum water from cannon (high idle)*	6246 L/min	1,650 gal/min
Maximum cannon spray distance*	61 m	200 ft
Wet water pump/hydraulic motor coupling		

*Depends on nozzle orifice and pipe size.

- Coverage rates above 0.6 L/m² may not be available at higher speeds depending on head count and configuration.
- The Auto Mode setting controls water coverage and automatically adjusts to the number of spray heads being used — independent of ground speed. This is an exclusive feature designed into the Cat® WDS software to help water more efficiently.
- Alternatively, manual mode allows the operator to set a water flow rate that is constant regardless of ground speed. This mode is not recommended for daily operation and will reduce watering efficiency and may increase fuel usage.
- Spray head opening is automatically controlled by the system to achieve Auto Mode Coverage or manual mode flow rate.
- Spray heads on competitive water distribution systems require tools and maintenance to change flow and spray pattern. Caterpillar is the only company to have variable active spray heads to regulate water spray.
- Water flow is continually adjusted during operation to conserve water and achieve desired coverage and flow rate.
- Water tanks are offered by local 3rd party providers with customization based on water application and regional customer requirements. Please contact your local Cat dealer, regional OEM Solutions Account manager, or email OEM_Solutions@cat.com for more information on water tank options and attachments.

777 (05) WATER SOLUTIONS IN-CAB WATER CONTROLS



1	Keypad to select and control the number of spray heads with buttons for intermittent spray, head cleaning, pump on / off, water cannon on / off, tank fill percentage, and adjustments for water flow rate.
2	Joystick for cannon control with adjustable spray selection. Choose a stream or fan spray when watering the pile or mining face. The cannon may also be used for fire mitigation.
3	Integrated touchscreen with user interface for configuring the water delivery system with real-time indicator of water tank level, cannon, and spray head operation. Optional Cat WDS cameras may also be viewed in this screen.

777 (05) WATER SOLUTIONS CONNECTIVITY

Cat MineStar Connectivity comes standard on all new Cat Water Solutions trucks with two package options.

MINESTAR CONNECTIVITY FEATURES*	LEVEL 1: BASIC** Equipment Tracking	LEVEL 2: PREMIUM Equipment Tracking + Production Recording
Near-real-time and historical reporting.	●	●
Truck location / utilization data: routes, starts, and stops.	●	●
Fuel and water level.	●	●
Whether or not the truck is spraying water.	●	●
Water Delivery System Utilization. (Auto Mode vs. manual mode)	●	●
Home Page View.	●	●
Home Page View with cumulative and hourly graphs.		●
Water Distribution Map.		●
Volume of water put down over time and area covered.		●
Water distribution rate, water delivery system setting by location, truck, and conditions.		●
Activity breakdown including time and distance: watering, not watering, stopped, etc.		●
Water dispensed by time/rate and mode, last 5 water activities, water dispensed by age.		●
View and export at least 8 weeks of historical water activity data.		●
Replay provides the ability to review and replay shifts by selecting a historical date and time. Review water level, pump on/off, heads on/off, cannon on/off, WDS Mode (Manual or Auto Mode), and coverage rates.		●
In-cab reporting to operator on water coverage and need.		●

*Based on equipment connectivity via WiFi or cellular data.**Basic Connectivity Package comes standard on new truck purchase with a 6-month complimentary service-based offering for better data insights.

Standard and Optional Equipment

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

POWERTRAIN	Standard	Optional
Cat® C32B Engine	•	
Auto electric fuel priming pump	•	
Biodiesel compatibility, B40	•	
Brake release motor (towing)	•	
Braking system: Hydraulically actuated brakes with oil cooled multiple disc (rear) and caliper disc (front), hydraulically applied and spring released	•	
Cat transmission: 7F/1R speed planetary powershift, ECPC control, APECS software, programmable top gear/speed selection, body upshift inhibitor, directional shift management, neutral start switch, neutral coast inhibitor, reverse shift inhibitor, body-up reverse neutralizer, 2nd gear drive, torque shift management, and part throttle shifting	•	
Economy mode/adaptive economy mode	•	
Emergency/parking brake, spring applied and hydraulically released	•	
Engine overspeed protection	•	
Retarder control – manual	•	
Water/fuel separator	•	
Front oil cooled disc brake		○
Traction control system		○
Retarder control – automatic		○

ELECTRICAL	Standard	Optional
Alternator, 150 amp	•	
Auxiliary jump start receptacle	•	
Backup alarm	•	
Backup light, LED	•	
Directional signal/hazard warning, LED lights	•	
Electrical system, 10 amp, 24V to 12V converter	•	
Four batteries, 12V, 190 amp-hour	•	
Ground-level battery disconnect switch	•	
Ground-level engine shutdown switch	•	
Headlights with dimmer, LED	•	
Operator courtesy lights, LED	•	
Stop/taillights, LED	•	
Switch, engine lockout	•	
Switch, machine lockout	•	
Two starter motors	•	
Working lights, LED	•	
Audio visual backup alarm		○
Fog lamp		○

OPERATOR ENVIRONMENT	Standard	Optional
Advisor, touchscreen display	•	
Ash tray	•	
Coat hook	•	
Combined gear shift/hoist/park brake lever	•	
Cup/bottle holder	•	
Diagnostic connection port	•	
Horn electric	•	
HVAC	•	
Liquid crystal display (LCD), cluster gauge: brake oil temperature, transmission oil temperature, engine coolant temperature, hour meter, tachometer, fuel level gauge, speedometer	•	
Left-side power window	•	
Mirrors, left and right	•	
Radio ready	•	
Right-side access door	•	
ROPS/FOPS cabin	•	
Seat, trainer with lap belt	•	
Seat: operator – fully adjustable, air suspension, 4-point seat belt with reminder	•	
Storage compartment	•	
Sun visor	•	
Switches: throttle lock, wipers/washers, hazard lights, headlights, secondary steering, back light adjust, AC on/off, spare, economy mode, egress lamp, Product Link™ disconnect	•	
Tilt and telescopic steering wheel	•	
Blind spot mirror		○
Heated mirror		○

CAT TECHNOLOGY PRODUCTS	Standard	Optional
Cat Product Link™	•	
Cat Detect system		○
Camera system		○
Vital Information Management System (VIMS™)		○
Cat Water Delivery System software	•	
Cat MineStar™ hardware and connectivity packages:		
• Level 1 – Basic (Equipment Tracking)*		○
• Level 2 – Premium (Equipment Tracking + Production Recording)		○

*Basic connectivity package comes standard on all Cat Water Trucks with a 6-month complimentary service-based offering.

Standard and Optional Equipment

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

OTHER EQUIPMENT	Standard	Optional
Body down indicator	●	
Body safety pin	●	
Driveline guard	●	
Engine crankcase guard	●	
Extended life coolant to -35°C (-30°F)	●	
Ground-level grease fittings		○
Hydropneumatic suspension	●	
Load counter	●	
Tie down eyes/tow down hooks	●	
Vandalism protection lock	●	
Automatic lubrication system (27 kg/40 kg)		○
Cluster/grouped lubrication system	●	
Cold weather package		○
Exhaust muffler		○
Fast fluid fill system		○
Fast fuel fill system		○
Fire extinguisher		○
Fuel tank 1325 L		○
Hoist cylinders		○
Hoist quick disconnect		○
Oil change system – high speed		○
Oil renewal system (ORS)		○
Spare rim		○
Wheel chocks		○

CAT WATER DELIVERY SYSTEM (WDS)	Standard	Optional
Controls:		
• Factory installed	●	
• Integrated into cab	●	
Water System Monitor:		
• Integrated into cab	●	
• Programmable spray configurations	●	
• Automatic diagnostic messages	●	
Variable Hydraulic Pump Drive:		
• 1,800 gpm at speeds of 4 - 40 kph (3 - 25 mph)	●	
• Auto shut-off	●	
• Soft startup	●	
Stainless Steel Spray Heads:		
• Resists corrosion	●	
• Maintenance free	●	
• Patented design	●	
Independent Hydraulic Cooling System:		
• Minimizes overheating	●	
Water Cannon:		
• Hydraulically controlled	●	
• Optional nozzles		○
• Integrated joystick with cab controls	●	
WDS Camera System: includes three cameras, three camera washers and cable assemblies		○
Parts and service available through global Cat dealer network		

WATER TANKS		
Water tanks are offered by local 3rd party providers with customization based on water application and regional customer requirements.		○
Options include: tie offs, ladders, splash guards, fill chute, rock ejectors, hose reels, working lights, and other options based on request.		○
Spray bar for 3-5 Cat WDS spray heads		○
Side spray mounting for Cat WDS spray heads		○

Please contact your local Cat dealer, regional OEM Solutions Account manager, or email OEM_Solutions@cat.com for more information on water tank options and attachments.

For more information, contact OEM Solutions:

oem_solutions@cat.com | www.cat.com/oemsolutions

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

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AEXQ4813 (10-2026)
Build number: 05
(Afr-ME, Asia Pacific, SE Asia, S. Am)