

PRODUCT SPECIFICATIONS FOR 785D WATER TRUCK



ENGINE

Engine Model	Cat® 3512C HD
Gross Power - SAE J1995	1082 kW
Net Power - SAE J1349	1005 kW
Emissions	Fuel Optimized
Bore	170 mm
Stroke	215 mm
Displacement	58.56 l

Note (1) Net Power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator with engine speed at 1,800 rpm.

CAT WATER DELIVERY SYSTEM (WDS)

Maximum water flow	3785 l/min
Water per spray head (minimum)	130 l/min
Water per spray head (maximum)	2270 l/min
Spray head opening range (minimum)	1 mm
Spray head opening range (maximum)	19 mm

Maximum size debris flushed through spray head	19 mm
Spray system hydraulic tank capacity	27.5 l
Maximum number of rear spray heads	5
Minimum number of rear spray heads (recommended 3)	2
Minimum number of front/side spray heads	2
Maximum number of front/side spray heads	0
Maximum water from cannon (idle)	2271 l/min
Maximum water from cannon (high idle)	4732 l/min
Maximum cannon spray distance	61 m
Type	Wet water pump/hydraulic motor coupling
Note	Operator selectable coverage: 0.2-0.8 L/m ² (4 kph - 40 kph) / 0.05-0.2 gal/ft ² (3 mph - 25 mph). Coverage rates above 0.6 L/m ² may not be available at higher speeds depending on head count and configuration.
Note (1)	Opening is automatically controlled by the system to achieve AutoMode Coverage or Manual Mode Flow Rate.
Note (2)	AutoMode Spray controls water coverage automatically to the number of heads being used and ground speed achieved.

Note (3) Manual Mode allows the operator to set a water flow rate that is constant regardless of ground speed.

Note (4) 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.

Note (5) Water flow is continually adjusted during operation to conserve water and achieve desired coverage and flow rate

TANK CONFIGURATIONS

Water Tank Capacity up to 121 133 L (32,000 gal)

Note Multiple tank configurations are offered based on customer preference and regional locations. Water Tank Capacity Range: 110 000 - 121 133 L (29,059 - 32,000 gal)

Machine Weight (with water tank full) 480,655 lb - 520,237 lb / 218 022 kg - 235 976 kg

Empty Machine Operating Weight (without water / with fuel) 241,647 lb - 251,098 lb / 109 610 kg - 113 896 kg

Water Tank - Max Empty Weight (no WDS) 57,320 lb - 66,769 lb / 26 000 kg - 30 286 kg

Note (1) Cat branded tanks include additional features and options commonly selected by customers in the industry. Splash guards, fill chute, and rock ejectors are standard.

Note (2) Hoist cylinder mounting on all tank offerings enhances serviceability.

OPERATING SPECIFICATIONS

Note Water Tank Capacity Range: 110 000 - 121 133 L (29,059 - 32,000 gal)

Note (2) Operator selectable coverage: 0.2-0.8 L/m² (4 kph - 40 kph) / 0.5-0.2 gal/ft² (3 mph - 25 mph)

WEIGHTS - APPROXIMATE

Target Gross Machine Weight

249476 kg

Chassis Weight

82022 kg

TRANSMISSION

Forward - 1 12.1 km/h

Forward - 2 16.3 km/h

Forward - 3 22.2 km/h

Forward - 4 29.9 km/h

Forward - 5 40.6 km/h

Forward - 6 54.8 km/h

Reverse 11 km/h

Note

Maximum travel speeds with standard 33.00-R51 tires.

FINAL DRIVES

Differential Ratio 2.10:1

Planetary Ratio 10.83:1

Total Reduction Ratio 22.75:1

BRAKING SYSTEM

Brake Surface - Front 61270 cm²

Brake Surface - Rear 89729 cm²

Brake Standards ISO 3450:2011

BODY HOISTS

Pump Flow - High Idle	750 l/min
-----------------------	-----------

Relief Valve Setting - Raise	17238 kPa
------------------------------	-----------

Relief Valve Setting - Lower	3450 kPa
------------------------------	----------

Body Raise Time - High Idle	15.2 s
-----------------------------	--------

Body Lower Time - Float	16.2 s
-------------------------	--------

Body Lower Time - High Idle	15.9 s
-----------------------------	--------

WEIGHT DISTRIBUTIONS - APPROXIMATE

Front Axle - Empty	46 %
--------------------	------

Front Axle - Loaded	33 %
---------------------	------

Rear Axle - Empty	54 %
-------------------	------

Rear Axle - Loaded	67 %
--------------------	------

SUSPENSION

Rear axle - Oscillation	5 °
-------------------------	-----

STEERING

Steering Standards	ISO 5010:2007
--------------------	---------------

Steer Angle	36 °
-------------	------

Turning Diameter - Front	29.8 m
--------------------------	--------

TIRES

Standard Tire	33.00-R51 (E3 & E4)
---------------	---------------------

Note (1) Productive capabilities of the 785D truck are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.

Note (2) Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

SERVICE REFILL CAPACITIES

Fuel Tank	1893 l
Cooling System	379 l
Crankcase	204 l
Differential - Final Drives	436 l
Steering Tank	90 l
Steering System - Including Tank	117 l
Brake Hoist System	337 l
Brake Hoist System - Includes Tank	641 l
Torque Converter - Transmission System - Including Sump	248 l

CAB

Air Conditioning	42780 Btu/kWh
Heater / Defroster	11070 kJ/kg
ROPS Standards (1)	The ROPS (Rollover Protective Structure) for the cab offered by Caterpillar meets ISO 3471:2008 ROPS criteria.
FOPS Standards	The FOPS (Falling Objects Protective Structure) meets ISO 3449:2005 Level II FOPS criteria.

Note (1) The operator sound exposure Leq (equivalent sound pressure level) measured according to work cycle procedures specified in ANSI/SAE J1166 MAY90 is 80 dB(A) for cab offered by Caterpillar, when properly installed, maintained and tested with doors and windows closed.

Note (2) The exterior sound pressure level for the standard machine measured at a distance of 15 m (49 ft) according to the test procedures specified in SAE J88 APR95, mid-gear moving operation is 89 dB(A).

Note (3) Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

785D WATER TRUCK STANDARD EQUIPMENT

NOTE

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

ELECTRICAL

Alarm, Back-up
Alternator (105 A)
Batteries, 93Ah, Low-maintenance, 12V (2)
Converter, 12V electrical
Lighting System
Electrical System, 24V, 15A

SUSPENSION SYSTEMS

Suspension, rear

OPERATOR ENVIRONMENT

Dome courtesy light
Gauges/Indicators
Air conditioning
Ashtray and cigarette lighter
Coat hook
Diagnostic connection port
Entertainment Radio Ready
– 5 amp converter
– Speakers
– Antenna
– Wiring harness
Heater/defroster
Horn
VIMS

TPMS

Storage compartment

Steering wheel, tilt, padded, telescopic

ROPS cab, insulated/sound suppressed

Tinted glass

Window, electric powered, operator

Sun visor

Window, right side, hinged access/egress

Windshield wiper (intermittent) and washer

CAT TECHNOLOGY PRODUCTS

Adaptive economy mode

Object detection (4 cameras, 4 radars)

Product Link™ Ready (Level 1)

TKPH/TMPH (Tons Kilometer Per Hour/ Tons Mile Per Hour)

Work Area Vision System (WAVS)

Cat MineStar Edge™: Level 1 - Basic (Equipment Tracking)*

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

POWERTRAIN

Braking System

Transmission

GUARDS

Engine crankcase

Driveline

Fan and A/C

FLUIDS

Extended Life Coolant to -35° C (-30° F)

OTHER STANDARD EQUIPMENT

Body mounting group

Air Line Dryer (2)

Auto lubrication system (Lincoln)

Dumping, Auxiliary Quick Connect for "Buddy Dumping"

Steering, Auxiliary Quick Connect for Towing

Continuous rear axle filtration

Diagonal stairway, 600 mm (24 in)

Driveline Operator Safety Guard

Battery Disconnect

Fast-fill Fuel System

High speed crankcase oil change

Reservoirs (Separate)

S•O•SSM sample ports

Supplemental steering (automatic)

Tie Down Eyes

Tow Hooks, Front

Traction Control System

Vandalism Protection Locks

Vital Information Management System (VIMS) includes: VIMS payload monitor, MAX payload and speed manager

CAT WATER DELIVERY SYSTEM (WDS)

Controls: Factory installed and integrated into cab

Water System Monitor: integrated into cab, programmable spray configurations, automatic diagnostic messages

Variable Hydraulic Pump Drive: 1,200 gpm at speeds of 3 to 25 mph with auto shut-off and soft startup

Stainless Steel Spray Heads: maintenance free, patented design resists corrosion

Independent Hydraulic Cooling System: minimizes overheating

Water Cannon: hydraulically controlled, integrated joystick with cab controls, optional nozzles

Parts & service available through global Cat dealer network

CAT BRANDED WATER TANK OFFERINGS WITH OPTIONS

Cat branded tanks include additional features and options commonly selected by customers in the industry.

- Splash guards, fill chute, and rock ejectors are standard.
- Hoist cylinder mounting on all tank offerings enhances serviceability
- Manufactured and supplied by recognized tank providers (covered by a Caterpillar warranty)

785D WATER TRUCK OPTIONAL EQUIPMENT

NOTE

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

OPERATOR ENVIRONMENT

Vacuum, cab clean-out

Hose, cab clean-out

COLD WEATHER

Starting, Cold Weather

TIRES AND RIMS

Spare rims

INFORMATION MANAGEMENT

Control, Road Analysis (RAC)

SERVICE CENTER

Service Center, Wiggins

MISCELLANEOUS

Fire extinguisher, portable

Hub Odometer, Kilometers

Hub Odometer, Miles

Wheel Chocks

Heater, Diesel fuel

POWERTRAIN

Cat 3512C HD-EUI diesel engine

Oil renewal system

Oil cooler, rear axle

Pre-lube, engine

CAT TECHNOLOGY PRODUCTS

Cat MineStar Edge™: Level 2 - Premium (Production Recording)**

**Phased introduction 2022