

# FLM5180TXSDF6NGS

## Street Sweeping & Washing Truck

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# INTRODUCTION

## 1. Overview

The FLM5180TXSDF6NGS sweeping & washing truck adopts DONGFENG natural gas truck chassis, and is equipped with auxiliary engine, transmission device, garbage tank body, clean water tank body, cleaning devices, dust suppression system, vacuum nozzle, low pressure washing system, high pressure washing system, hydraulic system, pneumatic system, electrical system.

The truck is versatile and beautiful in appearance. It has the superior performance of high efficiency, environmental protection and reliability.



**Left 45°**



**Right 45°**



**Front**



**Rear**

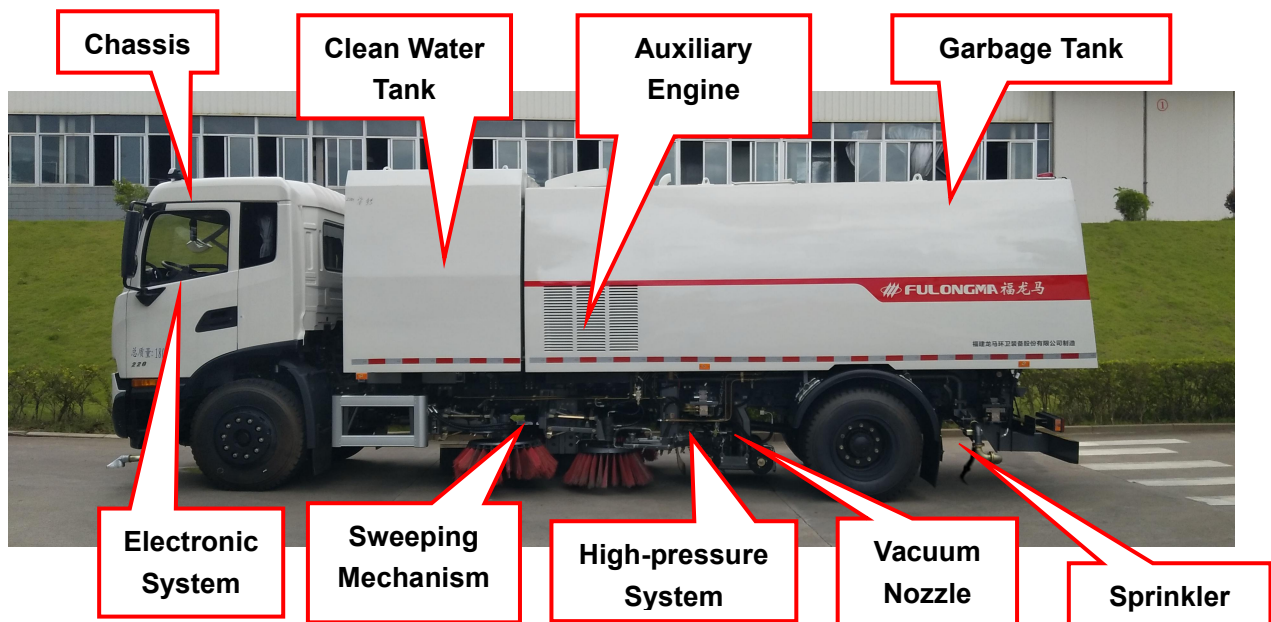
## 2. Functions

The truck has multiple functions such as road washing, road sweeping, curbstone cleaning, low pressure flushing, and dust reduction.

## 3. Applications

The truck is suitable for mechanized cleaning of urban roads, highways, squares, airports, docks, tunnels and bridges.

## 4. Structure & Characteristics



### 4.1 Chassis

Chassis: Modified with DFV1182GP6NJ truck chassis of DONGFENG, with strong power and strong bearing capacity.

Engine: YCA07220N-60 natural gas engine is used, with a rated power of 162kW, a rated speed of 2100r/min, and the emission reaches the China VI standard.

### 4.2 Auxiliary Engine

The auxiliary engine adopts the YC4G180N-50 natural gas engine of YUCHAI, the rated power is 132W, the rated speed is 2300r/min, and the emission reaches the China V standard. The auxiliary engine is driven by the cylinder to drive the vehicle clutch, and the

clutch is automatically controlled by the electronic control system. It can realize the no-load start and no-load stop of the auxiliary engine, so as to prolong the service life of the auxiliary engine.



#### 4.3 Garbage Tank

The garbage tank is made of 304 stainless steels, and the side walls are designed with large round curved ribs. The clean water tank and the garbage tank are integrated into one, and the total volume of the garbage tank is 7m<sup>3</sup>.

#### 4.4 Vacuum Nozzle

The unique double-suction narrow suction nozzle structure and the original V-shaped nozzle can effectively collect all the cleaned sewage and garbage to the suction nozzle, and the sewage recovery effect is better.



#### 4.5 Sweeping Mechanism

The brush adopts hydraulic floating automatic adjustment technology to keep the contact force between the brush and the ground at a fixed value, so that the contact surface between the brush and the ground remains unchanged. When the brush is worn, it can be automatically compensated without manual adjustment to ensure that the cleaning efficiency

will not be affected.

#### 4.6 High-pressure Water Pump

The high-pressure water pump adopts the GT40F pump of the international famous brand, with a rated working pressure of 13MPa and a rated flow of 153L/min, with high efficiency and good reliability.



#### 4.7 Electronic System

The truck adopts the control mode of "Displayer + Controller + CAN Bus Operation Panel". The control of the speed of the drive motor, the vacuum nozzle, the sweeping disc, and the left and right spray bars are all operated by one button. Vehicle operation is realized by two operation devices, one in the cab and one in the operation panel on the right side of the rear of the vehicle.

The display screen is located in the front right of the driver's seat and is mainly used for various operation control of the vehicle.





The operation box is located in front of the driver's seat and is mainly used for starting and stopping the auxiliary engine.



The operation panel is located on the right rear side of the vehicle and is mainly used for the control of the tailgate, garbage tank, auxiliary air blower, and hand-held water spray gun.



The system has set up various operation modes such as full sweeping, full washing and full sweeping and washing. Users can choose the appropriate operation mode according to their needs. After the operation mode is selected, it can be started with one key, and all the

mechanisms that need to participate in the operation will automatically extend and operate in the specified order. When it is necessary to stop the operation, it can be stopped with one key, and all the operating mechanisms in the work will automatically stop running in the specified order and return to the original state.



The normal working speed of the auxiliary engine is automatically controlled by the electrical system, and there are three gears: "Idle", "Regular" and "Strong". After the auxiliary engine is started, it will run at idle speed, and the speed is about 800r/min. After the operation is started, the auxiliary engine speed will automatically increase, the stable working speed of the "Regular" gear is 1350r/min, and the stable working speed of the "Strong" gear is 1450r/min. When the auxiliary engine cancels the "Regular" gear and "Strong" gear modes, the user can adjust the rotation speed of the auxiliary engine within the range of "Idle" to "Highest" speed according to the needs (the maximum speed of the auxiliary engine is set to 1500r/min).

The vehicle has a rear-view system. Cameras are installed at the rear and right side of the vehicle, and a color display is installed in the cab. When working, you can check the cleaning effect in the cab and ensure safety when reversing.



The alarm system equipped with this vehicle can issue an alarm when working and dumping garbage. It can also be equipped with music prompt information and alarm information, which is convenient and practical.

**5. Main Specifications**

Items		Units	Specifications	
			Type-A: Standard	Type-B: Single-point Dredging Device
Vehicle	Curb Weight	kg	12550	12550
	Payload	kg	5255	5255
	Dimension (L×W×H)	mm	9300×2520×3060	9440×2520×3060
	Front/Rear Overhang/Rear Extension	mm	1400/2300/0	1540/2300/0
	Approach/Departure Angle	°	13/13	13/13
	Ground Clearance	mm	240	
	GVW	kg	18000	
Working Performance	Sweeping & Washing Width (m)	m	4.1	
	Water Pressure	MPa	13	




	Water Flow	L/min	153
	Sprinkling Width	m	24
	Sweeping Width	m	3.5
	Sweeping Speed	km/h	3~20
	Sweeping & Washing Speed	km/h	3~8
	Cleaning Performance	m <sup>2</sup> /h	70000
	Clean Water Tank Volume	M <sup>3</sup>	10
	Garbage Tank Volume	M <sup>3</sup>	7
	Tipping Angle	°	≥45
Driving Performance	Top Speed (Full-loaded)	km/h	89
	Gradeability	%	30
	Brake Distance (Full-loaded 30km/h)	m	≤10
	Turning Radius	m	20
Chassis	Chassis Model	DFV1182GP6NJ	
	Passengers	3	
	Engine Model	YCA07220N-60	
	Engine Rated Power	162kw/2100r/min	
	Engine Maximum Net Power	158kw	
	Transmission Model	DC6J95T	
	Transmission Type	Manual	
	Tires	Front	10.00R20 18PR
Rear		10.00R20 18PR	




## 6. Advantages


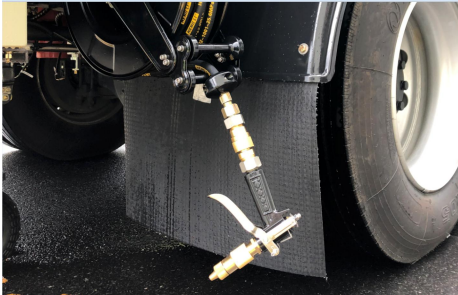
No.	Advantages	Descriptions
1	Outstanding Performance	<p>The structure of "central four-disc sweep + central V-shaped water spray frame + central double-suction narrow vacuum nozzle" has a variety of operation modes, which can realize the sweeping, washing of the road surface. The left and right front sweeping discs and the left and right water spray frames have automatic obstacle avoidance and reset functions.</p> <p>The garbage tank is made of 304 stainless steels, and the side walls are designed with a large round surface, which is novel in shape, beautiful in appearance, corrosion resistance and large in volume. It is convenient for dumping garbage and has an internal self-cleaning device.</p> <p>The fan adopts the industry's first dual-fan suction system, that is, the central double vacuum nozzle + the rear single suction narrow vacuum nozzle structure, which can perform secondary cleaning of garbage and ensure the clean rate of operation. The speed of the fan is controlled by a stepless hydraulic system, which can control the speed of the independent fan in the cab, and the operation efficiency is high.</p> <p>The high-pressure cleaning spray bar consists of left and right spray bars and the inner spray bar of the vacuum nozzle. During operation, the height of the boom from the ground is fixed and will not change with the load of the truck, so as to achieve the best cleaning effect. The left and right spray rods can be swung out and retracted, which is driven by the cylinder and automatically controlled by the electronic control system. When the left and right spray bars are swung out at the same time, the cleaning width is</p>

		not less than 3.5m.
2	Good Quality	High-pressure water pumps, relief valves, unloading valves, main and auxiliary engines, and electrical control components are well-known brands with high quality and high reliability.
3	Safe & Reliable	<p>The vehicle is equipped with a thoughtful alarm system, which can emit various alarm sounds during operation and unloading, which is convenient and practical.</p> <p>In order to facilitate the operation at night or in an environment with insufficient brightness, the left and right sweeping discs are equipped with lights.</p> <p>This model is equipped with a variety of prompting devices, such as low water level in the clean water tank, high water level in the garbage tank, operation prompts, engine water temperature, oil pressure, reversing, hydraulic oil leakage, garbage tank status, tailgate opening and closing. Make sure that the truck will not be damaged in certain conditions or mishandling.</p> <p>There are safety struts at the lower part of the garbage tank. During debugging, installation, inspection and maintenance operations, the safety struts on both sides of the bottom of the garbage bin can be propped up at the same time to ensure the safety of personnel and equipment.</p>

**7. Working Modes**




No.	Items	Descriptions
1	<b>Sweeping &amp; Washing Operation</b>	


	<b>Functions</b>	For the cleaning of roads and squares.
	<b>Structure &amp; Characteristics</b>	Use the configuration of the central four-disc sweeper + the central V-shaped water spray frame + the central double-suction narrow vacuum nozzle to clean the road surface. One cleaning operation can make the road surface clean rate reach more than 95%.
2	<b>Sweeping Operation</b>	
	<b>Functions</b>	For the cleaning of roads and squares.
	<b>Structure &amp; Characteristics</b>	The four-disc sweep in the middle + the central double-suction narrow vacuum nozzle is used for the combined operation of sweeping and vacuuming.
3	<b>Washing Operation</b>	
	<b>Functions</b>	For the cleaning of roads and squares.
	<b>Structure &amp; Characteristics</b>	The high-pressure cleaning operation is carried out through the V-shaped water spray frame of the vacuum nozzle and the inner spray rod, combined with the double-suction narrow vacuum nozzle.
4	<b>Front Sprinkling</b>	
	<b>Functions</b>	For the cleaning of roads and squares.

	<b>Structure &amp; Characteristics</b>	The nozzle is controlled by the cylinder, which is suitable for sprinkling the road surface and the curb, and the flushing direction of the duckbill nozzle can be adjusted within a certain range.
5	<b>Side Flushing Operation</b>	
	<b>Functions</b>	For the cleaning of highways and expressways.
	<b>Structure &amp; Characteristics</b>	Flushing Width $\geq 24m$ There is a nozzle on the left and right, all controlled by a pneumatic shut-off valve. By adjusting the angle of the two connecting flanges, the nozzle angle can be adjusted.
6	<b>Hand-held Spray Gun</b>	
	<b>Functions</b>	It is used to connect the car wash gun for vehicle cleaning, trash can cleaning and other operations.
	<b>Structure &amp; Characteristics</b>	Water Flow: 30L/min When in use, it is connected to the high-pressure reel through a quick-plug connector, and the reel comes with a 20m long water hose. It has high cleaning efficiency and good effect.



## 8. Optional Selected

No.	Items	Descriptions
1	<b>Upper Mist Sprayer</b>	
	<b>Functions</b>	Carry out dust suppression, heatstroke prevention, and cooling operations.
	<b>Structure &amp; Characteristics</b>	The rear upper spray pipe is located at the upper part of the rear end of the tank, equipped with stainless steel nozzles, which has a good effect of dust reduction and cooling.
2	<b>Rear Mist Sprayer</b>	
	<b>Functions</b>	Carry out dust suppression, heatstroke prevention, and cooling operations.
	<b>Structure &amp; Characteristics</b>	The rear lower spray pipe is located in the rear bumper, equipped with stainless steel nozzles, which has a good effect of dust reduction and cooling.
3	<b>Fix-point Dredging Device</b>	
	<b>Functions</b>	The cleaning device can realize the adjustment of up, down, left and right directions, which is convenient for clearing the road surface stains at a fixed point.
	<b>Structure &amp; Characteristics</b>	The water circuit is controlled by the cylinder, and the motor controls the adjustment of the nozzle up, down, left and right.

4	<b>Rear Sprinkler</b>	
	<b>Functions</b>	It is used for flushing of roads, squares and other places.
	<b>Structure &amp; Characteristics</b>	It is located at the rear of the vehicle, with one nozzle on the left and right, controlled by the cylinder, and is suitable for washing the road surface and the curb.