

# FLM5180ZYSDG6N GGW

## Garbage Compactor Truck

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# INTRODUCTION

## 1. Overview

The FLM5180ZYSDG6NGGW garbage compactor truck adopts the EQ1185L9NDH type truck chassis from DONGFENG. It is a new type of sanitation special vehicle specially used for collecting and transporting garbage. The vehicle mainly collects and transports urban domestic garbage, and is an ideal garbage collection and transportation vehicle for urban sanitation departments, factories, mines and wharfs. The product can be equipped with different types of lifting devices according to user needs.



Right 45°



Left



Front



Rear

## 2. Functions

This product adopts an intelligent control system, with automatic and manual dual control

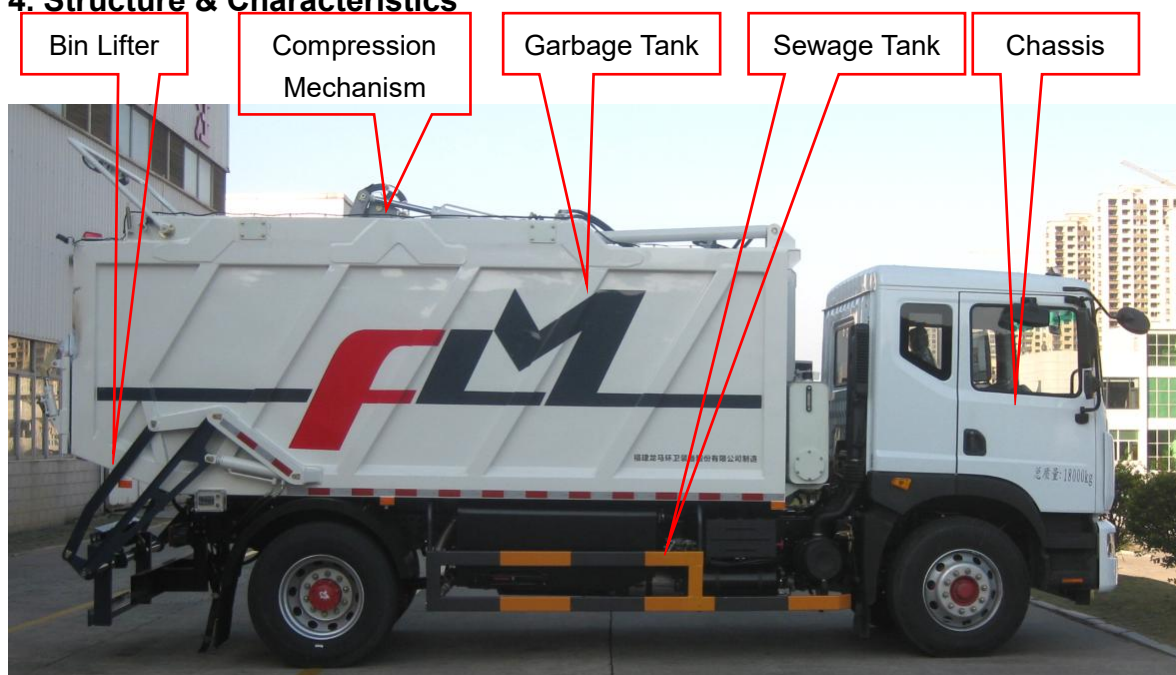
modes, which can control the operation of garbage trucks in the cab, the middle of the vehicle, and the rear of the vehicle. The rear of the tank adopts a ship-shaped design to form a closed sewage tank, which can store a large amount of sewage. The tailgate is equipped with an adjustable lock hook mechanism to ensure reliable sealing and prevent secondary pollution problems such as sewage dripping. A compression mechanism is arranged on the top of the tank body, and there is no hopper, which makes the rear overhang short and good maneuverability. It is compressed by the compression mechanism on the top of the tank by the method of post-loading. During normal driving, the compression mechanism can replace the function of the cover plate to keep the garbage in a sealed state.

According to user needs, it can be equipped with various types of bin lifter and bucket lifter. The efficient and convenient lifting support device and the cam clamping device of the bin lifter carefully designed, which provides the possibility to configure a variety of lifting devices.

### 3. Applications

The vehicle mainly collects and transports urban domestic garbage, and is an ideal garbage collection and transportation vehicle for urban sanitation departments, factories, mines and wharfs.

### 4. Structure & Characteristics



#### 4.1 Chassis

Chassis: Modified with EQ1185L9NDH 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 Garbage Tank

The effective volume of the garbage tank is 14m<sup>3</sup>. The main components such as the garbage tank are made of B480GNQR high-strength weathering steel plate produced by Shanghai Baosteel, and adopt the arc-shaped design, which is simple and beautiful and with large effective volume, outstanding overall structural performance and strong impact resistance. The high-strength U-shaped integrally formed truss groove of Japanese technology is used as the movable guide rail of the garbage ejector, which has strong compression capacity and good deformation resistance.

The garbage tank is equipped with an ejector, which can slide along the guide rails on the side. It has two functions: a. Push the garbage out of the garbage tank when dumping. b. Sealed the front end of the garbage tank

#### 4.3 Sewage Tank

The two sewage tanks use one container. the right sewage tank at the bottom of the tank has a volume of 360L, and the garbage tank has a volume of 3950L for sewage. Combined with the diversion sewage collection device, the sewage leaking between the hopper and the garbage tank body due to the failure of the sealing strip can be drained to these special sewage collection tanks. It is also equipped with a flexible, reliable and easy-to-adjust sewage tank cleaning door sealing device, which can effectively prevent secondary pollution caused by sewage leakage.

#### 4.4 Compression Mechanism

The compression mechanism is composed of a packer plate, a carrier plate and other components, which are used to complete the crushing, compacting and pressing of the garbage into the garbage tank. The width of the entrance is 2090mm, the working cycle time

of compression is not more than 17 seconds, the compression density of garbage is between 0.4-0.5 t/m<sup>3</sup>, and the maximum crushing compression force is 210kN.

When loading garbage, the ejector will be pushed into place first, and then starts to load garbage. For the oil cylinder of the ejector mechanism has a certain back pressure, the ejector retraction resistance is generated. The ejector will retract only when the pushing force of the garbage is greater than the resistance of the ejector. Therefore, when the garbage enters the garbage tank from the hopper, it will be initially compacted. The continuous loading of garbage causes the push plate to be continuously retracted into position, and the garbage is further compacted in the process.

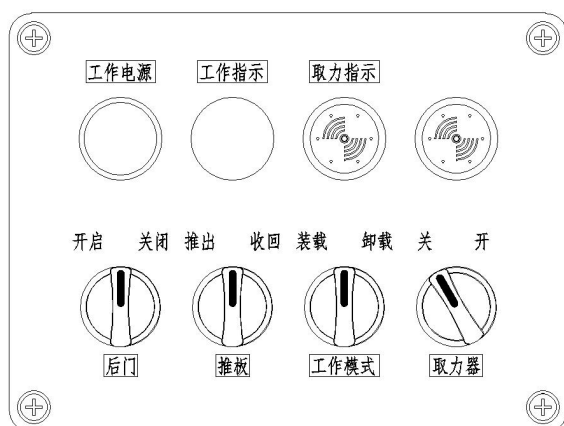
#### 4.5 Lifting Mechanism

According to user needs, it can be equipped with various bin lifters and bucket lifters with a wide range of applications, including 240L bin lifter, 240L bin lifter with weighting system, 240L bin lifter compatible with 660L trash cans.

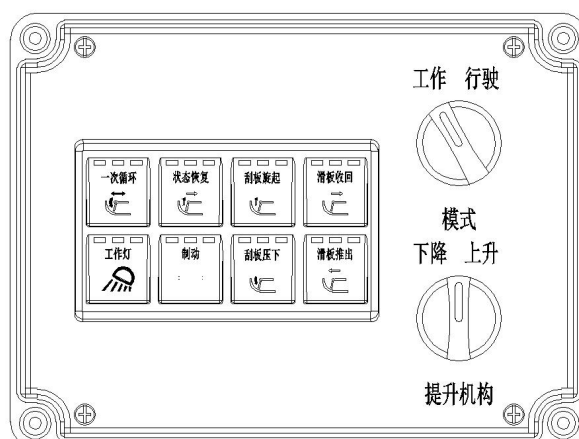
#### 4.6 Control

##### Driving Operation

The driving can be carried out according to the driving method of a general truck. Before driving, the hopper should be closed in place, the power take-off should be in a disengaged state, and the power switch on the front control box panel should be turned off.



In-cab Control Panel



Rear Control Panel (Right side of hopper)

#### Working Operation

#### 4.6.1 Operation before each device works

The transmission is in neutral.

Stop the truck at the designated spot (not on an incline), apply the handbrake, and put the transmission in neutral. Confirm that the copper ball valve in the hydraulic oil tank outlet line is in the open position.

Depress the clutch pedal to start the chassis engine, operate the power take-off push rod to engage it, release the clutch pedal slowly, and the gear oil pump starts to run. At this time, the multi-way valves are all in the neutral position, and the hydraulic system is in the unloading state, ready for operation.

#### 4.6.2 Garbage compression cycle operation

When the engine is at idle speed, press the power switch button and the compression cycle button on the front control box panel, then the automatic throttle device starts to work, so that the engine speed rises to the working speed of the compression cycle. At the same time, the hydraulic system drives the working device to complete the various actions of the compression cycle in turn, until the packer plate returns to its original position and automatically stops working. At the end of a single cycle, the automatic throttle also stops working and the engine returns to idle.

Continue to fill the hopper with garbage for the next compression cycle. Repeat this until the garbage tank is full of garbage.

#### 4.6.3 The operation of hopper and the unloading operation of the ejector

Turn on the power supply of the control box in the cab first, then turn the work transfer switch to the unloading position, and then turn the hopper switch to the ON position. At this time, the hopper starts to lift, until the buzzer stops, turn the ejector switch to the push-out gear, the ejector starts to push out, and let go when the garbage is pushed out completely. After confirming that the garbage is unloaded, turn the ejector switch to the retracted position to fully retract the ejector, and then turn the hopper switch to the OFF position until the hopper is closed in place and the hook is locked.

#### 4.6.4 Brake operation

There is a brake button on the rear control box. Press the brake button and the compression action stops immediately. You can also use the twist button to rotate the packer plate, and the reverse button to lift the carrier plate. After troubleshooting, you need to press the compression cycle button again to resume normal operation. When the hopper or the ejector movement encounters an emergency, loosen the handle of the multi-way valve, and the working device will stop working.

## 5. Main Specifications

Items	Specifications
Chassis Model	EQ1185L9NDH
Chassis Manufacturer	Dongfeng Motor Co., Ltd.
Emission Standard	China VI
Engine Model	YUCHAI YCA07220N-60
Maximum Net Power/Rotation Speed (kw/(r/min))	158/2100
Rated Power/Rotation Speed (kw/(r/min))	162/2100
Displacement (ml)	6871
Maximum Torque/Rotation Speed (N.m/(r/min))	850/1200-1700
Transmission Model	DT0690
Transmission Type	Manuel MT
Tires	295/80R22.5
Wheelbase (mm)	4500
Wheel Track (Front/Rear) (mm)	1923/1865
Ground Clearance (mm)	≥260
Gradeability (° )	≥30
Turning Radius (m)	≤19.5




GVW (kg)	18000	
Configurations	With Bin Stopper	No Bin Stopper
Dimension (L×W×H) (mm)	7780×2525×3700	7780×2525×3360
Curb Weight (kg)	10310	
Payload (kg)	7560	
Front/Rear Overhang (mm)	1260/2020	
Approach/Departure Angle (°)	20/11	
Top Speed (km/h)	100	
Passengers	2	
Compression Method	One-way Compression	
Compression Cycle Time (s)	≤23	
Unloading Cycle Time (s)	≤50	
Lifting Cycle Time (s)	≤16	
Garbage Tank Volume (m³)	17	
Garbage Tank Available Volume (m³)	14	
Garbage Tank Material	Q235B/Q345B	
Garbage Tank Thickness (mm)	3/4	
Sewage Tank Volume (L)	360	
Sewage Tank Material	Q235B	
Sewage Tank Thickness (mm)	3	
Garbage Compression Density (t/m³)	0.4-0.5	
Maximum Crushing Force (kN)	210	
Maximum Pushing Force (kN)	370	
Hydraulic System Pressure (MPa)	21	
Air Conditioning	Warm/Cold	








## 6. Advantages

No.	Advantages	Descriptions
1	Outstanding Performance	The product adopts a modular design, and can be equipped with a variety of compatible lifting mechanisms, which has a high-cost performance.
2	Good Quality	The main components such as the trash can are made of high-strength steel plates, and the frame plate design is adopted, which is simple and beautiful, has a large effective volume, outstanding overall structural performance, and strong impact resistance.
3	Safe & Reliable	This product pays attention to the use of safety, and the special design of protective devices and safety devices can effectively prevent various safety problems during operation.
4	User-friendly Experience	The driver can complete various operations of garbage loading and unloading in the cab. And the operation mode can be selected according to the actual situation: control box button control or multi-way valve handle operation, and a wireless remote interface is reserved.
5	Easy Maintenance	The sewage tank has a cleaning door for maintenance. There is a detachable window at the chute of the compression mechanism to facilitate the replacement of wearing parts.


## 7. Working Devices




No.	Items	Descriptions
1	<b>Lifting Mechanism</b>	
	<b>Functions</b>	Used to lift trash cans.
	<b>Structure &amp;</b>	Lifting time: $\leq 16s$

	<b>Characteristics</b>	Driven by hydraulic cylinders on the left and right sides, it can lift 2 trash cans at the same time.
2	<b>Compression Mechanism</b>	
	<b>Functions</b>	For the compression and filling of garbage.
	<b>Structure &amp; Characteristics</b>	<p>Compression cycle time: <math>\leq 23s</math></p> <p>Maximum crushing force: 210kN</p> <p>The lifting operation and the pressing operation can be carried out at the same time to improve the work efficiency.</p>
3	<b>Hopper Hook</b>	
	<b>Functions</b>	Used for locking between hopper and tank.
	<b>Structure &amp; Characteristics</b>	Driven by hydraulic cylinders to avoid over-locking. Adjustable bolts ensure a reliable connection.
4	<b>Emergency Stop</b>	
	<b>Functions</b>	Safety device to stop working devices when in emergency situation.
	<b>Structure &amp; Characteristics</b>	Equipped with safety protection measures of emergency stop button to ensure the safety of personnel.

5	<b>Ejector</b>	
	<b>Functions</b>	Used for unloading.
	<b>Structure &amp; Characteristics</b>	Unloading cycle time: $\leq 50s$ The high-strength U-shaped integrally formed truss groove is used as the movable guide rail of the ejector, which has strong compression capacity and good deformation resistance.
6	<b>Sewage Tank Maintenance Door</b>	
	<b>Functions</b>	To clean the sewage tank.
	<b>Structure &amp; Characteristics</b>	Simple operation and large opening area for easy flushing.

## 8. Optional Selected

No.	Items	Descriptions
1	<b>Aluminum Side Guard</b>	

	<b>Functions</b>	It is used to protect the side of the truck body to prevent people and objects from being involved in the bottom of the truck.
	<b>Structure &amp; Characteristics</b>	Lightweight and convenient, won't rust.
2	<b>Bin Lifter for 240L Trash Cans with Weighting System</b>	
	<b>Functions</b>	Used for lifting 240L standard plastic trash cans and weighting.
	<b>Structure &amp; Characteristics</b>	It is easy to disassemble and assemble, and the weight of each bin of garbage can be accurately recorded, which is convenient for monitoring and statistics.
3	<b>Bin Lifter for 240L, 660L Trash Cans</b>	
	<b>Functions</b>	Used to lift 240L and 660L trash cans.
	<b>Structure &amp; Characteristics</b>	It is equipped with a retractable support arm, which can be adapted to different sizes of 660-liter trash cans by replacing the support arm.
4	<b>No Bin Stopper</b>	

	<b>Functions</b>	It is used to reduce the height of the vehicle and improve the passability of the vehicle.
	<b>Structure &amp; Characteristics</b>	For old communities, lowering the height of the vehicle can improve vehicle passability.