

# FLM5250ZYSDFBEV

## Garbage Compactor Truck

FULONGMA GROUP CO., LTD.

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# INTRODUCTION

## 1. Overview

The FLM5250ZYSDFBEV garbage compactor truck adopts the EQ1250GEVJ1 type truck chassis of 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. Equipped with two-way compression function, providing high compression efficiency and large garbage loading capacity. When unloading, after the hopper is lifted into place, the packer plate and carrier plate can automatically realize a cycle (except from the Nanjing bucket lifter) to remove the garbage remaining in the hopper. Equipped with a large-capacity sewage tank to effectively prevent secondary pollution caused by sewage leakage.

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 EQ1250GEVJ1 truck chassis of DONGFENG, with strong power and

strong bearing capacity.

Motor: TZ410XS-LKM2501 electric motor is used, with a rated power of 130kW, a rated speed of 950r/min.

#### 4.2 Garbage Tank

The effective volume of the garbage tank is 20m<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 three functions: a. Push the garbage out of the garbage tank when dumping. b. Sealed the front end of the garbage tank. c. Reversely compress the garbage in the garbage tank to improve the compaction of the garbage.

#### 4.3 Sewage Tank

There are three sewage tanks, the left and right sewage tank has a volume of 380L, and the sewage tank at the bottom of the hopper has a volume of 380L. 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 Hopper

The hopper 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 effective volume of the hopper is 1.3 m<sup>3</sup>, the working cycle time of compression is not more than 25 seconds, the compression density of garbage is between 0.65-0.8 t/m<sup>3</sup>,

and the maximum crushing compression force is 186kN.

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.

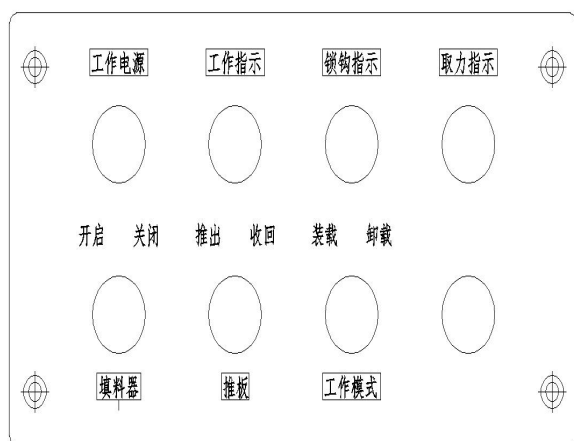
#### 4.5 Lifting Mechanism

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 compatible with 330L trash cans, 240L bin lifter compatible with 660L trash cans, 240L bin lifter compatible with 330L and 660L trash cans, bucket lifter, bucket lifter compatible with trash cans.

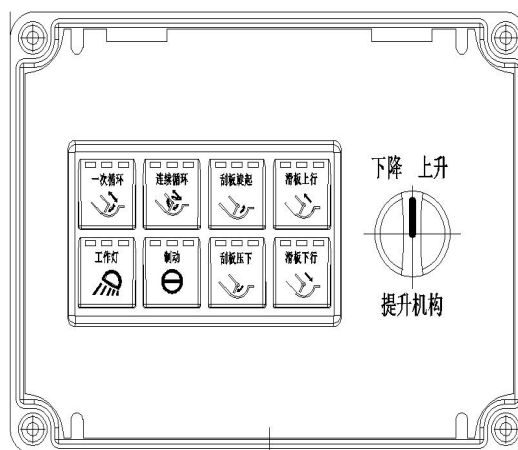
#### 4.6 Control

##### Driving Operations

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)

##### 4.6.1 Operation before each device works

## Working Operations

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 motor, 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                                    | EQ1250GEVJ1                           |        |                  |                        |
| Chassis Manufacturer                             | Dongfeng Commercial Vehicle Co., Ltd. |        |                  |                        |
| Fuel Type                                        | Electricity                           |        |                  |                        |
| Driving Motor Model                              | TZ410XS-LKM2501                       |        |                  |                        |
| Motor Peak Power/Rotation Speed<br>(kw/(r/min))  | 250/3000                              |        |                  |                        |
| Motor Rated Power/Rotation Speed<br>(kw/(r/min)) | 130/950                               |        |                  |                        |
| Charging Method                                  | DC Fast Charging                      |        |                  |                        |
| Charging Method                                  | Lithium Iron Phosphate Battery        |        |                  |                        |
| Battery Type                                     | CATL                                  |        |                  |                        |
| Battery Manufacturer                             | 140.7                                 |        |                  |                        |
| Battery Density (wh/kg)                          | 314.14                                |        |                  |                        |
| Battery Capacity (kWh)                           | 250                                   |        |                  |                        |
| Range (km)                                       | ≤0.29                                 |        |                  |                        |
| EKG (Wh/km·kg)                                   | 25000                                 |        |                  |                        |
| Configurations                                   | Bin Lifter                            | Gantry | Bucket<br>Lifter | Gantry &<br>Bin Lifter |
| Curb Weight (kg)                                 | 18060                                 | 17900  | 18160            | 18160                  |



|                                         |                                         |                   |                   |                   |
|-----------------------------------------|-----------------------------------------|-------------------|-------------------|-------------------|
| Payload (kg)                            | 6745                                    | 6905              | 6645              | 6645              |
| Dimension (mm)                          | 11550                                   | 11100             | 11550             | 11440             |
|                                         | 2530                                    | 2530              | 2530              | 2530              |
|                                         | 3590                                    | 3590              | 3590              | 3590              |
| Front/Rear Overhang/Rear Extension (mm) | 1500/3045/<br>655                       | 1500/3045/<br>205 | 1500/3045/<br>655 | 1500/3045/<br>545 |
| Approach/Departure Angle (°)            | 16/13                                   | 16/13             | 16/13             | 16/11             |
| Top Speed (km/h)                        | 90                                      |                   |                   |                   |
| Wheelbase (mm)                          | 5000+1350                               |                   |                   |                   |
| Hopper Volume (m³)                      | 1.3                                     |                   |                   |                   |
| Hopper Entrance Width (mm)              | 1960                                    |                   |                   |                   |
| Hopper Entrance Height (Empty) (mm)     | ≤1280                                   |                   |                   |                   |
| Compression Method                      | Bidirectional                           |                   |                   |                   |
| Compression Cycle Time (s)              | ≤25                                     |                   |                   |                   |
| Unloading Cycle Time (s)                | ≤83                                     |                   |                   |                   |
| Lifting Cycle Time (s)                  | ≤11                                     |                   |                   |                   |
| Garbage Tank Volume (m³)                | 20                                      |                   |                   |                   |
| Sewage Tank Volume (L)                  | 1140 = Front (L&R) (380+380) + Rear 380 |                   |                   |                   |
| Garbage Compression Density (t/m³)      | 0.65-0.8                                |                   |                   |                   |
| Maximum Crushing Force (kN)             | 186                                     |                   |                   |                   |
| Maximum Pushing Force (kN)              | 248                                     |                   |                   |                   |
| Hydraulic System Pressure (MPa)         | 21                                      |                   |                   |                   |
| Air Conditioning                        | Warm/Cold                               |                   |                   |                   |

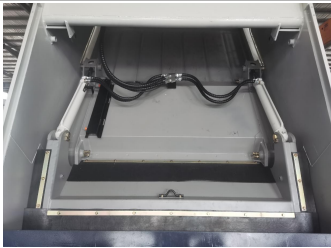


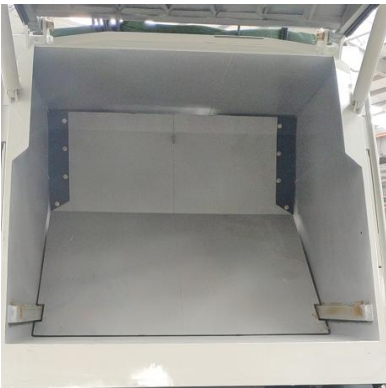
## 6. Advantages

| No. | Advantages               | Descriptions                                                                                                                                                                                                                                                                                                |
|-----|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Outstanding Performance  | The product adopts a modular design, and can be equipped with a variety of compatible lifting mechanisms such as bin lifter, bucket lifter, which has a high-cost performance.                                                                                                                              |
| 2   | Good Quality             | 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, with 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   | Lifting Mechanism |  |

|   |                                             |                                                                                                                                                                                             |
|---|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>Functions</b>                            | Used to lift trash cans.                                                                                                                                                                    |
|   | <b>Structure &amp; Characteristics</b>      | Lifting time: $\leq 11s$<br>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>      | Compression cycle time: $\leq 25s$<br>Maximum crushing force: 186kN<br>The lifting operation and the pressing operation can be carried out at the same time to improve the work efficiency. |
| 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>Hopper Brace &amp; Safety Inter-lock</b> |                                                                                                         |
|   | <b>Functions</b>                            | Used as a safety device after the hopper is lifted.                                                                                                                                         |
|   | <b>Structure &amp;</b>                      | There are many safety protection measures such as the interlock                                                                                                                             |

|   |                                        |                                                                                                                                                                                                                        |
|---|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>Characteristics</b>                 | switch of the hopper to prevent falling, the safety brace, and the self-locking function of the lifting cylinder of the hopper to ensure the safety of personnel.                                                      |
| 5 | <b>Ejector</b>                         |                                                                                                                                      |
|   | <b>Functions</b>                       | Used for unloading.                                                                                                                                                                                                    |
|   | <b>Structure &amp; Characteristics</b> | Unloading cycle time: $\leq 83s$<br>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.                                                                                                                                                             |
| 7 | <b>Sewage Collection Mechanism</b>     |                                                                                                                                    |
|   | <b>Functions</b>                       | Used to collect a small amount of sewage leaking out between the tank and the hopper.                                                                                                                                  |

|  |                                        |                                                                                                                                           |
|--|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Structure &amp; Characteristics</b> | Drain the sewage leaking between the hopper and the garbage tank body due to the failure of the sealing strip to the special sewage tank. |
|--|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|

## 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 Plastic 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 330L Iron Trash Cans</b>                          |                                                                          |

|   |                                                   |                                                                                                                                                                                         |  |
|---|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|   | <b>Functions</b>                                  | Used for lifting 330L iron trash cans.                                                                                                                                                  |  |
|   | <b>Structure &amp; Characteristics</b>            | The hook plate can be replaced, which is convenient to adapt to different sizes of trash cans.                                                                                          |  |
| 4 | <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.                                            |  |
| 5 | <b>Bin Lifter for 240L, 330L, 660L Trash Cans</b> |                                                                                                      |  |
|   | <b>Functions</b>                                  | Used to lift 240L, 330L and 660L trash cans.                                                                                                                                            |  |
|   | <b>Structure &amp; Characteristics</b>            | It is equipped with a retractable hook plate and support arm. By replacing the hook plate and support arm, it can adapt to 330L iron trash cans and 660L trash cans of different sizes. |  |
| 6 | <b>No Bin Lifter</b>                              |                                                                                                     |  |

|   |                                        |                                                                                                                                                                              |  |
|---|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|   | <b>Functions</b>                       | It is convenient for bagged garbage to be thrown into manually, or bulky garbage to be thrown directly.                                                                      |  |
|   | <b>Structure &amp; Characteristics</b> | There is no lifting mechanism, which is convenient to stop and throw at any time.                                                                                            |  |
| 7 | <b>Large Bucket Lifter</b>             |                                                                                            |  |
|   | <b>Functions</b>                       | Used to lift the garbage poured into the bucket.                                                                                                                             |  |
|   | <b>Structure &amp; Characteristics</b> | Increase the bucket capacity, not easy to spill, and can be used for bulk garbage feeding.                                                                                   |  |
| 8 | <b>Flat Bucket Lifter</b>              |                                                                                          |  |
|   | <b>Functions</b>                       | Used to lift the garbage poured into the bucket.                                                                                                                             |  |
|   | <b>Structure &amp; Characteristics</b> | It is not easy to spill garbage, and it is convenient for docking with the flatbed. The parts are universal, and it is convenient to exchange with other lifting mechanisms. |  |



|    |                                                                                 |                                                                                                                      |
|----|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 9  | <b>Bucket Lifter<br/>Compatible<br/>with Trash<br/>cans (Nanjing<br/>Style)</b> |                                    |
|    | <b>Functions</b>                                                                | Used to lift 240L trash cans and garbage in the bucket.                                                              |
|    | <b>Structure &amp;<br/>Characteristics</b>                                      | It has a wide range of applications, which can be used to lift trash cans and bulk waste.                            |
| 10 | <b>Gantry Lifter</b>                                                            |                                   |
|    | <b>Functions</b>                                                                | It is used to lift the special garbage bucket.                                                                       |
|    | <b>Structure &amp;<br/>Characteristics</b>                                      | It can be adjusted to suit different sizes of garbage bucket, and the collection capacity of a single lift is large. |



|    |                                        |                                                                                                                                                                                                                             |
|----|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11 | <b>Gantry &amp; Bucket Lifter</b>      |                                                                                                                                           |
|    | <b>Functions</b>                       | It is used to lift the special garbage bucket. And lift 240 standard trash cans or round iron trash cans.                                                                                                                   |
|    | <b>Structure &amp; Characteristics</b> | It can be adjusted to suit different sizes of garbage buckets, and the collection capacity of a single lift is large. At the same time, it can be equipped with a 240 standard bin lifter or a round iron trash bin lifter. |
| 12 | <b>Anti-collision Device</b>           |                                                                                                                                         |
|    | <b>Functions</b>                       | Installed at the rear of the vehicle for docking with a small garbage truck.                                                                                                                                                |
|    | <b>Structure &amp; Characteristics</b> | Through the retractable support rod, the collision of the rear part when docking with the small vehicle is prevented, and the operation is simple and the structure is firm.                                                |

|    |                                        |                                                                                                                                                  |
|----|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | <b>Hopper Heighten Panel</b>           |                                                                |
|    | <b>Functions</b>                       | It can prevent garbage from leaking from the side due to improper operation.                                                                     |
|    | <b>Structure &amp; Characteristics</b> | Installed on both sides of the tail of the hopper to reduce the possibility of side leakage of garbage. Can be used with anti-collision devices. |