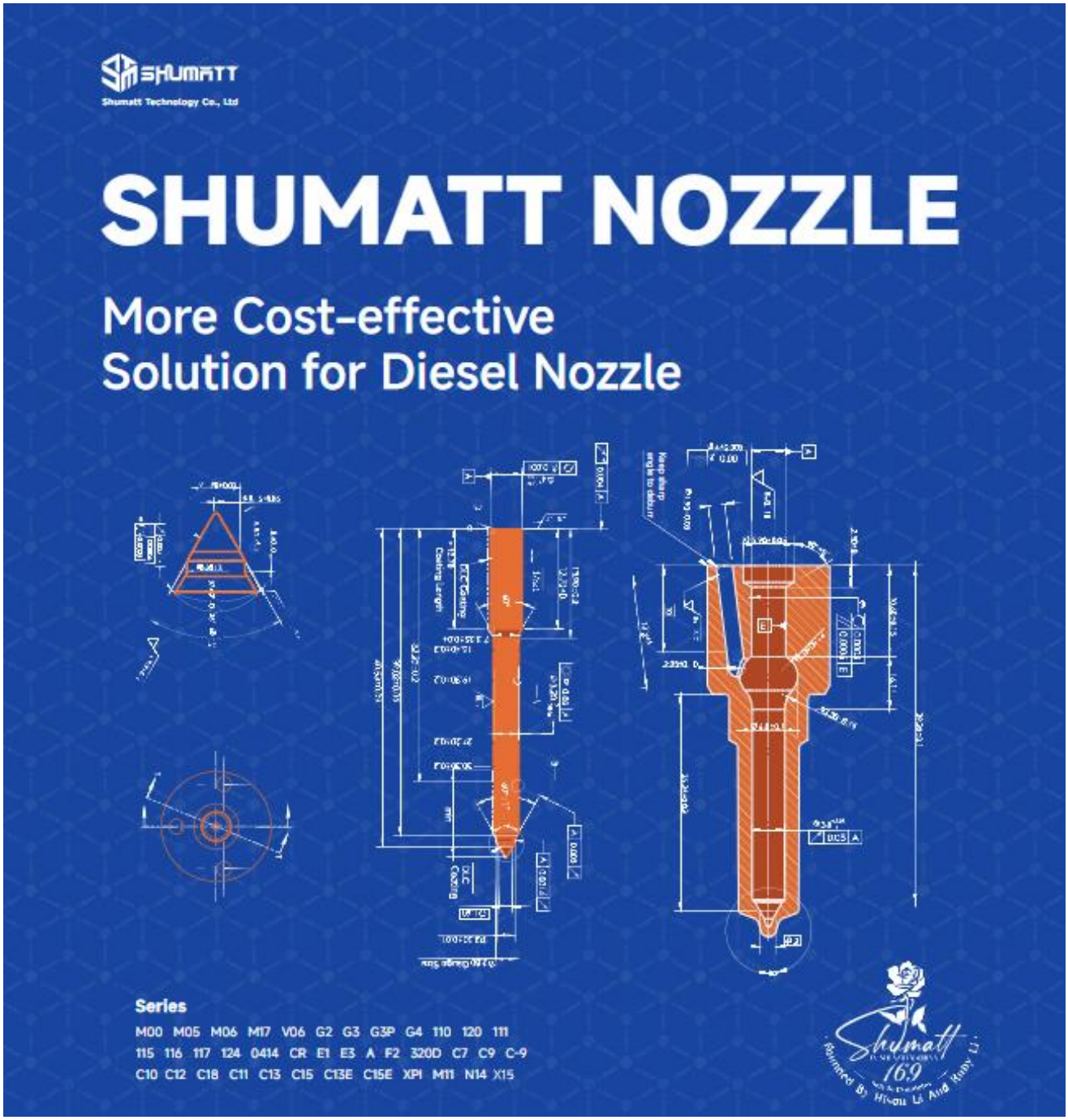
# L233PBC Electronic Unit Injector Nozzle E1 Series Technical File

SKU1：G6DJ1000L233PBC
SKU2：G1X9000L233PBC
SKU3：G1Y2000L233PBC

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# L233PBC Electronic Unit Injector Nozzle E1 Series Technical File

## Content

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## 1. L233PBC Electronic Unit Injector Nozzle Introduction

### 1.1. L233PBC Electronic Unit Injector Nozzle Basic Information

| Title | L233PBC Electronic Unit Injector Nozzle | Quality |
|---|---|---|
| SKU1 | G6DJ1000L233PBC | China Made New |
| SKU2 | G1X9000L233PBC | China Made New |
| SKU3 | G1Y2000L233PBC | China Made New |

### 1.2. L233PBC Electronic Unit Injector Nozzle Common Written Part Number

| Injector Nozzle Order Number | Injector Nozzle Engraved Number |
|---|---|
| / | L233PBC |

### 1.3. L233PBC Electronic Unit Injector Nozzle Application Information

(1) L233PBC Electronic Unit Injector Nozzle's Application for Injectors' Part Number

| Injector Part Number | Replacement Injector Part Number | OEM | OEM |
|---|---|---|---|
| BEBE4C09102 | / | 33800-84410 | / |

(2) L233PBC Electronic Unit Injector Nozzle's Car Model Matching Information

| For Vehicles Installed for the First Time | For Brand |
|---|---|
| / | / |

**(3) L233PBC Electronic Unit Injector Nozzle Part Number Common Writing**

L233PBC

### 1.4. L233PBC Electronic Unit Injector Nozzle Specifications and Dimensions Parameters

**Injector Nozzle Size：** 6 cm*1.5cm *1.5 cm
**Injector Nozzle Tube Dimensions：** 7 cm *2 cm *2 cm
**Single Injector Nozzle Weight：** 0.03kg
**Injector Nozzle 10 PCS Per Box：** 10 cm *8 cm *4cm
**Injector Nozzle Weight 10 PCS Per Box ：** 0.3kg
**Injector Nozzle Quality：** China Made New Injector Nozzle
**Injector Nozzle MOQ：** 10 PCS

### 1.5. L233PBC Electronic Unit Injector Nozzle Quality Control

**(1) Injector Nozzle Testing**

All parts of the electronic unit injector nozzle are subjected to precision testing, high temperature testing, low temperature testing, withstand pressure testing, leakage testing, durability testing, and various working conditions testing.

**(2) Injector Nozzle Inspection**

The factory inspection of the electronic unit injector nozzle is undergone three inspections: full inspection, random inspection, and batch inspection. Different brands of test benches are used to test the same electronic unit injector nozzle for more than three times for factory inspection, and the electronic unit

injector nozzle installation testing environment are progressed in dust-free workshop.

**(3) Injector Nozzle Installation**

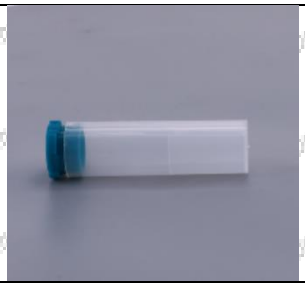
During the assembly of the nozzle needle and nozzle housing, our company strictly adheres to the standard technical specifications for the clearance between the nozzle needle and nozzle housing to ensure that every nozzle meets both factory and usage standards.

## 1.6. L233PBC Electronic Unit Injector Nozzle Detailed Display

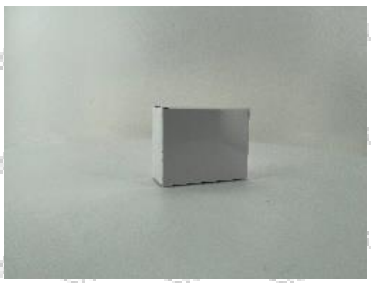
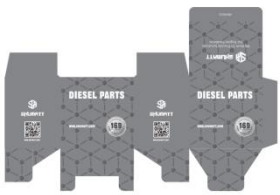
### (1) L233PBC Electronic Unit Injector Nozzle Physical display

| | | |
|---|---|---|
|  |  |  |
| Front | Side | Top |
|  |  | / |
| Side | Engraving (with a neutral or shumatt logo) | / |

### (2) L233PBC Electronic Unit Injector Nozzle Tube

| | | |
|---|---|---|
|  |  |  |
| Rectangular | Round | Customized |

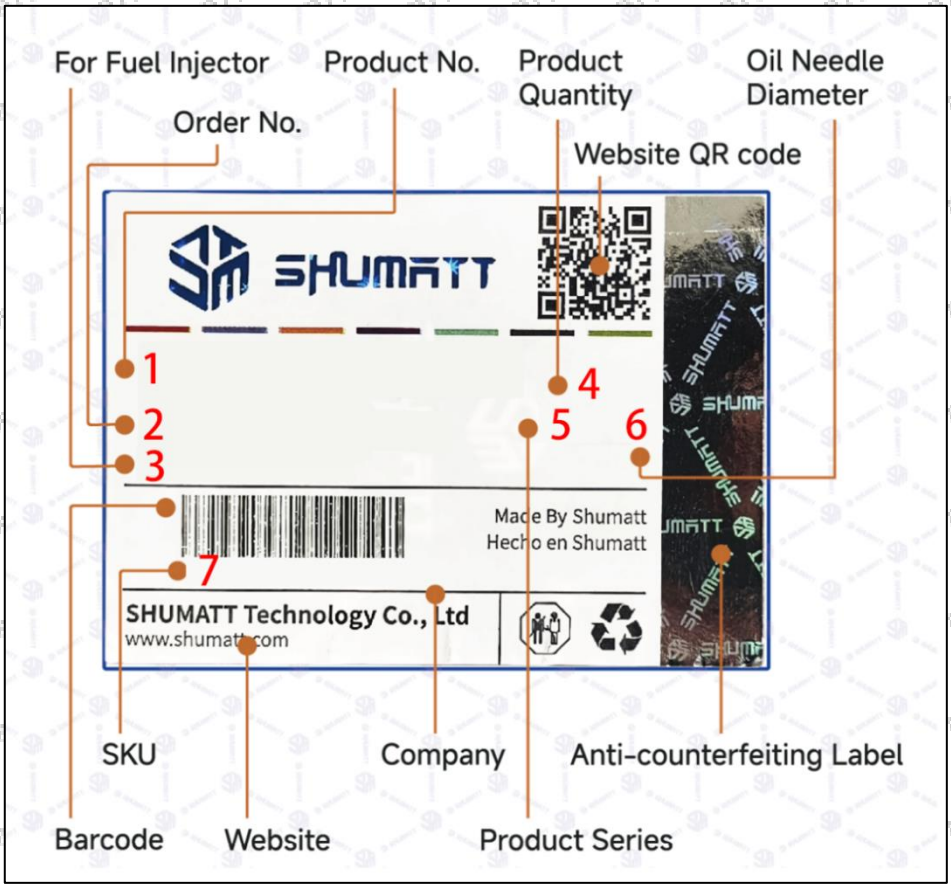
### (3) L233PBC Electronic Unit Injector Nozzle Packaging Display

| | | |
|---|---|---|
|  |  |  |
| G6 SHUMATT Nozzle Packaging | Neutral Nozzle Packaging | XINGMA Nozzle Packaging |
|  |  | / |
| LIWEI Nozzle Packaging | Customized Nozzle Packaging | / |

Note: G6 SHUMATT nozzle packaging is preferred.

**(4) Requirements for the printing format of injector nozzle labels:**

Nozzle label content:




| No. | Name | Specification |
|---|---|---|
| 1 | Nozzle engraving number | L233PBC |
| 2 | Nozzle order number | / |
| 3 | Applicable fuel injectors | For: BEBE4C09102 |
| 4 | Packaging quantity | 12 Pcs |
| 5 | Series | E1 |
| 6 | Oil needle diameter | / |
| 7 | SKU | G6DJ1000L233PBC<br>G1X9000L233PBC<br>G1Y2000L233PBC |

**(5) Injector Nozzle's Customized Service Requirements:**

Custom nozzle pins with or without engraving, minimum order quantity: 100 pieces.

Custom injector nozzle barrels, minimum order quantity: 2000–3000 pieces.

Custom nozzle packaging boxes, minimum order quantity: 1000 units.

For customized products with designated logos, the OEM manufacturer shall provide trademark authorization and official logo image files.

⚠ Customized nozzles are non-returnable and non-exchangeable once sold if without quality defects.

## 1.7. L233PBC Electronic Unit Injector Nozzle Warranty Instructions

**(1) Injector Nozzle Warranty Conditions and Instructions**

It is necessary to provide photos, videos, or test reports from fuel injector testing equipment as evidence to the sales staff when abnormalities occur during the use of the electronic unit injector nozzle.

Abnormal conditions are properly explained such as： 1.Smoke, 2. Engine shake, 3. Difficulty starting the engine, 4. Engine noise, 5. oil leakage etc.

**(2) Injector Nozzle Warranty Coverage**

Within 15 days after customer receives the L233PBC electronic unit injector nozzle if there is a performance failure and the product has no appearance damage, customer can choose to replace it or repair it;

If the L233PBC electronic unit injector nozzle has performance problems during the warranty period (3 months), and it is confirmed that it is product's problems after testing, you can contact our salesmen to replace the same model or a reworked product with the same performance for free;

If the product is confirmed to be without fault, it will be returned as is.

**(3) Injector Nozzle Out of Warranty Coverage**

The warranty period has expired.

Electronic unit injector nozzle failure caused by high temperature, high pressure, humidity, rain and snow, saline-alkali land, earthquake, and used in abnormal environment.

Electronic unit injector nozzle damage caused by man-made reasons (throwing, strong magnetic field magnetization, set fire).

Electronic unit injector nozzle failure or injector damage caused by non-injector design, technology, manufacturing, quality and other issues.

Electronic unit injector nozzle failure due to system pressure exceeding system approved pressure.

Electronic unit injector nozzle failure caused by impurities (water, lead, aluminum powder, iron powder, sulfide) in the system fuel exceeding the standard requirements.

Electronic unit injector nozzle failure caused by not installing according to the tightening torque specified in the vehicle engine maintenance manual (the tightening torque is too large or too small).

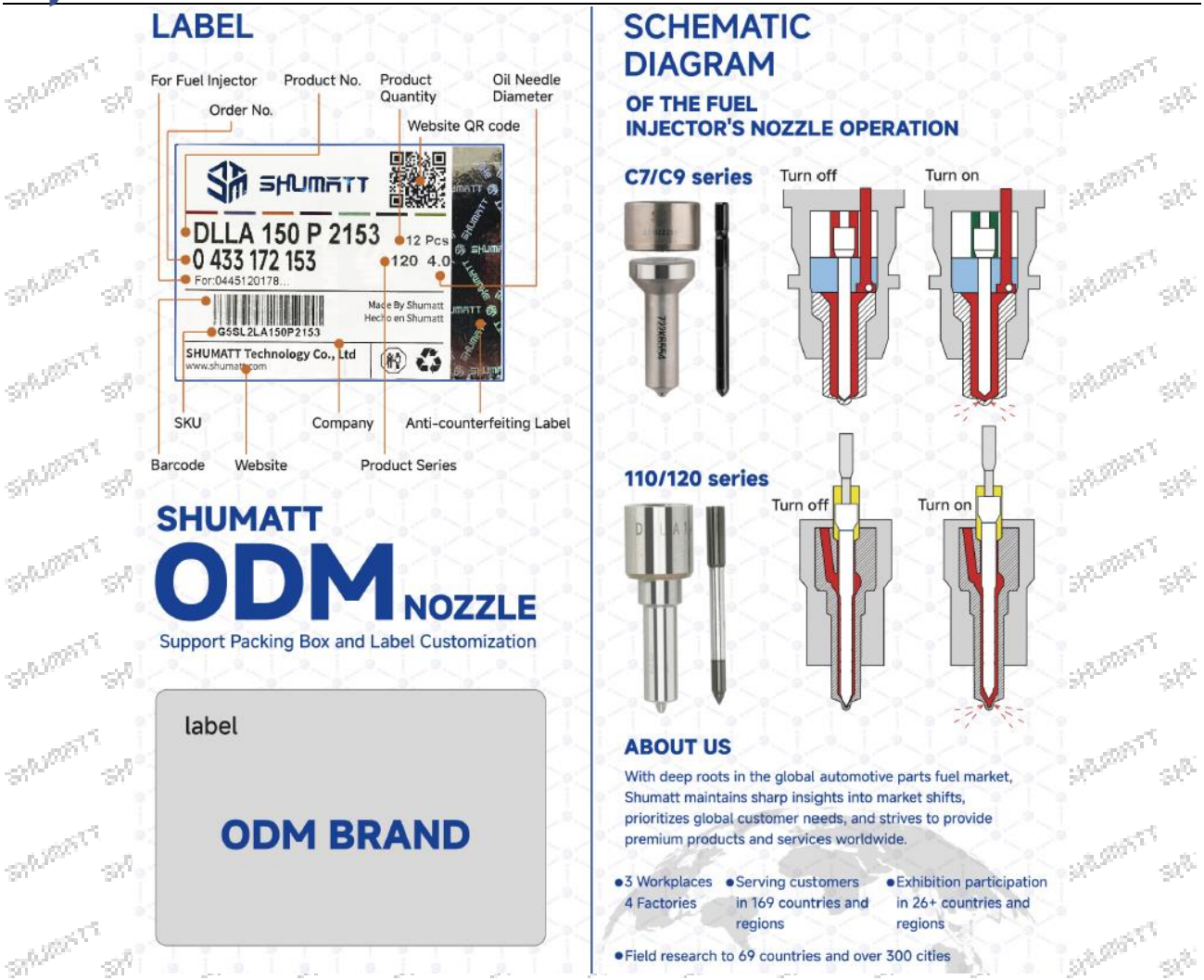
Electronic unit injector nozzle failure caused by not following the installation angle specified in the injector maintenance manual.

Electronic unit injector nozzle failure caused by not following the cleaning requirements specified in the injector maintenance maintenance manual.

Electronic unit injector nozzle failure caused by failure to replace consumable parts as specified in the injector maintenance manual.

## 1.8. L233PBC Electronic Unit Injector Nozzle's Manufacturer

**Injector nozzle's manufacturer**: Shenzhen Shumatt Technology Co., Ltd




## 2. L233PBC Electronic Unit Injector Nozzle Technical Support

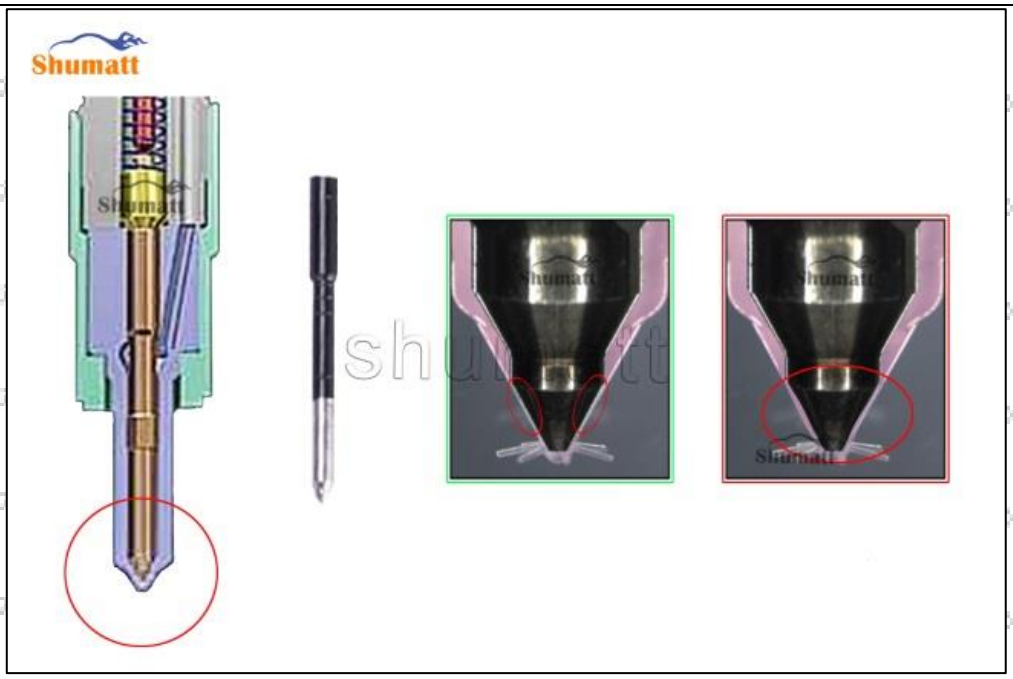
### 2.1. 2.1.L233PBC Electronic Unit Injector Nozzle's Cleaning

(1) Before installation, the electronic unit injector nozzles should be cleaned in an ultrasonic cleaner for 3-5 minutes to remove stains, dust, powder, rust-preventive oil oxides, paraffin bases, naphthenic bases, intermediate bases, salts, lead naphthenate, zinc naphthenate, sodium petroleum sulfonate, barium petroleum sulfonate, calcium petroleum sulfonate, trioleic tallow diamine, and rosin amine from the nozzle surface.

(2) Use compressed air to remove the cleaning fluid adhering to the electronic unit injector nozzle surface after cleaning, ensuring it meets the usage standards.

### 2.2. L233PBC Electronic Unit Injector Nozzle's Inspection

(1) Check the nozzle guide sleeve, spring, washer, and tightening nut for deformation, cracks, thread damage, quenching defects, air leaks, and rust. The nozzle tightening nut must be replaced if it has been disassembled more than 5 times, as shown in the diagram below.




(2) Replace the nozzle tightening nut and the nozzle sealing copper gasket.

(3) Check whether the gap between the nozzle needle and the nozzle shell is within the standard range and whether it reaches the standard for use.

⚠ All parts should be examined for wear under a microscope at least 20 times larger

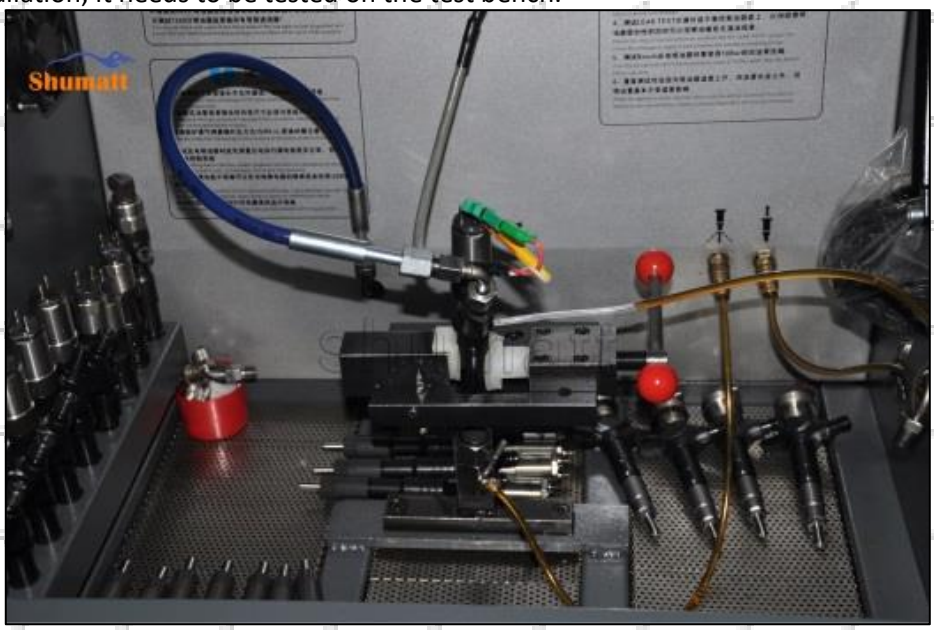
⚠ Deformation, cracking, thread damage, quenching defects, or air leakage in the injector cap can cause black smoke from the vehicle and damage the injector.

⚠ Injector opening pressure greater than or less than the specified range may cause injector damage.

⚠ Failure to replace wearing parts in time during maintenance may lead to fuel injector damage.

### 2.3. Injector Test After Maintenance

(1) After installation, it needs to be tested on the test bench.




⚠ The correct injector type should be selected for testing.

(2) The test results need to be ensured that the following items are within the standard data range of the test stand.

**LEAK TEST： Test whether sealing test is up to standard or not.**

In this step, no injector collector should be installed at the nozzle during the test so as to observe whether the nozzle is dripping oil, meanwhile observe that all joints are no oil leaking.

The static oil return of the test should not exceed 8mm2/H, otherwise, you need to check whether the high-pressure sealing ring, valve assembly, and stroke parameters of the injector are within the standard range.

**VL: Test whether full load oil (main injection, high speed) is up to standard or not**

This step needs to be combined with vehicle driving conditions, such as power, fuel consumption and smoke as well as the maintenance of the engine, if there is situation of insufficient power, fuel consumption is high, thick black smoke and irregularly maintenance of the engine, the engine needs to be maintained according to the maintenance handbook at very first time.

Each of injector part needs to be adjusted and checked if there is any damage according to above situations to ensure the injector is normal. After make sure the injector works normal, you need to reduce the armature stroke if too much oil injection, and increase the armature stroke if too little oil injection.

The error of each injector should be controlled in 6mm3/HH when adjusting.

**TL\EM: Test whether the torque point, emission point, exhaust limit, fuel supply reach standard or not**

Through this test, it is detected that when the oil injection is too little, the engine's acceleration is slow, vice versa, when the oil injection is too much, the engine's acceleration will produce black smoke and the engine excessive exhaust emissions.

Injector nozzle spring force gasket, armature stroke, lift gasket and solenoid valve spring force gasket determine whether exhaust restriction and injector fuel supply reach standard

**LL: Test if the idle fuel supply reached the standard**

This test detects oil injection is too much will cause engine idle smoke, otherwise if the oil injection too little will cause engine idling easy to stall, or difficult to start.

The uneven of oil injection causes the unstable rotation speed of engine , making noise, and increase the engine swing in the acceleration process.

Each injector error should be controlled within 2mm3/HH when adjusting.

Idle speed fuel supply quantity mainly by adjusting the nozzle spring force gasket.

**VE: Test whether the pre-injection meets the standard**

This test detects when oil injection is too much will cause cylinder knocking while the engine is working and the exhaust emissions is not up to standard (smoke).

While when oil injection is too little will cause big noise while the engine is working, the engine is difficult to start, the engine weak acceleration, slow response of injector.

Each injector error should be controlled within 0.5mm3/HH when adjusting.

## 2.4. List of Tools Used During Measurement and Installation

| Image |  |  |  |
|---|---|---|---|
| SKU | CRT084 | CRT220 | CRT079 |
| Description | Torque wrench: 07-110nm 1/2 used to control tightening force and Angle | Fuel injector stroke measuring tool: used to measure buffer stroke of fuel injector, | Micrometer: used to measure gasket thickness |

| | | | |
|---|---|---|---|
| | during installation | armature stroke and remaining air gap | |
| Image |  |  | / |
| SKU | / | CRT281 | / |
| Description | Ultrasonic cleaning machine: used for cleaning fuel injector and parts | Common rail injector test equipment: check the injector working condition | / |

### 2.5. Cause of Damage to L233PBC Electronic Unit Injector Nozzle

(1) Electronic unit injector nozzle failure caused by impurities (water, lead, aluminum powder, iron powder, sulfide) in fuel exceeding standard requirements.

(2) The electronic unit injector nozzle is normally worn due to long time working under high temperature.

(3) Wear of the nozzle needle causes blockage of the oil hole, and insufficient fuel injection results in the injector failing to operate normally.

⚠ The wear of the nozzle orifice leads to the increase of fuel quantity, resulting in black smoke of the vehicle, and the fuel injector can not work properly when it is serious.

⚠ If the nozzle needle can not move smoothly, stuck may cause serious damage to the injector nozzle.

⚠ The rusting of the nozzle spring leads to spring fracture and black smoke from the vehicle.

⚠ Wear on the injector spring adjusting shim reduces the injector's opening pressure, causing the injector to pump more fuel, resulting in black smoke from the vehicle. In severe cases, this can lead to the injector malfunctioning.

⚠ Wear on the injector needle valve lift adjusting shim causes the injector needle valve stroke to increase, resulting in increased fuel injection volume and causing the vehicle to emit black smoke. In severe cases, this can lead to the injector malfunctioning.

⚠ The nozzle tip cracked due to prolonged high-temperature and high-intensity operation.

### 2.6. L233PBC Electronic Unit Injector Nozzle Technical Support Obtaining Methods

(1) Nozzle Technical File , visit http://shumatt.com to get the technical file

(2) Injector Technical Videos

**Facebook：Visit** https://www.facebook.com/hison.li constantly follow can get more information.

**YouTube：** https://www.youtube.com/channel/UCByvYBx7VjV_mAfxh_Hu-aw to get the technical videos, constantly follow can get more information.

**Shumatt:** Visit http://shumatt.com to get the technical videos.

(3) Nozzle Information Query Software

TruckBook Parts EPC APP, Android/Apple App Store download and install, visit http://shumatt.com to get the download and installation tutorial

(4) Search The nozzle test data through TruckBook Parts EPC APP.

## 3. L233PBC Electronic Unit Injector Nozzle's Purchase and Delivery

### 3.1. L233PBC Electronic Unit Injector Nozzle's Purchase Payment Terms

**Payment Terms：** T/T, PayPal, Alipay, WeChat

⚠ Please contact our salesmen for specific payment information.

### 3.2. L233PBC Electronic Unit Injector Nozzle's Main Sales Market.

**Injector Nozzle's Main Sales Markets:** Asia, Europe, North America, South America, Africa etc.

### 3.3. L233PBC Electronic Unit Injector Nozzle's Declaration Requirements

Shumatt can assist customers to provide the following documents for import customs clearance: contract, invoice, packing list, bill of lading, insurance policy, certificate of origin, etc.

### 3.4. L233PBC Electronic Unit Injector Nozzle's Shipping Ways

**Destination in China's areas**: SF Express, Debon Express, the corresponding logistics company can be provided according to customer requirements in special cases.

**Destinations out of China's areas:** DHL, UPS, FedEx, TNT air, ocean or other shipping methods required by customers.

### 3.5. L233PBC Electronic Unit Injector Nozzle's Lead Time

**Lead time:** Send out within 3 – 7 working days after receiving payment（Except for special products and special cases）.

### 3.6. L233PBC Electronic Unit Injector Nozzle's Logistics Time for Destination Out of China's Areas

**DHL Logistics Time:**

| Country or Region of Departure | Hong Kong, China | Other Countries or Regions of Asia | Australia and New Zealand | Europe | America | Other Countries |
|---|---|---|---|---|---|---|
| China's Mainland | 7 Days | 7 Days | 8 Days | 8 Days | 8-12 Days | 7-10 Days |

**UPS Logistics Time: Country or Region of Departure: China's Mainland**

| Country of Destination | Estimated Arrival Time | Country of Destination | Estimated Arrival Time | Country of Destination | Estimated Arrival Time |
|---|---|---|---|---|---|
| Japan | 3 Days | UK | 5-7 Days | Egypt | 5-7 Days |
| Turkey | 5-7 Days | Singapore | 3 Days | Switzerland | 5-7 Days |
| Bahrain | 5-7 Days | Latvia | 7-10 Days | New Zealand | 7-10 Days |
| Sri Lanka | 5-7 Days | Thailand | 3 Days | Austria | 5-7 Days |
| Romania | 5-7 Days | Vietnam | 3-5 Days | Estonia | 5-7 Days |
| Malaysia | 3-5 Days | Israel | 5-7 Days | Mexico | 7-10 Days |
| France | 5-7 Days | America | 5-7 Days | United Arab Emirates | 5-7 Days |
| Italy | 5-7 Days | Netherlands | 5-7 Days | Bengal | 7-10 Days |
| Lebanon | 5-7 Days | Philippine | 3-5 Days | Greece | 7-10 Days |
| South Korea | 3 Days | Spain | 5-7 Days | Myanmar | 5-7 Days |
| Canada | 5-7 Days | Germany | 5-7 Days | Saudi Arabia | 7-10 Days |
| Portugal | 5-7 Days | Australia | 5-7 Days | South Africa | 7-10 Days |
| Denmark | 5-7 Days | Belgium | 5-7 Days | Ukraine | 7-10 Days |
| India | 7-10 Days | Qatar | 7-10 Days | Poland | 5-7 Days |
| Indonesia | 3-5 Days | Morocco | 7-10 Days | Pakistan | 7-10 Days |
| Kuwait | 7-10 Days | | | | |

⚠ The logistics time is for reference only , subjects are according to the actual arrival.

## 4. L233PBC Electronic Unit Injector Nozzle's Storage Standard

**(1) Choose a suitable storage place**

The warehouse and cargo yard where the electronic unit injector nozzle is stored should be kept clean and dry, and away from the factory buildings that generate harmful gases and dust; do not mix with acid, alkali, salt and other substances; the storage place should have a good drainage system; the cargo yard should be flattened with gravel or furnace ash etc. to enhance the water permeability of the surface layer to keep the reservoir area dry.

**(2) Strict requirements of warehousing**

Strict inspections should be carried out when the electronic unit injector nozzles are put into storage, the surface cleaning work should be done well to remove water traces, oil stains, ash and other dirt, remove the rust and do anti-rust treatment in time. Packaged injectors must be protected from damage.

**(3) Keep the warehouse dry and preventing moisture**

The relative humidity is usually below 70% for the electronic unit injector nozzles placed in the room, and the corrosion of the fuel injector nozzles is significantly reduced.

Electronic unit injector nozzles must be stored in the warehouse, and they are forbidden to store in the same warehouse with commodities with high water content.

**(4) Stack Properly**

After the electronic unit injector nozzle is exposed to rain, the corrosion rate will increase significantly. The purpose of sealing is to isolate the injector from rainwater and humid air, so the warehouse window should be checked in time to avoid rainwater entering the warehouse.

If the electronic unit injector nozzle package is damaged, it should be repaired or replaced; when the package is damp, the packaging material should be dried; if the original anti-corrosion and oil applied at the factory is found to be damaged or dried up, it should be cleaned and re-applied oil in time.

⚠ It is forbidden to leave the electronic unit injector nozzle exposed in the air for a long time.

⚠ It is forbidden to store acid, alkali, salt and other substances together with the electronic unit injector nozzle.

⚠ The unpacked electronic unit injector nozzle must be rust-proof during secondary storage.

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## 5. Company Information


### 5.1. Company Introduction

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**Shenzhen Office：** 11-12, Floor 14, Building 13, Qinchengda Building, Exit A, Honglang North Subway Station, Bao'an District, Shenzhen, China's Mainland
**Shenzhen Office：** Exit C, Qiao Touxi Metro Station, N0. 66 Chongqing Road, Fuhai Avenue, Bao'an District, Shenzhen, China Mainland
**Hong Kong Office：** Jianfa Street Industrial Zone, Tuen Mun, New Territories, Hong Kong, China
**After-sales Service Address：** Please contact our salesmen to obtain and provide the corresponding product maintenance reasons（Reference：**1.7. L233PBC Injector Nozzle's Warranty Instructions**）

### 5.2. Sales-men's Contact Information

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| **PS:** Shumatt's sales-men's emails are all end with **@shumatt.com** | | | | | |

## 6. Copyright Statement