

Common Rail Diesel Pumps

0445020070 Common Rail Diesel Pump Technical File

SKU1: Z1L30445020070

SKU2: L3B20445020070Z



0445020070 Common Rail Diesel Pump Technical File

Content

1. 0445020070 Common Rail Diesel Pump Introduction	2
1.1. 0445020070 Common Rail Diesel Pump Basic Information	2
1.2. 0445020070 Common Rail Diesel Pump Common Part Number	2
1.3. 0445020070 Common Rail Diesel Pump Parameters	2
1.4. 0445020070 Common Rail Diesel Pump Specifications And Dimensions	2
1.5. 0445020070 Common Rail Diesel Pump Customization Service	3
1.6. 0445020070 Common Rail Diesel Pump Quality Control	3
1.7. 0445020070 Common Rail Diesel Pump Packaging List And Packaging Dimensions	4
1.8. 0445020070 Common Rail Diesel Pump Testing Standards and Certificates	5
1.9. 0445020070 Common Rail Diesel Pump Warranty Instructions	6
1.10. 0445020070 Common Rail Diesel Pump Manufacturer	7
2. 0445020070 Common Rail Diesel Pump Technical Support.....	7
2.1. 0445020070 Common Rail Diesel Pump Utilized Location.....	7
2.2. Reasons of 0445020070 Common Rail Diesel Pump Not Working Normally.....	8
2.3. 0445020070 Common Rail Diesel Pump Installation.....	8
2.4. Causes of 0445020070 Common Rail Diesel Pump Being Damaged.....	9
2.5. 0445020070 Common Rail Diesel Pump Technical Support Obtaining Methods.....	9
3. 0445020070 Common Rail Diesel Pump Purchase And Delivery	10
3.1. 0445020070 Common Rail Diesel Pump Purchase And Payment Term	10
3.2. 0445020070 Common Rail Diesel Pump Main Sales Markets	10
3.3. 0445020070 Common Rail Diesel Pump Declaration Requirements	10
3.4. 0445020070 Common Rail Diesel Pump Shipping Ways	10
3.5. 0445020070 Common Rail Diesel Pump Delivery Time	10
3.6. 0445020070 Common Rail Diesel Pump Logistics Time for Destination Out of China's Areas	10
3.7. 0445020070 Common Rail Diesel Pump Shipping Package.....	11
4. 0445020070 Common Rail Diesel Pump Storage Standards	12
5. Company Information.....	13
5.1. Company Introduction.....	13
5.2. Sales Contact Information	14
6. Copyright Statement.....	14

0445020070 Common Rail Diesel Pump Technical File

1. 0445020070 Common Rail Diesel Pump Introduction

1.1. 0445020070 Common Rail Diesel Pump Basic Information

Title	0445020070 Common Rail Diesel Pump CP1H3 Series	Quality
SKU1	Z1L30445020070	Re-manufactured
SKU2	L3B20445020070Z	Original New

1.2. 0445020070 Common Rail Diesel Pump Common Part Number

(1) Common Rail Diesel Pump Exchange Information

Common Rail Diesel Pump Part Number	Universal Part Number	Car Model	OE Number
0445020070	0986437082	KOMATSU	4941173

(2) Common Rail Diesel Pump Application Information

Car Model	Engine Model	Production Date	Power (KW)	Horse Power	Emission (L)	Cylinder	Power Source (V)
DONGFENG	DFM02-03 ISDE 6	08/2006 -	/	/	8.9	6	24
KOMATSU	D4EA	05/2014 -	58-60	79-82	3.3	4	24

(3) Common Rail Diesel Pump's Common Writing Methods

0445020070, 0 445 020 070, 0445 020 070, 0445020 070, 0 445 020070, 0 445020 070

1.3. 0445020070 Common Rail Diesel Pump Parameters

Adaptation System: Common Rail System

Common Rail Diesel Pump Series: CR/CP1H3/R85/10-789S

Common Rail Diesel Pump Type: High Pressure Pump, CR System

Fuel Pump Pressure: 1,600.0 bar

1.4. 0445020070 Common Rail Diesel Pump Specifications And Dimensions

Common Rail Diesel Pump Size: 31cm* 22cm *26 cm

Gross Weight: 6.37kg

Package Weight: 6.45kg

Common Rail Diesel Pump Quality: Re-manufactured/Original New

Package Size: 33cm*24cm *27 cm

Common Rail Diesel Pump Type: High Pressure Common Rail Diesel Pump

MOQ: 1 piece

1.5. 0445020070 Common Rail Diesel Pump Customization Service

- (1) **Common Rail Diesel Pump Customization Service Coverage:** Meet OEM manufacturers' customization needs for shell engraving, logo engraving, common rail diesel pump internal packaging, common rail diesel pump external packaging and labels, etc.

	
Common Rail Diesel Pump Packaging	Common Rail Diesel Pump White Label

(2) Common Rail Diesel Pump Customization Service Requirements:

The purchase of customized common rail diesel pump is no less than **10** pieces.

The purchase of customized common rail diesel pump boxes is no less than **1000** pieces.

⚠ **Customized products involve the need of specify logo, the OEM manufacturer needs to provide trademark authorization and the sample of logo image file.**

⚠ **Once the customized common rail diesel pump is sold, it can't be returned or exchanged if there is no quality problems.**

1.6. 0445020070 Common Rail Diesel Pump Quality Control

(1) Common Rail Diesel Pump Testing

All parts of the common rail diesel pump have undergone electrical characteristics testing, precision testing, high temperature testing, low temperature testing, withstand pressure testing, leakage testing, durability testing, and various working conditions testing.

(2) Common Rail Diesel Pump Installation







In addition, the common rail diesel pump production and installation process is quality controlled. Our company strictly follows the standard product installation data and product installation steps for installation, such as common rail diesel pump stroke test, common rail diesel pump solenoid valve tightening torque, common rail diesel pump tightening torque.

(3) Common Rail Diesel Pump Inspection

The factory inspection of the common rail diesel pump has undergone three inspections: full inspection, random inspection, and batch inspection. Different brands of test benches are used to test the same common rail diesel pump for a total of no less than three times for factory inspection, and the fuel injector installation testing environment are progressed in dust-free workshop.

1.7. 0445020070 Common Rail Diesel Pump Packaging List And Packaging Dimensions

(1) Common Rail Diesel Pump Parts List

NO.	1	2	3
Picture			
Name	Common Rail Diesel Pump Assembly	Blue Anti-Rust Bag	Lining
Description	Fuel pump part number: 0445020070	Prevent common rail diesel pump from rusting	Prevent the common rail diesel pump from being damaged by external forces
NO.	4	5	6
Picture			
Name	Common Rail Diesel Pump Packaging Box	Common Rail Diesel Pump White Label	Common Rail Diesel Pump Protective Cover
Description	Place the fuel pump and accessories	Product model	Protect the common rail diesel pump hole from contamination and blockage

⚠ Minors are prohibited from using the common rail diesel pump assembly, O-ring, Oil inlet protective cover, common rail diesel pump shell protective cover, oil return protective cover, VCI anti-rust bag, and bubble bag to avoid personal injury.

⚠ O-rings and repair kits are one-time installation accessories and need to be replaced when installed again

⚠ Oil inlet protective cover, common rail diesel pump shell protective cover, and oil return protective cover are recyclable accessories and can be reused.

⚠ VCI anti-rust bags and bubble bags are non-degradable materials, please dispose of them properly after using.

⚠ The common rail diesel pump and the installation part duct must be treated with appropriate sealing oil during installation.

(2) Common Rail Diesel Pump Packaging Box Size



NO.	Name	Common Rail Diesel Pump Packaging Size (cm)
1	common rail diesel pump packaging box	33*24*27

1.8. [0445020070](tel:0445020070) Common Rail Diesel Pump Testing Standards and Certificates

www.commonraildieselpump.com can provide the factory quality inspection test report of each common rail diesel pump to ensure that each common rail diesel pump delivered meets the engine performance indicators.

BOTEN		测试报告		4.05.2019 10:42:09	
承办单位:					
电话:		地址:			
传真:		检测人:			
客户地址:					
电话:		送检单位:			
传真:		客户姓名:			
检测地址:					
检测名称:	康康				
型号-零件号:					
检测地点:					
检测结果					
检测器型号: C06000-4511					
	检测标准值	参考标准值	实际标准值	检测结果	
COAR TEST:	30	—A—	6.5	20.0 ± 1.0	✓
Back:	30	—A—	75.7	20.0 ± 2.0	✓
WAFER:	30	107.3 ± 10.5	C3	—A—	✗
Max:	211.5	218.5 ± 14.4	C3	—A—	✓
TL:	28.4	20.0 ± 0.5	C3	—A—	✓
EL:	14.1	11.7 ± 0.8	C3	—A—	✓
VE:	5.7	4.0 ± 1.0	C3	—A—	✓

☐ 检测前
 ☐ 检测后

☐ 检测中

1.9. 0445020070 Common Rail Diesel Pump Warranty Instructions

(1) Product Warranty Conditions And Instructions

It is necessary to provide pictures, videos, or test reports tested by the common rail diesel pump inspection equipment when the common rail diesel pump is abnormal during use as evidence to feed back to the salesman. 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) Common Rail Diesel Pump Warranty Coverage

- ① After customer receives the 0445020070 common rail diesel pump within 15 days , if there is a performance failure and the product has no damage on surface, customer can choose to replace it or repair it;
- ② If the 0445020070 common rail diesel pump has performance problems during the warranty period (6-12 months), and it is confirmed to be product's problems after being tested, you can contact our salesmen to replace the same model or a reworked product with the same performance for free;
- ③ If the common rail diesel pump shell has obvious scratches, it can only be repaired and it will be returned as it is if the product is confirmed to be fault-free.

⚠️ Tips: For products not covered by warranty, our company can provide paid maintenance services. For products after paid repaired, the same performance problem will have a free warranty period within 3 months from the date of repairing.

(3) Common Rail Diesel Pump Is Not Covered By Warranty

- 1) The warranty period has expired.
- 2) Fuel pump failure caused by high temperature, high pressure, humidity, rain and snow, saline-

alkali land, earthquake, and used in abnormal environment.

- 3) Customer disassembles or repairs the common rail diesel pump personally resulting in damage to the common rail diesel pump.
- 4) Fuel pump damage caused by man-made reasons (throwing, strong magnetic field magnetization, set fire).
- 5) Fuel pump failure or common rail diesel pump damage caused by non-common rail diesel pump design, technology, manufacturing, quality and other issues.
- 6) Fuel pump failure due to system pressure exceeding system approved pressure.
- 7) Fuel pump failure caused by system voltage exceeding approved voltage.
- 8) Fuel pump failure caused by impurities (water, lead, aluminum powder, iron powder, sulfide) in the system fuel exceeding the standard requirements.
- 9) Fuel pump 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).
- 10) Fuel pump failure caused by not following the installation angle specified in the vehicle engine maintenance manual.
- 11) Fuel pump failure caused by not following the cleaning requirements specified in the vehicle engine maintenance manual.
- 12) Fuel pump failure caused by failure to replace consumable parts as specified in the vehicle engine maintenance manual.
- 13) Fuel pump failure caused by not complying with the intake system fit clearance and exhaust system fit clearance requirements specified in the vehicle engine maintenance manual.
- 14) Failure to replace the consumable parts and the fitting clearance of the oil inlet system pipeline and the common rail diesel pump connection in accordance with the fuel intake system specified in the vehicle engine maintenance manual.

1.10. 0445020070 Common Rail Diesel Pump Manufacturer

Common Rail Diesel Pump Manufacturer: Shenzhen Shumatt Technology Co., Ltd.

2. 0445020070 Common Rail Diesel Pump Technical Support

2.1. 0445020070 Common Rail Diesel Pump Utilized Location

(1) Example: The code of the common rail diesel pump is shown as follows

NO.	Name
A	brand, logo, part number



2.2. Reasons of 0445020070 Common Rail Diesel Pump Not Working Normally

- (1) There is air in the oil circuit of the engine fuel system.
- (2) Vehicle common rail diesel pump oil supply system is not normal.
- (3) Engine common rail system oil leakage or pressure limiting valve damage.
- (4) There is a short circuit, cutting out and poor contact in the wiring harness connected to the common rail diesel pump of the vehicle.
- (5) The long-term placement of the common rail diesel pump causes the anti-rust oil to solidify, and the internal components are stuck or the oil holes are blocked.



Before installing, carefully check whether other components in the common rail system are damaged so as to prevent the common rail diesel pump from not working properly after being replaced.

2.3. 0445020070 Common Rail Diesel Pump Installation

(1) 0445020070 Common Rail Diesel Pump Installation Precautions:

- (1) The replacement of the common rail diesel pump must strictly follow the electrical system, the approved pressure of the low-pressure fuel intake system, the approved pressure of the high-pressure fuel circuit system, and fuel system replacement consumables requirements (including the low-pressure fuel circuit system filter and the high-pressure fuel circuit) specified in the vehicle engine maintenance manual.
- (2) When install the common rail diesel pump, strictly follow the manual of replacement of wearing parts of the fuel system, cleaning requirements for the connection between the fuel system and the common rail diesel pump, the fitting clearance of the common rail diesel pump connection, the installation angle and tightening torque of the common rail diesel pump, the fitting clearance of the intake system, and the fitting clearance of the exhaust system, so that to ensure the service life of the engine and the normal operation of the common rail diesel pump.
- (3) When installing the common rail diesel pump on the engine, it is necessary to clean the engine block, cylinder head and other parts connected to the common rail diesel pump, and ensure that there is no dust, carbon deposits, water, rust spots, etc.
- (4) If don't replace new washer shim, it can lead to: deformation of common rail diesel pump, oil

leakage and air leakage, which will cause serious damage to the common rail diesel pump and common rail diesel pump to break and cause damage to the engine.

(5) When installing the common rail diesel pump on the engine, please carefully check the components related to the installation of the common rail diesel pump are not deformed, such as the common rail diesel pump pressure plate, screw, common rail diesel pump rod and other accessories, and install it in strict accordance with the operation steps of the engine maintenance manual.

(6) It is forbidden to operate the bare common rail diesel pump for a long time in an environment with serious dust pollution and corrosion to iron products.

(7) It is forbidden to operate the bare common rail diesel pump for a long time in a strong magnetic field environment.

2.4. Causes of 0445020070 Common Rail Diesel Pump Being Damaged

- (1) Failure to follow the engine maintenance manual during disassembly or installation may result in damage to the common rail diesel pump.
- (2) The fuel oil used for the vehicle does not meet the standard cause damage to the common rail diesel pump, such as: the water content in the fuel oil exceeds the standard, iron powder, aluminum powder, sulfide impurities exceed the standard, etc.
- (3) The engine is not regularly maintained according to the engine maintenance manual (please refer to the vehicle maintenance manual for the maintenance mileage). For example, failure to replace the lubricating oil of the engine system for a long time will cause abnormal wear of the engine, excessive exhaust gas volume or a large amount of carbon deposits inside the engine. The filter is not replaced during maintenance or the replaced filter cannot reach the original filter standard. all above reasons can cause damage to the common rail diesel pump.
- (4) The abrasion of the oil pump produces iron powder and aluminum powder enter the common rail diesel pump and cause damage to the common rail diesel pump.
- (5) The deformation and abrasion of fuel tank result in iron powder or aluminum powder entering the common rail diesel pump and causing damage to it.
- (6) The common rail diesel pump is damaged due to replacement or adjustment of the relevant parts of the common rail diesel pump. For example, the valve clearance does not meet the standard after the engine is repaired, the replacement or modification of the wiring harness connected to the common rail diesel pump fails to meet the original standard.
- (7) The engine is overheated and overloaded for a long time working results in damage to the common rail diesel pump.
- (8) The common rail diesel pump will be damaged naturally at the end of its working life.
- (9) The common rail diesel pump is magnetized (common rail diesel pump parts' magnetic exceeded) causing the common rail diesel pump to not work properly.

⚠ Before replacing the common rail diesel pump, please check the engine parts carefully according to the engine maintenance manual to avoid the common rail diesel pump being damaged again after replacement.

2.5. 0445020070 Common Rail Diesel Pump Technical Support Obtaining Methods

- (1) Fuel pump technical data: visit <http://shumatt.com> to get the technical data.
- (2) Fuel pump technical videos:

Facebook: Visit <https://www.facebook.com/hison.li> to get the technical videos, constantly follow can get

more information.

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

Shumatt: Visit <http://shumatt.com> to obtain the technical videos.

(3) Fuel pump Information query software

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

(4) Search the common rail diesel pump test data through TruckBook Parts EPC APP.

3. 0445020070 Common Rail Diesel Pump Purchase And Delivery

3.1. 0445020070 Common Rail Diesel Pump Purchase And Payment Term

Payment Method: T/T, Paypal, Alipay, WeChat

⚠ Please contact our salesmen for specific payment information.

3.2. 0445020070 Common Rail Diesel Pump Main Sales Markets

Main Sales Markets Of Common Rail Diesel Pump: Asia, Europe, North America, South America, Africa etc.

3.3. 0445020070 Common Rail Diesel Pump Declaration Requirements

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

3.4. 0445020070 Common Rail Diesel Pump Shipping Ways

Destination in China 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. 0445020070 Common Rail Diesel Pump Delivery Time

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

3.6. 0445020070 Common Rail Diesel Pump Logistics Time for Destination Out of China's Areas

DHL Logistics Time:

Place Of Departure	Hong Kong	Other Countries Or Regions In Asia	Australia and New Zealand	Europe	America	Other Countries
China Mainland	7 Days	7 Days	8 Days	8 Days	8-12 Days	7-10 Days

UPS Logistics Timeliness: Country or region of origin: Mainland China

Country of Destination	Estimated Arrival	Country of Destination	Estimated Arrival	Country of Destination	Estimated Arrival

	Time		Time		Time
Japan	3 Days	Britain	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	USA	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	Philippines	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.

3.7. 0445020070 Common Rail Diesel Pump Shipping Package

Domestic express packaging: Usually wrapped in waterproof scotch tape, such as picture No.1.

International express packaging: Wrapped with waterproof yellow tape after wrapping the black protective film, such as picture No. 2.

Pallet Shipping: Use fumigation free and recycling trays that meet export requirements, and use white wrapping protective film to wrap and bind with cable ties for the outside, such as picture No. 3, also, the products can be packaged according to customers' requirements.

⚠ The packing tray is made of plastic and can be recycled.

⚠ Transparent tape, yellow tape, black wrapping protective film, white wrapping protective film are non-degradable materials, please dispose of them properly.

⚠ Minors are prohibited from using transparent tape, yellow tape, black wrapping protective film, and white wrapping protective film to avoid personal injury.



Pic No. 1

Domestic express packaging:

Wrapped with Transparent tape



Pic No. 2

International express packaging:

Wrapped with yellow tape after wrapping
black protective film



Pic No. 3

Pallet Shipping: Use pallet that meet export requirements, and use white wrapping protective film to wrap and bind with cable ties

4. 0445020070 Common Rail Diesel Pump Storage Standards

(1) Choose a suitable storage place

The warehouse and cargo yard where the common rail diesel pumps are 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 storage requirements

Strict inspections should be carried out when the common rail diesel pumps 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 common rail diesel pumps must be protected from damage.

(3) Keep the warehouse dry and do moisture-proof work

The relative humidity is usually below 70% for the common rail diesel pumps placed in the room, and the corrosion of the common rail diesel pumps is significantly reduced.

Fuel pumps must be stored in the warehouse, and they are forbidden to store in the same warehouse with commodities with high water content.

(4) Reasonable stacking

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

If the common rail diesel pump 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 common rail diesel pump exposed in the air for a long time.
- ⚠ It is forbidden to store acid, alkali, salt and other substances together with the common rail diesel pump.
- ⚠ The unpacked common rail diesel pump must be rust-proof during secondary storage.

5. Company Information



5.1. Company Introduction

Chinese company name: 深圳市舒马特科技有限公司

English company name: Shenzhen Shumatt Technology Co., Ltd.

📞 Mobile Phone/WeChat: +86-13410541523

📞 Hong Kong Mobile Phone: +852-67653519

☎ Tel: +86-755-23215133

✉ Email: ruby@shumatt.com

🌐 Website: www.shumatt.com

📍 **Shenzhen Office:** 11-12, Floor 14, Building 13, Qinchengda Building, Exit A, Honglang North Subway Station, Bao'an District, Shenzhen, China Mainland

📍 **Shenzhen Office:** Exit C, Qiao Touxu Metro Station, No. 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: [1.9. 0445020070 Common Rail Diesel Pump Warranty Instructions](#))

5.2. Sales Contact Information

Name	WeChat/Whatsapp	E-mail
Ruby	+86-13410541523	ruby@shumatt.com

6. Copyright Statement

This material is protected by copyright and is owned by www.commonraildieselpump.com and Shenzhen Shumatt Technology Co., Ltd. Any use of this material, including copying, distributing, modifying, or creating derivative works, is strictly prohibited without prior written permission from the copyright holder.

Permission to use this material may be granted for certain purposes, such as non-commercial or academic use, and must be obtained in writing from the copyright holder. Whenever possible, please include the name and title of the work, along with a link to the original source.

The copyright holder retains all rights, including the right to pursue legal action against any infringement. This notice ensures the protection of the copyright holder's rights and the appropriate use of the material.

Thank you for respecting the intellectual property rights of the copyright holder. For any inquiries about using the "[0445020070 Common Rail Diesel Pump Technical File](#)," please contact hison@shumatt.com.