Invented for life

BOSCH

Bosch eXchange

for common-rail systems

Bosch eXchange common-rail systems
Overview

Bosch is one of the world's leading manufacturers of diesel injection systems and has outstanding diesel expertise. The Bosch eXchange program for common-rail systems offers workshops a high-quality alternative for repairing passenger cars and commercial vehicles in line with their current value. The exchange parts are tested to the same quality standards as the original parts, but are more affordable. This enables workshops to make attractive offers to their customers that are tailored to the age of the vehicle.

Comprehensive range
The Bosch eXchange program consists partly of series-remanufactured products. However, to provide a comprehensive range, a high market coverage and capability, it can also be complemented by new parts.

Certified series remanufacturing
Series remanufacturing is carried out in certified plants that comply with the high standards of the automotive industry. This ensures the remarkable quality and reliability of Bosch eXchange products.

High market coverage
The common-rail exchange program offers a wide range of products for the majority of vehicles equipped with common-rail technology from Bosch.

More than 50 years of experience
Bosch has decades of experience in remanufacturing automotive parts. The first distributor injection pump was remanufactured in 1971.

Proven quality
The Bosch eXchange original seal on the packaging provides assurance that the Bosch eXchange product has been inspected and tested as rigorously as new Bosch products.

Excellent value for the price

With a **price advantage** of up to

30 %

over comparable components from new product programs, Bosch eXchange products are an excellent solution for vehicle repairs that reflect the current value of the vehicle.

And they come with the same warranty as new products.

Bosch eXchange common-rail systems
Product range & details

	Bosch eXchange common-rail high-pressure pumps	Bosch eXchange common-rail injectors
	Bosch eXchange common-rail high-pressure pumps compress the fuel to up to 2,700 bar and deliver it in the required quantity. To do this, they constantly pump fuel into the high-pressure accumulator (rail) and maintain the system pressure. The required pressure is available even at low engine speeds, as pressure generation is decoupled from engine speed.	Bosch eXchange common-rail injectors inject fuel directly into the combustion chamber. They are supplied with fuel from the pressure accumulator (rail) via short high-pressure fuel lines. The engine control unit controls the switching valve integrated in the injector, which opens and closes the injector. The switching valve can be controlled electromagnetically or via a piezo element.
Scope of application		
Advantages at a glance	■ **High engine performance and smooth running** through volume and pressure generation in line with demand ■ **High efficiency,** due to rail pressure already being available at low rotational speeds ■ **Reduced consumption** in combination with start-stopp system ■ **Long service life** thanks to robust design	■ **Highly efficient fuel injection** thanks to extremely short injection intervals and multiple injection ■ **Efficient fuel combustion, smooth running and high engine performance** in every driving situation through pre-, main- and post-injections ■ **Quiet, highly efficient combustion** due to individually controlled injection into each cylinder ■ **Rapid injection** stop by hydraulically closing the nozzle needle

Comprehensive Bosch eXchange program for diesel vehicles

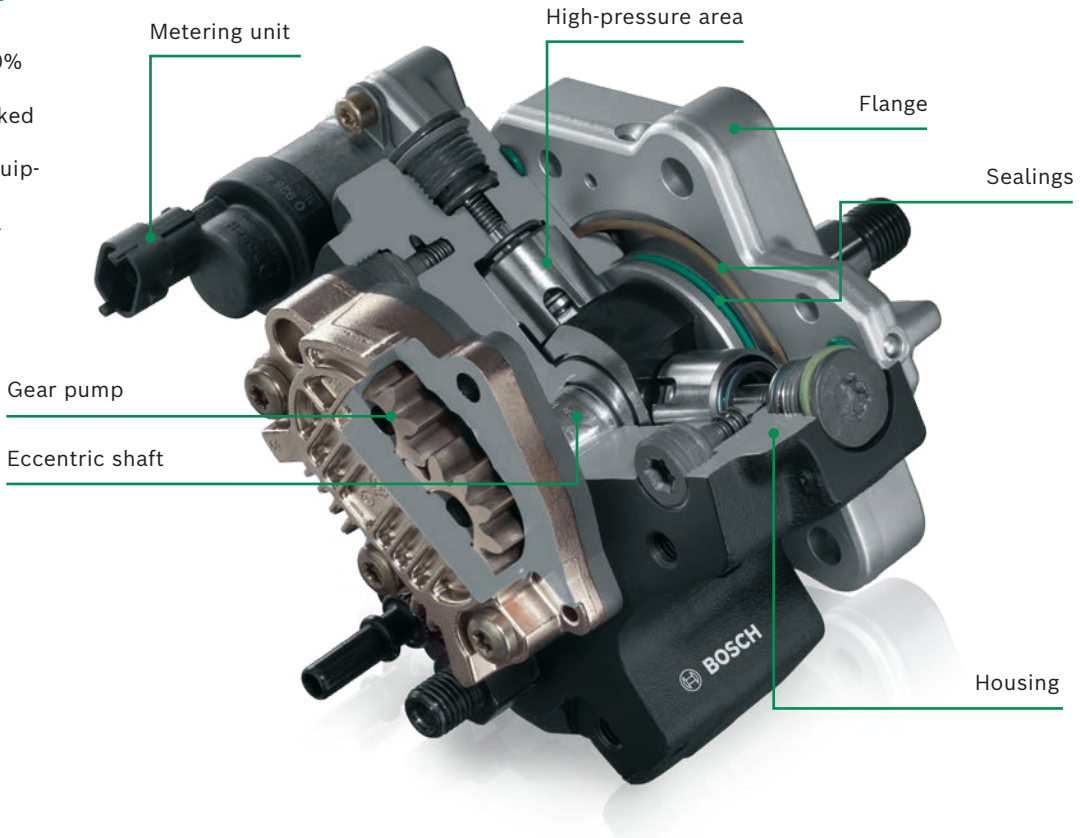
Bosch eXchange product	Application	System pressures up to	Used in the following vehicle brands
Common-rail injector (CRI, CRIN)	Car, CV, off-road	2,700 bar	AGCO, Audi, BMW, Citroen, CNH, Dacia, Deutz, Fiat, Ford, Hyundai, Isuzu, Iveco, John Deere, Kia, MAN, Mercedes-Benz, Nissan, Opel, Peugeot, Renault, Toyota, Volkswagen, Volvo
Common-rail high-pressure pump (CP1, CP3, CP4)	Car, CV, off-road	2,700 bar	AGCO, Audi, BMW, Citroen, CNH, Dacia, Deutz, Fiat, Ford, Hyundai, Isuzu, Iveco, John Deere, Kia, MAN, Mercedes-Benz, Nissan, Opel, Peugeot, Renault, Toyota, Volkswagen, Volvo
Unit injector	Car	2,200 bar	Audi, Ford, Seat, Skoda, Volkswagen
Unit injector	CV, off-road	2,050 bar	Iveco, Scania, Volvo
Unit pump	CV, off-road	1,800 bar	DAF, Deutz, Liebherr, Mack, Mercedes-Benz, MTU
Nozzle holder assembly	Car, CV, off-road	1,800 bar	Audi, BMW, Citroen, Ford, John Deere, MAN, Mercedes-Benz, Opel, Renault, Scania, Volkswagen, Volvo
Denoxtronic supply module	CV, off-road	Low pressure range	AGCO, CNH, Cummins, DAF, Deutz, Iveco, MAN, Renault, Scania, Volvo

Bosch eXchange common-rail pump
Details of series remanufacturing

Fitting inferior remanufactured diesel products can cause problems in the vehicles of workshop customers and even result in engine damage. The consequences can be significant, given the operating pressures of up to 2,700 bar in common-rail systems.
The reliable solution: Bosch eXchange.

Bosch eXchange common-rail pump

Wearing parts are 100% replaced. All reusable components are checked and reworked on the basis of original equipment expertise and replaced with original parts from Bosch as required.



Possible risks when not using original high-pressure pumps from Bosch

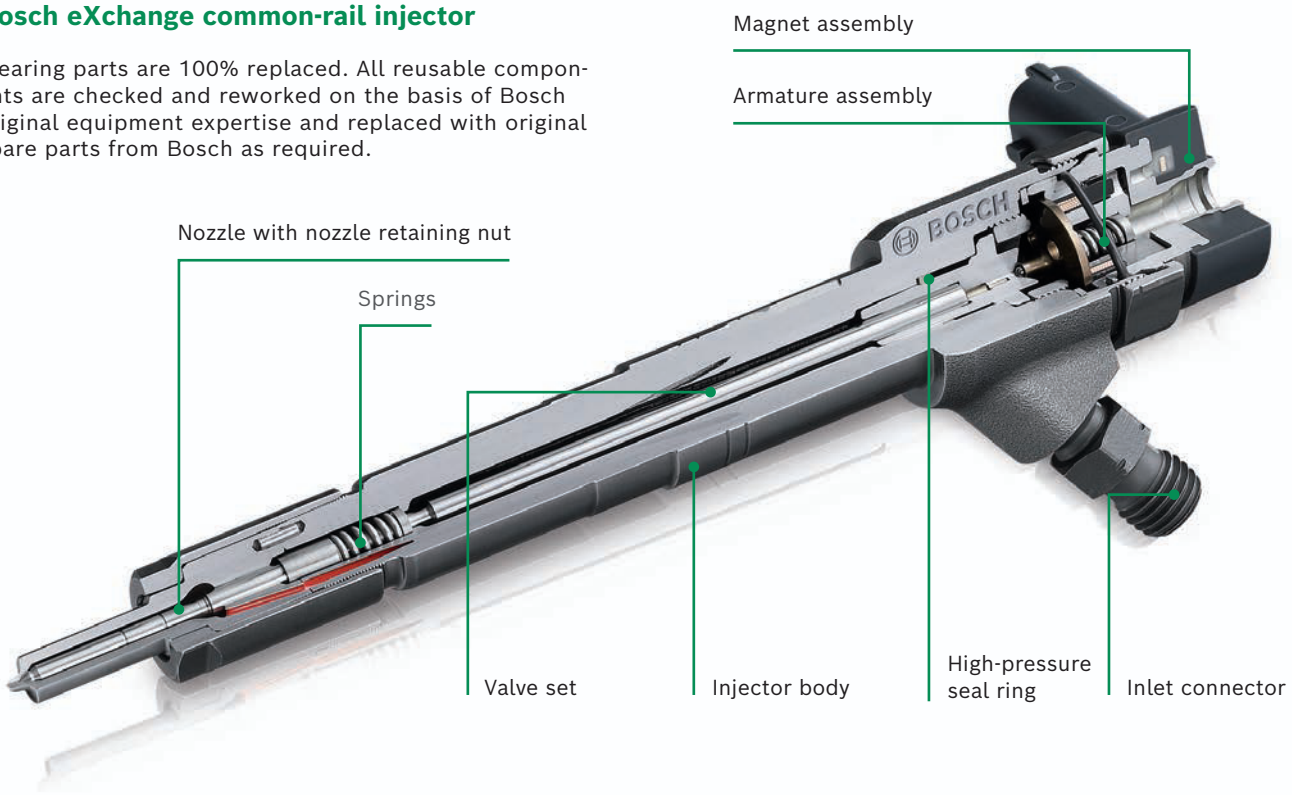
Cause	Possible effect	Associated risks
1. Mechanical damage at pump housing	Leakage, insufficient pressure	Engine cut-out, engine fire
2. Bushing and radial shaft sealings not replaced with genuine new parts	Leakage of fuel, engine oil dilution	Total failure of pump due to seizure
3. Re-use of sealings and bolts	Internal and external leakage	Engine cut-out, engine damage
4. Mechanical damage at cylinder head	Differing compression (valves)	Engine oil dilution, reduced engine power
5. Metering unit not replaced with genuine new part	Impaired operation due to rust and deposits	Reduced or impaired engine power
6. Eccentric shaft not reworked	Engine oil dilution	Total failure of pump due to seizure, engine damage
7. Wear at high-pressure area	Imprecise fuel supply	Reduced engine power, starting problems or even total failure of the pump due to seizure

Bosch eXchange common-rail injector
Details of series remanufacturing

Series remanufacturing from Bosch involves not only replacing all wearing parts but – most importantly – all critical components with 100% new parts. Maximum operational reliability is additionally guaranteed by high-precision manufacturing standards and stringent quality control.

Bosch eXchange common-rail injector

Wearing parts are 100% replaced. All reusable components are checked and reworked on the basis of Bosch original equipment expertise and replaced with original spare parts from Bosch as required.



Possible risks when not using original eXchange injectors from Bosch

Cause	Possible effect	Associated risks
1. Re-use of old nozzle and nozzle retaining nut	Nozzle/nozzle retaining nut leakage or incorrect injection action	Reduced engine power, negative effect on emissions and potential engine damage
2. Valve set not replaced with genuine new parts	Millisecond accuracy of nozzle actuation no longer guaranteed and increased fuel backflow rate	Rough engine running, reduced engine power, increased fuel consumption
3. Re-use of springs	Loss of spring force, spring fracture, incorrect injection action	Negative effect on emissions, engine damage
4. High-pressure seal ring not replaced with genuine new part	Leakage, different injection action	Loss of power and even engine damage
5. Re-use of inlet connector	Leakage of fuel, edge-type filter defective	Reduced engine power, negative effect on emissions and potential engine damage
6. Mechanical damage or corrosion at injector body	Leakage of fuel	Engine cut-out, engine fire

Bosch eXchange common-rail systems
Quality in every detail

Series remanufacturing in certified Bosch plants uses proven and documented procedures for each individual work step. A strict quality assurance system monitors the entire process. Even before the start of series remanufacturing, all products must pass an approval process based on original equipment standards. They are tested under extreme conditions for service life, vibration resistance, robustness against environmental influences and leak tightness. The result: Bosch quality on a par with the production of new parts.

Core

Receipt and sorting of cores
- Core return via CoremanNet
- Identification, sorting and analysis of cores
- Protection of old parts by back-in-box process

1

Disassembly, cleaning and testing
- Disassembly
- Cleaning in accordance with environmental directives
- Thorough testing of components based on original equipment standards

2

Series remanufacturing
- Replacement of critical components and wear parts
- Professional remanufacturing
- Dimensional and functional test of all parts

3

Assembly
- Assembly process with original equipment expertise

4

Final test
- All functional and quality tests based on the standards from the original equipment

5

Packaging
- Sealed packaging as a mark of tested products and premium quality

6

Finished Bosch eXchange product
- Comparable quality standards and testing as for original parts and the same warranty as in the new parts program

7

Remanufactured product

Bosch eXchange common-rail systems
A good choice

Bosch eXchange offers the opportunity to carry out vehicle repairs in line with the current value of the vehicle, helps the workshop to calculate economically, and keep costs low. The products are delivered ready for installation and reduce the workload for the workshop and the length of time customers' vehicles are out of service. They also offer a significant price advantage over the new product range and conserve resources and the environment. It pays off to rely on Bosch eXchange.

Advantages at a glance

- High functional reliability, long service life
- Technically up to date
- Wide product range, high market coverage
- Time savings thanks to ready-to-install Bosch eXchange products
- Price certainty through precise calculation
- Price advantage compared to new parts program
- Vehicle warranties remain valid
- Contribution to compliance with statutory emissions standards
- Same warranty as in the new parts program
- Protection of resources and the environment

Easy core return via CoremanNet

Clear return criteria, quick pick-up and immediate deposit value crediting ensure trouble-free core returns.

www.coremannet.com

Bosch eXchange: the safety package for workshops

When using a replacement product, Bosch recommends using genuine Bosch eXchange products. This minimizes risks for the workshop customers' vehicles.

Bosch replaces not only defective components, but all components that are relevant for the **long service life and functional reliability** of the replacement part.

What drives you, **drives us**

Bosch technologies are used in most vehicles worldwide.
People, and assuring their mobility, is what we are focused on.

Therefore, we have dedicated over 130 years of pioneering spirit and expertise in research and manufacturing to achieving this.

We provide the aftermarket and workshops worldwide with modern diagnostic and workshop equipment and a wide range of spare parts for passenger cars and commercial vehicles:

- Solutions for efficient and effective vehicle repairs
- Innovative workshop equipment and software
- One of the world's most comprehensive ranges of new and exchange parts
- Large network of wholesale customers, for quick and reliable parts supply
- Competent technical support
- Comprehensive educational and training offers
- Targeted sales and marketing support

Find out more at:
boschaftermarket.com

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