

PRODUCT INFORMATION

High-Pressure Fuel Pumps and Mechanical Fuel Pumps

- Built-in pressure limiting valve
- Compact, lightweight construction
- Integrated pressure dampening feature with adjustable feed pressure
- Meets or exceeds OEM Specifications

PRODUCT FEATURES

Since the introduction of common rail systems in diesel engines, high-pressure fuel pumps have become an indispensable part of the fuel processing system. With the introduction of direct petrol injection, high-pressure pumps are also used in petrol engines.

The fuel system of a modern direct petrol injection engine is made up of a low-pressure system with a high-pressure circuit. In the low-pressure circuit, the fuel is sucked from the tank by an electrical fuel pump and then conveyed to the high-pressure pump.

The system pressure in the low-pressure circuit is regulated by the engine control unit as required and can be up to 6.0 bar, depending on the system. In the high-pressure circuit, the fuel is pumped by the high-pressure pump via high-pressure fuel lines into the fuel distribution pipe (rail), where it reaches the relevant cylinders via the connected electrical high-pressure injection valves. The fuel pressure in the high-pressure circuit is monitored by the engine control unit and regulated from 50 to 350 bar in accordance with the appropriate system configuration.

Design and function of the high-pressure fuel pump:

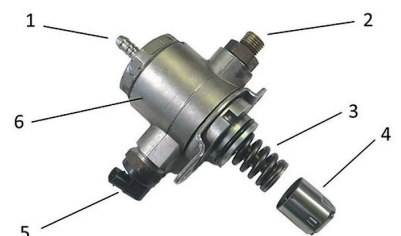
Depending on the vehicle manufacturer and engine concept, different types of high-pressure pumps can be installed. A distinction is made here between radial piston pumps, axial piston pumps or in-line pumps, which can be run with one or several pump elements. As a result of the different drive concepts, the pump can be lubricated either by the fuel or by the engine oil.

Regardless of the design, the high-pressure fuel pump has the task of compressing the fuel provided by the pre-feed pump to the fuel pressure required for the injection valves and of then making it available in the fuel distribution pipe (rail). Since the high-pressure pump is driven mechanically via the camshafts, the pump's delivery rate is proportional to the engine speed.

The fuel pressure is monitored by the engine control unit via a pressure sensor and regulated via a flow control valve installed in the pump. This fuel pressure regulator is attached directly to the high-pressure pump. It measures out the supply to the high-pressure pump and thus regulates its performance.

This demand-based control means that only the high pressure that is actually needed for the current operating situation is generated in the pump.

Single-cylinder, high-pressure pump with roller tappet: (1) Low pressure connection, (2) High pressure connection, (3) Pressure spring, (4) Roller tappet, (5) Pressure control valve, (6) Pump housing

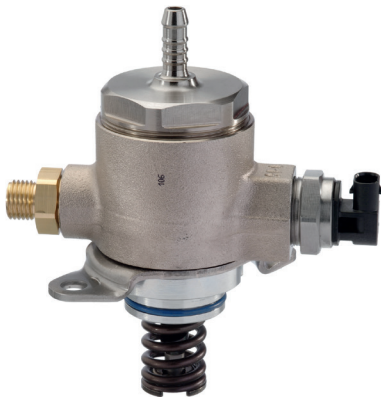


HELLA HIGH-PRESSURE FUEL PUMPS & MECHANICAL FUEL PUMPS

HIGH-PRESSURE FUEL PUMPS

Simply put, a high pressure fuel pump is a device that supplies fuel to the engine at much higher pressures than standard fuel pumps. Its main function is to guarantee that the engine gets the appropriate amount of fuel at the pressure needed for effective combustion.

Fuel delivery is a vital component of any vehicle's system, and high pressure fuel pumps are essential for ensuring efficient and dependable fuel injection. These specialized pumps are engineered to provide fuel at elevated pressures, promoting optimal combustion and enhancing engine performance. By recognizing the significance of high pressure fuel pumps, both drivers and automotive enthusiasts can better understand how to optimize fuel delivery and improve their vehicles' overall performance.



Failure Symptoms

Severe mechanical strain, high fuel pressures, lack of lubricant and temperature differences promote wear and can lead to a defect in the high-pressure pump over time. The following effects may indicate a defective high-pressure pump:

- Erratic engine running
- No power in the upper speed range
- Poor starting behavior
- Engine stops – engine warning light comes on
- Oil dilution

Product life expectancy

A high-pressure fuel pump typically lasts at least 100,000 miles, but can last more than 200,000 miles

MECHANICAL FUEL PUMPS

Mechanical fuel pumps utilize moving components to draw fuel from the tank to the engine, while electric fuel pumps depend on electricity and computer systems to deliver fuel to the engine. Additionally, mechanical fuel pumps are typically located on the side of the engine, whereas electric fuel pumps are installed at the fuel tank. There are also distinct operational differences between the two, which are outlined below.



Causes of failure

The following causes can be responsible for the failure of the high-pressure pumps:

- External mechanical damage
- Internal mechanical damage to the drive, roller tappet or pump element
- Leaks - fuel loss
- Inspection service intervals/maintenance intervals not observed
- Poor lubrication - oil dilution or poor oil quality
- Contamination in the low-pressure system

HELLA HIGH-PRESSURE FUEL PUMPS & MECHANICAL FUEL PUMPS

PRODUCT RANGE

PART NUMBER	PRODUCT IMAGE	YEAR	MAKE	MODEL	COUNTRY OF ORIGIN
7.06032.03.0		2005-2010	Audi	A4 A4 Quattro A6 A6 Quattro	DE
7.06032.12.0		2008-2013	Audi	A4 Quattro A5 A5 Quattro A6 Q5	DE
7.06032.18.0		2009-2020	Audi	R8 TT RS Quattro	DE
7.06032.21.0		2011-2016	Audi	A8 Quattro RS5	DE
7.06032.22.0		2013-2018	Audi	A8 Quattro RS7 S6 S7 S8	DE
7.06032.25.0		2015-2019	Audi	A6 Quattro A7 Quattro A8 Quattro Q7	DE
7.06032.29.0		2018-2024	Audi	Q8 RS5 RS5 Sportback S4 S5 S5 Sportback SQ5	DE
7.06032.14.0		2007-2010	Audi Porsche Volkswagen	Cayenne Q7 Touareg	DE
7.06032.19.0		2013-2023	Audi Porsche Volkswagen	A3 Quattro A6 A6 Quattro Arteon Atlas Golf R GTI Jetta Macan Q5 S3 TT Quattro TTS Quattro	DE
7.06032.11.0		2008-2017	Audi Seat Volkswagen	A1 A3 Caddy Ibiza Leon Polo Tiguan Toledo	DE
7.06032.20.0		2013-2022	Audi Seat Volkswagen	A1 A3 A3 Sportback e-tron Jetta Leon	DE
7.06032.04.0		2005-2015	Audi Volkswagen	A3 A4 A4 Quattro Eos Golf R GTI Jetta Passat TT TT Quattro TTS Quattro	DE
7.06032.05.0		2007-2016	Audi Volkswagen	A6 Quattro A8 Quattro Q7 R8 S5 Touareg	DE
7.06032.06.0		2007-2016	Audi Volkswagen	A6 Quattro A8 Quattro Q7 R8 S5 Touareg	DE



HELLA HIGH-PRESSURE FUEL PUMPS & MECHANICAL FUEL PUMPS

PRODUCT RANGE

PART NUMBER	PRODUCT IMAGE	YEAR	MAKE	MODEL	COUNTRY OF ORIGIN
7.06032.09.0		2009-2018	Audi Volkswagen	A4 Quattro A5 A5 Quattro A6 A6 Quattro A7 A7 Quattro A8 Quattro Q5 Q7 S4 S5 SQ5 Touareg	DE
7.06032.10.0		2007-2018	Audi Volkswagen	A3 A3 Quattro A4 A4 allroad A4 Quattro A5 A5 Quattro A6 A6 Quattro allroad Beetle CC Eos GLI Golf GTI Jetta Passat Passat CC Q3 Q5 Tiguan Tiguan Limited TT TT Quattro	DE
7.06032.13.0		2006-2010	Audi Volkswagen	Passat Q7 Touareg	DE
7.06032.15.0		2007-2011	Audi Volkswagen	CC Passat Passat CC Q7	DE
7.06032.23.0		2007-2012	Audi Volkswagen	A6 Quattro A8 Quattro Q7 RS4 S5 Touareg	DE
7.06032.26.0		2015-2023	Audi Volkswagen	A3 A3 Quattro A6 A6 Quattro Arteon Atlas Atlas Cross Sport Golf R GTI Jetta Q3 S3 Tiguan TT Quattro TTS Quattro	DE
NEW! 358304261		2010-2018	Audi Volkswagen	A3 A3 Quattro Beetle CC Eos GTI Jetta Passat Q3 Q3 Quattro Tiguan Tiguan Limited TT Quattro TTS Quattro	CN
NEW! 358312361		2012-2015	BMW	135i 335i 335i GT xDrive 335i xDrive 435i 435i xDrive 535i 535i GT 535i GT xDrive 535i xDrive 640i 640i Gran Coupe 640i xDrive 640i xDrive Gran Coupe 740i 740Li 740Li xDrive ActiveHybrid 3 ActiveHybrid 5 ActiveHybrid 7 M235i X1 X3 X5 X6	CN
NEW! 358312391		2015-2019	BMW	335i 335i GT xDrive 335i xDrive 435i 435i Gran Coupe 435i xDrive 435i xDrive Gran Coupe 535i 535i GT 535i GT xDrive 535i xDrive 640i 640i Gran Coupe 640i xDrive 640i xDrive Gran Coupe 740i 740Li 740Li xDrive ActiveHybrid 5 M2 M235i M235i xDrive X1 X3 X4 X5 X6	CN
NEW! 358304281		2008-2017	Buick Cadillac Chevrolet GMC Saturn	Acadia Acadia Limited Camaro CTS Enclave LaCrosse Outlook STS Traverse	CN
7.06032.28.0		2011-2023	INFINITI Nissan	Armada M56 NV2500 NV3500 Q70 Q70L QX56 QX80 TITAN TITAN XD	DE
NEW! 358312381		2013-2024	Jaguar Land Rover	Defender 110 Defender 130 Defender 90 Discovery F-Pace F-Type LR4 Range Rover Range Rover Sport Range Rover Velar XE XF XFR XFR-S XJ XJR XJR575 XK XKR XKR-S	CN

HELLA HIGH-PRESSURE FUEL PUMPS
& MECHANICAL FUEL PUMPS

PRODUCT RANGE

PART NUMBER	PRODUCT IMAGE	YEAR	MAKE	MODEL	COUNTRY OF ORIGIN
<div>NEW!</div> <div>358312371</div>		2015-2023	Mercedes-Benz	C300 C350e E300 GLC300 GLC350e Metris SLC300 SLK300 Sprinter 1500 Sprinter 2500	CN
7.06032.17.0		2009-2023	Porsche Volkswagen	Atlas Atlas Cross Sport Cayenne CC Cross Sport Passat Passat CC Teramont Touareg	DE



Product features, specifications and availability are subject to change without notice.

HELLA Automotive Sales, Inc.

201 Kelly Drive
Peachtree City, GA, 30269
Tel.: +1 (877) 224-3552
Fax: +1 (770) 631-7574
www.hellausa.com
www.myhellalights.com