

Meat&Doria **998076**
Hoffer Products **H998076**



FOCUS

**Oil
Pumps**



New Category



Our Premium Quality

A superior quality range, guaranteed by direct control of the entire process.

Design and production are supervised by the Group's engineers, in compliance with the original equipment specifications. Subsequently, each component undergoes end-of-line validation testing by the Quality team, with the aim of offering a product that always stands out for its quality, reliability, and durability.



Design



Fleet Coverage



Testing



After-Sales Support

100% functional testing

High volumetric efficiency

Compliance with and exceeding OE / OEM standards

Tight dimensional tolerances

Resistance to wear and cavitation

High-strength materials (aluminum alloys, heat-treated steels)

FOCUS
Oil Pumps



Focus n. 002
February 2026



SINCE 1945



SINCE 1999

What are they?

The **oil pump** is a fundamental component of the engine lubrication system. Its main function is to draw oil from the oil pan (sump) and circulate it through the lubrication circuit, ensuring proper lubrication of moving components such as:

Vacuum pump

Turbocharger core assembly (CHRA)

Piston connecting rods

Timing chain

Camshaft

Other mechanisms subject to friction and high temperatures

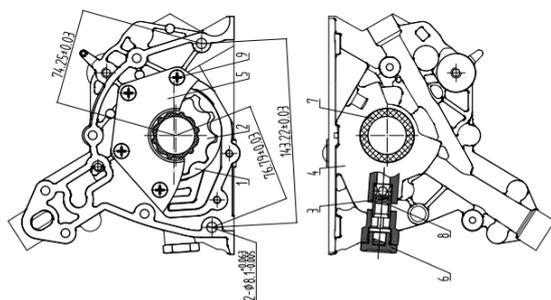
Operation

Normally, the oil pump is driven:

By the **timing chain**

By a **dedicated chain***

*connected to the crankshaft



Types

Oil pumps can be:

Fixed displacement

The amount of oil displaced per cycle always remains the same; only the pumping speed increases or decreases according to engine RPM.

Variable displacement

The oil flow rate is modulated by an electronic control.

This technology is widely used in latest-generation engines, especially **downsized engines**, where fuel consumption and efficiency are optimized.

Importance and possible failures

Correct operation of the oil pump is essential: a malfunction can cause **almost immediate seizure** of components that require continuous lubrication.

However, when diagnosing oil pressure issues, it is good practice to:

- Check the entire **lubrication circuit**.
- Verify any **leaks, blockages, or insufficient oil levels**, as these issues are often more common than pump failure itself.



Most common symptoms requiring replacement

Symptoms of a faulty oil pump include:

Loss of power

Metallic noises from the engine

Increase in engine temperature

Oil warning light illuminated on the dashboard

Knocking or banging noises from the engine

Main causes of failure

Lack of lubrication

If engine oil is insufficient or too old, the pump may run dry or with increased friction, causing internal damage.

Clogged oil filter

A blocked filter can restrict oil flow, overloading the pump.

Manufacturing defects

In rare cases, structural or material defects may lead to premature failure.

Incorrect installation or poor maintenance

Improper installation or maintenance can also lead to premature pump failure.

Dirty or contaminated oil

Oil containing debris, sludge, or metal particles can clog the pump's internal passages and damage it.

Wear

Over time, the pump's internal gears wear out, reducing efficiency and increasing the risk of failure.

Engine overheating

High temperatures can deform or damage pump components.

Components to check or replace together with the oil pump

Oil filter – 14170 - 14450

Must always be replaced. A dirty filter can compromise the new pump.

Oil pan – 91601

Check for sludge, metal debris, or damage. Thorough cleaning is recommended.



Oil pickup tube – 91601

The tube that draws oil from the pan. If clogged or damaged, it can prevent proper pump operation.

Gaskets and oil seals – 016190

Inspect and replace worn seals to prevent oil leaks.

Pump drive chain or gears (if present)

In some engines the pump is driven by a chain or gears. These should be checked for wear or excessive play.

Oil pressure sensor – 72090

If the oil warning light is on, the issue may be the sensor, which should be tested or replaced.

Crankshaft bearings

If the pump failed due to lack of lubrication, it is important to check for damage to the bearings or crankshaft.

Other components

Oil Sump: KIT21504

Gasket Kit: 01622

Oil Pressure Regulating Valve:
91572 - 91573

Most common error codes

P0520 - Oil pressure sensor circuit malfunction	Indicates a general issue in the oil pressure circuit.
Cause: faulty sensor; damaged wiring; actual low pressure (possible pump failure); low oil level; clogged oil filter; worn oil pump.	
P0521 - Oil pressure sensor performance/range	The ECU detects out-of-range, constant, or implausible oil pressure values.
Cause: open or shorted wires; irregular oil pressure (possible inefficient pump); poor maintenance / degraded oil.	
P0522 - Oil pressure signal too low	This code indicates an electrical reading that is too low.
Cause: actual low pressure (pump failure); faulty sensor; wiring shorted to ground; very low oil level.	
P0523 - Oil pressure signal too high	Excessively high electrical signal from the sensor.
Cause: faulty sensor; wiring shorted to positive; abnormal oil pressure (pump relief valve stuck).	
P0524 - Oil pressure too low	Very serious code. It indicates truly insufficient oil pressure.
Cause: faulty or worn oil pump; heavily clogged oil filter; insufficient or severely degraded oil; internal mechanical issues.	

