

# Air Mass Meters

## Overview, features and benefits

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- ▶ Original equipment product
- ▶ Part of the Bosch Exchange programme
- ▶ Calibrated as complete units to ensure accuracy
- ▶ Uses highly specialised and unique circuit technology

### Function:

An air mass meter registers the mass of air that is being drawn into the engine and converts this into an electrical signal which is sent to the engine's ECU. The ECU then uses this input, along with inputs from other sensors, to calculate the amount of fuel to be mixed with the incoming air to ensure efficient operation of the engine.

A low quality air mass meter will provide compromised data to the ECU leading to an incorrect air/fuel mixture at all levels of engine loading; affecting power, driveability and fuel emissions.

Bosch is the world's leading supplier of sensor technology for the automotive sector. Bosch air mass meter technology is constantly evolving and now the latest HFM 7 and 8 units utilise digital control.

Some of the terms used for this component include Air Mass Sensor - Air Mass Meter - MAF sensor - HFM - Air Flow Sensor - Air Flow Meter.



HFM5



HFM7

Critical components to the correct performance of the modern engine.

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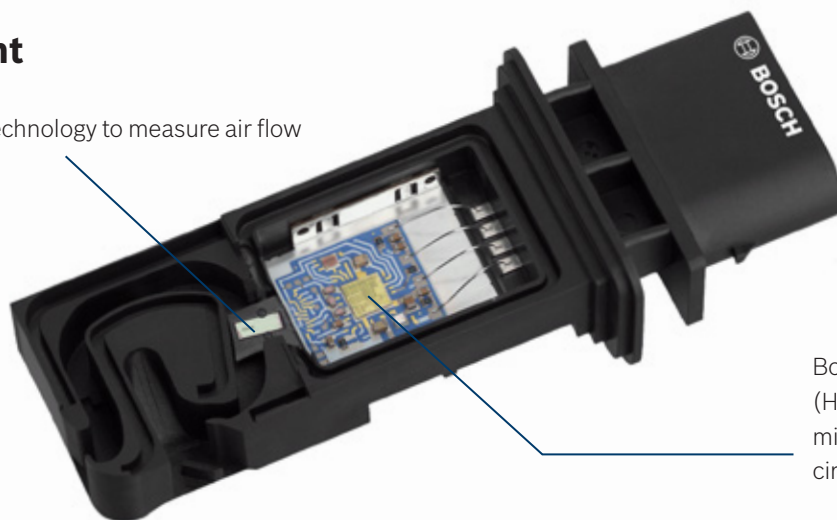
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### Sensor Element

Uses the latest film technology to measure air flow



Bosch hot film air mass meters (HFM's) use highly specialised, miniaturised and unique hybrid circuit technology

Bosch specifically calibrates the sensor element and housing as a complete assembled unit to ensure total functional accuracy. This calibration process is only available on genuine OE product.



Bosch only supplies complete assemblies to the aftermarket to ensure vehicle manufactures tolerances are maintained.

### Why should you fit complete assemblies?

- ▶ Functional accuracy is achieved by calibration of the sensor element to the housing during production
- ▶ Once the element is removed or altered calibration is compromised
- ▶ The tamper evident screws are to prevent disassembly

HFM5 design detail



Bosch offers a factory exchange on select part numbers



HFM6 has sensor element bonded to housing to prevent disassembly



Tamper evident screws on HFM5

### Air Mass Meter Summary:

- ▶ Original equipment product and performance
- ▶ Part of the Bosch Exchange programme
- ▶ Calibrated as complete units in the factory
- ▶ Only original units can fulfill the required high technical and functional specifications