

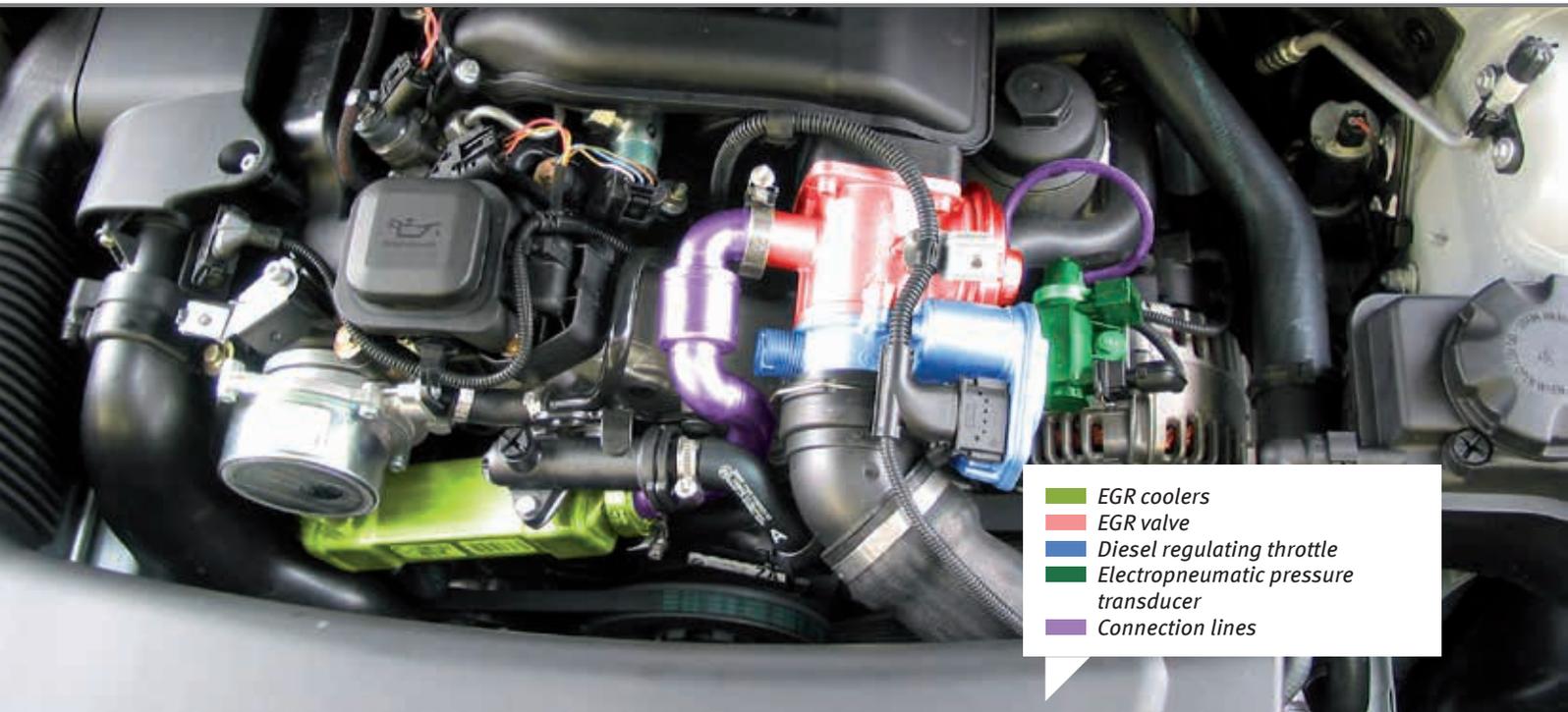
# Exhaust gas recirculation

Proven Pierburg technology for emission control

**PRODUCT**  
INFORMATION



## Exhaust gas recirculation



- EGR coolers
- EGR valve
- Diesel regulating throttle
- Electropneumatic pressure transducer
- Connection lines

## An indispensable way of controlling emissions.

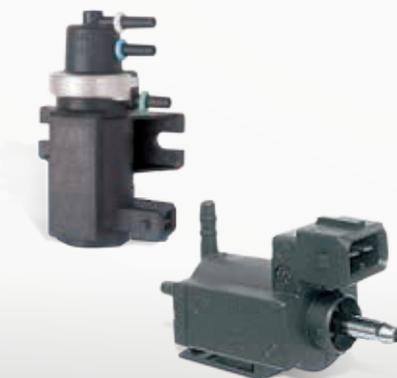
Exhaust gas recirculation (EGR) has not only proven to be an effective way of controlling emissions in petrol engines – practically all modern diesel engines must also be fitted with the technology to comply with increasingly stringent exhaust gas regulations.

Cooled exhaust gas recirculation is the only way to meet the even stricter limit values stipulated by the EURO 5 and EURO 6 exhaust gas standards. Pierburg has made a substantial contribution to the current state of the art and, as a highly experienced systems supplier, is

able to offer a compact and efficient system for emission control.



*Tried and tested: pneumatic EGR valves.*



*Pneumatic EGR valves are actuated using solenoid valves.*

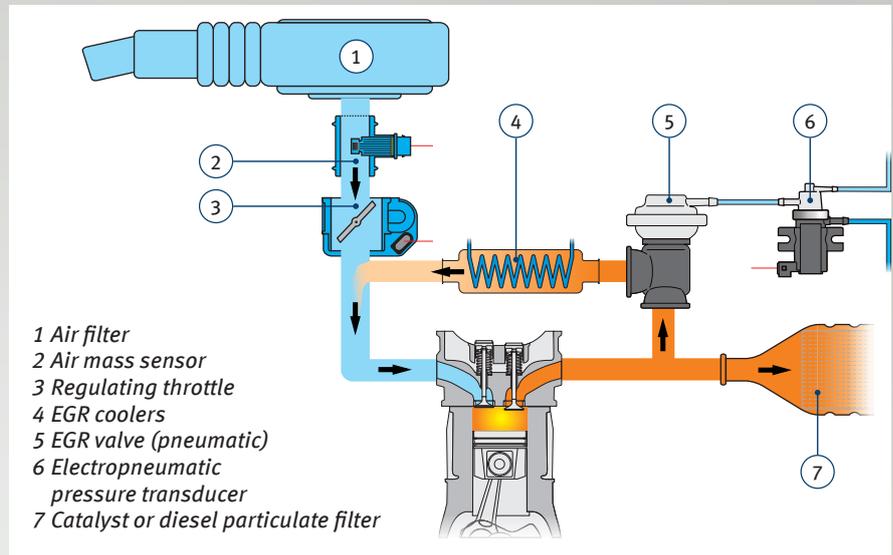


*Pneumatic components can be easily checked using simple tools.*

The exhaust gas is taken directly downstream of the cylinders and cooled. The EGR valve then regulates the subsequent mixing of the exhaust gas with the intake air.

This reduces the oxygen content in the air-fuel mixture and lowers the combustion temperature in the cylinders.

Since harmful nitrogen oxides (NO<sub>x</sub>) are mainly produced at high temperatures, this process can reduce the quantities of NO<sub>x</sub> by up to 50%. CO<sub>2</sub> emissions and fuel consumption can also be reduced in petrol engines.



- 1 Air filter
- 2 Air mass sensor
- 3 Regulating throttle
- 4 EGR coolers
- 5 EGR valve (pneumatic)
- 6 Electropneumatic pressure transducer
- 7 Catalyst or diesel particulate filter



### EGR valves

The EGR valve forms a key component of the exhaust gas recirculation system as it meters the quantity of exhaust gas that is returned.

EGR valves come in a wide range of designs and models: they can be actuated electrically or pneumatically, designed for petrol or diesel applications or be connected to the coolant circuit.

Electric EGR valves are predominantly used nowadays as they require neither a vacuum nor a solenoid valve for the actuation.

Due to the higher return rates involved, EGR valves for diesel applications have relatively large opening cross-sections. The cross-sections for petrol engines are much smaller.

You can find more information on  
"Exhaust gas recirculation" and  
"Emission control" on our website  
[www.ms-motorservice.com](http://www.ms-motorservice.com)

### EGR coolers

Increasingly stringent exhaust gas limits make the EGR cooler an essential component.

### Air mass sensors

Air mass sensors are used in diesel engines to regulate the exhaust gas recirculation, for example.

### Regulating throttles (diesel)

"Regulating throttles" are used in the intake manifold in diesel vehicles. They generate the necessary pressure difference between the exhaust gas side and intake side to achieve high exhaust gas recirculation rates.





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