



PIERBURG



PI 2177

For technical personnel only!

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PRODUCT INFORMATION

PARTICLE FILTER INJECTION UNITS

FROM THE SPECIALIST FOR EMISSION CONTROL



Motorservice is expanding the product range for emission control with particle filter injection units.

The 14 articles cover a global vehicle fleet of over 7 million vehicles.

These injection units are an essential component for regenerating diesel particle filters.

PRODUCTS FROM THE SPECIALIST FOR EMISSION CONTROL

High operating temperatures and aggressive exhaust gas place high demands on the components. The corrosion and temperature-resistant materials used in Pierburg products ensure lasting function under the harshest conditions. There's a reason why Pierburg is represented as an OEM in a large number of modern vehicles.

That is why we are constantly expanding our product range.



NOTE

See the following pages for further technical background information



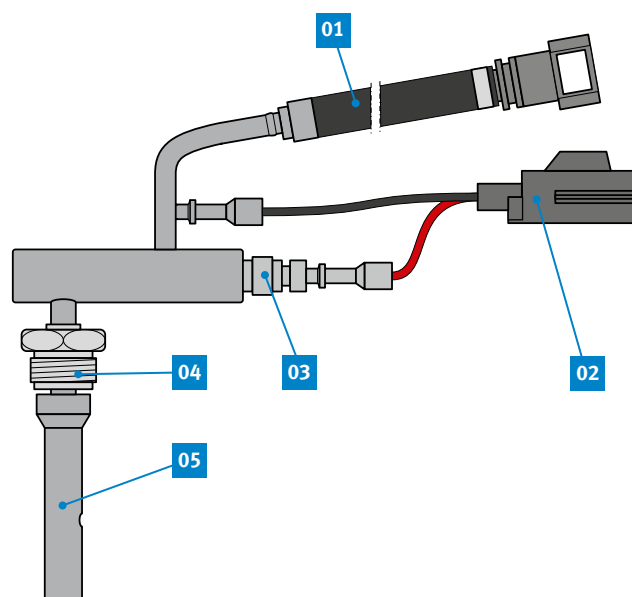
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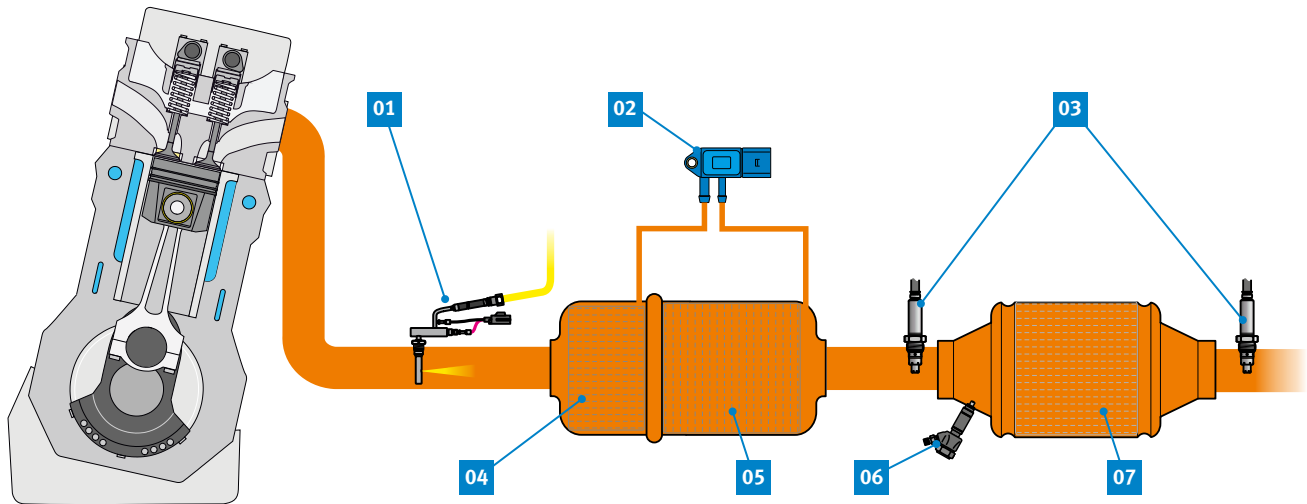
**DPF INJECTION VALVES IN THE RANGE**

Item no.	Ref. no.	OEM	Vehicle / application
7.10631.00.0	1 856 982, AV61-9T540-BF	Ford	C-Max, Focus, Galaxy, Mondeo, S-Max 2.0TDCI
7.10631.01.0	1 902 014, FV41-9T540-BB	Ford	C-Max, Focus, Kuga 2.0TDCI
7.10631.02.0	1 877 192, CC11-9T540-AJ	Ford / PSA	Transit, Jumper, Boxer 2.2TDCI/HDI
7.10631.03.0	1 879 927, CV6Q-9T540-AG	Ford	Focus III 1.6TDCI
7.10631.04.0	2 009 096, AB39-9T540-AF	Ford	Ranger 2.2 / 3.2 TDCI
7.10631.05.0	1 940 310, BK21-9T540-AH	Ford	Tourneo Custom, Transit 2.2TDCI
7.10631.06.0	1 877 097, CV6Q-9T540-AB	Ford	Kuga 2.0TDCI
7.10631.07.0	1 548 748, 8C11-9T540-BA	Ford	Transit 2.4 / 3.2TDCI
7.10631.08.0	2 022 247, CC11-9T540-BG	Ford	Transit 2.2TDCI
7.10631.09.0	2 039 911, BK31-9T540-AG	Ford	Transit 2.2TDCI
7.10631.10.0	5 312 744, 9T16-9T540-AC	Ford	Tourneo Connect 1.8TDCI
7.10631.11.0	1 940 313, BK31-9T540-BG	Ford	Transit 2.2TDCI
7.10631.12.0	2 167 210, BK31-9T540-CA	Ford	Transit 2.2TDCI
7.10631.13.0	1 890 231, E1G1-9T540-AD	Ford	Galaxy, Mondeo 2.0TDCi Biturbo

The injection unit consists of the following components:

- 01** Fuel supply line (material: FKM)
- 02** Power supply to the heating element
- 03** Heating element
- 04** Hollowscrew with retaining washer for screwing the injection unit to the exhaust pipe
- 05** Injection nozzle, protected by plastic cap when delivered





BACKGROUND INFORMATION

In addition to other pollutants, the combustion process in diesel engines produces soot particulates. They are made of carbon, onto which various compounds are deposited, including hydrocarbons that are harmful to health.

For this reason, the soot particulates are filtered out and collected in the diesel particle filter (05).

At high exhaust gas temperatures above 550 °C, such as when driving on the motorway, the soot burns to form carbon dioxide and water vapour (known as “regeneration”).

A small proportion of non-combustible ash is left behind. The particle filter must, therefore, be replaced after approx. 200,000 km.

Frequent short journeys, the use of poor-quality engine oil or defective attachments such as glow plugs, EGR valves or sensors will increase the amount of soot deposited in the filter.

To prevent the particle filter from becoming clogged prematurely and thus being damaged, a differential pressure sensor (02) monitors the extent to which it is soiled.

Diesel exhaust gas purification (schematic diagram)

- 01 Particle filter injection unit
- 02 Differential pressure sensor
- 03 NOx sensor
- 04 Oxidation catalytic converter
- 05 Diesel particle filter
- 06 Urea injection
- 07 SCR catalytic converter

When a certain soiling limit has been reached, the particle filter (05) must be actively regenerated. To do this, the engine control unit starts a free-burning process in order to achieve exhaust gas temperatures of over 550 °C:

in certain operating and load states, the injection unit (01) sprays in fuel just upstream of the particle filter (05).

The fuel burns with the residual oxygen in the exhaust gas. The resulting heat also heats up the particle filter.

Depending on the specific vehicle and driving conditions, the active burning-off process takes place roughly every 400 to 600 kilometres and lasts around 10 minutes. It usually goes unnoticed by the driver. It does not impair the engine performance. The free-burning process can also be started in repair shops using an engine tester.