Compliance with future NOx limits will require both active exhaust aftertreatment and a substantial reduction of raw emissions. Low-pressure exhaust gas recirculation (LP EGR) offers an effective solution, where a proportion of the exhaust gas exiting the particulate filter is fed back to the engine. However, there is a risk of solid material breaking off the exhaust system during its service life and entering the compressor via the EGR line.

Low-pressure EGR filters protect turbochargers and engines from damage caused by ceramic and metal particles. 

*Advantage: A lifelong guarantee of system efficiency*
Incentives for the use of low-pressure EGR filters

The exhaust gas powers the turbocharger before entering the oxicat and DPF where solid material can break off during the service life of these systems. Behind the DPF, a proportion of the exhaust gas is fed back to the engine via the compressor. The blades of the compressor could be damaged by particles over a certain size. Particles can also cause problems inside the cylinder if they enter the combustion chamber through the air intake. This can be prevented by special filters. A special woven metal fabric whose geometry meets this specific requirement provides lifelong protection of downstream components.
Low-pressure EGR filters: design and application

Design and installation situations are determined by available space and specific requirements

**Radial filters:** The component is installed in the main exhaust stream behind the DPF. The recirculated exhaust gas is filtered through a lateral outlet and fed to the cooler.

**Cone filters:** Located in the EGR line. The exhaust gas flows through the modified truncated cone filter in a longitudinal direction. The filter can be installed directly behind the junction or directly in front of the cooler.

**EGR filter requirements:**
- Filtering/deposition of all particulates: >200 µm
- Max. temperature: 300-500°C
- Max. filter pressure loss: 10-20 mbar
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