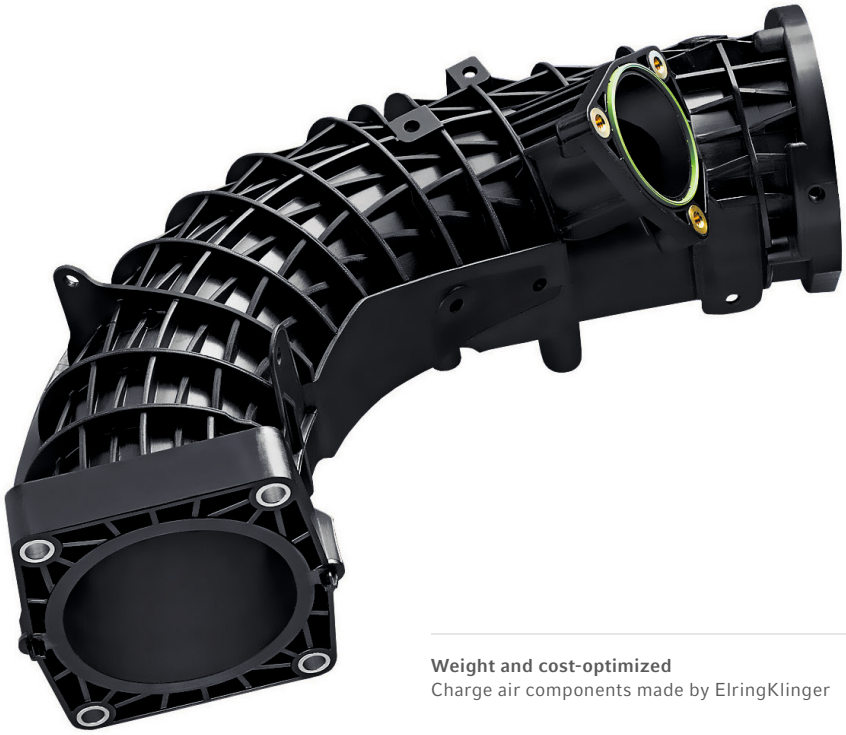
FACT SHEET

Charge air components for commercial vehicles and passenger cars



Weight and cost-optimized
Charge air components made by ElringKlinger

Charge air pipes and intakes for commercial vehicles are used to guide the pressurized air from the outlet of the turbo charger into the intake manifold. Often exhaust gas recirculation (EGR) is introduced as well and challenges the chosen polyamide and sealing material with acid conditions. CAE-based design of the components ensures low pressure loss in addition the right mixing behavior of EGR avoiding hot spots and poor distribution of EGR.

Moreover, resonators based on the Helmholtz principle allow specific dampening of relevant frequencies of the turbo charger. Very often directly attached to the turbo charger the resonator reduces the emitted noise (frequency range typically between 1000 and 5000 Hz) helping to minimize the overall sound emission of the car.

ELRINGKLINGER – YOUR PARTNER FOR CHARGE AIR COMPONENTS

Product Development (Design, Engineering and Simulation) – Process Development – Tool Shop – Tool Sampling/Prototyping – Testing – Change-Management – Series Production – Part Measurement

Technology

Charge air components are produced by injection molding of polyamide with short glass fiber reinforcement (typically between 30% and 50%). Additional welding processes (hot gas, friction or ultrasonic welding) offer a high degree of design freedom to fulfill customer's requirements. The variety of different assembly processes (gasket, insert embedding etc.) provides a ready-to-assemble product with maximum integration.

Benefits

+ Integrated sealing function with tailored gasket materials
+ High weight reduction potential
+ CAE expertise in-house (CFD for flow simulation, acoustics for dampening, FEA for structural analysis)
+ Short cycle times / high automation

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