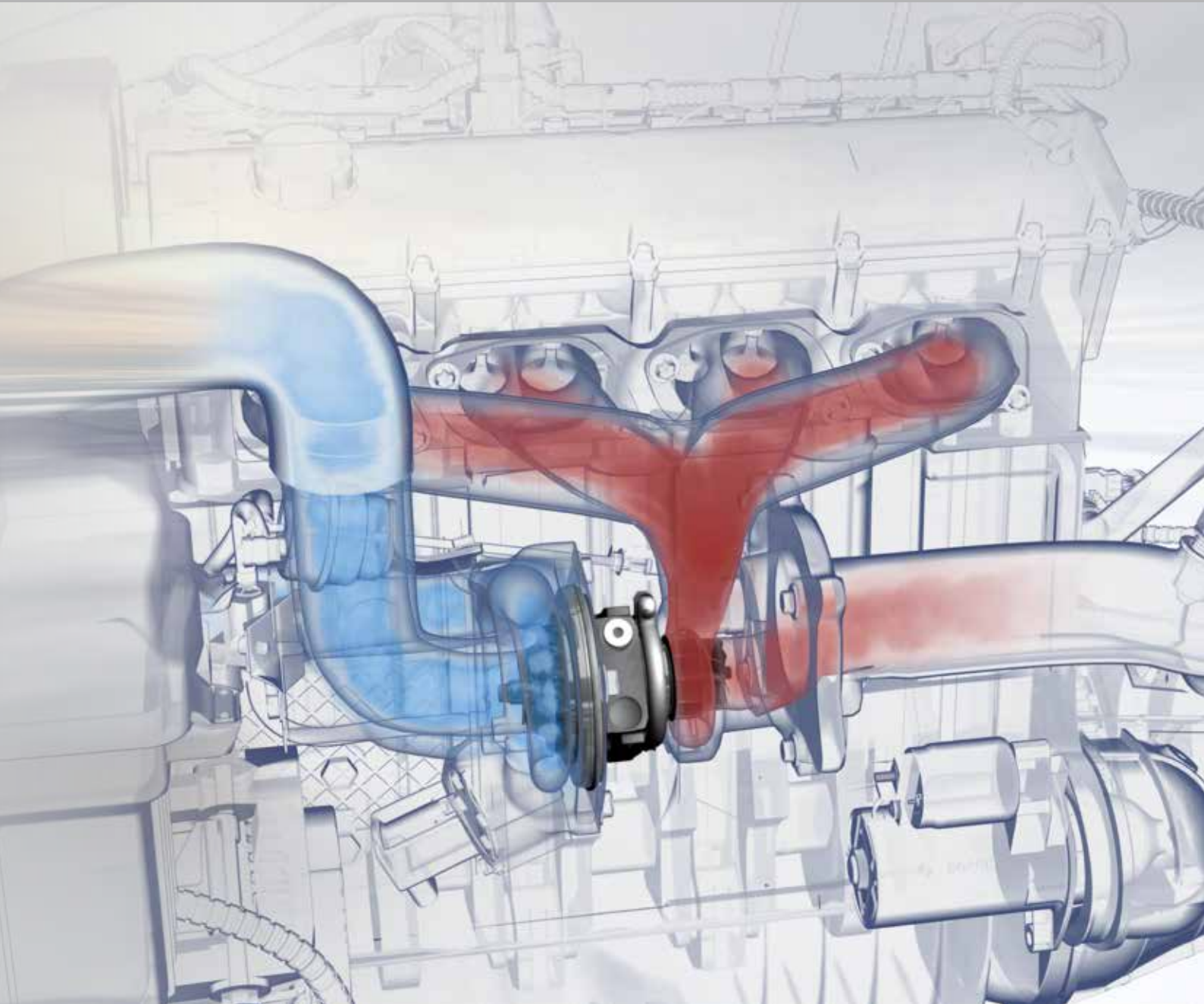


博世马勒涡轮增压系统
Bosch Mahle Turbo Systems



柴油发动机和汽油发动机涡轮增压器

Turbochargers for DIESEL and GASOLINE Engines

柴油版产品特征:

- ▶ 提高低速扭矩
- ▶ 在没有除氮氧化物催化器的情况下达到欧六排放标准
- ▶ 电控化的增压压力调节装置增强涡轮增压器的可控性

汽油版产品特征:

- ▶ 提高低速扭矩
- ▶ 优化的空气动力学设计达到最优的燃油经济性
- ▶ 减少二氧化碳排放的系统组件
- ▶ 实现发动机小型化概念
- ▶ 更佳瞬态响应性能提升驾乘乐趣

Features DIESEL:

- ▶ Improved low-end-torque behavior
- ▶ Euro6 emission level reached without DNOx catalytic converter
- ▶ Excellent controllability with electrical actuation for boost pressure regulation

Features GASOLINE:

- ▶ Improved low-end-torque behavior
- ▶ Optimized aerodynamic design for best fuel economy
- ▶ System component for CO₂ reduction
- ▶ Realization of downsizing concepts
- ▶ Boost driving pleasure through improved transient response

客户获益

- ▶ 基于专利技术及高产量的卓越品质
- ▶ 依照客户要求定制化的接口及轮系设计
- ▶ 最优化的声学性能
- ▶ 经济性: 基于最优化性能的低油耗
- ▶ 创新设计的涡轮增压器可满足最严苛的排放法规要求

Customer benefits

- ▶ Improved quality based on high volume manufacturing know how
- ▶ Customer tailored design in terms of packaging and wheels
- ▶ Optimized acoustic behavior
- ▶ Economical: Less consumption based on optimized performance
- ▶ Innovative turbocharger series to meet most stringent emission standard

废气涡轮增压器BM65

Exhaust Gas Turbocharger BM65

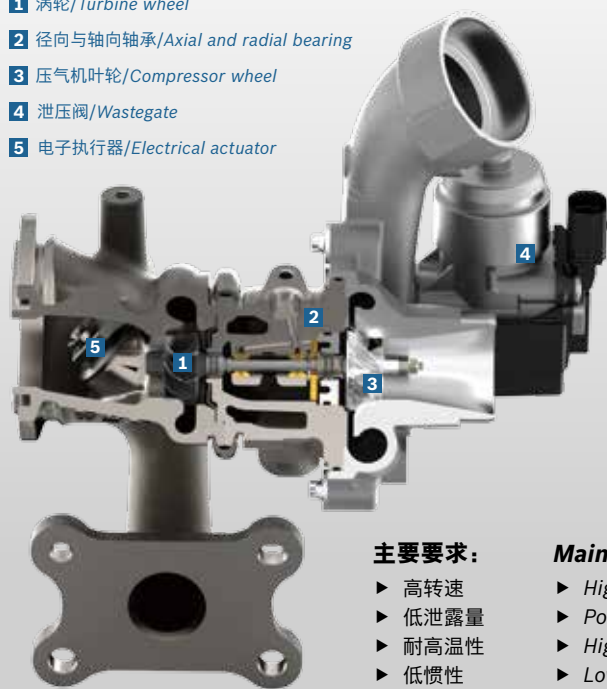
1 涡轮/Turbine wheel

2 径向与轴向轴承/Axial and radial bearing

3 压气机叶轮/Compressor wheel

4 泄压阀/Wastegate

5 电子执行器/Electrical actuator



主要要求:

- ▶ 高转速
- ▶ 低泄露量
- ▶ 耐高温性
- ▶ 低惯性

Main requirements:

- ▶ High circumferential speed
- ▶ Poor leakage
- ▶ High temperature resistance
- ▶ Low inertia

客户获益

声学性能

- ▶ 较低的不平衡量
 - 全机加工压轮
 - 优化的涡轮焊接
 - 优化的衬套轴承

热力学分析

- ▶ 较小的轮廓间隙

Customer benefits

Acoustic

- ▶ Low unbalance
 - Milled compressor wheel
 - Optimized turbine wheel welding
 - Optimized bush bearing

Thermodynamics

- ▶ Small contour gap

可变截面废气涡轮增压器BM70

Exhaust Gas Turbocharger with Variable Turbine Geometry BM70

特性:

- ▶ 热解耦
- ▶ 全机加工压轮
- ▶ 气动式可变截面执行器
- ▶ 压端装有消声器
- ▶ 排气歧管
- ▶ 低压废气再循环系统

Features:

- ▶ Thermal decoupling
- ▶ Milled compressor wheel
- ▶ Pneumatic VTG actuator
- ▶ Sound absorber mounted on compressor housing
- ▶ Exhaust gas manifold
- ▶ Compressor enabled for LP-EGR

1 涡轮集成排气歧管/Turbine housing with integrated exhaust gas manifold

2 涡轮/Turbine wheel

3 双密封环/2 piston rings in 2 grooves

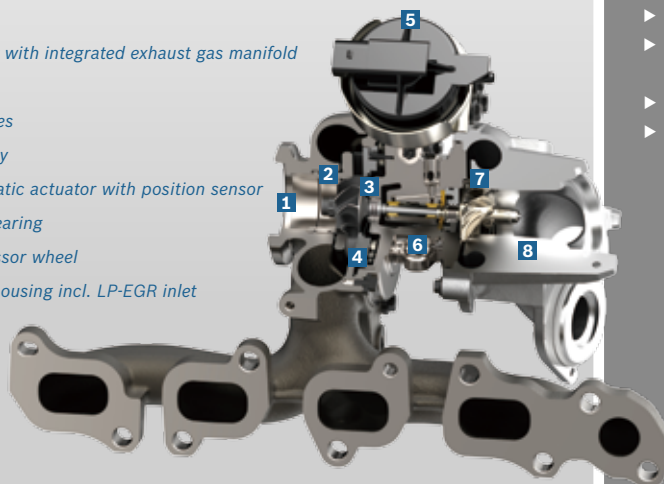
4 可变截面/Variable turbine geometry

5 带有位置传感器气动执行器/Pneumatic actuator with position sensor

6 轴向与径向轴承/Axial and radial bearing

7 压轮表面特殊涂层/Coated compressor wheel

8 低压废气再循环系统/Compressor housing incl. LP-EGR inlet



客户获益

- ▶ 减少二氧化碳排放
- ▶ 减少油耗
- ▶ 加速阶段提高瞬态响应
- ▶ 提高低速扭矩
- ▶ 提高性能图宽度

Customer benefits

- ▶ Reduced CO₂ emissions
- ▶ Reduced fuel consumption
- ▶ Improved transient behavior during acceleration
- ▶ Improved low end torque
- ▶ Use of the complete map width

商用车两级废气涡轮增压器 (BM110+BM126)

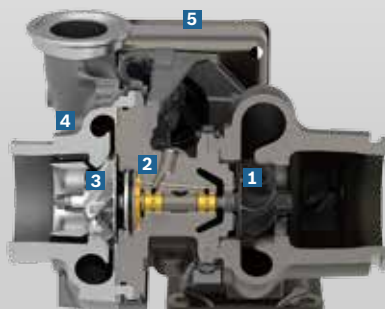
2-Stage Exhaust Gas Turbocharger for Commercial Vehicle

特性:

- ▶ 两级增压器
- ▶ 全机加工压轮
- ▶ 水冷式小型电子执行器 (满足CAN通信协议)
- ▶ 可调节壳体
- ▶ 开槽式型线
- ▶ 仿真模拟

Features:

- ▶ 2-Stage turbocharging
- ▶ Milled compressor wheel
- ▶ Water-cooled, smart electrical actuator (with CAN-connection)
- ▶ Adjustable housing
- ▶ Ported-shroud
- ▶ Simulation based engineering



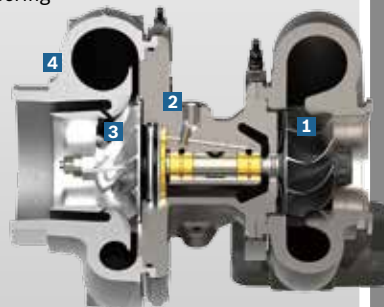
1 涡轮/Turbine wheel

2 径向与轴向轴承/Axial and radial bearing

3 压气机叶轮/Compressor wheel

4 开槽式型线/Ported shroud

5 电子泄压阀执行器/Electrical wastegate actuator



客户获益

- ▶ 可靠耐久的设计
- ▶ 减少油耗
- ▶ 减少二氧化碳排放
- ▶ 最大化利用转速范围
- ▶ 加速阶段提高瞬态响应
- ▶ 高废气循环兼容性
- ▶ 高功率密度

Customer benefits

- ▶ Robust, durable design
- ▶ Reduced fuel consumption
- ▶ Reduced CO₂ emissions
- ▶ Better use of speed range
- ▶ Improved transient behavior during acceleration
- ▶ High EGR compatibility
- ▶ High power density

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