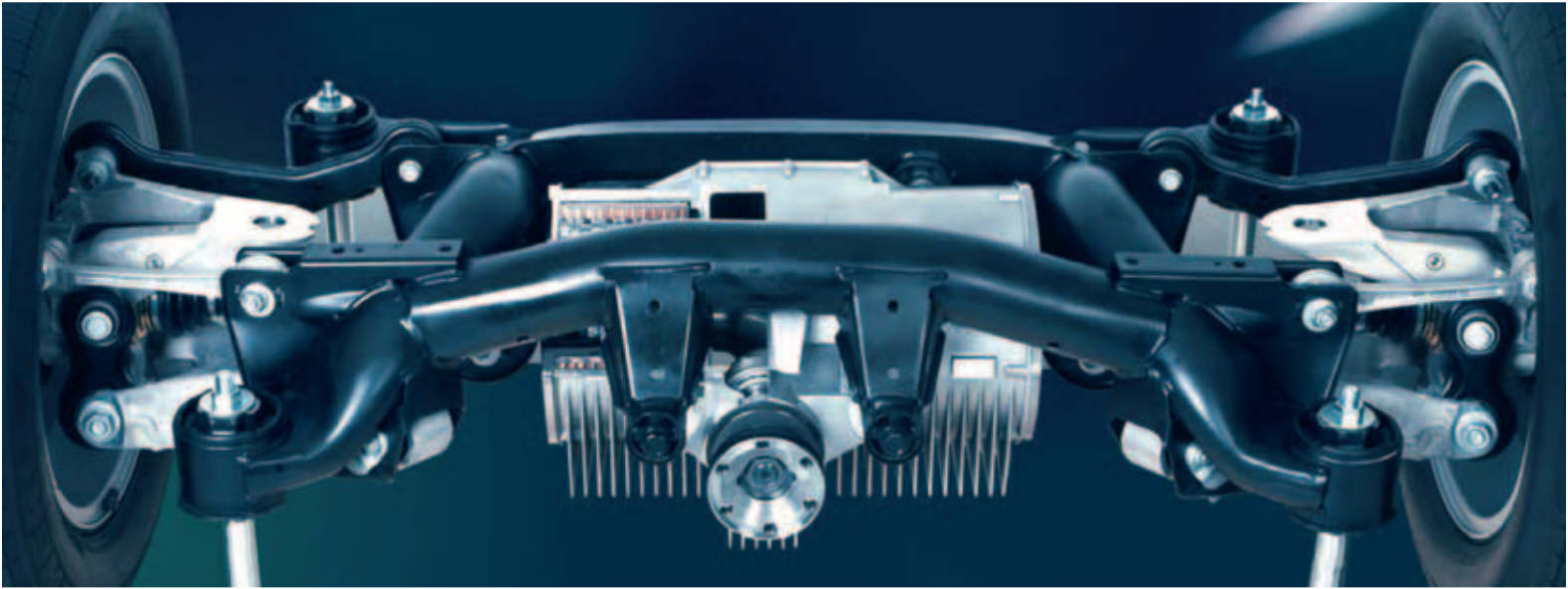


Hybrid Rear Axle

A High Performance Axle Unit with Hybrid Capability



Parallel Hybrid System

- ▶ Boost function produces enhanced vehicle acceleration
- ▶ Efficient e-machines, delivering excellent torque, provide the basis for a hybridized powertrain
- ▶ Energy recuperation capability
- ▶ Potential CO₂ savings

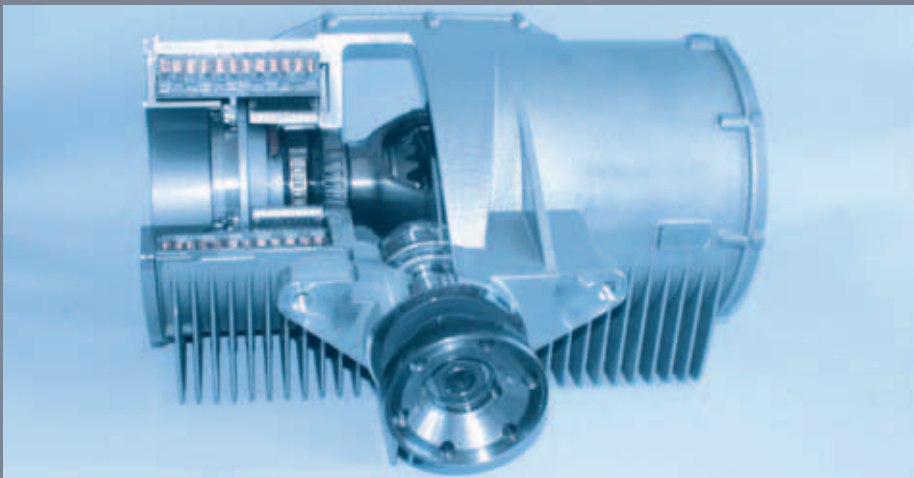
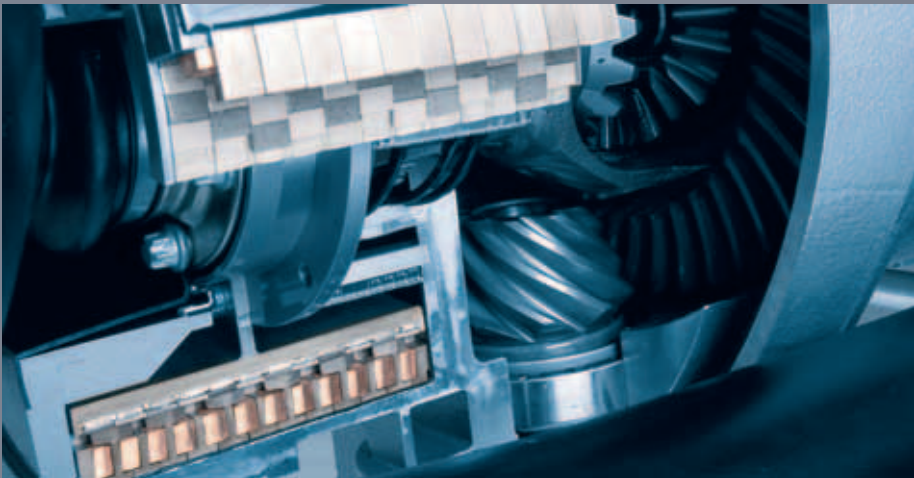
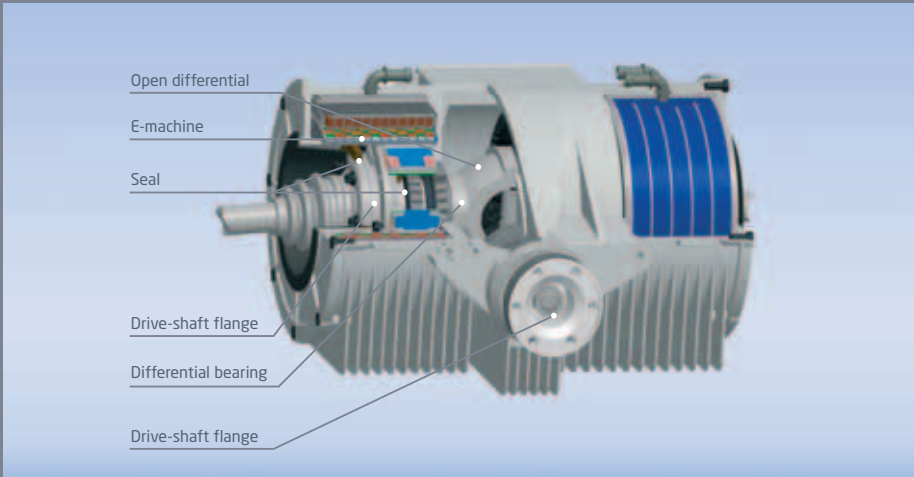
Longitudinal and Lateral Dynamics

- ▶ Enhances cornering stability and safety, particularly lateral dynamics and handling
- ▶ Optimized road wheel torque vectoring across the rear axle
- ▶ Traction optimization for better utilization of road surface grip
- ▶ Traction not interrupted with Manual Transmission or Automated Manual Transmission

Benefits

- ▶ High level of e-machine integration is possible
- ▶ Existing engine/transmission configurations can be carried over
- ▶ Flexible and modular solution
- ▶ Low additional inertia, highly dynamic capability
- ▶ Utilizes existing package space at rear of vehicle
- ▶ Fast and accurate response system for excellent driving dynamics





Flexibility and Modularity

- ▶ Open differential
- ▶ Active differential
- ▶ Hybrid function
- ▶ Basis for an electric axle
- ▶ Basis for a retrofit All Wheel Drive/Four Wheel Drive
- ▶ Capability of integrating new gear ratios
- ▶ Mechanical torque transmission superimposed on electrical power flow
- ▶ Modular integration of 2 electric machines in an open differential, for a mid sized SUV or luxury car may typically deliver:
 - Rated power output: 30 kW
 - Rated torque: 350 Nm (per e-machine)

Subject to change without notice, effective: : M 10/2008