

# Efficient and powerful RailPacks





**RailPacks are complete drive systems for a wide range of applications in railcars and special rail vehicles. RailPacks are available with mechanical, hydraulic and electric power transmission.**

#### RailPacks

RailPacks are installed in the underfloor area of railcars, in order to save space. They comprise all components required for the drive and the auxiliary systems, for example diesel engine, transmission, power generation and air supply in one compact package. Depending on the application, the cooling system can be configured as a roof-mounted or underfloor unit.

#### Basic designs

- RailPack 400 DH/DM/DE    nominal output of up to 400 kW
- RailPack 500 DH/DM/DE    nominal output of up to 480 kW
- RailPack 600 DH/DE        nominal output of up to 588 kW
- RailPack 800 DH/DE        nominal output of up to 735 kW

#### Customer-specific solutions

- Voith CustomPack as systems solution with high customer contribution/localized share In-house production of components, local procurement of components and final assembly can be carried out by customer.
- Voith ReplacementPack for retrofit or repowering projects. The entire drive solution is newly integrated into the vehicle, while existing parts and components are also utilized.

#### Special features

- Engines from other manufacturers can be integrated
- Broad output spectrum from 400 kW to 735 kW
- Complete customer service from consultation on vehicle construction and inspection up to full service
- Worldwide sales and service network for rail applications
- Low calculable life cycle costs
- Hybridization possible
- Consumption-optimized VTDCo control
- Meets all current emission standards



- 1 Railbus with hydromechanical drive, built by Bom Sinal, Brazil, with RailPack 400DM.
- 2 ATR 220 railcar with diesel-hydraulic drive, built by Pesa, Poland, with Voith RailPack 400DH.
- 3 Class 185 railcar with diesel-hydraulic drive, built by Siemens, Germany, with RailPack 800DH.

### Your benefits at a glance



One-Stop-Shop



All transmission types  
DE/DM/DH can be  
integrated



High power density



Low fuel consumption



Fulfills newest emission  
standards



Simplified integration  
thanks to fewer interfaces



Impervious to  
mechanical and  
climatic factors



Low-maintenance



Worldwide service  
network

### The RailPack 400DM

The RailPack 400DM achieves the highest efficiency – it is powerful and fuel-optimized. It is the ideal unit for all single- or multi-segment light railcars: Its redesigned hydro-mechanical DIWA Rail transmission significantly increases the transmission input power. The wide traction range permits nominal powers of up to 400 kW. Optionally the RailPack is also available in hybrid version.

### The RailPack 400DH/600DH

The RailPack is available in two designs for two different power classes: with the S111 and T211 turbo transmission for a maximum power rating of up to 400 kW, and the other design with the T212 turbo transmission for up to 588 kW. Perfectly suited for railcars with maximum speeds of 100 to 160 km/h.

### The RailPack 800DH

The RailPack with the T312 turbo transmission is the most powerful RailPack. It is designed for a nominal output of up to 735 kW and perfectly suited for railcars with maximum speeds from 140 to 200 km/h.

### The RailPack 400/500/600/800DE

All RailPacks are also available in diesel-electric version. The electric tractive effort is generated by a traction generator driven by the engine.

### The RailPack 500DH/DM/DE

The RailPack 500 is an energy efficient and customized solution for rail vehicles. With an output from a maximum of 480 kW, it fulfills the latest emission standards.

The power pack unites 3 different drive concepts on one platform and can be equipped with either a diesel-electric (DE), hydrodynamic (DH) or hydromechanic (DM) drive unit. The compact RailPack has an integrated cooling system mounted underneath the floor and is characterized by standardized interfaces.

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RailPack 400DM



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RailPack 400DH



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RailPack 500DH



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RailPack 500DM



## Technical data

Basic data	RailPack 400DM	RailPack 400DH	RailPack 500DH	RailPack 600DH	RailPack 800DH	RailPack 400/500 & 600/800DE
Transmission	DIWARail	S 111 re.1 or T211 re.4 + KB190	T212 bre	T212 bre	T312 bre	Generator
Engine	Voith I6H135-R3/5-400	Voith I6H135-R3/5-400/450	Voith I6H135-R3/5-480	12 cylinder	12 cylinder	Voith I6H135-R3/5 or 12 cylinder*
Engine output	400 kW	400–450 kW	480 kW	588–662 kW	735 kW	400–735 kW
Speed	80–120 km/h	80–140 km/h	100–160 km/h	120–160 km/h	140–200 km/h	80–200 km/h

\*or other engines >500 kW

### RailPack 400DE



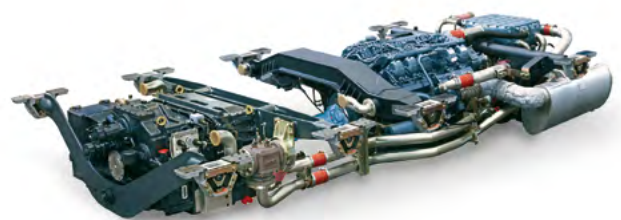
### RailPack 600DH



### RailPack 500DE



### RailPack 800DH



- 1 BR 861 railcar with diesel-hydraulic drive, built by built by ZOS Vrutky, Slovakia, with Voith RailPack 600DH.
- 2 M 1200US measuring vehicle with diesel-hydraulic drive, built by Matisa, Switzerland.
- 3 UST 02 ultrasound measuring vehicle with diesel-hydraulic drive, built by Gleisbaumechnik Brandenburg, Germany, with Voith RailPack 600DH.



#### RailPack components

- Turbo transmission with auxiliary output and retarder, transmission brackets, transmission oil heat exchanger with pipes and torsionally elastic coupling
- Diesel engine
- Air filter system for fresh air
- Systems frame including two-stage flexible bearings and wedge packet coupling
- Pipe systems
- Exhaust gas system (if required with exhaust gas treatment)
- Hydrostatic drive for generator and roof-mounted cooling system
- Synchronous generator
- Control of systems components
- Roof-mounted or underfloor-installed cooling system

#### Possible options

- Hybridization
- Air compressor
- Gear unit
- Cardan shafts
- Air conditioning compressor
- Adaptation of vehicle interfaces

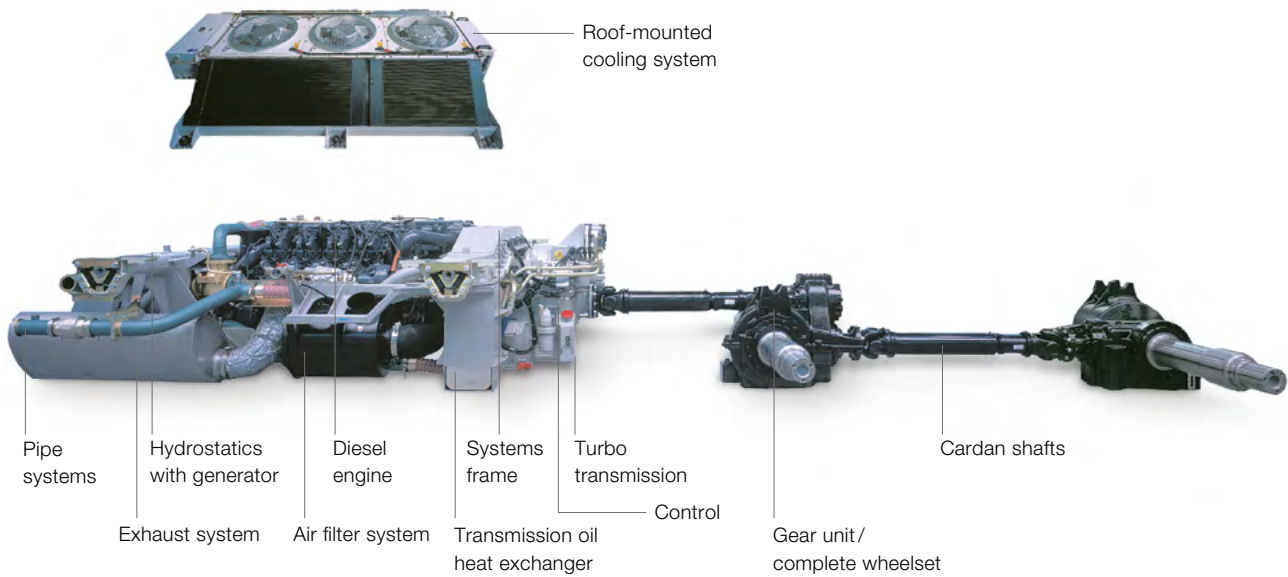


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The components



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