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 VTDCEco 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
- Simplified integration thanks to fewer interfaces
- All transmission types DE/DM/DH can be integrated
- Impervious to mechanical and climatic factors
- High power density
- Low-maintenance
- Low fuel consumption
- Worldwide service network
- Fuills newest emission standards
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 S 111 and T 211 turbo transmission for a maximum power rating of up to 400 kW, and the other design with the T 212 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 T 312 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.
## Technical data

<table>
<thead>
<tr>
<th>Basic data</th>
<th>RailPack 400DM</th>
<th>RailPack 400DH</th>
<th>RailPack 500DH</th>
<th>RailPack 600DH</th>
<th>RailPack 800DH</th>
<th>RailPack 400 / 500 &amp; 600 / 800DE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transmission</strong></td>
<td>DIWARail</td>
<td>S 111 re.1 or T 211 re.4 + KB190</td>
<td>T212 bre</td>
<td>T212 bre</td>
<td>T312 bre</td>
<td>Generator</td>
</tr>
<tr>
<td><strong>Engine</strong></td>
<td>Voith I6H135-R3/5-400</td>
<td>Voith I6H135-R3/5-400/450</td>
<td>Voith I6H135-R3/5-480</td>
<td>12 cylinder</td>
<td>12 cylinder</td>
<td>Voith I6H135-R3/5 or 12 cylinder*</td>
</tr>
<tr>
<td><strong>Engine output</strong></td>
<td>400 kW</td>
<td>400–450 kW</td>
<td>480 kW</td>
<td>588–662 kW</td>
<td>735 kW</td>
<td>400–735 kW</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td>80–120 km/h</td>
<td>80–140 km/h</td>
<td>100–160 km/h</td>
<td>120–160 km/h</td>
<td>140–200 km/h</td>
<td>80–200 km/h</td>
</tr>
</tbody>
</table>

*or other engines >500 kW
1 BR 861 railcar with diesel-hydraulic drive, built by ZOS Vrutky, Slovakia, with Voith RailPack 600DH.

2 M1200US measuring vehicle with diesel-hydraulic drive, built by Matisa, Switzerland.

3 UST 02 ultrasound measuring vehicle with diesel-hydraulic drive, built by Gleisbaumechanik 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
The components

- Pipe systems
- Hydrostatics with generator
- Diesel engine
- Systems frame
- Turbo transmission
- Control
- Exhaust system
- Air filter system
- Transmission oil heat exchanger
- Gear unit/complete wheelset
- Cardan shafts
- Roof-mounted cooling system