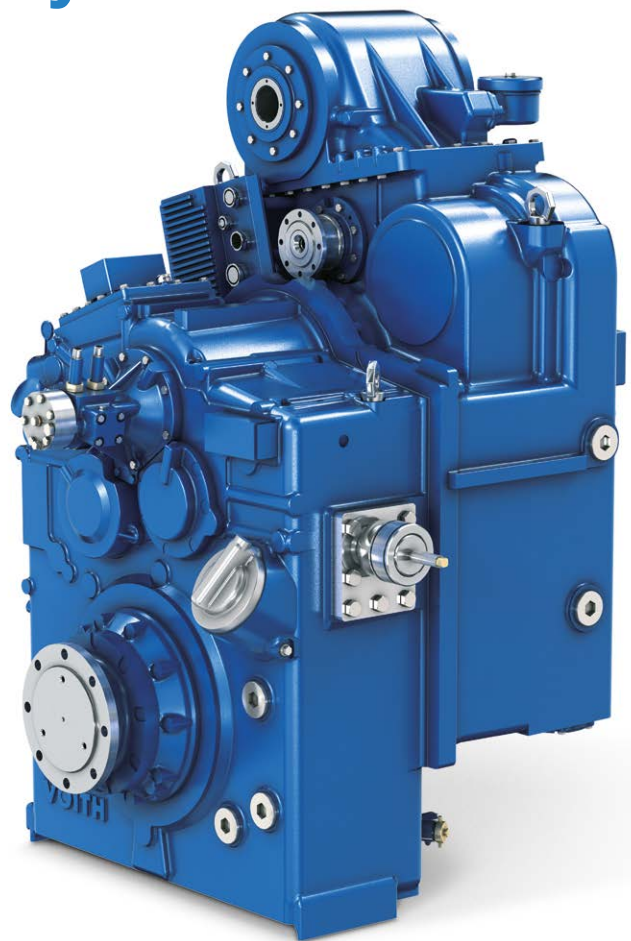


Hydrodynamic transmissions for locomotives and special purpose vehicles The link to mobility

Special features

- + Long service life
- + High power density
- + Automatic speed-change under load without interruption of tractive effort
- + Insensitive towards climatic influences
- + Long-term spare parts availability



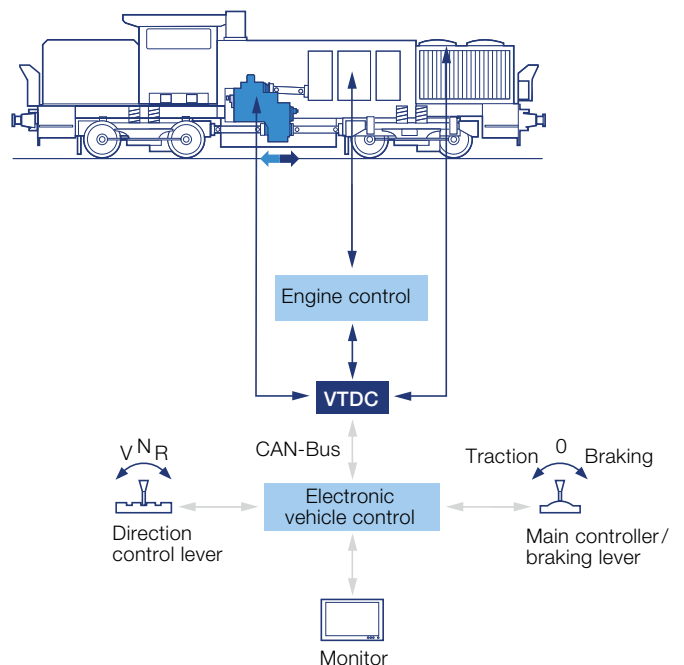


Hydrodynamic transmissions for locomotives and special purpose vehicles have been used by state and private railways for decades due to their proven technology.

VTDC control

The VTDC control (Voith Turbo Drive Control) has been developed specifically for the control of the drive systems of rail vehicles. The VTDC controls and regulates all functions of the turbo transmission. The hardware of the VTDC has been designed for installation in the vehicle underfloor area. It can therefore be mounted directly at the transmission, which simplifies the vehicle cable system and makes it more available.

Integrated VTDC vehicle control



Functions

- Driving direction control
- Power transmission control
- Control of driving stages
- Limitation of starting traction
- Shunting control
- Constant-speed control
- Control of braking power of hydrodynamic brake
- Transmission of braking power
- Limitation of braking power
- Anti-slip control
- Traction monitoring
- Driving direction monitoring
- Temperature monitoring
- Oil level measurements
- Overload protection
- Operating data recording
- Diagnostic functions
- Emergency operation
- Cooling system control
- Diesel engine control

Interfaces

- CAN-Bus
- MV-Bus
- Discrete interface for digital and analog signals
- RS 232 interface

VTDC control



Shunting and multi-purpose locomotives

Technical data

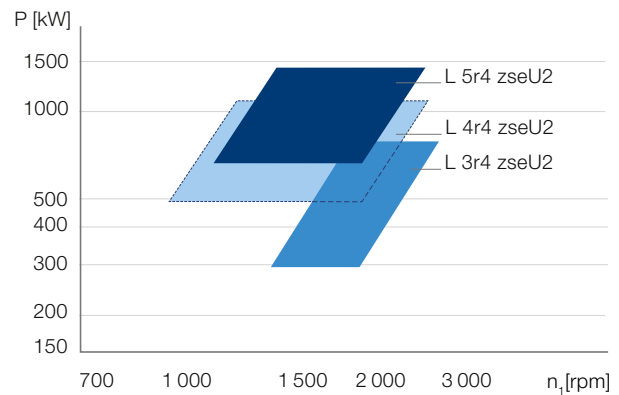
	L 3r4 zseU2*	L 4r4 zseU2*	L 5r4 zseU2
Max. transmission input power [kW]	660	1 050	1 400
Transmission input speed [rpm]	1 400–2 500	1 200–2 500	1 400–2 400
Mass without oil filling, brake and PTO [kg]	2 650	3 900	4 650

* also available as variation without range-change gear.
Detailed CAD 3D model upon request.

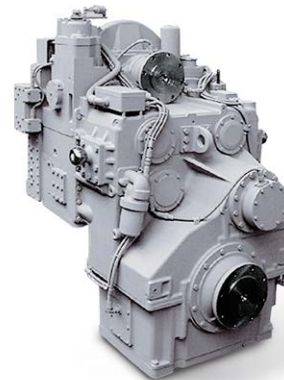
Special features

- Transport of heavy goods trains with high starting tractive effort in low-speed gear, and of high-speed light goods trains in high-speed gear
- Hydrodynamic change of driving direction, fast and wear-free. Therefore particularly suitable for shunting locomotives with high reversing frequency
- Constant-speed control at low speeds during loading and unloading and at the hump yard
- Hydrodynamic braking down to standstill and/or turbo reversing without stationary periods by filling the counter-rotating converter during driving.

Performance characteristics



L 3r4 zseU2 transmission

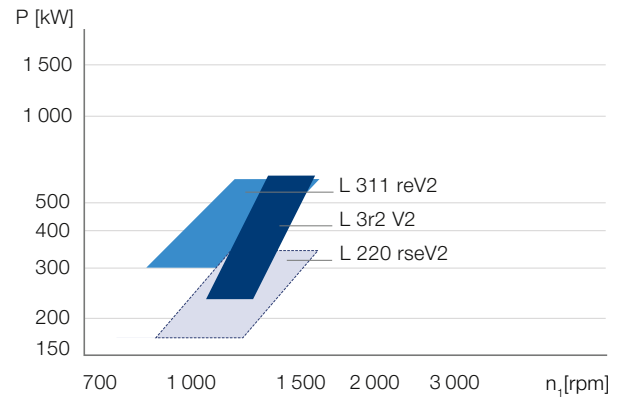


Special purpose vehicles and shunting locomotives

Technical data

	L 220	L 311	L 3r2
Max. transmission input power [kW]	350	650	530
Transmission input speed [rpm]	1 800–2 400	approx. 2 350	1 900–2 200
Mass without oil filling, brake and PTO [kg]	1 310	1 800	1 500

Performance characteristics



Special features

L 220

- Two-converter transmission, can be upgraded with mechanical range-change gear and hydrodynamic brake
- Safe reversing and range-changing due to reliable hydraulic operation
- Maximum continuous braking output up to 400 kW, depending on cooling system design

L 311

- Smooth and wear-free starting
- No interruption of tractive effort during speed changes
- 7 PTOs (e. g. direct installation of several hydrostatic pumps), one drive shaft

L 3r2

- Easy operation (single or double-lever system)
- Reversing possible without standstill

L 220 reV2 transmission



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