

Voith Turbo

**VOITH**

## Voith DIWA® automatic transmissions in Volvo city buses



**More than 150 000 buses worldwide have one thing in common: a DIWA automatic transmission.**

DIWA means economy as a result of superior technology. DIWA automatic transmissions are ideal for applications in all city and long-distance buses.

DIWA transmissions are optimally suited for the full range of modern combustion engines. They are adapted to the environmentally friendly, low-emission combustion engines per Euro-3-/-4 norm.

### Your advantages:

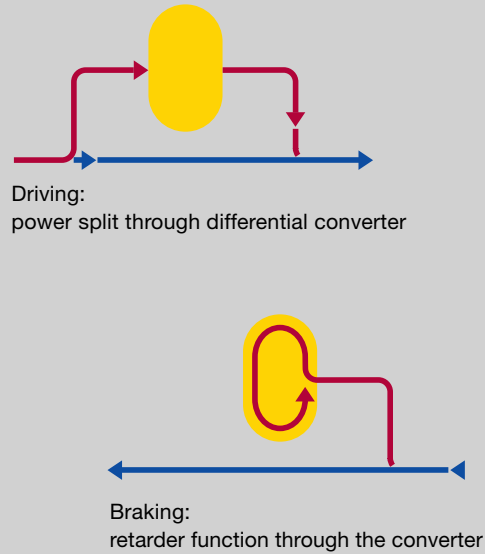
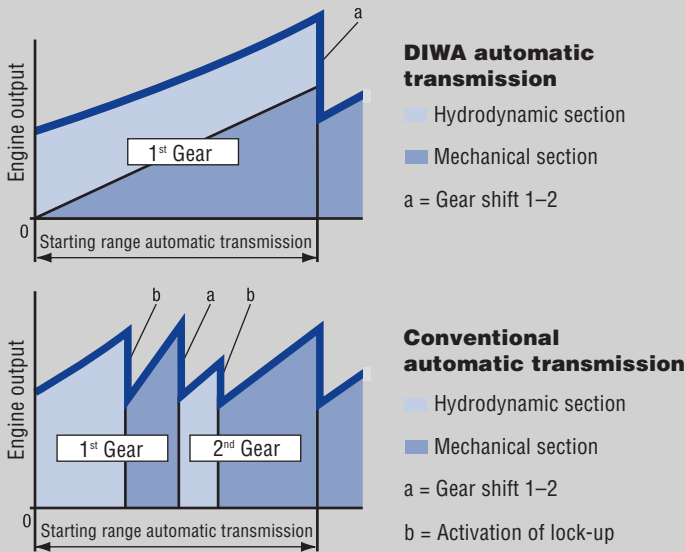
- High efficiency by mechanical-hydrodynamic power split
- High availability by superior cooling concept
- Low fuel consumption by automatic movement into neutral gear stage
- Series-fitted ANS: complete separation of transmission (including converter) and engine
- Optimum overdrive without compromise:
  - low engine speeds in city traffic
  - in long distance-traffic part-load on level routes, traction reserves on ascending roads
- Protection of the drive line by significantly reduced amount of gear-shifts, especially in the lower speed range
- Efficient retarder: always instantly available, no impairment by frequent downward shifts
- Maximum driving comfort by stepless acceleration
- Optimum maintenance back-up by PC-based diagnosis system
- Maximum gear-shifting comfort, even under extreme conditions
- Low maintenance costs by long maintenance intervals
- High reliability and long service life

# DIWA®.5 – the evolution of modern bus transmissions

The proven DIWA power-split principle allows smooth acceleration, where other transmissions require two to three gear-shifts. This, plus the unique combination of transmission, E 300 electronic control and ALADIN diagnosis software, make DIWA.5 a byword for economical bus transmissions. Up to 50% fewer gear-shifts reduce wear and increase driving comfort.

*Reduced wear and comfort become visible – one gear replaces two conventional gears*

*The Voith principle: driving and braking with one hydraulic circuit*



## DIWA.5 is the consistent further development of a technology that has proven itself world-wide

The shortening of the transmission, the elimination of external pipes or tubes for oil circulation, a heat exchanger that is integrated into the output and the further developed hydrodynamic converter are only a few characteristics of this new transmission. Operators benefit from even higher availability as well as further reduced maintenance and operating costs.

## E 300 – New-generation transmission control: From failure to events storage

- Recognises topography and axle ratio
- Optimises gear-shifting points
- Minimises fuel consumption
- Easy failure localisation and elimination
- Supports preventive maintenance and early failure detection
- Operating data recording of the second generation

## ALADIN – the quantum leap in diagnosis technology

- Comprehensive range of functions, low complexity
- Can be integrated into diagnosis system of vehicle manufacturer
- Intuitive operation
- Detailed operating data evaluation

# Success needs reliable partners

Benefit from our close partnership with vehicle manufacturers and our overall systems competence.



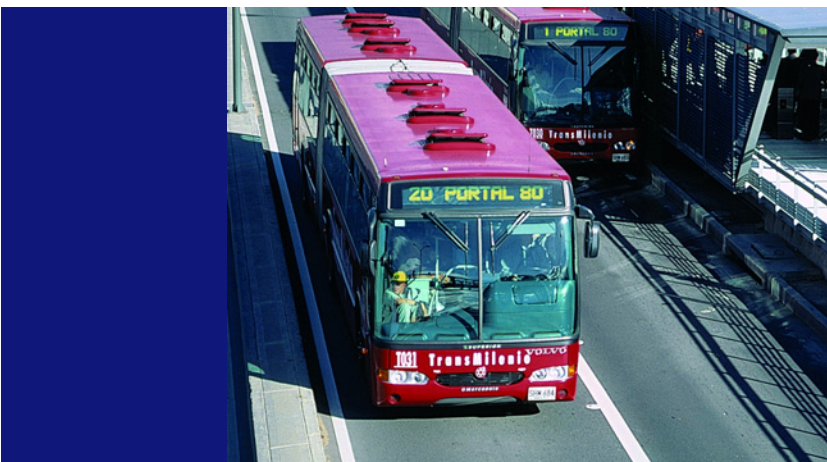
## Further advantages of DIWA automatic transmissions

- Choice of several gear-shifting programmes as standard
- Can be linked with CAN-J1587 for on-board diagnosis
- DIWA.5 now available in B9TL
- DIWA.5 as standard in all Volvo buses from Euro 4

## With the Voith Turbo service programme you are on the safe side

Across the entire service life of your transmissions, we accompany you with our comprehensive DIWA service package – starting with the joint configuration of your vehicles over the optimisation of daily operation up to maintenance and repair.

*We are here for you – no matter when and where you need us*





# DIWA transmissions in Volvo city buses

Vehicle type	Enginetype	Output/ Nominal speed [kW]/[rpm]	Version	Transmission type	Tyre size	r dyn [m]	V <sub>x</sub> in [km/h]														
							Axle ratio														
							6.21	6.20	5.77	5.74	5.63	5.29	5.27	5.13	4.63						
<b>DIWA®.5</b>																					
<b>Volvo 8700/ B7R/RLE</b>	D7E290 EC01	213/1900	Euro 3	D864.5	275/70R22.5	0.466						81	86						99		
	D7E290 EC06		Euro 4																		
<b>Volvo 7700/ B9L</b>	D9B260/310 EC06	192/228/1900	Euro 4	D864.5	275/70R22.5	0.466	74	79											87		
	G9A260/300 EC06	192/223/1900	Euro 4																		
<b>Volvo 7700A/ B9LA</b>	D9B310/360 EC06	228/265/1900	Euro 4	D864.5	275/70R22.5	0.466	74	79											87		
	G9A300 EC06	223/1900	Euro 4																		
<b>B9S</b>	D9B310/360 EC01	228/265/1900	Euro 3	D864.5	275/70R22.5	0.466		74	80												
	D9B310/360 EC06		Euro 4																		
<b>B9TL</b>	D9A300/340 EC01	220/250/1900	Euro 3	D864.5 - W52	275/70R22.5	0.466	74	80											89		
<b>B9TL</b>	D9B260/310/360 EC06	192/228/265/1900	Euro 4	D864.5 - W53	275/70R22.5	0.466	74	80											89		
	D9B260/310/360 EC06B	192/228/265/1900	Euro 5																		
<b>Volvo 8700/ B12M/B</b>	DH12E340 EC01	250/1900	Euro 3	D864.5	295/80R22.5	0.506						88	94						107		
	DH12E340 EC06		Euro 4																		
<b>DIWA®.3E</b>																					
<b>B7TL</b>	D7C215	158/2200	Euro 3	D864.3E - W22	275/70R22.5	0.466		74	80												
	D7C250	184/2200	Euro 3																		
	D7C275	202/2200	Euro 3																		

**VOITH**  
Engineered reliability.

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