



Volvo Buses. Driving quality of life

VOLVO B5L HYBRID

Proven to save fuel and the environment



Listen to YOUR CITY

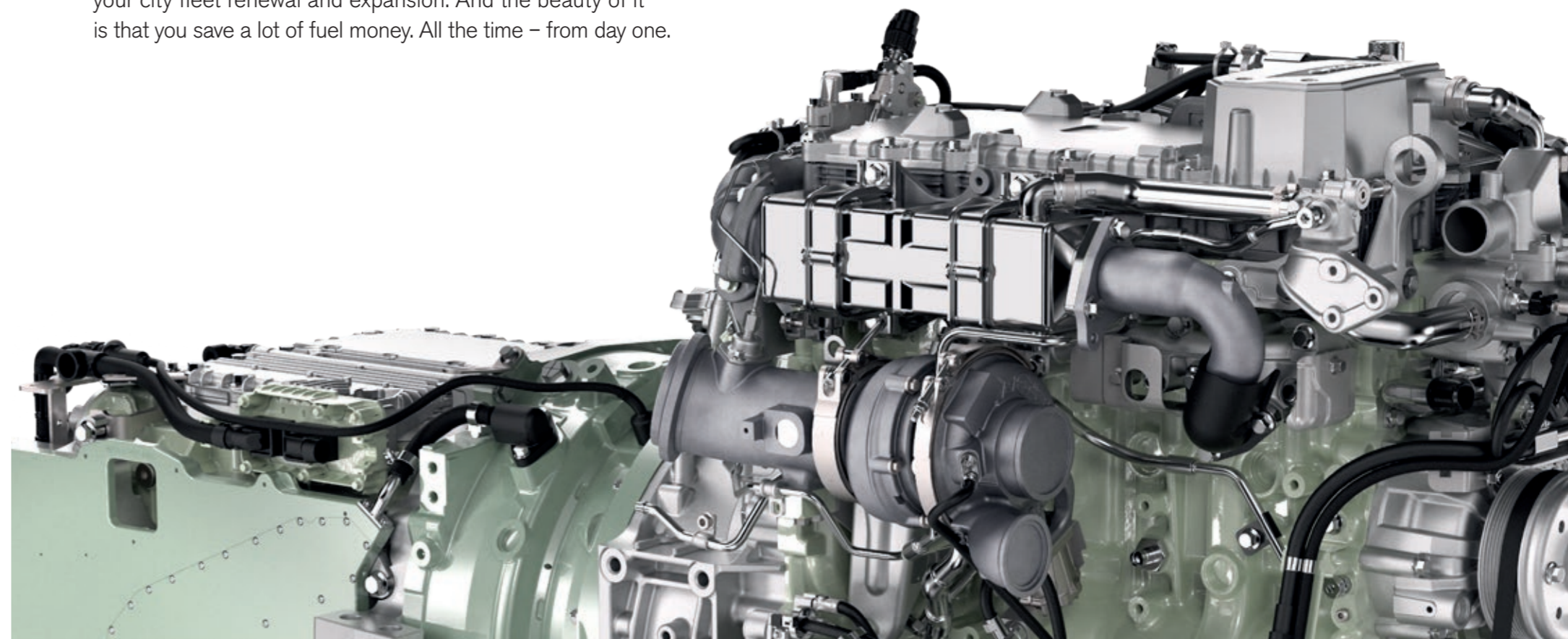
Cities of today are facing an urban challenge, where pollution, congestion and energy are priorities. For PTAs and operators this means a demand to introduce more sustainable solutions. Hybrid technology represents a jump-start for improved public transport; capacity and environmental care are no longer contradictory requirements. As an operator, you can start building a fleet that copes with new regulations, without the need for investments in infrastructure, but with the unlimited range of a hybrid.

TRIED. TESTED. TRUSTED.

Volvo hybrid technology takes green efficiency to the next level. It's the most fuel-efficient and reliable hybrid solution on the market, delivering impressive fuel savings, reduced emissions and now further enhanced for operation in warm climates.

Positioned no.1 hybrid in uptime and on a par with leading diesel buses, our hybrid technology is a solid foundation for your city fleet renewal and expansion. And the beauty of it is that you save a lot of fuel money. All the time – from day one.

••• *Low noise, low fuel consumption, low emissions. That's what a Volvo hybrid bus offers, and that's what you can offer your customers and passengers. And not least, everyone can benefit from Volvo's top position in reliability and safety.*



INNOVATION

A UNIQUE SOLUTION

The Volvo B5L Hybrid is powered by our own unique parallel hybrid driveline. It offers several vital benefits in terms of functionality and flexibility. As a leading, and R&D-intensive, manufacturer Volvo has the ability to develop a complete driveline. All the components are designed to work perfectly together for optimal performance and efficiency. And, as opposed to picking parts from different manufacturers, Volvo can assume full responsibility and offer service and battery contracts that cover the entire hybrid system.

Saves fuel, money and THE ENVIRONMENT

BENEFITS

Environmental performance

The Volvo B5L Hybrid leads the way in environmental performance with a clear business upside. The improvements are even more significant in Euro 6, with a 30–40% reduction in CO₂ and a drop in hazardous emissions of almost 50%.

No. 1 in uptime

Positioned no. 1 hybrid in uptime and on a par with leading diesel buses, giving it a top ranking by operators and PTAs throughout Europe.

Immediate implementation

Volvo hybrids can replace gas and diesel buses immediately. There's no need for additional infrastructure and hybrid drive gives sufficient range for any route.

Total cost of ownership

With the Volvo B5L Hybrid you invest in superior fuel efficiency, uptime, availability and passenger capacity. Bottom line performance by Volvo.

Superior fuel efficiency

Volvo hybrids are the most fuel-efficient hybrid buses on the market with some operators reporting savings close to 40%.

Driver performance

Its ergonomics and performance make the Volvo B5L Hybrid great to drive, and the driver still plays a key role in delivering fuel savings. Add Driver Training and I-Coaching to fully exploit the potential of your Volvo hybrids.

City centre capacity

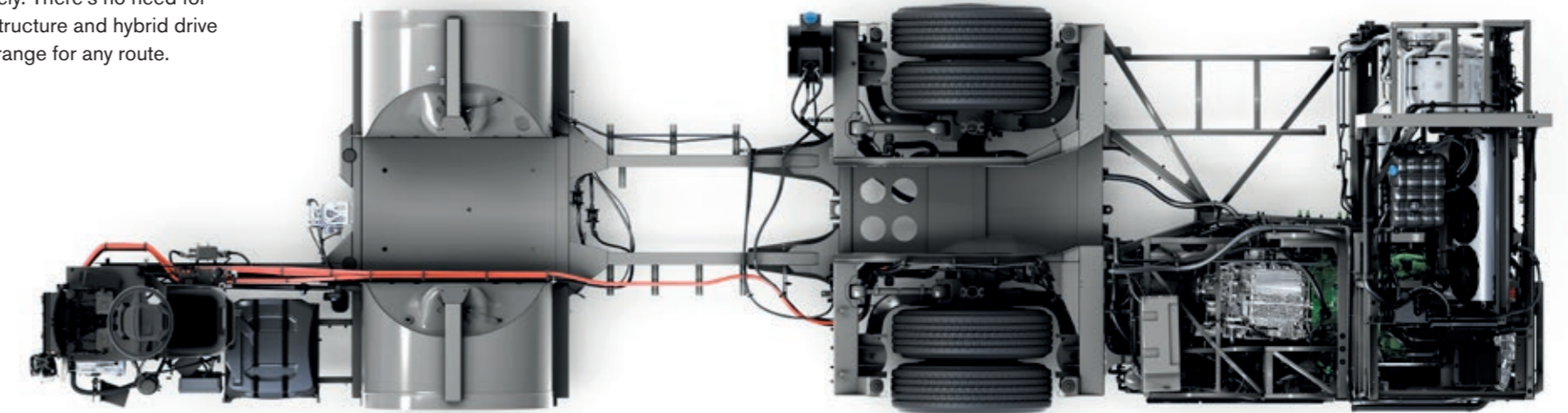
Capacity is not only about the number of passengers. The Volvo B5L Hybrid has an all-through low floor which makes for swift boarding and exiting along with efficient passenger flow.

For warm climates

The Volvo B5L Hybrid features an ESS Active Cooling System. Specially developed for warm climates, the system ensures optimal temperature in the battery, which secures its function and lifetime.

World-class safety

Safety is deep in Volvo's DNA. Your drivers and passengers will benefit from the vehicle's predictable and consistent road behaviour and wide range of safety features.



FUEL EFFICIENCY

Fuel-saving electric auxiliaries

Air conditioning, power steering and brakes are examples of features that are electrically powered in a Volvo B5L Hybrid. This not only helps save fuel, it also means the bus is fully operational even when the diesel engine is switched off.

Impressive fuel savings – from day one

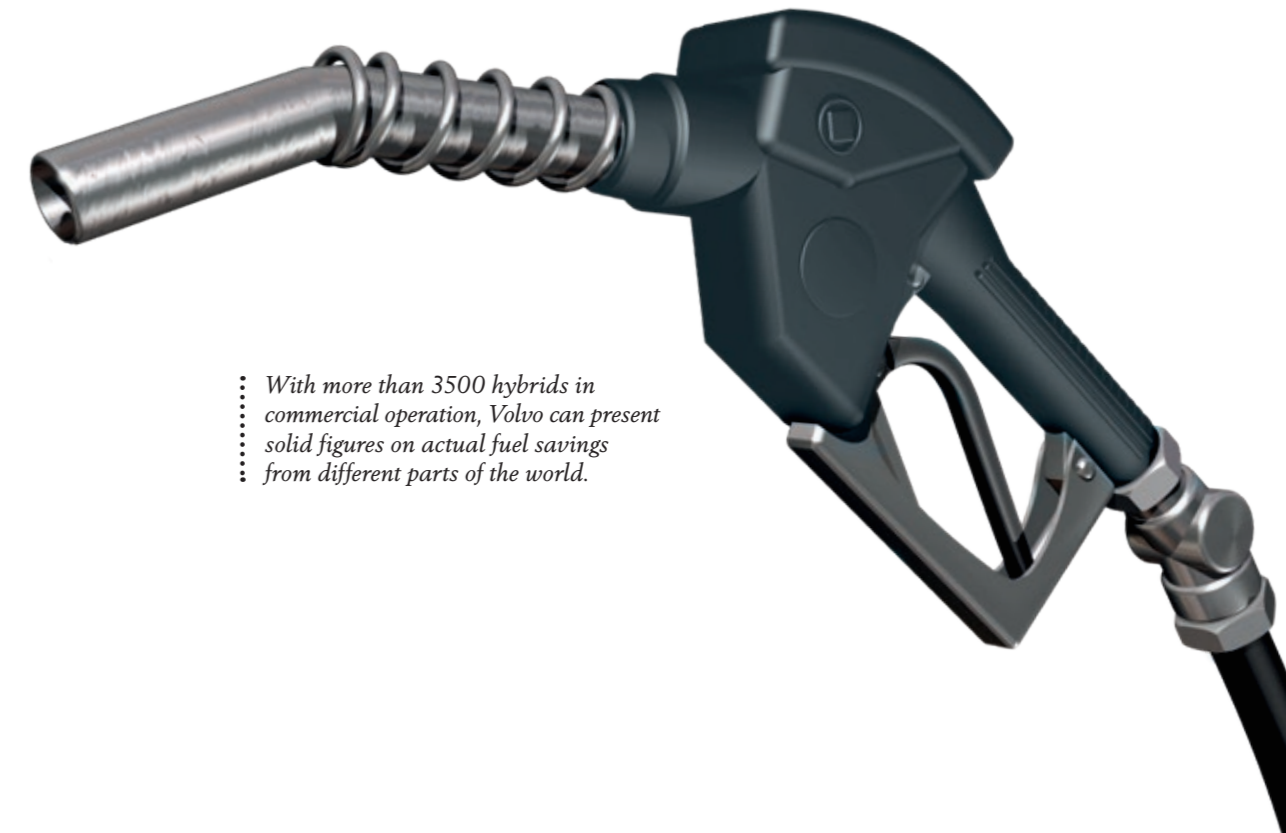
Volvo's unique hybrid technology is the most fuel-efficient on the market. It's widely proven in years of commercial operation, with savings in the range of 30–40% reported. And with our advanced value-adding services, your productivity can be boosted even more. Fuel savings mean bottom line profit from day one.

Save fuel online

With Fleet Management, you can analyse your fleet performance and reduce fuel consumption. The detailed reports allow you to trace reasons for variations in fuel consumption. It will help you to take suitable action to achieve even better savings.

Increased savings with driver training

Driving behaviour is a crucial factor for fuel consumption. With hybrid buses too there is huge potential. Our expert trainers teach drivers worldwide how to drive more efficiently while at the same time providing the passengers with a pleasant ride.



With more than 3500 hybrids in commercial operation, Volvo can present solid figures on actual fuel savings from different parts of the world.

It's Volvo inside

The Volvo B5L Hybrid features an all-Volvo driveline, designed, developed and manufactured by the world leader in hybrid buses. Our uptime results are better than for any other hybrid bus. In fact, they're on a par with the very best diesel buses, proven by millions and millions of kilometres of experience in commercial operation. Reassuring figures demonstrate the outstanding reliability and efficiency of Volvo's unique parallel hybrid system.

Tailored Service Contracts

With our Service Contracts you get a service plan optimised for your business. Operational conditions, such as mileage, climate, frequency of stops, average speed etc. determine the solution. The result is maintenance exactly when needed, and assurance that only Genuine Volvo Parts are used – fitted by experts.

Preventive Maintenance Program

Our maintenance planning service helps you optimise vehicle availability and avoid unplanned stops. An optimised maintenance plan gives

each vehicle a tailored service interval. By using real-time data, the interval can be adjusted to match actual usage and driving conditions.

Guaranteed battery performance

Volvo Bus Battery Contract is an assurance of battery performance and long-term trouble-free performance. By following up the operational data of the vehicle, Volvo Buses can monitor the battery system of each vehicle to secure the benefits of the technology. With Volvo there's no need to worry about the capacity or need for battery replacement.



UPTIME

In the United Kingdom, operators have over 1700 Volvo hybrids in operation. So far. In London, the Volvo hybrids have proven to be second to none in terms of uptime and reliability. The fuel savings are in the range of 30–40%.



STAY COOL

in any climate

Since its introduction, the Volvo B5L Hybrid has been further developed for operation in warm climates. High-voltage air conditioning keeps your passengers comfortable, and the hybrid battery is cooled by an efficient, active system. It's a chassis featuring a no-compromise design focusing on high capacity, better reliability and lower life cycle cost.

City-centre capacity

The Volvo Hybrid offers the same capacity as a conventional diesel bus. The chassis design caters for generous floor space and efficient seat layouts. The low floor ensures smooth passenger flow. Furthermore, its chassis stability and road handling mean the ride is steady and reassuring.

Quiet comfort

The Volvo B5L Hybrid contributes to a silent and comfortable experience. As the bus arrives at the bus stop, the diesel engine switches off. After boarding it takes off in electric mode, accelerating quietly up to 20 km/h where the diesel engine seamlessly blends in. And since the climate system, brakes and other auxiliaries are electrically powered, noise during the ride is also notably reduced.



••• To secure operation in all climates, the Volvo B5L Hybrid features an active cooling system for the energy storage system.

“I LOVE THIS BUS”

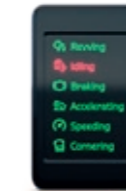


Australian-born Tanja Reed was one of the first to drive Volvo hybrids in Trondheim, Norway: “This one is one of the best buses I’ve ever driven. It’s very comfortable, and I’ve experienced no problems whatsoever with the difference in technology. I love this bus!”

Drivers around the world share her opinion. The manoeuvrability and driving feel are truly special in a Volvo. The hybrid driveline is completely automated and the driver notices only the added power and smooth acceleration while driving. The precise steering and effortless gear changes of the Volvo I-Shift make for outstanding driveability.

I-Coaching improves driver performance

I-Coaching assists the driver in driving more safely, fuel efficiently and comfortably. It gives instant feedback on parameters such as over-revving, excessive idling, over-speed and harsh curving, helping the driver improve performance.



Gear up with I-Shift

The legendary Volvo I-Shift has set a new standard for heavy vehicle transmissions. After fifteen years of success a Volvo vehicle with I-Shift is delivered every 20 minutes – around the clock. Smooth, efficient and durable.



Embark on a SAFER RIDE

Going by bus or coach is the safest way to travel. Especially when you rely on Volvo. Ride comfort and safety are closely interlinked. That's why road behaviour, smooth gear-shifting and powerful yet sensitive braking are such important safety features.

Volvo safety also includes the hybrid system. High-voltage security provides for safe maintenance and service work, and the battery's durability is tested in every way possible. On the more spectacular side, we've even set an entire bus on fire just to prove there are no safety issues with hybrid technology.

Excellent handling and braking

Volvo safety is renowned and the B5L Hybrid is no exception. Disc brakes combined with the EBS electronic braking system, which controls ABS/ASR functions. Separate circuits for front and rear wheels. Lining wear sensors and analysis. Brake blending, drag torque control, hill start aid and much more add up to an unbeatable whole.

Safely maintained

Volvo's hybrid technology is proven easy to maintain, and we provide expert training for technicians on all levels. In all markets where hybrid buses are offered, Volvo's specially trained expert hybrid technicians are permanently within reach for consultation.

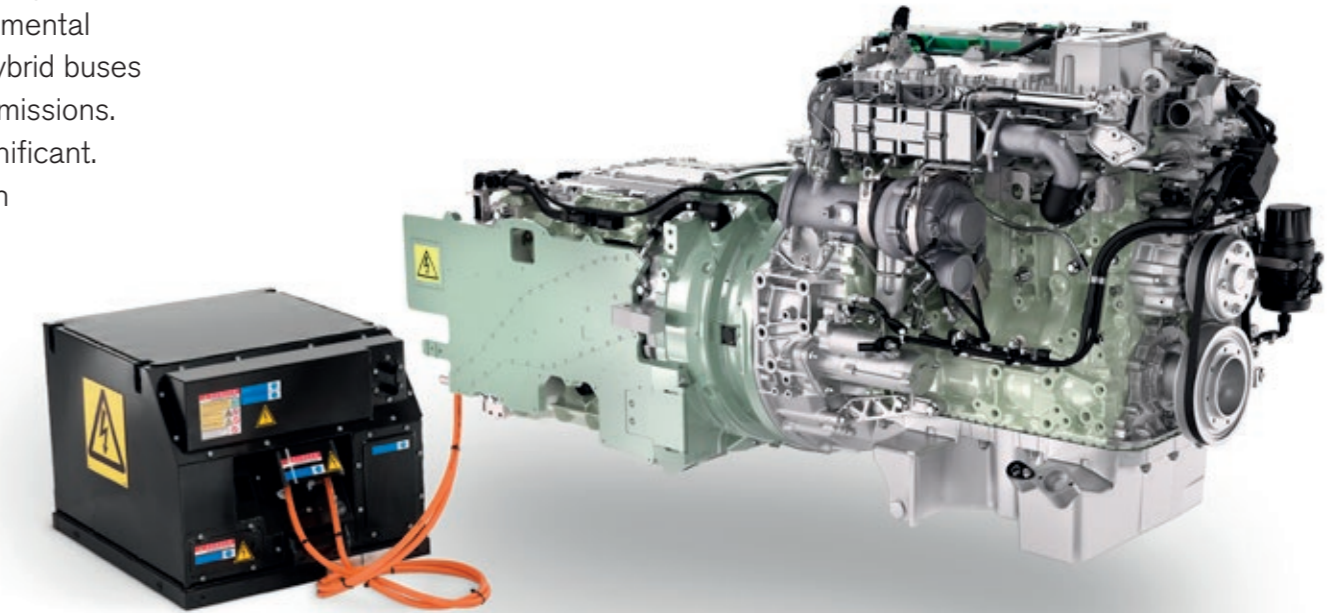
Practice makes perfect

Even your best and most skilled drivers will benefit from our driver training. Not only will they drive more safely, a more conscious driving style will reduce wear and tear, securing the vehicle's reliability. And with I-Coaching the driver gets even more help to drive efficiently and more safely.

Environmental performance PAYS OFF

The best way to cut emissions is to cut fuel consumption. That's how Volvo hybrid technology offers environmental performance with a clear business upside. Volvo hybrid buses are peak performers when it comes to reducing emissions. With Euro 6, the improvements are even more significant. The reduced fuel consumption combined with high passenger capacity, the environmental impact per passenger kilometre gets sensationally low.

- ⋮ *The Volvo hybrid driveline is a clean power package.*
- ⋮ *The diesel engine's 240 hp is boosted by an additional*
- ⋮ *110 kW pure electric power.*



Emissions, air quality and health

Air quality is a major health issue for many cities. With our unique parallel hybrid technology in Euro 6 version, nitrogen oxides and harmful particulates can be reduced by more than 50%. Imagine if more buses were like this.

Low noise emission

Volvo's unique parallel hybrid technology contributes to reduced noise – both for passengers and in the city environment. Limited idling at the bus stop, silent take-off in electric mode and battery-powered auxiliaries reduce disturbing noise to a minimum.

Energy recovery

In Volvo's parallel hybrid driveline, the electric motor also acts as a generator charging the battery when cruising, braking or going downhill. At every moment, the control unit makes sure that interaction between the diesel engine and the electric motor seamlessly assures maximum energy efficiency.

SERVICES

Services for a SMARTER BUSINESS

As your business partner, we can provide more than our first-class vehicles. You also get a global service network – yet with a single point of contact, taking full responsibility for all chassis and driveline-related matters. Your vehicles and your business are always in good hands thanks to more than 1500 service centres all over the world.

Hybrid Battery Contracts

Monitoring of the hybrid driveline eliminates any worries about battery performance. The operator can rest assured that the hybrid system always delivers sufficient capacity and performance.

Service Contracts

Substantially reinforce uptime and availability, at a specified monthly rate.

Parts Supply Contracts

Availability of Genuine Volvo Parts and optimisation of your spare parts stock based on prediction and follow-up.

Driver Training

Driving a Volvo hybrid bus is simple and rewarding, yet a bit different. Driver Training is an investment which pays back instantly.

I-Coaching

Instant feedback generates cost reduction through lower fuel consumption and reduced wear. Improved passenger comfort.

Fleet Management

Real-time monitoring and clear reports make it possible to track fuel consumption, emissions, driving behaviour, technical events and position for each vehicle in your fleet.

Finance and Insurance

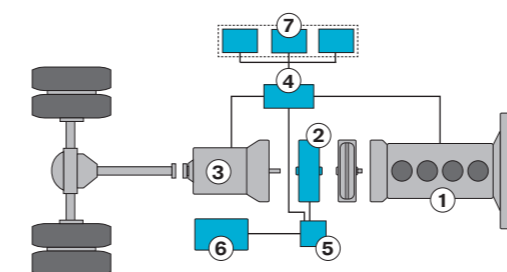
Flexible finance packages and tailored insurance policies help you make your investment – and protect it. From a single unit to an entire fleet, you'll get a customised solution from a partner that understands your business.

FACTS AND FIGURES

Model		B5L Hybrid	
Dimensions and weights			
Overall chassis length, depending on body, up to (m)	12.5		
Approved wheelbase (m)	5.7–6.3		
Frame height at rear structure (m)	2.26		
Overall width approx. (m)	2.50–2.55		
Permitted GVW (kg)	18,600		
Powertrain			
Emission standard	Euro 6		
Engine system	EGR, Common Rail		
Diesel engine	Volvo D5K240, 4-cylinder, in-line diesel engine with common rail injection		
Output [hp]	240		
Output ISO 1585 (kW)	177		
Torque ISO 1585 (Nm)	918		
Electrical motor	Volvo I-SAM		
Output, max (kW)	110		
Torque ISO 1585, max (Nm)	800		
Energy storage system	Lithium-ion battery with active cooling		
Transmission	Volvo I-Shift AT2412F		

Axles, suspension and steering	
Front axle	Volvo RFS-L
Rear axle	ZF AV 133
Suspension	Electronically controlled air suspension with optional kneeling function. Front and rear stabilisers.
Power steering	Electric driven hydraulic steering
Steering wheel position	RHD or LHD
Tyres	275/70R22.5"
Rims	Steel or aluminium rims available

Brakes	
Volvo Electronic Braking System (EBS) with integrated Anti-lock Braking System (ABS), Brake Blending, Hill Start Aid, Brake Assist. Volvo Electronic Stability Program (ESP).	
Frame	
Precision-built, strong, durable frame made of carbon steel. C-profile beams with flat, bodybuilder-friendly upper surface.	
Driver's environment	
Ergonomic design with easy-reach controls. Adjustable steering wheel (reach and rake). Volvo instrument cluster with enhanced HMI.	
Tanks	
Diesel (L)	220
AdBlue (L)	30
AdBlue tank side (RHS/LHS)	RHS
ADTP-T Right hand side	Transport fitted tank



The main components of the Volvo hybrid system

1. Diesel engine
2. Electric motor/generator (I-SAM)
3. Transmission
4. Electronic control unit
5. Energy converter DC/DC 600V/24V
6. Batteries
7. Electrified auxiliaries

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VOLVO

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Göteborg, Sweden
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