

PRESS RELEASE

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Cleaner, lighter and lower TCO: VDL Bus & Coach launches the next generation Futura

- The new driveline of the VDL Futura results in optimum reliability, low maintenance costs and fuel savings of 3%.
- The VDL Futura is delivered as standard with the new ZF Traxon gearbox.
- The new generation VDL Futura is 100 kg lighter, with an efficient weight distribution, resulting in excellent handling and a higher passenger capacity.
- Predictive Powertrain Control, an intelligent cruise control system that takes into account the topographic driving situation, is available as an option.
- The engine compartment layout has been redesigned for greater efficiency and even better accessibility, making easier to perform service work which makes it possible to save 6% on repair and maintenance.

VDL Bus & Coach is launching the next generation VDL Futura, equipped with a new driveline. In doing so, VDL is taking the next step towards improved fuel economy and lower maintenance costs. For the new driveline VDL Bus & Coach has once again opted for high-quality, proven components from DAF and ZF.

The combination of the new DAF MX engines with the ZF gearboxes is quieter, more economical and contributes to further reduction of the Total Cost of Ownership (TCO). The Futura single-decker variants are equipped with the DAF MX-11 engine, available with various power ratings. The engine is paired with the ZF Traxon automated manual gearbox as standard, and the fully automatic ZF Ecolife is available as an option. The Futura double-decker is built standard with the MX-13 engine in combination with the ZF Traxon gearbox. A new option for this variant is the combination of a DAF MX-11 engine and the fully automatic ZF Ecolife gearbox. This combination is ideal for line service and regional transport as well as for providing intercity connections.

The new generation driveline has a positive impact on repair and maintenance costs. Among other things, the maintenance intervals of the MX-11 and MX-13 have been increased to 100,000 km. Mainly for high annual kilometre operation there is the possibility of an oil change interval of up to 200,000 km. The layout of the engine compartment is arranged for greater efficiency and therefore even better accessibility. This makes performing service work even easier and faster.

Updated DAF engine design

The utmost effort was put into extracting the maximum energy from every drop of fuel. The internal friction in the DAF MX engines has been reduced through the use of new technologies. The engine block, cooling, air inlet, bearings and pistons have been completely redesigned, and the compression ratio has been increased. A new, more efficient turbo provides greater torque. The engine-driven components, such as the oil, water and power steering pumps, are of the

continuously variable type and are only engaged when they are needed. This saves fuel and reduces wear.

Downspeeding for more power and improved fuel economy

With the introduction of the new MX engines, increased power and improved fuel economy go hand in hand. The combustion process has been scrutinously studied, and DAF has managed to obtain the peak power at just 900 revolutions per minute (rpm). Depending on the power variant, the MX engines have 50 Nm to 300 Nm of extra torque. The combination of the 12 gears of the ZF Traxon and the new rear axle reduction of 1:2.71 results in an engine speed reduction of up to 100 rpm at a cruising speed of 100 km/h. These measures have contributed to a fuel efficiency improvement of 3%.

An optimum driveline is available for every type of service. As standard the VDL Futura 2-axle single-decker is equipped with the DAF MX-11 engine with 370 hp and 1,900 Nm. Compared to the previous generation, this engine provides a huge 300 Nm torque increase and therefore offers an adequate reserve of power, even for tougher conditions. Optional for the 2-axle and standard for the 3-axle single-decker is the DAF MX-11 engine with 410 hp and 2,100 Nm. For this variant, the maximum torque is already available from 900 to 1,100 rpm. This contributes to the elastic driving characteristic of the VDL Futura. Optionally, the single-decker range is also available with the MX-11 with 450 hp and 2,300 Nm. This version is particularly suitable for operation where extra power is required, such as driving in the mountains. The Futura FDD2 double-decker comes standard with an MX-13 with 530 hp and 2,600 Nm, and therefore offers abundant capacity. Also new is that the Futura double-decker now can be delivered with the MX-11 with 450 hp in combination with the fully automatic ZF Ecolife gearbox, giving it the perfect specifications for line deployment or intensive stop-and-go traffic.

VDL Futura standard equipped with ZF Traxon

The well-known ZF AS Tronic has now been succeeded by the ZF Traxon. The latest automated manual gearbox contributes to lower fuel consumption, features new functionalities and has a wide deployment range. It is a groundbreaking gearbox system when it comes to performance, savings, environmental-friendliness and comfort. The Traxon has been developed for the higher torques delivered by modern engines, such as the DAF MX-11 and MX-13. Over the last two years ZF and VDL have tested the Traxon extensively and adapted it for optimal shifting performance.

Shortened shifting time

The ZF Traxon delivers superb performance, which is seen in aspects such as reduced shifting times. One important advance is that the loss of tractive power during the shifting moment is minimized. Sensors accurately detect the speed for improved smoothness of the shifting process. This boosts comfort and ensures optimum acceleration. The Traxon features 'Hill start', which assists the driver when driving off on an upward slope. The tractive power required to drive off quickly and comfortably is calculated based on the steepness of the slope and the weight of the vehicle. The Traxon also features a manoeuvring mode that lends a helping hand during precise operations, such as parking.

ZF Ecolife

The fully automatic 6-speed ZF Ecolife gearbox is ideally suited for low average speeds involving lots of shifting, such as stop-and-go traffic. The Ecolife range has been expanded with variants designed for higher engagement torques of up to 2,300 Nm. All VDL Futura single-decker variants are now optionally available with a ZF Ecolife gearbox. As a first, the VDL Futura double-decker can now be equipped with a ZF Ecolife gearbox in combination with the DAF MX-11 engine with 450 hp and 2,300 Nm.

A matter of looking ahead: Predictive Powertrain Control

Particularly when deployed in a hilly area, the synergy of all the driveline components can be further improved by Predictive Powertrain Control (PPC). By linking GPS to topographical information, PPC looks ahead and adapts the shifting strategy, which improves fuel economy. The set minimum speed is maintained during the climb. Just before the highest point, it lets off the gas and shifts the gearbox to neutral. The kinetic energy keeps the Futura at speed and allows it to 'roll over' the peak. During the descent PPC activates the Eco-roll mode, which keeps the gearbox in neutral. This can generate an additional fuel savings of 2.5%.

Maximum braking power

The new driveline of the VDL Futura delivers powerful braking performance through the combination of the ZF Intarder with the DAF Engine Brake (DEB). This makes it possible to reduce speed without use of the service brake, which is beneficial in terms of reduced maintenance costs. With the new engine generation the DEB has become even more powerful. An additional advantage is that the DEB contributes to faster shifting of the ZF Traxon by more quickly reducing the engine speed.

Lighter weight

The new layout of the engine compartment has provided considerable weight savings. Through targeted measures VDL has managed to achieve a weight reduction of 100 kg. The exhaust after-treatment system, which is now approximately 50 kg lighter and occupies 40% less volume, is a significant contributor in this regard. For the VDL Futura FDD2 this system has improved accessibility to the luggage compartment. The ZF Traxon is also 20 kg lighter than its predecessor. The entire weight savings have been achieved behind the rear axle. This leads to more efficient weight distribution, better road handling and higher passenger capacity.

Changes were also made to the location of various components, such as the cooling radiator, which has been moved to the left side. The objective of this new layout is further optimization of the accessibility of the engine compartment to allow maintenance and repair work to be performed more effectively. This allows for a 6% saving on repair and maintenance.

Sustainability

The Euro 6 DAF engines are known for low emissions. The improved fuel economy further reduces the CO₂ emissions per passenger kilometre and contributes to a better living environment. The updated exhaust after-treatment system from DAF reaches operating temperature faster and more

efficiently. This increased efficiency has also further reduced NOx emissions in comparison to previous generation engines. The VDL Futura with the new generation of DAF engines is also suitable for running on HVO (Hydrotreated Vegetable Oil). In comparison to 'regular' diesel it reduces CO₂ emissions by up to 80 per cent.

VDL Bus & Coach

The core activities of VDL Bus & Coach consist of the development, manufacturing, sales and after-sales of a wide range of buses, coaches and chassis modules, the conversion or extension of mini & midi buses and the purchase and sales of second-hand buses. Manufacturing takes place in the Netherlands and Belgium. VDL Bus & Coach places high value on quality, safety, durability, the environment, low fuel consumption, comfort and low maintenance costs. Sales of VDL Bus & Coach products take place through a worldwide network consisting of corporate-owned sales offices, importers and agents in more than 30 countries. This makes it possible to offer custom-made transport solutions. For aftersales and maintenance, the client can count on rapid, hassle-free assistance from VDL Bus & Coach employees in any of the many service locations. An extensive distribution network ensures that spare parts and accessories are delivered to the requested destination as quickly as possible. VDL Bus & Coach is one of the largest bus producers in Europe.

VDL Groep

VDL Bus & Coach is part of VDL Groep. VDL Groep, with its head office in Eindhoven (The Netherlands), is an international industrial company focused on the development, production and sales of semi-finished products, buses & coaches and other finished products and the assembly of cars. Since the founding in 1953 this family-owned company has grown to include 98 operating companies, spread over 20 countries with more than 17,000 employees and an annual turnover of 5.049 billion euros in 2017. The strength of VDL Groep lies in the mutual cooperation between the companies.

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VDL Bus & Coach bv
Marcel Jacobs
Commercial Director
Telephone +31 (0)40 208 44 00
m.jacobs@vdlbuscoach.com

VDL Bus & Coach bv
Pieter Gerdingh
Business Manager Coach Range
Telephone +31 (0)40 208 44 00
p.gerdingh@vdlbuscoach.com