



[www.vdo.com/uk](http://www.vdo.com/uk)

Achieving your success  
drives our performance.

VDO original replacement parts – electronics and mechatronics.

**VDO**

# Shape your future business today.

With our products and services in vehicle electronics and mechatronics we are interfacing with tomorrow’s world. It is precisely these product areas where the potential for the future of the automotive industry lies, along with the opportunities for successful business.

As an innovative, committed company with extraordinary technological expertise, we supply the market worldwide with ambitious, original VDO quality solutions. For us, the order of the day is to be a step ahead of the others and to create automotive mobility in a safe, convenient and sustainable way, as that is the competitive advantage that ensures the future of our partners.

As part of the automotive sector of the Continental Group, and with our comprehensive distribution network and our extensive, futuristic range of products, we are perfectly set up to meet any current and future demands. For us, it is always the wishes of our partners that have priority.

Our powers of innovation and quality as an original equipment manufacturer are available to you in our range of replacement parts – in our vehicle diagnostics, in our fuel systems, in our engine actuators and in our sensors. This is how we guarantee your long-term success in the automotive world of tomorrow.



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## You really know what you've got: replacement parts from the original equipment manufacturer.

Alongside our special and diverse solutions for automobile manufacturers, we also provide a broad range of solutions for the trade and service markets.

These particularly include the VDO original replacement parts that we supply with the knowledge, and many years of experience, of an original equipment manufacturer.

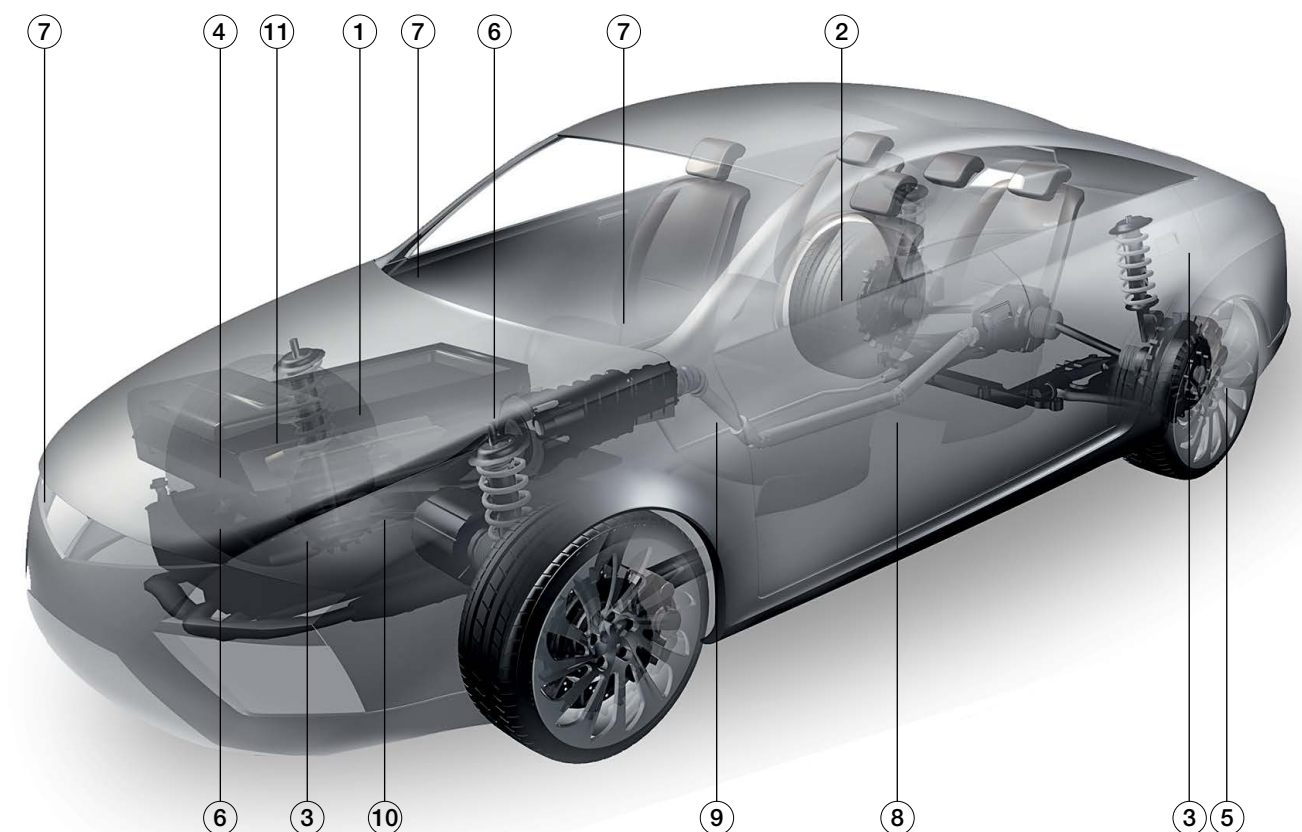
Our extensive range of top quality replacement parts available at short notice, are well-known for their accuracy of fit and ease of installation. In this way, VDO original replacement parts offer significant advantages to distributors, workshops and consumers alike.

### Catalogs.

Please consult our easy-to-use catalogs for detailed, up to date information about the replacement parts available or visit our website at: [www.vdo.com/replacement-parts](http://www.vdo.com/replacement-parts)

### Our solutions.

- 1 Engine actuators
- 2 Fuel systems
- 3 Sensors for engine management
- 4 Sensors for instrumentation
- 5 Sensors for tyre pressure monitoring systems (TPMS)
- 6 HVAC blower and fan systems
- 7 Screen and headlight washer systems
- 8 Actuators for central locking systems
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- 11 START-STOP-battery





## Guaranteed genuine: unforgeable identity marks from VDO.

There has been a steady increase in the number of counterfeit and pattern parts in recent years. This can have disastrous consequences and cause legal problems if products are of inferior quality. This is why our tamperproof counterfeit protection labelling is being introduced on selected packaged products now to protect you and your customers.

Further information about counterfeit and inferior copy parts, and about the new labelling system, can be obtained from your VDO contact.

### Obvious features (visible to the naked eye).

- 1** Series code  
Precisely aligned labelling with diffractive structures and contours
- 2** Moving Code  
Character moves up and down, repeats the last character of the security code
- 3** High Resolution "Eclipse Effect"  
Gives the impression of "bulging" when the label is tilted

### Hidden features.

- 4** Micro code & HDI  
High-resolution HDI graphic is integrated in the black background
- 5** Serial Laser Projection  
Special manufacturer identification features to check authenticity



Packaging label.

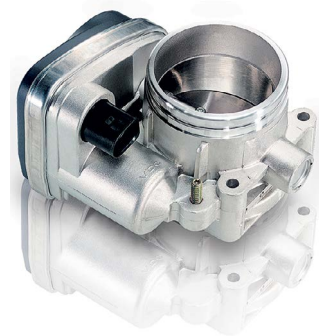


Unforgeable identity mark.



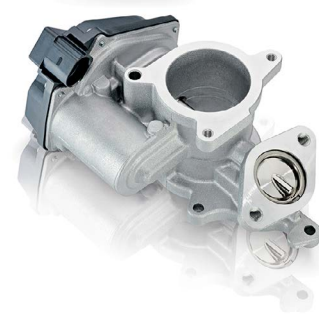
## The secret is in the mix: engine actuators to the highest standards.

The latest engine actuators from VDO exploit all the capabilities of modern engine management. The fuel is suitably prepared for combustion – that is, by mixing it with the ideal amount of air. The resulting mixture of fuel and air is then ignited with a perfectly timed spark. For an absolute minimization of emissions, the exhaust gases are additionally re-circulated through special filters.



### Throttle valves.

Throttle valves regulate the mixture of air and fuel. The volume of incoming air is either increased or decreased by using a butterfly valve in the throttle body.



### Exhaust gas recirculation valves.

Compared with traditional valves, the electrically actuated exhaust recirculation valves enable even more accurate control of the exhaust recirculation rates in diesel engines and direct-injection gasoline engines. This way they make an important contribution towards meeting ever stricter exhaust emission standards.



### Idle-speed controllers.

Our digital linear actuators and idle-speed controllers control the adjustment of intake air in the throttle valve bypass and, consequently, the engine speed when it is idling. This way, with the appropriate sensors, any variations in engine speed are corrected very quickly.



### Air flap actuators.

Light, compact and reliable. The electric actuator with integrated position sensor and optional integrated electronics allows intake manifold throttles or turbo charge guide vanes for example to be continuously adjusted. Its more precise control means that it is taking the place of standard pneumatic drives which can no longer satisfy the more stringent requirements.



### Air control valves.

Air control valves are used to restrict the intake of air in the intake port of diesel engines by means of an electric motor, and realise a precisely regulated exhaust gas recirculation that meets stricter demands on exhaust emission standards. This also corrects the annoying shaking that occurs when turning off diesel engines.





## To ensure everything runs well: efficient fuel systems.

The pre-condition for a functioning vehicle is fuel in the tank. But a full tank is no use if, at the same time, a reliable supply of fuel from the tank to the engine is not ensured. Our fuel systems guarantee the highest standard of fuel supply for a diverse range of vehicle brands and models.



### Fuel supply units.

The fuel supply unit consists of a fuel pump (sometimes with swirl pot), a filter and a flange with corresponding connections. In addition, the supply unit can be equipped with a lever-type sender, or can be used with a tubular-type sender.



### Fuel pumps.

The fuel pump is part of a fuel supply unit and located in the tank.



### Gasoline fuel injection valves.

The precise amount of fuel is determined according to how the engine is running. An injection valve sprays a precisely calculated amount of fuel at a set time in front of the cylinder intake valve to ensure clean and efficient fuel use.



### Fuel pressure regulators.

Fuel pressure regulators maintain a defined fuel pressure. If pressure is exceeded, a spring-loaded membrane allows the return-flow channel to open, permitting excess fuel to flow back into the fuel tank.



### Lever-type senders and tubular-type senders.

For measuring the fuel level in combination with an electrical display unit. Some senders are grounded. Senders without grounding have a separate ground connection.





## They measure up precisely: forwarding sensor technology.

Our sensors contribute to reducing both fuel consumption and pollutant emissions. They also help you to increase engine efficiency and safety as well as guaranteeing driving comfort and enjoyment. For the trouble-free capture and transfer of data our sensors are ideal, as they have a particularly long life and are insensitive to outside influences. Such influences include humidity and dirt as well as electromagnetic fields or emissions from other sensors.



**Mass airflow sensors.**

A growing focus on reducing CO<sub>2</sub>-emissions means that mass airflow sensors are becoming increasingly important in ensuring the optimum air fuel ratio.

Mass airflow sensors are positioned directly after the air filter in the intake manifold and supply information on temperature, humidity and intake air volume. Despite their highly compact construction they feature precision technology to capture information, which – together with other engine data – enables optimum engine management.



**Wheel speed sensors.**

The wheel speed signal is crucial for electronic systems like ABS or ASC.



**Knock sensors.**

Modern engines that allow high compression ratios have a distinct disadvantage: their design leads to increased knocking, which can damage the engine.

Knock sensors reliably measure the vibration of the engine block that is characteristic of engine knocking. This allows the firing angle and other parameters to be set such that the engine continues to function correctly close to the knock threshold. This not only protects the engine but also reduces fuel consumption.



**Crankshaft sensors.**

The crankshaft sensor supplies information on the crankshaft's current position, which the engine management system can then use to calculate RPM. These values make it possible to determine the most economical fuel injection and ignition timing for a vehicle.



**Camshaft sensors.**

The camshaft sensor is located in the cylinder head and reads the camshaft sprocket to determine the position of the camshaft.

This information is required for functions such as initiating injection on sequential injection engines, the trigger signal for the magnet valve on pump valve injection systems and for cylinder-specific knock control.



**Oxygen sensors.**

The measurements from the oxygen sensor are required to ensure that the catalytic converter can transform all the harmful exhaust gases that result from fuel combustion. It determines the oxygen residue in the exhaust gas and transfers this value to the engine management, which then precisely adjusts the combination of the mixture. Only in this way can the very best performance of the engine be achieved along with minimal fuel consumption.

So, at one and the same time, our oxygen sensors ensure optimal engine performance in compliance with required emission values in countless vehicle models.



**Pressure sensors.**

Sensors measure the air pressure in the intake manifold behind the throttle valve to determine air intake.

This information is extremely important for calculating the amount of fuel to be injected to ensure the correct air fuel mix. For this reason, the dynamic measurement capability of these engine management components is crucial in reducing vehicle emissions.



## You can rely on them: accurate sensors for instrumentation.

Our sensors for instrumentation work extremely precisely and check important data – such as pressure, temperature, engine speed, vehicle speed and fuel level – to guarantee sustained reliable vehicle operation.



**Pressure senders.**

Pressure senders are used to measure gas or fluid pressure in connection with an electrical display unit.\*



**Pressure switches.**

Pressure switches are used to monitor the pressure of gases and fluids by making contact when a pre-defined limiting value is exceeded or not reached.\*



**RPM and speed senders.**

RPM and speed senders are used to measure and display the RPM and speed of engines and gears in connection with an electrical display unit.\*



**Temperature switches.**

Temperature switches are used to monitor the temperature of different media by making contact when a pre-defined limiting value is exceeded or not reached.\*



**Temperature senders.**

Temperature senders are used to measure different media in connection with an electrical display unit.\*



**Lever-type senders and tubular-type senders.**

Lever-type senders and tubular-type senders are used to measure the fuel level in connection with an electrical display unit.\*

\*Some senders/switches are grounded. Senders/switches without grounding have a separate ground connection. The products named here have been designed for deployment in earthed vehicles, engines and plants.



## Fresh air in series: reliable fan and blower systems.

Modern fan and ventilator systems do not just guarantee the supply of the vehicle interior with air. Our fan and blower systems also reliably, and extremely efficiently, ensure other important functions such as the rapid defrosting of windows, temperature regulation and effective cooling of the engine.



### Fan systems.

Engines use two cooling methods: air or liquid.

Our fan system solutions include:

- Cooling modules
- Cooling motors



### HVAC blower systems.

HVAC blower systems allow regulated amounts of air to enter the passenger compartment. These quality blowers operate efficiently with minimum noise levels.

Our HVAC blower system solutions include:

- Blower modules
- Blower motors
- Blower resistors

## Safety at the touch of a button: central locking actuators.

A large proportion of today's vehicles are already fitted with this convenient feature. Doors, windows and fuel tank caps lock and unlock with ease at the touch of a button. Our actuators make it possible for numerous models of vehicles to be comfortably locked and unlocked.



These actuators are controlled by the central locking system and/or remote control. Each actuator's motor operates a lifter that activates and deactivates the lock. Additionally, the lifter may be retained by a latch mechanism and used specifically for anti-theft protection.

The product range includes actuators for:

- Doors
- Tailgates, rear windows and boot lids
- Fuel filler flaps

## Keep it clean: the most modern screen and headlight washer systems.

Clear visibility is indispensable in road traffic. That is precisely the reason why our windscreen, rear window and headlight washing systems always provide the very best visibility and consequently, an optimal view. Our systems make a considerable contribution to improved driving safety both by day and especially by night.



### Screen washer pumps – mono pumps.

Mono pumps have one outlet and supply the front or rear screen with water. Two pumps are needed to supply both screens.



### Screen washer pumps – dual pumps.

Dual pumps can output fluid in two directions. With only one pump, washer fluid is delivered through one (or both) of the outlets to the front or rear screen.



### Headlight washer pumps – mono pumps.

Headlight washer pumps are used for headlight lens cleaning. They supply the headlight lens washer nozzles with a corresponding amount of water and provide the high water pressure needed for this application.



### Washer nozzles.

Washer nozzles deliver water for cleaning front and rear windshields and headlights. Some nozzles have an anti-drain valve to prevent a return flow of fluid.

### Accessories.

Our accessories include a wide range of products for windshield and headlight washer systems:

- Level switches
- Connectors
- Valves
- Filters
- Nozzle needles
- Washer fluid tanks





## Increased safety and efficiency: Sensors for tyre pressure monitoring systems.

Tyre pressure monitoring systems (TPMS) are highly effective safety systems. They minimize the risks of a tyre defect, boost fuel savings and help to maximize tire life.

This is because the correct tire pressure is a vital factor in maintaining the road safety and operational reliability of a vehicle. Insufficient tire pressure could lead to extended braking distances and impairs the control of the vehicle, in particular when cornering. Sensors mounted in the wheel measure the tyre pressure and tyre temperature and send the measured results to a control unit. An optical or acoustic signal alerts the driver as required.

### Legislation:

Since 1st November 2012  
In the European Economic Area all newly homologated class M1 vehicle models must be equipped with a system designed to monitor tyre pressure.

From 1st November 2014  
All newly registered cars of class M1 in the European Economic Area must be equipped with a tyre pressure monitoring system.



### Sensor unit.

The tyre pressure sensor measures the tyre pressure and temperature directly at the valve and sends this data to the control unit as a wireless signal.

### Service kit.

The service kit includes all the sensor components required for tyre servicing.



### Valve stem for sensor.

For service on the tyre, the replacement part program is rounded off by valve stems for the 1C generation of sensors.



### Torque tool.

With our torque tool, we guarantee optimal install and remove of valvebased TPM sensors. Manufacturer-specific torques can easily be complied with, avoiding overtightening of the hex nut and valve core.

### The REDI Sensor – new technology for new requirements.

Barely the size of a 50 cent coin, the innovative REDI sensor is in a rubber container that is glued to the inside tread of the tyre and protects the sensor better from mechanical damage.

With only three versions, the multibrand sensor also covers a variety of vehicles equipped with direct tyre pressure monitoring systems. Additional programming is no longer necessary because the sensor is simply glued to the tyre and then taught in to

work with the vehicle based on the vehicle manufacturer's instructions.





# Problem detected, problem solved: Multibrand vehicle diagnostics

The ContiSys range of products helps today's vehicle workshops meet all the demands placed on them in maintenance and repair fields. Modern vehicles are equipped with a large number of electronic control devices. And nowadays certain simple operations cannot be performed without the help of a service tool or diagnostic device. With our diagnostic solutions, we offer you the right product to guarantee the greatest possible level of vehicle efficiency whatever area you work in.



**ContiSys Check.**

Because the demands placed on modern test equipment are growing, ContiSys Check covers many of the applications that workshops are faced with every day. Vehicle systems are becoming increasingly complex and inspection technologies that meet these new requirements are essential. ContiSys Check is the right solution: compact, easy to use and, thanks to optional software updates, always up-to-date.



**ContiSys Check TPMS.**

ContiSys Check TPMS offers the same functions as ContiSys Check and also acts as an ideal interface to the tyres thanks to the frequency module which activates the tire pressure sensors and reads out important data.



**TPMS Pro and TPMS Pro Print.**

The high-performance monitoring and programming device VDO TPMS Pro facilitates the checking of tire pressure control systems on the vehicles of many manufacturers. Equipped with the latest scan technology, a read-out of the sensors is rapidly obtained and checked; the sensors are then replaced where required. Used in combination with the optional TPMS Pro Print and the docking station, printouts of the diagnostics results can be created quickly and easily.



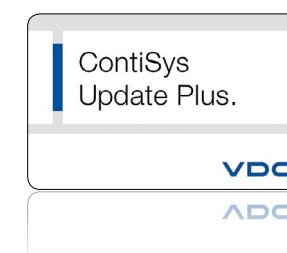
**ContiSys Scan.**

ContiSys Scan\* is an outstanding unit thanks to the large number of models it covers and the many functions it offers. Its robust housing and ergonomic shape make it the ideal tool for everyday workshop use. Thanks to its integrated multiplexer and CAN controller, ContiSys Scan\* permits the fast, simple diagnostics of the control units used in numerous electronic systems mounted in vehicles from over 40 manufacturers.



**Autodiagnos VCI and Autodiagnos DSI.**

The multifunctional diagnostic solution for all workshops. Reading and deleting fault memories, testing and controlling components, providing an interface to technical data and parts catalogs – Autodiagnos VCI\* can do all this and a lot more besides. The Autodiagnos DSI diagnostic software lies at the heart of the Autodiagnos VCI multibrand diagnostic system. This is where you select the vehicle, identify the onboard systems, control the components, record the data and perform a range of other tasks. The software is Windows™-compatible and, despite the wide range of functions it offers, always self-explanatory and easy to use without the need for prior experience.



**ContiSys Update Plus.**

With ContiSys Update Plus, your software is always absolutely up-to-date. The updates are ready for download as soon as they become available and therefore guarantee the highest possible level of flexibility and reliability. The advantages: completely up-to-date, easy operation, extensions on request.



**ContiSys Data.**

- ContiSys OBD – optional as of purchase
- ContiSys Check – optional as of purchase
- ContiSys Scan – after the 1st year
- ContiSys VCI – after the 1st year
- TPMS Pro – after the 1st year

With ContiSys Data, you have instant access to all important data. You can call up technical vehicle related data such as repair instructions, circuit diagrams, tables of error codes etc. ContiSys Data can be purchased on the Internet. Payments by credit card or bank transfer are accepted – the contract is valid for one year and is not automatically renewed.

\* The first year's software updates are included in the purchase price.





## A fine piece of engineering: the VDO Common Rail Diesel system.

The precursor to today's Common Rail Diesel system from VDO was the worldwide deployment of the first high-pressure diesel injection unit with piezo injectors. This was a quantum jump, as this system enabled a delivery of fuel that precisely met requirements and, consequently, an enormous increase in diesel engine efficiency.

In Common Rail Diesel systems a central, high-pressure pump generates the fuel pressure for all the piezo injectors. The pump continuously conveys diesel fuel under high pressure to the storage management rail which, in turn, provides the piezo injectors with fuel.

The injectors are electrically actuated by means of the engine control unit, to spray precisely the right quantity of diesel fuel into the cylinders at exactly the right time – and thus ensure optimal performance.

An advantage taken up by numerous car manufacturers. Models of the Citroën, Ford, Jaguar, Nissan, Peugeot, Renault, Volvo and VW are among the car brands that are equipped with the Common Rail Diesel system from Continental.



### Diesel Common Rail pumps (DCP).

Whereas traditional direct diesel fuel injectors generate the fuel pressure for each injection cycle anew, in the Common Rail system pressure is built up independently of the injection sequence and is permanently available to the fuel supply system.



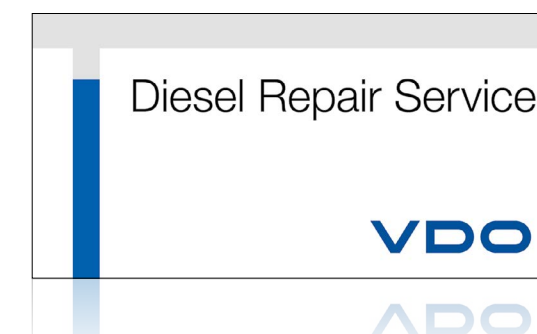
### Piezo-controlled injectors.

The injectors are electrically actuated by means of the engine control unit, to spray the right quantity of diesel fuel into the cylinders at the right time. Instead of an electric magnet, a piezo element is used to operate the valve – bringing enormous advantages as the response time is three times faster. This makes the injection process is even more precise, and the diesel engine is consequently even more economical and efficient.



## Reliability in person: the Diesel Repair Service partners.

By using piezo injectors, we have given the Common Rail Diesel injection system an innovative boost. We are now also setting new standards in maintenance and repairs.



With our more than a hundred internationally representative Diesel Repair Service partners, you always have an expert specialist close at hand. And this is guaranteed – as only selected workshops with proven high levels of expertise receive the partner certificate shown above. As well as precisely fitting, original replacement parts, they also enjoy many other advantages – you can even have damaged high-pressure pumps repaired here. You also save a great deal of time in the search for the cause of the fault. As our

service partners have access to the very best inspection devices and data, that guarantees the certain, rapid location of system failures.

So why not profit from the best possible advice about maintenance and repair of Common Rail Diesel systems? Extend your range of services and generate additional sales!

### Your benefits:

- VDO original replacement parts
- Maintenance and repair of high-pressure pumps by trained specialists
- High quality assurance through certified verification processes



# Unrivalled performance and endurance: VDO battery technology.

Featuring the most advanced AGM and EFB technology, our two powerful batteries are the perfect solution for every START-STOP system, delivering up to three times the cyclic stability of conventional batteries.

By 2015 the majority of vehicles produced and sold in Europe will be equipped with START-STOP technology. Already today START-STOP systems are standard on most commercial vehicles. These systems will change the load on the starter battery like no other innovation before. With the Enhanced Flooded Battery (EFB) and the Absorbent Glass Mat Battery (AGM), VDO offers two innovative technologies that easily meet the new requirements.

Tests carried out by the independent VDE Institute (VDE Prüf- und Zertifizierungsinstitut GmbH) have shown that our two new products not only deliver convincing results but also beat leading competitors.

The VDE successfully tested the EFB and AGM battery for cyclic stability (starter battery service life, particularly with START-STOP systems), cold start performance (durability of the accumulator at extremely low temperatures and high discharge currents) and deep discharge capability (checking battery wear).

Under the umbrella of one brand, VDO combines the entire START-STOP expertise and also offers you a two-year warranty instead of the usual one-year scheme.



## AGM battery.

More sophisticated START-STOP systems with recovery functionality require a VDO AGM battery. The maintenance-free, durable AGM battery with absorbent glass mat ensures at least three times the cycling life of conventional batteries. Thanks to its high charging capacity, the battery can capture the high surges of electrical energy generated during braking, enabling energy recovery.

## EFB battery.

The VDO battery with EFB technology is the right choice for vehicles equipped with conventional START-STOP systems without recovery capability (faster battery charging when braking or accelerating). The maintenance-free EFB battery has a glass mat layer and makes low-resistance, fast charging and discharging possible.
















### Your benefits:






















- Optimum performance with two times (EFB) or at least three times (AGM) the cyclic stability of conventional batteries
- Particularly fast and high charge acceptance
- Reliable starting energy even at low charge levels
- Two-year warranty instead of the one-year period typical for the market
- High market coverage with few versions





# Outstanding performance from A to Z: our range of replacement parts at a glance.

		
<b>A</b> Actuators	<b>E</b> Exhaust gas recirculation valves	<b>H</b> HVAC blower systems
Actuators for central locking systems	Engine actuators	Blower and fan systems
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Adjustment motors for air flaps	<b>F</b> Fan systems	Headlight washer pumps
Engine actuators	HVAC blower and fan systems	Screen and headlight washer systems
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Air control valves	Fuel pressure regulators	<b>I</b> Idle speed regulators
Engine actuators	Fuel systems	Engine actuators
p. 9	p. 11	p. 8
		
<b>C</b> Camshaft sensors	Fuel pumps	<b>K</b> Knock sensors
Sensors for engine management	Fuel systems	Sensors for engine management
p. 13	p. 11	p. 13
		
Crankshaft sensors	Fuel supply units	<b>L</b> Lever-type senders
Engine actuators	Fuel systems	Fuel systems / sensors for instrumentation
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<b>D</b> Diesel Common Rail Pump (DCP)	<b>G</b> Gasoline injection valves	<b>M</b> Mass airflow sensors
Common Rail Diesel	Fuel systems	Sensors for engine management
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<b>O</b> Oxygen sensors	<b>S</b> Screen washer pumps	Torque tool
Sensors for engine management	Screen and headlight washer systems	Tyre pressure monitoring systems
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<b>P</b> Piezo-controlled injectors	Sensors for Tyre Pressure Monitoring Systems (TPMS)	TPMS Pro
Common Rail Diesel	Tyre pressure monitoring systems	Checking and programming TPM systems
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RPM and speed senders	Service kit	TPMS Pro Print
Sensors for instrumentation	Tyre pressure monitoring systems	Checking and programming TPM systems
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Pressure senders	START-STOP-batteries	Tubular-type senders
Sensors for instrumentation	AGM and EFB technology	Fuel systems / sensors for instrumentation
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Pressure sensors	<b>T</b> Temperature senders	<b>V</b> Valve stems for sensor
Sensors for engine management	Sensors for instrumentation	Tyre pressure monitoring systems
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Pressure switches	Temperature switches	<b>W</b> Washer nozzles
Sensors for instrumentation	Sensors for instrumentation	Screen and headlight washer systems
p. 14	p. 14	p. 17
		
<b>R</b> REDI sensors	Throttle valves	Wheel speed sensors
Tyre pressure monitoring systems	Engine actuators	Sensors for engine management
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**Continental Automotive Trading UK Ltd**

36 Gravelly Industrial Park

Birmingham

B24 8TA

United Kingdom

Tel.: +44 (0) 121 326 1200

[uk@vdo.com](mailto:uk@vdo.com)

[www.vdo.com/uk](http://www.vdo.com/uk)

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