

# SUSPENSION SYSTEMS

making everyday smoother



**VB-AIR SUSPENSION SUPPORTS YOU  
SO THAT YOU CAN ENJOY A SAFE AND WORRY-FREE JOURNEY.**

**Motorhomes**



Travelling by motorhome opens up new worlds. You just set off into the sunset: there's no need to think about where you'll be spending the night, as you have a place to sleep wherever you go. A motorhome is the perfect choice, whether you are going away for the weekend, a two-week holiday or spending a few months on the road. If you are travelling hundreds of miles at a time in your motorhome, stability and comfort are essential, so it is extremely important that the suspension system is in a sound condition. Our innovative air suspension systems and suspension applications help to ensure **optimum ride comfort, increased stability, useful functionalities and greater safety**, so that you can enjoy a safe and worry-free journey.

## PEACE OF MIND WHILST ON YOUR TRAVELS.

A motorhome is the ultimate means of transport for anyone who wishes to stick to their own plan. If you're looking to take a well-deserved holiday, the last thing you need is the stress of a motorhome that's difficult to drive. Not only do you want to be able to benefit from maximum ride comfort during your journey, but also the highest levels of safety. A house on wheels that handles perfectly is the key to enjoying a relaxing start to your holiday. As a motorhome owner, you probably know the feeling of intense crosswinds while driving, for example when overtaking lorries and buses, driving on a bridge, exiting a tunnel, or from gusts of wind. These winds pose a danger both to yourself and your motorhome, particularly when travelling at high speeds.

### OUR (AIR) SUSPENSION SYSTEMS PROVIDE FOR MORE STABLE ROAD HANDLING WHILE DRIVING YOUR MOTORHOME.

Our intelligent air suspension systems and suspension applications ensure that your motorhome remains stable, easily manoeuvrable and at a constant ride height under all conditions. Your motorhome is less sensitive to crosswinds and unevenness in the road surface, leans less when cornering and responds effectively during sudden evasive and braking manoeuvres, even when the motorhome is carrying heavy, uneven loads. What's more, our systems and adaptations prevent the motorhome from leaning and the suspension from sagging. One moment you're gliding smoothly over an uneven road surface and the next you're effortlessly swerving to avoid an obstacle.

Air suspension systems and suspension applications minimise vibrations in the chassis, ensuring a smooth, relaxing journey for both you as the driver and your passengers. These systems and applications also ensure that your luggage is safely transported from A to B, which is exactly what you need.



DRIVING ON UNFAMILIAR AND POORLY SURFACED ROADS NOT ONLY PLACES GREAT DEMANDS ON YOU AS THE DRIVER, BUT ALSO ON YOUR MOTORHOME. GET A BETTER GRIP ON ALL SITUATIONS WITH OUR FULL AIR SUSPENSION SYSTEMS.



Increasing ride height	Minimising sagging	Reducing vehicle roll	Improving suspension comfort	Improving driving characteristics	Increasing safety	Improving stability	Control options
+	+	+	+	+	+	+	

<b>VB-NIVOAIR</b> Full air suspension	+	+	+	+	+	+	+
<b>VB-FULLAIR</b> Full air suspension	+	+	+	+	+	+	+

## THE BEST SOLUTION FOR SUSPENSION PROBLEMS.

Our full air suspension systems are fully automatic (adjustable) solutions for suspension problems. The traditional suspension is replaced by a full air suspension system that filters out unevenness in the road surface, thereby increasing ride comfort. Furthermore, the braking distance is shorter and crosswind sensitivity is reduced, increasing the level of safety.

### ENJOYMENT AND COMFORT WHETHER DRIVING OR AT A STANDSTILL.

While driving, your motorhome will constantly remain at the ride height pre-set during installation. This is the ideal ride height for maximum comfort. The driveability and stability of the vehicle are also improved, which in turn increases safety. Our full air suspension systems come with a sophisticated remote control, placing all the functions of the suspension system within easy reach. Depending on the type of air suspension system, you can automatically adjust the height of the motorhome on the front and/or rear axle. This is particularly useful when driving on and off a ferry or when driving on tough terrain.

When your motorhome is at a standstill and the ignition is switched off, there are various options available for adjusting the height of your motorhome manually or automatically using the remote control, depending on the type of air suspension system fitted. This makes getting in and out of the vehicle easier, as well as loading and unloading luggage via the load space at the rear of the motorhome. If you find that your camp site is on a slope, you can level your motorhome at the touch of a button. You can also adjust the motorhome so that it leans to one side, allowing for the drainage of sewage and wastewater tanks.



ONE MOMENT YOU'RE DRIVING SMOOTHLY OVER AN UNEVEN ROAD SURFACE AND THE NEXT YOU'RE EFFORTLESSLY SWERVING TO AVOID AN OBSTACLE.



Increases ride height	Minimises sagging	Reduces vehicle roll	Improves suspension comfort	Improves driving characteristics	Increases safety	Improves stability	Minimises fuel consumption
<b>VB-ACTIVEAIR*</b>							
Full air suspension and active shock absorbers							

\* At present, VB-ActiveAir is only available for motorhomes with an Iveco Daily 60C-70C chassis, as an upgrade kit and as a new kit. The system is under development for a number of vehicle makes and models.

## REAL-TIME RESPONSE TO DRIVING SITUATIONS WITH ACTIVE SHOCK ABSORBERS.

When exploring a larger area with your home on wheels, you need maximum comfort. By combining our full air suspension system with adaptive shock absorbers, we can offer an intelligent suspension and damping system that adapts in real time to the condition of the road surface, the driving characteristics and the load. You will also experience fewer problems with sideways movements, even in crosswinds. The system ensures better handling as well as a more comfortable and safer trip.

### HANDLING, SAFETY OR COMFORT. WHY SHOULD YOU HAVE TO CHOOSE?

The varying loads you carry are compensated by our full air suspension via the air pressure in the air spring, while the adaptive shock absorbers control the damping via a valve in the shock absorber. You can choose to put the system in fully automatic mode or engage it manually using a selector switch depending on your preference. The shock absorbers can be adjusted from minimum damping force to maximum damping force in just a few milliseconds, allowing you to alternate between more sporty handling and a comfortable driving experience as required.

Based on your driving style, the suspension system remembers cornering speeds and braking manoeuvres and ensures optimal adjustment of the shock absorbers. This way, the suspension system adapts to your personal driving style. In this way the 'Sport' mode automatically becomes a little more comfortable with a moderate driving style and the 'Comfort' mode automatically becomes a little more sporty when cornering at a higher speed.

And it's not just when you are out on the road, the system offers further benefits when the vehicle is stationary. Once your vehicle is at a standstill and the engine has been turned off, a valve in the shock absorber closes. This reduces movements when the vehicle is stationary, providing for increased comfort.



**WORRY LESS ABOUT THE DISTRIBUTION OF LUGGAGE IN YOUR MOTORHOME: THE SEMI AIR SUSPENSION LEVELS THE REAR OF THE VEHICLE.**



Increases ride height      Minimises sagging      Reduces vehicle roll      Improves suspension comfort      Improves driving characteristics      Automatic adjustment

#### **VB-SEMAIR**

Semi air suspension

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#### **VB-LEVELAIR**

Semi air suspension (automatic level control)

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## CREATE MORE SPRING TRAVEL WITH SEMI AIR SUSPENSION.

Motorhomes are usually heavily laden due to their superstructure, furnishings and the luggage on board. Our auxiliary air suspension systems allow you to adjust the suspension manually or automatically. As the auxiliary air suspension systems support the existing suspension, more spring travel is created while driving. The semi air suspension therefore helps to increase the level of comfort when travelling in your motorhome. The use of a two-chamber system allows the left and right side of the vehicle to be pressurised separately, meaning that the motorhome can be adjusted to level out slight imbalances. Auxiliary air suspension systems help to increase comfort when travelling with heavy loads too.

### SIMPLY PACK YOUR SUITCASE AND YOU'RE READY TO GO.

The weight of the luggage that you take with you will vary depending on your holiday plans; it may weigh more on one occasion than another, and this weight is often distributed unevenly in your motorhome. Even with a low payload, the load varies due to the large dead weight of the motorhome. Our semi air suspension easily sets your motorhome's system to the right pressure with the help of a comfort compressor set. We offer several types of auxiliary air suspension system that can be operated in a number of different ways, such as manually using inflation valves, or via a control panel fitted with switches and pressure gauges. What's more, our auxiliary air suspension system with automatic level control, the VB-LevelAir, is an added convenience, as you needn't worry about operating the system while you are driving. Your motorhome is therefore always at the correct ride height. The rear of the motorhome leans less, which improves the stability and driveability of the vehicle and helps to ensure greater safety during your journey.

OUR AIR SUSPENSION SYSTEMS OR SUSPENSION APPLICATIONS HELP TO ENSURE A RELIABLE AND PLEASANT JOURNEY IN YOUR MOTORHOME.



	Increases ride height	Minimises sagging	Reduces vehicle roll	Improves suspension comfort	Improves driving characteristics
<b>VB-COILSPRING</b> Helper and reinforced springs	++	+	++	+	+

<b>REINFORCED STABILISERS</b> VB-SpecialParts		++	++		+
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<b>REINFORCED SHOCK ABSORBERS</b> VB-SpecialParts			+	+	+
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## IMPROVED DRIVING CHARACTERISTICS THANKS TO SUSPENSION APPLICATIONS.

In addition to full air suspension systems and auxiliary air suspension systems, we also offer reinforced shock absorbers and reinforced replacement and helper springs. These are non-adjustable solutions that influence the vehicle behaviour. They ensure that motorhome movements are absorbed more effectively while driving. The motorhome's ride height is improved, which increases the spring travel ensuring a greater level of comfort.

### THE RIGHT BALANCE.

The weight of the motorhome superstructure means many motorhomes have a high centre of gravity, so the suspension often has a great deal to contend with. Not only this, we are all guilty of taking only "the essentials" with us on holiday – and end up loading the motorhome up to its technically permitted weight. This heavy weight can cause the suspension to drift when driving on poorly surfaced roads or over speed bumps, which is unpleasant when you still have a long way to drive. Our reinforced (suspension) applications help to improve the driving characteristics of your motorhome so that you have a pleasant journey.

**STABILITY AND COMFORT.**  
A STANDARD SHOCK ABSORBER  
WILL ONLY EXHIBIT ONE OF THESE  
CHARACTERISTICS.  
THE VB-FSD SHOCK ABSORBER OFFERS  
BOTH THESE CHARACTERISTICS, THUS  
ENABLING A SAFER RIDE.



	Increases ride height	Minimises sagging	Reduces vehicle roll	Improves suspension comfort	Improves driving characteristics
<b>VB-FSDSHOCKABSORBER*</b>			++	++	++
VB-FSD technology					
<b>VB-FSDSTRUT**</b>	++	+	++	++	++
VB-FSD technology					
<b>VB SUSPENSION UPGRADE KIT***</b>	++	+	+++	+++	+++
VB-FSD technology					

\* The VB-FSD shock absorber is a shock absorber for both the front and rear axle.

\*\* The VB-FSD strut is a combination of a VB-FSD shock absorber and VB-CoilSpring for the front axle. It is only available for a PFC X250/X290 chassis.

\*\*\* The VB Suspension Upgrade Kit is a combination of a VB-FSD strut on the front axle and a VB-FSD shock absorber on the rear axle.

It has been specifically developed for motorhomes with a PFC X250/X290 chassis.

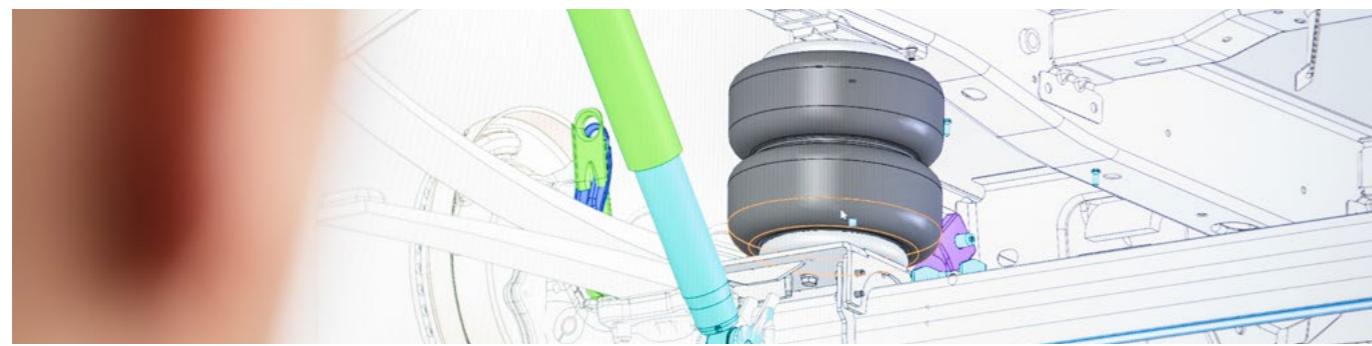
## STABILITY AND COMFORT.

As a driver, you want to experience stability and comfort while driving. A good suspension system must therefore have both spring force and damping. With standard shock absorbers you usually have to make a choice between stability and comfort as these shock absorbers are not able to self-regulate. However, the addition of a special valve allows the shock absorber with FSD technology to vary its own damping force. FSD stands for 'frequency selective damping'. This directly results in more comfortable driving characteristics, improved stability, greater safety and less vibration and background noise, since unevenness in the road surface is not felt as distinctly in your motorhome.

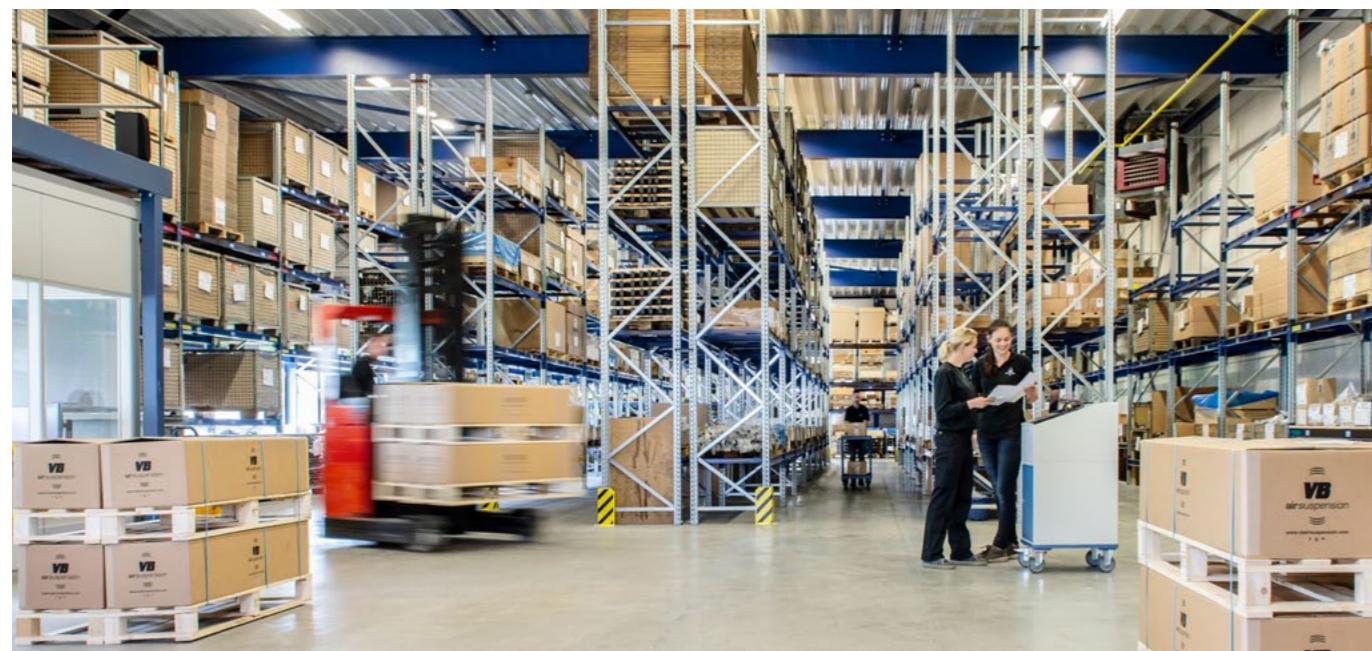
### THE RIGHT COMBINATION.

With a combination of top-performing reinforced front springs and shock absorbers that apply FSD technology, we offer the 'VB suspension upgrade kit for your motorhome'. Designed specifically for motorhomes with an X250/X290 chassis (Peugeot Boxer, Fiat Ducato, Citroën Jumper), the VB-FSD suspension strut ensures that your motorhome is raised at the front, sags less and that more spring travel is created. This kit offers the best in comfort and stability in this class on both the front and rear axle.

Our many years of experience make us a solid partner who can provide you with suitable advice. Let the journey begin!



WE MAKE EVERY JOURNEY  
A GOOD ONE.



# VB-AIR SUSPENSION IS ACTIVE WORLDWIDE.

As a leading company undergoing rapid growth, we want people all across the globe to benefit from our premium suspension applications and (air) suspension systems. Why? Because this ensures more comfort, better handling and greater safety. In other words: we make life around us a smoother ride.

MAKING EVERYDAY SMOOTHER.

In line with this motto, we get the best out of ourselves every day for our customers – and we've been very successful so far! We have been amassing experience since 1993 and are now a leading adviser, developer and supplier of (air) suspension systems for light to medium-duty commercial vehicles.

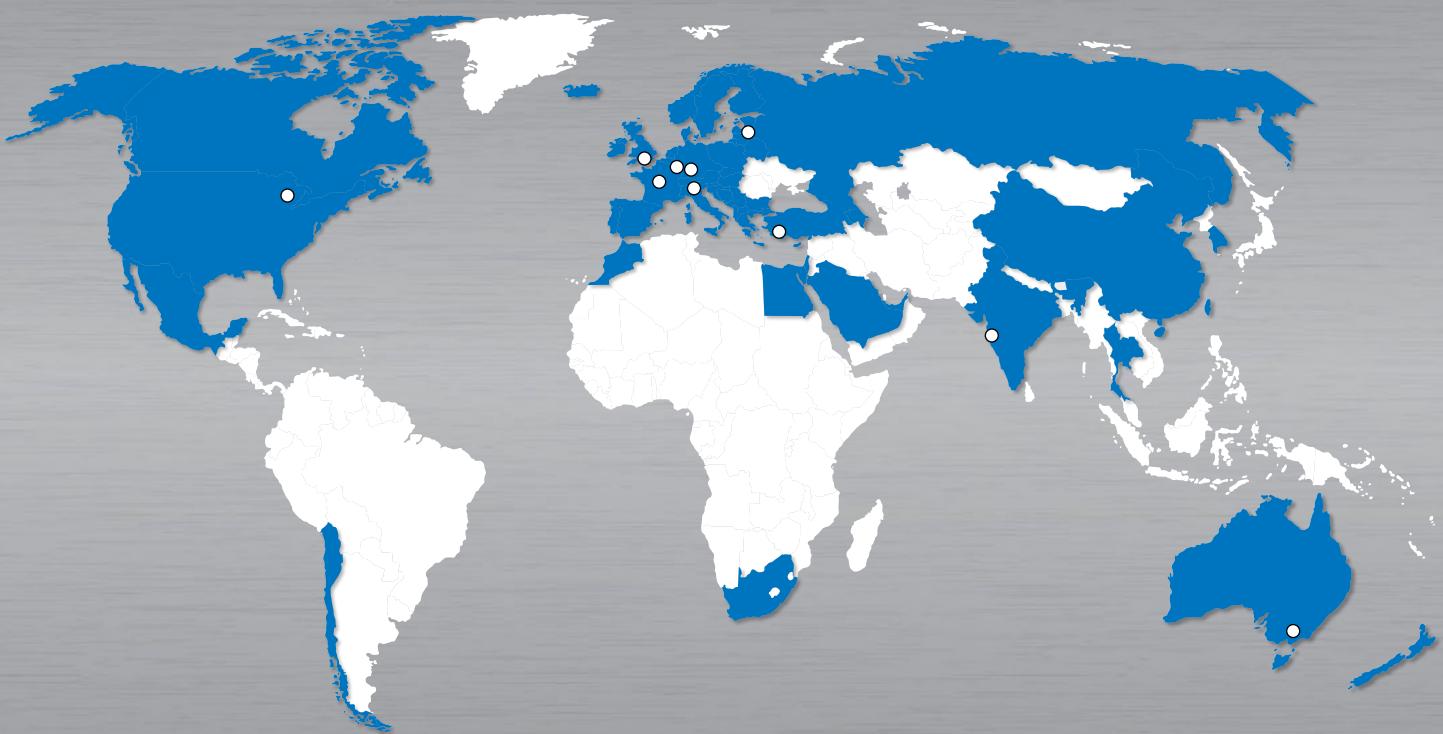
When the term ‚light to medium-heavy commercial vehicles‘ is used in the automotive industry, this means vehicles with a GVW (gross vehicle weight) of 1,750 to 7,500 kilograms. The chassis of these ‚basic vehicles‘ provides the basis for all manner of applications: from emergency service vehicles and motorhomes to car transporters and wheelchair-accessible vehicles.

Thanks to our enthusiastic and motivated team, we are happy to work on these solutions every day – worldwide. Our Innovation & Technology Centre is where we develop, test and sell our products. Our Logistics Centre is the central location for our production and logistics processes. It is also where purchasing and quality control find their home.

WE CREATE THE NEXT LEVEL IN VEHICLE DYNAMICS.

Our product portfolio ranges from reinforced springs to full air suspension solutions with active shock absorbers for front and rear axles. We are especially proud of our official recognition from big names such as Mercedes-Benz, Volkswagen, Ford and Renault – the highest recognition that an accessory specialist can receive from a vehicle manufacturer. TÜV approvals and „letters of no objection“ (LONO) mean that our products are also available for a number of other vehicles.

- MORE THAN 30 YEARS' EXPERIENCE
- TWO HEAD OFFICES IN VARSSEVELD: INNOVATION AND TECHNOLOGY CENTRE & LOGISTICS CENTRE
- MORE THAN 195 ENTHUSIASTIC EMPLOYEES
- 9 SUBSIDIARIES WORLDWIDE
- REPRESENTED BY PARTNERS IN 42 COUNTRIES
- SUPPLYING TO MORE THAN 60 COUNTRIES
- MORE THAN 355 VB-PARTNERS
- OVER 885 TRAINED SPECIALISTS
- AROUND 300,000 (AIR)SUSPENSION SYSTEMS SOLD



## DISCOVER OUR PRODUCTS.

Our products find their way to satisfied users through an extensive network of international partners and dealers. Our partners and dealers are authorised specialists that have received extensive training in the installation of our products and in the provision of a high-quality service and appropriate advice.

To find your nearest partner or dealer, visit [www.vbairsuspension.com](http://www.vbairsuspension.com).