



# Air Spring Expertise

For the Commercial Vehicle Aftermarket





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## Quality and range

# Pooled know-how in air spring technology

### **Acknowledged worldwide for its air spring systems**

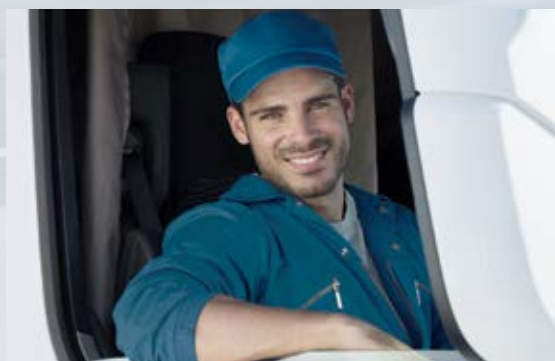
As a specialist in air spring systems, we are sought-after worldwide as a development partner and OEM. Our customers benefit from a technology lead based on experience, close contacts with our customers, knowledge and sound expertise in delivering solutions.

### **Back in 1955, Continental was the first company to market air spring bellows for buses and trucks.**

Today, the ContiTech Air Spring Systems business unit develops innovative components and complete systems for adjustable air springs in commercial vehicles, buses, trailers, rail vehicles, stationary machines and construction foundation mounts. In Europe, we have lastingly shaped the market with our solutions.

### **In commercial vehicles, ContiTech air springs have a significant impact on driving safety, cost effectiveness and ride comfort.**

To achieve this, we call on our constantly expanded materials and process expertise and on state-of-the-art production and test facilities. Our input as a development partner and OEM has been creating added value for our customers for decades.



**ContiTech Air Spring Systems. Technology On Your Side.**



**ContiTech, PHOENIX and PRIME-RIDE - strong brands for the challenges of the future.**

The ContiTech Air Spring Systems business unit has many years of outstanding experience in supplying air spring systems as original equipment for commercial vehicles. Our ContiTech, PHOENIX and PRIME-RIDE product brands provide individual solutions to meet your needs in almost all commercial vehicle aftermarket applications.

**The comprehensive range comprises:**

**Rolling lobe air springs and convoluted air springs for**

- › Buses
- › Trucks
- › Trailer

**and sleeve-type rolling lobe air springs for**

- › Drivers' seats
- › Cab mounts

Our air springs offer a high level of quality and reliability. Numerous renowned commercial **vehicle manufacturers** therefore fit them as **original equipment**:

- 
- |                 |                  |                   |
|-----------------|------------------|-------------------|
| › BPW           | › Iveco Bus      | › Reyco Granning  |
| › China Highway | › Kässbohrer     | › SAF-Holland     |
| › DAF           | › Kia Bus        | › Scania          |
| › Daewoo Bus    | › Komman         | › Schmitz         |
| › EVOBus        | › Kögel          | › TAM Durabus     |
| › FAW           | › Link           | › TATA Daewoo     |
| › Freightliner  | › MAN            | › VDL-Bus         |
| › GAZ           | › Mercedes-Benz  | › Volvo           |
| › Gigant        | › Monaco Coach   | › Watson & Chalin |
| › Hendrickson   | › Renault Trucks | › Yutong          |
| › Hyundai Bus   |                  |                   |
-

## Our core competencies

For fail-safe, reliable and cost-effective air spring developments

### High-quality materials satisfy extreme operational demands

ContiTech air spring bellows are made of high-quality elastomer materials, giving them their excellent dynamic properties and their reputation for long, reliable service.

In benchmarking with competitor products, it has been shown that ContiTech air springs have a precisely defined load-carrying capacity and the maximum service life. Likewise, they showed themselves to be superior in terms of burst pressure, cushioning and in providing a perfect assembly fit.

### Systems competence in the service of our products

Air springs are designed to provide the load-carrying capacity, suspension characteristics and spring travel required in a given situation. All individual components, including the bellows, piston and ancillary parts, are designed to produce a perfectly harmonized system, ensuring optimal suspension characteristics and the widest possible margin of safety.

### Process competence in manufacturing

Our state-of-the-art production processes guarantee our products' top performance and high quality. Our value-added chain is governed throughout by all-encompassing quality planning for all products and processes:

- › Advanced Product - Quality Planning
- › Quality Function Deployment
- › Feasibility and manufacturing analyses
- › Risk assessments (design and process FMEA)
- › Advanced Control Planning
- › Processability analyses
- › Product and process certification using standardized methods (PPAP, PPF).

The sequential linking of procedures in the production stations without interim storage points guarantees short throughput times and optimum processability.





### **High-tech test center sets benchmarks for modern air spring technology**

We are constantly optimizing our products and devising innovations. Our central development and testing center in Hanover puts extensive research and technological resources at our disposal. Our design engineers take into account the customer requirements, of course, but also the material properties and the production processes.

This involves using calculation programs developed in-house as well as the finite element method (FEM), which simulates real-life load conditions, identifies possible weak points early on and supplies specifications for optimum product design.

Multi-stage inspections and tests accompany product development and are part of the quality assurance process in series production. Durability tests conducted in tempering chambers and on dynamic, seesaw and burst pressure test rig systems as well as in corrosion testing enable us to simulate a whole vehicle life in accelerated form. One of our outstanding test stations is the multi-axial characteristic curve test rig. It can be used for 1:1 simulation of every possible combination of axle and steering systems, kinematics and load profiles in a given vehicle under all the various road conditions.

The results obtained in these tests and simulations allow for reliable predictions as to the interplay between air spring and chassis and thus allow us to design for maximum service life under the most rigorous demands.

### **Certified quality**

Our product quality and all our processes are regularly audited and certified by our OEM customers. Certifications to EN ISO 9001, VDA 6.1 and EN 14001 confirm, moreover, that our process capability measures up to the high demands an automotive supplier must fulfill.

# Quality on the move

## The right product for every application

Our complete range for the aftermarket - air springs for buses, trucks and trailers



### Air springs for bus and truck applications

- › Air spring with cone interface
- › Contoured steel piston with fully utilizable volume for maximum comfort



### Air spring/damper module for the front axles of trucks and buses

- › Air spring and hydraulic damper in ready-to-fit unit for optimal comfort and roll stability



### Air springs for maximum weight savings and comfort

- › Air spring with bead plate
- › Polyamide piston with fully utilizable volume



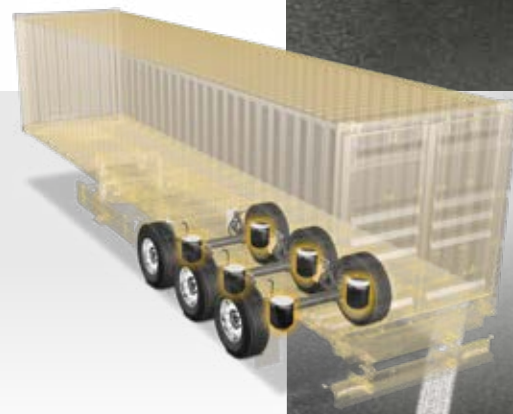
### Convoluted air spring for lift axles

- › Compact design for heavy loads



### Air spring for trailer axles

- › Air spring with bead plate
- › Polyamide buffer
- › Polyamide piston without utilizable volume







### **Buses**

In buses, air springs deliver safety and ride comfort. Thanks to the self-leveling system, the vehicle maintains the same level, which means that the boarding level also remains unchanged, regardless of the number of passengers. With additional control functions, the vehicle body can “kneel”, which aids entry and alighting. This generally entails fitting two air springs to the front axle and trailing axle and four on the rear or drive axles.

### **Trucks**

The weight of a truck, and thus the axle load, fluctuates greatly depending on the payload at any given moment. To satisfy the resulting suspension requirements, virtually all commercial vehicle manufacturers now employ air springs. In conjunction with a level control system, air springs guarantee that the vehicle body remains at a constant distance from the road. That, in turn, ensures safe driving regardless of the load carried. By actuating optional manual controls, the vehicle body can also be raised or lowered by means of air springs. This is of advantage particularly when adjusting the vehicle body height to the level of a ramp or for mounting an interchangeable platform.

### **Trailer**

Air suspension on trailers ensures not only gentler treatment of the load being hauled and the vehicle body, but also less wear and tear on the roads. This aspect is of increasing significance as traffic volumes grow. As a rule, each axle has two air springs. In multi-axle combinations, one axle is frequently provided with an axle-lifting device to protect the tires on empty runs or with partial loads. Air springs – as a rule, of convoluted design – are also used for raising and lowering lift axles.

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### **Driver's seats**

Air-sprung seats ensure a more ergonomic and comfortable working situation, while at the same time helping to ward off driver fatigue or health impairment.

### **Cab suspension**

Air suspension of the cab has a major impact on ride comfort. These air springs are designed as sleeve-type rolling lobe air springs and take the form of a two- or four-point suspension between the driver's cab and the chassis frame.

# Our range

One stop for three  
strong brands





We offer our three brand ranges of air springs for the aftermarket together under the umbrella of ContiTech Air Spring Systems - the ContiTech premium brand in original equipment quality, the PHOENIX quality brand and the PRIME-RIDE budget brand.

You benefit from:

- › Many years of worldwide development excellence and experience for OEMs and the aftermarket
- › Continual expansion of the product range
- › High production capacities
- › Reliable availability of all products - today and in the future



**ContiTech · PHOENIX · PRIME-RIDE**

## ContiTech

### The premium brand

The ContiTech premium brand brings together our pooled expertise as a development partner to, and OEM for, the major companies worldwide. ContiTech air springs are specially developed as original equipment.

The brand therefore guarantees the ultimate in quality criteria and meets the stringent requirements of vehicle manufacturers in the international aftermarket.

#### The ContiTech premium brand offers you:

- › 100 % OE quality
- › Global availability
- › Complete OEM range, also for the aftermarket
- › Precisely configured suspension characteristics
- › Maximum service life
- › Maximum load capacity
- › Simple and precise fitting
- › ContiTech air spring range:
  - Europe 660 types
  - USA/NAFTA 900 types



**Continental**  ContiTech

[www.contitech.de](http://www.contitech.de)

## PHOENIX

### The quality brand

With more than 60 years' experience as an OE supplier or in the air springs aftermarket, PHOENIX has established its position as a strong brand.

The extensive offering of air springs also includes numerous niche products. We are therefore able to offer our customers an extensive range with attractive cost benefits.

#### The PHOENIX quality brand offers you:

- › Top quality
- › Global availability
- › Extensive commercial vehicle product portfolio
- › Proven suspension characteristics
- › Long service life
- › High load capacity
- › Simple and precise fitting
- › PHOENIX air spring range:
  - Europe 360 types



**PHOENIX**  
Air Springs

[www.phoenix-airsprings.de](http://www.phoenix-airsprings.de)

# PRIME-RIDE

## The budget brand

PRIME-RIDE® has been an established brand for commercial vehicle air springs with an attractive price/performance ratio since 1998.

With their materials subject to ongoing review to optimize costs and the products themselves manufactured on certified machinery, PRIME-RIDE® products offer an interesting alternative, and not just for older vehicles.

### The PRIME-RIDE budget brand offers you:

- › High quality
- › Excellent availability (ex stock)
- › The major commercial vehicle applications
- › Balanced suspension characteristics
- › Effective service life
- › Good load capacity
- › Simple and precise fitting
- › PRIME-RIDE air spring range:
  - Europe 330 types
  - USA/NAFTA 50 types



**PRIME-RIDE®**

[www.prime-ride.de](http://www.prime-ride.de)



# The right tools for the job

## Air spring press and ScrewKits

### Air spring press

ContiTech has expanded its workshop portfolio. The company can now supply its own air spring press for fitting aftermarket air springs in commercial vehicles. This simplifies the work for the mechanics in folding the air spring in on itself and therefore fitting it in the truck or bus.

- › Suitable for the ContiTech, PHOENIX and PRIME-RIDE brands
- › For folding air springs in on themselves and fitting bellows onto pistons
- › Time savings thanks to easy, fast fitting
- › Compact design, ergonomic handling
- › Avoidance of damage to air springs
- › Safe operations in the workshop



Alternatively: foot pump



For the user video  
[www.contitech.de/aspres-en](http://www.contitech.de/aspres-en)





### ScrewKits

ContiTech offers complete fastening kits for ContiTech, PHOENIX and PRIME-RIDE air springs. They cover the main applications in trucks, trailers and buses.

Having the precise references for the particular air spring makes selecting the right kit child's play. You no longer need spend time collating the various components. ScrewKits therefore simplify the work of distributors in cross-referencing with the particular air spring and of workshops in fitting it. In addition to the standard nuts and bolts, the ScrewKits also include special equipment.

- › Fastening kits for air springs of the ContiTech, PHOENIX and PRIME-RIDE brands
- › 100 % precision fit
- › Precisely referenced
- › High-quality articles
- › Tested to ISO standards
- › Standardized box for optimized logistics
- › Available worldwide



# Service for our partners

## Professional and comprehensive

### Everything needed for efficient communications

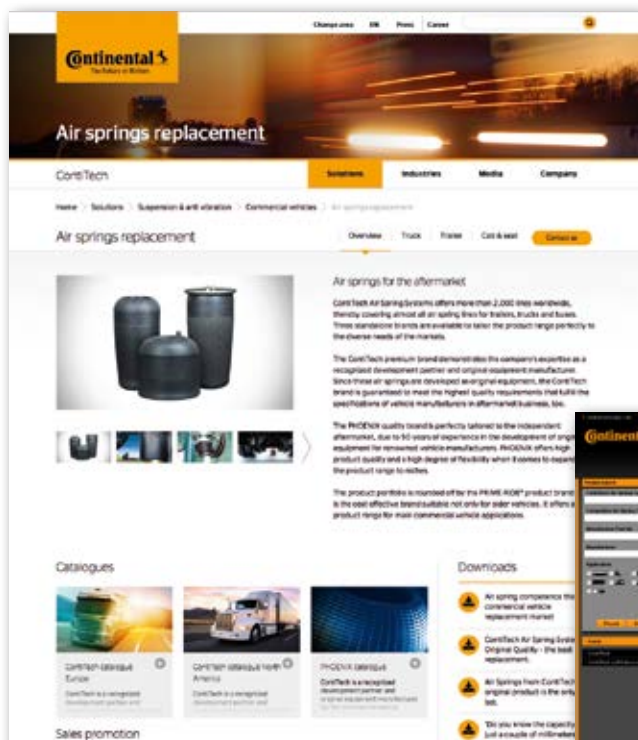
We provide our partners with extensive marketing materials, both online and in hard-copy form. Our ContiTech technical literature, sales promotion material and leaflets and flyers on products and services offer effective support.

You can order your information material including print catalogs from us or download them as PDFs from the download area at [www.contitech.de](http://www.contitech.de) or directly from [www.luftfederersatz.de](http://www.luftfederersatz.de). From there, you can also reach the websites of the PHOENIX ([www.phoenix-airsprings.com](http://www.phoenix-airsprings.com)) and PRIME-RIDE ([www.prime-ride.com](http://www.prime-ride.com)) brands.

In addition, [www.luftfederkatalog.de](http://www.luftfederkatalog.de) enables you to directly access the ContiTech online catalog, which provides an in-depth product database.



▲ Catalogues  
Product Range



▲ [www.contitech.de](http://www.contitech.de)  
[www.airspringreplacement.com](http://www.airspringreplacement.com)



▲ Online-Catalogue  
[www.airspringcatalogue.com](http://www.airspringcatalogue.com)





### Talking with our partners

We deliver training worldwide to inform and qualify our partners. We showcase our products at all the important national and international trade shows and will gladly discuss your particular needs and provide in-depth advice on them.



[www.airspringapp.com](http://www.airspringapp.com)



### The app for your smartphone

- › Product information
- › Cross-reference
- › Technical drawings
- › Application guide

For iOS and Android

# ContiTech Air Spring Systems

## Global presence



### USA

- Montvale
- Indianapolis

### Mexico

- San Luis Potosí

### Brazil

- São Paulo

### UK

- Rugby

### Sweden

- Stockholm

### Belgium

- Antwerp

### France

- Gennevilliers
- Le Chambon-Feugerolles

### Spain

- Cornellà

### Germany

- Hanover
- Hamburg

### Austria

- Vienna

### Switzerland

- Dietikon

### Hungary

- Nyiregyháza

### Turkey

- Nilüfer-Bursa

### Russia

- Moscow

### India

- Haryana

### ■ Singapore

### China

- Shanghai
- Changshu

### Korea

- Cheonan

### Japan

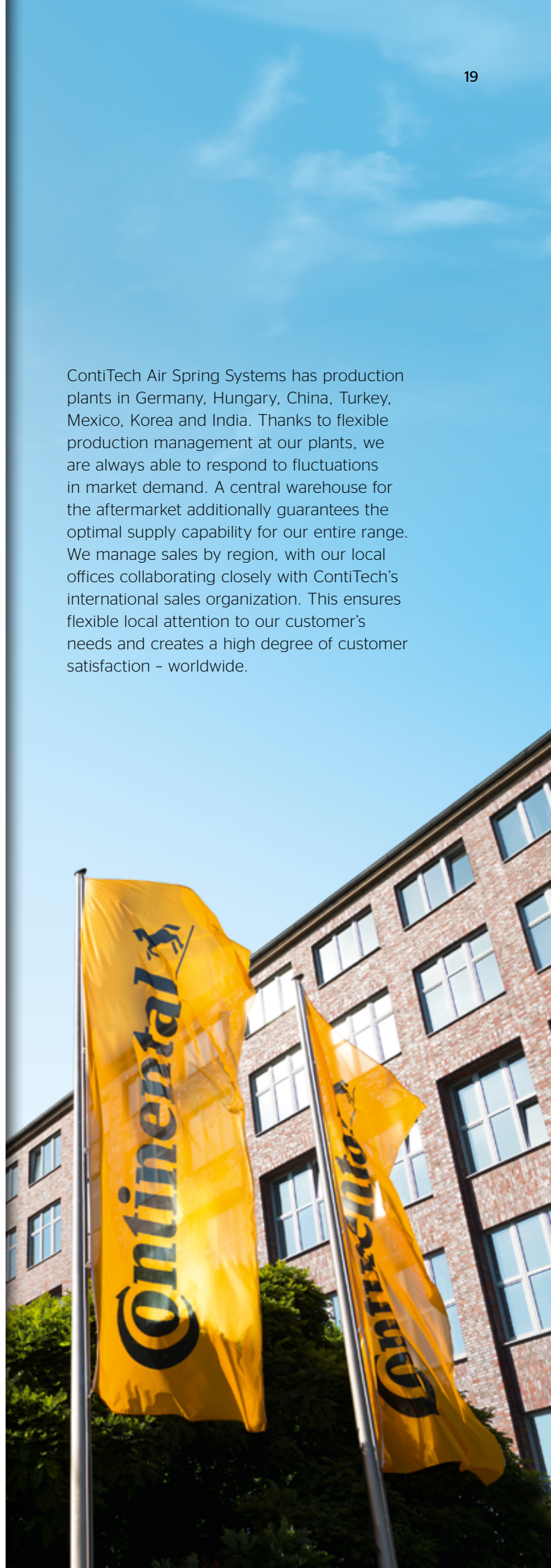
- Yokohama

ContiTech Air Spring Systems has production plants in Germany, Hungary, China, Turkey, Mexico, Korea and India. Thanks to flexible production management at our plants, we are always able to respond to fluctuations in market demand. A central warehouse for the aftermarket additionally guarantees the optimal supply capability for our entire range. We manage sales by region, with our local offices collaborating closely with ContiTech's international sales organization. This ensures flexible local attention to our customer's needs and creates a high degree of customer satisfaction - worldwide.



● The business unit's companies and production locations

■ ContiTech Service worldwide



# ContiTech

## Air Spring Systems

### Market segment

Replacement Business

### Contact

ContiTech Luftfedersysteme GmbH

30165 Hannover

Phone +49 (0)511 938-5268

E-mail [airsprings\\_replacement@as.contitech.de](mailto:airsprings_replacement@as.contitech.de)

### Website

[www.contitech.de](http://www.contitech.de)

[www.airspringreplacement.com](http://www.airspringreplacement.com)

### Online Catalogue

[www.airspringcatalogue.com](http://www.airspringcatalogue.com)

### Air Spring App

[www.airspringapp.com](http://www.airspringapp.com)

### Certification in the ContiTech

Air Spring Systems business unit:

IATF 16949

ISO 9001

ISO 14001



Detailed information about  
our air springs can be found at:  
[www.airspringreplacement.com](http://www.airspringreplacement.com)

ContiTech is one of the world's leading industry specialists. The Continental division offers its customers connected, environment-friendly, safe and convenient industry and service solutions using a range of materials for off-highway applications, on rails and roads, in the air, under and above the ground, in industrial environments, for the food sector and the furniture industry. With around 47,000 employees in 42 countries and sales of some 6.2 billion euros (2017), the global industrial partner is active with core branches in Asia, Europe and North and South America.