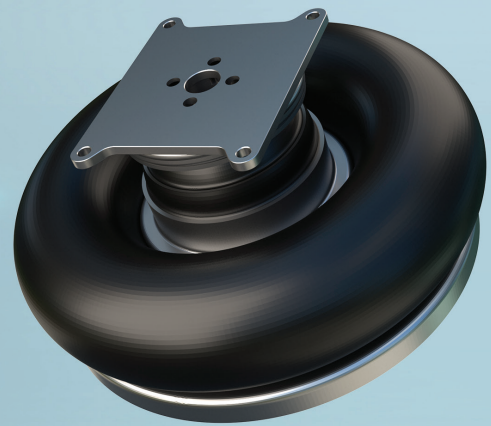


Air Spring System

WELCOME TO THE FUTURE OF
RAILWAY TECHNOLOGY



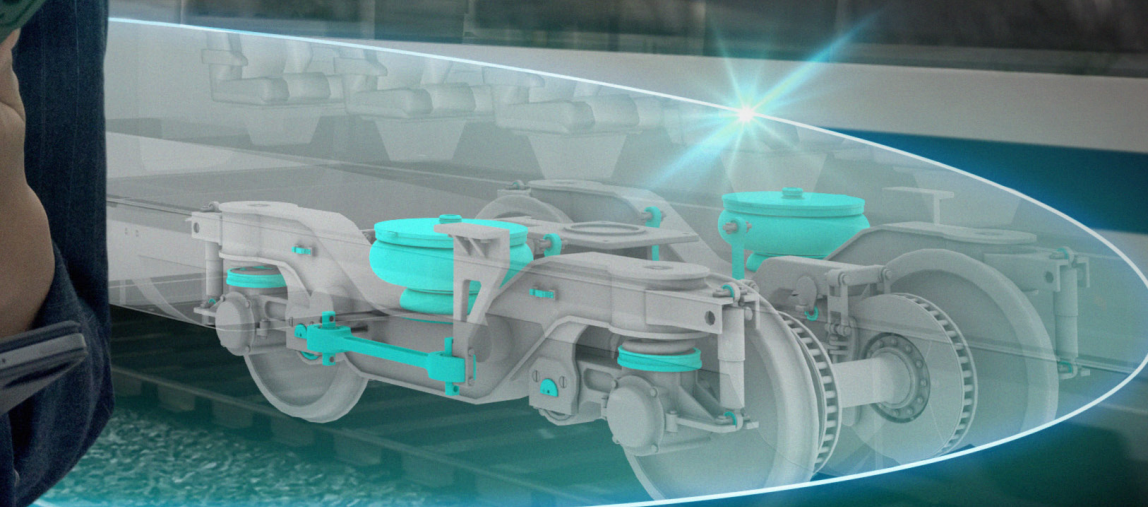
Introducing Air spring system

Introducing our cutting-edge range of Rail Air Spring Systems, positioned at the frontline of innovation. In the fast-evolving landscape of modern rail transportation, where efficiency, safety, and comfort are paramount, our innovative air spring solutions stand at the forefront of engineering excellence.

Designed to meet and exceed the most stringent requirements of contemporary rail systems, our Rail Air Spring Systems represent a harmonious fusion of advanced engineering, state-of-the-art materials, and unparalleled expertise. As railways push the boundaries of speed, load capacity, and operational efficiency, our solutions, situated at the frontline of innovation, provide the crucial support necessary to ensure a smooth and reliable journey.

We invite you to explore the pages that follow, where we unravel the intricate details of our Air Spring Systems' design, functionality, and adaptability. Whether you are a railway operator seeking to elevate operational efficiency or a passenger yearning for a smoother, more enjoyable ride, our solutions promise to exceed your expectations.

Experience the convergence of modern technology and a passion for excellence – experience our Rail Air Spring Systems at the frontline of innovation. Your journey towards a more advanced railway future starts here.



Benefits

Enhanced Ride Comfort Rail air springs provide a superior level of ride comfort compared to traditional steel springs. The pneumatic nature of air springs allows them to absorb and dampen vibrations and shocks from the tracks, resulting in a smoother and more comfortable ride for passengers and reduced wear and tear on cargo.

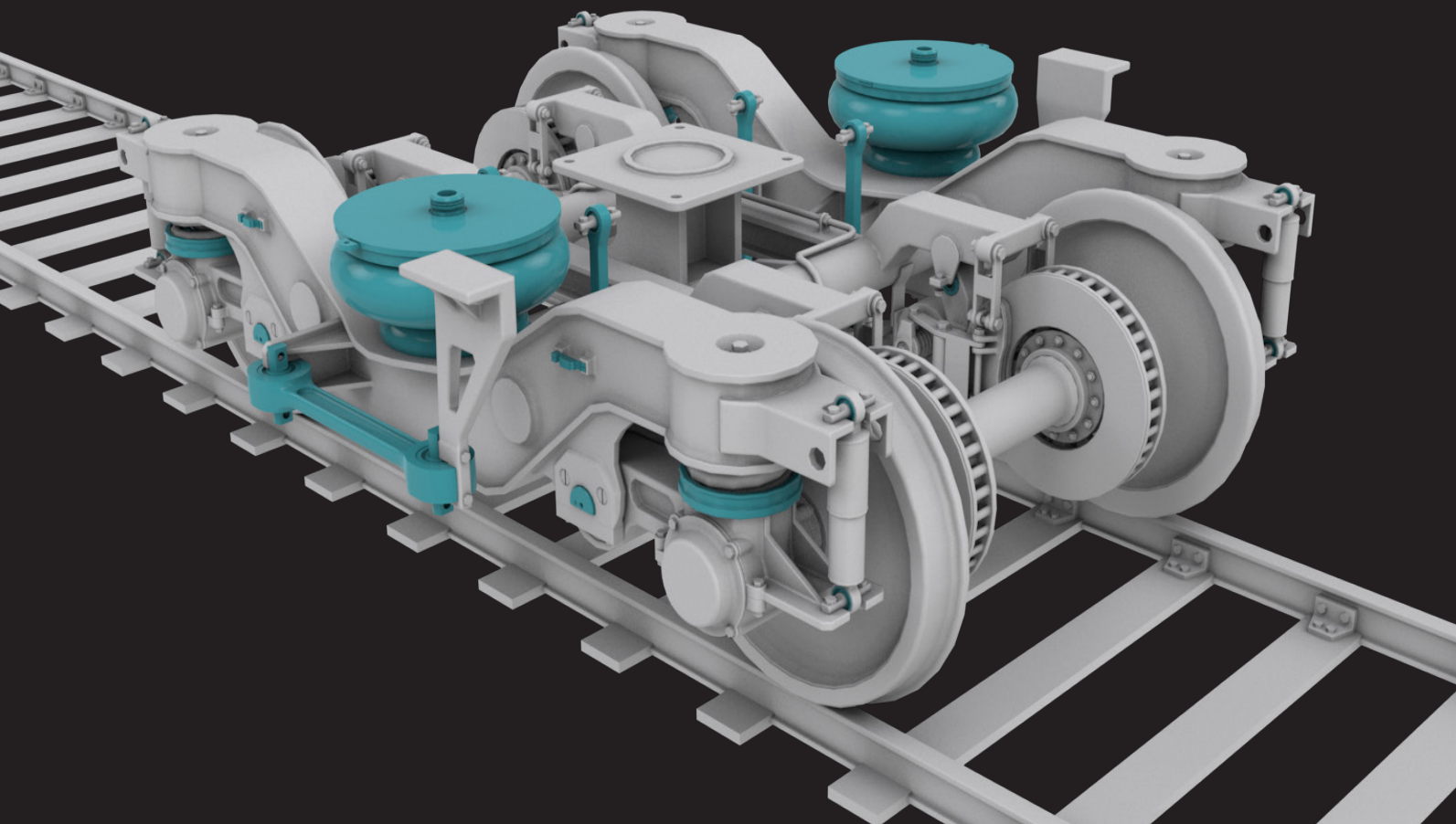
Improved Track and Infrastructure Protection The cushioning effect of rail air springs helps reduce the impact on the tracks and infrastructure, such as bridges and tunnels. By minimizing the forces transmitted through the wheels, air springs contribute to preserving the longevity of the rail network and minimizing maintenance requirements.

Enhanced Safety and Stability Air springs contribute to the stability of rail vehicles, especially during curves, switches, and sudden changes in direction. By maintaining consistent contact between the wheels and the tracks, air springs improve the overall safety of rail operations, reducing the risk of derailments and ensuring better control over the train's movements.

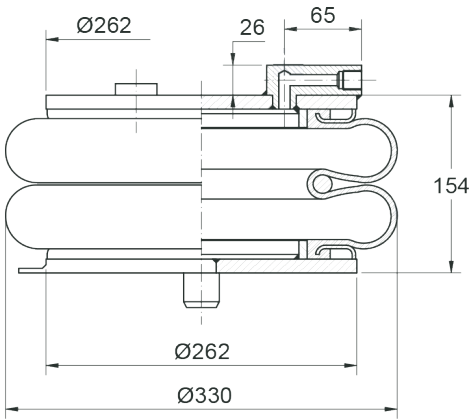
Adjustable Load Handling Air springs are adjustable in terms of their air pressure, making them adaptable to varying loads and cargo weights. This adjustability ensures that the suspension system can maintain an optimal ride height and stability, whether the railcar is loaded with heavy cargo or nearly empty.

Reduced Noise and Vibration Rail air springs have excellent noise and vibration isolation properties. They can effectively absorb and attenuate the vibrations generated by rail travel, leading to quieter and more peaceful journeys for passengers and less disturbance for surrounding communities along the tracks.

Extended Component Lifespan The ability of air springs to absorb shocks and vibrations helps to reduce wear and tear on various components of rail vehicles, including wheels, axles, and bearings. This leads to longer service life for these components, thereby decreasing maintenance costs and increasing the overall efficiency of rail operations.

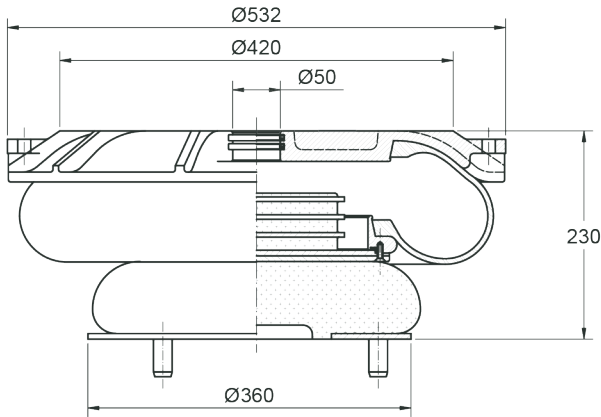


Technical Drawing

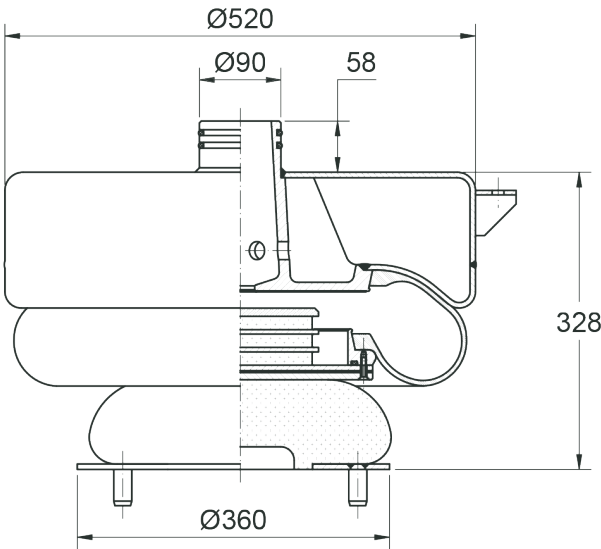


Typical Systems

Air Spring Assembly	45/1004
Vertical Load Capacity	46 kN
Vertical Frequency	< 1.55 Hz
(Airspring System plus 25 litre added volume)	
Maximum Horizontal Displacement	± 10 mm
Working Height	154 mm
Air Pressure (at maximum load)	8.0 bar
Air-bag Ref.	46/1004 G

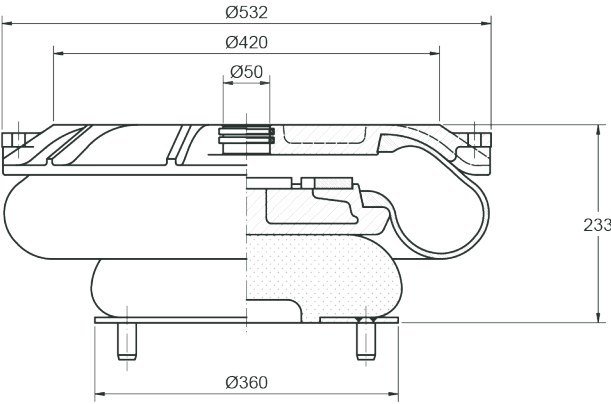


Air Spring Assembly	45/1022
Vertical Load Capacity	78 kN
Vertical Frequency	<1.3 Hz
(Airspring System plus 25 litre added volume)	
Maximum Horizontal Displacement	± 110 mm
Working Height	230 mm
Air Pressure (at maximum load)	6.1 bar
Air-bag Ref.	46/1010 E
Series Spring Ref.	17/1022
Internal Emergency Spring	15/3613

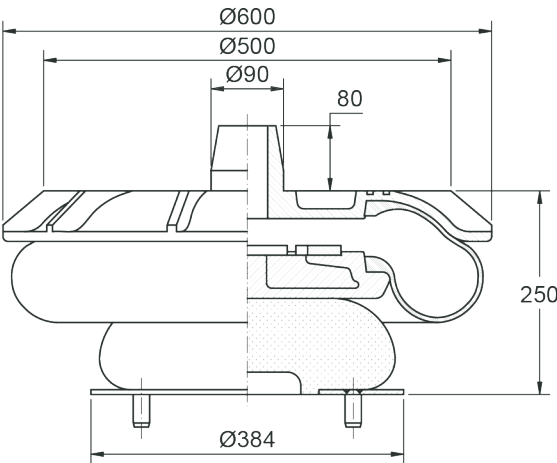


Air Spring Assembly	45/1010
Vertical Load Capacity	83 kN
Vertical Frequency	<1.3 Hz
(Airspring System plus 0 litre added volume)	
Maximum Horizontal Displacement	± 105 mm
Working Height	328 mm
Air Pressure (at maximum load)	6.2 bar
Air-bag Ref.	46/1010 E
Series Spring Ref.	17/1908
Internal Emergency Spring	15/3613

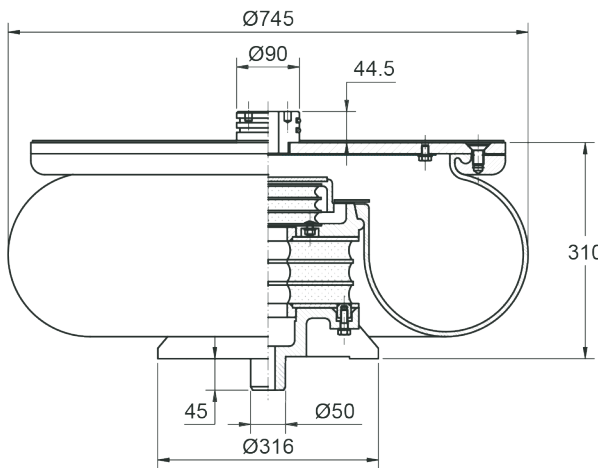
Technical Drawing



Air Spring Assembly	45/1006
Vertical Load Capacity	100 kN
Vertical Frequency	< 1.3 Hz
(Airspring System plus 25 litre added volume)	
Maximum Horizontal Displacement	± 80 mm
Working Height	233 mm
Air Pressure (at maximum load)	6.9 bar
Air-bag Ref.	LM9186 A
Series Spring Ref.	17/1852

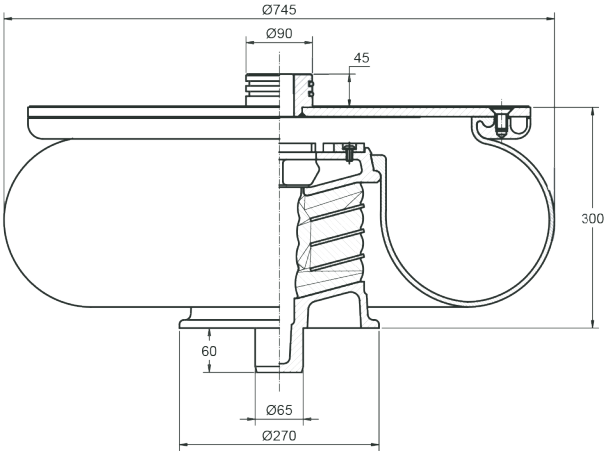


Air Spring Assembly	45/1039
Vertical Load Capacity	105 kN
Vertical Frequency	<1.5 Hz
(Airspring System plus 20 litre added volume)	
Maximum Horizontal Displacement	± 120 mm
Working Height	250 mm
Air Pressure (at maximum load)	6.0 bar
Air-bag Ref.	LM9263 A
Series Spring Ref.	LM9373



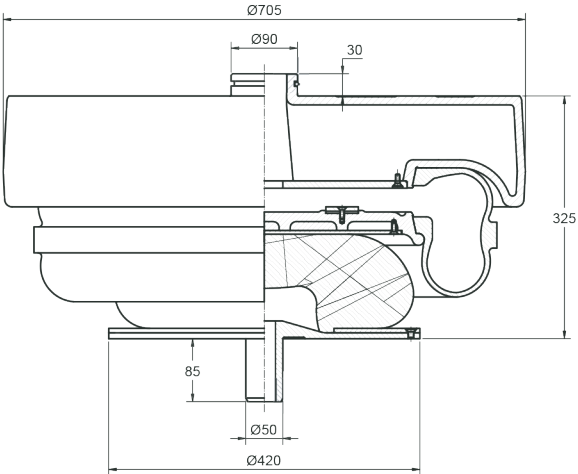
Air Spring Assembly	45/1040
Vertical Load Capacity	110 kN
Vertical Frequency	<1.0 Hz
(Airspring System plus 40 litre added volume)	
Maximum Horizontal Displacement	± 120 mm
Working Height	310 mm
Air Pressure (at maximum load)	5.2 bar
Air-bag Ref.	LM9086 A
Series Spring Ref.	17/1845
Internal Emergency Spring	17/1700

Technical Drawing

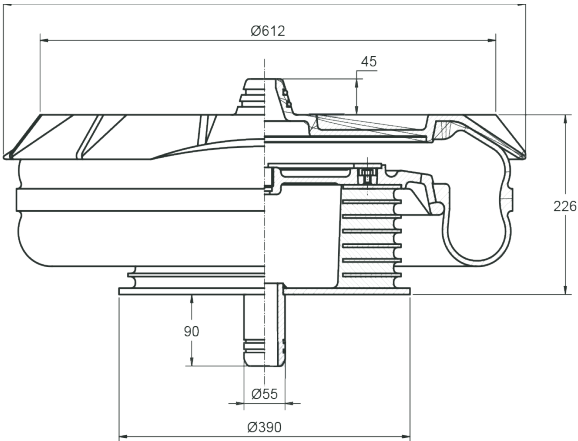


Typical Systems

Air Spring Assembly	45/1007
Vertical Load Capacity	114 kN
Vertical Frequency	< 1.0 Hz
(Airspring System plus 40 litre added volume)	
Maximum Horizontal Displacement	± 120 mm
Working Height	300 mm
Air Pressure (at maximum load)	5.3 bar
Air-bag Ref.	LM9086 A
Series Spring Ref.	LM9137



Air Spring Assembly	45/1001
Vertical Load Capacity	122 kN
Vertical Frequency	<1.0 Hz
(Airspring System plus 20 litre added volume)	
Maximum Horizontal Displacement	± 110 mm
Working Height	325 mm
Air Pressure (at maximum load)	5.4 bar
Air-bag Ref.	61/0067
Series Spring Ref.	17/1818



Air Spring Assembly	45/1003
Vertical Load Capacity	130 kN
Vertical Frequency	<1.2 Hz
(Airspring System plus 45 litre added volume)	
Maximum Horizontal Displacement	± 105 mm
Working Height	226 mm
Air Pressure (at maximum load)	5.2 bar
Air-bag Ref.	61/0070
Series Spring Ref.	17/1835



Trelleborg Antivibration Solutions (AVS) - Leading the Frontier of Innovation in Noise and Vibration Control. With our advanced polymer technology and expertise in rubber-to-metal bonding, we're pioneers in combating noise and vibration. As part of Trelleborg Group's Industrial Solutions, we bring over a century of excellence to various sectors like rail, marine, and industrial. Our focus is on crafting isolation, attenuation, and suspension solutions that redefine quality and reliability. Our new value proposition, "The Frontline of Innovation," signifies our commitment to pushing polymer technology's limits. We enhance comfort, safety, and efficiency while extending product life and optimizing costs. Join us at Trelleborg AVS for innovation-driven excellence.



Website



Linked In

WWW.TRELLEBORG.COM/ANTI-VIBRATION-SOLUTIONS

ANTIVIBRATION@TRELLEBORG.COM