

Modular Air Spring

DRIVING PERFORMANCE, SIMPLIFYING SOLUTIONS.







Global leaders in engineered polymers

EMBARKING ON A NEW RAIL FRONTIER OF COMFORT AND SAFETY

Experience a new era in rail innovation with Trelleborg's Antivibration Solutions. As rail networks grapple with overcrowding and evolving commuter patterns, Trelleborg's polymer engineering expertise offers groundbreaking solutions. Our century of experience transforms noise and vibration issues into enhanced passenger comfort and equipment protection. We collaborate closely with industry stakeholders to deliver bespoke solutions, from suspension systems to powertrains, all designed, developed, and tested in IRIS approved facilities. Our excellence is evident in compliance, innovation, and reduced maintenance, reflecting in improved safety and brand reputation. Trelleborg redefines rail travel by harmonizing tradition with cutting-edge advancements, promising a journey that is not just defined, but elevated.

Welcome to the frontline of rail innovation, welcome to Trelleborg.

Space. Comfort. Cost. All simplified.

In rail bogie design, where space is at a premium, cost is a critical concern, and passenger comfort is a priority, you now have a solution that can be configured to your precise specifications—quickly, easily, and without the need for complex molding and tooling.



INTRODUCING OUR NEW MODULAR AIR SPRING

- + Compact, space-saving dimensions maximize available space
- + Modular configuration means the air spring is fully adjustable to your requirements
- + 'Clip-to-fit' design keeps lifecycle costs to a minimum
- + Robust, lightweight and highly flexible



SCAN QR CODE
TO VIEW OUR
3D MODEL



One product. A suite of solutions.

Modular Air Spring offers increased performance with cost-saving benefits, all whilst fitting seamlessly with your existing interfaces.



Compact, space-saving dimensions

Space is at a premium in rail transport, from light carriages to double-decker trains. The compact design of the Modular Air Spring maximizes available space, allowing for more passengers and cargo.



Cost-efficiency

Because the Modular Air Spring clips together, rather than needing screws or bolts, rubber can be replaced and metal reused, significantly reducing lifecycle costs and supporting your sustainability goals.



Modular configuration

The Modular Air Spring's unique design means there's no need for expensive molding or tooling. It can be adapted to fit your existing interfaces on bogies and cars.

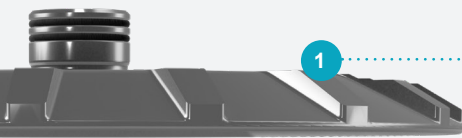


Ideal for orders of all sizes

Because there's no new molding to be done, the Modular Air Spring is ideal for any size of order – even if that's 500 or fewer.

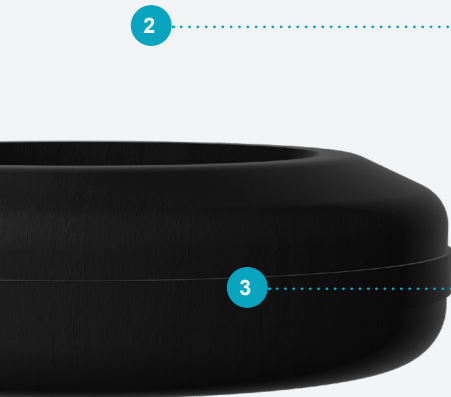
Configure it your way

With a range of interface options available, every element of the Modular AirSpring can be customized to fit seamlessly with your current system, delivering robust performance, simple and sustainable maintenance options and a lower TCO.



INTERFACE ADAPTERS + SUPPORT PLATE

Every Air Spring system features a single-size support plate with a universal interface designed to fit standardized bogie and vehicle designs. For unique interfaces, easy connection is enabled with interface adapters.



SLIDING PLATE

Innovative sliding-plate technology reduces the need for additional fixation parts, whilst the easy-to-swap design means the rim plate can be retained rather than scrapped. This streamlined system enables easier maintenance, increased sustainability and offers a lower total cost of ownership (TCO).



BELLOWS

All Air Spring systems come equipped with robust, belted bellows. The compact design maximizes vertical load capacity, increasing available space for passengers or freight. Each system combines two exchangeable bellows with two variants of auxiliary spring, meeting a wide range of lateral stiffness values.



RIM PLATE

Each Air Spring system has a standard and weight-optimized rim plate: the standard plate is optimized for both cost and height, whilst the weight-optimized plate is designed to be compatible with additional system height.



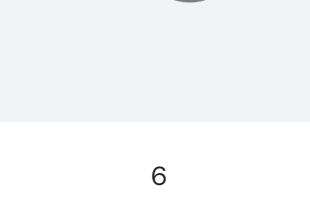
HARD STOP

Each Air Spring system has a standard and weight-optimized rim plate: the standard plate is optimized for both cost and height, whilst the weight-optimized plate is designed to be compatible with additional system height.



AUXILIARY SPRING

Offering at least two stiffness variants, the auxiliary spring enables easy integration of a hard stop whilst improving system stability, especially at higher loads. The unique interface with the rim plate reduces wear meaning improved life-cycle costs. Special docking points on the underside of the spring allow the option to use a standard pin interface or a customized bottom plate.



BOTTOM PLATE

For bogie frames incompatible with the auxiliary spring's universal pin interface, easy connection can be achieved via a customized bottom plate. If the spring is replaced, the bottom plate can be reused meaning a more sustainable system with a lower TCO.

THE MODULAR AIR SPRING FAMILY

You can choose from four 'base' systems or sizes, each designed for a specific load-carrying capacity.

Small System

Load range*: 33-85kN Bellow 0500

Medium System

Load range*: 42-108kN Bellow 0550

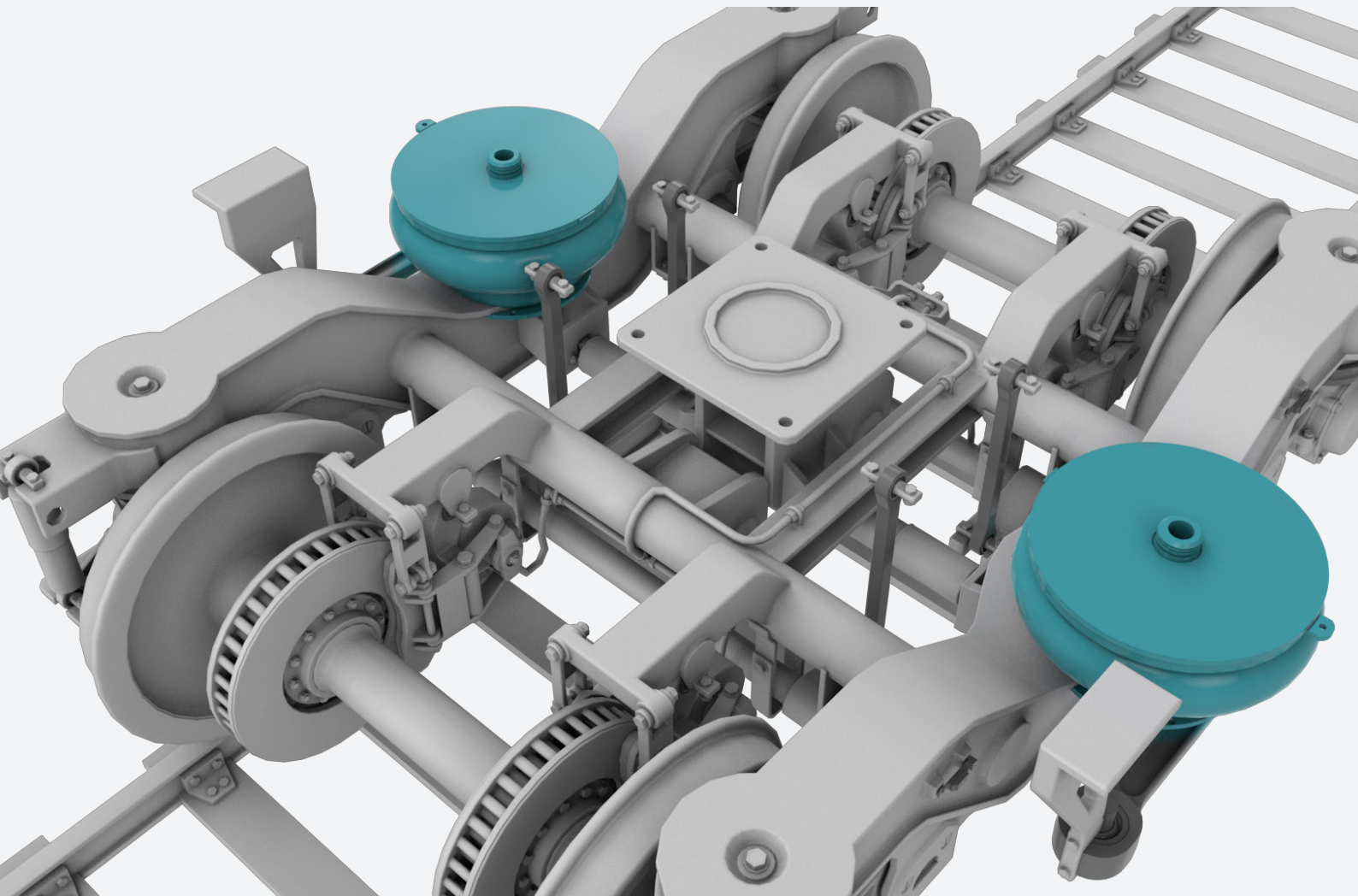
Most common
load ranges

Large System

Load range*: 55-143kN Bellow 0630

Extra Large System

Load range*: 63-163kN Bellow 0660





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 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



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