PNEUMATIC SOLUTIONS FOR UNLOADING FREIGHT CARS

Pneumatics
It’s that easy
Switch and move – pneumatics is the top choice in freight cars

Having to move a lot every day means you need partners and a technology you can rely on. That’s where pneumatics comes in – a robust and intelligent technology. AVENTICS – your innovative and experienced partner, with a product range that has been designed to meet the special requirements of the railway industry.

We know what’s important in the rail business
Safety comes first, both for people and functions. Maximum reliability in all areas is essential. Our pneumatic components have been extensively tested, they meet the highest levels of the relevant standards, fulfill all expectations, are sturdy and made to last. They feature low-maintenance, cost efficient continuous operation, and low life cycle costs thanks to their long life.

- Designed for extreme temperature ranges
- Safe and reliable under all conditions
- Resistant to shock and vibration

### Railway-specific standards

- Requirements for electronic and mechanical components acc. to [EN 50155](#)
- Fire protection standards and requirements for rail vehicles acc. to [EN 45545](#) and NFPA 130
- Electromagnetic compatibility to [EN 50121-3-2](#)
- Cold-resistant to -40 °C acc. to [EN 60068-2-1](#)
- Heat-resistant to +70 °C acc. to [EN 60068-2-2](#)

- Resistant to high humidity
- Special requirements for shock and vibration acc. to [EN 61373](#) and MIL-STD-810G
- Corrosion resistant for up to 500 hours acc. to [ISO 9227](#)
- Voltage tolerance +25% / -30%
- Protection class IP65 or higher
Quality and reliability – our tradition

The history of our company goes back to the invention of the pneumatic brake for trains, one of the first industrial applications for pneumatics. Today, we offer an extensive range of high quality rail specific products that contribute to long life with low maintenance. Many of our pneumatic components for freight cars are standard products that have been modified to meet our customer requirements. They are produced at optimum cost under high-volume conditions – worldwide, for customers in the U.S., Europe, and Asia.

- We know the special requirements and standards.
- We have the rail expertise and speak our customers’ language.
- We offer global support.

To us, close collaboration with our customers and partners is one of the key factors for success.

“We have a long history of working with our customers to solve specific problems for the freight car industry.”

Wayne Precure
Sector Head Railway
USA
Unloading bulk freight is a harsh and unforgiving task in which only toughest material and designs can survive.

Our products’ robust design is based on proven materials and ensures peace of mind for users as they can count on trouble-free continuous operation with very long maintenance intervals. This applies both to actuators, valves, and valve systems, as well as key accessories, including tubing, fittings, filters, and regulators.

The sturdy and powerful actuators are available in custom versions in various stroke lengths and sizes. Apart from being robust and designed for temperatures to 70 °C, the valve components of the fifth generation offer many other practical advantages. These include manifold designs with common supply and exhaust ports, integrated diodes for easy installation and replacement, and a manual operator that also acts as an “open door” indicator. Quality and safety.

- Specialized products with long proven track record
- Pre-tested components ready for bolt-on delivery
- Worldwide individual products tested to required specifications
- Long life and service interval, thanks to robust design and material selection

▶ Railcar pneumatic cylinders:

The special cylinders have been designed to withstand extreme conditions. End covers are made of hard die-cast material, piston rods are made of chrome-plated steel or stainless steel.

A particular feature: the cylinder tubes are made of a special, lightweight fiber glass material, providing the cylinders with a highly resistant, elastic surface. In addition to having a natural high lubricity, this material also withstands the damage and dents often seen on steel and aluminum tubes caused by stray ballast or aggregate.
ensure smooth operation of the entire system. Frequently used components include RCV (RailCarValve) series valves, control units for 2-door and 3-door applications (SUPERSPOOL), as well as profile and tie rod cylinders (TRB-Rail/ITS-Rail).

Our expertise is your benefit
Extreme temperatures, high voltage tolerances, demanding railway standards, sub-base mounted products, or the trend towards condition-based monitoring – as specialists for pneumatics and railway technology, we are familiar with all challenges. We cover everything that has to be controlled, regulated, and safely actuated in trains with the help of pneumatics. From consultation to delivery of ready-to-use solutions – talk to us about your applications!

- Robust products tailored to the rail industry
- Customer specific solutions
- Sub-base or pipe mounted components

Brake control: Cost efficient control panels for direct and blended EP brake.

Railcar cylinder with lightweight fiberglass tube used to operate the bottom discharge doors.

Electronic control of pneumatic suspension
Active platform height and suspension control for easy access.

Train coupling control and actuation: Cylinders and valve systems for nose cone and coupling.

Ventilation flap control and actuation:
Control solutions for automatic opening and closing of the ventilation flaps for air conditioning and ventilation systems.

Door control: Special cylinders for safe opening, closing and locking of doors.

Pantograph control and actuation:
Complete system for precise contact force control with electro pneumatic valve solutions and bellows actuators.
The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.

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