

Media Release

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Voith CargoFlex Type Scharfenberg automatic coupler optimized for freight service enters trial operation

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- **Quick and easy automatic coupling of freight cars increases productivity and efficiency**
- **Semi-automatic to fully automatic modular system for increased safety in freight service**
- **Extraordinary reliability and a long service life due to robust design**

Salzgitter/Olten. Screw couplers with drawhooks and side buffers – the same types of couplers as those used 150 years ago are still being used in European rail freight service. Every car must be coupled and uncoupled by hand. Each coupling operation takes 30 seconds, not including the time spent walking along the cars. Compounding this, there will be fewer workers in the future for the classification yards because of the harsh working conditions and demography. In this respect, automatic couplers used in passenger service are proving daily just how comfortable rail freight service might look in the future. Based on its proven Scharfenberg coupler Type 10, Voith has now developed the Voith CargoFlex Type Scharfenberg automatic freight coupler. This coupler simplifies and speeds the coupling of freight cars.

The new freight coupler is in trial operation for the first time by SBB Cargo, the freight subsidiary of the Swiss Federal Railroad (SBB). SBB Cargo is testing the Voith CargoFlex Type Scharfenberg on seven freight cars under the auspices of the 5L research project. With the five goals of lightweight, low-noise, lasting the course, logistics-capable and life cycle-cost-based, the freight cars are to undergo a complete technical renovation to make them competitive. Starting in January 2019, SBB Cargo will test the automatic coupler in mixed service in Switzerland for a pilot project.

Reliable components optimized for freight service

The new Voith CargoFlex Type Scharfenberg is equipped with a UIC vehicle interface and, in principle, functions just like every Scharfenberg coupler. However, modifications have adapted it to the high loads present in freight service. For this reason, Voith focused during the development effort on a very light and robust design as well as a modular strategy for semi-automatic to fully automatic coupler operation. The weight of the prototype undergoing testing was reduced by one third by the design. The coupler has been optimized for the European rail freight traffic. The integrated damping system of the coupler also satisfies the requirements of EN 12663-2 for freight cars of Category 1. In addition, the coupler was developed for optimal winter operation (without a heater).

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Due to the long maintenance intervals for freight cars, a robust design is particularly important. "Voith made use of proven design principles in the freight coupler and made a conscious decision to avoid screw connections that are in the load path and require maintenance," says Jessica Amberg, the 5L Train project manager at SBB Cargo. "The tests performed thus far promise reliable operation in our freight train over the four-year test phase."

Additional safety from modular expansions

In the trial operation and in the commercial operation envisioned by SBB Cargo, a semi-automatic version is being used that, during automatic coupling, connects the air pipe connection for brake pipe automatically and can be opened again manually from the outside of the vehicle.

The Voith CargoFlex Type Scharfenberg, due to its zero-backlash principle, is the first coupler in freight service to offer the option of fully automatic procedures by being equipped with an automatic uncoupling system and a signal or electric power transmission system. This also makes it possible to supply electric power to loads or to relay signals.

For the interface to the locomotive, Voith supplies a mainline-compatible hybrid coupler. Locomotives equipped with this can be used without restriction for commercial operation with both automatic couplers and screw couplers.

About the company

Voith Turbo, a Group Division of Voith, is a specialist for intelligent drive solutions, systems and comprehensive services. Customers from highly diverse industries such as oil and gas, energy, rail and commercial vehicles, ship technology, mining and mechanical engineering rely on the advanced technologies and solutions-driven expertise of Voith Turbo.

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Voith is a global technology group. With its broad portfolio of systems, products, services and digital applications, Voith sets standards in the markets of energy, oil & gas, paper, raw materials and transport & automotive. Founded in 1867, Voith today has more than 19,000 employees, sales of € 4.2 billion and locations in over 60 countries worldwide and is thus one of the largest family-owned companies in Europe.

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The new Voith CargoFlex Type Scharfenberg automatic coupler for freight service increases the productivity and efficiency of the coupling operation.

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