

## Press Release

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### **Voith presents advanced SA3 coupler with energy absorption and automation features**

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- **Energy absorption complying with the extended crash standard DIN EN 15227**
- **Robust and ideal for the transportation of heavy loads**
- **Higher degree of automation through the integration of air pipe connections, electric connections and sensors**

**Heidenheim:** The year 2017 marks the beginning of the new crash standard DIN EN 15227. What has long since been a standard for rail passenger traffic will then be extended to locomotives: energy absorption components in the couplers. For this purpose, Voith has developed an enhanced version of the SA3 coupler. Its modular design allows the coupler to be individually adapted to customer requirements. This includes different types of energy absorption and variations thereof as well as a coupler head that has been extended by an automatic unlocking feature and an automatic connection of air pipes and electric contacts.

Apart from heavy load rail transport in Germany, the SA3-type coupler is also in widespread use in Scandinavia as well as in the Baltic and the Eastern European states. The SA3 coupler being the standard coupler type in Russia, the Voith SA3 coupler will render cross-border rail transport much easier and more efficient.

#### **Reversible or irreversible energy absorption components**

The Voith SA3 coupler allows the integration of different types of energy absorption. Depending on the application and the requirements, the draft gear may include reversible or irreversible energy absorption components or a combination of both. Reversible energy absorption is realized using maintenance-free polymeric springs in varying layouts. For irreversible energy absorption, individually dimensioned deformation tubes are used.

This way, all SA3 coupler head variations (featuring muff coupling collar or shank as interfaces to the draftgear) can be fitted with custom-tailored energy absorption solutions.

The coupler head contour itself, including all standard locking parts, corresponds to that of the Russian SA3 coupler. In addition to that, however, space was cleared for the integration of a mixed coupler device allowing connection to drawhooks, which are in common use in Europe.

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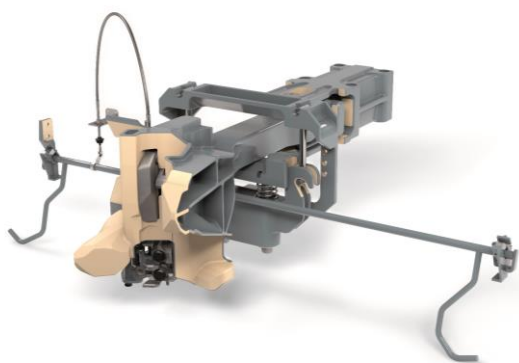
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### **Automatic coupling and uncoupling**

For train drivers and shunting personnel, the advanced Voith SA3 coupler offers considerably increased operating comfort, improved ergonomics and, above all, higher operational safety.

Both air pipe connections and electric heads may be integrated. Additional guiding elements prevent the typical vertical clearance in the coupler head, one precondition for automatically connecting the air pipes. A pneumatic uncouple cylinder makes automatic uncoupling from the driver's cabin possible.

Electric heads provide electrical power and allow data and signal transmission through the coupler. Via sensors, the coupling states can be monitored by the train driver in a very comfortable way. What is more, electric heads in combination with air pipe connections allow electro-pneumatic braking. This way, all wagons of a freight train may be decelerated synchronously.



**Caption:** The Voith SA3 coupler has been modernized and meets the new DIN E 15227 crash standard.

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

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Voith sets the standards in the markets energy, oil & gas, paper, raw materials, and transportation & automotive. Founded in 1867, Voith employs more than 20,000 people, generates Euro 4.3 billion in sales, operates in over 60 countries around the world and is today one of the largest family-owned companies in Europe.

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\*Excluding the discontinued Voith Industrial Services Group Division.

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