

Press Release

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New disc brake models and a new digital control system: “We’re making it more and more difficult to have an accident”

- **Digital, networked braking system for an almost accident-free future on the road**
- **Two new disc brake models: SYNACT and NEXTT**
- **GSBC: new digital brake control platform**
- **Driver assistance systems: adaptive cruise control, automatic emergency braking, lane departure warning, blind spot assistant**

Munich, August 21, 2018 – Under the motto “We enhance traffic safety”, at the IAA Commercial Vehicles show, Knorr-Bremse, the global market leader for braking systems and a leading supplier of other safety-critical rail and commercial vehicle systems, is presenting its most important innovations on the traffic safety front. These include a variety of driver assistance systems.

With a wide-ranging product offensive, Knorr-Bremse is taking the next steps toward an accident-free future on the road. Among the products in the spotlight are two new disc brake models and the company’s new digital brake control platform.

According to Dr. Peter Laier, Executive Board Member of Knorr-Bremse AG responsible for the Commercial Vehicle Systems division: “A digital, networked braking system equipped with components that leverage the full technical potential represents the key technology for the next steps toward a largely accident-free future on our roads. Together, the brake control system and the wheel brakes form a platform for a wide range of flexibly configurable safety functions that set new standards. We are currently preparing the ground for additional potential synergies to be leveraged in terms of vehicle manufacture, operation and maintenance.”

And as Dr. Laier goes on to say; “Knorr-Bremse has been working on commercial vehicle driving dynamics for about a century. Some 30 years ago we laid the foundations for the commercial vehicle disc brake to make its global breakthrough. Now we are presenting a new generation. In effect, we are making it more and more difficult to have an accident.”

Bernd Spies, Chairman of the Management Board of Knorr-Bremse Commercial Vehicle Systems, says: “In the past wheel brake development engineers faced a dilemma: should we optimize for weight or performance? As far as design is concerned, the single-piston brake offers benefits in terms of weight, but has a clear tendency toward uneven wear that brings drawbacks on the cost side. In the performance class up to 19 kNm, with our new NEXTT single-piston brake we have achieved a decisive reduction in this uneven wear while at the same time maximizing the weight advantages. In the higher performance class up to 30 kNm, the two-piston design remains the superior option, as intensive testing has shown.”

SYNACT®: the two-piston brake for heavy-duty commercial vehicles

In the performance class up to 30 kNm SYNACT is not only 4 kg lighter than the previous generation but also more robust and easier to service and the new disc brake generation features a modular design. This modular system enables the company to ensure the highest production standards worldwide while also keeping modifications to a minimum when adapting the brakes to meet diverse regional requirements.

Equipment options such as ACR (Active Caliper Release) and additional sensors give the vehicle operator opportunities to realize further fuel savings of the order of 1% and meet the digital requirements for flexible maintenance intervals and predictive maintenance planning. Axial and radial versions for use in trucks and buses will be on show on the Knorr-Bremse booth in Hanover.

NEXTT: the high efficiency single-piston model for trailers and light trucks

With its single-piston design and resultant low weight of 29 kg, NEXTT sets new standards of economy in the class up to 19 kNm brake torque. As a result of its modular design and standardized internal mechanical construction, this new disc brake too can be quickly and efficiently adapted to suit specific applications and regional requirements. Additional optional equipment such as ACR opens up further opportunities to minimize costs for vehicle operators.

The new brake control system GSBC

The Global Scalable Brake Control (GSBC) system from Knorr-Bremse makes its public debut on the booth at the IAA in Hanover. This new system based on open software architecture and largely standardized hardware components provides a consolidated platform on which to meet the differing requirements of the brake control system in the various markets around the world. In GSBC Knorr-Bremse amalgamates the ABS and EBS system architectures which until now have been kept strictly separate.

The modular nature of GSBC permits a vehicle manufacturer to choose flexibly between ABS and EBS in a specific vehicle platform to meet regional requirements, for example. Four basic packages are available: Compact, Standard, Premium and Advanced. Customers can combine the various equipment options to match the respective model of vehicle. The spectrum extends from features already firmly established in the marketplace, such as ABS, traction control or ESP, via the coordinated interplay of service brake, retarder and exhaust brake (brake blending), or steering functions that can be realized entirely by means of the braking system, all the way to hill start assistance or automatic application of the brakes when a cab or bus door is open.

The risk of accidents can be reduced through the use of driver assistance systems: Adaptive cruise control, automatic emergency braking, lane departure warning and blind spot assistance systems all build on the basic functions of the braking system and when required can be easily added and safely configured thanks to the modular software architecture of GSBC. For vehicle manufacturers, GSBC also results in more simple system layouts that make for significant savings when installing the individual hardware components.

At the Knorr-Bremse booth the variety of functions that can be realized based on GSBC will be visualized on animated displays. The hardware involved can be seen in operation in the in-vehicle demonstrations staged by Knorr-Bremse in the outdoor arena.

Aspects of traffic safety

Many other products from the Knorr-Bremse portfolio also contribute to optimized traffic safety on the roads. Some of these will be on show at the Traffic Safety island exhibit, including the EAC air treatment system with integrated parking brake, front- and rear-view cameras and radar sensors. Others include the all-aluminum two-piston compressor with clutch. This saves weight compared to its predecessor while delivering the compressed air that enables the many different braking functions to be performed in the first place.

Knorr-Bremse: Shaping tomorrow's transportation. Together.

Along with traffic safety, the megatrends that will shape the mobility sector in the next few years will be connectivity, emissions reduction, electric mobility and automated driving.

Against this backdrop, Knorr-Bremse will be the ideal systems partner for its customers going forward and will be driving forward developments in all four core areas in close collaboration with its customers. Knorr-Bremse will be presenting its portfolio of products and services at the commercial vehicle industry's key trade fairs in 2018 – IAA and Automechanika. Activities and innovations on show will include pioneering traffic safety technologies and automated transportation solutions for highway and city applications, set out under the motto Shaping tomorrow's transportation. Together.

Come and see Knorr-Bremse at the IAA Commercial Vehicles show in Hanover from September 20-27, on booth A30 in hall 17 and in outdoor area D107. At the Automechanika fair in Frankfurt am Main from September 11-15, Knorr-Bremse will be on booth 91 and booth 98 in hall 3.0.

Caption 1: SYNACT® – the new generation of disc brakes from Knorr-Bremse for heavy-duty trucks and buses sets new standards of performance for two-piston brakes in the class up to 30 kNm braking torque. | © Knorr-Bremse

Caption 2: Together, the new generation of disc brakes and new digital brake control system from Knorr-Bremse form a platform that greatly facilitates the flexible introduction of additional safety systems such as the blind spot assistant or congestion assist. This way, critical situations where accidents typically occur – such as when heavy vehicles turn off urban roads or at the end of tailbacks on the motorway/freeway – can be defused in a targeted way. | © Knorr-Bremse

Knorr-Bremse is the global market leader for braking systems and a leading supplier of other safety-critical rail and commercial vehicle systems. Knorr-Bremse's products make a decisive contribution to greater safety and energy efficiency on rail tracks and roads around the world. For more than 110 years the company has been the industry innovator, driving innovation in mobility and transportation technologies with an edge in connected system solutions. Knorr-Bremse is one of Germany's most successful industrial companies and profits from the key global megatrends: urbanization, eco-efficiency, digitization and automated driving.

About 29,000 employees (last updated June 30, 2018) at over 100 sites in more than 30 countries use their competence and motivation to satisfy customers worldwide with products and services. Localization is a central focus of Knorr-Bremse's strategy. Knorr-Bremse delivers braking, entrance, control and auxiliary power supply systems, HVAC and driver assistance systems for rail vehicles, as well as braking, steering, powertrain and transmission control solutions, and driver assistance systems for commercial vehicles.

In 2017, Knorr-Bremse's two divisions together generated revenues of EUR 6.2 billion (IFRS). A comprehensive aftermarket & services business with high entry barriers gives these revenues increasingly cyclically independent stability. The company benefits from strong, entrepreneurial and experienced management. Technical excellence, reliability, passion and responsibility are deeply embedded in its corporate culture.

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