

**Press Release**

Munich, September 9, 2016

**Knorr-Bremse Air Supply: compressors and electronic air supply for every application**

**For the supply and intelligent distribution of compressed air to the various on-board consumers, Knorr-Bremse supplies highly integrated systems that are as reliable as they are durable and efficient. Increasingly they can also be controlled electrically.**

At the IAA, Knorr-Bremse will be showing how a wide range of application areas can be covered by a sharply reduced number of variants. Compressed air is the medium of choice for controlling multiple functions in heavy commercial vehicles. As well as operating the brakes, compressed air also handles clutch operation and gearshifts, controls the lift axles, the pneumatic suspension for the axles and the driver's seat and helps clean the cab.

**Integrated electronic parking brake supports automated driving**

In 2005 Knorr-Bremse launched a shooting star in the shape of its Electronic Air Control (EAC) system. More than one million units from the extensive EAC product range have since been supplied. In a recent development, this impressive heart of the pneumatic system from Knorr-Bremse now features the integrated Electronic Parking Brake (EPB). Knorr-Bremse is the only company in the world to manufacture this system.

With no pneumatic handbrake valve and no piping or fittings to accommodate, vehicle manufacturers enjoy greater freedom when designing the cockpit, quite apart from the weight and cost savings this brings to the system as a whole. The Electronic Parking Brake offers the driver numerous safety and comfort functions, such as automatic activation and release of the parking brake. In addition, the EAC with integrated Electronic Parking Brake also supports future vehicle architectures that will enable autonomous driving. In autonomous yard maneuvering, for example, the parking brake can be released electronically after the driver has left the vehicle. If a fault occurs in the electronic braking system, the parking brake is automatically applied and the vehicle is brought safely to a halt.

**Compressor with optimized thermal management**

At the IAA, Knorr-Bremse will be showcasing a water-jacket cooled single-cylinder compressor. Its optimized thermodynamics make this compressor ideal for applications involving long periods of operation. Customers benefit from reduced oil carry-over of  $\leq 0.2$  g/h with carbon deposits reduced by a factor of four compared to a compressor without water-jacket cooling. The outcome is maximum air purity and a marked improvement in the reliability of the braking system as a whole. This premium technology from Knorr-Bremse is available worldwide and offers an extremely cost-effective solution for a broad spectrum of applications, as more costly alternatives such as two-stage compressors can be substituted without compromising performance.

**The compressor that can be decoupled**

The Knorr-Bremse Air Supply portfolio also includes a compressor with clutch that can be decoupled. If no compressed air is required, the compressor is decoupled from the engine, then re-engaged when needed. The compressor with clutch is controlled by the EAC unit. In long-distance haulage operations, this combination makes for fuel savings of up to 1,250 liters of fuel per year.

**Compressors for alternative powertrains**

For use in electric or hybrid vehicles, which are increasingly being operated in mass transit systems or zero-emission zones, Knorr-Bremse has developed a screw-type compressor that is driven by an electric motor. Compared to a piston compressor, the screw compressor offers reductions in both vibrations and noise emissions. It also provides vehicle engineers with additional latitude when planning, as the compressor can be installed either underfloor or on the roof. Thanks to the virtual elimination of oil carry-over into the compressed air system, it delivers a long service life for the dryer cartridges and low wear. By recuperating braking energy, fuel savings of up to 1,200 liters a year are possible in urban operation.

**Caption:** The impressive heart of the pneumatic system, EAC features the integrated Electronic Parking Brake (EPB). Knorr-Bremse is the only company in the world to manufacture this system. | © Knorr-Bremse

Knorr-Bremse is the world's leading manufacturer of braking systems for rail and commercial vehicles, with sales totaling almost €6 billion in 2015. In over 30 countries, some 25,000 employees develop, manufacture, and service braking, entrance, control, and energy supply systems, HVAC and driver assistance systems, as well as powertrain and transmission control solutions. As a technology leader, for more than 110 years now, through its products the company has been making a decisive contribution to greater safety by road and rail. Every day, more than one billion people around the world put their trust in systems made by Knorr-Bremse.

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