

To the Press

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**Press Information**

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## **Half a Million Voith Retarders Produced and Delivered for Road Applications.**

In April 2008 the 500 000<sup>th</sup> Voith Retarder rolled off the production line.

Although filters and modern drives can reduce dust particulate emissions, the Voith Retarder, with a 45-year history of success, demonstrates that state-of-the-art braking technology is equally efficient in decreasing dangerous particulates. The wear-free continuous brake for trains, coaches, trucks and other commercial vehicles reduces braking dust particulates by approximately 80 percent, adds to driving comfort, safe, average speeds increase and reduced fuel consumption.

The retarder technology, registered in 1905 by Professor Hermann Föttinger, starts with the principle of hydrodynamic power transmission. In 1961, the first series-produced retarders entered service in 10,000-ton American goods trains moving iron ore across the Rocky Mountains. In this application, the so-called hydrodynamic brakes were so efficient and reliable that they were increasingly used in DB German Railways trains by the end of the sixties. During this period, coach and bus manufacturer Otto Kässbohrer became aware of this technology and approached Voith to equip his coaches with the new braking system. This was the start of the retarder's success story in rail and road applications.

Voith developed special retarders for commercial vehicles over the next few years, production increased rapidly and thirty years later in 1994, Voith delivered "a mere" 100,000 retarders. Four years later, in 1998, the 200,000th unit rolled off the production line and during the last decade, production increased by a further 100 000 units.

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### 2/...Half a million Voith Retarders

During these years, Voith continuously invested in the development and further improvement of the retarder and reached the milestone of producing the Aquatarter which uses water instead of oil as an operating medium.

A hydrodynamic retarder has two bladed wheels (rotor and stator), facing each other. The rotor is connected to the propshaft of the vehicle via the retarder drive shaft, while the stator is fixed to the retarder housing. During braking, oil is moved between the bladed wheels. The oil is accelerated by the rotor and then decelerated by the stator. As a result, the rotor also slows down and the vehicle is braked. Braking heat generated in this process is quickly and effectively dissipated via the vehicle cooling system. The basic rule is that the higher the speed, the higher the available braking power of up to 950 BHP.

The driver has the advantages of balanced more comfortable driving as the need for braking and gear-shifting is decreased – trip comparisons showed 36 percent fewer gear-shifts in retarder-fitted vehicles.

The constant braking power makes driving more predictable, giving drivers the advantages of retarder-supported, more balanced driving for lower fuel consumption and higher average speeds - on steep terrains vehicles are up to 50% faster.

The permanently available braking system protects the service brake - the service brake stays cold and is reserved for emergencies, when it is particularly effective.

A retarder- backed braking system lasts up to eight times longer, reducing trips to the workshop significantly. In most cases, the compact, light continuous brake pays back within the first two years of operation.

The Voith Retarder is currently produced and assembled at the Voith Turbo plant in Munich, Germany, while sales, development and service, are based in Crailsheim.

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The special, 500 000th unit, produced in April 2008, was donated to the Crailsheim fire and rescue services, where, fitted to a fire-fighting vehicle, the Voith retarder will, in future, ensure safe and comfortable driving for the crew.

Voith Turbo South Africa combines local industry knowledge and experience with global expertise by tapping into the company's international network of class leading technology. The company offers complete tailor-made product and service solutions to meet diverse requirements of the Southern African road industry.

### About Voith Turbo

Voith Turbo, the specialist for hydrodynamic drive, coupling and braking systems for road, rail and industrial applications, as well as for ship propulsion systems, is a Group Division of Voith AG. Voith sets standards worldwide for papermaking technology, power transmission, energy technology, and industrial services. Voith was founded in 1867. With approximately 37 000 employees, annual sales of € 4.2 billion and over 270 locations worldwide, Voith is one of the largest family-owned companies in Europe. Voith is an official partner of the initiative "Germany – Land of Ideas".

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