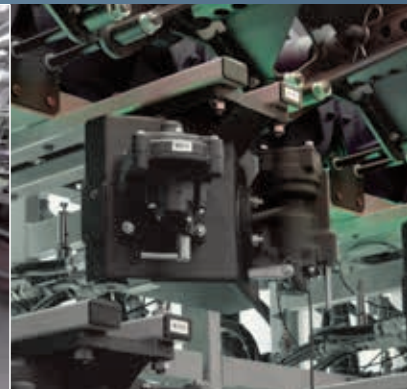


# *Distributor Valves*



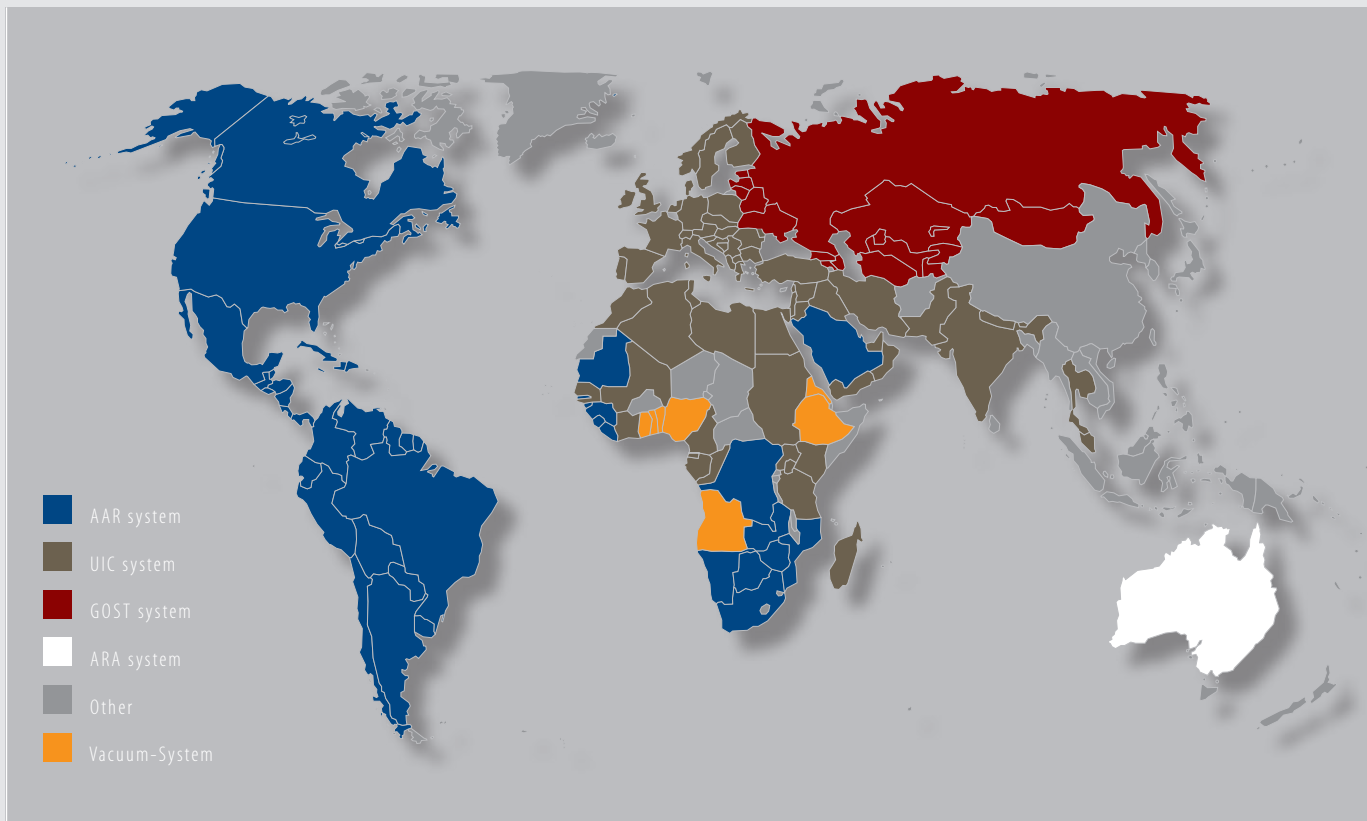
## **APPLICATIONS**

Freight Cars | Locomotives | Passenger Coaches

**KNORR-BREMSE**



# DISTRIBUTOR VALVES FOR GLOBAL APPLICATIONS



**VALVE TECHNOLOGY THAT CAN ADDRESS THE NEEDS OF THE WORLD'S TRAINS.** Being able to serve a global market means delivering products to meet very specific and often demanding requirements – for example a valve with the ability to operate in extreme environmental and climatic conditions such as temperatures down to  $-60\text{ }^{\circ}\text{C}$ !

Pneumatic brakes have, at their heart, the distributor valve. These react precisely to changes in brake pipe pressure and provide the corresponding brake cylinder pressure. Modern valves are sophisticated pieces of technology, providing load-dependent braking for various specific brake types. Millions of these valves are in daily use all over the world but they are not a “universal” product, various regions have different standards that have been established over the years and they are not compatible with one another.

## LEADERS IN DISTRIBUTOR VALVE TECHNOLOGY

Many years of operational experience combined with

new, continuous development and research and a recognition that life-cycle costs need to be reduced have helped establish Knorr-Bremse as a leader in distributor valve technology. The Knorr-Bremse KE distributor valve for example is extremely popular in the core European UIC market and having proved itself in operation the valve has now become synonymous with absolute reliability.

In American and African markets the DB60 distributor valve is the standard valve which uses AAR technology and in Australia the AAR system is employed for trains carrying heavy ore. The Australian Railways system ARA operates with Knorr-Bremse W-series valves.

Now, working closely with the Russian State railway company, Knorr-Bremse is developing valves for use on 1520 mm gauge tracks. Specially designed to fit vehicles in markets with 1520 mm gauge, the units are compatible with older valve types and offer clear advantages for the operator. While valves are designed

to operate down to -40 °C or even lower in Europe and North America, temperatures in Russia can fall to as low as -60 °C! Due to the same construction principles all distributor valves have in common long maintenance intervals and low life-cycle costs and are characterized by their robust, reliable and weight-saving design.

### KE – FOR UIC MARKET

- Distributor valve with adapter flange for load-dependent relay valve for multi-level, continuous braking
- Graduated application and release
- In-service proven around the world
- Kit design allows easy integration of different functions into one assembly
- Working temperature -40 °C to +70 °C (low temperature version for -50 °C available)

### DB60 – FOR AAR FREIGHT MARKET

- Graduated application and direct release
- Designed for accelerated service brake signal transmission
- Improved control of long and heavy trains
- Separation of service and emergency brake portions
- Interchangeability with all AAR-approved distributor valves
- Working temperature -43 °C to +65 °C

### EP60 – FOR AAR FREIGHT MARKET

- Electronically controlled pneumatic (ECP) brake system
- Simultaneous signal transmission through the train
- Load-compensated braking at each wagon
- Graduated application and release
- EP60 meets AAR performance and inter-operability specifications per S-4200
- Improved handling of long, heavy trains, providing shorter stopping distances and saving energy
- On-line diagnostics at each wagon

### WF5 – FOR ARA FREIGHT MARKET

- Graduated application and direct release
- Designed for operation on longer freight trains
- High brake signal propagation rates resulting in reduced stopping distances and in-train forces
- Working temperature -40 °C to +70 °C

### KAB60 - FOR 1520 MM GAUGE FREIGHT MARKET

- Integrated changeover for graduated / direct release and for load settings
- Designed for accelerated brake signal transmission
- Improved control of long and heavy trains
- Meets the requirements of Russian standards
- Interchangeability with other 1520 mm gauge freight distributor valves
- Inter-operability with automatic load brake valves
- Working temperature -60 °C to +80 °C



KE valve



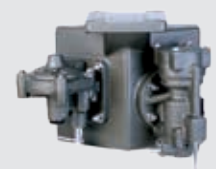
DB60 valve



EP60 valve



WF5 valve



KAB60 valve

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