



# FLEXCONTROL FAMILY

The flexible and powerful **FlexControl** system family provides mainly brake cylinder pressure control, especially for central (per-car) & decentral (per-bogie) control. It can integrate indirect brake via brake pipe and distributor valve ranging from simple backup up to full UIC compliance. Wheel slide protection function as well as different auxiliary control functions can be integrated as an option. Its modular design of electronic and pneumatic modules allows configuration for most train applications.



## Customer benefits

- Market-proven discrete but highly integrated components & technology
- Pneumatic portion optimized to be controlled with KB SysControl
- Flexible and extensible system layout for numerous system configurations
- Maximum economy thanks to standardization, modularization, and common parts share
- Straightforward service and easy maintenance concept
- Proven concepts for low LCC



## Applications

- High-speed trains
- Metros
- Regional & commuter trains



**KNORR-BREMSE**



## Exemplary standard pneumatic units with FlexControl module kit

- based on highly-integrated electro-pneumatic modules
- optimized design for lower life cycle cost & improved overhaul
- Optional modules achieve outstanding functional integration, e.g.
  - Parking Brake Control
  - Magnetic track brake pneumatic control
  - integration of distributor valve (indirect brake)
- Options for underfloor integration of electronics
- Further extendable by PLUS modules

### FlexControl Modular

- Core function: brake cylinder pressure control **with continuous load correction**

### FlexControl Lite

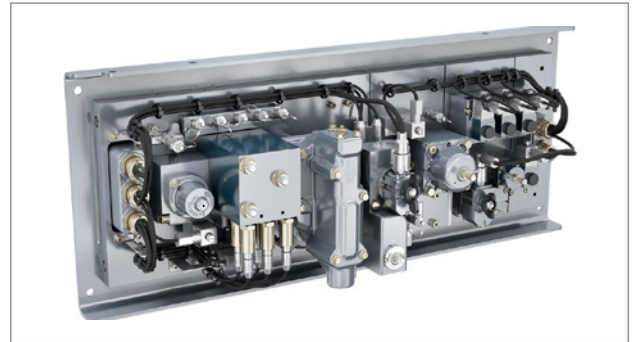
- Core function: brake cylinder pressure control **with pneumatic load limitation**

### PLUS modules

- Standardized extension panels for various auxiliary functions, e.g. Sanding, Pantograph, Magnetic-Track-Brake, Wheel-Slide-Protection, Air Suspension, ... or any special function required



FlexControl Lite (only core function module)



FlexControl Modular with Parking Brake Control & additional PLUS modules



## Integration of electronics: optimized to be controlled with Knorr-Bremse SysControl

### Detached electronic unit ...

- ... allows separate positioning of pneumatic & electronic units in tight installation space situations
- Electronic unit can be placed in an underfloor or indoor housing

### Attached electronic unit ...

- ... allows compact all-in-one solutions to minimize final-assembly (cabling) effort
- Different underfloor electronic units keep pace with the functional variability

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