

Focus on functions

In the first step, we adopted the customer's viewpoint and divided the braking system into functional segments: "Supply", "Actuation", "Interaction", "Control", "Adhesion", "Friction", "Couplers" and "Comfort". Then we selected around 120 products that are central to their respective systems and assigned them to these segments.

"Supply" includes those products that supply the brake pressure, such as compressors. "Actuation" includes the mechanical brake force actuators, such as the calipers, while "Interaction" comprises the products at the human-machine interface, such as motion controller kits for the driver's cab. The "Control" segment covers brake control and management products. "Adhesion" encompasses products related to wheel/rail contact, such as sanding systems and wheel slide protection, "Friction" includes the brake disc and friction material, "Coupling Systems" stands for the couplings between trainsets and between the cars within a train, while "Comfort" comprises functions such as leveling control.

This rigid allocation process has not been introduced for its own sake. It forms the basis for a coherent naming structure that can also be applied to future products. The market name itself can comprise up to four component parts: First, there is the product family name (e.g. "Axle") plus a description of the function (e.g. "Act"). This is followed by any differentiation within the product family – e.g. "Classic". Thus, "AxleAct Classic" designates the conventional axle-mounted brake caliper, while "AxleAct Compact", for example, designates the compact axle-mounted brake caliper. Our high-value brands, such as our distributor valves KE or DB60, will retain their product names on account of their historical significance.

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NEW NAMES FOR BRAKES

LOGICAL, INTUITIVE, CUSTOMER-ORIENTED

 **KNORR-BREMSE**

Always see things from the customer's viewpoint

As the global market leader for braking systems, Knorr-Bremse has a product portfolio that is as broad as it is diversified. Today, in the Rail Vehicle Systems division, that portfolio numbers more than 5,000 main brake components. Keeping a clear overview is quite a challenge. But that's not just due to the sheer number of products. It's also because the product names mainly date back to when they were first introduced and are often made up of letters and numbers.

In the course of a comprehensive naming project, Knorr-Bremse has created Market Names for the main brake components in its Rail portfolio. The basic assumption was that the names should be logical, intuitive and customer-oriented, and they should clearly reflect and signpost the "everything-from-one-source" approach that is so crucial for Knorr-Bremse.

With this new underlying logic, we are making it far easier to navigate through our portfolio, because the new naming concept is based on the core 'systems approach' adopted by Knorr-Bremse, as well as on the intuitive perception of the functions of the individual products.

Naming is far more than a formality. To enable the new names to leverage their full added value, they have to be lived and used. Please help us to make this happen!



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SUPPLY SEGMENT

| DESCRIPTION | | MARKET NAME |
|---------------------------------------|----------------|-----------------------------|
| Air Compressors | | Piston / ScrewSupply |
| Piston Compressor | LP, V, VV | PistonSupply |
| Piston Compressor oilfree | V...T, VV...T | PistonSupply Eco |
| Screw Compressor | SL | ScrewSupply |
| Air Dryers | | DrySupply |
| Air Dryer | LTE, LTZ | DrySupply Classic |
| Air Dryer Locomotive | LTZ2.2, LTZ3.2 | DrySupply Max |
| Adaptive Control Air Dryer | iLTZ | DrySupply Smart |
| Adaptive Control Air Dryer Locomotive | LD-1000 | DrySupply Smart Max |
| Air Supply Units | | AirSupply |
| Air Supply Unit | ASU | AirSupply Unit |
| Intelligent Air Supply Unit | iASU | AirSupply Smart |
| Air Supply Control | | SupplyControl |
| Intelligent Air Control | iAC | SupplyControl Smart |
| Inverter | Inverter DC/AC | SupplyControl Direct |

INTERACTION SEGMENT

| DESCRIPTION | | MARKET NAME |
|---------------------------------|--|------------------------|
| Motion Controller Kits | | MotionLead |
| Master Controller | FM | MotionLead Master |
| Traction Controller | FT | MotionLead Traction |
| Brake Controller | FB | MotionLead Brake |
| Brake Controller | FB11, ZB11, FZ | MotionLead Basic |
| Wiper & Wash Systems | | VisionLead |
| WiperWash Electric | EBS-1/2, EAS, EDS | VisionLead Electric |
| WiperWash Electro-pneumatic | EPBS, PBX, PHX | VisionLead Pneumatic |
| WiperWash Mechanic | WPE1, Wiper Arm, Wiper Blade, Wash Water Tank, WRS1, Filler Flap | VisionLead Accessories |

CONTROL SEGMENT

| DESCRIPTION | | MARKET NAME |
|------------------------------------|---|---------------------------------|
| Brake Control Units | | Cube / Flex / MaxControl |
| Brake Control Unit | EP2002 family | CubeControl |
| Brake Control Unit | EPC 3.0 | FlexControl |
| Brake Control Unit | EPC | FlexControl Modular |
| Brake Control Unit | EPC-L | FlexControl Lite |
| Brake Control Unit | EP-BGE-II | FlexControl Basic |
| Brake Control Unit | EP-BGE, all other BGE | FlexControl Fit |
| Brake Control Unit | CCB-3 | MaxControl |
| Brake Control Unit | CCB-II (Variants), CCB-26, BPC, MBS | MaxControl Classic |
| Brake Control Unit | BGE, ZGE for BP Control (mainly Multiple Units, Special Vehicles) | MaxControl Basic |
| Pantograph Control Unit | | PantoControl |
| Pantograph Control Unit | Type A1, A2, B1, B2 | PantoControl |
| Brake Control Electronics | | SysControl |
| Brake Control Electronics | ESRA Evolution | SysControl |
| Brake Control Electronics | ESRA | ESRA |
| Distributor Valves | | KE, DB60 |
| Distributor Valves | KEf | KE |
| Distributor Valves | KE... | KE Classic |
| Distributor Valves | DB60 | DB60 |
| Electro Hydraulic Units | | HydroControl |
| Electro Hydraulic Unit | HGK | HydroControl Basic |
| Electro Hydraulic Unit | HGE, HGES | HydroControl Classic |
| Electro Hydraulic Unit | HGD, HGDS | HydroControl Compact |
| Electro Hydraulic Unit | HGA-70, HGF | HydroControl Level |
| Intelligent Electro Hydraulic Unit | i3HU | HydroControl Smart |
| Auxiliary Release Units | EDHL, HLE, HLEM | HydroControl Aux |

ADHESION SEGMENT

| DESCRIPTION | | MARKET NAME |
|-------------------------------|---|----------------------|
| Wheel Slide Protection | | WheelGrip |
| Wheel Slide Protection | MGS2 | WheelGrip Classic |
| Wheel Slide Protection | MGS3 | WheelGrip Adapt |
| Sanding Systems | | SandGrip |
| Mechanic Sanding Unit | SDM1, SDG1 | SandGrip Mechanic |
| Pneumatic Sanding Unit | SEB, SEJ, SD, SDP2, SDN14, SEJ14, SDN31.1 | SandGrip Pneumatic |
| Sanding Accessories | SKD, FFL, MOS, SAM, SIM, VSD5, VSD8, SK1, FLM1, SFS, SHR, Sand Boxes, Modules | SandGrip Accessories |
| Cleaning Brake Units | | TreadGrip |

ACTUATION SEGMENT

| DESCRIPTION | | MARKET NAME |
|---|--|---------------------------|
| Brake Caliper Units | | Wheel / AxleAct |
| Conventional Brake Caliper Unit (wheel mounted) | RZU, RZD | WheelAct Classic |
| Compact Brake Caliper Unit (wheel mounted) | RZTM, RZTS, RZTXS, RZKT | WheelAct Compact |
| Conventional Brake Caliper Unit (axle mounted) | WZU, WZD | AxleAct Classic |
| Compact Brake Caliper Unit (axle mounted) | WZT, WZKT | AxleAct Compact |
| Conventional Brake Caliper Unit (axle mounted) | WZPF6 | AxleAct Passive |
| Brake Cylinder | i.e. U-Cylinder, Compact Cylinder | BasicAct Cylinder |
| Brake Cylinder | PF6 | BasicAct Cylinder Passive |
| Tread Brake Units | | TreadAct |
| Tread Brake Unit | PEC7 | TreadAct Compact |
| Tread Brake Unit | PC7, PC5, PSC7 | TreadAct Classic |
| Brake Cylinder Freight | BG | TreadAct Cylinder |
| Slack Adjuster Freight | DRV | TreadAct Adjuster |
| Compact Brakes for Freight Cars | CFCB, TMB60, BMBS, Alpac, Slapcac, KBX | TreadAct Freight |
| Hydraulic Calipers | | HydroAct |
| Hydraulic Active Caliper | HF1A, HF2A, HSE1A, HSE2A, HS1A, HS2A | HydroAct Active |
| Hydraulic Floating Caliper | HS1P, HSC1P, HS2P | HydroAct Floating |
| Hydraulic Caliper Lever Type Design | HC1P | HydroAct Lever |
| Elastic-mounted Hydraulic Caliper | HCE1P, HSE1P, HSE2P | HydroAct Movable |
| Hydraulic Caliper Unit | WZ...H, RZ...H | HydroAct Unit |
| Magnetic Track Brakes | | MagnetAct |
| Main Line Articulated Magnet | GRIP | MagnetAct Flex |
| Light Rail Vehicle Articulated Magnet | TORO | MagnetAct Flex Compact |
| Light Rail Vehicle Rigid Magnet | MORE | MagnetAct Rigid |
| Eddy Current Brakes | | EddyAct |
| Eddy Current Brake | iECB, EWB154R | EddyAct |
| Eddy Current Brake | iECB + control | EddyAct Smart |
| Magnetic Track Brake Control | | MagnetControl |
| | IRCB, MMBC | |

FRICTION SEGMENT

| DESCRIPTION | | MARKET NAME |
|---|--|------------------------------------|
| Brake Discs | | Ultra / Pro / LightDisc |
| Wheel Mounted Brake Disc (Steel) | R...LS... | UltraDisc Wheel |
| Wheel Mounted Brake Disc (Steel) | R...LS...L | UltraDisc Wheel Lite |
| Wheel Mounted Brake Disc (Gray Cast Iron) | R...LG... | ProDisc Wheel |
| Wheel Mounted Brake Disc (Alu) | R...LA... | LightDisc Wheel |
| Axle Mounted Brake Disc (Steel) | W...PS..., W...XS..., W...MS..., W...LS..., F...PS..., F...MS... | UltraDisc Axle |
| Axle Mounted Brake Disc Advanced (Steel) | W...PS...R | UltraDisc Axle Plus |
| Axle Mounted Brake Disc (Gray Cast Iron) | W...PG..., W...PK..., W...LG..., W...XG..., W...MK..., F...PG..., F...PK..., F...MK... | ProDisc Axle |
| Axle Mounted Brake Disc Advanced (Gray Cast Iron) | W...PG...R | ProDisc Axle Plus |
| Axle Mounted Brake Disc (Alu) | W...PA... | LightDisc Axle |
| Brake Pads/Blocks | | UltraPad / ProPad, ProBlock |
| Sinterpad | Flexpad, Pentaflex, Tetraflex | UltraPad Flex |
| Sinterpad | Isobar | UltraPad Extreme |
| Organic Brake Pad | Propad | ProPad |
| Organic Brake Block | Problock | ProBlock |
| Pads for Magnetic Track Brakes | | MagnetBar |
| Pads for Magnetic Track Brake (Cast Iron) | | MagnetBar |
| Pads for Magnetic Track Brake (Steel) | | MagnetBar Classic |
| Pads for Magnetic Track Brake (Sinter) | | MagnetBar Prime |

COUPLERS SEGMENT

| DESCRIPTION | | MARKET NAME |
|---------------------------------------|--|-------------|
| Automatic Couplers (Passenger) | | AutoLink |
| Digital Automatic Coupler (Freight) | | FreightLink |
| Semi-Permanent Couplers (Passenger) | | ShortLink |
| Adapter / Rescue Couplers (Passenger) | | RescueLink |

COMFORT SEGMENT

| DESCRIPTION | | MARKET NAME |
|-----------------------------|-----|-------------|
| Hydraulic Leveling Cylinder | HLC | LevelEase |
| Suspension Leg | FB | HydroEase |
| Shock Absorber | | ShockEase |