MINING VEHICLE BRAKING SYSTEMS

PARK & EMERGENCY BRAKES
SERVICE BRAKES
COMBINATION BRAKES
BRAKE VALVES
FRICTION MATERIALS
Carlisle Brake & Friction (CBF) has been the brake supplier of choice in the mining industry for decades. Carlisle first started supplying braking products to the mining industry in the 1930s at the onset of off-highway vehicle manufacturing. Over the past seventy years CBF has established itself as the undisputed industry leader in dry brake systems and friction solutions.

Recently, the evolution of large-scale wet braking systems has created a technology shift in the industry. CBF met the challenge and developed high-density paper and carbon paper friction discs that provided OEMs unparalleled performance and durability. CBF consistently remains in the braking technology forefront by adapting to changes in the industry, expanding the technology envelope and ultimately providing superior solutions to OEMs around the world.
## PARK & EMERGENCY BRAKES

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<th>Model</th>
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| SR Series | Spring-applied, hydraulically released (SAHR) parking brakes | - Quick change organic or sintered metal linings  
- Ease of inspection and serviceability  
- Less fade in emergency than drum brakes  
- Can be supplied with mounting hardware, brake & rotor  
- Using select spring alternatives parasitic drag |
| PD Series | SAHR: single, floating caliper disc brakes designed for medium-duty static applications | - Requires a fixed disc mounting  
- Manual adjustment maximizes lining wear  
- Multiple brakes may be mounted on a single disc to proportionally increase torque output |
| G Series | Spring-applied, hydraulically or air released park brakes | - Ductile iron casting for high strength  
- Manual or automatic slack adjusters, dynamic stop equalizers, and less fade in emergency than drum brakes  
- Brake adjuster to compensate for wear and ease removal or brake fluid |
| SCL Series | Single, single-opposed, dual, and dual opposed designs and use all SAHR | - Ductile iron casting for high strength  
- Most can be multiplexed in a single disc |
| SCL70 Series | SAHR single-opposed piston, caliper brakes for medium to high torque ranges for mining haulage park brakes | - Ductile iron casting for high strength  
- Fixed mountings required |

## SERVICE BRAKES

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| 2 Piston Brakes | Hydraulically-applied medium duty construction service brakes | - Ductile iron casting for super high brake durability and strength  
- Aluminum housings available for some models  
- Shorter lining activations to fit a wide range of vehicles |
| 4 Piston Brakes | Hydraulically-actuated, four or six piston brakes with retracting springs and automatic adjusters | - Ductile iron castings for super high brake durability  
- Premium Carlisle linings  
- Ease of inspection and serviceability  
- Automatic adjusters and spring activated piston retraction available on some models |
| 6 Piston Brakes | Hydraulically actuated, four or six piston brakes with retracting springs and automatic adjusters | - Ductile iron castings for super high brake durability  
- Premium Carlisle linings  
- Ease of inspection and serviceability  
- Automatic adjusters and spring activated piston retraction available on some models |
| F Series | Hydraulically actuated, four or six piston brakes with retracting springs and automatic adjusters | - Ductile iron castings for super high brake durability  
- Premium Carlisle linings  
- Ease of inspection and serviceability  
- Automatic adjusters and spring activated piston retraction available on some models |

## COMBINATION BRAKES

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| HD64225 Series | Combination, service and park, triple-opposed piston, caliper disc brakes | - Fixed mountings are required  
- High torque range for heavy duty service conditions  
- Available as a service brake only  
- Ductile iron casting for high strength |
| SCL7 & SCL10 Series | Combination, service and park, dual-opposed piston, caliper disc brakes | - Fixed mountings are required  
- Medium torque ranges for moderate to severe service conditions |

## HYDRAULIC VALVES

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| 1100 Series | Single and two-circuit, modulating hydraulic control valve | - Minimum output pressure of 3500 psi  
- Noise free operation  
- Rugged overload protection  
- Fits capabilities exceed competitive designs |
| 2100 Series | Single and parallel circuit, modulating hydraulic control valve | - Range of output pressure of 600-3500 psi  
- Easy reversibility and reduced maintenance costs  
- Pedal angle fully adjustable  
- High flow capabilities versus competitive designs |

## FRICTION MATERIALS

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| Molded Linings & Wet Friction | Custom designs & wide range of designs | - ISO 9001 certified manufacturing facility  
- SAE J1473 certified  
- Superior stopping performance  
- Quiet performance  
- Increased life and lower operation costs  
- Parts available up to 42” diameter |
Carlisle Brake & Friction is a globally recognized leader in the development and manufacture of highly innovative brake and friction system solutions to service a diverse range of motion control applications. The comprehensive nature of Carlisle’s brake system expertise includes hydraulic control products, industrial brake assemblies, wet and dry friction material for brake, clutch and transmission applications as well as aftermarket replacement kits, all developed and manufactured under the Carlisle umbrella. Our full-system product offering supported by our industry-experienced staff of experts provide our customers with brake system solutions that set them apart from their competition.