



BRAKE SYSTEMS FOR WHEEL LOADERS

Carlisle Brake & Friction has been the brake supplier of choice in the construction industry for decades, counting many of the world's largest and most respected OEMs as customers, including CAT, Volvo, Liebherr, Case and Terex. Carlisle first began supplying braking products to the mining industry in the 1930s at the onset of off-highway vehicle manufacturing.

Over the past seventy years Carlisle has established itself as the undisputed industry leader in dry brake, hydraulic actuation and friction system solutions. Today, Carlisle continues to develop customized motion control solutions for a broad range of applications as we remain the off-highway industry's only manufacturer able to offer a complete suite of brake system products and componentry.

Carlisle consistently remains at the forefront in braking technology by adapting to changes in the industry, expanding the technology envelope and ultimately providing superior solutions to world-class OEMs across the globe.

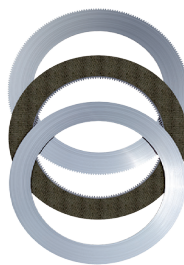
WET FRICTION MATERIALS



Brake Materials

Carlisle has developed a variety of friction materials with high energy absorption capability and smooth engagement characteristics.

- High heat capability
- Ability to withstand high unit loading
- Smooth engagement characteristics
- Resists glazing from oil abuse
- Comprehensive material technology coverage
- Manufactured in ISO certified facilities

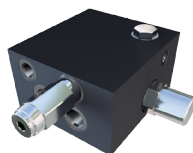


Power Transmission Materials

Carlisle has developed a wide range of friction materials for powershift and counter shaft transmission applications.

- Oil cooled friction materials with high energy capacity
- Tolerance to operate under very high unit loading
- High dynamic and static coefficients of friction
- Available in a range of thicknesses and oil groove patterns
- High power
- Minimizes "hot spotting" of opposing plates
- Smooth engagement characteristics

HYDRAULIC ACTUATION



Dual Accumulator Charge Valve

Accumulator charging solution, monitors the minimum pressure in the accumulators and charges as soon as the pressure drops below pre-defined values (cut-in pressure).

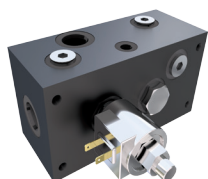
- Monitors and charges the accumulators automatically
- Gives priority to accumulator circuit
- Fast acting isolation valve allows brake system to continue to function during single brake system failure
- Pressure port for pressure sensing
- Hydraulic pressure sensing and charging, hence no electrical signal for charging



1100 Series Power Valve

Single and tandem circuit, modulating hydraulic control valve.

- Smooth modulation at all output pressures for Automotive style pedal feedback
- Rugged construction and thorough testing ensure superior performance and endurance for even the most severe job applications
- Externally adjustable to provide precise pressure settings
- Custom pedal and mounting options for simplified cab installation

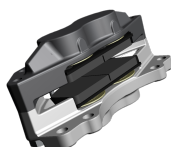


SAHR Park Brake Valve

Designed around the unique needs of the end user to consolidate functions and simplify vehicle plumbing.

- Parking brake control valve
- Spotting option
- Slippery road option
- Brake circuit isolation

PARK & EMERGENCY BRAKES



XG Series Service Brake

Hydraulically actuated, double opposed piston, caliper disc brake designed for heavy-duty, high torque applications.

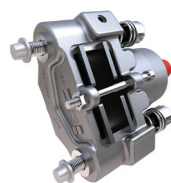
- Both the caliper and disc require fixed mountings
- Multiple calipers may be used on a single disc to proportionately increase torque output



RT Series Park Brake

Mechanically actuated, sliding caliper brakes designed for static applications.

- Organic or sintered metal linings
- Open caliper for easy access and serviceability
- Less fade in emergency than drum brakes



SA Series SAHR Brake

Spring-applied hydraulically released park brakes.

- Open caliper for easy access and serviceability
- Simple lining adjustment
- Lining retraction spring eliminates drag
- Organic or Sintered Metallic Linings Available
- Low release pressure options available



To learn more about Carlisle's construction vehicle braking systems contact one of our sales offices or visit www.carlislecbf.com

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