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Altra Industrial Motion



# GMR-SD Caliper Brakes for Dragline Applications



 **Twiflex**<sup>®</sup>  
Altra Industrial Motion

## ALTRA INDUSTRIAL MOTION IS AT THE FOREFRONT OF LEADING POWER TRANSMISSION TECHNOLOGY PROVIDERS FOR HEAVY DUTY & OVERRUNNING CLUTCHES AND BRAKES

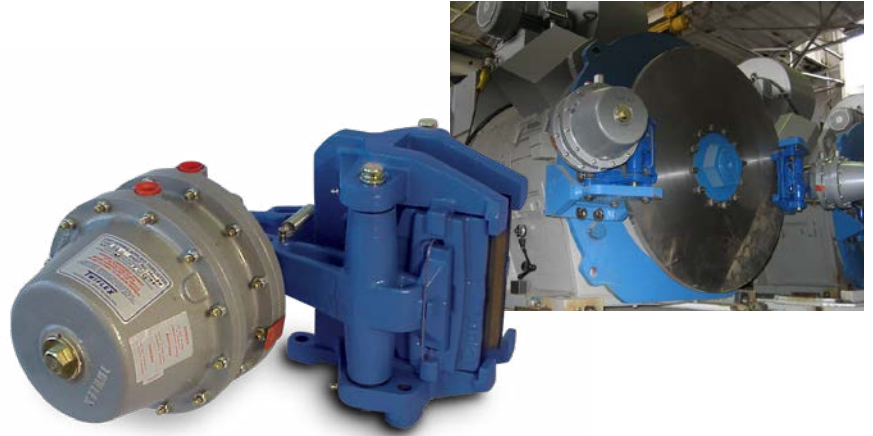
As a leading multinational designer and producer of advanced pneumatic, hydraulic and electromechanical power transmission solutions, Altra Industrial Motion has the technology and engineering capability to provide state-of-the-art drive and braking solutions.

Altra Industrial Motion's demonstrated expertise in the mining industry positions its multiple brands to meet the needs of this demanding marketplace.



- Extensive Application Experience
- Worldwide Customer Support
- Advanced Testing and Research
- State-of-the-Art Manufacturing Technology
- World Class Engineering

## TWIFLEX GMR-SD CALIPER BRAKES PROVIDE RELIABLE, LONG-LASTING PERFORMANCE ON DRAGLINE APPLICATIONS



Now more than 25 years old, the Twiflex GMR-SD spring applied, air-released caliper brake is a recognized proven performer with over 8,000 units currently in service worldwide.

### GMR-SD Brakes offer many advantages:

#### Modularity/Flexibility

Fit multiple units and vary size of thrusters to suit installation

#### Adjustable Torque

Torque adjusted according to operating conditions

#### Low Maintenance

Easy-to-replace brake pads, low cost spares

#### Easy Removal

Modularity allows for quick change out

#### Air Released

Spring applied, air released – both safe and reliable

## WHY DO CUSTOMERS SELECT TWIFLEX BRAKES?

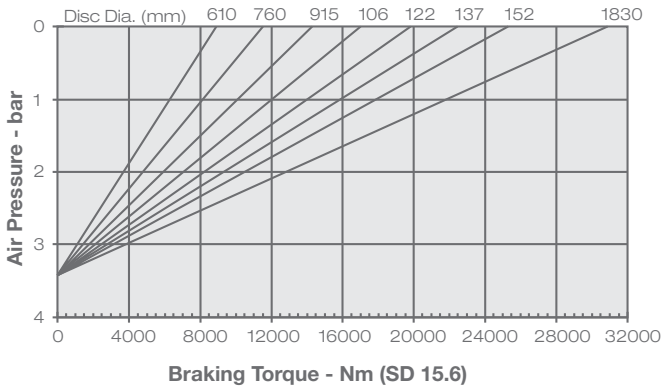


**Problem:** The dragline at a mine in Queensland, Australia recently required a comprehensive maintenance overhaul. Originally commissioned in 2008, the dragline's braking systems needed to be replaced after the extreme wear and tear of operating 24/7/365 for more than 4 years in the tough mine pit environment.

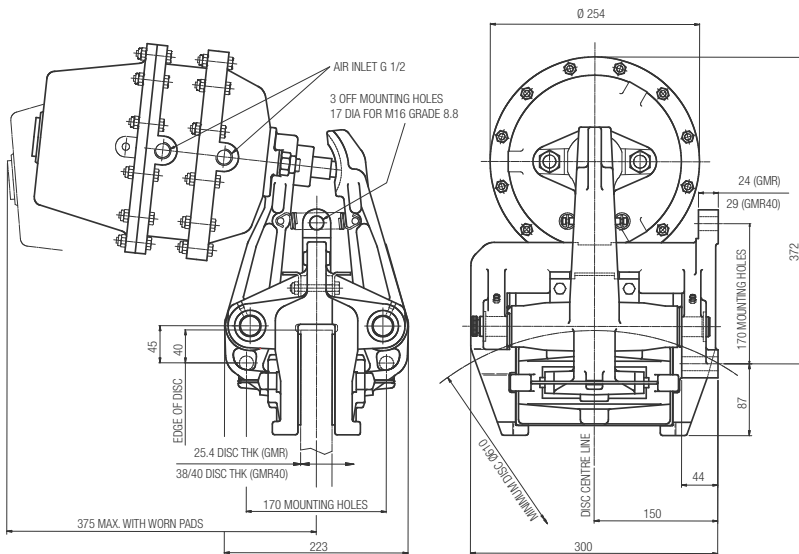
**Solution:** After a competitive review, Twiflex was selected to provide all required replacement brakes. To meet the machine's hoist and drag performance demands, Twiflex delivered spring applied, air-released GMR-SD 15.6 caliper brakes operating on 42" dia. discs that provided a combined braking force of 16186 lbf (72 kN) on each of 14 motors. GMR-SD 4.5 brakes operating on 40" dia. discs were used to supply 4721 lbf (21 kN) braking force on each of the 8 swing motors.



**Models available up to 36 kN braking force**



Thruster Type	Thruster Part No.	Thruster Weight (Kg)	Max. Braking Force (kN)	Retraction Air Pressure (bar)	Caliper Part No.	
					GMR	GMR40
SD4.5	7201265	17.7	10.5	1.4	6780971	6781006
SD8.4	7200924	18.2	19.5	2.4	6780971	6781006
SD11	7200811	19.2	25.0	3.3	6780971	6781006
SD12.9	7200810	20.0	30.0	3.8	6780971	6781006
SD15.6	7200778	21.0	36.0	4.6	6780971	6781006



**TWIFLEX IS A WELL KNOWN GLOBAL SUPPLIER OF DRAGLINE BRAKING SOLUTIONS**

For more than 40 years, Twiflex has been providing dragline caliper (disc) brakes starting in the 1970's for Rapier 1000 and 2000 series machines.

More recently, Twiflex has supplied calipers for the following Marion (Caterpillar/Bucyrus) machines:

- Models 1370, 8050 and 8200 (drag and hoist)
- Model 8250 (drag, swing and propel)
- Model 8750 (swing and propel)
- Model 2750 (hoist drag)

On existing machines, Twiflex has been successful in replacing old shoe (drum) brakes and multi-disc friction brakes which are characterised by high wear rates under dynamic conditions and offer only limited adjustment.

**Twiflex can provide comprehensive brake package solutions**

Our wide product offering together with our extensive dragline application experience allows us to supply our customers with complete brake packages including:

- Brake calipers
- Thrusters
- Mounting frames
- Mounting bolts
- Discs, hubs and taper-lock bushings
- Air pressure regulators
- Local piping
- Guards

**WHY DO CUSTOMERS SELECT TWIFLEX BRAKES ?**



Twiflex recently provided GMR-SD caliper brakes for use on a new medium-duty 4,500 ton dragline at a mine in India. The brakes stop the dragline's load from moving as quickly as possible and bring it to rest in a controlled manner to avoid inducing torsional shock loads to the drivetrain and machine frame. The GMR-SD brakes are designed to handle the high energy associated with stopping these massive loads.

The GMR-SD caliper is Twiflex's most popular model for draglines and consists of a cast frame with two pivot-mounted arms which are actuated by a spring-applied, air-released thruster. Depending on the peak disc temperature calculated, the calipers can be fitted with either organic or sintered bronze pads which are suitable for emergency stops.



## Twiflex Facilities

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*Caliper Brakes and Thrusters*

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**Huco**  
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**Stromag**  
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**Warner Electric**  
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**Stromag**  
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**Svendborg Brakes**  
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### Overrunning Clutches

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