



## Product

## Twiflex VMSDP Spring-Applied, Hydraulically Released Safety Brakes

## Application

## World's Largest Ball Mills

## Highlights

- Braking force of 4.4 MN or 737 kN per brake
- One-third smaller than caliper brakes – reduced size and cost
- Able to stop a full process charge in a staggering 0.5 seconds
- Hydraulic powerpack offers soft-braking option between 6-10 seconds
- Year-round reliable operation

Twiflex VMSDP modular brakes are providing up to 35 MNm of total braking torque on two 8-meter ball mills on South Africa's largest platinum concentrator at Angelo Platinum's Mogalakwena (previously PPRust) mine near Mokopane. The brakes are required to control (stop, hold, position) each ball mill drum which presents a monumental total inertia of 14,195,400 kgm<sup>2</sup>.

Each of the ball mills utilizes six VMSDP brakes, providing a total braking force of 4.4 MN or 737 kN per brake. This braking force allows the new concentrator to expand milling capacity at the mine by 600,000 tons per month, producing an additional 230,000 ounces per year, more than double previous production volume.

While the brakes are able to provide the world's ultimate emergency braking capability in this application, the operator requires a soft braking option to avoid equipment damage. To stop the mill between 6 and 10 seconds, the brake pads come onto the disc quickly at zero force, with subsequent controlled force to provide the desired stopping time.

The Twiflex system provides both static and dynamic braking functions. In static operation, the system holds the mill for liner replacement and general mill maintenance. In dynamic operation, the system can stop the mill at full speed during emergency or it can provide controlled stop in inching/creeping mode for bearing lubrication problems or power failures.

Europe  
**+44 (0) 20 8894 1161**  
twiflex.com

US  
**1-844-723-3483**

Asia Pacific  
For a list of our AP sales offices:  
altramotion.com/contactus