



Product

Twiflex VMS-DP Spring-Applied, Hydraulically Released Safety Brakes

Application

Copper Mine Grinding Mills

Highlights

- Two 22.5 MW mills, 11.6 (38 ft.) diameter, operate at 2025 t/h
- Eight VMS-DP brake calipers (with pedestals) plus a hydraulic power pack were supplied for each mill
- Adjustable braking force from 590 to 737 kN per brake
- Able to stop a full process charge in less than 2.0 seconds
- Brakes provide both static and dynamic braking functions

Twiflex Ltd. supplied VMS-DP grinding mill braking systems to Metso Minerals Industries, Inc. for installation on two Boliden Mineral AB, Autogenous (AG) gearless driven mills located at the Aitik mine in Northern Sweden (the largest open pit copper mine in Europe).

The last five years have seen an increasing trend towards fewer comminution machines per grinding line with the result that units have increased considerably in capacity as operators look for even larger equipment for greater economy of scale. Mills with these larger drive capacities are exclusively driven by a 'wrap around' ring motor (Gearless Mill Drive) which required the development of more advanced braking systems.

The Twiflex VMS-DP caliper is designed specifically for mine grinding mill installations providing both static and dynamic braking functions. In static operation the braking system is used to hold the mill during liner replacement and general mill maintenance. For dynamic operation the system can operate in two modes, stopping the mill from full speed in an emergency or providing inching/creeping functions in the event of bearing lubrication problems or power failures.

The VMS-DP brake is spring-applied, hydraulically-retracted, suitable for disc/flange thicknesses from 117mm to 130mm. It can be used on installations with a braking path of at least 7.6m outside diameter (there is no upper limit) and 7m inside diameter.

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