



VKSD-FL brakes utilized on two geared ball mills



One of two VMS-DP brake stations supplied for the 12.2 m dia. gearless SAG mill

Product

VKSD-FL and VMS-DP Brakes

Application

Copper/Gold Mine SAG and Ball Mills

Highlights

- VMS-DP Spring-applied, hydraulically-released floating brake has an adjustable braking force up to 735 kN
- VKSD-FL Spring-applied, hydraulically-released floating brake has an adjustable braking force up to 119 kN
- Both models feature Non-asbestos lining materials with large pad areas for maximum heat dissipation
- All brakes incorporate a unique safety 'parked off' feature
- Hydraulic power packs offer advanced and versatile brake control which allows for both local and remote operation

Twiflex Ltd. has supplied multiple braking systems to Metso Minerals Industries, Inc. for their Mount Milligan mine, located in North Central British Columbia, Canada. The open pit mining operation will provide mill feed at a nominal rate of 60,000 t/d (21.9 Mt/a). Annual mine production will average 81 m lb/year copper and 194,000 oz/year gold in concentrates.

Twiflex spring-applied VMS-DP brakes, together with an electro-hydraulic power pack, provide both static and dynamic braking functions on the mine's 22 MW gearless SAG mill which measures 12.2 m diameter (40 ft.) x 7.31m long (24 ft.). In static operation the VMS-DP 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 giving inching/creeping operations in the event of bearing lubrication problems or power failure.

Twiflex VKSD-FL spring-applied, hydraulically-released brake calipers (combined with power packs) were supplied for use on the mine's two 24 ft.dia. dual-pinion, direct-drive geared ball mills. The VKSD-FL (floating) calipers act on a brake disc fitted to a torque limiter from Brunel Corp. (USA). The VKSD-FL brakes on each mill provide 454 kNm on the high speed shaft. During a power failure, the mill's motors are disabled so the mill slows to a rocking mode due to the unbalanced charge. To prevent equipment damage, the brakes are used to provide a controlled stop (between 30 and 60 seconds).

Both VMS-DP and VKSD-FL brakes incorporate the unique Twiflex safety 'parked off' feature meaning they can be adjusted so, when de-pressurised, there is zero stored energy for maximum safety. Twiflex provided complete braking packages including brake stands, fully-assembled brakes with hydraulics and a power packs.

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