



**Product**

## BSFK 527 Braking System with SOBO® iQ

**Application**

## World's Highest Downhill Mine Conveyors

**Highlights**

- BSFK Series monospring brakes
- Unique soft braking controls (SOBO iQ)
- Containerized custom hydraulic power units manufactured in-house
- Heated and insulated oil lines
- Brake discs
- Disc temperature sensors
- Brake pad worn/fully worn sensors
- Spring monitor tests spring package clamping force
- If one part of the braking system fails, the others can take over and safely stop the conveyor

Svendborg Brakes recently supplied complete braking systems for use on a pair of downhill conveyors being installed at the largest copper mine in China. At a height of 5,200 masl (3.2 miles above sea level) and lengths of 3,000 and 6,000 meters respectively, the conveyors will be the largest downhill conveyors operating at that height in the world. The conveyors will transport crushed copper ore from the mine pit down the side of the mountain at a capacity of 10,000 tons/hour. The braking systems are needed to provide emergency braking in case the conveyor's variable frequency drive (VFD) fails.

Based on previous successful collaborations, the conveyor OEM contacted Svendborg Brakes early in the project development phase. The application required an extremely fast-acting braking system due to the conveyors' steep downhill angle. If the VFD fails, the conveyors' speed can increase 50% in only 1 sec.

The Svendborg Brakes engineering team designed a custom braking system to meet the challenging conveyor application requirements. Each braking system consists of pedestal-mounted, spring-applied, hydraulically released BSFK 527 caliper disc brakes, SOBO iQ controls, hydraulic power units and discs. A complete braking system is installed at the tail section on each of the two driven pulleys on both conveyors.

Svendborg performed a reaction time test, witnessed by the OEM and end user, where the brakes were cooled down to -30°C to simulate the extremely cold temperature at the mine's high altitude. The SOBO iQ controls and hydraulic power units are housed in specially-designed insulated containers. Piping from the containers to the brakes is also insulated and heated to keep the hydraulic oil thin, assuring fast reaction time in the harsh, cold conditions.

**Svendborg Brakes GLOBAL REPRESENTATIONS** [www.svendborg-brakes.com](http://www.svendborg-brakes.com)

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